CONSTRUCTION COMPLETION REPORT
SA-6 SOUTH CHROMIUM REMEDY

STUDY AREA 6 SOUTH
NJDEP SITES 073, 124, 125, 134, 140, AND 163

JERSEY CITY, NEW JERSEY

Prepared for

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EXECUTIVE SUMMARY

Honeywell is submitting this Construction Completion Report (CCR) pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South, ECF No. 434, entered by the United States District Court, District of New Jersey on August 2, 2012, in Civil No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 South Consent Decree") in order to document the Chromium Remedy implemented to address chromium-impacted soil site-wide and groundwater for the Open Space Area of Concern (AOC) at Study Area 6 South ("SA-6 South"), located in Jersey City, Hudson County, New Jersey. The remedial activities were initiated in March 2013 and were completed in November 2016. A Remedial Action Report (RAR) was prepared by Honeywell and submitted to New Jersey Department of Environmental Protection (NJDEP). NJDEP approved the RAR on March 30, 2017.

The Chromium Remedy was implemented successfully in accordance with the following:

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

SA-6 South encompasses approximately 25 acres along Kellogg Street between Route 440 and the Hackensack River. For this CCR, the contaminant of concern (COC) in soils at SA-6 South is hexavalent chromium and the COC for shallow groundwater is total chromium per the NJDEP-approved RAWPs. Deep overburden and bedrock groundwater zones are being addressed by the Study Area 7 (SA-7) regional groundwater remedy. SA-6 South consists of three AOCs, as shown on **Figure 19**, with respect to chromium:

- Kellogg Street Development AOC;

- Site 163 Development AOC[1]; and
- Open Space AOC.

The Remedial Action Objectives (RAOs) established in the NJDEP-approved RAWPs for the SA-6 South AOCs are as follows:

The RAOs for soils include:

- Prevent exposure to chromium-impacted soils[2] containing hexavalent chromium above the NJDEP soil criteria of 20 milligrams per kilogram (mg/kg) to a depth of 20 feet, consistent with NJDEP policy.
- Remove and consolidate chromium-impacted soils that may be disturbed by future Site redevelopment activities; and reuse soils beneath area to be capped, to the extent feasible.
- Coordinate remedial actions for chromium with remedial actions for non-chromium contaminants and Site redevelopment, to the extent feasible.

RAOs for groundwater include:

- Mitigate the potential for surface water infiltration and leaching of contaminants (total and hexavalent chromium) from fill soils (vadose zone) to groundwater.

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[1] The Site 163 Development AOC is comprised of two areas, the Deed Notice Area and the Non-Deed Notice Area. The remediation differed in the two areas of the Site 163 Development AOC. In the Deed Notice Area, chromium-impacted soils were excavated only to 4 feet below ground surface (bgs), leaving chromium-impacted soils at concentrations exceeding 20 mg/kg deeper than 4 feet bgs in place. The Deed Notice Area will be subject to a deed notice and conservation restriction, like the Open Space AOC. Residential development is prohibited in the Deed Notice Area. In the Non-Deed Notice Area, chromium-impacted soils at concentrations exceeding 20 mg/kg were excavated to a depth of 20 feet bgs or to the meadow mat, as discussed in Section 8.

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

- Mitigate offsite migration of chromium in groundwater above the NJDEP Groundwater Quality Standard (GWQS).).[3]
- Reduce chromium concentrations in groundwater.
- Prevent exposure to groundwater chromium concentrations above the NJDEP GWQS.

Remediation was completed across SA-6 South in order to meet the RAOs, with the exception of two areas where remediation has been deferred ("Deferred Areas") as shown on **Figure 19**:

- Bulkhead area along the western perimeter of SA-6 South ("Site 073 Bulkhead Deferred Area"); and
- Route 440 right-of-way along part of the eastern perimeter of SA-6 South ("Route 440 ROW Deferred Area").

Therefore, other than remediation in the identified Deferred Areas, no further remedial actions are required for SA-6 South other than actions to support the long-term maintenance and operation requirements for shallow groundwater and the deed noticed areas where chromium-impacted soils remain, including the Open Space AOC and the Site 163 Development AOC Deed Notice Area. Remediation of the Deferred Areas will be coordinated with the Bayfront Redevelopment Project and the widening of Route 440.

Major activities associated with the Chromium Remedy included:

- Excavation and offsite disposal of approximately 22,400 cubic yards (CYs) of chromium-impacted soil from the Kellogg Street Development AOC and the Site 163 Development AOC Non-Deed Notice Area;

[3] The SA 6 South Consent Decree requires Honeywell to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the Open Space AOC to the extent that such groundwater contains total chromium in concentrations in excess of 70 µg/l. The Study Area 6 South Consent Decree also requires Honeywell to maintain an outward gradient of shallow groundwater from Study Area 7.

- Excavation and offsite disposal of approximately 23,000 CYs of petroleum-impacted soil co-mingled with chromium-impacted soil from the Kellogg Street Development AOC;
- Excavation of approximately 59,000 CYs of chromium-impacted soil from the Kellogg Street Development AOC and the Site 163 Development AOC (referred to together as "Development AOCs") and consolidation of this material in the Open Space AOC;
- Reuse of approximately 46,000 CYs of confirmed non-chromium-impacted historic fill soils as backfill in excavations;
- Placement of approximately 217,000 CYs of clean fill material as supplemental backfill in excavations;
- Surcharging of the Open Space AOC to consolidate underlying compressible strata;
- Construction of approximately 2,586 feet of hydraulic barrier around the Open Space AOC;
- Construction of an approximately 8-acre Resource Conservation and Recovery Act (RCRA) cap in the Open Space AOC; and
- Construction of a 1,700-foot long contingent groundwater extraction system within the Open Space AOC.

Prior to and during the development of the 100% Design, Pre-Design Investigation (PDI) sampling and analytical activities were completed to delineate the lateral and vertical limits of hexavalent chromium concentrations to 20 mg/kg in soils at SA-6 South. The PDI samples were considered post-excavation equivalent samples that precluded the need for collection of traditional post-excavation confirmatory samples at the completion of excavation activities for most of the site. Additional post-excavation sampling was required to confirm excavation limits upon encountering isolated incidences of anomalous material under the office portion of the 60 Kellogg Street building south of the 20 mg/kg line delineated during the PDI, and along isolated locations of excavation sidewalls or bottoms at Sites 073, 125, 134, and 140 as documented in Section 8.6. Other than these instances, the PDI allowed the remedial action to be more definitively designed and implemented in the field and is a process that has been accepted by the NJDEP in the RAWP and has been implemented successfully by Honeywell at other sites. The results of the PDI are

contained in Appendix A, Pre-Design Investigation Summary Report (PDI Report), of the SA-6 South Chromium Remedy 100% Design Report.

In addition, pursuant to the SA-6 South 100% Design Report, an in-situ treatment program involving injections of a chemical reductant was conducted within the Site 163 Development AOC to treat chromium-impacted soils at isolated locations. The in-situ injections were ineffective in achieving hexavalent chromium detections of <20 mg/kg at all depths. As a result, full excavation of chromium-impacted soils was conducted in the Site 163 Development AOC Non-Deed Notice Area. In the Site 163 Development AOC Deed Notice Area, chromium-impacted soils were excavated to a depth of 4 feet bgs, and chromium-impacted soils at a depth below 4 feet bgs were left in place and capped with clean soil and gravel.

During excavation activities in the Kellogg Street Development AOC, numerous unforeseen subsurface features, conditions, or structures were encountered and managed in accordance with NJDEP requirements.

The RAOs for soils in the Kellogg Street Development AOC were met by implementation of excavation in accordance with the SA-6 South 100% Design Report. The RAOs for soils in the Site 163 Development AOC are being met by a combination of excavation and capping that has been completed and institutional controls (deed notice and conservation restriction) that will be established in 2017. The RAOs for soils in the Open Space AOC are being met by a combination of a RCRA cap that has been completed and institutional controls (deed notice and conservation restriction) that will be established (deed notice) and/or updated (conservation restriction) in 2017.

It is anticipated that RAOs for SA-6 South shallow groundwater in the Development AOCs will be met as a result of the removal of chromium-impacted soil from the Development AOC and containment and capping of chromium-impacted soils and groundwater in the Open Space AOC. Preliminary sampling following the completion of the excavation remedy shows groundwater results below the GWQS for total chromium. This will be confirmed by post-remediation shallow groundwater sampling, which will be implemented in the Development AOCs in accordance with a Long Term Monitoring Plan (LTMP) currently being prepared for SA-6 North and SA-6 South. Further, the LTMP establishes procedures and schedules for long-term monitoring of shallow groundwater quality and levels in the

Open Space AOC to determine the potential operation of the contingent groundwater extraction system. The LTMP also establishes the inspection, maintenance, and operation of critical features of the Chromium Remedy.

Honeywell will establish appropriate institutional controls at SA-6 South that supplement the remedial actions. These include: deed notices and a remedial action permit for soils for four distinct areas: the Open Space AOC, the Site 163 Development AOC Deed Notice Area, and the two Deferred Areas; a conservation restriction for the Site 163 Development AOC Deed Notice Area; and a remedial action permit for shallow groundwater in the Open Space AOC. A conservation restriction has already been established for the Open Space AOC and will be updated to reflect the final as-built boundaries of the Open Space Area. A classification exception area (CEA) has already been established with the NJDEP for the regional shallow groundwater, but Honeywell may revise the boundary of the shallow groundwater CEA slightly based upon post-remediation shallow groundwater results from the Development AOCs.

It is Honeywell's intention that this document will close out remediation of chromium-impacted soils at SA-6 South with the exception of the implementation of the institutional controls and remediation of the Deferred Areas. Honeywell will subsequently request review and approval of similar documents to close out remediation of chromium-impacted shallow groundwater in the Development AOCs once groundwater sampling confirms that the RAOs have been met and the remediation of chromium-impacted soils in the Deferred Areas.

1.0 INTRODUCTION

1.1 PURPOSE AND SCOPE

Honeywell International Inc. (Honeywell) is submitting this Construction Completion Report (CCR) prepared by Amec Foster Wheeler Environment and Infrastructure, Inc. (Amec Foster Wheeler) to document completion of remedial activities associated with the Chromium Remedy at Study Area 6 South (SA-6 South), located in Jersey City, Hudson County, New Jersey. A Site Location Map is included as **Figure 1**. This CCR was prepared for and is submitted solely to the Special Master, the Parties, and the Court pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South, ECF No. 434, entered by the United States District Court, District of New Jersey on August 2, 2012, in Civil No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 South Consent Decree"). [4]

A Remedial Action Report (RAR)was prepared by Honeywell and submitted to the New Jersey Department of Environmental Protection (NJDEP) in accordance with the remedial action reporting requirements specified in the Technical Requirements for Site Remediation (TRSR), (New Jersey Administrative Code [N.J.A.C.] 7:26E-5.7). Since NJDEP's Site Remediation Program Case Management Team retained direct oversight of the Chromium Remedy, Honeywell requested NJDEP review and approval of the RAR in accordance with paragraph 23, G of the Consent Judgment between Honeywell and the NJDEP dated September 7, 2011 ("Consent Judgment"). NJDEP approved the RAR on March 30, 2017.

The purpose of this CCR is to provide documentation of the successful execution of the Chromium Remedy at SA-6 South to address chromium-impacted soil and

[4] The "Parties" referenced in this CCR are the signatories to the SA-6 South Consent Decree: the City of Jersey City, Hackensack Riverkeeper, and Honeywell. In addition, the "Special Master" referenced in this CCR is the Honorable Senator Robert Torricelli, who was appointed pursuant to the SA-6 South Consent Decree, paragraph 85, to oversee and enforce the implementation and long-term monitoring of the Chromium Remedy within SA-6 South, and the Initial Development Period related to the Open Space AOC.

groundwater[5]. The Chromium Remedy was completed in three Area of Concerns (AOCs) as shown on Figure 19:

- Kellogg Street Development AOC,
- Site 163 Development AOC[6], and
- Open Space AOC.

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

- An Administrative Consent Order ("ACO") between Honeywell, formerly Allied Signal, Inc., and the NJDEP (NJDEP, 1993), modified pursuant to the Consent Judgment;
- SA-6 South Consent Decree;
- July 1, 2013: Technical Requirements for Site Remediation N.J.A.C. 7:26E-1-5 adopted May 7, 2012, revised 2013;
- NJDEP, 2012. New Jersey Administrative Code, Chapter 26C Administrative Requirements for the Remediation of Contaminated Sites (ARRCS); last revised May 7, 2012, Trenton, New Jersey.
- December 23, 2008: *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan for Chromium* to address chromium contamination at SA-6 South, exclusive of Site 163 (SA-6

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

[6] The Site 163 Development AOC is comprised of two areas, the Deed Notice Area and the Non-Deed Notice Area. The remediation differed in the two areas of the Site 163 Development AOC. In the Deed Notice Area, chromium-impacted soils were excavated only to 4 feet below ground surface (bgs), leaving chromium-impacted soils at concentrations exceeding 20 mg/kg deeper than 4 feet bgs in place. The Deed Notice Area will be subject to a deed notice and conservation restriction, like the Open Space AOC. Residential development is prohibited in the Deed Notice Area. In the Non-Deed Notice Area, chromium-impacted soils at concentrations exceeding 20 mg/kg were excavated to a depth of 20 feet bgs or to the meadow mat, as discussed in Section 8.

South Chromium SRIR/RASR/RAWP). This document was approved by the NJDEP in a letter dated March 24, 2009.

- May 18, 2012: *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan,* to address chromium contamination at Site 163 only (Site 163 Chromium SRIR/RASR/RAWP). This document was approved by the NJDEP in a letter dated June 22, 2012.
- June 28, 2013: *Chromium Remedy 100% Design Report - Issued for Construction* for SA-6 South, ECF Nos. 1176 and1180, entered by the United States District Court, District of New Jersey on July 10, 2013, in Civ. No. 05-05955, later consolidated with Civ. No. 95-2097 ("SA-6 South 100% Design Report"). Portions of this document were reviewed and approved by the NJDEP in an email on May 15, 2013. The Design Report for SA-6 North was issued at the same time and contains some information in the Appendices that also applies to SA-6 South. Unless otherwise noted, the design report, drawings, and specifications are collectively referred to herein as the 100% Design Report.
- Design Change Bulletins (DCs) to SA-6 South 100% Design Report as indicated in Section 3 below.

As the Chromium Remedy progressed, Honeywell prepared a series of Declarations which were periodically submitted to the Parties to memorialize completion of specific remedial elements of the Chromium Remedy in accordance with the above documents. There are three individual Declarations related to SA-6 South (Declarations Nos. 1, 2 and 5), and five in total for SA-6 South and SA-6 North. In general accordance with Honeywell correspondence dated June 19, 2014 and February 4, 2016 submitted to all Parties, the elements of each Declaration were as follows:

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

- Declaration No. 4: Open space cap subgrade, geosynthetic components and contingent groundwater extraction system trench construction at SA-6 North; and
- Declaration No. 5: All Remaining construction activities including: additional miscellaneous excavations at SA-6 South within 60 Kellogg and Site 163; installation of gas vent system, cover soil placement, final contingent groundwater extraction system infrastructure installation, discussion of deferred areas and pending institutional controls required, in-situ treatment, soil erosion and sediment control at SA-6 South and SA-6 North; monitoring well installation and abandonment, final grading and historic fill cap installation at SA-6 South; and meadow mat (Stratum D) repair at SA-6 North .

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

Non-chromium areas of concern (AOCs) within SA-6 South were also remediated during the implementation of the Chromium Remedy. This CCR does not address non-chromium AOCs. A separate RAR addressing the SA-6 South non-chromium AOCs was prepared and submitted to NJDEP by Honeywell's Licensed Site Remediation Professional (LSRP) in December 2016. A separate RAR for chromium remediated at SA-6 North was submitted to NJDEP, the Special Master, and the Parties on March 16, 2017. NJDEP approved the SA-6 North RAR on June 1, 2017. A CCR for SA-6 North will be prepared and submitted solely to the Special Master and the Parties.

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

1.2 SITE SETTING AND SITE HISTORY

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

Collectively, SA-6 North, SA-7, and SA-6 South comprise approximately 100 acres (see **Illustration 1**). Bayfront Redevelopment LLC, a wholly owned subsidiary of Honeywell, owns both the SA-6 North and SA-6 South properties with the exception of: (a) Lot 4, a 0.4-acre lot that is owned by Mr. Paul Trenk, and (b) Block 6 on SA-6 North, representing a 6.25-acre lot occupied by the Jersey City Municipal Utilities Authority (JCMUA), and the City of Jersey City (Jersey City). All lots and blocks on SA-6 South are owned by Bayfront Redevelopment LLC and total just over 25 acres as indicated below.

SA-6 South is comprised of the following six sites:

NJDEP Site No.	NJDEP Site Name	Program Interest Number for Chromium	Block 24601 Lot No.	Address	Acres
073	Degen Oil	G000000927	1	200 Kellogg St.	**3.19**
124	Roosevelt Bowling Lanes	G000008741	8 & 12	427 Route 440	**3.65**

NJDEP Site No.	NJDEP Site Name	Program Interest Number for Chromium	Block 24601 Lot No.	Address	Acres
125	Delphic Consolidated	G000008742	7	60 Kellogg St.	**2.99**
134	Old Dominion	033312	3, 4, & 5	100 Kellogg St.	**4.82**
140	ABF Trucking	003846	6	80 Kellogg St.	**3.67**
163	Posnak & Turkish	010374	11	75 Kellogg St.	**4.97 (of which 2.58 is submerged)**
Included in 124	Cordova	NA	9 & 10	28 & 38 Kellogg St.	**1.2**
Included in 134	Boatyard	NA	2	150 Kellogg St.	**0.89**
Total Acres					**25.38**

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

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

office space. Honeywell purchased the SA-6 South properties between 2005 and 2010.

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

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

1.3 PROJECT BACKGROUND AND LAND DEVELOPMENT

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

Remediation of SA-6 North has also now been completed, and will be reported under a separate RAR and CCR.



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

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

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

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



Illustration 2: Bayside Redevelopment Area

- SA-6 North Consent Decree: "Open Space Area" and "Residential Area" and "Additional Excavation Areas." The Residential Area and Additional Excavation Areas are development areas.
- SA-6 South Consent Decree: "Open Space AOC" and "Development AOC." The "Development AOC" consists of two parts: the Kellogg Street Development AOC and the Site 163 Development AOC. When both the Kellogg Street Development AOC and the Site 163 Development AOC are referred to together in this CCR, the term Development AOCs will be used for brevity.

The Bayfront Redevelopment Plan designates the SA-6 North and SA-6 South Development Areas for future residential and commercial/retail use redevelopment, and designates the Open Space Areas for future redevelopment as linear parks and recreational use areas currently known as "Central Park" on SA-6 North and the "Promenade" on SA-6 South. The final grades of the cap associated with the Chromium Remedy in the Open Space AOC are consistent with the Bayfront

Redevelopment Plan grades, with smoothing as needed to facilitate drainage pending development, and associated installation of roadways and stormwater management. Development in the Open Space Area and Site 163 Development AOC Deed Notice Area is also restricted via conservation restrictions that are or will be recorded. **Illustration 3** depicts the conceptual Chromium Remedy related to future redevelopment AOCs.

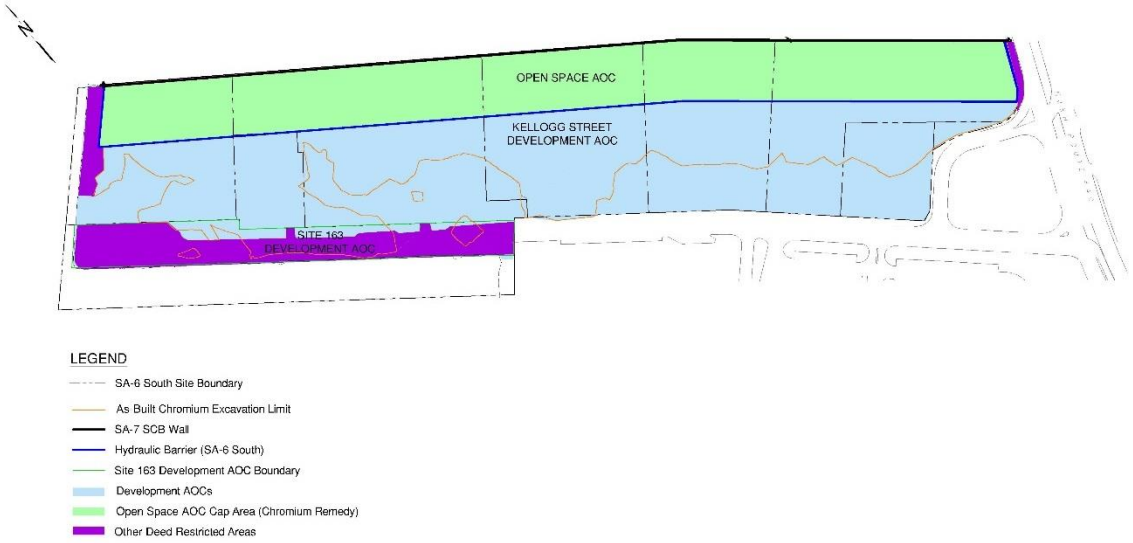

Illustration 3: SA-6 South Chromium Remedy and Redevelopment Plans

1.4 CONTAMINANTS OF CONCERN AND REMEDIAL ACTION OBJECTIVES

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

Specific Remedial Action Objectives (RAOs) for soils include:

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

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

Specific RAOs for groundwater include:

- Mitigate the potential for surface water infiltration and leaching of contaminants (total and hexavalent chromium) from fill soils (vadose zone) to groundwater.
- Mitigate offsite migration of chromium in groundwater above the NJDEP Groundwater Quality Standard (GWQS).[7]
- Reduce chromium concentrations in groundwater.
- Prevent exposure to groundwater chromium concentrations above the NJDEP GWQS.

To achieve the RAOs for soils in the Kellogg Street Development AOC, Honeywell excavated chromium-impacted soils to a depth of 20 feet bgs and either disposed of such material offsite or consolidated the material in the Open Space AOC.

To achieve the RAOs for soils on the Open Space AOC, engineering controls (vertical hydraulic barrier and Resource Conservation and Recovery Act [RCRA] cap) were constructed around the Open Space AOC to fully contain existing and consolidated hexavalent chromium-impacted soil. Institutional controls (deed notice and conservation restriction) will also be established for the Open Space AOC so that this area remains as open space.

The NJDEP-approved Site 163 Chromium SRIR/RASR/RAWP indicated that to achieve the RAOs for soils the shallow chromium-impacted soils would be excavated and deeper chromium-impacted soils (i.e., 4 feet or more bgs) would be treated in-situ. However, because in-situ treatment was ineffective, a combination of excavation and capping was instituted. Additional details pertaining to the

[7] The SA 6 South Consent Decree requires Honeywell to isolate shallow groundwater and to intercept and treat shallow groundwater flowing above the meadow mat in the Open Space AOC to the extent that such groundwater contains total chromium in concentrations in excess of 70 µg/l. The Study Area 6 South Consent Decree also requires Honeywell to maintain an outward gradient of shallow groundwater from Study Area 7.

implementation of the in-situ chemical reduction in the Site 163 Development AOC are provided in Section 12. To achieve the soil RAOs for the Site 163 Development AOC Non-Deed Notice Area, chromium-impacted soils were excavated to a depth of 20 feet bgs and either disposed of offsite or consolidated in the Open Space AOC. To achieve the soil RAOs for Site 163 Development AOC Deed Notice Area, shallow chromium-impacted soils (i.e., less than 4 feet bgs) were excavated and either disposed of offsite or consolidated in the Open Space AOC, deeper chromium-impacted soils (i.e., 4 feet or more bgs) were capped, and institutional controls (deed notice and conservation restriction) will be established subsequently.

The RAOs for soils were met in all three AOCs with the exception of the two Deferred Areas discussed in Section 4 and shown on **Figure 19**, and the implementation of the institutional controls in the Open Space AOC and Site 163 Development AOC Deed Notice Area.

It is expected that groundwater RAOs in the Development AOCs will be met because excavation and removal of chromium-impacted soils in the Development AOCs significantly reduced total chromium concentrations in groundwater following completion of the Chromium Remedy. Post-soil remedy total chromium groundwater concentrations in the Development AOCs are now below the NJDEP GWQS for groundwater of 70 micrograms per liter (µg/L) for total chromium throughout most of the Development AOCs (see Section 5.5.1 for further discussion). In the Open Space AOC groundwater RAOs were met by construction of a vertical barrier and a cap which now fully contains groundwater in the Open Space AOC. Further, a contingent groundwater extraction system has been installed to assist in maintaining an inward hydraulic gradient relative to the Open Space AOC. Groundwater monitoring will be implemented in accordance with the Long Term Monitoring Plan (LTMP), currently under development for both SA-6 North and SA-6 South, to establish the post-Remedy disposition of groundwater in the Development AOCs. Groundwater level measurements will be implemented in accordance with the LTMP to monitor hydraulic conditions within the Open Space AOC.

Honeywell will establish appropriate institutional controls at SA-6 South including deed notices and a remedial action permit for soils for four distinct areas: the Open Space AOC, the Site 163 Development AOC Deed Notice Area, and the two Deferred Areas. A remedial action permit for groundwater in the Open Space AOC will be

requested from NJDEP. A Classification Exception Area (CEA) has already been established with NJDEP for the regional shallow groundwater. Honeywell may revise the boundary of the shallow groundwater CEA slightly based upon the post-remediation results of shallow groundwater sampling at SA-6 South. More details concerning the institutional controls are provided in Section 18.

Sections 4 and 18.1 more fully describe the deed noticed areas, but a summary of the four areas at SA-6 South are:

- Deed Notice Area 1: Open Space AOC
- Deed Notice Area 2: Route 440 Right of Way (ROW)
- Deed Notice Area 3: Portion of Site 163
- Deed Notice Area 4: Site 073 Bulkhead Area and the SA-7 Bulkhead Area.

1.5 CONSTRUCTION OVERVIEW

The Chromium Remedy for the Kellogg Street Development AOC and the Site 163 Development AOC Non-Deed Notice Area consisted of excavation of soils exceeding 20 mg/kg hexavalent chromium to the elevations established in the SA-6 South 100% Design Report, DC 2013-12-12, DC 2014-5-06, and DC 2015-9-28 based either upon pre-design investigation (PDI) sample data or encountering Stratum D. Depending on the hexavalent chromium concentration, the excavated soil from the Development AOCs was either disposed of offsite, consolidated under the cap in the SA-6 South Open Space AOC (20-1,000 mg/kg) or transferred to the SA-6 North Open Space AOC (20-240 mg/kg). To contain impacted groundwater within the Open Space AOC, hydraulic barriers keyed into the Stratum D were installed on the east, south and west sides of the open space AOC. The SA-7 Soil-Cement Bentonite (SCB) Wall forms the northern side of the hydraulic barrier. The southern hydraulic barrier also serves as temporary excavation support for the adjacent excavation in the Development AOC. A RCRA-equivalent cap was constructed over the Open Space AOC to isolate chromium-impacted soils. A clean soil and gravel cap was constructed in the Site 163 Development AOC Deed Notice Area to isolate chromium-impacted soils at a depth of 4 feet or more bgs.

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

- Site preparation (utility mark out, temporary fencing, and erosion controls);
- Remedial Contractor mobilization and installation of site support facilities including construction trailers, decontamination stations, utility abandonment and bypassing, soil erosion controls, construction dewatering and stormwater control and treatment infrastructure;
- Abandonment/demolition/removal/relocation of existing structures, select monitoring wells, and utilities as necessary to remediate chromium-impacted areas;
- Construction water management;
- Installation of temporary sheetpile for excavation support;
- Excavation within the designated Kellogg Street Development AOC and Site 163 Development AOC Non-Deed Notice Area of chromium-impacted soils exceeding 20 mg/kg hexavalent chromium to a maximum depth of 20 feet or shallower if meadow mat (Stratum D) was reached;
- Consolidation of excavated material exhibiting hexavalent chromium concentrations between 20 and 1,000 mg/kg within the Open Space AOC;
- Offsite disposal and transportation of excavated material exhibiting hexavalent chromium concentrations exceeding 1,000 mg/kg;
- Installation of a hydraulic barrier along the perimeter of the designated Open Space AOC that was embedded approximately 2 feet (minimum) into the underlying Stratum D and was tied into the existing hydraulic barrier associated with the SA-7 remedy along the common SA-6 South and SA-7 boundaries;
- Installation within the Open Space AOC of a contingent groundwater extraction system which will be operated as needed to maintain an inward hydraulic gradient as specified in the SA-6 LTMP that is currently being developed;
- Soil surcharging in the Open Space AOC to consolidate underlying compressible strata;
- Grading of consolidated soil from other areas in the Open Space AOC and compaction of existing material/subgrade fill;

- Installation of the RCRA-equivalent geosynthetic cap system, including a methane venting layer to address naturally occurring methane;
- Installation of surface drainage and erosion control structures;
- Installation of a cap drainage system to collect stormwater infiltration and discharge to surface water;
- Installation of utility corridors for future site redevelopment;
- Installation of piezometers and/or monitoring wells within the Development AOC, the Open Space AOC, and SA-7, to allow for groundwater level monitoring for hydraulic control and groundwater sampling;
- Restoration of site and vegetation planting; and
- Recording of institutional controls and initiation of future monitoring.

Table 10 provides a cross-reference table of major construction elements referenced to particular components of the SA-6 South 100% Design (100% Design Report, Specifications, and Drawings), DCs, and the Declarations documenting completion of specified portions of the Chromium Remedy.

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

Item	Units	Quantity
Construction Water Discharged (North and South)	Gallons	41,257,040
Abandoned Existing Monitoring Wells/Piezometers	Each (EA)	47
Dewatering Wells		
Shallow	EA	339
Deep	EA	6
New Monitoring Wells		
Piezometers	EA	10
Monitoring Wells	EA	11
Material Handling		
Recycled Concrete	Cubic Yards (CY)	18,000
Excavated Soils		

Item	Units	Quantity
<20 mg/kg	CY	73,700
20-240	CY	50,800
240-1,000	CY	18,700
>1,000	CY	25,000
New Stormwater Pipe	Linear Feet (LF)	463
Consolidated Materials		
20-1,000 (South)	CY	35,000
20-240 (North)	CY	35,000
Petroleum	CY	24,000
Asphalt	CY	1,250
Hydraulic Barrier	LF	2,586
Cap Materials		
Subgrade Fill	CY	59,000
Geosynthetic Venting Layer (GVL)	Square Feet (SF)	245,217
Geosynthetic Composite Layer (GCL)	SF	46,797
Geotextile Layer	SF	62,779
Geosynthetic Drainage Layer (GDL)	SF	352,500
Liner	SF	352,500
GDL Soil	CY	15,200
Root Barrier	SF	352,500
Clean Cover Soils	CY	43,000
Backfill		
<20 mg/kg	CY	33,500
Imported Fill: Dense Grade Aggregate (DGA)/Screenings	CY	130,000
Clean Stone leftover from SA-7 Sediment Remedy	CY	1,000
Celgene, Somerset, NJ Excavation	CY	69,000
Clean Stone leftover from NJCU	CY	17,000
Surcharge		
Soil	CY	240,000

Item	Units	Quantity
Monitoring Points	EA	22 Half Stations 7 Full Stations 8 Settlement Platforms
Disposal		
Recycled Asphalt	Tons	3,700
>1,000	Tons	33,000
Concrete	Tons	815
Petroleum	Tons	36,000
Debris	Tons	315

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

Party	Responsibility
Honeywell	Overall compliance with court-ordered remediation
Amec Foster Wheeler	Engineer of Record (EOR), Design, Contract Documents, Construction Inspection, Health and Safety Oversight, and Overall Site Construction Management
Entact	Excavation of COPR, imported backfill purchase and placement, and Dewatering and Groundwater Extraction
Entact Subcontractors: **B&B Drilling, Inc.** **Maser Consulting P.A.** **Chemtech** **Eurofins** **Vertical V-Northeast** **ESI**	 Install and abandon monitoring wells and piezometers Surveying Analytical Laboratory for Imported Fill Samples (non-chromium) Analytical Laboratory for Imported Fill Samples (chromium) Compaction Testing Installation of all geosynthetic materials for the RCRA-equivalent cap
Emilcott Associates	Air Monitoring
Arecon	Manifests, and Management of Excavated Soil Disposal
Mueser Rutledge Consulting Engineers (MRCE)	3rd Party Structural and Geotechnical Engineering Peer Review
Langan	3rd Party Liner QA

Party	Responsibility
Accutest Laboratories Inc. (Accutest)	Analytical Laboratory for samples collected by Amec Foster Wheeler
Travelers Industrial Hygiene Laboratory	Analytical Laboratory for Perimeter Air Monitoring Plan (PAMP) samples
Analytical & Environmental Services, Inc. (AESI)	3rd Party Analytical QA/QC
Validata, LLC	3rd Party Analytical Data Validation
Cornerstone	Groundwater Modeling
Geocomp Engineering	Prepared Vibration Monitoring Report

Mobilization commenced on March 1, 2013 and was completed on June 28, 2013. The Chromium Remedy on SA-6 South was substantially complete by November 2016. Work on SA-6 North was also substantially completed by November 2016. Representative photographs of major components of the work are included in **Appendix A.**

1.6 DATA VALIDATION AND DATA USABILITY EVALUATION

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

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

representative and, thus, usable. Rejected data, although reported, is flagged with an "R" and is not used for the intended purpose of the associated sampling.

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

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

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

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

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

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

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

1.7 REPORT ORGANIZATION

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

- *Introduction.* This section contains information on the purpose and scope of the document, pertinent site setting information, project background and relationship between the Bayside Redevelopment Area and Bayfront, COCs and RAOs, overview of the Chromium Remedy construction elements, and report organization.
- *Preparatory Construction Activities.* This section describes the activities implemented that were in support of the main elements of the Chromium Remedy.

- *Modifications and field changes to* SA-6 South *100% Design Report.* Changes to what was proposed in the SA-6 South 100% Design report are summarized in this section.
- *Deferred Areas and Unanticipated Items Encountered During Remedial Activities.* These sections summarize uncompleted, unexpected or unanticipated conditions encountered during implementation of the Chromium Remedy.
- *Dewatering and Construction Water Treatment* (Section 6) through *Site Restoration* (Section 14). Detailed descriptions of the main elements of the Chromium Remedy are provided in these sections. Tables and figures are used to graphically communicate the information.
- *Construction Permits.* This section presents a description of the permits obtained to implement the Chromium Remedy.
- *Sustainability Efforts During Construction.* Sustainable elements of the Chromium Remedy implementation are presented in this section.
- *Post-Remedy Operation & Maintenance.* This section describes the activities to inspect, monitor, and maintain elements of the Chromium Remedy that remain. In addition, groundwater monitoring and sampling is described.
- *Institutional Controls*. The implementation of deed notices, soil and groundwater remedial action permit(s), and a classification exception area are presented in this section.
- *Record Drawings*. Record drawings are discussed and provided.
- *Remedial Action Costs*. A summary of the costs to complete the project are provided.
- *Remediation Close Out Summary*. This section contains the conclusions and recommendations.
- *References.* References used in preparing this document are listed in this section.
- *List of Acronyms and Abbreviations.* This section contains a list of acronyms and abbreviations used in this document.

2.0 PREPARATORY CONSTRUCTION ACTIVITIES

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

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

2.1 MOBILIZATION AND SITE PREPARATION

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

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

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

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

2.2 HEALTH AND SAFETY

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

The minimum personal protective equipment (PPE) for personnel within the fenced-in portion of SA-6 South included hardhats, high visibility vests, gloves, safety glasses, and steel toed boots. Minimum worker PPE within exclusion zones at SA-6 South consisted of hardhat, safety glasses, high visibility vests, Tyvek™ suits, gloves, and steel-toed boots. Upon leaving the exclusion zone, disposable PPE was placed into containers staged within the contamination reduction zone. Non-disposable PPE was decontaminated in the same area. Disposable PPE was combined with other chromium-impacted waste and transported and disposed of offsite. Decontamination fluids were processed through the onsite CWTP and subsequently discharged via JCMUA and PVSC discharge permits and agreements.

During the course of the project, 386,624 man-hours were worked on site. This number represents the combined total with SA-6 North as this was conducted as an integrated project. Of that total, approximately 60% of the total hours worked could

be allocated to SA-6 South. There were no Occupational Safety and Health Administration (OSHA) recordable incidents for the SA-6 South Chromium Remedy. Annual details are summarized in the table below:

Year	Man-Hours*
2013	60,928
2014	132,272
2015	104,384
2016	89,040
Project Total	**386,624**

*The man-hours include all hours on both SA-6 North and SA-6 South from mobilization through November 18, 2016.

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

2.3 BACKGROUND AND BASELINE PERIMETER AIR MONITORING

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

During the mobilization phase and prior to ground intrusive activities, background perimeter air monitoring was performed to establish baseline air conditions that could be used for comparison to those measured during ground intrusive activities as shown on **Table 1A**. The background sampling was conducted for a minimum of 10

days during fair weather conditions (i.e., not during rain, snow, or high humidity) from July 15, 2013 to August 6, 2013.

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

2.4 SITE SECURITY

Site security was established during the mobilization phase. Site security focused on perimeter security and access. The primary feature of Site Perimeter security was the perimeter fence line. SA-6 North was already surrounded by a perimeter fence due to the presence of the Jersey City Entities at that Site. The existing chain link fence along the exterior borders of SA-7 and SA-6 South previously installed during the remediation of SA-7 was repaired and replaced, as needed. Where new fence was required, 8-foot chain link fence was installed (equivalent to that installed on SA-7).

In addition to the perimeter fencing, control of access to SA-6 North, SA-6 South, and SA-7 was established primarily by use of strategically placed gates in the perimeter fencing. Site Access for SA-6 South was established with the entrance and exit through a security manned gate from Kellogg Street. No access to SA-7 was provided from offsite locations. All access to SA-7 was from either SA-6 North or SA-6 South.

Finally, a 24-hour security guard presence was also maintained throughout the project. Guards patrolled SA-6 North, SA-6 South, and SA-7 in vehicles.

2.5 SUPPORT FACILITIES AND TEMPORARY SITE UTILITIES

Support facilities for the Honeywell and Amec Foster Wheeler construction management and Entact teams were also established during mobilization. Honeywell and Amec Foster Wheeler shared office space in the southern portion of the existing building at Site 125 (60 Kellogg Street) from the beginning of mobilization in March 2013 until February 2016. Once Honeywell and Amec Foster

Wheeler moved out of the office space at Site 125, a set of permanent office trailers was established in the northeast corner of SA-6 North.

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

Additionally, the CWTP was constructed between the former JCMUA Sludge Digesters and the JCDPW "H" building. The construction of the CWTP is described in more detail in Section 6.3. SA-7 was used for the staging of incoming clean materials including surcharge fill and geosynthetic materials. Equipment staging, parking, truck staging, and other storage was located in available areas.

2.6 TRAFFIC CONTROL

Onsite traffic associated with remedial activities was controlled by using designated routes established in the 100% Design and DC 2016-05-06. A paved, perimeter road was established on SA-7, which provided access to both SA-6 South and SA-6 North. Temporary ramps were built out of clean fill for transport between elevation changes on both SA-6 South and SA-6 North. These routes were marked using orange construction fence, traffic barricades, jersey barriers, signage and/or other types of traffic control devices.

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

2.7 DEMOLITION

In accordance with a Site Preparation Plan prepared for SA-6 South, dated November 1, 2011, buildings were demolished on SA-6 South as part of the SA-6 Chromium Remedy as listed below.

NJDEP Site No.	NJDEP Site Name	Feature(s)
125	Delphic Consolidated	1 Building
134	Boatyard	1 Building
140	ABF Trucking	4 Buildings
163	Posnak & Turkish	2 Buildings

Prior to demolition, each impacted facility was evaluated for inventory, hazardous material survey/characterization, removal/abatement, decommissioning, and demolition. Viable products remaining at the facilities were shipped to other facilities that could either use, store, or manage the product. Decommissioning included the cleaning of equipment, piping, and storage vessels; the management, removal, and recycling of the tank bottom sludge, if any; abatement of environmentally sensitive building materials (such as asbestos containing building materials); and removal of Universal Wastes such as mercury devices, refrigerant, lamps, light ballasts, and batteries. Buildings and above-ground storage tanks were demolished and equipment, piping, and materials removed from SA-6 South. Demolition permits were received prior to ground intrusive work.

2.8 UTILITY ABANDONMENT

Utilities at SA-6 South included gas, electric, telephone/internet, water, storm and sanitary sewer which serviced SA-6 South. Utilities that crossed into the excavation areas were removed. Additionally, a section of storm sewer adjacent to Site 140 along Kellogg Street was replaced and a new catch basin was installed as shown on the Record Drawing, entitled "As Built Restoration Plan."

2.9 GROUNDWATER TESTING FOR pH

During the mobilization phase and early stages of the Chromium Remedy implementation and prior to ground intrusive activities, Amec Foster Wheeler collected groundwater pH readings from 13 different locations along the proposed hydraulic barrier wall alignments at SA-6 South. The groundwater pH measurements were necessary to determine the type of sealant material that was suitable for the hydraulic barrier (sheetpile) joints.

Groundwater pH values above 11.5 standard units required a cement-bentonite grouted seal. **Figure 6** shows the measured pH values at each SA-6 North and SA-6 South location and stationing along the hydraulic barrier wall alignments. Section 10 details the installation of the hydraulic barrier and sealing of its joints.

The pH monitoring was performed in accordance with the methodology documented in a technical memorandum, dated August 12, 2013 and submitted by Honeywell to All Parties. All pH monitoring was performed in the fill above the meadow mat

(Stratum D). Groundwater measurements were collected by Amec Foster Wheeler personnel certified with the NJDEP Office of Quality Assurance to perform field analysis of non-potable water for specific conductance, turbidity, dissolved oxygen, pH and temperature.

2.10 WASTE CLASSIFICATION

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

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

In addition to the hexavalent chromium impacted soil, SA-6 South contained non-chromium impacted soil with other COCs. In some locations, the soil exhibiting the non-chromium COCs was co-mingled with the potentially chromium impacted material, although typically not with the higher hexavalent chromium concentrations that required offsite disposal. Therefore, waste characterization samples were also collected from those AOCs at SA-6 South that contained the non-chromium COCs, using the same two-part compositing procedure for chromium-impacted areas designated for offsite disposal. The results were compared to RCRA hazardous limits. This sampling protocol was used by Honeywell to properly classify the material and obtain disposal facility approvals as needed.

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

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

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

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

4.0 DEFERRED AREAS

As discussed in the Executive Summary, and Sections 1.4 and 4.5.2, there are two areas within the SA-6 South Development AOC where excavation was technically impracticable during implementation of the SA-6 Chromium Remedy. Remediation of these areas will be deferred until a later time.[8] In the meantime, Honeywell will establish deed notices on both areas until remediation can be completed. These two areas are shown on **Figure 19** and are referred to as the Route 440 ROW and Site 073 Bulkhead Deferred Areas, corresponding to Deed Notice Area 2 and Deed Notice Area 4, respectively. Honeywell will document the remediation of each Deferred Area with a supplement to this CCR after the completion of the remedial work in each Deferred Area.

Deed Notice Area 2 is an approximately 1,300 SF strip of land on SA-6 South between the eastern boundary of the SA 6 South Open Space AOC (eastern hydraulic barrier) and the Route 440 ROW. Public Service Electric & Gas (PSE&G) owns and operates a 24-inch high pressure gas main within the ROW in this area. Honeywell inquired of PSE&G and New Jersey Department of Transportation (NJDOT) about the potential relocation of a portion of this gas main and determined that utility relocation should be deferred pending the comprehensive Route 440 Road Widening Project which is currently in the design phase. Consequently, a portion of the eastern SA-6 South hydraulic barrier was relocated approximately 10 feet westward in this area. The Route 440 Road Widening Project is expected to commence no later than 2019, three years from the completion of the Chromium Remedy. Honeywell will continue to monitor NJDOT and PSE&G progress on the Route 440 Road Widening Project and will address residual chromium contamination proximate to the gas line when relocated in the future for the Route 440 improvements.

As indicated in Section 4.1 of the SA-6 South 100% Design Report, the hydraulic barrier alignment was moved approximately 10 feet to the west to avoid impacts to the gas main. Consequently, this approximately 15-foot wide portion of SA-6 South

[8] In the event that the Route 440 road widening project and the bulkhead repair project are not completed by the end of 2021 (five years after completion of the SA-6 Chromium Remedy), the Parties will confer regarding appropriate action for the Deferred Areas.

was then outside of the hydraulic barrier/cap of the Open Space AOC. As indicated in Section 4.1 of the SA-6 South 100% Design Report, Honeywell indicated its intention to defer excavation of chromium-impacted soil within the Deed Notice Area 2 footprint until such time that the gas main is relocated during the Route 440 Road Widening Project. Excavation of residual chromium-impacted soil between the eastern hydraulic barrier and the SA-6 South property line in this area will be coordinated with the relocation of the gas main during the Route 440 Road Widening Project. In the meantime, Honeywell will institute a deed notice on this area. Once the remediation of this area is complete and achieves soil RAOs, Honeywell will terminate the deed notice. A draft of the deed notice is contained in **Appendix R**.

Deed Notice Area 4 is comprised of two tracts of land; Tract 1[9] is on SA-7 and Tract 2 is on a portion of Site 073 on SA-6 South. Tract 2 will be discussed further herein. Tract 2 is an approximately 11,600 SF area adjacent to the bulkhead partially between the western boundary of the SA 6 South Open Space AOC (western hydraulic barrier) and the bulkhead and partially south of the SA-6 South Open Space AOC. The SA-6 South 100% Design plan for the Site 073 deferred area was to excavate the top 4 feet of soils within the deferred area and defer additional excavation below a depth of 4 feet until implementation of the Bayfront Redevelopment Plan when the bulkhead will either be repaired or replaced. Because an approximately 5-foot thick concrete slab was unexpectedly encountered while excavating in this area and because removal of this concrete would jeopardize the integrity of the bulkhead, DC 2014-5-19 proposed deferral of *all* excavation in this area until implementation of the Bayfront Redevelopment Plan. The proposal to defer remediation was approved by all parties and the Special Master under the SA-6 South Consent Decree. Excavation of residual chromium-impacted soil along the bulkhead in Tract 2 will be coordinated with bulkhead improvement work to be implemented during the Bayfront Redevelopment Project. In the meantime, Honeywell will institute a deed notice on this area (both Tracts 1 and 2 together in

[9] Tract 1 on SA-7 is the "Technically Impracticable Area or TI Area" identified in the SA-7 RAR. NJDEP issued a conditional No Further Action letter for SA-7 soils, excluding the TI Area. Soils within Tract 1 met the Final Judgment cleanup objective of 240 mg/kg for hexavalent chromium for SA-7, but did not meet the 20 mg/kg objective in the NJDEP Chromium Policy. Soils exceeding the 20 mg/kg objective for hexavalent chromium are covered by at least 7 feet of clean soils. Tract 1 will not be remediated by Honeywell. Instead, the 7-foot thick clean soil cap will remain in place and Tract 1 will be subject to a Deed Notice.

Deed Notice Area 4). Once the remediation of the Tract 2 area is complete and achieves soil RAOs, Honeywell will terminate the deed notice for Tract 2. Tract 1 will continue to be subject to a deed notice. A draft of the deed notice is contained in **Appendix R**.

It is not anticipated that the Bayfront Redevelopment Project will impact Deed Notice Area 2 because this area is so narrow, is proximate to the Route 440 ROW, and the gas main is located within the area. Development of this area will be deferred until the gas main is relocated. The Bayfront Redevelopment Project bulkhead reconstruction will impact Deed Notice Area 4. However, once appropriate permits are obtained for the bulkhead reconstruction and the embankment in this area is secured, the remediation of chromium-impacted soil in Tract 2 of Deed Notice Area 4 will be implemented in connection with the Bayfront Redevelopment Project.

5.0 UNANTICIPATED ITEMS ENCOUNTERED DURING REMEDIAL ACTIVITIES

During excavation activities at SA-6 South, numerous unforeseen subsurface features, conditions, or structures were encountered requiring actions not included as part of the SA-6 South 100% Design including the following:

- A larger than expected quantity of miscellaneous concrete building slabs, and foundations;
- Arsenic-impacted asphalt;
- Debris co-mingled as part of the historic fill;
- Hydrocarbon-impacted soil;
- Three unregistered underground storage tanks (USTs); and
- Discontinuities related to penetrations, vertical cracks, and vertical shear zones of Stratum D.

Additional sampling was conducted that included:

- An initial post-remedial quarterly groundwater sampling event;
- Soil sampling in the Site 073 deferred area; and
- Soil sampling of anomalous material as described in Sections 8.6 and 8.7.

Descriptions of these items, with the exception of anomalous material sampling, are provided in the sections below.

5.1 CONCRETE BUILDING SLABS, FOUNDATIONS, ARSENIC-IMPACTED ASPHALT, DEBRIS

A larger than expected volume of concrete building slabs, foundations, and debris from previous structures were encountered. Concrete and arsenic-impacted asphalt was sampled, analyzed, evaluated, and handled in accordance with the NJDEP-approved Soil Management Plan (SMP) which was part of the 100% Design Report and the *Proposed Concrete and Asphalt Sampling Plan* (CASP), dated September 2013 which was submitted to the NJDEP on October 28, 2013. The SMP allowed

concrete meeting NJDEP reuse parameters to be reused onsite as backfill in excavations or placed in the Open Space AOC with consolidated chromium-impacted soil. Most of the concrete that met the reuse criteria was sized to 3-inch minus for reuse by Entact in accordance with the SA-6 South 100% Design Report. Details concerning the sampling, testing, and disposition of the concrete material are contained in Section 9.

As part of the SA-6 Chromium Remedy, Entact collected 16 samples (Asphalt-001 through Asphalt-016) of the existing asphalt pavement throughout the excavation footprint at SA-6 South in accordance with the September 2013 CASP. The sampling procedures followed are detailed in **Appendix J-1**. The locations of the asphalt samples are shown on the figure provided in **Appendix J-1**. The quantity of asphalt represented by the samples was approximately 1,250 CYs or 2,100 tons. The purpose of the sampling was to determine the disposition of the asphalt in accordance with the NJDEP-approved SMP. Upon approval by the NJDEP, all of the arsenic-impacted asphalt was consolidated in both SA-6 North and South Open Space Areas.

A larger volume than expected of debris was encountered comingled with soil in the eastern (Sites 124 and 125) and central (Site 134) portions of the SA-6 South excavation areas. The composition of the debris and soil separation procedures are described in **Appendix J-1**. The debris-free soil was then considered suitable for reuse or consolidation in both SA-6 North and South Open Space Areas. The debris was disposed of offsite, totaling 315 tons.

5.2 HYDROCARBON-IMPACTED SOIL AT SA-6 SOUTH

Hydrocarbon-impacted soil was first encountered during the excavation at Site 124 and continued into Site 125 in the eastern part of SA-6 South. Additionally, hydrocarbon-impacted soil was encountered at Site 073 and Site 134 in the western part of SA-6 South. These materials were identified by their odor and elevated photo-ionization detector (PID) readings in the work zone. Entact segregated and stockpiled the hydrocarbon-impacted soil based upon the hexavalent chromium concentration ranges depicted in the design. Amec Foster Wheeler and Honeywell evaluated options for addressing the hydrocarbon-impacted soil with NJDEP as described in **Appendix J-2**.

This evaluation determined that any VOCs and naphthalene that were below their respective NJDEP inhalation-based residential standards would not pose an unacceptable inhalation risk or cause nuisance odors if the hydrocarbon-impacted soils were consolidated and capped in the Open Space AOC as approved by the NJDEP and indicated in DC 2014-10-28. Hydrocarbon-impacted soils that did not meet the NJDEP inhalation-based residential standards were shipped offsite for disposal.

The following summarizes the disposition of the hydrocarbon-impacted soil encountered at SA-6 South, see Appendix J-2 for additional details:

- Approximately 48,150 CYs of hydrocarbon-impacted soil co-mingled with <1,000 mg/kg of chromium-impacted soils was encountered, stockpiled, and sampled/characterized at SA-6 South.
- Of this, 39,200 tons (approximately 25,750 CYs) of hydrocarbon-impacted material was shipped offsite for disposal for excessive debris or based upon an evaluation of inhalation risk described above.
- The remaining approximately 24,000 CYs of hydrocarbon-impacted soil were consolidated in the Open Space AOC (cap area) at SA-6 South upon approval by NJDEP as described below.

5.3 USTS ENCOUNTERED AT SITE 134 AT SA-6 SOUTH

During the course of chromium-impacted soil excavation activities at Site 134 located in the Kellogg Street Development AOC, three, unknown USTs were discovered in succession between June 30, 2014 and July 3, 2014. Upon discovery, Honeywell immediately notified their LSRP, Mr. Peter Jaran, P.E. of Equity Environmental Engineering, LLC (Equity), who is overseeing remediation of the non-chromium AOCs. Upon consultation and oversight by the LSRP, Honeywell authorized Entact to remove the USTs. Entact removed the USTs from the ground on July 1, 2014, July 7, 2014, and July 9, 2014 respectively. Since the tanks were previously unregistered, the LSRP registered the tanks with NJDEP.

Each of the USTs measured approximately 5-feet in diameter and 24 feet in length (approximately 3,500-gallon capacity). Given the length and depth of the USTs, six post-excavation soil samples were collected from 8 feet bgs and analyzed for appropriate parameters for USTs of unknown origin in accordance with the TRSR.

Since the use/former contents of the USTs were unknown, the tanks were treated as Category 2 tanks per NJDEP's "Protocol for Addressing Extractable Petroleum Hydrocarbons" (EPH Guidance) for investigation/remediation purposes.

Additional details concerning the three USTs encountered at Site 134 at SA-6 South are contained in the report *Underground Storage Tank Remedial Action Report* (UST RAR), dated January 2015 prepared by Equity and Amec Foster Wheeler on behalf of Honeywell. The LSRP submitted the UST RAR to NJDEP on November 13, 2015 and issued the Remedial Action Outcome on May 21, 2015.

5.4 STRATUM D REPAIR

During the development of the 100% Design, a geotechnical investigation was conducted to determine the elevation and thickness of the meadow mat (Stratum D) that underlies SA-6 South. A Geotechnical Investigation Report (Geotechnical Report) was included as Appendix C of the SA-6 South Chromium Remedy 100% Design Report and provided the details of the characteristics and incidence of Stratum D. In summary, Stratum D is a native marsh deposit consisting of organic silt/clay and peat with an average permeability of 4.8 x 10-7 cm/sec (as reported in the Geotechnical Report). Due to its low permeability, Stratum D plays an important role in preventing vertical migration of contaminants from the fill material overlying Stratum D to the native material aquifer below and establishing hydrogeologic flow characteristics of the shallow groundwater perched atop the Stratum D. No breaches or discontinuities of the Stratum D were documented in the SA-6 South Geotechnical Report.[10] However, several isolated discontinuities of Stratum D within SA-6 South were encountered during excavation.

The 100% Design for SA-6 South did not address Stratum D repair. However, upon encountering the isolated discontinuity in Stratum D in cells 76 to 77 at SA-6 South, Honeywell informed the Special Master and the Parties that the identified discontinuity was discovered and recommended a method of repair of this discontinuity in Stratum D in an email dated November 5, 2014 (see **Appendix S**).

[10] In contrast, the SA-6 North Geotechnical Report, Appendix B to the SA-6 North Chromium Remedy 100% Design Report, documented breaches of the Stratum D in the area known as the JCIA Pit. As a result, the SA-6 North 100% Design required repair of the Stratum D in accordance with Specification Section 02180.8 Special Instructions – Repair of Stratum D on SA-6 North.

The repair of Stratum D at each discontinuity location was necessary to maintain integrity of the Stratum D as a confining layer. Therefore, the Stratum D discontinuities encountered during the excavation were repaired using a GCL in accordance with applicable sections of Specification Section 02180.8 Special Instructions – Repair of Stratum D on SA-6 North, as agreed to by the Parties.

During the course of the remaining chromium-impacted soil excavation activities at SA-6 South, similar repairs to Stratum D were necessary in the following situations:

- On several occasions pilings that penetrated the Stratum D were removed inadvertently in the excavation process
- In several locations, vertical cracks were observed in the Stratum D; and
- In one location, there appeared to be a vertical shear zone resulting in an offset in the Stratum D.

In each Stratum D repair location, GCL was placed over, and extended at least 3 feet beyond the repair area to provide continuity to the Stratum D layer. The location of the repairs was surveyed and noted on the Entact drawing titled SA-6 South Cap Panel Layout 60 mil Textured LLDPE Geomembrane in **Appendix C**.

5.5 ADDITIONAL SAMPLING CONDUCTED

Two additional sampling events were implemented as the Chromium Remedy at SA-6 South was being completed. These additional sampling events included:

- Three post-remedial quarterly groundwater sampling events;
- Soil sampling along the bulkhead to further define the area of deferred excavation at Site 073; and
- Soil sampling of anomalous material as described in Sections 8.6 and 8.7.

Each of these additional sampling events are described in the Sections below.

5.5.1 Quarterly Groundwater Sampling

Twelve new monitoring wells were installed within the Development AOC as described in the SA-6 South 100% Design, Appendix D and in CCR Section 7.0. The initial quarterly groundwater sampling of one existing monitoring well located on

Site 163 and the 12 new monitoring wells was conducted from April 6 through 8, 2016 to evaluate the condition of groundwater in the Development AOC following the excavation of the chromium-impacted soils from that area. The second quarterly groundwater sampling event was conducted July 5 through 7, 2016. The third quarterly sampling event was conducted October 4 through 6, 2016. Technical memoranda summarizing each event including the analytical results are included in **Appendix J-3**.

A summary of the analytical results from the three groundwater sampling events is as follows:

- The only instance of hexavalent chromium detected above the laboratory reporting limit of 5.5 µg/L was in the unfiltered and filtered samples of 140-MW-10 during the October 2016 event. Both concentrations were below 70 µg/L total chromium,
- Total chromium was detected above the laboratory reporting limit of 10 µg/L in unfiltered samples at 9 of the 12 locations and in filtered samples at only 2 of the 12 locations.
- Total chromium was detected above the GWQS of 70 µg/L in the unfiltered samples collected from:
    - 125-MW-03 (July only);
    - 134-MW-04 (April only);
    - 140-MW-09 (April, July, and October).
- Total chromium was detected above the GWQS of 70 µg/L in the filtered samples collected from 140-MW-09 only in July and October.

The October sample from 140-MW-09 was also filtered through a smaller filter size (0.1 micron) in addition to the standard filter size (0.45 micron). The objective of the extra filtering was to evaluate whether trivalent chromium detected in the monitoring wells during the previous sampling event is complexing on colloidal particles smaller than the standard 0.45 micron filters. Total chromium was below the GWQS of 70 µg/L in the sample filtered through the smaller filter, indicating that smaller particles are contributing to the higher total chromium results. Since all chromium-impacted soil has now been excavated from the Development AOC at

SA-6 South and monitoring well 140-MW-09 is located within an area of historic fill, differences between total chromium and hexavalent chromium may be associated, at least in part, with non-COPR sources of chromium such as historic fill or other historical industries in this part of SA-6 South.

The groundwater total and hexavalent chromium results represent a marked improvement in groundwater quality as compared to pre-remediation conditions, particularly in the eastern portion of SA-6 South at Site 124, where total chromium concentrations had been as high as 137,000 µg/L and hexavalent chromium concentrations had been as high as 6,400 µg/L. For comparative purposes, Figure 8 from the NJDEP-approved SA-6 South Chromium SRIR/RASR/RAWP and Figure 8 from the SA-6 South Pre-Design Investigation Summary Report as part of the SA-6 South 100% Design showing groundwater total and hexavalent chromium results in groundwater samples collectively from 1997 to 2010 are provided in **Appendix G**.

5.5.2 Verification Sampling at Site 073 Bulkhead Deferred Area

The SA-6 South 100% Design plan for the Site 073 Bulkhead Deferred Area, shown on **Figure 19**, was to excavate the top 4 feet of soils within the deferred area and defer additional excavation below a depth of 4 feet until implementation of the Bayfront Redevelopment Plan when the bulkhead will either be repaired or replaced. Because an approximately 5-foot thick concrete slab was unexpectedly encountered while excavating in this area, DC 2014-5-19 proposed deferral of *all* excavation in this area until implementation of the Bayfront Redevelopment Plan. The proposal to defer remediation was approved by all parties and the Special Master under the SA6 South Consent Decree.

Additional soil borings were conducted in the Site 073 Bulkhead Deferred Area to further investigate the extent of subsurface concrete slabs in the area and characterize hexavalent chromium concentrations in soil in this area for use during the deferred excavation during bulkhead improvements. The additional soil borings in the Site 073 Bulkhead Deferred Area were conducted in two phases with additional details described in **Appendix J-4**. The first phase, consisting of two borings, 073-SB-101 and 073-SB-102, was conducted on May 5 and 6, 2014. The second phase, consisting of four borings, 073-SB-103 through 073-SB-106, was conducted on May 9 and 10, 2016. The locations of all six borings are shown on **Figure 8A** as well as other proximate PDI borings drilled in the deferred area and boring logs are contained in **Appendix H**. The analytical data for hexavalent

chromium are summarized in **Table 6C** and confirm conditions in the deferred area based upon RI and PDI sample results.

6.0 DEWATERING AND CONSTRUCTION WATER TREATMENT

6.1 GENERAL

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

For management of stormwater, diversion berms were installed upgradient of excavation areas and within large excavation areas as needed to divert the flow of surface water away from open excavation areas. Additional controls used to minimize the volume of water requiring treatment included extending sheetpile to elevation 10.7 feet based on the National Geodetic Vertical Datum 1929 (NGVD29), sealed jersey barriers, and minimizing the open excavation between the excavation face and the backfill.

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

6.2 EXCAVATION DEWATERING/PUMPING

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

6.2.1 Well Installation

Shallow well points and deep wells for dewatering above and below Stratum D in the Development AOC were drilled and installed by B&B Drilling, Inc. (B&B Drilling), a licensed New Jersey well driller, in accordance with N.J.A.C. 7:9D. The shallow well points and deep dewatering wells are shown on the Excavation De-Watering Layout 03/15/16 figure provided by Entact contained in **Appendix C**. Deep dewatering wells within the main SA-6 South excavation area were given the designations DW-1 through DW-5. A sixth deep dewatering well (DW-8) was also installed within the deeper chromium-impacted soil excavation area at Site 163.

As shown in the Excavation De-Watering Layout figure in **Appendix C**, approximately 18 interior shallow well point systems (H-1 to H-18) were installed horizontally or vertically within the excavation footprints as excavation progressed across the phases. A row of perimeter well points were installed along the boundary of the SA-6 South excavation area with the exception of an area where temporary sheetpile was installed. The temporary sheetpile is shown on the Excavation De-Watering Layout figure in **Appendix C.**

Shallow well points were covered under the Temporary Dewatering Permit obtained from NJDEP. Deep dewatering wells constructed through Stratum D (confining layer) required permits for the deep wells. Well records for the deep wells are included in **Appendix E**.

The deep dewatering wells were drilled and installed by B&B drilling using a hollow-stem auger rig. Each deep well was drilled through the Stratum O/D layer to a total depth of up to 50 feet bgs, 32 to 33 feet below the top of the Stratum O/D layer. A 6-inch diameter screen and riser pipe were used in the construction of each deep dewatering well. Screen lengths were 25 feet long in each. A 10-inch diameter steel conductor casing was set 1 to 2 feet into the top of the Stratum O/D layer to isolate water above the Stratum O/D layer from that below.

Shallow well points were installed by B&B Drilling. Shallow well points consisted of a 2.5" slotted polyvinyl chloride (PVC) well casing with filter pack placed around the slotted screen and a 1.5" PVC interior drop tube. The well casing was advanced to 2 feet below the anticipated bottom of the excavation or to the top of the Stratum D layer using hollow-stem auger drilling methods. Each well point was equipped with a control valve and was connected to a header pipe (H-1 to H-18) via flexible hoses which connected to the electrically driven vacuum stations. The interior well points system was connected to the header pipes in a staggered row pattern to maximize the radius of influence. The perimeter well points were connected to a common header pipe in a single row.

Well component specifications were submitted by Entact to Amec Foster Wheeler for review and approval prior to installation. Shallow well points within the excavation areas were removed with the excavated soils. Deep dewatering wells were abandoned by B&B Drilling's licensed driller once an adequate amount of backfill

placement and compaction within an area was complete. Abandonment reports are included in **Appendix F.**

To determine the depth of the Stratum D at header locations, B&B Drilling drilled investigatory boreholes at a frequency of one sample per 50 lineal feet of the header pipe and collected core samples from each to determine the actual bgs depth of the Stratum D layer prior to installing interior and perimeter well points. Boreholes were offset approximately 10 feet from the well point location to protect the integrity of the well point. The boreholes were advanced with the drill rig to within 4 feet of the assumed Stratum D layer. The remaining 4 feet were advanced using a 2-foot-long split-spoon sampler to retrieve core samples. The core samples were evaluated by Amec Foster Wheeler to determine if the Stratum D layer was encountered. Soil boring logs are included in **Appendix H**. At the completion of sample collection, the depth of the observed Stratum D layer or termination point of the borehole was recorded and the borehole was grouted. The data collected during the split-spoon sampling event was evaluated to determine the depth at which the dewatering well points would be driven to effectively dewater excavation areas within breaching the Stratum D layer.

6.2.2 SA-6 South Dewatering/Pumping System

The general process for managing water was to prevent water from contacting chromium-impacted fill materials. However, this was not possible for activities performed below the groundwater table and where surface water/stormwater and incidental precipitation fell on active excavation areas, backfill areas, exclusion zones and contaminant reduction zones. Construction water was removed from remediation and support areas and stormwater that contacted chromium-impacted soils was removed using localized sumps and pumps. Sumps were installed at the low point within an excavation area and consisted of submersible pumps placed inside perforated pipe wrapped in geotextile liner and embedded in stone. Sumps were not installed below and did not penetrate the Stratum D layer and were constructed and relocated as needed as excavations proceeded. Stormwater and surface water collected in sumps was pumped to 21,000-gallon settling tanks to remove sediment and then to the CWTP.

The SA-6 South excavation in the Development AOC was dewatered in four phases corresponding with excavation sequencing. Dewatering with shallow well points and deep wells began in an excavation area and/or phase to achieve drawdown in

advance of excavation activities. Thus, shallow well points and deep wells were installed prior to the start of excavation activities to allow adequate time for groundwater removal. Dewatering data for both SA-6 North and SA-6 South is included in **Appendix I**.

6.3 CONSTRUCTION WATER TREATMENT PLANT

The CWTP for SA-6 North and SA-6 South was constructed west of the JCMUA Digestion Tanks on SA-6 North. The CWTP was constructed within a secondary containment system for spill prevention. The secondary containment consisted of a 40-mil high-density polyethylene (HDPE) geomembrane overlain with a 6-inch layer of 1-1/2-inch crushed stone. Class A geotextile liner was placed above and below the geomembrane. The 40 mil geomembrane panels were welded in the field. The secondary containment area had a perimeter berm constructed out of geotextile-covered jersey barriers. The CWTP consisted of approximately 300,000 gallons of untreated (influent) storage made up of eight, 21,000-gallon frac tanks manifolded together by flexible hoses and six additional frac tanks during the peak of excavation activities.

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

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

Commissioning and startup test procedures specified in the SA-6 South 100% Design Report were performed prior to initial discharge from the effluent tank. Entact oversaw operations and maintenance of the system during normal work hours. In the event that pumping was required during non-work hours, the system was manually operated by Entact personnel in the same manner as it was during work hours.

Upon completion of the SA-6 South and North Chromium Remedies, the CWTP was decontaminated, disassembled, and demobilized and residual solids and spent media generated as a result of the operation of the CWTP were sent offsite for disposal. Disposal manifests for the CWTP are included in the SA-6 North RAR.

6.4 GROUNDWATER LEVEL AND BASELINE GRADIENT MONITORING

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

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

- 115-E1A-SO;
- 115-W3-SO; and
- 115-W5-SO.

Along the southern side of the SA-7 SCB wall, the standpipes that monitor perimeter pools S1 through S4 were utilized to determine the head against the north side of the SA-7 SCB wall. Elevation 4.0 feet, based upon the NGVD29 datum, is the lowest head elevation within the SA-7 site-wide underdrain system. Honeywell has installed water-level monitoring points within SA-7, which will be used in the determination of whether there is an outward gradient from SA-7 towards SA-6 South.

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

- 124-PZ-11;
- 124-PZ-12.
- 124-PZ-13
- 124-PZ-14
- 124-PZ-15
- 124-PZ-16
- 124-PZ-17
- 124-PZ-18
- 124-PZ-19; and
- 124-PZ-20.

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

Following installation of the geomembrane portion of the cap and initial drawdown of the contingent groundwater system, Amec Foster Wheeler conducted initial interim groundwater level monitoring during the 12-month transition period on a bi-monthly basis. In accordance with the LTMP and Groundwater Level Monitoring Plan, Honeywell provided notice to the Parties that long-term groundwater monitoring activities at SA-6 South were being initiated in November 2016 in correspondence dated November 7, 2016 (see **Appendix J-3**). To supplement the manual groundwater measurements to monitor the hydraulic gradient within the SA-6 South Open Space AOC compared to outside of it, data loggers were utilized at 124-PZ-19, 124-PZ-20, 115-W3-SO, 124-PZ-18, 124-PZ-17, MH-2, 115-W5-SO, 124-PZ-13, 124-PZ-14 and 115-E1A-SO. The results of the manual readings taken during the first event per month of the initial interim groundwater level monitoring

are provided in **Table 4**. The results indicate that the piezometers are performing as expected and an inward gradient is maintained at most piezometer locations without active pumping of the contingent groundwater system. However, at the western end of the Open Space AOC along the Hackensack River, the gradient, measured in 124-PZ-19 (exterior) and 124-PZ-20 (interior), is generally outward and fluctuates depending on tidal influences. Since manual water level readings only provide an instantaneous measure of head and do not capture the full tidal cycle, they may not be an accurate means of determining head gradients across the barrier wall at this location. Tidal fluctuations in PZ-20 at SA-6 South are in the range of 1.5 to 2.0 feet in amplitude with little or no lag from the river tides. By comparison, tidal fluctuations in the companion piezometer (PZ-19) are approximately 0.1 feet in amplitude. Tidal influences are not present at any of the other piezometer pairs at SA-6 South. As indicated below, samples from all interior piezometers were collected. The analytical results summarized in the November 7, 2016 correspondence indicates that the filtered and unfiltered groundwater samples from 124-PZ-20 were non-detect for both hexavalent and total chromium.

In response to Plaintiffs' request to establish baseline groundwater quality conditions inside the Open Space Areas, filtered and unfiltered groundwater samples were collected from each piezometer on the interior of both SA-6 North and SA-6 South. The samples were analyzed for total and hexavalent chromium. A summary of this data for the interior piezometers is included in **Appendix S**. The location of the piezometers is shown on **Figure 10**.

7.0 MONITORING WELL ABANDONMENT AND INSTALLATION

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

As discussed in Section 6.4, five pairs of new shallow piezometers were installed on either side of the SA-6 South hydraulic barrier to monitor hydraulic gradients across the barrier. Additionally, 12 new shallow groundwater monitoring wells were installed throughout the SA-6 South Development AOC to allow monitoring of groundwater conditions with respect to chromium in accordance with the Development AOC Shallow Groundwater Monitoring Plan (SGWMP) which was Appendix D of the SA-6 South 100% Design Report. The well logs are included in **Appendix H**.

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

- 115-E1A-SO;
- 115-W3-SO; and
- 115-W5-SO.

Figure 10 shows the location of three types of monitoring wells at SA-6 South:

- Monitoring wells that existed prior to the start of the SA-6 Chromium Remedy and were abandoned;
- Monitoring wells that existed prior to the start of the SA-6 Chromium Remedy and were retained because they are still needed for ongoing and future groundwater monitoring, including those exclusively needed for non-chromium AOCs; and

- New monitoring wells installed for groundwater monitoring in the Development AOC at SA-6 South in accordance with the SGWMP.

The 12 new monitoring wells installed in the SA-6 South Development AOC are:

- 073-MW-06;
- 073-MW-07;
- 073-MW-08;
- 124-MW-12;
- 124-MW-13;
- 125-MW-02;
- 125-MW-03;
- 134-MW-03;
- 134-MW-04;
- 134-MW-V09R (installed in a non-chromium AOC);
- 140-MW-09; and
- 140-MW-10.

Table 5 also lists the ID and current status of monitoring wells at SA-6 South.

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

8.0 EXCAVATION

Excavation of chromium-impacted soil was performed consistent with the NJDEP-approved RAWP, SA-6 South 100% Design Report, and subsequent DCs applicable to excavation. The excavation at SA-6 South was implemented only in the Development AOCs. Excavation was performed at SA-6 South from October 22, 2013 to June 2, 2016.[11] More details concerning the excavation sequence and schedule are provided in Section 8.3. A progression chart was maintained throughout the project that tracked excavation and backfilling operations showing zones for work sequence and quality control and was reviewed with all Parties at routine progress meetings/conference calls and was provided in the Monthly Progress Reports **(Appendix S)**. As excavation progressed, Honeywell periodically submitted to all Parties documentation of completion of portions of the excavation operations in accordance with the SA-6 South Standard Operating Procedure - Confirmation of Excavation Limits, dated March 3, 2014 (and including Honeywell's April 24, 2014 letter and attachments) for acknowledgement by the Special Master prior to commencing backfilling. The excavation completion correspondence is included in **Appendix S**. Record Drawings for excavation and backfill work are included in **Appendix C**.

8.1 TEMPORARY EXCAVATION SUPPORT

Temporary excavation support consisting of sheetpile was installed as shown on SA-6 South Temporary Support of Excavation Plans (S-501 to S-504) as prepared by Honeywell's geotechnical consultant, MRCE, and in accordance with SA-6 South 100% Design Report Specification Section 02150 to stabilize certain portions of the excavation areas adjacent to roadways or other critical infrastructure. The temporary excavation support was removed when possible. Areas where the temporary excavation support remains are shown on the Entact drawing titled "As Built Restoration Plan" in **Appendix C**. The temporary excavation support systems consisted of 2807 Hoesch Larssen Z sheetpile installed at the following locations:

[11] Declaration #1 describes the excavation period as October 22, 2013 to December 22, 2014. The time period described in this CCR includes the excavation of areas of Site 163 originally intended for in-situ treatment (see Section 12), and excavation of anomalous materials at 60 Kellogg Street (see Section 8.7) which came after the issuance of Declaration #1.

SA-6 South Excavation Area
Site 124 – Jughandle at Route 440
Site 140 – Kellogg Street
The property boundaries between Site 163 and Site 073 and Site 134
Site 163 Development AOC – Additional Deeper Excavation

The Entact Quality Control Engineer monitored the temporary excavation supports for horizontal deflection during excavation. The SA-6 South 100% Design Report also mandated the need for vibration monitoring when sheeting was being driven at the Route 440 jughandle and in close proximity to underground utilities. Vibration monitoring is discussed further in Section 10.2.

8.2 EXCAVATED SOIL MANAGEMENT

Excavated soil was managed onsite in accordance with the NJDEP-approved SMP and the approved soil erosion and sediment control plan. Prior to the start of the Chromium Remedy, as part of the PDI, post-excavation equivalent samples were collected and boring locations were surveyed (see the PDI Results and Mapping Report in Appendix A of SA-6 South 100% Design Report). The post-excavation equivalent samples established the horizontal and vertical limits of the chromium-impacted soils and, thus, defined the extent of the excavations for most of the site. Additional post-excavation sampling was required to confirm excavation limits upon encountering isolated incidences of anomalous material under the office portion of the 60 Kellogg Street building south of the 20 mg/kg line delineated during the PDI, and along isolated locations of excavation sidewalls or bottoms at Sites 073, 125, 134, and 140 as documented in Section 8.6. Other than these instances, the PDI allowed for the excavation limits of soils exhibiting hexavalent chromium >20 mg/kg to be more definitively determined during the design phase and implemented in the field and is a process that has been accepted by the NJDEP in the RAWP and has been implemented successfully by Honeywell at other sites. Additionally, considering the PDI samples as post-excavation equivalent samples minimized the collection of traditional confirmatory samples following completion of excavation, and eliminated the associated logistical and scheduling impacts.

The PDI sample hexavalent chromium results also established the designation and final disposition of the excavated material. Entact adopted four designations for

tracking and management purposes based upon their hexavalent chromium concentrations as follows:

- **A Material**: <20 mg/kg hexavalent chromium;
- **B Material**: 20 to 240 mg/kg hexavalent chromium;
- **C Material**: 240 to 1,000 mg/kg hexavalent chromium; and
- **D Material**: >1,000 mg/kg hexavalent chromium.

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

- **A Material** was stockpiled and tested to confirm its designation and, if confirmed, reused as backfill. If sample results of the A Material stockpiles, or portions of stockpiles, indicated one of the other designations, then the material represented by such samples was managed accordingly. **Table 9** is the Stockpile Tracking Table.
- **B Material** was consolidated in either the SA-6 North or SA-6 South Open Space Areas.
- **C Material** was consolidated in the SA-6 South Open Space AOC only.
- **D Material** was stockpiled and tested to verify whether the sample exceeded 1,000 mg/kg for hexavalent chromium. If confirmed, the material was shipped offsite for disposal. If sample results of the D Material stockpiles, or portions of stockpiles, indicated one of the other designations, then the material represented by such samples was managed accordingly.

As part of the means and methods developed by Entact, the excavation in the Kellogg Street Development AOC was divided up into 156 15-foot wide cells for tracking, management, and reporting purposes (see Entact Figure 1.3 Excavation Cell Layout in **Appendix C**). Drawings C-112 – C-120, Chromium Excavation Interval drawings (included in this CCR as **Figures 7A-7G** and entitled "Waste Classification Sample Locations Chromium Sampling Interval [X]"), delineated the limits of each type of waste material. Based upon the PDI data, these drawings show four soil designations depending on the hexavalent chromium concentrations. These area designations allowed Entact to segregate and manage the excavated material as they were encountered within the cells as excavation progressed. The

PDI sample results established the elevations to which excavation was to be performed for an excavation cell or general area, with the understanding that if Stratum D (i.e., "meadow mat") was encountered or suspect material identified, the excavation could be halted at a shallower depth or expanded as necessary. For the reasons stated in Section 5.4 regarding the need to maintain the integrity of Stratum D, the excavations did not extend vertically below Stratum D.

Excavation was performed using hydraulic excavators directly loading into off-road articulated dump trucks (end dumps) to transport to designated on-site stockpiling areas. The end dumps did not leave SA-6 South, and were decontaminated if they were travelling out of an exclusion zone. The excavators were equipped with GPS equipment manufactured by Trimble®. Entact loaded X, Y, Z coordinates of the designed excavation limits into the GPS system and a transponder was attached to the bucket of the machine enabling the operator to precisely excavate in real-time to the design limits. Additionally, using the GPS and known coordinates differentiated the extents of the designation of various soils as shown on Design Drawings C-112 – C-120 based upon the concentration of hexavalent chromium. A summary of the total excavated volume of each waste material is provided in the quantity summary table in Section 1.6.

Stockpiles were placed on plastic sheeting liners at grade. Stockpiles of D Material were covered with plastic sheeting to minimize air-borne dust and stormwater runoff. As provided in the SA-6 South 100% Design Report, excavations and soil stockpiles were protected from flooding to the 100-year flood elevation (10.2 feet) based on the NGVD29 datum by one or more of the options provided in the NJDEP Coastal Area Facilities Act (CAFRA)/Flood Hazard Area (FHA) permit (see Section 15 for more details). Daily inspections of the liners and plastic sheeting were performed to minimize migration of chromium-impacted soils beyond the designated stockpile area.

8.3 EXCAVATION SEQUENCING AND SCHEDULE

Excavation in the Kellogg Street Development AOC began in excavation cell No. 1 at the east end of Site 124, adjacent to Route 440, and proceeded west to approximately cell No. 59 at the western side of Site 125. The westward progression of the excavation was halted there due to the presence of the original groundwater treatment plant (GWTP) built at 80 Kellogg Street in Site 140 during the SA-7 chromium remedy. The excavation activities were then shifted to cell No. 153 in Site

073 and proceeded to the east to Cell No. 81. Upon demolition of the GWTP at 80 Kellogg Street in March 2014 and the former ABF Trucking office and warehouse building at Site 140, the central portion of the excavation in cell Nos. 80 to 60 was completed.

The use of Cell designations was not part of the 100% Design, but rather a means and methods approach developed along with the contractor to track and report on incremental excavation progress in SA-6 South due to the large excavation footprint. While these Cell references were included in routine progress reporting, they are not relied upon for this as-built final documentation. All of the requirements of the 100% Design (including but not limited to surveying of excavation limits, surveying of post-excavation soil sampling locations, etc.) were developed for the excavation as a whole, and as such, the as-built information and final supporting documentation within this report is presented relative to attaining excavation requirements established in the 100% Design and not the incremental cells.

Excavation of the shallow chromium-impacted soils (nominally to 4 feet deep) in the Site 163 Development AOC began at the west end of Site 163 and proceeded to the east. Subsequent to completion of the shallow excavation in the Site 163 Development AOC, Honeywell excavated the deeper chromium-impacted soil in the Site 163 Development AOC Non-Deed Notice Area located within Site 163 to the north of the proposed curb line of the Riverside Park, Riverside Drive, and Kellogg Street (see DC 2014-5-6).

Additional excavation occurred within the Kellogg Street Development AOC in cell Nos 105 to 114 on Site 134, and under the 60 Kellogg Street Building slab, outside of the cell designations of the main excavation area, as discussed in Sections 8.6 and 8.7.

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

Area Excavated	Start Date	End Date
Kellogg Street Development AOC (cells 1 through 156) and Site 163 Development AOC	October 22, 2013	December 22, 2014

Area Excavated	Start Date	End Date
(shallow excavation to 4 feet bgs)		
Additional Excavation Area on Site 134	November 12, 2014	December 9, 2014
Site 163 Development AOC Non-Deed Notice Area (deeper excavation)	December 28, 2015	February 22, 2016
Site 125 60 Kellogg St Building Area	June 2, 2016	June 2, 2016

8.4 EXCAVATED MATERIAL (STOCKPILE) TESTING

In accordance with the SMP, stockpiles of A Material were managed onsite and sampled to confirm that the soil was <20 mg/kg for hexavalent chromium. A Material stockpiles ranged from 135 to 2,850 CYs. The volumes within individual stockpiles differed based upon site layout constraints and the contractor's preferences for advancing excavation and overall soil management. Once an individual stockpile was deemed completed, no further soil was added to the location and sampling commenced. Grab samples were collected from each stockpile for hexavalent chromium analysis at a maximum sampling frequency of 1 sample per 250 CYs in accordance with the SMP. If the hexavalent chromium concentration in any sample from a portion of a stockpile was equal to or greater than 20 mg/kg, that portion of the stockpile was isolated from the remainder of the stockpile and consolidated in the Open Space AOC. Stockpiled soil that was verified to contain <20 mg/kg hexavalent chromium, A Material, was approved for re-use as backfill in excavations. This approved-for-reuse A Material is still considered historic fill. At least 6 inches of imported clean backfill was placed over the reused A Material as needed to achieve the design grades. An institutional control (Restricted Area/Deed Notice) for the remaining historic fill soil will be filed in accordance with the NJDEP-approved RAWPs as part of an RAR for non-chromium impacts submitted by Honeywell's LSRP in December 2016.

Excavated soils designated as D Material (>1,000 mg/kg hexavalent chromium) from the PDI soil sampling were managed onsite and sampled to confirm hexavalent chromium levels. Grab samples were collected from each stockpile for hexavalent chromium analysis at a maximum sampling frequency of 1 sample per 250 CYs. If

the hexavalent chromium concentration in a sample from a portion of a stockpile was >1,000 mg/kg, then that portion of the stockpile was designated for offsite disposal as hazardous waste. Portions of stockpiles that were confirmed to be <1,000 mg/kg hexavalent chromium were consolidated under the SA-6 South Open Space AOC.

Tables 2A and 2B summarize the hexavalent stockpile sample analytical results.

8.5 EXCAVATION EXTENT SURVEYING AND EXCAVATION COMPLETION CONFIRMATION

As discussed in Section 8.2, post-excavation equivalent samples collected during the remedial investigation (RI) and PDI established the horizontal and vertical limits of the chromium-impacted soils and, thus, defined the extent of the excavations at SA-6 South. On January 30, 2012, Honeywell submitted a request and justification for a variance in post-excavation sidewall and bottom sample frequencies for SA-6 South to the default frequency mandated in the TRSR. NJDEP approved the alternative post-excavation sidewall and bottom sample frequencies in a letter, dated February 16, 2012. Excavation was expanded beyond the limits defined by the PDI samples in two locations due to visual identification of anomalous material requiring additional horizontal and vertical delineation samples to define the excavation limits for the expanded areas as discussed in Sections 8.6 and 8.7. The PDI sample data are included as **Appendix A** to the SA-6 South 100% Design and the location of the PDI samples are shown on **Figure 1.2**, Excavation Confirmation Points, in **Appendix C** to this CCR.

Tables 6A and 6B provide the hexavalent chromium concentrations for the post-excavation samples collected in the expanded excavation areas. EDDs for these samples were submitted to the NJDEP's electronic mail site on April 1, 2016. A copy of the confirmation email message from the NJDEP acknowledging submittal of the EDD is included in **Appendix B**.

Upon completion of excavation in each cell, the horizontal and vertical extent of the excavation limits were surveyed.

Honeywell periodically submitted excavation completion documentation to the Special Master and Plaintiffs prior to commencing backfilling. See **Appendix S**.

The submittals summarized the activities undertaken to complete the excavation and included the following Engineer's certification:

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

Honeywell also noted, where applicable/appropriate, that the excavation in the referenced cells terminated [by depth] in the Stratum D and provided an Excavation Bottom Map that included the surveyed post-excavation bottom elevations for the cell(s). In addition, Honeywell provided an updated figure depicting the 156 cells comprising the SA-6 South excavation that was used as an excavation progress chart, attached a figure of the excavation cells, and included an excavation bottom map. Honeywell further stated that the contractor was ready to backfill the respective cells. During the course of the excavation, the Special Master acknowledged receipt of Honeywell's submittals and the notification that the contractor was ready to backfill the respective cells.

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

Maser also surveyed the position and elevation of each PDI post-excavation equivalent soil sample to verify that the excavation was carried to or beyond the confirmatory points and tabulated the survey information. The tables are provided in **Appendix C**. Three sets of tables are provided as follows:

- **Set 1**: Eastern portion of the Kellogg Street Development AOC excavation area starting at Route 440, west of the Route 440 ROW Deferred Area (Deed Notice Area 2), moving west, including cell Nos. 1 to 58;
- **Set 2**: Remainder of the Kellogg Street Development AOC excavation area up to the Site 073 Bulkhead Deferred Area (Deed Notice Area 4), including Area 41, Lens Area and cell Nos. 59 to 153; and
- **Set 3**: Shallow and deep excavation areas at the Site 163 Development AOC labeled Attachment B-3 in **Appendix C**.

There are three tables in Sets 1 and 2 as follows:

- Table 1.0 provides the coordinates of the PDI bottom samples and a comparison of the actual excavation elevation to the targeted (design) elevation at the established PDI bottom sample locations;
- Table 2.0 tabulates the design elevation and final excavation elevation at the center points of the excavation cells; and
- Table 3.0 provides the coordinates of the PDI sidewall samples and a comparison of the actual excavation elevation to the targeted (design) elevation at the established PDI sidewall sample locations.

Set 3 includes only equivalent Tables 1.0 and 3.0 for the Site 163 Development AOC excavation (Table 2.0 is not included because the excavation cells were not extended into Site 163).

8.6 ANOMALOUS MATERIAL SAMPLING

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

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

Material meeting one or more of the trigger criteria is referred to as anomalous material in this CCR. Anomalous material was visually identified as potentially chromium-impacted soil at several locations in the excavation sidewall at the previously delineated horizontal extent of the >20 mg/kg hexavalent chromium impacted soils. At such locations, Amec Foster Wheeler collected a sample of the visually-impacted material. Additional details on the sampling are included in **Appendix J-5**.

Three locations in the Development AOC where anomalous material was visually identified and sampled included the southern excavation sidewall on Site 125 and two locations on the southern sidewall on Site 140 as shown on **Figure 11**. **Table 6B** shows that the hexavalent chromium results were <20 mg/kg; therefore, no additional excavation or sampling was required for these three locations. The cell references corresponding to the three anomalous material samples are:

- 140-SB-107: Cell 77
- 140-SB-108: Cell 70
- 125-SB-306: Cell 49

One additional location in the Development AOC where anomalous material was observed was in the sidewall and bottom of the western portion of the excavation at Site 134. The visually anomalous material was a thin lens observed just above the Stratum D. Three samples were collected and analyzed by Accutest for hexavalent chromium in the sidewalls of this area as excavation advanced to the west, and results reported >20 mg/kg for hexavalent chromium. Soil borings were conducted to delineate the extent of elevated hexavalent chromium concentrations as shown on **Figure 12**. Additional delineation details are included in **Appendix J-5**. Soil borings logs are included in **Appendix H**. The results of the samples are included on **Table 6A** and were utilized to determine the expanded excavation limits.

During excavation at Site 073, a potentially chromium-impacted 1-foot thick concrete slab was observed lying immediately below the ground surface at approximately 1 to 2 feet bgs at the location shown on **Figure 13**. The stained side of the concrete slab was in contact with underlying soils. The stained concrete was broken up and removed for subsequent offsite disposal with D Material. Two post-excavation sidewall samples were then collected from approximately 3 feet bgs from

the soils underlying the stained concrete and analyzed for hexavalent chromium. Results are shown on **Table 6B** and were <20 mg/kg for hexavalent chromium.

All sampling and analysis of samples was performed in accordance with the Data Management Plan combined for both the SA-6 South and SA-6 North Chromium Remedies included as Appendix H of the SA-6 North Chromium Remedy 100% Design Report. EDDs for final (<20 mg/kg for hexavalent chromium) post-excavation samples were submitted to the NJDEP as documented in **Appendix B**.

Section 8.7 provides a separate discussion on one other area where anomalous material was visually identified and sampled during the demolition of the remaining portion of the 60 Kellogg Street building on Site 125.

8.7 ANOMALOUS MATERIAL AT SITE 125 UNDER 60 KELLOGG STREET BUILDING SLAB

A limited quantity of anomalous material was observed in shallow soils within the 60 Kellogg Street building footprint during the demolition activities on April 29, 2016. Once the raised concrete building slab was removed, it was noted that timber piles were present below the slab. The demolition contractor was directed to cut off the tops of the timber piles, thus, they excavated some soil adjacent to the piles to expose the approximately top 2 feet of pile to allow for cutting them off with a chain saw. Between two such piles, a small amount of granular material with a yellowish color mingled with soils was observed at elevation +7.4 based on the NGVD29 datum, which was approximately 2 to 2.5 feet below grade (**Figure 8B**). A sample (125-SB-307) of this yellowish granular material/soil was collected for analysis of hexavalent chromium. The hexavalent chromium concentration of the sample was 10,100 mg/kg, confirming the material was COPR.

As discussed in Section 8.2 above, the anomalous material under the office portion of the 60 Kellogg Street building was located south of the 20 mg/kg line delineated during the PDI. The incidence of the COPR at the 60 Kellogg Street building is isolated from other observed locations of COPR in the northern and eastern parts of site. Thus, it appears that this isolated instance of COPR was associated with previous grading activities prior to construction of the building.

Upon receipt of the analytical results of the yellowish granular material/soil sample, Amec Foster Wheeler developed an excavation plan in compliance with the SA-6 South 100% Design Report for this material on behalf of Honeywell as detailed in **Appendix J-5**. Honeywell submitted the excavation plan to all Parties on May 17, 2016. Parties verbally approved the proposed excavation plan at the All Parties call on May 25, 2016.

Honeywell implemented the excavation on June 2, 2016 in accordance with the approved excavation plan. The final excavation limits and sample locations are shown on **Figure 8B** and on a Record Drawing C-111 Excavation Plan contained in **Appendix C**. The analytical results are summarized on **Table 6D** and show that hexavalent chromium concentrations at all post-excavation samples were <20 mg/kg. Approximately 54 CYs were excavated and placed in roll-off boxes for subsequent offsite disposal as hazardous waste (see Section 8.8).

Once the analytical results confirmed that the hexavalent chromium concentrations were <20 mg/kg in post-excavation samples, the excavation was backfilled with clean imported fill material. Additionally, the tops of the remaining timber piles were then exposed by removing surrounding soils to confirm there are no additional isolated locations of anomalous material adjacent to any other piles.

Once the preliminary analytical results of the post-excavation soil samples were obtained by Amec Foster Wheeler and reviewed with Honeywell, Honeywell submitted the results and a summary of the excavation plan to All Parties on May 17, 2016, which the Parties and Special Master approved on May 25, 2016. Subsequently, Honeywell submitted the standard certification email, including an as-built survey and tabulated coordinates of the finished excavation at the bottom and sidewall sample locations, on June 28, 2016, after the analytical results were validated.

8.8 OFFSITE TRANSPORTATION AND DISPOSAL

D Material (>1,000 mg/kg for hexavalent chromium) was loaded into tri-axle dump trucks and shipped offsite as hazardous waste to a rail transfer station, owned by Horwith Leasing Company LLC., in Northampton, PA. No confirmed D Material (>1,000 mg/kg for hexavalent chromium) was characterized as non-hazardous waste. Therefore, all confirmed D Material (>1,000 mg/kg for hexavalent chromium) designated for offsite disposal was transported to the contracted disposal facility,

Heritage Environmental Services, in Indianapolis, Indiana. Approximately 33,000 tons of hazardous soils were disposed of offsite. Hazardous waste manifests and certificates of disposal are included as **Appendix K**.

Trucks were lined with synthetic liners which closed over the loads near the truck scales before leaving the work zone. Dump truck bodies were equipped with road covers which were closed over the liners before leaving the project site.

Initially, trucks were decontaminated at the contamination reduction zone, and washed in a designated truck wash zone before leaving the site and entering the public roadways. Chromium-impacted waste was transported by truck to eastern Pennsylvania where it was trans-loaded into gondola railroad cars. Gondola cars were lined with synthetic liners to contain the chromium-impacted waste during rail transport. The chromium-impacted hazardous waste was transported to Heritage Environmental Services or Clean Earth (only the 54 CYs of excavated material from the 60 Kellogg Street building footprint placed in roll-offs) for treatment and disposal. **Appendix K** includes disposal manifests.

As seen on **Tables 7A through 7H,** one concrete sample (124-WC-C14-021114) exhibited elevated copper and two concrete samples (124-WC-C29-092314 and 124-WC-C30-092314) exhibited elevated dieldrin. Because of the copper and dieldrin results in this concrete material exceeded the NJDEP most stringent criteria to which it was compared, Honeywell shipped this material offsite for disposal as non-hazardous waste to the New Jersey Meadowlands Commission Landfill. The total amount of concrete shipped offsite was 815 tons.

The offsite disposal facilities for chromium-impacted material were:

Disposal Facility	Material Type and Source	Waste Classification	Weight (Tons)
Heritage/Clean Earth	Confirmed Chromium-Impacted D Material Excavated from the Development AOC	Hazardous	33,000
Bayshore Recycling	Petroleum soil co-mingled with Chromium-Impacted A & B Material and Debris Excavated from the Development AOC	Non-hazardous	8,900

Disposal Facility	Material Type and Source	Waste Classification	Weight (Tons)
Middlesex County Landfill	Petroleum soil co-mingled with Chromium-Impacted A & B Material Excavated from the Development AOC	Non-hazardous	27,000
New Jersey Meadowlands Commission Landfill	Copper-dieldrin impacted concrete Excavated from the Development AOC (see Section 9.3)	Non-hazardous	815
Bayshore Recycling	Debris	Non-hazardous	315

9.0 EXCAVATION BACKFILLING, BACKFILL COMPACTION, AND BACKFILL COMPACTION TESTING

Backfilling within the excavations in the Development AOC included the spreading/placing, compacting, and grading of backfill materials that met the Specification 02315 and were approved by the EOR.

9.1 BACKFILL SOURCES

Sources of imported backfill from offsite locations were tested and analyzed to confirm the material met the NJDEP's definition of clean fill in accordance with the TRSR and did not contain hexavalent chromium above 1 mg/kg. Tested and approved imported backfill sources for SA-6 South included:

- Approximately 1,000 CYs of surplus clean gravel that remained at SA-7 after the completion of the SA-7 sediment remedy;
- Approximately 17,000 CYs of surplus clean fill material from a capital improvement construction project on SA-5 NJCU located on the east side of Route 440;
- Approximately 69,000 CYs of common borrow material from a construction site in Summit, New Jersey; and
- Approximately 195,000 CYs of purchased fill materials from the following quarries licensed by NJDEP:

Source	Quarry	Material Type	Approximate Volume Imported (CYs)
Weldon	Watchung	Screenings	**82,200**
Weldon	Watchung	Quarry Process	**9,300**
Weldon	Watchung	DGA	**300**
Weldon	Lake Hopatcong	Screenings	**5,300**
Tilcon	Mount Hope	DGA	**17,700**
Tilcon	Mount Hope	1.5" Stone	**3,000**
Tilcon	Mount Hope	3/8" Stone	**300**
Tilcon	Mount Hope	6"-18" Riprap	**100**
Tilcon	Mount Hope	2.5 Stone	**500**
Liberty Aggregates	Liberty	I-5 Structural Fill	**5,000**
Tilcon	Mount Hope	I-8 Structural Fill	**7,000**

Source	Quarry	Material Type	Approximate Volume Imported (CYs)
Tilcon	Mount Hope	575 Stone	**9,900**

Additionally, the following sources of onsite backfill material were tested and approved in accordance with the SMP to confirm they met the reuse criteria:

- Approximately 18,000 CYs of onsite recycled concrete tested and approved for reuse; and
- Approximately 46,000 CYs of excavated A Material tested and approved for reuse.

9.2 BACKFILL TESTING

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

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

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

- Target Compound List (TCL) VOCs by SW8260
- TCL Semi-volatiles by SW8270
- EPH by NJEPH 10/08
- Target Analyte List (TAL) Metals by SW6010B/7471
- Pesticides by SW8081

- Herbicides by SW846 8151
- Polychlorinated Biphenyls by SW8082
- Cyanide SW846 9012
- Hexavalent Chromium by USEPA 7199
- Synthetic Precipitation Leaching Procedure (SPLP) Metals by SW6010B/7471 only for those contaminants that exceed Impact to Groundwater (IGW) standards.

Clean fill certifications, certifying that the soil material was virgin and free of hazardous material and contaminants were obtained from the suppliers of the imported source location and are included in **Appendix L**. Specification 02315.2.13 also required one sample of each source of imported fill to be tested for maximum dry density and optimum moisture content as determined by American Society of Testing Materials (ASTM) D 698 (Standard Proctor). The Proctor results were used by the technician conducting the compaction testing in the field to determine the degree of compaction based upon a percentage of the Proctor as specified (see Specification 02315.3.12 and **Table 10**) in the SA-6 South 100% Design Report.

9.3 CONCRETE TESTING

Onsite sources of recycled concrete included:

- Approximately 5,000 CYs of crushed concrete generated from demolition of the sedimentation basin at SA-6 North; and
- Approximately 13,000 CYs of concrete building foundations and slabs encountered in excavations at SA-6 South.

All concrete materials were evaluated for suitability for onsite reuse through sampling and analysis. The SMP allowed concrete meeting NJDEP reuse parameters to be reused onsite as backfill in excavations or placed in the Open Space AOC with consolidated chromium-impacted soil. Concrete material that was not suitable for onsite reuse was shipped offsite to an approved waste facility.

Concrete sampling and analysis was conducted in accordance with the September 2013 CASP. The procedures outlined in the CASP were in accordance with the

NJDEP guidance document titled *Guidance for Characterization of Concrete and Clean Material Certification for Recycling*, dated January 12, 2010 and the NJDEP guidance document titled *Alternative and Clean Fill Guidance for SRP Sites*, dated December 29, 2011 – Version 2.

Concrete samples were collected at a maximum sampling frequency of one sample for every 250 CYs of concrete. Representative samples were obtained from the concrete cross-section (including the exposed surfaces) and crushed to fit into laboratory-supplied sample containers. A total of 18 concrete samples were collected from the crushed concrete generated from demolition of the sedimentation basin. A total of 39 concrete samples were collected from the remaining sources of recycled concrete from SA-6 South. Thirty-seven additional concrete samples were collected for synthetic precipitation leaching procedure analysis for those instances when the IGW standards were exceeded. Concrete that met the reuse criteria was sized to 3-inch minus for reuse by Entact in accordance with the SA-6 South 100% Design Report.

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

In accordance with the CASP, concrete samples were analyzed for the same parameters as those tested on imported fill materials. The concrete sample results are included in **Tables 7A through 7H**.

9.4 BACKFILLING AND COMPACTION

The SA-6 South 100% Design Specification 02201.2.03 allowed for the use of crushed recycled concrete as bridge lift where necessary to stabilize soft or wet subgrade materials at the bottom of excavations. A Material re-use soil or the offsite sources of clean backfill indicated above in Section 9.1 were placed over the bridge lift to bring the backfill to the appropriate design grades.

Bridge lifts were initially placed in nominal 12-inch lifts and compacted with a minimum of 3 passes of a static steel drum roller as specified in Specification

02201.3.03 and **Table 10**. Vibratory compaction equipment was not used in the bridging lift. Based on the observation of the stability of the lift, the EOR permitted increasing the lift to 18 inches using dozer placement. If the lift was stable, static rolling was initiated. In some locations, it was necessary to defer rolling until up to a 3-foot-thick bridging lift was placed due to excessive dewatering. In other locations geotextile fabric was added between bridge lift layers or on top of the bridge lift to add additional reinforcing and material separation. Subsequent lifts of non-bridge-lift backfill materials were placed at a maximum of 12 inches' thick loose lift and compacted using vibratory smooth-drum rollers to at least 95% of the maximum dry density in accordance with the Specifications 02315.3.11 and 02315.3.12 as detailed on **Table 10**.

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

9.5 IN-PLACE BACKFILL DENSITY TESTING

The in-place density of the compacted imported backfill materials were verified in the field using a nuclear surface moisture-density gauge in accordance with American Society of Testing Materials (ASTM) D 6938. Vertical V-Northeast, Inc. of Rahway, New Jersey, was subcontracted to Entact and performed compaction testing at SA-6 South. Testing was performed in accordance with the SA-6 South 100% Design Report at a testing frequency of one test per 2,500 SF per compacted lift. Figures showing the in-place density testing locations at every 2,500 SF in the SA-6 South main excavation cells and tables ("Field Density Test Summary Log") summarizing the in-field density test results for each lift at these testing locations are provided in **Appendix M.** The coordinates of the testing locations and elevations of each associated lift are also provided on the Field Density Test Summary Logs. Test locations where test results showed the in-place density of the backfill material of that lift was less than 95% of the maximum dry density are also shown highlighted on the Field Density Test Summary Logs. Such lifts were re-compacted and re-tested until the in-field density results met the criterion.

10.0 CONTAINMENT SYSTEM CONSTRUCTION

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

Major containment system construction activities included:

- Installation of Hydraulic Barrier;
- Vibration Monitoring
- Consolidation of Chromium-Impacted Soil Excavated from the Development AOC;
- Construction of the Contingent Groundwater Extraction System;
- Surcharging of soils in the Open Space Cap AOC; and
- Construction of the Cap in the Open Space AOC.

10.1 HYDRAULIC BARRIER INSTALLATION

The hydraulic barrier at SA-6 South consisting of steel sheetpile with sealed joints was installed around the eastern, southern, and western perimeters of the Open Space AOC in accordance with the SA-6 South 100% Design and DCs 2013-8-14, 2013-9-12, 2015-5-29, and 2015-08-20. The hydraulic barrier is connected to the existing SA-7 SCB on the northern boundary of SA-6 South and keyed into the meadow mat (Stratum D) or Stratum O. The western hydraulic barrier was installed approximately 38 feet inboard of the bulkhead. The chromium-impacted soil area between the hydraulic barrier and the bulkhead is the Site 073 Bulkhead Deferred Area (Deed Notice Area 4) and will be excavated during implementation of the Bayfront Redevelopment Plan following replacement of the existing bulkhead.

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

The sheet piling was 1907 Hoesch Larssen Z Series sheetpile. The length of sheets varied along the alignment subject to the final design top elevation, the depth to Stratum D, and temporary support stability requirements. Sheets were fabricated and supplied to the site at specific lengths based upon the design profiles. The majority of sheetpile was delivered to the site in welded pairs. Single sheets and fabricated special sheets were used at specific locations. Sheet welding and epoxy coating was conducted by Durabond at their Steelton, Pennsylvania facility. Specification 02180.6, as documented on **Table 10,** required application of an epoxy coating from the top of the sheet to a length equivalent of 2-feet into the Stratum D. Where longer sheets were used for structural purposes (i.e. to facilitate temporary excavation) the section of sheet below the 2 feet key did not require coating. The intent of the epoxy coating is to extend the life of the hydraulic barrier.

Independent QA was performed at the Durabond facility to verify conformance with the specified requirements.

To meet the permeability objectives of the hydraulic barrier, the field joints were sealed with a cement bentonite grout between Station 0+00 and Station 17+80 (east wall and eastern portion of south wall) and with hydrophilic sealant between Station 17+80 and Station 25+86 (west portion of southern wall and west wall). The type of sealant was based on the pH in the groundwater along the alignment. Record drawings of the sheetpile plan and profile are included in **Appendix N**.

Supplemental pH testing of groundwater was conducted along limited sections of the hydraulic barrier alignment that were accessible due to building at the time of the design as shown on **Figure 6**. In accordance with the SA-6 South 100% Design either a bentonite grout mix or hydrophilic seal was utilized on the sheetpile depending on the pH of the groundwater.

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

The toe of the wall was designed to key a minimum of 2 feet into the Stratum D or Stratum O. The Geotechnical Investigation Report from Appendix C of the SA-6 South 100% Design Report, was used to develop an elevation profile of the top of Stratum D along the barrier wall. As noted above, the sheets were fabricated and installed based on that design profile. Knowing the elevation of the top of Stratum D from the profile and the length of the sheet at any given location along the barrier wall alignment, the sheets were driven to the prescribed depth bgs (or elevation) so that the bottom of the sheets were keyed at least 2 feet into Stratum D. In many areas of the SA-6 Kellogg Street Development AOC excavation, the excavation was carried down to Stratum D. These areas provided corroboration of the accuracy of the design Stratum D profile and, therefore, confirmed that the sheet length/key and coating length were correct.

For the majority of SA-6 South, the cap to barrier wall profile is above the water table. In some utility corridors, the connection is submerged. Langan Engineering, Inc. (Langan) of Lawrenceville, New Jersey was retained by Amec Foster Wheeler to provide 3rd party QA on the construction of the cap components. In submerged areas, GCL was placed under the geomembrane in lieu of the gas vent layer and a sand bentonite plug was installed against the top of the sheetpile to provide for a low permeability connection. The installation of the connection detail for these areas is discussed in the Geosynthetics Quality Assurance Report prepared by Langan in **Appendix Q**.

10.2 VIBRATION MONITORING

The SA-6 South 100% Design Report mandated vibration monitoring when sheeting was being driven proximate to critical subsurface infrastructure or other features

that could be damaged due to vibration. Such areas at SA-6 South are shown on **Figure 14** and included:

- Adjacent to Route 440 on the east side of the SA6 South Open Space AOC; and;
- temporary excavation support installation along the jughandle that connects Route 440 and Kellogg Street at Site 124; and
- Kellogg Street at Development AOC Site 140.

Honeywell's geotechnical engineering consultant, MRCE, developed the vibration limits for these sensitive areas. The Vibration Monitoring Plan (VMP) was prepared by Geocomp Engineering, Inc. in August 2013. This plan stated the maximum vibration limits as well as trigger limits which specified a change in the work approach if met. Seismographs were placed over the utilities at the jughandle and along Kellogg Street to monitor the vibration levels during installation. Vibrations on the building adjacent to Site 124 (440 Diner) were monitored in the basement. The ABI Mobileram operator had the ability to adjust the vibration frequency and total applied energy during driving. If the trigger levels were approached, the operator adjusted the driving parameters to keep the seismograph reading below the vibration limits. Vibration monitoring results are provided in **Appendix O**. Work was preformed per the VMP.

10.3 CONSOLIDATION OF SOILS IN OPEN SPACE AOC

The Chromium Remedy allowed for the consolidation of soil excavated from the SA-6 South Development AOC with hexavalent chromium concentrations of 20 to 1,000 mg/kg (B & C Materials) to be consolidated in the SA-6 South Open Space AOC. Additionally, the Chromium Remedy allowed for the consolidation of soil excavated from the SA-6 South Development AOC with hexavalent chromium concentrations of 20 to 240 mg/kg (B Material only) to be consolidated in the SA-6 North Open Space AOC.

The total volume of excavated soils consolidated in the SA-6 South Open Space AOC was approximately 35,000 CYs. The total volume of soils excavated from the SA-6 South Development AOC consolidated in the SA-6 North Open Space AOC was approximately 35,000 CYs. As discussed in Section 5.2, NJDEP approved the

consolidation of petroleum-impacted soils co-mingled with excavated A, B, & C Materials from SA-6 South in the SA-6 South Open Space AOC. Thus, of the approximately 59,000 CYs of material consolidated in the SA-6 South Open Space AOC, approximately 24,000 CYs of that material was petroleum-impacted soils co-mingled with excavated A, B, & C Materials.

Soils placed within the SA-6 South Open Space AOC were compacted as required by Specification 01600 (see **Table 10)** to create a stable subgrade for the capping system. In accordance with paragraph 65(d) of the SA-6 South Consent Decree, debris, or deleterious materials that could interfere with compaction was not placed under the cap. Compaction was typically performed using a vibratory steel drum roller. The subgrade was proof rolled with the roller operating in static mode loaded to provide a 1 ton per square foot (2,000 pounds per square foot), or equivalent, loading to the subgrade. The roller traversed over the subgrade materials until no further significant rutting or deformation of the subgrade was evident. In smaller areas where the roller would not fit (such as adjacent to the hydraulic barrier wall or adjacent to wells or surcharge monitoring instrumentation), a plate compactor was utilized to provide compaction. Subgrade compaction was subject to engineer's approval. Soils that were too wet to compact were either dried or treated with Calciment® to reduce moisture content and increase strength to meet the specified criteria. The grading of the consolidated soils met the grading requirements in the SA-6 South 100% Design Report.

10.4 CONTINGENT GROUNDWATER EXTRACTION SYSTEM CONSTRUCTION

The SA-6 South 100% Design originally required a conceptual groundwater extraction design based on vertically-installed wells subject to further evaluation and possible change. Honeywell determined that a trench system would be more effective in the variable fill above the Stratum D. DC 2014-3-25 and an additional 8 minor DCs document the change to the trench design. The collection trench was installed prior to the surcharging program described in Section 10.5 of this report. The contingent groundwater extraction trench location is shown on **Figure 10** and the Record Drawing contained in **Appendix C**. The system will only operate as necessary to comply with the groundwater capture and gradient requirements noted in Paragraph 69 of the SA-6 South Consent Decree.

Specification 02140.3.01 required that the water table be controlled during construction of the cap to maintain an outward gradient towards SA-6 South from

the SA-7 perimeter pools (see **Table 10**). Pumping from the collection trench and other temporary trenches within the Open Space AOC was initiated prior to cap placement to control groundwater levels and terminated once the cap was completed in October 2015. Evaluation of preliminary groundwater level monitoring results in existing shallow wells in the Development AOC indicates that an inward gradient to the SA-6 South Open Space AOC has been created throughout most of the area.

The contingent groundwater system trench consists of 1,700 feet of 8-inch diameter perforated HDPE pipe that was placed running east/west through the center of the Open Space AOC. The HDPE pipe was placed on top of 6 inches (nominally) of clean crushed stone and was covered with additional stone to depths in accordance with the above-referenced DC. Geotextile fabric was placed across the top of the trench to prevent vertical migration of fines into the trench. As shown on the Record Drawing in **Appendix C**, the perforated piping is connected to an extraction manhole located near the western end of the Open Space AOC. Four access manholes are installed along the alignment to provide access for maintenance, if required. A double walled force main runs from the extraction manhole to the GWTP. Electrical and instrumentation conduits were also installed between the pump station and GWTP as shown on the drawing Contingent Groundwater Extraction System, South Cap in **Appendix C**.

The groundwater model predicts that the inward gradient can be maintained by passive means (i.e. without active pumping). In the event it is necessary to implement active pumping, a pump will be installed into the extraction manhole along with the requisite electrical and instrumentation wiring and controls.

10.5 SURCHARGE PROGRAM

The existing surface grade of the Open Space AOC generally varied between elevation 8 and elevation 10 based on the NGVD29 datum. The maximum "redevelopment grade" at the Open Space AOC is elevation 21 based on the NGVD29 datum. Engineering calculations indicated that up to approximately 20 inches of settlement could result due to the increased load resulting from the increase in grade. That settlement was estimated to be primarily through consolidation of the underlying compressible Stratum O and Stratum D Soils. A decision was made, based on this potential settlement, to surcharge the site to remove 100% of the Primary Consolidation attributable to the Development AOC grade loading, prior to placement of the cap.

The surcharge program was designed to be completed in a rolling fashion starting from 1S and moving east to 3S (see **Illustration 4**).

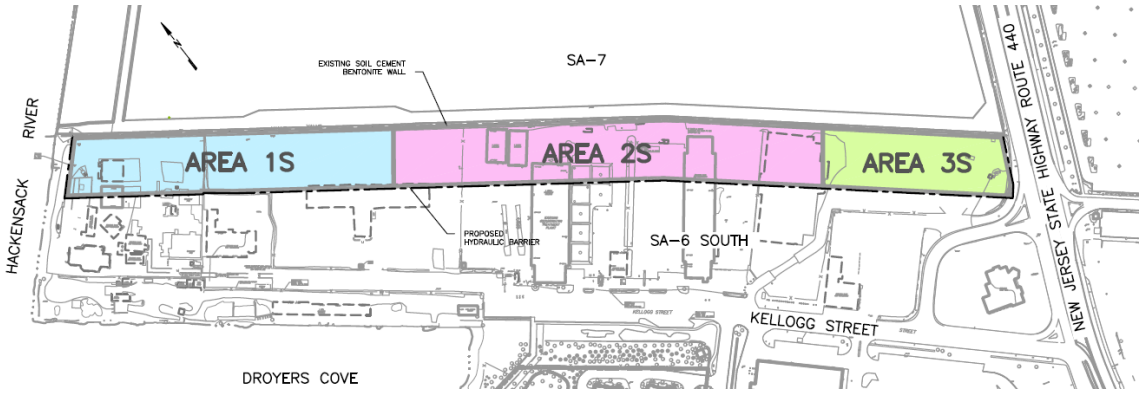

Illustration 4: Surcharge Loading Plan

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

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

Upon completion of the analysis and verification by Amec Foster Wheeler that surcharge objectives were met, data packages were sent to MRCE for 3rd party review. The dates of surcharging and 3rd party agreement of completion are:

Surcharge Area	Initiation Date	Completion Date	MRCE Agreement
1S	June 2014	September 2014	October 27, 2014
2S	July 2014	January 2015	February 5, 2015
3S	November 2014	March 2015	April 24, 2015

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

10.6 CAP CONSTRUCTION

This Section provides a summary of the cap construction and third-party QA testing performed. A full detailed explanation, including step-by-step construction sequencing and procedures, photographs of cap elements, and a full description of QA testing procedures and results is contained in the Langan Cap Geosynthetic Quality Assurance (QA) Report for Study Area 6 South ("Langan Report"), (**Appendix Q).**

The Chromium Remedy included a RCRA-equivalent geosynthetic cap system, including a methane GVL to address the potential release of naturally occurring methane, 60 mil Linear Low Density Polyethylene geomembrane, GDL and cover soils to protect the geosynthetic components and support plant growth. Cap construction proceeded from west to east at SA-6 South, starting on July 20, 2015. The construction of the geosynthetic cap system was completed on November 4, 2015.

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

- Verification survey by Maser of the cap subgrade.
- Certification by the installation contractor (ESI) and Langan that the subgrade surface was suitable for geosynthetic deployment;
- Install cap geosynthetics (gas venting layer, geomembrane liner, geocomposite drainage layer) in the Open Space AOC;
- QA/QC of placed geosynthetics;
- Install Warning Layer.
- Placement of protective cover soil;
- Placement of root barrier;
- Placement of imported clean soil of the type required to the design thicknesses and grades; and

- Seeding and or gravel placement to serve as final cover pending redevelopment.

Figures 15 and 16 graphically portray the Chromium Remedy components including the cap details.

The final design of the Bayfront Redevelopment includes roadways that traverse the Open Space AOC in a North-South alignment. The geosynthetic cap system was designed to accommodate future utilities in the roadways traversing the SA-6 South Open Space AOC. The locations and design of the utility corridors were coordinated with the future Bayfront Redevelopment design and were in accordance with the SA-6 South Consent Decree. The location of utility corridors is shown on **Figure 17**. The liner grades provide a minimum of 3 feet between the Bayfront Redevelopment road surface and the liner. The 3 feet criterion was established by Amec Foster Wheeler based on a conservative approach utilizing Bayfront Redevelopment planned traffic flows and a typical Municipal pavement design that was consistent with the road designation/traffic loadings. In areas designated as future roadways either imported NJ I-5 or NJ I-8 was placed as "Structural Fill under Roadways" above the cap components per Specification 02315.2.05 and **Table 10**.

Upon surcharge completion, the cap subgrade was graded and compacted in accordance with the lines, grades and compaction requirements specified in the SA-6 South 100% Design Report and associated DCs (see **Table 10**). Subgrade preparation was performed between May 11, 2015 and October 9, 2015. To document compliance with the grading requirements, a Construction Control Grid was established consistent with Specification 01460.1.04 and **Table 10**. The Construction Control Grid is included as Figures 1.1 and 1.2 SA-6 South Construction Control Grid in **Appendix C**. Also included are summary tables (Table 1 SA-6 South Open Space Cap Area – Construction Control Grid As Built Summary) prepared by Maser comparing the design grades and actual grades at the Construction Control Grid nodes confirming that all nodes are within tolerance. A topographic survey of the SA-6 South subgrade was prepared by Maser (C-125, 126, and 127, **Appendix C**).

Installation of the cap geosynthetics followed Maser's certification that the subgrade surface conformed to the specified Construction Control Grid. Amec Foster Wheeler provided QA approval of Maser's documented subgrade elevations prior to issuing to

Langan for approval for geosynthetics deployment. In addition, as part of the subgrade approvals, Amec Foster Wheeler provided QA approval of the sand bentonite GCL to barrier wall connections (signed GCL to barrier wall logs are included in Appendix H of the Langan Report [**Appendix Q**]).

The cap geosynthetics were placed between July 20, 2015 and November 4, 2015. The cap geosynthetics included components that were designed to meet the technical requirements of Section 65(a) of the Consent Decree. The cap geosynthetics scope included the following key tasks:

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

The top component of the GDL is comprised of a high visibility orange non-woven geotextile liner that met the visibility requirements, but not the printed warning requirements, of the SA-6 South Consent Decree. Therefore, yellow polyethylene direct burial tape, with black lettered warning language, was installed every 5 feet on center on top of the GDL and also on top of the root barrier that was installed 12 inches above the high visibility orange non-woven geotextile.

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

to the 100% Design, and relevant to the QA scope of work were reviewed and approved by the EOR, and are further summarized in this CCR.

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

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

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

The Amec Foster Wheeler EOR provided a full-time site Geosynthetics Inspector to inspect materials deployment, installation and documentation for compliance with the SA-6 South 100% Design of the capping system. The Geosynthetics Inspector observed the placement of the GDL cover soil to verify that the soil was placed in accordance with the Earthwork and GDL Specifications (02315 and 02374, respectively) and that the GDL was not damaged or unnecessarily stressed. The Geosynthetics Inspector also observed the fabrication, installation and extrusion welding and vacuum testing of all boots.

QC for geosynthetics installation was provided by Entact and their specialty installer ESI. Entact also contracted with Geotechnics, Inc. to conduct the specified offsite laboratory testing required as part of the capping project, such as destructive seam testing. All ESI field QC and Geotechnics laboratory testing is incorporated into the Langan QA Report and are the subject of the Langan QA Certification. Langan offsite QA laboratory testing was completed by TRI Environmental, Inc. Record drawings of the cap geosynthetics (SA6 South Cap Panel Layout; SA6 South Cap GVL/GCL Layout – Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner 01/28/16; SA6 South GDL Layout – Geocomposite Drainage Layer 01/27/16) are included as **Appendix C**.

After completion of the cap, cover soils that are referred to as Horizon B and C soils were placed consistent with the SA-6 South 100% Design Report. Multiple sources of Horizon B and Horizon C soils were identified by Entact and Amec Foster Wheeler. Multiple samples from these sources were tested for geotechnical and chemical analysis to find sources of the cap cover soil materials that met the SA-6 South 100% Design Specification 02315 and DC 2015-9-17, 2016-03-21, and 2016-4-20. The analytical data obtained during the Horizon B and Horizon C source identification process is summarized on the Backfill Sample Comparison to NJDEP Standards table in **Appendix L**.

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

Material Layer	Vendor/Source	Approximate Volume Imported (CYs)
GDL Cover Soil	Celgene	15,200
Structural Fill under Roadways	Liberty	5,000
Structural Fill under Roadways	Tilcon Mount Hope	7,000

Material Layer	Vendor/Source	Approximate Volume Imported (CYs)
Horizon A - Topsoil	Nature's Choice	9,500
Horizon A - Topsoil	Excavating Materials & Equipment, Inc. (EME)	150
Horizon B	Cedar Hill	11,600
Horizon C	Nature's Choice	11,600

In accordance with the SA-6 South Consent Decree, a minimum thickness of 1 foot of clean soil (in areas to be paved) and 2 feet of clean soils (in other unpaved areas) were placed above the geomembrane liner. More clean soils may have actually been placed depending on the final surface grade features. The SA-6 South Consent Decree required an average thickness of clean cover soil above the geomembrane of 3 feet. The actual average thickness is 4.4 feet.

Throughout the work, the amount of cover soil varied. As work advanced in some places the GDL was exposed for more than 30 days. Subsequently, GDL repairs were completed in April 2016 at the locations shown on the figure on Record Drawing SA6 South Cap Panel Layout, 60-mil Textured LLDPE Geomembrane 01/28/16 (**Appendix C**).

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

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

11.0 PERIMETER AIR MONITORING

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

The primary COC, potentially found in dust from activities occurring at the site, was hexavalent chromium. Action levels determined for the SA-6 South project included 339.0 micrograms per cubic meter (µg/m^3) for air-borne dust. Although the approved action level for SA-6 South is 339 µg/m^3, Honeywell voluntarily applied the action level of 221 µg/m^3 that was calculated for SA-6 North, since the remedies for SA-6 North and SA-6 South were implemented as an integrated remedy. The discrepancy in air monitoring levels between the two sites, was not attributable to chromium, but was rather based on the presence of lead as a contaminant in discrete areas of SA-6 North. Thus, the air monitoring level was based on the potential for encountering lead dust at that site. Preventative measures taken to control the generation of dust were conducted per the PAMP and HASPs. In order to assess the potential presence of hexavalent chromium in dust, the perimeter air monitoring stations were located throughout the multi-phase excavation activities using a grid system as shown on **Figure 4**. The points were determined by the PAMP and the Honeywell onsite representative based on the location of soil disturbance activities, prevailing wind direction, and field conditions.

Baseline PAMP data was discussed and presented in Section 2.3. In the course of the project, there were no recorded employee exposures above the OSHA Permissible Exposure Limit. The highest total particulate detection at SA-6 South was on March 8, 2016 at 200 µg/m^3 (below operative action level of 221 µg/m^3) where the corresponding hexavalent chromium sample was not detected. The highest

hexavalent chromium detection was on November 25, 2013 at 42 nanograms per cubic meter where the corresponding particulate detection was 77 µg/m^3.

12.0 IN-SITU TREATMENT

Pursuant to the SA-6 South 100% Design Report, in-situ injections of a chemical reductant were conducted within the Site 163 Development AOC to treat chromium-impacted soils at depths greater than 4 feet bgs in isolated locations. The in-situ injections were ineffective. As a result, the chromium-impacted soils that were not effectively treated within the Site 163 Development AOC Non-Deed Notice Area were excavated. In the Site 163 Development AOC Deed Notice Area chromium-impacted soils that were not effectively treated were left in place and capped with clean soil and gravel. The in-situ work is described below.

In-situ treatment was conducted per the Work Plan which was submitted to the NJDEP as part of the Discharge to Groundwater Permit-By-Rule (DGW-PBR) and provided additional details regarding the in-situ treatment program. This Work Plan was submitted to the NJDEP on September 28, 2012 and NJDEP issued the DGW-PBR on January 3, 2013.

In accordance with the SRIR/RASR/RAWP and subsequent work plans, the in-situ injections of calcium polysulfide (CAPS) spanned a zone from 2 feet above to 2 feet below the impacted zone. Further, injections were not implemented below the Stratum D underlying the hexavalent-impacted soil/fill materials.

Prior to the initiation of injections in each area, 57 temporary well points (TWPs) were installed. TWPs were installed from July 21, 2014 and from July 28, 2014 through July 31, 2014.

Geoprobe® direct push drill rigs were used to accomplish injection of CAPS solution. Injections were initiated on July 31, 2014 using one drill rig and one mixing station. On August 4, 2014, a second Geoprobe® direct push drill rig was mobilized to Site 163 to inject CAPS solution simultaneously utilizing two mixing stations. In several areas, surficial concrete slabs or unknown subsurface obstructions required minor field adjustments to the originally proposed TWP or injection point locations.

Following the in-situ treatment program, 6-month soil sampling was implemented as described in the Site 163 Cr RIR/RASR/RAWP to determine the effectiveness of the in-situ treatment. The results are included in **Table 8** and showed that the 20

mg/kg criterion had not been uniformly achieved in the area of treatment. It was determined that additional excavation would be required to remediate the chromium soils to <20 mg/kg as shown in **Figure 18**.

Major DC 2015-09-28 described that an additional 6,335 square feet of soil would be excavated from the Site 163 Development AOC Non-Deed Notice Area and the area backfilled with clean fill. DC 2015-09-28 also provided that unexcavated areas in the Site 163 Development AOC Deed Notice Area, south of the proposed curb line that will be part of the Riverside Park, Riverside Drive, and Kellogg Street, will be deed restricted and subject to a conservation restriction, consistent with paragraph 61(c)(ii)(3) of the Study Area 6 South Consent Decree.

13.0 GWTP RELOCATION AND CONSTRUCTION

Honeywell constructed a new GWTP on SA-6 North. The GWTP is designed to handle and treat groundwater recovered as part of the SA-7 deep overburden and bedrock groundwater remedy and will handle and treat shallow groundwater from the activation of the contingent groundwater extraction system installed within the Open Space AOC. The former GWTP previously located at Site 140 on SA-6 South in the former ABR Trucking warehouse and office building was demolished to implement the SA-6 South Chromium Remedy. The former GWTP was initially built to handle and treat construction water during the SA-7 chromium remedy, but following the completion of the remediation of SA-7, had been treating recovered regional deep and overburden groundwater since December 2008. Once the new GWTP was built and started accepting flows on February 14, 2014, the former GWTP at SA-6 South was decommissioned, dismantled and removed from the Site 140 building.

AMEC Foster Wheeler designed, permitted and managed the construction of the 65 gpm GWTP beginning in March 2013. The GWTP pre-treats hexavalent chromium contaminated groundwater for discharge to the PVSC. The GWTP replaced an existing plant at 80 Kellogg Street which needed to be demolished as required for soil remediation activities. The $4.5M GWTP design/build project also involved re-configuration of the existing three well groundwater extraction system, controls, and double wall conveyance system to allow for transition of flow from the old plant to the new plant and as required for GWTP commissioning activities.

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

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

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

14.0 SITE RESTORATION

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

- Decontamination and demobilization of construction equipment and surplus materials;
- Decontamination, decommissioning and dismantling of the construction wastewater treatment system piping;
- Relocation/removal of the jersey barriers and relocation of the chain-link fence along the Route 440 sidewalk to the property line boundary;
- Removal of contractor temporary office trailers and power/phone service;
- Removal of traffic control features along Route 440;
- Removal of construction debris;
- Disposal of other non-regulated waste; and
- Stabilization of the Open Space AOC cover soils, including seeding and other erosion control measures.

15.0 CONSTRUCTION PERMITS

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

Permit	Site	Status	Expiration Date
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	9/25/2017
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	8/31/2018
Soil Erosion and Sedimentation Control Plan	SA-6 Chromium Remedy	Obtained 5/16/2013	11/16/2016
Request for Authorization (RFA)	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	5/31/2018
NJDEP – Treatment Works Approval (TWA)	SA-6 Chromium Remedy	Obtained 7/8/2013	6/30/2016 (no extension necessary)
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	6/30/2016
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 South (Site 163) Only	Obtained 1/3/2013	Not Specified

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

16.0 SUSTAINABILITY EFFORTS DURING CONSTRUCTION

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

- Use of renewable B-20 Biodiesel in lieu of conventional fossil fuel based petro-diesel in construction equipment,
- Crushing and recycling of demolition generated clean concrete to be reused as clean fill material on site, and
- The removal and transportation of petroleum soils from the SA-6 South cap to reduce Greenhouse Gas emissions via hazardous waste reduction.

17.0 POST-REMEDY OPERATION & MAINTENANCE

Following completion of the remedial actions, including installation of the groundwater extraction system which is to be operated on a contingent basis, a post-remediation long term monitoring program will be implemented in accordance with the pending LTMP. The LTMP was developed and submitted to NJDEP and all Parties in October 2015 to address the monitoring requirements specified in the SA-6 South Consent Decree Paragraphs 74 and 78. As of the writing of this CCR, Honeywell and the Parties are in final negotiations regarding the terms of the LTMP. Honeywell will be implementing the uncontested LTMP activities until the LTMP is finalized. The LTMP satisfies the Consent Decree requirements for long term monitoring, maintenance, and protection of engineering and institutional controls by establishing procedures and schedules for the following activities required by the Consent Decree:

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

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

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

The relationship between long-term monitoring and institutional controls that are required by the SA-6 South Chromium Remedy is discussed in Section 18.

18.0 INSTITUTIONAL CONTROLS

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

Institutional controls include deed notices and remedial action permits at specific areas where chromium-impacted soils remain and a groundwater remedial action permit and CEA for residual chromium-impacted groundwater. Additional institutional controls for the Open Space AOC and a portion of Site 163 pursuant to the SA-6 South consent decrees include transferring ownership to Jersey City and the granting of a conservation restriction.

18.1 DEED NOTICES

To meet Honeywell's and Bayfront's objectives for SA-6 South and coordinate with the objectives of the Development, four deed notices are required for the chromium impacts at SA-6 South. The areas to which each of the four deed notices apply are shown on **Figure 19**. Draft deed notices are contained in **Appendix R**. After the final text of the deed notices has been reviewed and approved by the NJDEP, they will be recorded at the office of the Hudson County Register.

The deed notices have been prepared in accordance with NJDEP's ARRCS. Each deed notice specifies conditions for alteration, improvement, and/or disturbance of the engineering controls, and provides monitoring, maintenance, notification and reporting requirements. These requirements include documentation that applicable worker health and safety laws and regulations are followed during the disturbance and restoration of those controls. The deed notices contain figures and cross-sections showing the engineering controls and details regarding notification and reporting requirements.

18.2 SOIL REMEDIAL ACTION PERMITS

Honeywell has prepared draft Remedial Action Permit Applications for Soil for the SA-6 South Open Space AOC, the deed noticed portion of Site 163, and the two Deferred Areas for NJDEP review. Once the deed notices are filed, the Remedial Action Permit applications will be finalized and submitted to the NJDEP. The permit applications contain requirements for monitoring, maintenance and

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

18.3 GROUNDWATER REMEDIAL ACTION PERMITS

Honeywell has prepared a draft Remedial Action Permit Application for Groundwater for the SA-6 South Open Space AOC. The draft Remedial Action Permit application was attached to the RAR approved by NJDEP on March 30, 2017, and now that the RAR has been approved by NJDEP, the Remedial Action Permit application will be finalized and submitted to the NJDEP. The permit applications contain requirements for monitoring, maintenance and reporting to document the protectiveness of the remedial actions and engineering controls for each of the areas on which the deed notices have been established until such time the deed notice is no longer required. The permit also includes a schedule for submittal of Biennial Certification Reports to the NJDEP, and requirements pertaining to financial assurance (see Section 20) and permit transfer, modification and termination.

18.4 CLASSIFICATION EXCEPTION AREA

A regional CEA for groundwater has been established by NJDEP on February 16, 2012 for the SA-5/6/7 sites as an institutional control to identify chromium-impacted groundwater above the NJDEP GWQS and prevent the use of groundwater within the designated CEA areas. The CEAs address the shallow fill, deep overburden, and bedrock zones. The shallow zone refers to groundwater within fill material (above the Stratum D and underlying native soils), generally to a depth of 20 feet bgs. The deep overburden zone refers to groundwater below the fill and Stratum D down to bedrock, generally from approximately 20 feet to 90 feet bgs. The bedrock zone refers to groundwater within the upper 20 to 40 feet of fractured bedrock. The shallow groundwater CEA may be modified in the future following one year of post-remedial action groundwater monitoring.

18.5 CONSERVATION RESTRICTIONS

Conservation Restrictions were prepared for both Open Space Areas at SA-6 North and SA-6 South at the time of property transfer from Jersey City Redevelopment

Agency to Bayfront Redevelopment LLC per Paragraph 60(b) of the SA-6 North Consent Decree and at the time of the granting of the option to buy per Paragraph 74(b) of the SA-6 South Consent Decree. These conservation restrictions were recorded on March 25, 2010. The existing conservation restriction placed on the SA-6 South Open Space AOC will be amended to include the as-built hydraulic barrier walls. A new conservation restriction will be established on the deed noticed portion of Site 163, where remaining chromium-impacted soils were identified in the area south of the northern curbline which is within the Development AOC, or Honeywell may combine this area with the conservation restriction for the SA-6 South Open Space AOC. Hackensack River Watershed Land Trust shall be the primary holder of the conservation restrictions.

19.0 RECORD DRAWINGS

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

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

20.0 REMEDIAL ACTION COSTS

Remediation costs are summarized in the table below:

Activity	Cost ($1MM)
Construction Costs	$28
Soil Disposal	$8
Oversight/Construction Management	$1.6
Total	**$37.6**

20.1 FINANCIAL ASSURANCES

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

21.0 REMEDIATION CLOSE OUT SUMMARY

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

The RAOs for SA-6 South soils, except in the Deferred Areas, will be met by the Chromium Remedy implemented in all AOCs and the establishment of institutional controls. It is anticipated that RAOs for SA-6 South shallow groundwater in the Development AOCs will be met as a result of the removal of chromium-impacted soil from the Development Area AOC and containment and capping of chromium-impacted soils and groundwater in the Open Space AOC, but will be confirmed by post-remediation shallow groundwater sampling. The hydraulic barrier is designed to restrict potential offsite migration of chromium-impacted groundwater. Post-remediation groundwater sampling will be implemented in the Development AOCs in accordance with the LTMP prepared for both SA-6 North and SA-6 South. The LTMP establishes procedures and schedules for long-term monitoring of groundwater quality and levels in the Open Space AOC to determine the potential operation of the contingent groundwater extraction system. The LTMP also establishes the inspection, maintenance, and operation of critical features of the Chromium Remedy.

Honeywell will establish appropriate institutional controls at SA-6 South that supplement the physical remedial actions including deed notices and remedial action permits for soils for four distinct areas, conservation restrictions for the Open Space AOC and the deed noticed portion of Site 163, and a groundwater remedial action permit in the Open Space AOC. A classification exception area has already been established with NJDEP for the regional shallow groundwater, but Honeywell may revise the boundary of the shallow groundwater CEA slightly based upon the post-

remediation shallow groundwater results at SA-6 South. Final soil and groundwater Remedial Action Permit applications will be submitted to NJDEP.

It is Honeywell's intention that this CCR will close out remediation of chromium-impacted soil for SA-6 South with the exception of the Deferred Areas. Honeywell will document additional soil remediation in the deferred areas by filing supplements to this CCR. NJDEP has reviewed and approved the RAR submitted separately from this CCR. Honeywell will close out remediation of chromium-impacted shallow groundwater in the Development AOCs once groundwater sampling confirms that the RAOs have been met. Honeywell will document the completed remediation of the shallow groundwater in the Development AOCs by filing a supplement to this CCR.

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

22.0 REFERENCES

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

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

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

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

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

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

23.0 LIST OF ACRONYMS AND ABBREVIATIONS

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

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

SPLP	Synthetic Precipitation Leaching Procedure
SRIR	Supplemental Remedial Investigation Report
TAL	Target Analyte List
TCL	Target Compound List
TI	Technically Impracticable
TRSR	Technical Regulations for Site Remediation
TWP	Temporary Well Point
USEPA	United States Environmental Protection Agency
UST	Underground Storage Tank
VMP	Vibration Monitoring Plan
VOC	Volatile Organic Compound

TABLES

TABLE 1A
Baseline PAMP Data
Hexavalent Chromium Air Samples
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample ID	Location (Station)	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
1	Monday, July 15, 2013	**S1CrD071513***	S1	7:30	15:25	475	982.0	<	100.0	<	21.0
2	Tuesday, July 16, 2013	S1CrD071613	S1	7:15	15:41	506	1046.0	<	96.0	<	19.0
3	Wednesday, July 17, 2013	S1CrD071713	S1	7:10	15:32	502	1041.0		150.0	<	19.0
4	Monday, July 22, 2013	S1CrD072213	S1	7:22	15:40	498	1020.0	<	98.0	<	20.0
5	Wednesday, July 24, 2013	S1CrD072413	S1	7:12	15:39	507	1050.0		99.0	<	19.0
6	Thursday, July 25, 2013	S1CrD072513	S1	5:51	14:09	498	1034.0	<	97.0	<	19.0
7	Tuesday, July 30, 2013	**S1CrD073013***	S1	7:25	15:45	500	1033.9		510.0		20.0
8	Wednesday, July 31, 2013	**S1CrD073113***	S1	6:50	15:41	531	1100.2	<	91.0	<	18.0
9	Monday, August 05, 2013	S1CrD080513	S1	7:15	15:35	500	1052.5	<	95.0	<	19.0
10	Tuesday, August 06, 2013	S1CrD080613	S1	6:50	15:10	500	1037.8	<	96.0	<	19.0

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

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)	Analytical Results for Pb(ng/m^3)	Analytical Results for V (ng/m^3)	Analytical Results for Zn (ng/m^3)
1	Monday, July 15, 2013	**S1Met071513***	S1	7:30	15:25	475	998.0	< 51	< 52	< 3000	< 1000
2	Tuesday, July 16, 2013	S1Met071613	S1	7:15	15:41	506	1063.0	< 48	61	< 2800	< 940
3	Wednesday, July 17, 2013	S1Met071713	S1	7:10	15:32	502	1020.0	< 50	< 51	< 2900	< 980
4	Monday, July 22, 2013	S1Met072213	S1	7:22	15:40	498	1029.0	< 49	< 50	< 2900	< 970
5	Wednesday, July 24, 2013	S1Met072413	S1	7:12	15:39	507	1045.0	< 49	56	< 2900	< 960
6	Thursday, July 25, 2013	S1Met072513	S1	5:51	14:09	498	1024.0	< 50	< 50	< 2900	< 980
7	Tuesday, July 30, 2013	**S1Met073013***	S1	7:25	15:45	500	712.6	< 71	< 4200	< 4200	< 1400
8	Wednesday, July 31, 2013	S1Met073113	S1	6:50	15:41	531	1077.1	< 47	< 2800	< 2800	< 930
9	Monday, August 05, 2013	S1Met080513	S1	7:15	15:35	500	1049.2	< 48	< 250	< 2900	< 950
10	Tuesday, August 06, 2013	S1Met080613	S1	6:50	15:10	500	1032.1	< 49	< 250	< 2900	< 970

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

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
1	Tuesday, October 22, 2013	S1CRD102213	S1	7:17	15:00	463	977	<	100.0	<	10.0
2	Wednesday, October 23, 2013	S1CRD102313	S1	7:05	15:25	500	1125	<	89.0	<	8.9
3	Wednesday, October 23, 2013	S3CRD102313	S3	7:05	15:25	500	753	<	130.0	<	13.0
4	Thursday, October 24, 2013	S1CRD102413	S1	8:00	16:00	480	982	<	100.0	<	20.0
5	Friday, October 25, 2013	S1CRD102513	S1	7:30	16:00	510	977	<	100.0	<	20.0
6	Monday, October 28, 2013	S1CRD102813	S1	7:19	16:00	521	988	<	100.0	<	10.0
7	Tuesday, October 29, 2013	S3CRD102913	S3	7:07	16:00	533	1020	<	98.0	<	9.8
8	Wednesday, October 30, 2013	S1CRD103013	S3	7:40	15:10	450	1071	<	93.0	<	9.3
9	Thursday, October 31, 2013	S1CRD103113	S1	8:00	15:10	430	848	<	120.0	<	12.0
10	Friday, November 01, 2013	S1CRD110113	S1	8:00	15:30	450	948	<	100.0		26.0
11	Monday, November 04, 2013	S1CRD110413	S1	7:13	16:05	532	1317.5	<	76.0	<	15.0
12	Tuesday, November 05, 2013	S1CRD110513	S1	6:21	15:40	559	1173	<	85.0	<	17.0
13	Wednesday, November 06, 2013	S1CRD110613	S1	7:06	15:48	522	1451	<	65.0	<	13.0
14	Thursday, November 07, 2013	S1CRD110713	S1	6:41	15:09	508	1402	<	71.0	<	14.0
15	Friday, November 08, 2013	**S1CRD110813***	S1	6:45	16:45	600	1,315	<	76.0		35.0
16	Monday, November 11, 2013	S1CRD111113	S2	6:50	15:10	500	1415	<	71.0		9.8
17	Tuesday, November 12, 2013	S1CRD111213	S3	6:48	15:10	502	1421	<	70.0	<	7.1
18	Wednesday, November 13, 2013	S1CRD111313	S4	6:30	16:04	574	1670	<	60.0		7.9
19	Thursday, November 14, 2013	S1CRD111413	S1	6:45	15:16	511	1464	<	68.0	<	14.0
20	Friday, November 15, 2013	S1CRD111513	S1	6:55	15:10	495	1406	<	71.0	<	14.0
21	Monday, November 18, 2013	S1CRD111813	S1	6:30	16:00	570	1650	<	61.0		13.0
22	Tuesday, November 19, 2013	S1CRD111913	S1	6:30	15:56	566	1715	<	58.0		16.0
23	Wednesday, November 20, 2013	S3CRD112013	S3	6:50	16:28	578	1725	<	58.0	<	12.0
24	Thursday, November 21, 2013	**S3CRD112113***	S3	6:16	15:40	564	1701	<	59.0	<	12.0
25	Friday, November 22, 2013	S1CRD112213	S1	7:15	16:06	531	1580	<	63.0	<	13.0
26	Monday, November 25, 2013	S1CRD112513	S1	6:55	15:10	495	1559		77.0		42.0
27	Tuesday, November 26, 2013	S1CRD112613	S1	6:58	15:14	496	1520	<	66.0	<	13.0
28	Wednesday, November 27, 2013	S1CRD112713	S1	7:08	14:20	432	1309	<	76.0	<	15.0
29	Monday, December 02, 2013	S3CRD120213	S1	6:30	15:00	510	1402	<	71.0		17.0
30	Tuesday, December 03, 2013	S1CRD120313	S1	6:32	15:34	542	1657	<	60.0	<	12.0
31	Wednesday, December 04, 2013	S3CRD120413	S1	6:43	15:10	507	1493		88.0	<	14.0
32	Thursday, December 05, 2013	S1CRD120513	S1	6:36	15:06	510	1535	<	65.0		18.0
33	Friday, December 06, 2013	S2CRD120613	S2	6:24	15:20	536	1637	<	61.0	<	6.2
34	Monday, December 09, 2013	S2CRD120913	S2	6:48	15:40	532	1631	<	61.0		14.0
35	Tuesday, December 10, 2013	S1CRD121013	S1	6:50	15:01	491	1561	<	64.0		20.0
36	Wednesday, December 11, 2013	**S1CRD121113***	S1	6:38	16:28	590	1819	<	65.0		22.0
37	Thursday, December 12, 2013	S2CRD121213	S2	6:45	15:03	498	1492	<	67.0		7.1
38	Friday, December 13, 2013	S1CRD121313	S1	6:50	16:26	576	1699	<	59.0		8.0
39	Monday, December 16, 2013	S1CRD121613	S1	6:48	15:06	498	1820	<	55.0	<	5.5
40	Tuesday, December 17, 2013	S3CRD121713	S3	6:50	15:10	500	1773	<	56.0	<	5.7
41	Wednesday, December 18, 2013	S1CRD121813	S1	6:45	15:10	505	1717	<	58.0		7.9
42	Thursday, December 19, 2013	S1CRD121913	S1	6:40	14:12	452	1634	<	61.0	<	12.0
43	Friday, December 20, 2013	S2CRD122013	S2	6:35	14:15	460	1642	<	61.0	<	12.0
44	Monday, December 23, 2013	S1CRD122313	S1	6:50	15:11	501	1252	<	80.0	<	16.0
45	Tuesday, December 24, 2013	S2CRD122413	S2	6:27	13:39	432	1328	<	81.0	<	16.0
46	Monday, December 30, 2013	S1CRD123013	S1	6:50	15:15	505	1523	<	66.0	<	13.0
47	Tuesday, December 31, 2013	S1CRD123113	S1	7:00	14:10	430	1301	<	77.0	<	16.0
48	Thursday, January 02, 2014	S3CRD010213	S3	7:00	15:27	507	1516	<	66.0	<	13.0
49	Monday, January 06, 2014	S1CRD010614	S1	6:25	15:05	520	1656	<	60.0	<	12.0
50	Tuesday, January 07, 2014	S1CRD010714	S1	6:53	15:01	488	1545	<	65.0	<	13.0
51	Wednesday, January 08, 2014	S1CRD010814	S1	6:53	15:40	527	1652	<	61.0	<	12.0
52	Thursday, January 09, 2014	S1CRD010914	S1	6:50	15:02	492	1557		67.0	<	13.0
53	Friday, January 10, 2014	S1CRD011014	S1	7:00	15:00	480	1541	<	65.0	<	13.0
54	Monday, January 13, 2014	**S2CRD011314***	S2	6:50	15:00	490	1558	<	64.0	<	13.0

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
55	Tuesday, January 14, 2014	**S1CRD011414***	S1	6:32	15:00	508	1605	<	62.0	<	13.0
56	Wednesday, January 15, 2014	S2CRD011514	S2	6:26	15:15	529	1680	<	60.0	<	12.0
57	Thursday, January 16, 2014	S2011614	S2	6:55	15:04	489	1560	<	64.0	<	13.0
58	Friday, January 17, 2014	S1011714	S1	6:50	15:20	510	1622	<	62.0	<	12.0
59	Monday, January 20, 2014	S1CRD012014	S1	6:38	15:26	528	1679	<	60.0	<	12.0
60	Tuesday, January 21, 2014	S3CRD012114	S3	6:53	14:00	427	1362	<	73.0	<	15.0
61	Thursday, January 23, 2014	S1CRD012314	S1	6:57	15:17	500	1595	<	63.0	<	13.0
62	Friday, January 24, 2014	S1CRD012414	S1	7:00	15:10	490	1556	<	64.0	<	13.0
63	Monday, January 27, 2014	S1CRD012714	S1	6:45	15:00	495	1584	<	63.0	<	13.0
64	Tuesday, January 28, 2014	S2CRD012814	S2	6:47	15:01	494	1581	<	63.0	<	13.0
65	Wednesday, January 29, 2014	S1CRD012914	S1	6:50	15:00	490	1568	<	64.0	<	13.0
66	Thursday, January 30, 2014	S1013014	S1	6:55	15:35	520	1661	<	60.0		8.3
67	Friday, January 31, 2014	S1013114	S1	6:45	15:29	524	1593		66.0	<	6.4
68	Monday, February 03, 2014	S2020314	S2	6:50	11:50	300	954	<	100.0	<	21.0
69	Tuesday, February 04, 2014	S2020414	S2	6:45	15:00	495	1574	<	64.0		29.0
70	Thursday, February 06, 2014	S2020614	S2	6:45	15:11	506	1617	<	62.0	<	13.0
71	Friday, February 07, 2014	S1020714	S1	6:55	15:06	491	1552	<	64.0	<	13.0
72	Monday, February 10, 2014	S2021014	S2	6:37	15:00	503	1610	<	62.0	<	13.0
73	Tuesday, February 11, 2014	S2021114	S2	6:40	15:06	506	1612	<	62.0	<	13.0
74	Thursday, February 13, 2014	S3021314	S3	7:00	15:00	480	1606	<	62.0	<	13.0
75	Friday, February 14, 2014	S1021414	S1	8:30	15:08	398	1329	<	75.0	<	7.7
76	Tuesday, February 18, 2014	S3021814	S3	6:55	15:23	508	1575	<	63.0	<	6.4
77	Wednesday, February 19, 2014	S2021914	S2	6:50	15:10	500	1600		66.0	<	6.3
78	Thursday, February 20, 2014	S1022014	S1	6:53	15:21	508	1577	<	63.0	<	6.4
79	Friday, February 21, 2014	S3022114	S3	7:10	15:49	519	1614	<	62.0	<	6.3
80	Monday, February 24, 2014	**S2022414***	S2	6:48	15:00	492	1604	<	62.0	<	6.3
81	Tuesday, February 25, 2014	**S1022514***	S1	6:50	15:02	492	1624	<	62.0	<	6.3
82	Wednesday, February 26, 2014	**S1022614***	S1	6:42	15:00	498	1653	<	60.0	<	6.1
83	Thursday, February 27, 2014	S1022714	S1	7:13	15:04	471	1524	<	66.0	<	6.6
84	Friday, February 28, 2014	S2022814	S2	6:53	15:00	487	1539	<	65.0	<	6.6
85	Monday, March 03, 2014	S2030314	S2	6:50	15:00	490	1583	<	63.0	<	13.0
86	Tuesday, March 04, 2014	S2030414	S2	6:57	15:15	498	1574		88.0	<	13.0
87	Wednesday, March 05, 2014	S2030514	S2	6:58	15:00	482	1542		93.0	<	13.0
88	Thursday, March 06, 2014	S3030614	S3	7:00	15:08	488	1542	<	65.0	<	6.6
89	Friday, March 07, 2014	S3030714	S3	6:53	15:06	493	1587	<	63.0	<	6.4
90	Monday, March 10, 2014	S1031014	S1	7:00	15:10	490	1568	<	64.0	<	6.4
91	Tuesday, March 11, 2014	S1031114	S1	6:55	15:39	524	1672		85.0	<	6.0
92	Wednesday, March 12, 2014	S3031214	S3	6:59	15:19	500	1585		98.0	<	6.4
93	Thursday, March 13, 2014	S2031314	S2	6:56	15:10	494	1566	<	79.0	<	6.5
94	Friday, March 14, 2014	S3031414	S3	6:58	15:00	482	1528		65.0	<	6.6
95	Monday, March 17, 2014	S2031714	S2	6:48	15:17	509	1619	<	62.0	<	6.3
96	Tuesday, March 18, 2014	S3031814	S3	7:00	15:08	488	1542	<	65.0	<	6.6
97	Wednesday, March 19, 2014	S3031914	S3	7:05	15:20	495	1574		95.0	<	6.4
98	Thursday, March 20, 2014	S1032014	S1	6:28	16:34	606	1939	<	52.0	<	5.2
99	Friday, March 21, 2014	S3032114	S3	6:50	15:28	518	1658	<	60.0	<	6.1
100	Monday, March 24, 2014	**S2032414***	S2	6:50	16:12	562	1796	<	56.0	<	5.6
101	Tuesday, March 25, 2014	**S2032514***	S2	6:57	15:15	498	1,594	<	63.0	<	6.4
102	Wednesday, March 26, 2014	**S2032614***	S2	6:48	15:06	498	1,601		91.0	<	6.3
103	Thursday, March 27, 2014	S1032714	S1	7:02	15:06	484	1,549	<	65.0	<	6.5
104	Friday, March 28, 2014	S1032814	S1	6:45	15:33	528	1,700		72.0	<	6.0
105	Monday, March 31, 2014	S2033114	S2	6:56	15:06	490	1,480	<	63.0	<	6.4
106	Tuesday, April 01, 2014	553UH	S2	6:42	15:00	498	1,594	<	63.0	<	6.4
107	Wednesday, April 02, 2014	558UH	S1	6:53	15:05	492	1,574	<	64.0	<	6.4
108	Thursday, April 03, 2014	S2040314	S2	6:46	15:20	514	1,660	<	60.0	<	6.1

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
109	Friday, April 04, 2014	S3040414	S3	6:58	15:16	498	1,559	<	64.0	<	6.5
110	Monday, April 07, 2014	S2040714	S2	6:55	16:50	595	1,934		68.0		14.0
111	Tuesday, April 08, 2014	S1MET040814	S1	6:50	15:33	523	1,674				
112	Wednesday, April 09, 2014	S2040914	S2	6:56	15:10	494	1,586	<	63.0	<	6.4
113	Thursday, April 10, 2014	S4041014	S4	6:50	15:56	546	1,731	<	58.0	<	5.8
114	Friday, April 11, 2014	S4041114	S4	6:56	15:32	516	1,646		77.0	<	6.1
115	Monday, April 14, 2014	S4041414	S4	6:34	15:23	529	1,693	<	59.0	<	5.9
116	Tuesday, April 15, 2014	S4041514	S4	6:34	16:33	599	1,926	<	52.0	<	10.0
117	Wednesday, April 16, 2014	S3041614	S3	6:57	17:03	606	1,936	<	52.0	<	10.0
118	Thursday, April 17, 2014	S4041714	S4	6:55	15:59	544	1,724	<	58.0	<	12.0
119	Friday, April 18, 2014	S4041814	S4	6:45	15:07	502	1,591	<	63.0	<	13.0
120	Monday, April 21, 2014	S2042114	S2	6:50	17:50	660	1,914	<	52.0	<	5.3
121	Tuesday, April 22, 2014	S2042214	S2	6:46	17:30	644	2,054	<	49.0	<	4.9
122	Wednesday, April 23, 2014	S1042314	S1	6:43	15:10	507	1,617	<	62.0	<	6.2
123	Thursday, April 24, 2014	S2042414	S2	6:43	15:00	497	1,588		81.0	<	6.3
124	Friday, April 25, 2014	S1042514	S1	6:38	15:03	505	1,603	<	62.0	<	6.3
125	Monday, April 28, 2014	**S2042814***	S2	6:29	15:27	538	1,732	<	58.0		14.0
126	Tuesday, April 29, 2014	**S4042914***	S4	6:35	16:55	620	1,981	<	50.0	<	5.1
127	Wednesday, April 30, 2014	**S2043014***	S2	6:23	16:12	589	1,897	<	53.0	<	5.3
128	Thursday, May 01, 2014	S3050114	S3	6:22	16:10	588	1,876	<	53.0	<	5.4
129	Friday, May 02, 2014	S4050214	S4	6:35	15:29	534	1,698	<	59.0	<	5.9
130	Monday, May 05, 2014	S2050514	S2	6:53	17:15	622	1,994	<	50.0	<	5.1
131	Tuesday, May 06, 2014	S2050614	S2	6:39	17:20	641	2,048	<	49.0	<	4.9
132	Wednesday, May 07, 2014	S2050714	S2	6:50	15:39	529	1,688	<	59.0	<	6.0
133	Thursday, May 08, 2014	S3050814	S3	6:48	15:20	512	1,654	<	60.0	<	6.1
134	Friday, May 09, 2014	S4050914	S4	7:00	15:08	488	1,559	<	64.0	<	6.5
135	Monday, May 12, 2014	S1051214	S1	6:42	16:00	558	1,786		82.0	<	5.7
136	Tuesday, May 13, 2014	S4051314	S4	6:43	15:30	527	1,734		61.0		9.0
137	Wednesday, May 14, 2014	S4051414	S4	6:40	18:00	680	2,237		50.0	<	4.5
138	Friday, May 16, 2014	S2051614	S2	6:40	15:12	512	1,644	<	61.0	<	6.2
139	Monday, May 19, 2014	**S2051914***	S2	6:38	17:55	677	2,237	<	45.0	<	4.5
140	Tuesday, May 20, 2014	S2052014	S2	6:33	15:26	533	1,706	<	59.0	<	6.0
141	Wednesday, May 21, 2014	S3052114	S3	6:27	15:30	543	1,732	<	58.0	<	5.9
142	Thursday, May 22, 2014	S30522UG	S3	6:29	15:27	538	1,718	<	58.0		9.2
143	Friday, May 23, 2014	S30523UG	S3	6:29	14:11	462	1,474	<	58.0	<	6.9
144	Tuesday, May 27, 2014	S1052714	S1	6:18	15:20	542	1,734	<	58.0		6.8
145	Wednesday, May 28, 2014	S3052814	S3	6:45	16:13	568	1,820	<	55.0	<	5.6
146	Thursday, May 29, 2014	S2052914	S2	6:25	17:50	685	2,189	<	46.0	<	4.6
147	Friday, May 30, 2014	S2053014	S2	6:40	15:02	502	1,608	<	62.0	<	6.3
148	Monday, June 02, 2014	S1060214	S1	6:38	15:30	532	1,686	<	59.0	<	6.0
149	Tuesday, June 03, 2014	S1060314	S1	6:26	15:30	544	1,730		12.0		9.3
150	Wednesday, June 04, 2014	S3060414	S3	6:30	17:17	647	2,067	<	48.0		7.1
151	Thursday, June 05, 2014	S3060514	S3	6:58	16:00	542	1,734	<	58.0	<	5.8
152	Monday, June 09, 2014	S4060914	S4	6:38	15:29	531	1,699	<	59.0	<	6.0
153	Tuesday, June 10, 2014	S2061014	S2	6:42	15:15	513	1,631	<	61.0	<	6.2
154	Wednesday, June 11, 2014	S3061114	S3	7:00	17:17	617	1,962	<	63.0	<	6.4
155	Thursday, June 12, 2014	S3061214	S3	7:10	15:36	506	1,596	<	63.0	<	6.4
156	Friday, June 13, 2014	S2061314	S2	6:40	15:15	515	1,633	<	61.0	<	6.2
157	Monday, June 16, 2014	S2061614	S2	6:28	15:08	520	1,643	<	61.0		9.2
158	Tuesday, June 17, 2014	S2061714	S2	6:56	15:17	501	1,598	<	63.0	<	6.4
159	Wednesday, June 18, 2014	S2061814	S2	6:42	14:20	458	1,468		100.0		8.6
160	Thursday, June 19, 2014	S2061914	S2	5:45	15:16	571	1,853		62.0	<	5.5
161	Friday, June 20, 2014	S3062014	S3	6:15	14:15	480	1,483		78.0	<	6.9
162	Monday, June 23, 2014	S3062314	S3	6:15	14:40	505	1,579	<	63.0	<	6.4

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
163	Tuesday, June 24, 2014	S3062414	S3	6:30	14:20	470	1,459	<	69.0	<	7.0
164	Wednesday, June 25, 2014	S2062514	S2	6:30	14:40	490	1,563	<	64.0	<	6.5
165	Thursday, June 26, 2014	**S2062614***	S2	5:58	14:20	502	1,551	<	64.0	<	6.6
166	Friday, June 27, 2014	**S2062714***	S2	6:15	14:23	488	1,518	<	66.0		6.9
167	Monday, June 30, 2014	**S2063014***	S2	5:58	14:35	517	1,647	<	61.0	<	6.2
168	Tuesday, July 01, 2014	S2070114	S2	5:55	15:26	571	1,861	<	54.0	<	5.5
169	Wednesday, July 02, 2014	S2070214	S2	5:51	15:23	572	1,830		61.0	<	5.6
170	Thursday, July 03, 2014	S2070314	S2	5:50	15:12	562	1,807	<	55.0		11.0
171	Monday, July 07, 2014	S1070714	S1	6:15	14:45	510	1,627	<	62.0	<	6.2
172	Tuesday, July 08, 2014	S2070814	S2	6:07	15:30	563	1,793	<	56.0	<	5.7
173	Wednesday, July 09, 2014	S2070914	S2	6:35	14:32	477	1,524	<	66.0		15.0
174	Thursday, July 10, 2014	S3071014	S3	6:35	15:20	525	1,683	<	59.0	<	6.0
175	Friday, July 11, 2014	S2071114	S2	6:01	14:22	501	1,596	<	63.0		8.0
176	Monday, July 14, 2014	S1071414	S1	6:15	14:35	500	1,605	<	62.0		7.1
177	Tuesday, July 15, 2014	S2071514	S2	5:50	14:28	518	1,660	<	60.0		8.3
178	Wednesday, July 16, 2014	S2071614	S2	5:29	14:25	536	1,750	<	57.0		7.3
179	Thursday, July 17, 2014	S2071714	S2	5:53	15:19	566	1,873	<	53.0	<	5.4
180	Friday, July 18, 2014	S3071814	S3	5:49	14:17	508	1,629	<	63.0	<	6.2
181	Monday, July 21, 2014	**S2072114***	S2	5:52	14:08	496	1,622	<	62.0	<	6.2
182	Tuesday, July 22, 2014	**S1072214***	S1	5:58	14:20	502	1,604		97.0	<	6.3
183	Wednesday, July 23, 2014	**S1072314***	S1	6:03	15:30	567	1,837		17.0	<	5.5
184	Thursday, July 24, 2014	S2072414	S2	5:53	15:30	577	1,820	<	55.0	<	5.6
185	Friday, July 25, 2014	S2072514	S2	5:50	14:30	520	1,672	<	60.0	<	6.1
186	Monday, July 28, 2014	S1072814	S1	5:46	14:45	539	1,719	<	58.0	<	5.9
187	Tuesday, July 29, 2014	S2072914	S2	5:58	14:36	518	1,658	<	60.0	<	6.1
188	Wednesday, July 30, 2014	S2073014	S2	5:50	14:30	520	1,670	<	55.0	<	5.6
189	Thursday, July 31, 2014	S1073114	S1	5:46	15:08	562	1,807	<	55.0	<	5.6
190	Friday, August 01, 2014	S1080114	S1	5:50	14:30	520	1,659		100.0	<	6.1
191	Monday, August 04, 2014	S3080414	S3	6:00	15:50	590	1,894		71.0	<	5.4
192	Tuesday, August 05, 2014	S2080514	S2	5:47	14:40	533	1,706	<	59.0	<	6.0
193	Wednesday, August 06, 2014	S2080614	S2	5:50	16:15	625	1,978	<	51.0	<	5.1
194	Thursday, August 07, 2014	**S2080714***	S2	5:49	16:05	616	1,999	<	50.0	<	5.1
195	Friday, August 08, 2014	**S2080814***	S2	5:58	15:00	542	1,729	<	58.0	<	5.9
196	Monday, August 11, 2014	S3081114	S3	5:58	14:30	512	1,641	<	61.0	<	6.2
197	Tuesday, August 12, 2014	S4081214	S4	6:05	14:30	505	1,611	<	62.0	<	6.3
198	Wednesday, August 13, 2014	S1081314	S1	5:53	14:30	517	1,665	<	60.0	<	6.1
199	Thursday, August 14, 2014	S2081414	S2	5:57	14:30	513	1,611	<	61.0	<	6.2
200	Friday, August 15, 2014	S2081514	S2	5:59	14:30	511	1,635	<	61.0	<	6.2
201	Monday, August 18, 2014	S2081814	S2	5:58	14:30	512	1,646	<	61.0	<	6.2
202	Tuesday, August 19, 2014	S3081914	S3	5:59	16:00	601	1,914	<	52.0	<	5.3
203	Wednesday, August 20, 2014	S4082014	S4	5:57	14:30	513	1,636	<	61.0	<	6.2
204	Thursday, August 21, 2014	S4082114	S4	5:45	15:00	555	1,795	<	56.0	<	5.7
205	Friday, August 22, 2014	S4082214	S4	5:48	14:30	522	1,676	<	60.0	<	6.1
206	Monday, August 25, 2014	**S2082514***	S2	6:04	15:30	566	1,800	<	56.0	<	5.7
207	Tuesday, August 26, 2014	S1082614	S1	5:51	16:04	613	1,974	<	51.0	<	5.2
208	Wednesday, August 27, 2014	**S3082714***	S3	6:03	14:30	507	1,640		90.0	<	6.2
209	Thursday, August 28, 2014	S2082814	S2	5:48	14:30	522	1,670	<	60.0	<	6.1
210	Friday, August 29, 2014	S2082914	S2	5:56	13:20	444	1,434	<	70.0	<	7.1
211	Tuesday, September 02, 2014	S1090214	S1	6:28	15:00	512	1,638	<	61.0	<	6.2
212	Wednesday, September 03, 2014	S2090314	S2	6:28	15:00	512	1,628	<	61.0	<	6.3
213	Thursday, September 04, 2014	S2090414	S2	6:26	15:00	514	1,635	<	61.0	<	6.2
214	Friday, September 05, 2014	S2090514	S2	6:22	15:02	520	1,667	<	60.0	<	6.1
215	Monday, September 08, 2014	S3090814	S3	6:40	15:00	500	1,642	<	61.0	<	6.2
216	Tuesday, September 09, 2014	S4090914	S4	6:30	15:00	510	1,637	<	61.0	<	6.2

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
217	Wednesday, September 10, 2014	S2091014	S2	6:23	15:00	517	1,649	<	61.0	<	6.2
218	Friday, September 12, 2014	S2091214	S2	6:26	15:00	514	1,691		71.0	<	6.0
219	Monday, September 15, 2014	**S2091514***	S2	6:23	15:00	517	1,644	<	61.0	<	6.2
220	Tuesday, September 16, 2014	**S1091614***	S1	6:33	15:30	537	1,721	<	58.0	<	5.9
221	Wednesday, September 17, 2014	**S3091714***	S3	6:23	15:00	517	1,706	<	59.0	<	6.0
222	Thursday, September 18, 2014	S2091814	S2	6:28	15:07	519	1,710	<	58.0	<	5.9
223	Friday, September 19, 2014	S3091914	S3	6:35	15:00	505	1,661		73.0	<	6.1
224	Monday, September 22, 2014	S2092214	S2	6:29	17:00	631	2,003	<	50.0	<	5.1
225	Tuesday, September 23, 2014	S2092314	S2	6:26	16:58	632	2,060	<	48.0	<	4.9
226	Wednesday, September 24, 2014	S2092414	S2	6:25	17:15	650	2,204	<	45.0	<	4.6
227	Thursday, September 25, 2014	S3092514	S3	6:36	15:00	504	1,714	<	58.0	<	12.0
228	Friday, September 26, 2014	S2092614	S2	6:23	16:55	632	2,130	<	47.0	<	9.5
229	Monday, September 29, 2014	S3092914	S3	6:34	17:18	644	2,128		51.0	<	4.8
230	Tuesday, September 30, 2014	S3093014	S3	6:40	17:14	634	2,124	<	47.0	<	4.8
231	Wednesday, October 01, 2014	S2100114	S2	6:40	17:20	640	2,134	<	47.0	<	4.7
232	Thursday, October 02, 2014	S4100214	S4	6:28	17:05	637	2,134	<	47.0	<	4.7
233	Friday, October 03, 2014	S2100314	S2	6:40	17:15	635	2,118	<	47.0	<	4.8
234	Tuesday, October 07, 2014	S1100714	S1	6:57	17:12	615	2,017	<	50.0	<	5.0
235	Wednesday, October 08, 2014	S1100814	S1	6:43	17:15	632	2,120	<	47.0	<	4.8
236	Thursday, October 09, 2014	S2100914	S2	6:35	17:15	640	2,173	<	46.0	<	4.6
237	Friday, October 10, 2014	S2101014	S2	6:44	17:10	626	2,078	<	48.0	<	4.9
238	Monday, October 13, 2014	S3101314	S3	6:53	15:28	515	1,718	<	58.0	<	5.9
239	Tuesday, October 14, 2014	S1101414	S1	7:12	17:18	606	2,036	<	49.0	<	5.0
240	Wednesday, October 15, 2014	S4101514	S4	6:20	17:17	657	2,175	<	46.0	<	4.6
241	Thursday, October 16, 2014	S2101614	S2	6:15	17:03	648	2,151	<	46.0	<	4.7
242	Friday, October 17, 2014	S1101714	S1	6:58	17:10	612	2,066	<	48.0	<	4.9
243	Monday, October 20, 2014	**S1102014***	S1	6:35	17:12	637	2,108	<	47.0		6.5
244	Tuesday, October 21, 2014	**S2102114***	S2	6:37	17:19	642	2,147		58.0	<	4.7
245	Wednesday, October 22, 2014	S3102214	S3	6:36	17:13	637	2,121	<	47.0	<	4.8
246	Thursday, October 23, 2014	S3102314	S3	6:33	17:10	637	2,153	<	46.0	<	4.7
247	Friday, October 24, 2014	S2102414	S2	6:37	17:15	638	2,118	<	47.0	<	4.8
248	Monday, October 27, 2014	S1102714	S1	6:33	17:18	645	2,148	<	47.0	<	4.7
249	Tuesday, October 28, 2014	S2102814	S2	6:30	15:22	532	1,769	<	56.0	<	5.7
250	Wednesday, October 29, 2014	S2102914	S2	6:32	15:26	534	1,768	<	57.0	<	5.7
251	Thursday, October 30, 2014	S4103014	S4	6:36	15:27	531	1,755	<	57.0	<	5.7
252	Friday, October 31, 2014	S2103114	S2	6:32	15:19	527	1,744	<	57.0	<	5.8
253	Monday, November 03, 2014	S2110314	S2	6:32	15:28	536	1,788	<	56.0	<	5.6
254	Tuesday, November 04, 2014	S4110414	S4	6:30	15:28	538	1,781	<	56.0	<	5.6
255	Wednesday, November 05, 2014	S1110514	S1	6:43	15:16	513	1,688	<	59.0	<	5.9
256	Thursday, November 06, 2014	S4110614	S4	6:26	15:14	528	1,758	<	57.0	<	5.7
257	Friday, November 07, 2014	S4110714	S4	6:23	15:23	540	1,790	<	56.0	<	5.6
258	Monday, November 10, 2014	**S4111014***	S4	6:33	15:34	541	1,793		66.0	<	5.6
259	Tuesday, November 11, 2014	**S3111114***	S3	6:39	15:06	507	1,678	<	60.0	<	6.0
260	Wednesday, November 12, 2014	**S2111214***	S2	6:28	15:06	518	1,717	<	58.0	<	5.9
261	Thursday, November 13, 2014	S2111314	S2	6:26	15:10	524	1,769	<	56.0	<	5.7
262	Friday, November 14, 2014	S4111414	S4	6:23	15:19	536	1,820	<	22.0	<	5.5
263	Monday, November 17, 2014	S2111714	S2	6:33	15:34	541	1,788	<	56.0	<	5.7
264	Tuesday, November 18, 2014	S1111814	S1	6:48	15:20	512	1,702	<	59.0	<	5.9
265	Wednesday, November 19, 2014	S1111914	S1	6:36	15:22	526	1,744		92.0		6.4
266	Thursday, November 20, 2014	S1112018	S1	6:29	15:18	529	1,722	<	56.0	<	5.7
267	Friday, November 21, 2014	S1112118	S1	6:42	15:26	524	1,758	<	57.0	<	5.7
268	Monday, November 24, 2014	S2112414	S2	6:44	15:18	514	1,704	<	59.0	<	5.9
269	Tuesday, November 25, 2014	S1112514	S1	6:29	15:31	542	1,794	<	56.0	<	5.6
270	Wednesday, November 26, 2014	S2112614	S2	6:22	14:00	458	1,555	<	64.0	<	6.5

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
271	Monday, December 01, 2014	S1120114	S1	6:26	15:22	536	1,830	<	55.0	<	5.5
272	Tuesday, December 02, 2014	S3120214	S3	6:37	15:18	521	1,584	<	63.0	<	6.3
273	Wednesday, December 03, 2014	S4120314	S4	6:39	15:21	522	1,728	<	58.0	<	5.8
274	Thursday, December 04, 2014	S2120414	S2	6:50	15:21	511	1,656	<	60.0	<	6.0
275	Friday, December 05, 2014	S3100514	S3	6:57	15:17	500	1,613	<	62.0	<	6.4
276	Monday, December 08, 2014	S3120814	S3	6:55	17:00	605	2,012	<	50.0	<	5.0
277	Tuesday, December 09, 2014	S2120914	S2	6:42	15:12	510	1,688	<	59.0	<	5.9
278	Wednesday, December 10, 2014	S2121014	S2	6:24	15:21	537	1,697	<	59.0	<	5.9
279	Thursday, December 11, 2014	S1121114	S1	6:29	15:30	541	1,769	<	56.0	<	5.7
280	Friday, December 12, 2014	S2121214	S2	6:55	15:23	508	1,681	<	60.0	<	6.0
281	Monday, December 15, 2014	S2121514	S2	6:45	15:25	520	1,711	<	58.0	<	5.9
282	Tuesday, December 16, 2014	S2121614	S2	6:45	16:00	555	1,826	<	55.0	<	5.5
283	Wednesday, December 17, 2014	S2121714	S2	6:33	15:28	535	1,771	<	56.0	<	5.7
284	Thursday, December 18, 2014	**S2121814***	S2	6:48	15:22	514	1,629	<	61.0	<	6.2
285	Friday, December 19, 2014	**S2121914***	S2	6:42	15:20	518	1,655	<	60.0	<	6.1
286	Monday, December 22, 2014	S3122214	S3	6:40	15:23	523	1,828	<	55.0	<	5.5
287	Tuesday, December 23, 2014	S3122314	S3	6:44	15:21	517	1,680	<	60.0	<	6.0
288	Wednesday, December 24, 2014	S3122414	S3	6:36	12:47	371	1,217	<	82.0	<	8.2
289	Monday, December 29, 2014	S2122914	S2	6:34	15:35	541	1,837	<	54.0	<	5.5
290	Tuesday, December 30, 2014	S3123014	S3	6:58	15:26	508	1,699	<	59.0	<	5.9
291	Wednesday, December 31, 2014	S2123114	S2	6:31	13:50	439	1,482	<	68.0	<	6.8
292	Monday, January 05, 2015	S2010515	S2	6:29	15:18	529	1,801	<	56.0	<	5.6
293	Tuesday, January 06, 2015	S2010615	S2	6:50	15:26	516	1,651	<	61.0	<	6.1
294	Wednesday, January 07, 2015	S2010715	S2	6:50	15:30	520	1,664	<	60.0	<	6.0
295	Thursday, January 08, 2015	S2010815	S2	6:50	15:20	510	1,683	<	59.0	<	6.0
296	Friday, January 09, 2015	S2010915	S2	6:50	15:32	522	1,697	<	59.0	<	5.9
297	Monday, January 12, 2015	S2011215	S2	6:45	15:27	522	1,762	<	57.0	<	5.7
298	Tuesday, January 13, 2015	**S2011315***	S2	7:00	15:26	506	1,695	<	59.0	<	5.9
299	Wednesday, January 14, 2015	**S2011415***	S2	7:00	15:28	508	1,727	<	58.0	<	5.8
300	Thursday, January 15, 2015	S2011515	S2	6:45	15:27	522	1,749	<	57.0	<	5.7
301	Friday, January 16, 2015	S2011615	S2	6:45	15:30	525	1,772		57.0	<	5.7
302	Monday, January 19, 2015	S2011915	S2	6:42	15:25	523	1,752	<	57.0	<	11.0
303	Tuesday, January 20, 2015	S2012015	S2	6:45	15:40	535	1,819	<	55.0	<	11.0
304	Wednesday, January 21, 2015	S3012115	S3	6:50	15:26	516	1,754	<	57.0	<	11.0
305	Thursday, January 22, 2015	S3012215	S3	6:50	15:24	514	1,748	<	57.0	<	12.0
306	Friday, January 23, 2015	S2012315	S2	7:00	15:20	500	1,700	<	59.0	<	12.0
307	Monday, January 26, 2015	S3012615	S3	6:40	14:56	496	1,674	<	60.0	<	12.0
308	Wednesday, January 28, 2015	S2012815	S2	7:30	15:23	473	1,585	<	63.0	<	6.3
309	Thursday, January 29, 2015	S2012915	S2	7:05	15:22	497	1,677	<	60.0	<	6.0
310	Friday, January 30, 2015	S2013015	S2	7:05	15:20	495	1,671	<	60.0	<	6.0
311	Tuesday, February 03, 2015	S2020315	S2	7:00	15:03	483	1,630	<	61.0	<	6.2
312	Wednesday, February 04, 2015	S2020415	S2	7:05	15:20	495	1,683	<	59.0	<	6.0
313	Thursday, February 05, 2015	S2020515	S2	7:07	16:10	543	1,819	<	55.0	<	5.5
314	Friday, February 06, 2015	S2020615	S2	7:05	15:10	485	1,613	<	62.0	<	6.2
315	Monday, February 09, 2015	S2020915	S2	7:05	15:26	501	1,703	<	59.0	<	5.9
316	Tuesday, February 10, 2015	S2021015	S2	7:05	15:40	515	1,738	<	58.0	<	5.8
317	Wednesday, February 11, 2015	S2021115	S2	7:05	15:28	503	1,710	<	58.0	<	5.9
318	Thursday, February 12, 2015	S2021215	S2	7:10	15:20	490	1,642	<	61.0	<	6.1
319	Friday, February 13, 2015	S2021315	S2	7:15	15:15	480	1,608	<	62.0	<	6.2
320	Tuesday, February 17, 2015	S2021715	S2	7:30	15:30	480	1,608	<	62.0	<	6.2
321	Wednesday, February 18, 2015	S2021815	S2	7:00	15:30	510	1,721		72.0	<	5.8
322	Thursday, February 19, 2015	S2021915	S2	7:05	15:41	516	1,754	<	57.0	<	5.7
323	Friday, February 20, 2015	S2'022015	S2	6:55	15:13	498	1,668	<	60.0	<	6.0
324	Monday, February 23, 2015	**S2022315***	S2	6:55	15:35	520	1,742	<	57.0	<	5.8

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
325	Tuesday, February 24, 2015	**S2022415***	S2	7:05	15:20	495	1,671	<	60.0	<	6.0
326	Wednesday, February 25, 2015	S2022515	S2	7:10	15:15	485	1,649	<	61.0	<	6.1
327	Thursday, February 26, 2015	S2022615	S2	7:05	15:22	497	1,690	<	59.0	<	5.9
328	Friday, February 27, 2015	S2022715	S2	7:07	15:10	483	1,630	<	61.0	<	6.2
329	Monday, March 02, 2015	S2030215	S2	7:05	15:32	507	1,698	<	59.0	<	5.9
330	Tuesday, March 03, 2015	S2030314	S2	6:26	15:22	536	1,796	<	56.0	<	5.6
331	Wednesday, March 04, 2015	S3020415	S3	6:32	15:25	533	1,727	<	58.0	<	5.8
332	Thursday, March 05, 2015	S1030515	S1	6:33	14:20	467	1,520	<	66.0	<	6.6
333	Friday, March 06, 2015	S3030615	S3	7:10	15:22	492	1,587	<	63.0	<	6.4
334	Monday, March 09, 2015	S2030915	S2	6:27	15:20	533	1,722	<	58.0	<	5.9
335	Tuesday, March 10, 2015	S2031015	S2	6:22	15:18	536	1,721	<	58.0	<	5.9
336	Wednesday, March 11, 2015	S2031115	S2	6:45	15:20	515	1,859	<	54.0	<	5.4
337	Thursday, March 12, 2015	S1031215	S1	6:25	15:21	536	1,956	<	51.0	<	5.2
338	Friday, March 13, 2015	S2021315	S2	6:23	15:26	543	1,966	<	51.0	<	5.1
339	Monday, March 16, 2015	S1031615	S1	6:22	15:31	549	1,825	<	55.0	<	5.5
340	Tuesday, March 17, 2015	S2031715	S2	6:18	15:20	542	1,805	<	55.0	<	5.6
341	Wednesday, March 18, 2015	S1031815	S1	6:23	15:25	542	1,808	<	55.0	<	5.6
342	Thursday, March 19, 2015	S2031915	S2	6:22	15:22	540	1,812	<	55.0	<	5.6
343	Friday, March 20, 2015	S4032015	S4	6:35	14:23	468	1,542		72.0	<	6.5
344	Monday, March 23, 2015	S2032315	S2	6:28	15:20	532	1,769	<	56.0	<	5.7
345	Tuesday, March 24, 2015	S3032415	S3	6:23	15:22	539	1,795	<	56.0	<	5.6
346	Wednesday, March 25, 2015	S2032515	S2	6:26	15:13	527	1,760		96.0	<	5.7
347	Thursday, March 26, 2015	S2032615	S2	6:26	15:12	526	1,744	<	57.0	<	5.8
348	Friday, March 27, 2015	S1032715	S1	6:28	15:09	521	1,730	<	58.0	<	5.8
349	Monday, March 30, 2015	S2033015	S2	6:32	15:16	524	1,742	<	57.0	<	5.8
350	Tuesday, March 31, 2015	S1033115	S1	6:36	15:12	516	1,743	<	57.0	<	5.8
351	Wednesday, April 01, 2015	S1040115	S1	6:25	15:09	524	1,732	<	58.0	<	5.8
352	Thursday, April 02, 2015	S2040215	S2	6:28	15:10	522	1,743	<	57.0	<	5.8
353	Friday, April 03, 2015	S2040315	S2	6:55	15:10	495	1,634	<	61.0	<	6.1
354	Monday, April 06, 2015	S1040615	S1	6:18	15:28	550	1,832		62.0	<	5.5
355	Tuesday, April 07, 2015	S2040715	S2	6:20	15:22	542	1,791		70.0	<	5.6
356	Wednesday, April 08, 2015	S3040815	S3	6:21	15:08	527	1,750	<	57.0	<	5.7
357	Thursday, April 09, 2015	S3040915	S3	6:20	15:12	532	1,758	<	57.0	<	5.7
358	Friday, April 10, 2015	S2041015	S2	6:17	15:19	542	1,802	<	56.0	<	5.6
359	Monday, April 13, 2015	S2041315	S2	7:00	15:27	507	1,610		67.0	<	6.2
360	Tuesday, April 14, 2015	S1041415	S1	7:15	15:15	480	1,560	<	64.0	<	6.4
361	Wednesday, April 15, 2015	S2041515	S2	7:10	15:20	490	1,605	<	62.0	<	6.3
362	Thursday, April 16, 2015	**S3041615***	S3	7:00	15:20	500	1,688	<	59.0	<	5.9
363	Friday, April 17, 2015	**S2041715***	S2	7:00	15:25	505	1,704		130.0	<	5.9
364	Monday, April 20, 2015	**S4042015***	S4	7:00	15:31	511	1,622		88.0	<	6.2
365	Tuesday, April 21, 2015	S1042115	S1	7:00	15:31	511	1,725	<	58.0	<	5.8
366	Wednesday, April 22, 2015	S2042215	S2	7:05	15:15	490	1,646	<	61.0	<	6.1
367	Thursday, April 23, 2015	S2042315	S2	7:10	15:55	525	1,680	<	60.0	<	6.0
368	Friday, April 24, 2015	S1042415	S1	7:30	15:15	465	1,696	<	59.0	<	5.9
369	Monday, April 27, 2015	S2042715	S2	7:00	15:30	510	1,721	<	58.0	<	5.8
370	Tuesday, April 28, 2015	S2042815	S2	7:00	15:15	495	1,678	<	60.0	<	6.0
371	Wednesday, April 29, 2015	S2042915	S2	6:53	15:22	509	1,654	<	60.0	<	6.1
372	Thursday, April 30, 2015	S3043015	S3	7:00	15:20	500	1,645		64.0	<	6.1
373	Friday, May 01, 2015	S2050115	S2	7:00	15:30	510	1,709	<	58.0	<	5.9
374	Monday, May 04, 2015	S2050415	S2	7:00	15:30	510	1,670	<	60.0	<	6.0
375	Tuesday, May 05, 2015	S3050515	S3	7:10	15:24	494	1,667	<	60.0	<	6.0
376	Wednesday, May 06, 2015	S2050615	S2	7:05	15:28	503	1,635		62.0	<	6.1
377	Thursday, May 07, 2015	S3050715	S3	7:10	15:53	523	1,713	<	58.0	<	5.8
378	Friday, May 08, 2015	S2050815	S2	7:00	15:15	495	1,636	<	61.0	<	6.1

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
379	Monday, May 11, 2015	S2051115	S2	7:00	15:40	520	1,703	<	59.0	<	5.9
380	Tuesday, May 12, 2015	S1051215	S1	7:00	15:24	504	1,701	<	59.0	<	5.9
381	Wednesday, May 13, 2015	S1051315	S1	6:35	15:23	528	1,830	<	55.0	<	5.5
382	Thursday, May 14, 2015	S2051415	S2	6:55	15:20	505	1,722	<	58.0	<	5.8
383	Friday, May 15, 2015	S2051515	S2	6:50	15:15	505	1,659	<	60.0	<	6.0
384	Monday, May 18, 2015	**S3051815***	S3	6:50	15:27	517	1,750	<	57.0	<	5.7
385	Tuesday, May 19, 2015	**S2051915***	S2	6:45	15:13	508	1,709	<	58.0	<	5.9
386	Wednesday, May 20, 2015	**S1052015***	S1	7:00	15:15	495	1,663		100.0		10.0
387	Thursday, May 21, 2015	**S2052115***	S2	7:00	15:16	496	1,669	<	60.0	<	6.0
388	Friday, May 22, 2015	S1052215	S1	7:00	14:20	440	1,492	<	67.0	<	6.7
389	Tuesday, May 26, 2015	S2052615	S2	6:00	14:20	500	1,695	<	59.0	<	5.9
390	Wednesday, May 27, 2015	S2052715	S2	5:32	14:18	526	1,867	<	54.0	<	5.4
391	Thursday, May 28, 2015	S2052815	S2	6:10	14:51	521	1,808	<	55.0	<	5.5
392	Friday, May 29, 2015	S2052915	S2	6:05	14:23	498	1,706	<	59.0		6.1
393	Monday, June 01, 2015	S3060115	S3	6:10	14:27	497	1,685	<	59.0	<	6.0
394	Tuesday, June 02, 2015	S3060215	S3	6:05	14:28	503	1,750	<	57.0	<	5.7
395	Wednesday, June 03, 2015	S2060315	S2	6:00	14:20	500	1,712	<	58.0	<	5.9
396	Thursday, June 04, 2015	S3060415	S3	6:00	14:23	503	1,705	<	59.0	<	5.9
397	Friday, June 05, 2015	S2060515	S2	6:00	14:20	500	1,685	<	59.0	<	6.0
398	Monday, June 08, 2015	**S2060815***	S2	5:42	14:30	528	1,713	<	58.0	<	5.9
399	Tuesday, June 09, 2015	**S2060915***	S2	6:00	15:25	565	1,873	<	53.0	<	5.4
400	Wednesday, June 10, 2015	**S3061015***	S3	6:00	16:08	608	2,019	<	50.0	<	5.0
401	Thursday, June 11, 2015	S1061115	S1	6:00	15:30	570	1,927	<	52.0		8.1
402	Friday, June 12, 2015	S2061215	S2	6:00	15:40	580	1,908		67.0		5.8
403	Monday, June 15, 2015	S2061515	S2	5:50	14:25	515	1,692	<	59.0	<	5.9
404	Tuesday, June 16, 2015	S3061615	S3	6:00	14:25	505	1,687	<	59.0	<	5.9
405	Wednesday, June 17, 2015	S2061715	S2	6:00	15:45	585	1,942	<	51.0	<	5.1
406	Thursday, June 18, 2015	S3061815	S3	6:00	14:15	495	1,681	<	59.0	<	5.9
407	Friday, June 19, 2015	S1061915	S1	6:00	14:20	500	1,687	<	59.0	<	5.9
408	Monday, June 22, 2015	S1062215	S1	5:50	14:25	515	1,746	<	57.0	<	5.7
409	Tuesday, June 23, 2015	S2062315	S2	5:50	15:16	566	1,913	<	52.0	<	5.2
410	Wednesday, June 24, 2015	S2062415	S2	5:50	14:26	516	1,742	<	57.0	<	5.7
411	Thursday, June 25, 2015	S2062515	S2	5:50	15:38	588	1,987	<	50.0	<	5.0
412	Friday, June 26, 2015	S3062615	S3	5:50	15:25	575	1,935	<	52.0	<	5.2
413	Monday, June 29, 2015	S1062915	S1	5:50	15:15	565	1,924	<	52.0	<	5.2
414	Tuesday, June 30, 2015	S2063015	S2	5:50	15:00	550	1,867	<	54.0	<	5.4
415	Wednesday, July 01, 2015	S1070115	S1	5:50	14:50	540	1,812	<	55.0	<	5.5
416	Thursday, July 02, 2015	S2070215	S2	6:00	14:20	500	1,695	<	59.0	<	5.9
417	Monday, July 06, 2015	S2070615	S2	5:55	15:35	580	1,960	<	51.0	<	5.2
418	Tuesday, July 07, 2015	S3070715	S3	6:00	15:00	540	1,806	<	55.0	<	5.6
419	Wednesday, July 08, 2015	S1070815	S1	5:45	14:24	519	1,702	<	59.0	<	5.9
420	Thursday, July 09, 2015	S2070915	S2	5:50	15:00	550	1,834	<	55.0	<	5.5
421	Friday, July 10, 2015	S2071015	S2	5:50	14:25	515	1,725	<	58.0	<	5.9
422	Monday, July 13, 2015	S2071315	S2	5:55	16:00	605	2,018	<	50.0		6.2
423	Tuesday, July 14, 2015	S4071415	S4	5:55	14:30	515	1,728	<	58.0	<	5.9
424	Wednesday, July 15, 2015	S2071515	S2	5:50	14:35	525	1,754	<	57.0	<	5.8
425	Thursday, July 16, 2015	S3071615	S3	5:50	16:05	615	2,060	<	49.0	<	4.9
426	Friday, July 17, 2015	S4071715	S4	5:50	16:00	610	2,050	<	49.0	<	5.0
427	Monday, July 20, 2015	S1072015	S1	5:50	17:50	720	2,560	<	39.0	<	4.0
428	Tuesday, July 21, 2015	S1072115	S1	5:50	16:20	630	2,155	<	46.0	<	4.7
429	Wednesday, July 22, 2015	S1072215	S1	5:48	16:02	614	2,207		49.0		4.7
430	Thursday, July 23, 2015	S2072315	S2	5:55	16:35	640	2,234	<	45.0	<	4.6
431	Friday, July 24, 2015	S2072415	S2	6:30	17:00	630	2,246		76.0		5.9
432	Monday, July 27, 2015	**S2072715***	S2	5:58	15:10	552	1,899	<	53.0		5.5

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
433	Tuesday, July 28, 2015	**S2072815***	S2	5:47	16:22	635	2,216	<	45.0		4.9
434	Wednesday, July 29, 2015	**S2072915***	S2	5:50	16:05	615	2,134	<	47.0	<	4.8
435	Thursday, July 30, 2015	S3073015	S3	6:00	15:12	552	1,899	<	53.0	<	5.4
436	Friday, July 31, 2015	S2073115	S2	5:50	16:15	625	2,184	<	46.0	<	4.7
437	Monday, August 03, 2015	**S3080315***	S3	6:05	16:15	610	2,123	<	47.0	<	4.8
438	Tuesday, August 04, 2015	**S2080415***	S2	6:10	17:20	670	2,301	<	43.0	<	4.4
439	Wednesday, August 05, 2015	**S2080515***	S2	6:00	17:05	665	2,294	<	44.0	<	4.5
440	Thursday, August 06, 2015	S1080615	S1	6:00	16:30	630	2,167	<	46.0	<	4.7
441	Friday, August 07, 2015	S3080715	S3	6:00	17:45	705	2,432		130.0		6.6
442	Monday, August 10, 2015	S2081015	S2	5:51	16:00	609	2,144	<	47.0	<	4.8
443	Wednesday, August 12, 2015	S1081215	S1	5:55	16:15	620	2,099	<	48.0	<	4.9
444	Thursday, August 13, 2015	S2081315	S2	5:55	16:48	653	2,227	<	45.0	<	4.6
445	Friday, August 14, 2015	S2081415	S2	5:55	14:40	525	1,780	<	56.0	<	5.7
446	Monday, August 17, 2015	S2081715	S2	5:55	14:45	530	1,821	<	55.0	<	5.6
447	Tuesday, August 18, 2015	S2081815	S2	5:50	14:30	520	1,758	<	57.0	<	5.8
448	Wednesday, August 19, 2015	S3081915	S3	5:55	14:45	530	1,794	<	56.0	<	5.7
449	Thursday, August 20, 2015	S4082015	S4	5:55	14:40	525	1,753	<	57.0	<	5.8
450	Friday, August 21, 2015	S1082115	S1	6:00	14:15	495	1,646	<	61.0	<	6.2
451	Monday, August 24, 2015	S1082415	S1	6:00	15:05	545	1,848	<	54.0	<	5.5
452	Tuesday, August 25, 2015	S4082515	S4	6:00	14:30	510	1,721	<	58.0		6.3
453	Wednesday, August 26, 2015	S1082615	S1	6:00	14:30	510	1,731	<	58.0	<	5.9
454	Thursday, August 27, 2015	S1082715	S1	6:00	14:40	520	1,760	<	57.0	<	5.8
455	Friday, August 28, 2015	S2082815	S2	6:00	14:30	510	1,711	<	58.0	<	6.0
456	Monday, August 31, 2015	S2083115	S2	6:00	15:05	545	1,850	<	54.0	<	5.5
457	Tuesday, September 01, 2015	S1090115	S1	6:00	15:20	560	1,870		67.0	<	5.5
458	Wednesday, September 02, 2015	S2090215	S2	6:00	14:25	505	1,702	<	59.0	<	6.0
459	Thursday, September 03, 2015	S2090315	S2	5:50	15:08	558	1,964		63.0	<	5.2
460	Friday, September 04, 2015	S3090415	S3	5:48	13:22	454	1,580		65.0	<	6.5
461	Tuesday, September 08, 2015	S2090815	S2	6:30	15:00	510	1,754	<	57.0	<	5.9
462	Wednesday, September 09, 2015	S4090915	S4	6:30	15:30	540	1,866	<	54.0	<	5.5
	Thursday, September 10, 2015	S2091015	S2	SAMPLE DISCARDED DUE TO RAIN WATER COLLECTED INSIDE SAMPLING CASSETTE							
463	Friday, September 11, 2015	S2091115	S2	6:30	15:00	510	1,719	<	58.0	<	6.0
464	Monday, September 14, 2015	S1091415	S1	6:30	16:30	600	2,061	<	49.0	<	5.0
465	Tuesday, September 15, 2015	S1091515	S1	6:30	16:34	604	2,042	<	49.0	<	5.0
466	Wednesday, September 16, 2015	S2091615	S2	6:30	16:00	570	1,924	<	52.0	<	5.3
467	Thursday, September 17, 2015	S2091715	S2	6:30	17:30	660	2,234		77.0	<	4.6
468	Friday, September 18, 2015	S2091815	S2	6:30	17:00	630	2,139	<	47.0	<	4.8
469	Monday, September 21, 2015	S2092115	S2	6:30	16:40	610	2,065		61.0		10.0
470	Tuesday, September 22, 2015	**S2092215***	S2	6:28	18:40	732	2,500	<	40.0	<	4.1
471	Wednesday, September 23, 2015	**S2092315***	S2	6:12	16:58	646	2,180	<	46.0	<	4.7
472	Thursday, September 24, 2015	**S3092415***	S3	6:30	17:00	630	2,133	<	47.0	<	4.8
473	Friday, September 25, 2015	S3092515	S3	6:30	16:00	570	1,870	<	53.0	<	5.5
474	Monday, September 28, 2015	S3092815	S3	6:14	17:00	646	2,167		70.0	<	4.7
475	Tuesday, September 29, 2015	S3092915	S3	6:28	16:36	608	2,064	<	48.0	<	5.0
476	Wednesday, September 30, 2015	S2093015	S2	6:27	15:30	543	1,800	<	56.0	<	5.7
477	Thursday, October 01, 2015	S4100115	S4	6:23	15:10	527	1,723	<	58.0	<	6.0
478	Friday, October 02, 2015	S3100215	S3	6:25	15:15	530	1,775	<	56.0	<	5.8
479	Monday, October 05, 2015	S2100515	S2	6:25	18:12	707	1,443	<	69.0	<	7.1
480	Tuesday, October 06, 2015	S1100615	S1	6:53	18:00	667	2,254	<	44.0	<	4.6
481	Wednesday, October 07, 2015	S2100715	S2	6:55	17:57	662	2,234	<	45.0	<	4.6
482	Thursday, October 08, 2015	S2100815	S2	6:55	17:55	660	2,228	<	45.0	<	4.6
483	Friday, October 09, 2015	S3100915	S3	7:00	15:45	525	1,767	<	57.0	<	5.8
484	Monday, October 12, 2015	**S2101215***	S2	6:52	15:00	488	1,571	<	64.0	<	6.5
485	Tuesday, October 13, 2015	**S1101315***	S1	6:57	15:20	503	1,637	<	61.0	<	6.3

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
486	Wednesday, October 14, 2015	**S1101415***	S1	6:56	15:23	507	1,706	<	59.0	<	6.0
487	Thursday, October 15, 2015	**S2101515***	S2	6:55	15:23	508	1,605	<	62.0	<	6.4
488	Friday, October 16, 2015	S1101615	S1	6:53	15:30	517	1,755	<	57.0	<	5.8
489	Monday, October 19, 2015	S1101915	S1	6:53	15:23	510	1,744	<	57.0	<	5.8
490	Tuesday, October 20, 2015	S2102015	S2	7:26	15:32	486	1,626	<	62.0	<	6.2
491	Wednesday, October 21, 2015	S1102115	S1	6:55	15:26	511	1,653		68.0	<	6.1
492	Thursday, October 22, 2015	S2102215	S2	6:45	15:00	495	1,671	<	60.0	<	6.1
493	Friday, October 23, 2015	S2102315	S2	6:56	15:22	506	1,682	<	59.0	<	6.0
494	Monday, October 26, 2015	S2102615	S2	6:50	15:30	520	1,763	<	57.0	<	5.8
495	Tuesday, October 27, 2015	S2102715	S2	7:20	15:10	470	1,582	<	63.0	<	6.4
496	Wednesday, October 28, 2015	S3102815	S3	6:50	15:15	505	1,712		VOID		VOID
497	Thursday, October 29, 2015	S2102915	S2	6:51	15:05	494	1,655	<	60.0	<	6.1
498	Friday, October 30, 2015	S2103015	S2	6:50	15:12	502	1,707	<	59.0	<	5.9
499	Monday, November 02, 2015	S1110215	S1	7:00	15:44	524	1,771	<	56.0	<	5.7
500	Tuesday, November 03, 2015	S3110315	S3	7:10	15:15	485	1,639	<	61.0	<	6.2
501	Wednesday, November 04, 2015	S3110415	S3	7:00	15:30	510	1,726	<	58.0	<	5.8
502	Thursday, November 05, 2015	S3110515	S3	7:00	15:35	515	1,738	<	58.0	<	5.8
503	Friday, November 06, 2015	S2110615	S2	6:55	15:20	505	1,707	<	59.0	<	5.9
504	Monday, November 09, 2015	S2110915	S2	7:10	15:00	470	1,591	<	63.0	<	6.4
505	Tuesday, November 10, 2015	S3111015	S3	7:05	15:21	496	1,672	<	60.0	<	6.0
506	Wednesday, November 11, 2015	S11115	S1	7:05	15:03	478	1,611	<	62.0	<	6.3
507	Thursday, November 12, 2015	S2111215	S2	7:05	15:05	480	1,620	<	62.0	<	6.2
508	Friday, November 13, 2015	S1111315	S1	7:00	15:05	485	1,644	<	61.0	<	6.1
509	Monday, November 16, 2015	S1111615	S1	6:55	15:30	515	1,741	<	57.0	<	5.8
510	Tuesday, November 17, 2015	S2111715	S2	7:00	15:15	495	1,668	<	60.0	<	6.0
511	Wednesday, November 18, 2015	S3111815	S3	6:55	15:15	500	1,685	<	59.0	<	6.0
512	Thursday, November 19, 2015	S4111915	S4	7:00	15:10	490	1,654	<	60.0	<	6.1
513	Friday, November 20, 2015	S1112015	S1	7:15	15:20	485	1,644	<	61.0	<	6.1
514	Monday, November 23, 2015	S1112315	S1	6:55	15:35	520	1,763	<	57.0	<	5.7
515	Tuesday, November 24, 2015	S1112415	S1	6:55	15:15	500	1,695	<	59.0	<	5.9
516	Wednesday, November 25, 2015	S1112515	S1	6:55	14:00	425	1,439	<	69.0	<	7.0
517	Monday, November 30, 2015	**S1113015***	S1	6:50	15:27	517	1,747	<	57.0	<	5.7
518	Tuesday, December 01, 2015	S4120115	S4	6:55	15:20	505	1,712	<	58.0	<	5.9
519	Wednesday, December 02, 2015	S2120215	S2	7:06	15:28	502	1,702	<	59.0	<	5.9
520	Thursday, December 03, 2015	S2120315	S2	6:56	15:25	509	1,726	<	58.0	<	5.8
521	Friday, December 04, 2015	**S1120415***	S1	6:50	15:20	510	1,731	<	58.0	<	5.8
522	Monday, December 07, 2015	S1120715	S1	6:45	15:35	530	1,797		57.0	<	5.6
523	Tuesday, December 08, 2015	S1120815	S1	6:50	15:15	505	1,707	<	59.0	<	5.9
524	Wednesday, December 09, 2015	S1120915	S1	6:55	15:20	505	1,709		71.0	<	5.9
525	Thursday, December 10, 2015	S1121015	S1	6:52	15:22	510	1,724	<	58.0	<	5.8
526	Friday, December 11, 2015	S2121115	S2	6:46	15:25	519	1,762	<	57.0	<	5.7
527	Monday, December 14, 2015	S4121415	S4	6:50	15:10	500	1,705		68.0	<	5.9
528	Tuesday, December 15, 2015	S1121515	S1	6:50	15:15	505	1,712	<	58.0	<	5.8
529	Wednesday, December 16, 2015	S1121615	S1	6:50	15:07	497	1,685	<	59.0	<	5.9
530	Thursday, December 17, 2015	S1121715	S1	6:50	15:35	525	1,788	<	56.0	<	5.6
531	Friday, December 18, 2015	S1121815	S1	6:50	15:20	510	1,719	<	58.0	<	5.8
532	Monday, December 21, 2015	S2122115	S2	6:45	15:35	530	1,791	<	56.0	<	5.6
533	Tuesday, December 22, 2015	S2122215	S2	6:55	15:23	508	1,727	<	58.0	<	5.8
534	Wednesday, December 23, 2015	S1122315	S1	6:50	14:05	435	1,479	<	68.0	<	6.8
535	Monday, December 28, 2015	S4122815	S4	6:52	15:20	508	1,712	<	58.0	<	5.8
536	Tuesday, December 29, 2015	S3122915	S3	6:55	15:32	517	1,745	<	57.0	<	5.7
537	Wednesday, December 30, 2015	S4123015	S4	6:48	15:26	518	1,761	<	57.0	<	5.7
538	Thursday, December 31, 2015	S1123115	S1	8:57	14:05	308	1,023	<	98.0	<	9.8
539	Monday, January 04, 2016	S1010416	S1	6:50	15:35	525	1,782		98.0	<	5.6

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
540	Tuesday, January 05, 2016	S1010516	S1	7:00	15:20	500	1,690	<	59.0	<	5.9
541	Wednesday, January 06, 2016	S2010616	S2	6:48	15:15	507	1,721	<	58.0	<	5.8
542	Thursday, January 07, 2016	S1010716	S1	6:55	15:20	505	1,717		79.0	<	5.8
543	Friday, January 08, 2016	S1010816	S1	7:00	15:10	490	1,664		82.0	<	6.0
544	Monday, January 11, 2016	S1011116	S1	6:45	15:35	530	1,844	<	54.0	<	5.4
545	Tuesday, January 12, 2016	S2011216	S2	7:00	15:33	513	1,793	<	56.0	<	5.6
546	Wednesday, January 13, 2016	S1011316	S1	6:43	15:27	524	1,816	<	55.0	<	5.5
547	Thursday, January 14, 2016	S1011416	S1	7:23	15:28	485	1,758	<	57.0	<	5.7
548	Friday, January 15, 2016	S2011516	S2	6:24	15:29	545	1,913	<	52.0	<	5.2
549	Monday, January 18, 2016	S1011816	S1	6:36	15:31	535	1,929	<	52.0	<	5.2
550	Tuesday, January 19, 2016	S1011916	S1	6:36	15:21	525	1,851		73.0	<	5.4
551	Wednesday, January 20, 2016	S1012016	S1	6:39	15:12	513	1,842	<	54.0	<	5.4
552	Thursday, January 21, 2016	S2012116	S2	6:29	15:20	531	1,901	<	53.0	<	5.3
	Friday, January 22, 2016	S2012216	S2	SAMPLE DISCARDED DUE TO PUMP FAILURE							
553	Tuesday, January 26, 2016	S1012616	S1	6:47	15:10	503	1,773	<	56.0	<	5.6
554	Wednesday, January 27, 2016	S1012716	S1	6:39	15:15	516	1,796	<	56.0	<	5.6
555	Thursday, January 28, 2016	S2012816	S2	7:25	15:22	477	1,708	<	59.0	<	5.9
556	Friday, January 29, 2016	S2012916	S2	6:27	15:27	540	1,885	<	53.0	<	5.3
557	Monday, February 01, 2016	S1020116	S1	7:14	15:25	491	1,726	<	58.0	<	5.8
558	Tuesday, February 02, 2016	S1020216	S1	7:10	15:21	491	1,714	<	58.0	<	5.8
559	Wednesday, February 03, 2016	S2020316	S2	7:17	15:24	487	1,690	<	59.0	<	5.9
560	Thursday, February 04, 2016	S1020416	S1	7:34	15:45	491	1,679	<	60.0	<	6.0
561	Friday, February 05, 2016	S1020516	S1	7:05	15:40	515	1,761	<	57.0	<	5.7
562	Monday, February 08, 2016	S1020816	S1	6:48	15:42	534	1,824		55.0	<	5.5
563	Tuesday, February 09, 2016	S4020916	S4	7:15	15:24	489	1,682	<	59.0	<	6.0
564	Wednesday, February 10, 2016	S1021016	S1	7:34	15:03	449	1,529	<	65.0	<	6.5
565	Thursday, February 11, 2016	S1021116	S1	7:21	15:21	480	1,634	<	61.0	<	6.1
566	Friday, February 12, 2016	S1021216	S1	7:25	15:13	468	1,582	<	63.0	<	6.3
567	Tuesday, February 16, 2016	S1021616	S1	9:17	15:20	363	1,207	<	83.0	<	8.4
568	Wednesday, February 17, 2016	S1021716	S1	7:16	15:24	488	1,647	<	61.0	<	6.1
569	Thursday, February 18, 2016	S1021816	S1	7:20	15:30	490	1,661	<	60.0	<	6.1
570	Friday, February 19, 2016	S4021916	S4	7:16	15:24	488	1,623	<	62.0	<	6.2
571	Monday, February 22, 2016	S1022216	S1	7:23	16:22	539	1,838	<	54.0	<	5.5
572	Tuesday, February 23, 2016	S4022316	S4	7:40	15:22	462	1,578	<	63.0	<	6.4
573	Wednesday, February 24, 2016	S1022416	S1	7:27	15:24	477	1,622	<	62.0	<	6.2
574	Thursday, February 25, 2016	S1022516	S1	6:56	15:17	501	1,706	<	59.0	<	6.4
575	Monday, February 29, 2016	S4022916	S4	7:19	15:41	502	1,717	<	58.0	<	5.9
576	Tuesday, March 01, 2016	S1030116	S1	6:52	15:05	493	1,698	<	59.0	<	5.9
577	Wednesday, March 02, 2016	S1030216	S1	7:27	15:33	486	1,660	<	60.0	<	6.1
578	Thursday, March 03, 2016	S1030316	S1	6:51	15:17	506	1,738	<	58.0	<	5.8
579	Friday, March 04, 2016	S4030416	S4	8:24	15:25	421	1,450	<	69.0	<	7.0
580	Monday, March 07, 2016	S1030716	S1	6:53	15:20	507	1,731	<	58.0	<	5.8
581	Tuesday, March 08, 2016	S1030816	S1	8:06	15:24	438	1,505		200.0	<	6.7
582	Wednesday, March 09, 2016	S1030916	S1	7:20	15:13	473	1,648		91.0	<	6.1
583	Thursday, March 10, 2016	S1031016	S1	6:53	15:38	525	1,816		70.0	<	5.6
584	Friday, March 11, 2016	S1031116	S1	7:12	15:14	482	1,653	<	60.0	<	6.1
585	Monday, March 14, 2016	S4031416	S4	6:57	15:45	528	1,816	<	55.0	<	5.6
586	Tuesday, March 15, 2016	S1031516	S1	7:17	15:32	495	1,708	<	59.0	<	5.9
587	Wednesday, March 16, 2016	S4031616	S4	6:56	15:30	514	1,771	<	56.0	<	5.7
588	Thursday, March 17, 2016	S1031716	S1	6:58	15:25	507	1,757	<	57.0	<	5.8
589	Friday, March 18, 2016	S1031816	S1	6:50	15:35	525	1,817	<	55.0	<	5.6
590	Monday, March 21, 2016	S3032116	S3	7:11	15:36	505	1,735	<	58.0	<	5.8
591	Tuesday, March 22, 2016	S1032216	S1	6:52	15:40	528	1,811	<	55.0	<	5.6
592	Wednesday, March 23, 2016	S1032316	S1	7:12	15:24	492	1,683	<	59.0	<	6.0

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples

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

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
593	Thursday, March 24, 2016	S1032416	S1	6:43	15:34	531	1,827		100.0	<	5.5
594	Friday, March 25, 2016	S1032516	S1	6:48	15:39	531	1,829		69.0	<	5.5
595	Monday, March 28, 2016	S1032816	S1	6:28	15:47	559	1,926	<	52.0	<	5.3
596	Tuesday, March 29, 2016	S1032916	S1	6:38	16:11	573	1,983	<	50.0	<	5.1
597	Wednesday, March 30, 2016	S1033016	S1	6:52	15:47	535	1,840	<	54.0	<	5.5
598	Thursday, March 31, 2016	S2033116	S2	6:45	15:39	534	1,850	<	54.0	<	5.5
599	Friday, April 01, 2016	S4040116	S4	6:53	15:25	512	1,764	<	57.0	<	5.8
600	Monday, April 04, 2016	S1040416	S1	6:28	15:43	555	1,906	<	52.0	<	5.3
601	Tuesday, April 05, 2016	S1040516	S1	6:37	15:25	528	1,806	<	55.0	<	5.6
602	Wednesday, April 06, 2016	S1040616	S1	6:35	15:30	535	1,843	<	54.0	<	5.5
603	Thursday, April 07, 2016	S4040716	S4	6:50	15:37	527	1,794	<	56.0	<	5.7
604	Friday, April 08, 2016	S1040816	S1	6:47	15:31	524	1,810	<	55.0	<	5.6
605	Monday, April 11, 2016	S4041116	S4	6:48	15:19	511	1,760	<	57.0	<	5.8
606	Tuesday, April 12, 2016	S1041216	S1	6:43	15:28	525	1,809	<	55.0	<	5.6
607	Wednesday, April 13, 2016	S1041316	S1	6:33	15:15	522	1,793	<	56.0	<	5.7
608	Thursday, April 14, 2016	S1041416	S1	6:39	15:12	513	1,770	<	56.0	<	5.8
609	Friday, April 15, 2016	S4041516	S4	6:40	15:19	519	1,788	<	56.0	<	5.7
610	Monday, April 18, 2016	S4041816	S4	6:30	15:21	531	1,827	<	55.0	<	5.6
611	Tuesday, April 19, 2016	S4041916	S4	6:22	15:26	544	1,880	<	53.0	<	5.4
612	Wednesday, April 20, 2016	S1042016	S1	6:25	15:17	532	1,838	<	54.0	<	5.5
613	Thursday, April 21, 2016	S1042116	S1	7:15	15:40	505	1,735	<	58.0	<	5.9
614	Friday, April 22, 2016	S4042216	S4	6:43	15:27	524	1,805	<	55.0	<	5.7
615	Monday, April 25, 2016	S4042516	S4	6:45	15:42	537	1,861	<	54.0	<	5.5
616	Tuesday, April 26, 2016	S4042616	S4	6:28	15:12	524	1,797		61.0	<	5.7
617	Wednesday, April 27, 2016	S1042716	S1	6:40	15:19	519	1,780	<	56.0	<	5.7
618	Thursday, April 28, 2016	S1042816	S1	6:40	15:23	523	1,817	<	55.0	<	5.6
619	Friday, April 29, 2016	S4042916	S4	6:45	15:32	527	1,816	<	55.0	<	5.6
620	Monday, May 02, 2016	S1050216	S1	6:40	15:43	543	1,871	<	53.0	<	5.5
621	Tuesday, May 03, 2016	S4050316	S4	7:27	15:23	476	1,649	<	61.0	<	6.2
622	Wednesday, May 04, 2016	S1050416	S1	7:32	15:14	462	1,587	<	63.0	<	6.4
623	Thursday, May 05, 2016	S1050516	S1	6:35	15:37	542	1,867	<	54.0	<	5.5
624	Friday, May 06, 2016	S4050616	S4	6:32	15:25	533	1,834	<	55.0	<	5.6
625	Monday, May 09, 2016	S1050916	S1	6:33	15:36	543	1,873	<	53.0	<	5.5
626	Tuesday, May 10, 2016	S1051016	S1	6:38	15:25	527	1,800	<	56.0	<	5.7
627	Wednesday, May 11, 2016	S1051116	S1	6:36	15:37	541	1,866	<	54.0	<	5.5
628	Thursday, May 12, 2016	S4051216	S4	6:34	15:46	552	1,891		66.0	<	5.4
629	Friday, May 13, 2016	S4051316	S4	6:32	15:26	534	1,837	<	54.0	<	5.6
630	Monday, May 16, 2016	S1051616	S1	6:33	15:35	542	1,864		56.0	<	5.5
631	Tuesday, May 17, 2016	S1051716	S1	6:35	15:19	524	1,789	<	56.0	<	5.7
632	Wednesday, May 18, 2016	S1051816	S1	6:28	15:12	524	1,803	<	55.0	<	5.7
633	Thursday, May 19, 2016	S1051916	S1	6:35	15:35	540	1,858	<	54.0	<	5.5
634	Friday, May 20, 2016	S1052016	S1	6:33	15:24	531	1,832	<	55.0	<	5.6
635	Monday, May 23, 2016	S1052316	S1	6:25	15:39	554	1,895	<	53.0	<	5.4
636	Tuesday, May 24, 2016	S1052416	S1	6:43	15:17	514	1,773	<	56.0	<	5.8
637	Wednesday, May 25, 2016	S1052516	S1	7:00	15:27	507	1,744		60.0	<	5.9
638	Thursday, May 26, 2016	S1052616	S1	6:45	15:22	517	1,773	<	56.0	<	5.8
639	Friday, May 27, 2016	S3052716	S3	6:40	14:25	465	1,600	<	63.0	<	6.4
640	Tuesday, May 31, 2016	S1053116	S1	5:28	14:23	535	1,838	<	54.0	<	5.6
641	Wednesday, June 01, 2016	S1060116	S1	5:38	14:27	529	1,801	<	56.0	<	5.7
642	Thursday, June 02, 2016	S4060216	S4	5:38	14:21	523	1,804	<	55.0	<	5.7
643	Friday, June 03, 2016	S1060316	S1	5:39	14:20	521	1,790	<	56.0	<	5.7
644	Monday, June 06, 2016	S1060616	S1	5:38	16:04	626	2,157	<	46.0	<	4.8
645	Tuesday, June 07, 2016	S1060716	S1	5:27	16:14	647	2,226		57.0	<	4.6
646	Wednesday, June 08, 2016	S1060816	S1	7:22	13:02	340	1,156	<	87.0	<	8.9

TABLE 1B
PAMP Data
Hexavalent Chromium Air Samples
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for Particulate (ug/m^3)		Analytical Results for CrVI (ng/m^3)	
647	Thursday, June 09, 2016	S1 060916	S1	5:31	16:13	642	2,202		65.0		8.1
648	Friday, June 10, 2016	S1 061016	S1	5:38	16:01	623	2,121		98.0		7.7
649	Monday, June 13, 2016	S1 061316	S1	5:43	16:17	634	2,175		51.0	<	4.7
650	Tuesday, June 14, 2016	S1 061416	S1	5:38	16:08	630	2,170	<	46.0	<	4.7
651	Wednesday, June 15, 2016	S1 061516	S1	6:17	15:53	576	1,979	<	51.0	<	5.2
652	Thursday, June 16, 2016	S1 061616	S1	5:46	16:18	632	2,161	<	46.0	<	4.7
653	Friday, June 17, 2016	S3 061716	S3	5:39	16:24	645	2,216	<	45.0	<	4.6
654	Monday, June 20, 2016	S1 062016	S1	5:23	16:17	654	2,243		77.0	<	4.6
655	Tuesday, June 21, 2016	S1 062116	S1	5:37	16:02	625	2,134	<	47.0	<	4.8
656	Wednesday, June 22, 2016	S1 062216	S1	5:47	16:15	628	2,151		110.0	<	4.8
657	Thursday, June 23, 2016	S1 062316	S1	5:45	16:15	630	2,205		53.0	<	4.7
658	Friday, June 24, 2016	S2 062416	S2	5:33	16:25	652	2,262	<	44.0	<	4.5
659	Monday, June 27, 2016	S1 062716	S1	6:25	19:10	765	2,655	<	38.0	<	3.9
660	Tuesday, June 28, 2016	S1 062816	S1	5:40	16:10	630	2,183	<	46.0	<	4.7
661	Wednesday, June 29, 2016	S1 062916	S1	5:48	15:42	594	2,055	<	49.0	<	5.0
662	Thursday, June 30, 2016	S1 063016	S1	5:42	16:20	638	2,211	<	45.0	<	4.7
663	Friday, July 01, 2016	S1 070116	S1	5:50	14:10	500	1,750	<	57.0	<	5.9

Notes:	Action Levels	
Detectable Results Below Action Level	Hexavalent Chromium	221 ng/m³
ng/m³: nanograms per cubic meter	***Validated by 3rd Party**	
ug/m³: microgram per cubic meter		

TABLE 1B
PAMP Data
Metals Air Samples
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)		Analytical Results for Pb (ng/m^3)		Analytical Results for V (ng/m^3)		Analytical Results for Zn (ng/m^3)	
1	Thursday, October 24, 2013	S1MET102413	S1			0	1,003	<	50	<	50	<	53	<	250
2	Wednesday, November 06, 2013	S1MET110613	S1	7:06	15:48	522	1,493	<	33	<	100	<	35	<	330
3	Thursday, November 14, 2013	S1MET111413	S1	6:45	15:16	511	1,479	<	34	<	35	<	35	<	340
4	Tuesday, November 26, 2013	S1MET112613	S1	6:58	15:14	496	1,520	<	33	<	33	<	34	<	330
5	Wednesday, December 04, 2013	S3MET120413	S1	6:30	15:00	510	1,493	<	34		36	<	35		430
6	Thursday, December 12, 2013	S2MET121213	S2	6:45	15:03	498	1,571	<	32	<	32	<	33	<	310
7	Wednesday, December 18, 2013	S1MET121813	S1	6:45	15:10	505	1,518	<	33	<	33	<	34	<	330
8	Tuesday, December 24, 2013	S2MET	S2	6:27	13:30	423	1,330	<	38	<	38	<	39	<	370
9	Tuesday, December 31, 2013	S1MET123113	S1	7:00	14:10	430	1,357	<	37		92	<	38	<	360
10	Thursday, January 09, 2014	S1MCE010914	S1	6:50	15:02	492	1,486	<	34	<	34	<	35	<	330
11	Monday, January 13, 2014	S2MET011314	S2	6:50	15:00	490	1,490	<	34	<	34	<	35	<	330
12	Tuesday, January 21, 2014	S3MET012114	S3	6:53	14:00	427	1,296	<	39	<	39	<	40	<	370
13	Tuesday, January 28, 2014	S2MET012814	S2	6:47	15:01	494	1,541	<	33	<	33	<	34	<	310
14	Monday, February 03, 2014	S2MET020314	S2	6:50	11:50	300	941	<	53	<	56	<	55	<	260
15	Tuesday, February 11, 2014	S2M021114	S2	6:40	15:06	506	1,609	<	31	<	32	<	32	<	300
16	Wednesday, February 19, 2014	**S2MET021914***	S2	6:50	15:10	500	1,565	<	32	<	33	<	33	<	310
17	Monday, February 24, 2014	S2MET022414	S2	6:48	15:00	492	1,555	<	32	<	33	<	33	<	310
18	Monday, March 03, 2014	S2MET030314	S2	6:50	15:00	490	1,597	<	31	<	32	<	32	<	300
19	Tuesday, March 11, 2014	S1031114	S1	6:55	15:39	524	1,664		VOID		VOID		VOID		VOID
20	Monday, March 17, 2014	S2MET031714	S2	6:48	15:17	509	1,619	<	31		36	<	32	<	300
21	Monday, March 24, 2014	S2MET032414	S2	6:50	16:12	562	1,793	<	28	<	29	<	29	<	270
22	Tuesday, April 01, 2014	2983AA	S2	6:42	15:00	498	1,591	<	31	<	32	<	32	<	300
23	Tuesday, April 08, 2014	S1MET040814	S1	6:50	15:33	523	1,695	<	29	<	32	<	31	<	290
24	Thursday, April 17, 2014	S4MET041714	S4	6:55	15:59	544	1,741	<	29	<	29	<	29	<	280
25	Tuesday, April 22, 2014	S2MET042214	S2	6:46	17:30	644	2,048	<	24	<	25	<	25	<	240
26	Monday, April 28, 2014	S2MET042814	S2	6:29	15:30	541	1,742	<	29	<	30	<	29	<	280
27	Tuesday, May 06, 2014	**S2MET050614***	S2	6:39	17:20	641	2,077	<	24	<	25	<	25	<	230
28	Monday, May 12, 2014	S1MET051214	S1	6:42	16:00	558	1,797	<	28	<	29	<	28	<	270
29	Tuesday, May 20, 2014	S2MET052014	S2	6:33	15:26	533	1,754	<	28	<	29	<	29	<	280
30	Tuesday, May 27, 2014	S1MET052714	S1	6:18	15:20	542	1,737	<	29	<	30	<	29	<	280
31	Monday, June 02, 2014	S1MET060214	S1	6:38	15:30	532	1,697	<	29	<	30	<	30	<	300
32	Monday, June 09, 2014	S4MET060914	S4	6:38	15:29	531	1,691	<	29	<	31	<	30	<	290
33	Monday, June 16, 2014	**S2MET061614***	S2	6:28	15:08	520	1,661	<	30	<	31	<	30	<	290
34	Wednesday, June 25, 2014	S2MET062514	S2	6:30	14:40	490	1,566	<	32	<	33	<	32	<	310
35	Wednesday, July 02, 2014	S2MET070214	S2	5:51	15:23	572	1,842	<	27	<	28	<	27	<	270
36	Thursday, July 10, 2014	S3MET071014	S3	6:35	15:20	525	1,698	<	30	<	32	<	30	<	290
37	Monday, July 14, 2014	S2MET071114	S2	6:15	14:35	500	1,603	<	31	<	32	<	31	<	310
38	Tuesday, July 22, 2014	S1MET072214	S1	5:58	14:20	502	1,619	<	31	<	32	<	32	<	300
39	Monday, July 28, 2014	S1MET072814	S1	5:46	14:45	539	1,738	<	29	<	30	<	29	<	280

TABLE 1B
PAMP Data
Metals Air Samples
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)		Analytical Results for Pb (ng/m^3)		Analytical Results for V (ng/m^3)		Analytical Results for Zn (ng/m^3)	
40	Wednesday, August 06, 2014	S2MET080614	S2	5:47	14:40	533	1,735	<	29	<	30	<	29	<	280
41	Monday, August 11, 2014	S3MET081114	S3	5:58	14:30	512	1,644	<	30	<	32	<	31	<	300
42	Monday, August 18, 2014	S2MET081814	S2	5:58	14:30	512	1,654	<	30	<	32	<	30	<	290
43	Monday, August 25, 2014	**S2MET082514***	S2	6:03	15:30	567	1,809	<	28	<	29	<	28	<	270
44	Tuesday, September 02, 2014	S1MET090214	S1	6:05	14:30	505	1,628	<	31	<	32	<	31	<	300
45	Monday, September 08, 2014	S3MET090814	S3	6:40	15:00	500	1,605	<	31	<	33	<	31	<	310
46	Monday, September 15, 2014	S2MET091514	S2	6:23	15:00	517	1,634	<	31	<	32	<	31	<	300
47	Tuesday, September 23, 2014	S2MET092314	S2	6:26	16:58	632	2,092	<	24	<	25	<	24	<	240
48	Thursday, October 02, 2014	S4MET100214	S4	6:28	17:05	637	2,105	<	24	<	25	<	24	<	230
49	Wednesday, October 08, 2014	S1MET100814	S1	6:43	17:15	632	2,089	<	24	<	25	<	24	<	240
50	Wednesday, October 15, 2014	S4MET101514	S4	6:20	17:17	657	2,198	<	22	<	24	<	23	<	230
51	Friday, October 24, 2014	**S2MET102414***	S2	6:37	17:15	638	2,099	<	24	<	25	<	24	<	240
52	Tuesday, October 28, 2014	S2MET102814	S2	6:32	15:26	534	1,765	<	28	<	30	<	29	<	280
53	Wednesday, November 05, 2014	S1MET110514	S1	6:41	15:16	515	1,736	<	28	<	30	<	29	<	280
54	Friday, November 14, 2014	S4MET111414	S4	6:22	15:19	537	1,845	<	27	<	28	<	27	<	270
55	Wednesday, November 19, 2014	S1MET111914	S1	6:34	15:22	528	1,811	<	27	<	29	<	28	<	270
56	Tuesday, November 25, 2014	S1MET112514	S1	6:29	15:31	542	1,816	<	27	<	29	<	28	<	270
57	Thursday, December 04, 2014	S2MET120414	S2	6:57	15:17	500	1,628	<	32	<	31	<	31	<	300
58	Tuesday, December 09, 2014	S2MET120914	S2	6:42	15:12	510	1,637	<	30	<	32	<	31	<	300
59	Friday, December 19, 2014	**S2MET121914***	S2	6:42	15:20	518	1,707	<	29	<	30	<	29	<	290
60	Monday, December 22, 2014	S3MET122214	S3	6:40	15:23	523	1,723	<	8.6	<	90	<	87	<	860
61	Monday, December 29, 2014	S2MET122914	S2	6:34	15:35	541	1,769	<	28	<	29	<	28	<	280
62	Monday, January 05, 2015	S2MET010515	S2	6:29	15:18	529	1,772	<	28	<	29	<	28	<	280
63	Monday, January 12, 2015	S2MET011215	S2	6:45	15:27	522	1,762	<	28	<	29	<	28	<	280
64	Monday, January 19, 2015	S2MET011915	S2	6:42	15:25	523	1,752	<	28	<	30	<	29	<	280
65	Wednesday, January 28, 2015	S2MET012815	S2	7:30	15:23	473	1,596	<	31	<	32	<	32	<	310
66	Wednesday, February 04, 2015	S2MET020415	S2	7:05	15:20	495	1,671	<	30	<	30	<	30	<	300
67	Wednesday, February 11, 2015	S2MET021115	S2	7:05	15:28	503	1,685	<	29	<	30	<	30	<	290
68	Thursday, February 19, 2015	**S2MET021915***	S2	7:05	15:41	516	1,741	<	28	<	29	<	29	<	280
69	Thursday, February 26, 2015	S2MET022615	S2	7:05	15:22	497	1,739	<	28	<	29	<	29	<	280
70	Wednesday, March 04, 2015	S3MET030415	S3	6:33	15:20	527	1,702	<	29	<	29	<	29	<	280
71	Thursday, March 12, 2015	S1MET031215	S1	6:25	15:21	536	1,798	<	27	<	28	<	28	<	270
72	Wednesday, March 18, 2015	S1MET031815	S1	6:23	15:25	542	1,965	<	25	<	26	<	26	<	250
73	Thursday, March 26, 2015	S2MET032615	S2	6:26	15:12	526	1,709	<	29		33	<	30	<	290
74	Tuesday, March 31, 2015	S1MET033115	S1	6:25	15:09	524	1,871	<	26	<	27	<	27	<	260
75	Thursday, April 09, 2015	**S3MET040915***	S3	6:20	15:12	532	1,833	<	27	<	28	<	28	<	270
76	Wednesday, April 15, 2015	S2MET041515	S2	7:10	15:20	490	1,661	<	30	<	31	<	30	<	300
77	Wednesday, April 22, 2015	S2MET042215	S2	7:05	15:15	490	1,659	<	30	<	31	<	30	<	300
78	Thursday, April 30, 2015	S3MET043015	S3	7:00	15:20	500	1,650	<	30	<	31	<	31	<	300

TABLE 1B
PAMP Data
Metals Air Samples
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)	Analytical Results for Pb (ng/m^3)	Analytical Results for V (ng/m^3)	Analytical Results for Zn (ng/m^3)
79	Thursday, May 07, 2015	S3MET050715	S3	7:10	15:53	523	1,752	< 28	< 29	< 29	< 280
80	Thursday, May 14, 2015	S2MET051415	S2	6:55	15:20	505	1,682	< 30	< 30	< 30	< 290
81	Wednesday, May 20, 2015	S1MET052015	S1	7:00	15:15	495	1,641	< 30	< 30	< 31	< 300
82	Thursday, May 28, 2015	S3MET052815	S3	6:10	14:51	521	1,748	< 28	< 29	< 29	< 280
83	Thursday, June 04, 2015	S3MET060415	S3	6:00	14:23	503	1,730	< 29	< 29	< 29	< 280
84	Thursday, June 11, 2015	**S2MET061115***	S2	6:00	15:30	570	1,924	< 26	< 26	< 26	< 250
85	Wednesday, June 17, 2015	S2MET061715	S2	6:00	15:45	585	1,960	< 26	< 26	< 26	< 260
86	Thursday, June 25, 2015	S2MET062515	S2	5:50	15:38	588	1,976	< 25	< 25	< 25	< 250
87	Thursday, July 02, 2015	S2MET070215	S2	6:00	14:20	500	1,712	< 29	< 29	< 29	< 290
88	Wednesday, July 08, 2015	S1MET070815	S1	5:46	14:23	517	1,789	< 28	< 28	< 28	< 280
89	Friday, July 17, 2015	S4MET071715	S4	5:50	16:00	610	2,062	< 24	< 24	< 25	< 240
90	Thursday, July 23, 2015	S2MET072315	S2	5:55	16:35	640	2,234	< 22	< 22	< 23	< 220
91	Wednesday, July 29, 2015	S2MET072915	S2	5:50	16:05	615	2,149	< 23	< 23	< 24	< 230
92	Wednesday, August 05, 2015	S2MET080515	S2	6:00	17:05	665	2,284	< 22	< 22	< 22	< 220
93	Wednesday, August 12, 2015	S1MET081215	S1	5:55	16:15	620	2,123	< 24	< 24	< 24	< 240
94	Wednesday, August 19, 2015	S3MET081915	S3	5:55	14:45	530	1,778	< 28	< 28	< 29	< 280
95	Wednesday, August 26, 2015	**S1MET082615***	S1	6:00	14:30	510	1,721	< 29	< 29	< 30	< 290
96	Wednesday, September 02, 2015	S2MET090215	S2	6:00	14:25	505	1,707	< 29	< 29	< 30	< 290
97	Friday, September 11, 2015	S2MET091115	S2	6:30	15:00	510	1,739	< 29	< 29	< 29	< 290
98	Wednesday, September 16, 2015	S2MET091615	S2	6:30	16:00	570	1,929	< 26	< 26	< 27	< 260
99	Thursday, September 24, 2015	S3MET092415	S3	6:30	17:00	630	2,123	< 24	< 24	< 24	< 240
100	Monday, September 28, 2015	S3MET092815	S3	6:14	17:00	646	2,196	< 23	< 23	< 23	< 230
101	Tuesday, October 06, 2015	S1MET100615	S1	6:53	17:00	607	2,091	< 24	< 24	< 24	< 240
102	Friday, October 16, 2015	S1MET101615	S1	6:48	15:23	515	1,715	< 29	< 29	< 30	< 290
103	Wednesday, October 21, 2015	**S1MET102115***	S1	6:55	15:26	511	1,740	< 29	< 29	< 29	< 290
104	Wednesday, October 28, 2015	S3MET102815	S3	6:50	15:15	505	1,704	< 29	< 29	< 30	< 290
105	Thursday, November 05, 2015	S3MET110515	S3	7:00	15:35	515	1,743	< 29	< 29	< 29	< 290
106	Thursday, November 12, 2015	S2MET111215	S2	7:05	15:05	480	1,632	< 31	< 31	< 31	< 310
107	Thursday, November 19, 2015	S4MET111915	S4	7:00	15:10	490	1,668	< 30	< 30	< 31	< 300
108	Wednesday, November 25, 2015	S1MET112515	S1	6:55	14:00	425	1,441	< 35	< 35	< 36	< 350
109	Friday, December 04, 2015	**S1MET120415***	S1	6:55	15:20	505	1,699	< 30	< 30	< 30	< 290
110	Wednesday, December 09, 2015	S1MET120915	S1	6:55	15:20	505	1,707	< 30	< 29	< 30	< 290
111	Thursday, December 17, 2015	S1MET121715	S1	6:50	15:35	525	1,775	< 29	< 28	< 29	< 280
112	Wednesday, December 23, 2015	S1MET122315	S1	6:50	14:05	435	1,475	< 34	36	< 35	< 340
113	Thursday, January 07, 2016	S1MET010716	S1	6:55	15:20	505	1,709	< 30	< 29	< 30	< 290
114	Thursday, January 14, 2016	**S1MET011416***	S1	7:23	15:28	485	1,649	< 31	< 30	< 31	< 300
115	Friday, January 22, 2016	S2MET012116	S2	6:29	15:20	531	1,795	< 28	< 28	< 29	< 280
116	Thursday, January 28, 2016	S2MET012816	S2	7:25	15:22	477	1,624	< 31	< 31	< 32	< 310
117	Thursday, February 04, 2016	S1MET020416	S1	7:34	15:45	491	1,679	< 30	< 30	< 31	< 300

TABLE 1B
PAMP Data
Metals Air Samples
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Entry	Date	Sample #	Location	Start	Stop	Minutes	Volume	Analytical Results for As (ng/m^3)		Analytical Results for Pb (ng/m^3)		Analytical Results for V (ng/m^3)		Analytical Results for Zn (ng/m^3)	
118	Thursday, February 11, 2016	**S1MET021116***	S1	7:21	15:21	480	1,658	<	30	<	30	<	31	<	300
119	Thursday, February 18, 2016	S1MET021816	S1	7:22	15:30	488	1,662	<	30	<	30	<	31	<	300
120	Friday, February 26, 2016	S1MET022616	S1	7:19	15:12	473	1,601	<	32	<	31	<	32	<	310
121	Thursday, March 03, 2016	S1MET030316	S1	6:51	15:17	506	1,743	<	29<	<	29	<	29	<	290
122	Thursday, March 10, 2016	**S1MET031016***	S1	6:53	15:38	525	1,806	<	28	<	28	<	28	<	280
123	Wednesday, March 16, 2016	S4MET031616	S4	6:56	15:30	514	1,781	<	28	<	28	<	29	<	280
124	Thursday, March 24, 2016	S1MET032416	S1	6:43	15:34	531	1,827	<	27	<	27	<	28	<	270
125	Thursday, March 31, 2016	S1MET033116	S1	6:45	15:39	534	1,840	<	27	<	27	<	28	<	270
126	Thursday, April 07, 2016	S4MET040716	S4	6:50	15:37	527	1,818	<	28	<	28	<	28	<	280
127	Thursday, April 14, 2016	S1MET041416	S1	6:39	15:12	513	1,772	<	28	<	28	<	29	<	280
128	Thursday, April 21, 2016	S1MET042116	S1	7:15	15:40	505	1,745	<	29	<	29	<	29	<	290
129	Thursday, April 28, 2016	S1MET042816	S1	6:40	15:23	523	1,802	<	28	<	28	<	28	<	280
130	Thursday, May 05, 2016	S1MET050516	S1	6:35	15:37	542	1,864	<	27	<	27	<	27	<	270
131	Thursday, May 12, 2016	S4MET051216	S4	6:34	15:46	552	1,888	<	26	<	26	<	27	<	260
132	Thursday, May 19, 2016	S1MET051916	S1	6:35	15:35	540	1,855	<	27	<	27	<	27	<	270
133	Thursday, May 26, 2016	S1MET052616	S1	6:51	15:28	517	1,781	<	28	<	28	<	28	<	280
134	Thursday, June 02, 2016	S4MET060216	S4	5:38	14:21	523	1,802	<	28	<	28	<	28	<	280
135	Thursday, June 09, 2016	S1MET060916	S1	5:31	16:13	642	2,202	<	23	<	23	<	23	<	230
136	Friday, June 17, 2016	S3MET061716	S3	5:39	16:24	645	2,216	<	23	<	23	<	23	<	230
137	Thursday, June 23, 2016	S1MET062316	S1	5:45	16:15	630	2,205	<	23	<	23	<	23	<	230

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

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-7-20-a								124-12-20-a								124-12-20-b							
CLIENT SAMPLE ID			124-7-20-a1		124-7-20-a2		124-7-20-a3		124-7-20-a4		124-12-20-a1		124-12-20-a2		124-12-20-a3		124-12-20-a4		124-12-20-b1		124-12-20-b2		124-12-20-b3		124-12-20-b4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB51746-1/1R		JB51746-2		JB51746-3/3R		JB51746-4/4R		JB54242-1/1R		JB54242-2		JB54242-3		JB54242-4		JB54242-5		JB54242-6		JB54242-7/7R		JB54242-8	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	10/31/2013		10/31/2013		10/31/2013		10/31/2013		11/26/2013		11/26/2013		11/26/2013		11/26/2013		11/26/2013		11/26/2013		11/26/2013		11/26/2013	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	5.8	J	7.8	J	4.6	J	4.7	J	**26.1**		2.9	J	12.5	J	**23.2**	**J**	4.3	J	2.5	J	5.1		5.8	J

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-22-20-a								124-25-20-a								124-29-20-a							
CLIENT SAMPLE ID			**124-22-20-a1**		**124-22-20-a2**		**124-22-20-a3**		**124-22-20-a4**		**124-25-20-a1**		**124-25-20-a2**		**124-25-20-a3**		**124-25-20-a4**		**124-29-20-a1**		**124-29-20-a2**		**124-29-20-a3**		**124-29-20-a4**	
LAB SAMPLE ID	**NJ 2012**	**NJ 2013**	JB55610-1/1R		JB55610-2/2R		JB55610-3		JB55610-4		JB56360-1		JB56360-2		JB56360-3/3R		JB56360-4/4R		JB57677-1		JB57677-2		JB57677-3/3R		JB57677-4	
DATE SAMPLED	**MOST STRINGENT SRS**	**IGW SOIL**	12/13/2013		12/13/2013		12/13/2013		12/13/2013		12/23/2013		12/23/2013		12/23/2013		12/23/2013		01/13/2014		01/13/2014		01/13/2014		01/13/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	5.5		11.9		1.3	J	2.3	J	1.6		1.7		10.8	J	17.4	J	3.1		0.84		3.4	J	1.9	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-46-20-a															
CLIENT SAMPLE ID			124-46-20-a1		124-46-20-a2		124-46-20-a3		124-46-20-a4		124-46-20-b1		124-46-20-b2		124-46-20-b3		124-46-20-b4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB61677-1		JB61677-2		JB61677-3		JB61677-4		JB61677-5		JB61677-6		JB61677-7		JB61677-8	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	3.2		2.2		3.9		2		2.9		3.8		2.2		2.6	

			124-57-20-a					
CLIENT SAMPLE ID			124-57-20-a1		124-57-20-a2		124-57-20-a3		124-57-20-a4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB63864-1		JB63864-2		JB63864-3		JB63864-4/4R	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	04/04/2014		04/04/2014		04/04/2014		04/04/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	17	J	3.8	J	4.2	J	0.79	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016
Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-57-20-b								124-57-20-c								124-152-20-a							
CLIENT SAMPLE ID			124-57-20-b1		124-57-20-b2		124-57-20-b3		124-57-20-b4		124-57-20-c1		124-57-20-c2		124-57-20-c3		124-57-20-c4		124-152-20-a1		124-152-20-a2		124-152-20-a3		124-152-20-a4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB63864-5		JB63864-6		JB63864-7		JB63864-8/8R		JB63864-9		JB63864-10		JB63864-11		JB63864-12		JB65406-1		JB65406-2		JB65406-3		JB65406-4/4R	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	04/04/2014		04/04/2014		04/04/2014		04/04/2014		04/04/2014		04/04/2014		04/04/2014		04/04/2014		04/23/2014		04/23/2014		04/23/2014		04/23/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	4.1	J	14.2	J	15.7	J	1	J	10.3	J	11.6	J	11.8	J	**41.4**	**J**	0.73		0.76		0.42	U	2.4	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-145-20-a								124-142-20-a								124-138-20-a							
CLIENT SAMPLE ID			124-145-20-a1		124-145-20-a2		124-145-20-a3		124-145-20-a4		124-142-20-a1		124-142-20-a2		124-142-20-a3		124-142-20-a4		124-138-20-a1		124-138-20-a2		124-138-20-a3		124-138-20-a4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB66698-1		JB66698-2/2R		JB66698-3		JB66698-4/4R		JB67191-1		JB67191-2		JB67191-3		JB67191-4		JB67301-1		JB67301-2		JB67301-3		JB67301-4	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	05/09/2014		05/09/2014		05/09/2014		05/09/2014		05/15/2014		05/15/2014		05/15/2014		05/15/2014		05/19/2014		05/19/2014		05/19/2014		05/19/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	**22.8**	J	0.48	J	5.4	J	3.2	J	2.1		8.7		5.9		4.3		4		10.2		5.7		3.9	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-138-20-b				124-134-20-a				124-134-20-b			
CLIENT SAMPLE ID			124-138-20-b1	124-138-20-b2	124-138-20-b3	124-138-20-b4	124-134-20-a1	124-134-20-a2	124-134-20-a3	124-134-20-a4	124-134-20-b1	124-134-20-b2	124-134-20-b3	124-134-20-b4
LAB SAMPLE ID	NJ 2012	NJ 2013	JB67301-5	JB67301-6	JB67301-7	JB67301-8	JB67567-1	JB67567-2	JB67567-3	JB67567-4	JB67567-5	JB67567-6	JB67567-7	JB67567-8
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	05/19/2014	05/19/2014	05/19/2014	05/19/2014	05/21/2014	05/21/2014	05/21/2014	05/21/2014	05/21/2014	05/21/2014	05/21/2014	05/21/2014
Analytes <20 ppm (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	NC	1.2	4.9	2.7	5.4	7.5	7.8	4.2	**30.5**	10.7	2.5	4.9	7.3

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-128-20-a				124-126-20-a				124-126-20-b			
CLIENT SAMPLE ID			124-128-20-a1	124-128-20-a2	124-128-20-a3	124-128-20-a4	124-126-20-a1	124-126-20-a2	124-126-20-a3	124-126-20-a4	124-126-20-b1	124-126-20-b2	124-126-20-b3	124-126-20-b4
LAB SAMPLE ID	NJ 2012	NJ 2013	JB68316-1/1R	JB68316-2/2R	JB68316-3/3R	JB68316-4/4R	JB69272-1	JB69272-2	JB69272-3	JB69272-4	JB69272-5	JB69272-6	JB69272-7	JB69272-8
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	06/03/2014	06/03/2014	06/03/2014	06/03/2014	06/13/2014	06/13/2014	06/13/2014	06/13/2014	06/13/2014	06/13/2014	06/13/2014	06/13/2014
Analytes <20 ppm (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	NC	**32.4**	**38.4**	17	**45.1**	**41.1**	13.9	15	2.9	12.9	8.6	**59.4**	8

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-124-20-a				124-124-20-b				124-119-20-a			
CLIENT SAMPLE ID			**124-124-20-a1**	**124-124-20-a2**	**124-124-20-a3**	**124-124-20-a4**	**124-124-20-b1**	**124-124-20-b2**	**124-124-20-b3**	**124-124-20-b4**	**124-119-20-a1**	**124-119-20-a2**	**124-119-20-a3**	**124-119-20-a4**
LAB SAMPLE ID	**NJ 2012**	**NJ 2013**	JB70229-1	JB70229-2	JB70229-3	JB70229-4	JB70229-5/5R	JB70229-6	JB70229-7	JB70229-8	JB70485-1	JB70485-2/2R	JB70485-3/3R	JB70485-4/4R
DATE SAMPLED	**MOST STRINGENT SRS**	**IGW SOIL**	06/25/2014	06/25/2014	06/25/2014	06/25/2014	06/25/2014	06/25/2014	06/25/2014	06/25/2014	06/27/2014	06/27/2014	06/27/2014	06/27/2014
Analytes <20 ppm (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	NC	11.2	14.6	12.2	8	19.4	4.8	2.1	10.5	9.6	7.8	6	**28.8**

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-118-20-a				124-112-20-a				124-112-20-b			
CLIENT SAMPLE ID			**124-118-20-a1**	**124-118-20-a2**	**124-118-20-a3**	**124-118-20-a4**	**124-112-20-a1**	**124-112-20-a2**	**124-112-20-a3**	**124-112-20-a4**	**124-112-20-b1**	**124-112-20-b2**	**124-112-20-b3**	**124-112-20-b4**
LAB SAMPLE ID	**NJ 2012**	**NJ 2013**	JB71213-1	JB71213-2	JB71213-3	JB71213-4	JB72878-1	JB72878-2	JB72878-3	JB72878-4	JB72878-5	JB72878-6	JB72878-7	JB72878-8
DATE SAMPLED	**MOST STRINGENT SRS**	**IGW SOIL**	07/09/2014	07/09/2014	07/09/2014	07/09/2014	07/30/2014	07/30/2014	07/30/2014	07/30/2014	07/30/2014	07/30/2014	07/30/2014	07/30/2014
Analytes <20 ppm (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	NC	**20.3**	19.7	**37.1**	**61.1**	16.1	6.7	8.7	11	2.4	2.6	14.7	1.6

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-112-20-c						124-101-20-a						124-101-20-b					
CLIENT SAMPLE ID			124-112-20-c1		124-112-20-c2		124-112-20-c3		124-112-20-c4		124-101-20-a1		124-101-20-a2		124-101-20-a3		124-101-20-a4		124-101-20-b1		124-101-20-b2		124-101-20-b3		124-101-20-b4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB72878-9		JB72878-10		JB72878-11		JB72878-12		JB74771-1		JB74771-2		JB74771-3		JB74771-4		JB74771-5		JB74771-6		JB74771-7		JB74771-8	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	07/30/2014		07/30/2014		07/30/2014		07/30/2014		08/22/2014		08/22/2014		08/22/2014		08/22/2014		08/22/2014		08/22/2014		08/22/2014		08/22/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	**24**	J	3.4		6		2.6		**22.4**		13.3		**23.8**		**24.6**		**22.5**		17.2		11.5		**21.8**	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-101-20-c				124-88-20-a				124-88-20-b			
CLIENT SAMPLE ID			124-101-20-c1	124-101-20-c2	124-101-20-c3	124-101-20-c4	124-88-20-a1	124-88-20-a2	124-88-20-a3	124-88-20-a4	124-88-20-b1	124-88-20-b2	124-88-20-b3	124-88-20-b4
LAB SAMPLE ID	NJ 2012	NJ 2013	JB74771-9	JB74771-10	JB74771-11	JB74771-12	JB75541-1/1R	JB75541-2/2R	JB75541-3/3R	JB75541-4/4R	JB75541-5/5R	JB75541-6/6R	JB75541-7/7R	JB75541-8/8R
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	08/22/2014	08/22/2014	08/22/2014	08/22/2014	09/03/2014	09/03/2014	09/03/2014	09/03/2014	09/03/2014	09/03/2014	09/03/2014	09/03/2014
Analytes <20 ppm (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	NC	6.8	**25**	13.6	4.2	7.1 J	10.9 J	15.4 J	3.3 J	9.6 J	**26.6 J**	6.9 J	4.4 J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-88-20-c								124-82-20-a								124-82-20-b							
CLIENT SAMPLE ID			124-88-20-c1		124-88-20-c2		124-88-20-c3		124-88-20-c4		124-82-20-a1		124-82-20-a2		124-82-20-a3		124-82-20-a4		124-82-20-b1		124-82-20-b2		124-82-20-b3		124-82-20-b4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB75541-9/9R		JB75541-10/10R		JB75541-11		JB75541-12/12R		JB76844-1/1R		JB76844-2/2R		JB76844-3/3R		JB76844-4/4R		JB76844-5/5R		JB76844-6/6R		JB76844-7/7R		JB76844-8/8R	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	09/03/2014		09/03/2014		09/03/2014		09/03/2014		09/17/2014		09/17/2014		09/17/2014		09/17/2014		09/17/2014		09/17/2014		09/17/2014		09/17/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	18.3	J	2.6	J	9.4	J	16.2	J	**23.9**	**J**	16.8	J	**35.3**	**J**	12.9	J	**34.6**	**J**	**142**	**J**	**25.4**	**J**	12.8	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-82-20-c								124-78-20-a								124-78-20-b							
CLIENT SAMPLE ID			124-82-20-c1		124-82-20-c2		124-82-20-c3		124-82-20-c4		124-78-20-a1		124-78-20-a2		124-78-20-a3		124-78-20-a4		124-78-20-b1		124-78-20-b2		124-78-20-b3		124-78-20-b4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB76844-9/9R		JB76844-10/10R		JB76844-11/11R		JB76844-12/12R		JB77954-1/1R		JB77954-2/2R		JB77954-3/3R		JB77954-4/4R		JB77954-5		JB77954-6		JB77954-7		JB77954-8	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	09/17/2014		09/17/2014		09/17/2014		09/17/2014		09/30/2014		09/30/2014		09/30/2014		09/30/2014		09/30/2014		09/30/2014		09/30/2014		09/30/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	**33.7**	J	16.5	J	**26.8**	J	**39.2**	J	9.2	J	**23.3**	J	15.3	J	11.9	J	15.7	J	9.3	J	**25.8**	J	**21.2**	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-78-20-c								124-75-20-a								124-75-20-b							
CLIENT SAMPLE ID			124-78-20-c1		124-78-20-c2		124-78-20-c3		124-78-20-c4		124-75-20-a1		124-75-20-a2		124-75-20-a3		124-75-20-a4		124-75-20-b1		124-75-20-b2		124-75-20-b3		124-75-20-b4	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB77954-9		JB77954-10		JB77954-11/11R		JB77954-12		JB79402-1/1R		JB79402-2		JB79402-3		JB79402-4/4R		JB79402-5/5R		JB79402-6		JB79402-7		JB79402-8/8R	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	09/30/2014		09/30/2014		09/30/2014		09/30/2014		10/16/2014		10/16/2014		10/16/2014		10/16/2014		10/16/2014		10/16/2014		10/16/2014		10/16/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	19.5	J	**20.4**	**J**	**25.4**	**J**	**39**	**J**	9.6	J	10	J	11	J	**25.3**	**J**	17.3	J	15.6	J	**29.3**	**J**	**65.3**	**J**

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-67-20-a				124-67-20-b				124-106-20-a			
CLIENT SAMPLE ID			124-67-20-a1	124-67-20-a2	124-67-20-a3	124-67-20-a4	124-67-20-b1	124-67-20-b2	124-67-20-b3	124-67-20-b4	124-106-20-a1	124-106-20-a2	124-106-20-a3	124-106-20-a4
LAB SAMPLE ID	NJ 2012	NJ 2013	JB80267-1	JB80267-2/2R	JB80267-3/3R	JB80267-4	JB80267-5	JB80267-6/6R	JB80267-7	JB80267-8/8R	JB82420-1	JB82420-2	JB82420-3	JB82420-4
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	10/28/2014	10/28/2014	10/28/2014	10/28/2014	10/28/2014	10/28/2014	10/28/2014	10/28/2014	11/21/2014	11/21/2014	11/21/2014	11/21/2014
Analytes <20 ppm (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	NC	0.45	**98.2**	2.6	5.2	**71.9**	**340**	**29.6**	**23.3**	9.2	12.1	15.6	**20**

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-110-20-a								124-110-20-b							
CLIENT SAMPLE ID			124-110-20-a1-120214		124-110-20-a2-120214		124-110-20-a3-120214		124-110-20-a4-120214		124-110-20-b1-120214		124-110-20-b2-120214		124-110-20-b3-120214		124-110-20-b4-120214	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB83003-1		JB83003-2		JB83003-3		JB83003-4		JB83003-5		JB83003-6/6R		JB83003-7		JB83003-8/8R	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	12/02/2014		12/02/2014		12/02/2014		12/02/2014		12/02/2014		12/02/2014		12/02/2014		12/02/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	**25**	J	**43.9**	J	**29.1**	J	14.8	J	**23.1**	J	12.9	J	3.4	J	1.8	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-110-20-c												124-114-20-a								124-114-20-b	
CLIENT SAMPLE ID			124-110-20-c1-120214		124-110-20-c2-120214		124-110-20-c3-120214		124-110-20-c4-120214		124-114-20-a1		124-114-20-a2		124-114-20-a3		124-114-20-a4		124-114-20-b1	
LAB SAMPLE ID	NJ 2012	NJ 2013	JB83003-9		JB83003-10		JB83003-11/11R		JB83003-12		JB84293-1		JB84293-2		JB84293-3		JB84293-4		JB84293-5	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	12/02/2014		12/02/2014		12/02/2014		12/02/2014		12/16/2014		12/16/2014		12/16/2014		12/16/2014		12/16/2014	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	12.9	J	15.6	J	**29.1**	**J**	**179**	**J**	**29.8**	**J**	**34.5**	**J**	**49.3**	**J**	19.9	J	10.6	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2A

STOCKPILE SOIL RESULTS

(Designated for <20 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-20-A													
CLIENT SAMPLE ID			163-20-A1-011916		163-20-A2-011916		163-20-A3-011916		163-20-A4-011916		163-20-A5-022216		163-20-A6-022216		163-20-A7-022216		163-20-A8-022216	
LAB SAMPLE ID	NJ 2012	NJ 2013	JC12931-1		JC12931-2		JC12931-3		JC12931-4		JC114638-1		JC114638-2		JC114638-3		JC114638-4	
DATE SAMPLED	MOST STRINGENT SRS	IGW SOIL	01/19/2016		01/19/2016		01/19/2016		01/19/2016		02/22/2016		02/22/2016		02/22/2016		02/22/2016	
Analytes <20 ppm (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	20	NC	8.1	J	4	J	1.7	J	5	J	2.7		3.6		1		5.1	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/16/2016

Reviewed by: JLD 05/24/2016

TABLE 2B
STOCKPILE SOIL RESULTS
(Designated for >1,000 mg/Kg Hexavalent Chromium)
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

		124-41-1000-a				124-41-1000-b				124-49-1000-a			
CLIENT SAMPLE ID		**124-41-1000-a1**	**124-41-1000-a2**	**124-41-1000-a3**	**124-41-1000-a4**	**124-41-1000-b1**	**124-41-1000-b2**	**124-41-1000-b3**	**124-41-1000-b4**	**124-49-1000-a1**	**124-49-1000-a2**	**124-49-1000-a3**	**124-49-1000-a4**
LAB SAMPLE ID	**NJ 2012**	JB60523-1	JB60523-2	JB60523-3	JB60523-4	JB60523-5	JB60523-6	JB60523-7	JB60523-8	JB62792-1/1R	JB62792-2	JB62792-3	JB62792-4
DATE SAMPLED	**MOST STRINGENT SRS**	02/25/2014	02/25/2014	02/25/2014	02/25/2014	02/25/2014	02/25/2014	02/25/2014	02/25/2014	03/24/2014	03/24/2014	03/24/2014	03/24/2014
		CONC Q	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	**1750**	**3690**	**3410**	**453**	**490**	**1110**	**669**	**1920**	**3580**	**3850**	**2580**	**5570**

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 2B
STOCKPILE SOIL RESULTS
(Designated for >1,000 mg/Kg Hexavalent Chromium)
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

		124-49-1000-b				124-59-1000-a				124-125-1000-a			
CLIENT SAMPLE ID		**124-49-1000-b1**	**124-49-1000-b2**	**124-49-1000-b3**	**124-49-1000-b4**	**124-59-1000-a1**	**124-59-1000-a2**	**124-59-1000-a3**	**124-59-1000-a4**	**124-125-1000-a1**	**124-125-1000-a2**	**124-125-1000-a3**	**124-125-1000-a4**
LAB SAMPLE ID	**NJ 2012**	JB62792-5	JB62792-6	JB62792-7	JB62792-8	JB64503-1/1R	JB64503-2	JB64503-3	JB64503-4	JB70227-1	JB70227-2	JB70227-3	JB70227-4
DATE SAMPLED	**MOST STRINGENT SRS**	03/24/2014	03/24/2014	03/24/2014	03/24/2014	04/11/2014	04/11/2014	04/11/2014	04/11/2014	06/25/2014	06/25/2014	06/25/2014	06/25/2014
		CONC Q	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	**8840**	**2340**	2	**4250**	**11200**	**26900**	**11900**	**32700**	**42.1**	**652**	**346**	**400**

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26
Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 2B
STOCKPILE SOIL RESULTS
(Designated for >1,000 mg/Kg Hexavalent Chromium)
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

		124-119-1000-a								124-102-1000-a								124-102-1000-b							
CLIENT SAMPLE ID		124-119-1000-a1		124-119-1000-a2		124-119-1000-a3		124-119-1000-a4		124-102-1000-a1		124-102-1000-a2		124-102-1000-a3		124-102-1000-a4		124-102-1000-b1		124-102-1000-b2		124-102-1000-b3		124-102-1000-b4	
LAB SAMPLE ID	NJ 2012	JB72777-1		JB72777-2/2R		JB72777-3		JB72777-4		JB74046-1/1R		JB74046-2/2R		JB74046-3/3R		JB74046-4/4R		JB74046-5/5R		JB74046-6		JB74046-7/7R		JB74046-8/8T	
DATE SAMPLED	MOST STRINGENT SRS	07/29/2014		07/29/2014		07/29/2014		07/29/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014	
		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	20	**174**		**302**		**149**		**2180**		**1680**	J	**487**		**446**		**299**		**38.4**		**139**	J	**64.8**		**663**	J

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26
Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 2B
STOCKPILE SOIL RESULTS
(Designated for >1,000 mg/Kg Hexavalent Chromium)
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

		124-75-1000-a				124-75-1000-b				163-122-1000-a			
CLIENT SAMPLE ID		**124-75-1000-a1**	**124-75-1000-a2**	**124-75-1000-a3**	**124-75-1000-a4**	**124-75-1000-b1**	**124-75-1000-b2**	**124-75-1000-b3**	**124-75-1000-b4**	**163-122-1000-a1**	**163-122-1000-a2**	**163-122-1000-a3**	**163-122-1000-a4**
LAB SAMPLE ID	**NJ 2012**	JB80452-1/1R	JB80452-2/2R	JB80452-3	JB80452-4	JB80452-5	JB80452-6	JB80452-7	JB80452-8	JB82103-1	JB81582-1	JB82103-2	JB81582-2
DATE SAMPLED	**MOST STRINGENT SRS**	10/29/2014	10/29/2014	10/29/2014	10/29/2014	10/29/2014	10/29/2014	10/29/2014	10/29/2014	11/12/2014	11/12/2014	11/12/2014	11/12/2014
		CONC Q	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	**1410**	**750**	**1360**	**2050**	**2060**	**454**	**591**	**2860**	4.5	4	**80.1**	**38.1**

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26
Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS
Depths reported in feet below ground surface
CONC: Concentration reported in milligrams per kilogram (mg/kg)
J: Estimated concentration
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 2B

STOCKPILE SOIL RESULTS

(Designated for >1,000 mg/Kg Hexavalent Chromium)

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		124-114-1000-a			
CLIENT SAMPLE ID		**124-114-1000-a1**	**124-114-1000-a2**	**124-114-1000-a3**	**124-114-1000-a4**
LAB SAMPLE ID	**NJ 2012**	JB84292-1	JB84292-2	JB84292-3/3R	JB84292-4
DATE SAMPLED	**MOST STRINGENT SRS**	12/16/2014	12/16/2014	12/16/2014	12/16/2014
		CONC Q	**CONC Q**	**CONC Q**	**CONC Q**
HEXAVALENT CHROMIUM	20	**42.3**	**65**	**75.3**	16.5

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 3A

CWTP Effluent Results - VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-102813		087-TW-01-111813		087-TW-01-120313		087-TW-01-010914		087-TW-01-020414		087-TW-01-030514		087-TW-01-040314		087-TW-01-050714		087-TW-01-060414		087-TW-01-080514		087-TW-01-080514		087-TW-01-090214		087-TW-01-100914		087-TW-01-110514		087-TW-01-120214	
SAMPLING DATE			10/28/2013		11/18/2013		12/03/2013		01/09/2014		02/04/2014		03/05/2014		04/03/2014		05/07/2014		06/04/2014		08/05/2014		08/05/2014		09/02/2014		10/09/2014		11/05/2014		12/02/2014	
LAB SAMPLE ID			JB51378-1		JB53452-1		JB54588-1		JB57249-1		JB59174-1		JB61118-1		JB63754-1		JB66403-1		JB68434-1		JB70814-1		JB73272-1		JB75472-1		JB78961-1		JB80999-1		JB83004-1	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent	No		No		No		No		No		No		No		No		No		No		No		No		No		No	
PARAMETER	Report Units	Criteria	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-TRICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2,2-TETRACHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-TRICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-DICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-DICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-DICHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-DICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U	1	U
1,2-DICHLOROPROPANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-DICHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,4-DICHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-CHLOROETHYL VINYL ETHER	ug/l	NC	5	U	5	UJ	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	UJ	5	U	5	UJ	5	U	5	U
ACROLEIN	ug/l	NC	50	R	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U
ACRYLONITRILE	ug/l	NC	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
BENZENE	ug/l	NC	1	U	1	U	1	U	0.45	J	0.25	J	0.72	J	1	U	1	U	1	U	1	U	1	U	1	U	0.27	J	1	U	1	U
BROMODICHLOROMETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BROMOFORM	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BROMOMETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U	1	U
CARBON TETRACHLORIDE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.54	J
CHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	5.4		1	U	1	U	1	U	1	U	1	U	0.47	J
CHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
CHLOROFORM	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.4		1	U	1	U	0.27	J	0.42	J
CHLOROMETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.31	J	1	U	1	U	0.34	J	1	U
CIS-1,2-DICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
CIS-1,3-DICHLOROPROPENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
DICHLORODIFLUOROMETHANE	ug/l	NC	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	UJ	2	U	2	U	2	U	2	U
ETHYLBENZENE	ug/l	NC	1	U	1	U	1	U	0.65	J	0.63	J	1.8		1.9		1.1		0.32	J	1	U	0.35	J	0.32	J	0.38	J	0.84	J	1	U
METHYLENE CHLORIDE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.33	J	1	U	1	U	1	U
TETRACHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TOLUENE	ug/l	NC	1	U	1	U	1	U	0.36	J	0.35	J	0.45	J	1	U	1	U	1	U	1	U	0.33	J	0.25	J	0.33	J	0.23	J	1	U
TRANS-1,2-DICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TRANS-1,3-DICHLOROPROPENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U	1	U
TRICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TRICHLOROFLUOROMETHANE	ug/l	NC	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
VINYL CHLORIDE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
XYLENES, TOTAL	ug/l	NC	1	U	1	U	1	U	2.9		2.8		12.8		21.4		9.1		2.1		0.89	J	1.9		2.2		2.3		5.8		1	U
Total VOCs	ug/l	2130	0		0		0		4.36		4.03		15.77		23.3		10.2		7.82		0.89		4.29		3.1		3.28		7.48		1.43	

Notes:

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

NC: No criterion established

Bold and underlined concentrations exceed the CWTP Effluent Criteria

Italicized values not detected; reporting limit exceeds criteria

CONC: Concentration reported in micrograms per liter (ug/l)

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 3A

CWTP Effluent Results - VOCs

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

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-011315		087-TW-01-020415		087-TW-01-030415		087-TW-01-040115		087-TW-01-050515		087-TW-01-060415		087-TW-01-070115		087-TW-01-080715		087-TW-01-090115		087-TW-01-100115		087-TW-01-110215		087-TW-01-121015		087-TW-01-011216		087-TW-01-020216	
SAMPLING DATE			01/13/2015		02/04/2015		03/04/2015		04/01/2015		05/05/2015		06/04/2015		07/01/2015		08/07/2015		09/01/2015		10/01/2015		11/02/2015		12/10/2015		01/12/2016		02/02/2016	
LAB SAMPLE ID			JB86263-1		JB87588-1		JB89260-1		JB91370-1		JB93967-1		JB96257-1		JB98303-1		JC1065-1		JC2782-1		JC5236-1		JC7548-1		JC10340-1		JC12447-1		JC13531-1	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent	No		No		No		No		No		No		No		No		No		No		No		No		No		No	
PARAMETER	Report Units	Criteria	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-TRICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2,2-TETRACHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1,2-TRICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-DICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,1-DICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-DICHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-DICHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,2-DICHLOROPROPANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,3-DICHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
1,4-DICHLOROBENZENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
2-CHLOROETHYL VINYL ETHER	ug/l	NC	5	U	5	U	5	U	5	UJ	5	U	5	U	5	U	5	U	5	UJ	5	U	5	U	5	U	5	U	5	U
ACROLEIN	ug/l	NC	50	R	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	50	U	10	U	10	U	10	U	10	U
ACRYLONITRILE	ug/l	NC	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
BENZENE	ug/l	NC	0.43	J	0.49	J	0.3	J	0.62	J	1	U	0.26	J	0.29	J	1	U	0.22	J	1	U	0.29	J	1	U	1	U	1	U
BROMODICHLOROMETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	4.9		1	U	1	U	1	U	1	U	1	U	1	U
BROMOFORM	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BROMOMETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
CARBON TETRACHLORIDE	ug/l	NC	1.1		4.4		12.3		1.3		1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.38	J	1	U
CHLOROBENZENE	ug/l	NC	0.66	J	1.6		1.9		0.38	J	0.21	J	0.22	J	0.58	J	1	U	1	U	1	U	1	U	1	U	1	U	0.62	J
CHLOROETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
CHLOROFORM	ug/l	NC	3.2		13.7		21.2		1.6		1	U	1	U	1	U	8.8		1	U	1	U	1	U	1	U	1	U	1	U
CHLOROMETHANE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	0.19	J	1	U	1	U	1	U	1	U	1	U
CIS-1,2-DICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.2		1	U
CIS-1,3-DICHLOROPROPENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
Dibromochloromethane	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.7		1	U	1	U	1	U	1	U	1	U	1	U
DICHLORODIFLUOROMETHANE	ug/l	NC	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
ETHYLBENZENE	ug/l	NC	1.2		1.3		0.84	J	0.99	J	0.32	J	1	U	0.49	J	1	U	1	U	0.36	J	1	U	1	U	1	U	1	U
METHYLENE CHLORIDE	ug/l	NC	1	U	0.37	J	0.49	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TETRACHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TOLUENE	ug/l	NC	0.47	J	0.68	J	0.34	J	1	U	0.25	J	1	U	0.35	J	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TRANS-1,2-DICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TRANS-1,3-DICHLOROPROPENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TRICHLOROETHENE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
TRICHLOROFLUOROMETHANE	ug/l	NC	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U
VINYL CHLORIDE	ug/l	NC	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
XYLENES, TOTAL	ug/l	NC	9.6		10.5		5.9		3		2.9		1.5		4.1		1	U	0.26	J	2.5		1	U	1	U	1	U	1	U
Total VOCs	ug/l	2130	16.66		33.04		43.27		7.89		3.68		1.98		5.81		15.4		0.67		2.86		0.29		0		1.58		0.62	

Notes:
SA-6 CWTP Effluent Criteria is the discharge limitation criteria from Sewer Use Permit #31630019
NC: No criterion established
Bold and underlined concentrations exceed the CWTP Effluent Criteria
Italicized values not detected; reporting limit exceeds criteria
CONC: Concentration reported in micrograms per liter (ug/l)
J: Estimated concentration
R or N: Rejected or negated by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 3B

CWTP Effluent Results - Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-102813		087-TW-01-111813		087-TW-01-120313		087-TW-01-010914		087-TW-01-020414-C		087-TW-01-030514		087-TW-01-040314		087-TW-01-050714		087-TW-01-060414		087-TW-01-080514		087-TW-01-080514		087-TW-01-090214-C		087-TW-01-100914-C		087-TW-01-110514-C	
SAMPLING DATE			10/28/2013		11/18/2013		12/03/2013		01/09/2014		02/04/2014		03/05/2014		04/03/2014		05/07/2014		06/04/2014		08/05/2014		08/05/2014		09/02/2014		10/09/2014		11/05/2014	
LAB SAMPLE ID			JB51378-1		JB53452-1		JB54588-1		JB57249-2		JB59174-2		JB61118-2		JB63754-2		JB66403-2		JB68434-2		JB70814-2		JB73272-2		JB75472-2		JB78961-2		JB80999-2	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent	No		No		No		No		No		No		No		No		No		No		No		No		No		No	
PARAMETER	Report Units	Criteria	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CHROMIUM	mg/L	NC	0.522		0.298		0.188		0.822		0.321		0.338		0.385		0.407		1.12		5.01		2.55		1.43		1.41		1.29	
COPPER	mg/L	3.6	0.0108		0.01	U	0.01	UJ	0.0104		0.01	U	0.0154		0.0247		0.0352		0.0357		0.012		0.0188		0.0205		0.01	U	0.0315	
LEAD	mg/L	1	0.003	U	0.0051		0.0061		0.0075		0.0127		0.0085		0.0176		0.0371		0.0432		0.014		0.0198		0.0217		0.0055		0.0244	
MERCURY	mg/L	0.08	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.00031		0.00045		0.0002	U	0.00044		0.00037		0.0002	U	0.0003	
NICKEL	mg/L	3.9	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.0126		0.0151		0.0231		0.032		0.0201		0.0284		0.0345		0.0323		0.0467	
ZINC	mg/L	4.2	0.154		0.216		0.269		0.133		0.222		0.418		0.446		0.168	J	0.163		0.109		0.117		0.247		0.0569	J	0.151	

Notes:

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

NC: No criterion established

Bold and underlined concentrations exceed the CWTP Effluent Criteria

Italicized values not detected; reporting limit exceeds criteria

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

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

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-120214C		087-TW-01-011315C		087-TW-01-020415C		087-TW-01-030415C		087-TW-01-040115C		087-TW-01-050515C		087-TW-01-060415C		087-TW-01-070115C		087-TW-01-080715C		087-TW-01-090115C		087-TW-01-100115C		087-TW-01-110215C		087-TW-01-121015C	
SAMPLING DATE			12/02/2014		01/13/2015		02/04/2015		03/04/2015		04/01/2015		05/05/2015		06/04/2015		07/01/2015		08/07/2015		09/01/2015		10/01/2015		11/02/2015		12/10/2015	
LAB SAMPLE ID			JB83004-2		JB86263-2		JB87588-2		JB89260-2		JB91370-2		JB93967-2		JB96257-2		JB98303-2		JC1065-2		JC2782-2		JC5236-2		JC7548-2		JC10340-2	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent Criteria	No		No		No		No		No		No		No		No		No		No		No		No		No	
PARAMETER	**Report Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CHROMIUM	mg/L	NC	0.77		1.85		2.09		1.1		0.274		1.04		5.46		3.59		0.392		2.14		1.25		4.61		1.36	
COPPER	mg/L	3.6	0.052		0.01	U	0.01	U	0.0219		0.0113		0.01	U	0.0168		0.01	U	0.0195		0.0322		0.0197		0.0205		0.0141	
LEAD	mg/L	1	0.0464		0.0061		0.0055		0.015	U	0.0387		0.0141		0.0061		0.0081		0.0552		0.0418		0.0058		0.0123		0.0407	
MERCURY	mg/L	0.08	0.0013		0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0004	U	0.0002	U	0.0002	U	0.00027	
NICKEL	mg/L	3.9	0.0638		0.036		0.0227		0.05	U	0.0196		0.0196		0.0148		0.016		0.01	U	0.0235		0.0253		0.0224		0.01	U
ZINC	mg/L	4.2	0.858		0.149		0.309		0.241		0.0799		0.0525		0.0873		0.153		0.0699		0.0688		0.0314		0.094		0.058	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

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

SAMPLE LOCATION			087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-011216C		087-TW-01-020216C	
SAMPLING DATE			01/12/2016		02/02/2016	
LAB SAMPLE ID			JC12447-2		JC13531-2	
Sample Purpose			REG		REG	
Filtered		SA-6 CWTP Effluent	No		No	
PARAMETER	Report Units	Criteria	CONC	Q	CONC	Q
CHROMIUM	mg/L	NC	0.218		0.0997	
COPPER	mg/L	3.6	0.0134		0.0325	
LEAD	mg/L	1	0.0163		0.0555	
MERCURY	mg/L	0.08	0.0002	U	0.0002	
NICKEL	mg/L	3.9	0.01	U	0.0164	
ZINC	mg/L	4.2	0.0768		0.165	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

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

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-EFF-01		087-INF-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-102813		087-TW-01-111813		087-TW-01-120313		087-TW-01-010914		087-TW-01-010914		087-TW-01-020414		087-TW-01-020414-C		087-TW-01-030514		087-TW-01-030514		087-TW-01-040314		087-TW-01-040314		087-EFF-01-042514		087-INF-01-042514		087-TW-01-050714	
SAMPLING DATE			10/28/2013		11/18/2013		12/03/2013		01/09/2014		01/09/2014		02/04/2014		02/04/2014		03/05/2014		03/05/2014		04/03/2014		04/03/2014		04/25/2014		04/25/2014		05/07/2014	
LAB SAMPLE ID			JB51378-1/1A		JB53452-1/1A		JB54588-1/1A		JB57249-1		JB57249-2		JB59174-1		JB59174-2		JB61118-1		JB61118-2		JB63754-1		JB63754-2		JB65610-1		JB65610-2		JB66403-1	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent Criteria	No		No		No		No		No		No		No		No		No		No		No		No		No		No	
PARAMETER	Report Units		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
BIOCHEMICAL OXYGEN DEMAND, FIVE DAY	mg/L	NC	13.8		10.9		14.5		-		88		-		32.2		-		301		-		193		-		-		-	
HEXANE EXT MATERIAL SILICA GEL TREATED	mg/L	100	5.3	U	5	U	5.1	U	5.3	U	-		5.1	UJ	-		5.1	UJ	-		5	UJ	-		5.1	U	5.1	U	5.1	U
pH	S.U.	5-10.5	7.48		7.44		7.53		7.85		-		7.29		-		7.79		-		7.7		-		-		-		8.51	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

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

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-050714		087-TW-01-060414		087-TW-01-060414		087-TW-01-080514		087-TW-01-080514		087-TW-01-080514		087-TW-01-080514		087-TW-01-090214		087-TW-01-090214-C		087-TW-01-100914		087-TW-01-100914-C		087-TW-01-110514		087-TW-01-110514-C	
SAMPLING DATE			05/07/2014		06/04/2014		06/04/2014		08/05/2014		08/05/2014		08/05/2014		08/05/2014		09/02/2014		09/02/2014		10/09/2014		10/09/2014		11/05/2014		11/05/2014	
LAB SAMPLE ID			JB66403-2		JB68434-1		JB68434-2		JB70814-1		JB70814-2		JB73272-1		JB73272-2		JB75472-1		JB75472-2		JB78961-1		JB78961-2		JB80999-1		JB80999-2	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent Criteria	No		No		No		No		No		No		No		No		No		No		No		No		No	
PARAMETER	Report Units		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
BIOCHEMICAL OXYGEN DEMAND, FIVE DAY	mg/L	NC	10	U	-		13.1		-		9.2		-		20	U	-		9.5		-		16.9		-		7.9	
HEXANE EXT MATERIAL SILICA GEL TREATED	mg/L	100	-		5.1	UJ	-		5	U	-		5.2	U	-		5	U	-		5.1	U	-		5.4	U	-	
pH	S.U.	5-10.5	-		7.93		-		6.8		-		8.7		-		8.86		-		10.61		-		8.01		-	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

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

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-120214		087-TW-01-120214C		087-TW-01-011315		087-TW-01-011315C		087-TW-01-020415		087-TW-01-020415C		087-TW-01-030415		087-TW-01-030415C		087-TW-01-040115		087-TW-01-040115C		087-TW-01-050515		087-TW-01-050515C	
SAMPLING DATE			12/02/2014		12/02/2014		01/13/2015		01/13/2015		02/04/2015		02/04/2015		03/04/2015		03/04/2015		04/01/2015		04/01/2015		05/05/2015		05/05/2015	
LAB SAMPLE ID			JB83004-1		JB83004-3		JB86263-1		JB86263-2		JB87588-1		JB87588-2		JB89260-1		JB89260-2		JB91370-1		JB91370-2		JB93967-1		JB93967-2	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent Criteria	No		No		No		No		No		No		No		N		N		N		N		N	
PARAMETER	**Report Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
BIOCHEMICAL OXYGEN DEMAND, FIVE DAY	mg/L	NC	-		32.5		-		29.4		-		11.6		-		12.8		-		9.3		-		7.5		-		20	U
HEXANE EXT MATERIAL SILICA GEL TREATED	mg/L	100	5	UJ	-		5.1	UJ	-		5.3	UJ	-		5	U	-		5.1	U	-		5.2	U	-		5.1	U	-	
pH	S.U.	5-10.5	8.07		-		7.07		-		9.41		-		7.91		-		8.62		-		6.91		-		7.89		-	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

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

SAMPLE LOCATION			087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-070115		087-TW-01-070115C		087-TW-01-080715		087-TW-01-080715C		087-TW-01-090115		087-TW-01-090115C		087-TW-01-100115		087-TW-01-100115C		087-TW-01-110215		087-TW-01-110215C		087-TW-01-121015		087-TW-01-121015C		087-TW-01-011216		087-TW-01-011216C	
SAMPLING DATE			07/01/2015		07/01/2015		08/07/2015		08/07/2015		09/01/2015		09/01/2015		10/01/2015		10/01/2015		11/02/2015		11/02/2015		12/10/2015		12/10/2015		01/12/2016		01/12/2016	
LAB SAMPLE ID			JB98303-1		JB98303-2		JC1065-1		JC1065-2		JC2782-1		JC2782-2		JC5236-1		JC5236-2		JC7548-1		JC7548-2		JC10340-1		JC10340-2		JC12447-1		JC12447-2	
Sample Purpose			REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG		REG	
Filtered		SA-6 CWTP Effluent Criteria	No		No		No		No		No		No		No		N		N		N		N		N		N		N	
PARAMETER	Report Units		CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
BIOCHEMICAL OXYGEN DEMAND, FIVE DAY	mg/L	NC	-		10.3		-		5	U	-		14	U	-		8.8		-		5	U	-		4.3	U	-		8.6	
HEXANE EXT MATERIAL SILICA GEL TREATED	mg/L	100	5	U	-		5	U	-		5.2	U	-		5.2	U	-		5.1	U	-		5.1	UJ	-		5.1	U	-	
pH	S.U.	5-10.5	8.59		-		8.23		-		8.74		-		6.95		-		7.69		-		8.39		-		7.52		-	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 3C

CWTP Effluent Results - General Chemistry

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

SAMPLE LOCATION			087-TW-01		087-TW-01	
FIELD SAMPLE ID			087-TW-01-020216		087-TW-01-020216C	
SAMPLING DATE			02/02/2016		02/02/2016	
LAB SAMPLE ID			JC13531-1		JC13531-2	
Sample Purpose			REG		REG	
Filtered		SA-6 CWTP Effluent Criteria	No		No	
PARAMETER	Report Units		CONC	Q	CONC	Q
BIOCHEMICAL OXYGEN DEMAND, FIVE DAY	mg/L	NC	-		7.8	
HEXANE EXT MATERIAL SILICA GEL TREATED	mg/L	100	5	U	-	
pH	S.U.	5-10.5	7.51		-	

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

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 4

Baseline Groundwater Elevation Monitoring

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	SA-6 South Cap Contingent Groundwater System Water Elevations			
	Pump Station	Access MH #1	Access MH #2	Access MH #3
10/1/2015	0.42	0.58	1.62	1.73
10/28/2015	0.82	0.68	1.62	1.72
12/1/2015	1.74	1.48	1.64	1.66
12/30/2015	1.97	1.84	0.87	1.88
2/1/2016	2.25	2.08	2.17	2.16
3/1/2016	2.52	2.48	Temp. Unavailable	2.46
4/1/2016	2.86	2.68	2.77	2.69
5/2/2016	2.8	2.79	2.73	2.86
6/1/2016	3	2.98	2.95	3.01
6/28/2016	3.05	3.16	3.19	3.19
7/27/2016	3.21	3.31	3.35	3.36
8/29/2016	3.4	3.45	3.45	3.46
9/29/2016	3.49	3.56	3.51	3.51
11/4/2016	3.52	3.55	3.56	3.54

	SA-6 South Monitoring Wells								
	115-W3-SO	115-W5-SO	115-E1A-SO	073-MW-07	124-MW-11	124-MW-12	134-MW-03	140-MW-10	163-MW-1
10/1/2015	1.16	1.58	1.83	NR	NR	NR	NR	NR	NR
10/28/2015	1.26	1.48	1.93	NR	NR	NR	NR	NR	NR
12/1/2015	1.66	1.58	1.73	NR	NR	NR	NR	NR	NR
12/30/2015	1.83	1.85	1.83	NR	NR	NR	NR	NR	NR
2/1/2016	2.12	2.13	2.18	NR	NR	NR	NR	NR	NR
3/1/2016	2.26	2.48	2.53	NR	NR	NR	NR	NR	NR
4/1/2016	2.59	2.69	2.73	NR	NR	NR	NR	NR	NR
5/2/2016	2.6	2.83	2.86	NR	NR	NR	NR	NR	NR
6/1/2016	2.82	3.00	2.68	2.99	5.07	5.03	3.61	3.91	3.26
6/28/2016	3.07	3.18	3.21	3.85	4.67	6.24	4.18	3.7	3.32
7/27/2016	3.06	3.3	3.17	3.88	4.73	6.17	4.2	3.86	3.34
8/29/2016	3.35	3.48	3.52	2.96	4.21	4.4	3.48	3.7	3.88
9/29/2016	3.45	3.52	3.57	2.94	4.14	4.91	3.31	3.56	3.53
11/4/2016	3.57	3.57	3.6	3.78	4.59	4.65	3.91	4.25	3.84

Prepared by: JLD 09/30/2016

Reviewed by: NW 11/30/2016

TABLE 4

Baseline Groundwater Elevation Monitoring

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	SA-6 South Piezometers									
	124-PZ-11	124-PZ-12	124-PZ-13	124-PZ-14	124-PZ-15	124-PZ-16	124-PZ-17	124-PZ-18	124-PZ-19	124-PZ-20
10/1/2015	NR	NR	NR	NR	NR	NR	NR	NR	NR	NR
10/28/2015	3.64	2.55	4.54	1.94	4.23	1.91	4.07	1.13	4.96	0.88
12/1/2015	3.09	2.15	4.36	1.77	3.86	1.59	3.61	1.63	2.79	1.71
12/30/2015	6.04	2.44	6.17	1.95	4.76	1.81	4.74	1.69	3.13	1.94
2/1/2016	6.34	2.77	7.04	2.58	5.79	2.13	5.87	2.13	2.76	2.18
3/1/2016	6.49	3.17	6.82	3.13	5.76	2.49	5.17	2.48	2.41	2.48
4/1/2016	4.81	3.22	5.98	2.93	5.16	2.78	4.27	2.74	2.59	2.83
5/2/2016	3.96	3.11	5.42	2.98	4.63	2.88	3.66	2.64	2.71	2.95
6/1/2016	5.65	3.22	5.68	3.13	3.67	3.00	3.73	2.97	2.71	3.03
6/28/2016	4.51	3.43	5.27	3.38	4.39	3.28	3.65	2.93	2.82	3.25
7/27/2016	5.63	3.49	5.17	3.43	4.36	3.35	3.91	3.01	2.81	3.41
8/29/2016	4.22	3.58	4.89	3.62	4.24	3.55	3.55	3.20	3.04	3.56
9/29/2016	3.64	3.48	4.3	3.52	3.9	3.54	3.36	3.12	4.26	3.57
11/4/2016	4.38	3.46	4.96	3.57	4.44	3.62	3.91	3.26	3.63	3.72

Prepared by: JLD 09/30/2016

Reviewed by: NW 11/30/2016

TABLE 5

SHALLOW MONITORING WELL LIST

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

Study Area	Site	Well	Easting	Northing	Permit Number	Well Depth (feet below TOC)	Well Diam (in)	Well Construction
SA-6 South	73	073-MW-03	601380.5	685414.4	26-8427	15	2.0	PVC
SA-6 South	73	073-MW-06	601396.0	685464.0	E201601094	21.61	2.0	PVC
SA-6 South	73	073-MW-07	601451.0	685358.0	E201601093	18.70	2.0	PVC
SA-6 South	73	073-MW-08	601621.0	685234.0	E201601092	18.23	2.0	PVC
SA-6 South	124	124-MW-10	602764.9	684042.8	E201005711	10.91	2.0	PVC
SA-6 South	124	124-MW-11	603010.7	683800.1	E201005712	8.11	2.0	PVC
SA-6 South	124	124-MW-12	602732.0	684286.0	E201601085	13.55	2.0	PVC
SA-6 South	124	124-MW-13	603014.0	684268.0	E201601084	14.88	2.0	PVC
SA-6 South	125	125-MW-02	602448.0	684489.0	E201601087	13.22	2.0	PVC
SA-6 South	125	125-MW-03	602577.0	684585.0	E201601086	13.55	2.0	PVC
SA-6 South	134	134-MW-02	602033.0	684898.0	E201009352	10	2.0	PVC
SA-6 South	134	134-MW-V09R	601868.0	685185.4	E201601098	20.07	2.0	PVC
SA-6 South	134	134-MW-03	601865.0	685020.0	E201601091	16.70	2.0	PVC
SA-6 South	134	134-MW-04	602016.0	685002.0	E201601090	17.15	2.0	PVC
SA-6 South	140	140-MW-04	602308.6	684543.7	2632541	11.95	4.0	PVC
SA-6 South	140	140-MW-1R	602326.0	684576.0	2600084352	12.41	2.0	PVC
SA-6 South	140	140-MW-08R	602412.0	684614.0	E201601100	13.24	2.0	PVC
SA-6 South	140	140-MW-09	602106.0	684819.0	E201601089	15.68	2.0	PVC
SA-6 South	140	140-MW-10	602287.0	684774.0	E201601088	13.90	2.0	PVC
SA-6 South	163	163-MW-1	601890.4	684839.6	--	12.41	2.0	PVC
SA-6 South	163	163-MW-2R	601444.8	685203.1	E201115327	17.20	2.0	PVC
SA-6 South	163	163-MW-03	601575.0	685166.0	E201601099	21.17	2.0	PVC
SA-6 South	124	124-PZ-11	603289.6	684200.3	E201506364	15.22	4.0	SS
SA-6 South	124	124-PZ-12	603277.3	684208	E201506365	15.20	4.0	SS
SA-6 South	124	124-PZ-13	602894.3	684390.9	E201506366	15.16	4.0	SS

Prepared by CR
Reviewed by NW 06/14/16

TABLE 5

SHALLOW MONITORING WELL LIST

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

Study Area	Site	Well	Easting	Northing	Permit Number	Well Depth (feet below TOC)	Well Diam (in)	Well Construction
SA-6 South	124	124-PZ-14	602907.3	684420.4	E201506367	15.17	4.0	SS
SA-6 South	140	124-PZ-15	602497.6	684735.3	E201506368	15.25	4.0	SS
SA-6 South	140	124-PZ-16	602508.9	684751.4	E201506369	19.66	4.0	SS
SA-6 South	134	124-PZ-17	601977	685121.8	E201506370	19.94	4.0	SS
SA-6 South	134	124-PZ-18	601988.8	685136.7	E201506371	19.80	4.0	SS
SA-6 South	73	124-PZ-19	601501	685587	E201506372	19.75	4.0	SS
SA-6 South	73	124-PZ-20	601504.2	685583.9	E201506373	20.06	4.0	SS
SA-7	115	115-E1A-SO	603040.1	684482.3	--	23.70	2.0	PVC
SA-7	115	115-W3-SO	601654.4	685551.2	2600078831	20.73	2.0	PVC
SA-7	115	115-W5-SO	602426.2	684964.5	--	23.80	2.0	PVC

Notes:

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

Prepared by CR
Reviewed by NW 06/14/16

TABLE 6A

Expanded Excavation Site 134 Soil Sample Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Location ID				134-SB-160		134-SB-161		134-SB-162		134-SB-164		134-SB-165		134-SB-167		134-SB-168		134-SB-169		134-SB-170		134-SB-171		134-SB-172		134-SB-173		134-SB-174		134-SB-175		134-SB-177	
Client Sample ID				134-SB-160-073014		134-SB-161-081914		134-SB-162-081914		134-SB-164-082014		134-SB-165-082114		134-SB-167-090914		134-SB-168-091014		134-SB-169-090914		134-SB-170-091014		134-SB-171-091114		134-SB-172-091114		134-SB-173-091114		134-SB-174-091114		134-SB-175-091114		134-SB-177-120214	
Lab Sample ID				JB72879-1		JB74373-1		JB74373-2		JB76165-2/2R		JB76165-3/3R		JB76165-5		JB76165-6		JB76165-7		JB76165-8/8T		JB76292-1/1R		JB76292-2/2R		JB76292-3/3R		JB76292-4		JB76292-5/5R		JB83002-1/1R	
Date Sampled		NJ 2012 MOST	NJ 2013	07/30/2014		08/19/2014		08/19/2014		08/20/2014		08/21/2014		09/09/2014		09/10/2014		09/09/2014		09/10/2014		09/11/2014		09/11/2014		09/11/2014		09/11/2014		09/11/2014		12/02/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	NC	**848**	J	**230**		**198**		**57.0**	J	6.2	J	**328**		**383**		**80.0**		19.6	J	8.6		**1220**		**276**		**177**	J	2.2		2.6	J

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

Prepared by: DP 05/24/2016

Reviewed by: NAW 04/21/2017

TABLE 6B

Post-Excavation Anomalous Soil Sample Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Location ID				073-SB-079		073-SB-080		073-SB-082		125-SB-306		140-SB-107		140-SB-108	
Client Sample ID				073-SB-079-051514		073-SB-080-051514		073SB-082-0203		125-SB-306-032614		140-SB-107-091814		140-SB-108-100814	
Lab Sample ID		NJ 2012 MOST	NJ 2013 IGW	JB67189-1/1R		JB67189-2/2R		JB69168-2U/V		JB63130-1		JB76993-1		JB78672-1	
Date Sampled		STRINGENT SRS	SOIL	05/15/2014		05/15/2014		06/12/2014		03/26/2014		09/18/2014		10/08/2014	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	4.7		**42.3**		7.9	J	2.2		0.69	UJ	6.5	

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 6C

Site 073 Deferred Area Soil Sample Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Location ID		NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	073-SB-101		073-SB-101		073-SB-101		073-SB-101		073-SB-101		073-SB-103		073-SB-103		073-SB-103		073-SB-103		073-SB-103		073-SB-103	
Client Sample ID				073-SB-101-0204		073-SB-101-0507		073-SB-101-0709		073-SB-101-1113		073-SB-101-1315		073-SB-101-1517		073-SB-103-0405		073-SB-103-0607		073-SB-103-0809		073-SB-103-1011		073-SB-103-1213		073-SB-103-1415	
Lab Sample ID				JB66204-1/1R		JB66204-2		JB66204-3		JB66204-4/4R		JB66204-5/5R		JB66204-6		JC19974-3		JC19974-4		JC19974-5		JC19974-6		JC19974-7		JC19974-8	
Date Sampled				05/05/2014		05/05/2014		05/05/2014		05/05/2014		05/05/2014		05/05/2014		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	**705**		0.53	U	4.5		**21.1**		4.1		0.54	U	10	J	**71.6**		**1490**		**523**		**35.0**		**23.6**	

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 6C

Site 073 Deferred Area Soil Sample Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Location ID		NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	073-SB-103		073-SB-103		073-SB-103		073-SB-104		073-SB-104		073-SB-104		073-SB-104		073-SB-104		073-SB-104		073-SB-104		073-SB-104	
Client Sample ID				073-SB-103-1617		073-SB-103-1819		073-SB-103-2021		073-SB-104-0405		073-SB-104-0607		073-SB-104-0809		073-SB-104-1011		073-SB-104-1213		073-SB-104-1415		073-SB-104-1617		073-SB-104-1819		073-SB-104-2021	
Lab Sample ID				JC19974-9		JC19974-10		JC19974-11/11T		JC19974-13		JC19974-14/14T		JC19974-15		JC19974-16		JC19974-17		JC19974-18		JC19974-19		JC19974-20		JC19974-21	
Date Sampled				05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	**136**		**35.4**		**76**	J	2.1		**362**	J	**4710**		**118**		**144**		**112**		**25.7**		**54.6**		**87.3**	

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 6C

Site 073 Deferred Area Soil Sample Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Location ID		NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	073-SB-104		073-SB-105		073-SB-105		073-SB-105		073-SB-105		073-SB-105		073-SB-105		073-SB-105		073-SB-105		073-SB-105	
Client Sample ID				073-SB-104-2223		073-SB-105-0405		073-SB-105-0607		073-SB-105-0809		073-SB-105-1011		073-SB-105-1213		073-SB-105-1415		073-SB-105-1617		073-SB-105-1819		073-SB-105-2021		073-SB-105-2223	
Lab Sample ID				JC19974-22/22T		JC19974-24/24T		JC19974-25		JC19974-26		JC19974-27		JC19974-28		JC19974-29		JC19974-30		JC19974-31		JC19974-32		JC19974-33/33T	
Date Sampled				05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016		05/09/2016	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	**67.4**	**J**	3	J	**59.7**	**J**	0.54	UJ	**52.6**	**J**	**36.7**	**J**	**69.4**	**J**	16.3	J	**125**	**J**	**264**	**J**	**142**	**J**

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 6C

Site 073 Deferred Area Soil Sample Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Location ID		NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	073-SB-106		073-SB-106		073-SB-106		073-SB-106		073-SB-106		073-SB-106		073-SB-106		073-SB-106		073-SB-106	
Client Sample ID				073-SB-106-0405		073-SB-106-0607		073-SB-106-0809		073-SB-106-1011		073-SB-106-1213		073-SB-106-1415		073-SB-106-1617		073-SB-106-1819		073-SB-106-2021		073-SB-106-2223	
Lab Sample ID				JC19974-35/35R		JC19974-36/36R		JC19974-37/37T		JC19974-38		JC19974-39		JC19974-40		JC19974-41		JC19974-42		JC19974-43		JC19974-44	
Date Sampled				05/10/2016		05/10/2016		05/10/2016		05/10/2016		05/10/2016		05/10/2016		05/10/2016		05/10/2016		05/10/2016		05/10/2016	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.44	UJ	14.9	J	**36.7**	**J**	15	J	**76.1**	**J**	**50.3**	**J**	**57.7**	**J**	**59.3**	**J**	**23**	**J**	**88.7**	**J**

Notes:

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

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

NC: No criterion established

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 6D

Site 125- Post Ex Soil Results

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID			125-SB-307-042916		125-SB-308-0304		125-SB-309-0203		125-SB-310-0304		125-SB-311-0203		125-SB-312-0304	
Lab Sample ID			JC19868-1		JC21399-1		JC21399-2		JC21399-3		JC21399-4/4R		JC21399-5	
Date Sampled			04/29/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016		06/02/2016	
Sample Purpose		NJ 2012 MOST	REG		REG		REG		REG		REG		REG	
Parameter Name	Units	STRINGENT SRS	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
HEXAVALENT CHROMIUM	mg/kg	20	**10100**		0.55	U	0.66		0.52	U	2.3		1.9	

Notes:

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

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 06/22/2016

Reviewed by: JLD 06/22/2016

TABLE 7A
Concrete Sample Results –VOCs
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

			087-WC																			
CLIENT SAMPLE ID			087-WC-C01-091113		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C02-091113		087-WC-C03-091113		087-WC-C04-091113	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-1		JB47199-10		JB47199-11		JB47199-12		JB47199-13		JB47199-14		JB47199-15		JB47199-16		JB47199-17		JB47199-18		JB47199-2		JB47199-3		JB47199-4	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
VOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	290	0.3	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,1,2,2-TETRACHLOROETHANE	1	0.007	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,1,2-TRICHLOROETHANE	2	0.02	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,1-DICHLOROETHANE	8	0.2	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,1-DICHLOROETHENE	11	0.008	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,2,3-TRICHLOROBENZENE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,2,4-TRICHLOROBENZENE	73	0.7	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,2-DIBROMO-3-CHLOROPROPANE	0.08	0.005	*0.0098*	*U*	*0.01*	*U*	*0.01*	*U*	*0.0095*	*U*	*0.0094*	*U*	*0.01*	*U*	*0.01*	*U*	*0.01*	*U*	*0.01*	*U*	*0.011*	*U*	*0.011*	*U*	*0.0087*	*U*	*0.0096*	*U*
1,2-DIBROMOETHANE	0.008	0.005	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.00087	U	0.00096	U
1,2-DICHLOROBENZENE	5300	17	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,2-DICHLOROETHANE	0.9	0.005	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.00087	U	0.00096	U
1,2-DICHLOROPROPANE	2	0.005	0.0049	U	*0.0052*	*U*	*0.0052*	*U*	0.0047	U	0.0047	U	*0.0051*	*U*	*0.0051*	*U*	0.005	U	*0.0052*	*U*	*0.0054*	*U*	*0.0056*	*U*	0.0043	U	0.0048	U
1,3-DICHLOROBENZENE	5300	19	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
1,4-DICHLOROBENZENE	5	2	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
2-BUTANONE	3100	0.9	0.0098	U	0.01	U	0.01	U	0.0095	U	0.0094	U	0.0192		0.01	U	0.0185		0.0148		0.0223		0.0046	J	0.0087	U	0.0096	U
2-HEXANONE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
4-METHYL-2-PENTANONE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
ACETONE	70000	19	0.0154		0.0133		0.01	U	0.0302		0.0684		0.11		0.105		0.118		0.109		0.183		0.0451		0.0079	J	0.0096	U
BENZENE	2	0.005	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.00087	U	0.00096	U
BROMOCHLOROMETHANE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
BROMODICHLOROMETHANE	1	0.005	0.0049	U	*0.0052*	*U*	*0.0052*	*U*	0.0047	U	0.0047	U	*0.0051*	*U*	*0.0051*	*U*	0.005	U	*0.0052*	*U*	*0.0054*	*U*	*0.0056*	*U*	0.0043	U	0.0048	U
BROMOFORM	81	0.03	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
BROMOMETHANE	25	0.04	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CARBON DISULFIDE	7800	6	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CARBON TETRACHLORIDE	0.6	0.005	0.0049	U	*0.0052*	*U*	*0.0052*	*U*	0.0047	U	0.0047	U	*0.0051*	*U*	*0.0051*	*U*	0.005	U	*0.0052*	*U*	*0.0054*	*U*	*0.0056*	*U*	0.0043	U	0.0048	U
CHLOROBENZENE	510	0.6	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CHLOROETHANE	220	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CHLOROFORM	0.6	0.4	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CHLOROMETHANE	4	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CIS-1,2-DICHLOROETHENE	230	0.3	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.00032	J	0.0056	U	0.0043	U	0.0048	U
CIS-1,3-DICHLOROPROPENE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
CYCLOHEXANE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
DIBROMOCHLOROMETHANE	3	0.005	0.0049	U	*0.0052*	*U*	*0.0052*	*U*	0.0047	U	0.0047	U	*0.0051*	*U*	*0.0051*	*U*	0.005	U	*0.0052*	*U*	*0.0054*	*U*	*0.0056*	*U*	0.0043	U	0.0048	U
DICHLORODIFLUOROMETHANE	490	39	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
ETHYLBENZENE	7800	13	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.00087	U	0.00096	U
ISOPROPYLBENZENE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
METHYL ACETATE	78000	22	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
METHYL TERT-BUTYL ETHER	110	0.2	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.00087	U	0.00096	U
METHYLCYCLOHEXANE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
METHYLENE CHLORIDE	34	0.01	0.0012	J	**0.0122**		0.0053		0.0035	J	0.0038	J	0.0021	J	0.0021	J	0.002	J	0.0033	J	0.0023	J	0.0017	J	0.0016	J	0.0026	J
O-XYLENE	NC	NC	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.0011	U	0.0011	U	0.00087	U	0.00096	U
STYRENE	90	3	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
TETRACHLOROETHENE	2	0.005	0.0049	U	*0.0052*	*U*	*0.0052*	*U*	0.0047	U	0.0047	U	*0.0051*	*U*	*0.0051*	*U*	0.005	U	*0.0052*	*U*	*0.0054*	*U*	*0.0056*	*U*	0.0043	U	0.0048	U
TOLUENE	6300	7	0.00098	U	0.001	U	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.00036	J	0.0011	U	0.00087	U	0.00096	U
TRANS-1,2-DICHLOROETHENE	300	0.6	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
TRANS-1,3-DICHLOROPROPENE	NC	NC	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
TRICHLOROETHENE	7	0.01	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
TRICHLOROFLUOROMETHANE	23000	34	0.0049	U	0.0052	U	0.0052	U	0.0047	U	0.0047	U	0.0051	U	0.0051	U	0.005	U	0.0052	U	0.0054	U	0.0056	U	0.0043	U	0.0048	U
VINYL CHLORIDE	0.7	0.005	0.0049	U	*0.0052*	*U*	*0.0052*	*U*	0.0047	U	0.0047	U	*0.0051*	*U*	*0.0051*	*U*	0.005	U	*0.0052*	*U*	*0.0054*	*U*	*0.0056*	*U*	0.0043	U	0.0048	U
XYLENES, TOTAL	12000	19	0.00098	U	0.00072	J	0.001	U	0.00095	U	0.00094	U	0.001	U	0.001	U	0.001	U	0.001	U	0.00061	J	0.0011	U	0.00087	U	0.00096	U
TOTAL TICS, ALKANES	--	--	0		0		0		0		0		0		0.17	J	0.14	J	0		0		0		0		0	
TOTAL TICS, VOLATILES	--	--	0		0		0		0		0.011	J	0.027	J	0.024	J	0.0081	J	0.0086	J	0.0314	J	0		0		0	

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
J: Estimated concentration
R or N: Rejected or negated by laboratory or data validator
U: Not detected above method detection limit
Results with a value of "0" indicates no TICs were detected

Prepared by: DP 02/15/2016
Reviewed by: JLD 05/24/2016

TABLE 7A
Concrete Sample Results –VOCs
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

			087-WC										124-WC									
CLIENT SAMPLE ID			087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C01-091713		124-WC-C02-091713		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-5		JB47199-6		JB47199-7		JB47199-8		JB47199-9		JB47734-1		JB47734-2		JB59616-1		JB59616-2		JB59616-3	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		09/17/2013		02/12/2014		02/12/2014		02/12/2014	
VOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	290	0.3	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,1,2,2-TETRACHLOROETHANE	1	0.007	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,1,2-TRICHLOROETHANE	2	0.02	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,1-DICHLOROETHANE	8	0.2	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,1-DICHLOROETHENE	11	0.008	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,2,3-TRICHLOROBENZENE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,2,4-TRICHLOROBENZENE	73	0.7	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,2-DIBROMO-3-CHLOROPROPANE	0.08	0.005	*0.0096*	*U*	*0.0098*	*U*	*0.0095*	*U*	*0.01*	*U*	*0.0095*	*U*	*0.0092*	*U*	*0.011*	*U*	*0.01*	*UJ*	*0.0096*	*UJ*	*0.011*	*U*
1,2-DIBROMOETHANE	0.008	0.005	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
1,2-DICHLOROBENZENE	5300	17	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,2-DICHLOROETHANE	0.9	0.005	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
1,2-DICHLOROPROPANE	2	0.005	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	*0.0056*	*U*	0.005	UJ	0.0048	UJ	*0.0053*	*U*
1,3-DICHLOROBENZENE	5300	19	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
1,4-DICHLOROBENZENE	5	2	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
2-BUTANONE	3100	0.9	0.0096	U	0.0098	U	0.0095	U	0.01	U	0.0095	U	0.0092	U	0.011	U	0.01	R	0.0096	R	0.011	U
2-HEXANONE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
4-METHYL-2-PENTANONE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
ACETONE	70000	19	0.0096	U	0.0098	U	0.0095	U	0.01	U	0.0095	U	0.0092	U	0.0158		0.0143	R	0.0174	R	0.0207	
BENZENE	2	0.005	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
BROMOCHLOROMETHANE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
BROMODICHLOROMETHANE	1	0.005	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	*0.0056*	*U*	0.005	UJ	0.0048	UJ	*0.0053*	*U*
BROMOFORM	81	0.03	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
BROMOMETHANE	25	0.04	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CARBON DISULFIDE	7800	6	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.00085	J	0.0012	J	0.0053	U
CARBON TETRACHLORIDE	0.6	0.005	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	*0.0056*	*U*	0.005	UJ	0.0048	UJ	*0.0053*	*U*
CHLOROBENZENE	510	0.6	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CHLOROETHANE	220	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CHLOROFORM	0.6	0.4	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CHLOROMETHANE	4	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CIS-1,2-DICHLOROETHENE	230	0.3	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CIS-1,3-DICHLOROPROPENE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
CYCLOHEXANE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
DIBROMOCHLOROMETHANE	3	0.005	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	*0.0056*	*U*	0.005	UJ	0.0048	UJ	*0.0053*	*U*
DICHLORODIFLUOROMETHANE	490	39	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
ETHYLBENZENE	7800	13	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
ISOPROPYLBENZENE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
METHYL ACETATE	78000	22	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
METHYL TERT-BUTYL ETHER	110	0.2	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
METHYLCYCLOHEXANE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
METHYLENE CHLORIDE	34	0.01	0.0086		0.0056		0.0058		0.005	U	**0.0126**		0.0024	J	0.003	J	0.005	UJ	0.0048	UJ	0.0053	U
O-XYLENE	NC	NC	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
STYRENE	90	3	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
TETRACHLOROETHENE	2	0.005	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	*0.0056*	*U*	0.005	UJ	0.0048	UJ	*0.0053*	*U*
TOLUENE	6300	7	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00096	UJ	0.0011	U
TRANS-1,2-DICHLOROETHENE	300	0.6	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
TRANS-1,3-DICHLOROPROPENE	NC	NC	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
TRICHLOROETHENE	7	0.01	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
TRICHLOROFLUOROMETHANE	23000	34	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	0.0056	U	0.005	UJ	0.0048	UJ	0.0053	U
VINYL CHLORIDE	0.7	0.005	0.0048	U	0.0049	U	0.0047	U	0.005	U	0.0047	U	0.0046	U	*0.0056*	*U*	0.005	UJ	0.0048	UJ	*0.0053*	*U*
XYLENES, TOTAL	12000	19	0.00096	U	0.00098	U	0.00095	U	0.001	U	0.00095	U	0.00092	U	0.0011	U	0.001	UJ	0.00038	J	0.0011	U
TOTAL TICS, ALKANES	--	--	0		0		0		0		0.01	J	0		0		0	J	0.02	J	0	
TOTAL TICS, VOLATILES	--	--	0		0		0		0		0.0049	J	0		0		0	J	0.3219	J	0	

			124-WC									
CLIENT SAMPLE ID			124-WC-C14-021114		124-WC-C15-040414		124-WC-C16-040414					
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB59616-4		JB63854-1		JB63854-2					
DATE SAMPLED	STRINGENT SRS	IGW SOIL	02/12/2014		04/04/2014		04/04/2014					
VOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**				
1,1,1-TRICHLOROETHANE	290	0.3	0.0052	U	0.0047	UJ	0.0041	U				
1,1,2,2-TETRACHLOROETHANE	1	0.007	0.0052	U	0.0047	UJ	0.0041	U				
1,1,2-Trichloro-1,2,2-Trifluoroethane	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
1,1,2-TRICHLOROETHANE	2	0.02	0.0052	U	0.0047	UJ	0.0041	U				
1,1-DICHLOROETHANE	8	0.2	0.0052	U	0.0047	UJ	0.0041	U				
1,1-DICHLOROETHENE	11	0.008	0.0052	U	0.0047	UJ	0.0041	U				
1,2,3-TRICHLOROBENZENE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
1,2,4-TRICHLOROBENZENE	73	0.7	0.0052	U	0.0047	UJ	0.0041	U				
1,2-DIBROMO-3-CHLOROPROPANE	0.08	0.005	*0.01*	*U*	*0.0094*	*UJ*	*0.0082*	*U*				
1,2-DIBROMOETHANE	0.008	0.005	0.001	U	0.00094	UJ	0.00082	U				
1,2-DICHLOROBENZENE	5300	17	0.0052	U	0.0047	UJ	0.0041	U				
1,2-DICHLOROETHANE	0.9	0.005	0.001	U	0.00094	UJ	0.00082	U				
1,2-DICHLOROPROPANE	2	0.005	*0.0052*	*U*	0.0047	UJ	0.0041	U				
1,3-DICHLOROBENZENE	5300	19	0.0052	U	0.0047	UJ	0.0041	U				
1,4-DICHLOROBENZENE	5	2	0.0052	U	0.0047	UJ	0.0041	U				
2-BUTANONE	3100	0.9	0.01	U	0.0094	R	0.0082	U				
2-HEXANONE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
4-METHYL-2-PENTANONE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
ACETONE	70000	19	0.0083	J	0.0413	R	0.014					
BENZENE	2	0.005	0.001	U	0.00094	UJ	0.00082	U				
BROMOCHLOROMETHANE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
BROMODICHLOROMETHANE	1	0.005	*0.0052*	*U*	0.0047	UJ	0.0041	U				
BROMOFORM	81	0.03	0.0052	U	0.0047	UJ	0.0041	U				
BROMOMETHANE	25	0.04	0.0052	U	0.0047	UJ	0.0041	U				
CARBON DISULFIDE	7800	6	0.0052	U	0.0047	UJ	0.0029	J				
CARBON TETRACHLORIDE	0.6	0.005	*0.0052*	*U*	0.0047	UJ	0.0041	U				
CHLOROBENZENE	510	0.6	0.0052	U	0.0047	UJ	0.0041	U				
CHLOROETHANE	220	NC	0.0052	U	0.0047	UJ	0.0041	U				
CHLOROFORM	0.6	0.4	0.0052	U	0.0047	UJ	0.0041	U				
CHLOROMETHANE	4	NC	0.0052	U	0.0047	UJ	0.0041	U				
CIS-1,2-DICHLOROETHENE	230	0.3	0.0052	U	0.0047	UJ	0.0041	U				
CIS-1,3-DICHLOROPROPENE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
CYCLOHEXANE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
DIBROMOCHLOROMETHANE	3	0.005	*0.0052*	*U*	0.0047	UJ	0.0041	U				
DICHLORODIFLUOROMETHANE	490	39	0.0052	U	0.0047	UJ	0.0041	U				
ETHYLBENZENE	7800	13	0.001	U	0.0019	J	0.00082	U				
ISOPROPYLBENZENE	NC	NC	0.0052	U	0.0021	J	0.0041	U				
METHYL ACETATE	78000	22	0.0052	U	0.0047	UJ	0.0041	U				
METHYL TERT-BUTYL ETHER	110	0.2	0.001	U	0.00094	UJ	0.00082	U				
METHYLCYCLOHEXANE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
METHYLENE CHLORIDE	34	0.01	0.0052	U	0.0047	UJ	0.0041	U				
O-XYLENE	NC	NC	0.001	U	0.0023	J	0.00082	U				
STYRENE	90	3	0.0052	U	0.0047	UJ	0.0041	U				
TETRACHLOROETHENE	2	0.005	*0.0052*	*U*	0.0047	UJ	0.0041	U				
TOLUENE	6300	7	0.001	U	0.00032	J	0.00082	U				
TRANS-1,2-DICHLOROETHENE	300	0.6	0.0052	U	0.0047	UJ	0.0041	U				
TRANS-1,3-DICHLOROPROPENE	NC	NC	0.0052	U	0.0047	UJ	0.0041	U				
TRICHLOROETHENE	7	0.01	0.0052	U	0.0047	UJ	0.0041	U				
TRICHLOROFLUOROMETHANE	23000	34	0.0052	U	0.0047	UJ	0.0041	U				
VINYL CHLORIDE	0.7	0.005	*0.0052*	*U*	0.0047	UJ	0.0041	U				
XYLENES, TOTAL	12000	19	0.001	U	0.0059	J	0.00082	U				
TOTAL TICS, ALKANES	--	--	0		0.022	J	5.23	J				
TOTAL TICS, VOLATILES	--	--	0		0.445	J	0.0194	J				

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standar
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.
NC: No criterion established
Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
J: Estimated concentration
R or N: Rejected or negated by laboratory or data validator
U: Not detected above method detection limit
Results with a value of "0" indicates no TICs were detected

Prepared by: DP 02/15/2016
Reviewed by: JLD 05/24/2016

TABLE 7A
Concrete Sample Results –VOCs
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

			124-WC																			
CLIENT SAMPLE ID			124-WC-C17-041114		124-WC-C18-041114		124-WC-C19-041114		124-WC-C20-041114		124-WC-C21-050914		124-WC-C22-053014		124-WC-C23-053014		124-WC-C24-053014		124-WC-C25-061614		124-WC-C26-072914		124-WC-C27-072914		124-WC-C28-090514		124-WC-C29-092314	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB64504-1		JB64504-2		JB64504-3		JB64504-4		JB66694-1		JB68105-1		JB68105-2		JB68105-3		JB69461-1		JB72778-1		JB72778-2		JB75850-1		JB77376-1	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	04/11/2014		04/11/2014		04/11/2014		04/11/2014		05/09/2014		05/30/2014		05/30/2014		05/30/2014		06/16/2014		07/29/2014		07/29/2014		09/05/2014		09/23/2014	
VOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	290	0.3	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
1,1,2,2-TETRACHLOROETHANE	1	0.007	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
1,1,2-TRICHLOROETHANE	2	0.02	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
1,1-DICHLOROETHANE	8	0.2	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
1,1-DICHLOROETHENE	11	0.008	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
1,2,3-TRICHLOROBENZENE	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
1,2,4-TRICHLOROBENZENE	73	0.7	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
1,2-DIBROMO-3-CHLOROPROPANE	0.08	0.005	*0.0096*	*UJ*	*0.0085*	*U*	*0.0075*	*U*	*0.0085*	*U*	*0.0097*	*U*	*0.0098*	*UJ*	*0.0098*	*U*	*0.0097*	*U*	0.005	UJ	*0.0058*	*U*	*0.0055*	*U*	0.0045	U	0.0048	U
1,2-DIBROMOETHANE	0.008	0.005	0.00096	UJ	0.00085	U	0.00075	U	0.00085	U	0.00097	U	0.00098	UJ	0.00098	U	0.00097	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
1,2-DICHLOROBENZENE	5300	17	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
1,2-DICHLOROETHANE	0.9	0.005	0.00096	UJ	0.00085	U	0.00075	U	0.00085	U	0.00097	U	0.00098	UJ	0.00098	U	0.00097	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
1,2-DICHLOROPROPANE	2	0.005	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
1,3-DICHLOROBENZENE	5300	19	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
1,4-DICHLOROBENZENE	5	2	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
2-BUTANONE	3100	0.9	0.0096	R	0.0089		0.0085		0.0085	U	0.0097	R	0.0098	R	0.0098	U	0.0097	U	0.0099	R	0.012	U	0.011	U	0.0091	U	0.0096	U
2-HEXANONE	NC	NC	0.0048	UJ	0.0043		0.0037	J	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
4-METHYL-2-PENTANONE	NC	NC	0.0048	UJ	0.0043	U	0.0019	J	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
ACETONE	70000	19	0.0077	J	0.0517		0.0698		0.0273		0.0076	J	0.008	J	0.0141		0.0189		0.0058	J	0.0065	J	0.005	J	0.0091	U	0.033	
BENZENE	2	0.005	0.00096	UJ	0.00085	U	0.00075	U	0.00085	U	0.00097	U	0.00022	J	0.00098	U	0.00097	U	0.0005	UJ	0.00058	U	0.00055	U	0.00045	U	0.00048	U
BROMOCHLOROMETHANE	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
BROMODICHLOROMETHANE	1	0.005	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
BROMOFORM	81	0.03	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	UJ	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
BROMOMETHANE	25	0.04	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
CARBON DISULFIDE	7800	6	0.0048	UJ	0.0022	J	0.0013	J	0.0012	J	0.0049	U	0.0049	UJ	0.00053	J	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
CARBON TETRACHLORIDE	0.6	0.005	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
CHLOROBENZENE	510	0.6	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
CHLOROETHANE	220	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
CHLOROFORM	0.6	0.4	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
CHLOROMETHANE	4	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
CIS-1,2-DICHLOROETHENE	230	0.3	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
CIS-1,3-DICHLOROPROPENE	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
CYCLOHEXANE	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
DIBROMOCHLOROMETHANE	3	0.005	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
DICHLORODIFLUOROMETHANE	490	39	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	UJ	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
ETHYLBENZENE	7800	13	0.001	J	0.0016		0.00069	J	0.00077	J	0.00097	U	0.00098	UJ	0.00098	U	0.0013		0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
ISOPROPYLBENZENE	NC	NC	0.0048	UJ	0.0017	J	0.00056	J	0.0012	J	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
METHYL ACETATE	78000	22	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
METHYL TERT-BUTYL ETHER	110	0.2	0.00096	UJ	0.00085	U	0.00075	U	0.00085	U	0.00097	U	0.00098	UJ	0.00098	U	0.00097	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
METHYLCYCLOHEXANE	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
METHYLENE CHLORIDE	34	0.01	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0018	J	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0017	J	0.0016	J
O-XYLENE	NC	NC	0.001	J	0.0053		0.00083		0.00046	J	0.00097	U	0.00098	UJ	0.00098	U	0.0013		0.00099	UJ	0.0012	U	0.00039	J	0.00091	U	0.00096	U
STYRENE	90	3	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
TETRACHLOROETHENE	2	0.005	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
TOLUENE	6300	7	0.00024	J	0.00063	J	0.00074	J	0.00037	J	0.00097	U	0.00023	J	0.00098	U	0.00097	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
TRANS-1,2-DICHLOROETHENE	300	0.6	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
TRANS-1,3-DICHLOROPROPENE	NC	NC	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
TRICHLOROETHENE	7	0.01	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.00099	UJ	0.0012	U	0.0011	U	0.00091	U	0.00096	U
TRICHLOROFLUOROMETHANE	23000	34	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	UJ	0.0049	UJ	0.0049	U	0.0048	U	0.005	UJ	0.0058	U	0.0055	U	0.0045	U	0.0048	U
VINYL CHLORIDE	0.7	0.005	0.0048	UJ	0.0043	U	0.0038	U	0.0042	U	0.0049	U	0.0049	UJ	0.0049	U	0.0048	U	0.002	UJ	0.0023	U	0.0022	U	0.0018	U	0.0019	U
XYLENES, TOTAL	12000	19	0.0057	J	0.0287		0.0034		0.0023		0.00097	U	0.00098	UJ	0.00098	U	0.0057		0.00099	UJ	0.0012	U	0.00039	J	0.00091	U	0.00096	U
TOTAL TICS, ALKANES	--	--	0	J	0		0.082	J	0		0		0	J	0		0		0	J	0		0		0		0	
TOTAL TICS, VOLATILES	--	--	0.1213	J	0.0726	J	0.0949	J	0.0069	J	0		0	J	0		0.03	J	0	J	0		0.6571	J	0		0	

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standar
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.
NC: No criterion established
Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
J: Estimated concentration
R or N: Rejected or negated by laboratory or data validator
U: Not detected above method detection limit
Results with a value of "0" indicates no TICs were detected

Prepared by: DP 02/15/2016
Reviewed by: JLD 05/24/2016

TABLE 7A

Concrete Sample Results –VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																	
CLIENT SAMPLE ID			124-WC-C30-092314		124-WC-C31-092314		124-WC-C32-100214		124-WC-C33-100214		124-WC-C34-100214		124-WC-C35-121914		124-WC-C36-121914		124-WC-C37-121914		124-WC-C38-012916		124-WC-C39-012916	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB77376-2		JB77376-3		JB78325-1		JB78325-2		JB78325-3		JB84701-1		JB84701-2		JB85005-1		JC13390-1		JC13390-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/23/2014		09/23/2014		10/02/2014		10/02/2014		10/02/2014		12/19/2014		12/19/2014		12/24/2014		01/29/2016		01/29/2016	
VOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	290	0.3	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
1,1,2,2-TETRACHLOROETHANE	1	0.007	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	NC	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
1,1,2-TRICHLOROETHANE	2	0.02	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
1,1-DICHLOROETHANE	8	0.2	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
1,1-DICHLOROETHENE	11	0.008	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
1,2,3-TRICHLOROBENZENE	NC	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
1,2,4-TRICHLOROBENZENE	73	0.7	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
1,2-DIBROMO-3-CHLOROPROPANE	0.08	0.005	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0022	U	0.0022	U
1,2-DIBROMOETHANE	0.008	0.005	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
1,2-DICHLOROBENZENE	5300	17	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
1,2-DICHLOROETHANE	0.9	0.005	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
1,2-DICHLOROPROPANE	2	0.005	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
1,3-DICHLOROBENZENE	5300	19	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
1,4-DICHLOROBENZENE	5	2	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
2-BUTANONE	3100	0.9	0.0091	U	0.009	U	0.0096	U	0.0096	U	0.0097	U	0.0096	U	0.0089	U	0.0098	U	0.011	U	0.011	U
2-HEXANONE	NC	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
4-METHYL-2-PENTANONE	NC	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
ACETONE	70000	19	0.0362		0.023		0.0096	U	0.0079	J	0.0049	J	0.0096	U	0.0089	U	0.0155		0.0062	J	0.0119	
BENZENE	2	0.005	0.00046	U	0.00045	U	0.00048	U	0.00048	U	0.00049	U	0.00048	U	0.00044	U	0.00049	U	0.00054	U	0.00055	U
BROMOCHLOROMETHANE	NC	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
BROMODICHLOROMETHANE	1	0.005	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
BROMOFORM	81	0.03	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
BROMOMETHANE	25	0.04	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
CARBON DISULFIDE	7800	6	0.0018	U	0.0027		0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.0019	J	0.0024		0.00069	J
CARBON TETRACHLORIDE	0.6	0.005	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
CHLOROBENZENE	510	0.6	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
CHLOROETHANE	220	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
CHLOROFORM	0.6	0.4	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
CHLOROMETHANE	4	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
CIS-1,2-DICHLOROETHENE	230	0.3	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
CIS-1,3-DICHLOROPROPENE	NC	NC	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
CYCLOHEXANE	NC	NC	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
DIBROMOCHLOROMETHANE	3	0.005	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
DICHLORODIFLUOROMETHANE	490	39	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
ETHYLBENZENE	7800	13	0.00071	J	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
ISOPROPYLBENZENE	NC	NC	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0022	U	0.0022	U
METHYL ACETATE	78000	22	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
METHYL TERT-BUTYL ETHER	110	0.2	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
METHYLCYCLOHEXANE	NC	NC	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.0011	J	0.0022	U	0.0022	U
METHYLENE CHLORIDE	34	0.01	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0033	J	0.002	J	0.0049	U	0.0054	U	0.0055	U
O-XYLENE	NC	NC	0.0005	J	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.00035	J	0.0011	U
STYRENE	90	3	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
TETRACHLOROETHENE	2	0.005	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0022	U	0.0022	U
TOLUENE	6300	7	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
TRANS-1,2-DICHLOROETHENE	300	0.6	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
TRANS-1,3-DICHLOROPROPENE	NC	NC	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
TRICHLOROETHENE	7	0.01	0.00091	U	0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0011	U	0.0011	U
TRICHLOROFLUOROMETHANE	23000	34	0.0046	U	0.0045	U	0.0048	U	0.0048	U	0.0049	U	0.0048	U	0.0044	U	0.0049	U	0.0054	U	0.0055	U
VINYL CHLORIDE	0.7	0.005	0.0018	U	0.0018	U	0.0019	U	0.0019	U	0.0019	U	0.0019	U	0.0018	U	0.002	U	0.0022	U	0.0022	U
XYLENES, TOTAL	12000	19	0.0025		0.0009	U	0.00096	U	0.00096	U	0.00097	U	0.00096	U	0.00089	U	0.00098	U	0.0012		0.0011	U
TOTAL TICS, ALKANES	--	--	0		0		0		0.207	J	0		0		0		1.037	J	0.083	J	0.1226	J
TOTAL TICS, VOLATILES	--	--	0		0		1.303	J	0.405	J	0		0		0		0.22	J	0.375	J	0.0716	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standar

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 02/15/2016

Reviewed by: JLD 05/24/2016

TABLE 7B

Concrete Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC																					
CLIENT SAMPLE ID			087-WC-C01-091113		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C02-091113	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-1		JB47199-10		JB47199-11		JB47199-12		JB47199-13		JB47199-14		JB47199-15		JB47199-16		JB47199-17		JB47199-18		JB47199-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
SVOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1'-BIPHENYL	3100	140	0.066	U	0.0142	J	0.0231	J	0.064	U	0.551		0.0455	J	0.0224	J	0.0189	J	0.0335	J	0.0756		0.073	U
1,2,4,5-TETRACHLOROBENZENE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
1,4-DIOXANE	NC	NC	0.12	U	0.13	U	0.13	U	0.12	U	0.12	U	0.13	U	0.13	U	0.13	U	0.13	U	0.14	U	0.14	U
2,2'-OXYBIS(1-CHLOROPROPANE)	23	5	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
2,3,4,6-TETRACHLOROPHENOL	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2,4,5-TRICHLOROPHENOL	6100	68	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2,4,6-TRICHLOROPHENOL	19	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2,4-DICHLOROPHENOL	180	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2,4-DIMETHYLPHENOL	1200	1	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2,4-DINITROPHENOL	120	0.3	*0.66*	*U*	*0.67*	*U*	*0.68*	*U*	*0.64*	*U*	*0.68*	*U*	*0.75*	*U*	*0.72*	*U*	*0.71*	*U*	*0.75*	*U*	*0.7*	*U*	*0.73*	*U*
2,4-DINITROTOLUENE	0.7	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
2,6-DINITROTOLUENE	0.7	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
2-CHLORONAPHTHALENE	NC	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
2-CHLOROPHENOL	310	0.8	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2-METHYLNAPHTHALENE	230	8	0.066	U	0.0387	J	0.0393	J	0.064	U	1.4		0.185		0.0755		0.0515	J	0.12		0.22		0.073	U
2-METHYLPHENOL	310	NC	0.066	U	0.067	U	0.068	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
2-NITROANILINE	39	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
2-NITROPHENOL	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
3&4-METHYLPHENOL	NC	NC	0.066	U	0.067	U	0.068	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
3,3'-DICHLOROBENZIDINE	1	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
3-NITROANILINE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
4,6-DINITRO-2-METHYLPHENOL	6	0.3	*0.66*	*U*	*0.67*	*U*	*0.68*	*U*	*0.64*	*U*	*0.68*	*U*	*0.75*	*U*	*0.72*	*U*	*0.71*	*U*	*0.75*	*U*	*0.7*	*U*	*0.73*	*U*
4-BROMOPHENYL PHENYL ETHER	NC	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
4-CHLORO-3-METHYLPHENOL	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
4-CHLOROANILINE	NC	NC	0.025	J	0.0262	J	0.051	J	0.0274	J	0.042	J	0.0341	J	0.0259	J	0.0371	J	0.0275	J	0.0316	J	0.18	U
4-CHLOROPHENYL PHENYL ETHER	NC	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
4-NITROANILINE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
4-NITROPHENOL	NC	NC	0.33	U	0.33	U	0.34	U	0.32	U	0.34	U	0.38	U	0.36	U	0.35	U	0.37	U	0.35	U	0.37	U
ACENAPHTHENE	3400	110	0.0691		0.349		0.541		0.175		7.98		0.81		0.343		0.253		0.591		1.23		0.404	
ACENAPHTHYLENE	300000	NC	0.033	U	0.0117	J	0.033	U	0.032	U	0.074		0.0155	J	0.036	U	0.035	U	0.037	U	0.0216	J	0.037	U
ACETOPHENONE	2	3	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
ANTHRACENE	17000	2400	0.14		0.615		0.876		0.375		14.7		0.993		0.508		0.274		0.792		1.9		0.665	
ATRAZINE	210	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
BENZALDEHYDE	6100	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
BENZO(A)ANTHRACENE	0.6	0.8	0.336		**1.73**		**0.939**		**0.7**		**21.2**		**1.65**		**0.896**		0.476		**1.22**		**2.9**		**1.28**	
BENZO(A)PYRENE	0.2	0.2	**0.305**		**1.62**		**0.832**		**0.636**		**16.5**		**1.44**		**0.806**		**0.443**		**1.1**		**2.45**		**1.17**	
BENZO(B)FLUORANTHENE	0.6	2	0.369		**1.58**		**1.02**		**0.786**		**14.8**		**1.32**		**0.949**		0.416		**1.22**		**2.17**		**1.31**	
BENZO(G,H,I)PERYLENE	30000	NC	0.213		0.914		0.541		0.414		8.27		0.773		0.515		0.248		0.677		1.19		0.744	
BENZO(K)FLUORANTHENE	6	25	0.137		1.13		0.338		0.26		**15**		1.07		0.346		0.319		0.484		1.78		0.53	
BIS(2-CHLOROETHOXY)METHANE	NC	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
BIS(2-CHLOROETHYL)ETHER	0.4	0.2	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
BIS(2-ETHYLHEXYL)PHTHALATE	35	1200	0.0386	J	0.0748		0.876		0.0459	J	0.133		0.0922		0.0732		0.0883		0.0843		0.0904		0.0816	
BUTYLBENZYL PHTHALATE	1200	230	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
CAPROLACTAM	31000	12	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
CARBAZOLE	24	NC	0.0711		0.292		0.351		0.196		7.92		0.503		0.237		0.159		0.374		0.847		0.319	
CHRYSENE	62	80	0.343		1.81		0.942		0.717		19.9		1.65		0.886		0.482		1.19		2.82		1.23	
DI-N-BUTYL PHTHALATE	6100	760	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
DI-N-OCTYL PHTHALATE	2400	3300	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
DIBENZO(A,H)ANTHRACENE	0.2	0.8	0.0579		**0.329**		0.142		0.111		**2.56**		**0.289**		0.132		0.0878		0.182		**0.465**		0.194	
DIBENZOFURAN	NC	NC	0.0351	J	0.137		0.342		0.1		4.84		0.444		0.181		0.142		0.282		0.722		0.204	
DIETHYL PHTHALATE	49000	88	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
DIMETHYL PHTHALATE	NC	NC	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
FLUORANTHENE	2300	1300	0.739		3.72		2.56		1.71		59		4.04		2.13		1.13		2.91		6.16		3.01	
FLUORENE	2300	170	0.0487		0.253		0.467		0.13		7.48		0.518		0.2		0.142		0.397		1.06		0.289	
HEXACHLOROBENZENE	0.3	0.2	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
HEXACHLOROBUTADIENE	6	0.9	0.033	U	0.033	U	0.033	U	0.032	U	0.034	U	0.038	U	0.036	U	0.035	U	0.037	U	0.035	U	0.037	U
HEXACHLOROCYCLOPENTADIENE	45	320	0.33	U	0.33	U	0.33	U	0.32	U	0.34	U	0.38	U	0.36	U	0.35	U	0.37	U	0.35	U	0.37	U
HEXACHLOROETHANE	35	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
INDENO(1,2,3-CD)PYRENE	0.6	7	0.183		**0.824**		0.465		0.363		**7.16**		**0.712**		0.429		0.225		0.571		**1.14**		**0.813**	
ISOPHORONE	510	0.2	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
N-NITROSO-DI-N-PROPYLAMINE	0.2	0.2	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
N-NITROSODIPHENYLAMINE	99	0.4	0.17	U	0.17	U	0.17	U	0.16	U	0.17	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.18	U
NAPHTHALENE	6	25	0.033	U	0.0825		0.0553		0.0275	J	1.05		0.328		0.144		0.0643		0.288		0.431		0.0612	
NITROBENZENE	31	0.2	0.066	U	0.067	U	0.066	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
PHENANTHRENE	300000	NC	0.538		2.08		3.53		1.46		51.7		3.59		1.86		1.05		2.85		5.64		2.39	
PHENOL	18000	8	0.066	U	0.067	U	0.068	U	0.064	U	0.068	U	0.075	U	0.072	U	0.071	U	0.075	U	0.07	U	0.073	U
PYRENE	1700	840	0.591		3.04		1.89		1.33		47.7		3.27		1.65		0.972		2.28		4.99		2.24	
TOTAL TICS, ALKANES	--	--	0.15	J	0		1.69	J	0.35	J	0		0		0.17	J	0.14	J	0.18	J	0		0.18	J
TOTAL TICS, SEMI-VOLATILES	--	--	4.66	J	9.66	J	17.15	J	5.71	J	93.2	J	9.27	J	7.34	J	8.63	J	10.04	J	12.15	J	10.62	J

			087-WC																					
CLIENT SAMPLE ID			087-WC-C03-091113		087-WC-C04-091113		087-WC-C05-091113																	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-3		JB47199-4		JB47199-5																	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013																	
SVOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**																
1,1'-BIPHENYL	3100	140	0.07	U	0.067	U	0.068	U																
1,2,4,5-TETRACHLOROBENZENE	NC	NC	0.18	U	0.17	U	0.17	U																
1,4-DIOXANE	NC	NC	0.11	U	0.12	U	0.12	U																
2,2'-OXYBIS(1-CHLOROPROPANE)	23	5	0.07	U	0.067	U	0.068	U																
2,3,4,6-TETRACHLOROPHENOL	NC	NC	0.18	U	0.17	U	0.17	U																
2,4,5-TRICHLOROPHENOL	6100	68	0.18	U	0.17	U	0.17	U																
2,4,6-TRICHLOROPHENOL	19	0.2	0.18	U	0.17	U	0.17	U																
2,4-DICHLOROPHENOL	180	0.2	0.18	U	0.17	U	0.17	U																
2,4-DIMETHYLPHENOL	1200	1	0.18	U	0.17	U	0.17	U																
2,4-DINITROPHENOL	120	0.3	*0.7*	*U*	*0.67*	*U*	*0.68*	*U*																
2,4-DINITROTOLUENE	0.7	NC	0.07	U	0.067	U	0.068	U																
2,6-DINITROTOLUENE	0.7	NC	0.07	U	0.067	U	0.068	U																
2-CHLORONAPHTHALENE	NC	NC	0.07	U	0.067	U	0.068	U																
2-CHLOROPHENOL	310	0.8	0.18	U	0.17	U	0.17	U																
2-METHYLNAPHTHALENE	230	8	0.07	U	0.067	U	0.068	U																
2-METHYLPHENOL	310	NC	0.07	U	0.067	U	0.068	U																
2-NITROANILINE	39	NC	0.18	U	0.17	U	0.17	U																
2-NITROPHENOL	NC	NC	0.18	U	0.17	U	0.17	U																
3&4-METHYLPHENOL	NC	NC	0.07	U	0.067	U	0.068	U																
3,3'-DICHLOROBENZIDINE	1	0.2	0.18	U	0.17	U	0.17	U																
3-NITROANILINE	NC	NC	0.18	U	0.17	U	0.17	U																
4,6-DINITRO-2-METHYLPHENOL	6	0.3	*0.7*	*U*	*0.67*	*U*	*0.68*	*U*																
4-BROMOPHENYL PHENYL ETHER	NC	NC	0.07	U	0.067	U	0.068	U																
4-CHLORO-3-METHYLPHENOL	NC	NC	0.18	U	0.17	U	0.17	U																
4-CHLOROANILINE	NC	NC	0.0283	J	0.17	U	0.17	U																
4-CHLOROPHENYL PHENYL ETHER	NC	NC	0.07	U	0.067	U	0.068	U																
4-NITROANILINE	NC	NC	0.18	U	0.17	U	0.17	U																
4-NITROPHENOL	NC	NC	0.35	U	0.33	U	0.34	U																
ACENAPHTHENE	3400	110	0.0757		0.0346		0.0217	J																
ACENAPHTHYLENE	300000	NC	0.035	U	0.033	U	0.034	U																
ACETOPHENONE	2	3	0.18	U	0.17	U	0.17	U																
ANTHRACENE	17000	2400	0.161		0.0655		0.0264	J																
ATRAZINE	210	0.2	0.18	U	0.17	U	0.17	U																
BENZALDEHYDE	6100	NC	0.18	U	0.17	U	0.17	U																
BENZO(A)ANTHRACENE	0.6	0.8	0.55		0.247		0.125																	
BENZO(A)PYRENE	0.2	0.2	**0.527**		**0.27**		0.139																	
BENZO(B)FLUORANTHENE	0.6	2	**0.63**		0.355		0.183																	
BENZO(G,H,I)PERYLENE	30000	NC	0.366		0.212		0.114																	
BENZO(K)FLUORANTHENE	6	25	0.245		0.143		0.0725																	
BIS(2-CHLOROETHOXY)METHANE	NC	NC	0.07	U	0.067	U	0.068	U																
BIS(2-CHLOROETHYL)ETHER	0.4	0.2	0.07	U	0.067	U	0.068	U																
BIS(2-ETHYLHEXYL)PHTHALATE	35	1200	0.0424	J	0.067	U	0.068	U																
BUTYLBENZYL PHTHALATE	1200	230	0.07	U	0.067	U	0.068	U																
CAPROLACTAM	31000	12	0.07	U	0.067	U	0.068	U																
CARBAZOLE	24	NC	0.0795		0.0346	J	0.018	J																
CHRYSENE	62	80	0.565		0.267		0.143																	
DI-N-BUTYL PHTHALATE	6100	760	0.07	U	0.067	U	0.068	U																
DI-N-OCTYL PHTHALATE	2400	3300	0.07	U	0.067	U	0.068	U																
DIBENZO(A,H)ANTHRACENE	0.2	0.8	0.0914		0.0558		0.0278	J																
DIBENZOFURAN	NC	NC	0.0244	J	0.067	U	0.068	U																
DIETHYL PHTHALATE	49000	88	0.07	U	0.067	U	0.068	U																
DIMETHYL PHTHALATE	NC	NC	0.07	U	0.067	U	0.068	U																
FLUORANTHENE	2300	1300	1.09		0.479		0.262																	
FLUORENE	2300	170	0.0505		0.0232	J	0.034	U																
HEXACHLOROBENZENE	0.3	0.2	0.07	U	0.067	U	0.068	U																
HEXACHLOROBUTADIENE	6	0.9	0.035	U	0.033	U	0.034	U																
HEXACHLOROCYCLOPENTADIENE	45	320	0.35	U	0.33	U	0.34	U																
HEXACHLOROETHANE	35	0.2	0.18	U	0.17	U	0.17	U																
INDENO(1,2,3-CD)PYRENE	0.6	7	0.306		0.181		0.0959																	
ISOPHORONE	510	0.2	0.07	U	0.067	U	0.068	U																
N-NITROSO-DI-N-PROPYLAMINE	0.2	0.2	0.07	U	0.067	U	0.068	U																
N-NITROSODIPHENYLAMINE	99	0.4	0.18	U	0.17	U	0.17	U																
NAPHTHALENE	6	25	0.035	U	0.033	U	0.034	U																
NITROBENZENE	31	0.2	0.07	U	0.067	U	0.068	U																
PHENANTHRENE	300000	NC	0.55		0.241		0.131																	
PHENOL	18000	8	0.07	U	0.067	U	0.068	U																
PYRENE	1700	840	0.922		0.378		0.211																	
TOTAL TICS, ALKANES	--	--	0		0		0																	
TOTAL TICS, SEMI-VOLATILES	--	--	3.77	J	0.22	J	0																	

Notes:

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

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

NC: No criterion established

STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

B: Analyte found in sample and associated blank

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7B

Concrete Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC																					
CLIENT SAMPLE ID			087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C01-091713		124-WC-C02-091713		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114		124-WC-C14-021114		124-WC-C15-040414	
LAB SAMPLE ID	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	JB47199-6		JB47199-7		JB47199-8		JB47199-9		JB47734-1		JB47734-2		JB59616-1		JB59616-2		JB59616-3		JB59616-4		JB63854-1	
DATE SAMPLED			09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		09/17/2013		02/12/2014		02/12/2014		02/12/2014		02/12/2014		04/04/2014	
SVOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1'-BIPHENYL	3100	140	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.023	J	0.068	U	0.064	U	0.176	J
1,2,4,5-TETRACHLOROBENZENE	NC	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
1,4-DIOXANE	NC	NC	0.12	U	0.12	U	0.12	U	0.12	U	0.12	U	0.14	U	0.034	U	0.033	U	0.034	U	0.032	U	0.036	UJ
2,2'-OXYBIS(1-CHLOROPROPANE)	23	5	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
2,3,4,6-TETRACHLOROPHENOL	NC	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
2,4,5-TRICHLOROPHENOL	6100	68	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
2,4,6-TRICHLOROPHENOL	19	0.2	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
2,4-DICHLOROPHENOL	180	0.2	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
2,4-DIMETHYLPHENOL	1200	1	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
2,4-DINITROPHENOL	120	0.3	*0.64*	*U*	*0.63*	*U*	*0.62*	*U*	*0.69*	*U*	*0.67*	*U*	*0.75*	*U*	*0.68*	*U*	*0.66*	*U*	*0.68*	*U*	*0.64*	*U*	*0.73*	*UJ*
2,4-DINITROTOLUENE	0.7	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.034	U	0.033	U	0.034	U	0.032	U	0.036	UJ
2,6-DINITROTOLUENE	0.7	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.034	U	0.033	U	0.034	U	0.032	U	0.036	UJ
2-CHLORONAPHTHALENE	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
2-CHLOROPHENOL	310	0.8	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
2-METHYLNAPHTHALENE	230	8	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.213		0.068	U	0.064	U	0.911	J
2-METHYLPHENOL	310	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
2-NITROANILINE	39	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	UJ	0.16	UJ	0.17	U	0.16	U	0.18	UJ
2-NITROPHENOL	NC	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
3&4-METHYLPHENOL	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
3,3'-DICHLOROBENZIDINE	1	0.2	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
3-NITROANILINE	NC	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
4,6-DINITRO-2-METHYLPHENOL	6	0.3	*0.64*	*U*	*0.63*	*U*	*0.62*	*U*	*0.69*	*U*	*0.67*	*U*	*0.75*	*U*	*0.68*	*U*	*0.66*	*U*	*0.68*	*U*	*0.64*	*U*	*0.73*	*UJ*
4-BROMOPHENYL PHENYL ETHER	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
4-CHLORO-3-METHYLPHENOL	NC	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
4-CHLOROANILINE	NC	NC	0.16	U	0.0159	J	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
4-CHLOROPHENYL PHENYL ETHER	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
4-NITROANILINE	NC	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
4-NITROPHENOL	NC	NC	0.32	U	0.32	U	0.31	U	0.34	U	0.33	U	0.38	U	0.34	UJ	0.33	UJ	0.34	U	0.32	U	0.36	UJ
ACENAPHTHENE	3400	110	0.0246	J	0.0222	J	0.0171	J	0.0326	J	0.033	U	0.038	U	0.034	U	0.0262	J	0.0157	J	0.0194	J	0.036	UJ
ACENAPHTHYLENE	300000	NC	0.032	U	0.032	U	0.031	U	0.034	U	0.033	U	0.038	U	0.034	U	0.033	U	0.034	U	0.032	U	0.036	UJ
ACETOPHENONE	2	3	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
ANTHRACENE	17000	2400	0.0547		0.0371		0.0193	J	0.0494		0.033	U	0.038	U	0.034	U	0.0364		0.033	J	0.0346		0.036	UJ
ATRAZINE	210	0.2	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
BENZALDEHYDE	6100	NC	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
BENZO(A)ANTHRACENE	0.6	0.8	0.245		0.139		0.085		0.206		0.0276	J	0.038	U	0.034	U	0.0805		0.0295	J	0.0495		0.0146	J
BENZO(A)PYRENE	0.2	0.2	**0.254**		0.15		0.0952		**0.219**		0.033	U	0.038	U	0.034	U	0.0719		0.021	J	0.0398		0.036	UJ
BENZO(B)FLUORANTHENE	0.6	2	0.32		0.187		0.124		0.274		0.033	U	0.038	U	0.034	U	0.0722		0.0297	J	0.0569		0.036	UJ
BENZO(G,H,I)PERYLENE	30000	NC	0.181		0.122		0.0782		0.166		0.033	U	0.038	U	0.034	U	0.0506		0.034	U	0.0292	J	0.036	UJ
BENZO(K)FLUORANTHENE	6	25	0.122		0.0643		0.0488		0.107		0.033	U	0.038	U	0.034	U	0.046		0.034	U	0.0198	J	0.036	UJ
BIS(2-CHLOROETHOXY)METHANE	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
BIS(2-CHLOROETHYL)ETHER	0.4	0.2	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
BIS(2-ETHYLHEXYL)PHTHALATE	35	1200	0.064	U	0.0389	J	0.0487	J	0.0356	J	0.067	U	0.075	U	0.068	U	0.066	U	1.3		0.064	U	0.073	UJ
BUTYLBENZYL PHTHALATE	1200	230	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
CAPROLACTAM	31000	12	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	UJ	0.066	UJ	0.068	U	0.064	U	0.073	UJ
CARBAZOLE	24	NC	0.0306	J	0.0232	J	0.0154	J	0.0292	J	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.0174	J	0.073	UJ
CHRYSENE	62	80	0.273		0.145		0.0972		0.222		0.0286	J	0.038	U	0.034	U	0.0864		0.0309	J	0.0544		0.0158	J
DI-N-BUTYL PHTHALATE	6100	760	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
DI-N-OCTYL PHTHALATE	2400	3300	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
DIBENZO(A,H)ANTHRACENE	0.2	0.8	0.05		0.0291	J	0.0177	J	0.0412		0.033	U	0.038	U	0.034	U	0.033	U	0.034	U	0.032	U	0.036	UJ
DIBENZOFURAN	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.0213	J	0.0318	J	0.198	J
DIETHYL PHTHALATE	49000	88	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
DIMETHYL PHTHALATE	NC	NC	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
FLUORANTHENE	2300	1300	0.535		0.268		0.192		0.426		0.0427		0.0201	J	0.0184	J	0.155		0.0785		0.129		0.037	J
FLUORENE	2300	170	0.0152	J	0.0146	J	0.031	U	0.0195	J	0.033	U	0.038	U	0.034	U	0.0483		0.0213	J	0.0187	J	0.036	UJ
HEXACHLOROBENZENE	0.3	0.2	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
HEXACHLOROBUTADIENE	6	0.9	0.032	U	0.032	U	0.031	U	0.034	U	0.033	U	0.038	U	0.034	U	0.033	U	0.034	U	0.032	U	0.036	UJ
HEXACHLOROCYCLOPENTADIENE	45	320	0.32	U	0.32	U	0.31	U	0.34	U	0.33	U	0.38	U	0.34	U	0.33	U	0.34	U	0.32	U	0.36	UJ
HEXACHLOROETHANE	35	0.2	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
INDENO(1,2,3-CD)PYRENE	0.6	7	0.157		0.0996		0.0671		0.142		0.033	U	0.038	U	0.034	U	0.0471		0.034	U	0.0232	J	0.036	UJ
ISOPHORONE	510	0.2	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
N-NITROSO-DI-N-PROPYLAMINE	0.2	0.2	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
N-NITROSODIPHENYLAMINE	99	0.4	0.16	U	0.16	U	0.15	U	0.17	U	0.17	U	0.19	U	0.17	U	0.16	U	0.17	U	0.16	U	0.18	UJ
NAPHTHALENE	6	25	0.032	U	0.032	U	0.031	U	0.034	U	0.033	U	0.038	U	0.034	U	0.0363		0.034	U	0.032	U	0.04	J
NITROBENZENE	31	0.2	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
PHENANTHRENE	300000	NC	0.241		0.149		0.0991		0.22		0.0163	J	0.038	U	0.0198	J	0.237		0.101		0.159		0.774	J
PHENOL	18000	8	0.064	U	0.063	U	0.062	U	0.069	U	0.067	U	0.075	U	0.068	U	0.066	U	0.068	U	0.064	U	0.073	UJ
PYRENE	1700	840	0.43		0.211		0.156		0.34		0.0362		0.016	J	0.0174	J	0.164		0.062		0.126		0.0725	J
TOTAL TICS, ALKANES	--	--	0		0		0		0		0		0		0		11.31	J	9.14	J	0		18.6	J
TOTAL TICS, SEMI-VOLATILES	--	--	1.13	J	3.1	J	0.8	J	0.4	J	19.47	J	1.84	J	0		4.08	J	2.51	J	0		4.57	J

			124-WC													
CLIENT SAMPLE ID			124-WC-C15-040414		124-WC-C16-040414		124-WC-C17-041114		124-WC-C18-041114							
LAB SAMPLE ID	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	JB63854-2		JB64504-1		JB64504-2									
DATE SAMPLED			04/04/2014		04/11/2014		04/11/2014									
SVOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**								
1,1'-BIPHENYL	3100	140	0.0941		0.066	U	0.066	U								
1,2,4,5-TETRACHLOROBENZENE	NC	NC	0.18	U	0.17	U	0.17	U								
1,4-DIOXANE	NC	NC	0.035	U	0.033	U	0.033	U								
2,2'-OXYBIS(1-CHLOROPROPANE)	23	5	0.07	U	0.066	U	0.066	U								
2,3,4,6-TETRACHLOROPHENOL	NC	NC	0.18	U	0.17	U	0.17	U								
2,4,5-TRICHLOROPHENOL	6100	68	0.18	U	0.17	U	0.17	U								
2,4,6-TRICHLOROPHENOL	19	0.2	0.18	U	0.17	U	0.17	U								
2,4-DICHLOROPHENOL	180	0.2	0.18	U	0.17	U	0.17	U								
2,4-DIMETHYLPHENOL	1200	1	0.18	U	0.17	U	0.17	U								
2,4-DINITROPHENOL	120	0.3	*0.7*	*U*	*0.66*	*U*	*0.66*	*U*								
2,4-DINITROTOLUENE	0.7	NC	0.035	U	0.033	UJ	0.033	U								
2,6-DINITROTOLUENE	0.7	NC	0.035	U	0.033	U	0.033	U								
2-CHLORONAPHTHALENE	NC	NC	0.07	U	0.066	U	0.066	U								
2-CHLOROPHENOL	310	0.8	0.07	U	0.066	U	0.066	U								
2-METHYLNAPHTHALENE	230	8	0.117		0.0571	J	0.066	U								
2-METHYLPHENOL	310	NC	0.07	U	0.066	U	0.066	U								
2-NITROANILINE	39	NC	0.18	U	0.17	U	0.17	U								
2-NITROPHENOL	NC	NC	0.18	U	0.17	U	0.17	U								
3&4-METHYLPHENOL	NC	NC	0.07	U	0.066	U	0.066	U								
3,3'-DICHLOROBENZIDINE	1	0.2	0.07	U	0.066	U	0.066	U								
3-NITROANILINE	NC	NC	0.18	U	0.17	U	0.17	U								
4,6-DINITRO-2-METHYLPHENOL	6	0.3	*0.7*	*U*	*0.66*	*U*	*0.66*	*U*								
4-BROMOPHENYL PHENYL ETHER	NC	NC	0.07	U	0.066	U	0.066	U								
4-CHLORO-3-METHYLPHENOL	NC	NC	0.18	U	0.17	U	0.17	U								
4-CHLOROANILINE	NC	NC	0.18	U	0.17	U	0.17	U								
4-CHLOROPHENYL PHENYL ETHER	NC	NC	0.07	U	0.066	U	0.066	U								
4-NITROANILINE	NC	NC	0.18	U	0.17	U	0.17	U								
4-NITROPHENOL	NC	NC	0.35	U	0.33	U	0.33	U								
ACENAPHTHENE	3400	110	0.373		0.033	U	0.0186	J								
ACENAPHTHYLENE	300000	NC	0.035	U	0.016	J	0.033	U								
ACETOPHENONE	2	3	0.18	U	0.17	U	0.17	U								
ANTHRACENE	17000	2400	0.136		0.033	U	0.0148	J								
ATRAZINE	210	0.2	0.07	U	0.066	U	0.066	U								
BENZALDEHYDE	6100	NC	0.18	U	0.17	U	0.17	U								
BENZO(A)ANTHRACENE	0.6	0.8	0.178		0.033	U	0.033	U								
BENZO(A)PYRENE	0.2	0.2	0.0377		0.033	U	0.033	U								
BENZO(B)FLUORANTHENE	0.6	2	0.0812		0.033	U	0.033	U								
BENZO(G,H,I)PERYLENE	30000	NC	0.0187	J	0.033	U	0.033	U								
BENZO(K)FLUORANTHENE	6	25	0.0382		0.033	U	0.033	U								
BIS(2-CHLOROETHOXY)METHANE	NC	NC	0.07	U	0.066	U	0.066	U								
BIS(2-CHLOROETHYL)ETHER	0.4	0.2	0.07	U	0.066	U	0.066	U								
BIS(2-ETHYLHEXYL)PHTHALATE	35	1200	0.0409	J	0.0552	J	0.0432	JB								
BUTYLBENZYL PHTHALATE	1200	230	0.07	U	0.066	U	0.066	U								
CAPROLACTAM	31000	12	0.07	U	0.066	U	0.066	U								
CARBAZOLE	24	NC	0.134		0.066	U	0.066	U								
CHRYSENE	62	80	0.174		0.033	U	0.033	U								
DI-N-BUTYL PHTHALATE	6100	760	0.07	U	0.066	U	0.066	U								
DI-N-OCTYL PHTHALATE	2400	3300	0.07	U	0.066	UJ	0.066	U								
DIBENZO(A,H)ANTHRACENE	0.2	0.8	0.035	U	0.033	U	0.033	U								
DIBENZOFURAN	NC	NC	0.732		0.066	U	0.0163	J								
DIETHYL PHTHALATE	49000	88	0.07	U	0.066	U	0.066	U								
DIMETHYL PHTHALATE	NC	NC	0.07	U	0.066	U	0.066	U								
FLUORANTHENE	2300	1300	1.31		0.0179	J	0.0365									
FLUORENE	2300	170	0.131		0.033	U	0.0252	J								
HEXACHLOROBENZENE	0.3	0.2	0.07	U	0.066	U	0.066	U								
HEXACHLOROBUTADIENE	6	0.9	0.035	U	0.033	U	0.033	U								
HEXACHLOROCYCLOPENTADIENE	45	320	0.35	U	0.33	U	0.33	U								
HEXACHLOROETHANE	35	0.2	0.18	U	0.17	U	0.17	U								
INDENO(1,2,3-CD)PYRENE	0.6	7	0.0173	J	0.033	U	0.033	U								
ISOPHORONE	510	0.2	0.07	U	0.066	U	0.066	U								
N-NITROSO-DI-N-PROPYLAMINE	0.2	0.2	0.07	U	0.066	U	0.066	U								
N-NITROSODIPHENYLAMINE	99	0.4	0.18	U	0.17	U	0.17	U								
NAPHTHALENE	6	25	0.035	U	0.0159	J	0.033	U								
NITROBENZENE	31	0.2	0.07	U	0.066	U	0.066	U								
PHENANTHRENE	300000	NC	3.4		0.0852		0.0813									
PHENOL	18000	8	0.07	U	0.066	U	0.066	U								
PYRENE	1700	840	0.872		0.0269	J	0.0229	J								
TOTAL TICS, ALKANES	--	--	5.23	J	4.16	J	1.9	J								
TOTAL TICS, SEMI-VOLATILES	--	--	2.49	J	1.53	J	2	J								

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standard

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C

NC: No criterion established

STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

B: Analyte found in sample and associated blank

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7B

Concrete Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																					
CLIENT SAMPLE ID			124-WC-C19-041114		124-WC-C20-041114		124-WC-C21-050914		124-WC-C22-053014		124-WC-C23-053014		124-WC-C24-053014		124-WC-C25-061614		124-WC-C26-072914		124-WC-C27-072914		124-WC-C28-090514		124-WC-C29-092314		124-WC-C30-092314		124-WC-C31-092314		124-WC-C32-100214	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB64504-3		JB64504-4		JB66694-1		JB68105-1		JB68105-2		JB68105-3		JB69461-1		J72778-1		J72778-2		J75850-1		J77376-1		J77376-2		J77376-3		JB78325-1	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	04/11/2014		04/11/2014		05/09/2014		05/30/2014		05/30/2014		05/30/2014		06/16/2014		07/29/2014		07/29/2014		09/05/2014		09/23/2014		09/23/2014		09/23/2014		10/02/2014	
SVOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1'-BIPHENYL	3100	140	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.0164	J	0.066	U	0.066	U	0.068	U	0.065	U	0.532	
1,2,4,5-TETRACHLOROBENZENE	NC	NC	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
1,4-DIOXANE	NC	NC	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.031	U
2,2'-OXYBIS(1-CHLOROPROPANE)	23	5	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
2,3,4,6-TETRACHLOROPHENOL	NC	NC	0.17	U	0.17	U	0.16	R	0.17	UJ	0.17	U	0.17	U	0.16	R	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
2,4,5-TRICHLOROPHENOL	6100	68	0.17	U	0.17	U	0.16	R	0.17	U	0.17	U	0.17	U	0.16	R	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
2,4,6-TRICHLOROPHENOL	19	0.2	0.17	U	0.17	U	0.16	R	0.17	U	0.17	U	0.17	U	0.16	R	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
2,4-DICHLOROPHENOL	180	0.2	0.17	U	0.17	U	0.16	R	0.17	U	0.17	U	0.17	U	0.16	R	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
2,4-DIMETHYLPHENOL	1200	1	0.17	U	0.17	U	0.16	R	0.17	U	0.102	J	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
2,4-DINITROPHENOL	120	0.3	*0.67*	*U*	*0.66*	*U*	*0.62*	*U*	*0.67*	*UJ*	*0.69*	*U*	*0.68*	*U*	0.64	R	*0.64*	*U*	*0.6*	*U*	*0.66*	*U*	*0.66*	*U*	*0.68*	*U*	*0.65*	*U*	*0.62*	*U*
2,4-DINITROTOLUENE	0.7	NC	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.031	U
2,6-DINITROTOLUENE	0.7	NC	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.031	U
2-CHLORONAPHTHALENE	NC	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
2-CHLOROPHENOL	310	0.8	0.067	U	0.066	U	0.062	R	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
2-METHYLNAPHTHALENE	230	8	0.0779		0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.0492	J	0.066	U	0.066	U	0.068	U	0.065	U	1.49	
2-METHYLPHENOL	310	NC	0.067	U	0.066	U	0.062	R	0.067	U	0.069	U	0.068	U	0.064	R	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
2-NITROANILINE	39	NC	0.17	U	0.17	U	0.16	U	0.17	UJ	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
2-NITROPHENOL	NC	NC	0.17	U	0.17	U	0.16	R	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
3&4-METHYLPHENOL	NC	NC	0.067	U	0.066	U	0.062	R	0.067	U	0.069	U	0.068	U	0.064	R	0.064	U	0.041	J	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
3,3'-DICHLOROBENZIDINE	1	0.2	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
3-NITROANILINE	NC	NC	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
4,6-DINITRO-2-METHYLPHENOL	6	0.3	*0.67*	*U*	*0.66*	*U*	0.62	R	*0.67*	*U*	*0.69*	*U*	*0.68*	*U*	*0.64*	*U*	*0.64*	*U*	*0.6*	*U*	*0.66*	*U*	*0.66*	*U*	*0.68*	*U*	*0.65*	*U*	*0.62*	*U*
4-BROMOPHENYL PHENYL ETHER	NC	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
4-CHLORO-3-METHYLPHENOL	NC	NC	0.17	U	0.17	U	0.16	R	0.17	U	0.17	U	0.17	U	0.16	R	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
4-CHLOROANILINE	NC	NC	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
4-CHLOROPHENYL PHENYL ETHER	NC	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
4-NITROANILINE	NC	NC	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
4-NITROPHENOL	NC	NC	0.34	U	0.33	U	0.31	R	0.34	UJ	0.34	U	0.34	U	0.32	R	0.32	U	0.3	U	0.33	U	0.33	U	0.34	U	0.33	U	0.31	U
ACENAPHTHENE	3400	110	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.0515		0.033	U	0.033	U	0.034	U	0.033	U	1.15	
ACENAPHTHYLENE	300000	NC	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.0442	
ACETOPHENONE	2	3	0.0176	J	0.0325	J	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
ANTHRACENE	17000	2400	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.0236	J	0.033	U	0.033	U	0.034	U	0.033	U	0.39	
ATRAZINE	210	0.2	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
BENZALDEHYDE	6100	NC	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
BENZO(A)ANTHRACENE	0.6	0.8	0.0136	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.0151	J	0.033	U	0.36	
BENZO(A)PYRENE	0.2	0.2	0.0155	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.0834	
BENZO(B)FLUORANTHENE	0.6	2	0.0165	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.175	
BENZO(G,H,I)PERYLENE	30000	NC	0.0157	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.0247	J
BENZO(K)FLUORANTHENE	6	25	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.0733	
BIS(2-CHLOROETHOXY)METHANE	NC	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
BIS(2-CHLOROETHYL)ETHER	0.4	0.2	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
BIS(2-ETHYLHEXYL)PHTHALATE	35	1200	0.101	B	0.0335	JB	0.062	U	0.067	U	0.069	U	0.0761		0.064	U	0.064	U	0.06	U	0.0911		0.0678		0.579		0.065	U	0.062	U
BUTYLBENZYL PHTHALATE	1200	230	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
CAPROLACTAM	31000	12	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
CARBAZOLE	24	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.245	
CHRYSENE	62	80	0.0133	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.0315	J	0.033	U	0.376	
DI-N-BUTYL PHTHALATE	6100	760	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.06	BJ	0.0488	J	0.0646	J	0.065	U	0.0315	J
DI-N-OCTYL PHTHALATE	2400	3300	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
DIBENZO(A,H)ANTHRACENE	0.2	0.8	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.031	U
DIBENZOFURAN	NC	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.0734		0.066	U	0.066	U	0.068	U	0.065	U	1.97	
DIETHYL PHTHALATE	49000	88	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
DIMETHYL PHTHALATE	NC	NC	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
FLUORANTHENE	2300	1300	0.02	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.0518		0.033	U	0.0197	J	0.0656		0.033	U	2.37	
FLUORENE	2300	170	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.0419		0.033	U	0.033	U	0.034	U	0.033	U	0.531	
HEXACHLOROBENZENE	0.3	0.2	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
HEXACHLOROBUTADIENE	6	0.9	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.031	U
HEXACHLOROCYCLOPENTADIENE	45	320	0.34	U	0.33	U	0.31	U	0.34	U	0.34	U	0.34	U	0.32	U	0.32	U	0.3	U	0.33	U	0.33	U	0.34	U	0.33	U	0.31	U
HEXACHLOROETHANE	35	0.2	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
INDENO(1,2,3-CD)PYRENE	0.6	7	0.034	U	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.0371	
ISOPHORONE	510	0.2	0.067	U	0.066	U	**0.206**		**3.23**		**39.9**		**20.9**		0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
N-NITROSO-DI-N-PROPYLAMINE	0.2	0.2	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
N-NITROSODIPHENYLAMINE	99	0.4	0.17	U	0.17	U	0.16	U	0.17	U	0.17	U	0.17	U	0.16	U	0.16	U	0.15	U	0.16	U	0.17	U	0.17	U	0.16	U	0.16	U
NAPHTHALENE	6	25	0.0233	J	0.0126	J	0.031	U	0.104		0.034	U	0.034	U	0.032	U	0.032	U	0.03	U	0.033	U	0.033	U	0.034	U	0.033	U	0.186	
NITROBENZENE	31	0.2	0.067	U	0.066	U	0.062	U	0.067	U	0.069	U	0.068	U	0.064	U	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.062	U
PHENANTHRENE	300000	NC	0.0291	J	0.0165	J	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.145		0.033	U	0.0159	J	0.0395		0.033	U	4.39	
PHENOL	18000	8	0.067	U	0.066	U	0.062	R	0.067	U	0.069	U	0.068	U	0.064	R	0.064	U	0.06	U	0.066	U	0.066	U	0.068	U	0.065	U	0.307	
PYRENE	1700	840	0.023	J	0.033	U	0.031	U	0.034	U	0.034	U	0.034	U	0.032	U	0.032	U	0.0302		0.033	U	0.0214	J	0.0424		0.033	U	1.46	
TOTAL TICS, ALKANES	--	--	6.88	J	1.48	J	0		0		0		4.92	J	0		0		0		0		3.88	J	6.12	J	0		2.21	J
TOTAL TICS, SEMI-VOLATILES	--	--	3.43	J	19.79	J	3.19	J	43.38	J	49.47	J	57.15	J	4.28	J	0		0		0.92	J	6.35	J	26.66	J	1.49	J	7.16	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standard

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C

NC: No criterion established

STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

B: Analyte found in sample and associated blank

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7B

Concrete Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC													
CLIENT SAMPLE ID			124-WC-C33-100214		124-WC-C34-100214		124-WC-C35-121914		124-WC-C36-121914		124-WC-C37-121914		124-WC-C38-012916		124-WC-C39-012916	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB78325-2		JB78325-3		JB84701-1		JB84701-2		JB85005-1		JC13390-1		JC13390-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	10/02/2014		10/02/2014		12/19/2014		12/19/2014		12/24/2014		01/29/2016		01/29/2016	
SVOCs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1'-BIPHENYL	3100	140	0.194		0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.0219	J
1,2,4,5-TETRACHLOROBENZENE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
1,4-DIOXANE	NC	NC	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.034	U	0.033	U
2,2'-OXYBIS(1-CHLOROPROPANE)	23	5	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
2,3,4,6-TETRACHLOROPHENOL	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
2,4,5-TRICHLOROPHENOL	6100	68	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
2,4,6-TRICHLOROPHENOL	19	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
2,4-DICHLOROPHENOL	180	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
2,4-DIMETHYLPHENOL	1200	1	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
2,4-DINITROPHENOL	120	0.3	*0.69*	*U*	*0.69*	*U*	*0.67*	*U*	*0.64*	*U*	*0.71*	*U*	0.17	U	0.17	U
2,4-DINITROTOLUENE	0.7	NC	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.034	U	0.033	U
2,6-DINITROTOLUENE	0.7	NC	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.034	U	0.033	U
2-CHLORONAPHTHALENE	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
2-CHLOROPHENOL	310	0.8	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
2-METHYLNAPHTHALENE	230	8	1.04		0.069	U	0.0695		0.0813		0.0669	J	0.0868		0.0736	
2-METHYLPHENOL	310	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
2-NITROANILINE	39	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
2-NITROPHENOL	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
3&4-METHYLPHENOL	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
3,3'-DICHLOROBENZIDINE	1	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
3-NITROANILINE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
4,6-DINITRO-2-METHYLPHENOL	6	0.3	*0.69*	*U*	*0.69*	*U*	*0.67*	*U*	*0.64*	*U*	*0.71*	*U*	*0.17*	*U*	*0.17*	*U*
4-BROMOPHENYL PHENYL ETHER	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
4-CHLORO-3-METHYLPHENOL	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
4-CHLOROANILINE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
4-CHLOROPHENYL PHENYL ETHER	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
4-NITROANILINE	NC	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
4-NITROPHENOL	NC	NC	0.34	U	0.34	U	0.34	U	0.32	U	0.36	U	0.34	U	0.33	U
ACENAPHTHENE	3400	110	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.101		0.033	U
ACENAPHTHYLENE	300000	NC	0.034	U	0.034	U	0.016	J	0.032	U	0.036	U	0.034	U	0.033	U
ACETOPHENONE	2	3	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U				
ANTHRACENE	17000	2400	0.034	U	0.0138	J	0.034	U	0.032	U	0.036	U	0.0853		0.0137	J
ATRAZINE	210	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
BENZALDEHYDE	6100	NC	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
BENZO(A)ANTHRACENE	0.6	0.8	0.034	U	0.0188	J	0.0539		0.0213	J	0.036	U	0.0389		0.0179	J
BENZO(A)PYRENE	0.2	0.2	0.034	U	0.034	U	0.0564		0.032	U	0.036	U	0.0358		0.0154	J
BENZO(B)FLUORANTHENE	0.6	2	0.034	U	0.034	U	0.0957		0.032	U	0.036	U	0.0471		0.0226	J
BENZO(G,H,I)PERYLENE	30000	NC	0.034	U	0.034	U	0.0432		0.032	U	0.036	U	0.0241	J	0.033	U
BENZO(K)FLUORANTHENE	6	25	0.034	U	0.034	U	0.0251	J	0.032	U	0.036	U	0.0165	J	0.033	U
BIS(2-CHLOROETHOXY)METHANE	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
BIS(2-CHLOROETHYL)ETHER	0.4	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
BIS(2-ETHYLHEXYL)PHTHALATE	35	1200	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.0889		0.0759	
BUTYLBENZYL PHTHALATE	1200	230	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
CAPROLACTAM	31000	12	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
CARBAZOLE	24	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
CHRYSENE	62	80	0.0252	J	0.0211	J	0.0713		0.0205	J	0.036	U	0.0509		0.0234	J
DI-N-BUTYL PHTHALATE	6100	760	0.069	U	0.0521	J	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
DI-N-OCTYL PHTHALATE	2400	3300	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
DIBENZO(A,H)ANTHRACENE	0.2	0.8	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.034	U	0.033	U
DIBENZOFURAN	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
DIETHYL PHTHALATE	49000	88	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
DIMETHYL PHTHALATE	NC	NC	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
FLUORANTHENE	2300	1300	0.0338	J	0.0517		0.0711		0.0258	J	0.036	U	0.109		0.0486	
FLUORENE	2300	170	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.205		0.033	U
HEXACHLOROBENZENE	0.3	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
HEXACHLOROBUTADIENE	6	0.9	0.034	U	0.034	U	0.034	U	0.032	U	0.036	U	0.034	U	0.033	U
HEXACHLOROCYCLOPENTADIENE	45	320	0.34	U	0.34	U	0.34	U	0.32	U	0.36	U	0.34	U	0.33	U
HEXACHLOROETHANE	35	0.2	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
INDENO(1,2,3-CD)PYRENE	0.6	7	0.034	U	0.034	U	0.0464		0.032	U	0.036	U	0.0231	J	0.033	U
ISOPHORONE	510	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.0621	J
N-NITROSO-DI-N-PROPYLAMINE	0.2	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
N-NITROSODIPHENYLAMINE	99	0.4	0.17	U	0.17	U	0.17	U	0.16	U	0.18	U	0.17	U	0.17	U
NAPHTHALENE	6	25	0.126		0.034	U	0.034	U	0.032	U	0.036	U	0.018	J	0.0183	J
NITROBENZENE	31	0.2	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
PHENANTHRENE	300000	NC	0.5		0.0503		0.0197	J	0.0194	J	0.0652		0.516		0.116	
PHENOL	18000	8	0.069	U	0.069	U	0.067	U	0.064	U	0.071	U	0.069	U	0.067	U
PYRENE	1700	840	0.0629		0.0437		0.0867		0.0294	J	0.036	U	0.146		0.0407	
TOTAL TICS, ALKANES	--	--	87.5	J	0		1.73	J	0.39	J	26.26	J	18.67	J	17.43	J
TOTAL TICS, SEMI-VOLATILES	--	--	16.4	J	0		0		0.33	J	7.15	J	11.13	J	2.34	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standard

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C

NC: No criterion established

STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

B: Analyte found in sample and associated blank

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7C

Concrete Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC																					
CLIENT SAMPLE ID			087-WC-C01-091113		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C02-091113		087-WC-C03-091113		087-WC-C04-091113	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-1		JB47199-10		JB47199-11		JB47199-12		JB47199-13		JB47199-14		JB47199-15		JB47199-16		JB47199-17		JB47199-18		JB47199-2		JB47199-3		JB47199-4	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
Metals (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ALUMINUM	78000	6000	**7510**		**6190**		**6510**		**6760**		**6570**		**6330**		**6830**		5720		**6320**		**6230**		**6690**		**7070**		5560	
ANTIMONY	31	6	2.1	U	2.1	U	2.1	U	2.1	U	2.2	U	2.3	U	2.3	U	2.2	U	2.2	U	2.3	U	2.2	U	4.3		2	
ARSENIC	19	19	3.7		2.1	U	2.1	U	2.2		2.2	U	2.3	U	2.3		2.2	U	2.2	U	2.3	U	2.9		3.8		2.3	
BARIUM	16000	2100	54.5		42.4		47.8		51		44.9		44.5		47.3		39.2		46.3		47.1		49		46.7		35.4	
BERYLLIUM	16	0.7	0.3		0.3		0.31		0.33		0.34		0.31		0.31		0.28		0.3		0.29		0.3		0.39		0.24	
CADMIUM	78	2	0.52	U	0.52	U	0.52	U	0.53	U	0.55	U	0.57	U	0.58	U	0.55	U	0.56	U	0.58	U	0.56	U	0.53	U	0.5	U
CALCIUM	NC	NC	80400		63800		58800		65300		63000		62500		63700		59800		69200		62500		68000		68400		56900	
CHROMIUM	NC	NC	21.7	J	13.8		14.2		15.1		12.8		12.6		13.4		11.6		12.8		11.9		17.2	J	16.5	J	11.6	J
COBALT	590	90	5.2	U	5.2	U	5.2	U	5.3	U	5.5	U	5.7	U	5.8	U	5.5	U	5.6	U	5.8	U	5.6	U	5.3	U	5	U
COPPER	3100	11000	19.9		17		16.4		19.1		17.4		16.2		21.9		16.4		20		15.8		23.4		22.7		16.9	
IRON	NC	NC	9420		7940		8320		7700		8490		7760		9270		6640		7170		6970		11900		15100		9220	
LEAD	400	90	46.7		31.1		22.6		33.7		58.2		23.8		28.8		31.7		28.1		25.1		30		35.8		18.7	
MAGNESIUM	NC	NC	4880		4100		4020		4060		4270		4090		4760		5390		7810		4220		4440		4610		3810	
MANGANESE	11000	65	**171**		**149**		**160**		**171**		**160**		**144**		**163**		**128**		**150**		**146**		**174**		**184**		**144**	
MERCURY	23	0.1	0.051		**0.13**		0.085		0.075		0.079		0.068		0.068		0.095		0.064		0.078		**0.14**		0.074		0.034	U
NICKEL	1600	48	8.9		7.6		8		8.3		8.1		7.3		8.3		6.5		9		6.8		9.7		11.8		7	
POTASSIUM	NC	NC	1000	U	1000	U	1300		1100	U	1100	U	1100	U	1200	U	1100	U	1100	U	1200	U	1100	U	1100	U	990	U
SELENIUM	390	11	2.1	U	2.1	U	2.1	U	2.1	U	2.2	U	2.3	U	2.3	U	2.2	U	2.2	U	2.3	U	2.2	U	2.1	U	2	U
SILVER	390	1	0.52	U	0.52	U	0.52	U	0.53	U	0.55	U	0.57	U	0.58	U	0.55	U	0.56	U	0.58	U	0.56	U	0.53	U	0.5	U
SODIUM	NC	NC	1000	U	1000	U	1000	U	1100	U	1100	U	1100	U	1200	U	1100	U	1100	U	1200	U	1100	U	1100	U	990	U
THALLIUM	5	3	1	U	1	U	1	U	1.1	U	1.1	U	1.1	U	1.2	U	1.1	U	1.1	U	1.2	U	1.1	U	1.1	U	0.99	U
VANADIUM	78	NC	13		10.8		10.7		10.8		11.2		10.1		13.6		8.6		9.4		9.7		10.8		11.7		8.5	
ZINC	23000	930	103		83.2		72		75.7		70.7		67.3		74.2		64.9		78.6		76.8		92.7		128		74.6	

Notes:

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

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7C

Concrete Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC										124-WC									
CLIENT SAMPLE ID			087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C01-091713		124-WC-C02-091713		124-WC-C03-100713		124-WC-C04-100713		124-WC-C05-100713		124-WC-C06-100713		124-WC-C07-100713		124-WC-C08-100713	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-5		JB47199-6		JB47199-7		JB47199-8		JB47199-9		JB47734-1		JB47734-2		JB49574-1		JB49574-2		JB49574-3		JB49574-4		JB49574-5		JB49574-6	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		09/17/2013		10/07/2013		10/07/2013		10/07/2013		10/07/2013		10/07/2013		10/07/2013	
Metals (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ALUMINUM	78000	6000	**6040**		**7030**		**6860**		5830		5920		**8460**		**13000**		**9460**		**9350**		**11100**		**12500**		**10500**		**10400**	
ANTIMONY	31	6	4		3		**13.9**		**10.7**		2.2	U	2	U	2	U	3.4		3		4.6		4.5		3.3		2.8	
ARSENIC	19	19	2.1		5.7		2.4		2.2		2.2	U	3.5		**21.1**		5.1		4.1		5.8		5		5.4		4.7	
BARIUM	16000	2100	41.4		44.4		47		45		46.4		47.9		90.1		50.1		52.8		60.6		54.8		57.8		57	
BERYLLIUM	16	0.7	0.26		0.36		0.29		0.25		0.28		0.2	U	0.62		0.41		0.4		0.54		0.21	U	0.39		0.44	
CADMIUM	78	2	0.5	U	0.5	U	0.53	U	0.52	U	0.54	U	0.51	U	0.51		0.52	U	0.53	U	0.53	U	0.54	U	0.52	U	0.55	U
CALCIUM	NC	NC	62900		76300		70000		55800		57700		85500		91600		94200		78800		71900		95600		87800		105000	
CHROMIUM	NC	NC	12.2	J	48.7	J	15.7	J	14.7	J	15.4		28.8		38.9		32		24		61.4		90.9		49.5		18.4	
COBALT	590	90	5	U	20.1		5.3	U	5.2	U	5.4	U	11.7		15.6		13.8		14.8		13.6		15.6		14.1		12.1	
COPPER	3100	11000	14.4		72.5		21.3		20.5		21.4		48.1		33.8		37.1		37.6		73.8		51.7		37.4		35.3	
IRON	NC	NC	7490		31600		10100		8610		8540		10600		16100		16400		16300		24400		17300		22000		16500	
LEAD	400	90	17.3		10.9		32.7		28.4		28.4		15.4		13.6		4.4		5.6		46.3		6.2		8.5		4.4	U
MAGNESIUM	NC	NC	4540		7610		4310		3750		3100		7400		6650		4970		4740		5170		5410		5420		5850	
MANGANESE	11000	65	**142**		**292**		**169**		**164**		**147**		**171**		**184**		**261**		**241**		**324**		**287**		**318**		**274**	
MERCURY	23	0.1	0.04		0.034	U	0.062		0.053		0.053		0.034	U	0.042	U	0.033	U	0.033	U	0.033	U	0.034	U	0.03	U	0.035	U
NICKEL	1600	48	6.6		41.6		9.4		8.6		8.7		19.1		23.9		26.8		19.2		38.9		**55.3**		42.4		13.7	
POTASSIUM	NC	NC	1000	U	1000	U	1100	U	1070		1100	U	1000	U	1290		1470		1730		1150		1100	U	1720		1600	
SELENIUM	390	11	2	U	2	U	2.1	U	2.1	U	2.2	U	2	U	2	U	2.1	U	2.1	U	2.1	U	2.1	U	2.1	U	2.2	U
SILVER	390	1	1		0.5	U	0.53	U	0.52	U	0.54	U	0.93		0.91		1		0.86		0.93		**1.1**		0.94		**1.4**	
SODIUM	NC	NC	1000	U	1000	U	1100	U	1000	U	1100	U	1000	U	1000	U	1420		1380		1100	U	1170		1330		1100	
THALLIUM	5	3	1	U	1	U	1.1	U	1	U	1.1	U	1	U	1	U	2.1	U	1.1	U	1.1	U	1.1	U	1	U	2.2	U
VANADIUM	78	NC	9.3		10.5		10.6		10		9.3		26.7		42.3		30.5		39.2		36		32.3		43.7		36.5	
ZINC	23000	930	71.7		225		140		90.9		101		131		51.5		63.8		52		145		41.7		46.3		43.2	

Notes:

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

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remedi

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7C

Concrete Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																					
CLIENT SAMPLE ID			124-WC-C09-100813		124-WC-C10-100813		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114		124-WC-C14-021114		124-WC-C15-040414		124-WC-C16-040414		124-WC-C17-041114		124-WC-C18-041114		124-WC-C19-041114		124-WC-C20-041114		124-WC-C21-050914	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB49574-7		JB49574-8		JB59616-1		JB59616-2		JB59616-3		JB59616-4		JB63854-1		JB63854-2		JB64504-1		JB64504-2		JB64504-3		JB64504-4		JB66694-1	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	10/08/2013		10/08/2013		02/12/2014		02/12/2014		02/12/2014		02/12/2014		04/04/2014		04/04/2014		04/11/2014		04/11/2014		04/11/2014		04/11/2014		05/09/2014	
Metals (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ALUMINUM	78000	6000	5150		**12100**		**11100**		**10900**		**9520**		**7080**		6000	J	**7640**		**8190**		**6710**		**8210**		**11100**		**7350**	**J**
ANTIMONY	31	6	2.2	U	4		2.2	UJ	2.2	UJ	2.2	U	2.3	U	2.2	UJ	2.3	U	2.1	UJ	2	U	2.1	U	2.1	U	2.1	UJ
ARSENIC	19	19	4.4		4.4		3.1		3.1		2.9		4		4.2	J	4.1		3.8		3.4		3.4		3.3		3.2	
BARIUM	16000	2100	42.5		52		67.8		51.1		54.1		58.9		53.3		43		47.5		50.2		64.1		138		38.4	J
BERYLLIUM	16	0.7	0.33		0.55		**0.96**		0.55		0.53		0.46		0.22	U	0.23	U	0.29		0.32		0.32		0.32		0.3	J
CADMIUM	78	2	0.54	U	0.54	U	0.54	U	0.56	U	0.56	U	0.58	U	0.54	U	0.57	U	0.54	U	0.51	U	0.58		0.53	U	0.52	U
CALCIUM	NC	NC	143000		105000		81400		68500		65500		61000		126000	J	75800		89400	J	54600		76100		59100		71200	J
CHROMIUM	NC	NC	23.5		19.8		21		19.4		30.6		23.2		25		27.1		22.8		47.6		35		36		14.2	
COBALT	590	90	9.1		11.2		10.3		10.2		7.9		9.1		5.5		8.5		8.2		11.9		9.1		15.6		8.3	
COPPER	3100	11000	10.9		27.1		54.5		82.4		21.3		**4870**		13		37.1		28.9		31.2		33		44		8.4	
IRON	NC	NC	8990		14600		17000	J	20400	J	11700		10800		8330		15500		13900		12900		12200		18400		6950	J
LEAD	400	90	9.9		10.6		15.7	J	22.3	J	**98.2**		42.5		6.5		6.5		15.2		33.7		60.9		37		3.2	
MAGNESIUM	NC	NC	11200		6910		8940	J	6190	J	4760		3780		19400	J	14800		4360		4020		4860		7270		4060	J
MANGANESE	11000	65	**373**		**173**		**279**	**J**	**251**	**J**	**224**		**182**		**248**	**J**	**194**		**206**		**196**		**219**		**250**		**154**	**J**
MERCURY	23	0.1	0.032	U	0.035	U	0.035	U	0.037		0.033	U	0.034	U	0.035	U	0.051		0.033	U	**1.1**		**8.9**		**13**		0.032	U
NICKEL	1600	48	7		12		18.4		11.2		16.9		11.3		6.8		11.9		15.5		19.7		19.8		28.3		8	
POTASSIUM	NC	NC	1100	U	1100	U	1100	U	1100	U	1140		1200	U	1100	U	1100	U	1120		1610		1340		4880		1000	U
SELENIUM	390	11	2.2	U	2.1	U	2.2	U	2.2	U	2.2	U	2.3	U	4.3	U	2.3	U	2.1	U	2	U	2.1	U	2.1	U	2.1	U
SILVER	390	1	**1.5**		**1.3**		**1.1**		**1.1**		0.97		0.84		**1.5**		**1.1**		0.54	U	0.51	U	0.53	U	0.53	U	1	U
SODIUM	NC	NC	1100	U	1270		1100	U	1100	U	1110		1200	U	1100	U	1100	U	1100	U	1000	U	1100	U	1100	U	1000	UJ
THALLIUM	5	3	2.2	U	2.1	U	1.1	U	1.1	U	1.1	U	1.2	U	1.1	U	1.1	U	1.1	U	1	U	1.1	U	1.1	U	2.1	U
VANADIUM	78	NC	8.7		31.2		38.1		42.8		19.2		15.9		10.7		21.6		23.6		22.8		16.9		34.7		9.7	
ZINC	23000	930	39.9		245		136	J	81.8	J	53		38.3		43.3	J	59.8		66.5		69.5		96.7		94.3		17.8	

Notes:

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

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remedi

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7C

Concrete Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																			
CLIENT SAMPLE ID			124-WC-C22-053014		124-WC-C23-053014		124-WC-C24-053014		124-WC-C25-061614		124-WC-C26-072914		124-WC-C27-072914		124-WC-C28-090514		124-WC-C29-092314		124-WC-C30-092314		124-WC-C31-092314		124-WC-C32-100214		124-WC-C33-100214		124-WC-C34-100214	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB68105-1		JB68105-2		JB68105-3		JB69461-1		JB72778-1A		JB72778-2A		JB75850-1A		JB77376-1A		JB77376-2A		JB77376-3A		JB78325-1A		JB78325-2A		JB78325-3A	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	05/30/2014		05/30/2014		05/30/2014		06/16/2014		07/29/2014		07/29/2014		09/05/2014		09/23/2014		09/23/2014		09/23/2014		10/02/2014		10/02/2014		10/02/2014	
Metals (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ALUMINUM	78000	6000	**8690**		**8090**		**6810**		5150		**7690**		**10400**		5840		**7340**		5490		**7820**		4410		**6350**		**7110**	
ANTIMONY	31	6	2.1	UJ	2.1	U	2.2	U	2	UJ	2	U	1.9	U	2.1	U	2.1	U	2	U	2.1	U	2.1	U	2.2	U	2.2	U
ARSENIC	19	19	8.5		2.1	U	3.5		2	U	3.3		3.4		7.2		11.5		5.9		4.8		3.6		2.5		2.2	U
BARIUM	16000	2100	55.4		52.7		241		33.5		48		77.8		104		72.7		66		81		43.3		48.8		40.1	
BERYLLIUM	16	0.7	0.4		0.37		0.48		0.2	U	**0.71**		**1.1**		0.58		0.33		0.35		0.46		0.36		0.33		0.28	
CADMIUM	78	2	0.53	U	0.53	U	0.54	U	0.5	U	0.5	U	0.46	U	0.53	U	0.53	U	0.51	U	0.53	U	0.53	U	0.56	U	0.55	U
CALCIUM	NC	NC	84900	J	70800		96600		45900	J	84900		82500		77300		84200		111000		78000		87100		73700		56600	
CHROMIUM	NC	NC	29.6		12.3		19.8		11.6		31.3		38.2		56.1	J	25.9	J	15.8	J	41	J	574		302		313	
COBALT	590	90	18.7		8.5		8.4		6.6		5.5		7.8		10.9		7.2		11.7		25.9		12.5		10.1		10.8	
COPPER	3100	11000	18.9		8.3		15.6		4.8		18.5		44.5		35.4		17.9		23.6		94.8		7		10.8		31.1	
IRON	NC	NC	11000	J	9320		10600		6190	J	13300		11700		9290		20500		10300		17800		6970		8160		14500	
LEAD	400	90	19.8		4.3		4.1		2.8		4.2		10.6		17.6		5.2		4.8		8.8		3.5		4.2		2.2	
MAGNESIUM	NC	NC	4950	J	4390		21500		3940	J	4220		4350		17100		5090		30500		18800		18900		3670		3750	
MANGANESE	11000	65	**158**	**J**	**156**		**360**		**108**	**J**	**207**		**254**		**183**		**346**		**195**		**232**		**127**		**155**		**267**	
MERCURY	23	0.1	0.031	U	0.046		0.077		0.033	U	0.033	U	0.032	U	0.034	U	0.031	U	0.034	U	0.034	U	0.032	U	0.037		0.042	
NICKEL	1600	48	16.9		8.7		9.9		15.3		17.7		17.6		22.3		9.4		7.9		**48.6**		6.6		6.5		7.1	
POTASSIUM	NC	NC	1530		1100	U	1260		1000	U	1000	U	1630		1100	U	1560		1670		1100	U	1100	U	1100	U	1110	
SELENIUM	390	11	2.1	U	2.1	U	2.2	U	2	U	2	U	1.9	U	2.1	U	2.1	U	2	U	2.1	U	2.1	U	2.2	U	2.2	U
SILVER	390	1	0.53	U	0.53	U	0.54	U	0.5	U	0.5	U	0.46	U	0.53	U	0.53	U	0.51	U	0.53	U	0.53	U	0.56	U	0.55	U
SODIUM	NC	NC	1100	U	1100	U	1120		1000	U	1000	U	930	U	1100	U	1100	U	1210		1100	U	1100	U	1100	U	1100	U
THALLIUM	5	3	1.1	U	1.1	U	1.1	U	1	U	1	U	0.93	U	1.1	U	1.1	U	1	U	1.1	U	1.1	U	1.1	U	1.1	U
VANADIUM	78	NC	26.4	J	10.7		17		7.2	J	30.7		21.1		16.9		32.5		18.8		41		12.1		12		45.9	
ZINC	23000	930	66	J	22.8		37.4		15.3	J	49.6		134		34.3		41.5		29.3		33.8		25.1		206		24.9	

Notes:

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

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remedi

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7C

Concrete Sample Results – Metals

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

			124-WC									
CLIENT SAMPLE ID			124-WC-C35-121914		124-WC-C36-121914		124-WC-C37-121914		124-WC-C38-012916		124-WC-C39-012916	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB84701-1		JB84701-2		JB85005-1		JC13390-1		JC13390-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	12/19/2014		12/19/2014		12/24/2014		01/29/2016		01/29/2016	
Metals (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ALUMINUM	78000	6000	**6370**		**13000**		**8530**		**7400**		**6960**	
ANTIMONY	31	6	2.1	U	2.1	U	4.2	U	2.1	U	2	U
ARSENIC	19	19	3		2.7		8.5		2.9		4.9	
BARIUM	16000	2100	52.3		55		60.7		55.9		50.6	
BERYLLIUM	16	0.7	0.25		0.27		0.54		0.28		0.28	
CADMIUM	78	2	0.53	U	0.53	U	0.53	U	0.52	U	0.51	U
CALCIUM	NC	NC	29900		28100		82400		77100		132000	
CHROMIUM	NC	NC	53.5		46.1		28.1		32.7		30.9	
COBALT	590	90	7.7		12.3		5.5		8.4		7.8	
COPPER	3100	11000	75.4		47.1		22.1		27.1		18.6	
IRON	NC	NC	9550		19800		10700		11800		10500	
LEAD	400	90	18.6		8.9		8.2		5.7		8.7	
MAGNESIUM	NC	NC	3830		10200		5320		10500		5450	
MANGANESE	11000	65	**166**		**309**		**226**		**177**		**243**	
MERCURY	23	0.1	0.039		0.036		0.035	U	0.038		0.047	
NICKEL	1600	48	15.2		30.5		15.2		16.8		11.4	
POTASSIUM	NC	NC	1100	U	1100	U	1170		1000	U	1190	
SELENIUM	390	11	2.1	U	2.1	U	2.1	U	2.1	U	2	U
SILVER	390	1	0.55		0.61		0.53	U	0.52	U	0.51	U
SODIUM	NC	NC	1100	U	1140		1100	U	1000	U	1000	U
THALLIUM	5	3	1.1	U	1.1	U	1.1	U	1	U	10	U
VANADIUM	78	NC	19.9		44		28.9		22.6		25	
ZINC	23000	930	68.6		67.5		72.9		25.4		34.9	

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remedi
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening
NC: No criterion established
Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS
Bold and shaded concentrations exceed the NJ 2013 IGW SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected: reporting limit exceeds criteria
Depths reported in feet below ground surface
J: Estimated concentration
U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7D
Concrete Sample Results – Pesticides and PCBs
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

			087-WC																					
CLIENT SAMPLE ID			087-WC-C01-091113		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C02-091113		087-WC-C03-091113		087-WC-C04-091113	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-1		JB47199-10		JB47199-11		JB47199-12		JB47199-13		JB47199-14		JB47199-15		JB47199-16		JB47199-17		JB47199-18		JB47199-2		JB47199-3		JB47199-4	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
Pesticides/PCBs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	3	4	0.00067	U	0.0012		0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00083		0.00067	U
4,4'-DDE	2	18	0.0066		0.0098		0.0094		0.0107		0.0093		0.0067		0.0099		0.0097		0.0096		0.0092		0.0109		0.0069		0.0009	
4,4'-DDT	2	11	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.0025		0.0013		0.00072	U	0.0013		0.0029		0.0013		0.00071	U	0.00069	U	0.00067	U
ALDRIN	0.04	0.2	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ALPHA-BHC	0.1	0.002	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ALPHA-CHLORDANE	NC	NC	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
AROCLOR-1016	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1221	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1232	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1242	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1248	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1254	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1260	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.0779		0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1262	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
AROCLOR-1268	NC	NC	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.037	U	0.037	U	0.035	U	0.035	U	0.034	U
TOTAL PCBs	0.2	0.2	0.034	U	0.035	U	0.035	U	0.034	U	0.037	U	0.034	U	0.036	U	0.037	U	0.0779		0.037	U	0.035	U	0.035	U	0.034	U
BETA-BHC	0.4	0.002	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
BETA-CHLORDANE	NC	NC	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
CHLORDANE	0.2	0.05	0.00067		0.0007		0.00069		0.00068		0.00073		0.00068		0.00072		0.00073		0.00074		0.00074		0.00071		0.00069		0.00067	
DELTA-BHC	NC	NC	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
DIELDRIN	0.04	0.003	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ENDOSULFAN I	NC	NC	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ENDOSULFAN II	NC	NC	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ENDOSULFAN SULFATE	470	2	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ENDRIN	23	1	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
ENDRIN ALDEHYDE	NC	NC	0.0013		0.0032		0.0016		0.0027		0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.0035		0.0014		0.00067	U
ENDRIN KETONE	NC	NC	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
GAMMA-BHC (LINDANE)	0.4	0.002	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
HEPTACHLOR	0.1	0.5	0.00067	U	0.0007	U	0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
HEPTACHLOR EPOXIDE	0.07	0.01	0.00067	U	0.00072		0.00069	U	0.00068	U	0.00073	U	0.00068	U	0.00072	U	0.00073	U	0.00074	U	0.00074	U	0.00071	U	0.00069	U	0.00067	U
METHOXYCHLOR	390	160	0.0013	U	0.0014	U	0.0014	U	0.0014	U	0.0015	U	0.0014	U	0.0014	U	0.0015	U	0.0015	U	0.0015	U	0.0014	U	0.0014		0.0013	U
PENTACHLOROPHENOL	3	0.3	*0.33*	*U*	*0.33*	*U*	*0.34*	*U*	*0.32*	*U*	*0.34*	*U*	*0.38*	*U*	*0.36*	*U*	*0.35*	*U*	*0.37*	*U*	*0.35*	*U*	*0.37*	*U*	*0.35*	*U*	*0.33*	*U*
TOXAPHENE	0.6	0.3	0.017	U	0.018	U	0.017	U	0.017	U	0.018	U	0.017	U	0.018	U	0.018	U	0.019	U	0.018	U	0.018	U	0.017	U	0.017	U

Notes:
NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C. 7:26D; last amended November 2013]
NC: No criterion established
Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS
SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
J: Estimated concentration
R or N: Rejected or negated by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7D

Concrete Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC										124-WC															
CLIENT SAMPLE ID			087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C01-091713		124-WC-C02-091713		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114		124-WC-C14-021114		124-WC-C15-040414		124-WC-C16-040414	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-5		JB47199-6		JB47199-7		JB47199-8		JB47199-9		JB47734-1		JB47734-2		JB59616-1		JB59616-2		JB59616-3		JB59616-4		JB63854-1		JB63854-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		09/17/2013		02/12/2014		02/12/2014		02/12/2014		02/12/2014		04/04/2014		04/04/2014	
Pesticides/PCBs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	3	4	0.00064	U	0.00064	U	0.0017		0.0013		0.002		0.0012		0.0008	U	0.00067	U	0.0021	J	0.00072	U	0.00068	U	0.00074	U	0.00072	U
4,4'-DDE	2	18	0.00064	U	0.00064	U	0.0029		0.00065	U	0.0017		0.0021		0.0008	U	0.00067	U	0.002		0.00072	U	0.0014		0.00074	U	0.00072	U
4,4'-DDT	2	11	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.0064		0.0008	U	0.00067	U	0.0015		0.00072	U	0.0015		0.00074	U	0.00088	
ALDRIN	0.04	0.2	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
ALPHA-BHC	0.1	0.002	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
ALPHA-CHLORDANE	NC	NC	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.0058	J	0.00072	U
AROCLOR-1016	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1221	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1232	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1242	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1248	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1254	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1260	NC	NC	0.032	U	0.032	U	0.0364		0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1262	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
AROCLOR-1268	NC	NC	0.032	U	0.032	U	0.032	U	0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
TOTAL PCBs	0.2	0.2	0.032	U	0.032	U	0.0364		0.033	U	0.034	U	0.032	U	0.04	U	0.033	U	0.036	U	0.036	U	0.034	U	0.037	U	0.036	U
BETA-BHC	0.4	0.002	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	UJ	0.00071	UJ	0.00072	U	0.00068	U	0.00074	U	0.00072	U
BETA-CHLORDANE	NC	NC	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
CHLORDANE	0.2	0.05	0.00064		0.00064		0.00065		0.00065		0.00068		0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.0058		0.00072	U
DELTA-BHC	NC	NC	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
DIELDRIN	0.04	0.003	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00079		0.00074	U	0.00072	U
ENDOSULFAN I	NC	NC	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
ENDOSULFAN II	NC	NC	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
ENDOSULFAN SULFATE	470	2	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
ENDRIN	23	1	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.0037	J	0.00072	U
ENDRIN ALDEHYDE	NC	NC	0.00064	U	0.00064	U	0.0019		0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
ENDRIN KETONE	NC	NC	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
GAMMA-BHC (LINDANE)	0.4	0.002	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
HEPTACHLOR	0.1	0.5	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
HEPTACHLOR EPOXIDE	0.07	0.01	0.00064	U	0.00064	U	0.00065	U	0.00065	U	0.00068	U	0.00063	U	0.0008	U	0.00067	U	0.00071	U	0.00072	U	0.00068	U	0.00074	U	0.00072	U
METHOXYCHLOR	390	160	0.0013	U	0.0013	U	0.0013	U	0.0013	U	0.0014	U	0.0013	U	0.0016	U	0.0013	UJ	0.0014	UJ	0.0014	U	0.0014	U	0.0015	U	0.0014	U
PENTACHLOROPHENOL	3	0.3	*0.34*	*U*	*0.32*	*U*	*0.32*	*U*	*0.31*	*U*	*0.34*	*U*	*0.33*	*U*	*0.38*	*U*	*0.34*	*U*	*0.33*	*U*	**0.42**		*0.32*	*U*	*0.36*	*UJ*	*0.35*	*U*
TOXAPHENE	0.6	0.3	0.016	U	0.016	U	0.016	U	0.016	U	0.017	U	0.016	U	0.02	U	0.017	U	0.018	U	0.018	U	0.017	U	0.018	U	0.018	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediati

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Lev

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7D

Concrete Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																			
CLIENT SAMPLE ID			124-WC-C17-041114		124-WC-C18-041114		124-WC-C19-041114		124-WC-C20-041114		124-WC-C21-050914		124-WC-C22-053014		124-WC-C23-053014		124-WC-C24-053014		124-WC-C25-061614		124-WC-C26-072914		124-WC-C27-072914		124-WC-C28-090514		124-WC-C29-092314	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB64504-1		JB64504-2		JB64504-3		JB64504-4		JB66694-1		JB68105-1		JB68105-2		JB68105-3		JB69461-1		JB72778-1		JB72778-2		JB75850-1		JB77376-1	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	04/11/2014		04/11/2014		04/11/2014		04/11/2014		05/09/2014		05/30/2014		05/30/2014		05/30/2014		06/16/2014		07/29/2014		07/29/2014		09/05/2014		09/23/2014	
Pesticides/PCBs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	3	4	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
4,4'-DDE	2	18	0.00067	U	0.00068	U	0.0018		0.002		0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.0387	
4,4'-DDT	2	11	0.00067	U	0.00068	U	0.0028		0.0055		0.00068	U	0.00063	U	0.00067	U	0.00096		0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.002	
ALDRIN	0.04	0.2	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
ALPHA-BHC	0.1	0.002	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
ALPHA-CHLORDANE	NC	NC	0.00067	U	0.00068	U	0.00089		0.00071		0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.0033	
AROCLOR-1016	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1221	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1232	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1242	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1248	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1254	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.163		0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.0576	
AROCLOR-1260	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1262	NC	NC	0.034	U	0.034	U	0.0561		0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
AROCLOR-1268	NC	NC	0.034	U	0.034	U	0.033	U	0.033	U	0.034	U	0.031	U	0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.031	U
TOTAL PCBs	0.2	0.2	0.034	U	0.034	U	0.0561		0.033	U	0.034	U	0.163		0.034	U	0.031	U	0.033	U	0.034	U	0.031	U	0.035	U	0.0576	
BETA-BHC	0.4	0.002	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
BETA-CHLORDANE	NC	NC	0.00067	U	0.00068	U	0.00072		0.00074		0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.0286	
CHLORDANE	0.2	0.05	0.00067	U	0.00068	U	0.0016		0.0014		0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.0319	
DELTA-BHC	NC	NC	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
DIELDRIN	0.04	0.003	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	**0.0612**	
ENDOSULFAN I	NC	NC	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
ENDOSULFAN II	NC	NC	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
ENDOSULFAN SULFATE	470	2	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
ENDRIN	23	1	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.0027	
ENDRIN ALDEHYDE	NC	NC	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
ENDRIN KETONE	NC	NC	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
GAMMA-BHC (LINDANE)	0.4	0.002	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
HEPTACHLOR	0.1	0.5	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.00062	U
HEPTACHLOR EPOXIDE	0.07	0.01	0.00067	U	0.00068	U	0.00066	U	0.00067	U	0.00068	U	0.00063	U	0.00067	U	0.00063	U	0.00066	U	0.00068	U	0.00063	U	0.00069	U	0.0037	
METHOXYCHLOR	390	160	0.0013	U	0.0014	U	0.0013	U	0.0013	U	0.0014	U	0.0013	U	0.0013	U	0.0017		0.0013	U	0.0014	U	0.0013	U	0.0014	U	0.0012	U
PENTACHLOROPHENOL	3	0.3	*0.33*	*U*	*0.33*	*U*	*0.34*	*U*	*0.33*	*U*	0.31	R	*0.34*	*U*	*0.34*	*U*	*0.34*	*U*	*0.32*	*U*	*0.32*	*U*	0.3	U	*0.33*	*U*	*0.33*	*U*
TOXAPHENE	0.6	0.3	0.017	U	0.017	U	0.016	U	0.017	U	0.017	U	0.016	U	0.017	U	0.016	U	0.016	U	0.017	U	0.016	U	0.017	U	0.015	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediati

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Lev

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7D

Concrete Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																	
CLIENT SAMPLE ID			124-WC-C30-092314		124-WC-C31-092314		124-WC-C32-100214		124-WC-C33-100214		124-WC-C34-100214		124-WC-C35-121914		124-WC-C36-121914		124-WC-C37-121914		124-WC-C38-012916		124-WC-C39-012916	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB77376-2		JB77376-3		JB78325-1		JB78325-2		JB78325-3		JB84701-1		JB84701-2		JB85005-1		JC13390-1		JC13390-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/23/2014		09/23/2014		10/02/2014		10/02/2014		10/02/2014		12/19/2014		12/19/2014		12/24/2014		01/29/2016		01/29/2016	
Pesticides/PCBs (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	3	4	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
4,4'-DDE	2	18	0.0305		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.0013		0.00067	U	0.00072	U	0.00069	U	0.0007	U
4,4'-DDT	2	11	0.0044		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.0017		0.00067	U	0.00072	U	0.00069	UJ	0.0007	U
ALDRIN	0.04	0.2	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ALPHA-BHC	0.1	0.002	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ALPHA-CHLORDANE	NC	NC	0.0265		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
AROCLOR-1016	NC	NC	0.033	U	0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1221	NC	NC	0.033	U	0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1232	NC	NC	0.033	U	0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1242	NC	NC	0.033	U	0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1248	NC	NC	0.115		0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1254	NC	NC	0.0772		0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1260	NC	NC	0.033	U	0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1262	NC	NC	0.0379		0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
AROCLOR-1268	NC	NC	0.033	U	0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
TOTAL PCBs	0.2	0.2	**0.2301**		0.034	U	0.034	U	0.035	U	0.032	U	0.032	U	0.034	U	0.036	U	0.035	U	0.035	U
BETA-BHC	0.4	0.002	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
BETA-CHLORDANE	NC	NC	0.0583		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
CHLORDANE	0.2	0.05	**0.0848**		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072		0.00069	U	0.0007	U
DELTA-BHC	NC	NC	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
DIELDRIN	0.04	0.003	**0.0083**		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ENDOSULFAN I	NC	NC	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ENDOSULFAN II	NC	NC	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ENDOSULFAN SULFATE	470	2	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ENDRIN	23	1	0.0013		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ENDRIN ALDEHYDE	NC	NC	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
ENDRIN KETONE	NC	NC	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
GAMMA-BHC (LINDANE)	0.4	0.002	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
HEPTACHLOR	0.1	0.5	0.00066	U	0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
HEPTACHLOR EPOXIDE	0.07	0.01	0.0053		0.00068	U	0.00068	U	0.0007	U	0.00063	U	0.00064	U	0.00067	U	0.00072	U	0.00069	U	0.0007	U
METHOXYCHLOR	390	160	0.0169		0.0014	U	0.0014	U	0.0014	U	0.0013	U	0.0013	U	0.0013	U	0.0014	U	0.0014	U	0.0014	U
PENTACHLOROPHENOL	3	0.3	*0.34*	*U*	*0.33*	*U*	*0.31*	*U*	*0.34*	*U*	*0.34*	*U*	*0.34*	*U*	*0.32*	*U*	*0.36*	*U*	*0.17*	*U*	*0.17*	*U*
TOXAPHENE	0.6	0.3	0.016	U	0.017	U	0.017	U	0.018	U	0.016	U	0.016	U	0.017	U	0.018	U	0.017	U	0.017	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediati

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Lev

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

SOIL or both the NJ 2013 IGW SOIL and the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7E

Concrete Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	087-WC																			
CLIENT SAMPLE ID	087-WC-C01-091113		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C02-091113		087-WC-C03-091113	
LAB SAMPLE ID	JB47199-1		JB47199-10		JB47199-11		JB47199-12		JB47199-13		JB47199-14		JB47199-15		JB47199-16		JB47199-17		JB47199-18		JB47199-2		JB47199-3	
DATE SAMPLED	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
EPH (mg/kg)	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	5.2	U	5.4	U	5.6	U	5.5	U	5.8	U	5.4	U	5.7	U	5.3	U	5.9	U	5.9	U	5.9	U	5.4	U
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	5.2	U	5.4	U	5.6	U	5.5	U	5.8	U	5.4	U	5.7	U	5.3	U	5.9	U	5.9	U	5.9	U	5.4	U
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	5.2	U	5.4	U	5.6	U	5.5	U	5.8	U	5.4	U	5.7	U	5.3	U	5.9	U	5.9	U	5.9	U	5.4	U
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	5.2	U	5.4	U	5.6	U	5.5	U	5.8	U	5.4	U	5.7	U	5.3	U	5.9	U	5.9	U	5.9	U	5.4	U
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	5.2	U	11.9		13.9		19.7		11.7		11.9		39.2		13.8		12.5		18.4		16.7		5.4	U
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	24		29.2		36.5		32.6		37.5		29.5		81.1		36.7		35.7		32.5		40.8		20.8	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	64.8		53.7		99.2		70.1		75.8		60.8		75.1		74.9		82.9		80		80		55.6	
EPH (C9-C28)	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
PETROLEUM HYDROCARBONS	88.7		94.8		150		122		125		102		195		125		131		131		138		76.4	
Residual Range Organics C28-C40	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
Residual Range Organics, Aliphatic	64.8		53.7		99.2		70.1		75.8		60.8		75.1		74.9		82.9		80		80		55.6	
Residual Range Organics, Aromatic	24		41.1		50.4		52.2		49.2		41.4		120		50.5		48.2		51		57.6		20.8	
Total EPH (C9-C40)	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	5.2	U	5.4	U	5.6	U	5.5	U	5.8	U	5.4	U	5.7	U	5.3	U	5.9	U	5.9	U	5.9	U	5.4	U

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amended 8/9/2010 cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7E

Concrete Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	087-WC																					
CLIENT SAMPLE ID	087-WC-C04-091113		087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C01-091713		124-WC-C02-091713		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114	
LAB SAMPLE ID	JB47199-4		JB47199-5		JB47199-6		JB47199-7		JB47199-8		JB47199-9		JB47734-1		JB47734-2		JB59616-1		JB59616-2		JB59616-3	
DATE SAMPLED	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		09/17/2013		02/12/2014		02/12/2014		02/12/2014	
EPH (mg/kg)	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	5.5	U	5.3	U	5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	5.5	U	5.3	U	5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	5.5	U	5.3	U	5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	5.5	U	5.3	U	5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	5.5	U	5.3	U	5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	19.9		22.8		5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	5.5	U	5.3	U	5.4	U	196		55.8		80.5		5.5	U	6.3	U	NT		NT		NT	
EPH (C9-C28)	NT		NT		NT		NT		NT		NT		NT		NT		35.5		169		154	
EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	NT		NT		NT		NT		NT		NT		NT		NT		NT		NT		NT	
PETROLEUM HYDROCARBONS	19.9		22.8		5.4	U	196		55.8		80.5		5.5	U	6.3	U	NT				NT	
Residual Range Organics C28-C40	NT		NT		NT		NT		NT		NT		NT		NT		6.8	U	7	U	114	
Residual Range Organics, Aliphatic	5.5	U	5.3	U	5.4	U	196		55.8		80.5		5.5	U	6.3	U	NT		NT		NT	
Residual Range Organics, Aromatic	19.9		22.8		5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	
Total EPH (C9-C40)	NT		NT		NT		NT		NT		NT		NT		NT		35.5		169		268	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	5.5	U	5.3	U	5.4	U	5.5	U	5.3	U	5.3	U	5.5	U	6.3	U	NT		NT		NT	

	124-WC							
CLIENT SAMPLE ID	124-WC-C14-021114		124-WC-C15-040414		124-WC-C16-040414			
LAB SAMPLE ID	JB59616-4		JB63854-1		JB63854-2			
DATE SAMPLED	02/12/2014		04/04/2014		04/04/2014			
EPH (mg/kg)	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**		
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	NT		NT		NT			
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	NT		NT		NT			
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	NT		NT		NT			
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	NT		NT		NT			
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	NT		NT		NT			
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	NT		NT		NT			
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	NT		NT		NT			
EPH (C9-C28)	33.6		746		216			
EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	NT		7.4	U	65.6			
PETROLEUM HYDROCARBONS	NT		NT		NT			
Residual Range Organics C28-C40	16.5		NT		NT			
Residual Range Organics, Aliphatic	NT		NT		NT			
Residual Range Organics, Aromatic	NT		NT		NT			
Total EPH (C9-C40)	50.1		746		282			
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	NT		NT		NT			

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7E

Concrete Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	124-WC									
CLIENT SAMPLE ID	124-WC-C17-041114	124-WC-C18-041114	124-WC-C19-041114	124-WC-C20-041114	124-WC-C21-050914	124-WC-C22-053014	124-WC-C23-053014	124-WC-C24-053014	124-WC-C25-061614	124-WC-C26-072914
LAB SAMPLE ID	JB64504-1	JB64504-2	JB64504-3	JB64504-4	JB66694-1	JB68105-1	JB68105-2	JB68105-3	JB69461-1	JB72778-1
DATE SAMPLED	04/11/2014	04/11/2014	04/11/2014	04/11/2014	05/09/2014	05/30/2014	05/30/2014	05/30/2014	06/16/2014	07/29/2014
EPH (mg/kg)	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
EPH (C9-C28)	235 J	114	382	54.9	6.3 U	61.7	15.8	96.4	69.5	NT
EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	47.6	53.5	40.6	93	6.3 U	10.5	6.6 U	54.7	6.2 U	NT
PETROLEUM HYDROCARBONS	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
Residual Range Organics C28-C40	NT	NT	NT	NT	NT	NT	NT	NT	NT	NT
Residual Range Organics, Aliphatic	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
Residual Range Organics, Aromatic	NT	NT	NT	NT	NT	NT	NT	NT	NT	5.4 U
Total EPH (C9-C40)	283	168	423	148	6.3 U	72.2	15.8	151	69.5	NT
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	NT	NT	NT	NT	NT	NT	NT	NT	NT NT	5.4 U

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7E

Concrete Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	124-WC															
CLIENT SAMPLE ID	124-WC-C27-072914		124-WC-C28-090514		124-WC-C29-092314		124-WC-C30-092314		124-WC-C31-092314		124-WC-C32-100214		124-WC-C33-100214		124-WC-C34-100214	
LAB SAMPLE ID	JB72778-2		JB75850-1		JB77376-1		JB77376-2		JB77376-3		JB78325-1		JB78325-2		JB78325-3	
DATE SAMPLED	07/29/2014		09/05/2014		09/23/2014		09/23/2014		09/23/2014		10/02/2014		10/02/2014		10/02/2014	
EPH (mg/kg)	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	13		5.5	U	5.3	U	5.4	U	5.6	U	5.1	U	5.7	U	5.6	U
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	5.2	U	5.5	U	5.3	U	5.4	U	5.6	U	5.1	U	334		5.6	U
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	5.2	U	5.5	U	5.3	U	5.4	U	5.6	U	5.1	U	66.7		5.6	U
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	5.2	U	5.5	U	5.3	U	88		5.6	U	5.1	U	264		5.6	U
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	5.2	U	5.5	U	5.3	U	37.5		5.6	U	30.9	J	159	J	5.6	UJ
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	5.2	U	5.5	U	5.3	U	186		5.6	U	5.1	U	41		5.6	U
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	5.2	U	5.5	U	14.3		1650		114		33.9	J	121	J	5.6	UJ
EPH (C9-C28)	NT		NT		NT		NT		NT		NT		NT		NT	
EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	NT		NT		NT		NT		NT		NT		NT		NT	
PETROLEUM HYDROCARBONS	13		5.5	U	14.3		1960		114		64.8		1010		5.6	U
Residual Range Organics C28-C40	NT		NT		NT		NT		NT		NT		NT		NT	
Residual Range Organics, Aliphatic	5.2	U	5.5	U	14.3		1740		114		33.9		745		5.6	U
Residual Range Organics, Aromatic	13		5.5	U	5.3	U	223		5.6	U	30.9		267		5.6	U
Total EPH (C9-C40)	NT		NT		NT		NT		NT		NT		NT		NT	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	5.2	U	5.5	U	5.3	U	5.4	U	5.6	U	5.1	U	25.4		5.6	U

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7E

Concrete Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	124-WC									
CLIENT SAMPLE ID	124-WC-C35-121914		124-WC-C36-121914		124-WC-C37-121914		124-WC-C38-012916		124-WC-C39-012916	
LAB SAMPLE ID	JB84701-1		JB84701-2		JB85005-1		JC13390-1		JC13390-2	
DATE SAMPLED	12/19/2014		12/19/2014		12/24/2014		01/29/2016		01/29/2016	
EPH (mg/kg)	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	5.3	U	5.4	U	5.8	U	NT		NT	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	5.3	U	5.4	U	154		NT		NT	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	5.3	U	5.4	U	5.8	U	NT		NT	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	5.3	U	5.4	U	146		NT		NT	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	5.3	U	5.4	U	50.5		NT		NT	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	5.3	U	5.4	U	5.8	U	NT		NT	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	32		27.4		30.5		NT		NT	
EPH (C9-C28)	NT		NT		NT		297	J	216	
EXTRACTABLE PETROLEUM HYDROCARBONS (>C28-C40)	NT		NT		NT		6.8	U	34.9	
PETROLEUM HYDROCARBONS	32		27.4		381		NT		NT	
Residual Range Organics C28-C40	NT		NT		NT		NT		NT	
Residual Range Organics, Aliphatic	32		27.4		331		NT		NT	
Residual Range Organics, Aromatic	5.3	U	5.4	U	50.5		NT		NT	
Total EPH (C9-C40)	NT		NT		NT		NT		NT	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	5.3	U	5.4	U	5.8	U	NT		NT	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; cap value for total organic contaminants in the Soil Cleanup Criteria Table; last amended 5/12/1999

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7F

Concrete Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC																	
CLIENT SAMPLE ID			087-WC-C01-091113		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-1		JB47199-10		JB47199-11		JB47199-12		JB47199-13		JB47199-14		JB47199-15		JB47199-16		JB47199-17	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
General Chemistry (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CYANIDE	1600	20	0.66		0.35		0.63		0.65		0.31		0.4		0.48		0.45		0.33	
HEXAVALENT CHROMIUM	20	NC	0.65		0.46		0.61		0.57		0.5		0.6		0.63		0.52		0.51	

			087-WC							
CLIENT SAMPLE ID			087-WC-C18-091113		087-WC-C02-091113		087-WC-C03-091113		087-WC-C04-091113	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-18		JB47199-2		JB47199-3		JB47199-4	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013	
General Chemistry (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CYANIDE	1600	20	0.39		0.41		0.72		0.24	U
HEXAVALENT CHROMIUM	20	NC	0.54		0.55		0.55		0.43	U

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7F

Concrete Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			087-WC										124-WC									
CLIENT SAMPLE ID			087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114		124-WC-C14-021114		124-WC-C15-040414	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB47199-5		JB47199-6		JB47199-7		JB47199-8		JB47199-9		JB59616-1		JB59616-2		JB59616-3		JB59616-4		JB63854-1	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		02/12/2014		02/12/2014		02/12/2014		02/12/2014		04/04/2014	
General Chemistry (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CYANIDE	1600	20	0.25	U	0.25	U	0.37		0.25	U	0.4		NT		NT		NT		NT		NT	
HEXAVALENT CHROMIUM	20	NC	0.6		0.47		0.62		0.78		0.78		1.7		0.7		4.1		2.6		2.3	

			124-WC					
CLIENT SAMPLE ID			124-WC-C16-040414		124-WC-C17-041114		124-WC-C18-041114	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB63854-2		JB64504-1		JB64504-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	04/04/2014		04/11/2014		04/11/2014	
General Chemistry (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CYANIDE	1600	20	NT		NT		NT	
HEXAVALENT CHROMIUM	20	NC	2.9		2.6		9	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C.

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7F

Concrete Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC																	
CLIENT SAMPLE ID			124-WC-C19-041114		124-WC-C20-041114		124-WC-C21-050914		124-WC-C22-053014		124-WC-C23-053014		124-WC-C24-053014		124-WC-C25-061614		124-WC-C26-072914		124-WC-C27-072914	
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB64504-3		JB64504-4		JB66694-1/1R		JB68105-1		JB68105-2		JB68105-3		JB69461-1		JB72778-1		JB72778-2	
DATE SAMPLED	STRINGENT SRS	IGW SOIL	04/11/2014		04/11/2014		05/09/2014		05/30/2014		05/30/2014		05/30/2014		06/16/2014		07/29/2014		07/29/2014	
General Chemistry (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CYANIDE	1600	20	NT		NT		NT		NT		NT		NT		NT		NT		NT	
HEXAVALENT CHROMIUM	20	NC	2.2		2.7		3.4		6		0.51		4.2		0.62		1.1		1.7	

			124-WC																	
CLIENT SAMPLE ID			124-WC-C28-090514		124-WC-C29-092314		124-WC-C30-092314		124-WC-C31-092314											
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB75850-1		JB77376-1		JB77376-2/2R		JB77376-3											
DATE SAMPLED	STRINGENT SRS	IGW SOIL	09/05/2014		09/23/2014		09/23/2014		09/23/2014											
General Chemistry (mg/kg)			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**										
CYANIDE	1600	20	NT		NT		NT		NT											
HEXAVALENT CHROMIUM	20	NC	2.6		10.2	J	1.6	J	10	J										

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C.

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7F

Concrete Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			124-WC							
CLIENT SAMPLE ID			124-WC-C32-100214	124-WC-C33-100214	124-WC-C34-100214	124-WC-C35-121914	124-WC-C36-121914	124-WC-C37-121914	124-WC-C38-012916	124-WC-C39-012916
LAB SAMPLE ID	NJ 2012 MOST	NJ 2013	JB78325-1	JB78325-2	JB78325-3	JB84701-1	JB84701-2	JB85005-1	JC13390-1	JC13390-2
DATE SAMPLED	STRINGENT SRS	IGW SOIL	10/02/2014	10/02/2014	10/02/2014	12/19/2014	12/19/2014	12/24/2014	01/29/2016	01/29/2016
General Chemistry (mg/kg)			**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**	**CONC Q**
CYANIDE	1600	20	NT	NT	NT	NT	NT	NT	NT	NT
HEXAVALENT CHROMIUM	20	NC	**604** J	**272** J	**329**	13.1 J	3.2 J	2.6	2.2	2.6

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards

NJ 2013 IGW SOIL – NJDEP Impact to Groundwater Soil Screening Levels [N.J.A.C.

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

NT: Not Tested

U: Not detected above method detection limit

Prepared by: DP 02/15/2016

Reviewed by: JD 05/24/2016

TABLE 7G

Concrete Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		087-WC																			
CLIENT SAMPLE ID		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C01-091113		087-WC-C02-091113		087-WC-C03-091113		087-WC-C04-091113	
LAB SAMPLE ID	RCRA Toxicity Characteristics	JB47199-10A/10B		JB47199-11A/11B		JB47199-12A/12B		JB47199-13A/13B		JB47199-14A/14B		JB47199-15A/15B		JB47199-16A/16B		JB47199-17A/17B		JB47199-18A/18B		JB47199-1A/1B		JB47199-2A/2B		JB47199-3A/3B		JB47199-4A/4B	
DATE SAMPLED	(40 CFR261.24)	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
SA-6 TAL Metals (mg/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BERYLLIUM	NC	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CADMIUM	1	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHROMIUM	5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
LEAD	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
SELENIUM	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U

Notes:

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

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7G

Concrete Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		087-WC										124-WC											
CLIENT SAMPLE ID		087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C01-091713		124-WC-C02-091713		124-WC-C11-021114		124-WC-C12-021114		124-WC-C13-021114		124-WC-C14-021114		124-WC-C15-040414		124-WC-C16-040414	
LAB SAMPLE ID	RCRA Toxicity Characteristics	JB47199-5A/5B		JB47199-6A/6B		JB47199-7A/7B		JB47199-8A/8B		JB47199-9A/9B		JB47734-1A		JB47734-2A		JB59616-1A		JB59616-2A		JB59616-3A		JB59616-4A		JB63854-1A		JB63854-2A	
DATE SAMPLED	(40 CFR261.24)	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		09/17/2013		02/12/2014		02/12/2014		02/12/2014		02/12/2014		04/04/2014		04/04/2014	
SA-6 TAL Metals (mg/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BERYLLIUM	NC	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	-		-		-		-		-		-		-		-	
CADMIUM	1	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0095		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHROMIUM	5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.011		0.01	U	0.069		0.065		0.021	J	0.069	J
LEAD	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
SELENIUM	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.05	U	0.05	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U

Notes:

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

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7G

Concrete Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		124-WC																			
CLIENT SAMPLE ID		124-WC-C17-041114		124-WC-C18-041114		124-WC-C19-041114		124-WC-C20-041114		124-WC-C21-050914		124-WC-C22-053014		124-WC-C23-053014		124-WC-C24-053014		124-WC-C25-061614		124-WC-C26-072914		124-WC-C27-072914		124-WC-C28-090514		124-WC-C29-092314	
LAB SAMPLE ID	RCRA Toxicity Characteristics	JB64504-1A		JB64504-2A		JB64504-3A		JB64504-4A		JB66694-1A		JB68105-1A		JB68105-2A		JB68105-3A		JB69461-1A		JB72778-1		JB72778-2		JB75850-1		JB77376-1	
DATE SAMPLED	(40 CFR261.24)	04/11/2014		04/11/2014		04/11/2014		04/11/2014		05/09/2014		05/30/2014		05/30/2014		05/30/2014		06/16/2014		07/29/2014		07/29/2014		09/05/2014		09/23/2014	
SA-6 TAL Metals (mg/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	100	1	U	1	U	1	U	1	U	1	U	1	UJ	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BERYLLIUM	NC	-		-		-		-		-		-		-		-		-		-		-		-		-	
CADMIUM	1	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	UJ	0.025	U	0.025	U	0.025	U	0.025	U
CHROMIUM	5	0.035		0.15		0.015		0.01		0.04		0.075	J	0.01	J	0.053	J	0.012		0.05	U	0.05	U	0.05	U	0.06	J
LEAD	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	0.2	0.0002	U	0.0002	U	0.0006		0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
SELENIUM	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	5	0.01	U	0.01	U	0.01	U	0.01	U	0.02	U	0.01	U	0.01	U	0.01	U	0.01	U	0.05	U	0.05	U	0.05	U	0.05	U

Notes:

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

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7G

Concrete Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		124-WC																	
CLIENT SAMPLE ID		124-WC-C30-092314		124-WC-C31-092314		124-WC-C32-100214		124-WC-C33-100214		124-WC-C34-100214		124-WC-C35-121914		124-WC-C36-121914		124-WC-C37-121914		124-WC-C38-012916		124-WC-C39-012916	
LAB SAMPLE ID	RCRA Toxicity Characteristics	JB77376-2		JB77376-3		JB78325-1		JB78325-2		JB78325-3		JB84701-1A		JB84701-2A		JB85005-1A		JC13390-1A		JC13390-2A	
DATE SAMPLED	(40 CFR261.24)	09/23/2014		09/23/2014		10/02/2014		10/02/2014		10/02/2014		12/19/2014		12/19/2014		12/24/2014		01/29/2016		01/29/2016	
SA-6 TAL Metals (mg/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U
BERYLLIUM	NC	-		-		-		-		-		-		-		-					
CADMIUM	1	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
CHROMIUM	5	0.05	U	0.11	J	**8.4**		**5.1**		3.5		0.15		0.05	U	0.05	U	0.05	U	0.05	U
LEAD	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
SELENIUM	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	5	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U

Notes:

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

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7H

Concrete Sample Results – SPLP

Study Area 6 South

Hudson County, New Jersey

		087-WC																			
CLIENT SAMPLE ID		087-WC-C10-091113		087-WC-C11-091113		087-WC-C12-091113		087-WC-C13-091113		087-WC-C14-091113		087-WC-C15-091113		087-WC-C16-091113		087-WC-C17-091113		087-WC-C18-091113		087-WC-C01-091113		087-WC-C02-091113		087-WC-C03-091113	
LAB SAMPLE ID	NJ_Default Leachate	JB47199-10A/10B		JB47199-11A/11B		JB47199-12A/12B		JB47199-13A/13B		JB47199-14A/14B		JB47199-15A/15B		JB47199-16A/16B		JB47199-17A/17B		JB47199-18A/18B		JB47199-1A/1B		JB47199-2A/2B		JB47199-3A/3B	
DATE SAMPLED	Criteria for Class II GW	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013	
SA-6 TAL Metals (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	3	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*
BARIUM	120000	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U
BERYLLIUM	20	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CADMIUM	80	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U
CHROMIUM	NC	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
LEAD	100	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*
MERCURY	40	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NICKEL	2000	-		-		-		-		-		-		-		-		-		-		-		-	
SELENIUM	800	500	U	500	U	500	U	500	U	500	U	500	U	500	U	500	U	500	U	500	U	500	U	500	U
SILVER	800	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U	10	U
SA-6 PCB/Pesticide/Herbicide (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.5	-		-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	0.04	-		-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	6	-		-		-		-		-		-		-		-		-		-		-		-	
SA-6 GC/MS Semi-Volatiles (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ISOPHORONE	800	-		-		-		-		-		-		-		-		-		-		-		-	

Notes:

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

NJ Default Leachate Criteria for Class II Groundwater

NC: No criterion established

Bold and underlined concentrations exceed the criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in micrograms per liter (ug/L)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7H
Concrete Sample Results – SPLP
Study Area 6 South
Hudson County, New Jersey

		087-WC												124-WC											
CLIENT SAMPLE ID		087-WC-C04-091113		087-WC-C05-091113		087-WC-C06-091113		087-WC-C07-091113		087-WC-C08-091113		087-WC-C09-091113		124-WC-C02-091713		124-WC-C11A-022514		124-WC-C11B-022514		124-WC-C11C-022514		124-WC-C13A-022514		124-WC-C13B-022514	
LAB SAMPLE ID	NJ_Default Leachate	JB47199-4A/4B		JB47199-5A/5B		JB47199-6A/6B		JB47199-7A/7B		JB47199-8A/8B		JB47199-9A/9B		JB47734-2R		JB60536-1		JB60536-2		JB60536-3		JB60536-4		JB60536-5	
DATE SAMPLED	Criteria for Class II GW	09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/11/2013		09/17/2013		02/25/2014		02/25/2014		02/25/2014		02/25/2014		02/25/2014	
SA-6 TAL Metals (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	3	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	3	U	-		-		-		-		-	
BARIUM	120000	1000	U	1000	U	1000	U	1000	U	1000	U	1000	U	-		-		-		-		-		-	
BERYLLIUM	20	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	5	U	-		-	
CADMIUM	80	5	U	5	U	5	U	5	U	5	U	5	U	-		-		-		-		-		-	
CHROMIUM	NC	10	U	10	U	10	U	10	U	10	U	10	U	-		-		-		-		-		-	
LEAD	100	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	*500*	*U*	-		-		-		-		50	U	50	U
MERCURY	40	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-		-		-		-	
NICKEL	2000	-		-		-		-		-		-		-		-		-		-		-		-	
SELENIUM	800	500	U	500	U	500	U	500	U	500	U	500	U	-		-		-		-		-		-	
SILVER	800	10	U	10	U	10	U	10	U	10	U	10	U	-		-		-		-		-		-	
SA-6 PCB/Pesticide/Herbicide (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.5	-		-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	0.04	-		-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	6	-		-		-		-		-		-		-		-		-		-		0.3	U	0.3	U
SA-6 GC/MS Semi-Volatiles (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ISOPHORONE	800	-		-		-		-		-		-		-		-		-		-		-		-	

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)
NJ Default Leachate Criteria for Class II Groundwater
NC: No criterion established
Bold and underlined concentrations exceed the criteria
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7H

Concrete Sample Results – SPLP

Study Area 6 South

Hudson County, New Jersey

		124-WC																	
CLIENT SAMPLE ID		124-WC-C13C-022514		124-WC-C18a-042214		124-WC-C18b-042214		124-WC-C18c-042214		124-WC-C19a-042214		124-WC-C19b-042214		124-WC-C19c-042214		124-WC-C20a-042214		124-WC-C20b-042214		124-WC-C20c-042214		124-WC-C21a-060214		124-WC-C21b-060214	
LAB SAMPLE ID	NJ_Default Leachate	JB60536-6		JB65319-1		JB65319-2		JB65319-3		JB65319-4		JB65319-5		JB65319-6		JB65319-7		JB65319-8		JB65319-9		JB68222-1		JB68222-2	
DATE SAMPLED	Criteria for Class II GW	02/25/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		06/02/2014		06/02/2014	
SA-6 TAL Metals (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	3	-		-		-		-		-		-		-		-		-		-		-		-	
BARIUM	120000	-		-		-		-		-		-		-		-		-		-		-		-	
BERYLLIUM	20	-		-		-		-		-		-		-		-		-		-		-		-	
CADMIUM	80	-		-		-		-		-		-		-		-		-		-		-		-	
CHROMIUM	NC	-		-		-		-		-		-		-		-		-		-		-		-	
LEAD	100	50	U	-		-		-		-		-		-		-		-		-		-		-	
MERCURY	40	-		0.26		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.44		-		-	
NICKEL	2000	-		-		-		-		-		-		-		-		-		-		-		-	
SELENIUM	800	-		-		-		-		-		-		-		-		-		-		-		-	
SILVER	800	-		-		-		-		-		-		-		-		-		-		-		-	
SA-6 PCB/Pesticide/Herbicide (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.5	-		-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	0.04	-		-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	6	0.3	U	-		-		-		-		-		-		-		-		-		-		-	
SA-6 GC/MS Semi-Volatiles (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ISOPHORONE	800	-		-		-		-		-		-		-		-		-		-		2	U	2	U

Notes:

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

NJ Default Leachate Criteria for Class II Groundwater

NC: No criterion established

Bold and underlined concentrations exceed the criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in micrograms per liter (ug/L)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7H

Concrete Sample Results – SPLP

Study Area 6 South

Hudson County, New Jersey

		124-WC																	
CLIENT SAMPLE ID		124-WC-C21c-060214		124-WC-C22a-061014		124-WC-C22b-061014		124-WC-C22c-061014		124-WC-C23a-061014		124-WC-C23b-061014		124-WC-C23c-061014		124-WC-C24a-061014		124-WC-C24b-061014		124-WC-C24c-061014		124-WC-C27a-080514		124-WC-C27b-080514	
LAB SAMPLE ID	NJ_Default Leachate	JB68222-3		JB68879-1		JB68879-2		JB68879-3		JB68879-4		JB68879-5		JB68879-6		JB68879-7		JB68879-8		JB68879-9		JB73271-1		JB73271-2	
DATE SAMPLED	Criteria for Class II GW	06/02/2014		06/10/2014		06/10/2014		06/10/2014		06/10/2014		06/10/2014		06/10/2014		06/10/2014		06/10/2014		06/10/2014		08/05/2014		08/05/2014	
SA-6 TAL Metals (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	3	-		-		-		-		-		-		-		-		-		-		-		-	
BARIUM	120000	-		-		-		-		-		-		-		-		-		-		-		-	
BERYLLIUM	20	-		-		-		-		-		-		-		-		-		-		5	U	5	U
CADMIUM	80	-		-		-		-		-		-		-		-		-		-		-		-	
CHROMIUM	NC	-		-		-		-		-		-		-		-		-		-		-		-	
LEAD	100	-		-		-		-		-		-		-		-		-		-		-		-	
MERCURY	40	-		-		-		-		-		-		-		-		-		-		-		-	
NICKEL	2000	-		-		-		-		-		-		-		-		-		-		-		-	
SELENIUM	800	-		-		-		-		-		-		-		-		-		-		-		-	
SILVER	800	-		-		-		-		-		-		-		-		-		-		-		-	
SA-6 PCB/Pesticide/Herbicide (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.5	-		-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	0.04	-		-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	6	-		-		-		-		-		-		-		-		-		-		-		-	
SA-6 GC/MS Semi-Volatiles (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ISOPHORONE	800	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	2	U	-		-	

Notes:

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

NJ Default Leachate Criteria for Class II Groundwater

NC: No criterion established

Bold and underlined concentrations exceed the criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in micrograms per liter (ug/L)

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 7H

Concrete Sample Results – SPLP

Study Area 6 South

Hudson County, New Jersey

		124-WC											
CLIENT SAMPLE ID	NJ_Default Leachate Criteria for Class II GW	124-WC-C27c-080514		124-WC-C30a-092914		124-WC-C30b-092914		124-WC-C30c-092914		124-WC-C31a-092914		124-WC-C31b-092914		124-WC-C31c-092914	
LAB SAMPLE ID		JB73271-3		JB77877-1		JB77877-2		JB77877-3		JB77877-4		JB77877-5		JB77877-6	
DATE SAMPLED		08/05/2014		09/29/2014		09/29/2014		09/29/2014		09/29/2014		09/29/2014		09/29/2014	
SA-6 TAL Metals (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	3	-		-		-		-		-		-		-	
BARIUM	120000	-		-		-		-		-		-		-	
BERYLLIUM	20	5	U	-		-		-		-		-		-	
CADMIUM	80	-		-		-		-		-		-		-	
CHROMIUM	NC	-		-		-		-		-		-		-	
LEAD	100	-		-		-		-		-		-		-	
MERCURY	40	-		-		-		-		-		-		-	
NICKEL	2000	-		-		-		-		10	U	10	U	10	U
SELENIUM	800	-		-		-		-		-		-		-	
SILVER	800	-		-		-		-		-		-		-	
SA-6 PCB/Pesticide/Herbicide (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	0.5	-		0.5	U	0.5	U	0.5	U	-		-		-	
DIELDRIN	0.04	-		0.01	U	0.01	U	0.01	U	-		-		-	
PENTACHLOROPHENOL	6	-		-		-		-		-		-		-	
SA-6 GC/MS Semi-Volatiles (ug/L)		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ISOPHORONE	800	-		-		-		-		-		-		-	

Notes:
TAL: Target Analyte List; hexavalent chromium results included for comparison (see Table 1 for full results)
NJ Default Leachate Criteria for Class II Groundwater
NC: No criterion established
Bold and underlined concentrations exceed the criteria
Italicized values not detected; reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in micrograms per liter (ug/L)
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit

Prepared by: DP 02/15/2016
Reviewed by: JD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-200		163-SB-201		163-SB-202		163-SB-203			
Location ID			163-SB-200	163-SB-200	163-SB-201	163-SB-201	163-SB-202	163-SB-202	163-SB-203	163-SB-203	163-SB-203	163-SB-203
Client Sample ID			163-SB-200-1213	163-SB-200-1314	163-SB-201-1415	163-SB-201-1516	163-SB-202-1415	163-SB-202-1516	163-SB-203-1011	163-SB-203-1112	163-SB-203-1213	163-SB-203-1314
Lab Sample ID			JB92370-1R	JB92370-2R	JB92370-3R	JB92370-4R	JB92370-5	JB92370-6R	JB92370-7R	JB92370-8R	JB92370-9R	JB92370-10R
Date Sampled		NJ 2012 MOST	04/14/2015	04/14/2015	04/14/2015	04/14/2015	04/14/2015	04/14/2015	04/14/2015	04/14/2015	04/14/2015	04/14/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	9.9	10.6	**21.1**	16.4	14.3	**22.1**	6.2	9.2	14.8	11.3

Notes:

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

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-204				163-SB-205				163-SB-206		163-SB-207	
Location ID			163-SB-204	163-SB-204	163-SB-204	163-SB-204	163-SB-205	163-SB-205	163-SB-205	163-SB-205	163-SB-206	163-SB-206	163-SB-207	163-SB-207
Client Sample ID			163-SB-204-1112	163-SB-204-1213	163-SB-204-1314	163-SB-204-1415	163-SB-205-1112	163-SB-205-1213	163-SB-205-1314	163-SB-205-1415	163-SB-206-1112	163-SB-206-1213	163-SB-207-1213	163-SB-207-1314
Lab Sample ID			JB92370-12	JB92776-29	JB92370-14R	JB92776-30	JB92370-16R	JB92776-31	JB92370-18R	JB92776-32R	JB92370-20R	JB92776-33	JB92512-1R	JB92512-2R
Date Sampled		NJ 2012 MOST	04/14/2015	04/17/2015	04/14/2015	04/17/2015	04/14/2015	04/17/2015	04/14/2015	04/17/2015	04/14/2015	04/17/2015	04/15/2015	04/15/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	2.0	13.8	9.7	15.7	2.6	7.9	16.6	**64.6**	14.1	16.7	14.6	13.7

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016
Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-208		163-SB-209		163-SB-210		163-SB-211		163-SB-212		163-SB-213	
Location ID			163-SB-208	163-SB-208	163-SB-209	163-SB-209	163-SB-210	163-SB-210	163-SB-211	163-SB-211	163-SB-212	163-SB-212	163-SB-213	163-SB-213
Client Sample ID			163-SB-208-1213	163-SB-208-1314	163-SB-209-1112	163-SB-209-1213	163-SB-210-1112	163-SB-210-1213	163-SB-211-1112	163-SB-211-1213	163-SB-212-1112	163-SB-212-1213	163-SB-213-1112	163-SB-213-1213
Lab Sample ID			JB92512-3R	JB92512-4	JB92776-34	JB92512-5	JB92776-35R	JB92512-7R	JB92776-36R	JB92512-9	JB92776-37R	JB92512-11R	JB92776-38	JB92512-13R
Date Sampled		NJ 2012 MOST	04/15/2015	04/15/2015	04/17/2015	04/15/2015	04/17/2015	04/15/2015	04/17/2015	04/15/2015	04/17/2015	04/15/2015	04/17/2015	04/15/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	2.6 U	1.3 J	2.5 U	0.70	14.5	**23.1**	13.6	0.96	**44.5**	11.2	**24.0**	10.8

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-214		163-SB-215		163-SB-216		163-SB-217		163-SB-218		163-SB-219	
Location ID			163-SB-214	163-SB-214	163-SB-215	163-SB-215	163-SB-216	163-SB-216	163-SB-217	163-SB-217	163-SB-218	163-SB-218	163-SB-219	163-SB-219
Client Sample ID			163-SB-214-1213	163-SB-214-1314	163-SB-215-1314	163-SB-215-1415	163-SB-216-1314	163-SB-216-1415	163-SB-217-0809	163-SB-217-0910	163-SB-218-0809	163-SB-218-0910	163-SB-219-0304	163-SB-219-0405
Lab Sample ID			JB92512-15R	JB92512-16	JB92776-39R	JB92512-17	JB92776-40	JB92512-19	JB92776-1	JB92776-2	JB92776-3	JB92776-4R	JB92776-5R	JB92776-6R
Date Sampled		NJ 2012 MOST	04/15/2015	04/15/2015	04/17/2015	04/15/2015	04/17/2015	04/15/2015	04/17/2015	04/17/2015	04/17/2015	04/17/2015	04/17/2015	04/16/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	3.7	3.8	1.8	2.4	0.83	0.68	6.2 J	**22.5 J**	11.9 J	7.2	0.97	2.0

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-220		163-SB-221		163-SB-222		163-SB-223		163-SB-224		163-SB-225	
Location ID			163-SB-220	163-SB-220	163-SB-221	163-SB-221	163-SB-222	163-SB-222	163-SB-223	163-SB-223	163-SB-224	163-SB-224	163-SB-225	163-SB-225
Client Sample ID			163-SB-220-0304	163-SB-220-0405	163-SB-221-0405	163-SB-221-0506	163-SB-222-0304	163-SB-222-0405	163-SB-223-0304	163-SB-223-0405	163-SB-224-0607	163-SB-224-0708	163-SB-225-0607	163-SB-225-0708
Lab Sample ID			JB92776-7R	JB92776-8R	JB92776-9	JB92776-10	JB92776-11	JB92776-12	JB92776-13R	JB92776-14	JB92776-15	JB92776-16	JB92776-17	JB92776-18
Date Sampled		NJ 2012 MOST	04/17/2015	04/16/2015	04/16/2015	04/16/2015	04/17/2015	04/16/2015	04/17/2015	04/16/2015	04/16/2015	04/16/2015	04/16/2015	04/16/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	3.5	1.4	9.7	3.7	2.4	0.80	1.6	2.0	17.0	17.7	0.51 U	0.53

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-226		163-SB-227		163-SB-228		163-SB-229		163-SB-230		163-SB-231	
Location ID			163-SB-226	163-SB-226	163-SB-227	163-SB-227	163-SB-228	163-SB-228	163-SB-229	163-SB-229	163-SB-230	163-SB-230	163-SB-231	163-SB-231
Client Sample ID			163-SB-226-1617	163-SB-226-1718	163-SB-227-0708	163-SB-227-0809	163-SB-228-0607	163-SB-228-0708	163-SB-229-0809	163-SB-229-0910	163-SB-230-1012	163-SB-230-1113	163-SB-231-1213	163-SB-231-1314
Lab Sample ID			JB92776-19	JB92776-20R	JB92776-21R	JB92776-22	JB92776-23R	JB92776-24	JB92776-25R	JB92776-26	JB92776-27R	JB92776-28	JB92822-1	JB92822-2R
Date Sampled		NJ 2012 MOST	04/16/2015	04/16/2015	04/17/2015	04/16/2015	04/16/2015	04/16/2015	04/16/2015	04/16/2015	04/16/2015	04/16/2015	04/20/2015	04/20/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	1.4	5.7	16.9	8.3	8.4	8.4	**57.2**	**79.3**	**27.7**	**40.7**	**27.6** J	**23.8**

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-232		163-SB-233		163-SB-234		163-SB-235		163-SB-236	
Location ID			163-SB-232	163-SB-232	163-SB-233	163-SB-233	163-SB-234	163-SB-234	163-SB-235	163-SB-235	163-SB-236	163-SB-236
Client Sample ID			163-SB-232-1213	163-SB-232-1314	163-SB-233-1112	163-SB-233-1213	163-SB-234-1112	163-SB-234-1213	163-SB-235-1112	163-SB-235-1213	163-SB-236-1112	163-SB-236-1213
Lab Sample ID			JB92822-3	JB92822-4	JB92822-5R	JB92822-6	JB92822-7	JB92822-8	JB92822-9	JB92822-10R	JB92822-11R	JB92822-12
Date Sampled		NJ 2012 MOST	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/20/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	**39.2** J	**36.1** J	**68.0**	4.3	**102**	**22.2**	**53.3**	**31.0**	**50.6**	11.5

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-237				163-SB-238				163-SB-239		163-SB-240	
Location ID			163-SB-237	163-SB-237	163-SB-237	163-SB-237	163-SB-238	163-SB-238	163-SB-238	163-SB-238	163-SB-239	163-SB-239	163-SB-240	163-SB-240
Client Sample ID			163-SB-237-1112	163-SB-237-1213	163-SB-237-1314	163-SB-237-1415	163-SB-238-1112	163-SB-238-1213	163-SB-238-1314	163-SB-238-1415	163-SB-239-1112	163-SB-239-1213	163-SB-240-1415	163-SB-240-1516
Lab Sample ID			JB92822-13	JB92822-14R	JB92822-15	JB92822-16	JB92881-1R	JB92881-2R	JB92881-3R	JB92881-4R	JB92881-5R	JB92881-6R	JB92881-7R	JB92881-8R
Date Sampled		NJ 2012 MOST	04/20/2015	04/20/2015	04/20/2015	04/20/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	**34.3**	**38.7**	**31.3**	**80.6**	11.2	5.0	18.4	**31.6**	17.9	**36.8**	**27.2**	13.1

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-241		163-SB-242		163-SB-243		163-SB-244		163-SB-245		163-SB-246	
Location ID			163-SB-241	163-SB-241	163-SB-242	163-SB-242	163-SB-243	163-SB-243	163-SB-244	163-SB-244	163-SB-245	163-SB-245	163-SB-246	163-SB-246
Client Sample ID			163-SB-241-1213	163-SB-241-1314	163-SB-242-1415	163-SB-242-1516	163-SB-243-0809	163-SB-243-0910	163-SB-244-0809	163-SB-244-0910	163-SB-245-1314	163-SB-245-1415	163-SB-246-0809	163-SB-246-0910
Lab Sample ID			JB92881-9R	JB92881-10R	JB92881-11R	JB92881-12R	JB92881-13R	JB92881-14R	JB92881-15R	JB92881-16	JB92881-17R	JB92881-18	JB92881-19R	JB92881-20R
Date Sampled		NJ 2012 MOST	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015	04/21/2015
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q
HEXAVALENT CHROMIUM	mg/kg	20	**22.2**	**30.6**	**27.3**	**92.5**	4.2	9.9	**34.9**	**22.3**	1.9 U	2.4	**44.5**	**39.7**

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 8

Site 163 In-Situ Soil Samples

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

			163-SB-247		163-SB-248		163-SB-249		163-SB-250		163-SB-251		163-SB-252	
Location ID			163-SB-247	163-SB-247	163-SB-248	163-SB-248	163-SB-249	163-SB-249	163-SB-250	163-SB-250	163-SB-251	163-SB-251	163-SB-252	
Client Sample ID			163-SB-247-0809	163-SB-247-0910	163-SB-248-0304	163-SB-248-0405	163-SB-249-0304	163-SB-249-0405	163-SB-250-0607	163-SB-250-0708	163-SB-251-0304	163-SB-251-0405	163-SB-252-0201	
Lab Sample ID			JB92948-1	JB92948-2	JB92948-3	JB92948-4	JB92948-5	JB92948-6	JB92948-7	JB92948-8R	JB92948-9	JB92948-10	JC6658-1R	
Date Sampled		NJ 2012 MOST	04/22/2015	04/22/2015	04/22/2015	04/22/2015	04/22/2015	04/22/2015	04/22/2015	04/22/2015	04/22/2015	04/22/2015	10/20/2015	
Parameter Name	Units	STRINGENT SRS	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	CONC Q	
HEXAVALENT CHROMIUM	mg/kg	20	7.7	4.2	1.9	0.75	9.9	15.0	0.51 U	0.64	17.1	9.0	12.4 J	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediatic

Bold and shaded concentrations exceed the NJ 2012 MOST STRINGENT SRS

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
1-7	<20	7-20-a (A1)	500	124-7-20-a1	10/31/2013	5.8	Yes		
				124-7-20-a2	10/31/2013	7.8	Yes		
				124-7-20-a3	10/31/2013	4.6	Yes		
				124-7-20-a4	10/31/2013	4.7	Yes		
7-12	<20	12-20-a, b (A2) & (A3)	1000	124-12-20-a1	11/26/2013	26.1		Yes	
				124-12-20-a2	11/26/2013	2.9	Yes		
				124-12-20-a3	11/26/2013	7.8	Yes		
				124-12-20-a4	11/26/2013	23.2		Yes	
				124-12-20-b1	11/26/2013	4.3	Yes		
				124-12-20-b2	11/26/2013	2.5	Yes		
				124-12-20-b3	11/26/2013	5.1	Yes		
				124-12-20-b4	11/26/2013	5.8	Yes		
12-22	<20	22-20-a (A4) & (A5)	600	124-22-20-a1	12/13/2013	5.5	Yes		
				124-22-20-a2	12/13/2013	11.9	Yes		
				124-22-20-a3	12/13/2013	1.3	Yes		
				124-22-20-a4	12/13/2013	2.3	Yes		
12-25	<20	25-20-a (A6)	1000	124-25-20-a1	12/23/2013	1.6	Yes		
				124-25-20-a2	12/23/2013	1.7	Yes		
				124-25-20-a3	12/23/2013	10.8	Yes		
				124-25-20-a4	12/23/2013	17.4	Yes		
20-29	<20	29-20-a (A8)	500	124-29-20-a1	1/13/2014	0.31	Yes		
				124-29-20-a2	1/13/2014	0.84	Yes		
				124-29-20-a3	1/13/2014	3.4	Yes		
				124-29-20-a4	1/13/2014	1.9	Yes		
30-41	>1000	41-1000-a	750	124-41-1000-a1	2/25/2014	1,750			Yes
				124-41-1000-a2	2/25/2014	3,690			Yes
				124-41-1000-a3	2/25/2014	3,410			Yes
				124-41-1000-a4	2/25/2014	453		Yes	
30-41	>1000	41-1000-b	750	124-41-1000-b1	2/25/2014	490		Yes	
				124-41-1000-b2	2/25/2014	1,110			Yes
				124-41-1000-b3	2/25/2014	669		Yes	
				124-41-1000-b4	2/25/2014	1,920			Yes
37-46	<20	46-20-a & b (A10)	1500	124-46-20-a1	3/12/2014	3.2	Yes		
				124-46-20-a2	3/12/2014	2.2	Yes		
				124-46-20-a3	3/12/2014	3.9	Yes		
				124-46-20-a4	3/12/2014	2	Yes		
				124-46-20-b1	3/12/2014	2.9	Yes		
				124-46-20-b2	3/12/2014	3.8	Yes		
				124-46-20-b3	3/12/2014	2.2	Yes		
				124-46-20-b4	3/12/2014	2.6	Yes		
41-49	>1000	124-49-1000-a	1000	124-49-1000-a1	3/24/2014	3490			Yes
				124-49-1000-a2	3/24/2014	3850			Yes
				124-49-1000-a3	3/24/2014	2580			Yes
				124-49-1000-a4	3/24/2014	5570			Yes

Prepared by JD 05/01/2016

Reviewed by NW 05/15/2016

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
41-49	>1000	124-49-1000-b	1000	124-49-1000-b1	3/24/2014	8840			Yes
				124-49-1000-b2	3/24/2014	2340			Yes
				124-49-1000-b3	3/24/2014	2		Yes	
				124-49-1000-b4	3/24/2014	4250			Yes
47-57	<20	124-57-20-a, b, & c (A11)	2580	124-57-20-a1	4/4/2014	17.0	Yes		
				124-57-20-a2	4/4/2014	3.8	Yes		
				124-57-20-a3	4/4/2014	4.2	Yes		
				124-57-20-a4	4/4/2014	<.52	Yes		
				124-57-20-b1	4/4/2014	4.1	Yes		
				124-57-20-b2	4/4/2014	14.2	Yes		
				124-57-20-b3	4/4/2014	15.7	Yes		
				124-57-20-b4	4/4/2014	<.49	Yes		
				124-57-20-c1	4/4/2014	10.3	Yes		
				124-57-20-c2	4/4/2014	11.6	Yes		
				124-57-20-c3	4/4/2014	8.9	Yes		
				124-57-20-c4	4/4/2014	41.4		Yes	
49-59	>1000	124-59-1000-a	800	124-59-1000-a1	4/11/2014	11,000			Yes
				124-59-1000-a2	4/11/2014	26,900			Yes
				124-59-1000-a3	4/11/2014	11,900			Yes
				124-59-1000-a4	4/11/2014	32,700			Yes
57,58 144-152	<20	124-152-20-a (A12)	800	124-152-20-a1	4/23/2014	0.73	Yes		
				124-152-20-a2	4/23/2014	0.76	Yes		
				124-152-20-a3	4/23/2014	0.42	Yes		
				124-152-20-a4	4/23/2014	1.2	Yes		
135,141,143-145	<20	124-145-20-a (A13)	675	124-145-20-a1	5/9/2014	22.8		Yes	
				124-145-20-a2	5/9/2014	0.4	Yes		
				124-145-20-a3	5/9/2014	5.4	Yes		
				124-145-20-a4	5/9/2014	3.0	Yes		
139-142B, 131-132A	<20	124-142-20-a (A14)	1000	124-142-20-a1	5/15/2014	2.1	Yes		
				124-142-20-a2	5/15/2014	8.7	Yes		
				124-142-20-a3	5/15/2014	5.9	Yes		
				124-142-20-a4	5/15/2014	4.3	Yes		

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

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
135-138B, 131A	<20	124-138-20-a, b (A15)	1500	124-138-20-a1	5/19/2014	4.0	Yes		
				124-138-20-a2	5/19/2014	10.2	Yes		
				124-138-20-a3	5/19/2014	5.7	Yes		
				124-138-20-a4	5/19/2014	3.9	Yes		
				124-138-20-b1	5/19/2014	1.2	Yes		
				124-138-20-b2	5/19/2014	4.9	Yes		
				124-138-20-b3	5/19/2014	2.7	Yes		
				124-138-20-b4	5/19/2014	5.4	Yes		
129-134	<20	124-134-20-a, b (A16)	1250	124-134-20-a1	5/21/2014	7.5	Yes		
				124-134-20-a2	5/21/2014	7.8	Yes		
				124-134-20-a3	5/21/2014	4.2	Yes		
				124-134-20-a4	5/21/2014	30.5		Yes	
				124-134-20-b1	5/21/2014	10.7	Yes		
				124-134-20-b2	5/21/2014	2.5	Yes		
				124-134-20-b3	5/21/2014	4.9	Yes		
				124-134-20-b4	5/21/2014	7.3	Yes		
126-128	<20	124-128-20-a (A17)	1000	124-128-20-a1	6/3/2014	32.4		Yes	
				124-128-20-a2	6/3/2014	38.4		Yes	
				124-128-20-a3	6/3/2014	17.0	Yes		
				124-128-20-a4	6/3/2014	45.1		Yes	
124-126	<20	124-126-20-a, b (A18)	1450	124-126-20-a1	6/13/2014	41.1		Yes	
				124-126-20-a2	6/13/2014	13.9	Yes		
				124-126-20-a3	6/13/2014	15.0	Yes		
				124-126-20-a4	6/13/2014	2.9	Yes		
				124-126-20-b1	6/13/2014	12.9	Yes		
				124-126-20-b2	6/13/2014	8.6	Yes		
				124-126-20-b3	6/13/2014	59.4		Yes	
				124-126-20-b4	6/13/2014	8.0	Yes		
119-124	<20	124-124-20-a, b (A19)	2000	124-124-20-a1	6/25/2014	11.2	Yes		
				124-124-20-a2	6/25/2014	14.6	Yes		
				124-124-20-a3	6/25/2014	12.2	Yes		
				124-124-20-a4	6/25/2014	8.0	Yes		
				124-124-20-b1	6/25/2014	19.4	Yes		
				124-124-20-b2	6/25/2014	4.8	Yes		
				124-124-20-b3	6/25/2014	2.1	Yes		
				124-124-20-b4	6/25/2014	10.5	Yes		
119-125	>1000	124-125-1000-a	550	124-125-1000-a1	6/25/2014	42.1		Yes	
				124-125-1000-a2	6/25/2014	652.0		Yes	
				124-125-1000-a3	6/25/2014	346.0		Yes	
				124-125-1000-a4	6/25/2014	400.0		Yes	

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

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
115-119	<20	124-119-20-a (A20)	1000	124-119-20-a1	6/27/2014	9.6	Yes		
				124-119-20-a2	6/27/2014	7.8	Yes		
				124-119-20-a3	6/27/2014	6.0	Yes		
				124-119-20-a4	6/27/2014	28.8		Yes	
110-118	<20	124-118-20-a (A21)	1000	124-118-20-a1	7/9/2014	20.3		Yes	
				124-118-20-a2	7/9/2014	19.7	Yes		
				124-118-20-a3	7/9/2014	37.1		Yes	
				124-118-20-a4	7/9/2014	61.1		Yes	
102-119	>1000	124-119-1000-a	800	124-119-1000-a1	7/29/2014	174.0		Yes	
				124-119-1000-a2	7/29/2014	302.0		Yes	
				124-119-1000-a3	7/29/2014	149.0		Yes	
				124-119-1000-a4	7/29/2014	2,180.0			Yes
101-112	<20	124-112-20-a,b,c (A22)	2800	124-112-20-a1	7/30/2014	16.1	Yes		
				124-112-20-a2	7/30/2014	6.7	Yes		
				124-112-20-a3	7/30/2014	8.7	Yes		
				124-112-20-a4	7/30/2014	11.0	Yes		
				124-112-20-b1	7/30/2014	2.4	Yes		
				124-112-20-b2	7/30/2014	2.6	Yes		
				124-112-20-b3	7/30/2014	14.7	Yes		
				124-112-20-b4	7/30/2014	1.6	Yes		
				124-112-20-c1	7/30/2014	24.0		Yes	
				124-112-20-c2	7/30/2014	3.4	Yes		
				124-112-20-c3	7/30/2014	6.0	Yes		
				124-112-20-c4	7/30/2014	2.6	Yes		
92-102	>1000	124-102-1000-a,b	2100	124-102-1000-a1	8/14/2014	1,680			Yes
				124-102-1000-a2	8/14/2014	487		Yes	
				124-102-1000-a3	8/14/2014	446		Yes	
				124-102-1000-a4	8/14/2014	299		Yes	
				124-102-1000-b1	8/14/2014	38.4		Yes	
				124-102-1000-b2	8/14/2014	139		Yes	
				124-102-1000-b3	8/14/2014	64.8		Yes	
				124-102-1000-b4	8/14/2014	663		Yes	

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

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
88-101	<20	124-101-20-a, b, c (A23)	2850	124-101-20-a1	8/22/2014	22.4		Yes	
				124-101-20-a2	8/22/2014	13.3	Yes		
				124-101-20-a3	8/22/2014	23.8		Yes	
				124-101-20-a4	8/22/2014	24.6		Yes	
				124-101-20-b1	8/22/2014	22.5		Yes	
				124-101-20-b2	8/22/2014	17.2	Yes		
				124-101-20-b3	8/22/2014	11.5	Yes		
				124-101-20-b4	8/22/2014	21.8		Yes	
				124-101-20-c1	8/22/2014	6.8	Yes		
				124-101-20-c2	8/22/2014	25.0		Yes	
				124-101-20-c3	8/22/2014	13.6	Yes		
				124-101-20-c4	8/22/2014	4.2	Yes		
83-88	<20	124-88-20-a,b,c (A24)	2800	124-88-20-a1	9/3/2014	7.1	Yes		
				124-88-20-a2	9/3/2014	10.9	Yes		
				124-88-20-a3	9/3/2014	15.4	Yes		
				124-88-20-a4	9/3/2014	3.3	Yes		
				124-88-20-b1	9/3/2014	9.6	Yes		
				124-88-20-b2	9/3/2014	26.6		Yes	
				124-88-20-b3	9/3/2014	6.9	Yes		
				124-88-20-b4	9/3/2014	4.4	Yes		
				124-88-20-c1	9/3/2014	18.3	Yes		
				124-88-20-c2	9/3/2014	2.6	Yes		
				124-88-20-c3	9/3/2014	9.4	Yes		
				124-88-20-c4	9/3/2014	16.2	Yes		
79-82	<20	124-82-20-a,b,c (A25)	2800	124-82-20-a1	9/17/2014	23.9		Yes	
				124-82-20-a2	9/17/2014	16.8	Yes		
				124-82-20-a3	9/17/2014	35.3		Yes	
				124-82-20-a4	9/17/2014	12.9	Yes		
				124-82-20-b1	9/17/2014	34.6		Yes	
				124-82-20-b2	9/17/2014	142		Yes	
				124-82-20-b3	9/17/2014	25.4		Yes	
				124-82-20-b4	9/17/2014	12.8	Yes		
				124-82-20-c1	9/17/2014	33.7		Yes	
				124-82-20-c2	9/17/2014	16.5	Yes		
				124-82-20-c3	9/17/2014	26.8		Yes	
				124-82-20-c4	9/17/2014	39.2		Yes	

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

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
75-78	<20	124-78-20-a,b,c (A26)	2300	124-78-20-a1	9/30/2014	9.2	Yes		
				124-78-20-a2	9/30/2014	23.3		Yes	
				124-78-20-a3	9/30/2014	15.3	Yes		
				124-78-20-a4	9/30/2014	11.9	Yes		
				124-78-20-b1	9/30/2014	15.7	Yes		
				124-78-20-b2	9/30/2014	9.3	Yes		
				124-78-20-b3	9/30/2014	25.8		Yes	
				124-78-20-b4	9/30/2014	21.2		Yes	
				124-78-20-c1	9/30/2014	19.5	Yes		
				124-78-20-c2	9/30/2014	20.4		Yes	
				124-78-20-c3	9/30/2014	25.4		Yes	
				124-78-20-c4	9/30/2014	39		Yes	
67-75	<20	124-75-20-a,b (A27)	1200	124-75-20-a1	10/16/2014	9.6	Yes		
				124-75-20-a2	10/16/2014	7.6	Yes		
				124-75-20-a3	10/16/2014	11	Yes		
				124-75-20-a4	10/16/2014	25.3		Yes	
				124-75-20-b1	10/16/2014	17.3	Yes		
				124-75-20-b2	10/16/2014	15.6	Yes		
				124-75-20-b3	10/16/2014	29.3		Yes	
				124-75-20-b4	10/16/2014	65.3		Yes	
58-67	<20	124-67-20-a,b (A28)	1665	124-67-20-a1	10/28/2014	0.45	Yes		
				124-67-20-a2	10/28/2014	98.2		Yes	
				124-67-20-a3	10/28/2014	2.6	Yes		
				124-67-20-a4	10/28/2014	5.2	Yes		
				124-67-20-b1	10/28/2014	71.9		Yes	
				124-67-20-b2	10/28/2014	340		Yes	
				124-67-20-b3	10/28/2014	29.6		Yes	
				124-67-20-b4	10/28/2014	23.3		Yes	
75-58	>1000	124-75-1000-a,b	1600	124-75-1000-a1	10/29/2014	1,410			Yes
				124-75-1000-a2	10/29/2014	750		Yes	
				124-75-1000-a3	10/29/2014	1,360			Yes
				124-75-1000-a4	10/29/2014	2,050			Yes
				124-75-1000-b1	10/29/2014	2,060			Yes
				124-75-1000-b2	10/29/2014	454		Yes	
				124-75-1000-b3	10/29/2014	591		Yes	
				124-75-1000-b4	10/29/2014	2,860			Yes
Site 163	>1000	163-122-1000-a	850	163-122-1000-a1	11/18/2014	4.5		Yes	
				163-122-1000-a2	11/12/2014	4		Yes	
				163-122-1000-a3	11/18/2014	80.1		Yes	
				163-122-1000-a4	11/12/2014	38.1		Yes	

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

TABLE 9

Stockpile Tracking Table

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Hexavalent Chromium Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
103-106	<20	124-106-20-a (A29)	950	124-106-20-a1	11/21/2014	9.2	Yes		
				124-106-20-a2	11/21/2014	12.1	Yes		
				124-106-20-a3	11/21/2014	15.6	Yes		
				124-106-20-a4	11/21/2014	20		Yes	
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	25		Yes	
				124-110-20-a2	12/2/2014	44		Yes	
				124-110-20-a3	12/2/2014	29.1		Yes	
				124-110-20-a4	12/2/2014	14.8	Yes		
				124-110-20-b1	12/2/2014	23.1		Yes	
				124-110-20-b2	12/2/2014	12.9	Yes		
				124-110-20-b3	12/2/2014	3	Yes		
				124-110-20-b4	12/2/2014	1.8	Yes		
				124-110-20-c1	12/2/2014	12.9	Yes		
				124-110-20-c2	12/2/2014	15.6	Yes		
				124-110-20-c3	12/2/2014	29.1		Yes	
				124-110-20-c4	12/2/2014	179		Yes	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	29.8		Yes	
				124-114-20-a2	12/16/2014	34.5		Yes	
				124-114-20-a3	12/16/2014	49.3		Yes	
				124-114-20-a4	12/16/2014	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	42.3		Yes	
				124-114-1000-a2	12/16/2014	65		Yes	
				124-114-1000-a3	12/16/2014	75.3		Yes	
				124-114-1000-a4	12/16/2014	16.5		Yes	
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	8.1	Yes		
				163-20-a2	1/19/2016	4.0	Yes		
				163-20-a3	1/19/2016	1.7	Yes		
				163-20-a4	1/19/2016	5.0	Yes		
Site 163	<20	163-20-a5:a8	840	163-20-a5	2/22/2016	2.7	Yes		
				163-20-a6	2/22/2016	3.6	Yes		
				163-20-a7	2/22/2016	1.0	Yes		
				163-20-a8	2/22/2016	5.1	Yes		

mg/kg = milligrams per kilogram

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

Prepared by JD 05/01/2016

Reviewed by NW 05/15/2016

TABLE 10
Study Area 6 South Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 S Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 S Cr CCR
Mobilization and Site Prep	NA	100% DR, 3.2	G-005, C-106	01100	NA	2.1
Health & Safety	NA	100% DR, 3.3, HASP	NA	01620	NA	2.2
Perimeter Air Monitoring	NA	100% DR, 3.4, PAMP	NA	01560	NA	2.3, 11
Site Security	NA	100% DR, 3.5	NA	01100	NA	2.4
Support Facilities	NA	100% DR, 3.6	C-106	01100	NA	2.5
Temporary Site Utilities	NA	100% DR, 3.7	C-106	01100	NA	2.5
Traffic Control	5	100% DR, 3.8	C-106	Summary of Work, 7.1.1.1 02332, Part 3	DC 2016-05-06	2.6
Utility Abandonment	NA	100% DR, 4.1	NA	02216	NA	2.8
Erosion Controls	5	100% DR, 18.9	G-005, C-125 to C-127	02370	DC September-16	2.1
Demolition of Existing Structures	NA	100% DR, 4.0	C-105	02220	DC 2014-5-19	2.7, 4.0
Groundwater Testing for pH	NA	100% DR, 9.1.2	NA	02180.5	DC 2013-8-14 (Grouted Angles)	2.9
Waste Classification	NA	100% DR, 3.10	NA	NA	NA	2.10, 8.8
CWTP Construction	NA	100% DR, 5.3 and 5.4, Appendix I (North DR)	NA	NA	NA	6.3
Monitoring Well Abandonment	5	100% DR, Appendix A-2 (North DR)	NA	NA	DC 2014-7-28	7.0
Monitoring Well/Piezometer Installation	2 / 5	100% DR, Appendix A-2 (North DR)	C-201 to C-203	06961, 02670	DC 2014-7-28 DC 2015-06-05	7.0
Dewatering/Pumping	NA	100% DR, 5.0	NA	02140	NA	6.0
GW Level Monitoring	NA	100% DR, Figure 7, Appendix J (North DR)	NA	16961	NA	6.4
Temporary Excavation Support	NA	100% DR, 10.0	C-112 to C-120	02150	NA	8.1
Excavation Extent Survey/Confirmation	1	100% DR, 10.0	NA	04160	DC 2015-12-21	8.3, 8.5
Excavation	1	100% DR, 10.0	G-003, G-004, C-104, C-111 to C-120	02135	DC 2013-12-12 DC 2014-5-6 DC 2014-5-19 DC 2015-01-22 DC 2015-09-28 DC 2015-12-21	8.0-8.7; 1.4,1.5, 5.2, 5.3, 12

TABLE 10
Study Area 6 South Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 S Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 S Cr CCR
Excavation Material (Stockpile) Test/Soil Reuse	1	100% DR, 3.10, Appendix G (North DR)	NA	NA	DC 2014-10-28 DC 2015-01-22	8.2, 8.4
Offsite Transportation & Disposal	1	100% DR, 11.1 to 11.5	C-111 to C-120	01600, 02332	NA	8.8
Backfill Source Testing	1	100% DR, 12.0	NA	02315	DC 2013-9-24	9.2
Concrete Testing	1	100% DR, 4.0, Appendix G (North DR)	NA	02201	DC 2014-10-31	9.3, J-1
Backfilling and Compaction	1	100% DR, 12.0	NA	02315	DC 2014-12-01	9.4
In-Place Compaction Testing	1	100% DR, 12.0 and 12.2	NA	02315	NA	9.5
Hydraulic Barrier Installation	1 / 2	100% DR, 9.0	S-201 to S-203	02170, 02180	DC 2013-8-14 (Grouted Angles) DC 2013-9-12 DC 2015-05-29 DC 2015-08-20	10.1
Vibration Monitoring	NA	100% DR, 9.1.5	NA	02150, 020180	NA	10.2
Sheet Pile Fab & Delivery	NA	100% DR, 9.1.2	NA	02180.3	NA	10.1
Epoxy Coating	NA	100% DR, 9.1.5	NA	02180.6	NA	10.1
Joint Grouting	NA	100% DR, 9.1.2 and 9.1.5	S-203	02180.5	DC 2013-8-14 (Grouted Angles)	10.1
Deflection Monitoring & Dewatering	NA	NA	NA	NA	NA	10.2
Consolidation of Soils in Open Space Area	1 / 2	100% DR, 10.1, Appendix G (North DR)	NA	01600	DC 2014-10-28 DC 2014-10-31 DC 2015-06-18	10.3
Surcharge & Surcharge Monitoring	2	100% DR, Appendix N (North DR)	C-107 to C-110	Refer to Appendix N (North DR)	DC 2013-7-29 DC 2013-8-14 (Surcharge) DC 2015-03-04	10.5
Cap Construction	2	100% DR, 13.0	C-121 to C-124, C-301, C-309, C-501 to C-504	02372, 02373, 02374, 02375	DC 2015-05-29 DC 2015-06-15 DC 2015-10-06 DC 2015-07-22 DC 2015-07-28 DC 2015-07-30	10.6

TABLE 10
Study Area 6 South Chromium Construction Completion Report (CCR)
Chromium Remedy Elements Referenced to Previous Relevant Documents

SA-6 S Chromium Remedy Element	Declaration No.	100% Design Report Location/ Section/Work Plan	100% Design Drawing	100% Design Specification	Design Change (DC)	Section in SA-6 S Cr CCR
Cap Construction (continued)	2	100% DR, 13.0	C-121 to C-124, C-301, C-309, C-501 to C-504	02372, 02373, 02374, 02375	DC 2015-08-07 DC 2015-08-18 DC 2015-08-19 DC 2015-08-21 DC 2015-10-02 DC 2016-05-06	10.6
Gas Venting System	5	100% DR, 13.2, Appendix M (North DR)	C-121	02380	DC 2015-07-16	10.6
Utility Corridors	NA	100% DR, 13.3	C-122 to C-124	NA	DC 2015-06-18 DC 2015-08-20	10.6
Final Cap Cover Soils	5	100% DR, Appendix L OSDS (North DR)	NA	02315, 02900	DC 2015-9-17 DC 2016-05-03 DC 2016-03-21 DC 2016-04-20	10.6
Final Cap Grading	5	100% DR, 13.4	C-125 to C-127	NA	DC 2015-11-12 DC 2016-04-15 DC September-16	10.6, App C
Contingent GW Extraction System Installation	2 / 5	100% DR, 9.1.7	C-201 to C-203, C-304 to C-306	NA	DC 2014-3-25 DC 2014-6-10 DC 2015-2-12 DC 2015-9-03 DC 2016-5-24 DC 2015-2-24 DC 2015-05-19 DC 2016-05-31 DC 2016-12-20	10.4
Deferred Areas	5	100% DR, 10.0	C-104	NA	DC 2014-5-19 DC 2014-12-23	2.8, 18.1, 21.0
In-Situ Treatment	5	Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012	C-104, C-111 to C-120	NA	DC 2015-06-18 (South)	12.0
Site Restoration	5	100% DR, 16.0, Appendix L OSDS (North DR)	C-128	02900	DC 2015-11-12 DC 2016-04-15	14.0

FIGURES

FIGURES

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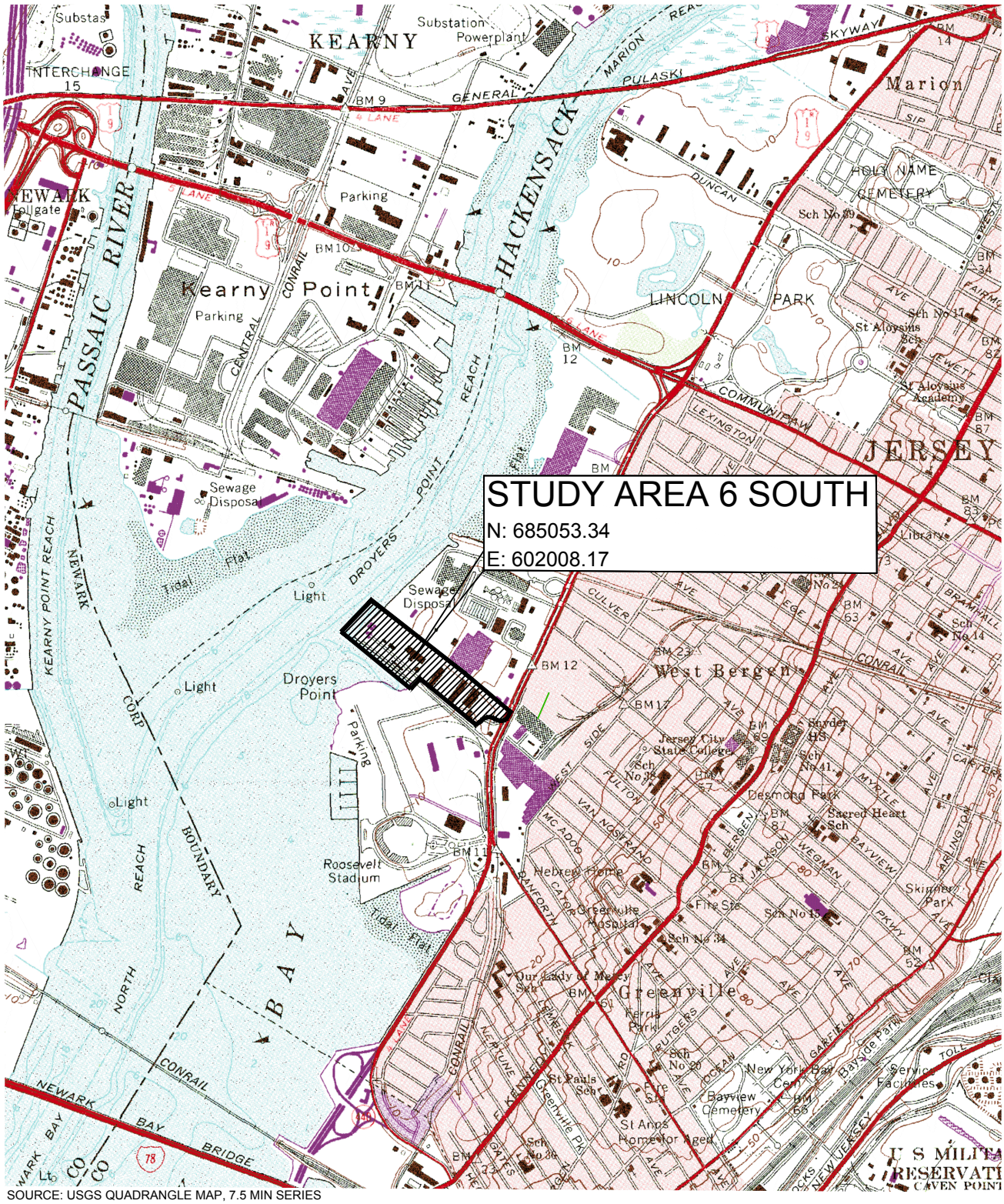

SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150488-5710-SLMO-F100	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**FIGURE 1** SITE LOCATION MAP STUDY AREA SA-6 SOUTH SITES 073, 124, 125, 134, 140 & 163 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 03/10/16 *CHECKED/DATE:* DEN 03/10/16		

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\CURRENT DRAWINGS\3480150488-5710-SLMO-F100.dwg Wed, 07 Dec 2016 - 2:21pm scott.rudkin

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LEGEND

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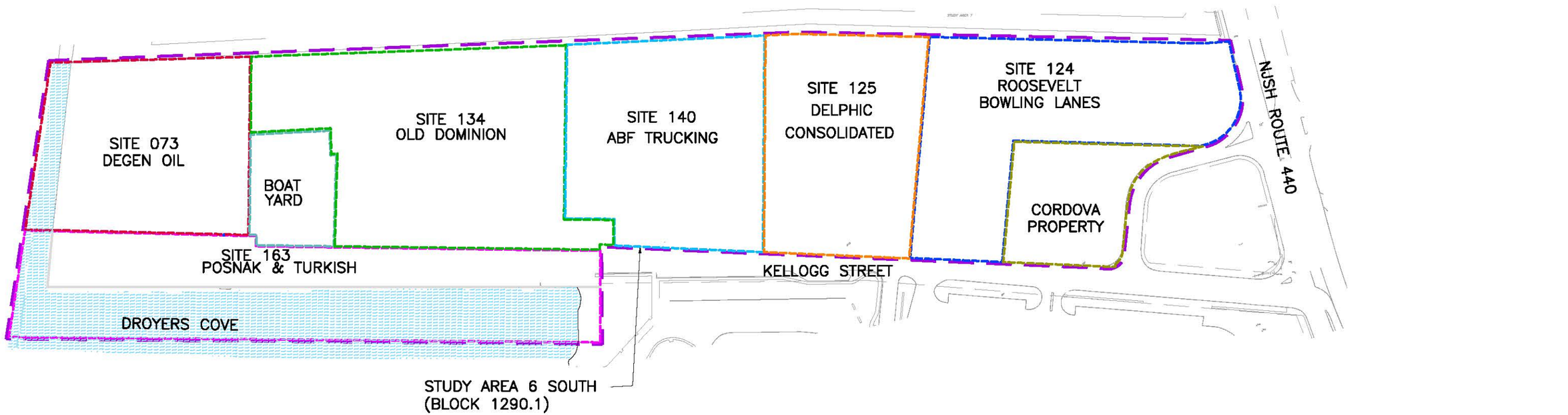
- SITE 124 PROPERTY BOUNDARY
- SITE 125 PROPERTY BOUNDARY
- SITE 134 PROPERTY BOUNDARY
- SITE 140 PROPERTY BOUNDARY
- SITE 163 PROPERTY BOUNDARY
- CORDOVA PROPERTY BOUNDARY
- BOATYARD PROPERTY BOUNDARY
- SITE BOUNDARY
- SURFACE WATER

STUDY AREA 7



0 100 200 400

SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-SL00-F200

PREPARED/DATE: STR 03/10/16

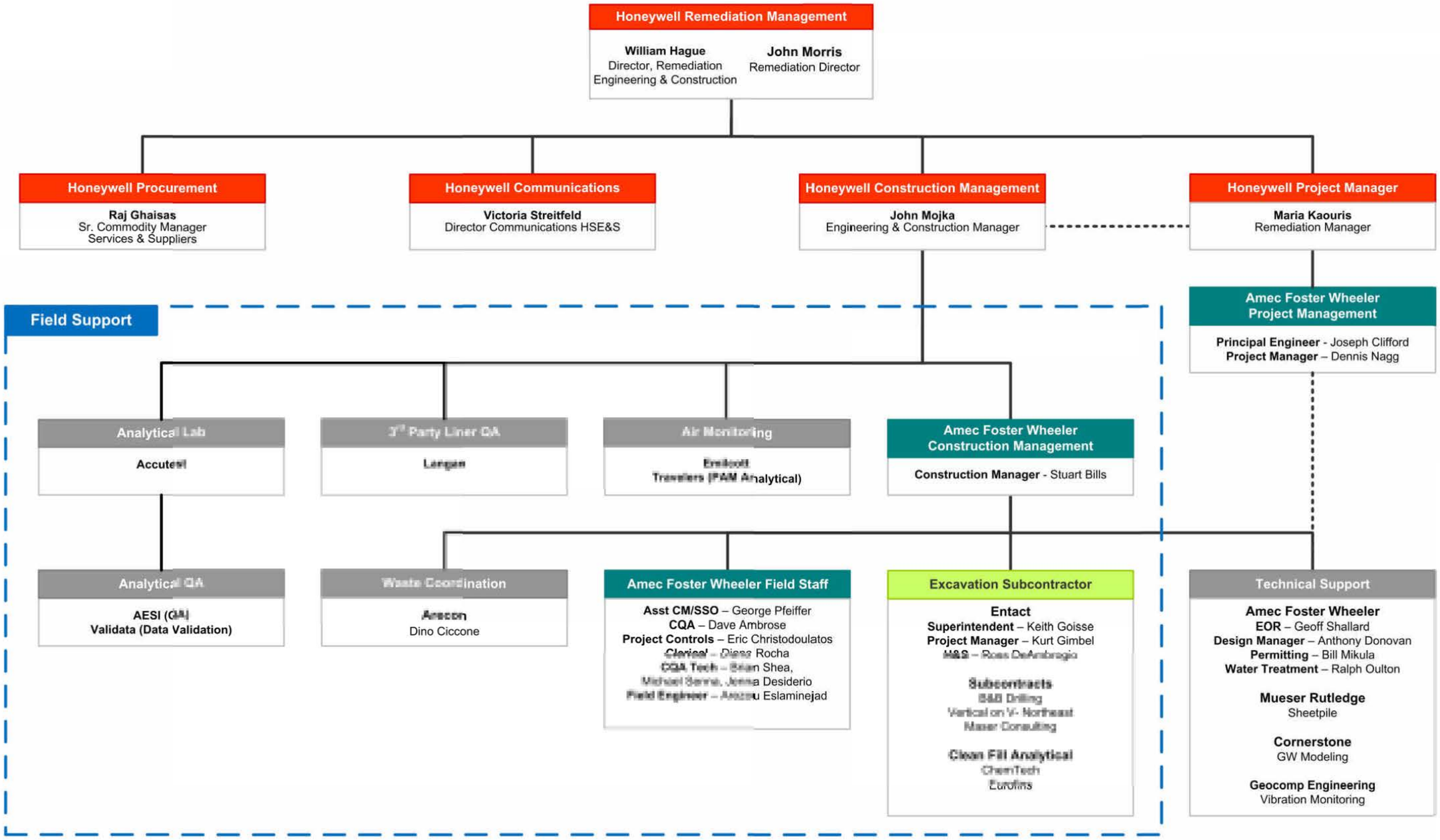
CHECKED/DATE: DEN 03/10/16

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 2
SITE LAYOUT
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

SA-6 South Project Team Organizational Chart



REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-ORGD-F300

PREPARED/DATE: STR 03/11/16

CHECKED/DATE: DEN 03/11/16

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE, Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08610

FIGURE 3
SA-6 PROJECT TEAM ORGANIZATION CHART
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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N

LEGEND

- S-1 STATIONARY PERIMETER AIR MONITORING LOCATION
- STUDY AREA 6 SOUTH SITE BOUNDARY
- STUDY AREA 6 SOUTH INDIVIDUAL SITE BOUNDARY

SITE 073
DEGEN OIL

BOATYARD
PROPERTY

SITE 134
OLD DOMINION

SITE 140
ABF TRUCKING

SITE 125
DELPHIC
CONSOLIDATED

SITE 124
ROOSEVELT
BOWLING LANES

CORDOVA
PROPERTY

SITE 163
POSNAK & TURKISH

S-1
S-2
S-3
S-4

0 50 100 200
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-PAM0-F400

PREPARED/DATE: STR 03/11/16

CHECKED/DATE: DEN 03/11/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 4
PERIMETER AIR MONITORING
STATION LOCATIONS
STUDY AREA 6 SOUTH
SITES 073,124,125,134,140 & 163
JERSEY CITY, NEW JERSEY

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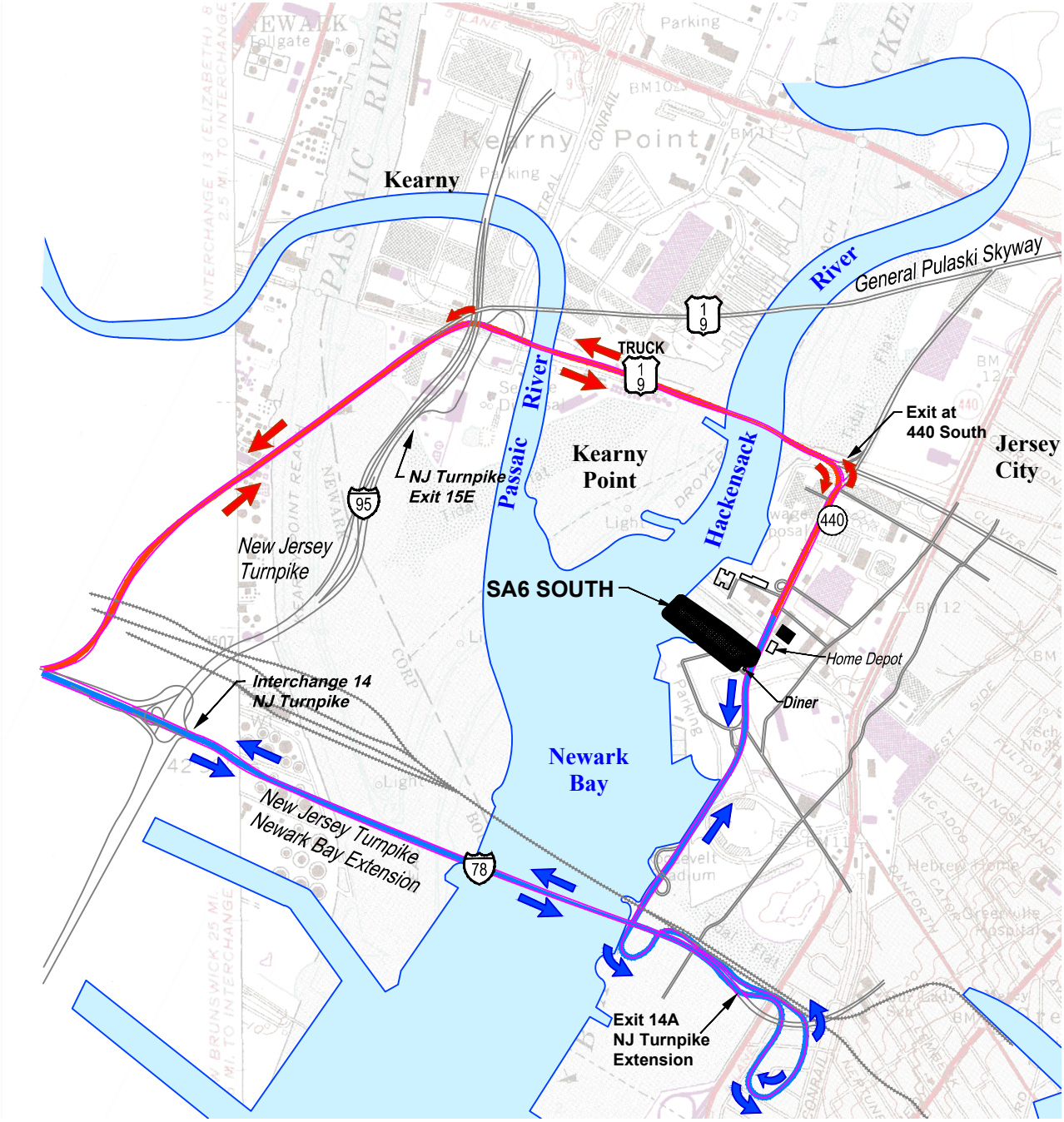
Honeywell Study Area 6
Transportation Local Routes



Primary Truck Route

Emergency/Backup Truck Route

0 50 100 200
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150488 DRAWING: 3480150488-5710-0TR0-F500		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619
PREPARED/DATE: STR 03/23/16	CHECKED/DATE: DEN 03/23/16	**FIGURE 5** TRUCK ROUTE MAP STUDY AREA 6 SOUTH SITES 073, 124,125, 134, 140 & 163 JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\CURRENT DRAWINGS\3480150488-5710-0TR0-F500.dwg Wed, 07 Dec 2016 - 2:23pm scott.rudkin

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Legend

- Station Point
- Station Label
  - 0+00 - Station Location
  - 088-TWP-01 - Sample Name
  - 7.0 - pH Sample Result
- Proposed Hydraulic Barrier Wall (at the time of pH monitoring)
- Study Area Boundary

0 75 150 300
SCALE IN FEET

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DRAWING: 3480150488-5710-GWSR-F500

PREPARED/DATE: STR 03/11/16

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FIGURE 6
GROUNDWATER SAMPLE RESULTS (pH)
STUDY AREA SA-6 NORTH AND SOUTH
JERSEY CITY, NEW JERSEY

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EXISTING SOIL CEMENT BENTONITE WALL (TYP)

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

124-SB-604

125-SB-605

125-SB-603

MATCH LINE SEE BELOW

LIMIT OF EXCAVATION (TYP)
(SEE NOTE EXC6 ON SHEET G-004)

SOIL RETENTION SYSTEM (TYP)
(SEE NOTE EXC2 ON SHEET G-004)

NEW JERSEY STATE HIGHWAY ROUTE 440

HACKENSACK RIVER

EXCAVATION INTERVAL 1
EXISTING GRADE TO ELEVATION 8.1

CHROMIUM IMPACTED MATERIAL TO BE ADDRESSED DURING FUTURE BULKHEAD IMPROVEMENTS (SEE NOTE EXC5 ON SHEET G-004)

134-SB-603

163-SB-601

LOT 163 EXCAVATION FROM EXISTING GRADE TO 2'(BGS)

EXISTING BULKHEAD (TYP)

MATCH LINE SEE ABOVE

LEGEND

HEXAVALENT CHROMIUM DESIGNATIONS BASED ON PDI (100% DESIGN) DATA

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- NO EXCAVATION REQUIRED
- DEFERRED AREA
- SOIL BORING COMPOSITE SAMPLE

0 50 100 200
SCALE IN FEET

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MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
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Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

FIGURE 7A
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 1

EXISTING SOIL CEMENT BENTONITE WALL (TYP)

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

125-SB-607

140-SB-603

125-SB-605

125-SB-603

124-SB-608

124-SB-604

124-SB-602

124-SB-601

MATCH LINE SEE BELOW

LIMIT OF EXCAVATION (TYP) (SEE NOTE EXC6 ON SHEET G-004)

SOIL RETENTION SYSTEM (TYP) (SEE NOTE EXC2 ON SHEET G-004)

NEW JERSEY STATE HIGHWAY ROUTE 440

EXCAVATION INTERVAL 2
ELEVATION 8.1 TO ELEVATION 5.7

CHROMIUM IMPACTED MATERIAL TO BE ADDRESSED DURING FUTURE BULKHEAD IMPROVEMENTS (SEE NOTE EXC5 ON SHEET G-004)

HACKENSACK RIVER

134-SB-603

163-SB-601

MATCH LINE SEE ABOVE

LEGEND

HEXAVALENT CHROMIUM DESIGNATIONS BASED ON PDI (100% DESIGN) DATA

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- NO EXCAVATION REQUIRED
- DEFERRED AREA
- SOIL BORING COMPOSITE SAMPLE

0 50 100 200
SCALE IN FEET

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FIGURE 7B
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 2

P:\CAD\VU2\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480160489\3710\3710\GIS\PROJT DRAWINGS\3480160489_3710_CHRO_7B00.dwg Tue, 18 Apr 2017 - 10:46am johnmw.wingfield

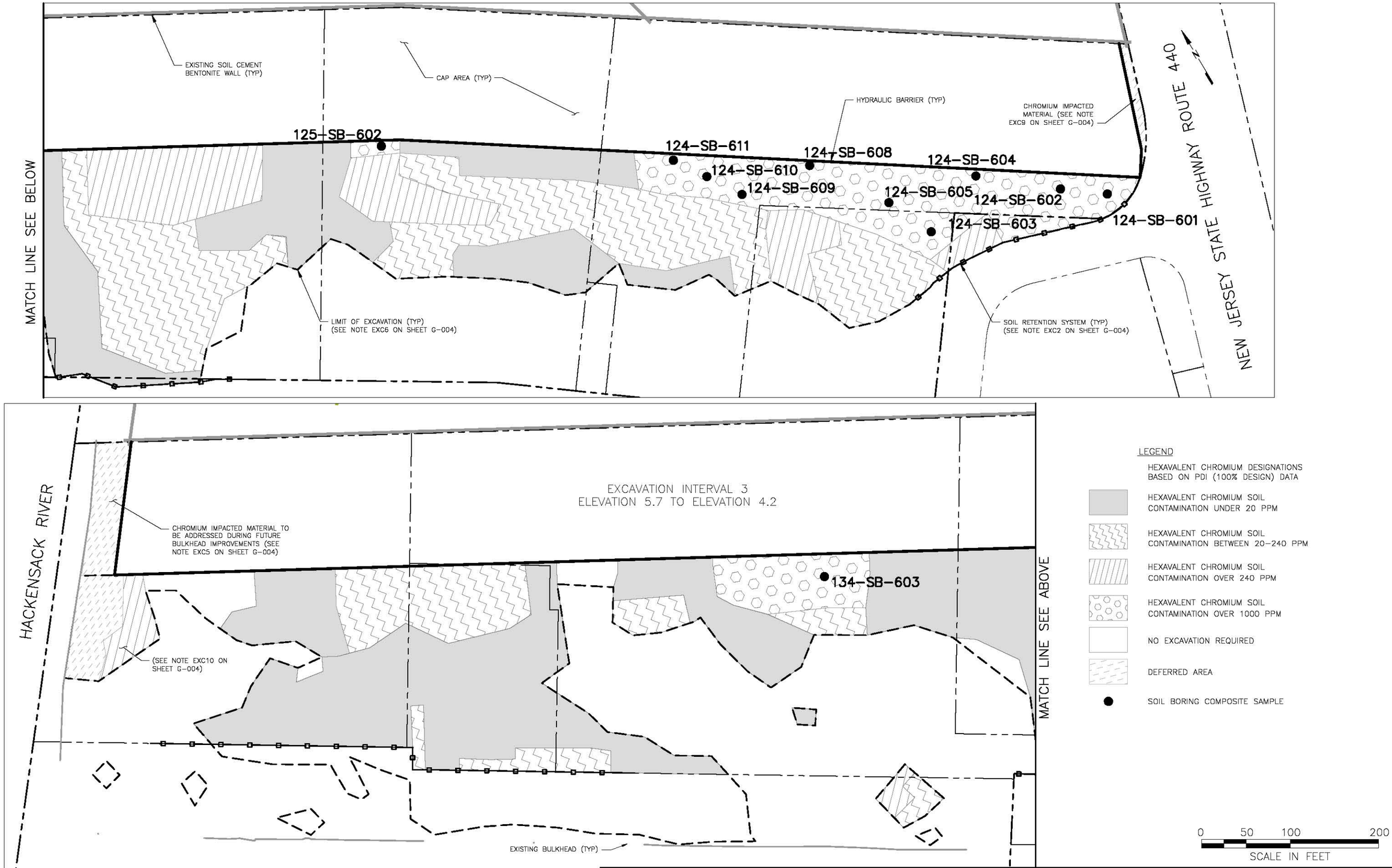

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FIGURE 7C
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 3

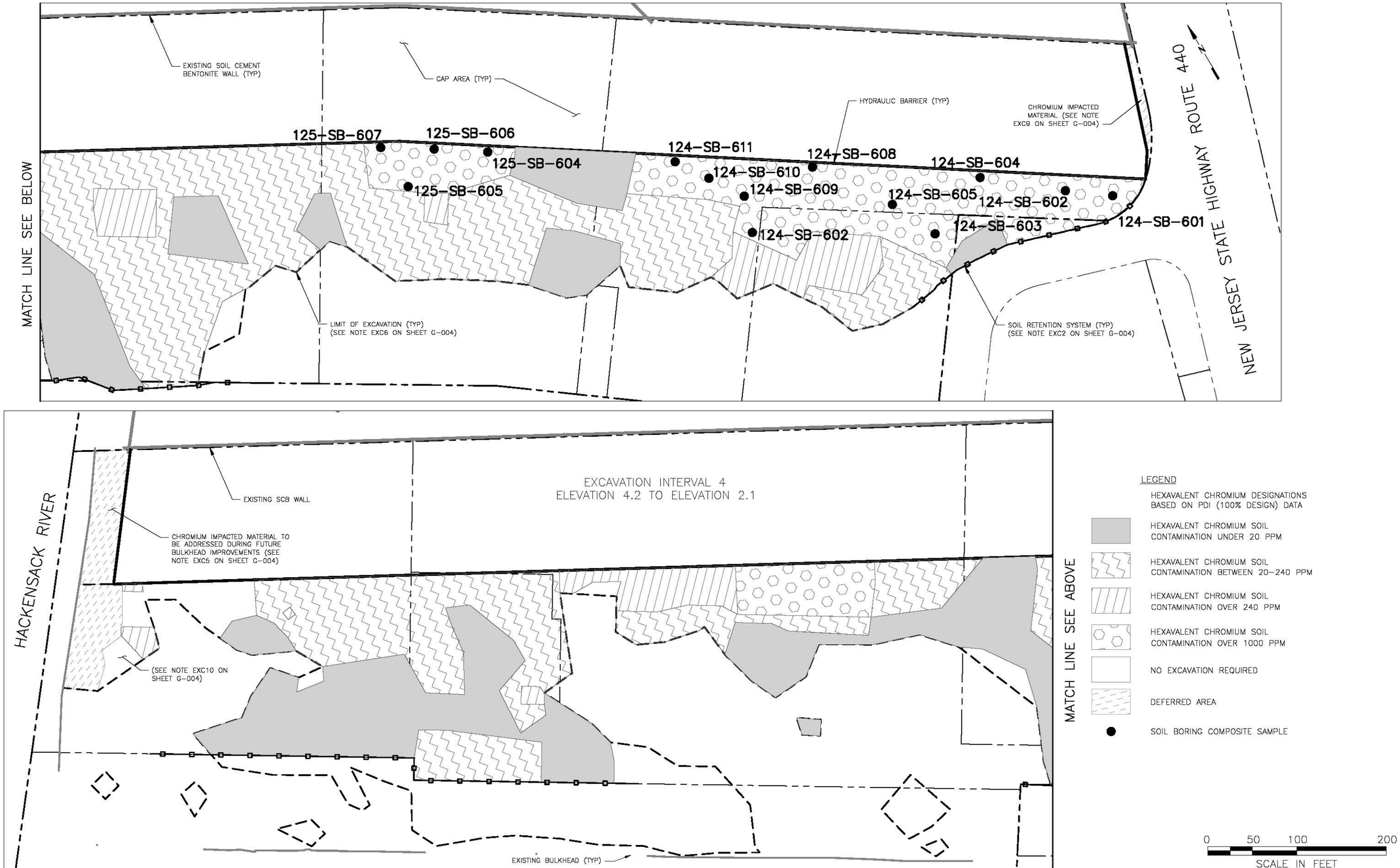

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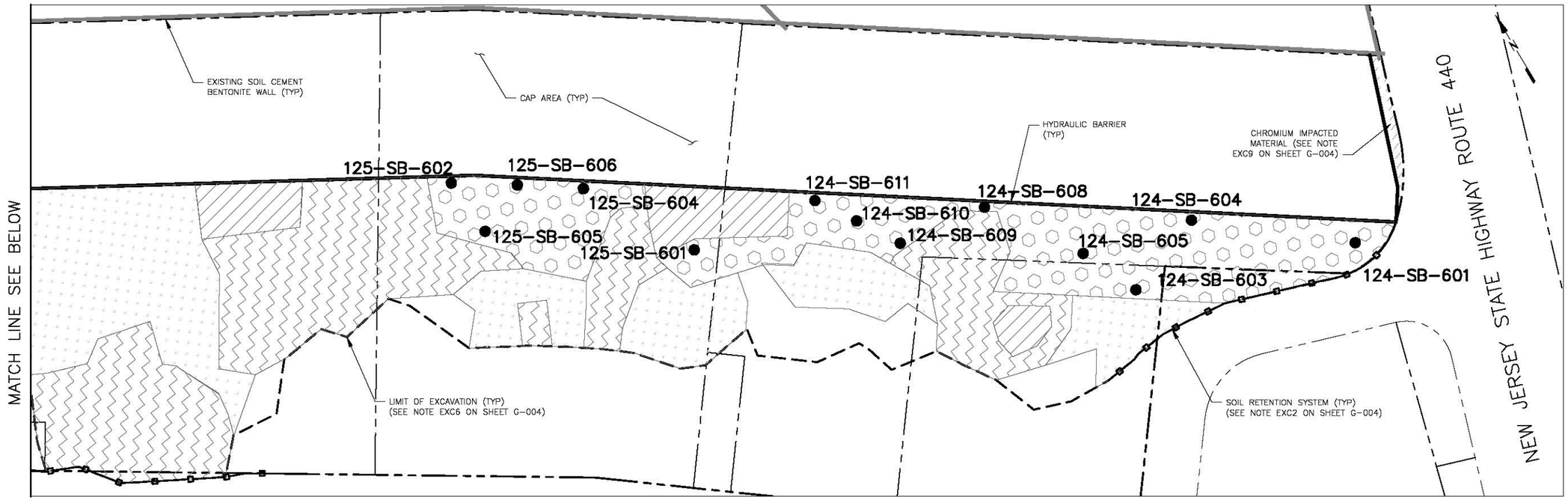
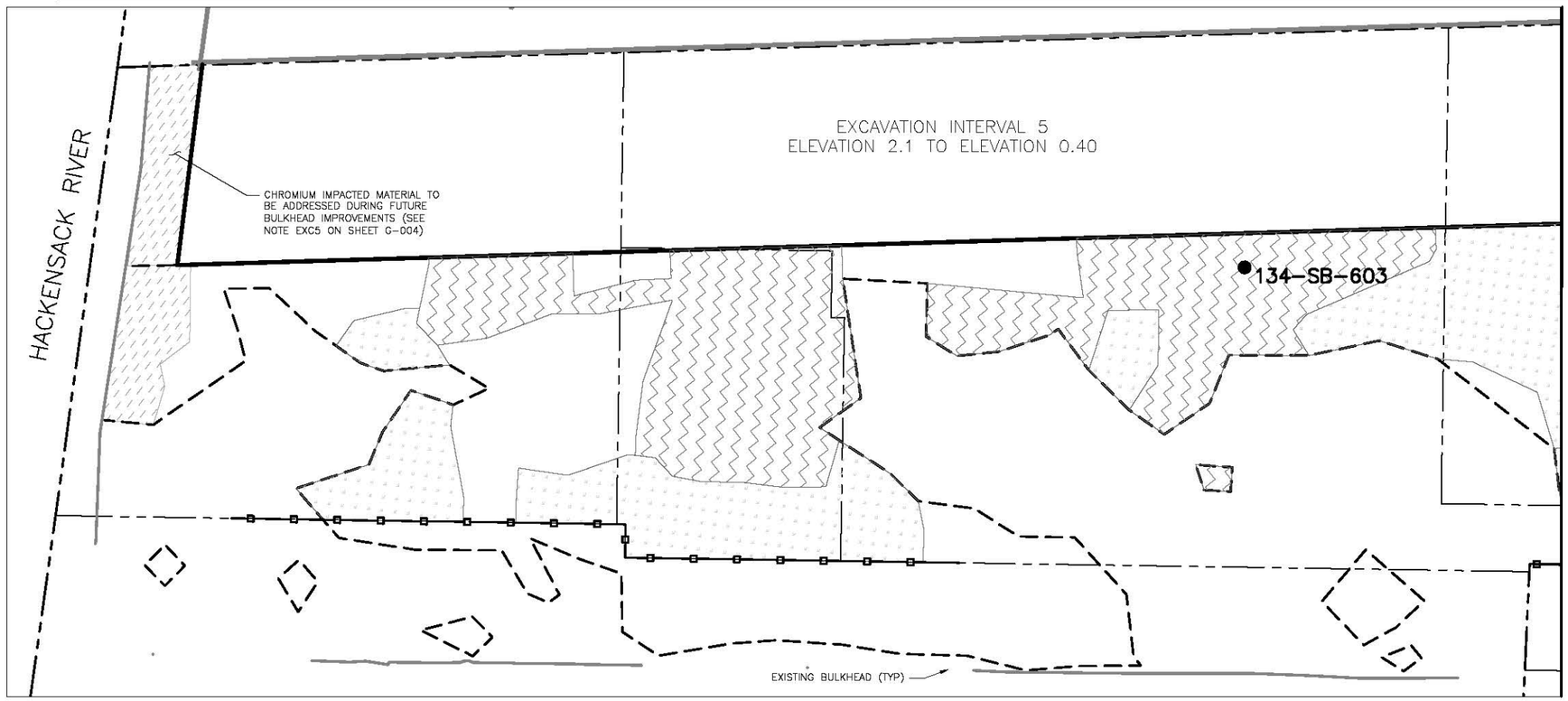
FIGURE 7D
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 4





LEGEND

- HEXAVALENT CHROMIUM DESIGNATIONS BASED ON PDI (100% DESIGN) DATA
- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- NO EXCAVATION REQUIRED
- DEFERRED AREA
- SOIL BORING COMPOSITE SAMPLE

MATCH LINE SEE ABOVE

0 50 100 200
SCALE IN FEET

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FIGURE 7E
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 5

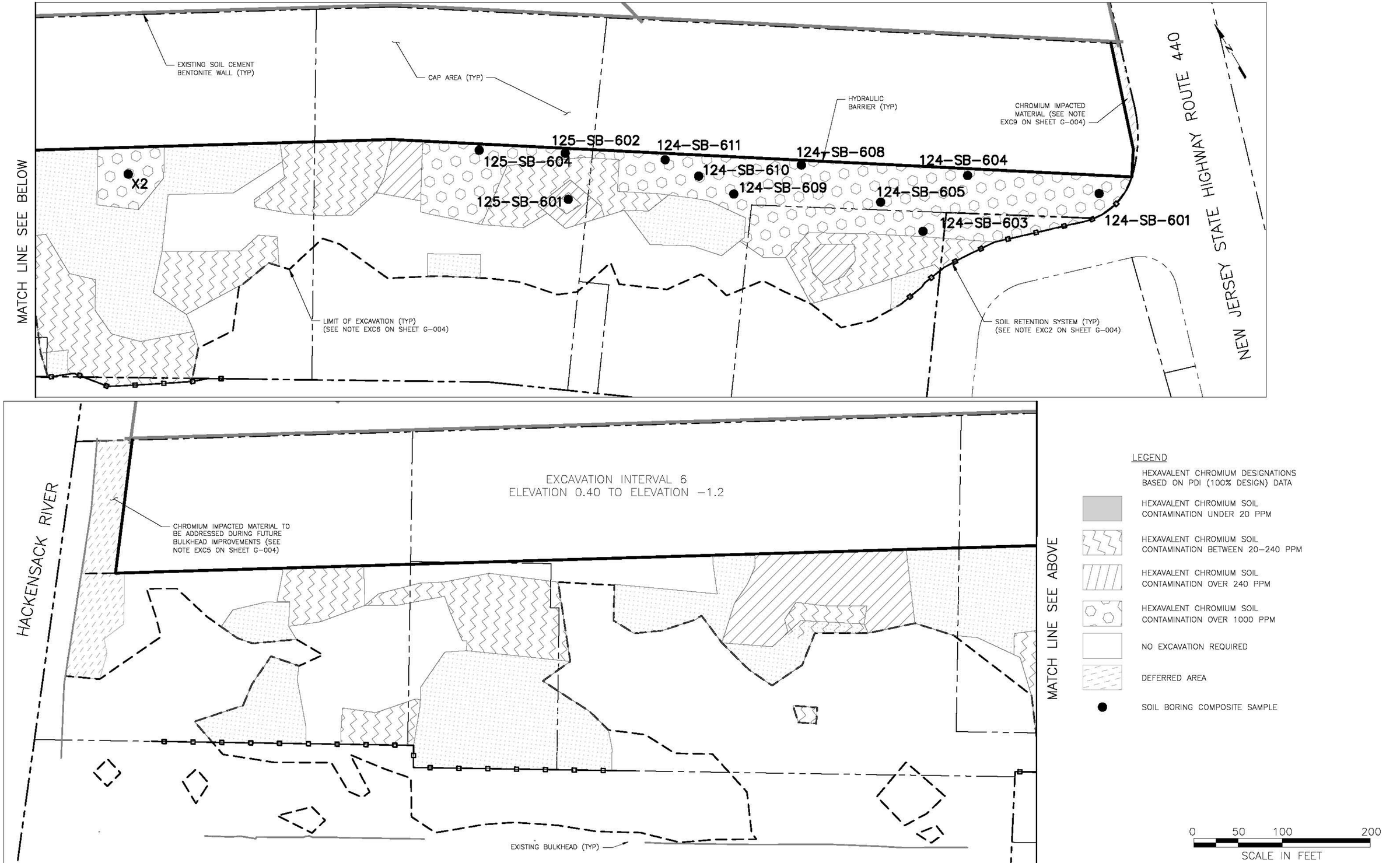

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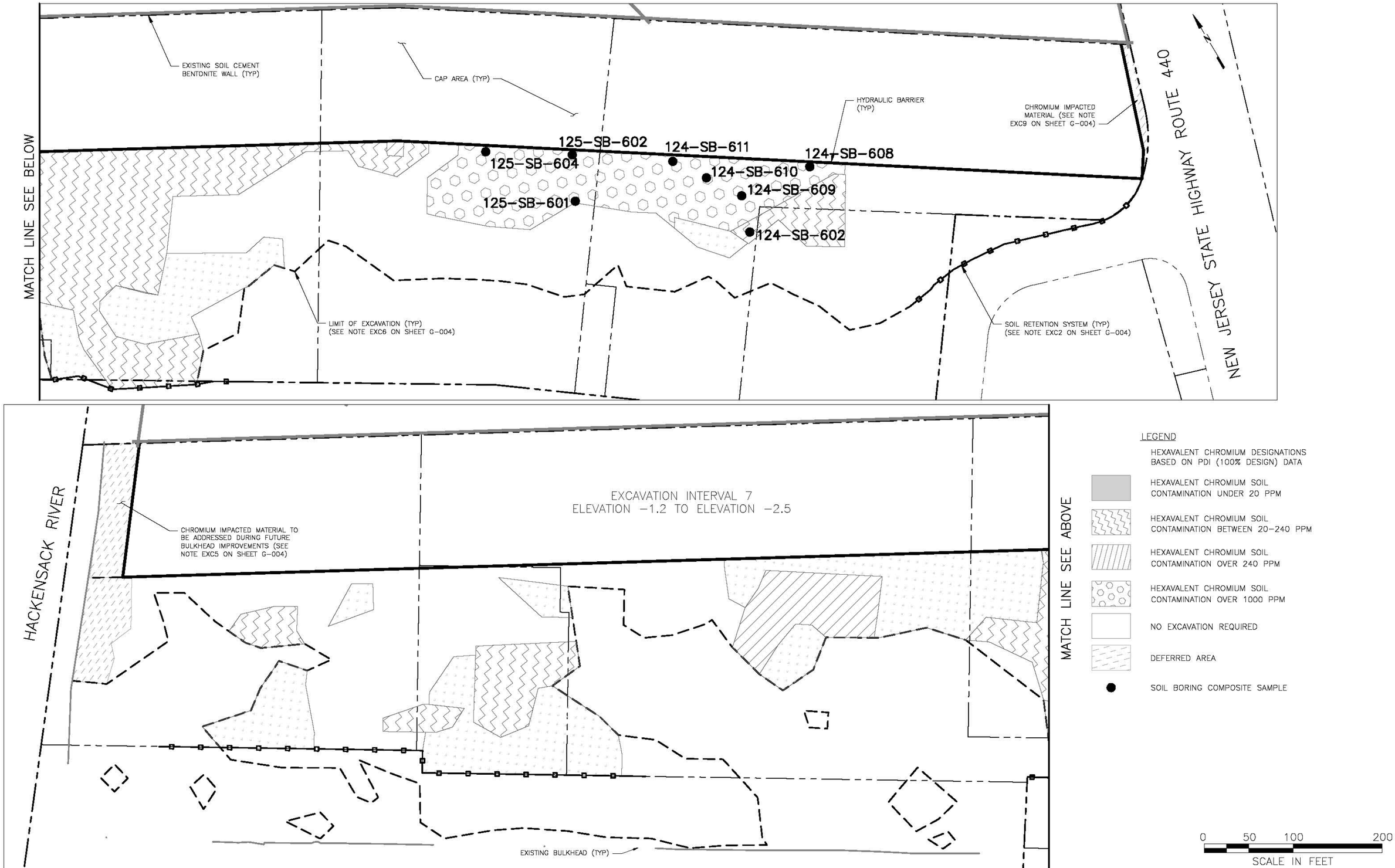
FIGURE 7F
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 6



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STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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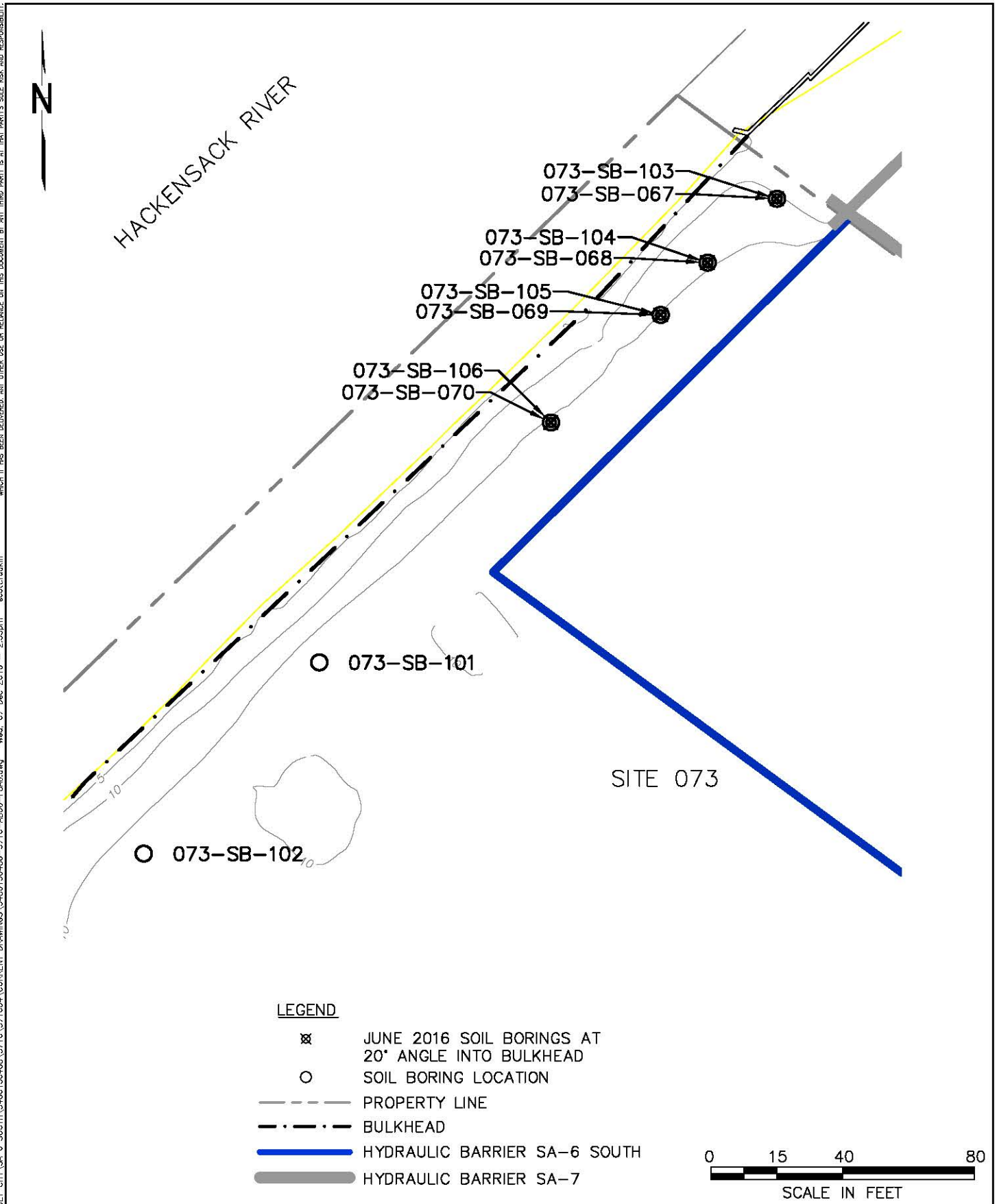
FIGURE 7G
WASTE CLASSIFICATION SAMPLE LOCATIONS
CHROMIUM SAMPLING
INTERVAL 7



Amec Foster Wheeler PROJECT No. 3480150488 DRAWING: 3480150488-5710-AB00-F8A0	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE, Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**FIGURE 8A** SITE 073 DEFERRED AREA SOIL BORING LOCATIONS STUDY AREA 6 SOUTH JERSEY CITY , NEW JERSEY
PREPARED/DATE: STR 09/28/16 CHECKED/DATE: DEN 09/28/16		

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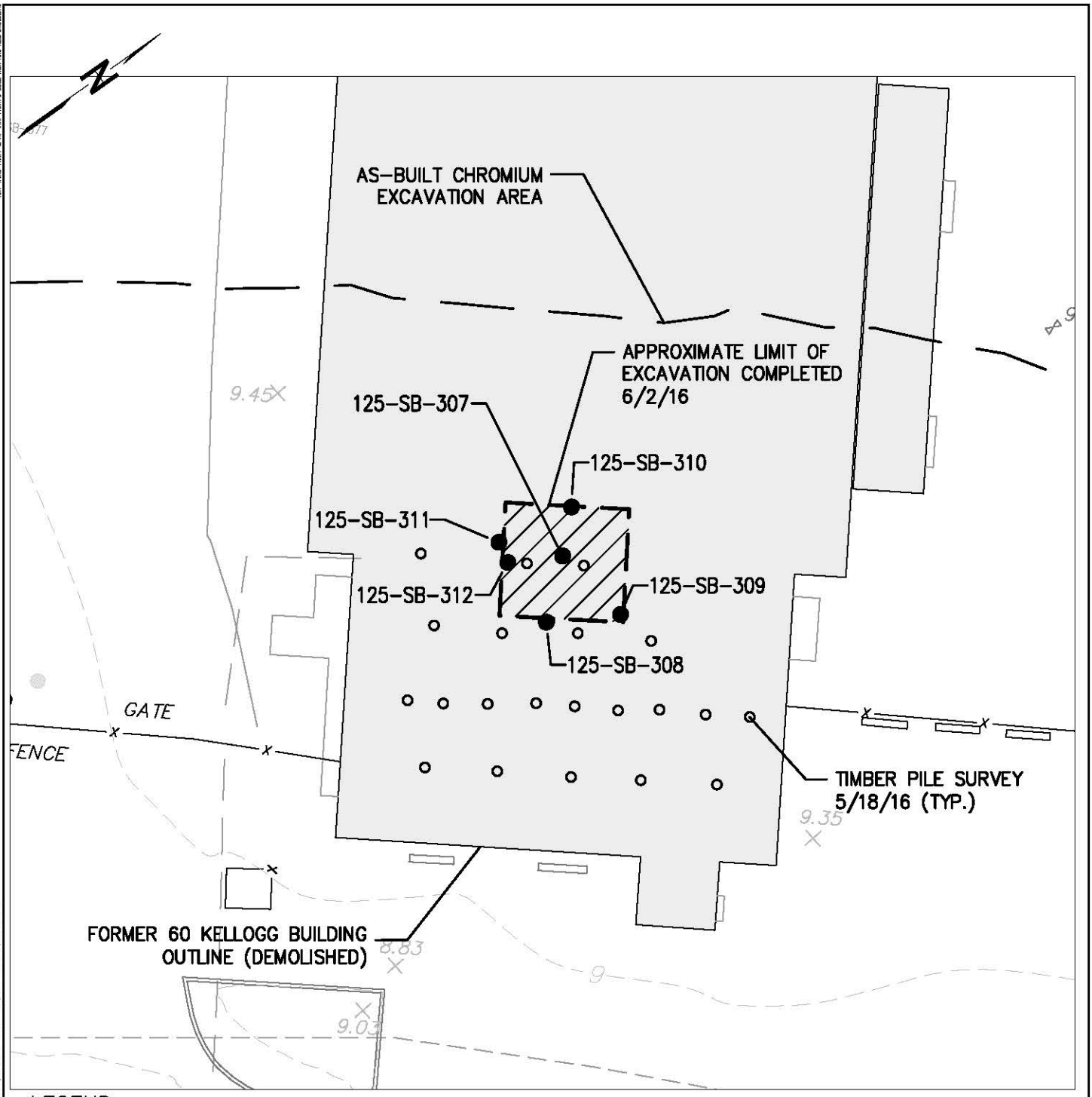

LEGEND:

- SUPPLEMENTAL SAMPLE LOCATION
- EXCAVATION AREA

0 5 10 20

SCALE IN FEET

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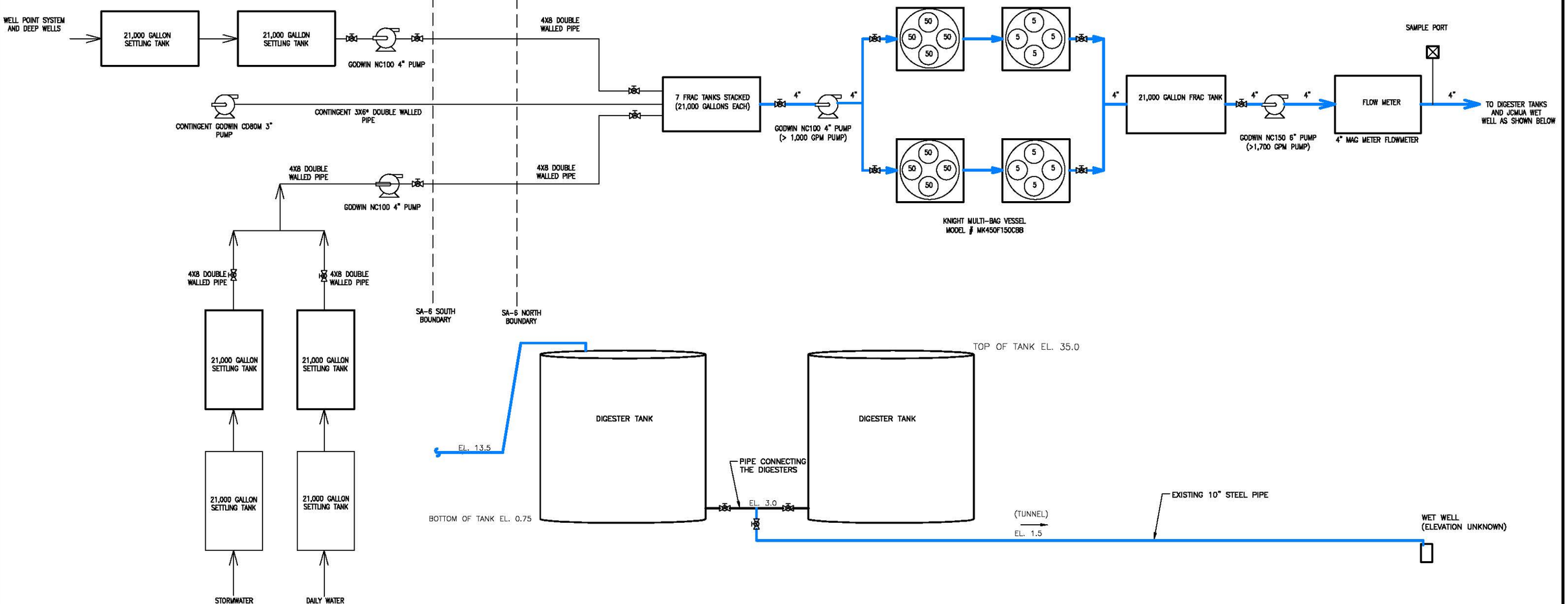
FIGURE 8B
POST-EXCAVATION SAMPLING LOCATIONS 60 KELLOGG
STUDY AREA 6 SOUTH - SITE 125
JERSEY CITY, NEW JERSEY

P:\CAD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\5710A\CURRENT DRAWINGS\3480150488-5710-AB00-F8B0.dwg Wed, 07 Dec 2016 - 2:45pm scott.radkin Layout: SITE 124



SOURCE REFERENCE:

DRAWING TITLE: "WASTEWATER MANAGEMENT PROCESS FLOW DIAGRAM" PREPARED BY ENTACT, 699 SOUTH FRIENDSWOOD DRIVE, FRIENDSWOOD, TEXAS 77546. SHEET 1 OF 1, DATED 03/15/13, REVISION A.

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SEAL: BRENT C. O'DELL

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE3801700

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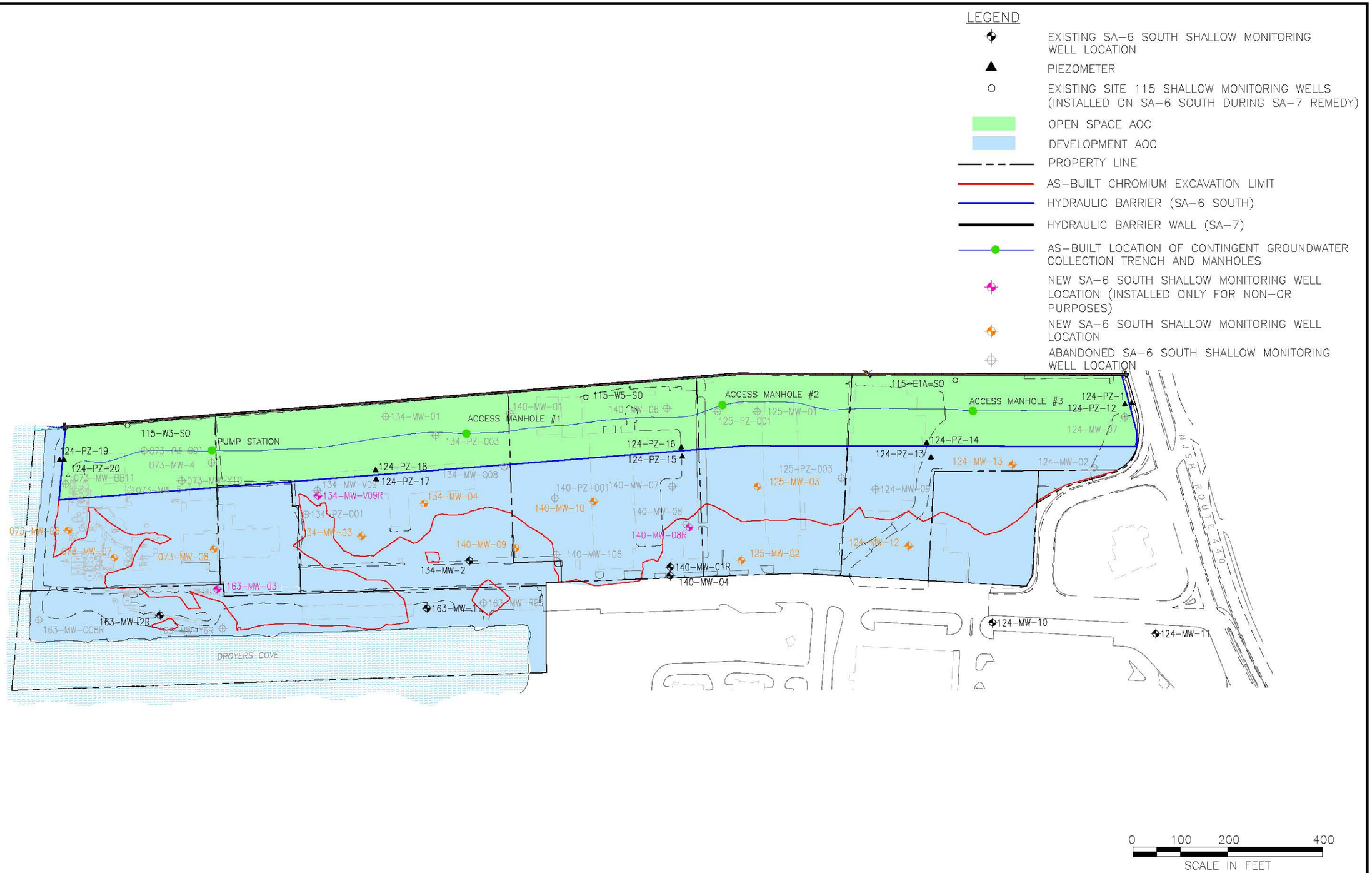
FIGURE 9
CONSTRUCTION WATER TREATMENT SYSTEM LAYOUT
STUDY AREA 6 NORTH & STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

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FIGURE 10
SHALLOW MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY



LEGEND

- ADDITIONAL POST-EXCAVATION SIDEWALL SAMPLE
- AS-BUILT CHROMIUM EXCAVATION LIMIT
- HYDRAULIC BARRIER (SA-6 SOUTH)
- DEFERRED EXCAVATION AREAS
- EXPANDED EXCAVATION AREA

0 40 80 160
SCALE IN FEET

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FIGURE 11
ADDITIONAL POST-EXCAVATION SIDEWALL SAMPLE LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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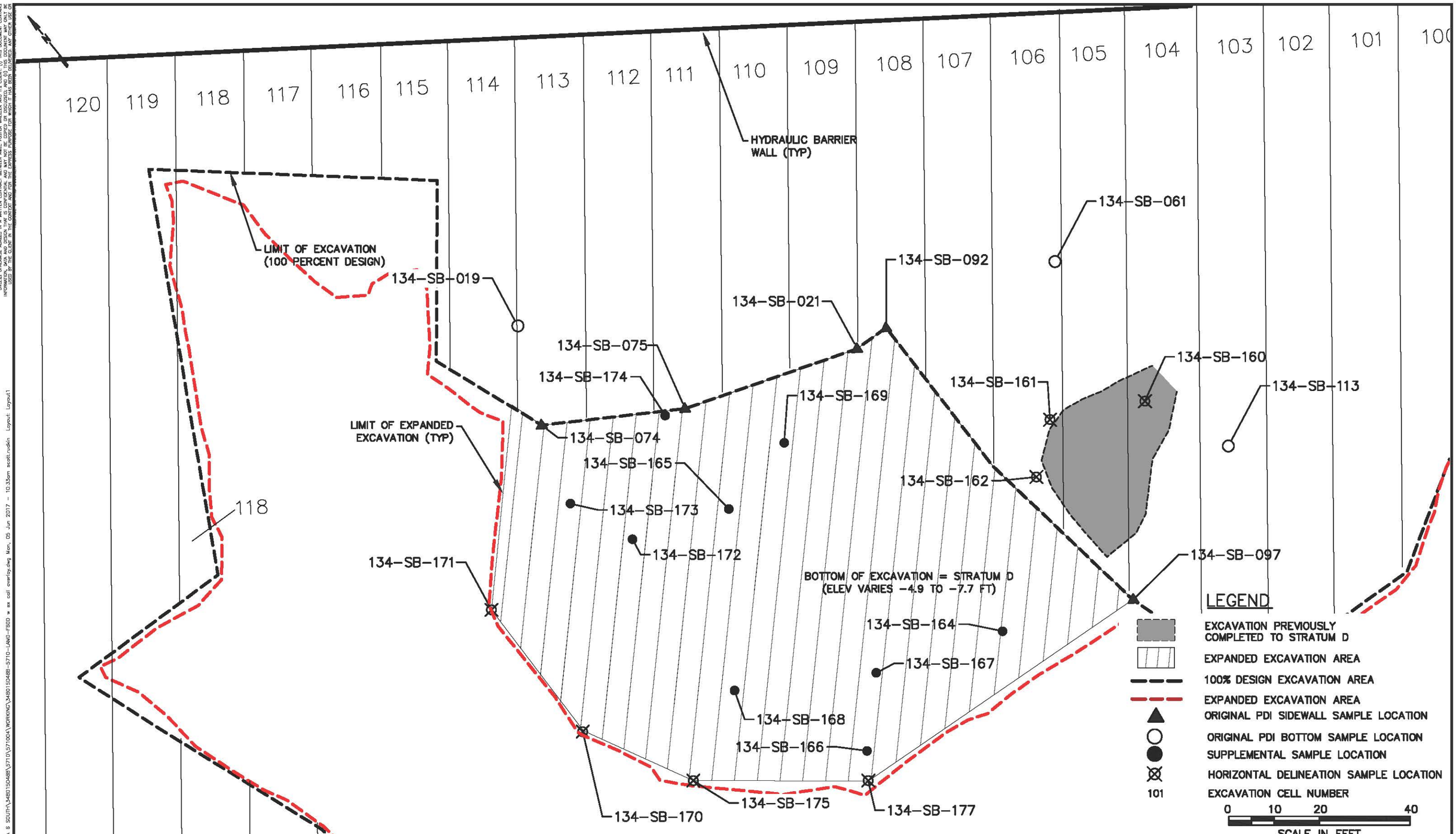

REV.	DATE	STATUS	PRPD BY	CHKD BY

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DRAWING: 3480150488-5710-LAMO-F600 W
EX CALL OVERLAY

PREPARED/DATE: STR 04/20/16

CHECKED/DATE: DEN 05/06/16

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FIGURE 12
SITE 134 EXPANDED EXCAVATION
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

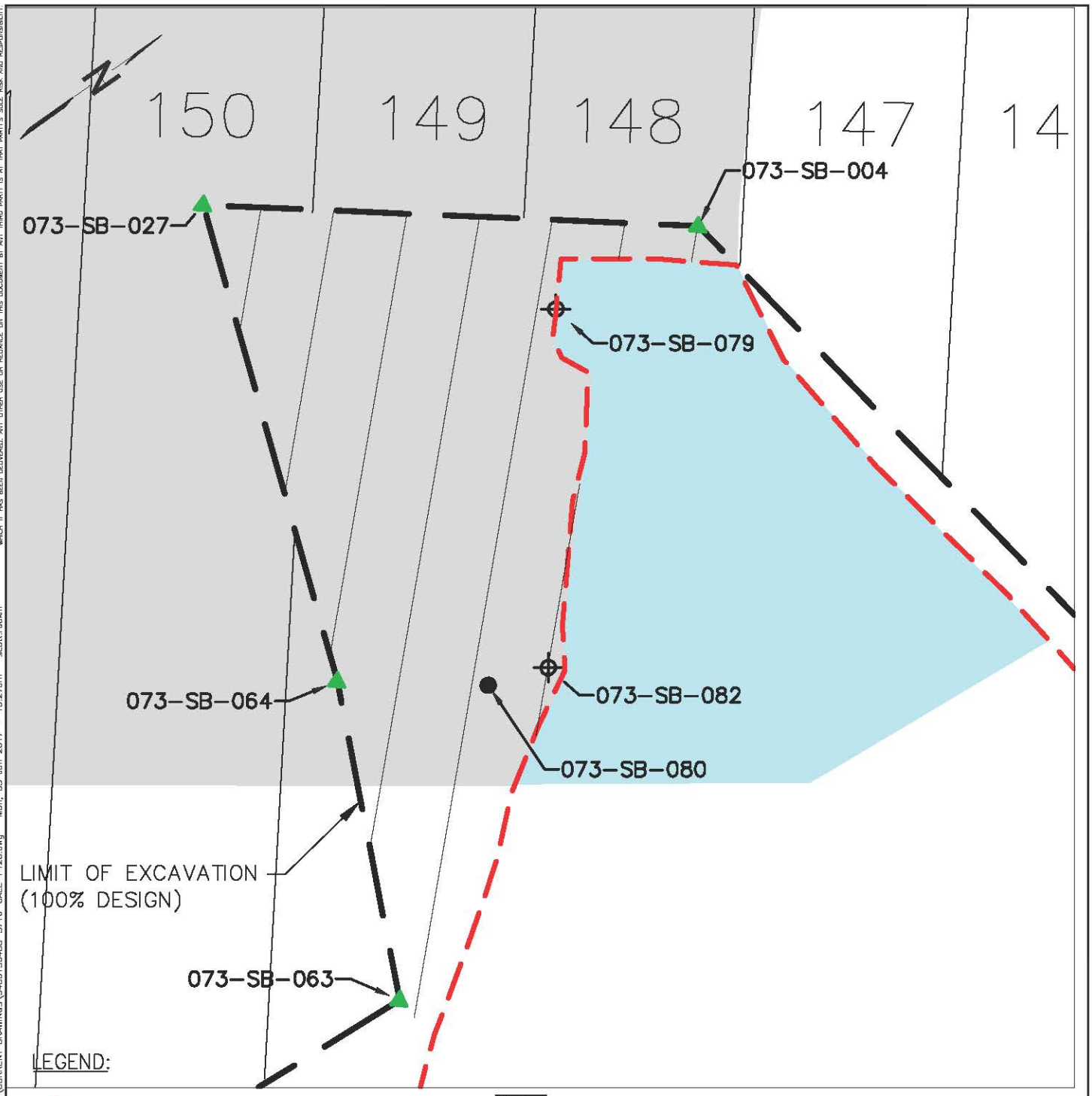

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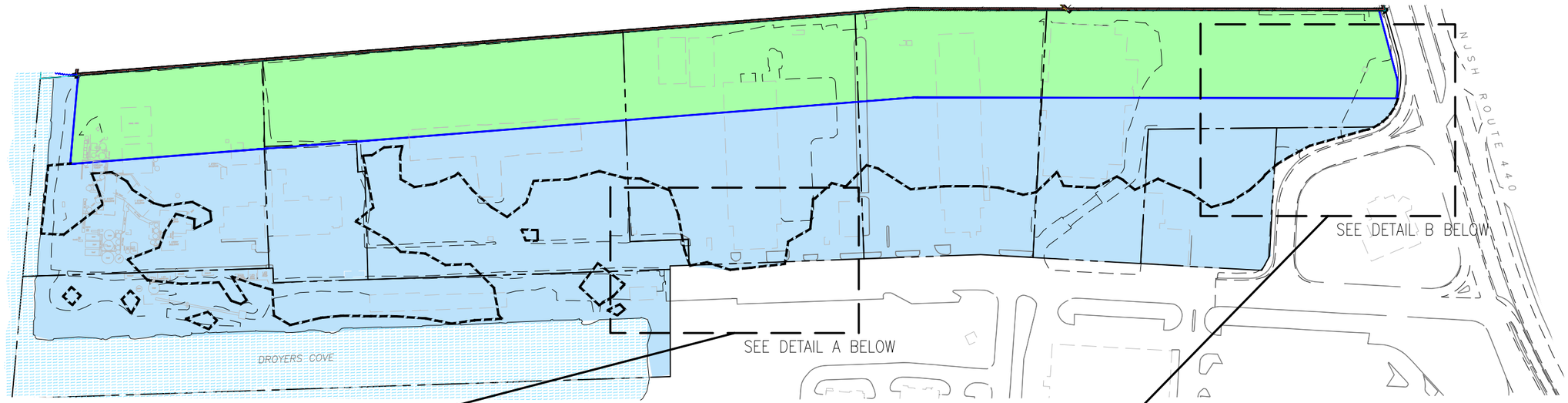
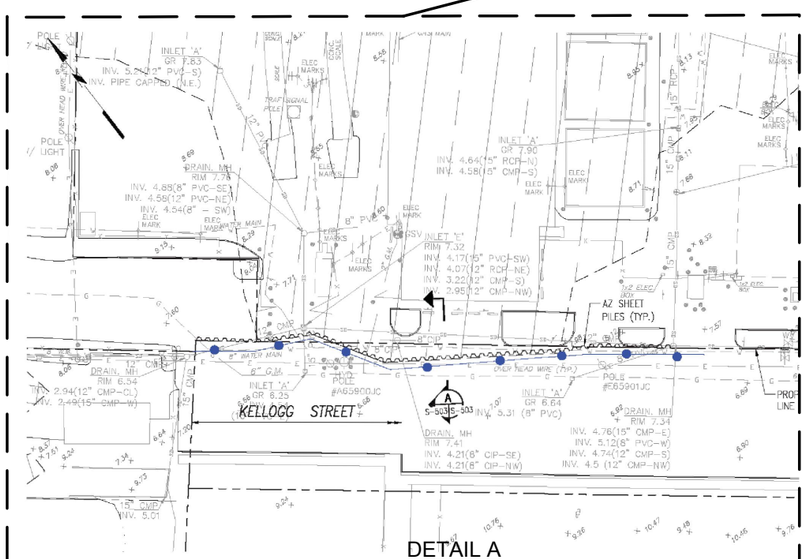
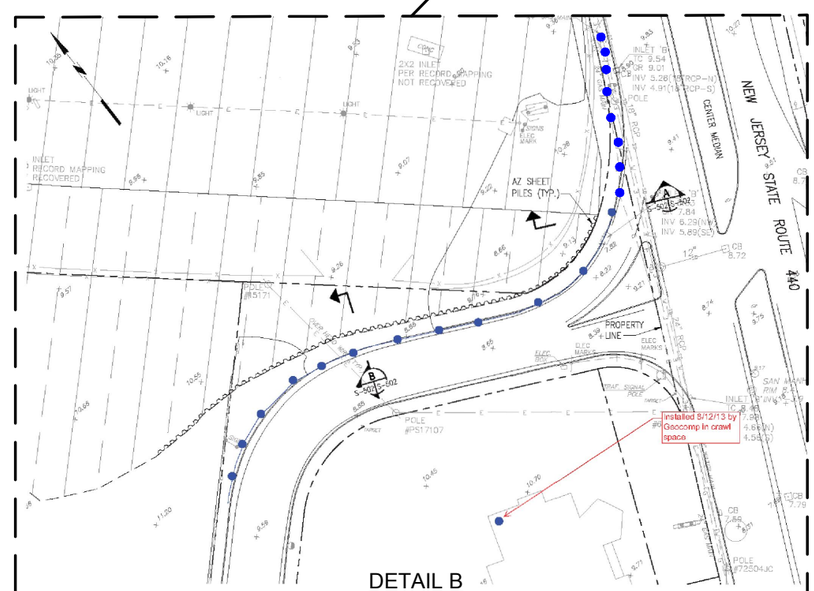
FIGURE 13
SITE 073 IMPACTED CONCRETE
AREA OF EXCAVATION EXPANSION
STUDY AREA 6 SOUTH - SITE 073
JERSEY CITY, NEW JERSEY





DETAIL A
EXCAVATION AREA PARTIAL PLAN
AT KELLOGG STREET
SCALE: 1"=30'-0"



DETAIL B
EXCAVATION AREA PARTIAL PLAN AT
ROUTE 440 AND JUG HANDLE
SCALE: 1"=30'-0"

LEGEND

- EXISTING SHALLOW MONITORING WELL LOCATION
- OPEN SPACE AOC
- DEVELOPMENT AOC
- PROPERTY LINE
- PROPOSED LIMIT OF CHROMIUM REMEDIAL ACTION
- HYDRAULIC BARRIER (SA-6 SOUTH)
- HYDRAULIC BARRIER WALL (SA-7)
- VIBRATION MONITORING LOCATION

0 100 200 400
SCALE IN FEET

NOTE:
PROPOSED CONTINGENT GROUNDWATER EXTRACTION PUMPING WELL AND MONITORING WELL LOCATIONS SUBJECT TO CHANGE BASED ON SITE DEVELOPMENT PLAN.

SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

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FIGURE 14
VIBRATION MONITORING
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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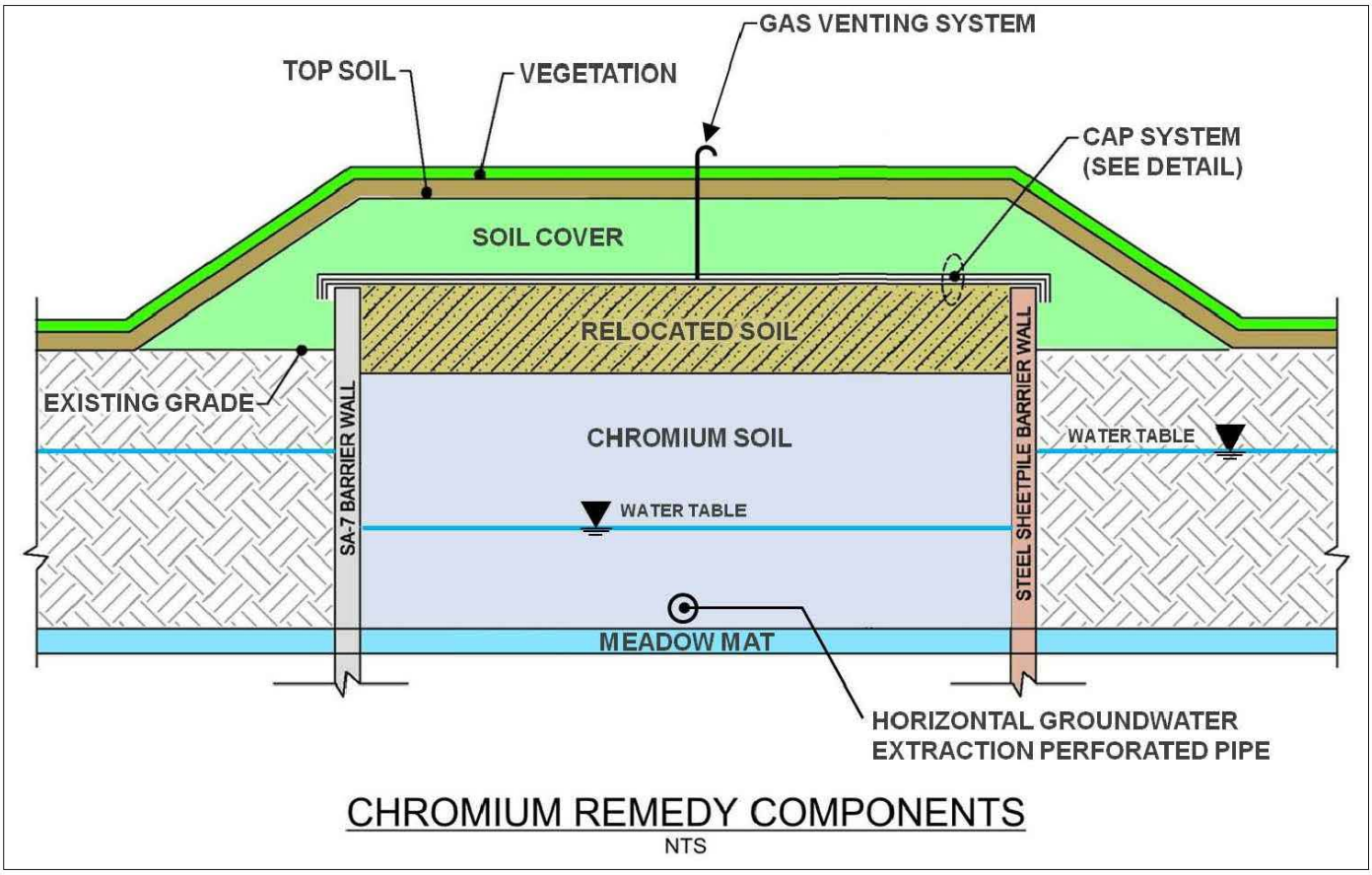

CHROMIUM REMEDY COMPONENTS

NTS

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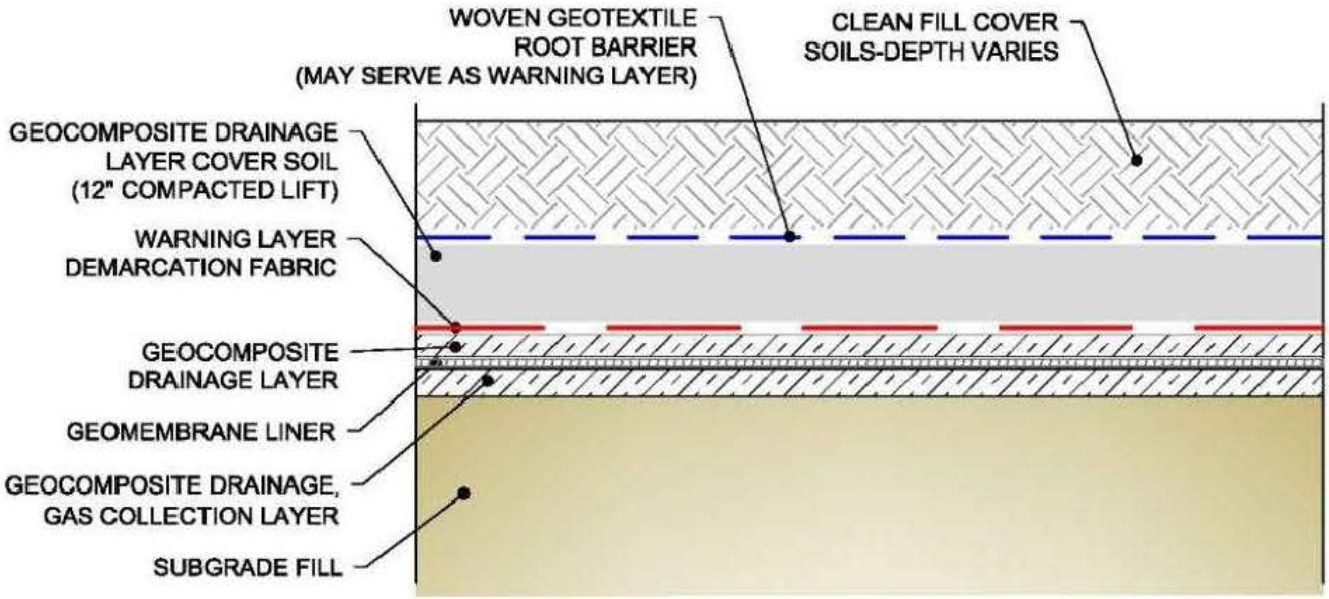
FIGURE 15
CHROMIUM REMEDY COMPONENTS
STUDY AREA SA-6 SOUTH
JERSEY CITY, NEW JERSEY

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\CURRENT DRAWINGS\3480150488-5710-CRC0-F140.dwg Wed, 07 Dec 2016 - 2:46pm scott.rudkin



CAP SYSTEM DETAIL

NTS

Amec Foster Wheeler PROJECT No. 3480150488 DRAWING: 3480150488-5710-CAP0-F15D		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**FIGURE 16** CAP SYSTEM DETAIL STUDY AREA SA-6 SOUTH JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 03/10/16	CHECKED/DATE: DEN 03/10/16		

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (1) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\5710004\CURRENT DRAWINGS\3480150488-5710-CAP0-F15D.dwg Wed, 07 Dec 2016 - 2:47pm scott.rudkin

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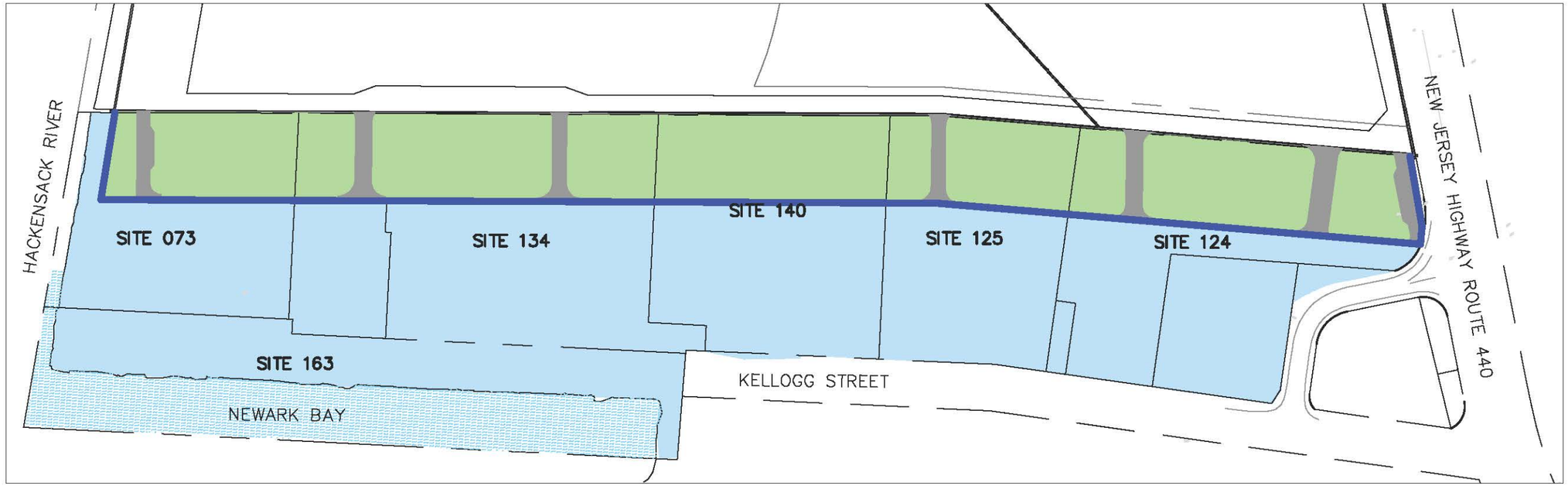


LEGEND

- UTILITY CORRIDOR
- OPEN SPACE AOC
- DEVELOPMENT AOC
- PROPERTY LINE
- HYDRAULIC BARRIER (SA-6 SOUTH)
- HYDRAULIC BARRIER WALL (SA-7)

0 400 100 200
SCALE IN FEET

REV.	DATE	STATUS	DRFT BY	CHKD BY

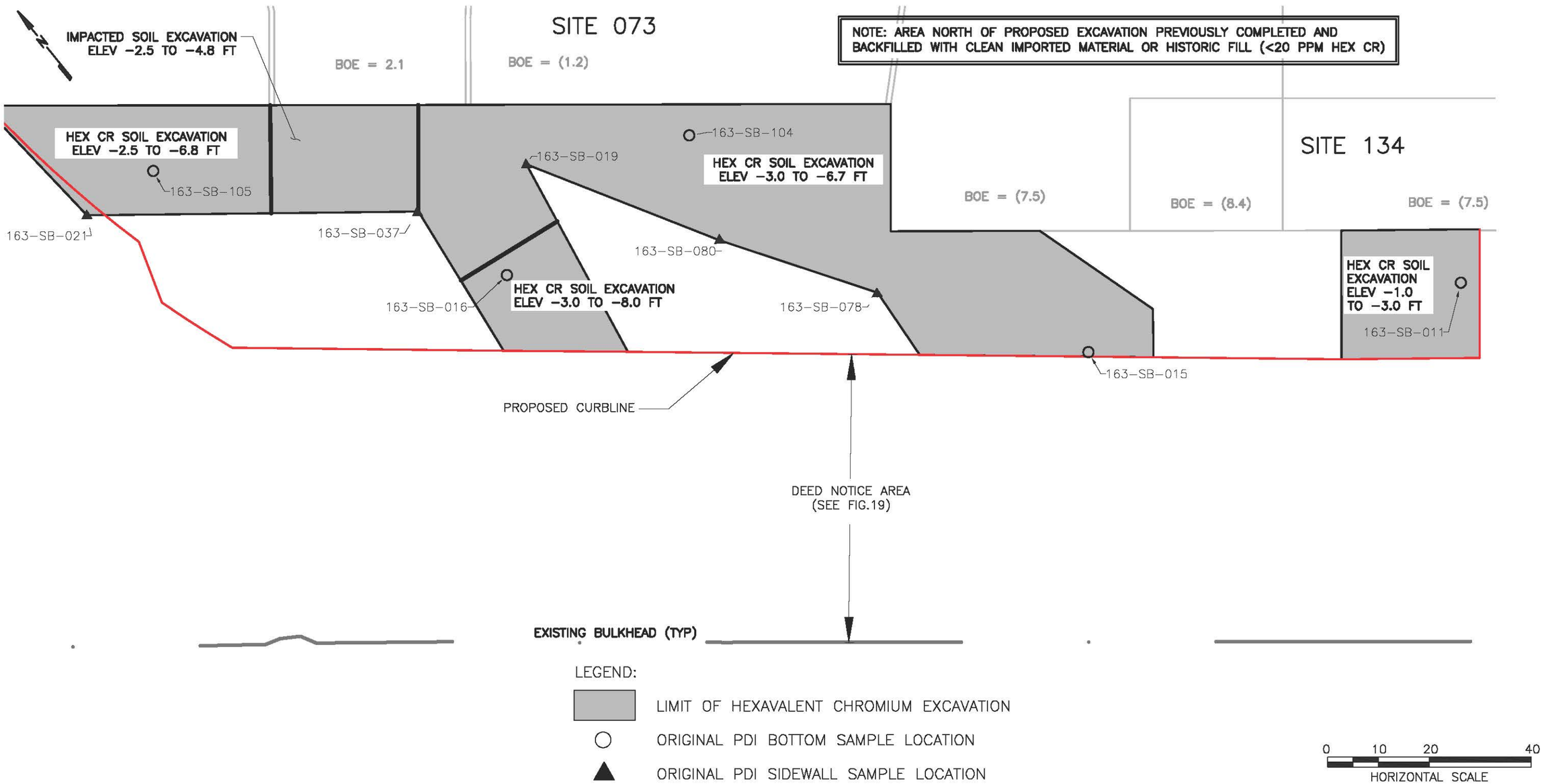
Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-UC00-F160

PREPARED/DATE: STR 04/20/16
CHECKED/DATE: DEN 04/21/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE, Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 17
UTILITY CORRIDORS
STUDY AREAS 6 SOUTH
JERSEY CITY, NEW JERSEY

P:\CAD\VONCMELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\V5710DA\CURRENT DRAWINGS\3480150488-5710-UC00-F160.dwg Mon, 05 Jun 2017 - 10:38am scott.rufkin



REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-DPEX-F170

PREPARED/DATE: STR 03/29/16

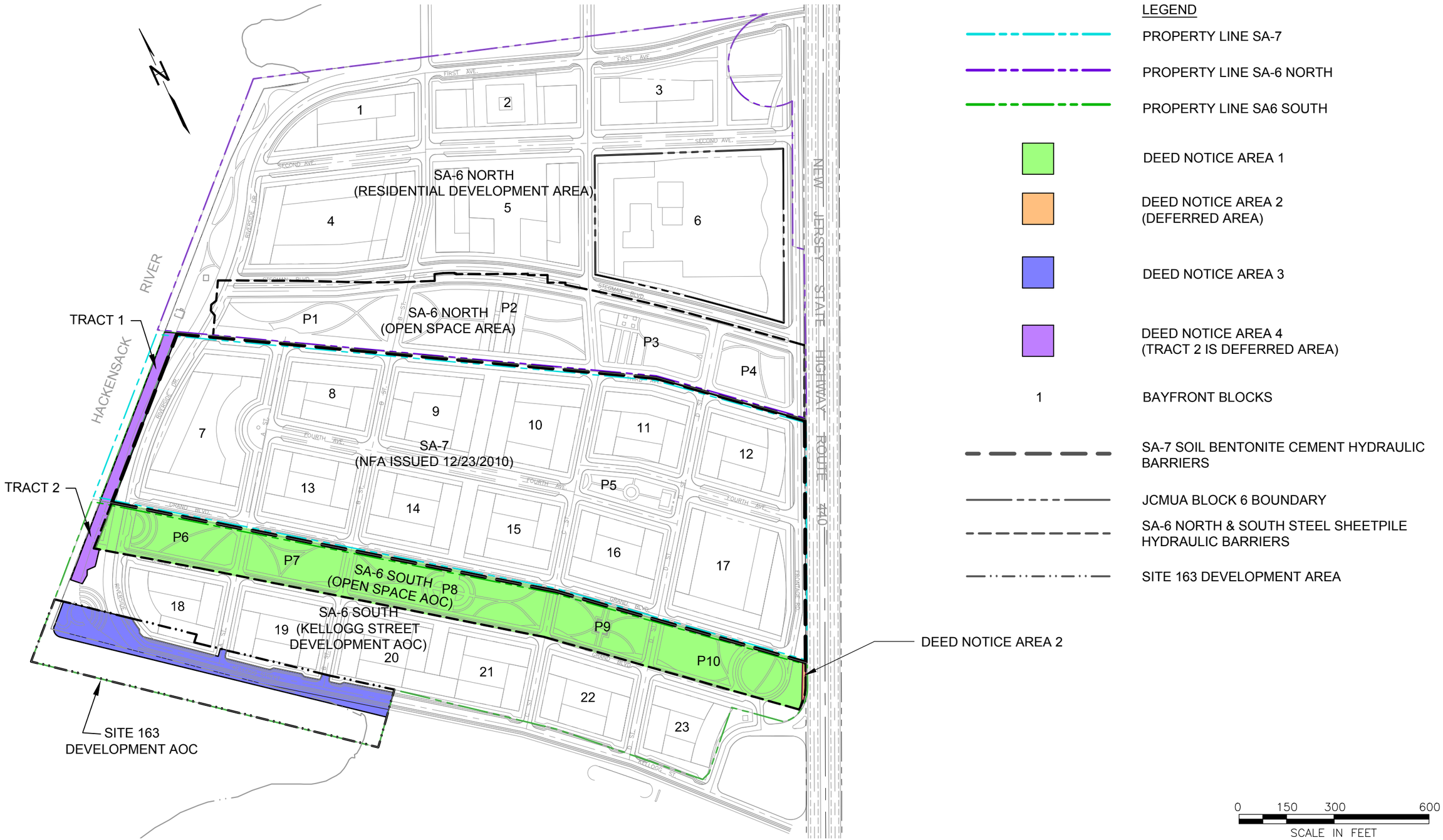
CHECKED/DATE: DEN 03/29/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE, Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 18
SITE 163 DEEP EXCAVATION LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\CURRENT DRAWINGS\3480150488-5710-DPEX-F170.dwg Wed, 19 Apr 2017 - 2:55pm charles.wingfield Layout: Layout1



REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: 3480150488-5710-DNRA-F180

PREPARED/DATE: STR 4/20/16

CHECKED/DATE: DEN 04/24/17

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 19
DEED NOTICE RESTRICTED AREAS
HONEYWELL - SA 6 & SA-7
JERSEY CITY, NEW JERSEY

APPENDIX A

REPRESENTATIVE PHOTOGRAPHS

SA-6 South Chromium Remedy



001 60 Kellogg air monitoring station S1



002 60 Kellogg Warehouse Demo



003 60 Kellogg slab



004 Beginning to auger PZ18

SA-6 South Chromium Remedy



005 Kellogg jughandle sawcutting



006 60 Kellogg warehouse demo E2



007 Surcharge Instrument Station Protection



008 Kellogg St parking lot paving

SA-6 South Chromium Remedy



009 60 Kellogg warehouse demo S2



010 Kellogg jughandle temp fencing S2



011 Kellogg St air monitoring station S2



012 Kellogg St island removal and paving

SA-6 South Chromium Remedy



013 Kellogg St parking lot 80 Kellogg utility termination



014 Lift around surcharge instruments



015 SA-6S air monitoring station



016 SA-6S Site 124 pre-trenching

SA-6 South Chromium Remedy



017 SA-6S staging area



018 SA-7 roadway paving prep



019 Demarcation fabric around instrumentation stations



020 Settlement platform

SA-6 South Chromium Remedy



021 Beginning to break up concrete at Site 163



022 Installing the gas vent pipe down the slope at station-20+00



023 ABI machine removing temp



024 Compacting the final lift of historic fill in the expanded excavation at Site 134



025 Placing historic fill in the expanded excavation at Site 134



026 Placing historic fill in the expanded excavation at Site 134



027 Removing Petroleum impacted soil from 1S



028 Uncovering SCB wall

SA-6 South Chromium Remedy



029 Expanded Excavation at Site 134



030 Loading Petroleum soil into trucks for transport to MCL



031 Exposure of petroleum soil in 1S



032 Spreading material in the expanded excavation at Site 134

SA-6 South Chromium Remedy



033 Expanded excavation at Site 134 after compaction



034 Spreading material in the expanded excavation at Site 134



035 S1 Pile-Placing demarcation fabric for petroleum impacted material



036 SA-6N construction water treatment bag filters and tanks



037 SA-6N construction water treatment system piping



038 SA-6S drilling dewatering wells



039 GGWES trench gravel



040 SA-6S dewatering piping



041 SA-6S dewatering system



042 SA-6S dewatering system



043 Welding dewatering dual walled pipe



044 Dewatering on the clean side of the exclusion zone

SA-6 South Chromium Remedy



045 Placing pipe in trench



046 SA-6S excavation bridge lift



047 Ramp to 2S area



048 Creating ramp onto SA-6S cap for coversoil

SA-6 South Chromium Remedy



049 Geofoam placed on edge of liner



050 SA-6S excavation cells 1-6



051 SA-6S greater than 1000 ppm soil loading



052 Entact clean scraping cell 115

SA-6 South Chromium Remedy



053 SA-6S less than 20 ppm soil stockpiling



054 Excavation load out of greater than 1000 ppm soil



055 Excavation progress looking west



056 Entact clean scraping cells 110B to 106B



057 Live load out of greater than 1000 ppm soil



058 Fine grading the east slope of the D Street corridor



059 Unloading material in 2S surcharge area



060 Excavation- Start of Cell 44

SA-6 South Chromium Remedy



061 Excavation at Site 163



062 Excavation face



063 Excavation



064 SA-6S Excavation - Beginning cell 51

SA-6 South Chromium Remedy



065 Excavation



066 Excavation



067 Excavation



068 Loading soils for transit to the SA-6S cap



069 View of excavation progress



070 Excavating cell 126



071 Excavation 4



072 Removing surcharge material in 2S

SA-6 South Chromium Remedy



073 Excavation at site 163



074 Excavating the asphalt in the SA-6S cap



075 Entact backfilling and compacting screenings in cells 139 to 132



076 SA-6S Backfill - Covering Stratum O behind the 60 Kellogg Street office



077 Backfilling and compacting historical fill in cells 80-73



078 Entact backfilling approved historic fill in cells 127B to 116B



079 Placing material on 2S



080 Compacting DGA and screenings in cells 75 - 72



081 Compaction testing in cell 151



082 Entact compacting DGA on top of fabric in cells 126 through 119



083 Placing crushed concrete



084 Spreading backfill



085 Compacting soil on 3S



086 Rolling material in 2S surcharge area



087 Entact pushing a lift of screenings from cells 131 to 138



088 Backfilling the DR-11 HDPE storm drain adjacent to Kellogg Street



089 Backfilling cell 153 to 149



090 Compacting DGA in cell 139



091 Compaction-testing cell 141



092 Compacting DGA in cells 88 and 87



093 Performing a nuclear density compaction test in cell 123



094 Compacting a lift of screenings in cells 85 - 78



095 Compacting the first lift of screenings in cells 129 through 120



096 Assembled vibrating wire piezometer



097 Grading 3S surcharge area



098 Contingent groundwater trench



099 Grouting angles on HB wall



100 Contingent groundwater trench

SA-6 South Chromium Remedy



101 Contingent groundwater trench



102 Compacting material



103 SA-6S driving HB wall



104 SA-6S driving HB wall

SA-6 South Chromium Remedy



105 Moving HB sheets



106 SA-6S grouting angles



107 SA-6S HB driving



108 Installing manhole in south contingent system

SA-6 South Chromium Remedy



109 SA-6S HB wall driving



110 SA-6S HB wall



111 Hydrualic Barrier Installation



112 SA-6S Kellogg jughandle temp sheets



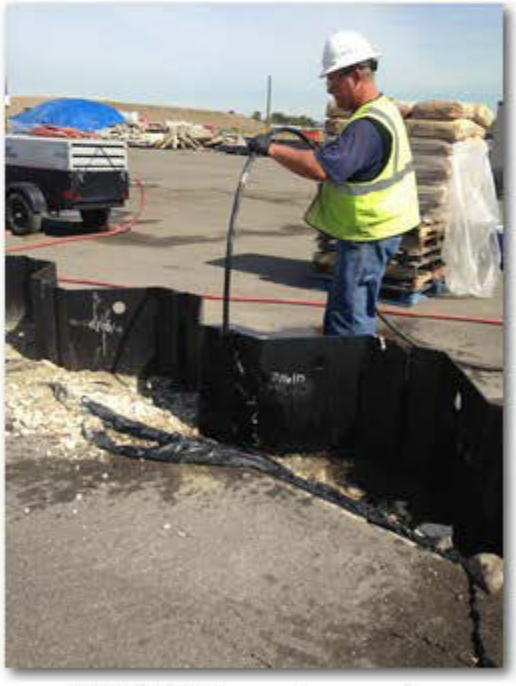
113 Contingent groundwater trench



114 Contingent groundwater system gravel, fabric, soil



115 Relief trench along hydraulic barrier lookiing west



116 SA-6S grouting angles

SA-6 South Chromium Remedy



117 Contingent groundwater trench



118 Contingent GW system



119 Setting HB sheets to grade



120 SA-6S grouting angles

SA-6 South Chromium Remedy



121 SA-6S temp sheet driving



122 Vibration Monitoring Equipment



123 1S Pre-surcharge



124 Covering holes in SCB wall with bentonite

SA-6 South Chromium Remedy



125 Surcharge Placement



126 SA-6S HB installation



127 SA-6S HB installation



128 Off-loading material on surcharge S1

SA-6 South Chromium Remedy



129 Welded angle repair-full section



130 Pushing out cover soil at station 18+00



131 Laying out Do Not Dig tape in the B Street corridor



132 Installing sheets to grade



133 Pushing cover soil over the edge of the eastern slope of the B Street corridor



134 Sheetpile installation



135 Installed sheetpiles with swellseal



136 Entact reached the current end of the GDL with the cover soil



137 Surveying gravel in contingent groundwater trench



138 Placing soil on top of gravel in contingent groundwater trench



139 2S surcharge pile



140 Placing material over fabric on 2S surcharge pile



141 Pipe contected to manhole in trench



142 Manhole, stone, and geo-tech fabric in trench



143 S1 surcharge pile



144 End dump unloading material over demarcation fabric in S1 surcharge area



145 Demarcation fabric with material being placed over it on S1 surcharge area



146 S1 surcharge pile dozer placing material in 1 foot lifts



147 Placement of demarcation fabric on S1 surcharge



148 Special closure section for SA-6 South HB wall

SA-6 South Chromium Remedy



149 2S surcharge pile



150 Special closure section for SA-6 HB wall in place



151 Pushing cover soil through the C Street corridor



152 Cover soil progress along the SCB wall

SA-6 South Chromium Remedy



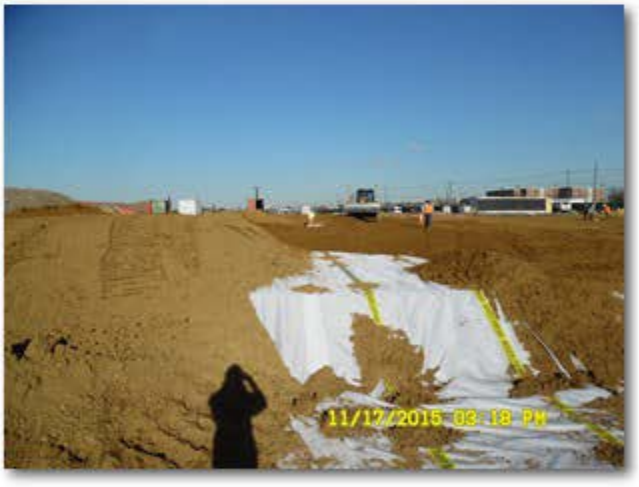
153 Caution tape placed over root barrier



154 Geofoam installation in corridor



155 Graded cover soil



156 Placement of Horizon C soil

SA-6 South Chromium Remedy



157 Graded cover soil in utility corridor



158 Root barrier with caution tape



159 Site 163 in-situ treatment containment area



160 Site 163 in-situ treatment markout

SA-6 South Chromium Remedy



161 Site 163 in-situ active treatment



162 Site 163 in-situ active treatment



163 Fine grading the cap subgrade near sta. 18+00



164 Removing surcharge soil from the SA-6 south cap area



165 Fine grading and compacting the cap subgrade at sta. 15+50



166 Placing historic fill outboard of the HB Wall



167 Beginning to sculpt the cap subgrade in the southwest corner of 3S



168 Placing historic fill from 1N outboard of the HB wall in cells 115-105



169 East corner of cap



170 Fine grading and compacting the cap subgrade at Sta. 24+00



171 Fine grading on 1S



172 Fine grading the cap subgrade at Sta. 23+50

SA-6 South Chromium Remedy



173 South side of cap



174 Hand grading SA-6 cap area



175 Graded surcharge material stockpiled on SA-7



176 Inspecting cover of SA-6 S cap area

SA-6 South Chromium Remedy



177 Liner installation in south cap



178 Beginning to spread cover soil at station 23+00



179 Grading Eastern cap material



180 Spreading coversoil over south cap

SA-6 South Chromium Remedy



181 Grading Eastern cap material



182 Spreading coversoil over south cap



183 Enddump placing coversoil onto south cap



184 Grading cap material

SA-6 South Chromium Remedy



185 Grading Eastern cap material



186 Loading cap material



187 South cap demarcation layer



188 Plastic covered cap area



189 Screening surcharge soil directly into dump trucks for transport to the west side of the cap



190 South cap demarcation layer



191 Grading cap material



192 Spreading coversoil over south cap



193 ESI laying down GDL and demarcation layer on the south cap and P-122



194 Eastern edge of the south cap



195 Placing geomembrane layer on the eastern boundary of the south cap



196 Excavating the asphalt out of the SA-6S cap area at station 2+00

SA-6 South Chromium Remedy



197 Installing liner on south cap near the eastern boundary



198 Placing geomembrane layer on the eastern boundary of the south cap



199 Placing soil onto the south side of the SA-6S cap near station 11+00



200 Placing geomembrane layer on the eastern boundary of the south cap

SA-6 South Chromium Remedy



201 Geotextile fabric to cover stratum O from cells 24-29



202 Spreading coversoil on south cap



203 Screening Celgene soil into a truck to be transfered to the SA-6S cap



204 Spreading coversoil on south cap

SA-6 South Chromium Remedy



205 Coversoil and warning tape progress along the south slope of the cap near station 9+00



206 Grading cap material



207 Regrading cap material



208 Regrading cap material

SA-6 South Chromium Remedy



209 Creating ramp onto SA-6 S cap for coversoil



210 Grading cap material



211 Connecting GDL panels 1 and 2



212 Cementing SCB top on the north end of the east side of the south cap

SA-6 South Chromium Remedy



213 Rolling out the first panel of GDL



214 3S cap area



215 3S cap area



216 Southern cap area



217 Moving material in southern cap



218 Placing material in southern cap



219 Installation of cap



220 Cap installation

SA-6 South Chromium Remedy



221 SCB Mortor



222 Graded subgrade for the cap



223 SCB Grout



224 Cap Installation



225 Geofoam installed in utility corridor



226 GDL Installation



227 GDL Installation



228 GDL boot install around a piezometer



229 GDL boot install around a piezometer



230 Liner boot install around well



231 Extrusion welding liner around the contingent manhole



232 Extrusion welding around contingent manhole



233 Extrusion welding the skirt around manhole



234 GCL installation over SCB wall



235 GCL Deployment



236 Geofoam in utility corridor

SA-6 South Chromium Remedy



237 GDL



238 Liner



239 Graded Subgrade



240 GDL & Liner

SA-6 South Chromium Remedy



241 GCL placement



242 Liner



243 Liner install over GCL



244 Liner



245 Extrusion welding a repair patch at station 23+60



246 Welding liner panels P28 and P29



247 Unrolling a liner panel at station 11+00



248 Prepping truck with a liner

SA-6 South Chromium Remedy



249 SA-6S truck decon



250 Pressure washing the epoxy coated sheets in cells 98 and 97



251 Poured grout mix over the SCB wall in the D Street corridor



252 Lining trucks

SA-6 South Chromium Remedy



253 Laying out fabric and Celgene soil on 1S



254 SA-6S truck scale



255 SA-6S truck lining



256 Installing silt fence along the southern slope of N1 Pile



257 Road berm to prevent runoff



258 Repairing slope against SCB wall



259 Vacuum testing RP-1



260 Finishing the concrete on top of the SCB wall on the west side of D Street

SA-6 South Chromium Remedy



261 Cemented SCB wall at avenue B along SA-6 S



262 Restoration Grade in SA-6 South Development Area



263 Restoration Grade in SA-6 South Development Area



264 60 Kellogg Excavation

SA-6 South Chromium Remedy



265 60 Kellogg Excavation



266 60 Kellogg Excavation



267 Sampling event in 60 Kellogg Excavation



268 Grading topsoil to SA-6S Restoration Area on 10-28-16

SA-6 South Chromium Remedy



269 Hydroseeding SA-6S Cap on 10-28-16



270 Grading topsoil along north edge of SA-6S cap on 10-26-16



271 Site 073 Deferred Area Sampling

APPENDIX B

ELECTRONIC DATA DELIVERABLE SUBMITTAL CONFIRMATION

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, April 06, 2016 4:50 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 003846, HCC140, HB180068 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC140_19970822_20120116.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 04/06/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 003846 it was sent on:

Your submission has been issued an SRP Catalog ID: HB180068 Thank You

The following identifiers were in the DTST file:
Directory: NJ030816
DESC: Honeywell SA-6
SRPID: HCC140
Submit Date: 3/8/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, September 30, 2016 12:01 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 003846, HCC140, HB198265 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC140_20160407_20160707.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 09/30/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 003846,HCC140,RPC930001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB198265 Thank You

The following identifiers were in the DTST file:
Directory: 14092316
DESC: Honeywell SA-6
SRPID: HCC140
Submit Date: 9/23/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Thursday, May 26, 2016 3:11 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 003846, HCC140, HB188456 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; 003846_20140918_20141008.KML; DTST.TXT; EDSA_Error_Log.html; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 05/26/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 003846, HCC140, RPC930001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB188456 Thank You

The following identifiers were in the DTST file:
Directory: NJ052416
DESC: Honeywell SA-6
SRPID: 003846
Submit Date: 5/24/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, April 01, 2016 5:33 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 010374, E20100027, HB179824 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; E20100027_20101102_20120322.KML; EDSA_Error_Log.html; HZRESULT.TXT; HZSAMPLE.TXT

Follow Up Flag: Flag for follow up
Flag Status: Flagged

The EDD submission shown below was processed 04/01/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 010374 it was sent on:

Your submission has been issued an SRP Catalog ID: HB179824 Thank You

The following identifiers were in the DTST file:
Directory: NJ030816
DESC: Honeywell SA-6
SRPID: E20100027
Submit Date: 3/8/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, September 30, 2016 12:01 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 010374, E20100027, HB198274 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; 010374_20160719_20160906.KML; DTST.TXT; EDSA_Error_Log.html; HZRESULT.TXT; HZSAMPLE.TXT

Follow Up Flag: Follow up
Flag Status: Completed

The EDD submission shown below was processed 09/30/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 010374, LSR100001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB198274 Thank You

The following identifiers were in the DTST file:
Directory: 16392816
DESC: Honeywell SA-6
SRPID: 010374
Submit Date: 9/28/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, April 06, 2016 4:50 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 033312, HCC134, HB180127 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC134_19970530_20141202.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 04/06/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 033312 it was sent on:

Your submission has been issued an SRP Catalog ID: HB180127 Thank You

The following identifiers were in the DTST file:
Directory: NJ030816
DESC: Honeywell SA-6
SRPID: HCC134
Submit Date: 3/8/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, September 30, 2016 12:01 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 033312, HCC134, HB198298 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC134_20160407_20160706.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 09/30/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 033312, HCC134, RPC050001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB198298 Thank You

The following identifiers were in the DTST file:
Directory: 13492316
DESC: Honeywell SA-6
SRPID: HCC134
Submit Date: 9/23/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Thursday, May 26, 2016 3:11 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: 033312, HCC134, HB188507 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; 033312_20140820_20141202.KML; DTST.TXT; EDSA_Error_Log.html; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 05/26/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: 033312, HCC134, RPC050001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB188507 Thank You

The following identifiers were in the DTST file:
Directory: NJ052416
DESC: Honeywell SA-6
SRPID: 033312
Submit Date: 5/24/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, September 30, 2016 12:01 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000000927, E20080042, HB198316 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; E20080042_20160406_20160706.KML; EDSA_Error_Log.html; HZRESULT.TXT; HZSAMPLE.TXT

Follow Up Flag: Follow up
Flag Status: Completed

The EDD submission shown below was processed 09/30/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000000927, E20080042, RPC030001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB198316 Thank You

The following identifiers were in the DTST file:
Directory: 07392316
DESC: Honeywell SA-6
SRPID: E20080042
Submit Date: 9/23/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, April 06, 2016 4:50 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000000927, HCC73, HB180134 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC73_20080709_20140612.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 04/06/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G0000000927 it was sent on:

Your submission has been issued an SRP Catalog ID: HB180134 Thank You

The following identifiers were in the DTST file:
Directory: NJ030816
DESC: Honeywell SA-6
SRPID: HCC73
Submit Date: 3/8/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, June 01, 2016 9:33 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000000927, E20080042, HB188695 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; G000000927_20140505_20140612.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 06/01/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000000927, E20080042, RPC03001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB188695 Thank You

The following identifiers were in the DTST file:
Directory: NJ052416
DESC: Honeywell SA-6
SRPID: G000000927
Submit Date: 5/26/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, July 01, 2016 8:13 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000000927, E20080042, HB189901 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; G000000927_20160509_20160510.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 07/01/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000000927, E20080042, RPC03001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB189901 Thank You

The following identifiers were in the DTST file:
Directory: NJ062716
DESC: Honeywell SA-6
SRPID: G000000927
Submit Date: 6/27/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, April 06, 2016 4:50 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008741, HCC124, HB180147 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC124_19970508_20120322.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 04/06/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G0000008741 it was sent on:

Your submission has been issued an SRP Catalog ID: HB180147 Thank You

The following identifiers were in the DTST file:
Directory: NJ030816
DESC: Honeywell SA-6
SRPID: HCC124
Submit Date: 3/8/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, September 30, 2016 12:01 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008741, HCC124, HB198317 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC124_20160408_20160707.KML; HZRESULT.TXT; HZSAMPLE.TXT

Follow Up Flag: Follow up
Flag Status: Flagged

The EDD submission shown below was processed 09/30/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000008741, HCC124, RPC920001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB198317 Thank You

The following identifiers were in the DTST file:
Directory: 12492316
DESC: Honeywell SA-6
SRPID: HCC124
Submit Date: 9/23/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, December 07, 2016 5:51 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008741, HCC124, HB200334 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC124_20160901_20160906.KML; HZRESULT.TXT; HZSAMPLE.TXT

Follow Up Flag: Follow up
Flag Status: Completed

The EDD submission shown below was processed 12/07/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000008741, HCC124, PRC920001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB200334 Thank You

The following identifiers were in the DTST file:
Directory: 12412616
DESC: Honeywell SA-6
SRPID: HCC124
Submit Date: 12/6/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Wednesday, April 06, 2016 4:50 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008742, HCC125, HB180148 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC125_20080416_20120118.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 04/06/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G0000008742 it was sent on:

Your submission has been issued an SRP Catalog ID: HB180148 Thank You

The following identifiers were in the DTST file:
Directory: NJ030816
DESC: Honeywell SA-6
SRPID: HCC125
Submit Date: 3/8/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, September 30, 2016 12:01 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008742, HCC125, HB198318 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; HCC125_20160408_20160707.KML; HZRESULT.TXT; HZSAMPLE.TXT

Follow Up Flag: Follow up
Flag Status: Flagged

The EDD submission shown below was processed 09/30/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000008742, HCC125, RPC930001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB198318 Thank You

The following identifiers were in the DTST file:
Directory: 12592316
DESC: Honeywell SA-6
SRPID: HCC125
Submit Date: 9/23/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Thursday, May 26, 2016 3:11 PM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008742, HCC125, HB188518 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; G000008742_20140326_20140326.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 05/26/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000008742, HCC125, RPC930001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB188518 Thank You

The following identifiers were in the DTST file:
Directory: NJ052416
DESC: Honeywell SA-6
SRPID: G000008742
Submit Date: 5/24/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

Dunleavy, Timothy J

From: srpedd@dep.nj.gov
Sent: Friday, July 01, 2016 8:13 AM
To: Warner, Natalie A
Cc: hazsite@dep.nj.gov
Subject: G000008742, HCC125, HB189902 Passed
Attachments: erdtst-7-1-8.txt; erresult-7-1-8.txt; ersample-7-1-8.txt; rstp-7-1-8.txt; DTST.TXT; EDSA_Error_Log.html; G000008742_20160602_20160602.KML; HZRESULT.TXT; HZSAMPLE.TXT

The EDD submission shown below was processed 07/01/2016. This submission has passed and is cataloged in our system.
The email containing your EDD had the subject line of: G000008742, HCC125, RPC930001 it was sent on:

Your submission has been issued an SRP Catalog ID: HB189902 Thank You

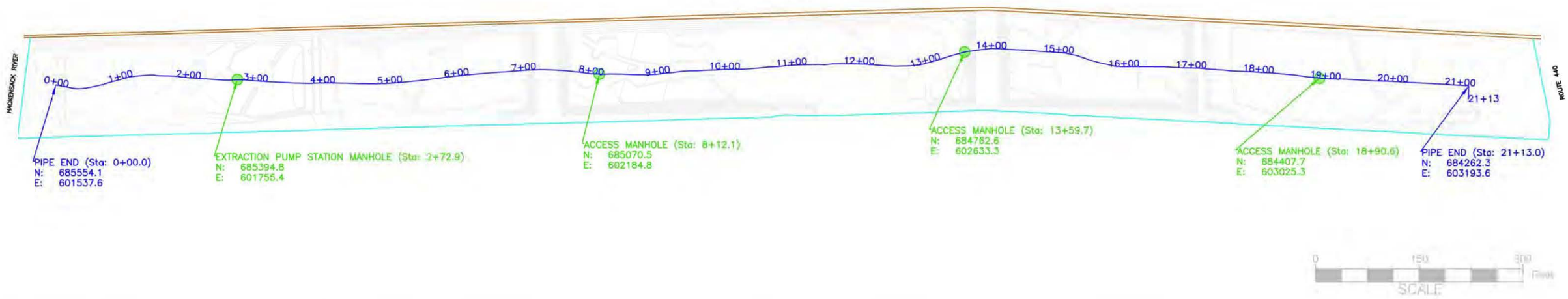
The following identifiers were in the DTST file:
Directory: NJ062816
DESC: Honeywell SA-6
SRPID: G000008742
Submit Date: 6/28/2016

If you are using the email to process your EDD with your key document, include a copy of this email with your key document package.
This is an automated message.

APPENDIX C

RECORD DRAWINGS AND FINAL DOCUMENTATION
(CD ONLY)

PLAN VIEW



PROFILE VIEW

LEGEND

- 8" PERFORATED HDPE PIPE INVER (ELEV. TYPICAL)
- 4FT DIA. MANHOLE RISER PROFILE
- SCB WALL
- HYDRAULIC BARRIER WALL
- CAP SUBGRADE CONTOUR (DESIGN)
- CAP FINAL GRADE CONTOUR (DESIGN)
- 4FT DIA. MANHOLE
- 1.5" CLEAN STONE TRENCH (WIDTH VARIES 3' TO 12')

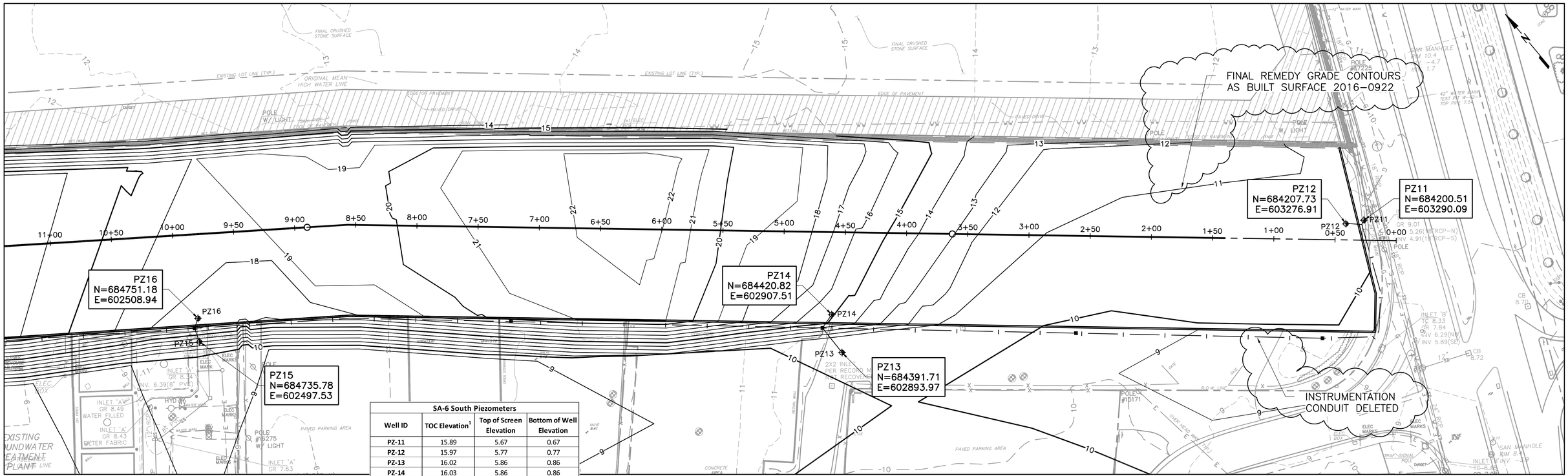
REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	1/13/16	CDC	AE	AE	RECORD DRAWING
1	2/10/16	CDC	AE	AE	ADDED ANNOTATION EDITS
2	2/19/16	CDC	AE	AE	REVISED ANNOTATION EDITS AND ADJUSTED MANHOLE REFERNCES

J.H. 06/21/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

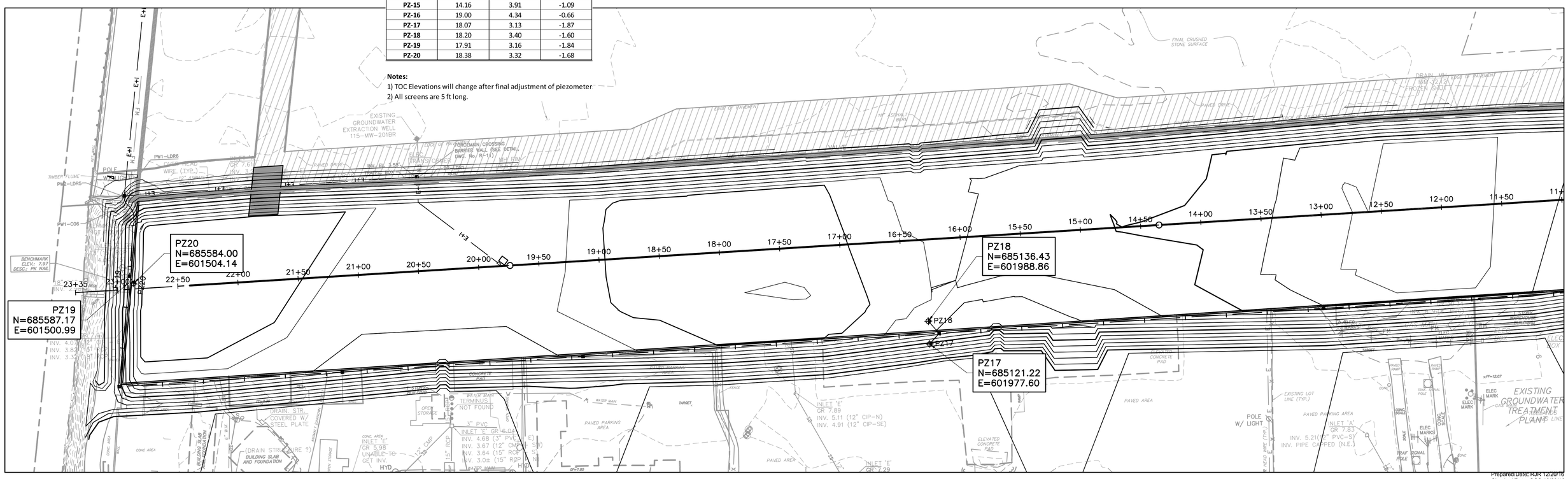
DRAWING NAME
SA6 SOUTH CAP
CONTINGENT GROUNDWATER COLLECTION TRENCH
RECORD DRAWING 02/19/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



SA-6 South Piezometers			
Well ID	TOC Elevation[1]	Top of Screen Elevation	Bottom of Well Elevation
PZ-11	15.89	5.67	0.67
PZ-12	15.97	5.77	0.77
PZ-13	16.02	5.86	0.86
PZ-14	16.03	5.86	0.86
PZ-15	14.16	3.91	-1.09
PZ-16	19.00	4.34	-0.66
PZ-17	18.07	3.13	-1.87
PZ-18	18.20	3.40	-1.60
PZ-19	17.91	3.16	-1.84
PZ-20	18.38	3.32	-1.68

Notes:
1) TOC Elevations will change after final adjustment of piezometer
2) All screens are 5 ft long.



RECORD DRAWINGS - 12/20/16

Prepared/Date: RJR 12/20/16
Checked/Date: SGS 12/20/16

RECORD DRAWING - 12/20/16

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

Honeywell
101 COLUMBIA RD, BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010000

Piezometer As Built Location
Project 3480-13-0377
Figure 2

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C30\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg Tue, 05 Sep 2017 - 2:48pm tony.donovan

HACKENSACK RIVER

SA6 SOUTH CAP

SA6 NORTH CAP

RECORD DRAWING - 12/19/16

Refer to SA-6 South Design Drawing C-204 (DCB 007.4.1) for existing conduit and force main piping not installed under this contract.

Existing Cleanout N: 685998.35 E: 601903.64 El: 8.31'

Existing Cleanout N: 686003.68 E: 601906.17 El: 8.26'

Electrical Handhole N: 685651.58 E: 601550.68 El: 8.07'

Electrical Conduit N: 685652.46 E: 601553.03 El: 5.56'

Leak Detection N: 685687.13 E: 601564.17 El: 7.17'

Electrical Conduit N: 685686.91 E: 601587.96 El: 5.35'

3"x6" Pipe Top Elevation N: 685682.79 E: 601584.79 El: 1.86'

Wye Cleanout N: 685684.9 E: 601571.73 El: 7.05'

2"x4" Pipe Top Elevation N: 685651.98 E: 601553.89 El: 1.39'

Electrical Conduit N: 685648.24 E: 601550.95 El: 6.18'

(2) 2" Sch 40 Conduit

2"x4" Pipe Top Elevation N: 685648.24 E: 601553.73 El: 5.66'

Electrical Conduit N: 685598.02 E: 601613.38 El: 6.75'

2"x4" Pipe Top Elevation N: 685600.48 E: 601613.46 El: 8.63'

(2) 2" Sch 40 Conduit

Electrical Conduit N: 685568.99 E: 601677.64 El: 6.97'

2"x4" Pipe Top Elevation N: 685556.62 E: 601675.48 El: 6.97'

Electric Handhole N: 685503.28 E: 601742.93 El: 8.95'

Electrical Conduit N: 685500.28 E: 601743.38 El: 8.62'

Electrical Conduit N: 685481.75 E: 601730.52 El: 14.76'

Electrical Conduit N: 685504.28 E: 601742.83 El: 7.41'

2"x4" Pipe Top Elevation N: 685490.18 E: 601732.46 El: 14.71'

Elbow Cleanout N: 685505.72 E: 601750.51 El: 10.07'

2"x4" Pipe Top Elevation N: 685504.22 E: 601747.85 El: 7.22'

Electrical Conduit N: 685481.98 E: 601737.99 El: 15.7'

2"x4" Pipe Top Elevation N: 685443.98 E: 601741.93 El: 15.56'

(2) 2" Sch 40 Conduit

Electrical Conduit N: 685398.59 E: 601747.89 El: 16.03'

2"x4" Pipe Top Elevation N: 685412.93 E: 601747.24 El: 15.85'

Extraction Pump Station N: 685404.24 E: 601751.91 El: 18.9'

Electric Handhole N: 685392.83 E: 601751.17 El: 19.0'

(1) 2" Sch 40 Conduit

Electrical Conduit N: 685730.25 E: 601730.25 El: 5.85'

Electrical Conduit N: 685736.58 E: 601639.67 El: 5.5'

Electrical Conduit N: 685785.02 E: 601688.56 El: 5.27'

Electric Handhole N: 685822.76 E: 601730.68 El: 5.97'

(1) 2" Sch 40 Conduit

Electrical Conduit N: 685872.04 E: 601781.18 El: 5.3'

Electrical Conduit N: 685930.19 E: 601842.34 El: 5.53'

Electrical Conduit N: 686002.3 E: 601914.11 El: 8.4'

Electric Handhole N: 686005.13 E: 601916.99 El: 8.21'

Electric Handhole N: 686061.6 E: 602027.4 El: 16.68'

2"x4" Pipe Top Elevation El: 13.67'

2"x4" Pipe Top Elevation N: 686082.76 E: 602076.12 El: 13.16'

(3) 2" Sch 40 Conduit

2"x4" Pipe Top Elevation El: 14.18'

Air Release N: 686118.07 E: 602132.79 El: 18.43'

Electric Handhole N: 686048.48 E: 602028.15 El: 18.74'

3"x6" tie-in to 2"x4" Pipe N: 686049.98 E: 602030.54 El: 13.65'

(2) 2" Sch 40 Conduit

Electrical Conduit N: 686071.04 E: 602063.12 El: 13.92'

Electrical Conduit N: 686104.12 E: 602103.38 El: 14.53'

(3) 2" Sch 40 Conduit

2"x4" Pipe Top Elevation El: 14.57'

Electric Handhole N: 686087.6 E: 602084.41 El: 17.83'

(1) 2" Sch 40 Conduit

2"x4" Pipe Top Elevation N: 686104.56 E: 602178.43 El: 15.02'

Elbow Cleanout N: 686089.35 E: 602214.99 El: 17.95'

Electrical Conduit N: 686105.54 E: 602174.58 El: 15.51'

(3) 2" Sch 40 Conduit

2"x4" Pipe Top Elevation N: 686161.11 E: 602254.31 El: 13.79'

(4) 2" Sch 40 Conduit (2) 3" Sch 40 Conduit

Groundwater Treatment Plant

Electric Handhole N: 686062.11 E: 602275.94 El: 15.34'

Electrical Conduit N: 685785.02 E: 601688.56 El: 5.27'

Electric Handhole N: 686115.89 E: 602294.68 El: 16.83'

LEGEND

- FO[illegible]AIN STATIONS
- ELE[illegible]C HANDHOLE
- SC[illegible]ALL
- HB WALL (Inner Edge)
- ELECTRICAL CONDUIT
- FORCEMAIN
- TEXT ELECTRICAL DESCRIPTION
- TEXT FORCEMAIN DESCRIPTION

0 80 160 Feet

SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	CONTINGENT GROUNDWATER EXTRACTION SYSTEM – SOUTH CAP
1	12/19/16	EJP	AE	AE	ADDED NOTES INDICATING QUANTITY OF CONDUITS

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
CONTINGENT GROUNDWATER EXTRACTION SYSTEM
SOUTH CAP
12/19/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Honeywell SA-6 South
Chromium Remedy
Jersey City, New Jersey

Created By: T. Donovan 12/21/16
Checked By: S. Shallard 12/21/16

TABLE 1. SA-6 SOUTH OPEN SPACE CAP AREA - CONSTRUCTION CONTROL GRID AS BUILT SUMMARY

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2	685518.44	601481.51	GRID	15.72	15.73	1.11	0.55	20.00		0.66	4.28
3	685543.44	601481.51	GRID	15.32	15.35	1.13	0.68	20.09		0.57	4.74
4	685493.4362	601506.5129	GRID	14.21	14.19	1.29		19.44		0.55	5.25
6	685543.44	601506.51	GRID	16.56	16.64	1.12	0.45	20.14		0.61	3.50
7	685568.44	601506.51	GRID	16.96	16.94	1.19	0.49	20.13		0.55	3.19
8	685468.44	601531.51	GRID	13.09	13.12	1.11	0.74	18.81		0.54	5.69
9	685493.44	601531.51	GRID	13.72	13.75	1.19	0.52	19.99		0.54	6.24
10	685543.4362	601531.5129	GRID	14.75	14.84	1.17		20.09		0.53	5.25
11	685568.44	601531.51	GRID	15.00	15.08	1.18	0.64	20.29		0.59	5.21
12	685593.44	601531.51	GRID	18.07	17.96	1.28	0.58	20.29		0.46	2.32
14	685468.44	601556.51	GRID	13.86	13.86	1.21	0.56	18.98		0.59	5.12
15	685493.44	601556.51	GRID	15.86	15.83	1.23	0.52	20.07		0.50	4.24
16	685518.44	601556.51	GRID	16.67	16.76	1.14	0.48	20.07		0.53	3.32
17	685543.4362	601556.5129	GRID	17.01	16.97	1.29		20.19		0.61	3.22
18	685568.4362	601556.5129	GRID	14.11	14.15	1.11		20.23		0.57	6.08
19	685593.44	601556.51	GRID	17.41	17.49	1.17	0.48	20.16		0.55	2.67
20	685443.44	601581.51	GRID	13.26	13.31	1.11	0.65	18.25		0.49	4.94
21	685468.44	601581.51	GRID	14.37	14.35	1.28	0.68	18.91		0.49	4.56
22	685493.44	601581.51	GRID	15.75	15.69	1.30	0.49	20.04		0.56	4.35
23	685518.44	601581.51	GRID	16.64	16.64	1.21	0.48	20.09		0.51	3.45
24	685543.44	601581.51	GRID	17.49	17.50	1.10	0.50	20.15		0.56	2.64
25	685568.4362	601581.5129	GRID	17.03	17.13	1.15		20.10		0.57	2.97
26	685418.44	601606.51	GRID	11.91	11.97	1.19	0.53	17.40		0.60	5.43
27	685443.44	601606.51	GRID	13.82	13.80	1.30	0.65	18.39		0.62	4.59
29	685493.44	601606.51	GRID	15.28	15.29	1.24	0.74	19.99		0.60	4.70
30	685518.44	601606.51	GRID	16.15	16.21	1.17	0.67	20.09		0.59	3.89
31	685543.44	601606.51	GRID	16.75	16.75	1.21	0.53	20.13		0.58	3.37
32	685393.44	601631.51	GRID	11.44	11.47	1.19	0.72	17.23		0.62	5.76
33	685418.44	601631.51	GRID	13.25	13.31	1.14	0.62	17.90		0.55	4.58

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
34	685443.44	601631.51	GRID	13.79	13.80	1.19	0.51	18.27		0.57	4.47
35	685468.44	601631.51	GRID	15.71	15.71	1.25	0.48	18.78		0.66	3.06
36	685493.44	601631.51	GRID	14.79	14.80	1.26	0.54	19.52		0.59	4.72
37	685518.44	601631.51	GRID	15.60	15.58	1.26	0.73	20.08		0.61	4.50
38	685543.44	601631.51	GRID	16.01	15.98	1.26	0.58	20.10		0.56	4.12
39	685393.44	601656.51	GRID	12.63	12.66	1.19	0.57	17.68		0.58	5.02
40	685443.44	601656.51	GRID	13.74	13.70	1.21	0.59	18.34		0.65	4.64
41	685468.44	601656.51	GRID	15.64	15.68	1.18	0.54	18.67		0.57	3.00
42	685493.44	601656.51	GRID	16.11	16.13	1.22	0.48	19.10		0.46	2.98
43	685518.44	601656.51	GRID	16.65	16.55	1.24	0.64	20.05		0.51	3.50
44	685368.44	601681.51	GRID	11.59	11.63	1.22	0.66	17.43		0.50	5.80
45	685393.44	601681.51	GRID	15.72	15.72	1.24	0.47	18.05		0.62	2.34
46	685443.44	601681.51	GRID	13.67	13.64	1.25	0.47	18.22		0.63	4.58
47	685468.44	601681.51	GRID	15.52	15.52	1.25	0.47	18.58		0.57	3.06
48	685493.44	601681.51	GRID	15.97	15.95	1.26	0.47	18.97		0.58	3.02
49	685343.44	601706.51	GRID	10.97	10.90	1.36	0.52	17.39		0.54	6.49
50	685393.44	601706.51	GRID	15.97	15.96	1.21	0.58	18.27		0.52	2.31
51	685443.44	601706.51	GRID	13.55	13.52	1.27	0.67	18.14		0.51	4.62
52	685468.44	601706.51	GRID	15.38	15.37	1.21	0.48	18.07		0.50	2.69
53	685493.44	601706.51	GRID	14.27	14.32	1.20	0.55	18.36		0.50	4.04
54	685318.44	601731.51	GRID	10.69	10.63	1.18	0.52	17.92		0.54	7.29
55	685368.44	601731.51	GRID	16.17	16.14	1.22	0.60	18.51		0.55	2.37
56	685393.44	601731.51	GRID	16.28	16.24	1.25	0.50	18.61		0.62	2.37
57	685443.44	601731.51	GRID	13.53	13.48	1.32	0.50	18.08		0.54	4.60
58	685343.44	601756.51	GRID	16.57	16.54	1.14	0.52	18.99		0.65	2.45
59	685368.44	601756.51	GRID	16.33	16.35	1.15	0.60	18.71		0.61	2.36
61	685443.44	601756.51	GRID	13.55	13.55	1.12	0.84	18.09		0.61	4.53
62	685293.4362	601781.5129	GRID	10.50	10.42	1.25		19.14		0.60	8.73
63	685318.44	601781.51	GRID	17.40	17.40	1.15	0.50	19.62		0.57	2.22
64	685343.44	601781.51	GRID	16.94	16.91	1.13	0.53	19.47		0.65	2.55
65	685368.44	601781.51	GRID	16.55	16.53	1.20	0.58	18.97		0.66	2.44
66	685393.44	601781.51	GRID	16.31	16.26	1.21	0.62	18.61		0.51	2.34
67	685418.44	601781.51	GRID	16.14	16.13	1.17	0.52	18.36		0.53	2.22
69	685268.4362	601806.5129	GRID	11.03	10.95	1.32		19.36		0.56	8.41

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
70	685318.44	601806.51	GRID	18.11	18.05	1.20	0.50	20.30		0.56	2.25
71	685343.44	601806.51	GRID	17.66	17.63	1.17	0.45	19.87		0.56	2.24
72	685368.44	601806.51	GRID	17.12	17.11	1.13	0.56	19.39		0.59	2.28
73	685393.44	601806.51	GRID	16.68	16.61	1.20	0.52	18.96		0.63	2.35
74	685418.44	601806.51	GRID	16.28	16.27	1.19	0.48	18.56		0.56	2.29
75	685243.4362	601831.5129	GRID	12.66	12.64	1.28		19.11		0.46	6.47
77	685318.4362	601831.5129	GRID	15.70	15.68	1.28		20.55		0.55	4.87
78	685343.44	601831.51	GRID	18.29	18.27	1.19	0.47	20.61		0.68	2.34
79	685368.44	601831.51	GRID	17.73	17.67	1.22	0.45	20.02		0.59	2.35
80	685393.44	601831.51	GRID	17.22	17.25	1.05	0.51	19.27		0.46	2.02
81	685243.44	601856.51	GRID	15.58	15.64	1.18	0.50	20.33		0.52	4.69
82	685268.44	601856.51	GRID	16.08	16.08	1.25	0.48	20.55		0.54	4.47
83	685293.4362	601856.5129	GRID	15.74	15.83	1.18		20.72		0.65	4.89
85	685368.44	601856.51	GRID	18.00	17.99	1.20	0.45	20.24		0.60	2.26
86	685218.44	601881.51	GRID	15.64	15.58	1.16	0.60	20.38		0.58	4.81
87	685243.44	601881.51	GRID	16.37	16.38	1.15	0.55	20.84		0.66	4.47
88	685268.44	601881.51	GRID	18.72	18.68	1.16	0.54	20.97		0.58	2.29
89	685293.44	601881.51	GRID	18.57	18.49	1.19	0.60	20.86		0.58	2.37
90	685343.4362	601881.5129	GRID	15.15	15.20	1.20		20.12		0.48	4.91
91	685368.4362	601881.5129	GRID	11.78	11.78	1.23		17.65		0.52	5.86
92	685193.44	601906.51	GRID	15.54	15.50	1.14	0.75	20.38		0.69	4.89
93	685218.44	601906.51	GRID	16.30	16.26	1.19	0.53	20.87		0.69	4.61
94	685243.44	601906.51	GRID	18.74	18.67	1.21	0.56	21.09		0.66	2.43
95	685268.44	601906.51	GRID	18.62	18.56	1.17	0.58	20.84		0.53	2.28
96	685293.44	601906.51	GRID	18.47	18.40	1.16	0.59	20.71		0.56	2.31
97	685318.44	601906.51	GRID	18.31	18.32	1.14	0.49	20.56		0.60	2.23
99	685193.44	601931.51	GRID	15.75	15.79	1.10	0.81	20.60		0.78	4.81
101	685243.44	601931.51	GRID	18.58	18.54	1.17	0.53	20.81		0.57	2.27
102	685268.44	601931.51	GRID	18.48	18.43	1.15	0.58	20.72		0.56	2.29
103	685293.44	601931.51	GRID	18.37	18.36	1.19	0.51	20.57		0.51	2.21
104	685168.44	601956.51	GRID	14.56	14.64	1.11	0.65	19.76		0.63	5.12
105	685193.44	601956.51	GRID	18.03	18.13	1.04	0.52	20.27		0.58	2.14
107	685243.44	601956.51	GRID	18.28	18.37	1.05	0.55	20.57		0.61	2.20
108	685268.44	601956.51	GRID	18.29	18.38	1.03	0.58	20.62		0.63	2.24

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
109	685293.44	601956.51	GRID	18.22	18.30	1.02	0.57	20.56		0.66	2.26
110	685143.44	601981.51	GRID	13.64	13.74	1.03	0.59	18.81		0.77	5.08
111	685168.44	601981.51	GRID	17.22	17.31	1.04	0.56	19.46		0.55	2.15
112	685193.44	601981.51	GRID	17.44	17.54	1.01	0.60	19.70		0.56	2.16
113	685218.44	601981.51	GRID	17.67	17.75	1.04	0.55	19.88		0.55	2.13
114	685243.44	601981.51	GRID	17.85	17.94	1.00	0.62	20.15		0.59	2.21
115	685268.44	601981.51	GRID	17.92	18.01	1.02	0.52	20.30		0.75	2.29
116	685118.44	602006.51	GRID	13.00	13.10	1.00	0.58	17.83		0.59	4.74
117	685168.44	602006.51	GRID	16.62	16.71	1.05	0.55	19.20		0.72	2.49
118	685193.44	602006.51	GRID	16.85	16.94	1.06	0.52	19.20		0.67	2.26
119	685218.44	602006.51	GRID	17.08	17.16	1.05	0.55	19.37		0.60	2.20
121	685268.44	602006.51	GRID	17.52	17.59	1.05	0.58	19.69		0.47	2.10
122	685118.44	602031.51	GRID	13.00	13.10	1.12	0.45	17.95		0.59	4.85
123	685143.44	602031.51	GRID	16.11	16.20	1.03	0.55	19.08		0.61	2.87
124	685168.44	602031.51	GRID	16.20	16.30	1.15	0.55	18.90		0.52	2.60
125	685193.44	602031.51	GRID	16.32	16.39	1.18	0.50	18.93		0.68	2.54
126	685218.44	602031.51	GRID	16.50	16.59	1.07	0.53	18.92		0.72	2.32
127	685118.44	602056.51	GRID	14.00	13.92	1.26	0.59	18.61		0.55	4.69
128	685143.44	602056.51	GRID	16.15	16.22	1.06	0.55	19.10		0.64	2.87
129	685168.44	602056.51	GRID	16.07	16.16	1.02	0.56	19.07		0.53	2.91
130	685193.44	602056.51	GRID	16.21	16.29	1.13	0.45	18.77		0.54	2.48
131	685218.44	602056.51	GRID	16.34	16.43	1.08	0.57	18.64		0.55	2.21
132	685068.4362	602081.5129	GRID	4.37	4.46	1.01		18.34	0.75		13.88
134	685143.44	602081.51	GRID	16.50	16.58	1.08	0.50	19.05		0.56	2.46
135	685168.44	602081.51	GRID	16.30	16.39	1.00	0.58	19.11		0.59	2.72
136	685193.44	602081.51	GRID	16.11	16.19	1.00	0.59	18.95		0.61	2.77
137	685218.44	602081.51	GRID	16.14	16.23	1.10	0.46	18.61		0.56	2.38
138	685043.4362	602106.5129	GRID	4.55	4.49	1.27		18.20		0.55	13.71
140	685093.4362	602106.5129	GRID	4.78	4.86	1.01		19.05	0.56		14.19
141	685118.4362	602106.5129	GRID	5.02	5.08	1.02		19.08		0.64	14.00
142	685168.44	602106.51	GRID	16.64	16.73	1.02	0.61	19.09		0.59	2.36
143	685193.44	602106.51	GRID	16.31	16.40	1.01	0.57	19.12		0.67	2.72
144	685068.44	602131.51	GRID	14.98	15.01	1.16	0.66	19.13		0.53	4.12
145	685118.4362	602131.5129	GRID	5.19	5.13	1.15		19.05	0.55		13.92

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146	685143.4362	602131.5129	GRID	5.42	5.50	1.01		19.07	0.54		13.57
147	685043.44	602156.51	GRID	15.05	15.06	1.23	0.64	19.70		0.54	4.64
148	685093.44	602156.51	GRID	17.85	17.78	1.18	0.58	20.09		0.56	2.31
149	685143.4362	602156.5129	GRID	5.59	5.61	1.10		19.11	0.54		13.50
150	685168.4362	602156.5129	GRID	5.82	5.88	1.03		18.70	0.50		12.82
151	684993.44	602181.51	GRID	5.65	5.58	1.19	0.77	19.43		0.59	13.85
152	685018.44	602181.51	GRID	15.74	15.82	1.18	0.56	20.06		0.58	4.24
153	685043.44	602181.51	GRID	15.20	15.28	1.15	0.83	20.01		0.51	4.73
154	685068.44	602181.51	GRID	17.51	17.56	1.06	0.55	20.16		0.80	2.59
155	685093.44	602181.51	GRID	17.55	17.57	1.06	0.58	19.93		0.72	2.36
156	685118.44	602181.51	GRID	17.55	17.55	1.11	0.59	19.76		0.51	2.21
157	685143.44	602181.51	GRID	14.65	14.72	1.13	0.52	19.19		0.49	4.47
159	684968.44	602206.51	GRID	6.08	6.09	1.08	0.60	20.30		0.57	14.21
160	685018.44	602206.51	GRID	18.26	18.28	1.10	0.58	20.45		0.50	2.17
161	685068.44	602206.51	GRID	17.61	17.61	1.08	0.63	20.11		0.72	2.50
162	684993.44	602231.51	GRID	18.81	18.84	1.12	0.57	21.06		0.53	2.22
163	685018.44	602231.51	GRID	16.00	15.94	1.18	0.90	20.74		0.72	4.80
164	685068.44	602231.51	GRID	17.85	17.78	1.22	0.54	20.12		0.58	2.34
165	685093.44	602231.51	GRID	15.01	15.11	1.06	0.94	19.88		0.69	4.77
166	684968.44	602256.51	GRID	19.36	19.37	1.10	0.55	21.58		0.56	2.21
167	684993.44	602256.51	GRID	19.06	19.05	1.13	0.55	21.28		0.55	2.23
168	685018.44	602256.51	GRID	16.25	16.26	1.08	0.69	20.98		0.76	4.72
169	685043.44	602256.51	GRID	18.43	18.44	1.11	0.60	20.65		0.50	2.21
170	685068.44	602256.51	GRID	18.10	18.08	1.14	0.56	20.30		0.52	2.22
171	684918.44	602281.51	GRID	7.15	7.15	1.13	0.90	21.67		0.49	14.52
172	684968.44	602281.51	GRID	19.61	19.63	1.07	0.59	21.81		0.52	2.17
173	684993.44	602281.51	GRID	16.82	16.83	1.10	0.94	21.50		0.70	4.68
174	685018.44	602281.51	GRID	19.00	19.00	1.09	0.59	21.27		0.58	2.27
175	685043.44	602281.51	GRID	18.69	18.68	1.13	0.60	20.91		0.50	2.23
176	685068.44	602281.51	GRID	18.36	18.36	1.08	0.61	20.60		0.55	2.24
178	684943.44	602306.51	GRID	20.15	20.17	1.10	0.53	22.37		0.57	2.20
179	684968.44	602306.51	GRID	19.86	19.89	1.17	0.48	22.09		0.55	2.20
180	684993.44	602306.51	GRID	17.07	17.10	1.10	0.90	21.85		0.75	4.75
181	685018.44	602306.51	GRID	19.26	19.27	1.09	0.55	21.57		0.66	2.30

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
182	685043.44	602306.51	GRID	16.45	16.37	1.23	0.83	21.20		0.69	4.84
183	684918.44	602331.51	GRID	17.91	17.93	1.19	0.49	22.38		0.53	4.45
184	684943.44	602331.51	GRID	17.80	17.81	1.15	0.52	22.29		0.53	4.48
185	684968.44	602331.51	GRID	17.57	17.49	1.23	0.54	22.04		0.49	4.55
186	684993.44	602331.51	GRID	19.82	19.76	1.22	0.53	22.09		0.58	2.33
187	685018.44	602331.51	GRID	17.03	16.94	1.18	0.99	21.41		0.52	4.47
188	684893.44	602356.51	GRID	17.90	17.86	1.21	0.48	22.14		0.49	4.28
189	684918.44	602356.51	GRID	17.87	17.86	1.14	0.57	22.28		0.55	4.42
190	684943.44	602356.51	GRID	17.85	17.84	1.18	0.49	22.25		0.51	4.41
191	684968.44	602356.51	GRID	17.68	17.67	1.16	0.52	22.06		0.47	4.39
192	684993.44	602356.51	GRID	17.48	17.47	1.17	0.53	22.05		0.55	4.58
193	684843.44	602381.51	GRID	8.70	8.73	1.20	0.46	21.34		0.56	12.61
194	684868.44	602381.51	GRID	17.37	17.31	1.20	0.52	21.87		0.53	4.56
195	684893.44	602381.51	GRID	17.65	17.65	1.19	0.47	22.09		0.53	4.44
196	684918.44	602381.51	GRID	17.82	17.83	1.10	0.60	22.19		0.58	4.37
197	684943.44	602381.51	GRID	17.81	17.81	1.17	0.52	22.24		0.56	4.44
198	684968.44	602381.51	GRID	17.78	17.79	1.20	0.51	22.12		0.49	4.34
199	684993.44	602381.51	GRID	17.62	17.62	1.16	0.49	22.02		0.53	4.40
200	684868.44	602406.51	GRID	16.97	16.99	1.16	0.46	21.53		0.52	4.54
201	684893.44	602406.51	GRID	17.32	17.32	1.13	0.54	21.87		0.54	4.55
202	684918.44	602406.51	GRID	17.63	17.62	1.21	0.50	22.11		0.59	4.49
203	684943.44	602406.51	GRID	17.73	17.70	1.17	0.58	22.11		0.51	4.42
204	684968.44	602406.51	GRID	17.76	17.73	1.17	0.55	22.07		0.53	4.34
205	684818.44	602431.51	GRID	15.03	15.11	1.12	0.52	20.06		0.51	4.95
206	684843.44	602431.51	GRID	16.11	16.09	1.23	0.48	20.63		0.51	4.54
207	684868.44	602431.51	GRID	16.57	16.59	1.15	0.54	21.17		0.52	4.58
208	684893.44	602431.51	GRID	17.00	16.94	1.22	0.54	21.54		0.53	4.59
209	684918.44	602431.51	GRID	17.37	17.34	1.20	0.53	21.70		0.53	4.36
210	684943.44	602431.51	GRID	17.60	17.63	1.17	0.48	22.03		0.51	4.40
211	684793.44	602456.51	GRID	14.01	13.97	1.24	0.62	19.12		0.52	5.15
212	684818.44	602456.51	GRID	15.20	15.17	1.24	0.45	19.70		0.54	4.53
213	684843.44	602456.51	GRID	15.74	15.74	1.19	0.50	20.31		0.56	4.57
214	684868.44	602456.51	GRID	16.27	16.27	1.15	0.57	20.85		0.56	4.58
215	684893.44	602456.51	GRID	16.69	16.68	1.17	0.50	21.13		0.57	4.45

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
216	684918.44	602456.51	GRID	17.11	17.07	1.19	0.56	21.26		0.53	4.19
217	684768.44	602481.51	GRID	13.24	13.23	1.15	0.64	18.03		0.57	4.80
218	684793.44	602481.51	GRID	14.27	14.21	1.27	0.53	18.74		0.57	4.53
219	684818.44	602481.51	GRID	14.86	14.85	1.18	0.51	19.41		0.56	4.56
220	684843.44	602481.51	GRID	15.42	15.44	1.18	0.49	19.97		0.50	4.53
221	684868.44	602481.51	GRID	15.93	15.91	1.20	0.49	20.48		0.51	4.57
222	684893.44	602481.51	GRID	16.43	16.40	1.16	0.58	21.03		0.55	4.63
223	684918.44	602481.51	GRID	16.87	16.84	1.17	0.58	21.07		0.55	4.23
224	684768.44	602506.51	GRID	13.31	13.28	1.25	0.58	18.06		0.59	4.77
225	684793.44	602506.51	GRID	13.98	14.03	1.04	0.65	18.50		0.55	4.47
226	684818.44	602506.51	GRID	14.55	14.49	1.19	0.69	19.12		0.55	4.63
227	684843.44	602506.51	GRID	15.10	15.05	1.22	0.58	19.68		0.55	4.63
228	684868.44	602506.51	GRID	15.62	15.62	1.16	0.60	20.33		0.59	4.71
229	684893.44	602506.51	GRID	16.12	16.18	1.12	0.56	20.66		0.46	4.48
230	684743.44	602531.51	GRID	12.58	12.60	1.14	0.76	17.67		0.52	5.07
231	684768.44	602531.51	GRID	15.82	15.81	1.21	0.47	18.01		0.52	2.20
232	684793.44	602531.51	GRID	16.25	16.22	1.22	0.47	18.48		0.56	2.26
233	684818.44	602531.51	GRID	16.76	16.69	1.26	0.47	18.91		0.49	2.22
234	684843.44	602531.51	GRID	17.30	17.35	1.12	0.54	19.59		0.58	2.24
235	684868.44	602531.51	GRID	17.86	17.87	1.17	0.50	20.12		0.59	2.26
236	684718.44	602556.51	GRID	7.45	7.45	1.21	0.84	17.22		0.55	9.77
237	684743.44	602556.51	GRID	15.59	15.67	1.18	0.46	17.80		0.50	2.14
239	684843.44	602556.51	GRID	17.05	17.13	1.05	0.57	19.29		0.55	2.16
240	684868.44	602556.51	GRID	17.59	17.65	1.03	0.56	19.81		0.58	2.17
241	684693.4362	602581.5129	GRID	5.82	5.81	1.28		17.31		0.57	11.50
242	684718.44	602581.51	GRID	13.18	13.26	1.14	0.51	17.84		0.47	4.58
243	684743.44	602581.51	GRID	15.71	15.69	1.19	0.49	17.99		0.59	2.30
244	684768.44	602581.51	GRID	13.86	13.79	1.26	0.55	18.43		0.51	4.64
245	684793.44	602581.51	GRID	14.14	14.11	1.13	0.68	18.80		0.54	4.69
246	684818.44	602581.51	GRID	14.12	14.10	1.19	0.55	19.01		0.53	4.90
247	684843.44	602581.51	GRID	14.33	14.41	1.11	0.77	19.01		0.56	4.59
248	684693.4362	602606.5129	GRID	5.20	5.29	1.15		18.71		0.56	13.41
249	684743.44	602606.51	GRID	16.46	16.49	1.12	0.54	19.12		0.59	2.64
250	684768.44	602606.51	GRID	15.98	16.03	1.19	0.53	19.10		0.54	3.07

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
251	684793.44	602606.51	GRID	14.46	14.37	1.24	0.54	19.06		0.54	4.69
252	684818.44	602606.51	GRID	14.27	14.32	1.10	0.60	19.08		0.53	4.76
253	684693.4362	602631.5129	GRID	5.45	5.52	1.07		19.05		0.56	13.53
254	684718.4362	602631.5129	GRID	5.80	5.85	1.10		19.11		0.52	13.26
255	684768.44	602631.51	GRID	17.04	17.07	1.17	0.45	19.31		0.55	2.23
256	684793.44	602631.51	GRID	16.34	16.43	1.03	0.56	19.09		0.50	2.66
257	684818.44	602631.51	GRID	16.19	16.18	1.12	0.59	19.04		0.52	2.86
259	684718.4362	602656.5129	GRID	6.06	5.98	1.28		19.35		0.52	13.37
260	684743.4362	602656.5129	GRID	6.41	6.45	1.08		19.24		0.62	12.79
261	684793.44	602656.51	GRID	14.54	14.62	1.12	0.61	19.07		0.55	4.46
263	684743.4362	602681.5129	GRID	6.67	6.69	1.22		19.49		0.64	12.81
264	684768.4362	602681.5129	GRID	7.01	7.01	1.13		18.98		0.59	11.97
265	684793.4362	602681.5129	GRID	7.37	7.34	1.21		17.88		0.65	10.54
545	685526.43	601442.32	BNDY	12.92	13.01	1.02	0.57	15.13		0.54	2.12
546	685543.45	601459.45	BNDY	13.45	13.37	1.27	0.46	15.63		0.52	2.25
547	685561.91	601478.03	BNDY	14.24	14.20	1.12	0.59	16.42		0.51	2.22
548	685583.37	601539.44	BRK	15.12	15.18	1.13	0.81	20.20		0.48	5.02
549	685595.8952	601578.0005	BRK	14.21	14.27	1.19		18.24		0.50	3.96
550	685562.63	601543.70	BRK	17.48	17.45	1.17	0.49	20.14		0.54	2.69
551	685559.4866	601547.9749	BRK	13.94	14.02	1.16		20.17		0.59	6.15
552	685555.5634	601552.5373	BRK	13.93	13.97	1.17		20.10		0.47	6.13
553	685552.5036	601556.6952	BRK	17.37	17.31	1.21		20.17		0.56	2.86
554	685602.63	601551.44	BRK	17.71	17.63	1.26	0.49	20.17		0.52	2.54
555	685524.8988	601529.9774	BRK	13.12	13.20	1.18		20.09		0.55	6.89
556	685521.8453	601534.1334	BRK	16.56	16.41	1.25		20.11		0.58	3.70
557	685518.43	601506.14	BRK	15.53	15.44	1.25	0.47	20.01		0.53	4.57
558	685516.84	601455.37	BNDY	13.73	13.68	1.13	0.56	18.14		0.45	4.47
559	685566.10	601602.95	BRK	17.39	17.30	1.29	0.63	20.11		0.89	2.81
560	685557.11	601621.51	BRK	16.15	16.11	1.29	0.53	19.95		0.50	3.83
561	685572.96	601633.24	BNDY	9.96	10.05	1.17	0.46	13.83		0.57	3.79
562	685589.38	601610.88	BNDY	10.19	10.10	1.25	0.48	13.66		0.54	3.56
563	685606.3327	601587.7847	BNDY	9.93	10.03	1.06		13.51		0.55	3.48
564	685633.80	601550.37	BNDY	9.78	9.77	1.23	0.48	13.00		0.75	3.23
565	685622.62	601565.61	BNDY	9.96	10.03	1.14	0.48	13.19		0.56	3.16

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566	685614.41	601530.85	BNDY	15.70	15.79	1.01	0.58	17.88		0.50	2.09
567	685591.47	601507.77	BNDY	15.02	15.06	1.08	0.54	17.21		0.53	2.15
568	685577.88	601494.10	BNDY	14.55	14.65	1.13	0.45	16.73		0.50	2.09
569	685488.0585	601495.4211	BNDY	14.30	14.31	1.09		18.26		0.52	3.95
570	685501.08	601477.69	BNDY	14.94	14.96	1.05	0.55	18.25		0.51	3.29
571	685474.3133	601513.2966	BNDY	13.64	13.58	1.31		18.30		0.52	4.71
572	685459.92	601533.74	BNDY	12.84	12.83	1.08	0.65	18.25		0.64	5.42
573	685442.87	601556.12	BNDY	12.43	12.43	1.11	0.87	18.08		0.53	5.66
574	685428.08	601576.27	BNDY	12.19	12.21	1.06	0.59	17.34		0.65	5.14
575	685413.27	601596.44	BNDY	11.95	12.02	1.10	0.53	17.08		0.57	5.06
576	685398.47	601616.59	BNDY	11.42	11.44	1.17	0.55	17.02		0.55	5.58
577	685383.68	601636.74	BNDY	11.34	11.31	1.18	0.59	16.96		0.64	5.65
578	685368.88	601656.89	BNDY	11.27	11.24	1.18	0.58	15.82		0.53	4.58
579	685558.28	601653.23	BNDY	9.90	9.93	1.22	0.51	13.58		0.54	3.65
581	685543.38	601673.52	BNDY	9.88	9.87	1.24	0.48	13.37		0.49	3.50
582	685528.60	601693.65	BNDY	9.84	9.81	1.10	0.61	13.23		0.50	3.41
583	685469.10	601609.94	BRK	15.99	15.91	1.21	0.66	18.82		0.57	2.91
584	685468.06	601601.70	BRK	14.55	14.56	1.21	0.80	18.89		0.60	4.33
585	685534.63	601655.70	BRK	15.46	15.38	1.32	0.46	19.31		0.51	3.93
586	685515.15	601685.29	BRK	14.82	14.60	1.37	0.56	18.44		0.55	3.84
587	685503.84	601702.15	BRK	14.49	14.45	1.13	0.62	17.92		0.47	3.48
588	685484.63	601722.61	BRK	15.55	15.47	1.25	0.54	17.98		0.53	2.52
589	685482.47	601731.53	BRK	11.10	11.14	1.21	0.78	17.58		0.57	6.44
590	685467.89	601733.01	BRK	13.13	13.22	1.16	0.84	17.99		0.51	4.77
591	685467.14	601729.90	BRK	15.25	15.18	1.19	0.63	18.01		0.48	2.83
592	685465.84	601749.83	BRK	15.15	15.09	1.19	0.58	17.93		1.01	2.84
593	685444.26	601779.76	BRK	13.57	13.66	1.14	0.78	17.81		0.59	4.15
594	685429.29	601800.21	BRK	15.09	15.00	1.31	0.49	17.52		0.66	2.53
595	685453.48	601767.05	BRK	15.07	14.98	1.26	0.56	17.98		0.57	3.00
596	685514.37	601713.04	BNDY	9.77	9.72	1.19	0.52	12.96		0.54	3.25
597	685499.50	601733.28	BNDY	9.70	9.78	1.22	0.52	12.69		0.52	2.91
598	685485.10	601752.90	BNDY	9.64	9.66	1.33	0.50	12.54		0.54	2.89
599	685469.40	601774.28	BNDY	9.60	9.70	1.11	0.45	12.32		0.67	2.62
600	685454.74	601794.25	BNDY	9.64	9.70	1.20	0.60	12.05		0.55	2.35

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601	685439.85	601814.53	BNDY	9.68	9.64	1.28	0.42	12.00		0.58	2.36
602	685425.01	601834.73	BNDY	9.73	9.66	1.29	0.40	11.86		0.52	2.20
603	685418.25	601641.07	BRK	13.45	13.41	1.26	0.62	18.04		0.60	4.63
604	685415.60	601650.93	BRK	15.85	15.62	1.37	0.55	18.05		0.51	2.43
605	685417.81	601680.87	BRK	15.90	15.77	1.24	0.56	18.14		0.57	2.37
606	685421.62	601680.64	BRK	13.35	13.42	1.20	0.79	18.06		0.57	4.64
607	685417.84	601705.42	BRK	16.07	15.91	1.40	0.48	18.33		0.54	2.42
608	685421.83	601705.56	BRK	13.40	13.43	1.20	0.80	18.14		0.51	4.71
609	685420.68	601733.21	BRK	13.46	13.54	1.08	0.86	18.20		0.59	4.66
610	685416.60	601732.96	BRK	16.18	16.19	1.13	0.55	18.33		0.45	2.14
611	685420.69	601759.40	BRK	13.52	13.60	1.13	0.70	18.20		0.56	4.60
612	685417.42	601761.34	BRK	16.06	16.08	1.13	0.57	18.32		0.54	2.24
613	685367.91	601704.46	BRK	13.34	13.35	1.18	0.73	18.01		0.54	4.66
614	685370.79	601706.98	BRK	15.89	15.67	1.46	0.48	18.25		0.64	2.58
615	685343.44	601731.17	BRK	13.71	13.67	1.28	0.58	18.23		0.52	4.55
616	685345.91	601734.17	BRK	16.30	16.33	1.07	0.50	18.48		0.57	2.15
617	685303.14	601806.86	BRK	18.27	18.27	1.14	0.47	20.42		0.55	2.15
618	685298.7657	601809.6667	BRK	15.77	15.84	1.26		20.32		0.63	4.48
619	685294.5364	601809.7779	BRK	15.35	15.41	1.17		20.16		0.57	4.75
620	685288.9198	601805.6788	BRK	10.72	10.67	1.28		19.94		0.56	9.26
621	685298.8544	601821.3782	BRK	15.76	15.72	1.27		20.29		0.57	4.57
622	685295.9426	601825.3091	BRK	12.49	12.56	1.16		20.29		0.51	7.72
623	685294.6542	601831.8216	BRK	12.53	12.55	1.14		20.38		0.51	7.83
624	685291.7461	601835.7476	BRK	15.79	15.46	1.52		20.41		0.54	4.95
625	685324.5764	601840.1333	BRK	15.86	15.66	1.46		20.55		0.51	4.89
626	685321.5217	601844.257	BRK	12.44	12.40	1.25		20.60		0.54	8.19
627	685322.6741	601852.5775	BRK	12.42	12.40	1.28		20.57		0.62	8.16
628	685319.6365	601856.6782	BRK	15.82	15.69	1.32		20.47		0.51	4.78
629	685341.3972	601852.7202	BRK	15.72	15.42	1.39		20.31		0.53	4.89
630	685338.4032	601856.762	BRK	12.37	12.42	1.17		20.32		0.53	7.90
631	685345.647	601844.394	BRK	15.88	15.94	1.28		20.33		0.54	4.39
632	685347.89	601841.36	BRK	18.39	18.30	1.25	0.49	20.52		0.47	2.22
633	685372.8508	601864.5453	BRK	15.31	15.40	1.18		19.83		0.57	4.43
634	685364.474	601869.9863	BRK	15.23	15.14	1.17		20.03		0.59	4.88

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635	685361.5623	601873.917	BRK	11.96	12.06	1.26		20.08		0.62	8.03
636	685354.9207	601876.4641	BRK	12.04	12.13	1.10		20.05		0.52	7.92
637	685350.4407	601879.237	BRK	15.34	15.19	1.38		20.08		0.55	4.89
638	685354.08	601677.04	BNDY	11.30	11.10	1.30	0.63	17.09		0.64	5.99
639	685353.62	601747.98	BRK	16.38	16.33	1.30	0.50	18.71		0.57	2.38
640	685357.16	601746.52	BRK	13.83	13.77	1.31	0.74	18.66		0.70	4.90
641	685361.58	601753.32	BRK	13.86	13.90	1.17	0.89	18.69		0.76	4.79
642	685364.98	601751.93	BRK	16.31	16.20	1.29	0.53	18.71		0.69	2.51
643	685324.49	601717.35	BNDY	11.30	10.63	1.80	0.47	17.27		0.60	6.64
644	685339.29	601697.19	BNDY	11.30	10.61	1.91	0.46	17.08		0.61	6.47
645	685381.55	601830.67	BRK	17.46	17.42	1.20	0.47	19.67		0.58	2.25
646	685385.39	601829.73	BRK	14.82	14.77	1.30	0.68	19.40		0.76	4.64
647	685383.26	601850.36	BRK	17.59	17.51	1.20	0.49	19.67		0.48	2.16
648	685408.65	601820.74	BRK	16.62	16.54	1.18	0.62	18.93		0.59	2.39
649	685309.86	601737.62	BNDY	10.63	10.59	1.22	0.52	18.08		0.60	7.49
650	685295.20	601757.86	BNDY	10.54	10.64	1.05	0.48	18.48		0.61	7.85
651	685280.5071	601778.0937	BNDY	10.44	10.29	1.31		18.88		0.59	8.59
652	685265.6993	601798.2407	BNDY	10.74	10.78	1.29		19.03		0.55	8.25
653	685250.8952	601818.3828	BNDY	11.94	11.95	1.30		19.05		0.51	7.11
654	685236.0879	601838.5324	BNDY	15.09	15.11	1.09		19.55		0.76	4.45
655	685221.28	601858.68	BNDY	15.58	15.61	1.12	0.49	20.00		0.62	4.39
656	685206.48	601878.81	BNDY	15.50	15.41	1.22	0.50	19.99		0.57	4.59
657	685191.67	601898.96	BNDY	15.50	15.46	1.13	0.54	20.04		0.65	4.58
658	685176.87	601919.10	BNDY	15.42	15.45	1.18	0.47	19.84		0.46	4.39
659	685410.29	601854.79	BNDY	9.65	9.55	1.35	0.42	11.85		0.53	2.30
660	685395.44	601875.02	BNDY	9.64	9.58	1.12	0.55	11.73		0.48	2.16
661	685380.6628	601895.1371	BNDY	9.65	9.67	1.10		11.74		0.52	2.07
662	685365.9126	601915.2263	BNDY	9.73	9.69	1.12		11.83		0.68	2.14
663	685351.03	601935.49	BNDY	9.87	9.86	1.26	0.47	12.08		0.49	2.22
664	685336.28	601955.58	BNDY	9.93	9.88	1.29	0.47	12.19		0.54	2.30
665	685321.52	601975.69	BNDY	9.98	9.91	1.26	0.46	12.26		0.63	2.35
666	685306.70	601995.87	BNDY	9.98	9.92	1.28	0.47	12.31		0.65	2.40
667	685292.04	602015.84	BNDY	9.96	9.96	1.22	0.49	12.21		0.54	2.25
668	685277.22	602036.03	BNDY	9.95	10.01	1.08	0.57	12.29		0.63	2.28

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
669	685262.73	602055.75	BNDY	9.91	9.95	1.17	0.48	12.51		0.55	2.56
670	685247.66	602076.28	BNDY	10.02	10.09	1.19	0.47	12.62		0.63	2.53
671	685232.64	602096.74	BNDY	10.21	10.12	1.33	0.51	12.86		0.58	2.74
672	685359.0086	601899.4038	BRK	14.46	14.43	1.20		16.65		0.51	2.22
673	685328.78	601922.42	BRK	18.12	18.18	1.07	0.53	20.32		0.54	2.14
674	685299.89	601934.58	BRK	18.32	18.37	1.12	0.50	20.55		0.56	2.18
675	685300.62	601938.23	BRK	15.84	15.80	1.23	0.91	20.55		0.79	4.75
676	685305.79	601944.00	BRK	15.75	15.75	1.22	0.90	20.52		0.79	4.77
677	685308.02	601946.97	BRK	18.23	18.08	1.25	0.63	20.49		0.52	2.40
678	685292.65	601972.35	BRK	18.06	18.06	1.10	0.58	20.23		0.49	2.17
679	685305.3308	601869.9088	BRK	15.99	16.07	1.18		20.59		0.51	4.52
680	685303.05	601872.98	BRK	18.54	18.11	1.67	0.46	20.73		0.49	2.62
681	685268.9883	601832.9886	BRK	12.10	12.16	1.10		20.11		0.49	7.95
682	685272.6449	601835.6573	BRK	15.11	14.74	1.54		20.26		0.53	5.52
683	685218.81	601931.92	BRK	18.60	18.17	1.55	0.48	20.90		0.70	2.73
684	685217.81	601935.62	BRK	16.04	16.10	1.19	0.98	20.79		0.71	4.69
685	685217.77	601956.54	BRK	18.21	18.12	1.16	0.63	20.43		0.53	2.31
686	685214.25	601958.05	BRK	15.65	15.75	1.15	0.95	20.47		0.82	4.73
687	685162.06	601939.25	BNDY	14.94	14.89	1.18	0.63	19.38		0.54	4.48
688	685246.08	602006.05	BRK	17.34	17.40	1.13	0.51	19.62		0.57	2.21
689	685249.42	602007.82	BRK	14.83	14.91	1.18	0.87	19.55		0.79	4.64
690	685250.13	602009.68	BRK	14.79	14.82	1.19	0.93	19.48		0.74	4.66
691	685253.44	602011.40	BRK	17.28	17.25	1.18	0.51	19.51		0.56	2.25
692	685256.80	602026.88	BRK	16.95	17.03	1.07	0.54	19.19		0.55	2.16
693	685147.26	601959.39	BNDY	14.32	14.41	1.03	0.54	18.38		0.66	3.97
694	685132.45	601979.53	BNDY	13.68	13.77	1.02	0.59	18.27		0.81	4.50
695	685117.65	601999.68	BNDY	13.18	13.25	1.05	0.59	17.65		0.56	4.40
696	685102.93	602019.90	BNDY	10.35	10.37	1.24	0.77	17.17		0.64	6.79
697	685088.04	602039.97	BNDY	6.10	6.14	1.10	0.90	17.13		0.61	10.99
698	685073.2297	602060.1093	BNDY	4.74	4.79	1.16		17.18		0.67	12.39
699	685058.4247	602080.2525	BNDY	4.27	4.36	1.16		17.74	1.10		13.38
700	685043.6189	602100.3969	BNDY	4.49	4.45	1.17		18.06		0.53	13.61
701	685028.81	602120.54	BNDY	4.79	4.88	1.12	0.72	18.10		0.55	13.22
702	685014.01	602140.69	BNDY	5.10	5.19	1.06	0.60	19.00		0.56	13.80

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703	684999.20	602160.83	BNDY	5.40	5.38	1.11	0.66	19.06		0.51	13.68
704	684984.40	602180.97	BNDY	5.71	5.66	1.13	0.65	19.13		0.52	13.47
705	685217.90	602116.82	BNDY	10.37	10.28	1.24	0.54	13.02		0.58	2.74
706	685203.10	602136.97	BNDY	10.48	10.57	1.15	0.59	13.16		0.60	2.60
707	685188.3051	602157.12	BNDY	6.02	6.10	2.95		15.50	2.87		9.40
708	685173.5091	602177.2715	BNDY	6.02	5.97	3.02		15.58	2.86		9.61
709	685143.92	602217.57	BNDY	11.24	11.16	1.16	0.57	13.60		0.53	2.44
710	685158.71	602197.42	BNDY	11.06	11.02	1.19	0.55	13.49		0.69	2.47
711	685129.12	602237.73	BNDY	11.43	11.43	1.13	0.55	13.87		0.49	2.44
712	685114.32	602257.88	BNDY	11.62	11.62	1.08	0.65	14.13		0.69	2.51
713	685099.53	602278.03	BNDY	11.79	11.71	1.25	0.53	14.35		0.61	2.64
714	685084.73	602298.18	BNDY	11.98	11.98	1.15	0.48	14.60		0.52	2.62
715	685069.94	602318.33	BNDY	11.95	11.96	1.18	0.46	14.94		0.51	2.98
716	685055.15	602338.47	BNDY	11.91	11.90	1.12	0.56	15.16		0.55	3.26
717	685040.35	602358.63	BNDY	11.85	11.88	1.11	0.56	15.42		0.52	3.54
718	685025.55	602378.78	BNDY	11.82	11.88	1.05	0.59	15.64		0.54	3.76
719	685010.76	602398.93	BNDY	11.80	11.88	1.07	0.52	15.58		0.52	3.71
720	684995.96	602419.08	BNDY	11.79	11.72	1.23	0.53	15.49		0.51	3.77
721	684981.17	602439.24	BNDY	11.72	11.71	1.13	0.53	15.47		0.53	3.76
722	684966.37	602459.39	BNDY	11.57	11.61	1.15	0.50	15.40		0.51	3.80
723	684951.57	602479.54	BNDY	11.50	11.53	1.06	0.56	15.22		0.47	3.70
724	684936.78	602499.69	BNDY	11.52	11.60	1.01	0.59	14.95		0.50	3.35
725	684921.98	602519.84	BNDY	11.56	11.53	1.14	0.56	14.69		0.53	3.16
726	684907.19	602539.99	BNDY	11.59	11.57	1.27	0.54	14.43		0.49	2.86
727	684892.39	602560.14	BNDY	11.60	11.67	1.08	0.54	14.18		0.47	2.51
728	684877.59	602580.30	BNDY	11.56	11.60	1.17	0.48	14.20		0.53	2.60
729	684862.80	602600.45	BNDY	11.68	11.71	1.23	0.51	14.36		0.49	2.65
730	684848.00	602620.60	BNDY	11.71	11.79	1.16	0.45	14.81		0.52	3.02
731	684969.59	602201.11	BNDY	6.02	6.01	1.11	0.55	20.03		0.57	14.03
732	684954.79	602221.26	BNDY	6.32	6.37	1.09	0.59	20.16		0.51	13.79
733	684939.98	602241.40	BNDY	6.63	6.62	1.11	0.92	20.27		0.52	13.66
734	684925.18	602261.55	BNDY	6.93	6.84	1.29	0.86	20.94		0.47	14.09
735	684910.37	602281.69	BNDY	7.13	7.19	1.13	0.84	20.92		0.46	13.73
736	684895.57	602301.83	BNDY	7.40	7.44	1.20	0.82	20.94		0.56	13.50

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737	684880.76	602321.98	BNDY	7.76	7.85	1.08	0.89	20.93		0.51	13.09
738	684865.95	602342.12	BNDY	8.16	8.16	1.16	0.55	20.95		0.55	12.79
739	684851.15	602362.27	BNDY	8.46	8.54	1.05	0.62	20.93		0.54	12.39
740	684827.24	602394.80	BNDY	8.95	8.94	1.26	0.82	20.67		0.55	11.73
741	684821.28	602402.91	BNDY	15.66	15.65	1.13	0.58	20.43		0.55	4.78
742	684806.74	602422.70	BNDY	15.05	15.04	1.14	0.53	19.80		0.54	4.76
743	684792.02	602442.92	BNDY	14.42	14.43	1.17	0.55	19.16		0.55	4.74
744	684833.20	602640.76	BNDY	11.75	11.84	1.18	0.50	14.82		0.50	2.98
745	684818.41	602660.91	BNDY	11.73	11.80	1.18	0.52	14.89		0.52	3.09
746	684803.6081	602681.0604	BNDY	9.08	9.10	1.17		15.19		0.61	6.09
747	684790.6	602698.7769	BNDY	7.50	7.59	0.99		14.25		0.54	6.66
761	684777.12	602462.99	BNDY	13.79	13.79	1.14	0.55	18.36		0.58	4.58
762	684762.31	602483.14	BNDY	13.20	13.12	1.16	0.56	17.73		0.51	4.61
763	684747.51	602503.28	BNDY	12.75	12.70	1.20	0.52	17.42		0.52	4.72
764	684732.70	602523.42	BNDY	12.49	12.41	1.28	0.67	17.11		0.53	4.70
765	684717.90	602543.56	BNDY	7.90	7.91	1.20	0.82	16.49		0.53	8.58
766	684703.09	602563.72	BNDY	6.74	6.81	1.10	0.78	17.01		0.53	10.20
767	684687.1063	602585.4579	BNDY	5.47	5.54	1.11		17.10		0.54	11.56
768	684672.8746	602604.8211	BNDY	4.91	4.96	1.19		17.31		0.65	12.35
769	684656.5065	602623.7179	BNDY	4.99	5.01	1.17		18.32		0.68	13.31
822	685209.17	602098.14	BRK	16.12	16.21	1.02	0.54	18.37		0.60	2.16
823	685187.68	602127.24	BRK	16.40	16.47	1.16	0.47	19.02		0.73	2.55
824	685169.69	602121.14	BRK	16.91	16.98	1.08	0.50	19.19		0.63	2.21
825	685159.5985	602134.7709	BRK	5.60	5.69	1.05		19.16		0.59	13.47
826	685142.99	602100.91	BRK	16.77	16.71	1.18	0.56	19.07		0.56	2.36
827	685132.6767	602114.8475	BRK	5.21	5.29	1.19		19.05		0.53	13.77
828	685117.94	602082.20	BRK	16.50	16.46	1.14	0.56	19.07		0.59	2.61
829	685108.0441	602096.6184	BRK	4.85	4.94	1.06		19.03		0.51	14.09
830	685097.56	602070.88	BRK	13.71	13.78	1.03	0.69	18.44		0.66	4.66
831	685091.6225	602084.4656	BRK	4.62	4.71	1.06		18.83		0.55	14.12
832	685079.0777	602074.2284	BRK	4.44	4.53	1.06		18.20		0.69	13.67
833	685087.2307	602063.2368	BRK	5.15	5.21	1.14		17.68		0.59	12.47
834	685228.90	602033.89	BRK	16.52	16.51	1.25	0.48	18.98		0.74	2.47
835	685232.50	602033.47	BRK	14.10	14.17	1.18	1.01	18.97		0.70	4.80

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836	685239.46	602034.31	BRK	14.12	14.21	1.16	1.14	18.93		0.77	4.72
837	685243.00	602035.55	BRK	16.62	16.54	1.16	0.59	18.94		0.65	2.40
838	685241.70	602050.98	BRK	16.30	16.34	1.19	0.49	18.61		0.59	2.26
839	685057.3284	602100.4637	BRK	4.41	4.45	1.21		18.40		0.46	13.95
840	685060.41	602121.19	BRK	14.47	14.50	1.20	0.51	19.02		0.53	4.53
841	685068.9275	602108.102	BRK	4.57	4.65	1.09		18.88		0.54	14.23
842	685048.4367	602112.4097	BRK	4.57	4.61	1.19		18.48		0.53	13.88
843	685096.9218	602128.8191	BRK	4.97	5.04	1.16		19.06		0.58	14.03
844	685091.28	602143.63	BRK	15.20	15.25	1.18	0.50	19.15		0.51	3.90
845	685121.5544	602147.0482	BRK	5.33	5.37	1.16		19.33		0.60	13.96
846	685109.62	602161.54	BRK	17.81	17.77	1.15	0.52	19.91		0.46	2.14
847	685117.56	602193.69	BRK	17.43	17.36	1.17	0.57	19.64		0.53	2.27
848	685118.92	602197.25	BRK	14.89	14.96	1.09	1.00	19.53		0.69	4.58
849	685119.73	602203.55	BRK	14.81	14.87	1.06	0.73	19.58		0.72	4.71
850	685121.10	602206.98	BRK	17.27	17.30	1.06	0.63	19.45		0.47	2.16
851	685114.98	602226.59	BRK	17.17	17.11	1.14	0.60	19.49		0.64	2.38
852	685105.19	602198.82	BRK	17.35	17.38	1.08	0.57	19.73		0.69	2.35
853	685103.22	602203.76	BRK	14.79	14.84	1.21	0.71	19.78		0.71	4.94
854	685088.02	602208.76	BRK	17.36	17.29	1.26	0.52	19.91		0.72	2.62
855	685089.52	602212.18	BRK	14.88	14.95	1.17	0.68	19.88		0.68	4.92
856	685085.84	602227.09	BRK	15.07	15.15	1.09	0.93	19.98		0.75	4.83
857	685083.49	602230.12	BRK	17.63	17.55	1.17	0.62	20.00		0.66	2.45
858	685094.99	602252.22	BRK	17.70	17.67	1.13	0.59	19.87		0.48	2.20
859	685081.79	602269.14	BRK	18.05	18.07	1.13	0.52	20.27		0.56	2.21
860	685047.09	602237.51	BRK	15.69	15.73	1.22	0.82	20.41		0.70	4.68
861	685043.77	602234.95	BRK	18.21	18.13	1.22	0.55	20.43		0.54	2.30
862	685039.91	602232.72	BRK	15.73	15.69	1.31	0.80	20.46		0.73	4.77
863	685042.37	602238.43	BRK	15.71	15.79	1.16	0.88	20.48		0.66	4.69
864	685066.11	602161.84	BRK	17.75	17.67	1.18	0.55	19.94		0.54	2.27
865	685062.13	602161.07	BRK	15.28	15.35	1.13	0.72	19.97		0.63	4.62
866	685052.96	602208.15	BRK	17.82	17.75	1.23	0.56	20.21		0.67	2.47
867	685049.31	602206.51	BRK	15.37	15.37	1.24	0.75	20.21		0.73	4.84
868	685045.11	602202.48	BRK	15.62	15.59	1.28	0.76	20.22		0.72	4.63
869	685042.10	602200.70	BRK	17.89	17.81	1.17	0.61	20.22		0.63	2.40

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
870	685022.96	602172.09	BRK	15.38	15.35	1.17	0.96	19.96		0.59	4.62
871	685044.91	602142.21	BRK	14.83	14.76	1.27	0.48	19.40		0.54	4.63
872	684994.42	602217.26	BRK	18.66	18.67	1.09	0.58	20.88		0.53	2.20
873	684975.68	602242.79	BRK	19.14	19.08	1.17	0.58	21.41		0.59	2.33
874	685005.71	602243.75	BRK	18.78	18.75	1.14	0.55	21.02		0.59	2.27
875	685009.09	602245.47	BRK	16.25	16.35	1.06	0.57	20.97		0.66	4.63
876	685025.00	602263.80	BRK	16.24	16.33	1.15	0.55	20.95		0.66	4.62
877	685027.83	602266.24	BRK	18.73	18.65	1.18	0.59	20.94		0.52	2.29
878	685053.73	602299.58	BRK	18.74	18.68	1.16	0.57	20.90		0.49	2.22
879	685053.33	602303.33	BRK	16.27	16.33	1.18	0.93	20.86		0.54	4.52
880	685060.48	602307.84	BRK	16.22	16.14	1.22	0.53	19.44		0.52	3.30
881	685039.62	602323.93	BRK	18.58	18.51	1.17	0.55	21.05		0.51	2.54
882	685021.34	602349.28	BRK	18.40	18.31	1.20	0.58	21.16		0.49	2.84
883	685006.56	602373.52	BRK	17.51	17.47	1.15	0.61	21.78		0.46	4.31
884	684985.52	602400.52	BRK	17.74	17.67	1.21	0.53	22.01		0.57	4.34
885	684968.75	602423.06	BRK	17.72	17.72	1.22	0.47	22.01		0.53	4.29
886	684958.59	602266.06	BRK	19.57	19.50	1.20	0.56	21.80		0.54	2.30
887	684944.51	602285.23	BRK	19.93	19.97	1.15	0.45	22.12		0.55	2.15
888	684924.17	602312.77	BRK	20.38	20.34	1.14	0.58	22.59		0.53	2.25
889	684896.37	602343.10	BRK	18.02	17.95	1.19	0.59	22.22		0.51	4.28
890	684880.77	602362.80	BRK	17.79	17.78	1.22	0.55	22.11		0.52	4.32
891	684869.32	602354.21	BRK	8.25	8.30	1.13	0.89	22.08		0.58	13.78
892	684884.22	602334.10	BRK	7.94	7.99	1.06	0.98	22.09		0.52	14.10
893	684908.58	602301.22	BRK	7.44	7.48	1.17	0.86	22.10		0.58	14.63
894	684928.96	602273.71	BRK	7.02	6.99	1.14	0.98	21.67		0.63	14.67
895	684943.18	602254.50	BRK	6.73	6.71	1.22	0.82	21.32		0.57	14.60
896	684960.30	602231.40	BRK	6.38	6.42	1.18	0.57	20.89		0.52	14.46
897	684979.15	602205.95	BRK	5.99	6.03	1.21	0.65	20.37		0.55	14.34
898	685010.86	602163.13	BRK	5.34	5.42	1.14	0.51	19.49		0.57	14.07
899	685032.93	602133.34	BRK	4.89	4.95	1.17	0.68	19.05		0.63	14.11
900	684953.81	602443.85	BRK	17.56	17.51	1.17	0.55	21.86		0.48	4.35
901	684933.84	602472.48	BRK	17.17	17.21	1.09	0.52	21.01		0.50	3.80
902	684913.09	602504.45	BRK	16.54	16.57	1.17	0.48	20.21		0.49	3.64
909	684858.28	602571.33	BRK	14.73	14.82	1.13	0.85	19.30		0.55	4.48

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910	684887.04	602531.88	BRK	18.22	18.19	1.14	0.56	20.48		0.59	2.29
911	684720.03	602604.99	BRK	14.67	14.64	1.11	0.57	19.08		0.55	4.44
912	684710.9277	602615.2523	BRK	5.53	5.61	1.16		19.11		0.60	13.50
913	684795.24	602555.71	BRK	13.67	13.76	1.17	0.70	18.40		0.57	4.65
914	684795.33	602552.00	BRK	16.14	16.20	1.10	0.54	18.41		0.46	2.21
915	684770.38	602552.44	BRK	15.78	15.71	1.25	0.51	18.02		0.56	2.31
916	684771.04	602556.03	BRK	13.34	13.44	1.16	0.88	18.06		0.54	4.62
917	684841.91	602602.61	BRK	16.61	16.54	1.19	0.55	19.02		0.55	2.47
919	684835.00	602400.55	BRK	8.95	8.99	1.22	0.88	20.89		0.55	11.90
920	684843.87	602407.12	BRK	16.31	16.30	1.27	0.54	20.99		0.56	4.68
921	684754.50	602627.17	BRK	17.19	17.10	1.18	0.57	19.37		0.52	2.27
922	684744.7356	602640.3266	BRK	6.26	6.33	1.19		19.37		0.64	13.04
923	684774.69	602642.80	BRK	17.28	17.19	1.28	0.49	19.50		0.54	2.31
924	684765.2453	602655.538	BRK	6.71	6.79	1.08		19.28		0.64	12.49
925	684807.26	602664.88	BRK	13.82	13.73	1.17	0.59	17.20		0.58	3.47
927	684774.9564	602705.0711	BRK	7.36	7.44	1.09		18.03		0.51	10.59
929	684725.0996	602668.0939	BRK	6.28	6.34	1.15		19.63		0.66	13.30
933	684699.1256	602648.8297	BRK	5.72	5.76	1.22		19.31		0.57	13.56
934	684677.3237	602632.6599	BRK	5.25	5.34	1.04		18.86		0.54	13.52
936	684665.7626	602624.1345	BRK	5.02	4.97	1.21		18.48		0.61	13.50
979	685388.74	601749.07	BRK	13.50	13.43	1.33	0.88	18.64		0.68	5.21
980	685384.77	601750.03	BRK	16.23	16.26	1.10	0.62	18.63		0.66	2.38
2000	684774.23	602717.67	BNDY	12.40	12.49	1.04	0.83	15.78		0.66	3.29
2001	684757.86	602736.57	BNDY	12.87	12.80	1.20	0.52	16.10		0.68	3.30
2002	684741.50	602755.47	BNDY	13.17	13.10	1.18	0.53	16.38		0.62	3.28
2003	684725.13	602774.36	BNDY	13.48	13.39	1.19	0.53	16.61		0.57	3.21
2004	684708.76	602793.26	BNDY	13.77	13.70	1.16	0.60	16.89		0.54	3.19
2005	684692.39	602812.16	BNDY	13.98	13.89	1.30	0.49	17.19		0.67	3.29
2006	684676.02	602831.05	BNDY	13.61	13.67	1.18	0.79	17.06		0.49	3.39
2007	684659.66	602849.95	BNDY	13.71	13.73	1.17	0.61	17.34		0.64	3.60
2008	684643.29	602868.85	BNDY	13.80	13.79	1.15	0.81	17.47		0.65	3.67
2009	684626.92	602887.74	BNDY	13.90	13.94	1.08	0.71	17.56		0.58	3.62
2010	684610.55	602906.64	BNDY	13.99	14.08	1.02	0.60	17.68		0.55	3.60
2011	684589.1204	602931.3825	BNDY	6.65	6.66	1.24		17.76		0.56	11.10

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2012	684575.9627	602946.5728	BNDY	13.30	13.28	1.28		17.39		0.53	4.11
2013	684545.08	602982.23	BNDY	13.75	13.76	1.26	0.65	16.62		0.50	2.86
2014	684561.447	602963.331	BNDY	14.75	14.79	1.14		17.09		0.63	2.31
2015	684528.71	603001.12	BNDY	12.84	12.83	1.19	0.64	16.17		0.51	3.34
2016	684512.34	603020.02	BNDY	11.93	12.01	1.13	0.72	15.83		0.54	3.82
2017	684495.97	603038.92	BNDY	11.01	11.06	1.06	0.77	15.35		0.67	4.29
2018	684479.61	603057.81	BNDY	10.10	10.06	1.15	0.82	14.80		0.62	4.74
2019	684463.24	603076.71	BNDY	9.19	9.14	1.31	0.50	14.33		1.61	5.19
2020	684446.87	603095.61	BNDY	8.28	8.34	1.16	0.66	13.64		1.10	5.30
2021	684430.50	603114.50	BNDY	7.48	7.52	1.16	0.84	12.50		0.88	4.98
2022	684414.13	603133.40	BNDY	6.81	6.88	1.19	0.74	12.07		0.62	5.20
2023	684397.77	603152.30	BNDY	6.28	6.36	1.16	0.88	12.13		0.67	5.76
2024	684381.40	603171.20	BNDY	6.50	6.46	1.26	0.84	12.10		0.96	5.65
2025	684365.0301	603190.0917	BNDY	6.55	6.51	1.27		11.97		0.46	5.46
2026	684348.6621	603208.9884	BNDY	6.83	6.80	1.26		11.99		0.61	5.18
2027	684332.29	603227.89	BNDY	6.81	6.78	1.16	0.68	11.94		1.42	5.16
2028	684315.93	603246.78	BNDY	7.74	7.83	1.11	0.59	11.86		1.48	4.04
2029	684299.56	603265.68	BNDY	7.92	7.91	1.17	0.67	11.63		1.43	3.73
2030	684283.19	603284.58	BNDY	8.06	8.14	1.02	0.63	11.32		1.30	3.19
2031	684258.4125	603313.1804	BNDY	8.20	8.12	1.24		11.68		1.77	3.56
2032	684238.1787	603303.292	BNDY	7.08	7.09	1.16		10.44		0.75	3.35
2033	684215.7175	603292.3151	BNDY	6.83	6.86	1.21		10.58		0.55	3.72
2034	684193.2563	603281.3381	BNDY	6.47	6.48	1.17		10.48		0.63	4.00
2035	684170.795	603270.3612	BNDY	6.39	6.38	1.17		10.11		0.59	3.73
2036	684148.3338	603259.3842	BNDY	6.33	6.35	1.08		9.61		0.55	3.26
2037	684124.1262	603238.3439	BNDY	6.10	6.16	1.05		8.89		0.48	2.73
2038	684149.11	603209.50	BNDY	6.10	6.14	1.11	0.70	9.04		0.52	2.90
2039	684165.48	603190.60	BNDY	6.10	6.16	1.12	0.59	9.08		0.55	2.92
2040	684182.05	603171.63	BNDY	6.11	6.14	1.12	0.58	9.08		0.54	2.95
2041	684198.59	603153.14	BNDY	6.13	6.06	1.18	0.65	9.09		0.52	3.04
2042	684214.58	603133.91	BNDY	6.10	6.15	1.16	0.57	9.10		0.49	2.95
2043	684230.9841	603114.9778	BNDY	4.58	4.59	1.07		9.74		0.60	5.15
2044	684247.3179	603096.1207	BNDY	6.24	6.21	1.14		9.60		0.58	3.39
2045	684263.6863	603077.2236	BNDY	5.91	5.92	1.08		9.72		0.67	3.80

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2046	684280.05	603058.33	BNDY	4.16	4.18	1.17	0.61	9.87		0.67	5.69
2047	684296.42	603039.43	BNDY	4.26	4.26	1.09	0.66	9.98		0.58	5.73
2048	684312.79	603020.53	BNDY	4.62	4.62	1.19	0.55	10.27		0.59	5.65
2049	684329.16	603001.64	BNDY	5.15	5.11	1.26	0.53	10.53		0.62	5.41
2050	684345.53	602982.74	BNDY	5.85	5.82	1.29	0.45	10.79		0.54	4.97
2051	684361.89	602963.84	BNDY	6.71	6.75	1.04	0.65	11.24		0.74	4.49
2052	684378.26	602944.95	BNDY	7.74	7.79	1.21	0.69	12.20		0.63	4.41
2053	684394.63	602926.05	BNDY	8.91	8.97	1.16	0.50	13.28		0.56	4.31
2054	684411.00	602907.15	BNDY	10.10	10.02	1.24	0.53	14.50		0.67	4.48
2055	684427.9409	602887.5938	BNDY	8.45	8.54	0.99		15.56		0.66	7.02
2056	684443.7347	602869.3601	BNDY	10.37	10.38	1.10		16.56		0.56	6.18
2057	684459.7017	602850.9264	BNDY	5.87	5.95	1.18		17.65		0.53	11.70
2058	684476.47	602831.57	BNDY	9.77	9.75	1.17	0.68	18.94		0.51	9.19
2059	684492.84	602812.67	BNDY	9.33	9.41	1.12	0.52	20.12		0.55	10.71
2060	684509.31	602793.66	BNDY	8.89	8.98	1.11	0.50	20.99		0.53	12.00
2061	684525.58	602774.88	BNDY	8.46	8.43	1.27	0.51	20.87		0.49	12.44
2062	684541.94	602755.98	BNDY	8.03	8.12	1.07	0.71	20.87		0.59	12.75
2063	684558.31	602737.08	BNDY	7.60	7.61	1.21	0.56	20.23		0.63	12.62
2064	684574.68	602718.19	BNDY	7.16	7.15	1.12	0.56	20.08		0.53	12.93
2065	684591.05	602699.29	BNDY	6.73	6.70	1.10	0.66	20.05		0.56	13.35
2066	684607.42	602680.39	BNDY	6.29	6.33	1.19	0.82	19.71		0.57	13.37
2067	684623.78	602661.50	BNDY	5.86	5.85	1.21	0.55	19.23		0.61	13.38
2068	684640.15	602642.60	BNDY	5.43	5.37	1.14	0.87	18.68		0.53	13.31
2069	684743.44	602706.51	GRID	17.78	17.79	1.16	0.48	20.00		0.57	2.21
2070	684743.44	602731.51	GRID	15.37	15.39	1.16	0.71	19.42		0.60	4.03
2071	684718.44	602756.51	GRID	15.80	15.79	1.14	1.03	20.68		0.61	4.88
2072	684718.44	602706.51	GRID	18.02	18.02	1.18	0.50	20.38		0.52	2.36
2073	684693.44	602706.51	GRID	15.37	15.35	1.18	1.24	20.69		0.56	5.34
2074	684693.44	602731.51	GRID	18.43	18.47	1.13	0.53	21.03		0.50	2.56
2075	684693.44	602756.51	GRID	18.84	18.84	1.10	0.60	21.19		0.58	2.36
2076	684693.44	602781.51	GRID	19.25	19.26	1.08	0.59	21.45		0.52	2.19
2077	684668.44	602806.51	GRID	17.44	17.40	1.22	0.51	21.63		0.62	4.23
2078	684668.44	602781.51	GRID	17.08	17.10	1.14	0.56	21.38		0.54	4.28
2079	684668.44	602756.51	GRID	16.38	16.40	1.16	0.57	21.08		0.53	4.69

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2080	684668.44	602731.51	GRID	15.99	15.95	1.21	0.70	21.03		0.55	5.08
2081	684668.44	602706.51	GRID	18.32	18.33	1.11	0.52	20.75		0.54	2.43
2082	684668.44	602681.51	GRID	17.91	17.82	1.27	0.50	20.31		0.49	2.48
2083	684668.44	602656.51	GRID	14.93	14.87	1.28	0.80	19.61		0.56	4.73
2084	684643.44	602706.51	GRID	18.61	18.56	1.22	0.53	20.88		0.57	2.32
2085	684643.44	602731.51	GRID	16.27	16.19	1.29	0.50	21.08		0.59	4.88
2086	684643.44	602756.51	GRID	16.85	16.78	1.22	0.52	21.19		0.56	4.40
2087	684643.44	602781.51	GRID	17.25	17.23	1.23	0.49	21.59		0.57	4.36
2088	684643.44	602806.51	GRID	17.61	17.60	1.18	0.76	21.92		0.55	4.32
2089	684643.44	602831.51	GRID	17.71	17.69	1.21	0.83	22.32		0.55	4.63
2090	684618.44	602731.51	GRID	16.56	16.60	1.19	0.45	21.10		0.58	4.50
2091	684618.44	602756.51	GRID	17.06	17.07	1.18	0.52	21.45		0.55	4.38
2092	684618.44	602781.51	GRID	17.42	17.43	1.14	0.57	21.79		0.55	4.37
2093	684618.44	602806.51	GRID	17.59	17.56	1.21	0.58	22.16		0.54	4.59
2094	684618.44	602831.51	GRID	17.69	17.63	1.21	0.55	22.41		0.55	4.79
2095	684618.44	602856.51	GRID	20.32	20.30	1.17	0.57	22.66		0.64	2.37
2096	684593.44	602881.51	GRID	19.56	19.51	1.16	0.58	22.18		0.75	2.67
2097	684593.44	602856.51	GRID	19.93	19.88	1.22	0.49	22.40		0.73	2.52
2098	684593.44	602806.51	GRID	17.57	17.50	1.24	0.53	22.20		0.57	4.70
2099	684593.44	602781.51	GRID	17.47	17.47	1.17	0.57	21.94		0.58	4.47
2100	684593.44	602756.51	GRID	17.23	17.22	1.22	0.48	21.62		0.62	4.40
2101	684593.44	602706.51	GRID	6.81	6.79	1.23	0.60	20.38		0.58	13.59
2102	684568.44	602731.51	GRID	7.41	7.46	1.13	0.55	20.44		0.68	12.97
2103	684568.44	602781.51	GRID	17.44	17.39	1.22	0.57	21.82		0.53	4.43
2104	684568.44	602831.51	GRID	19.87	19.85	1.12	0.65	22.32		0.70	2.47
2105	684568.44	602856.51	GRID	19.43	19.38	1.21	0.56	21.98		0.77	2.59
2106	684568.44	602881.51	GRID	18.79	18.77	1.16	0.57	21.39		0.75	2.62
2108	684543.4362	602956.5129	GRID	14.35	14.32	1.26		19.11		0.55	4.79
2109	684543.4362	602931.5129	GRID	13.88	13.96	1.03		19.21		0.65	5.25
2110	684543.4362	602906.5129	GRID	6.37	6.46	1.14		19.75		0.58	13.29
2111	684543.44	602856.51	GRID	18.74	18.76	1.12	0.57	21.17		0.72	2.41
2112	684543.44	602831.51	GRID	19.47	19.49	1.14	0.55	21.74		0.58	2.26
2113	684543.44	602806.51	GRID	19.60	19.64	1.10	0.65	22.07		0.59	2.43
2114	684518.44	602831.51	GRID	18.61	18.57	1.28	0.45	20.90		0.60	2.33

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2115	684518.44	602856.51	GRID	18.10	18.16	1.20	0.46	20.30		0.49	2.15
2116	684518.4362	602906.5129	GRID	12.95	12.99	1.11		19.06		0.59	6.08
2117	684518.4362	602931.5129	GRID	13.70	13.78	1.16		19.13		0.54	5.35
2118	684518.44	602956.51	GRID	16.84	16.83	1.11	0.58	19.00		0.49	2.18
2119	684518.44	602981.51	GRID	15.93	15.93	1.10	0.60	18.18		0.54	2.24
2121	684493.44	603006.51	GRID	14.49	14.44	1.20	0.53	16.76		0.59	2.32
2122	684493.44	602981.51	GRID	14.91	14.90	1.14	0.57	17.23		0.62	2.33
2123	684493.44	602956.51	GRID	15.48	15.48	1.19	0.54	17.94		0.55	2.47
2124	684493.44	602931.51	GRID	16.57	16.66	1.01	0.62	18.79		0.50	2.13
2125	684493.4362	602906.5129	GRID	13.39	13.44	1.16		18.71		0.60	5.27
2126	684493.44	602831.51	GRID	9.60	9.61	1.19	0.48	19.85		0.50	10.24
2127	684468.44	603031.51	GRID	13.11	13.10	1.17	0.53	15.41		0.62	2.31
2128	684468.44	603006.51	GRID	13.49	13.50	1.10	0.58	15.81		0.63	2.31
2129	684468.44	602981.51	GRID	13.91	13.92	1.21	0.50	16.27		0.64	2.35
2130	684468.44	602956.51	GRID	14.41	14.46	1.09	0.58	16.76		0.60	2.30
2131	684468.44	602931.51	GRID	15.04	15.05	1.12	0.55	17.57		0.54	2.52
2132	684468.4362	602856.5129	GRID	5.94	5.95	1.12		18.08		0.61	12.13
2133	684443.4362	602881.5129	GRID	7.90	7.89	1.11		16.78		0.71	8.89
2134	684443.4362	602906.5129	GRID	12.14	12.14	1.14		16.66		0.62	4.52
2135	684443.44	602931.51	GRID	13.75	13.83	1.07	0.61	16.15		0.65	2.33
2136	684443.44	602956.51	GRID	13.27	13.32	1.16	0.47	15.60		0.65	2.28
2137	684443.44	602981.51	GRID	12.85	12.85	1.09	0.62	15.17		0.61	2.32
2138	684443.44	603006.51	GRID	12.44	12.46	1.11	0.54	14.78		0.67	2.32
2139	684443.44	603031.51	GRID	12.01	11.99	1.15	0.58	14.38		0.67	2.39
2140	684443.44	603056.51	GRID	11.69	11.64	1.14	0.55	13.96		0.63	2.32
2141	684443.44	603081.51	GRID	11.40	11.37	1.15	0.60	13.63		0.51	2.26
2142	684418.44	603106.51	GRID	10.24	10.18	1.26	0.49	12.46		0.54	2.28
2143	684418.44	603081.51	GRID	10.44	10.46	1.10	0.59	12.79		0.64	2.33
2144	684418.44	603056.51	GRID	10.65	10.58	1.17	0.59	13.22		0.79	2.64
2145	684418.44	603031.51	GRID	10.92	10.83	1.21	0.77	13.42		0.61	2.59
2146	684418.44	603006.51	GRID	11.27	11.35	1.04	0.73	13.83		0.71	2.48
2147	684418.44	602981.51	GRID	11.70	11.69	1.19	0.50	14.07		0.69	2.38
2148	684418.44	602956.51	GRID	12.12	12.10	1.21	0.52	14.50		0.67	2.40
2149	684418.44	602906.51	GRID	9.84	9.79	1.34	0.64	15.00		0.55	5.21

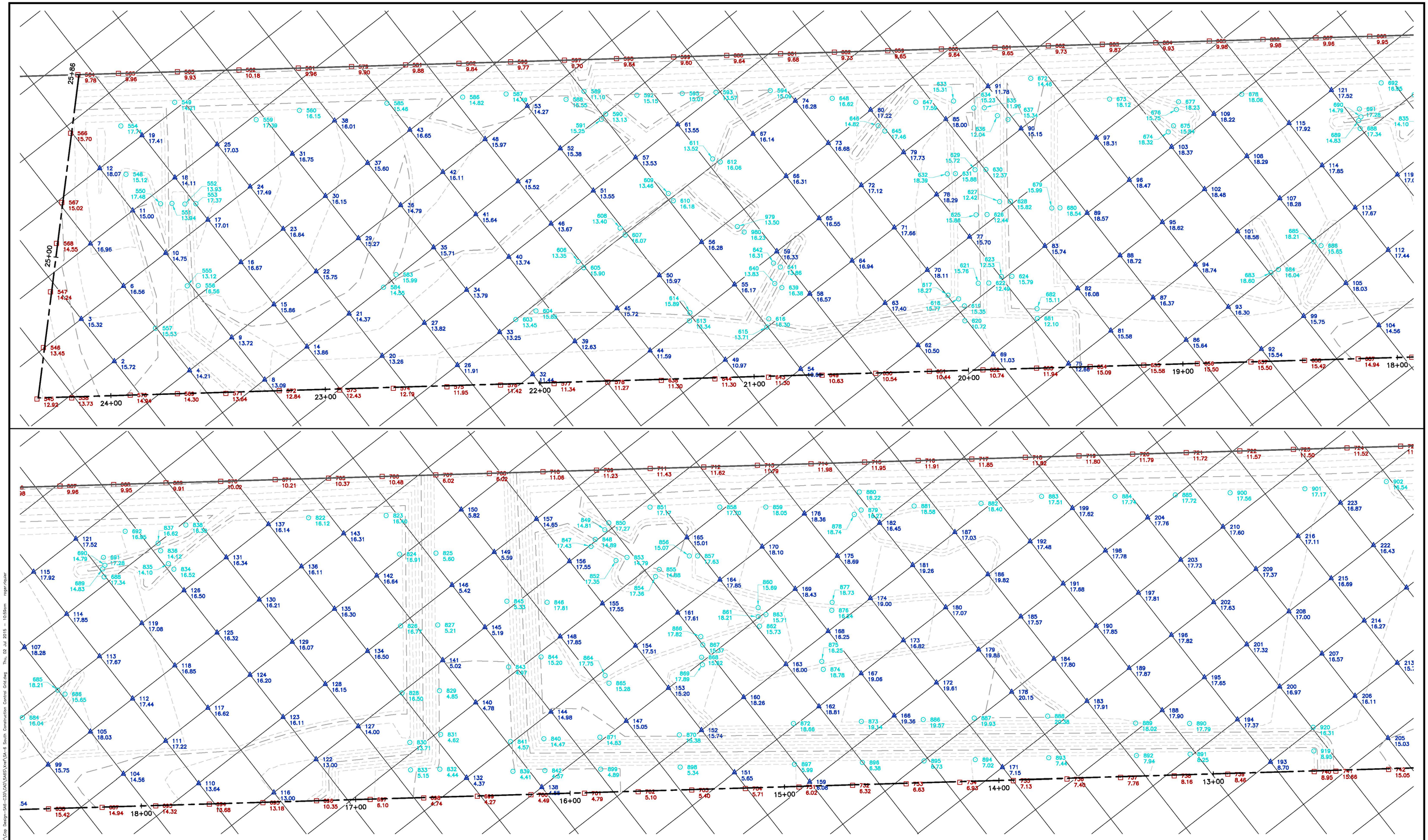
POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2150	684393.44	602931.51	GRID	8.63	8.62	1.19	0.75	13.32		0.64	4.70
2151	684393.44	602956.51	GRID	10.95	10.94	1.19	0.66	13.29		0.49	2.34
2152	684393.44	602981.51	GRID	10.53	10.56	1.21	0.65	13.01		0.60	2.45
2153	684393.44	603006.51	GRID	10.15	10.09	1.19	0.55	12.68		0.79	2.59
2154	684393.44	603031.51	GRID	9.91	9.90	1.17	0.58	12.31		0.66	2.41
2155	684393.44	603056.51	GRID	9.70	9.65	1.20	0.56	12.02		0.61	2.37
2156	684393.44	603106.51	GRID	9.38	9.33	1.25	0.53	11.70		0.52	2.37
2157	684393.44	603131.51	GRID	9.32	9.24	1.18	0.64	11.91		0.61	2.67
2159	684368.4362	603181.5129	GRID	6.44	6.36	1.29		11.99		0.55	5.63
2160	684368.44	603156.51	GRID	8.56	8.52	1.29	0.53	11.62		0.62	3.10
2161	684368.44	603131.51	GRID	8.65	8.58	1.18	0.62	11.41		0.52	2.83
2162	684368.44	603106.51	GRID	8.75	8.68	1.19	0.64	11.31		0.59	2.63
2163	684368.44	603056.51	GRID	8.85	8.80	1.14	0.61	11.37		0.52	2.57
2164	684368.44	603031.51	GRID	8.98	8.95	1.14	0.56	11.52		0.58	2.56
2165	684368.44	603006.51	GRID	9.17	9.13	1.25	0.52	11.54		0.55	2.41
2166	684368.44	602981.51	GRID	9.38	9.32	1.32	0.48	11.79		0.67	2.47
2167	684343.44	603006.51	GRID	8.26	8.19	1.28	0.48	10.85		0.60	2.66
2168	684343.44	603031.51	GRID	8.15	8.11	1.17	0.58	10.78		0.56	2.66
2169	684343.44	603056.51	GRID	8.17	8.16	1.13	0.58	10.76		0.54	2.60
2170	684343.44	603106.51	GRID	8.37	8.37	1.09	0.66	10.91		0.55	2.53
2171	684343.44	603131.51	GRID	8.36	8.39	1.08	0.62	10.97		0.54	2.59
2172	684343.4362	603181.5129	GRID	6.47	6.46	1.14		11.46		1.02	5.01
2173	684343.4362	603206.5129	GRID	6.78	6.70	1.26		11.85		0.56	5.15
2174	684318.44	603231.51	GRID	8.81	8.74	1.22	0.54	11.68		1.18	2.94
2175	684318.44	603206.51	GRID	6.84	6.89	1.08	0.66	11.28		0.81	4.39
2176	684318.4362	603181.5129	GRID	6.51	6.46	1.20		10.99		0.59	4.53
2177	684318.4362	603156.5129	GRID	6.25	6.17	1.22		10.85		0.59	4.68
2178	684318.44	603031.51	GRID	4.71	4.79	1.14	0.66	10.30		0.46	5.52
2179	684293.44	603056.51	GRID	4.35	4.27	1.18	0.76	10.05		0.57	5.78
2180	684293.44	603081.51	GRID	7.37	7.32	1.30	0.71	10.21		0.60	2.89
2181	684293.4362	603131.5129	GRID	5.94	5.89	1.23		10.45		0.60	4.56
2182	684293.4362	603156.5129	GRID	6.32	6.33	1.11		10.59		0.52	4.26
2183	684293.44	603181.51	GRID	6.52	6.60	1.18	0.55	10.75		0.55	4.15
2184	684293.44	603206.51	GRID	7.97	7.98	1.14	0.58	10.92		0.57	2.94

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2185	684293.44	603231.51	GRID	8.29	8.21	1.26	0.61	11.13		0.58	2.92
2186	684293.44	603256.51	GRID	8.50	8.46	1.43	0.45	11.56		1.03	3.09
2187	684268.44	603281.51	GRID	7.07	7.05	1.28	0.53	11.07		0.56	4.02
2188	684268.44	603256.51	GRID	8.18	8.12	1.25	0.52	11.04		0.62	2.92
2189	684268.44	603231.51	GRID	7.79	7.80	1.10	0.59	10.86		0.54	3.06
2190	684268.44	603206.51	GRID	7.41	7.49	1.12	0.56	10.77		0.58	3.29
2191	684268.44	603181.51	GRID	7.46	7.49	1.18	0.49	10.64		0.56	3.16
2192	684268.44	603156.51	GRID	6.21	6.19	1.12	0.66	10.48		0.55	4.30
2193	684268.4362	603131.5129	GRID	5.85	5.85	1.18		10.29		0.59	4.44
2194	684268.4362	603106.5129	GRID	3.07	3.12	1.06		10.16		0.62	7.04
2195	684268.4362	603081.5129	GRID	5.85	5.88	1.13		9.88		0.41	4.01
2196	684243.44	603131.51	GRID	2.98	3.02	1.10	0.67	10.13		0.53	7.11
2197	684243.44	603181.51	GRID	7.56	7.52	1.27	0.50	10.45		0.55	2.92
2198	684243.44	603206.51	GRID	7.25	7.29	1.08	0.66	10.59		0.52	3.29
2199	684243.44	603231.51	GRID	7.47	7.47	1.20	0.54	10.70		0.58	3.23
2200	684243.44	603256.51	GRID	7.83	7.79	1.22	0.54	10.69		0.53	2.90
2201	684243.4362	603281.5129	GRID	7.25	7.20	1.20		10.52		0.58	3.32
2202	684218.4362	603281.5129	GRID	6.93	6.95	1.14		10.53		0.50	3.58
2203	684218.44	603256.51	GRID	7.09	7.10	1.19	0.57	10.44		0.58	3.34
2204	684218.44	603231.51	GRID	7.43	7.43	1.19	0.52	10.42		0.52	2.99
2205	684218.44	603206.51	GRID	7.25	7.21	1.19	0.56	10.38		0.53	3.18
2206	684218.44	603156.51	GRID	7.69	7.70	1.14	0.54	10.15		0.59	2.45
2208	684193.4362	603181.5129	GRID	7.48	7.44	1.27	0.45	10.16		0.60	2.72
2209	684193.4362	603206.5129	GRID	7.25	7.28	1.09	0.59	10.17		0.56	2.89
2210	684193.4362	603231.5129	GRID	7.34	7.30	1.19	0.56	10.19		0.52	2.89
2211	684193.4362	603256.5129	GRID	6.74	6.76	1.14		10.24		0.60	3.48
2212	684168.4362	603256.5129	GRID	6.51	6.46	1.22		10.03		0.59	3.57
2213	684168.4362	603231.5129	GRID	6.45	6.50	1.15	0.61	10.04		0.59	3.54
2214	684168.4362	603206.5129	GRID	7.60	7.60	1.10	0.67	10.06		0.60	2.46
2215	684143.4362	603231.5129	GRID	6.43	6.49	1.19		9.76		0.65	3.27
2216	684768.70	602713.78	BRK	14.50	14.53	1.15	0.48	17.86		0.58	3.34
2217	684755.49	602705.02	BRK	14.78	14.86	1.07	0.56	19.36		0.60	4.50
2218	684750.5364	602706.2925	BRK	17.38	17.30	1.18	0.54	19.62		0.52	2.32
2219	684719.5112	602728.0937	BRK	18.07	17.99	1.30	0.45	20.61		0.56	2.62

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2220	684721.25	602731.77	BRK	15.36	15.36	1.23	0.79	20.54		0.55	5.18
2222	684686.52	602801.63	BRK	17.16	17.18	1.08	0.70	20.72		0.60	3.54
2223	684714.8245	602681.948	BRK	17.78	17.74	1.25	0.48	20.02		0.55	2.28
2224	684695.23	602678.31	BRK	15.18	15.25	1.15	0.79	20.15		0.63	4.90
2225	684691.1633	602677.7592	BRK	17.91	17.89	1.21	0.48	20.16		0.58	2.27
2226	684679.2563	602656.4152	BRK	17.47	17.43	1.18	0.53	19.79		0.65	2.37
2227	684678.94	602651.43	BRK	14.87	14.85	1.28	0.60	19.57		0.56	4.72
2228	684668.1313	602643.1239	BRK	14.48	14.54	1.04		19.15		0.57	4.61
2229	684657.2632	602634.2584	BRK	5.13	5.21	1.15		18.69		0.53	13.48
2230	684652.03	602663.18	BRK	15.06	15.12	1.05	0.59	19.65		0.53	4.53
2231	684641.00	602654.19	BRK	5.58	5.57	1.24	0.68	19.21		0.54	13.64
2232	684642.3753	602682.8752	BRK	18.24	18.17	1.23	0.52	20.37		0.45	2.20
2233	684640.23	602679.29	BRK	15.45	15.55	1.11	0.72	20.20		0.63	4.65
2234	684618.68	602681.55	BRK	6.20	6.28	1.15	0.79	20.09		0.70	13.81
2235	684632.7117	602692.9947	BRK	18.26	18.21	1.27	0.46	20.60		0.66	2.39
2236	684620.0994	602708.5791	BRK	18.67	18.58	1.22	0.51	20.95		0.63	2.37
2239	684603.43	602700.25	BRK	6.62	6.69	1.10	0.65	20.52		0.63	13.83
2240	684580.79	602728.00	BRK	7.24	7.30	1.12	0.76	20.82		0.76	13.52
2241	684592.09	602737.22	BRK	16.96	16.96	1.12	0.64	21.25		0.53	4.30
2245	684652.97	602837.52	BRK	17.97	17.92	1.14	0.63	21.66		0.60	3.73
2248	684632.9903	602849.2342	BRK	20.53	20.48	1.21	0.55	22.74		0.51	2.27
2249	684573.19	602760.13	BRK	17.37	17.33	1.24	0.50	21.53		0.54	4.21
2250	684562.02	602751.01	BRK	7.76	7.85	1.13	0.58	21.32		0.62	13.46
2251	684549.64	602787.35	BRK	17.30	17.31	1.11	0.56	21.81		0.53	4.50
2252	684539.27	602778.90	BRK	8.39	8.43	1.20	0.65	21.45		0.51	13.02
2253	684568.32	602806.28	BRK	17.40	17.45	1.20	0.67	22.12		0.56	4.67
2254	684565.5811	602809.0345	BRK	19.99	19.95	1.16	0.56	22.34		0.68	2.40
2255	684590.8103	602830.4334	BRK	20.31	20.27	1.13	0.58	22.50		0.52	2.23
2256	684593.43	602827.27	BRK	17.57	17.64	1.18	0.48	22.33		0.55	4.69
2257	684611.5712	602875.6442	BRK	20.29	20.21	1.18	0.58	22.52		0.54	2.31
2259	684588.8716	602908.3113	BRK	19.04	19.11	1.12	0.49	21.37		0.65	2.26
2261	684576.8825	602901.086	BRK	18.28	18.32	1.19	0.46	21.15		0.68	2.84
2262	684562.2754	602912.3889	BRK	6.48	6.55	1.12		20.16		0.60	13.61
2263	684546.9908	602879.913	BRK	18.10	18.01	1.23	0.58	20.48		0.52	2.46

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2264	684536.885	602894.4246	BRK	6.32	6.38	1.19		19.87		0.58	13.49
2265	684518.8905	602881.693	BRK	6.20	6.26	1.20		19.67		0.59	13.41
2266	684529.1345	602867.2143	BRK	18.03	17.99	1.12	0.61	20.34		0.56	2.35
2267	684498.05	602850.83	BRK	14.79	14.79	1.20	0.65	19.61		0.55	4.81
2268	684490.4473	602861.5687	BRK	6.02	6.09	1.20		19.03		0.62	12.94
2269	684529.6237	602815.0512	BRK	19.24	19.20	1.12	0.59	21.47		0.55	2.26
2270	684517.71	602805.33	BRK	8.99	9.02	1.13	0.68	21.32		0.55	12.30
2271	684492.1914	603028.6259	BRK	14.08	14.16	1.03	0.59	16.31		0.52	2.14
2272	684495.31	603031.35	BRK	11.32	11.38	1.05	0.93	16.05		0.61	4.68
2273	684467.4432	603056.9831	BRK	12.70	12.63	1.22	0.56	14.91		0.51	2.28
2274	684470.54	603059.69	BRK	9.95	9.95	1.10	0.62	14.78		0.50	4.83
2275	684469.1556	602880.7528	BRK	13.16	13.25	1.10		18.07		0.59	4.83
2276	684420.7841	602931.9468	BRK	12.65	12.68	1.12	0.56	15.04		0.67	2.36
2277	684418.27	602928.58	BRK	9.85	9.93	1.18	0.79	14.81		0.62	4.88
2278	684497.2553	602878.6355	BRK	6.10	6.09	1.23		18.81		0.55	12.72
2279	684491.4795	602886.7988	BRK	12.77	12.69	1.19		18.60		0.56	5.92
2280	684466.7342	602909.2074	BRK	16.17	16.17	1.12	0.53	18.34		0.51	2.16
2281	684469.256	602906.0452	BRK	13.48	13.50	1.17		18.23		0.53	4.73
2282	684569.9023	602930.035	BRK	6.56	6.58	1.18		19.90		0.54	13.32
2283	684564.1649	602938.2256	BRK	13.23	13.27	1.17		19.44		0.54	6.18
2284	684462.8239	602873.5669	BRK	6.77	6.86	1.15		17.80		0.62	10.94
2285	684396.208	603081.167	BRK	9.60	9.51	1.21	0.58	11.89		0.58	2.38
2286	684394.9524	603084.8241	BRK	7.02	6.94	1.29	0.80	11.83		0.57	4.89
2287	684370.173	603081.0797	BRK	6.46	6.46	1.22	0.84	11.35		0.60	4.88
2288	684369.7302	603084.5148	BRK	8.77	8.80	1.17	0.57	11.25		0.54	2.45
2289	684346.8159	603155.6092	BRK	8.42	8.34	1.28	0.58	11.18		0.62	2.85
2290	684344.2815	603158.0189	BRK	6.97	6.96	1.23		11.16		0.71	4.20
2291	684343.8322	603080.6842	BRK	5.89	5.86	1.21	0.87	10.84		0.55	4.98
2292	684344.0192	603084.2703	BRK	8.28	8.25	1.22	0.54	10.86		0.58	2.62
2293	684318.4322	603058.4683	BRK	7.59	7.53	1.25	0.52	10.36		0.61	2.83
2294	684314.6302	603057.9817	BRK	5.03	5.12	1.16	0.82	10.34		0.61	5.23
2296	684244.6142	603103.2697	BRK	6.25	6.16	1.25		9.75		0.58	3.59
2297	684317.0076	603131.3066	BRK	6.55	6.47	1.30		10.67		0.58	4.21
2298	684318.8822	603129.9683	BRK	8.06	8.09	1.10	0.56	10.73		0.57	2.64

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2299	684244.4868	603157.7645	BRK	7.52	7.53	1.10	0.61	10.36		0.59	2.83
2300	684238.7773	603154.4036	BRK	3.11	3.14	1.22	0.59	10.26		0.58	7.12
2301	684221.7368	603183.6523	BRK	7.75	7.68	1.20	0.55	10.33		0.57	2.66
2302	684225.099	603177.8813	BRK	3.30	3.26	1.21	0.80	10.31		0.59	7.05
2303	684293.4362	603106.5129	GRID	7.12	7.15	1.15	0.75	10.33		0.55	3.18
2304	684318.4362	603081.5129	GRID	5.36	5.28	1.35	0.78	10.53		0.63	5.25
2305	684268.0011	603302.1104	BNDY	8.15	8.20	1.14		11.54		1.61	3.34
2306	684383.2214	603153.3604	BRK	8.95	8.87	1.19	0.61	11.85		0.54	2.98
2307	684386.53	603155.86	BRK	6.58	6.53	1.30	0.82	11.96		0.56	5.43
2308	684541.16	602978.86	BRK	13.86	13.78	1.33	0.77	18.44		0.49	4.66
2309	684537.9282	602976.1552	BRK	16.66	16.72	1.03	0.54	19.01		0.56	2.29
2310	684519.64	603003.49	BRK	12.67	12.64	1.25	0.82	17.60		0.56	4.95
2311	684516.5171	603000.7679	BRK	15.43	15.47	1.05	0.58	17.70		0.59	2.22
2312	684688.247	602662.9919	BRK	17.62	17.65	1.20	0.46	19.87		0.55	2.21
2313	684666.34	602822.94	BRK	17.70	17.62	1.21	0.58	21.27		0.48	3.65



195 17.65 GRID POINT

890 17.79 BREAK POINT

738 8.16 BOUND POINT

0 10 20 40
SCALE IN FEET

Prepared/Date: RJR 07/02/15
Checked/Date: TDD 07/02/15

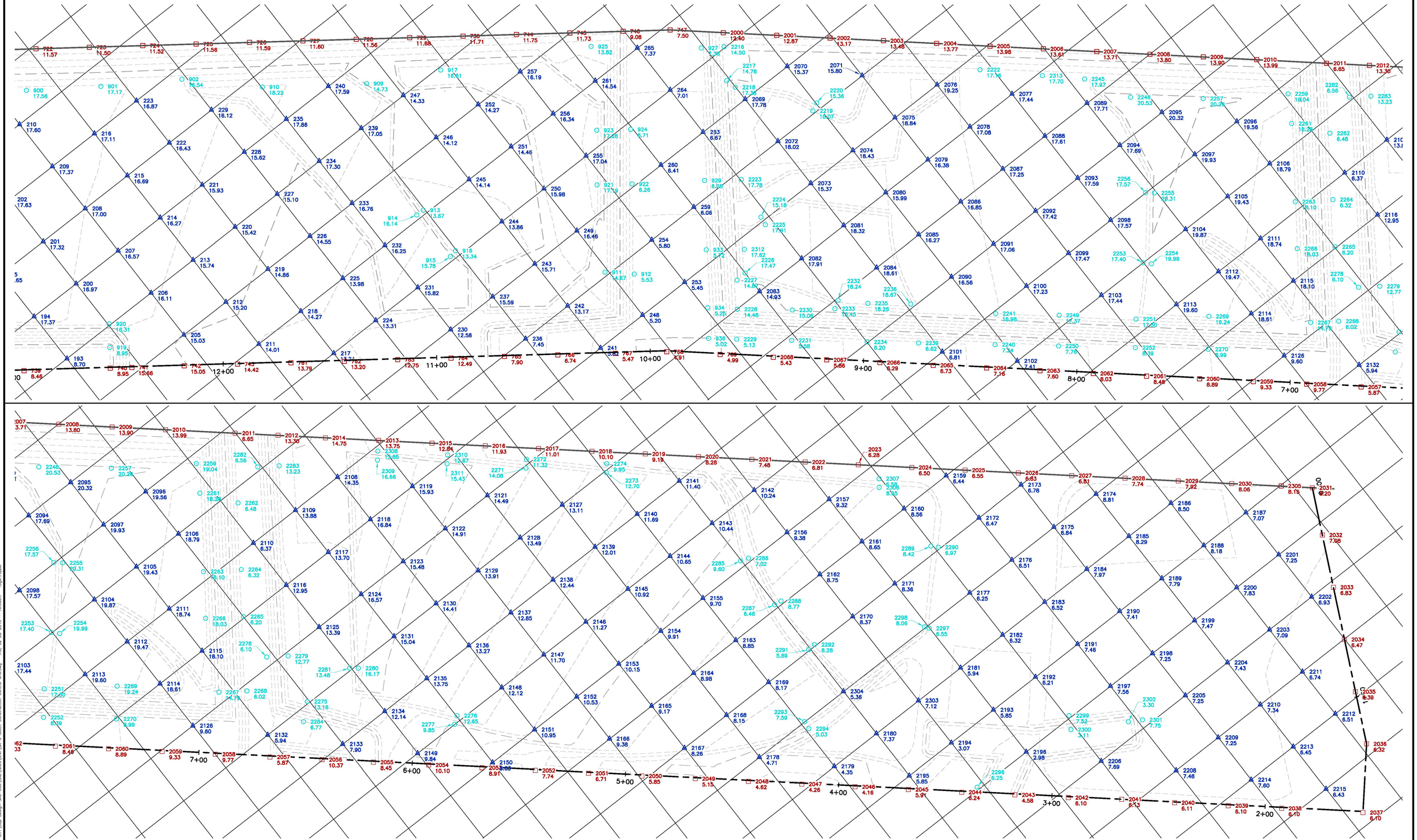
Honeywell
101 COLUMBIA RD, BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010800

SA-6 SOUTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 2
Project 3480-13-0377
Figure 1.1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\Xref\SA-6 South Construction Control Grid.dwg Thu, 02 Jul 2015 - 10:59am roger.riquier



Prepared/Date: RJR 07/02/15
Checked/Date: TDD 07/02/15

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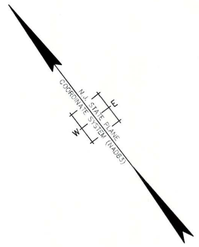
NJ Certificate of Authorization Number 24GA28010800

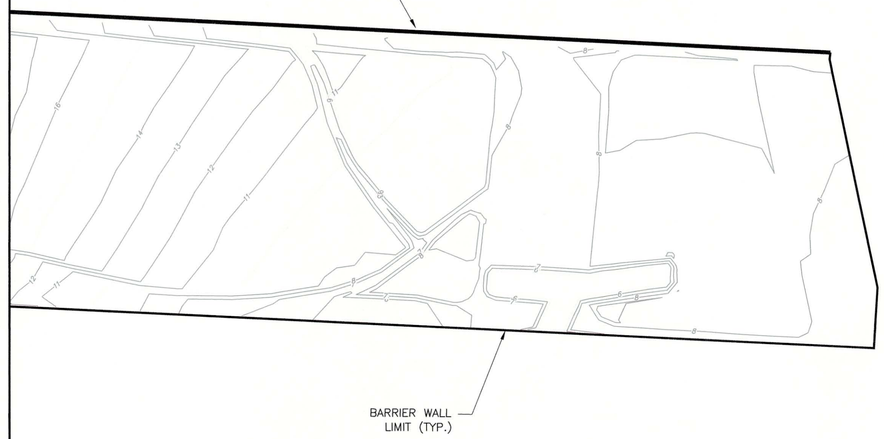
SA-6 SOUTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 2
Project 3480-13-0377
Figure 1.2

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\Xref\SA-6 South Construction Control Grid.dwg Thu, 02 Jul 2015 - 10:59am roger.riquier

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING.



MATCH LINE SHEET C-126



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT SOUTH CAP GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM OCT. 2015 THROUGH MAY 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	DSGN	DR	CHK	APVD	BY	APVD

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER 12001511A

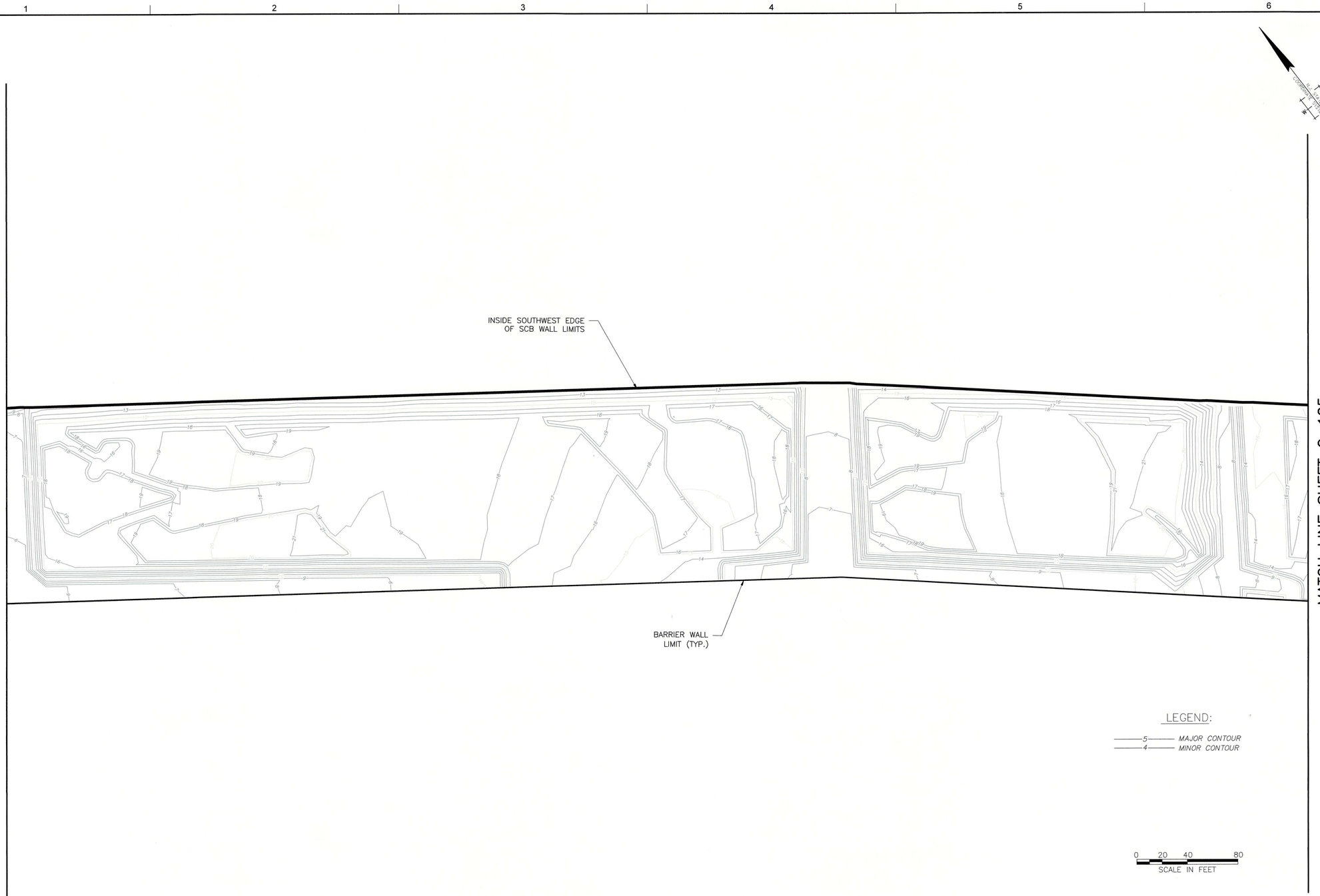
MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-125
SHEET	1 OF 3

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SOUTH CAP GDL COVER SOIL SURVEY-11-17-16.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 4:32 PM



GENERAL NOTES

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2. *AS-BUILT SOUTH CAP GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM OCT. 2015 THROUGH MAY 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS35737

NO.	DATE	REVISION	CHK	APVD	BY	APVD
DSGN		DR				

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER 12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
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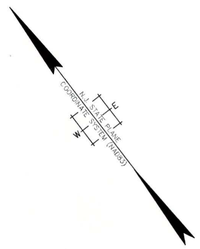
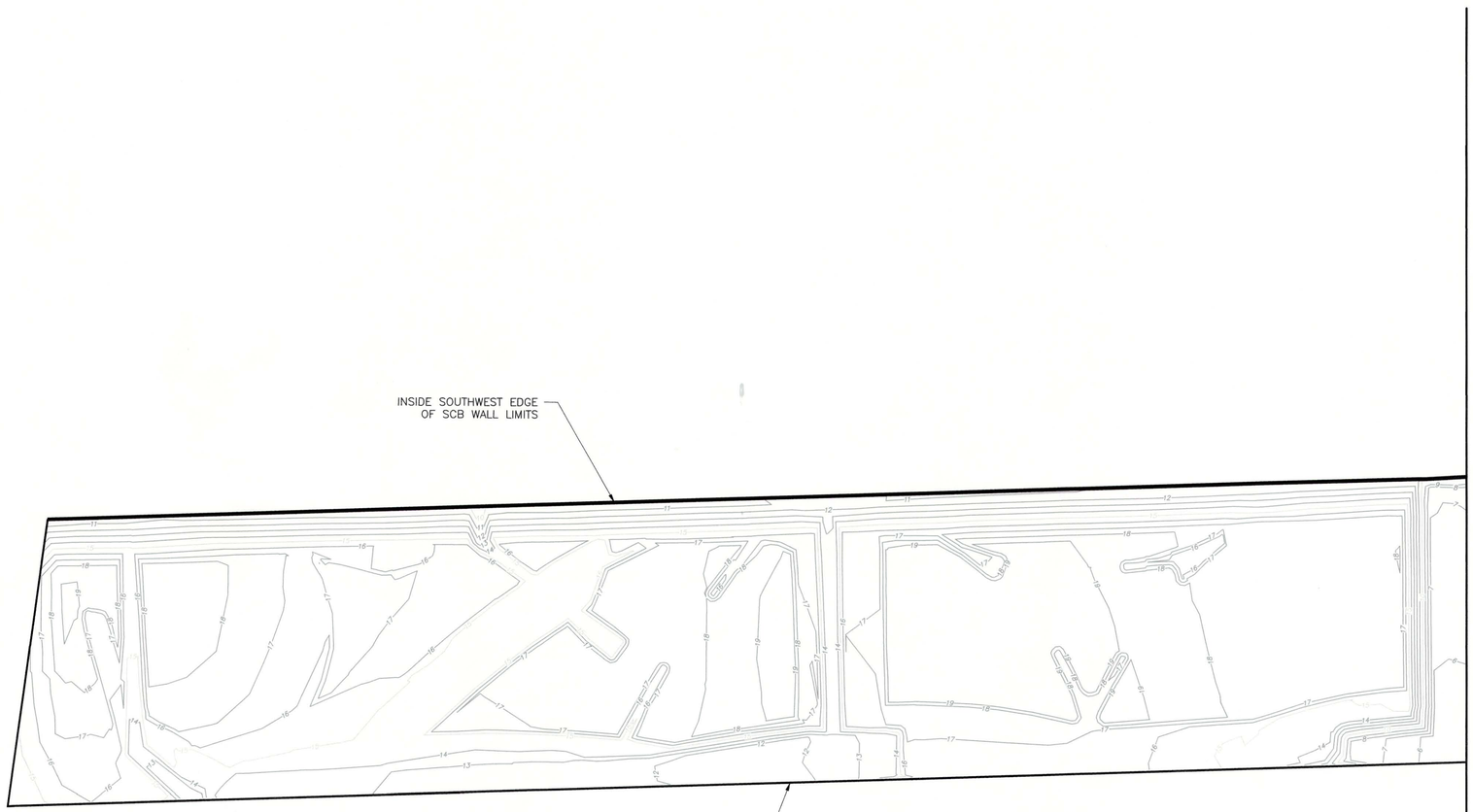
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-126
SHEET	2 OF 3

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SOUTH CAP GDL COVER SOIL SURVEY-11-17-16.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 4:08 PM





LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

0 20 40 80

SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.
2. AS-BUILT SOUTH CAP GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM OCT. 2015 THROUGH MAY 2016
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

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ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

NO.	DATE	REVISION	BY	APVD
DSGN		DR	CHK	APVD

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

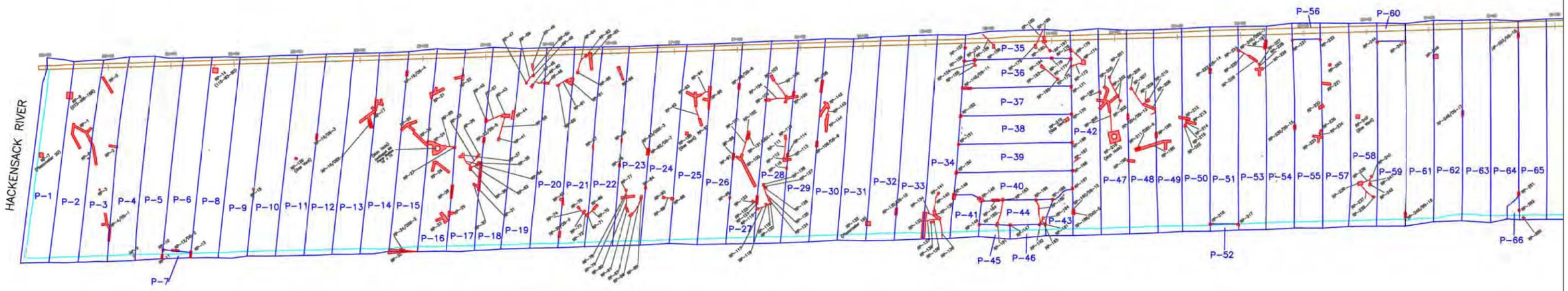
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

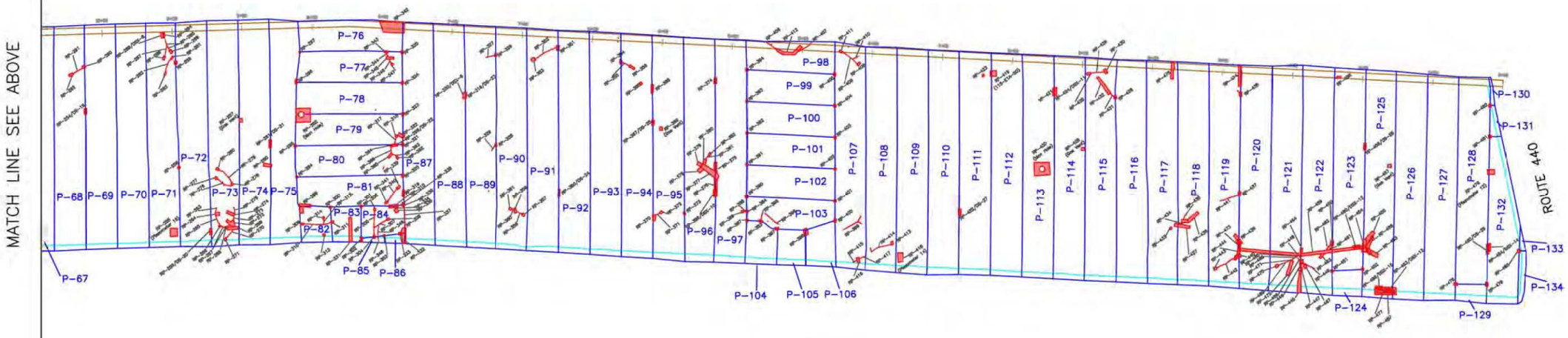
VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-127
SHEET	3 OF 3

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SOUTH CAP GDL COVER SOIL SURVEY-11-17-16.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 4:09 PM





LEGEND

RP-1 (Repair Number)

LINER SEAM/EDGE

SCB WALL

HB WALL (Inner Edge)

RP: Repair

DSX: Destructive Extrusion Weld Test

DS: Destructive Fusion Weld Test

P: Panel

\- Bead

0 80 160 Feet

NOTE: Refer to ESI Repair Report for repair details

J.H. 01/28/2016

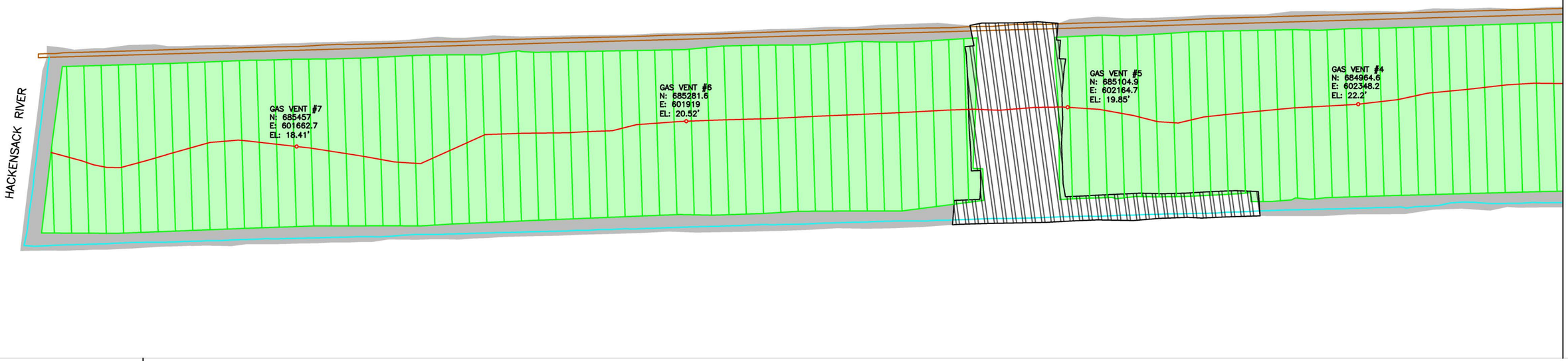
ENTACT 302 Unity Plaza Latrobe, PA 15650

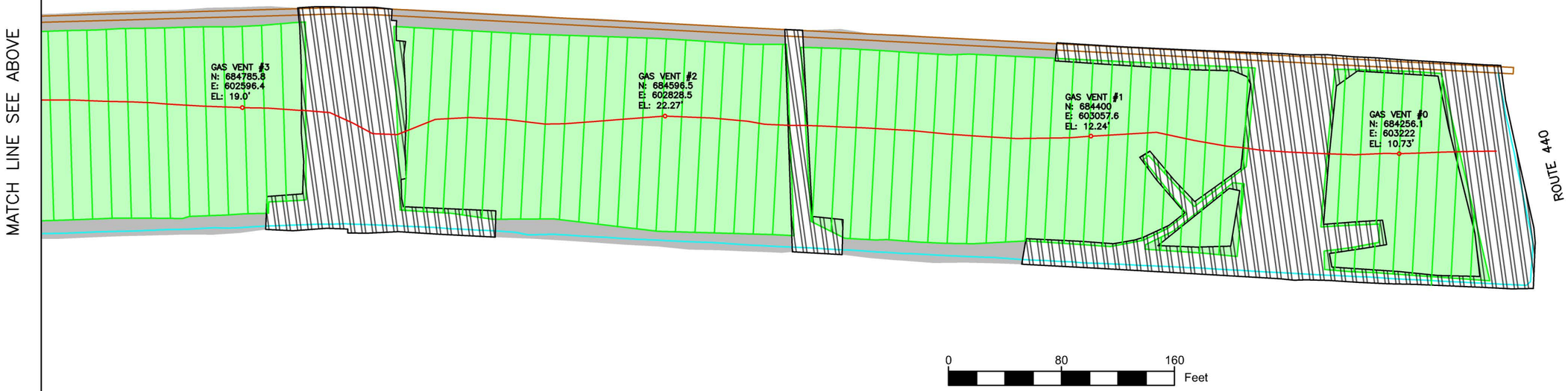
DRAWING NAME

SA6 SOUTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
01/28/16

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ





LEGEND

- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)

REV	DATE	BY	CHKD	APVD	DESCRIPTION
1	02/14/17	EJP	AE	AE	ADDED GAS VENT DETAIL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
02/14/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

HACKENSACK RIVER

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

ROUTE 440

LEGEND

GEOCOMPOSITE DRAINAGE LAYER (GDL)

SCB WALL

HB WALL (Inner Edge)

0 80 160 Feet

J.H. 01/27/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

SA6 SOUTH CAP GDL LAYOUT
GEOCOMPOSITE DRAINAGE LAYER 01/27/16

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

N

GRAND BLVD.

RIVERSIDE DRIVE

A STREET

B STREET

C STREET

D STREET

FRONTAGE STREET

RIVER

D

B

C

A

18

19

20

21

22

23

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

RECORD DRAWING - 12/15/16

LEGEND

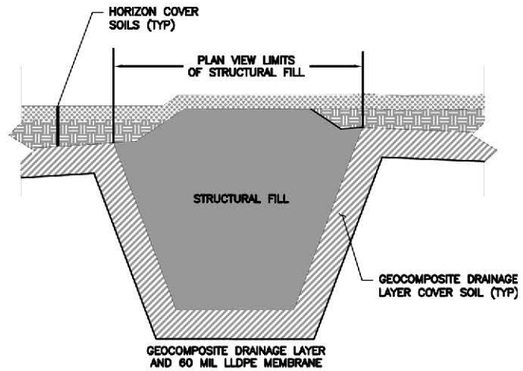
Structural Fill Under Roadways

SCE[illegible]LL

HB WALL (Inner Edge)

0 80 160 Feet

SCALE



STRUCTURAL FILL CROSS SECTION
NTS

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/7/16	EJP	AE	AE	STRUCTURAL FILL UNDER ROADWAYS – SOUTH CAP
1	12/15/16	EJP	AE	AE	ADDED FUTURE DEVELOPMENT LAYOUT & STRUCTURAL FILL X-SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
STRUCTURAL FILL UNDER ROADWAYS
SOUTH CAP
12/15/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

0 20 40 80

SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GEOMEMBRANE GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GEOMEMBRANE GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 7/2/15 THROUGH 10/7/15. GEOMEMBRANE GRADING SURFACES AND CONTOURS WERE GENERATED BY ENTACT, CHECKED BY AMEC AND CONFIRMED BY MASER CONSULTING P.A.*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NO.	DATE	REVISION	BY	APVD
1	7/12/16	REVISED ASBUILT TOPO PER ENTACTS COMMENTS	BSB	RTH
DSGN		DR CHK		APVD

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
GEOMEMBRANE GRADING
PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

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Hamilton, NJ, 08619
(609) 889 - 2629

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/11/16
PROJ	3480-10-0027
DWG	C-122
SHEET	1 OF 3

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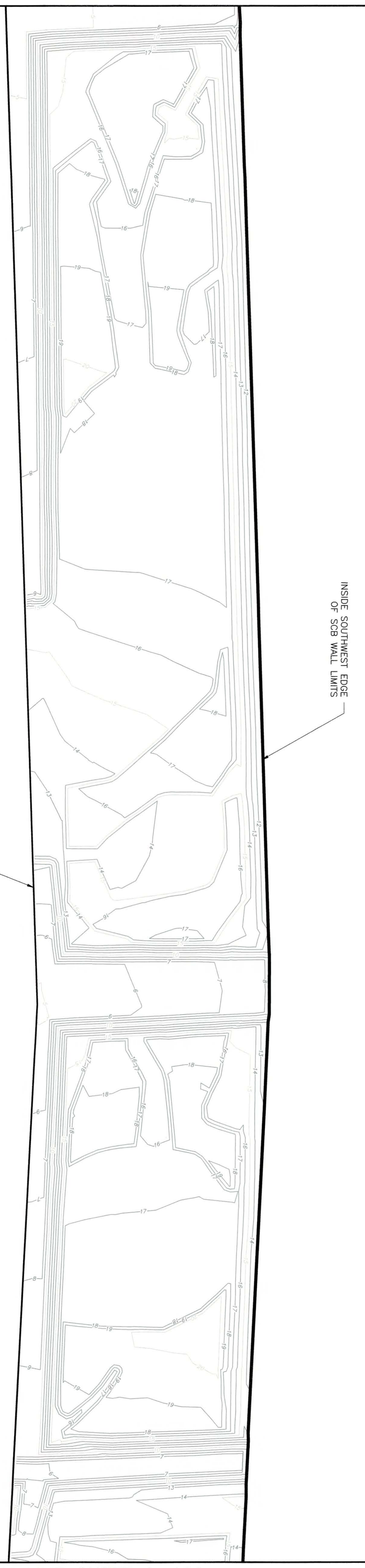
FILE NAME: C:\Civil 3D Projects\12001511A\Survey\V-SURV-ASBT-SUBGRD-SOUTH-CAP-10-07-15.dwg PLOT DATE: Wed, 19 Oct 2016 PLOT TIME: 3:35 PM

MATCH LINE SHEET C-124



LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

SCALE IN FEET: 0 20 40 80

MATCH LINE SHEET C-122

NJ STATE PLANE COORDINATE SYSTEM (NAD83) W E

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

SHEET 2 OF 3 | DWG C-123 | PROJ 3480-10-0027 | DATE 2/11/16

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

VERIFY SCALE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

DRAWING STATUS
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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
1	7/12/16	REVISED ASBUILT TOPO PER ENTACT'S COMMENTS	BSB	RTH

DSGN | DR | CHK | APVD

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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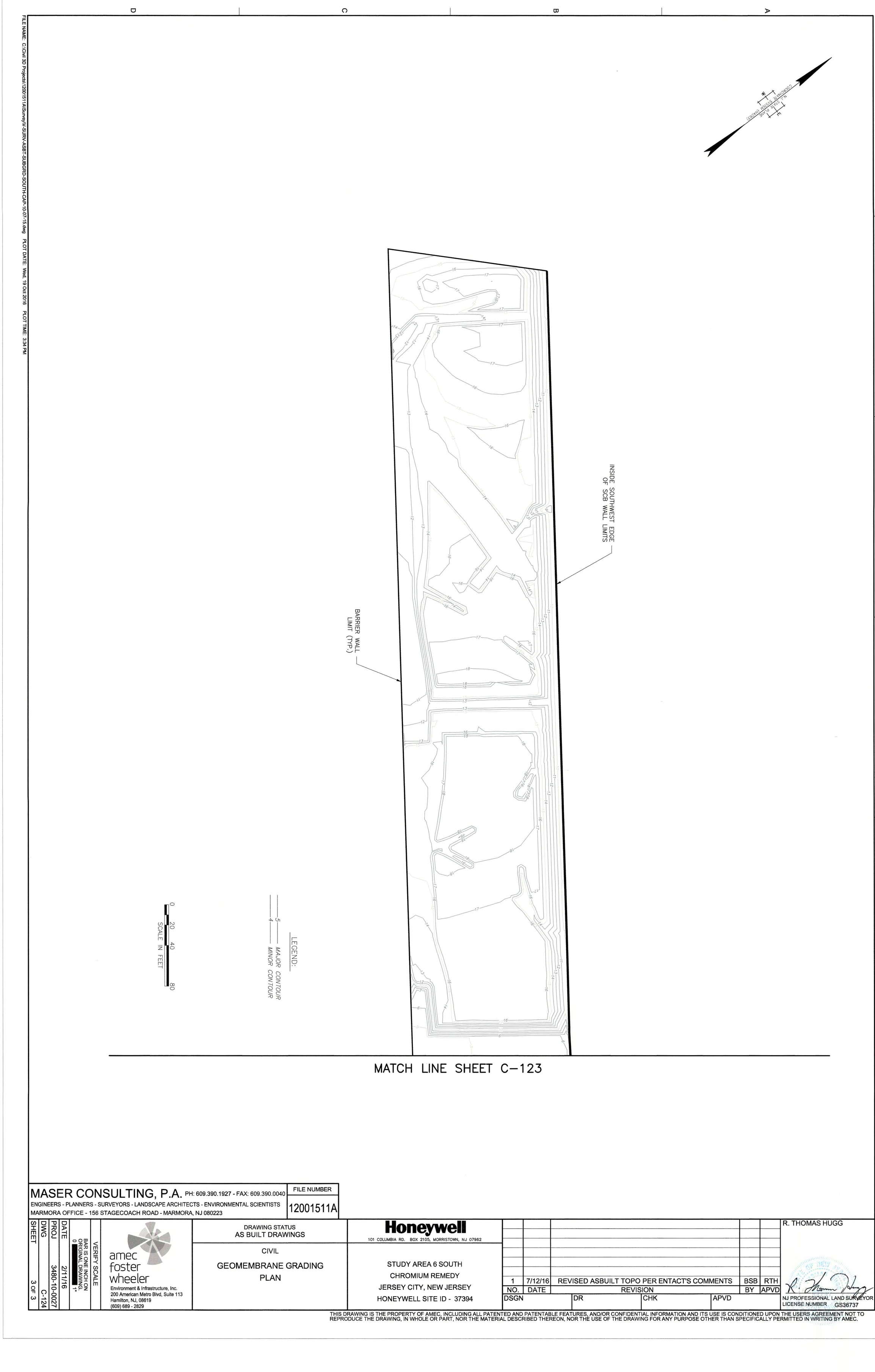

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FILE NUMBER 12001511A

SHEET 3 OF 3
DWG C-124
PROJ 3480-10-0027
DATE 2/11/16
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1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-03-1	10/20/2015	685534.39	601506.6	17.45	114.3	3.3	117	8.6	97.7	90	10	GDL Cover Soil		V5N
1	CS-04-1	10/20/2015	685573.6	601571	18.25	118	4.1	117	8.6	100.9	90	10	GDL Cover Soil		V5N
1	CS-05-1	10/20/2015	685530.6	601543.8	17.84	116.6	6.4	117	8.6	99.7	90	1	GDL Cover Soil		V5N
1	CS-06-1	10/20/2015	685488.8	601532.7	14.72	118.6	7.1	117	8.6	101.4	90	1	GDL Cover Soil		V5N
1	CS-07-1	10/20/2015	685512.5	601575.8	17.71	115	5.9	117	8.6	98.3	90	1	GDL Cover Soil		V5N
1	CS-08-1	10/20/2015	685536.3	601610.7	17.61	117.3	5.4	117	8.6	100.3	90	1	GDL Cover Soil		V5N
1	CS-09-1	10/20/2015	685492.5	601601.9	16.43	122.4	3.7	117	8.6	104.6	90	1	GDL Cover Soil		V5N
1	CS-10-1	10/20/2015	685448.8	601585.8	14.79	114.5	5.6	117	8.6	97.9	90	1	GDL Cover Soil		V5N
1	CS-11-1	10/20/2015	685477.6	601634.6	17.08	122.2	5.8	117	8.6	104.4	90	1	GDL Cover Soil		V5N
1	CS-12-1	10/20/2015	685503.5	601668.8	17.32	115.3	5.9	117	8.6	98.5	90	1	GDL Cover Soil		V5N
1	CS-13-1	10/20/2015	685462.1	601659.8	16.59	115.5	4.5	117	8.6	98.7	90	1	GDL Cover Soil		V5N
1	CS-14-1	10/20/2015	685423.8	601646.8	14.54	117.9	3.2	117	8.6	100.8	90	1	GDL Cover Soil		V5N
1	CS-15-1	10/20/2015	685444.3	601687.7	14.73	114.8	5	117	8.6	98.1	90	1	GDL Cover Soil		V5N
1	CS-16-1	10/20/2015	685460.2	601724.9	16.34	115.8	4	117	8.6	99.0	90	1	GDL Cover Soil		V5N
1	CS-17-1	10/20/2015	685433.8	601722.1	14.62	113.7	7.3	117	8.6	97.2	90	1	GDL Cover Soil		V5N
1	CS-18-1	10/20/2015	685394.4	601715.0	17.21	118.9	3.4	117	8.6	101.6	90	1	GDL Cover Soil		V5N
1	CS-129-1	11/4/2015	684281.4	603180.2	8.75	120.2	8.0	117	8.6	102.7	90	2	GDL Cover Soil		V5N
1	CS-130-1	11/4/2015	684216.2	603153.2	8.83	113.6	6.7	117	8.6	97.1	90	2	GDL Cover Soil		V5N
1	CS-131-1	11/4/2015	684261.4	603206.7	8.42	114.1	10.9	117	8.6	97.5	90	2	GDL Cover Soil		V5N
1	CS-132-1	11/4/2015	684292.4	603250.5	9.53	118.3	6.2	117	8.6	101.1	90	2	GDL Cover Soil		V5N
1	CS-133-1	11/4/2015	684236.5	603231.2	8.64	111.6	8.1	117	8.6	95.4	90	2	GDL Cover Soil		V5N
1	CS-134-1	11/4/2015	684175.3	603214.9	8.57	122.5	7.7	117	8.6	104.7	90	2	GDL Cover Soil		V5N
1	CS-135-1	11/4/2015	684215.0	603254.8	8.32	118.4	6.6	117	8.6	101.2	90	2	GDL Cover Soil		V5N
1	CS-136-1	11/4/2015	684251.9	603305.8	8.40	115.1	8.8	117	8.6	98.4	90	2	GDL Cover Soil		V5N
1	CS-137-1	11/4/2015	684189.5	603274.7	7.64	116.9	9.3	117	8.6	99.9	90	2	GDL Cover Soil		V5N
1	CS-138-1	11/4/2015	684143.3	603253.5	7.36	117.9	10.5	117	8.6	100.8	90	2	GDL Cover Soil		V5N
1	CS-125-1	11/6/2015	684314.5	603125.9	7.68	111.2	8.2	117	8.6	95.0	90	3	GDL Cover Soil		V5N
1	CS-126-1	11/6/2015	684270.3	603123.5	7.05	120.0	9.7	117	8.6	102.6	90	3	GDL Cover Soil		V5N
1	CS-127-1	11/6/2015	684305.4	603158.0	7.55	115.7	7.6	117	8.6	98.9	90	3	GDL Cover Soil		V5N
1	CS-128-1	11/6/2015	684334.4	603202.5	7.75	117.7	7.4	117	8.6	100.6	90	2	GDL Cover Soil		V5N
1	SF-17-1	11/6/2015	684184.8	603260.8	8.67	126.8	5.4	133	8.6	95.3	95	2	Structural Fill -Liberty	East Side	V5N
1	SF-18-1	11/6/2015	684230.8	603283.7	9.16	127.2	5.9	133	8.6	95.6	95	2	Structural Fill -Liberty	East Side	V5N
1	CS-117-1	11/10/2015	684405.2	603020.3	11.64	111.0	5.2	117	8.6	94.9	90	4	GDL Cover Soil		V5N
1	CS-118-1	11/10/2015	684350.5	603002.3	9.66	115.2	7.3	117	8.6	98.5	90	4	GDL Cover Soil		V5N
1	CS-119-1	11/10/2015	684384.6	603051.2	10.55	116.0	6.3	117	8.6	99.1	90	4	GDL Cover Soil		V5N
1	CS-120-1	11/10/2015	684422.3	603088.8	11.72	115.7	6.6	117	8.6	98.9	90	4	GDL Cover Soil		V5N
1	CS-122-1	11/10/2015	684307.2	603059.7	8.50	116.8	7.5	117	8.6	99.8	90	3	GDL Cover Soil		V5N
1	CS-110-1	11/11/2015	684445.1	602994.4	13.50	115.5	9.7	117	8.6	98.7	90	5	GDL Cover Soil		V5N
1	CS-111-1	11/11/2015	684477.2	602955.6	15.83	125.3	9.0	117	8.6	107.1	90	4	GDL Cover Soil		V5N
1	CS-112-1	11/11/2015	684507.0	602999.4	16.21	122.7	9.0	117	8.6	104.9	90	4	GDL Cover Soil		V5N
1	CS-113-1	11/11/2015	684455.2	602974.1	14.56	118.0	9.0	117	8.6	100.9	90	4	GDL Cover Soil		V5N
1	CS-114-1	11/11/2015	684396.7	602954.9	12.21	120.6	10.0	117	8.6	103.1	90	4	GDL Cover Soil		V5N
1	CS-115-1	11/11/2015	684426.7	603002.4	12.86	118.5	8.4	117	8.6	101.3	90	4	GDL Cover Soil		V5N
1	CS-116-1	11/11/2015	684459.1	603046.2	13.60	122.3	8.1	117	8.6	104.5	90	4	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-121-1	11/11/2015	684364.2	603084.9	9.73	121.3	9.3	117	8.6	103.7	90	4	GDL Cover Soil		V5N
1	CS-123-1	11/11/2015	684344.5	603105.3	9.51	119.7	10.3	117	8.6	102.3	90	3	GDL Cover Soil		V5N
1	CS-124-1	11/11/2015	684370.5	603148.7	9.80	116.4	11.3	117	8.6	99.5	90	3	GDL Cover Soil		V5N
1	SF-15-1	11/11/2015	684280.3	603136.7	7.80	131.4	7.0	133	8.6	98.8	95	3	Structural Fill -Liberty		V5N
2	SF-15-2	11/11/2015	684279.3	603138.5	9.15	129.9	6.8	133	8.6	97.7	95	3	Structural Fill -Liberty		V5N
3	SF-15-3	11/11/2015	684271.2	603129.6	9.64	132.5	3.3	133	8.6	99.6	95	3	Structural Fill -Liberty		V5N
1	SF-16-1	11/11/2015	684316.8	603171.2	8.29	133.6	6.8	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
2	SF-16-2	11/11/2015	684319.3	603178.5	9.48	133.6	5.4	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
3	SF-16-3	11/11/2015	684314.6	603172.8	10.70	135.6	5.0	133	8.6	102.0	95	3	Structural Fill -Liberty		V5N
2	SF-17-2	11/11/2015	684184.9	603258.9	9.56	126.4	6.7	133	8.6	95.0	95	2	Structural Fill -Liberty	East Side	V5N
2	SF-18-2	11/11/2015	684234.3	603282.9	9.71	133.9	6.3	133	8.6	100.7	95	2	Structural Fill -Liberty	East Side	V5N
1	HC-10-1	11/13/2015	685444.5	601588.5	15.22	114.6	9.5	126	9.5	91.0	90	1	Horizon C	Back Scatter	V5N
1	HC-11-1	11/13/2015	685477.6	601635.1	17.64	122.2	9.7	126	9.5	97.0	90	1	Horizon C	Back Scatter	V5N
1	HC-128-1	11/13/2015	684307.4	603209.5	9.94	114.5	10.8	126	9.5	90.9	90	2	Horizon C	Back Scatter	V5N
1	HC-129-1	11/13/2015	684280.0	603181.7	9.33	110.0	10.2	126	9.5	87.3	90	2	Horizon C	SF-129-1R (Page 2)	V5N
1	HC-13-1	11/13/2015	685461.4	601657.1	17.20	122.5	9.3	126	9.5	97.2	90	1	Horizon C	Back Scatter	V5N
1	HC-131-1	11/13/2015	684261.3	603208.3	8.99	119.8	10.7	126	9.5	95.1	90	2	Horizon C	Back Scatter	V5N
1	HC-130-1	11/13/2015	684238.9	603170.2	9.33	121.4	10.6	126	9.5	96.3	90	2	Horizon C	Back Scatter	V5N
1	HC-132-1	11/13/2015	684294.6	603252.5	10.11	114.6	13.1	126	9.5	91.0	90	2	Horizon C	Back Scatter	V5N
1	HC-133-1	11/13/2015	684236.1	603230.2	9.14	124.7	11.3	126	9.5	99.0	90	2	Horizon C	Back Scatter	V5N
1	HC-134-1	11/13/2015	684173.7	603204.1	9.17	120.2	11	126	9.5	95.4	90	2	Horizon C	Back Scatter	V5N
1	HC-135-1	11/13/2015	684223.3	603252.6	8.92	120	11.5	126	9.5	95.2	90	2	Horizon C	Back Scatter	V5N
1	HC-136-1	11/13/2015	684264.7	603275	9.06	128.5	10.45	126	9.5	102.0	90	2	Horizon C	Back Scatter	V5N
1	HC-137-1	11/13/2015	684206.1	603237.7	9.16	118.4	10.5	126	9.5	94.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1	11/13/2015	684160.6	603231.8	7.70	110.2	12.4	126	9.5	87.5	90	2	Horizon C	SF-138-1R (Page 2)	V5N
1	HC-14-1	11/13/2015	685422.6	601647.6	15.13	117.4	9.9	126	9.5	93.2	90	1	Horizon C	Back Scatter	V5N
1	HC-15-1	11/13/2015	684443.2	601689.6	15.42	117.3	9.9	126	9.5	93.1	90	1	Horizon C	Back Scatter	V5N
1	CS-106-1	11/17/2015	684477.6	602852.8	7.70	117.5	8.0	117	8.6	100.4	90	5	GDL Cover Soil		V5N
1	CS-107-1	11/17/2015	684525.2	602897.0	7.36	108.0	4.3	117	8.6	92.3	90	5	GDL Cover Soil		V5N
1	CS-108-1	11/17/2015	684553.4	602948.7	15.71	123.4	7.5	117	8.6	105.5	90	5	GDL Cover Soil		V5N
1	CS-109-1	11/17/2015	684499.0	602921.5	14.74	119.4	5.9	117	8.6	102.1	90	5	GDL Cover Soil		V5N
1	HC-118-1	11/17/2015	684353.8	603000.7	10.34	113.6	11.1	126	9.5	90.2	90	4	Horizon C	Back Scatter	V5N
1	HC-119-1	11/17/2015	684385.6	603051.8	11.10	120.1	12.4	126	9.5	95.3	90	4	Horizon C	Back Scatter	V5N
1	HC-120-1	11/17/2015	684417.3	603086.2	12.07	128.7	10.9	126	9.5	102.1	90	4	Horizon C	Back Scatter	V5N
1	HC-121-1	11/17/2015	684363.8	603008.5	10.29	116.5	8.3	126	9.5	92.5	90	4	Horizon C	Back Scatter	V5N
1	HC-122-1	11/17/2015	684319.6	603062.6	9.47	115.4	10.1	126	9.5	91.6	90	3	Horizon C	Back Scatter	V5N
1	HC-123-1	11/17/2015	684343.7	603110.5	10.08	122.0	12.0	126	9.5	96.8	90	3	Horizon C	Back Scatter	V5N
1	HC-124-1	11/17/2015	684373.8	603148.2	10.36	116.8	9.5	126	9.5	92.7	90	3	Horizon C	Back Scatter	V5N
1	HC-125-1	11/17/2015	684322.9	603123.8	9.85	113.4	11.3	126	9.5	90.0	90	3	Horizon C	Back Scatter	V5N
1	HC-126-1	11/17/2015	684294.5	603104.5	9.33	113.7	9.7	126	9.5	90.2	90	3	Horizon C	Back Scatter	V5N
1	HC-127-1	11/17/2015	684344.3	603150.7	10.16	118.9	11.6	126	9.5	94.4	90	3	Horizon C	Back Scatter	V5N
1	HC-129-1R	11/17/2015	684276.4	603183.7	9.24	113.4	9.2	126	9.5	90.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1R	11/17/2015	684162.8	603230.4	7.91	114.8	10.3	126	9.5	91.1	90	2	Horizon C	Back Scatter	V5N
1	HC-108-1	11/19/2015	684536.2	902967.2	18.62	113.4	10.0	126	9.5	90.0	90	5	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
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1	HC-109-1	11/19/2015	684492.9	602930.4	18.27	127.2	10.0	126	9.5	101.0	90	5	Horizon C	Back Scatter	V5N
1	HC-110-1	11/19/2015	684449.3	602900.5	14.40	115.7	10.0	126	9.5	91.8	90	5	Horizon C	Back Scatter	V5N
1	HC-111-1	11/19/2015	684475.6	602955.2	16.38	118.6	11.3	126	9.5	94.1	90	4	Horizon C	Back Scatter	V5N
1	HC-112-1	11/19/2015	684507.3	602998.5	16.87	119.2	9.9	126	9.5	94.6	90	4	Horizon C	Back Scatter	V5N
1	HC-113-1	11/19/2015	684452.2	602978.3	14.98	121.1	12.1	126	9.5	96.1	90	4	Horizon C	Back Scatter	V5N
1	HC-114-1	11/19/2015	684397.7	602956.1	12.85	121.5	10.7	126	9.5	96.4	90	4	Horizon C	Back Scatter	V5N
1	HC-115-1	11/19/2015	684428.1	603001.7	13.53	125.5	9.9	126	9.5	99.6	90	4	Horizon C	Back Scatter	V5N
1	HC-116-1	11/19/2015	684461.4	603048.2	14.24	115.4	9.9	126	9.5	91.6	90	4	Horizon C	Back Scatter	V5N
1	HC-117-1	11/19/2015	684402.1	603019.3	12.08	121.6	10.5	126	9.5	96.5	90	4	Horizon C	Back Scatter	V5N
1	SF-12-1	11/19/2015	684485.9	602888.7	15.10	129.8	3.5	133	8.6	97.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-13-1	11/19/2015	684515.4	602913.9	15.90	129.9	4.3	133	8.6	97.7	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-14-1	11/19/2015	684548.8	602937.5	16.40	125.4	3.5	133	8.6	94.3	95	5	Structural Fill -Liberty	SF-14-1R (Page 3)	V5N
1	SF-14-1R	11/19/2015	684548.8	602937.5	16.40	127.3	3.5	133	8.6	95.7	95	5	Structural Fill -Liberty	Re-roll/re-test; D Street-shallow	V5N
1	SF-19-1	11/19/2015	684505.8	602882.5	8.54	129.3	3.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-19-2	11/19/2015	684507.6	602881.4	9.70	126.4	4.4	133	8.6	95.0	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-19-3	11/19/2015	684507.5	602880.7	10.66	131.5	3.7	133	8.6	98.9	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-19-4	11/19/2015	684508.0	602880.1	11.49	131.0	4.7	133	8.6	98.5	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	SF-20-1	11/19/2015	684546.3	602907.6	8.77	129.3	4.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-20-2	11/19/2015	684545.4	602907.4	9.83	129.9	3.2	133	8.6	97.7	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-20-3	11/19/2015	684547.9	602908.6	10.90	130.1	3.5	133	8.6	97.8	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-20-4	11/19/2015	684548.3	602910.0	11.78	129.3	3.5	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-100-1	11/24/2015	684631.4	602847.9	21.61	115.7	8.1	117	8.6	98.9	90	6	GDL Cover Soil		V5N
1	CS-101-1	11/24/2015	684579.4	602829.3	21.00	122.2	5.3	117	8.6	104.4	90	6	GDL Cover Soil		V5N
1	CS-103-1	11/24/2015	684559.4	602849.9	20.50	117.0	4.5	117	8.6	100.0	90	6	GDL Cover Soil		V5N
1	CS-104-1	11/24/2015	684591.9	602894.4	20.26	118.5	6.3	117	8.6	101.3	90	6	GDL Cover Soil		V5N
1	CS-105-1	11/24/2015	684549.1	602875.2	19.46	116.3	8.1	117	8.6	99.4	90	6	GDL Cover Soil		V5N
1	CS-93-1	11/24/2015	684673.4	602728.7	17.07	115.0	9.4	117	8.6	98.3	90	7	GDL Cover Soil		V5N
1	CS-95-1	11/24/2015	684652.5	602744.8	17.71	126.5	5.5	117	8.6	108.1	90	7	GDL Cover Soil		V5N
1	CS-96-1	11/24/2015	684681.1	602793.4	18.36	119.7	6.8	117	8.6	102.3	90	6	GDL Cover Soil		V5N
1	CS-97-1	11/24/2015	684634.5	602782.1	18.43	115.4	6.5	117	8.6	98.6	90	6	GDL Cover Soil		V5N
1	CS-98-1	11/24/2015	684578.8	602757.8	18.44	117.4	6.3	117	8.6	100.3	90	6	GDL Cover Soil		V5N
1	CS-99-1	11/24/2015	684610.9	602806.5	18.70	118.6	6.8	117	8.6	101.4	90	6	GDL Cover Soil		V5N
5	SF-19-5	11/24/2015	684507.1	602879.1	13.03	133.2	5.6	133	8.6	100.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-19-6	11/24/2015	684506.8	602882.9	14.10	131.8	3.7	133	8.6	99.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-19-7	11/24/2015	684510.4	602881.3	15.06	130.9	4.2	133	8.6	98.4	95	5	Structural Fill -Liberty	Location added to D Street	V5N
5	SF-20-5	11/24/2015	684546.9	602907.7	12.52	126.8	6.7	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-20-6	11/24/2015	684545.9	602910.3	13.50	133.1	4.7	133	8.6	100.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-20-7	11/24/2015	684540.5	602910.5	14.48	129.1	4.7	133	8.6	97.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-102-1	12/8/2015	684522.1	602789.6	9.92	119.0	9.9	117	8.6	101.7	90	6	GDL Cover Soil		V5N
1	CS-86-1	12/8/2015	684691.4	602613.8	6.27	120.7	8.5	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-87-1	12/8/2015	684741.0	602650.3	9.32	120.8	8.7	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-88-1	12/8/2015	684774.1	602700.3	8.44	122.0	9.4	117	8.6	104.3	90	7	GDL Cover Soil		V5N
1	CS-89-1	12/8/2015	684713.8	602685.9	19.10	113.6	5.5	117	8.6	97.1	90	7	GDL Cover Soil		V5N
1	CS-90-1	12/8/2015	684663.9	602654.3	15.96	115.2	6.4	117	8.6	98.5	90	7	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-91-1	12/8/2015	684668.9	602109.2	19.40	113.2	8.2	117	8.6	96.8	90	7	GDL Cover Soil		V5N
1	CS-92-1	12/8/2015	684729.2	602749.3	16.89	117.9	7.2	117	8.6	100.8	90	7	GDL Cover Soil		V5N
1	CS-94-1	12/8/2015	684610.2	602684.0	7.41	116.3	9.6	117	8.6	99.4	90	7	GDL Cover Soil		V5N
1	HC-100-1	12/8/2015	684624.6	602844.3	22.22	116.6	10.6	126	9.5	92.5	90	6	Horizon C	Back Scatter	V5N
1	HC-101-1	12/8/2015	684579.3	602829.2	21.65	128.5	9.0	126	9.5	102.0	90	6	Horizon C	Back Scatter	V5N
1	HC-102-1	12/8/2015	684517.4	602793.0	10.54	115.0	11.3	126	9.5	91.3	90	6	Horizon C	Back Scatter	V5N
1	HC-103-1	12/8/2015	684558.5	602852.7	20.94	121.1	10.2	126	9.5	96.1	90	6	Horizon C	Back Scatter	V5N
1	HC-104-1	12/8/2015	684589.0	602899.7	20.69	119.1	11.1	126	9.5	94.5	90	6	Horizon C	Back Scatter	V5N
1	HC-105-1	12/8/2015	684547.5	602874.7	20.00	114.1	12.6	126	9.5	90.6	90	6	Horizon C	Back Scatter	V5N
1	HC-106-1	12/8/2015	684488.5	602824.5	11.23	117.5	10.4	126	9.5	93.3	90	5	Horizon C	Back Scatter	V5N
1	HC-97-1	12/8/2015	684634.5	602785.1	19.13	113.4	10.4	126	9.5	90.0	90	6	Horizon C	Back Scatter	V5N
1	HC-98-1	12/8/2015	684580.8	602761.3	19.04	114.9	10.3	126	9.5	91.2	90	6	Horizon C	Back Scatter	V5N
1	HC-99-1	12/8/2015	684613.8	602809.7	19.33	115.5	9.6	126	9.5	91.7	90	6	Horizon C	Back Scatter	V5N
1	SF-10-1	12/8/2015	684712.0	602632.9	8.47	146.3	3.0	133	8.6	110.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
1	SF-11-1	12/8/2015	684764.1	602680.4	9.70	138.2	4.8	133	8.6	103.9	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-12-2	12/8/2015	684486.5	602887.8	16.20	132.2	7.3	133	8.6	99.4	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-12-3	12/8/2015	684483.4	602896.1	17.66	129.1	8.2	133	8.6	97.1	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-13-2	12/8/2015	684519.0	602908.4	17.00	127.7	6.0	133	8.6	96.0	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-13-3	12/8/2015	684517.8	602915.5	18.34	130.7	6.3	133	8.6	98.3	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-14-2	12/8/2015	684545.3	602935.8	17.44	127.2	6.6	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-14-3	12/8/2015	684538.7	602936.2	18.35	127.2	7.0	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
8	SF-19-8	12/8/2015	684511.3	602878.7	16.16	133.8	6.3	133	8.6	100.6	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-19-9	12/8/2015	684512.4	602884.5	17.40	120.8	7.0	133	8.6	90.8	95	5	Structural Fill -Liberty	SF-19-9R (Page 4)	V5N
9	SF-19-9R	12/8/2015	684512.0	602884.0	17.40	130.2	7.4	133	8.6	97.9	95	5	Structural Fill -Liberty	Re-test lift after rolling	V5N
8	SF-20-8	12/8/2015	684559.3	602906.9	15.66	127.8	7.6	133	8.6	96.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-20-9	12/8/2015	684559.5	602915.7	17.27	126.7	7.4	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-10-2	12/10/2015	684716.8	602639.7	9.79	132.4	6.0	133	8.6	99.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-10-3	12/10/2015	684718.1	602641.1	10.74	129.7	3.0	133	8.6	97.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-11-2	12/10/2015	684763.0	602675.2	10.41	130.5	6.0	133	8.6	98.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3	12/10/2015	684762.5	602675.9	11.33	125.7	3.0	133	8.6	94.5	95	7	Structural Fill -Liberty	SF-11-3R (Page 4)	V5N
4	SF-10-4	12/14/2015	684719.5	602644.8	11.71	126.4	1.9	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-10-5	12/14/2015	684713.2	602644.6	12.77	126.4	2.5	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-10-6	12/14/2015	684716.5	602649.2	13.99	126.5	3.4	133	8.6	95.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3R	12/14/2015	684762.0	602675.0	11.33	126.4	1.5	133	8.6	95.0	95	7	Structural Fill -Liberty	Re-test lift after rolling	V5N
4	SF-11-4	12/14/2015	684761.3	602678.2	12.57	127.9	2.1	133	8.6	96.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-11-5	12/14/2015	684770.8	602673.9	13.60	126.6	3.2	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-11-6	12/14/2015	684762.3	602666.3	14.54	126.6	3.9	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
7	SF-10-7	12/15/2015	684716.8	602641.2	15.03	131.0	5.3	133	8.6	98.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-10-8	12/15/2015	684716.0	602649.9	16.07	126.7	3.3	133	8.6	95.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-10-9	12/15/2015	684719.3	602639.9	16.86	128.9	5.7	133	8.6	96.9	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
7	SF-11-7	12/15/2015	684765.3	602680.3	15.76	126.3	3.4	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-11-8	12/15/2015	684762.4	602675.2	16.71	128.1	5.7	133	8.6	96.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-11-9	12/15/2015	684752.5	602686.1	16.86	130.0	7.4	133	8.6	97.7	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
5	SF-10-5R	3/6/2016	684712.8	602643.3	13.55	108.2	2.5	112.2	9.7	96.4	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
4	SF-10-4R	3/16/2016	684708.7	602643.3	12.47	111.6	2.8	112.2	9.7	99.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
4	SF-11-4R	3/16/2016	684760.2	602681.4	12.15	112.0	2.5	112.2	9.7	99.8	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
5	SF-11-5R	3/16/2016	684748.8	602679.9	13.15	108.0	2.4	112.2	9.7	96.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-10-6R	3/17/2016	684707.5	602634.2	15.23	109.5	2.3	112.2	9.7	97.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-10-7R	3/17/2016	684716.6	602642.7	16.50	114.0	3.2	112.2	9.7	101.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-11-6R	3/17/2016	684750.5	602661.5	15.23	107.3	2.2	112.2	9.7	95.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-11-7R	3/17/2016	684750.3	602672.5	16.40	115.4	2.5	112.2	9.7	102.9	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
1	CS-12-1R	4/14/2016	685504.9	601673	17.30	121.5	8.7	117	8.6	103.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-16-1R	4/14/2016	685457.6	601721.7	16.30	117.9	7.8	117	8.6	100.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-17-1R	4/14/2016	685434.6	601718.5	14.70	122.5	8.0	117	8.6	104.7	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-18-1R	4/14/2016	685395.1	601714.8	17.20	120.3	5.3	117	8.6	102.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-19-1	4/14/2016	685414.3	601758.3	17.20	120.6	5.6	117	8.6	103.1	90	8	GDL Cover Soil		V5N
1	CS-20-1	4/14/2016	685421.8	601782.3	17.30	122.8	7.0	117	8.6	105.0	90	8	GDL Cover Soil		V5N
1	CS-21-1	4/14/2016	685388.8	601769.3	17.40	120.0	6.8	117	8.6	102.6	90	8	GDL Cover Soil		V5N
1	CS-22-1	4/14/2016	685341.2	601751.2	17.60	119.0	8.0	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-23-1	4/14/2016	685366.5	601794.2	18.10	121.4	4.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-24-1	4/14/2016	685390.4	601829.7	18.20	114.8	6.0	117	8.6	98.1	90	8	GDL Cover Soil		V5N
1	CS-25-1	4/14/2016	685348.8	601819.2	19.00	121.5	7.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-26-1	4/14/2016	685305.2	601804.9	19.30	117.9	5.4	117	8.6	100.8	90	9	GDL Cover Soil		V5N
1	CS-27-1	4/14/2016	685325.1	601846.4	16.90	120.3	7.0	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-28-1	4/15/2016	685354.8	601891.6	16.00	125.7	6.8	117	8.6	107.4	90	12	GDL Cover Soil		V5N
1	CS-29-1	4/15/2016	685310.4	601883.3	19.60	120.1	7.3	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-30-1	4/15/2016	685259.5	601859.9	17.30	120.9	6.7	117	8.6	103.3	90	12	GDL Cover Soil		V5N
1	CS-31-1	4/15/2016	685289.6	601902.5	19.60	125.3	7.4	117	8.6	107.1	90	12	GDL Cover Soil		V5N
1	HC-08-1	4/15/2016	685535.1	601617.9	17.00	115.8	9.8	126	9.8	91.9	90	1	Horizon C	Back Scatter	V5N
1	HC-09-1	4/15/2016	685492.6	601603.4	17.10	116.4	9.7	126	9.5	92.4	90	1	Horizon C	Back Scatter	V5N
1	HC-12-1	4/15/2016	685500.6	601671.6	17.90	115.1	9.4	126	9.5	91.3	90	1	Horizon C	Back Scatter	V5N
1	HC-16-1	4/15/2016	685457.5	601729.1	16.80	120.2	9.4	126	9.5	95.4	90	1	Horizon C	Back Scatter	V5N
1	SF-04-01	4/18/2016	685309.3	601839.5	14.50	107.5	1.7	112.2	9.7	95.8	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-04-02	4/18/2016	685311.3	601840.4	16.00	110.5	1.6	112.2	9.7	98.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
3	SF-04-03	4/18/2016	685289.9	601837.7	17.60	108.1	1.8	112.2	9.7	96.3	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-05-01	4/18/2016	685325.3	601867.3	18.00	114.9	2.0	112.2	9.7	102.4	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-06-01	4/18/2016	685357.4	601889.1	17.50	111.6	2.0	112.2	9.7	99.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
4	SF-04-04	4/20/2016	685294.4	601842.4	19.10	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-05-02	4/20/2016	685320.8	601866.4	19.70	107.7	2.0	112.2	9.7	96.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-06-02	4/20/2016	685348.9	601890.6	19.50	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	HC-17-01	4/20/2016	685432.8	601721.6	15.20	122.4	9.5	126	9.5	97.1	90	1	Horizon C	Back Scatter	V5N
1	HC-18-01	4/20/2016	685393.5	601712.7	17.70	117.2	10.2	126	9.5	93.0	90	1	Horizon C	Back Scatter	V5N
1	HC-19-01	4/20/2016	685419.8	601751.3	15.30	117.4	9.5	126	9.5	93.2	90	8	Horizon C	Back Scatter	V5N
1	HC-20-01	4/20/2016	685423.4	601782.8	17.80	125.8	8.8	126	9.5	99.8	90	8	Horizon C	Back Scatter	V5N
1	HC-21-01	4/20/2016	685383.0	601770.6	18.20	127.3	8.9	126	9.5	101.0	90	8	Horizon C	Back Scatter	V5N
1	HC-22-01	4/20/2016	685340.2	601758.3	18.30	118.4	8.6	126	9.5	94.0	90	8	Horizon C	Back Scatter	V5N
1	HC-23-01	4/20/2016	685366.4	601793.6	18.50	122.2	8.8	126	9.5	97.0	90	8	Horizon C	Back Scatter	V5N
1	HC-24-01	4/20/2016	685392.1	601831.1	18.90	119.7	8.4	126	9.5	95.0	90	8	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-25-01	4/20/2016	685351.7	601822.1	19.40	129.8	9.2	126	9.5	103.0	90	8	Horizon C	Back Scatter	V5N
1	HC-26-01	4/20/2016	685303.8	601806.5	19.90	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-27-01	4/20/2016	685361.7	601845.0	19.70	121.0	9.0	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	CS-01-01	4/20/2016	685552.1	601486.2	16.40	111.2	9.0	117	8.6	95.1	90	10	GDL Cover Soil		V5N
1	CS-02-01	4/20/2016	685571.4	601519.1	18.50	120.5	9.1	117	8.6	103.0	90	10	GDL Cover Soil		V5N
1	CS-47-01	4/22/2016	685133.2	602127.9	6.50	117.0	8.6	117	8.6	100.0	90	13	GDL Cover Soil	B Street Corridor	V5N
1	CS-48-01	4/22/2016	685161.9	602170.3	7.10	115.8	8.4	117	8.6	99.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	CS-49-01	4/22/2016	685114.8	602135.6	6.40	111.2	8.4	117	8.6	95.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	HC-05-01	4/22/2016	685511.7	601549.5	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	HC-06-01	4/22/2016	685479.0	601533.4	15.00	119.7	8.0	126	9.5	95.0	90	1	Horizon C	Back Scatter	V5N
1	HC-07-01	4/22/2016	685514.3	601578.6	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	SF-01-01	4/22/2016	685510.3	601523.6	16.60	107.7	8.0	112.2	9.7	96.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01	4/22/2016	685547.6	601542.6	18.30	102.0	8.1	112.2	9.7	90.9	95	10	Structural Fill - Tilcon	SF-02-01R (Page 6)	V5N
1	SF-03-01	4/22/2016	685585.2	601572.6	18.20	106.6	8.2	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01R	4/22/2016	685547.6	601542.6	18.30	106.6	8.1	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive; reroll and retes	V5N
1	HC-04-01	4/26/2016	685586.2	601559.0	19.40	117.5	9.1	126	9.5	93.3	90	10	Horizon C	Back Scatter	V5N
1	HC-02-01	4/26/2016	685575.9	601519.7	19.30	114.2	10.6	126	9.5	90.6	90	10	Horizon C	Back Scatter	V5N
1	HC-03-01	4/26/2016	685531.2	601505.9	17.90	124.3	8.1	126	9.5	98.7	90	10	Horizon C	Back Scatter	V5N
1	HC-01-01	4/26/2016	685554.0	601483.2	16.80	114.7	9.6	126	9.5	91.0	90	10	Horizon C	Back Scatter	V5N
2	SF-01-02	4/26/2016	685512.5	601525.3	17.50	118.2	7.0	112.2	9.7	105.3	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-02-02	4/26/2016	685553.1	601555.1	18.90	114.9	4.7	112.2	9.7	102.4	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-03-02	4/26/2016	685577.3	601575.2	19.30	120.3	4.9	112.2	9.7	107.2	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	CS-32-01	4/26/2016	685305.2	601932.9	19.50	117.6	7.2	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-33-01	4/26/2016	685271.2	601934.8	19.60	117.0	10.6	117	8.6	100.0	90	12	GDL Cover Soil		V5N
1	CS-34-01	4/26/2016	685225.8	601921.4	19.80	117.7	9.8	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-35-01	4/26/2016	685251.7	601967.3	19.30	117.6	10.5	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-36-01	4/26/2016	685269.0	601997.3	18.80	114.6	9.7	117	8.6	97.9	90	12	GDL Cover Soil		V5N
1	SF-07-01	4/26/2016	685096.6	606106.8	7.10	130.5	6.2	112.2	9.7	116.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-08-01	4/26/2016	685131.5	602130.1	7.40	129.9	5.8	112.2	9.7	115.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-09-01	4/26/2016	685163.1	602153.3	7.60	127.8	5.7	112.2	9.7	113.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-07-02	4/26/2016	685098.7	602108.8	7.90	124.6	4.8	112.2	9.7	111.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-08-02	4/26/2016	685134.0	602134.2	8.20	116.8	3.7	112.2	9.7	104.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-09-02	4/26/2016	685173.6	602160.2	8.60	128.1	5.5	112.2	9.7	114.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-07-03	4/27/2016	685096.6	602106.8	9.40	113.2	2.8	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-08-03	4/27/2016	685131.5	602133.6	9.60	112.5	3.2	112.2	9.7	100.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-09-03	4/27/2016	685168.9	602159.4	10.00	116.2	2.9	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-07-04	4/28/2016	685089.9	602105.5	10.40	107.2	4.7	112.2	9.7	95.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-08-04	4/28/2016	685130.3	602135.1	10.50	108.4	2.6	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-09-04	4/28/2016	685158.3	602159.3	10.80	110.9	3.7	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-07-05	4/28/2016	658087.4	602109.5	11.30	106.9	4.6	112.2	9.7	95.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-08-05	4/28/2016	685126.7	602137.8	11.60	115.8	3.2	112.2	9.7	103.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-09-05	4/28/2016	685164.5	602163.5	11.50	112.6	3.3	112.2	9.7	100.4	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-37-01	4/28/2016	685234.1	601983.7	18.80	121.7	8.8	117	8.6	104.0	90	12	GDL Cover Soil		V5N
1	CS-38-01	4/28/2016	685185.5	601970.6	18.70	116.6	6.7	117	8.6	99.7	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-39-01	4/28/2016	685213.8	602102.2	18.20	122.0	8.3	117	8.6	104.3	90	12	GDL Cover Soil		V5N
1	CS-40-01	4/28/2016	685227.8	602065.5	17.70	119.1	8.7	117	8.6	101.8	90	12	GDL Cover Soil		V5N
1	CS-41-01	4/28/2016	685193.2	602041.5	17.40	120.0	10.9	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-42-01	4/28/2016	685152.5	602025.7	17.30	119.6	8.9	117	8.6	102.2	90	13	GDL Cover Soil		V5N
6	SF-07-06	4/29/2016	658082.9	602108.5	12.26	114.3	2.7	112.2	9.7	101.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-08-06	4/29/2016	685136.5	602126.5	12.47	110.8	2.4	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-09-06	4/29/2016	685146.5	602166.6	12.35	113.3	2.4	112.2	9.7	101.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-28-01	4/29/2016	685334.6	601903.6	19.80	119.8	9.5	126	9.5	95.1	90	12	Horizon C	Back Scatter	V5N
1	HC-29-01	4/29/2016	685294.7	601866.8	20.20	128.7	8.4	126	9.5	102.1	90	12	Horizon C	Back Scatter	V5N
1	HC-30-01	4/29/2016	685258.9	601854.0	17.80	114.7	10.7	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-31-01	4/29/2016	685286.1	601905.7	20.20	124.7	9.2	126	9.5	99.0	90	12	Horizon C	Back Scatter	V5N
1	HC-32-01	4/29/2016	685294.9	601951.8	19.90	124.5	8.7	126	9.5	98.8	90	12	Horizon C	Back Scatter	V5N
1	HC-33-01	4/29/2016	685267.6	601932.2	20.10	114.7	10.2	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-35-01	4/29/2016	685251.4	601960.8	19.80	113.7	10.5	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
7	SF-07-07	5/2/2016	685098.9	602107.7	13.20	113.7	2.2	112.2	9.7	101.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-08-07	5/2/2016	685131.4	602134.6	13.40	113.2	3.4	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-09-07	5/2/2016	685141.4	602154.3	13.20	113.0	2.1	112.2	9.7	100.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-07-08	5/2/2016	685090.8	602099.0	14.20	119.6	4.0	112.2	9.7	106.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-08-08	5/2/2016	685126.1	602130.8	14.50	116.2	2.6	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-09-08	5/2/2016	685060.5	602159.1	14.00	117.3	3.4	112.2	9.7	104.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-43-01	5/2/2016	685178.7	602060.3	17.20	119.7	10.1	117	8.6	102.3	90	13	GDL Cover Soil		V5N
1	CS-44-01	5/2/2016	685227.7	602065.5	17.70	115.8	7.3	117	8.6	99.0	90	13	GDL Cover Soil		V5N
1	CS-45-01	5/2/2016	685152.4	602803.2	17.60	114.5	7.1	117	8.6	97.9	90	13	GDL Cover Soil		V5N
1	CS-46-01	5/2/2016	685108.7	602067.4	15.00	109.9	7.8	117	8.6	93.9	90	13	GDL Cover Soil		V5N
1	HC-34-01	5/2/2016	685227.3	601914.0	20.50	117.5	10.3	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-36-01	5/2/2016	685269.4	601989.1	19.50	119.1	11.1	126	9.5	94.5	90	12	Horizon C	Back Scatter	V5N
1	HC-37-01	5/2/2016	685232.0	601988.5	19.30	115.0	9.8	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-38-01	5/2/2016	685181.9	601969.6	19.30	113.7	11.7	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
1	HC-39-01	5/2/2016	685213.9	602004.5	18.70	116.0	8.9	126	9.5	92.1	90	12	Horizon C	Back Scatter	V5N
1	HC-40-01	5/2/2016	685226.0	602151.1	18.10	125.0	10.0	126	9.5	99.2	90	12	Horizon C	Back Scatter	V5N
1	HC-41-01	5/2/2016	685199.7	602037.5	18.00	120.1	10.4	126	9.5	95.3	90	12	Horizon C	Back Scatter	V5N
9	SF-07-09	5/5/2016	685008.1	602099.3	14.90	120.0	3.5	112.2	9.7	107.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-08-09	5/5/2016	685134.3	602127.7	15.00	123.4	3.2	112.2	9.7	110.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-09-09	5/5/2016	685169.3	602144.8	14.90	115.7	4.2	112.2	9.7	103.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-07-10	5/5/2016	685087.7	602155.6	16.50	120.4	4.4	112.2	9.7	107.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-08-10	5/5/2016	685117.3	602137.9	16.60	111.9	3.8	112.2	9.7	99.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-09-10	5/5/2016	685155.3	602167.4	16.30	107.8	3.1	112.2	9.7	96.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-42-01	5/5/2016	685157.1	602028.8	17.80	117.3	11.6	126	9.5	93.1	90	13	Horizon C	Back Scatter	V5N
1	HC-43-01	5/5/2016	685169.9	602065.8	17.80	117.2	12.1	126	9.5	93.0	90	13	Horizon C	Back Scatter	V5N
1	HC-44-01	5/5/2016	685193.6	602102.8	18.00	124.0	11.7	126	9.5	98.4	90	13	Horizon C	Back Scatter	V5N
1	HC-45-01	5/5/2016	685166.2	602112.5	18.40	123.3	10.3	126	9.5	97.9	90	13	Horizon C	Back Scatter	V5N
1	HC-46-01	5/5/2016	685107.4	602064.3	15.40	125.5	11.6	126	9.5	99.6	90	13	Horizon C	Back Scatter	V5N
1	HC-47-01	5/5/2016	685140.2	602092.3	18.30	121.2	9.2	126	9.5	96.2	90	13	Horizon C	Back Scatter	V5N
1	CS-50-01	5/11/2016	685060.3	602129.0	16.00	114.9	9.2	117	8.6	98.2	90	14	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-51-01	5/11/2016	685095.6	602173.6	18.80	115.3	9.2	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-52-01	5/11/2016	685118.1	602212.6	18.30	116.9	9.2	117	8.6	99.9	90	14	GDL Cover Soil		V5N
1	CS-53-01	5/11/2016	685077.2	602198.8	18.80	115.3	9.8	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-54-01	5/11/2016	685018.9	602196.7	19.40	113.0	8.8	117	8.6	96.6	90	14	GDL Cover Soil		V5N
1	CS-55-01	5/11/2016	685037.7	602225.0	16.90	112.7	13.2	117	8.6	96.3	90	14	GDL Cover Soil		V5N
1	CS-57-01	5/11/2016	685029.4	602258.5	17.50	116.7	11.6	117	8.6	99.7	90	14	GDL Cover Soil		V5N
1	CS-58-01	5/11/2016	684989.3	602236.4	20.10	117.6	9.4	117	8.6	100.5	90	14	GDL Cover Soil		V5N
1	CS-59-01	5/11/2016	685005.7	602278.3	17.80	119.0	11.8	117	8.6	101.7	90	14	GDL Cover Soil		V5N
1	CS-61-01	5/11/2016	684990.1	602311.3	18.30	112.5	14.7	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-62-01	5/11/2016	684954.1	602272.2	20.80	116.1	9.5	117	8.6	99.2	90	15	GDL Cover Soil		V5N
1	CS-63-01	5/11/2016	684978.4	602338.7	18.70	110.8	6.8	117	8.6	94.7	90	15	GDL Cover Soil		V5N
11	SF-07-11	5/11/2016	685085.8	602102.0	17.60	108.4	2.1	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-08-11	5/11/2016	685120.0	602122.7	17.80	107.5	2.5	112.2	9.7	95.8	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-09-11	5/11/2016	685157.2	602150.4	17.70	109.8	2.6	112.2	9.7	97.9	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
3	SF-01-03	5/11/2016	685512.3	601525.2	19.30	113.1	2.0	112.2	9.7	100.8	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-02-03	5/11/2016	685546.3	601552.4	19.40	116.2	2.4	112.2	9.7	103.6	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-03-03	5/11/2016	685585.6	601575.9	19.30	116.9	2.0	112.2	9.7	104.2	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
1	HC-48-01	5/16/2016	685126.3	602180.8	19.30	114.6	14.9	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-49-01	5/16/2016	685093.4	602149.0	17.00	145.7	9.9	126	9.5	115.6	90	14	Horizon C	Back Scatter	V5N
1	HC-50-01	5/16/2016	685061.4	602128.9	16.50	119.8	13.2	126	9.5	95.1	90	14	Horizon C	Back Scatter	V5N
1	HC-51-01	5/16/2016	685096.6	602178.9	19.30	120.1	11.0	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-52-01	5/16/2016	685119.9	602212.3	18.80	114.5	11.6	126	9.5	90.9	90	14	Horizon C	Back Scatter	V5N
1	HC-53-01	5/16/2016	685054.2	602219.1	19.60	118.1	10.7	126	9.5	93.7	90	14	Horizon C	Back Scatter	V5N
1	HC-54-01	5/16/2016	685019.8	602191.5	19.80	114.2	12.4	126	9.5	90.6	90	14	Horizon C	Back Scatter	V5N
1	HC-55-01	5/16/2016	685054.2	602219.1	19.60	120.1	12.8	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-56-01	5/16/2016	685075.9	602263.9	19.80	116.8	12.7	126	9.5	92.7	90	14	Horizon C	Back Scatter	V5N
1	HC-57-01	5/16/2016	685032.7	602252.7	17.90	118.6	9.8	126	9.5	94.1	90	14	Horizon C	Back Scatter	V5N
1	HC-58-01	5/16/2016	684988.4	602235.8	20.60	114.7	11.1	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-59-01	5/16/2016	685010.1	602267.9	18.10	122.6	8.7	126	9.5	97.3	90	14	Horizon C	Back Scatter	V5N
1	CS-56-01	5/16/2016	685025.1	602299.5	20.30	118.5	11.5	117	8.6	101.3	90	14	GDL Cover Soil		V5N
1	CS-60-01	5/16/2016	685025.9	602329.2	18.00	113.1	11.9	117	8.6	96.7	90	14	GDL Cover Soil		V5N
5	SF-04-05	5/16/2016	685352.5	601871.7	19.40	114.6	1.5	112.2	9.7	102.1	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-05-03	5/16/2016	685321.5	601855.6	19.70	117.7	1.8	112.2	9.7	104.9	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-06-03	5/16/2016	685289.7	601832.8	19.70	108.3	1.4	112.2	9.7	96.5	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
1	CS-64-01	5/18/2016	684999.1	602372.6	18.70	115.6	7.7	117	8.6	98.8	90	15	GDL Cover Soil		V5N
1	CS-65-01	5/18/2016	684995.4	602360.5	18.90	116.5	11.3	117	8.6	99.6	90	15	GDL Cover Soil		V5N
1	CS-66-01	5/18/2016	684907.9	602343.4	19.00	120.8	9.0	117	8.6	103.2	90	15	GDL Cover Soil		V5N
1	CS-67-01	5/18/2016	684935.3	602386.4	18.90	115.3	11.1	117	8.6	98.5	90	15	GDL Cover Soil		V5N
1	CS-68-01	5/18/2016	684960.5	602427.3	18.80	112.6	9.6	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-69-01	5/18/2016	684918.4	602414.4	18.70	114.0	11.0	117	8.6	97.4	90	15	GDL Cover Soil		V5N
1	CS-71-01	5/18/2016	684888.7	602434.3	18.00	116.7	12.4	117	8.6	99.7	90	16	GDL Cover Soil		V5N
1	CS-72-01	5/18/2016	684917.8	602480.4	18.00	117.5	8.8	117	8.6	100.4	90	16	GDL Cover Soil		V5N
1	HC-49-01R	5/18/2016	685093.4	602149.0	17.00	117.5	9.9	126	9.5	93.3	90	14	Horizon C	Back Scatter; re-run test	V5N
1	CS-70-01	5/20/2016	684860.3	602329.6	18.20	111.8	7.6	117	8.6	95.6	90	16	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-73-01	5/20/2016	684869.9	602462.4	17.40	115.6	11.7	117	8.6	98.8	90	16	GDL Cover Soil		V5N
1	CS-74-01	5/20/2016	684821.2	602444.5	16.60	116.4	12.6	117	8.6	99.5	90	16	GDL Cover Soil		V5N
1	CS-75-01	5/20/2016	684852.3	602488.7	16.60	114.2	10.0	117	8.6	97.6	90	16	GDL Cover Soil		V5N
1	HC-60-01	5/20/2016	685036.3	602315.7	18.50	117.4	9.5	126	9.5	93.2	90	15	Horizon C	Back Scatter	V5N
1	HC-61-01	5/20/2016	685958.1	602318.7	19.30	123.7	11.9	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-62-01	5/20/2016	684943.1	602291.6	21.70	116.8	10.2	126	9.5	92.7	90	15	Horizon C	Back Scatter	V5N
1	HC-63-01	5/20/2016	684974.6	602334.4	19.20	116.1	13.3	126	9.5	92.1	90	15	Horizon C	Back Scatter	V5N
1	HC-64-01	5/20/2016	685000.9	602370.5	19.20	116.7	9.4	126	9.5	92.6	90	15	Horizon C	Back Scatter	V5N
1	HC-65-01	5/20/2016	684954.1	602361.6	19.50	120.6	13.2	126	9.5	95.7	90	15	Horizon C	Back Scatter	V5N
1	HC-66-01	5/20/2016	684906.2	602342.6	19.50	114.5	11.8	126	9.5	90.9	90	15	Horizon C	Back Scatter	V5N
1	HC-68-01	5/20/2016	684955.8	602413.4	19.40	120.4	12.5	126	9.5	95.6	90	15	Horizon C	Back Scatter	V5N
1	HC-69-01	5/20/2016	684906.3	602419.1	19.00	123.7	10.1	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-70-01	5/20/2016	684858.7	302396.2	18.70	124.3	11.1	126	9.5	98.7	90	16	Horizon C	Back Scatter	V5N
1	HC-71-01	5/20/2016	684882.1	602433.1	18.50	114.6	13.6	126	9.5	91.0	90	16	Horizon C	Back Scatter	V5N
1	HC-72-01	5/20/2016	684913.9	602473.4	18.60	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	HC-73-01	5/20/2016	684870.2	602464.3	18.00	122.3	12.4	126	9.5	97.1	90	16	Horizon C	Back Scatter	V5N
1	HC-74-01	5/20/2016	684819.9	602423.5	16.90	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	CS-76-01	5/27/2016	684877.8	602531.3	19.20	107.5	6.6	117	8.6	91.9	90	17	GDL Cover Soil		V5N
1	CS-77-01	5/27/2016	684831.7	602514.5	15.90	111.5	9.1	117	8.6	95.3	90	17	GDL Cover Soil		V5N
1	CS-78-01	5/27/2016	684774.7	602493.1	14.40	111.0	8.8	117	8.6	94.9	90	17	GDL Cover Soil		V5N
1	CS-79-01	5/27/2016	684809.3	602541.2	17.60	111.8	6.4	117	8.6	95.6	90	17	GDL Cover Soil		V5N
1	CS-80-01	5/27/2016	684830.6	602582.9	15.20	113.6	9.0	117	8.6	97.1	90	17	GDL Cover Soil		V5N
1	CS-81-01	5/27/2016	684786.1	602567.2	14.90	113.7	8.1	117	8.6	97.2	90	17	GDL Cover Soil		V5N
1	CS-82-01	5/27/2016	684747.7	602551.4	14.30	108.8	8.0	117	8.6	93.0	90	17	GDL Cover Soil		V5N
1	CS-83-01	5/27/2016	684775.8	602598.9	15.40	108.9	8.7	117	8.6	93.1	90	17	GDL Cover Soil		V5N
1	CS-84-01	5/27/2016	684806.4	602648.6	15.30	107.6	10.1	117	8.6	92.0	90	17	GDL Cover Soil		V5N
1	CS-85-01	5/27/2016	684758.7	602624.2	18.20	111.2	7.6	117	8.6	95.0	90	17	GDL Cover Soil		V5N
1	HC-67-01	5/27/2016	684934.5	602386.8	19.50	122.9	10.4	126	9.5	97.5	90	16	Horizon C	Back Scatter	V5N
1	HC-75-01	5/27/2016	684852.9	602485.9	17.20	114.0	7.0	126	9.5	90.5	90	16	Horizon C	Back Scatter	V5N
1	HC-76-01	6/2/2016	684876.3	602531.1	19.70	119.3	9.3	126	9.5	94.0	90	17	Horizon C	Back Scatter	V5N
1	HC-77-01	6/2/2016	684830.6	602514.8	16.40	122.3	8.4	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-78-01	6/2/2016	684776.0	602494.2	15.10	114.4	8.4	126	9.5	90.8	90	17	Horizon C	Back Scatter	V5N
1	HC-79-01	6/2/2016	684810.5	602540.7	18.10	122.2	7.3	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-80-01	6/2/2016	684834.1	602583.5	15.80	121.5	8.2	126	9.5	96.4	90	17	Horizon C	Back Scatter	V5N
1	HC-81-01	6/2/2016	684789.9	602568.2	15.50	122.3	12.2	126	9.5	97.1	90	17	Horizon C	Back Scatter	V5N
1	HC-82-01	6/2/2016	684752.2	602543.1	17.30	126.2	10.2	126	9.5	100.2	90	17	Horizon C	Back Scatter	V5N
1	HC-83-01	6/2/2016	684781.1	602601.8	16.00	118.6	10.2	126	9.5	94.1	90	17	Horizon C	Back Scatter	V5N
1	HC-84-01	6/2/2016	684801.5	602638.4	17.70	124.5	9.3	126	9.5	98.8	90	17	Horizon C	Back Scatter	V5N
1	HC-85-01	6/2/2016	684757.6	602625.7	18.70	121.4	8.7	126	9.5	96.3	90	17	Horizon C	Back Scatter	V5N
1	HC-86-01	6/2/2016	684704.4	602572.9	8.10	126.9	11.6	126	9.5	100.7	90	17	Horizon C	Back Scatter	V5N
1	HC-87-01	6/2/2016	684739.4	602607.5	18.30	124.2	9.8	126	9.5	98.6	90	17	Horizon C	Back Scatter	V5N
1	HC-88-01	6/2/2016	684755.1	602716.9	16.70	113.2	13.2	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
1	HC-89-01	6/2/2016	684729.9	602698.7	19.60	115.7	11.8	126	9.5	91.8	90	7	Horizon C	Back Scatter	V5N
1	HC-90-01	6/2/2016	684676.0	602662.2	19.50	127.3	11.2	126	9.5	101.0	90	7	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT		TEST	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	HC-91-01	6/2/2016	684684.9	602718.4	17.30	120.5	12.8	126	9.5	95.6	90	7	Horizon C	Back Scatter	V5N
1	HC-92-01	6/2/2016	684700.5	602765.4	20.60	113.6	9.3	126	9.5	90.2	90	7	Horizon C	Back Scatter	V5N
1	HC-93-01	6/2/2016	684673.2	602735.5	17.70	116.1	13.6	126	9.5	92.2	90	7	Horizon C	Back Scatter	V5N
1	HC-94-01	6/2/2016	684616.3	602716.8	18.00	125.0	9.4	126	9.5	99.2	90	7	Horizon C	Back Scatter	V5N
1	HC-95-01	6/2/2016	684650.6	602768.2	18.70	120.9	12.6	126	9.5	96.0	90	7	Horizon C	Back Scatter	V5N
1	HC-96-01	6/2/2016	684681.4	602798.3	18.90	113.5	12.7	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
8	SF-10-8R	6/2/2016	684712.5	602638.8	17.50	111.0	1.5	112.2	8.6	99.1	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
8	SF-11-8R	6/2/2016	684758.7	602671.8	17.40	110.5	1.8	112.2	8.6	98.7	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-10-9R	6/2/2016	684715.2	602640.1	18.40	113.7	1.4	112.2	8.6	101.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-11-9R	6/2/2016	684759.7	602673.9	18.40	115.7	1.4	112.2	8.6	103.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
10	SF-19-10	6/15/2016	684509.5	602871.3	18.50	108.3	2.9	112.2	8.6	96.7	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N
10	SF-20-10	6/15/2016	684550.8	602901.1	19.00	108.7	2.6	112.2	8.6	97.0	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N

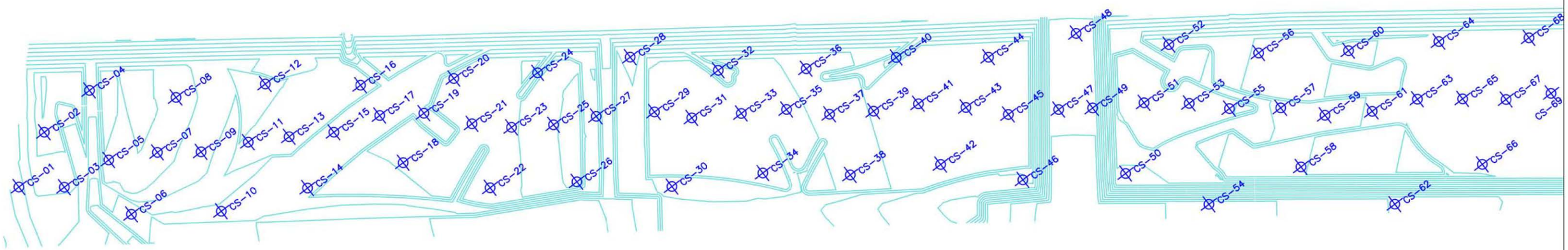
Notes: Maximum Dry Density for Celgene GDL Cover Soil (CS) based on Vertical 5 Northeast Inc Sample ID 12691 approved in Entact Submittal 112B
Maximum Dry Density for 6 inch lift of Horizon C based on Vertical 5 Northeast Inc Sample ID 12934
Maximum Dry Density for Liberty Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 12924 approved in Entact Submittal 117A
Maximum Dry Density for Tilcon Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 13163 approved in Entact Submittal 128
Sample ID CS-1-2 Where:
CS=Cover Soil; HC=Horizon C; SF=Structural Fill
1 = Test Location as noted on Compaction Location Figures
2 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

HC-107 became a Structural Fill test location after the D Street Corridor was widened

2.0 Test Location Drawings

- **GDL Cover Soil**
- **Horizon C**
- **Structural Fill**

SA-6 SOUTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION CS-XX

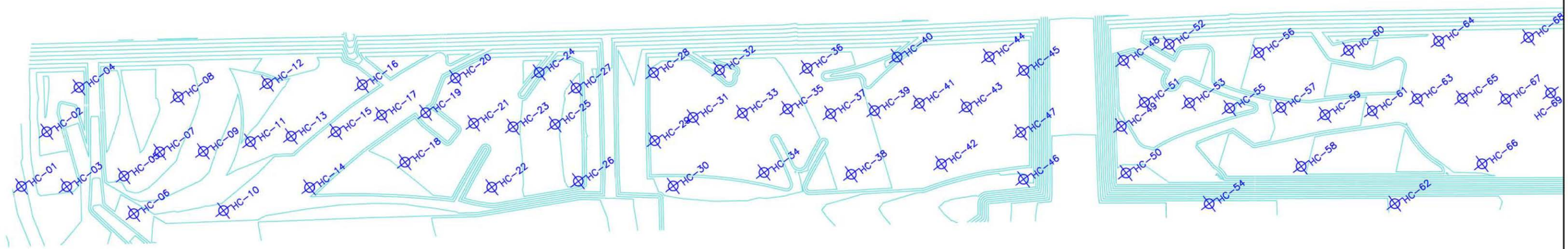
GDL COVER SOIL ELEVATION CONTOURS

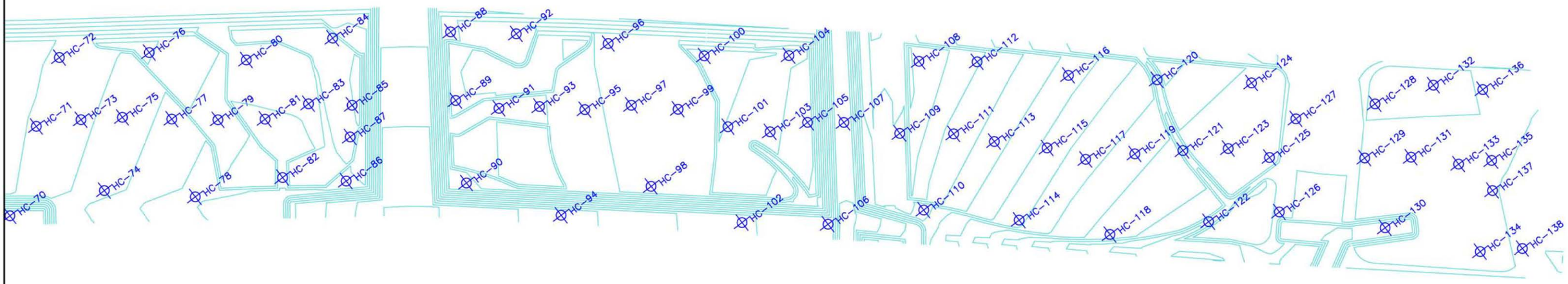
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	GDL COVER SOIL COMPACTION LOCATIONS
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

DRAWN BY	C. CYMBOR	APPROVED BY			
DATE	10/15/15	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

2) HC-107 became a structural fill test location after the D street corridor was widened.

LEGEND:

COMPACTION TEST LOCATION HC-XX

GDL COVER SOIL ELEVATION CONTOURS

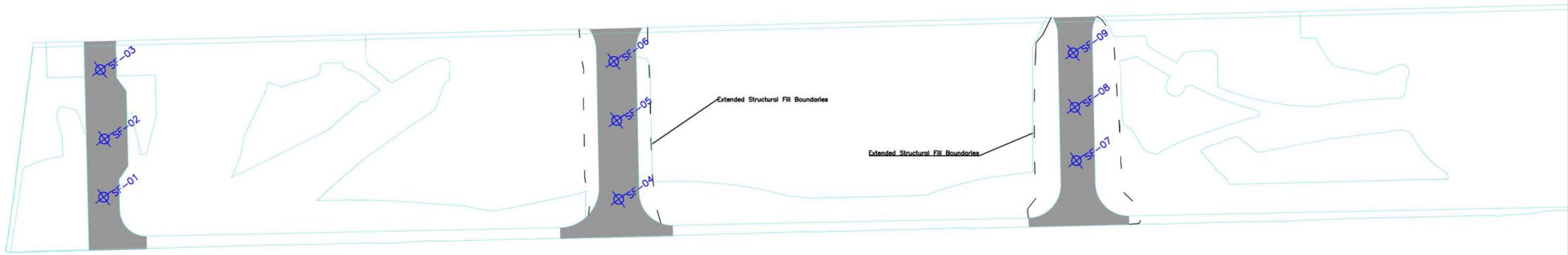
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

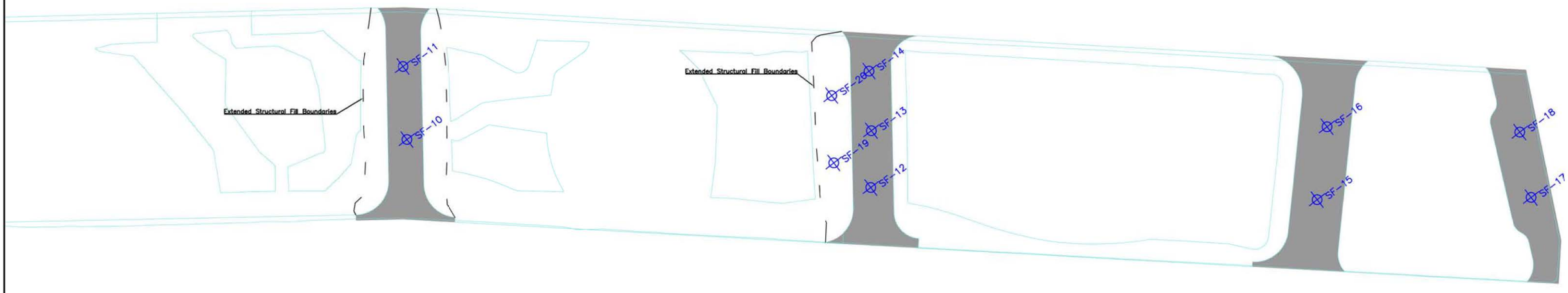
DRAWING NAME: HORIZON C PLANTING SOIL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	06/17/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION SF-XX

PLANTING SOIL BOUNDARIES

STRUCTURAL FILL

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME: STRUCTURAL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	05/19/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

ATTACHMENT D-2

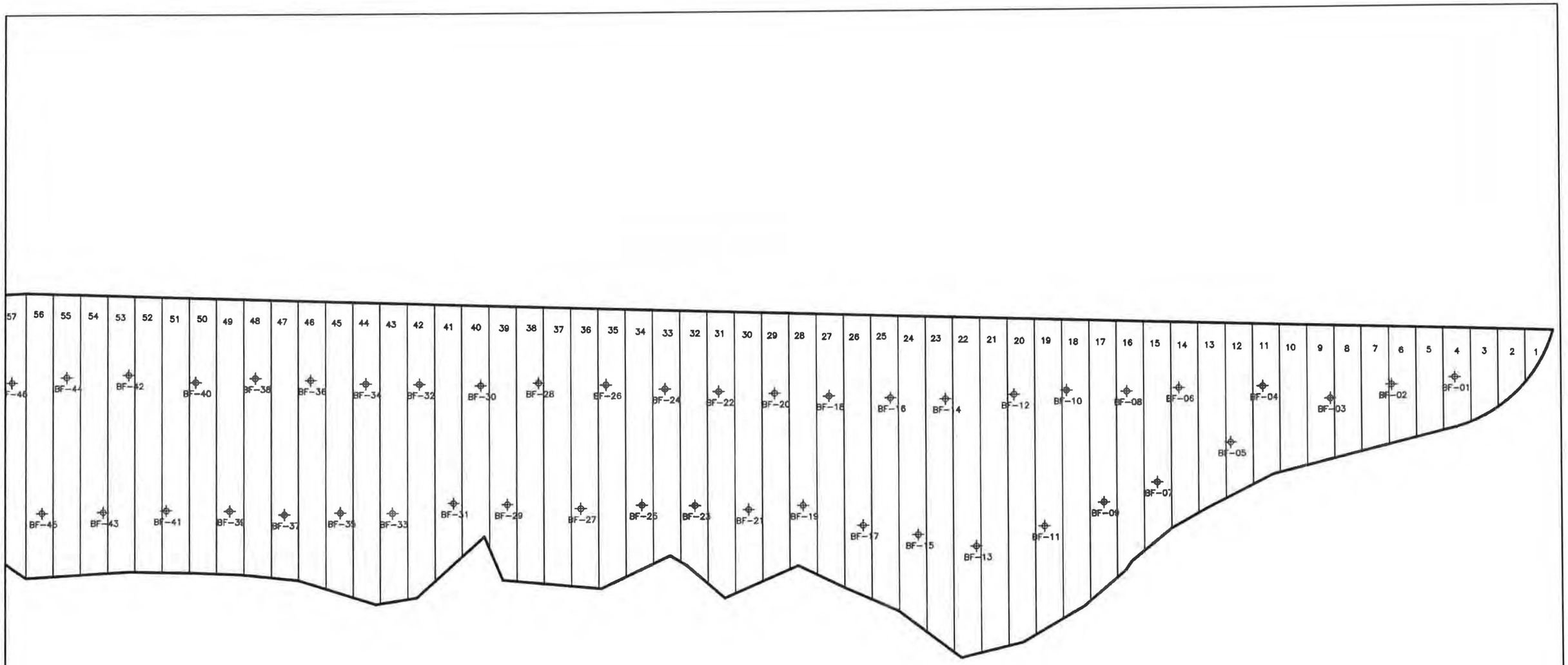
Figure Backfill Compaction Locations BF-01 to B-45

Figure Backfill Compaction Locations BF-46 to BF-94

Figure Backfill Compaction Locations BF-95 to BF-136

Figure Backfill Compaction Locations RF-01 to RF-21

Figure Backfill Compaction Locations RF 22 to RF-39



NOTE:

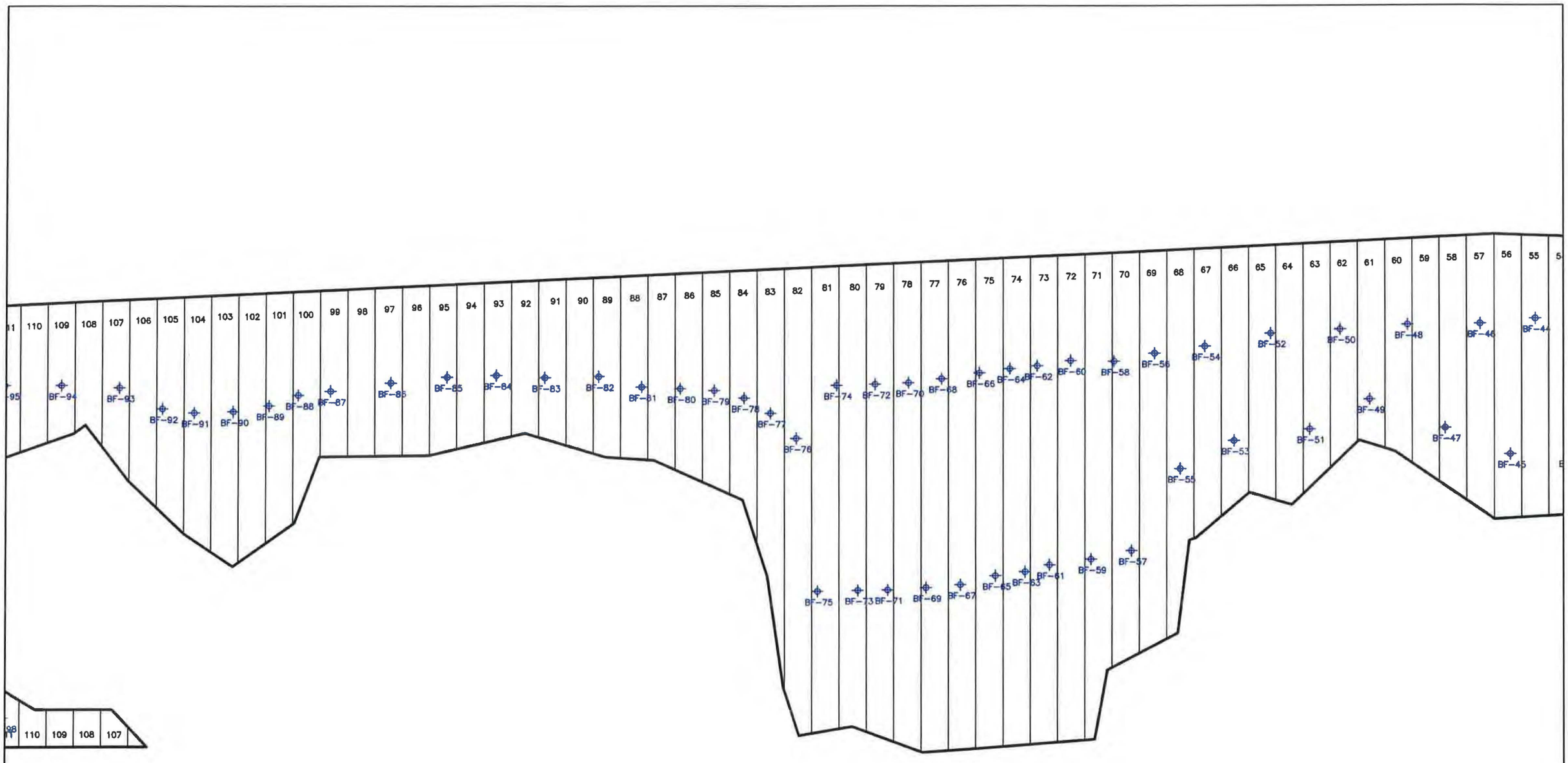
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JN 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-01 TO BF-45

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

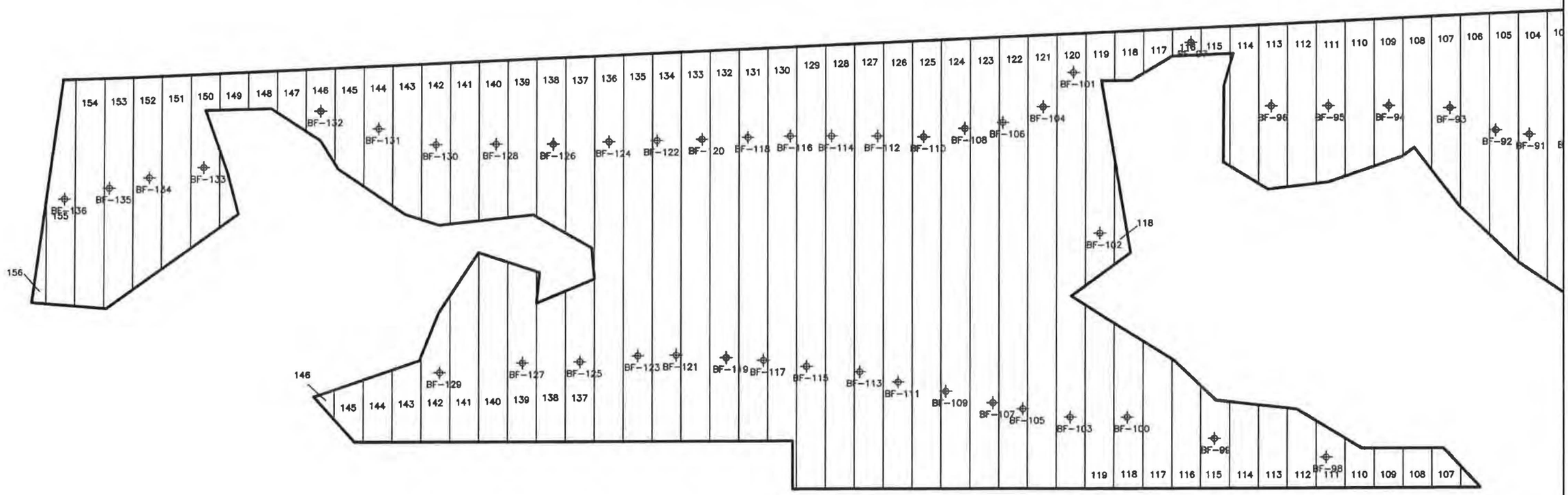
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-46 TO BF-94

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

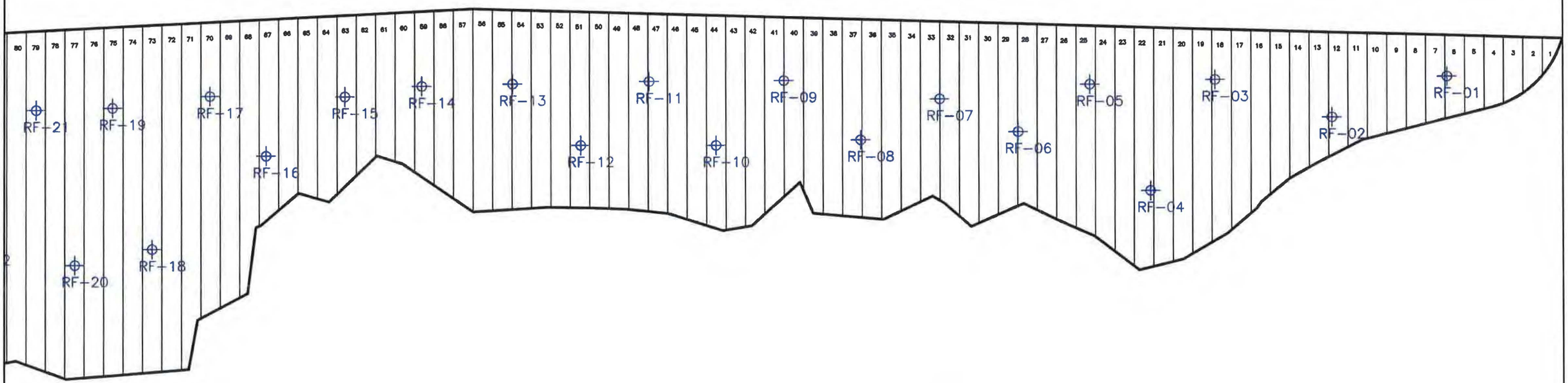
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

						JH	9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

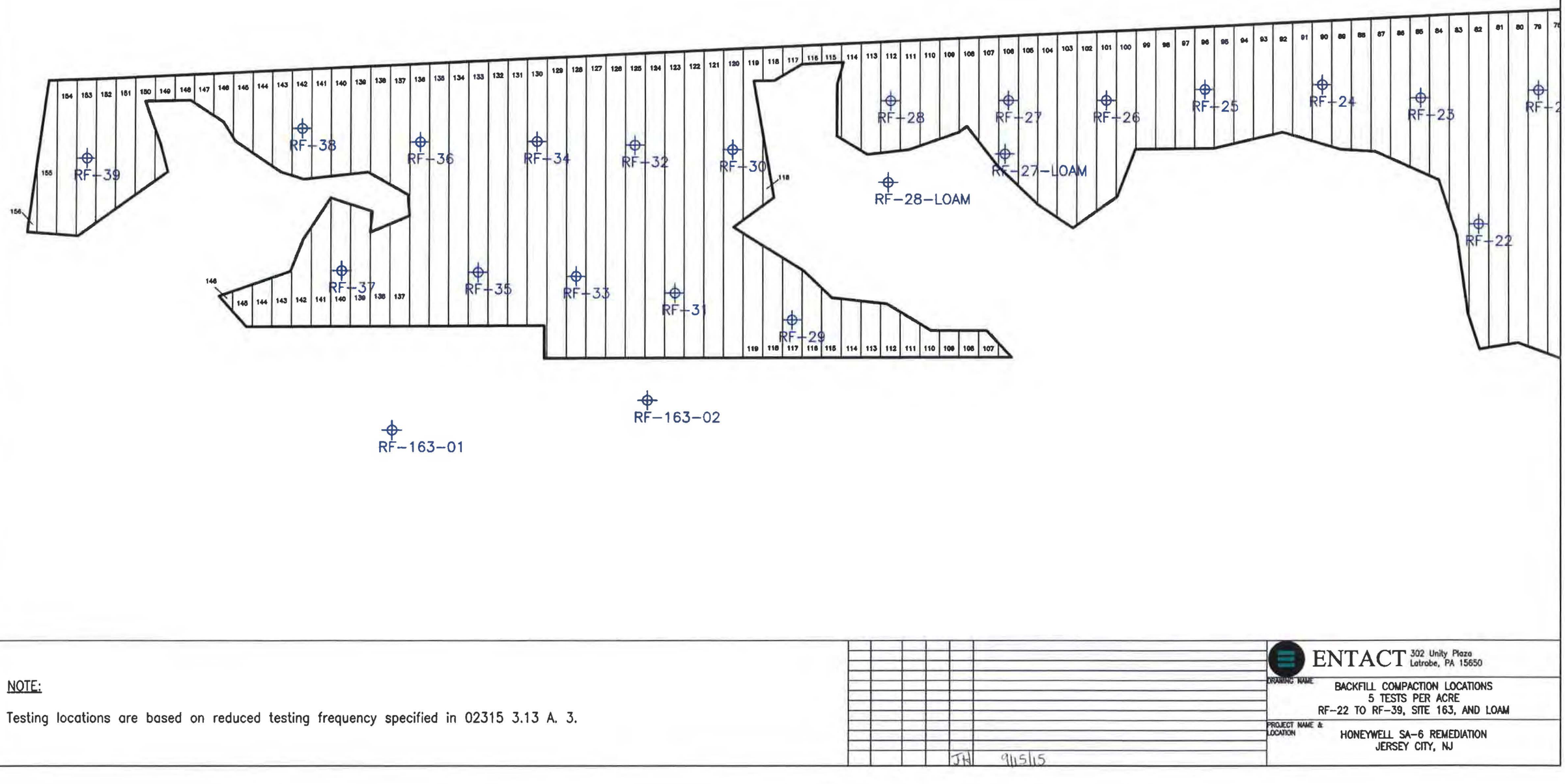
Testing locations are based on reduced testing frequency specified in 02315 3.13 A. 3.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-01 TO RF-21

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 02315 3.13 A. 3.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, SITE 163, AND LOAM

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-3

Field Density Test Summary Log Table (Pages 1 to 7)

Field Density Test Summary Log Table (Pages 1 to 4)

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01*	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02*	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Brid	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again
= Area subject to re-compaction

* *Initial field testing indicated compaction of greater then 95% (see attached Sor Testing Lab (STL) memo). Laboratory results for initially provided Weldon WC QP sample indicated a maximum dry density of 136.7 pcf. Using this density the compaction results are greater than the 95%. Laboratory tests on later deliveries indicated density results of 142.6 pcf. This range is typical of what can be expected for this type of source. The Engineer of Record (EOR) directed that the results be reported using the higher more conservative value and that the STL field test report verifying the higher passing results be attached to the final documentation. It is further noted that the Design Documents do not designate this area for compaction as Structural Fill per Specification Section 02315 Section 3.12, Structural Fill 95%; Non Structural Fill 90% Standard Proctor. The 95% value noted in this Table was implemented to provide for uniform compaction in areas slated for future development. It is the EOR's opinion that these two samples meet the 100% Design and project requirements.*

SOR TESTING LABORATORIES, INC.

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Orhun Sor, P.E.
Yilmaz Arhan, Ph.D.
Kenneth Rowbotham, P.E.
Atilla Sencar, P.E.

This report is the confidential property of the Client, and information
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Client:	Entact Environmental Services		
Project:	Honeywell SA-6, Jersey City NJ		
Subject:	In-Place Density Tests		
Job No.:	13-208	Report No.: 13-1994	Date: 12/3/13

At the request of the client, on November 22, 2013 a field technician from Sor Testing Laboratories, Inc. reported to the project site for the purpose of performing in-place density tests over previously compacted lifts of materials at locations indicated by the client's representative.

Using a nuclear density gauge, our technician performed two density tests at locations 01BF-2 and 02BF-2 per the client's instructions. The proctor value of 136.7 pcf at our optimum moisture content of 8.1% was also provided by the client.

Test results were 97.5% and 95.7% compaction.

Technician: J.C. Jean-Toussaint

Very truly yours,

SOR TESTING LABORATORIES, INC.

Atilla Sencar, P.E.
Senior Engineer

AS/jh
Attachment

cc: (1) Client, Attn: Craig Cymbor (Email: ccymbor@entact.com)
(1) Client, Attn: Caroline Panico (Email: cpanico@entact.com)
(1) Client, Attn: Andrew Rizzuto (Email: arizzuto@entact.com)

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Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Mickus, P.E.

NUCLEAR DENSITY TEST DATA

Client: Entact Date: 11-22-2013
Project: HoneyWell SA-6 Job No.: 13-208 Report No. 13-1994
Daily Standard Count: _____ Density: 1975 Moisture 627

TEST NUMBER	1	X	2	X			
Station							
Offset							
Elevation	01BF-2		02BF-2				
Mode & Depth (inches)	NORMAL/+10"		NORMAL +10"				
Density Count	N/A		N/A				
Wet Density (P.C.F.)	137.8		134.6				
Moisture Count	N/A		N/A				
Dry Density (P.C.F.)	133.3		130.8				
Moisture (P.C.F.)	4.5		3.6				
Moisture (%)	3.4		2.8				
Proctor Density (P.C.F.)	136.7		136.7				
Optimum Moisture (%)							
% Compaction	97.5		95.7				
Moisture Correction							

REMARKS:

Jean C. Jean Mouaint
INSPECTOR

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes: Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again
= Area subject to re-compaction

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

NOTE:
CONTOURS SHOWN HEREON REPRESENT THE CURRENT TOP OF BACKFILL AS SURVEYED BY ENTACT ON 12/29/2014.

AS BUILT BOTTOM OF EXCAVATION LIMIT

MAJOR CONTOUR

MINOR CONTOUR

0 40 80 160
SCALE IN FEET

ENTACT 302 UnRy Plaza Latrobe, PA 15650

DRAWING NAME:
FIGURE 2.1
BACKFILL TOPOGRAPHIC PROGRESS MAP

PROJECT NAME & LOCATION:
HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

JH 9/15/15

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

CONFIRMATORY BOTTOM SAMPLE ELEVATION

CONFIRMATORY SIDEWALL SAMPLE ELEVATION

0.0 POINT ELEVATION

POINT POINT DESCRIPTION

EXCAVATION TO STRATUM D

DESIGN EXCAVATION AREA

DESIGN EXCAVATION LIMIT

0 40 80 160

SCALE IN FEET

J.H. 02/01/16

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

FIGURE 1.2
EXCAVATION CONFIRMATION POINTS

PROJECT NAME & LOCATION

HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

DESIGN EXCAVATION LIMIT

AS BUILT BOTTOM OF EXCAVATION LIMIT

DEFERRED EXCAVATION AREAS (DC 2014-05-19)

0 40 80 160

SCALE IN FEET

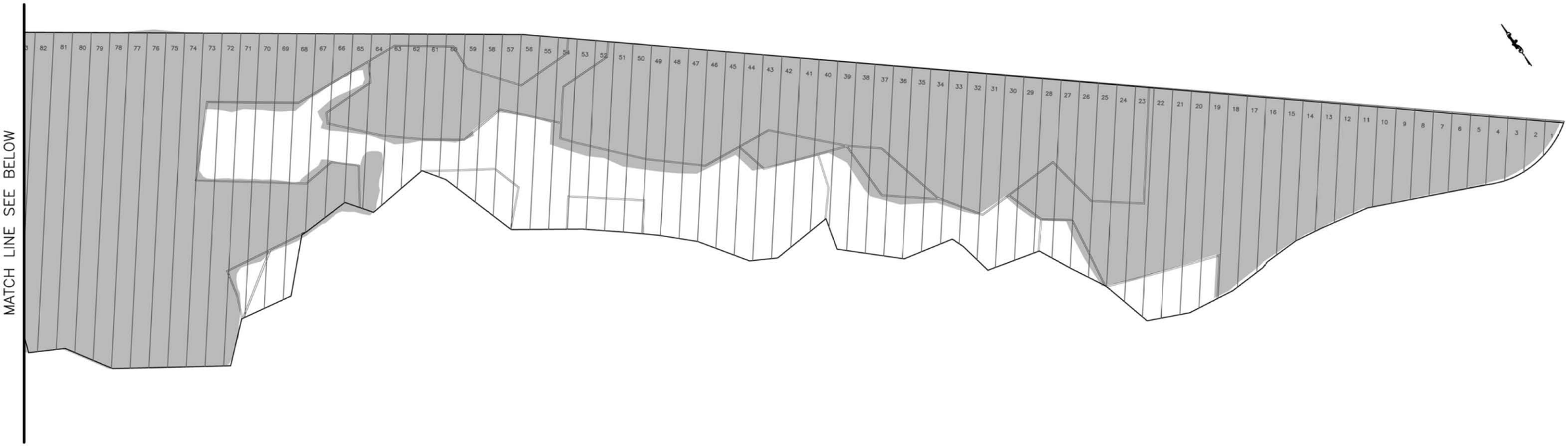
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

FIGURE 1.1
LIMIT OF EXCAVATION MAP

PROJECT NAME & LOCATION

HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ



ENTACT 302 Unity Plaza Latrobe, PA 15650

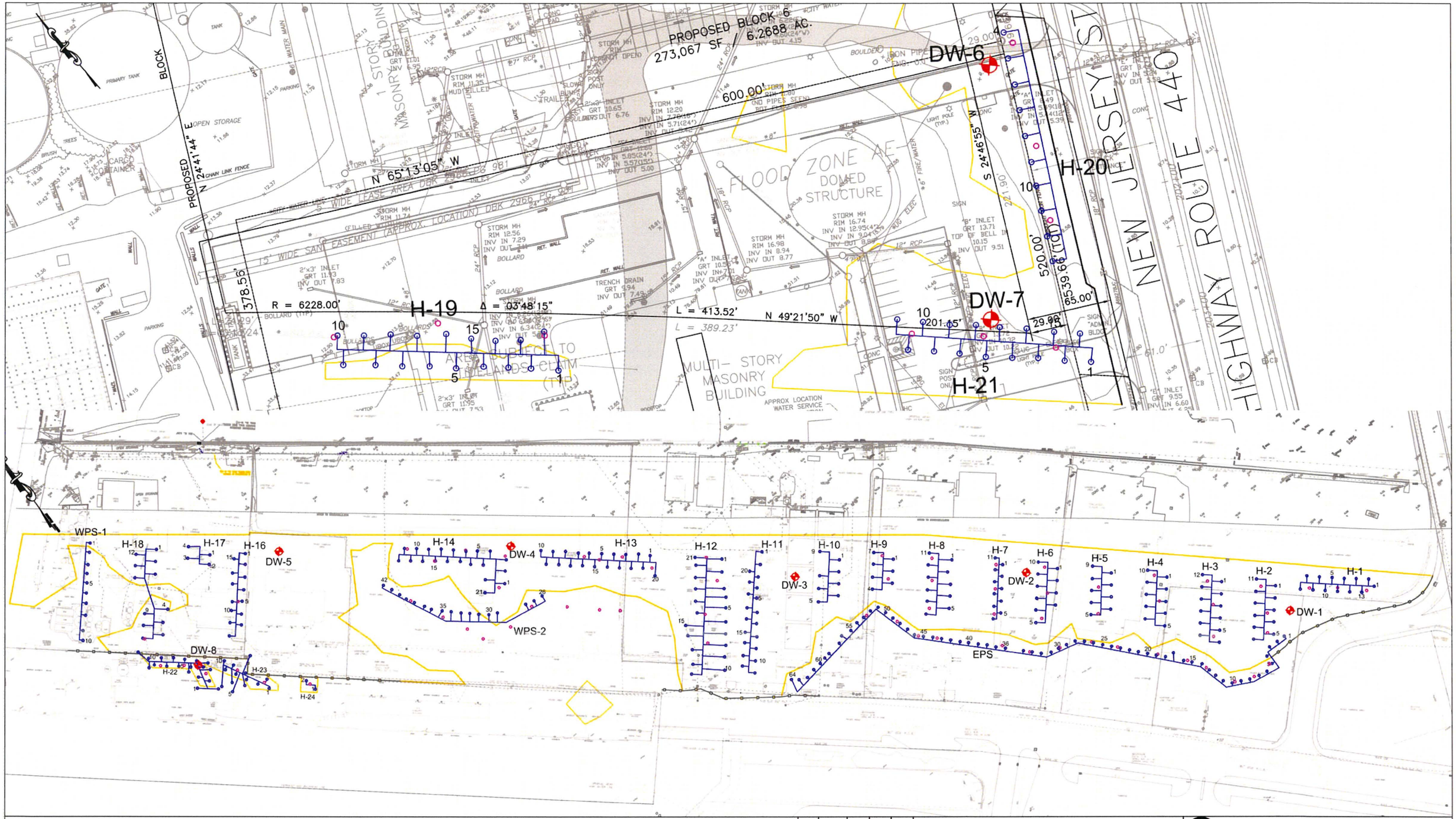
DRAWING NAME

FIGURE 1.3
EXCAVATION CELL LAYOUT

PROJECT NAME & LOCATION

HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

J.H. 02/01/16



LEGEND

- EXCAVATION LIMITS
- DE-WATERING WELLPOINT LOCATION
- SPLIT SPOON SOIL BORING
- TEMPORARY SHEETPILE ALIGNMENT
- DEEP WELL LOCATION

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: HONEYWELL SA-6 EXCAVATION DE-WATERING LAYOUT 03/15/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT B-1

SA-6 SOUTH EXCAVATION CONFIRMATORY POINTS (EAST)

Table 1.0 – 1.8 PDI Locations

Table 2.0 – 2.7 Center Points

Table 3.0 – 3.2 Sidewall

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

* Elevations based on NGVD 1929 Datum. Coordinates are in the New Jersey state plane coordinate system, NAD 1983.

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached
684545.6	602650.2	-3.3	125-SB-038	49	3/20/2014	-3.3	Stratum D Reached
684597.3	602676.1	-3.5	125-SB-037	49	3/25/2014	-2.6	Stratum D Reached
684574.9	602657.9	-3.4	125-SB-039	49	3/25/2014	-3.3	Stratum D Reached
684535.1	602625.9	0.6	125-SB-032	49	3/25/2014	-3.3	Stratum D Reached
684516.6	602611.2	1.1	125-SB-031	49	3/25/2014	0.1	Target Elevation Reached
684511.6	602592.1	-1.0	125-SB-090	50	3/25/2014	-1.3	Target Elevation Reached
684526.0	602608.3	0.4	125-SB-029R	50	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.3	124-SB-136R	50	3/25/2014	-3.6	Stratum D Reached
684514.6	602580.4	-1.0	125-SB-090R	51	3/28/2014	-1.4	Target Elevation Reached
684535.3	602597.8	0.4	125-SB-029R	51	3/28/2014	0.3	Target Elevation Reached
684584.1	602636.9	-2.3	124-SB-136R	51	3/28/2014	-3.0	Stratum D Reached
684619.0	602648.6	-1.5	125-SB-035	52	3/28/2014	-2.5	Stratum D Reached
684596.6	602630.5	-3.6	125-SB-034	52	3/28/2014	-3.0	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684574.5	602612.8	0.7	125-SB-033	52	3/28/2014	-3.4	Stratum D Reached
684556.8	602598.4	0.8	125-SB-030	52	3/28/2014	0.3	Target Elevation Reached
684538.3	602583.7	0.4	125-SB-029	52	3/28/2014	0.4	Target Elevation Reached
684523.8	602562.3	-0.9	125-SB-078	52	3/28/2014	-1.4	Target Elevation Reached
684579.0	602588.0	0.9	125-SB-009	53	4/1/2014	-2.2	Stratum D Reached
684557.0	602576.5	0.4	125-SB-029R	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.0	125-SB-090R	53	4/1/2014	-1.4	Target Elevation Reached
684620.4	602605.9	0.4	125-SB-065	54	4/1/2014	-2.3	Stratum D Reached
684641.2	602623.7	-2.1	125-SB-070	54	4/1/2014	-2.3	Stratum D Reached
684597.0	602588.0	-2.7	125-SB-009A	54	4/1/2014	-2.2	Stratum D Reached
684573.7	602577.0	0.7	125-SB-044	54	4/1/2014	0.3	Target Elevation Reached
684557.6	602564.1	1.2	125-SB-050	54	4/1/2014	0.2	Target Elevation Reached
684632.0	602597.9	-1.4	140-SB-083R	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	125-SB-029R	55	4/4/2014	0.3	Target Elevation Reached
684664.6	602597.6	-3.3	125-SB-071	56	4/4/2014	-2.5	Stratum D Reached
684642.2	602579.5	0.2	125-SB-053	56	4/4/2014	-2.4	Stratum D Reached
684601.1	602556.0	3.1	125-SB-045	56	4/4/2014	0.2	Target Elevation Reached
684583.0	602540.8	0.6	125-SB-066	56	4/4/2014	0.2	Target Elevation Reached
684576.6	602529.9	2.1	125-SB-069	56	4/4/2014	0.2	Target Elevation Reached
684574.5	602511.9	2.1	125-SB-069R	57	4/9/2014	1.6	Target Elevation Reached
684606.0	602536.9	0.4	125-SB-029R	57	4/9/2014	0.1	Target Elevation Reached
684636.4	602554.1	-2.4	125-SB-052	57	4/9/2014	-1.2	Stratum D Reached
684591.8	602507.6	2.1	125-SB-069R	58	4/9/2014	1.5	Target Elevation Reached
684679.9	602578.9	-2.3	125-SB-062	58	4/9/2014	-2.6	Stratum D Reached
684620.0	602524.0	0.6	125-SB-007	58	4/9/2014	0.2	Target Elevation Reached
684600.1	602523.2	0.6	125-SB-049	58	4/9/2014	-0.1	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached
684564.6	602658.9	-2.5	C-49	49	3/25/2014	-3.0	Stratum D Reached
684501.1	602607.9	0.4	C-49-1	49	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.5	C-50	50	3/25/2014	-3.6	Stratum D Reached
684526.0	602608.3	0.4	C-50-1	50	3/25/2014	0.3	Target Elevation Reached
684507.7	602591.7	-1.2	C-50-2	50	3/25/2014	-1.3	Target Elevation Reached
684584.1	602636.9	-2.5	C-51	51	3/28/2014	-3.0	Stratum D Reached
684535.3	602597.8	0.4	C-51-1	51	3/28/2014	0.3	Target Elevation Reached
684514.6	602580.4	-1.2	C-51-2	51	3/28/2014	-1.4	Target Elevation Reached
684596.7	602626.3	-2.5	C-52	52	3/28/2014	-2.9	Stratum D Reached
684547.0	602587.9	0.4	C-52-1	52	3/28/2014	0.2	Target Elevation Reached
684524.8	602569.7	-1.2	C-52-2	52	3/28/2014	-1.3	Target Elevation Reached
684602.1	602612.0	-2.5	C-53	53	4/1/2014	-2.3	Stratum D Reached
684557.0	602576.5	0.4	C-53-1	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.2	C-53-2	53	4/1/2014	-1.4	Target Elevation Reached
684610.8	602599.7	-2.5	C-54	54	4/4/2014	-2.0	Stratum D Reached
684560.2	602558.1	0.4	C-54-1	54	4/4/2014	0.3	Target Elevation Reached
684632.0	602597.9	-2.5	C-55	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	C-55-1	55	4/4/2014	0.3	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684641.4	602586.6	-2.5	C-56	56	4/4/2014	-2.5	Stratum D Reached
684586.1	602541.3	0.4	C-56-1	56	4/4/2014	0.2	Target Elevation Reached
684656.7	602578.2	-2.5	C-57	57	4/9/2014	-2.4	Stratum D Reached
684606.0	602536.9	0.4	C-57-1	57	4/9/2014	0.1	Target Elevation Reached
684574.5	602511.9	2.1	C-57-2	57	4/9/2014	1.6	Target Elevation Reached
684662.3	602565.2	-2.5	C-58	58	4/9/2014	-2.7	Stratum D Reached
684616.2	602527.5	0.4	C-58-1	58	4/9/2014	0.3	Target Elevation Reached
684591.8	602507.6	2.1	C-58-2	58	4/9/2014	1.5	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	0.6	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.6	603009.0	-1.8	124-SB-075	14	11/21/2013	-0.1	Stratum D Reached
684170.5	603030.7	-1.8	124-SB-076	13	11/21/2013	-0.1	Stratum D Reached
684173.5	602976.5	-2.2	124-SB-074	16	12/5/2013	-0.6	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached
684479.5	602597.5	3.7	125-SB-081	49	3/20/2014	0.1	Target Elevation Reached
684495.3	602579.6	0.8	125-SB-091	50	3/25/2014	-1.4	Target Elevation Reached
684499.2	602575.0	2.3	125-SB-080	51	3/28/2014	-1.3	Target Elevation Reached
684513.9	602557.6	0.6	125-SB-092	52	3/28/2014	-1.3	Target Elevation Reached
684519.3	602551.3	2.5	125-SB-079	53	4/1/2014	-1.5	Target Elevation Reached
684552.7	602504.6	3.5	125-SB-087	56	4/4/2014	0.2	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 9/22/15

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

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ATTACHMENT B-2

SA-6 SOUTH EXCAVATION CONFIRMATORY POINTS (WEST)

Table 1.0 – 1.8 PDI Locations

Table 2.0 – 2.7 Center Points

Table 3.0 – 3.2 Sidewall

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

* Elevations based on NGVD 1929 Datum. Coordinates are in the New Jersey state plane coordinate system, NAD 1983.

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-5.5	134-SB-019	114A	12/8/2014	-5.7	Stratum D Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.0	601878.0	0.8	134-SB-057	113A	7/3/2014	-2.0	Stratum D Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.4	601974.0	-3.3	134-SB-061	106A	11/20/2014	-5.7	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.7	601978.2	-7.5	134-SB-113	103	11/20/2014	-7.6	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached
684669.3	602386.6	-0.6	140-SB-070	68	10/21/2014	-2.3	Stratum D Reached
684679.0	602393.0	0.0	140-SB-013	68	10/14/2014	-2.4	Stratum D Reached
684760.1	602448.4	-1.4	140-SB-083R	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	125-SB-029R	68	10/14/2014	0.1	Target Elevation Reached
684629.6	602343.1	5.8	140-SB-033R	68	10/14/2014	3.5	Target Elevation Reached
684749.9	602465.0	-1.4	140-SB-083R	67	10/21/2014	-2.1	Stratum D Reached
684700.0	602423.0	0.8	140-SB-012	67	10/21/2014	-0.1	Target Elevation Reached
684715.4	602440.1	-1.0	140-SB-029	67	10/21/2014	-1.4	Stratum D Reached
684662.8	602394.7	-1.4	140-SB-083R	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-1.4	140-SB-083R	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	125-SB-029R	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	125-SB-073R	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	125-SB-029R	66	10/21/2014	0.1	Target Elevation Reached
684666.6	602417.0	-2.7	140-SB-068	66	10/21/2014	-3.0	Stratum D Reached
684735.5	602488.2	-1.4	140-SB-083R	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	125-SB-029R	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	125-SB-073R	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	125-SB-029R	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-1.4	140-SB-083R	65	10/21/2014	-3.2	Stratum D Reached
684666.2	602452.6	2.5	140-SB-030	64	10/21/2014	-3.4	Stratum D Reached
684735.4	602510.4	-3.6	140-SB-067	64	10/24/2014	-2.3	Stratum D Reached
684713.8	602503.3	4.3	140-SB-028	63	10/27/2014	-2.4	Stratum D Reached
684727.7	602515.9	-2.0	140-SB-104	63	10/27/2014	-2.2	Stratum D Reached
684648.6	602457.4	0.4	125-SB-029R	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	125-SB-073R	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	125-SB-029R	62	10/21/2014	-0.3	Target Elevation Reached
684653.2	602490.5	0.2	125-SB-057	61	10/24/2014	-2.6	Stratum D Reached
684675.4	602508.2	-1.2	125-SB-073	61	10/27/2014	-2.5	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.8)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684697.8	602526.3	-2.2	125-SB-055	61	10/28/2014	-2.9	Stratum D Reached
684707.1	602549.9	-3.4	125-SB-072	61	10/28/2014	-2.8	Stratum D Reached
684639.4	602487.5	0.4	125-SB-029R	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	125-SB-073R	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	125-SB-029R	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	125-SB-069R	60	10/21/2014	1.7	Target Elevation Reached
684678.4	602552.4	-2.4	125-SB-061	59	10/28/2014	-2.9	Stratum D Reached
684615.0	602501.1	0.5	125-SB-048	59	10/21/2014	-0.1	Target Elevation Reached
684633.9	602516.6	0.6	125-SB-046	59	10/24/2014	-2.5	Stratum D Reached
684656.3	602534.7	-1.4	125-SB-074	59	10/27/2014	-2.6	Stratum D Reached
684604.5	602498.0	2.1	125-SB-069R	59	10/21/2014	1.7	Target Elevation Reached
684916.0	601955.0	-0.4	134-SB-026	Area 41	12/10/2014	-2.0	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	Increased excavation depth - UST location
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	Increased excavation depth - UST location
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	Increased excavation depth - UST location

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	0.4	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached
684760.1	602448.4	-2.5	C-68	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	C-68-1	68	10/14/2014	0.1	Target Elevation Reached
684671.6	602375.8	-2.5	C-68-2	68	10/14/2014	-2.2	Stratum D Reached
684629.6	602343.1	5.7	C-68-3	68	10/14/2014	3.5	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.6)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684749.9	602465.0	-2.5	C-67	67	10/21/2014	-2.1	Stratum D Reached
684698.4	602419.3	0.4	C-67-1	67	10/21/2014	-0.2	Target Elevation Reached
684662.8	602394.7	-2.5	C-67-2	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-2.5	C-66	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	C-66-1	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	C-66-2	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	C-66-3	66	10/21/2014	0.1	Target Elevation Reached
684664.0	602411.1	-2.5	C-66-4	66	10/21/2014	-3.1	Stratum D Reached
684735.5	602488.2	-2.5	C-65	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	C-65-1	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	C-65-2	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	C-65-3	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-2.5	C-65-4	65	10/21/2014	-3.2	Stratum D Reached
684713.4	602487.7	-1.2	C-64	64	10/24/2014	-1.8	Stratum D Reached
684653.2	602444.8	0.4	C-64-1	64	10/21/2014	-4.0	Increased excavation depth - UST location
684701.6	602502.1	-1.2	C-63	63	10/27/2014	-2.6	Stratum D Reached
684648.6	602457.4	0.4	C-63-1	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	C-62	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	C-62-1	62	10/21/2014	-0.3	Target Elevation Reached
684689.4	602527.1	-1.2	C-61	61	10/28/2014	-2.7	Stratum D Reached
684639.4	602487.5	0.4	C-61-1	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	C-60	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	C-60-1	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	C-60-2	60	10/21/2014	1.7	Target Elevation Reached
684665.2	602547.7	-1.2	C-59	59	10/27/2014	-2.8	Stratum D Reached
684620.0	602510.0	0.4	C-59-1	59	10/21/2014	-0.1	Target Elevation Reached
684604.5	602498.0	2.1	C-59-2	59	10/21/2014	1.7	Target Elevation Reached
685023.9	601966.6	-2.5	C-104L	104	11/20/2014	-6.9	Stratum D Reached
685033.9	601960.1	-2.5	C-105L	105	11/20/2014	-6.6	Stratum D Reached
685039.4	601938.6	-2.5	C-106L	106	11/20/2014	-6.3	Stratum D Reached
685043.6	601927.9	Stratum D	C-107L	Lens Area	11/25/2014	-6.2	Stratum D Reached
685042.9	601906.9	Stratum D	C-108L	Lens Area	11/25/2014	-6.8	Stratum D Reached
685057.6	601895.2	Stratum D	C-109L	Lens Area	12/8/2014	-6.6	Stratum D Reached
685055.4	601873.1	Stratum D	C-110L	Lens Area	12/8/2014	-7.5	Stratum D Reached
685071.5	601867.1	Stratum D	C-111L	Lens Area	12/8/2014	-7.6	Stratum D Reached
685086.2	601861.8	Stratum D	C-112L	Lens Area	12/8/2014	-7.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.7)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685092.3	601848.6	Stratum D	C-113L	Lens Area	12/8/2014	-7.0	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Expanded Excavation 4
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Expanded Excavation 4
685441.0	601496.0	4.0	073-SB-044	146A	4/24/2014	5.4	Expanded Excavation 3
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685296.0	601562.0	-0.6	073-SB-052	136	5/19/2014	2.1	Expanded Excavation 3
685423.8	601494.3	1.6	073-SB-073	145A	4/24/2014	5.4	Expanded Excavation 3
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685201.0	601844.0	0.9	134-SB-101	118A	6/25/2014	-0.1	Target Elevation Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685178.1	601893.6	-3.0	134-SB-053	114	6/25/2014	-0.1	Expanded Excavation 3
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Expanded Excavation 3
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685095.0	601890.0	2.2	134-SB-075	111A	7/8/2014	-1.6	Expanded Excavation 3
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached

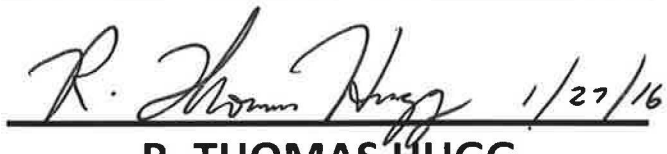
SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685081.0	601928.1	-5.5	134-SB-021	109A	11/25/2014	-5.8	Expanded Excavation 3
685081.0	601936.0	3.0	134-SB-092	108	7/10/2014	-1.6	Expanded Excavation 3
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Expanded Excavation 3
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
684999.6	601940.6	-4.5	134-SB-097	104	11/20/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684869.0	602167.0	-6.4	140-SB-061	87	8/25/2014	-5.9	Expanded Excavation 3
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.2	Stratum D Reached
684626.0	602343.0	6.8	140-SB-014	68	10/14/2014	3.5	Target Elevation Reached
684613.7	602330.2	6.1	140-SB-072	68	10/14/2014	4.5	Target Elevation Reached
684649.1	602367.2	-1.0	140-SB-071	68	10/14/2014	-2.8	Stratum D Reached
684648.1	602370.8	-0.8	140-SB-032	67	10/21/2014	-3.1	Stratum D Reached
684649.1	602409.4	-2.3	140-SB-069	65	10/21/2014	-3.4	Stratum D Reached
684629.1	602423.3	1.5	140-SB-031	64	10/21/2014	-3.5	Stratum D Reached
684633.2	602474.4	0.4	125-SB-058	61	10/21/2014	-0.1	Target Elevation Reached
684616.1	602485.8	3.0	125-SB-068	60	10/21/2014	1.8	Target Elevation Reached
684588.4	602494.2	-3.5	125-SB-119	59	10/21/2014	1.5	Expanded Excavation 3
685087.0	601829.1	-6.0	134-SB-171	Lens Area	12/8/2014	-6.1	Expanded Excavation 4
685053.5	601827.8	-6.5	134-SB-170	Lens Area	12/8/2014	-6.8	Expanded Excavation 4

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.2)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685029.7	601840.0	-5.5	134-SB-175	Lens Area	12/8/2014	-6.7	Expanded Excavation 4
685003.5	601868.2	-5.8	134-SB-177	Lens Area	12/8/2014	-5.9	Expanded Excavation 4
684917.7	601947.9	-1.2	134-SB-087	Area 41	12/10/2014	-2.1	Target Elevation Reached
684936.3	601954.8	-1.2	134-SB-088	Area 41	12/10/2014	-2.4	Target Elevation Reached
684918.0	601975.0	-1.2	134-SB-089	Area 41	12/10/2014	-1.7	Target Elevation Reached
684904.3	601963.0	-1.2	134-SB-090	Area 41	12/10/2014	-1.6	Target Elevation Reached

3 Horizontal and/or vertical expansion of excavation due to visual inspection and analytical sampling resulted in removal of the PDI Sidewall Sample. The objectives of the 100% design and the target excavation limits were achieved.

4 Additional sidewall sample collected and analyzed to establish expanded excavation limit.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.



1/27/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

ATTACHMENT B-3

SA-6 SOUTH EXCAVATION SITE 163 & 60 KELLOGG EXCAVATION

Table 1.0 PDI Locations

Table 3.0 Sidewall

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
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www.maserconsulting.com

SA-6 South Excavation (Site 163): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685185.6	601432.8	5.8	163-SB-107	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685169.6	601446.1	6.0	163-SB-020	N/A	10/30/2014	4.8	Area 43 - Target Elevation Reached
685102.9	601588.4	5.2	163-SB-015	N/A	10/30/2014	4.9	Area 163 - Target Elevation Reached
685125.0	601586.5	6.3	163-SB-043	N/A	10/30/2014	5.7	Area 163 - Target Elevation Reached
685037.6	601660.2	4.5	163-SB-010	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685029.9	601632.6	5.2	163-SB-013	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685028.1	601625.3	6.8	163-SB-064	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685064.3	601635.5	4.9	163-SB-112	N/A	11/5/2014	4.9	Area 163 - Target Elevation Reached
685069.7	601654.2	5.0	163-SB-011	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685054.7	601600.3	3.6	163-SB-063	N/A	10/31/2014	3.5	Area 163 - Target Elevation Reached
685062.5	601603.2	4.6	163-SB-014	N/A	10/31/2014	3.4	Area 163 - Target Elevation Reached
685100.1	601617.6	5.3	163-SB-012	N/A	10/31/2014	3.7	Area 163 - Target Elevation Reached
684984.0	601680.9	5.5	163-SB-101	N/A	11/7/2014	5.0	Area 163 - Target Elevation Reached
684997.7	601696.5	5.5	163-SB-093	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685012.8	601711.3	5.6	163-SB-092	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685001.4	601739.4	6.6	163-SB-086	N/A	11/7/2014	4.8	Area 163 - Target Elevation Reached
684854.7	601827.8	5.7	163-SB-008	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684889.4	601833.1	6.2	163-SB-072	N/A	11/12/2014	4.7	Area 163 - Target Elevation Reached
684901.6	601758.2	7.6	163-SB-065	N/A	11/12/2014	4.0	Area 163 - Target Elevation Reached
684913.3	601758.5	5.7	163-SB-009	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684943.7	601757.2	5.9	163-SB-073	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684970.6	601767.7	3.3	163-SB-007	N/A	11/12/2014	3.1	Area 163 - Target Elevation Reached
684970.3	601782.2	3.3	163-SB-060	N/A	11/12/2014	2.6	Area 163 - Target Elevation Reached
684784.2	602004.7	4.9	163-SB-114	N/A	12/12/2014	4.0	Area 42 - Target Elevation Reached
684779.6	601989.9	4.8	163-SB-003	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684756.5	602015.6	5.8	163-SB-108	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Elevations based on NGVD 1929 Datum. Coordinates are in the New Jersey state plane coordinate system, NAD 1983.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685197.1	601418.1	5.2	163-SB-097	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685181.4	601455.3	6.0	163-SB-035	N/A	10/30/2014	5.1	Area 43 - Target Elevation Reached
685158.1	601437.3	7.0	163-SB-061	N/A	10/30/2014	8.9	Area 43 - Deferred to preserve Bulk Head 2
685160.1	601457.8	7.5	163-SB-036	N/A	10/30/2014	4.6	Area 43 - Target Elevation Reached
685026.9	601624.6	7.8	163-SB-076	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685045.9	601596.1	7.9	163-SB-077	N/A	10/31/2014	3.2	Area 163 - Target Elevation Reached
685072.2	601547.5	7.1	163-SB-062	N/A	10/30/2014	3.6	Area 163 - Target Elevation Reached
684993.2	601662.1	6.4	163-SB-100	N/A	11/7/2014	4.2	Area 163 - Target Elevation Reached
684961.1	601691.9	7.3	163-SB-113	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
684871.6	601791.8	5.6	163-SB-066	N/A	11/12/2014	7.2	Area 163 - Deferred to preserve Bulk Head 2
684893.3	601758.8	5.6	163-SB-085	N/A	11/12/2014	4.8	Area 163 - Target Elevation Reached
684929.4	601730.4	5.2	163-SB-084	N/A	11/12/2014	5.0	Area 163 - Target Elevation Reached
684891.6	601853.5	6.9	163-SB-051	N/A	11/12/2014	4.5	Area 163 - Target Elevation Reached
684852.1	601829.3	5.6	163-SB-052	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684843.0	601829.0	5.6	163-SB-067	N/A	11/12/2014	6.8	Area 163 - Deferred to preserve Bulk Head 2
684797.0	601966.1	5.7	163-SB-069	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684807.5	602016.1	5.9	134-SB-146	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684750.1	602027.2	6.4	163-SB-091	N/A	12/12/2014	4.5	Area 42 - Target Elevation Reached
684747.0	601998.4	6.0	163-SB-058	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684751.6	601971.2	5.6	163-SB-071	N/A	12/12/2014	4.2	Area 42 - Target Elevation Reached
685138.0	601563.6	6.2	163-SB-078	N/A	12/22/2014	4.7	Area 163-1 - Target Elevation reached
685083.7	601558.5	6.0	163-SB-017	N/A	12/22/2014	4.3	Area 163-1 - Target Elevation reached
685165.5	601546.0	6.5	163-SB-080	N/A	12/22/2014	5.6	Area 163-1 - Target Elevation reached

2 Work adjacent the bulkhead had been deferred and will be completed in accordance with the Consent Order Consolidating the 100% Design for Study Area 6 North and Study Area 6 South filed into the court on July 9, 2013.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades.

R. Thomas Hugg 1/26/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

MASER CONSULTING P.A.

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www.maserconsulting.com

SA-6 South: Site 163 Chrome Excavation (2016): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
685069.7	601654.2	-3.0	163-SB-011	1/15/2016	-3.2	Target Elevation Reached
685102.9	601588.4	-6.7	163-SB-015	1/19/2016	-6.8	Target Elevation Reached
685184.5	601554.4	-6.7	163-SB-104	2/12/2016	-7.1	Target Elevation Reached
685186.5	601509.2	-8.0	163-SB-016	2/19/2016	-8.3	Target Elevation Reached 2
685247.3	601467.8	-6.6	163-SB-105	2/19/2016	-7.1	Target Elevation Reached*

* The PDI Target Depth was -6.6 ft. The excavation Design Bottom was set conservatively at -6.8 ft. The excavation bottom was surveyed at -7.1 ft.

SA-6 South: Site 163 Chrome Excavation (2016): Sidewall Confirmatory Points (Table 2.0)

Sidewall Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
685138.0	601563.6	-5.3	163-SB-078	1/19/2016	-6.9	Target Elevation Reached
685165.5	601546.0	-3.5	163-SB-080	2/12/2016	-7.1	Target Elevation Reached
685201.0	601525.8	-5.0	163-SB-019	2/19/2016	-7.1	Target Elevation Reached
685207.2	601503.5	-3.0	163-SB-037	2/19/2016	-7.1	Target Elevation Reached
685247.6	601452.5	-5.2	163-SB-021	2/19/2016	-7.2	Target Elevation Reached

1 This is the actual elevation of the PDI sample included with the approved Figure 1 - Site 163 Additional Chromium Excavation Areas dated 9/22/15.

2 Elevation -8.3 ft. was coincidental with the top of Stratum D.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points Table 2 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades.



4/14/16

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SA-6 South: 60 Kellogg Excavation (2016): Post Excavation Points (Table 1.0)

Bottom Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
684474.8	602542.4	6.3	125-SB-312	6/10/2016	6.2	Target Elevation Reached

SA-6 South: 60 Kellogg Excavation (2016): Sidewall Post Excavation Points (Table 2.0)

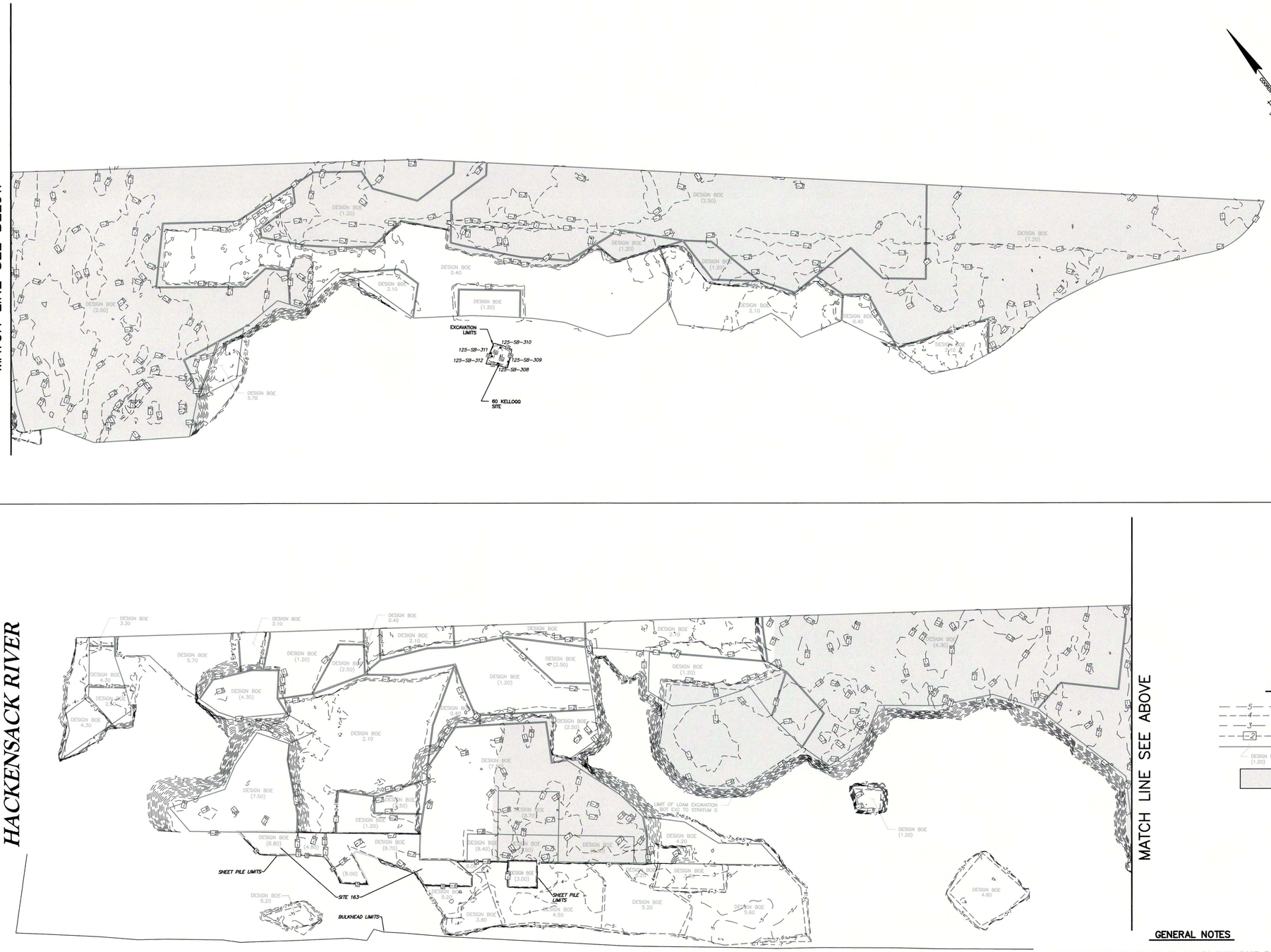
Sidewall Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
684465.7	602542.9	6.0	125-SB-308	6/10/2016	6.0	Target Elevation Reached
684460.7	602551.9	6.8	125-SB-309	6/10/2016	6.7	Target Elevation Reached
684476.4	602554.5	6.0	125-SB-310	6/10/2016	6.0	Target Elevation Reached
684477.8	602543.5	6.4	125-SB-311	6/10/2016	6.4	Target Elevation Reached

1 This is the actual elevation of the samples that were collected post excavation (6/2/16).

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Post Excavation Points depicted in Table 1, Post Excavation Sidewall Points Table 2 are correct, and representative of the as-built post-excavation grades.

R. Thomas Hugg 6/17/16

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737



GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 SOUTH, SITE 163 & SITE 60 KELLOGG EXCAVATION AREAS AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 10/23/13 THROUGH 12/22/14, 1/4/16 THROUGH 3/4/16 & 6/10/16. POST EXCAVATION SURFACES AND CONTOURS WERE GENERATED BY ENTACT AND CONFIRMED BY MASER CONSULTING P.A. WITH MINOR ADJUSTMENTS.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	REVISION	BY	APVD
3	7/30/16	UPDATED DESIGN BOE LIMITS	BSB	RTH
2	7/12/16	ADDED SITE 163 DATA & 60 KELLOGG TOPO	BSB	RTH
1	3/13/15	REVISED PER CLIENT COMMENTS 3/4/15	BSB	RTH

DSGN BSB | DR | CHK JR | APVD RTH

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
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CIVIL
EXCAVATION PLAN

FILE NUMBER
XXXXX

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

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(609) 890 - 2929

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PROJ	3480-10-0027
DWG	C-111
SHEET	1 OF 1

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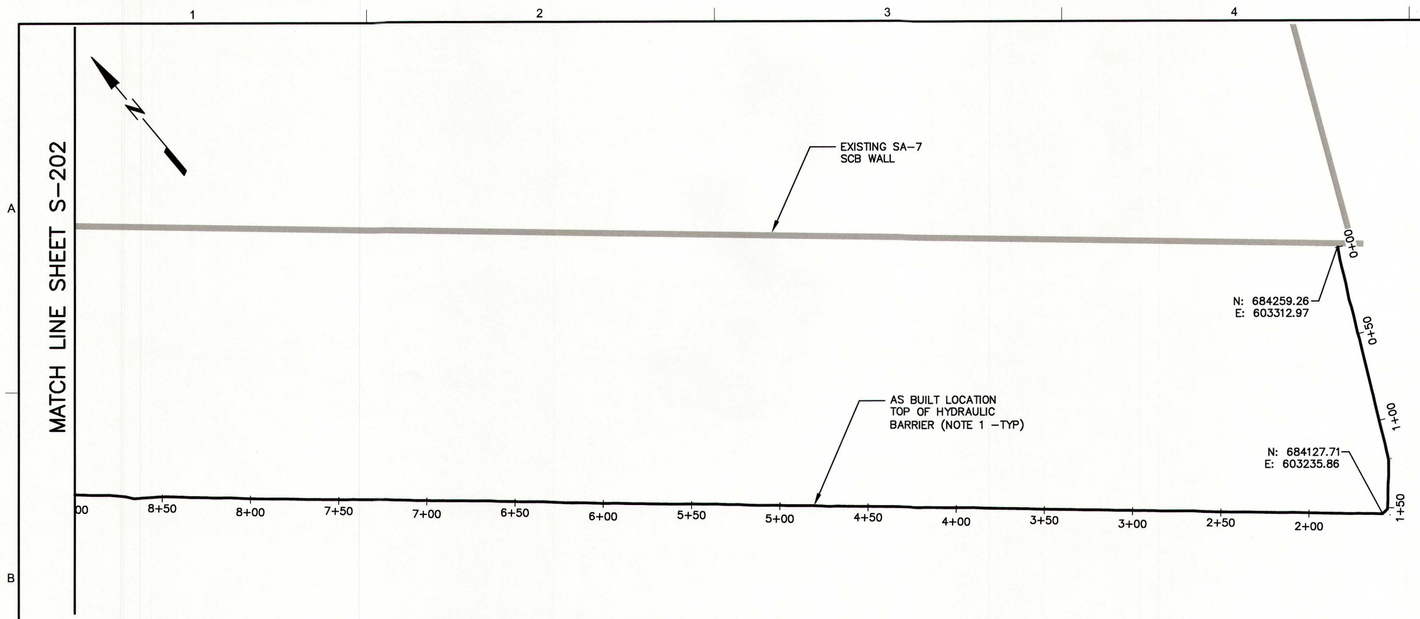
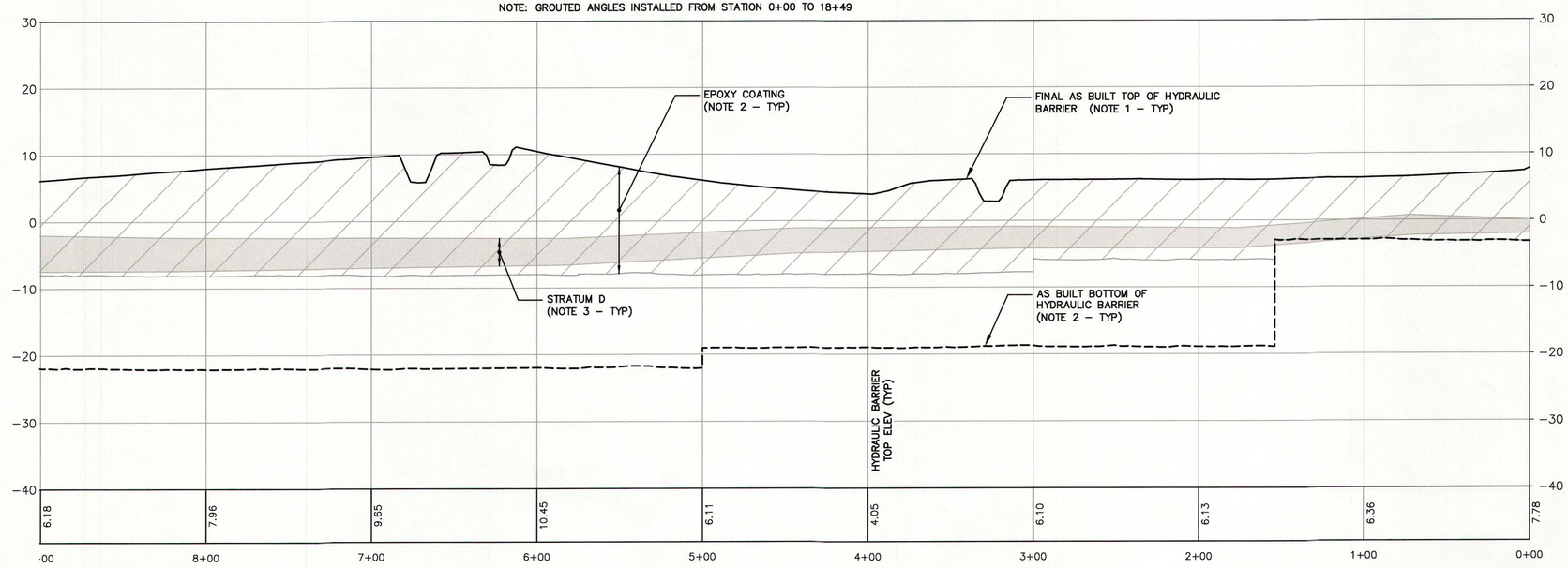


NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY COMPLETED UNDER SUPERVISON OF MASER AND REPRSENTS THE FINAL ELEVATION AFTER THE WALL WAS CUT TO MATCH DESIGN LINER GRADES.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.

NOTE: GROUTED ANGLES INSTALLED FROM STATION 0+00 TO 18+49



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HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APVD
1	2/10/16	TDD	RJR	TDD	TDD

DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT

REVISION BY APVD

TDD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER SGS

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HONEYWELL SITE ID - 37394

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PLAN AND PROFILE

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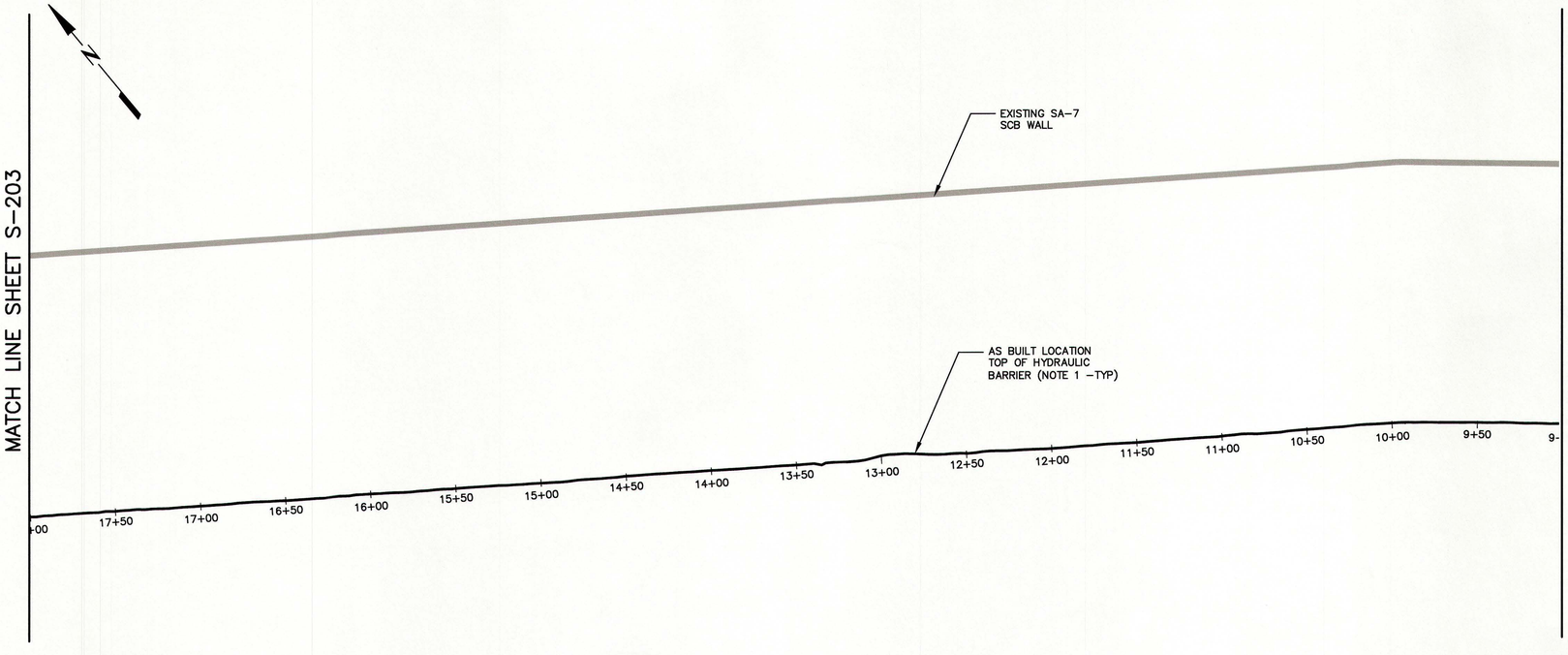
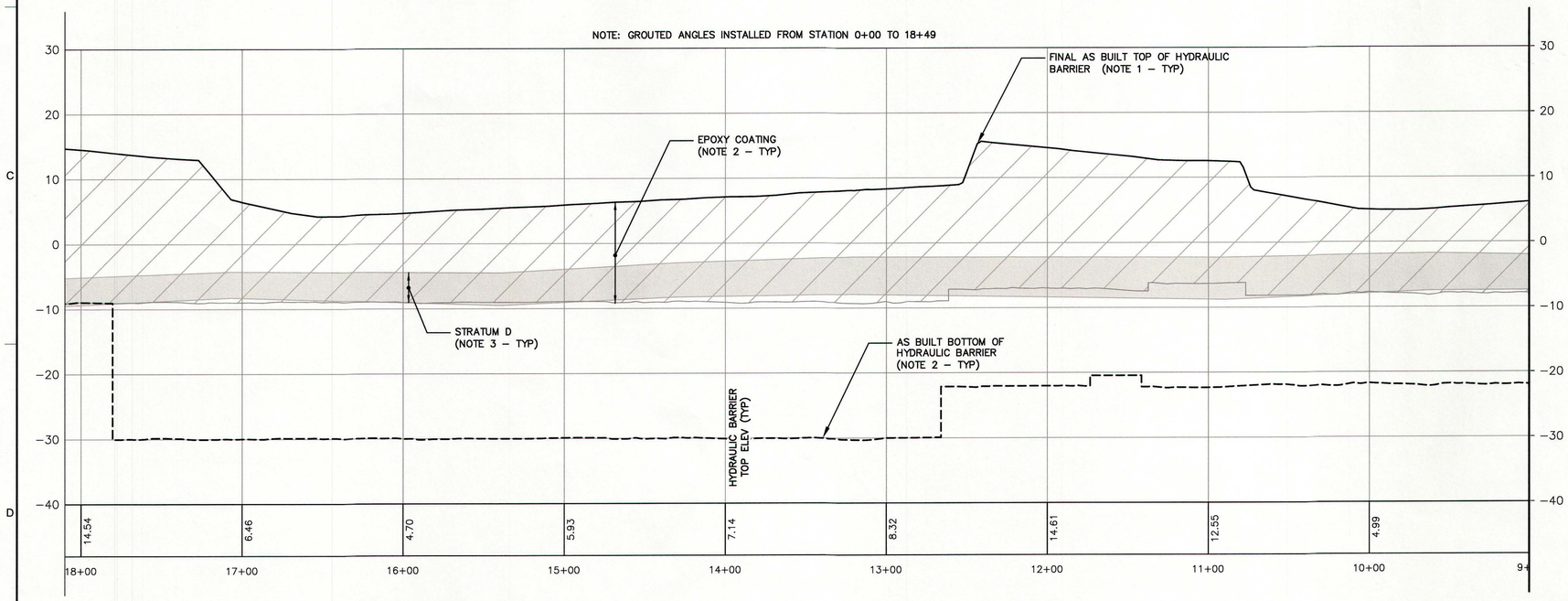


NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET S-201



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VERTICAL SCALE: 1" = 10'

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HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT					
		REVISION				BY	APVD
1	2/10/16					TDD	SGS
DSGN		DR	CHK	APVD			
	TDD		RJR	TDD			

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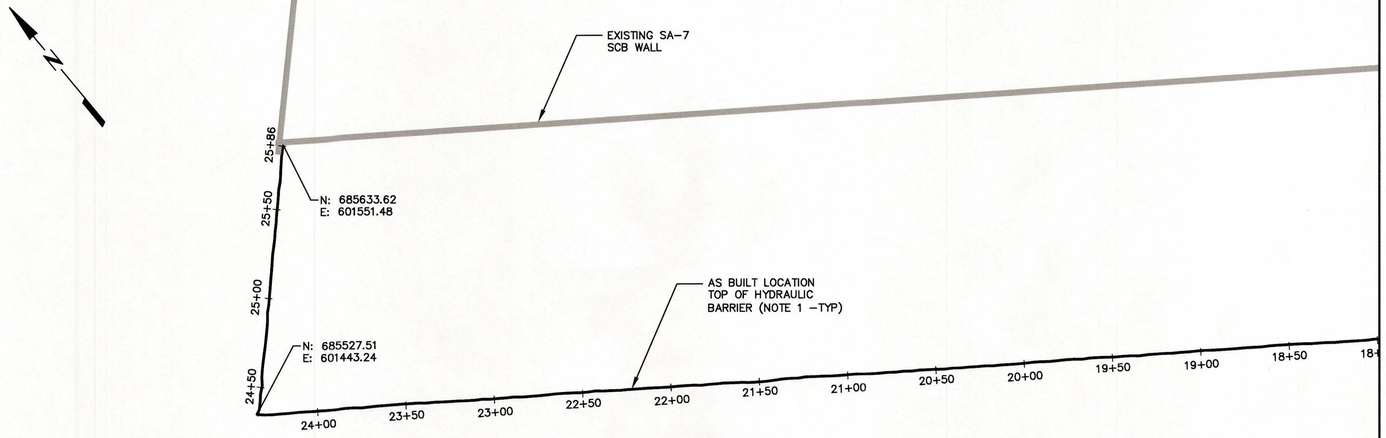
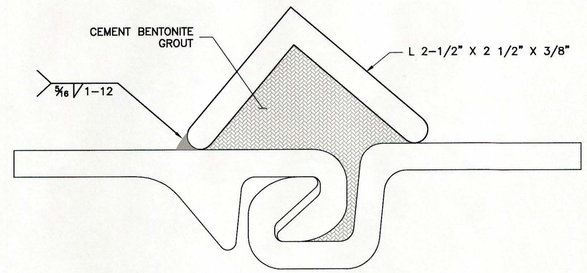


MATCH LINE SHEET S-202

NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET S-201



SEE NOTE HB19 ON SHEET GN-003

SHEET SEALING DETAIL
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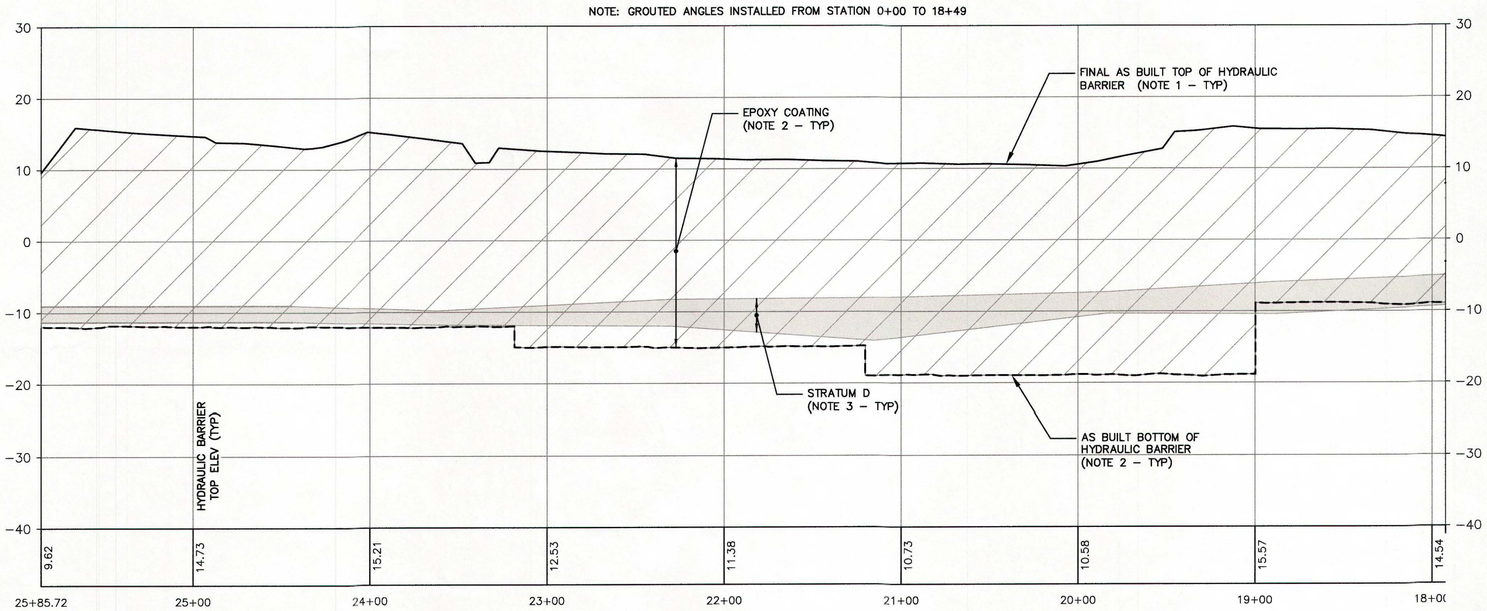

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HORIZONTAL SCALE: 1" = 40'

NO.	DATE	REVISION	BY	APV'D
1	2/10/16	DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT	TDD	SGS

DSGN TDD DR RJR CHK TDD APV'D SGS

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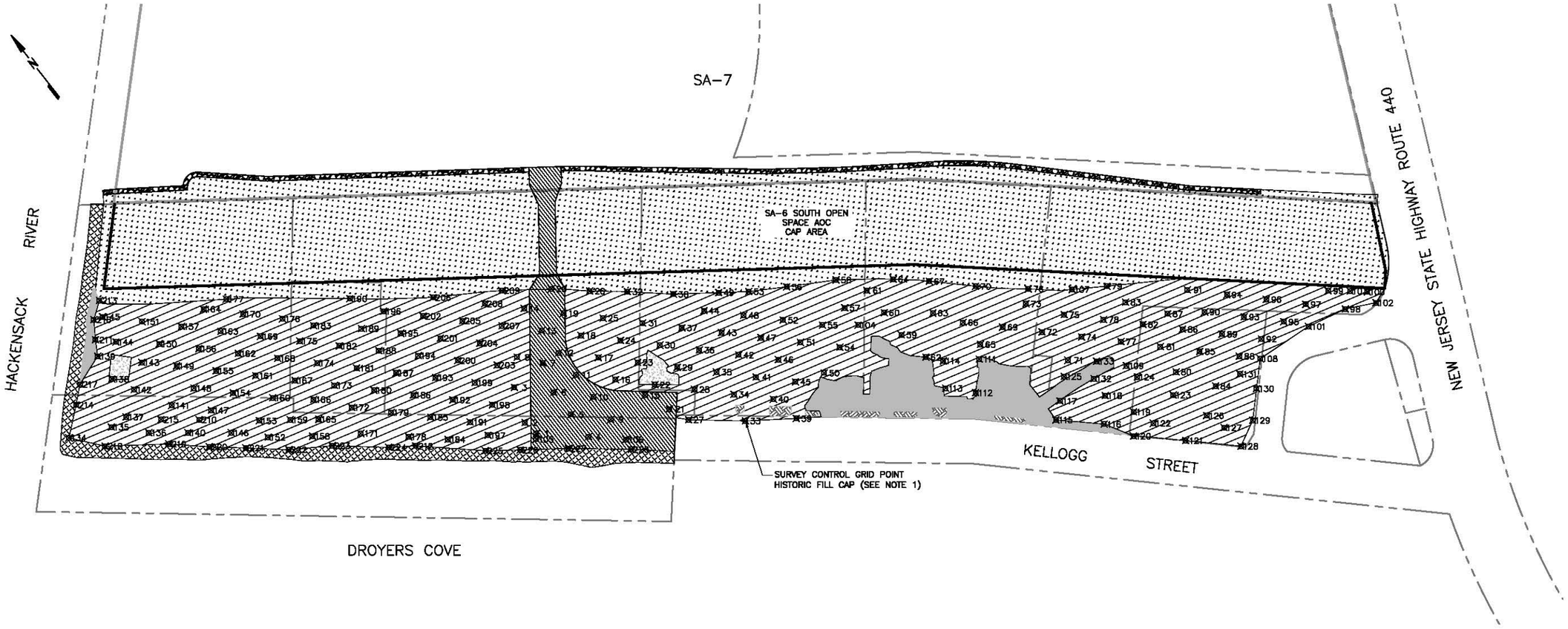

NOTES:

1. REFER TO ATTACHED TABLE FOR SURVEY DOCUMENTATION OF 6 INCH HISTORIC FILL CAP INSTALLATION. TABLE PROVIDES SURVEYED SUBGRADE PRIOR TO DEPLOYMENT OF HISTORIC FILL DEMARCATION LAYER AND FINAL TOP OF STONE ELEVATIONS.

2. REFER TO FIGURE 1 FOR INSTALLED HISTORIC FILL CAP LIMITS.

0 50 100 200
SCALE IN FEET

Prepared/Date: TDD 11/15/16
Checked/Date: DEN 11/15/16
Revised/Date: TDD 12/21/16

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NON-CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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NJ Certificate of Authorization Number 24GA28013600

HISTORIC FILL CAP
SURVEY CONTROL GRID
PROJECT 3480-16-0515
FIGURE 2

Honeywell SA-6 South
Devlopment Area Historic Fill Cap
Jersey City, New Jersey

Prepared By: T. Donovan 10/21/16
Checked By: N. Warner 11/17/16
Revised By: T.Donovan 12/21/16

TABLE 1 - STONE COVER THICKNESS SUMMARY

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
1	684850.53	601890.86	8.48	8.98	9.03	0.55
2	684878.09	601886.77	7.98	8.48	8.51	0.54
3	684938.83	601910.40	7.94	8.44	8.49	0.55
4	684788.76	601960.51	8.44	8.94	8.98	0.54
5	684838.82	601960.40	8.42	8.92	8.95	0.53
6	684888.87	601960.14	8.34	8.84	8.88	0.54
7	684941.99	601977.09	8.47	8.97	8.99	0.52
8	684978.23	601947.46	7.96	8.46	8.59	0.63
9	684788.61	602010.46	8.05	8.55	8.56	0.52
10	684838.88	602010.42	8.02	8.52	8.54	0.52
11	684888.76	602010.35	8.28	8.78	8.84	0.56
12	684938.87	602010.44	8.42	8.92	8.98	0.56
13	684988.66	602010.40	8.79	9.29	9.36	0.58
14	685038.80	602010.45	9.11	9.61	9.64	0.54
15	684784.65	602084.60	8.12	8.62	8.69	0.57
16	684838.95	602060.58	8.45	8.95	8.96	0.52
17	684888.63	602060.53	8.50	9.00	9.04	0.54
18	684938.91	602060.54	8.34	8.84	8.89	0.55
19	684988.96	602060.41	8.46	8.96	9.06	0.60
20	685036.50	602069.93	9.48	9.98	10.06	0.58
21	684738.84	602104.02	8.01	8.51	8.72	0.71
22	684788.71	602110.46	8.27	8.77	8.81	0.54
23	684838.96	602110.44	7.56	8.06	8.31	0.75
24	684888.70	602110.46	7.95	8.45	8.47	0.52
25	684938.82	602110.49	8.21	8.71	8.82	0.61
26	684991.33	602121.34	8.49	8.99	9.09	0.61
27	684702.90	602119.08	6.79	7.29	7.34	0.55
28	684738.91	602160.55	6.64	7.14	7.16	0.52
29	684788.83	602160.58	7.88	8.38	8.43	0.55
30	684838.77	602160.57	7.48	7.98	8.03	0.55
31	684888.90	602160.51	7.75	8.25	8.29	0.54
32	684949.21	602173.60	8.49	8.99	9.11	0.62
33	684638.88	602197.41	6.52	7.02	7.05	0.53
34	684688.86	602210.42	6.54	7.04	7.10	0.57
35	684738.91	602210.37	6.75	7.25	7.30	0.56
36	684788.78	602210.40	7.03	7.53	7.62	0.59
37	684838.87	602210.43	7.28	7.78	7.85	0.57
38	684895.42	602235.22	7.46	7.96	8.18	0.72
39	684586.72	602271.55	6.93	7.43	7.48	0.55
40	684638.81	602260.41	6.47	6.97	7.00	0.53
41	684688.77	602260.49	6.73	7.23	7.27	0.53
42	684738.85	602260.36	6.96	7.46	7.49	0.52
43	684788.88	602260.50	7.25	7.75	7.79	0.54
44	684838.81	602260.36	7.42	7.92	7.98	0.57
45	684638.83	602310.40	7.11	7.61	7.63	0.52
46	684689.00	602310.59	6.95	7.45	7.48	0.53
47	684738.74	602310.39	7.14	7.64	7.72	0.58
48	684788.83	602310.46	7.37	7.87	7.88	0.51
49	684848.05	602300.52	7.44	7.94	8.22	0.78
50	684619.91	602360.46	7.98	8.48	8.51	0.54
51	684688.83	602360.58	7.63	8.13	8.15	0.52
52	684739.13	602360.50	7.50	8.00	8.06	0.56

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
53	684816.55	602343.81	7.51	8.01	8.44	0.93
54	684638.63	602410.42	8.46	8.96	8.99	0.53
55	684688.76	602410.52	8.28	8.78	8.83	0.55
56	684781.49	602402.20	8.51	9.01	9.03	0.53
57	684688.66	602460.47	8.63	9.13	9.21	0.58
58	684737.30	602478.82	9.54	10.04	10.29	0.75
59	684588.71	602510.27	8.28	8.78	8.81	0.53
60	684638.69	602510.50	8.25	8.75	8.78	0.53
61	684688.88	602510.53	8.64	9.14	9.16	0.52
62	684530.78	602520.13	9.17	9.67	9.70	0.53
63	684584.76	602578.22	7.41	7.91	7.98	0.57
64	684675.41	602559.84	8.52	9.02	9.39	0.87
65	684488.74	602610.39	8.41	8.91	8.94	0.53
66	684538.76	602610.26	7.83	8.33	8.36	0.53
67	684633.33	602608.11	8.53	9.03	9.32	0.79
69	684488.79	602660.54	8.16	8.66	8.74	0.57
70	684575.62	602667.46	8.52	9.02	9.31	0.79
71	684370.71	602715.69	9.25	9.75	9.76	0.51
72	684438.80	602710.54	8.64	9.14	9.20	0.56
73	684496.01	602718.89	8.52	9.02	9.04	0.52
74	684388.65	602760.45	9.06	9.56	9.61	0.55
75	684438.79	602760.46	8.68	9.18	9.23	0.55
76	684514.09	602738.44	9.50	10.00	10.15	0.65
77	684338.82	602810.43	9.53	10.03	10.05	0.53
78	684388.72	602810.44	8.98	9.48	9.53	0.54
79	684431.95	602851.50	9.53	10.03	10.08	0.56
80	684236.11	602854.74	9.99	10.49	10.69	0.71
81	684288.76	602860.37	9.66	10.16	10.20	0.55
82	684338.78	602860.35	9.47	9.97	10.00	0.53
83	684388.99	602860.30	9.41	9.91	9.94	0.53
84	684172.97	602894.67	10.97	11.47	11.49	0.52
85	684238.76	602910.44	10.12	10.62	10.67	0.55
86	684288.63	602910.46	9.80	10.30	10.37	0.57
87	684326.56	602906.44	9.50	10.00	10.04	0.54
88	684188.78	602960.47	10.27	10.77	10.80	0.53
89	684238.84	602960.43	9.81	10.31	10.34	0.53
90	684288.81	602960.31	9.25	9.75	9.80	0.54
91	684338.79	602960.55	9.95	10.45	10.46	0.52
92	684188.77	603010.41	9.41	9.91	9.96	0.55
93	684238.70	603010.36	9.06	9.56	9.58	0.51
94	684288.66	603010.40	9.20	9.70	9.74	0.54
95	684188.60	603060.40	8.75	9.25	9.28	0.53
96	684238.88	603060.50	8.62	9.12	9.15	0.52
97	684188.84	603110.46	8.35	8.85	8.88	0.53
98	684138.84	603160.56	8.35	8.85	8.87	0.52
99	684183.32	603156.53	8.43	8.93	8.96	0.53
100	684138.93	603210.41	8.41	8.91	8.92	0.51
101	684154.79	603090.07	8.48	8.98	9.00	0.53
102	684114.14	603210.60	8.43	8.93	8.97	0.54
103	684158.66	603187.23	8.41	8.91	8.96	0.55
104	684649.94	602460.53	8.45	8.95	8.98	0.53
105	684842.24	601884.19	8.99	9.49	9.54	0.55
106	684743.69	602009.93	8.47	8.97	8.99	0.53
107	684465.34	602799.24	9.48	9.98	10.01	0.53
108	684162.46	602987.20	10.56	11.06	11.11	0.55
109	684299.28	602791.88	9.91	10.41	10.46	0.56
111	684469.46	602592.76	9.75	10.25	10.29	0.54

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
112	684426.35	602551.07	8.95	9.45	9.67	0.71
113	684465.37	602513.85	9.54	10.04	10.19	0.66
114	684506.30	602540.54	9.09	9.59	9.62	0.53
115	684300.35	602633.76	9.37	9.87	9.96	0.59
116	684241.58	602696.86	9.64	10.14	10.20	0.55
117	684322.55	602660.05	9.71	10.21	10.22	0.51
118	684280.62	602729.42	9.98	10.48	10.68	0.70
119	684226.49	602751.17	11.31	11.81	11.91	0.60
120	684192.72	602724.85	10.86	11.36	11.41	0.55
121	684129.32	602792.92	10.28	10.78	10.85	0.57
122	684189.03	602766.50	11.19	11.69	11.70	0.52
123	684206.60	602825.41	10.84	11.34	11.37	0.53
124	684271.32	602794.41	11.65	12.15	12.16	0.52
125	684352.11	602692.92	9.51	10.01	10.15	0.65
126	684141.54	602849.80	10.73	11.23	11.25	0.52
127	684105.24	602861.12	10.75	11.25	11.26	0.51
128	684061.00	602864.26	10.95	11.45	11.45	0.50
129	684084.37	602909.12	11.19	11.69	11.73	0.54
130	684124.50	602949.30	11.31	11.81	11.83	0.52
131	684163.34	602941.90	10.84	11.34	11.36	0.52
132	684316.22	602732.34	10.46	10.96	11.00	0.54
133	684338.20	602754.97	9.70	10.20	10.27	0.57
134	685355.89	601230.69	9.11	9.61	9.61	0.50
135	685324.33	601302.06	9.00	9.50	9.69	0.68
136	685275.64	601348.34	9.19	9.69	9.72	0.53
137	685322.51	601333.80	8.76	9.26	9.29	0.53
138	685391.57	601355.09	9.53	10.03	10.12	0.59
139	685438.87	601360.40	9.62	10.12	10.13	0.51
140	685233.03	601403.24	9.48	9.98	10.27	0.79
141	685288.85	601410.45	9.33	9.83	9.88	0.55
142	685352.13	601375.02	8.13	8.63	8.75	0.62
143	685381.70	601415.65	8.02	8.52	8.59	0.57
144	685438.76	601401.67	9.16	9.66	10.08	0.92
145	685488.71	601410.53	9.19	9.69	9.76	0.56
146	685185.04	601463.89	8.49	8.99	9.22	0.73
147	685238.86	601460.43	7.80	8.30	8.34	0.54
148	685288.63	601460.34	7.93	8.43	8.49	0.56
149	685338.77	601460.53	7.95	8.45	8.52	0.57
150	685388.72	601460.53	8.14	8.64	8.82	0.67
151	685438.85	601460.42	8.51	9.01	9.10	0.59
152	685138.89	601510.39	8.45	8.95	9.07	0.61
153	685171.47	601516.47	7.95	8.45	8.52	0.57
154	685238.84	601510.42	7.91	8.41	8.50	0.60
155	685288.87	601510.50	7.99	8.49	8.58	0.59
156	685338.72	601510.43	8.06	8.56	8.60	0.54
157	685388.81	601510.45	8.25	8.75	8.77	0.52
158	685091.55	601573.95	9.01	9.51	9.54	0.53
159	685139.17	601560.87	8.01	8.51	8.52	0.51
160	685188.95	601560.43	7.98	8.48	8.49	0.52
161	685238.79	601560.52	7.95	8.45	8.57	0.63
162	685288.79	601560.44	8.02	8.52	8.59	0.57
163	685338.83	601560.54	8.14	8.64	8.69	0.56
164	685388.81	601560.55	8.26	8.76	8.80	0.53
165	685108.25	601601.30	8.02	8.52	8.57	0.55
166	685141.73	601615.66	8.10	8.60	8.56	0.47
167	685188.81	601610.44	8.01	8.51	8.60	0.59
168	685238.77	601610.51	8.02	8.52	8.56	0.54

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
169	685288.72	601610.43	8.09	8.59	8.63	0.54
170	685338.74	601610.37	8.22	8.72	8.75	0.53
171	685042.54	601644.70	8.49	8.99	9.01	0.53
172	685088.79	601660.54	7.97	8.47	8.51	0.54
173	685138.80	601660.45	7.97	8.47	8.48	0.51
174	685188.79	601660.67	8.58	9.08	9.14	0.55
175	685238.85	601660.43	8.57	9.07	9.20	0.62
176	685288.82	601660.43	8.30	8.80	8.81	0.51
177	685378.00	601603.14	9.01	9.51	9.56	0.55
178	684985.35	601708.30	8.48	8.98	9.03	0.55
179	685038.72	601710.44	7.95	8.45	8.47	0.52
180	685088.70	601710.51	7.95	8.45	8.48	0.53
181	685138.70	601710.42	8.00	8.50	8.53	0.53
182	685188.77	601710.45	8.10	8.60	8.65	0.54
183	685245.18	601696.62	9.11	9.61	9.67	0.56
184	684938.65	601760.43	8.48	8.98	9.01	0.53
185	684988.83	601760.39	7.79	8.29	8.35	0.57
186	685038.79	601760.40	7.88	8.38	8.38	0.50
187	685088.76	601760.49	7.94	8.44	8.47	0.52
188	685138.85	601760.56	7.99	8.49	8.52	0.53
189	685188.77	601760.47	8.08	8.58	8.62	0.54
190	685243.48	601776.76	8.52	9.02	9.53	1.01
191	684938.83	601810.34	7.95	8.45	8.50	0.55
192	684988.71	601810.51	7.92	8.42	8.44	0.52
193	685038.93	601810.65	7.93	8.43	8.45	0.52
194	685088.74	601810.48	8.01	8.51	8.55	0.55
195	685138.84	601810.44	8.15	8.65	8.70	0.55
196	685188.76	601810.45	8.23	8.73	8.76	0.53
197	684900.77	601820.97	8.49	8.99	9.03	0.55
198	684938.61	601860.44	7.95	8.45	8.49	0.54
199	684988.79	601860.38	7.92	8.42	8.50	0.57
200	685038.71	601860.53	7.95	8.45	8.56	0.61
201	685088.78	601860.46	8.08	8.58	8.59	0.51
202	685138.76	601860.39	8.27	8.77	8.82	0.56
203	684989.00	601910.71	7.95	8.45	8.48	0.53
204	685038.68	601910.43	8.04	8.54	8.56	0.51
205	685089.10	601910.60	8.17	8.67	8.70	0.53
206	685153.99	601894.76	8.50	9.00	9.18	0.69
207	685038.79	601960.46	8.16	8.66	8.72	0.56
208	685088.76	601960.51	8.20	8.70	8.75	0.55
209	685088.34	601998.68	8.53	9.03	9.08	0.55
210	685238.84	601433.13	7.83	8.33	8.95	1.12
211	685464.45	601375.39	9.22	9.72	9.76	0.53
212	684965.05	601707.90	7.69	8.19	8.22	0.53
213	685514.96	601424.03	12.02	12.52	12.57	0.55
214	685394.14	601276.89	9.54	10.04	10.07	0.54
215	685280.99	601380.01	9.16	9.66	9.68	0.53
216	685494.34	601395.26	9.62	10.12	10.14	0.52
217	685418.92	601304.80	10.54	11.04	11.06	0.52
218	685304.76	601272.35	8.73	9.23	9.26	0.52
219	685238.01	601363.97	8.56	9.06	9.30	0.75
220	685189.66	601417.66	7.95	8.45	8.73	0.78
221	685148.00	601467.87	9.25	9.75	9.81	0.56
222	685098.56	601526.04	7.53	8.03	8.09	0.56
223	685056.74	601591.18	7.60	8.10	8.31	0.71
224	684992.62	601668.34	7.03	7.53	7.79	0.76
225	684881.94	601800.15	6.54	7.04	7.33	0.79

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
226	684845.03	601850.20	8.45	8.95	9.13	0.69
227	684794.36	601918.98	7.45	7.95	8.06	0.61
228	684724.35	602006.36	7.22	7.72	7.74	0.52

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW TOP OF STONE ELEVATIONS WITHIN THE SA6 SOUTH EXCAVATION AREAS AT THE PROJECT SITE.
2. STONE LAYER LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 10/5/16, 10/6/16, AND 10/20/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12-1511A

NO.	DATE	REVISION	CHK	APVD	BY	APVD
DSGN	M.H.S.	DR	B.S.B.	APVD	BSB	R.T.H.

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER 24GS36737

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

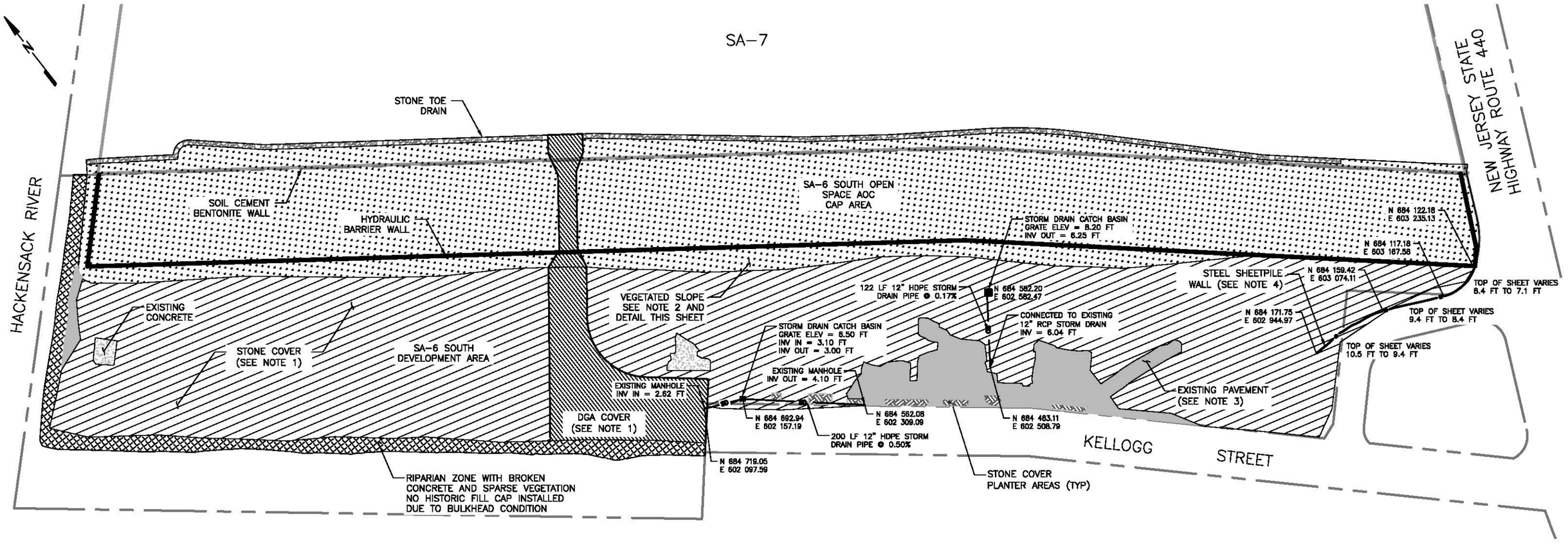
CIVIL
SA6 SOUTH STONE LAYER

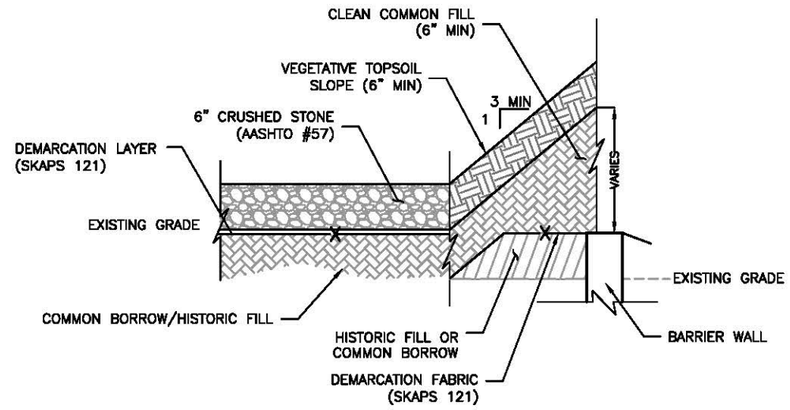
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	12/19/16
PROJ	3480-10-0027
DWG	C-113
SHEET	1 OF 1

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\V-SURV-SA6S-SOUTH-STONE.dwg PLOT DATE: Tue, 20 Dec 2016 PLOT TIME: 10:44 AM





NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA–7

TYPICAL VEGETATED SLOPE
NTS

NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA–7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
STONE COVER IN PLANTER AREAS
RIPARIAN ZONE
DGA COVER
STONE TOE DRAIN
STEEL SHEETPILE WALL
STORM DRAIN PIPE
STORM DRAIN CATCH BASIN

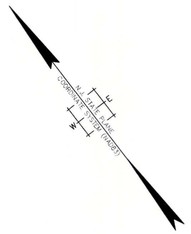
0 80 160 FEET
SCALE

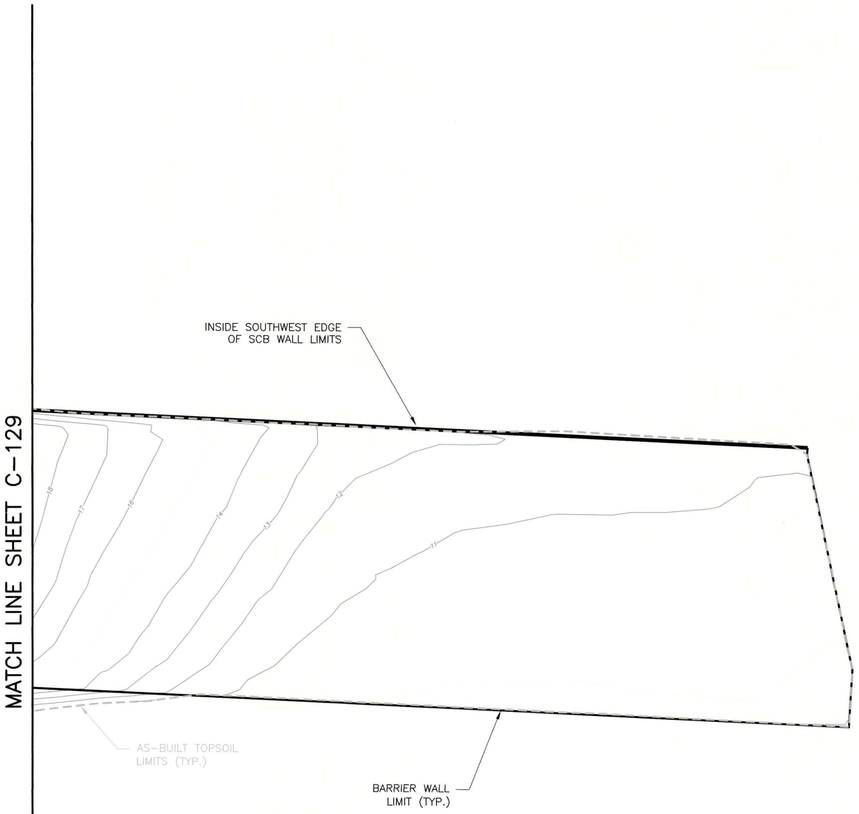
REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: AS BUILT RESTORATION PLAN SA–6 SOUTH – SHEET 001 12/12/16

PROJECT NAME & LOCATION: HONEYWELL SA–6 REMEDIATION JERSEY CITY, NJ





LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT TOPSOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT SOUTH CAP TOPSOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS ON JUNE 23, 2016 & FROM OCT. 3 THROUGH NOV. 3, 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	BY	APVD
DSGN		DR CHK	APVD	

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP TOPSOIL
GRADING PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

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0 1"

DATE	12/20/16
PROJ	3480-10-0027
DWG	C-128
SHEET	1 OF 3

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SA6S GDL SOUTH TOPSOIL.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 5:54 PM

MATCH LINE SHEET C-130

MATCH LINE SHEET C-128

INSIDE SOUTHWEST EDGE OF SCB WALL LIMITS

BARRIER WALL LIMIT (TYP.)

AS-BUILT TOPSOIL LIMITS (TYP.)

LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

0 20 40 80

SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT TOPSOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.
2. AS-BUILT SOUTH CAP TOPSOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS ON JUNE 23, 2016 & FROM OCT. 3 THROUGH NOV. 3, 2016
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

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MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP TOPSOIL GRADING PLAN

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200 American Metro Blvd, Suite 113
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(609) 689 - 2829

VERIFY SCALE

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0 1"

DATE	12/20/16
PROJ	3480-10-0027
DWG	C-129
SHEET	2 OF 3

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
DSGN		DR CHK	APVD	

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NJ PROFESSIONAL LAND SURVEYOR
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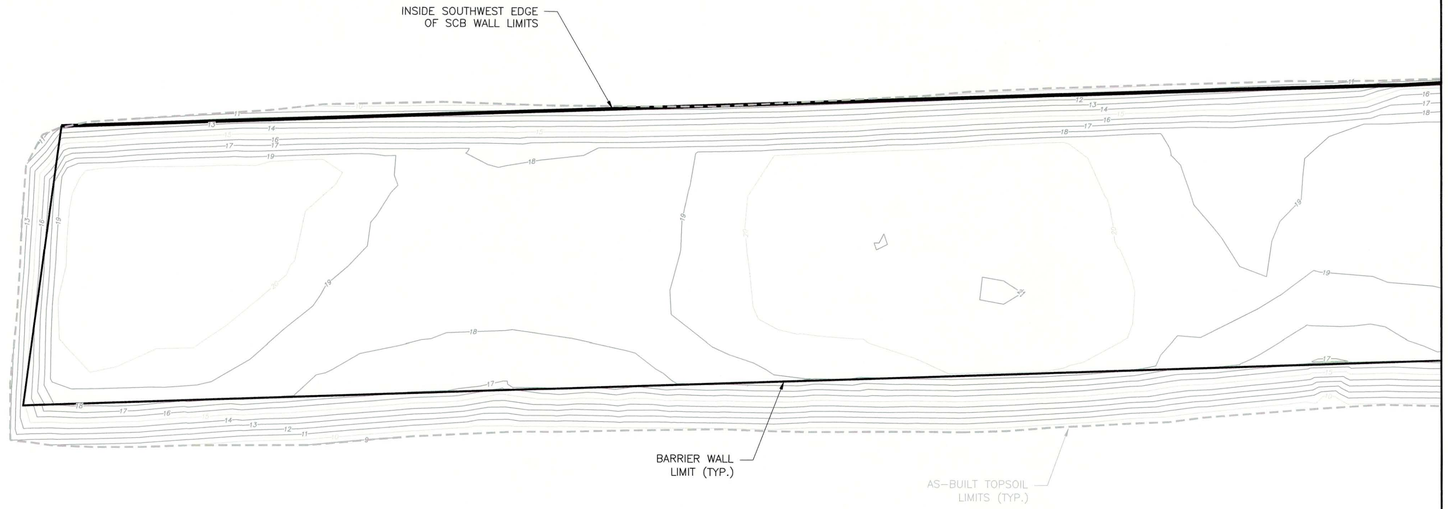
FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SA6S GDL SOUTH TOPSOIL.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 5:54 PM





MATCH LINE SHEET C-129

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT TOPSOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.
2. AS-BUILT SOUTH CAP TOPSOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS ON JUNE 23, 2016 & FROM OCT. 3 THROUGH NOV. 3, 2016
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	REVISION	BY	APVD
DSGN		DR	CHK	APVD

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP TOPSOIL
GRADING PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
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amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2229

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	12/20/16
PROJ	3480-10-0027
DWG	C-130
SHEET	3 OF 3

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SA6S GDL SOUTH TOPSOIL.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 5:54 PM

ATTACHMENT B
SURCHARGE COMPLETION EVALUATION TABLES

TABLE 1S-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-01	2616	3236	**124%**	Data as of November 2014. Pore pressure elevated 5 ft in Stratum D and 3 ft in Stratum RC.
S_FS-02	2627	3201	**122%**	Data as of November 2014. Pore pressure elevated 4.5 ft in Stratum D.
S_HS-01	3064	3292	**107%**	Data as of November 2014.
S_HS-02	2571	2962	**115%**	Data as of November 2014. Pore pressure elevated 3 ft in Stratum D.
S_HS-03	2400	2541	**106%**	Data as of November 2014. Pore pressure elevated 11 ft in Stratum D and 5.5 ft in Stratum RC.
S_HS-04	2548	3053	**120%**	Data as of November 2014. Pore pressure elevated 5 ft in Stratum D.
S_HS-05	2583	2919	**113%**	Data as of November 2014.
S_HS-06	2881	3205	**111%**	Data as of November 2014. Pore pressure elevated 1.5 ft in Stratum D and 7 ft in Stratum RC.
S_HS-07	2494	3130	**126%**	Data as of November 2014.
S_HS-08	2595	2880	**111%**	Data as of November 2014. Pore pressure elevated 5 ft in Stratum D.

TABLE 2S-1
SURCHARGE COMPLETION EVALUATION
AMEC CORRECTED RESULTS JANUARY 2015

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-03	2343	2984	127%	VWP data through 1/12/15; SP data through 1/30/15.
S_FS-04	2359	2909	123%	VWP data through 1/18/15; SP data through 1/30/15.
S_FS-05	1839	1833	100%	VWP data through 1/29/15; SP data through 1/30/15.
S_HS-09	2232	3194	143%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-10	2479	2777	112%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-11	2342	2656	113%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-12	2482	2877	116%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-13	2100	2412	115%	VWP data as of 1/29/15; SP data through 1/30/15.
S_HS-14	2138	2839	133%	VWP data as of 1/12/15; SP data through 1/30/15.
S_HS-15	2637	3234	123%	VWP data as of 1/12/15; SP data through 1/30/15.

TABLE 3S-1
SURCHARGE COMPLETION EVALUATION

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-06	2099	2664	**127%**	Data through March 2015
S_FS-07	2376	2691	**113%**	Data through March 2015
S_HS-16	2522	2619	**104%**	Data through March 2015
S_HS-17	1751	2046	**117%**	Data through March 2015
S_HS-18	970	1458	**150%**	Data through March 2015
S_HS-19	845	1206	**143%**	Data through March 2015
S_HS-20	2484	2499	**101%**	Data through March 2015
S_HS-21	1504	1978	**132%**	Data through March 2015
S_HS-22	966	1198	**124%**	Data through March 2015

ATTACHMENT C
MRCE SURCHARGE COMPLETION LETTERS

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April 24, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 1S Surcharge Review
SA-6 South
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) October 27, 2014 review of Area 1S indicated settlement monitoring location S_FS-02 did not meet the defined surcharge program goal as of September 23, 2014. AMEC provided MRCE with updated settlement and piezometer monitoring data for Area 1S location S_FS-02 on April 14, 2015. The MRCE review of April 14, 2015 AMEC settlement and piezometer monitoring data for Area 1S location S_FS-02 is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated November 18, 2014 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressure. Post-surcharge total stress was calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken on November 25, 2014. Calculated post-surcharge effective stress for S_FS-02 is presented in Table 1. MRCE compared the calculated post-surcharge effective stress with the "Final Post-Development Conditions" effective stress estimate provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 1S monitoring locations have met the surcharge program goal as of November 25, 2014.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

Table 1. MRCE SA-6 South Surcharge Monitoring Review for Area 1S (April 2015)

Source:		AMEC				MRCE								AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress	Settlement Monitoring Data		VWP Monitoring Data		Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion (November 2014)
						Date of Recording	Fill Thickness (ft)	Date of Recording	Elevation Head (ft)					
S_FS-01	Center D	-8.6	1852.5	2616.3	2451.0	9/22/2014	17.15	9/23/2014	11.83	3996.3	1274.8	2721.4	104%	124%
S_FS-02	Center D	-11.16	2083.8	2627.1	2428.0	11/25/2014	21.17	11/18/2014	11.6	4730.1	1420.2	3309.8	126%	122%
S_HS-01	Center D	-11.2	2260.0	3064.0	3196.0	9/22/2014	15.31	9/23/2014	3.09	4173.8	891.7	3282.1	107%	107%
S_HS-02	Center D	-9.6	2103.8	2570.7	2774.0	9/22/2014	15.22	9/23/2014	7.11	4006.3	1042.7	2963.6	115%	115%
S_HS-03	Center D	-9.4	1942.5	2400.1	2440.0	9/22/2014	15.9	9/23/2014	12.19	3930.0	1347.2	2582.8	108%	106%
S_HS-04	Center D	-8.3	1841.3	2548.2	2595.0	9/22/2014	15.54	9/23/2014	9.4	3783.8	1104.5	2679.3	105%	120%
S_HS-05	Center D	-8.5	2031.3	2583.0	2703.0	9/22/2014	13.89	9/23/2014	6.25	3767.6	920.4	2847.2	110%	113%
S_HS-06	Center D	-10.4	2126.3	2880.7	3214.0	9/22/2014	16.24	9/23/2014	2.75	4156.3	820.6	3335.7	116%	111%
S_HS-07	Center D	-9.5	1867.5	2493.7	2894.0	9/22/2014	17.84	9/23/2014	6.65	4097.5	1007.8	3089.7	124%	126%
S_HS-08	Center D	-7.7	1787.5	2595.0	2707.0	9/22/2014	16.29	9/23/2014	7.74	3823.8	963.5	2860.3	110%	111%

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February 06, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2S Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of February 06, 2015 AMEC settlement and piezometer monitoring data for Area 2S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between January 12-29, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken at corresponding dates, between January 14-30, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2S monitoring locations have met the surcharge program goal as of 01/30/2015.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2S

Settlement Monitoring Point	Layer	Existing EL (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-03	Center O	-3.3	1332.5	2208.4	1/14/2015	1/12/2015	19.7	9.9	3798.8	823.7	2975.1	135%	-
	Top D	-5.8	1525.0	2291.7			19.7	13.0	3991.3	1172.5	2818.8	123%	-
	Center D	-7.0	1716.3	2342.5			19.7	13.4	4182.6	1273.6	2909.0	124%	145%
	Bottom D	-8.3	1907.5	2393.4			19.7	6.5	4373.8	926.0	3447.7	144%	-
S_FS-04	Center O	-1.5	1204.5	2223.3	1/23/2015	1/18/2015	19.8	7.6	3683.3	566.0	3117.3	140%	-
	Top D	-4.5	1353.0	2287.6			19.8	12.4	3831.8	1050.2	2781.6	122%	-
	Center D	-6.2	1620.8	2358.7			19.8	13.0	4099.6	1196.8	2902.7	123%	134%
	Bottom D	-7.7	1888.5	2429.9			19.8	10.6	4367.3	1143.8	3223.5	133%	-
	RC	-46.5	6613.5	4771.3			19.8	3.9	9092.3	3147.5	5944.8	125%	-
S_FS-05	Center O	-0.6	1185.0	1696.9	1/30/2015	1/29/2015	14.5	5.9	2992.5	406.8	2585.7	152%	-
	Top D	-3.6	1350.0	1768.3			14.5	8.1	3157.5	730.1	2427.4	137%	-
	Center D	-5.1	1617.8	1839.5			14.5	20.3	3425.3	1583.1	1842.2	100%	115%
	Bottom D	-6.6	1885.5	1910.7			14.5	9.8	3693.0	1022.7	2670.3	140%	-
S_HS-09	Center O	-4.0	1272.5	2097.7	1/14/2015	1/12/2015	18.2	9.1	3547.5	818.7	2728.8	130%	-
	Center D	-8.0	1656.3	2231.9			18.2	6.4	3931.3	896.7	3034.6	136%	156%
S_HS-10	Center O	-2.1	1831.3	2384.9	1/14/2015	1/12/2015	12.6	6.6	3406.3	545.4	2860.9	120%	-
	Center D	-4.4	2088.8	2478.6			12.6	10.2	3663.8	912.3	2751.5	111%	131%
S_HS-11	Center O	-5.2	1660.0	2218.6	1/14/2015	1/12/2015	12.8	9.0	3253.8	887.3	2366.4	107%	-
	Center D	-7.5	1986.3	2342.0			12.8	7.4	3580.1	927.9	2652.2	113%	132%
	RC	-50.2	7257.5	4930.1			12.8	3.8	8851.3	3372.7	5478.5	111%	-
S_HS-12	Center O	-3.9	1485.0	2350.9	1/14/2015	1/12/2015	15.9	10.1	3477.5	871.7	2605.8	111%	-
	Center D	-7.9	1875.3	2482.1			15.9	9.4	3867.8	1076.4	2791.4	112%	130%
	RC	-52.4	7238.0	5077.5			15.9	1.8	9230.5	3382.1	5848.4	115%	-
S_HS-13	Center O	-2.0	1261.5	1962.8	1/30/2015	1/292015	16.0	17.0	3255.3	1183.7	2071.5	106%	-
	Center D	-5.2	1664.0	2100.1			16.0	14.9	3657.8	1253.6	2404.1	114%	129%
S_HS-14	Center O	-2.0	1365.0	2023.3	1/14/2015	1/12/2015	17.6	10.6	3563.8	783.7	2780.0	137%	-
	Center D	-6.3	1691.5	2137.6			17.6	10.4	3890.3	1039.6	2850.7	133%	148%
S_HS-15	Center O	-2.8	1858.8	2539.5	1/14/2015	1/12/2015	16.6	11.5	3928.8	889.8	3039.0	120%	-
	Center D	-6.8	2111.9	2636.6			4181.9	964.7	3217.2	122%	3217.2	122%	140%

"Note that the Amec calculations referenced by MRCE were subsequently updated. Please refer to Table 2S-1 for the final values used. The correction does not impact the conclusion."

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April 24, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 3S Surcharge Review
SA-6 South
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 30, 2015 AMEC settlement and piezometer monitoring data for Area 3S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between March 24-13, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken on March 19, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 3S monitoring locations have met the surcharge program goal as of 03/30/2015.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 3S\MRCE Review-Area 3S-April15.docx

Table 1. MRCE SA-6 South Surcharge Monitoring Review for Area 3S (April 2015)

Settlement Monitoring Point	Layer	Existing EL (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-06	Top D	-2.7	1365.0	2031.3	3/19/2015	3/24/2015	14.3	6.6	3148.8	574.1	2574.7	127%	-
	Center D	-3.9	1620.0	2099.1			14.3	7.2	3403.8	693.3	2710.5	129%	127%
	Bottom D	-5.2	1875.0	2166.9			14.3	9.6	3658.8	919.8	2739.0	126%	-
S_FS-07	Center O	-0.8	1234.0	2256.5	3/19/2015	3/24/2015	16.9	4.8	3346.5	348.9	2997.6	133%	-
	Top D	-3.0	1388.0	2323.2			16.9	5.2	3500.5	510.7	2989.8	129%	-
	Center D	-4.3	1587.8	2376.3			16.9	11.8	3700.3	999.5	2700.8	114%	113%
	Bottom D	-5.5	1787.5	2429.4			16.9	6.9	3900.0	775.1	3124.9	129%	-
	RC	-34.3	5220.0	4145.9			16.9	3.4	7332.5	2352.4	4980.1	120%	-
S_HS-16	Center O	-0.6	1222.5	2420.6	3/19/2015	3/24/2015	18.0	5.3	3472.5	368.2	3104.3	128%	-
	Center D	-4.1	1551.5	2521.8			18.0	14.7	3801.5	1173.1	2628.4	104%	104%
S_HS-17	Center D	-3.8	1460.0	1750.9	3/19/2015	3/24/2015	10.3	7.4	2743.8	697.6	2046.1	117%	117%
S_HS-18	Center D	-2.5	1406.0	969.9	3/19/2015	3/24/2015	3.5	3.6	1841.0	382.5	1458.5	150%	150%
S_HS-19	Center D	-0.6	1207.5	844.5	3/19/2015	3/24/2015	3.0	4.9	1578.8	345.1	1233.7	146%	143%
S_HS-20	Center O	-1.2	1209.5	2392.7	3/19/2015	3/24/2015	15.1	5.3	3093.3	403.7	2689.5	112%	-
	Center D	-4.4	1494.3	2484.0		3/13/2015	15.1	9.7	3378.0	878.6	2499.4	101%	101%
S_HS-21	Center D	-4.3	1581.5	1503.7	3/19/2015	3/24/2015	6.1	1.6	2339.0	367.5	1971.5	131%	132%
S_HS-22	Center D	-2.6	1436.8	966.3	3/19/2015	3/24/2015	1.7	4.6	1651.8	450.5	1201.2	124%	124%

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September 29, 2015

AMEC Environmental & Infrastructure
511 Congress Street
Portland, ME 04101

Attn: Mr. Samuel G. Shallard
Re: DC 03-04-15
Area 3S Surcharge Pile Geometry on East End
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

This letter is in response to DC-03-04-15 "3S Surcharge Pile Geometry on East End," which requests change of the surcharge program at Area 3S to eliminate surcharge pre-load of a small area at the east end of the fill along the west side of Route 440.The April 24, 2015 MRCE letter summarized the settlement and piezometer monitoring data and confirmed that all monitoring locations in Area 3S satisfied the surcharge program goals. However, MRCE was not aware of the request of DC-03-04-15 at that review.

AMEC suggested that truncating the eastern tip of the wedge shaped surcharge fill will not significantly affect the goals of the Remedy/Surcharge program since the change in grade is from 0 – 5 ft. MRCE agrees with AMEC that since the increase in final grade is small, surcharging will have no significant affect. MRCE also reviewed available geotechnical data for the area in question, and finds that the compressible strata is pre-loaded such that no settlement will occur.

Examining Pre-Consolidation Stress

MRCE reviewed the soil profile closest to the "Deferred Area" and laboratory testing for compressible Stratum D. Boring location plan and summary of consolidation tests for Stratum D are attached (see Drawing B-1, Figure S-1, Plate 13 & Plate 18). The pre-consolidation stress (P'c) of the compressible layer Stratum D was tested for design of the Study Area 7 remediation. This test data was used to compute the pre-consolidation stress using two methods. The first method calculated the average P'c from the laboratory consolidation tests, resulting in P'c = 1930 psf. The second method calculated the effective overburden pressure at midpoint of Stratum D and multiplied it by the average OCR (overconsolidation ratio) defined by consolidation testing. With the average OCR = 2.23 and the average effective overburden stress = 1064 psf, the resulting average P'c = 2372 psf.

(see Appendix A). Settlement would only occur at the compressible layer if the effective stress due to filling exceeds 1930 to 2372 psf.

Estimated Stress at Final Conditions

Based on DC-03-04-15, the final grade will increase by 0 to 0.5 ft. The additional soil placed on top of the 12 ft wide area ranges from a height of 0 to 3 ft. Assuming an average height of the added soil as 1.5 ft and the maximum increase of grade, the final effective stress at the midpoint of Stratum D = 1314 psf, which is less than the lower bound of P'c = 1930 psf. (see Appendix A)

Since the effective vertical stress due to the final grade including planned added soil is less than the P'c of Stratum D, no settlement is expected. This technical review supports the AMEC evaluation that surcharging is not needed in the area addressed by DC-03-04-15.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, NJ PE # 24GE04652200

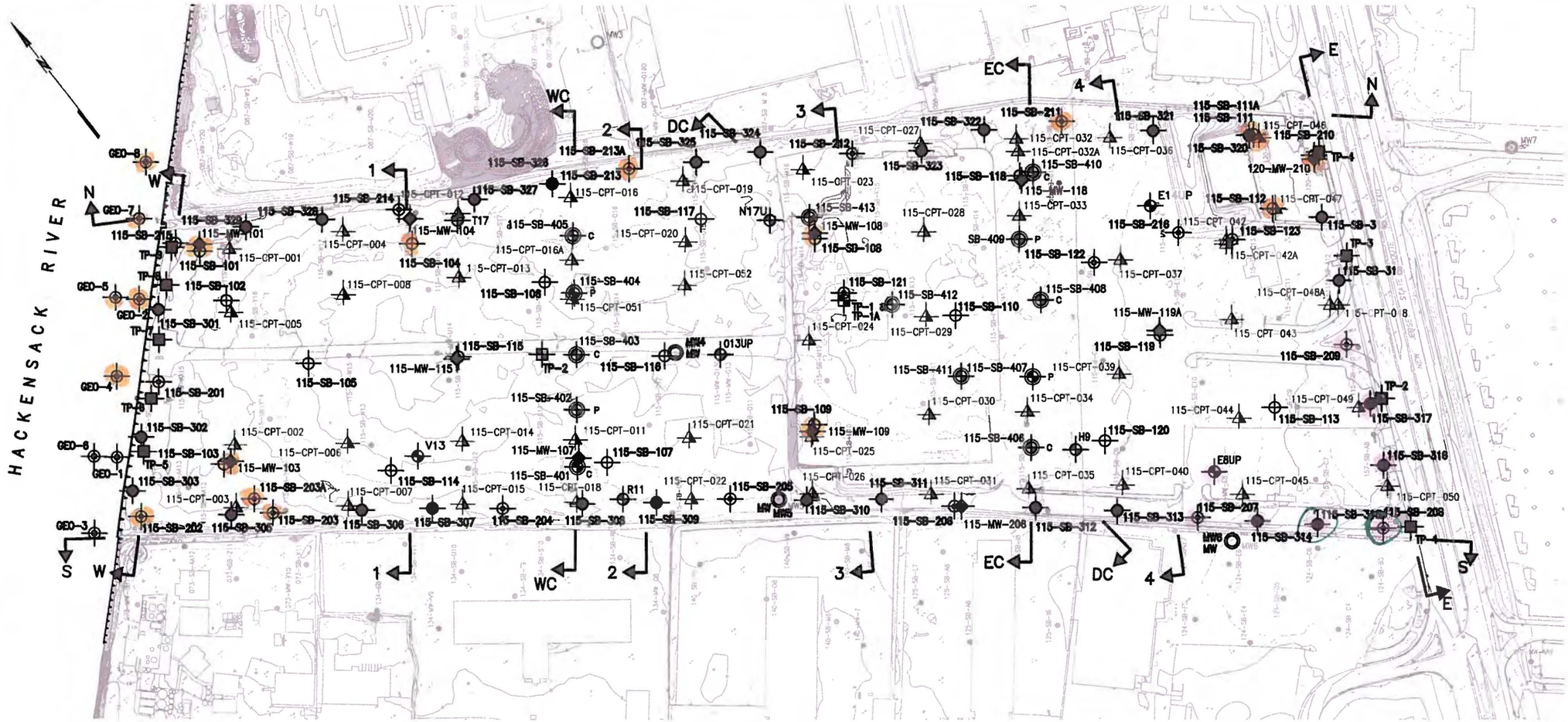
Attachments

Drawing B-1	Boring Location Plan
Figure S-1	Soil Profile
Plate 18	Consolidation Test Boring SB-210D
Plate 13	Consolidation Test Boring SB-211D

Appendices

Appendix A	Calculations of Stresses

ATTACHMENTS



GRAPHIC SCALE

100' 50' 0 100' 200'

LEGEND:

- – Geotechnical borings performed by CT&E under the inspection of MRCE in 1997.
- – Environmental borings performed by CT&E under the inspection of Brown and Root.
- – Nested monitoring wells performed by CT&E under the inspection of Parsons.
- – SB-100 Series: Shallow COPR characterization borings performed by B&B under the inspection of MRCE in 2003.
- – GEO Series: Geotechnical water borings performed by CMI under the inspection of MRCE in 2003.
- – SB-200 Series: Perimeter geotechnical borings performed by B&B under the inspection of MRCE in 2003.
- – SB-300 Series: Phase 2 Perimeter geotechnical borings performed by B&B under the inspection of MRCE in 2004.
- – MW Series: Shallow monitoring wells performed by CMI under the inspection of MRCE in 2003.
- – CPT Probes performed by Furgo Geosciences under the inspection of Parsons and MRCE in 2003.
- – SB-400 Series: Phase 2 geotechnical borings performed by B&B under the inspection of MRCE in 2004.
- – Test pits performed under the inspection of MRCE in 1997.
- – Test pits performed by Conti under the inspection of MRCE in 2004.

NOTES:

1. See drawing K-1 for section location.
2. See drawing T-2 for general strata descriptions, notes and legend.

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REV.	DATE	BY	DESCRIPTION
1	7/9/04		PHASE 2 SUBSURFACE INVESTIGATION UPDATE

STUDY AREA 7

JERSEY CITY NEW JERSEY

Honeywell

101 COLUMBIA ROAD, MORRISTOWN, NEW JERSEY 07962

PROJECT NO. 35037

MUESER RUTLEDGE CONSULTING ENGINEERS

14 PENN PLAZA – 225 W. 34TH STREET, NEW YORK, NY 10122

SCALE	MADE BY	DATE	FILE NO.
GRAPHIC	B.B.	2/18/04	10210
	CHK'D BY K.R.	DATE 7/8/04	DRAWING NO.

BORING LOCATION PLAN

B-1

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____

FILE 11173

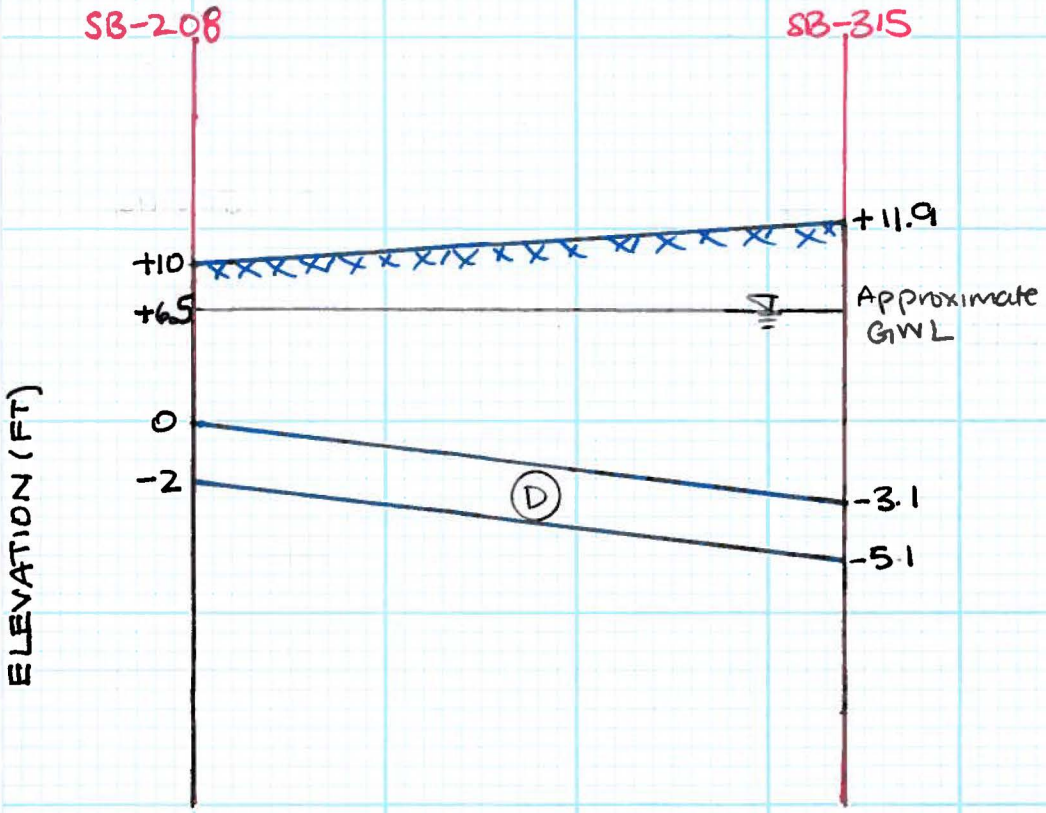
MADE BY APS DATE 9/28/15

PROJECT CHROMIUM REMEDY SA-6

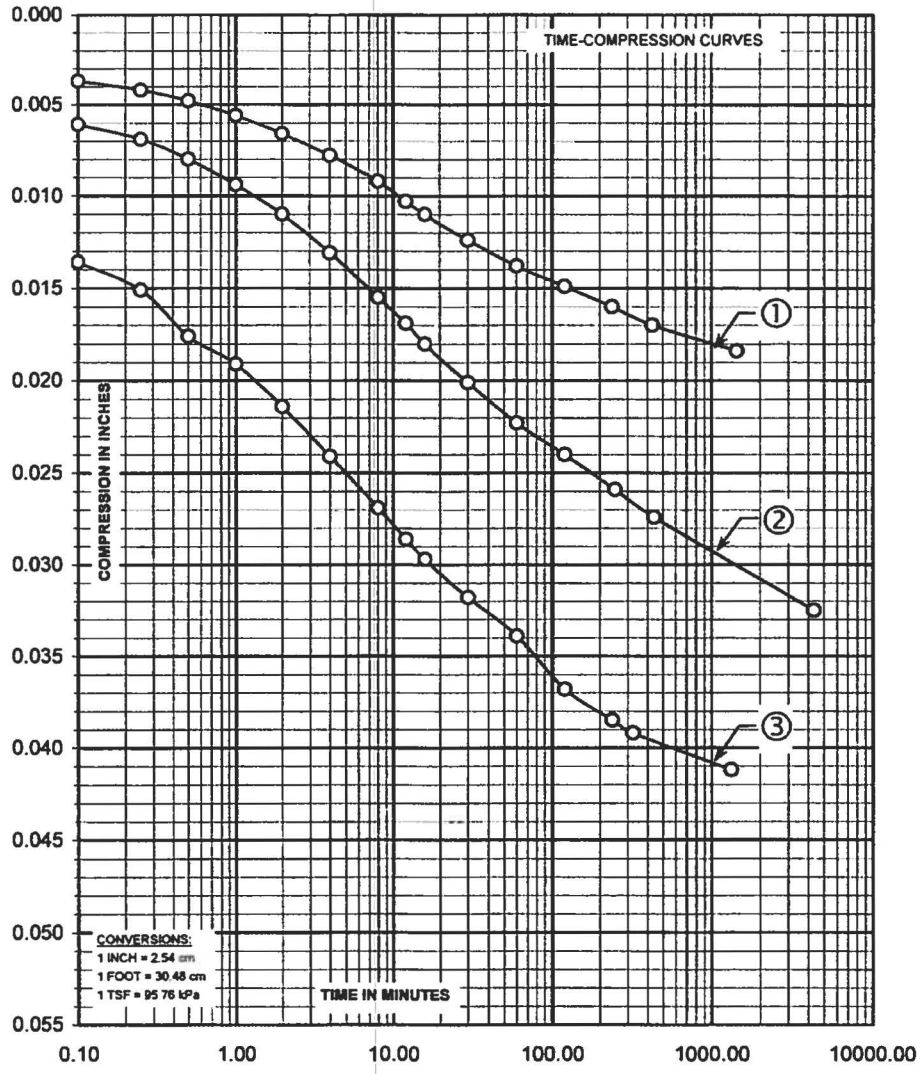
CHECKED BY ____ DATE ____

SUBJECT SOIL PROFILE

FIGURE S-1



(D) Compressible Layer



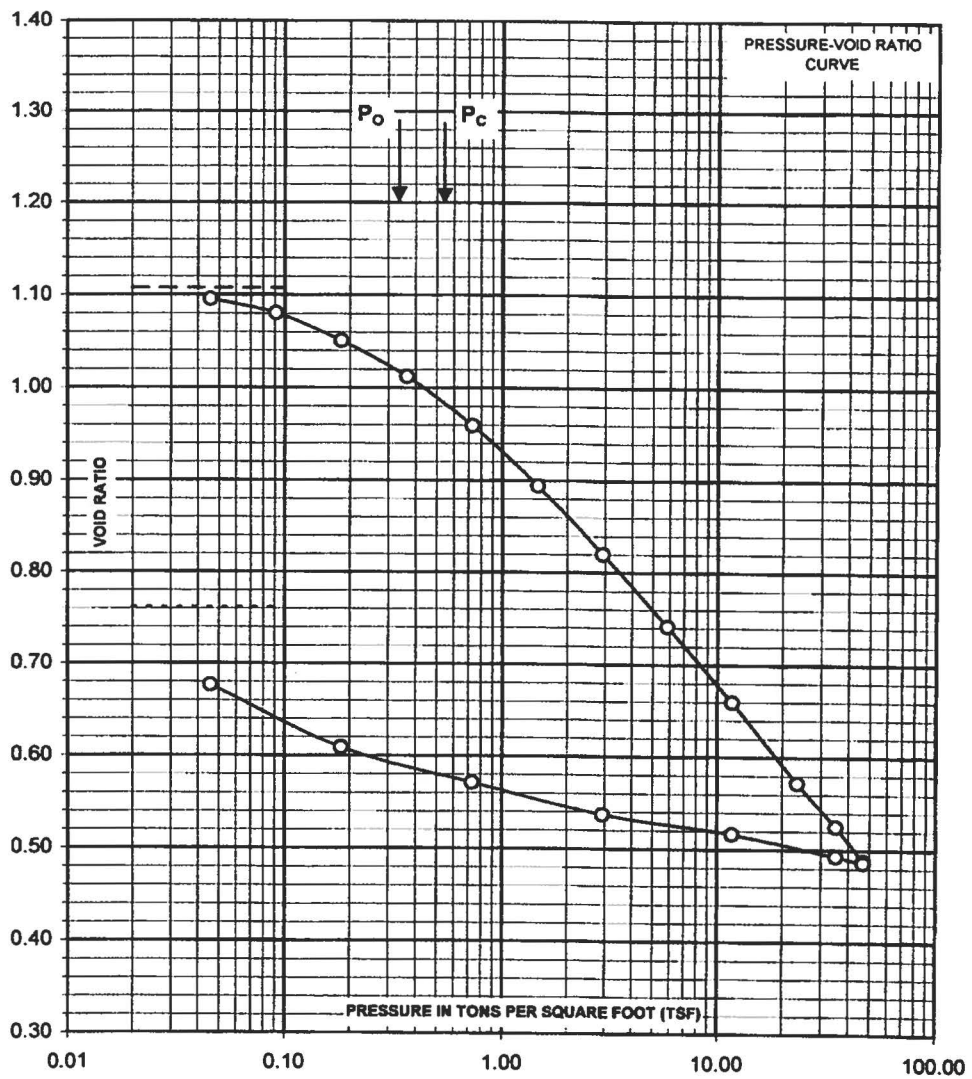


PLATE NO. 18

CURVE NO.	INCREMENT FROM (TSF)	INCREMENT TO (TSF)
①	0.18	0.37
②	0.73	1.46
③	11.69	23.39

SPECIMEN DESCRIPTION: SOFT BLACK ORGANIC SILTY CLAY, TRACE FINE SAND, FINE SAND POCKETS (OL)

STRATUM D

PROPERTIES OF PLASTICITY LIMIT SPECIMEN

UNIFIED SOILS CLASSIFICATION - OL
LIQUID LIMIT, w_L = 36
PLASTICITY LIMIT, w_p = 22
PLASTICITY INDEX, I_p = 14
NATURAL WATER CONT., $\%_w$ = 42.9
LIQUIDITY INDEX, $(w-w_p)/I_p$ = 1.5
SPECIFIC GRAVITY, G_s = 2.61

PROPERTIES OF CONSOLIDATION SPECIMEN

ELEVATION OF SPECIMEN = -3.2
DEPTH OF SPECIMEN (FT) = 16.0
DIAMETER OF SPECIMEN (IN) = 2.5
INITIAL THICKNESS OF SPECIMEN (IN) = 1.0045
INITIAL WATER CONTENT, % = 38.9
FINAL WATER CONTENT, % = 27.1
INITIAL DEGREE OF SATURATION, % = 91.8
FINAL DEGREE OF SATURATION, % = 92.8

— — — — INITIAL VOID RATIO, e_o = 1.107
- - - - - - - FINAL VOID RATIO, e_f = 0.761
ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c = 0.53
EXISTING OVERBURDEN STRESS (TSF), P_o = 0.347
COMPRESSION INDEX, C_c = 0.292
SWELLING INDEX, C_s =0.06 REBOUND FROM e = 0.486

STUDY AREA 7

JERSEY CITY NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34TH STREET, NEW YORK, N.Y. 10122

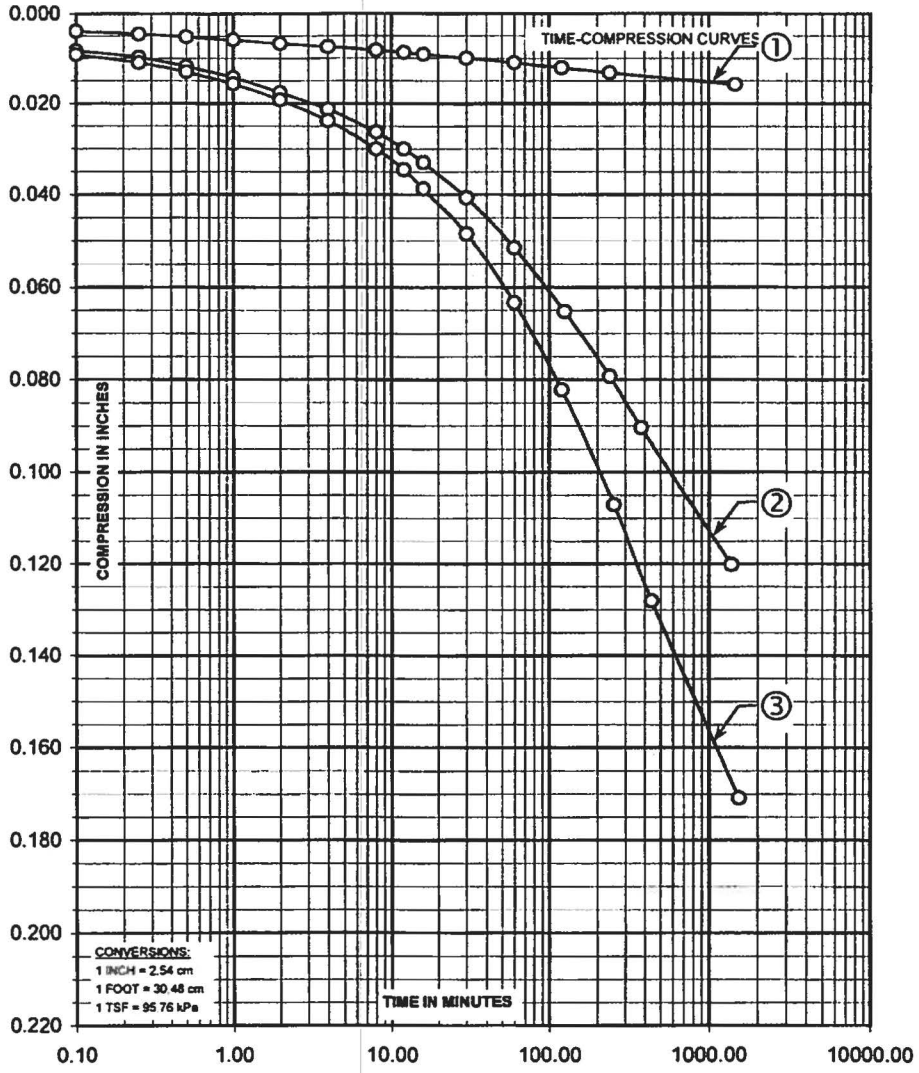
MADE BY. BEE/MM DATE: 01-22-04
CHKD BY. WJP DATE: 02-02-04

FILE NO. 10028

CONSOLIDATION TEST
BORING 120-SB-210D SAMPLE 1U

PLATE NO. 18

MRCE Form CONSOL-1



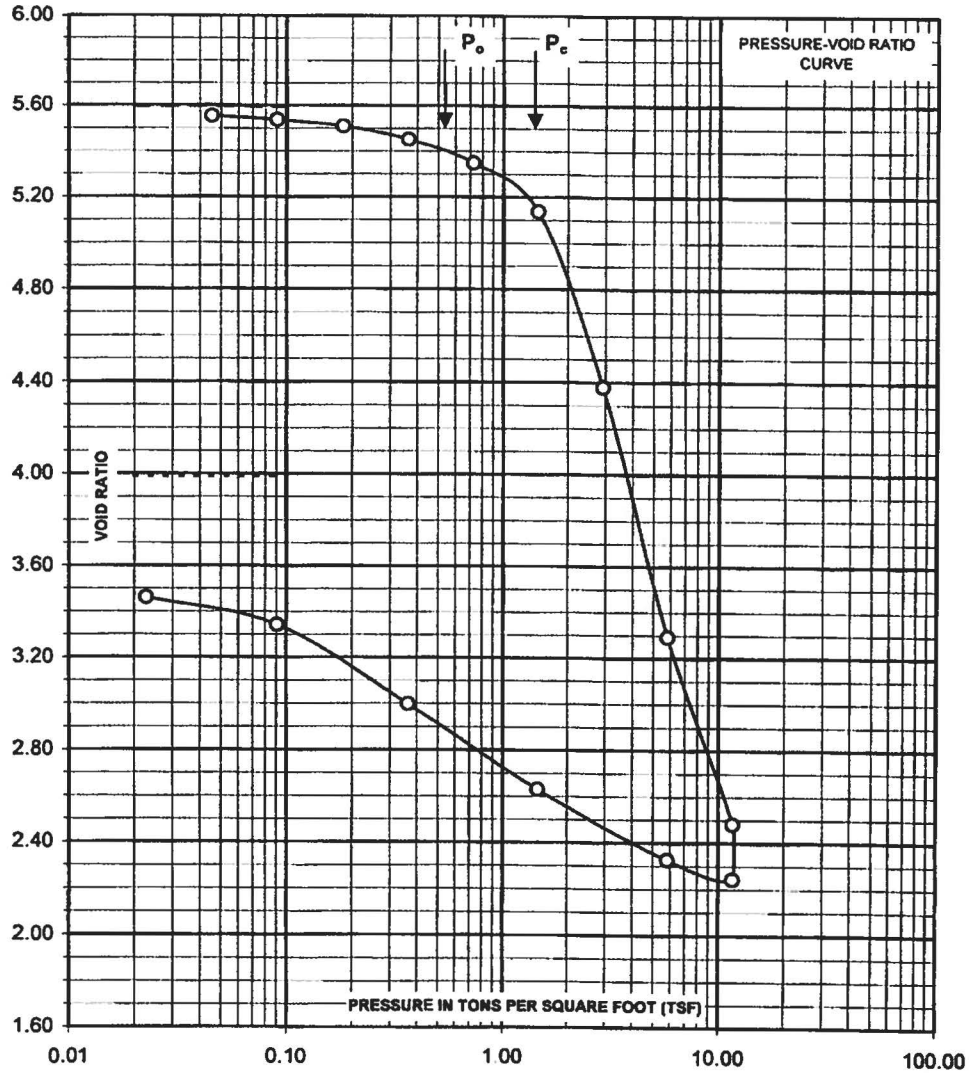


PLATE NO. 13

CURVE NO.	INCREMENT FROM (TSF)	INCREMENT TO (TSF)
①	0.36	0.73
②	1.46	2.91
③	2.91	5.82

SPECIMEN DESCRIPTION: STIFF BROWN PEAT (Pt)

STRATUM D

PROPERTIES OF PLASTICITY LIMIT SPECIMEN

UNIFIED SOILS CLASSIFICATION - Pt
LIQIUD LIMIT, w_L = 541
PLASTICITY LIMIT, w_P = 379
PLASTICITY INDEX, I_P = 161
NATURAL WATER CONT., $\%_w$ = 229 6
LIQUIDITY INDEX, $(w-w_P)/I_P$ = -0.93
SPECIFIC GRAVITY, G_s = 1.78

PROPERTIES OF CONSOLIDATION SPECIMEN

ELEVATION OF SPECIMEN = -5.0
DEPTH OF SPECIMEN (FT) = 19.5
DIAMETER OF SPECIMEN (IN) = 150
INITIAL THICKNESS OF SPECIMEN (IN) = 0.9946
INITIAL WATER CONTENT, % = 289.0
FINAL WATER CONTENT, % = 212.4
INITIAL DEGREE OF SATURATION, % = 91.8
FINAL DEGREE OF SATURATION, % = 94.7

INITIAL VOID RATIO, e_o = 5.597
FINAL VOID RATIO, e_f = 3.989
ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c = 1.4
EXISTING OVERBURDEN STRESS (TSF), P_o = 0.52
COMPRESSION INDEX, C_c = 3.62
SWELLING INDEX, C_s = 0 58, REBOUND FROM e = 2.242

STUDY AREA 7

JERSEY CITY NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34TH STREET, NEW YORK, N.Y. 10122

MADE BY: BEE DATE: 01-06-04
CHKD BY: WJP DATE: 01-27-04

FILE NO. 10028

CONSOLIDATION TEST
BORING 115-SB-211D SAMPLE 1U

PLATE NO. 13

MRCE Form CONSOL-1

APPENDIX A

MUESER RUTLEDGE CONSULTING ENGINEERS

FILE 11173

MADE BY APS DATE 9/28/15

PROJECT CHROMIUM REMEDY SA-6

CHECKED BY ____ DATE ____

SUBJECT CALCULATION OF STRESSES

APPENDIX A

① Using average Pc from consolidation tests:

Pc (SB-210D) = 0.53 tsf = 1060 psf

Pc (SB-211D) = 1.4 tsf = 2800 psf

Pc (average) = 1930 psf

② Using OCR from consolidation tests:

At ELEV. -2.5 ⇒ σ'_v = 120pcf x 13.5 ft − 62.4pcf x 10 ft

= 1064 psf

OCR(SB-210D) = 1.77

OCR(SB-211D) = 2.69

OCR(average) = 2.23

1064 psf x 2.23 = 2372 psf

AVERAGE ① & ② = 2151 psf

③ Stress at Final Condition



Final Effective overburden stress:

σ'_{vf} = 1064 + (1.5+0.5) x 125pcf

= 1314 psf < 1930 psf

Added soil avg height = 1.5'

Max. increase in grade = 0.5'

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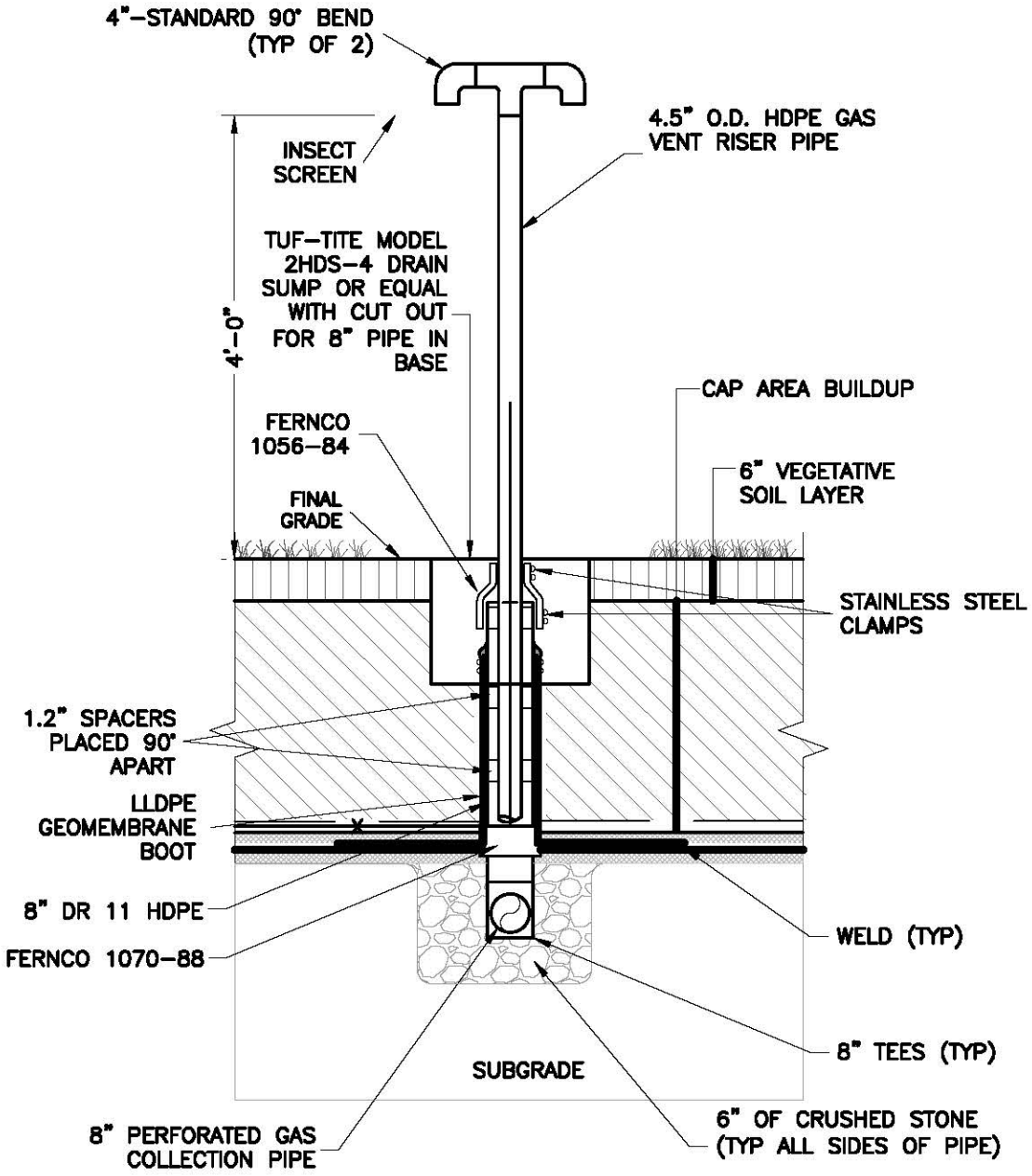
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\CURRENT DRAWINGS\3480150488-5710-GVD0-0000.dwg Fri, 12 May 2017 - 1:15pm charles.wingfield



GAS VENT DETAIL

NTS

Amec Foster Wheeler PROJECT No. 3480160544 DRAWING: 3480150488-5710-GVD0-0000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE, Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	SA-6 GAS VENT DETAIL STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 04/20/17 | CHECKED/DATE: NW 04/20/17		

APPENDIX D

DESIGN CHANGE BULLETIN LOG

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
1	**DC 2013-7-29**	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentation Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.	SA-6 North & SA-6 South	A, C
2	**DC 2013-8-14 (HB Wall)**	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.	North	A
3	**DC 2013-8-14 (Grouted Angles)**	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.	South	C
4	**DC 2013-9-12**	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.	South	C
5	**DC 2013-9-24**	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South	A, B, C, D, E
6	**DC 2013-12-12**	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.	South	D, E
7	**DC 2014-3-25**	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.	SA-6 North & SA-6 South	A, C
7.1	**DC 2014-6-10**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field observations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.2	**DC 2014-11-20**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.	North	A
7.22	**DC 2016-6-6**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).	North	A
7.3	**DC 2015-2-12**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.4	**DC 2015-9-03**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.4.1	**DC 2016-5-24**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elimination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South	C
7.4.2	**DC 2016-12-20**	This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.	Included as an attachment to Declaration 005.	SA-6 North & SA-6 South	A, C
7.5	**DC 2015-2-24**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	SA-6 North & SA-6 South	A, C
8.1	**DC 2013-8-14 (Surcharge)**	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.	South	C, D
9	**DC 2014-5-6**	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS Site Vision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.	South	E
10	**DC 2014-5-19**	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.	South	D, E
11	**DC 2014-7-28**	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.	SA-6 North & SA-6 South	A, B, C, D, E
12	**DC 2014-10-28**	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.	South	C, D
13	**DC 2014-8-13**	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.	North	A
14	**DC 2014-9-2**	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.	North	A

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
15	**DC 2014-10-31**	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South	A, B, C, D, E
16	**DC 2014-12-01**	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.	South	E
17	**DC 2015-01-22**	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Parties as Attachment to Declaration 004.	SA-6 North & SA-6 South	A, B, C, D, E
18	**DC 2014-12-23**	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.	South	E
19	**DC 2015-03-03**	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.	North	A, B
20	**DC 2015-03-30**	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.	North	A
21	**DC 2015-03-04**	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.	South	C
22	**DC 2015-03-09**	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.	North	B
23	**DC 2015-04-30**	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.	North	A
26.1	**DC 2015-05-19**	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	SA-6 North & SA-6 South	A, C
27	**DC 2015-06-18**	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.	South	C
28	**DC 2015-05-29**	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.	South	C
29	**DC 2015-06-05**	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.	South	C, D
30	**DC 2015-11-12**	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Included as an attachment to Declaration 005.	South	C, D, E
30.1	**DC 2016-04-15**	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Included as an attachment to Declaration 005.	South	C, D, E

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
30.2	**September 2016-South**	The design change documents revisions to the final grading and SESCP drawings on the SA-6 South Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage. In addition, the extent of demarcation fabric, crushed stone and DGA placed over the Development Area was increased to meet historic fill regulations. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	South	C, D, E
32	**DC 2015-06-18 (South)**	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.	South	E
33	**DC 2015-06-18 (North)**	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.	North	B
34	**DC 2015-06-15**	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.	South	C
35	**DC 2015-07-16**	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.	South	C
35.2	**DC 2015-08-18**	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.	South	C
35.3	**DC 2015-10-06**	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.	South	C
36	**DC 2015-07-22**	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.	South	C
37	**DC 2015-07-28**	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.	South	C
37.2	**DC 2015-08-07**	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.	South	C
38	**DC 2015-07-31**	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.	North	A
39	**DC 2015-07-30**	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.	South	C
41	**DC 2015-08-19**	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.	SA-6 North & SA-6 South	A, C
42	**DC 2015-08-21**	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.	SA-6 North & SA-6 South	A, C
43	**DC 2015-08-20**	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.	South	C
45	**DC 2015-9-02**	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Parties as Attachment to Declaration 004.	North	A

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
46	**DC 2015-9-17**	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.	SA-6 North & SA-6 South	A, C
47	**DC 2015-9-04**	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Parties as Attachment to Declaration 003.	North	B
47.1	**DC 2015-11-18**	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Parties as Attachment to Declaration 003.	North	B
48	**DC 2015-09-28**	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.	South	E
48.1	**DC 2015-12-21**	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.	South	E
50	**DC 2015-10-02**	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.	SA-6 North & SA-6 South	A, C
51	**DC 2015-10-22**	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.	North	B
52	**DC 2015-12-14**	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.	North	A
53	**DC 2015-11-30**	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Parties as Attachment to Declaration 003.	North	B
54	**DC 2016-02-02**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).	North	A
54.1	**DC 2016-02-22**	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.	North	A
54.2	**DC 2016-02-25**	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.	North	A
54.3	**DC 2016-5-11**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Parties as Attachment to Declaration 004.	North	A

SA-6 North/South Field Change Log					
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**	**AOC Designation[1]**
54.4	**DC 2016-5-20**	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.	North	A
54.5	**DC 2016-7-14**	Design change documenting minor field changes needed to achieve positive drainage in the cap area.	Included as an attachment to November 2016 monthly progress report and included in the finalized Declaration 004.	North	A
54.6	**September 2016-North**	The design change documents revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage pending redevelopment. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	North	A
55	**DC 2016-05-03**	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South	A, C
56	**DC 2016-03-18**	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. The Parties did not agree to implement this DCB as drafted. However, Plaintiffs and Honeywell subsequently held discussions and DCB 2016-4-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.	SA-6 North & SA-6 South	A, C
57	**DC 2016-03-21**	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.	SA-6 North & SA-6 South	A, C
58	**DC 2016-05-06**	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.	South	C
59	**DC 2016-04-20**	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.	SA-6 North & SA-6 South	A, C
60	**DC 2016-05-31**	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.	South	C
61	**DC 2016-11-09**	The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy.	Included as an attachment to Declaration 005.	North	B
62	**DC 2016-7-12**	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.	North	A

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

1) Area of Concern (AOC) Designations:
   A = SA-6 North Open Space Area
   B = SA-6 North Development Area
   C = SA-6 South Open Space AOC
   D = SA-6 South Kellogg Street Development AOC
   E = SA-6 South Site 163 Development AOC

APPENDIX E

MONITORING WELL INSTALLATION PERMITS/RECORDS/FORM B'S
(CD ONLY)

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601094

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601396 Northing (Y): 685464
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 073-MW-06

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601094

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601094

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601396 Northing (Y): 685464
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 17, 2016

DATE WELL COMPLETED: February 17, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-06

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 20 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	6		
Casing	0	4	2	PVC	SH40
Screen	4	19	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	20	6	2	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 6 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 16: BRN SP - Poorly graded sands and gravelly sands, little or no fines
16 - 20: BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601093

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601451 Northing (Y): 685358
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 073-MW-07

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Jerry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601093

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601093

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601451 Northing (Y): 685358
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 23, 2016

DATE WELL COMPLETED: February 23, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-07

WELL CONSTRUCTION

Total Depth Drilled (ft.): 18 Finished Well Depth (ft.): 18 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	18	6		
Casing	0	4	2	PVC	SH40
Screen	4	18	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	18	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - .5: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines CONCRETE
.5 - 15: BRN SP - Poorly graded sands and gravelly sands, little or no fines
15 - 18: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601092

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601621 Northing (Y): 685234
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 073-MW-08

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601092

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601092

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601621 Northing (Y): 685234
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 12, 2016

DATE WELL COMPLETED: February 12, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-08

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17.5 Finished Well Depth (ft.): 17 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.5	6		
Casing	0	4	2	PVC	SH40
Screen	4	17	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	6	2	0	55	3
Gravel Pack	4	17	6	2	MORIE#1		
Gravel Pack	17	17.5	6	0	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5.2 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GOS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 17.5: BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601085

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602732 Northing (Y): 684286
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 124-MW-12

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 1, 2016
Expiration Date: January 31, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601085

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601085

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602732 Northing (Y): 684286
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 19, 2016

DATE WELL COMPLETED: February 19, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-12

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14.5 Finished Well Depth (ft.): 14.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14.5	6		
Casing	0	4.5	2	PVC	SH40
Screen	4.5	14.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.5	6	2	0	50	2.75
Gravel Pack	3.5	14.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 8: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL
8 - 14.5: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601084

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603014 Northing (Y): 684268
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 124-MW-13

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 1, 2016
Expiration Date: January 31, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601084

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601084

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603014 Northing (Y): 684268
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 10, 2016

DATE WELL COMPLETED: February 10, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-13

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	4	2	PVC	SH40
Screen	4	13	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	13	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 3.1 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
12 - 13: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601087

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602448 Northing (Y): 684489
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 125-MW-02

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 1, 2016
Expiration Date: January 31, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601087

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601087

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602448 Northing (Y): 684489
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 19, 2016

DATE WELL COMPLETED: February 19, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 125-MW-02

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13.5 Finished Well Depth (ft.): 13.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13.5	6		
Casing	0	3.5	2	PVC	SH40
Screen	3.5	13.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	13.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 1: BLACK GM - Silty gravels, gravel-sand-silt mixtures ASPHALT
1 - 4: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
4 - 13.5: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601086

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602577 Northing (Y): 684585
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 125-MW-03

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 1, 2016
Expiration Date: January 31, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601086

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601086

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602577 Northing (Y): 684585
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 11, 2016

DATE WELL COMPLETED: February 11, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 125-MW-03

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11.5 Finished Well Depth (ft.): 11.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11.5	6		
Casing	0	4	2	PVC	SH40
Screen	4	11.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	11.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 2.1 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 11: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
11 - 11.5: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601091

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 4 Block: 24601

Easting (X): 601865 Northing (Y): 685020
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 134-MW-03

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Terry D. Pilawski

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601091

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601091

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 4 Block: 24601

Easting (X): 601865 Northing (Y): 685020
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 16, 2016

DATE WELL COMPLETED: February 16, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-03

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17 Finished Well Depth (ft.): 17 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17	6		
Casing	0	4	2	PVC	SH40
Screen	4	17	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	17	6	2	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5.2 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMENSIBLW
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 17: BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601090

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602016 Northing (Y): 685002
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 134-MW-04

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Terry D. Pilawski

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601090

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601089

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Development

Address: 80 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602106 Northing (Y): 684819
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 140-MW-09

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601089

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601089

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Development

Address: 80 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602106 Northing (Y): 684819
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 12, 2016

DATE WELL COMPLETED: February 12, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-09

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14.5 Finished Well Depth (ft.): 14 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14.5	6		
Casing	0	4	2	PVC	SH40
Screen	4	14	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	6	2	0	55	3
Gravel Pack	4	14	6	2	MORIE#1		
Gravel Pack	14	14.5	6	0	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4.7 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 1: BLACK GW - Well-graded gravels and gravel-sand mixtures, little or no fines ASPHALT
1 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 10: BRN SM - Silty sands, sand-silt mixtures
10 - 14.5: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601088

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Development

Address: 80 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602287 Northing (Y): 684774
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 140-MW-10

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601088

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
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If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
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In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
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The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601088

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Development

Address: 80 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602287 Northing (Y): 684774
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 11, 2016

DATE WELL COMPLETED: February 11, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-10

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	6		
Casing	0	4	2	PVC	SH40
Screen	4	12	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	12	6	2	MORIE31		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 11: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
11 - 12: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines CRUSHED CONCRETE

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601098

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601868 Northing (Y): 685185
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 22, 2016

DATE WELL COMPLETED: February 22, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-V09R

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17.5 Finished Well Depth (ft.): 17.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.5	6		
Casing	0	3.5	2	PVC	SH40
Screen	3.5	17.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	17.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4.5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 17.5: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601098

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601868 Northing (Y): 685185
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 134-MW-V09R

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Terry D. Pilawski

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601098

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601099

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 75 Kellogg St

County: Hudson Municipality: Jersey City Lot: 11 Block: 24601

Easting (X): 601575 Northing (Y): 685166
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 163-MW-03

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 1, 2016
Expiration Date: January 31, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601099

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601100

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: 80 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602412 Northing (Y): 684614
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: 140-MW-11

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: MONITORING

Other Use(s):

Diameter (in.): 2

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Air Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: February 2, 2016
Expiration Date: February 1, 2017

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601100

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 200 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000000927 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 200 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601094
2. Site Well Number (As shown on application or plans): 073-MW-06
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-52.52 Longitude: West 074-06-20.63
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685465 East 601414
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 11.50
   Elevation Top of Outer casing: 11.72 Elevation of ground: 9.01
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 200 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000000927 Case Tracking Number(s): N.A

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 200 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601093
2. Site Well Number (As shown on application or plans): 073-MW-07
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-51.46 Longitude: West 074-06-20.16
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685359 East 601451
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.38
   Elevation Top of Outer casing: 11.24 Elevation of ground: 9.71 (High side) / 7.30 (Low side)
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 200 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000000927 Case Tracking Number(s): N.A

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 200 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601092
2. Site Well Number (As shown on application or plans): 073-MW-08
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-50.23 Longitude: West 074-06-17.95
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685235 East 601621
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.57
   Elevation Top of Outer casing: 11.01 Elevation of ground: 7.47
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 427 Rte. 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008741 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 427 Rte. 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 8

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601085
2. Site Well Number (As shown on application or plans): 124-MW-12
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-40.77 Longitude: West 074-06-03.53
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684282 East 602736
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 11.97
   Elevation Top of Outer casing: 13.37 Elevation of ground: 9.89
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 427 Rte. 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008741 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 427 Rte. 440, Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 8

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601084
2. Site Well Number (As shown on application or plans): 124-MW-13
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-40.61 Longitude: West 074-05-59.91
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684267 East 603014
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 13.02
   Elevation Top of Outer casing: 13.22 Elevation of ground: 9.52
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 60 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008742 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 60 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 7

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601087
2. Site Well Number (As shown on application or plans): 125-MW-02
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-42.82 Longitude: West 074-06-07.22
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684488 East 602451
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 8.07
   Elevation Top of Outer casing: 8.44 Elevation of ground: 8.45
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: Glen J. Lloyd Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 60 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008742 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 60 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 7

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601086
2. Site Well Number (As shown on application or plans): 125-MW-03
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-43.77 Longitude: West 074-06-05.58
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684585 East 602577
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 11.27
   Elevation Top of Outer casing: 11.54 Elevation of ground: 7.60
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: Glen J. Lloyd Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 100 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 033312 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 100 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 4

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601091
2. Site Well Number (As shown on application or plans): 134-MW-03
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-48.41 Longitude: West 074-06-14.64
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685051 East 601877
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.40
   Elevation Top of Outer casing: 11.01 Elevation of ground: 7.44
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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SEAL

Professional Land Surveyor's Signature: Glen J. Lloyd Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 100 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 033312 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 100 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601090
2. Site Well Number (As shown on application or plans): 134-MW-04
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-48.07 Longitude: West 074-06-12.76
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685018 East 602022
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 9.85
   Elevation Top of Outer casing: 10.63 Elevation of ground: 8.74 (High side) / 6.86 (Low side)
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
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SEAL

Professional Land Surveyor's Signature: Glen J. Lloyd Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 80 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 003846 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 80 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 6

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601089
2. Site Well Number (As shown on application or plans): 140-MW-09
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-46.10 Longitude: West 074-06-11.68
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684819 East 602106
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.72
   Elevation Top of Outer casing: 10.95 Elevation of ground: 8.65
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
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Professional Land Surveyor's Signature: Date 4/13/16

Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Development AOC Shallow Ground Water Wells 02-Site

List all AKAs: Honeywell SA6-South

Street Address: 80 Kellogg St.

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 003846 Case Tracking Number(s): N.A.

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Honeywell
2. Well Location (Street Address) 80 Kellogg St., Jersey City, Hudson County, NJ
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 6

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201601088
2. Site Well Number (As shown on application or plans): 140-MW-10
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-45.77 Longitude: West 074-06-09.24
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684786 East 602294
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.49
   Elevation Top of Outer casing: 10.77 Elevation of ground: 8.46 (High side) / 6.64 (Low side)
   Check one: ☐ NAVD 88 ☒ NVGD29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
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Surveyor's Name: Glen J. Lloyd License Number: GS037598

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 2AGA27986500

Mailing Address 331 Newman Springs Road Suite 203

City/Town: Red Bank State New Jersey Zip Code: 07701

Phone Number 732-383-1950 Ext.: 3466 Fax: 732-383-1984

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506364

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603290 Northing (Y): 684201
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-11

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506364

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506364

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603290 Northing (Y): 684201
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 13, 2015

DATE WELL COMPLETED: July 13, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-11

WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.5 Finished Well Depth (ft.): 9.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.5	8		
Casing	0	4.5	4	Stainless Steel	SH40
Screen	4.5	9.5	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.5	8	4	1.2	55	3
Gravel Pack	2.5	3.5	8	4	Morie #00		
Gravel Pack	3.5	9.5	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 2 ft. below land surface
Water Level Measure Tool: Tape
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Moble B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 1: BLK OT - Other ASPHALT
1 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 9.5: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506365

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603277 Northing (Y): 684208
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-12

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506365

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506365

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603277 Northing (Y): 684208
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 9, 2015

DATE WELL COMPLETED: July 9, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-12

WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.46 Finished Well Depth (ft.): 9.46 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.46	8		
Casing	0	4.46	4	Stainless Steel	SH40
Screen	4.46	9.46	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1.46	8	4	1	31	1.5
Gravel Pack	1.46	3.46	8	4	MORIE#00		
Gravel Pack	3.46	9.46	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7.5 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 9.46: GRAY-BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506366

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602902 Northing (Y): 684414
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-13

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506366

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
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In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506366

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602894 Northing (Y): 684392
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 10, 2015

DATE WELL COMPLETED: July 10, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-13

WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.58 Finished Well Depth (ft.): 9.58 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.58	8		
Casing	0	4.58	4	Stainless Steel	SH40
Screen	4.58	9.58	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.58	8	4	1.2	30	1.75
Gravel Pack	2.58	3.58	8	4	MORIE#00		
Gravel Pack	3.58	9.58	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 2 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 9.58: GRAY-BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506367

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602908 Northing (Y): 684421
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-14

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506367

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506367

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602908 Northing (Y): 684421
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 10, 2015

DATE WELL COMPLETED: July 10, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-14

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14.1 Finished Well Depth (ft.): 14.1 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14.1	8		
Casing	0	9.1	4	Stainless Steel	SH40
Screen	9.1	14.1	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6.1	8	4	6	130	7.33
Gravel Pack	6.1	8.1	8	4	MORIE#00		
Gravel Pack	8.1	14.1	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 11.2 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: BRN SM - Silty sands, sand-silt mixtures FILL
5 - 14.1: RD-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506368

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602498 Northing (Y): 684736
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-15

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506368

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506368

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602498 Northing (Y): 684736
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 7, 2015

DATE WELL COMPLETED: July 7, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-15

WELL CONSTRUCTION

Total Depth Drilled (ft.): 10.1 Finished Well Depth (ft.): 10.1 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10.1	8		
Casing	0	5.1	4	Stainless Steel	SH40
Screen	5.1	10.1	4	Stanless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.1	8	4	1	65	3.75
Gravel Pack	3.1	5.1	8	4	Morie #00		
Gravel Pack	5.1	10.1	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10.1: BRN GM - Silty gravels, gravel-sand-silt mixtures Fill

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506369

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602509 Northing (Y): 684751
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-16

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506369

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
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The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506369

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602509 Northing (Y): 684751
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 8, 2015

DATE WELL COMPLETED: July 8, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-16

WELL CONSTRUCTION

Total Depth Drilled (ft.): 18.66 Finished Well Depth (ft.): 18.66 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	18.66	8		
Casing	0	13.66	4	Stainless Steel	SH40
Screen	13.66	18.66	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10.66	8	4	10	230	13
Gravel Pack	10.66	12.66	8	4	MORIE#00		
Gravel Pack	12.66	18.66	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 14.7 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 8: BRN SM - Silty sands, sand-silt mixtures
8 - 15: BRN GM - Silty gravels, gravel-sand-silt mixtures
15 - 18.66: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506370

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 601978 Northing (Y): 685121
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-17

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506370

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
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The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506370

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 601978 Northing (Y): 685121
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 30, 2015

DATE WELL COMPLETED: July 1, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-17

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	8		
Casing	0	7	4	Stainless Steel	SH40
Screen	7	12	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	8	4	0.75	85	4.75
Gravel Pack	4	6	8	4	MORIE #00		
Gravel Pack	6	12	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506371

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 601989 Northing (Y): 685136
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-18

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506371

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506371

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 601989 Northing (Y): 685136
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 6, 2015

DATE WELL COMPLETED: July 7, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-18

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16.2 Finished Well Depth (ft.): 16.2 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16.2	8		
Casing	0	11.2	4	Stainless Steel	SH40
Screen	11.2	16.2	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9.2	8	4	1.1	200	11
Gravel Pack	9.2	11.2	8	4	Morie #00		
Gravel Pack	11.2	16.2	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 16.2: BRN GM - Silty gravels, gravel-sand-silt mixtures fill

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506372

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 200 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601501 Northing (Y): 685587
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-19

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506372

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506372

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 200 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601501 Northing (Y): 685587
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 1, 2015

DATE WELL COMPLETED: July 1, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-19

WELL CONSTRUCTION

Total Depth Drilled (ft.): 10.4 Finished Well Depth (ft.): 10.4 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10.4	8		
Casing	0	5.4	4	Stainless Steel	SH40
Screen	5.4	10.4	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.4	8	4	1	70	4
Gravel Pack	3.4	5.4	8	4	Morie #00		
Gravel Pack	5.4	10.4	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10.4: BRN GM - Silty gravels, gravel-sand-silt mixtures Fill

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506373

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: BAYFRONT REDEVELOPMENT

Address: 200 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601504 Northing (Y): 685584
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: PZ-20

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 4

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: June 10, 2015
Expiration Date: June 9, 2016

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506373

WELL PERMIT

%%:activity_class_well%%

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506373

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 200 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601504 Northing (Y): 685584
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 2, 2015

DATE WELL COMPLETED: July 2, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-20

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17.3 Finished Well Depth (ft.): 17.3 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.3	8		
Casing	0	12.3	4	Stainless Steel	SH40
Screen	12.3	17.3	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10.3	8	4	1	220	12.5
Gravel Pack	10.3	12.3	8	4	Morie #00		
Gravel Pack	12.3	17.3	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures Fill
12 - 17.3: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201514336

WELL PERMIT

New Well

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Bayfront Redevelopment

Address: Kellogg St

County: Hudson Municipality: Jersey City Lot: 11 Block: 24601

Easting (X): 601529 Northing (Y): 685182
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-8

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 20

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Terry D. Pilawski

Approval Date: December 1, 2015
Expiration Date: November 30, 2016

Approved by the authority of:
Bob Martin
Commissioner

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201514336

WELL PERMIT

New Well

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201312361

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former Roosvelt Bowling Lanes

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603064 Northing (Y): 684266
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-01

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 10

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: August 28, 2013
Expiration Date: August 28, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201312361

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313208

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348
Permit Issued to: B & B DRILLING INC
Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC
Organization: BAYFRONT REDEVELOPMENT, LLC
Address: 101 COLUMBIA ROAD
City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former Delphic Consolidated
Address: 60 Kellogg St Well dischaged to on-site treatment
County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602394 Northing (Y): 684743
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-02

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING
Other Use(s):
Diameter (in.): 6
Regulatory Program Requiring Wells/Borings:
Depth (ft.): 50
Case ID Number:
Pump Capacity (gpm): 10
Deviation Requested: N
Drilling Method: Mud Rotary
Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: September 11, 2013
Expiration Date: September 11, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313208

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313209

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former Old Dominion

Address: 100 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602394 Northing (Y): 684743
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-03

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 10

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: September 11, 2013
Expiration Date: September 11, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313209

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313210

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former ABF Trucking

Address: 80 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602047 Northing (Y): 685060
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-04

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 10

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: September 11, 2013
Expiration Date: September 11, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313210

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313226

WELL PERMIT

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Former Boatyard

Address: 150 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 2 Block: 24601

Easting (X): 601735 Northing (Y): 685278
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: DW-O5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: DEWATERING

Other Use(s):

Diameter (in.): 6

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 10

Deviation Requested: N

Drilling Method: Mud Rotary

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: September 11, 2013
Expiration Date: September 11, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313226

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201514336

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: Kellogg St

County: Hudson Municipality: Jersey City Lot: 11 Block: 24601

Easting (X): 601529 Northing (Y): 685182
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: December 18, 2015

DATE WELL COMPLETED: December 23, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-8

WELL CONSTRUCTION

Total Depth Drilled (ft.): 48 Finished Well Depth (ft.): 48 Well Surface: 3 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.5	14		
Borehole	17.5	48	10		
Casing	0	23	6	PVC	SC40
Casing	0	17.5	10	Steel	SC40
Screen	23	48	6	PVC	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	22	10	6	0	630	35
Grout	0	17.5	14	10	0	750	42
Gravel Pack	22	48	10	6	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: December 18, 2015
Pump Equipment: Submersible
Well Yield: 10 gpm
Static Water Level: 8 ft. below land surface
Pumping Water Level: 18 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Not Installed
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: 10 gpm
Duration of Test: 1 hours

GEOLOGIC LOG
0 - 2: GRAY GM - Silty gravels, gravel-sand-silt mixtures
2 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 10: BRN SM - Silty sands, sand-silt mixtures
10 - 16: BRN/RED ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
16 - 19: BRN/BLK PT - Peat, muck, and other highly organic soils
19 - 24: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
24 - 35: GRAY SM - Silty sands, sand-silt mixtures
35 - 48: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201312361

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Former Roosvelt Bowling Lanes

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603064 Northing (Y): 684266
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: September 9, 2013

DATE WELL COMPLETED: September 12, 2013

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-01

WELL CONSTRUCTION

Total Depth Drilled (ft.): 44.5 Finished Well Depth (ft.): 44.5 Well Surface: 3 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	44.5	10		
Borehole	0	13	14		
Casing	0	19.5	6	PVC	SH40
Casing	0	13	10	Steel	SH40
Screen	19.5	44.5	6	PVC	0.020"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	16.5	10	6	0	470	27
Grout	0	13	14	10	0	600	34
Gravel Pack	16.5	44.5	10	6	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: September 12, 2014
Pump Equipment: AIR LIFT
Well Yield: 10 gpm
Static Water Level: 4.7 ft. below land surface
Pumping Water Level: 30 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Installed by Others
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 2: GRAY OT - Other CONCRETE
2 - 6: BRN GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL
6 - 10: BLK SM - Silty sands, sand-silt mixtures
10 - 12: BLK ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
12 - 15.5: BRN PT - Peat, muck, and other highly organic soils
15.5 - 17: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines
17 - 44.5: RED SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313208

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Former Delphic Consolidated

Address: 60 Kellogg St Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602394 Northing (Y): 684743
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: September 18, 2013

DATE WELL COMPLETED: September 23, 2013

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-02

WELL CONSTRUCTION

Total Depth Drilled (ft.): 46 Finished Well Depth (ft.): 46 Well Surface: 3 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	46	10		
Borehole	0	14	14		
Casing	0	21	6	PVC	SH40
Casing	0	14	10	Steel	SH40
Screen	21	46	6	PVC	0.020"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	10	6	0	515	29
Grout	0	14	14	10	0	600	34
Gravel Pack	18	46	10	6	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: September 23, 2014
Pump Equipment: AIR LIFT
Well Yield: 10 gpm
Static Water Level: 4.9 ft. below land surface
Pumping Water Level: 30 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Installed by Others
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 2: BLK OT - Other ASPHALT/CONCRETE
2 - 6: BRN GP - Poorly graded gravels and gravel-sand mixtures, little or no fines FILL
6 - 12: GRAY SM - Silty sands, sand-silt mixtures
12 - 12.6: GRAY ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
12.6 - 17: BRN PT - Peat, muck, and other highly organic soils
17 - 21: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
21 - 46: RED SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313209

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Former Old Dominion

Address: 100 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602394 Northing (Y): 684743
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 4, 2014

DATE WELL COMPLETED: June 6, 2014

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-03

WELL CONSTRUCTION

Total Depth Drilled (ft.): 46 Finished Well Depth (ft.): 46 Well Surface: 3 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	46	10		
Borehole	0	15.5	14		
Casing	0	21	6	PVC	SH40
Casing	0	15.5	10	Steel	SH40
Screen	21	46	6	PVC	0.020"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	18	10	6	0	520	30
Grout	0	15.5	14	10	0	660	37
Gravel Pack	18	46	10	6	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: June 6, 2014
Pump Equipment: AIR LIFT
Well Yield: 10 gpm
Static Water Level: 8 ft. below land surface
Pumping Water Level: 40 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Not Installed
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 1: BLK GP - Poorly graded gravels and gravel-sand mixtures, little or no fines ASPHALT
1 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 10: GRAY ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
10 - 13: GRAY SM - Silty sands, sand-silt mixtures
13 - 16: BRN-BLK PT - Peat, muck, and other highly organic soils
16 - 20: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
20 - 46: RED SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313210

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Former ABF Trucking

Address: 80 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602047 Northing (Y): 685060
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: May 12, 2014

DATE WELL COMPLETED: May 15, 2014

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-04

WELL CONSTRUCTION

Total Depth Drilled (ft.): 48 Finished Well Depth (ft.): 48 Well Surface: 3 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	48	10		
Borehole	0	17	14		
Casing	0	23	6	PVC	SH40
Casing	0	17	10	Steel	SH40
Screen	23	48	6	PVC	0.020"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	22	10	6	0	630	35
Grout	0	17	14	10	0	600	34
Gravel Pack	22	48	10	6	#1 MORIE		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: May 15, 2014
Pump Equipment: AIR LIFT
Well Yield: 13 gpm
Static Water Level: 8 ft. below land surface
Pumping Water Level: 20 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Installed by Others
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 1: BLK GW - Well-graded gravels and gravel-sand mixtures, little or no fines ASPHALT
1 - 5: BRN GP - Poorly graded gravels and gravel-sand mixtures, little or no fines FILL
5 - 10: BRN SM - Silty sands, sand-silt mixtures
10 - 14: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
14 - 16: BLK ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
16 - 20: BRN PT - Peat, muck, and other highly organic soils
20 - 24: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
24 - 40: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines
40 - 48: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313210

WELL RECORD

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313226

WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Former Boatyard

Address: 150 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 2 Block: 24601

Easting (X): 601735 Northing (Y): 685278
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 28, 2014

DATE WELL COMPLETED: March 5, 2014

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-O5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 50 Finished Well Depth (ft.): 50 Well Surface: 2.5 ft. Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	50	10		
Borehole	0	19.5	14		
Casing	0	25	6	PVC	SC40
Casing	0	19.5	10	Steel	SH40
Screen	25	50	6	PVC	0.020"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	24	10	6	0	685	39
Grout	0	19.5	14	10	0	835	47
Gravel Pack	24	50	10	6	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

RECORD OF TEST
Test Date: March 5, 2014
Pump Equipment: AIR LIFT
Well Yield: 20 gpm
Static Water Level: 6.7 ft. below land surface
Pumping Water Level: 25 ft. below land surface

ATTACHMENTS

PUMPING EQUIPMENT
Installed: Installed by Others
Installer's Name: ,
Pump Type:
Depth to Pump: _ ft. below land surface
Pump Capacity: _ gpm
Total Design Head: _ ft.
Pump Horsepower: _ hp
If pump tested Discharge Rate: _ gpm
Duration of Test: _ hours

GEOLOGIC LOG
0 - 1: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines CONCRETE
1 - 7: BRN GP - Poorly graded gravels and gravel-sand mixtures, little or no fines FILL
7 - 12: BRN SM - Silty sands, sand-silt mixtures
12 - 16: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
16 - 18: BLK ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
18 - 21: BRN PT - Peat, muck, and other highly organic soils
21 - 30: RED-BRN SP - Poorly graded sands and gravelly sands, little or no fines
30 - 42: BRN SM - Silty sands, sand-silt mixtures
42 - 50: GRAY ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313226

WELL RECORD

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601084**
Owner's Well Number (as shown on the application or plans:	**124-MW-13**
Well Completion Date:	**February 10, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**13 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**9 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**3.1 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**0.5 hr**
Lithologic Log:	**Attached**

Authentication:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN E. BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601084

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603014 Northing (Y): 684268
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 10, 2016

DATE WELL COMPLETED: February 10, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-13

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	4	2	PVC	SH40
Screen	4	13	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	13	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 3.1 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
12 - 13: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601085**
Owner's Well Number (as shown on the application or plans:	**124-MW-12**
Well Completion Date:	**February 19, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**14.5 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4.5 ft**
Screen Length:	**10 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**5 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

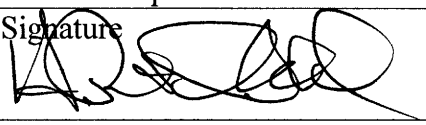
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

GORDON BLEWETT 

Name (type or print) Signature

Certification or License No. **0021852**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601085

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602732 Northing (Y): 684286
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 19, 2016

DATE WELL COMPLETED: February 19, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-12

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14.5 Finished Well Depth (ft.): 14.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14.5	6		
Casing	0	4.5	2	PVC	SH40
Screen	4.5	14.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.5	6	2	0	50	2.75
Gravel Pack	3.5	14.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 8: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL
8 - 14.5: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601086**
Owner's Well Number (as shown on the application or plans:	**125-MW-03**
Well Completion Date:	**February 11, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**11.5 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**7.5 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**2.1 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**0.5 hr**
Lithologic Log:	**Attached**

Authentication:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN E. BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601086

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602577 Northing (Y): 684585
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 11, 2016

DATE WELL COMPLETED: February 11, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 125-MW-03

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11.5 Finished Well Depth (ft.): 11.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11.5	6		
Casing	0	4	2	PVC	SH40
Screen	4	11.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	11.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 2.1 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 11: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
11 - 11.5: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601087**
Owner's Well Number (as shown on the application or plans:	**125-MW-02**
Well Completion Date:	**February 19, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**13.5 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**3.5 ft**
Screen Length:	**10 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**4 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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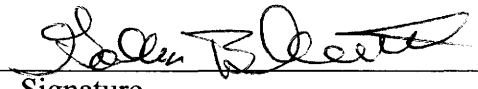
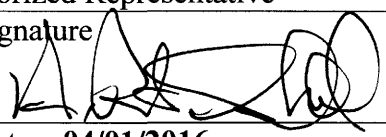
GORDON BLEWETT 

Name (type or print) Signature

Certification or License No. **0021852**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601087

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602448 Northing (Y): 684489
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 19, 2016

DATE WELL COMPLETED: February 19, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 125-MW-02

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13.5 Finished Well Depth (ft.): 13.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13.5	6		
Casing	0	3.5	2	PVC	SH40
Screen	3.5	13.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	13.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 1: BLACK GM - Silty gravels, gravel-sand-silt mixtures ASPHALT
1 - 4: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
4 - 13.5: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601088**
Owner's Well Number (as shown on the application or plans:	**140-MW-10**
Well Completion Date:	**February 11, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**12 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**8 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**4 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**0.5 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN E. BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601088

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Development

Address: 80 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602287 Northing (Y): 684774
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 11, 2016

DATE WELL COMPLETED: February 11, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-10

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	6		
Casing	0	4	2	PVC	SH40
Screen	4	12	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	12	6	2	MORIE31		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 11: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL

11 - 12: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines CRUSHED CONCRETE

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601089**
Owner's Well Number (as shown on the application or plans:	**140-MW-09**
Well Completion Date:	**February 12, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**14 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**10 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**4.7 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**0.5 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN E. BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601089

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Development

Address: 80 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602106 Northing (Y): 684819
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 12, 2016

DATE WELL COMPLETED: February 12, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-09

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14.5 Finished Well Depth (ft.): 14 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14.5	6		
Casing	0	4	2	PVC	SH40
Screen	4	14	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	6	2	0	55	3
Gravel Pack	4	14	6	2	MORIE#1		
Gravel Pack	14	14.5	6	0	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4.7 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 1: BLACK GW - Well-graded gravels and gravel-sand mixtures, little or no fines ASPHALT
1 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 10: BRN SM - Silty sands, sand-silt mixtures
10 - 14.5: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601090**
Owner's Well Number (as shown on the application or plans:	**134-MW-04**
Well Completion Date:	**February 22, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**16 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**12 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**5 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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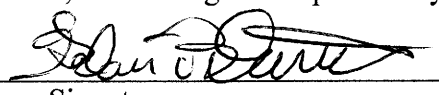
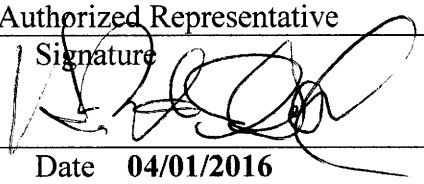
GORDON. BLEWETT 

Name (type or print) Signature

Certification or License No. **JD0021852**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601090

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevelopment is correct owner

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602016 Northing (Y): 685002
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 22, 2016

DATE WELL COMPLETED: February 22, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-04

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16 Finished Well Depth (ft.): 16 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16	6		
Casing	0	4	2	PVC	SH40
Screen	4	16	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	16	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 16: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601091**
Owner's Well Number (as shown on the application or plans:	**134-MW-03**
Well Completion Date:	**February 16, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**17 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**13 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**5.2 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**0.5 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN E. BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601091

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 4 Block: 24601

Easting (X): 601865 Northing (Y): 685020
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 16, 2016

DATE WELL COMPLETED: February 16, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-03

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17 Finished Well Depth (ft.): 17 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17	6		
Casing	0	4	2	PVC	SH40
Screen	4	17	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	17	6	2	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5.2 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMENSIBLW
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 17: BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601092**
Owner's Well Number (as shown on the application or plans:	**073-MW-08**
Well Completion Date:	**February 12, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**17 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**13 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**5.2 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**0.5 hr**
Lithologic Log:	**Attached**

Authentication:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN E. BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601092

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601621 Northing (Y): 685234
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 12, 2016

DATE WELL COMPLETED: February 12, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-08

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17.5 Finished Well Depth (ft.): 17 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.5	6		
Casing	0	4	2	PVC	SH40
Screen	4	17	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	6	2	0	55	3
Gravel Pack	4	17	6	2	MORIE#1		
Gravel Pack	17	17.5	6	0	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5.2 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: .5 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GOS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 17.5: BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601093**
Owner's Well Number (as shown on the application or plans:	**073-MW-07**
Well Completion Date:	**February 23, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**18 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**14 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**5 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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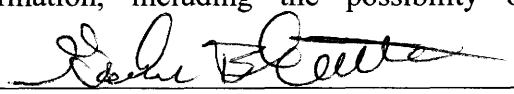
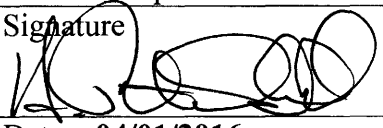
GORDON BLEWETT 

Name (type or print) Signature

Certification or License No. **0021852**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601093

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601451 Northing (Y): 685358
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 23, 2016

DATE WELL COMPLETED: February 23, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-07

WELL CONSTRUCTION

Total Depth Drilled (ft.): 18 Finished Well Depth (ft.): 18 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	18	6		
Casing	0	4	2	PVC	SH40
Screen	4	18	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	18	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - .5: GRAY GW - Well-graded gravels and gravel-sand mixtures, little or no fines CONCRETE
.5 - 15: BRN SP - Poorly graded sands and gravelly sands, little or no fines
15 - 18: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601094**
Owner's Well Number (as shown on the application or plans:	**073-MW-06**
Well Completion Date:	**February 17, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**19 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4 ft**
Screen Length:	**15 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**6 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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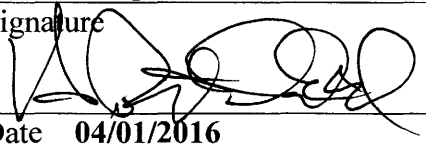
WARREN BLEWETT 

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601094

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601396 Northing (Y): 685464
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 17, 2016

DATE WELL COMPLETED: February 17, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-06

WELL CONSTRUCTION

Total Depth Drilled (ft.): 20 Finished Well Depth (ft.): 20 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	20	6		
Casing	0	4	2	PVC	SH40
Screen	4	19	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	45	2.5
Gravel Pack	3	20	6	2	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 6 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 14: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL
14 - 16: BRN SP - Poorly graded sands and gravelly sands, little or no fines
16 - 20: BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Development Area**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201601098**
Owner's Well Number (as shown on the application or plans:	**134-MW-V09R**
Well Completion Date:	**February 22, 2016**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**17.5 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**3.5 ft**
Screen Length:	**14 ft**
Screen or Slot Size:	**0.010 inch**
Screen or Slot Material (in.):	**PVC**
Casing Material: (pvc, steel or other-specify):	**PVC**
Casing Diameter (inches):	**2 INCH**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**4.5 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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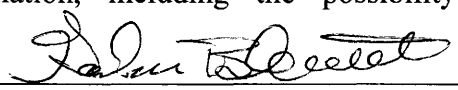
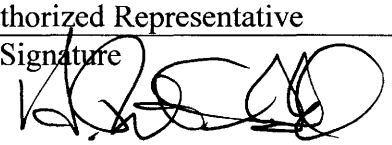
GORDON BLEWETT 

Name (type or print) Signature

Certification or License No. **0021852**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201601098

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Bayfront Redevelopment

Address: 100 Kellogg St Bayfront Redevlopment is correct owner

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601868 Northing (Y): 685185
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: February 22, 2016

DATE WELL COMPLETED: February 22, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-V09R

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17.5 Finished Well Depth (ft.): 17.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.5	6		
Casing	0	3.5	2	PVC	SH40
Screen	3.5	17.5	2	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	2	0	47	2.5
Gravel Pack	3	17.5	6	2	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 4.5 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH BRAT
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 17.5: GRAY GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Gordon Blewett, JOURNEYMAN LICENSE # 0021852 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506364**
Owner's Well Number (as shown on the application or plans:	**PZ-11**
Well Completion Date:	**July 13, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**9.5 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4.5 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**2 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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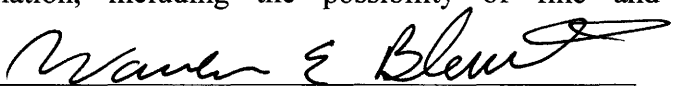
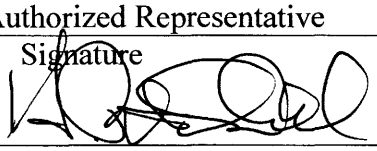
WARREN BLEWETT 

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506364

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603290 Northing (Y): 684201
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 13, 2015

DATE WELL COMPLETED: July 13, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-11

WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.5 Finished Well Depth (ft.): 9.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.5	8		
Casing	0	4.5	4	Stainless Steel	SH40
Screen	4.5	9.5	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.5	8	4	1.2	55	3
Gravel Pack	2.5	3.5	8	4	Morie #00		
Gravel Pack	3.5	9.5	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 2 ft. below land surface
Water Level Measure Tool: Tape
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Moble B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 1: BLK OT - Other ASPHALT
1 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 9.5: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506365**
Owner's Well Number (as shown on the application or plans:	**PZ-12**
Well Completion Date:	**July 9, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**9.46 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4.46 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**7.5 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

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Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506365

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603277 Northing (Y): 684208
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 9, 2015

DATE WELL COMPLETED: July 9, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-12

WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.46 Finished Well Depth (ft.): 9.46 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.46	8		
Casing	0	4.46	4	Stainless Steel	SH40
Screen	4.46	9.46	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	1.46	8	4	1	31	1.5
Gravel Pack	1.46	3.46	8	4	MORIE#00		
Gravel Pack	3.46	9.46	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7.5 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 9.46: GRAY-BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506366**
Owner's Well Number (as shown on the application or plans:	**PZ-13**
Well Completion Date:	**July 10, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**9.58 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**4.58 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**2 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature

H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506366

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602894 Northing (Y): 684392
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 10, 2015

DATE WELL COMPLETED: July 10, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-13

WELL CONSTRUCTION

Total Depth Drilled (ft.): 9.58 Finished Well Depth (ft.): 9.58 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	9.58	8		
Casing	0	4.58	4	Stainless Steel	SH40
Screen	4.58	9.58	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	2.58	8	4	1.2	30	1.75
Gravel Pack	2.58	3.58	8	4	MORIE#00		
Gravel Pack	3.58	9.58	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 2 ft. below land surface
Water Level Measure Tool: TAPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 9.58: GRAY-BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506367**
Owner's Well Number (as shown on the application or plans:	**PZ-14**
Well Completion Date:	**July 10, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**14.1 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**9.1 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**11.2 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506367

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 427 RT. 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602908 Northing (Y): 684421
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 10, 2015

DATE WELL COMPLETED: July 10, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-14

WELL CONSTRUCTION

Total Depth Drilled (ft.): 14.1 Finished Well Depth (ft.): 14.1 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	14.1	8		
Casing	0	9.1	4	Stainless Steel	SH40
Screen	9.1	14.1	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6.1	8	4	6	130	7.33
Gravel Pack	6.1	8.1	8	4	MORIE#00		
Gravel Pack	8.1	14.1	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 11.2 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: BRN SM - Silty sands, sand-silt mixtures FILL
5 - 14.1: RD-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506368**
Owner's Well Number (as shown on the application or plans:	**PZ-15**
Well Completion Date:	**July 7, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**10.1 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**5.1 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**7 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature

H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506368

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602498 Northing (Y): 684736
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 7, 2015

DATE WELL COMPLETED: July 7, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-15

WELL CONSTRUCTION

Total Depth Drilled (ft.): 10.1 Finished Well Depth (ft.): 10.1 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10.1	8		
Casing	0	5.1	4	Stainless Steel	SH40
Screen	5.1	10.1	4	Stanless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.1	8	4	1	65	3.75
Gravel Pack	3.1	5.1	8	4	Morie #00		
Gravel Pack	5.1	10.1	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10.1: BRN GM - Silty gravels, gravel-sand-silt mixtures Fill

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506369**
Owner's Well Number (as shown on the application or plans:	**PZ-16**
Well Completion Date:	**July 8, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**18.66 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**13.66 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**14.7 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506369

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602509 Northing (Y): 684751
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 8, 2015

DATE WELL COMPLETED: July 8, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-16

WELL CONSTRUCTION

Total Depth Drilled (ft.): 18.66 Finished Well Depth (ft.): 18.66 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	18.66	8		
Casing	0	13.66	4	Stainless Steel	SH40
Screen	13.66	18.66	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10.66	8	4	10	230	13
Gravel Pack	10.66	12.66	8	4	MORIE#00		
Gravel Pack	12.66	18.66	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 14.7 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBILE B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 8: BRN SM - Silty sands, sand-silt mixtures
8 - 15: BRN GM - Silty gravels, gravel-sand-silt mixtures
15 - 18.66: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506370**
Owner's Well Number (as shown on the application or plans:	**PZ-17**
Well Completion Date:	**July 1, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**12 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**7 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**5 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

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WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506370

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 601978 Northing (Y): 685121
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: June 30, 2015

DATE WELL COMPLETED: July 1, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-17

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	8		
Casing	0	7	4	Stainless Steel	SH40
Screen	7	12	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	8	4	0.75	85	4.75
Gravel Pack	4	6	8	4	MORIE #00		
Gravel Pack	6	12	8	4	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: SUBMERSIBLE
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506371**
Owner's Well Number (as shown on the application or plans:	**PZ-18**
Well Completion Date:	**July 7, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**16.2 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**11.2 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**8 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN BLEWETT Warren E Blewett

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506371

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 601989 Northing (Y): 685136
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 6, 2015

DATE WELL COMPLETED: July 7, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-18

WELL CONSTRUCTION

Total Depth Drilled (ft.): 16.2 Finished Well Depth (ft.): 16.2 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	16.2	8		
Casing	0	11.2	4	Stainless Steel	SH40
Screen	11.2	16.2	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	9.2	8	4	1.1	200	11
Gravel Pack	9.2	11.2	8	4	Morie #00		
Gravel Pack	11.2	16.2	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 16.2: BRN GM - Silty gravels, gravel-sand-silt mixtures fill

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506372**
Owner's Well Number (as shown on the application or plans:	**PZ-19**
Well Completion Date:	**July 1, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**10.4 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**5.4 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**7 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

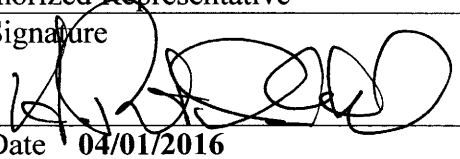
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN BLEWETT 

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506372

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 200 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601501 Northing (Y): 685587
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 1, 2015

DATE WELL COMPLETED: July 1, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-19

WELL CONSTRUCTION

Total Depth Drilled (ft.): 10.4 Finished Well Depth (ft.): 10.4 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10.4	8		
Casing	0	5.4	4	Stainless Steel	SH40
Screen	5.4	10.4	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3.4	8	4	1	70	4
Gravel Pack	3.4	5.4	8	4	Morie #00		
Gravel Pack	5.4	10.4	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 10.4: BRN GM - Silty gravels, gravel-sand-silt mixtures Fill

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

MONITORING WELL CERTIFICATION – FORM A – AS-BUILT CERTIFICATION

Name of Permittee: **B&B Drilling, Inc.**
Name of Facility: **Honeywell – Cap Monitoring**
Location: **Jersey City, Hudson County, New Jersey**
NJDES Permit No.: Or ECRA Case No.:

CERTIFICATION:

Well Permit Number (as assigned by NJDEP's Bureau of Water Allocation):	**E201506373**
Owner's Well Number (as shown on the application or plans:	**PZ-20**
Well Completion Date:	**July 2, 2015**
Distance from Top of Casing (cap off) to ground surface (to the nearest ½ foot):	**2 ft**
Total Depth of Well to the nearest ½ foot: (finished well depth)	**17.3 ft**
Depth to Top of Screen to top of Casing (to the nearest ½ foot):	**12.3 ft**
Screen Length:	**5 ft**
Screen or Slot Size:	**0.030 inch**
Screen or Slot Material (in.):	**Stainless Steel**
Casing Material: (pvc, steel or other-specify):	**Stainless Steel**
Casing Diameter (inches):	**4 inch**
Static Water Level from Top of Casing at the time of installation (to the nearest ½ foot):	**12 ft**
Yield (gallons per minute):	**NM**
Development Technique (specify):	**Pump and surge**
Length of Time Well is Developed/Pumped or Bailed:	**1 hr**
Lithologic Log:	**Attached**

Authentication:

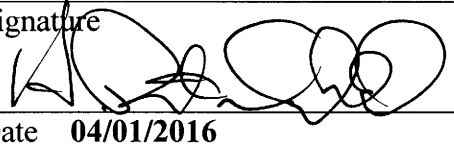
I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.

WARREN BLEWETT 

Name (type or print) Signature

Certification or License No. **JD0014578**

Certification by Executive Officer or Duly Authorized Representative

Name (type or print) Signature
H. ROBERT SEYBOLD 

Title **President** Date **04/01/2016**

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201506373

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: BAYFRONT REDEVELOPMENT

Address: 200 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601504 Northing (Y): 685584
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: July 2, 2015

DATE WELL COMPLETED: July 2, 2015

WELL USE: PIEZOMETER

Other Use(s):

Local ID: PZ-20

WELL CONSTRUCTION

Total Depth Drilled (ft.): 17.3 Finished Well Depth (ft.): 17.3 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	17.3	8		
Casing	0	12.3	4	Stainless Steel	SH40
Screen	12.3	17.3	4	Stainless Steel	0.030"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10.3	8	4	1	220	12.5
Gravel Pack	10.3	12.3	8	4	Morie #00		
Gravel Pack	12.3	17.3	8	4	Morie #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: No
Static Water Level: 12 ft. below land surface
Water Level Measure Tool: m-scope
Well Development Period: 1 hrs.
Method of Development: Submersible
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures Fill
12 - 17.3: BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-11
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/13/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 9.69

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	9.69
Top of Seal	2.5	7.19
Top of Filter Pack	3.5	6.19
Top of Screen	4.5	5.19
Base of Screen / Drilled Depth	9.5	0.19



Description

Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4 inch
Borehole Diameter:	8 inch
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4 inch
Screen Slot Size:	.030"
Screen Length:	5 ft
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-12
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/9/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 10.63

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	10.63
Top of Seal	1.46	9.17
Top of Filter Pack	3.46	7.17
Top of Screen	4.46	6.17
Base of Screen / Drilled Depth	9.46	1.17



Description	
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4 inch
Borehole Diameter:	8 inch
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4 inch
Screen Slot Size:	.030"
Screen Length:	5 ft
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-13
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/10/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 10.62

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Riser Pipe	0	10.62	
Top of Seal	2.58	8.04	
Top of Filter Pack	3.58	7.04	
Top of Screen	4.58	6.04	
Base of Screen / Drilled Depth	9.58	1.04	



Surface Seal Type: Concrete

Backfill/Grout Type: Bentonite Grout

Riser Pipe Type: Stainless Steel

Riser Pipe ID: 4 inch

Borehole Diameter: 8 inch

Type of Seal: #00 Sand

Screen Type: Stainless Steel

Screen ID: 4 inch

Screen Slot Size: .030"

Screen Length: 5 ft

Filter/Sand Pack Type: #1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-14
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/10/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 15.15

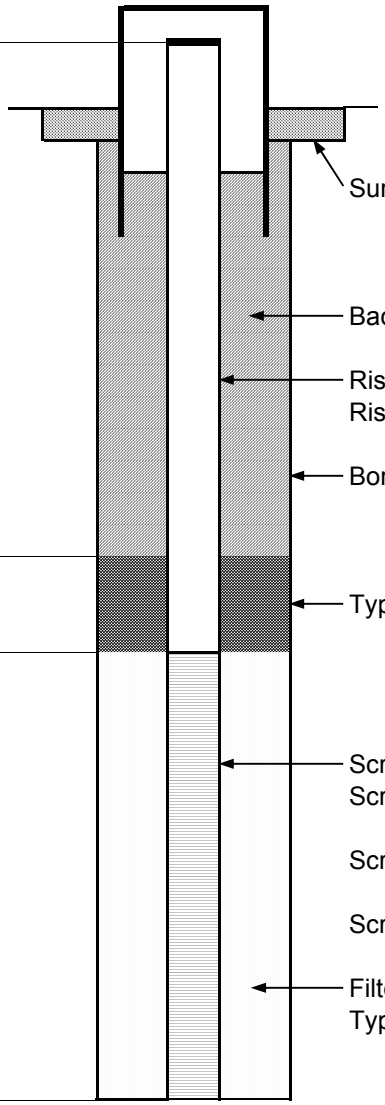
Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Riser Pipe	0	15.15	
			Surface Seal Type: Concrete
			Backfill/Grout Type: Bentonite Grout
			Riser Pipe Type: Stainless Steel
			Riser Pipe ID: 4 inch
			Borehole Diameter: 8 inch
Top of Seal	6.1	9.05	
			Type of Seal: #00 Sand
Top of Filter Pack	8.1	7.05	
Top of Screen	9.1	6.05	
			Screen Type: Stainless Steel
			Screen ID: 4 inch
			Screen Slot Size: .030"
			Screen Length: 5 ft
			Filter/Sand Pack Type: #1 Sand
Base of Screen / Drilled Depth	14.1	1.05	



Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-15
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/7/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 13.34

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	13.34
Top of Seal	3.1	10.24
Top of Filter Pack / Top of Screen	5.1	8.24
Base of Screen / Drilled Depth	10.1	3.24



Description	
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4 inch
Borehole Diameter:	8 inch
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4 inch
Screen Slot Size:	.030"
Screen Length:	5 ft
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-16
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/8/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 17.7

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Riser Pipe	0	17.7	
Top of Seal	10.66	7.04	
Top of Filter Pack	12.66	5.04	
Top of Screen	13.66	4.04	
Base of Screen / Drilled Depth	18.66	-0.96	



Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4 inch
Borehole Diameter:	8 inch
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4 inch
Screen Slot Size:	.030"
Screen Length:	5 ft
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-17
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/1/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 15.15

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Riser Pipe	0	15.15	
Top of Seal	4	11.15	
Top of Filter Pack	6	9.15	
Top of Screen	7	8.15	
Base of Screen / Drilled Depth	12	3.15	



Surface Seal Type: Concrete

Backfill/Grout Type: Bentonite Grout

Riser Pipe Type: Stainless Steel

Riser Pipe ID: 4 inch

Borehole Diameter: 8 inch

Type of Seal: #00 Sand

Screen Type: Stainless Steel

Screen ID: 4 inch

Screen Slot Size: .030"

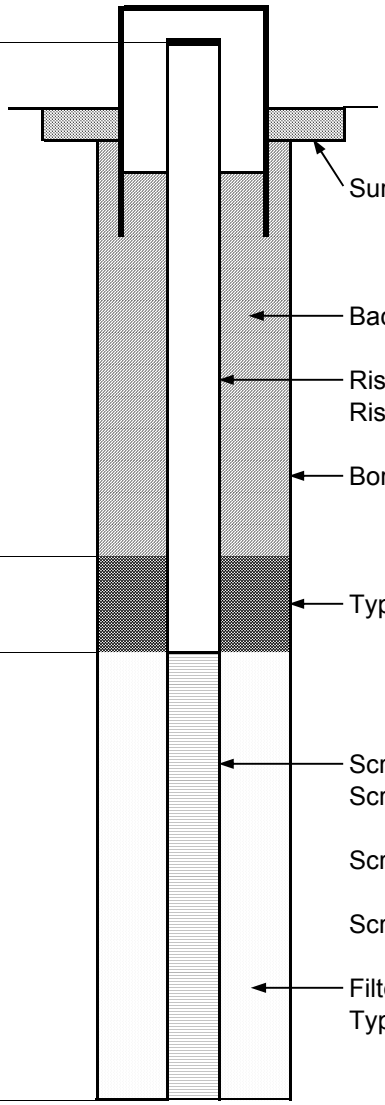
Screen Length: 5 ft

Filter/Sand Pack Type: #1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-18
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 7/7/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:			**Elevation (ft):** 18.13

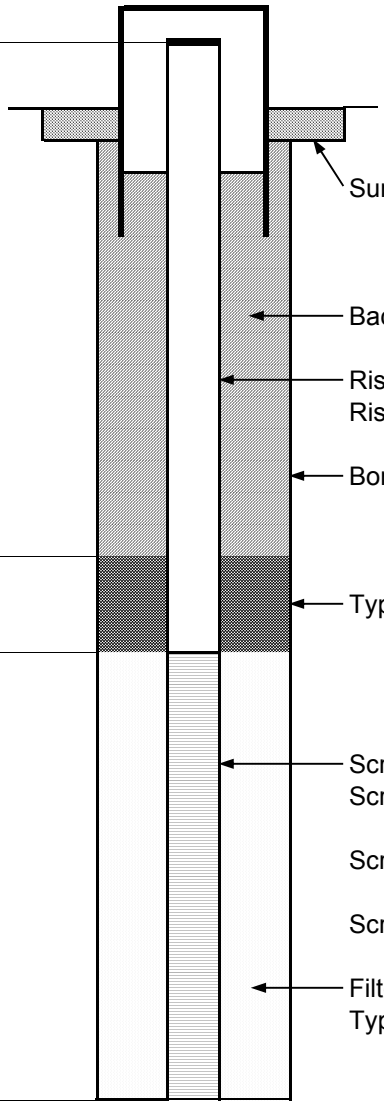
Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description
Riser Pipe	0	18.13	
			Surface Seal Type: Concrete
			Backfill/Grout Type: Bentonite Grout
			Riser Pipe Type: Stainless Steel
			Riser Pipe ID: 4 inch
			Borehole Diameter: 8 inch
Top of Seal	9.2	8.93	
			Type of Seal: #00 Sand
Top of Filter Pack / Top of Screen	11.2	6.93	
			Screen Type: Stainless Steel
			Screen ID: 4 inch
			Screen Slot Size: .030"
			Screen Length: 5 ft
			Filter/Sand Pack Type: #1 Sand
Base of Screen / Drilled Depth	16.2	1.93	



Notes:

Amec Foster Wheeler Environment & Infrastructure				STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-19
Project:	Honeywell Jersey City SA-6 South	**Number:**	3480130377	
Client:	Honeywell	**Date:**	7/1/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA			**Measuring Point**
Development Method:	Submersible			**Type:** Top Of Riser
Bucking Posts:				**Elevation (ft):** 15.38

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	15.38
Top of Seal	3.4	11.98
Top of Filter Pack / Top of Screen	5.4	9.98
Base of Screen / Drilled Depth	10.4	4.98



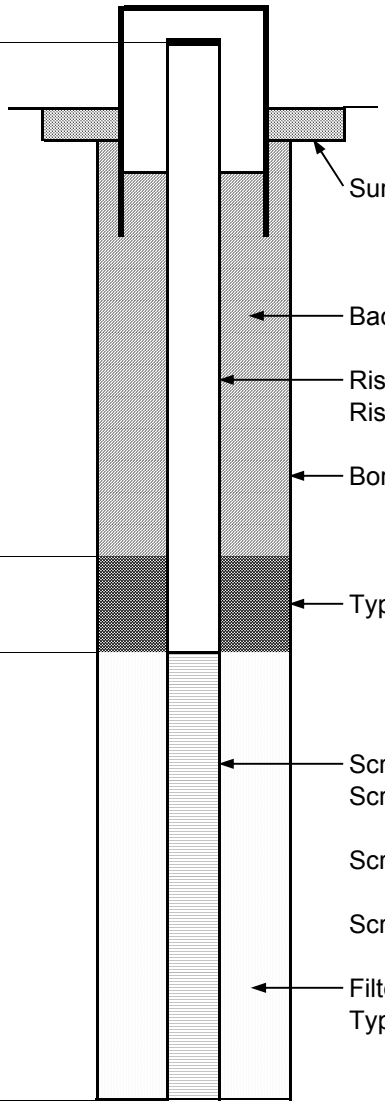
Description

Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4 inch
Borehole Diameter:	8 inch
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4 inch
Screen Slot Size:	.030"
Screen Length:	5 ft
Filter/Sand Pack Type:	#1 Sand

Notes:

Amec Foster Wheeler Environment & Infrastructure				STICKUP OVERBURDEN WELL/PIEZOMETER 124-PZ-20
Project:	Honeywell Jersey City SA-6 South	**Number:**	3480130377	
Client:	Honeywell	**Date:**	7/2/2015	**Subcontractor:** B&B Drilling
Drilling Method:	HSA			**Measuring Point**
Development Method:	Submersible			**Type:** Top Of Riser
Bucking Posts:				**Elevation (ft):** 18.18

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Riser Pipe	0	18.18
Top of Seal	10.3	7.88
Top of Filter Pack / Top of Screen	12.3	5.88
Base of Screen / Drilled Depth	17.3	0.88



Description

Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Stainless Steel
Riser Pipe ID:	4 inch
Borehole Diameter:	8 inch
Type of Seal:	#00 Sand
Screen Type:	Stainless Steel
Screen ID:	4 inch
Screen Slot Size:	.030"
Screen Length:	5 ft
Filter/Sand Pack Type:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 073-MW-06
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/17/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 11.72

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	11.72	0
Riser Pipe	11.5	0.22
Grade	9.01	2.71
Top of Seal	2.5	9.22
Top of Filter Pack	3	8.72
Top of Screen	4	7.72
Base of Screen	19	-7.28
Drilled Depth	19.7	-7.98



Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	15 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure

STICKUP OVERBURDEN WELL/PIEZOMETER 073-MW-07

Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/23/2016	**Subcontractor:** B&B Drilling
Drilling Method:	Air Rotary		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 11.24

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	11.24	0
Riser Pipe	10.38	0.86
Grade	9.71/7.30	1.53/3.94
	High side/Low side	
Top of Seal	1	10.24
Top of Filter Pack	1.5	9.74
Top of Screen	2	9.24
Base of Screen	16	-4.76
Drilled Depth	16.6	-5.36



Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	14 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 073-MW-08
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/16/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 11.01

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	11.01	0
Riser Pipe	10.57	0.44
Grade	7.47	3.54
Top of Seal	1	10.01
Top of Filter Pack	1.5	9.51
Top of Screen	2	9.01
Base of Screen	15	-3.99
Drilled Depth	15.5	-4.49



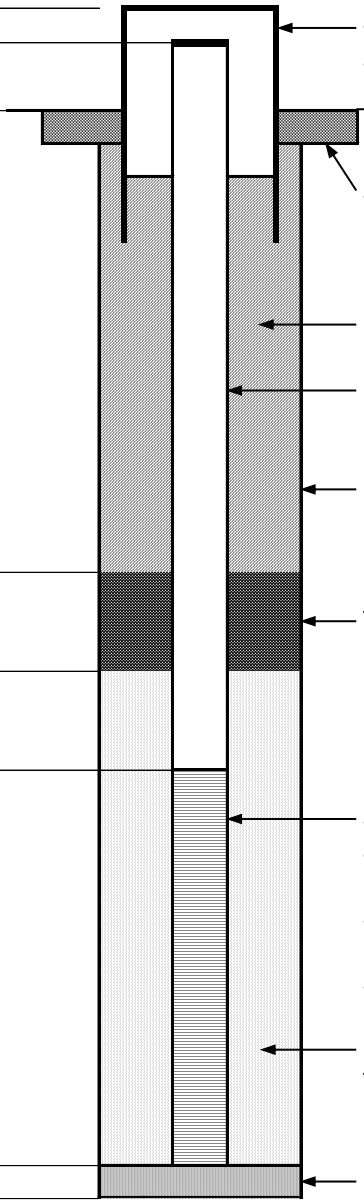
Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	13 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-MW-12
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/19/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 13.37

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	13.37	0
Riser Pipe	11.97	1.4
Grade	9.89	3.48
Top of Seal	1.5	11.87
Top of Filter Pack	2	11.37
Top of Screen	3	10.37
Base of Screen	11.5	1.87
Drilled Depth	12	1.37



Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	8.5 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 124-MW-13
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/10/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 13.22

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	13.22	0
Riser Pipe	13.02	0.2
Grade	9.52	3.7
Top of Seal	1	12.22
Top of Filter Pack	1.5	11.72
Top of Screen	2	11.22
Base of Screen	11	2.22
Drilled Depth	11	2.22

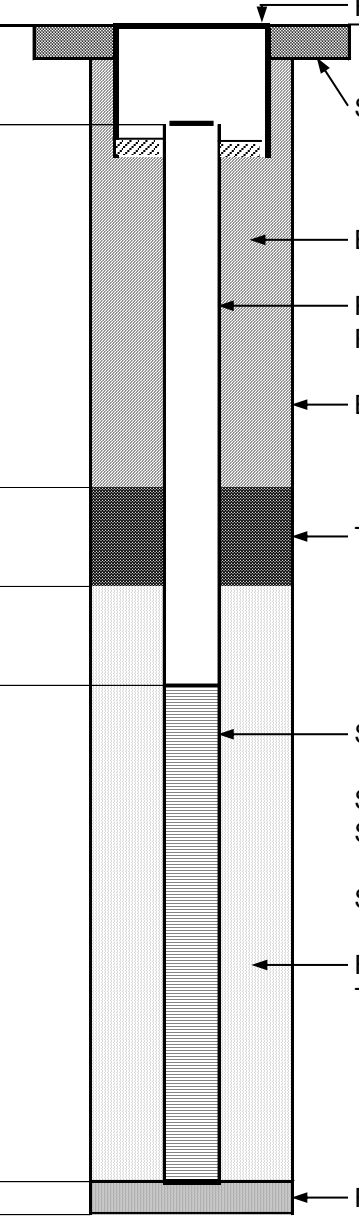


Description	
Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	9 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

Amec Foster Wheeler			FLUSHMOUNT OVERBURDEN WELL/PIEZOMETER 125-MW-02
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/19/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:			**Type:** Ground
Bucking Posts:	No		**Elevation (ft):** 8.45

Item	Depth, below Measuring Point (ft)	Elevation (ft)	Description	
Grade	8.44	0.01	Flushmount Diameter:	8 inch
Riser Pipe	8.07	0.38	Surface Seal Type:	Concrete
			Backfill/Grout Type:	Bentonite Grout
			Riser Pipe Type:	Schedule 40 PVC
			Riser Pipe ID:	2 inch
			Borehole Diameter:	6 inch
Top of Seal	2	6.45		
			Type of Seal:	#00 Sand
Top of Filter Pack	2.5	5.95		
Top of Screen	3.5	4.95		
			Screen Type:	Schedule 40 PVC
			Screen ID:	2 inch
			Screen Slot Size:	.010"
			Screen Length:	10 ft.
			Filter/Sand Pack Type:	#1 Sand
Base of Screen	13.5	-5.05		
Drilled Depth	14	-5.55	Fallback/Backfill:	# 1 Sand



Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 125-MW-03
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/11/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 11.54

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	11.54	0
Riser Pipe	11.27	0.27
Grade	7.6	3.94
Top of Seal	1	10.54
Top of Filter Pack	1.5	10.04
Top of Screen	2	9.54
Base of Screen	9.5	2.04
Drilled Depth	10	1.54



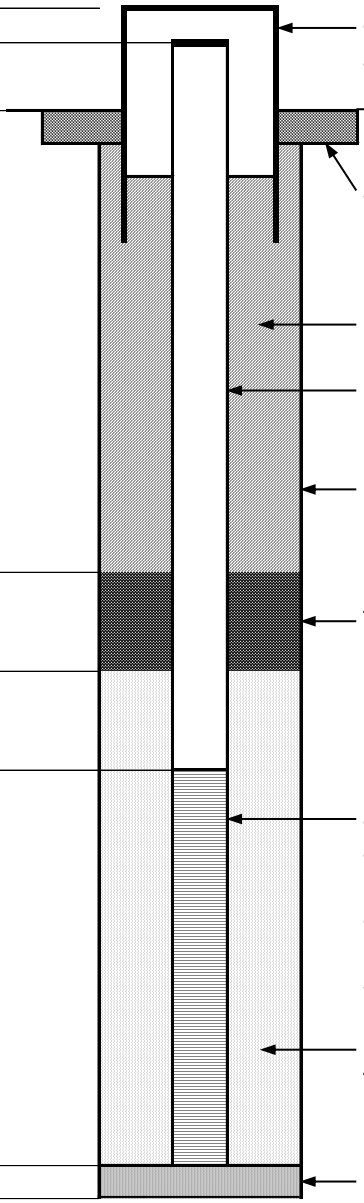
Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	7.5 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 134-MW-03
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/16/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 11.01

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	11.01	0
Riser Pipe	10.4	0.61
Grade	7.44	3.57
Top of Seal	1	10.01
Top of Filter Pack	1.5	9.51
Top of Screen	2	9.01
Base of Screen	14.5	-3.49
Drilled Depth	15	-3.99



Description	
Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	12.5 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure

STICKUP OVERBURDEN WELL/PIEZOMETER 134-MW-04

Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/22/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 10.63

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	10.63	0
Riser Pipe	9.85	0.78
Grade	8.74/6.86	1.89/3.77
	High side/Low side	
Top of Seal	1	9.63
Top of Filter Pack	1.5	9.13
Top of Screen	2	8.63
Base of Screen	14	-3.37
Drilled Depth	14.5	-3.87



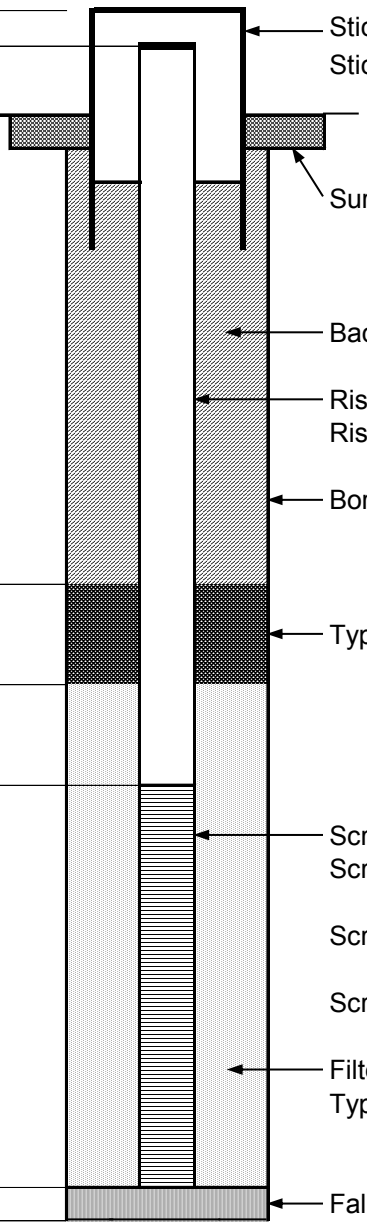
Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	12 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure				STICKUP OVERBURDEN WELL/PIEZOMETER 134-MW-V09R
Project:	Honeywell Jersey City SA-6 South	**Number:**	3480130377	
Client:	Honeywell	**Date:**	2/22/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA			**Measuring Point**
Development Method:	Submersible			**Type:** Top Of Riser
Bucking Posts:	No			**Elevation (ft):** 12.08

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	0	12.08
Riser Pipe	0.97	11.11
Grade	1.82/3.57	10.26/8.51
	High side/Low side	
Top of Seal	4.57	7.51
Top of Filter Pack	5.07	7.01
Top of Screen	5.57	6.51
Base of Screen	19.57	-7.49
Drilled Depth	20.07	-7.99



Description	
Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	14 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 140-MW-09
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/12/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 10.95

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	10.95	0
Riser Pipe	10.72	0.23
Grade	8.65	2.3
Top of Seal	2.5	8.45
Top of Filter Pack	3	7.95
Top of Screen	3.5	7.45
Base of Screen	13.5	-2.55
Drilled Depth	14	-3.05



Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	10 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

AMEC Environment & Infrastructure			STICKUP OVERBURDEN WELL/PIEZOMETER 140-MW-10
Project:	Honeywell Jersey City SA-6 South	**Number:** 3480130377	
Client:	Honeywell	**Date:** 2/11/2016	**Subcontractor:** B&B Drilling
Drilling Method:	HSA		**Measuring Point**
Development Method:	Submersible		**Type:** Top Of Riser
Bucking Posts:	No		**Elevation (ft):** 10.77

Item	Depth, below Measuring Point (ft)	Elevation (ft)
Stickup	10.77	0
Riser Pipe	10.49	0.28
Grade	8.46/6.64	2.31/4.13
	High side/ Low side	
Top of Seal	1	9.77
Top of Filter Pack	1.5	9.27
Top of Screen	2	8.77
Base of Screen	10	0.77
Drilled Depth	10	0.77



Description

Stickup Type:	Steel
Stickup Diameter:	6 inch
Surface Seal Type:	Concrete
Backfill/Grout Type:	Bentonite Grout
Riser Pipe Type:	Schedule 40 PVC
Riser Pipe ID:	2 inch
Borehole Diameter:	6 inch
Type of Seal:	#00 Sand
Screen Type:	Schedule 40 PVC
Screen ID:	2 inch
Screen Slot Size:	.010"
Screen Length:	8 ft.
Filter/Sand Pack Type:	#1 Sand
Fallback/Backfill:	#1 Sand

Notes:

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Roosevelt Bowling Lanes (Site 124)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008741 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 427 Rt. 440
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 8

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506364
2. Site Well Number (As shown on application or plans): 124-PZ-11
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-39.93 Longitude: West 074-05-56.34
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684200 East 603290
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 9.69'
   Elevation Top of Outer casing: 10.00' Elevation of ground: 9.81'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Roosevelt Bowling Lanes (Site 124)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008741 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 427 Rt. 440
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 8

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506365
2. Site Well Number (As shown on application or plans): 124-PZ-12
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-40.01 Longitude: West 074-05-56.50
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684208 East 603278
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.63'
   Elevation Top of Outer casing: 10.87' Elevation of ground: 10.31'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

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Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Roosevelt Bowling Lanes (Site 124)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008741 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 427 Rt. 440
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 8

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506366
2. Site Well Number (As shown on application or plans): 124-PZ-13
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-41.84 Longitude: West 074-06-01.47
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684391 East 602894
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 10.62'
   Elevation Top of Outer casing: 10.87' Elevation of ground: 10.65'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Roosevelt Bowling Lanes (Site 124)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G000008741 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 427 Rt. 440
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 8

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506367
2. Site Well Number (As shown on application or plans): 124-PZ-14
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-42.13 Longitude: West 074-06-01.29
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684420 East 602908
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.15'
   Elevation Top of Outer casing: 15.40' Elevation of ground: 15.15'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: ABF Trucking (Site 140)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 003846 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 80 Kellogg St.
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 6

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506368
2. Site Well Number (As shown on application or plans): 124-PZ-15
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-45.26 Longitude: West 074-06-06.60
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684735 East 602498
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 13.34'
   Elevation Top of Outer casing: 13.60' Elevation of ground: 12.54'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: ABF Trucking (Site 140)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 003846 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 80 Kellogg St.
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 6

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506369
2. Site Well Number (As shown on application or plans): 124-PZ-16
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-45.42 Longitude: West 074-06-06.45
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 684751 East 602509
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 17.70'
   Elevation Top of Outer casing: 17.99' Elevation of ground: 17.63'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Old Dominion (Site 134)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 033312 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 100 Kellogg St.
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506370
2. Site Well Number (As shown on application or plans): 124-PZ-17
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-49.10 Longitude: West 074-06-13.33
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685122 East 601977
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.15'
   Elevation Top of Outer casing: 15.42' Elevation of ground: 14.36'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Old Dominion (Site 134)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): 033312 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 100 Kellogg St.
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 5

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506371
2. Site Well Number (As shown on application or plans): 124-PZ-18
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-49.25 Longitude: West 074-06-13.18
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685137 East 601989
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 18.13'
   Elevation Top of Outer casing: 18.61' Elevation of ground: 18.29'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe the submitted information is true, accurate and complete. I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment.

SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Degen Oil (Site 073)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G00000927 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 200 Kellogg St.
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506372
2. Site Well Number (As shown on application or plans): 124-PZ-19
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-53.74 Longitude: West 074-06-19.53
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685589 East 601498
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 15.38'
   Elevation Top of Outer casing: 15.62' Elevation of ground: 14.43'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

New Jersey Department of Environmental Protection
Site Remediation Program

Monitoring Well Certification Form B - Location Certification

Date Stamp
(For Department use only)

SECTION A. SITE NAME AND LOCATION

Site Name: Study Area SA-6 South Chromium Remedy

List all AKAs: Degen Oil (Site 073)

Street Address: 427 Route 440

Municipality: Jersey City (Township, Borough or City)

County: Hudson Zip Code: 07305

Program Interest (PI) Number(s): G00000927 Case Tracking Number(s):

SECTION B. WELL OWNER AND LOCATION

1. Name of Well Owner Bayfront Redevelopment, LLC
2. Well Location (Street Address) 200 Kellogg St.
3. Well Location (Municipal Block and Lot) Block# 24601 Lot # 1

SECTION C. WELL LOCATION SPECIFICS

1. Well Permit Number (This number must be permanently affixed to the well casing): E201506373
2. Site Well Number (As shown on application or plans): 124-PZ-20
3. Geographic Coordinate NAD 83 to nearest 1/100 of a second:
   Latitude: North 40-42-53.69 Longitude: West 074-06-19.45
4. New Jersey State Plane Coordinates NAD 83 datum, US survey feet units, to nearest foot:
   North 685584 East 601504
5. Elevation of Top of Inner Casing (cap off) at reference mark (nearest 0.01'): 18.18'
   Elevation Top of Outer casing: 18.52' Elevation of ground: 17.88'
   Check one: ☐ NAVD 88 ☒ NGVD 29 ☐ On Site Datum ☐ Other
6. Source of elevation datum (benchmark, number/description and elevation/datum). If an on-site datum is used, identify here, assume datum of 100', and give approximated actual elevation (referencing NAVD 88).
   NGS Bench Mark KV0272. Elevation = 36.37' (NGVD29). (Subtract 1.14' to convert elevation to NAVD88 datum)
7. Significant observations and notes:

SECTION D. LAND SURVEYOR'S CERTIFICATION

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SEAL

Professional Land Surveyor's Signature: Date

Surveyor's Name: Jeffrey D. Bunce License Number: GS41045

Firm Name: Maser Consulting P.A. Certificate of Authorization #: 24GA27986500

Mailing Address 400 Valley Road Road Suite 304

City/Town: Mt. Arlington State New Jersey Zip Code: 07856

Phone Number 973-398-3110 Ext.: 4544 Fax: 973-398-3199

APPENDIX F

MONITORING WELL ABANDONMENT RECORDS
(CD ONLY)

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: 425/445 ROUTE 440 PROP. C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: 200 Kellogg St.

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601743 Northing (Y): 685380
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: May 30, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-04

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10	4	PVC	
Screen	10	15	4	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	4	0	0	107	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405108

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201005710

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL INTERNATIONAL

Company/Organization: HONEYWELL INTERNATIONAL

Address: 101 COLUMBIA ROAD Morristown Town, New Jersey 07962

WELL LOCATION: Honeywell International

Address: 200 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 11W Block: 1290.A

Easting (X): 601569 Northing (Y): 685440
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 11, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-05

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	2	2	PVC	sch 40
Screen	2	15	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047177

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: DEGEN OIL & CHEMICAL CO.

Company/Organization: Degen Oil

Address: 288 Kellogg St. Jersey City, New Jersey 07305

WELL LOCATION: Honewell Redevelopment Project

Address: 288 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 11.2 Block: 1290.A

Easting (X): 601475 Northing (Y): 685543
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-BB11

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047178

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: DEGEN OIL & CHEMICAL CO.

Company/Organization: Degen Oil & Chemical Co.

Address: 288 Kellogg St. Jersey City, New Jersey 07305

WELL LOCATION: Honeywell Redevelopment Project

Address: 288 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 11.2 Block: 1290.A

Easting (X): 601665 Northing (Y): 685388
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 11, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 073-MW-Y10

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004258

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 073-PZ-001

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20 & 11W Block: 1290.A

Easting (X): 601646 Northing (Y): 685488
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 2, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 073-PZ-001

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7.5	2	PVC	sch 40
Screen	7.5	12.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12.5	2	0	0	22	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004251

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 073-PZ-002

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20,11W Block: 1290.A

Easting (X): 601641 Northing (Y): 685490
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 2, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 073-PZ-002

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 26

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	16.5	2	PVC	sch 40
Screen	21	26	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	26	2	0	0	46	2.6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402035

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600078865

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: SURGEES SINGH

Company/Organization: Surgees Singh

Address: 1061 Main Avenues Belleville, New Jersey 07109

WELL LOCATION: Honeywell Redevelopment Project

Address: 127 BELLEVILLE AVE R & M AUTO

County: Hudson Municipality: Jersey City Lot: 13 Block: 127

Easting (X): 603027 Northing (Y): 684519
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 2, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 115-E1-DO

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 25

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	15	2	PVC	SCH40
Screen	15	25	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	25	2	0	0	44.5	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: 445 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603027 Northing (Y): 684519
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 30, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 115-E1-SO

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10	2	PVC	
Screen	10	20	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	20	2	0	0	36	2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1603087

Alternative Decomm. Method? No

Authorization Date: March 29, 2016

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600078836

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Former ABF Trucking

Address: STATE ROUTE 440 SA-7

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602149 Northing (Y): 685188
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: May 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 115-W4-DO

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	21.4	4	PVC	
Casing	0	20	8	Steel	
Screen	21.4	41.4	4	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	41.4	4	0	0	300	17
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405118

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075504

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 ROUTE 440 FORMER ROOSEVELT BOWLING LANES

County: Hudson Municipality: Jersey City Lot: 11.U Block: 1290.A

Easting (X): 603141 Northing (Y): 684150
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-02

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10	2	PVC	SC40
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	2	0	0	18	1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310026

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600066477

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Honeywell SA-6 South

Address: STATE HIGHWAY RT. 440

County: Hudson Municipality: Jersey City Lot: 11.U Block: 1290.A

Easting (X): 603066 Northing (Y): 684446
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW06

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 70

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	69.7	2	PVC	SH40
Casing	0	17	6	Steel	SH40
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	69.7	2	0	0	125	7
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310043

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600051462

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 ROUTE 440

County: Hudson Municipality: Jersey City Lot: 11.U Block: 1290.A

Easting (X): 603261 Northing (Y): 684189
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-07

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	11.4	2	PVC	SH40
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11.4	2	0	0	20	1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310027

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600087305

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 60 KELLOGG STREET STUDY AREA SA-6

County: Hudson Municipality: Jersey City Lot: 12B,11Q,11R Block: 1290.1

Easting (X): 602762 Northing (Y): 684418
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124MW09

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	11	4	PVC	SH40
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	4	0	0	20	1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310028

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600074879

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE HWY RT 440 FORMER PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 11U Block: 1290A

Easting (X): 603131 Northing (Y): 684311
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-102D

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 30

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20	2	PVC	SH40
Casing	0	12	6	Steel	SH40
Screen	20	30	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	30	2	0	0	55	3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310031

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600074597

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE RT 440 FORMER PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 11U Block: 1290A

Easting (X): 603140 Northing (Y): 684304
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-102T

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 75

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	65	2	PVC	SH40
Casing	0	12	6	Steel	SH40
Screen	65	75	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	75	2	0	0	130	7.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310036

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075657

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE HWY. RT. 440 FORMER PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 11U Block: 1290.A

Easting (X): 603052 Northing (Y): 684444
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124 MW 103D

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 30

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20	2	PVC	SH40
Casing	0	14.35	6	Steel	SH40
Screen	20	30	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	30	2	0	0	55	3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310032

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075660

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE HWY. RT. 440 PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 11U Block: 1290.A

Easting (X): 603059 Northing (Y): 684437
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-103L

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 57

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	45	2	PVC	SH40
Casing	0	14	6	Steel	SH40
Screen	45	55	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	2	0	0	94	5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310037

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075658

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE HWY. RT. 440 FORMER PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 11U Block: 1290.A

Easting (X): 603183 Northing (Y): 684119
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124 MW104D

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 26

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	16	2	PVC	SH40
Casing	0	11.5	6	Steel	SH40
Screen	16	26	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	26	2	0	0	45	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310033

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075661

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: HONEYWELL INTERNATIONAL

Company/Organization: HONEYWELL INTERNATIONAL

Address: 101 COLUMBIA ROAD Morristown Town, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE HWY. RT. 440 FORMER PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603173 Northing (Y): 684122
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 6, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-104T

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 68

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	58	2	PVC	SH40
Casing	0	11	6	Steel	SH40
Screen	58	68	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	68	2	0	0	125	7
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310039

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075659

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 STATE HWY. RT. 440 FORMER PLAYDROME ROOSEVELT LANES

County: Hudson Municipality: Jersey City Lot: 11U Block: 1290.A

Easting (X): 602987 Northing (Y): 684286
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-105D

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 24

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	14	2	PVC	SH40
Casing	0	13	6	Steel	SH40
Screen	14	24	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	24	2	0	0	40	2.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310034

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: SA-6 SOUTH

Address: 427 ST. HWY 440

County: Hudson Municipality: Jersey City Lot: 24601 Block: 7

Easting (X): 602821 Northing (Y): 684581
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: November 18, 2013

WELL USE: MONITORING

Other Use(s):

Local ID: 124-MW-107T

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	70	2	PVC	SH40
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	70	2	0	0	125	7
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1310042

Alternative Decomm. Method? No

Authorization Date: October 11, 2013

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075505

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: MI HOLDINGS

Company/Organization: MI Holdings

Address: Rt. 440 & Carbon Place C/O Honeywell Jersey City, New Jersey 07303

WELL LOCATION: Honeywell Redevelopment Project

Address: 60 KELLOGG ST DELPHIC CONSOLIDATION

County: Hudson Municipality: Jersey City Lot: 11.Q Block: 1290.A

Easting (X): 602680 Northing (Y): 684704
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 125-MW-01

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	2	2	PVC	sch 40
Screen	2	12	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	2	0	0	21	1.2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004262

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 125-PZ-001

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20 & 11W Block: 1290.A

Easting (X): 602617 Northing (Y): 684759
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 125PZ-001

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7.5	2	PVC	sch 40
Screen	7.5	12.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12.5	2	0	0	22	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004255

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: SA-6 SOUTH SITE

Address: 200 KELLOGG STREET 125-PZ-002

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602605 Northing (Y): 684762
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 125PZ-002

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 25.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	20.5	2	PVC	SH40
Casing	0	16	6	PVC	SH40
Screen	20.5	25.5	2	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	25.5	2	0	0	45	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402042

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004263

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 124-PZ-003

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20 & 11W Block: 1290.A

Easting (X): 602723 Northing (Y): 684482
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 125-PZ-003

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 8

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	8	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	8	2	0	0	14.5	0.8
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004256

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 124-PZ-004

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20, 11W Block: 1290.A

Easting (X): 602729 Northing (Y): 684487
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 125-PZ-004

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 24.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.5	2	PVC	sch 40
Screen	19.5	24.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	24.5	2	0	0	44	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402043

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Sealing Driller: Mark Christman
JOURNEYMAN
LICENSE # 0021241

Company: B & B DRILLING INC
BOX 8 RT 206
Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075501

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: 100 KELLOGG ST OLD DOMINION

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602039 Northing (Y): 685209
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 4, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-01

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	1	2	PVC	
Screen	1	15	2		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047317

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: TYL REALTY ASSOCIATES

Company/Organization: TYL Realty Associates

Address: Hackensack Ave., Bldg. #4-D Kearny Town, New Jersey 07032

WELL LOCATION: Honeywell Redevelopment Project

Address: 100 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 11L,11Y Block: 1290.A

Easting (X): 602199 Northing (Y): 684965
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 134-MW-Q08

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004259

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 134-PZ-001

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20 & 11W Block: 1290.A

Easting (X): 601817 Northing (Y): 685164
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 28, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 134-PZ-001

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	10.5	2	PVC	sch 40
Screen	10.5	15.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15.5	2	0	0	28.2	1.6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004260

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 134-PZ-003

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20 & 11W Block: 1290.A

Easting (X): 602133 Northing (Y): 685110
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 1, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 134-PZ-003

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7.5	2	PVC	sch 40
Screen	7.5	12.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12.5	2	0	0	22	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004253

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 134-PZ-004

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20,11W Block: 1290.A

Easting (X): 602126 Northing (Y): 685111
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 1, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 134-PZ-004

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 26

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	16	2	PVC	sch 40
Screen	21	26	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	26	2	0	0	46	2.6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Brian Buttari

Obstruction Type:

Authorization Number: A1402044

Alternative Decomm. Method? No

Authorization Date: February 25, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600075506

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Honeywell

Address: 80 KELLOGG ST ABF TRUCKING

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602282 Northing (Y): 685043
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: April 4, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-01

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	2	2	PVC	
Screen	2	15	2		

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: Kellogg St. Bayfront Redevelopment

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602540 Northing (Y): 684834
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: May 30, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 140-NW-06

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3.4	4	PVC	Sh40
Screen	3.4	5.4	4	PVC	Unknown

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5.4	4	0	0	35	2
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405120

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: Kellog St.

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602442 Northing (Y): 684702
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: May 30, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-07

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	4.4	4	PVC	Sc40
Screen	4.4	6.4	4	PVC	Unknown

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6.4	4	0	0	45	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405121

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201009351

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG STREET 80 PROP.%T.REUTERS

Company/Organization: 80 Kellogg Street

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: 80 KELLOGG

Address: 80 KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602401 Northing (Y): 684616
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 10, 2016

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-08

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	2	2	PVC	
Screen	2	10	2	PVC	

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	2	0	0	18	1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Douglas Myerchin
MASTER
Sealing Driller: LICENSE # 0001612

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: Kellogg St.

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602173 Northing (Y): 684746
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: May 30, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 140-MW-106

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.):

Was a New Well Drilled? Y

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	5.3	2	PVC	Sc40
Screen	5.3	7.3	2	PVC	Unknown

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7.3	2	0	0	13	0.75
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1405122

Alternative Decomm. Method? No

Authorization Date: May 23, 2014

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004261

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 140-PZ-001

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20 & 11W Block: 1290.A

Easting (X): 602237 Northing (Y): 684845
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 28, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 140-PZ-001

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	2	PVC	sch 40
Screen	6	11	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	2	0	0	20	1.1
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
P201004254

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: KELLOGG ST. PROPERTY, LLC

Company/Organization: Kellogg St. Property, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 200 KELLOGG STREET 140-PZ-002

County: Hudson Municipality: Jersey City Lot: 9L,17,18,19,20,11W Block: 1290.A

Easting (X): 602240 Northing (Y): 684851
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 28, 2014

WELL USE: PIEZOMETER

Other Use(s):

Local ID: 140-PZ-002

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 24.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.5	2	PVC	sch 40
Screen	19.5	24.5	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	24.5	2	0	0	44	2.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201115326

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: Bayfront Redevelopment, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 75 Kellogg Street

County: Hudson Municipality: Jersey City Lot: 9.0H Block: 1290.0A

Easting (X): 602293 Northing (Y): 685390
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 25, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 163-MW-CC8R

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 15

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	5	2	PVC	sch 40
Screen	5	15	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	15	2	0	0	27	1.5
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
2600047308

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: POSNAK & TURKISH, INC.

Company/Organization: Posnak & Turkish, Inc.

Address: P.O. Box 1775 Bayonne, New Jersey 07002

WELL LOCATION: Honeywell Redevelopment Project

Address: FOOT OF KELLOGG ST.

County: Hudson Municipality: Jersey City Lot: 9H Block: 1290.A

Easting (X): 601979 Northing (Y): 684776
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 163-MW-R05

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.020

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201115328

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: Bayfront Redevelopment, LLC

Address: 101 Columbia Rd. Morristown, New Jersey 07962

WELL LOCATION: Honeywell Redevelopment Project

Address: 75 Kellogg Street

County: Hudson Municipality: Jersey City Lot: 9.0H Block: 1290.0A

Easting (X): 601552 Northing (Y): 685509
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: February 26, 2014

WELL USE: MONITORING

Other Use(s):

Local ID: 163-MW-Y6R

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	2	PVC	sch 40
Screen	3	13	2	PVC	.010

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	2	0	0	23	1.3
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Mark Christman
JOURNEYMAN
Sealing Driller: LICENSE # 0021241

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201312361

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Former Roosvelt Bowling Lanes

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 603064 Northing (Y): 684266
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 4, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-01

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 44.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	19.5	6	PVC	SH40
Casing	0	13	10	Steel	SH40
Screen	19.5	44.5	6	pvc	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	44.5	6	0	0	712	40
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1502071

Alternative Decomm. Method? No

Authorization Date: February 27, 2015

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313208

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Former Delphic Consolidated

Address: 60 Kellogg St Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602394 Northing (Y): 684743
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 4, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-02

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 46

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	14	10	Steel	SH40
Casing	0	21	6	PVC	SH40
Screen	21	46	6	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	46	6	0	0	734	40
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1502072

Alternative Decomm. Method? No

Authorization Date: February 27, 2015

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313209

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Former Old Dominion

Address: 100 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602304 Northing (Y): 684743
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 6, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-03

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 46

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	21	6	PVC	SH40
Casing	0	15.5	10	PVC	Sh40
Screen	21	46	6	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	46	6	0	0	735	40
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1502073

Alternative Decomm. Method? No

Authorization Date: February 27, 2015

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313210

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Former ABF Trucking

Address: 80 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602047 Northing (Y): 685060
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 6, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-04

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 48

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	23	6	PVC	SH40
Casing	0	17	10	Steel	Sh40
Screen	23	48	6	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	48	6	0	0	770	45
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1502074

Alternative Decomm. Method? No

Authorization Date: February 27, 2015

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201313226

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Former Boatyard

Address: 150 Kellogg St. Well dischaged to on-site treatment

County: Hudson Municipality: Jersey City Lot: 2 Block: 24601

Easting (X): 601735 Northing (Y): 685278
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 6, 2015

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-O5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 50

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	25	6	PVC	sh40
Casing	0	19.5	10	Steel	Sh40
Screen	25	50	6	PVC	0.020"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	50	6	0	0	800	45
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1502075

Alternative Decomm. Method? No

Authorization Date: February 27, 2015

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201514336

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: PO Box 4900 Dept 356 Scottsdale, Arizona 85261

WELL LOCATION: Bayfront Redevelopment

Address: Kellogg St

County: Hudson Municipality: Jersey City Lot: 11 Block: 24601

Easting (X): 601529 Northing (Y): 685182
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 22, 2016

WELL USE: DEWATERING

Other Use(s):

Local ID: DW-8

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 48

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	23	6	PVC	sch 40
Screen	23	48	6	PVC	0.030"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	48	6	0	0	770	43
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official: Lynn Stout

Obstruction Type:

Authorization Number: A1603066

Alternative Decomm. Method? No

Authorization Date: March 21, 2016

Method Used

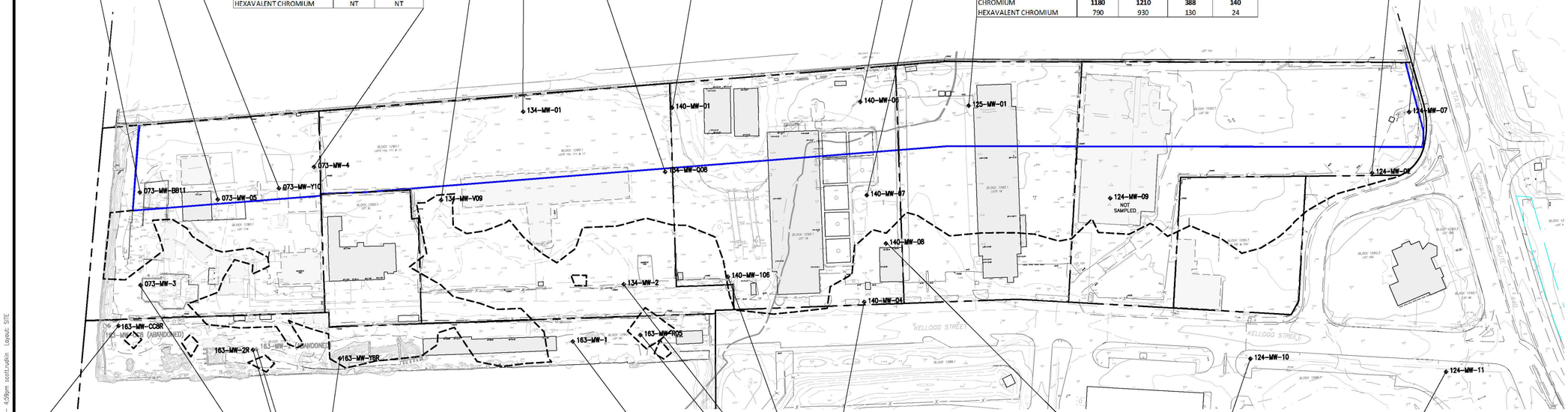
ATTACHMENTS:

Gordon Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0021852

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

APPENDIX G

PREVIOUS GROUNDWATER SAMPLING RESULTS



LEGEND

- MONITORING WELL LOCATION
- EXISTING BUILDING
- DEMOLISHED BUILDING LOCATION
- PROPERTY LINE
- EXISTING FENCE
- EXISTING ELEVATION CONTOUR
- PROPOSED LIMIT OF CHROMIUM REMEDIAL ACTION
- PROPOSED HYDRAULIC BARRIER (SA-6 SOUTH)

NJDEP GROUNDWATER QUALITY STANDARDS ug/L

GWQS 2010 (ug/L)	
CHROMIUM	70

NOTES:

1. ALL RESULTS EXPRESSED IN ug/L.
2. **5880** BOLD INDICATES COMPOUND GREATER THAN NJDEP GWQS.
3. J = ESTIMATED CONCENTRATION
4. U = NOT DETECTED
5. B = COMPOUND FOUND IN ASSOCIATED BLANK
6. NT = NOT TESTED

0 50 100 200
SCALE IN FEET

073-MW-BB11				
Sample Date	6/24/2010 (unfiltered)	6/24/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	64.4	11.1	66.6	10.3
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

073-MW-5				
Sample Date	6/24/2010 (unfiltered)	6/24/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	48	**70.8**	33.1	28.7
HEXAVALENT CHROMIUM	10 U	10 U	13	12

073-MW-Y10				
Sample Date	6/24/2010 (unfiltered)	6/24/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	11.8	10 U	10 U	10 U
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

073-MW-4		
Sample Date	12/14/2010 (unfiltered)	12/14/2010 (filtered)
CHROMIUM	**362**	NT
HEXAVALENT CHROMIUM	NT	NT

134-MW-V09				
Sample Date	6/24/2010 (unfiltered)	6/24/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	**751**	23.4 JB	**255**	23.2
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

134-MW-01				
Sample Date	6/24/2010 (unfiltered)	6/24/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	**3150**	**4210**	**3640**	**3470**
HEXAVALENT CHROMIUM	3500	4500	4200	3500

134-MW-Q08				
Sample Date	6/25/2010 (unfiltered)	6/25/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	19	10 U	10 U	49.4
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

140-MW-01				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	47.5 JB	10 U	50.5	13.5
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

140-MW-06				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	**905**	11.2 B	**2440**	25
HEXAVALENT CHROMIUM	10 U	10 U	10 U	17

140-MW-07				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	**1070**	10 U	**83.6**	10 U
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

125-MW-01				
Sample Date	6/25/2010 (unfiltered)	6/25/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	**1190**	**1090**	**308**	**160**
HEXAVALENT CHROMIUM	710	950	120	78

125-MW-01DP				
Sample Date	6/25/2010 (unfiltered)	6/25/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	**1180**	**1210**	**388**	**140**
HEXAVALENT CHROMIUM	790	930	130	24

124-MW-07				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	**8510**	**9170**	**9360**	**9950**
HEXAVALENT CHROMIUM	8200	8300	9000	9200

124-MW-02				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	**5880**	**7370**	**120000**	**137000**
HEXAVALENT CHROMIUM	10 U	10 U	50 U	50 U

073-MW-3		
Sample Date	12/14/2010 (unfiltered)	12/14/2010 (filtered)
CHROMIUM	**607**	NT
HEXAVALENT CHROMIUM	NT	NT

073-MW-3DP		
Sample Date	12/14/2010 (unfiltered)	12/14/2010 (filtered)
CHROMIUM	**592**	NT
HEXAVALENT CHROMIUM	NT	NT

163-MW-CC8R				
Sample Date	10/21/2011 (unfiltered)	10/21/2011 (filtered)	11/28/2011 (unfiltered)	11/28/2011 (filtered)
CHROMIUM	**104**	27.8	43.4	55.5
HEXAVALENT CHROMIUM	5 U	5 U	5.5 U	5.5 U

163-MW-CC8R - DUP				
Sample Date	10/21/2011 (unfiltered)	10/21/2011 (filtered)	11/28/2011 (unfiltered)	11/28/2011 (filtered)
CHROMIUM	**94.2**	27.9	**79.9**	64.8
HEXAVALENT CHROMIUM	5 U	5 U	5.5 U	5.5 U

163-MW-2R				
Sample Date	10/21/2011 (unfiltered)	10/21/2011 (filtered)	11/28/2011 (unfiltered)	11/28/2011 (filtered)
CHROMIUM	10	10 U	13.4	10 U
HEXAVALENT CHROMIUM	5.5 U	5.5 U	5.5 U	5.5 U

163-MW-2				
Sample Date	6/25/2010 (unfiltered)	6/25/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	10 U	10 U	20.7	10 U
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

163-MW-Y6R				
Sample Date	10/21/2011 (unfiltered)	10/21/2011 (filtered)	11/28/2011 (unfiltered)	11/28/2011 (filtered)
CHROMIUM	**83.1**	22.8	**105**	43.6
HEXAVALENT CHROMIUM	5.5 U	5.5 U	5.5 U	5.5 U

163-MW-1						
Sample Date	6/25/2010 (unfiltered)	6/25/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)	4/16/2012 (unfiltered)	4/16/2012 (filtered)
CHROMIUM	**127**	49.4	**95.3**	**147**	**76.8**	25
HEXAVALENT CHROMIUM	10 U	10 U	10	10 U	5.5 U	5.5 U

140-MW-04				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	10 U	10 U	11.8	10 U
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

140-MW-106				
Sample Date	6/23/2010 (unfiltered)	6/23/2010 (filtered)	8/3/2010 (unfiltered)	8/3/2010 (filtered)
CHROMIUM	26.2 JB	10 U	29.9	10 U
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

134-MW-02				
Sample Date	9/8/2010 (unfiltered)	9/8/2010 (filtered)	10/6/2010 (unfiltered)	10/6/2010 (filtered)
CHROMIUM	10 U	10 U	10.9	10 U
HEXAVALENT CHROMIUM	NT	NT	NT	NT

163-MW-R05				
Sample Date	6/24/2010 (unfiltered)	6/24/2010 (filtered)	8/2/2010 (unfiltered)	8/2/2010 (filtered)
CHROMIUM	48.6 JB	23.7 JB	**244**	30.3
HEXAVALENT CHROMIUM	10 U	10 U	10 U	10 U

124-MW-11				
Sample Date	10/19/2010 (unfiltered)	10/19/2010 (filtered)	4/26/2011 (unfiltered)	4/26/2011 (filtered)
CHROMIUM	30.2	4 U	4.1	4 U
HEXAVALENT CHROMIUM	5.5 UJ	5.5 UJ	5.5 UJ	5.5 UJ

124-MW-10						
Sample Date	10/19/2010 (unfiltered)	10/19/2010 (filtered)	4/26/2011 (unfiltered)	4/26/2011 (filtered)	4/26/2011 (filtered) DP	4/26/2011 (filtered) DP
CHROMIUM	15.8	11.3	5.3	5.4	5	5
HEXAVALENT CHROMIUM	5.5 UJ	5.5 UJ	5.5 UJ	5.5 UJ	5.5 UJ	5.5 UJ

140-MW-08				
Sample Date	9/8/2010 (unfiltered)	9/8/2010 (filtered)	10/6/2010 (unfiltered)	10/6/2010 (filtered)
CHROMIUM	10 U	10 U	10 U	10 U
HEXAVALENT CHROMIUM	NT	NT	NT	NT

140-MW-08DP				
Sample Date	9/8/2010 (unfiltered)	9/8/2010 (filtered)	10/6/2010 (unfiltered)	10/6/2010 (filtered)
CHROMIUM	10 U	10 U	10 U	10 U
HEXAVALENT CHROMIUM	NT	NT	NT	NT

REV.	DATE	STATUS	PRPD BY	CHKD BY
3	05/15/12	REVISE HYDRAULIC BARRIER WALL, REPLACE 163-MW-1 CHEM BOX	STR	MM
2A	03/07/12	TITLE BLOCK EDITS	DL	MM
2	01/11/12	ABANDON 163-MW-2 & CC8, ADD 163-MW-CC8R, 2R & Y6R & CHEMBOXES	STR	MM
1A	09/21/11	ADDED CHEM BOXES FOR 073-MW-3/073-MW-4/140-MW-08/134-MW-02	DL	MM
1	04/27/11	UPDATED BUILDING STATUS	DL	MM

AMEC PROJECT No. 3480120317
DRAWING: SA6-S SITE AREA RESULTS

PREPARED/DATE: DL 04/01/11

CHECKED/DATE: MM 04/19/11

amec
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 8
GROUNDWATER MONITORING WELL LOCATIONS AND SAMPLE RESULTS
PRE-DESIGN INVESTIGATION SUMMARY REPORT
100% REMEDIAL DESIGN
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

P:\CADD\VONEWELL\JERSEY CITY\SA 6 SOUTH\CHROME 100% REMEDIAL DESIGN\CURRENT DRAWINGS\SA6-S SITE AREA RESULTS.dwg Tue, 15 May 2012 - 4:59pm rcostudillo Layout: SITE

Field Sample ID	073-MW-BB11	073-MW-BB11	073-MW-BB11	073-MW-BB11DP	073-MW-BB11	073-MW-BB11
Sample Date	8/27/1997	9/30/1998	7/6/2005	7/6/2005	8/9/2005	5/22/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	2,990	2,340	6,160	7,160	447	387
Hexavalent Chromium	2,080	1,840	100 U	100 U	10 U	20 UJ
Chromium (F)	2,990	1,780	9.8	11.8	7.2	5.9
Hexavalent Chromium (F)	1,900	1,620	10 U	10 U	10 U	10 UJ

Field Sample ID	073-MW-Y10	073-MW-Y10	073-MW-Y10	073-MW-Y10	073-MW-Y10DUP	073-MW-Y10
Sample Date	10/21/1997	6/30/1998	7/6/2005	8/9/2005	8/9/2005	5/22/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	77.4	13.3	13	21.8	17.6	11.2
Hexavalent Chromium	14.2	10 U	10 U	10 U	10 U	10 UJ
Chromium (F)	15.3	13.4	5.2	7.1	6.9	5.6
Hexavalent Chromium (F)	10.7	10 U	17.1	10 U	10 U	10 UJ

Field Sample ID	134-MW-V9	134-MW-V9	134-MW-V9	134-MW-V9	134-MW-V09	134-MW-V09
Sample Date	10/14/1997	7/8/1998	4/15/2003	7/7/2005	8/12/2005	5/23/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	475	168	223	1240	744	97
Hexavalent Chromium	10 U	10 U	10 U	10 U	100	10 UJ
Chromium (F)	7.3	37.1	46.4	10.7	14	4.9
Hexavalent Chromium (F)	10 U	10 U	10 U	10 U	10 U	10 UJ

Field Sample ID	134-MW-01	134-MW-01	134-MW-01
Sample Date	7/7/2005	8/12/2005	5/23/2006
Units	ug/L	ug/L	ug/L
Chromium	10,000	9,390	11,000
Hexavalent Chromium	12,000	9,990	10,500
Chromium (F)	10,400	9,010	10,200
Hexavalent Chromium (F)	11,900	9,540	9,470

Field Sample ID	134-MW-Q8	134-MW-Q8	134-MW-Q8	134-MW-Q8	134-MW-Q08	134-MW-Q08
Sample Date	10/14/1997	7/8/1998	4/15/2003	7/7/2005	8/12/2005	5/23/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	11.7	2.9 U	12.5	9	20.7	6.7
Hexavalent Chromium	10 U	10 U	10 U	10 U	10 U	10 UJ
Chromium (F)	4.8	2.9 U	1.2	3.7	4	3.9
Hexavalent Chromium (F)	10 U	10 U	10 U	10 U	10 U	10 UJ

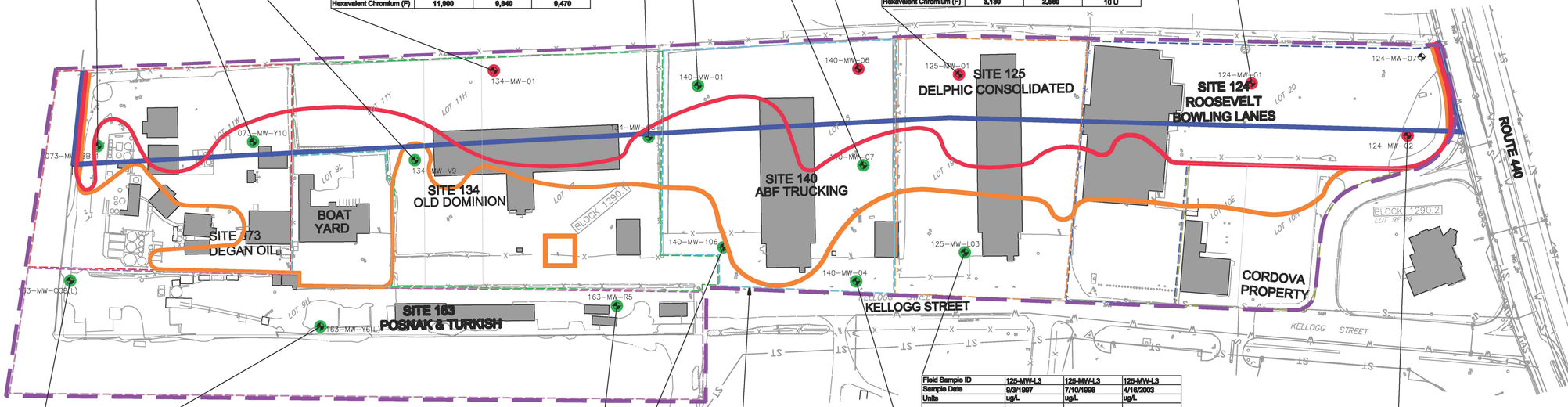
Field Sample ID	140-MW-01	140-MW-01	140-MW-01
Sample Date	7/7/2005	8/11/2005	5/23/2006
Units	ug/L	ug/L	ug/L
Chromium	78.8	168	11.3
Hexavalent Chromium	14	10 U	10 UJ
Chromium (F)	14.8	2.6 U	3
Hexavalent Chromium (F)	17.1	10 U	10 UJ

Field Sample ID	140-MW-7	140-MW-7	140-MW-7	140-MW-7	140-MW-7
Sample Date	11/30/1997	7/10/1998	7/07/2005	8/11/2005	5/22/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	36.1	24.9	154	53.4	16.9
Hexavalent Chromium	10 U	10 U	10 U	10 U	10 U
Chromium (F)	9.7	5.5	6.9	2.8 U	3 U
Hexavalent Chromium (F)	10 U	10 U	10 U	10 U	10 U

Field Sample ID	140-MW-06	140-MW-06	140-MW-06	140-MW-06	140-MW-06
Sample Date	11/3/1997	7/15/1998	7/7/2005	8/11/2005	5/22/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	6,720	6,830	2,870	3,820	1,400
Hexavalent Chromium	7,400	6,320	3,330	3,740	797
Chromium (F)	7,320	7,090	2,810	3,300	2,930
Hexavalent Chromium (F)	7,460	6,940	3,180	4,670	1,480

Field Sample ID	125-MW-01	125-MW-01	125-MW-01
Sample Date	7/6/2005	8/11/2005	5/22/2006
Units	ug/L	ug/L	ug/L
Chromium	3,510	2,810	607
Hexavalent Chromium	3,300	2,710	10 U
Chromium (F)	2,830	2,210	171
Hexavalent Chromium (F)	3,130	2,560	10 U

Field Sample ID	124-MW-01	124-MW-01	124-MW-01	124-MW-01_DUP
Sample Date	7/6/2005	8/10/2005	5/22/2006	5/22/2006
Units	ug/L	ug/L	ug/L	ug/L
Chromium	20,900	24,700	25,100	23,800
Hexavalent Chromium	22,500	27,100	23,700	24,200
Chromium (F)	21,000	25,600	21,200	21,200
Hexavalent Chromium (F)	22,000	26,500	21,800	21,200



Field Sample ID	163-MW-Y6H	163-MW-Y6L	163-MW-Y6H	163-MW-Y6L	163-MW-Y6
Location	10/20/1997	10/21/1997	6/30/1998	6/30/1998	8/10/2005
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	88.5	14.7	3.2	2.9 U	9.3
Hexavalent Chromium	10 U	10 U	10 U	10 U	10 U
Chromium (F)	8.6	5.8	3.4	2.9 U	3 U
Hexavalent Chromium (F)	10 U	10 U	10 U	10 U	10 U

Field Sample ID	163-MW-CC8H	163-MW-CC8L	163-MW-CC8H	163-MW-CC8L	163-MW-CC8	163-MW-CC8	163-MW-CC08	163-MW-CC08
Location	10/20/1997	10/21/1997	6/29/1998	7/1/1998	4/15/2003	7/8/2005	8/10/2005	5/23/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	22.2	11.9	10.8	16.5	27	53	9.4	91.3
Hexavalent Chromium	10 U	10 U	10 U	19.8	10 U	10 U	10 U	10 UJ
Chromium (F)	9 U	4.5 U	5.8 B	12.5	33	5.7	6.1	14.4
Hexavalent Chromium (F)	10 U	10 U	10 U	17.3	10 U	10 U	10 U	10 UJ

STUDY AREA 6 SOUTH
(BLOCK

Field Sample ID	140-MW-106	140-MW-106	140-MW-106
Sample Date	7/7/2005	8/11/2005	5/22/2006
Units	ug/L	ug/L	ug/L
Chromium	17.6	10.9	15.7
Hexavalent Chromium	10 U	10 U	10 U
Chromium (F)	4.8	3.8	3.3
Hexavalent Chromium (F)	10 U	10 U	10 U

Field Sample ID	163-MW-R5	163-MW-R5	163-MW-R5	163-MW-R5	163-MW-R05	163-MW-R05	163-MW-R05
Location	10/20/1997	6/29/1998	4/15/2003	4/15/2003	7/8/2005	8/10/2005	5/23/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	236	78.4	12.2	28.7	68.2	284	39.6
Hexavalent Chromium	10 U	10 U	10 U	12.2	10 U	10 U	10 U
Chromium (F)	188	70.1		12.2	6	228	11
Hexavalent Chromium (F)	10 U	10 U		10 U	10 U	10 U	10 U

Field Sample ID	125-MW-L3	125-MW-L3	125-MW-L3
Sample Date	9/3/1997	7/10/1998	4/16/2003
Units	ug/L	ug/L	ug/L
Chromium	8.2	2.4	16.1
Hexavalent Chromium	10 U	10 U	10 U
Chromium (F)	5.5 U	2.5	1.8
Hexavalent Chromium (F)	10 U	10 U	10 U

Field Sample ID	140-MW-04	140-MW-04	140-MW-04	140-MW-04	140-MW-04
Sample Date	11/04/1997	7/10/1998	7/7/2005	8/11/2005	5/22/2006
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Chromium	10.4	8.2	9.6	11.5	14
Hexavalent Chromium	10 U	10 U	10 U	10 U	10 U
Chromium (F)	8.8	5.1	4.7	4.8	6.3
Hexavalent Chromium (F)	10 U	10 U	10 U	10 U	10 U

Field Sample ID	124-MW-02	124-MW-02	124-MW-02
Sample Date	7/6/2005	8/10/2005	5/22/2006
Units	ug/L	ug/L	ug/L
Chromium	6,820	3,040	4,080
Hexavalent Chromium	6,460	2,430	1,250
Chromium (F)	6,060	2,060	5,180
Hexavalent Chromium (F)	6,360	2,140	1,270

LEGEND

- SHALLOW DEPTH MONITORING WELL
- SHALLOW GROUNDWATER DATA INDICATE DISSOLVED TOTAL CHROMIUM ABOVE NJDEP GWQS (MOST RECENT SAMPLING)
- SHALLOW GROUNDWATER DATA INDICATE TOTAL CHROMIUM (DISSOLVED/FILTERED) AND HEXAVALENT CHROMIUM BELOW NJDEP GWQS (MOST RECENT SAMPLING)
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES > 1000 mg/kg
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES > 20 mg/kg
- PROPOSED CAP AREA
- SITE 073 PROPERTY BOUNDARY
- SITE 124 PROPERTY BOUNDARY
- SITE 125 PROPERTY BOUNDARY
- SITE 134 PROPERTY BOUNDARY
- SITE 140 PROPERTY BOUNDARY
- SITE 163 PROPERTY BOUNDARY
- CORDOVA PROPERTY BOUNDARY
- BOATYARD PROPERTY BOUNDARY
- SITE BOUNDARY

NOTES:

1. BORING LOCATIONS AND MONITORING WELL LOCATIONS SURVEYED BY KELLER AND KIRKPATRICK , JULY 2005. HORIZONTAL DATUM NAD 1983.
2. **BOLD** VALUES INDICATE THAT DETECTED CONCENTRATION EXCEEDS THE NJDEP GWQS OF 70 ug/L FOR TOTAL CHROMIUM.

0 50 100 200
SCALE IN FEET

REV.	DATE	STATUS	BY

MACTEC PROJECT No. 3480050143
DRAWING: SA-6 SOUTH – FIGURE 3 THROUGH FIGURE 9

PREPARED/DATE: DS 12/22/08

CHECKED/DATE: DN 12/22/08

MACTEC
MACTEC Engineering and Consulting
200 American Metro Boulevard, Suite 113
Hamilton, NJ 08619

FIGURE 8
SHALLOW GROUNDWATER SAMPLE RESULTS
TOTAL AND HEXAVALENT CHROMIUM
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, & 140,
JERSEY CITY, NEW JERSEY

P:\Active Projects\Honeywell_Jersey City\CADD sa-6\6 SOUTH\SUBMITTAL 12-22-08 - 6 SOUTH AREAS 073, 124, 134, 140\SA-6 SOUTH - FIGURE 3 THROUGH FIGURE 9.dwg Mon, 22 Dec 2008 - 2:33pm ogiambattista Layout: FIG 08

APPENDIX H

BORING LOGS
(CD ONLY)

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 073-MW-06
DATE BEGAN: 2-17-16
DATE FINISHED: 2-17-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 20' bgs
GW DEPTH: 3.8' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	3	2.0		14.0 - 14.5' SM: Reddish brown fine SAND and SILT	NM	Augered to 14' bgs Starting elevation 9.3' GW elevation 5.5'
			2			14.5 - 15.4' SW: Gray and reddish brown fine to coarse SAND, some silt		
	15.0		4					Meadow mat expected at -6 to -7 elevation (15.0-16.0' bgs)
			4			15.4 - 16.0' ML: Reddish brown SILT, trace fine sand; medium dense, wet		
	16.0	SS2	2	2.0		16.0 - 18.0' ML: Reddish brown CLAYEY SILT, some fine to coarse sand; medium dense, wet		
			2					
	17.0		3					
			3					
	18.0	SS3	1	2.0		18.0 - 19.5' ML: Reddish brown CLAYEY SILT		
			2					
	19.0		2					
			3			19.5 - 19.7' ML: Black SILT		
						19.7 - 19.8' OL: Gray SILT with organics		
	20.0					19.8 - 20.0' PT: Dark brown PEAT. End of boring at 20.0' bgs.		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 073-MW-07
DATE BEGAN: 2-23-16
DATE FINISHED: 2-23-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Air Rotary
DRILL EQUIP:
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17' bgs
GW DEPTH: 2.5' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1	5	2.0		15.0 - 16.0' SW: Reddish brown fine SAND; loose, wet	NM	Augered to 15' bgs Starting elevation 7.5' GW elevation 5.0' Sheen on auger spoils
			1					
	16.0		2			16.0 - 16.6' OL: Black SILT, organic fibers at 16.5'		
			4					
	17.0					16.6 - 17.0' PT: Dark brown PEAT. End of boring at 17.0' bgs.		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 073-MW-08
DATE BEGAN: 2-12-16
DATE FINISHED: 2-16-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16' bgs
GW DEPTH: 2.4' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	SS1	1	2.0		12.0 - 13.4' ML: Reddish brown CLAYEY SILT; loose, wet	NM	Augered to 12' bgs Starting elevation 7.4' GW elevation 5.0'
			2					
	13.0		4					
			9			13.4 - 14.0' SW: Reddish brown fine SAND; medium dense, wet		
	14.0	SS2	1	2.0		14.0 - 14.3' SM: Reddish brown fine SAND and SILT		
			2			14.3 - 15.5' ML: Black SILT		
	15.0		1					
			3			15.5 - 16.0' PT: Dark brown PEAT. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Study Area - 6 South

SITE INFO: Site 073- Deagan Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-001
DATE BEGAN: 7/9/2008
DATE FINISHED: 7/14/08
INSPECTOR: B. Senna/ E. Jackson
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	4		0.0 - 0.5' ASPHALT: Asphalt	NA	First attempt 7/9/2008 with truck mounted rig, refusal @ 2' bgs; re-mobilized on7/14/08 with 6610DT track mounted geoprobe rig
						0.5 - 1.0' FILL: Brown silty sand, some asphalt (fine-coarse), dry		
	-1.0					1.0 - 3.0' FILL: Concrete		PID/4-gas meter malfunctioning due to rain; Collect sample from 0.5-1' bgs @ 8:13
	-2.0							Collect sample from 3-3.5' bgs @ 8:15
	-3.0					3.0 - 3.8' FILL: Light brown sand (fine-medium), moist		
						3.8 - 4.0' FILL: Dark brown silty clay, moist		
	-4.0	2	NA	4		4.0 - 4.3' FILL: Concrete	NA	Collect sample from 4.5-5' bgs @ 8:19
						4.3 - 4.8' FILL: Light brown sand (fine-medium), medium dense, wet		
	-5.0					4.8 - 6.0' FILL: light red/brown silty sand (fine), dense, wet		
	-6.0					6.0 - 8.0' FILL: Light red/brown sand (fine-coarse) some layers of silt; 1" of light yellow brown silty gravel @ 6'; wet		Collect sample from 6-6.5' bgs @ 8:22
	-7.0							
	-8.0	3		4		8.0 - 8.8' FILL: Light brown sand (fine), loose, saturated	NA	Collect sample from 9-9.5' bgs @ 8:27
						8.8 - 9.3' FILL: Light brown clayey silt, firm, saturated		
	-9.0					9.3 - 10.0' FILL: Light brown sand (fine), some organic material, loose, saturated		
	-10.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073- Deagan Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-001
DATE BEGAN: 7/9/2008
DATE FINISHED: 7/14/08
INSPECTOR: B. Senna/ E. Jackson
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0							
						10.0 - 11.0' FILL: Light brown sand (fine), some organic material, loose, saturated		Collect sample from 11.5-12' bgs @ 8:30
	-11.0					11.0 - 12.0' FILL: Light brown silty clay, firm, saturated, fine sand @ tip		
	-12.0	4		1.5		12.0 - 13.5' FILL: Light brown sandy clay (fine-medium), firm, saturated	NA	Collect sample from 13-13.5' bgs @ 8:40
	-13.0					13.5 - 16.0' No recovery		
	-14.0							
	-15.0							
	-16.0	5		0		16.0 - 18.0' No recovery	NA	
	-17.0							
	-18.0	6		1		18.0 - 19.0' PT: Light brown/dark brown peat, clayey silt lens from 18.25'-18.75'; end of boring at 19'		
	-19.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-001A
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH:
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 12.0' Begin logging soil boring at 12 ft bgs; see boring log 073-SB-001 for details		
	-1.0							
	-2.0							
	-3.0							
	-4.0							
	-5.0							
	-6.0							
	-7.0							
	-8.0							
	-9.0							
	-10.0							
	-11.0							
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-001A
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH:
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-1	NA	0.0		12.0 - 16.0' No recovery	NA	Driller advanced to 12.0' bgs prior to sampling
	-13.0							
	-14.0							
	-15.0							
	-16.0	S-2	NA	2.5		16.0 - 17.0' FILL: Light/red brown sand (fine-medium), wet	0.0	073-SB-001A_1618 collected from 16.0-16.5' bgs @ 10:00; DUP @ 10:02
	-17.0					17.0 - 17.3' OL: Black silt, some shells and organic material, moist		
						17.3 - 17.8' PT: Dark brown peat, moist		
	-18.0					17.8 - 18.5' SP: Light brown sand (fine), some organic material, trace silt, moist		073-SB-001A_1820 collected from 18.0 - 18.5' bgs @ 10:05
	-19.0					18.5 - 20.0' No recovery; end of boring at 20.0' bgs		
	-20.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-002
DATE BEGAN: 7/9/2008
DATE FINISHED: 7/14/08
INSPECTOR: E Jackson / B Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	4		0.0 - 0.8' ASPHALT: Asphalt	NA	First attempt 7/9/2008 with truck mounted rig, refusal @ 2.5' bgs; re-mobilized on7/14/08 with 6610DT track mounted geoprobe rig
	-1.0					0.8 - 2.0' FILL: Dark brown/red brown silt and clay, firm, with few small white and yellow brown mottles, green staining @ 1' bgs, suspect COPR, moist.		PID/4-gas meter malfunctioning due to rain
	-2.0					2.0 - 4.0' FILL: White/yellow green concrete and silt, very tight, green staining throughout, suspect COPR; dry		Collect sample from 1-1.5' bgs @ 9:38
	-3.0							Collect sample from 3.5-4' bgs @ 9:40
	-4.0	2	NA	4		4.0 - 4.8' FILL: Light brown gravelly sand some silt, loose, saturated	NA	
	-5.0					4.8 - 5.5' FILL: Light yellow/brown silt, 1/2" dark brown stripe @ 4.8 and 4.9, yellow green stripe @ top, suspect COPR, few bright red mottles, firm, wet		Collect sample from 4.5-5' bgs @ 9:50
	-6.0					5.5 - 6.5' FILL: Light/red brown gravelly silt, some sand, firm, wet		
	-7.0					6.5 - 7.8' FILL: Light brown sand (fine-medium), dark brown @ 7'; wet		Collect sample from 6.5-7' bgs @ 9:52
	-8.0	3		1.5		7.8 - 8.0' FILL: Red brown clayey silt, wet	NA	No recovery 1st attempt pushed through with basket and got 1.5' of recovery
	-9.0					8.0 - 8.5' FILL: Dark brown sand (fine-medium), loose, saturated		Collect sample from 9-9.5' bgs @ 10:00
	-10.0					8.5 - 9.5' FILL: Light brown silty clay, soft, some gravel (fine-coarse), saturated		
	-11.0					9.5 - 10.0' No recovery		
	-12.0					10.0 - 12.0' No recovery		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-002
DATE BEGAN: 7/9/2008
DATE FINISHED: 7/14/08
INSPECTOR: E Jackson / B Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	4		3		12.0 - 15.0' CL: Light brown silty clay, some sand (fine-coarse) throughout, firm, saturated	NA	Collect sample from 12-12.5' bgs @10:05; DUP @ 10:06
	-13.0							
	-14.0							Collect sample from 14.5-15' bgs @ 10:08
	-15.0					15.0 - 16.0' No recovery		
	-16.0	5		1		16.0 - 17.0' CL: Light brown silty clay, some sand (fine-coarse) throughout, trace gravel, firm, saturated	NA	Collect sample from 16-16.5' bgs @ 10:20
	-17.0					17.0 - 18.0' No recovery		
	-18.0	6		1		18.0 - 18.8' CL: Light brown silty clay, some sand (fine-coarse) from 18.0'-18.5'; wet		Collect sample from 18-18.5' bgs @ 10:30
	-19.0					18.8 - 19.0' PT: Peat; moist; end of boring at 19'		

PREPARED BY: EMJ
CHECKED BY: JB

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-003
DATE BEGAN: 7/9/2008
DATE FINISHED: 7/14/08
INSPECTOR: E Jackson / B Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	4		0.0 - 0.5' ASPHALT: Asphalt & gravel	N/A	Attempted three borings on 7/9/2008 with truck-mounted rig, refusal @ 2' bgs; re-mobilized on7/14/08 with 6610DT track mounted geoprobe rig
	-1.0					0.5 - 1.5' FILL: Black silt and gravel (fine-medium), very firm, dry		
	-2.0					1.5 - 2.0' FILL: Concrete		PID/ 4-gas meter malfunctioning due to rain
	-3.0					2.0 - 4.0' FILL: Light yellow brown silt, some gravel (fine-medium), rounded, very firm, dark brown @ bottom, moist		Collect sample from 1-1.5' bgs @ 10:58 Collect sample from 2.5-3' bgs @ 11:00
	-4.0	2	NA	3.5		4.0 - 5.5' FILL: Dark brown silty sand, some gravel and clay, yellow brown coloring from 4-4.5' bgs, angular brick and gravel @ 5' bgs, firm, wet	N/A	
	-5.0							Collect sample from 4-4.5' bgs @ 11:05
	-6.0					5.5 - 7.5' FILL: Light/red brown sand (fine-medium), wet.		Collect sample from 7-7.5' bgs @ 11:08
	-7.0							
	-8.0					7.5 - 8.0' No recovery		
		3	NA	4		8.0 - 8.5' FILL: Light brown sand (fine-medium), dense, wet	N/A	Collect sample from 8.5-9' bgs @ 11:10
	-9.0					8.5 - 9.0' FILL: Light brown sandy clay with yellow brown mottles and angular gravel (fine-medium), saturated		
	-10.0					9.0 - 10.0' FILL: Light brown sand (fine-medium), saturated.		Collect sample from 11.5-12' bgs @ 11:12
	-11.0					10.0 - 12.0' FILL: Light brown sand (fine-medium), some coarse red brown silty sand @ 11.0'-11.5'; saturated.		
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-003
DATE BEGAN: 7/9/2008
DATE FINISHED: 7/14/08
INSPECTOR: E Jackson / B Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	4	NA	4		12.0 - 16.0' FILL: Light brown sand (f-c), some rounded fine gravel, saturated	N/A	Collect sample from 12.5-13' bgs @ 11:15
	-13.0							
	-14.0							Collect sample from 15.5-16' bgs @ 11:18
	-15.0							
	-16.0	5	NA	3		16.0 - 19.0' CL: Light brown silty clay, some sand @ 18' bgs, dark brown clay in tip, wet; end of boring at 19'	N/A	Collect sample from 16-16.5' bgs @ 11:25
	-17.0							
	-18.0							Collect sample from 18.5-19' bgs @ 11:27
	-19.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-004
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 17.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE: concrete	0	Driller cored through concrete
	-1.0					0.3 - 1.3' FILL: Dark brown silty sand (fine), some gravel (fine-coarse), moist, sheen from 1 - 1.25'	10.4	
	-2.0					1.3 - 2.8' FILL: Red brown silt, moist	8.1	073-SB-004_0002 collected from 1.0-1.5' bgs @ 14:05
	-3.0					2.8 - 3.0' FILL: Light brown sand (fine-medium), moist	0	073-SB-004_0204 collected from 2.5-3.0' bgs @ 14:10
	-4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown/red sand (fine-medium); very moist; lenses of silt from 5.0 - 7.0	1.3	
	-5.0						2.4	073-SB-004_0406 collected from 4.5-5.0' bgs @ 14:15
	-6.0						0	
	-7.0						0	073-SB-004_0608 collected from 6.5-7.0' bgs @ 14:20
▽	-8.0	S-3	NA	3.0		8.0 - 9.0' FILL: Red brown silt; wet	0	
	-9.0					9.0 - 11.0' FILL: Light brown sand (fine-medium); wet		073-SB-004_0810 collected from 8.5-9.0' bgs @ 14:25
	-10.0							
	-11.0							073-SB-004_1012 collected from 12.5-13.0' bgs @ 14:30
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-004
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 17.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-4	NA	4.0		12.0 - 13.0' FILL: Red brown/light brown silt; wet	0	
	-13.0					13.0 - 14.5' FILL: Red brown silt; wet; black silt on top		073-SB-004_1214 collected from 12.5-13.0' bgs @ 14:35
	-14.0							073-SB-004_1416 collected from 14.0-14.5' bgs @ 14:40
	-15.0							
	-16.0	S-5	NA	1.0		16.0 - 17.0' PT: Dark brown peat; moist	0	
	-17.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-005
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' CONCRETE: concrete	0	Driller cored through concrete
	-1.0					0.5 - 1.5' FILL: Dark brown silty sand (fine); trace wood and gravel (fine-medium), dry		
	-2.0					1.5 - 3.0' FILL: Red brown silt; some gravel (fine), dry		073-SB-005_0002 collected from 1.0-1.5' bgs @ 10:20
	-3.0					3.0 - 4.0' No recovery		073-SB-005_0204 collected from 2.5-3.0' bgs @ 10:25
	-4.0	S-2	NA	4.0		4.0 - 5.5' FILL: Light brown sand (fine-medium), dry	0	
	-5.0					5.5 - 6.0' FILL: Yellow green clayey silt; potentially COPR, dry		
	-6.0					6.0 - 7.0' FILL: Dark brown silty sand (fine); wet; trace clayey silt		073-SB-005_0406 collected from 5.5-6.0' bgs @ 10:30
	-7.0					7.0 - 8.0' FILL: Light gray/ light brown sand (fine); some silt; wet		073-SB-005_0608 collected from 7.0-7.5 bgs @ 10:35
	-8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown silt; saturated	0	073-SB-005_0810 collected from 8.0-8.5' bgs @ 10:40
	-9.0							
	-10.0							
	-11.0					11.0 - 12.0' No recovery		073-SB-005_1012 collected from 10.5-11.0' bgs @ 10:45
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-005
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-4	NA	2.5		12.0 - 14.0' FILL: SAA; Light brown silt; saturated	0	073-SB-005_1214 collected from 12.0-12.5' bgs @ 10:50
	-13.0							
	-14.0					14.0 - 14.5' OL: Black silt; trace organic material, wet		
	-15.0					14.5 - 16.0' No recovery		073-SB-005_1416 collected from 14.0-14.5' bgs @ 10:55
	-16.0	S-5	NA	2.75		16.0 - 16.5' OL: Black silt; trace organic material, wet	0	
	-17.0					16.5 - 18.0' PT: Dark brown peat; moist		073-SB-005_1618 collected from 16.5-17.0' bgs @ 11:00
	-18.0					18.0 - 18.8' SP: Light brown/olive sand (fine); some organic material		073-SB-005_1820 collected from 18.0-18.5' bgs @ 11:05
	-19.0					18.8 - 20.0' No recovery; end of boring at 20.0'		
	-20.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-006
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' CONCRETE: Concrete and gravel	0	Driller cored through concrete
						0.5 - 0.8' FILL: Dark brown/black silty sand, dry	15.8	073-SB-006_0002 collected from 1.0-1.5' bgs @ 12:50
	-1.0					0.8 - 2.5' FILL: Light brown/gray sand (fine-medium); oil odor 1.5-2.0', dry	25.1	
	-2.0						20.3	
						2.5 - 4.0' No recovery	81.8	073-SB-006_0204 collected from 2.0-2.5' bgs @ 12:55
	-3.0							
	-4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown/gray sand (fine-medium); strong oil odor; trace sheen 4.5-5.0'; moist @ 5.0'	105	
							187	
	-5.0						151	073-SB-006_0406 collected from 4.5-5.0' bgs @ 13:00
							35.1	
	-6.0						25.8	
	-7.0					7.0 - 8.0' No recovery	9.6	073-SB-006_0608 collected from 6.5-7.0' bgs @ 13:05
▽	-8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown/red brown sand (fine-medium); lenses of red brown silt 8.0-9.0'; wet	1.5	
							1.9	073-SB-006_0810 collected from 8.0-8.5' bgs @ 13:10
	-9.0						1.3	
	-10.0						1.4	
						10.5 - 12.0' No recovery		073-SB-006_1012 collected from 10.0-10.5' bgs @ 13:15
	-11.0							
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-006
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-4	NA	3.0		12.0 - 14.5' FILL: Red brown silt; some sand (fine); wet	1.8	
	-13.0						0	073-SB-006_1214 collected from 12.5-13.0' bgs @ 13:20
	-14.0						0	
	-15.0					14.5 - 15.0' OL: Black silt; wet	0	073-SB-006_1416 collected from 14.5-15.0' bgs @ 13:25
	-16.0	S-5	NA	3.0		15.0 - 16.0' No recovery 16.0 - 16.3' OL: SAA; Black silt; wet	0	
	-17.0					16.3 - 17.3' PT: Dark brown peat; moist	0	073-SB-006_1618 collected from 16.0-16.5' bgs @ 13:30
	-18.0					17.3 - 19.0' SW: Light brown sand (fine-medium); some organic material	0	
	-19.0					19.0 - 20.0' No recovery; end of boring at 20'	0	073-SB-006_1820 collected from 18.5-19.0' bgs @ 13:35
	-20.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-007
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: E Jackson / B Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3		0.0 - 0.5' ASPHALT: Asphalt		Strong odor
	-1.0					0.5 - 1.5' FILL: Dark brown sand and gravel; sticky	900	Collect sample from 0.5-1' bgs @ 13:18
	-2.0					1.5 - 2.8' FILL: Dark brown clayey silt, wet		Collect sample from 2.5-3.0' bgs @ 13:20
	-3.0					2.8 - 3.0' FILL: Dark brown sand (fine-medium), wet	2300	
	-4.0	2	NA	4		3.0 - 4.0' No recovery		Collect sample from 4.5-5' bgs @ 13:25
	-5.0					4.0 - 8.0' FILL: Light brown sand (fine-coarse), clay throughout, gravel (fine), saturated	10	
	-6.0							Collect sample from 7-7.5' bgs @ 13:28
	-7.0						2300	
	-8.0	3	NA	4		8.0 - 10.0' FILL: Light brown sand (fine-coarse), trace shells; saturated	0	Collect sample from 8.5-9' bgs @ 13:55
	-9.0							
	-10.0					10.0 - 12.0' FILL: Light brown sand (fine-coarse), trace shells, fine sand and silt @ 10.0'-10.5'; saturated		Collect sample from 10-10.5 bgs @ 13:38
	-11.0							
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-007
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: E Jackson / B Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	4	NA	4		12.0 - 15.8' FILL: Light brown sand (fine-medium), some coarse sand from 14.0'-15.75', saturated	0	Collect sample form 13-13.5' bgs @ 13:56 Collect sample from 14-14.5' bgs @ 14:01
	-13.0							
	-14.0							
	-15.0					15.8 - 16.0' CL: Brown silt and clay, organic odor; end of boring at 16'		
	-16.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-008
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 17.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, gravel; dry	0	
						0.5 - 1.3' FILL: Red brown silt; some gravel; dry	0	073-SB-008_0002 collected from 0.5-1.0' bgs @ 08:05
	-1.0					1.3 - 3.5' FILL: Dark brown silty sand (fine); some gravel (fine), wood; 3.0-3.5 moist; odor	9.8	
	-2.0						15.3	
	-3.0					3.5 - 4.0' No recovery		073-SB-008_0204 collected from 3.0-3.5' bgs @ 08:10
	-4.0	S-2	NA	3.5		4.0 - 6.0' FILL: Dark brown/red brown silt; some sand (fine); trace sheen; oil odor ; moist	12.1	
	-5.0						15.8	073-SB-008_0406 collected from 4.5-5.0' bgs @ 08:15
	-6.0					6.0 - 7.5' FILL: Light brown sand (fine-medium); oil odor; moist	43.8	
	-7.0						15.5	
						7.5 - 8.0' No recovery		073-SB-008_0608 collected from 7.0-7.5' bgs @ 08:20
▽	-8.0	S-3	NA	2.5		8.0 - 9.0' FILL: light brown sand (fine-medium); oil odor; wet	9.8	073-SB-008_0810 collected from 8.0-8.5' bgs @ 08:25
	-9.0					9.0 - 10.5' FILL: Brown silt; wet	5.3	
	-10.0						0.9	
						10.5 - 12.0' No recovery		073-SB-008_1012 collected from 10.0-10.5' bgs @ 08:30
	-11.0						0	
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-008
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 17.0 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-4	NA	2.5		12.0 - 13.5' FILL: Brown silt wet;	0	
	-13.0						0	073-SB-008_1214 collected from 12.0-12.5' bgs @ 08:35
	-14.0					13.5 - 14.5' FILL: Red brown silt; trace sand (fine); wet	0	
	-15.0					14.5 - 16.0' OL: Black silt; wet	0	073-SB-008_1416 collected from 14.0-14.5' bgs @ 08:40
	-16.0	S-5	NA	1.0		16.0 - 16.3' OL: Dark brown/black silt; heavy organic material; wet	0	
	-17.0					16.3 - 17.0' PT: Dark brown peat; moist; end of boring at 17.0'	0	073-SB-008_1618 collected from 16.0-16.5' bgs @ 08:45
	-18.0						0	
	-19.0						0	
	-20.0							

PREPARED BY: CH
CHECKED BY: MWV

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-009
DATE BEGAN: 7/9/08
DATE FINISHED: 7/9/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Mustafah
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3		0.0 - 0.5' ASPHALT: Asphalt	150	Collect sample from 0.5-1' bgs @ 8:30
	-1.0					0.5 - 1.0' FILL: Light brown sand (medium-coarse), wood, and gravel, dry		
	-2.0					1.0 - 2.0' FILL: Light brown sand (fine-coarse), some silt and fine rounded gravel, trace clay; dry	80	Collect sample from 2.5-3' bgs @ 8:33
	-3.0					2.0 - 3.0' FILL: Light brown sand (fine-coarse); moist		
						3.0 - 4.0' No recovery		
	-4.0	2	NA	3.5		4.0 - 4.5' FILL: Light brown sand (fine-coarse); moist	0	Collect sample from 4.5-5' bgs @ 8:39
	-5.0					4.5 - 5.5' FILL: Light brown sand (fine-coarse), fine rounded gravel, clay lenses, wet		
	-6.0					5.5 - 7.5' FILL: Light brown sand (fine-coarse), tight, clay lenses @ 6.5' and 7'; wet	0	Collect sample from 6.5-7' bgs @ 8:42
	-7.0							
						7.5 - 8.0' No recovery		
	-8.0	3	NA	3		8.0 - 10.0' FILL: Light brown sand (medium-coarse), trace fine rounded gravel, shell at 8.5' , some clay lenses; wet	0	Collect sample from 8-8.5' bgs @ 9:06
	-9.0							
	-10.0					10.0 - 11.0' FILL: Light brown sand (medium-coarse), trace fine rounded gravel, some clay lenses; wet		Collect sample from 10.5-11' bgs @ 9:08
	-11.0					11.0 - 12.0' No recovery		
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-009
DATE BEGAN: 7/9/08
DATE FINISHED: 7/9/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Mustafah
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	4	NA	4		12.0 - 13.0' FILL: Light brown sand (medium-coarse), trace fine rounded gravel, some clay lenses; wet	0	Collect sample from 12-12.5' bgs @ 9:26
	-13.0					13.0 - 17.5' OH: Dark brown/black organic silt & clay, soft, wet		
	-14.0							Collect sample from 14-14.5' bgs @ 9:28
	-15.0							
	-16.0	5	NA	2			0	
	-17.0							
	-18.0					17.5 - 18.0' PT: Peat; end of boring at 18'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 North

SITE INFO: Site 073/ Degan Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-010
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: E. Jackson/ T. Giouzelis
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Moustafa
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.0		0.0 - 0.5' CONCRETE	0	
	-1.0					0.5 - 1.5' FILL: red brown sandy silt (fine-medium) with trace fine gravel; firm; dry		Collect sample from 0.5'-1.0' bgs @ 11:10
	-2.0					1.5 - 3.0' FILL: dark brown clayey silt some fine gravel and sand, moist	0	Collect sample from 2.5'-3.0' bgs @ 11:13
	-3.0					3.0 - 4.0' No recovery		
	-4.0	2	NA	4.0		4.0 - 6.0' FILL: light brown sand (f-c), trace rounded fine gravel; medium dense; saturated	0	Collect sample from 4.0'-4.5' bgs @ 11:16
	-5.0							
	-6.0					6.0 - 8.0' FILL: light brown sand (fine-medium), trace layers of silt; saturated	0	
	-7.0							Collect sample from 7.0'-7.5' bgs @ 11:19
	-8.0	3	NA	4.0		8.0 - 10.0' FILL: light brown silt, some clay, trace sand, ; loose; saturated	0	Collect sample from 8.5'-9.5' bgs @ 11:21
	-9.0							
	-10.0					10.0 - 11.0' FILL : light brown silt, some clay, trace sand, ; loose; saturated	0	Collect sample from 10.0'-10.5' bgs @ 11:23
	-11.0					11.0 - 12.0' FILL: brown sand (fine-medium); dense; saturated		
	-12.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 North

SITE INFO: Site 073/ Degan Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-010
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: E. Jackson/ T. Giouzelis
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Moustafa
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	4	NA	4.0		12.0 - 16.0' FILL: light brown/red brown sand (fine-medium), 2" clay lens at 14'; medium density; saturated	0	Collect sample from 12.5' - 13.0' bgs @ 1139
	-13.0							
	-14.0						0	
	-15.0							Collect sample from 15.5'- 16.0' bgs @ 11:42
	-16.0	5	NA	4.0		16.0 - 20.0' PT: dark brown/black peat, clay in tip; end of boring at 20'	0	
	-17.0							
	-18.0						0	
	-19.0							
	-20.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-011
DATE BEGAN: 7/9/08
DATE FINISHED: 7/9/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Mustafah
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	Collect sample from 1-1.5' bgs @ 10:20
	-1.0					0.5 - 1.0' FILL: Red brown silt clay gravel mix, some concrete; moist		
						1.0 - 1.8' FILL: Dark brown gravelly sand, angular, some coal fragments; moist		
	-2.0					1.8 - 3.5' FILL: Red brown layers of silty clay and fine sand, some coarse sand @ bottom; firm; moist	0	Collect sample from 3-3.5' bgs @ 10:23
	-3.0							
						3.5 - 4.0' No recovery		
	-4.0	2	NA	4		4.0 - 5.0' FILL: Red/dark brown gravelly sands, trace glass, coal frags, some silt and clay, moist	0	Collect sample from 4.5-5' bgs @ 10:28
	-5.0					5.0 - 8.0' FILL: Light/red brown sand (f-c), few layers of fine sand and clay, wet		
	-6.0						0	Collect sample from 7.5-8' bgs @ 10:30
	-7.0							
	-8.0	3	NA	4		8.0 - 11.0' FILL: Light brown sand (f-c), trace clay lenses, firm, saturated	0	Collect sample from 8.5-9' bgs @ 10:40
	-9.0							
	-10.0						0	
	-11.0					11.0 - 11.5' FILL: Light brown silty clay, soft, saturated		Collect sample from 10.5-11' bgs @ 10:43
						11.5 - 12.0' FILL: Light brown sand (fine-medium), saturated		
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-011
DATE BEGAN: 7/9/08
DATE FINISHED: 7/9/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Mustafah
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	4	NA	3		12.0 - 14.0' FILL: Light brown sand (fine-medium), firm, trace clay, saturated	0	Collect sample from 12.5-13' bgs @ 11:08
	-13.0							
	-14.0					14.0 - 14.5' CL: Light brown clay, trace silt, wet	0	
	-15.0					14.5 - 15.0' OL: Dark brown/black silty clay, varved, organic odor; moist		
						15.0 - 18.0' No recovery; end of boring at 18'		
	-16.0	5	NA	0				
	-17.0							
	-18.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-011A
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 12.0' See 073-SB-011 for description; begin logging soil boring at 12' bgs		
	-1.0							
	-2.0							
	-3.0							
	-4.0							
	-5.0							
	-6.0							
	-7.0							
	-8.0							
	-9.0							
	-10.0							
	-11.0							
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-011A
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0							
		S-1	NA	2.5		12.0 - 13.5' FILL: Light brown/black clayey silt	0	
	-13.0						0	
						13.5 - 14.5' OL: Black silt		
	-14.0						0	073-SB-008_1416 collected from 14.0-14.5' bgs @ 13:25
						14.5 - 16.0' No recovery		
	-15.0						0	
	-16.0	S-2	NA	2.0		16.0 - 16.5' PT: Dark brown peat; moist	0	073-SB-008_1618 collected from 16.5-17.0' bgs @ 13:30
						16.5 - 19.0' OL: Olive clayey silt; heavy organic material; moist		
	-17.0						0	
	-18.0						0	073-SB-008_1820 collected from 18.5-19.0' bgs @ 13:35
	-19.0					19.0 - 19.5' PT: Dark brown peat; moist	0	
						19.5 - 20.0' No recovery; end of boring at 20.0'		
	-20.0							

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-012
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 6.0 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt, gravel	0	
	-1.0					1.0 - 1.5' FILL: Wood, dry	0	
	-2.0					1.5 - 3.5' FILL: Dark brown/ black silty sand (fine) with wood, dry	0	073-SB-012_0002 collected from 1.0-1.5' bgs @ 15:05
	-3.0						0	
						3.5 - 4.0' No recovery		073-SB-012_0204 collected from 3.0-3.5' bgs @ 15:10
	-4.0	S-2	NA	2.0		4.0 - 4.5' FILL: Light brown/light red brown silty sand (fine); some white/yellow nodules; potential COPR, dry	0	073-SB-012_0406 collected from 4.0-4.5' bgs @ 15:15
	-5.0					4.5 - 6.0' FILL: Yellow/green/white silt; some sand (fine); potentially COPR; wet @ 5' bgs; end of boring at 6.0'	0	
	-6.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-013

DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna

DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT

SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 6.0 ft bgs
GW DEPTH: 5.0 ft bgs

DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
	-1.0					0.5 - 2.5' FILL: Dark brown silty sand (fine); some gravel (fine-coarse), wood, and metal, dry	0	073-SB-013_0002 collected from 0.5-1.0' bgs @ 15:20
	-2.0						0	
	-3.0					2.5 - 4.0' No recovery	0	073-SB-013_0204 collected from 2.0-2.5' bgs @ 15:25
	-4.0	S-2	NA	2.0		4.0 - 5.5' FILL: Red/brown silty sand; glue-like substance at 4.0'; heavy odor; sticky; wet from 5' bgs	67.9 51.8	
	-5.0						40.0	073-SB-013_0406 collected from 4.5-5.0' bgs @ 15:30
	-6.0					5.5 - 6.0' FILL: Yellow/green silt; potentially COPR, wet; end of boring at 6.0'	48.3	

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-014
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.3' CONCRETE	0	Driller cored through concrete
	-1.0					0.3 - 2.5' FILL: Red brown/brown silt; moist; stiff	0	073-SB-014_0002 collected from 0.5-1.0' bgs @ 09:20
	-2.0						0	
	-3.0					2.5 - 4.0' No recovery	0	073-SB-014_0204 collected from 2.0-2.5' bgs @ 09:25
	-4.0	S-2	NA	2.0		4.0 - 5.0' FILL: Brown silt; wet	0	
	-5.0					5.0 - 6.0' FILL: Light brown fine-medium sand; lenses of black silt from 5.5-5.75', wet; end of boring at 6'	0	073-SB-014_0406 collected from 4.5-5.0' bgs @ 09:30
	-6.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-015
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 6.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt, gravel; dry	0	
	-1.0					0.8 - 1.5' FILL: Black silty sand (fine); some gravel (fine-coarse); dry	0	
	-2.0					1.5 - 3.5' FILL: Dark brown sand (fine); some wood; moist	0	073-SB-015_0002 collected from 1.0-1.5' bgs @ 09:35
	-3.0						0	
	-4.0					3.5 - 4.0' FILL: No recovery		073-SB-015_0204 collected from 3.0-3.5' bgs @ 09:40
		S-2	NA	2.0		4.0 - 5.0' FILL: Red brown silt; trace sand (fine); wet	0	
	-5.0					5.0 - 6.0' FILL: Yellow/white/green silt; tight; potential COPR; wet; end of boring at 6.0'	0	073-SB-015_0406 collected from 4.5-5.0' bgs @ 09:40
	-6.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-016
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete; dry	0	
	-1.0					0.8 - 1.8' FILL: Brown clayey silt; dry	0	
	-2.0					1.8 - 3.0' FILL: Light brown silty sand (fine-medium); lenses of reddish brown silt; some gravel (f-c); moist	0	073-SB-016_0002 collected from 1.5-2.0' bgs @ 11:20
	-3.0					3.0 - 4.0' No recovery	0	073-SB-016_0204 collected from 2.5-3.0' bgs @ 11:25
▽	-4.0	S-2	NA	4.0		4.0 - 8.0' FILL: light brown silty sand (fine-medium); lenses reddish brown silt; some gravel (f-c); wet	0	073-SB-016_0406 collected from 4.0-4.5' bgs @ 11:30
	-5.0						0	
	-6.0						0	
	-7.0						0	073-SB-016_0608 collected from 6.5-7.0' bgs @ 11:33
	-8.0	S-3	NA	2.5			0	073-SB-016_0608 collected from 7.0-7.5' bgs @ 11:35
	-9.0					8.0 - 10.5' FILL: light brown silty sand (fine-medium); some lenses reddish brown silt; some gravel (f-c); wet	0	073-SB-016_0810 collected from 8.0-8.5' bgs @ 11:40
	-10.0						0	
	-11.0					10.5 - 12.0' FILL: No recovery	0	073-SB-016_1012 collected from 10.0-10.5' bgs @ 11:45
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 073
PROJECT NO: 3480050143
BORING ID: 073-SB-016
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-4	NA	3.0		12.0 - 13.5' FILL: light brown silty sand (fine-medium); some lenses reddish brown silt; some gravel (f-c); wet	0	
	-13.0						0	073-SB-016_1214 collected from 12.5-13.0' bgs @ 11:50
						13.5 - 14.5' OL: Black silt; wet		
	-14.0					14.5 - 14.8' OL: Dark brown silt; some organic material; wet	0	
	-15.0					14.8 - 15.0' PT: Dark borwn peat; moist	0	073-SB-016_1416 collected from 14.5-15.0' bgs @ 11:55
	-16.0					15.0 - 16.0' No recovery; end of boring @ 16.0'		

Honeywell SA-6 south

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-017
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, fine to medium gravel, fine to course sand	0	
	1.0					0.5 - 2.5' FILL: Brown fine to coarse sand, fine to medium gravel, trace silt and brick; moderate dense, dry		
	2.0					2.5 - 3.0' FILL: Brown silty clay, some fine sand; firm, moist		
	3.0					3.0 - 3.5' FILL: Fine to medium sand, some clay, trace silt; moist, dense		
	4.0	S-2	NA	3.0		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 7.0' FILL: Brown fine to coarse sand, trace fine gravel, mottling of clay; wet, loose		
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 073-SB-017-0608 @ 6.5-7.0' @ 8:55
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Brown fine to medium sand, some mottling of clay, trace shells; more clay with depth; wet, moderately firm	0	Sample collected 073-SB-017-0810 @ 8.5-9.0' @ 9:00
	9.0							
	10.0							Sample collected 073-SB-017-1012 @ 10.5-11.0' @ 9:05
	11.0							
	12.0	S-4	NA	1.5		12.0 - 13.0' FILL: Same as above	0	
	13.0					13.0 - 13.5' OL: Clayey silt, some fine sand, trace organics; loose, wet		Sample collected 073-SB-017-1214 @ 13.0-13.5' @ 9:10
	14.0					13.5 - 14.0' No recovery, end of boring @ 14' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 south

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-018
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.8' ASPHALT: Asphalt, fine to medium gravel, fine to coarse sand	0	
	1.0					0.8 - 3.8' FILL: Reddish fine to medium brown sand, some silt, trace coal, fine to medium grave and bricks; dry, moderate dense		
	2.0							
	3.0							
	4.0					3.8 - 4.0' No recovery		
		S-2	NA	4.0		4.0 - 8.0' FILL: Brown fine to medium sand, trace silt and shells; wet, loose	0	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-018-0608 from 7.0-7.5' bgs @9:20
	8.0	S-3	NA	3.5		8.0 - 8.5' FILL: Brown fine to medium sand, some clay; wet, loose	0	
	9.0					8.5 - 10.5' FILL: Black clayey silt, some fine sand; very loose, wet		Sample collected 073-SB-018-0810 from 8.5-9.0' bgs @9:25
	10.0							
	11.0					10.5 - 12.0' FILL: Brown fine to medium sand; wet, loose		
	12.0	S-4	NA	2.0		12.0 - 13.8' OL: Black clayey silt, some fine sand, trace organics	0	Sample collected 073-SB-018-1012 from 11.0-11.5' bgs @9:30
	13.0					13.8 - 14.0' OL: Brown clayey silt, some fine sand, trace organics; end of boring @ 14' bgs		Sample collected 073-SB-018-1214 from 13.0-13.5' bgs @9:35
	14.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 south

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-019
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, fine to medium gravel, fine to course sand, trace silt; loose, dry	0	
	1.0					0.5 - 2.3' FILL: Reddish Brown silty clay, fine to medium sand; very dense, dry		
	2.0					2.3 - 3.0' FILL: Reddish brown fine to medium sand, some clay, fine to medium gravel		
	3.0							
	4.0	S-2	NA	3.0		3.0 - 3.5' FILL: Reddish brown silty clay, fine to medium sand, trace fine to medium gravel; dense, moist	0	
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 6.0' FILL: Same as above; wet		
	7.0					6.0 - 7.0' FILL: Brown silt, some fine to course sand, some fine to course gravel; wet,dense		Sample collected 073-SB-019-0608 from 6.5-7.0' bgs @09:40
	8.0	S-3	NA	3.5		7.0 - 8.0' No recovery	0	
	9.0					8.0 - 11.5' FILL: Brown fine to course sand, trace fine to medium gravel, trace mottling of clay at depths		Sample collected 073-SB-019-0810 from 8.5-9.0' bgs @09:45
	10.0							
	11.0							Sample collected 073-SB-019-1012 from 10.5-11.0' bgs @09:50
	12.0	S-4	NA	2.5		11.5 - 12.0' No recovery	0	Sample collected 073-SB-019-1214 from 12.0-12.5' bgs @09:55
	13.0							
	14.0					14.0 - 14.5' OL: Clayey silt, fine to medium sand, trace organics; wet, loose		Sample collected 073-SB-019-1416 from 14.0-14.5' bgs @10:00
	15.0					14.5 - 16.0' No recovery; end of boring @ 16' bgs		
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 south

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-020
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 3.8' FILL: Brown fine to medium sand, fine to medium gravel, lenses of coal @ 1.25-1.5' bgs, trace silt, lenses of clay @ 1.0 and 3.5' bgs;, wet, loose	0	
	1.0							
	2.0							
	3.0							
						3.8 - 4.0' FILL: No recovery		
	4.0	S-2	NA	4.0		4.0 - 11.5' FILL: Brown fine to medium sand, trace fine to medium gravel, trace shells, lenses of clay @ 6.5' and 8.0' bgs; wet, loose	0	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-020-0608 from 7.0-7.5' bgs @10:10
	8.0	S-3	NA	4.0			0	
	9.0							Sample collected 073-SB-020-0810 from 9.0-9.5' bgs @10:15
	10.0							
	11.0					11.5 - 11.8' FILL: Clayey silt, some fine sand; wet, loose		Sample collected 073-SB-020-1012 from 11.0-11.5' bgs @10:20
	12.0	S-4	NA	3.0		11.8 - 12.0' FILL: Brown fine to coarse sand; dense, wet	0	
	13.0					12.0 - 14.0' FILL: Same as above, lenses of clay, more clay with depth; wet, loose		Sample collected 073-SB-020-1214 from 12.5-13.0' bgs @10:25
	14.0					14.0 - 15.0' OL: Brown clayey silt, some fine sand; wet, loose		
	15.0					15.0 - 16.0' No recovery; end of boring at 16' bgs		Sample collected 073-SB-020-1416 from 14.5-15.0' bgs @10:30
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-021
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' CONCRETE	13	
	1.0					0.5 - 2.5' FILL: Brown fine to medium sand, trace silt, moist, dense	4.8	Organic Odors from 0-4' bgs
	2.0						5.7	
	3.0					2.5 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 7.5' FILL: Same as above, more silt with depth; loose, wet	34.9	Sheen noticed at 6.5' bgs
	5.0						14.4	
	6.0						14.5 6.5	Sample collected 073-SB-021-0608 from 6.5-7.0' bgs @10:35
	7.0						5.7	
	8.0	S-3	NA	4.0		7.5 - 8.0' No recovery 8.0 - 12.0' FILL: Same as above	4.0 0	Sample collected 073-SB-021-0810 from 8.5-9.0' bgs @10:40
	9.0						0	
	10.0						0	Sample collected 073-SB-021-1012 from 10.5-11.0' bgs @10:45
	11.0						0	
	12.0	S-4	NA	2.5		12.0 - 14.4' FILL: Same as above; wet, very loose	0	Sample collected 073-SB-021-1214 from 12.5-13.0' bgs @10:50
	13.0						0	
	14.0					14.4 - 14.5' OL: Brown clayey silt, some fine sand, trace organics	0	Sample collected 073-SB-021-1416 from 14.0-14.5' bgs @10:55
	15.0					14.5 - 16.0' No recovery; end of boring @ 16.0' bgs	0	
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-022
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' CONCRETE	0.8	
	1.0					0.3 - 0.5' FILL: Dark brown fine to coarse sand, trace clinker, brick and silt; loose, moist	0.5	
	2.0					0.5 - 3.0' FILL: Brown fine to coarse sand, some silt; loose, moist	1.3 6.3 42.1	
	3.0						56.6	
	4.0					3.0 - 4.0' No recovery		
		S-2	NA	4		4.0 - 8.0' FILL: Same as above, trace clay; loose, wet	13.4 21.5 13.6 5.5 3.9	Sample collected 073-SB-022-0608 from 7.5-8.0' bgs @11:00, DUP @11:02
	5.0							
	6.0							
	7.0						1.7 1.6 0.9	
	8.0	S-3	NA	3		8.0 - 11.0' FILL: Same as above, trace shells; wet, very loose	0.4	
	9.0						0	Sample collected 073-SB-022-0810 from 8.5-9.0' bgs @11:10
	10.0						0	
	11.0					11.0 - 12.0' No recovery		Sample collected 073-SB-022-1012 from 10.5-11.0' bgs @11:15
	12.0	S-4	NA	3		12.0 - 13.5' FILL: Same as above		
	13.0							Sample collected 073-SB-022-1214 from 12.5-13.0' bgs @11:20
	14.0					13.5 - 14.5' OL: Brown clayey silt, some fine sand, trace organics; wet, very loose		
	15.0					14.5 - 15.0' OL: Black silty clay, some fine sand, trace organics; wet, loose		
	16.0					15.0 - 16.0' No recovery, end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-023
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	0	
	1.0					0.3 - 1.5' FILL: Dark brown fine to coarse sand, fine to medium gravel, trace silt and brick; loose, moist		
	2.0					1.5 - 2.0' FILL: Brown fine to medium sand; loose, moist		
	3.0					2.0 - 3.0' FILL: Reddish brown silty clay; very firm, moist		
	4.0	S-2	NA	3.0		3.0 - 3.0' FILL: Brown fine to coarse sand	0	
	5.0					3.0 - 4.0' No recovery		
	6.0					4.0 - 7.0' FILL: Brown fine to coarse sand with lenses of silt and clay, trace shells; loose, wet		Sample collected 073-SB-023-0608 from 6.5-7.0' bgs @11:30
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Same as above, very loose; wet	0	Sample collected 073-SB-023-0810 from 8.5-9.0' bgs @11:35
	9.0							
	10.0							Sample collected 073-SB-023-1012 from 10.5-11.0' bgs @11:40
	11.0							
	12.0	S-4	NA	3.0		12.0 - 12.8' FILL: Clayey silt, some fine sand; wet, very loose	0	
	13.0					12.8 - 14.0' FILL: Fine to medium sand, trace silt; loose, wet		Sample collected 073-SB-023-1214 from 13.0-13.5' bgs @11:45
	14.0					14.0 - 15.0' OL: Black silty clay, some fine sand, trace organics; firm, wet		
	15.0					15.0 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-023A
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' CONCRETE: Concrete	0	
	1.0					0.3 - 1.5' FILL: Dark Brown fine to course sand, fine to medium gravel, trace silt and brick, loose, moist		
	2.0					1.5 - 2.0' FILL: Brown fine to medium sand, loose, moist		
	3.0					2.0 - 3.0' FILL: Reddish brown silty clay, very firm, moist		
	4.0	S-2	NA	3		3.0 - 3.0' FILL: Brown fine to course sand	0	
	5.0					3.0 - 4.0' No recovery		
	6.0					4.0 - 7.0' FILL: Brown fine to course sand with lenses of silt and clay, trace shells, loose, wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	4		8.0 - 12.0' FILL: SAA, very loose, very wet	0	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	2.5		12.0 - 12.8' FILL: Clayey silt with some fine sand, very wet, very loose	0	
	13.0					12.8 - 14.0' FILL: Fine to medium sand with trace silt, loose, wet		Sample collected 073-SB-023A-1416 from 14.0-14.5' bgs @9:45
	14.0					14.0 - 14.5' FILL: Black clayey silt, organics		
	15.0					14.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-024
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	0	
	1.0					0.3 - 0.5' FILL: Dark Brown fine sand, some silt; moist, dense		
	2.0					0.5 - 3.0' FILL: Brown fine to coarse sand, lenses of clay, more clay with depth; loose, moist		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Brown fine to coarse sand, trace silt, lense of clay from 7.5-7.75' bgs; wet, loose	0	
	5.0							
	6.0							Sample collected 073-SB-024-0608 from 6.5-7.0' bgs @12:40, DUP @12:43
	7.0							
	8.0	S-3	NA	3.0		8.0 - 8.5' FILL: Brown fine sand with trace silt; wet, loose	0	
	9.0					8.5 - 9.3' FILL: Clayey silt, some fine sand; wet, very loose		Sample collected 073-SB-024-0810 from 9.5-10.0' bgs @12:45
	10.0					9.3 - 11.0' FILL: Brown fine to coarse sand with lenses of clay at depth; wet, loose		
	11.0					11.0 - 12.0' No recovery		Sample collected 073-SB-024-1012 from 10.5-11.0' bgs @12:50
	12.0	S-4	NA	2.0		12.0 - 12.8' FILL: Brown fine to coarse sand with lenses of clay at depth, trace shells; wet, loose	0	
	13.0					12.8 - 13.0' OL: Brown clayey silt, some fine sand; wet, loose		Sample collected 073-SB-024-1214 from 13.0-13.5' bgs @12:55
	14.0					13.0 - 14.0' OL: Black silty clay, some fine sand; firm, wet; end of boring @ 14.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-025
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' ASPHALT: Gravel	0	
						0.5 - 3.0' FILL: Brown fine to medium sand, some fine to medium gravel, trace brick, tar, coal, and silt		Sample collected 073-SB-025-0002 from 1.5-2.0' bgs @14:50
	1.0							
	2.0							
								Sample collected 073-SB-025-0204 from 2.5-3.0' bgs @14:55
	3.0					3.0 - 3.5' FILL: Dark Brown fine to coarse sand, some silt, trace brick; wet, moderate dense		
						3.5 - 4.0' FILL: Concrete		
	4.0	S-2	NA	3.5		4.0 - 5.0' FILL: Light Brown fine sand, some fine gravel (Possible COPR)	0	
▽								Sample collected 073-SB-025-0406 from 4.5-5.0' bgs @15:00
	5.0					5.0 - 6.0' FILL: Silt, some fine sand, trace fine to medium gravel;, moist, dense		
	6.0					6.0 - 7.5' FILL: Reddish brown fine to coarse sand with lenses of clay; moist, dense		
	7.0							Sample collected 073-SB-025-0608 from 7.0-7.5' bgs @15:05
						7.5 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-026
DATE BEGAN: 4/19/10
DATE FINISHED: 4/19/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' ASPHALT: Gravel	0	
	1.0					0.8 - 1.8' FILL: Reddish brown fine to medium sand, some silt, trace brick; moist, very dense		
	2.0					1.8 - 2.0' FILL: Fine to coarse gravel		
						2.0 - 2.8' FILL: Dark brown fine to course sand, fine to medium gravel, trace silt; moist, very dense		
	3.0					2.8 - 3.0' FILL: Greenish brown fine to medium sand (COPR)		
						3.0 - 3.5' FILL: Mixture of yellowish green fine sand (COPR) and gravel		
	4.0		NA	3.5		3.5 - 4.0' FILL: Brown granular COPR	0	
						4.0 - 4.8' FILL: Fine to coarse sand, fine to medium gravel, trace silt		
	5.0					4.8 - 5.0' FILL: Yellowish green COPR mixed with fine to medium gravel, red fine to medium sand, dry		
						5.0 - 5.5' FILL: Fine to medium sand, some silt; dense, moist		
	6.0					5.5 - 7.5' FILL: Fine to coarse sand, trace clay and silt; dense, moist		
	7.0							Sample collected 073-SB-026-0608 from 7.0-7.5' bgs @14:30
	8.0					7.5 - 8.0' No recovery; end of boring @ 8.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-027
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 11 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-1.0							
		S-1		4.0		-1.0 - 1.0' CONCRETE	0	
	0.0		NA					
	1.0					1.0 - 2.0' FILL: Brown fine to medium sand, fine to medium gravel. trace silt and tar; moist, loose		Sample collected 073-SB-027-0002 from1.5-2.0' bgs @08:10
	2.0					2.0 - 3.0' FILL: Concrete		
	3.0	S-2		3.0		3.0 - 3.5' FILL: Grey and white resin; wet, loose	0	Sample collected 073-SB-027-0204 from3.0-3.5' bgs @08:15
	4.0					3.5 - 4.5' FILL: Dark Brown clayey silt, trace fine sand; firm, moist		
▽	5.0					4.5 - 6.5' FILL: Brown fine to coarse sand with lenses of clay; wet, loost		Sample collected 073-SB-027-0406 from5.5-6.0' bgs @08:20
	6.0							
						6.5 - 7.0' No recovery		
	7.0	S-3		2.0		7.0 - 9.0' FILL: Brown fine to coarse sand, some silt, trace clay and shells; wet, loose	0	Sample collected 073-SB-027-0608 from 7.0-7.5 bgs @08:25
	8.0							
	9.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-028
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 9 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-1.0	S-1	NA	4.0		-1.0 - 0.0' CONCRETE	0	
	0.0					-0.2 - 0.0' FILL: Light brown fine to coarse sand, trace fine to medium gravel and brick		
						0.0 - 0.5' FILL: Brown fine to medium sand, some silt and fine to medium gravel		
	1.0					0.5 - 0.8' FILL: Black fine to coarse sand, fine to medium gravel, some tar		Staining from -0.5 to -0.75
						0.8 - 1.8' FILL: Concrete		
	2.0					1.8 - 3.5' FILL: Brown fine to coarse sand, trace silt; loose, wet		
	3.0	S-2	NA	3.5			0	
	4.0					3.5 - 4.5' FILL: Brown silt clay; firm, wet		Sample collected 073-SB-028-0406 from 4.5-5.0' bgs @08:35
	5.0					4.5 - 6.5' FILL: Brown fine to coarse sand with lenses of clay; wet, loost		
	6.0							Sample collected 073-SB-028-0608 from 6.0-6.5' bgs @08:40
						6.5 - 7.0' No recovery		
	7.0	S-3	NA	1.5		7.0 - 8.5' FILL: Brown fine to coarse sand with lenses of clay, trace shells; wet, loose	0	
	8.0							Sample collected 073-SB-028-0810 from 8.0-8.5 bgs @08:45
						8.5 - 9.0' No recovery; end of boring @ 9.0' bgs		
	9.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-029
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-1.0	S-1	NA	4.0		-1.0 - 3.5' CONCRETE	0	
	0.0							
	1.0							
	2.0							
	3.0	S-2	NA	3.5			0	
	4.0					3.5 - 4.0' FILL: Greenish brown granular sand (COPR); dense, moist		
						4.0 - 4.3' FILL: Dark brown fine to coarse sand, trace silt, fine to medium gravel		
	5.0					4.3 - 5.5' FILL: Brown clayey silt; firm, moist		Sample collected 073-SB-029-0406 from5.0-5.5' bgs @09:25
	6.0					5.5 - 6.5' FILL: Brown fine to coarse sand, fine to medium gravel and lenses of clay and sil; dense, wet		
						6.5 - 7.0' No recovery		Sample collected 073-SB-029-0608 from 6.0-6.5' bgs @09:30
	7.0	S-3	NA	1.5		7.0 - 8.5' FILL: Brown fine to coarse sand, fine to medium gravel and silt; loose, wet	0	
	8.0							
	9.0					8.5 - 10.0' FILL: No recovery; end of boring @10.0' bgs		Sample collected 073-SB-029-0810 from 8.0-8.5 bgs @09:35
	10.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-030
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	0	
						0.3 - 1.0' FILL: Brown fine to medium sand with wood, trace coal and brick; moist		Sample collected 073-SB-030-0002 from 0.5-1.0' bgs @10:25
	1.0					1.0 - 2.5' FILL: Brown clayey silt; firm, moist		
	2.0					2.5 - 3.0' FILL: Brown fine to coarse sand, trace fine to medium gravel; wet, loose		
	3.0					3.0 - 4.0' No recovery		Sample collected 073-SB-030-0204 from 2.5-3.0' bgs @10:30
	4.0	S-2	NA	4.0		4.0 - 7.8' FILL: Brown fine to coarse sand, trace fine to medium gravel, mottling of clay; wet, loose	0	
	5.0							Sample collected 073-SB-030-0406 from 4.5-5.0 bgs @10:40
	6.0							
	7.0							Sample collected 073-SB-030-0608 from 7.5-8.0 bgs @10:45
	8.0	S-3	NA	2.5		7.8 - 8.0' FILL: Brown fine sand, some silt; loose, wet	0	
						8.0 - 10.5' FILL: Brown fine sand, some silt, trace shells; loose, wet		Sample collected 073-SB-030-0810 from 8.0-8.5 bgs @10:50
	9.0							
	10.0							
	11.0					10.5 - 12.0' No recovery; end of boring @ 12.0' bgs		Sample collected 073-SB-030-1012 from 10.0-10.5 bgs @10:55
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywel Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-031
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	0	
						0.3 - 0.5' FILL: Fine to coarse grave, some dark brown fine to coarse sand		
	1.0					0.5 - 0.8' FILL: Brown fine to medium sand, trace silt; moist, dense		Sample collected 073-SB-031-0002 from 0.5-1.0' bgs @10:55
	2.0					0.8 - 1.8' FILL: Red fine to medium sand, some silt and fine to medium gravel; moist, dense		
	3.0					1.8 - 3.0' FILL: Silt with fine sand; moderate dense, moist		Sample collected 073-SB-031-0204 from 2.5-3.0' bgs @11:00
	4.0	S-2	NA	4.0		3.0 - 4.0' No recovery	0	
						4.0 - 8.0' FILL: Brown fine to coarse sand, more fine sand with depth, trace shells; wet, loose		Sample collected 073-SB-031-0406 from 4.5-5.0 bgs @11:05
	5.0							
	6.0							
	7.0							Sample collected 073-SB-031-0608 from 7.0-7.5 bgs @11:10
	8.0	S-3	NA	4.0		8.0 - 11.5' FILL: Brown fine to medium sand, trace silt and shells; wet, loose	0	
	9.0							Sample collected 073-SB-031-0810 from 9.0-9.5 bgs @11:15
	10.0							
	11.0							Sample collected 073-SB-031-1012 from 11.0-11.5 bgs @11:20
	12.0					11.5 - 12.0' FILL: Silt with fine sand; wet, loose; end of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywel Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-031R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	0	
						0.3 - 0.5' FILL: Fine to coarse grave, some dark brown fine to coarse sand		
	1.0					0.5 - 0.8' FILL: Brown fine to medium sand, trace silt; moist, dense		
						0.8 - 1.8' FILL: Red fine to medium sand, some silt and fine to medium gravel; moist, dense		
	2.0					1.8 - 3.0' FILL: Silt with fine sand; moderate dense, moist		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Brown fine to medium sand, silt, trace shells; wet; end of boring at 8.0' bgs.	0	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-031R-0608 from 7.0-7.5 bgs at 8:10
	8.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-032
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.4' CONCRETE	0	
	1.0					0.4 - 1.8' FILL: Brown fine to medium sand, some silt, trace fine to medium gravel and glass; moist, dense		Sample collected 073-SB-032-0002 from 1.0-1.5' bgs @11:25
	2.0					1.8 - 2.3' FILL: Dark brown fine to medium sand, some clinker, trace wood; moist, dense		
	3.0					2.3 - 3.3' FILL: Silt, some fine sand, trace wood; moist, dense		Sample collected 073-SB-032-0204 from 2.5-3.0' bgs @11:30
	4.0	S-2	NA	3.5		3.3 - 4.0' No recovery	0	
	5.0					4.0 - 4.4' FILL: Silty clay, some fine to medium sand; wet, loose		Sample collected 073-SB-032-0406 from 4.5-5.0 bgs @11:35
	6.0					4.4 - 7.5' FILL: Brown fine to coarse sand, some mottling of clay; wet, loose		
	7.0					7.5 - 8.0' No recovery		Sample collected 073-SB-032-0608 from 6.5-7.0' bgs @11:40
	8.0	S-3	NA	4.0		8.0 - 11.0' FILL: Brown fine to medium sand, trace shells; wet, loose	0	
	9.0							Sample collected 073-SB-032-0810 from 8.5-9.0' bgs @11:45
	10.0							
	11.0					11.0 - 11.5' FILL: Brown clayey silt, some fine sand; wet, very loose		Sample collected 073-SB-032-1012 from 11.0-11.5' bgs @11:50
	12.0					11.5 - 12.0' FILL: Brown fine to medium sand, trace silt; wet loose; end of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-033
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' CONCRETE	0	
						0.3 - 1.0' FILL: Dark brown fine to medium sand, some fine to medium gravel, trace silt, coal, and clinker; moderate dense, moist		Sample collected 073-SB-033-0002 from 1.0-1.5' bgs @11:55
	1.0					1.0 - 2.0' FILL: Reddish brown fine to medium sand, fine to coarse gravel, trace brick; moist, moderate dense		
	2.0					2.0 - 2.1' FILL: Grey lense of fine to medium sand		
	3.0					2.1 - 2.5' FILL: Dark brown fine to medium sand, some coal, trace fine to medium gravel		Sample collected 073-SB-033-0204 from 2.5-3.0' bgs @12:00
	4.0	S-2	NA	4.0		2.5 - 3.5' FILL: Silt with fine sand; dense, moist	0	
	5.0					3.5 - 4.0' No recovery		Sample collected 073-SB-033-0406 from 4.5-5.0' bgs @12:05
						4.0 - 4.5' FILL: Silt with fine sand; firm, moist		
	6.0					4.5 - 8.0' FILL: Brown fine to coarse sand with lenses of clay; wet, loose		
	7.0							Sample collected 073-SB-033-0608 from 7.0-7.5' bgs @12:10
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Brown fine to coarse sand with lenses of clay; wet, very loose; end of boring @ 12.0' bgs	0	
	9.0							Sample collected 073-SB-033-0810 from 8.5-9.0' bgs @12:15
	10.0							
	11.0							Sample collected 073-SB-033-1012 from 10.5-11.0' bgs @12:20
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-034
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	0	
						0.3 - 0.5' FILL: Brown fine to medium sand, trace silt, brick, and fine to medium gravel		Sample collected 073-SB-034-0002 from 1.0-1.5' bgs @12:25
	1.0					0.5 - 1.3' FILL: Silt, some fine sand; moist, moderate dense		
	2.0					1.3 - 2.3' FILL: Reddish brown fine to medium sand; moist, moderate dense		
	3.0					2.3 - 3.0' FILL: Brown silt, some fine sand; moist, dense		Sample collected 073-SB-034-0204 from 2.5-3.0' bgs @12:30
	4.0	S-2	NA	4.0		3.0 - 4.0' No recovery	0	
						4.0 - 4.3' FILL: Brown silt, some fine sand; wet, loose		
	5.0					4.3 - 4.8' FILL: Clayey silt; firm, wet		Sample collected 073-SB-034-0406 from 4.5-5.0 bgs @12:35
	6.0					4.8 - 9.0' FILL: Brown fine to coarse sand with lenses of fine sand; wet, loose		
	7.0							Sample collected 073-SB-034-0608 from 7.0-7.5' bgs @12:40
	8.0	S-3	NA	3.5			0	
	9.0					9.0 - 11.0' FILL: Brown clayey silt; wet, very loose		Sample collected 073-SB-034-0810 from 8.5-9.0 bgs @12:45
	10.0							
	11.0					11.0 - 11.5' FILL: Brown fine sand,some silt; loose, wet		Sample collected 073-SB-034-1012 from 10.5-11.0 bgs @12:50
	12.0					11.5 - 12.0' No recovery; end of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-035
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' CONCRETE	0	
						0.3 - 0.8' FILL: Brown fine sand, some silt, trace gravel, moist, moderate dense		
	1.0					0.8 - 1.3' FILL: Dark brown fine to coarse sand with fine to medium gravel, trace brick, coal, and clinker (staining)		
	2.0					1.3 - 1.9' FILL: Clayey silt, trace fine sand; firm, moist		
	3.0					1.9 - 3.0' FILL: Brown silt, some fine sand; moist, dense		
	4.0	S-2	NA	3.5		3.0 - 3.3' FILL: Brown fine to coarse sand; moist, loose	0	
						3.3 - 4.0' No recovery		
	5.0					4.0 - 7.5' FILL: Brown fine to coarse sand with lense of clay; wet, loose		
	6.0							
	7.0							
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	4.0		8.0 - 11.0' FILL: Brown fine to medium sand with lenses of clay; wet, loose	0	
	9.0							
	10.0							
	11.0					11.0 - 11.5' FILL: Brown silt, some fine sand; wet, very loose		
						11.5 - 11.9' FILL: Brown fine to medium sand, trace silt; wet, loose		
	12.0	S-4	NA	2.5			0	

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-035
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0					11.9 - 12.0' FILL: Clayey silt; wet, very loose 12.0 - 13.0' FILL: Brown fine to coarse sand with lenses of clay; wet, loose		
	14.0					13.0 - 13.8' OL: Brown clayey silt, fine sand; loose, wet 13.8 - 14.5' OL: Black silty clay, some fine sand; firm, moist		
	15.0					14.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-036
DATE BEGAN: 4/20/10
DATE FINISHED: 4/20/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' CONCRETE	0	
	1.0					0.3 - 1.3' FILL: Dark brown fine to coarse sand, some clinker, trace brick		Sample collected 073-SB-036-0002 from 0.5-1.0' bgs @13:35
	2.0					1.3 - 2.5' FILL: Brown clayey silt; firm, moist		
	3.0					2.5 - 3.5' FILL: Brown fine to coarse sand; moist, loose		Sample collected 073-SB-036-0204 from 3.0-3.5' bgs @13:40
	4.0	S-2	NA	4.0		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 11.5' FILL: Brown fine to coarse sand, lenses of clay; wet, loose		Sample collected 073-SB-036-0406 from 5.0-5.5' bgs @13:45
	6.0							
	7.0							Sample collected 073-SB-036-0608 from 7.0-7.5' bgs @13:50
	8.0	S-3	NA	4.0			0	
	9.0							Sample collected 073-SB-036-0810 from 8.5-9.0' bgs @13:55
	10.0							
	11.0							Sample collected 073-SB-036-1012 from 11.5-12.0' bgs @14:00
	12.0	S-4	NA	3.0		11.5 - 13.5' FILL: Brown clayey silt; wet, very loose	0	
	13.0					13.5 - 14.0' FILL: Brown fine sand, some silt		Sample collected 073-SB-036-1214 from 13.5-14.0' bgs @14:05
	14.0					14.0 - 14.5' OL: Brown clayey silt, some fine sand; loose, wet		
	15.0					14.5 - 14.9' OL: Black silty clay, some fine sand; firm, moist		Sample collected 073-SB-036-1416from 14.0-14.5.0' bgs @14:10
						14.9 - 15.0' PT: Peat		
	16.0					15.0 - 16.0' No recovery; end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

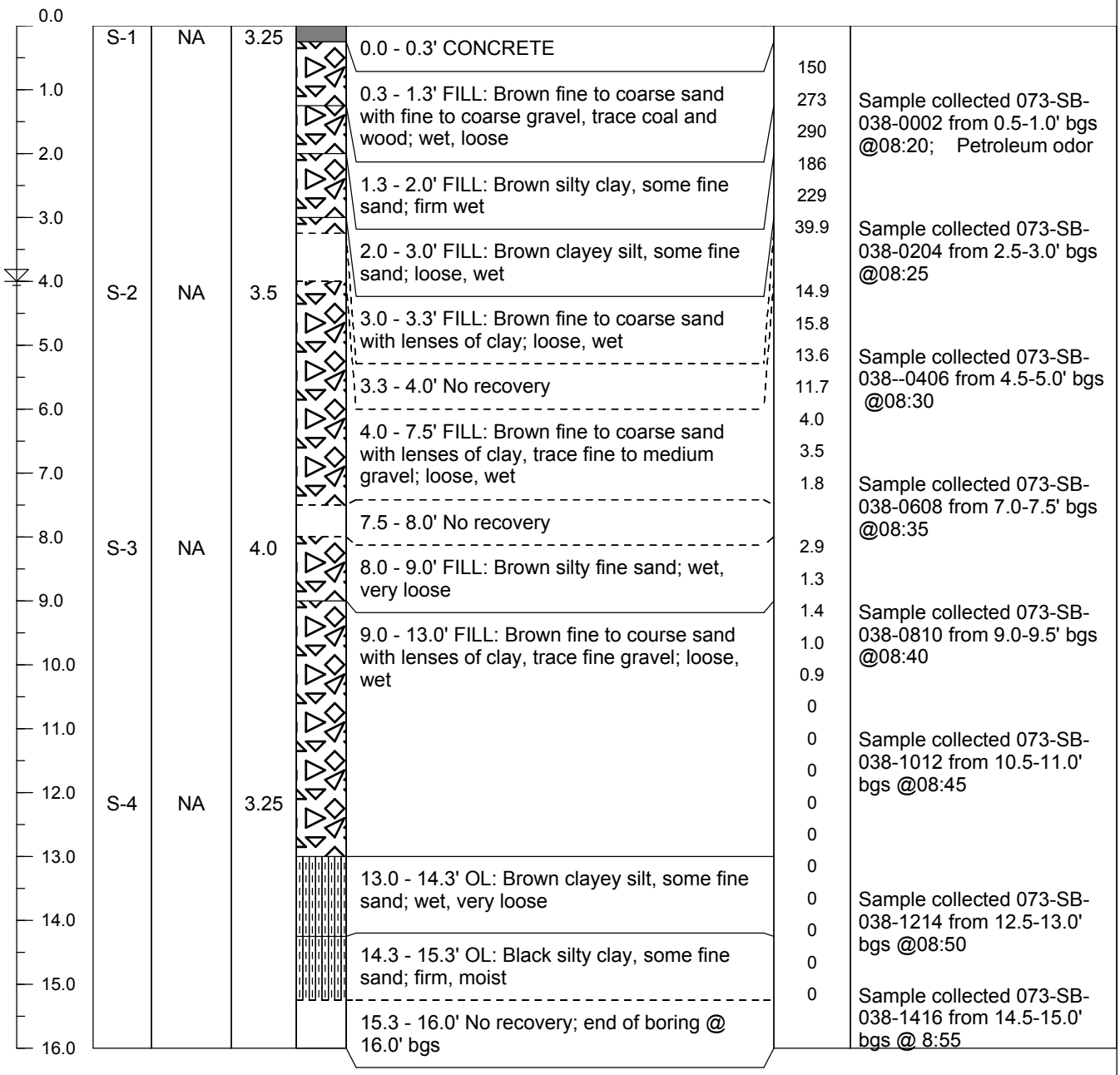
SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-037
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	64.9	
	1.0					0.3 - 0.5' FILL: Dark brown fine to course sand with some fine to coarse gravel; moist, loose	955	Sample collected 073-SB-037-0002 from 1.0-1.5' bgs @07:40
	2.0					0.5 - 1.8' FILL: Brown fine to coarse sand, some fine to medium gravel, trace silt (staining); wet. loose	217 231 211	
	3.0					1.8 - 2.0' FILL: Brown silty clay, some fine sand; firm, wet	158	Sample collected 073-SB-037-0204 from 2.5-3.0' bgs @07:45
	4.0	S-2	NA	3.0		2.0 - 3.0' Fill: Brown fine to medium silty sand; moist, loose	72.0 76.7	
	5.0					3.0 - 4.0' No recovery	85.3 41.5	Sample collected 073-SB-037--0406 from 4.5-5.0' bgs @07:50
	6.0					4.0 - 7.0' FILL: Brown fine to medium silty sand, lenses of clay; wet, loose	11.6 10.2	
	7.0					7.0 - 8.0' No recovery	19.0	Sample collected 073-SB-037-0608 from 6.5-7.0' bgs @07:55
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Brown fine to medium silty sand, lenses of clay; wet, loose	0.9 4.3 4.3	Sample collected 073-SB-037-0810 from 8.5-9.0' bgs @08:00
	9.0						5.1 3.0 2.4	
	10.0						2.0 2.1	Sample collected 073-SB-037-1012 from 10.5-11.0' bgs @08:05
	11.0						2.8	
	12.0	S-4	NA	4.0		12.0 - 13.8' FILL: Brown fine to medium silty sand, lenses of clay; wet, very loose	2.5 0.6	
	13.0						0	Sample collected 073-SB-037-1214 from 13.0-13.5' bgs @08:10
	14.0					13.8 - 15.8' OL: Brown clayey silt, some fine sand, loose, wet	0 0	
	15.0					15.8 - 16.0' OL: Black silty clay, some fine sand, firm; moist; end of boring @ 16.0' bgs	0	Sample collected 073-SB-037-1416 from 14.5-15.0' bgs @08:15
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-038
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:



ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' CONCRETE	150	
	1.0					0.3 - 1.3' FILL: Brown fine to coarse sand with fine to coarse gravel, trace coal and wood; wet, loose	273	Sample collected 073-SB-038-0002 from 0.5-1.0' bgs @08:20; Petroleum odor
	2.0					1.3 - 2.0' FILL: Brown silty clay, some fine sand; firm wet	290 186	
	3.0					2.0 - 3.0' FILL: Brown clayey silt, some fine sand; loose, wet	229 39.9	Sample collected 073-SB-038-0204 from 2.5-3.0' bgs @08:25
	4.0	S-2	NA	3.5		3.0 - 3.3' FILL: Brown fine to coarse sand with lenses of clay; loose, wet	14.9 15.8	
	5.0					3.3 - 4.0' No recovery	13.6 11.7	Sample collected 073-SB-038--0406 from 4.5-5.0' bgs @08:30
	6.0					4.0 - 7.5' FILL: Brown fine to coarse sand with lenses of clay, trace fine to medium gravel; loose, wet	4.0 3.5	
	7.0					7.5 - 8.0' No recovery	1.8	Sample collected 073-SB-038-0608 from 7.0-7.5' bgs @08:35
	8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Brown silty fine sand; wet, very loose	2.9 1.3	
	9.0					9.0 - 13.0' FILL: Brown fine to course sand with lenses of clay, trace fine gravel; loose, wet	1.4 1.0 0.9 0 0	Sample collected 073-SB-038-0810 from 9.0-9.5' bgs @08:40
	10.0						0 0	Sample collected 073-SB-038-1012 from 10.5-11.0' bgs @08:45
	11.0						0 0	
	12.0	S-4	NA	3.25			0 0	
	13.0					13.0 - 14.3' OL: Brown clayey silt, some fine sand; wet, very loose	0 0	Sample collected 073-SB-038-1214 from 12.5-13.0' bgs @08:50
	14.0					14.3 - 15.3' OL: Black silty clay, some fine sand; firm, moist	0 0	
	15.0					15.3 - 16.0' No recovery; end of boring @ 16.0' bgs	0	Sample collected 073-SB-038-1416 from 14.5-15.0' bgs @ 8:55
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-039
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.1' CONCRETE		
						0.1 - 1.8' FILL: Brown fine to coarse sand, fine to medium gravel, trace brick and silt	6.8 0.9 1.3	Sample collected 073-SB-039-0002 from 0.5-1.0' bgs @ 09:00
	1.0							
	2.0					1.8 - 3.8' FILL: Brown silty fine sand, trace organics and clay; firm moist	43.1 10.5	
	3.0						6	Sample collected 073-SB-039-0204 from 3.0-3.5' bgs @ 09:05
						3.8 - 4.0' No recovery		
	4.0	S-2	NA	3.75		4.0 - 8.0' FILL: Brown fine to coarse sand with lenses of clay, trace fine gravel; loose, wet	50.3 2.0	
	5.0						0.8	Sample collected 073-SB-039--0406 from 5.5-6.0' bgs @ 09:10
	6.0						0	
	7.0							Sample collected 073-SB-039-0608 from 7.0-7.5' bgs @ 09:15
	8.0	S-3	NA	4.0		7.5 - 8.0' No recovery	0	
						8.0 - 9.0' FILL: Brown silty fine sand; wet, very loose		
	9.0					8.0 - 11.5' FILL: Brown fine to medium sand, some silt, trace clay; wet, very loose		Sample collected 073-SB-039-0810 from 8.5-9.0' bgs @ 09:20
	10.0							
	11.0							Sample collected 073-SB-039-1012 from 11.5-12.0' bgs @ 09:25
						9.0 - 12.5' FILL: Brown fine to coarse sand		

PREPARED BY: MS
CHECKED BY: MD

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-039
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-4	NA	3.5		with lenses of clay, trace fine gravel; loose, wet	0	
	13.0					11.5 - 12.0' FILL: Brown clayey silt, some fine sand; wet, very loose		
						12.5 - 14.0' OL: Brown clayey silt, some fine sand; wet, loose		Sample collected 073-SB-038-1214 from 13.0-13.5' bgs @ 09:30
	14.0					14.0 - 15.4' OL: Black silty clay, some fine sand; firm, moist		
	15.0					15.4 - 15.5' PT: PEAT		Sample collected 073-SB-038-1416 from 15.0-15.5' bgs @ 9:35
						15.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: MS
CHECKED BY: MD

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-040
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE		
						0.3 - 0.5' FILL: Fine to medium gravel, some brown fine to medium sand; firm moist	734	
	1.0						1994	Sample collected 073-SB-040-0002 from 1.0-1.5' bgs @ 09:40
						0.5 - 1.5' FILL: Red fine sand, some silt, trace fine to medium gravel; firm,dry	2613	
	2.0					1.5 - 2.0' FILL: Brown fine to coarse sand, some fine to medium gravel, trace silt; firm, moist (black staining)	498	
							85.2	
	3.0					2.0 - 2.5' FILL: Brown fine silty sand, trace clay; firm, moist	87.5	Sample collected 073-SB-040-0204 from 2.5-3.0' bgs @ 09:45
	4.0	S-2	NA	3.0		2.5 - 3.0' FILL: Brown fine sand, trace silt; moist, moderate dense	37.6	
						3.0 - 4.0' No recovery	21.0	
	5.0					4.0 - 4.5' FILL: Brown silty clay, some fine sand; moderate dense, wet	10.0	Sample collected 073-SB-040--0406 from 4.0-4.5' bgs @ 09:50
							6.0	
	6.0					4.5 - 7.0' FILL: Brown fine to coarse sand with lenses of clay, trace fine gravel and shell; loose, wet	3.0	
							4.0	
	7.0					7.0 - 8.0' No recovery	0	Sample collected 073-SB-040-0608 from 6.5-7.0' bgs @ 09:55; DUP @ 9:57
	8.0	S-3	NA	3.5		8.0 - 9.0' FILL: Brown silty fine to medium sand; wet, very loose	0	
	9.0					9.0 - 9.5' FILL: Brown fine sandy silt; wet, very loose		Sample collected 073-SB-040-0810 from 8.5-9.0' bgs @10:00
						9.5 - 11.5' FILL: Brown fine to coarse sand, trace mottling of clay; loose, wet		
	10.0							
	11.0						0	Sample collected 073-SB-040-1012 from 11.0-11.5' bgs @ 10:05
						11.5 - 12.0' No recovery; end of boring @ 12.0' bgs		
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-041
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE	3325	
						0.3 - 1.0' FILL: Brown fine sand, trace silt; moist, loose	4511	
	1.0						1243	Sample collected 073-SB-041-0002 from 1.0-1.5' bgs @ 10:10; Organic Odors
						1.0 - 1.3' FILL: Brown fine to coarse sand, fine to medium gravel	445	
	2.0					1.3 - 2.0' FILL: Red fine silty sand, trace brick; firm, moist	360	
							1213	
	3.0					2.0 - 3.0' FILL: Brown fine silty sand; medium dense, moist	586	Sample collected 073-SB-041-0204 from 2.5-3.0' bgs @ 10:15
						3.0 - 4.0' No recovery		
▽	4.0	S-2	NA	3.25		4.0 - 4.5' FILL: Brown clayey silty, some fine sand; loose, wet	1512	
							195	
	5.0					4.5 - 7.3' FILL: Brown fine to medium sand with lenses of clay, trace fine gravel; loose, wet	33.9	Sample collected 073-SB-041-0406 from4.0-4.5' bgs @ 10:20
							85.3	
	6.0						37.6	
							47.2	
	7.0						45.3	Sample collected 073-SB-041-0608 from 6.5-7.0' bgs @ 10:25; DUP @ 10:27
						7.3 - 8.0' FILL: No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Brown fine to coarse sand, trace mottling of clay and shells; loose, wet		
	9.0							Sample collected 073-SB-041-0810 from 8.5-9.0' bgs @10:30
	10.0							
						10.5 - 12.0' No recovery; end of boring @ 12.0' bgs		
	11.0							Sample collected 073-SB-041-1012 from 10.5-11.0' bgs @ 10:35
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-042
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE		
						0.3 - 1.0' FILL: Dark brown fine to coarse sand with fine to coarse gravel, trace coal	96.2	Sample collected 073-SB-042-0002 from 1.0-1.5' bgs @ 10:40
	1.0					1.0 - 2.0' FILL: Brown silty clay, some fine sand; firm, moist	9.1	
	2.0					2.0 - 3.0' FILL: Brown fine to medium sand, moist, loose	6.7	
							11.6	
	3.0					3.0 - 4.0' No recovery	29.3	Sample collected 073-SB-042-0204 from 2.5-3.0' bgs @ 10:45
▽	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Brown fine to medium sand with lenses of clay and silt, trace fine to medium gravel; wet, loose	6.9	
							9.3	
	5.0						4.5	Sample collected 073-SB-042-0406 from 4.5-5.0' bgs @ 10:50
							1.2	
	6.0						0.9	
							0.3	
	7.0					7.0 - 8.0' No recovery	0	Sample collected 073-SB-042-0608 from 7.0-7.5' bgs @ 10:55
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Brown fine to medium sand with lenses of clay; wet, very loose	0	
	9.0							Sample collected 073-SB-042-0810 from 8.5-9.0' bgs @ 11:00
	10.0							
	11.0					11.0 - 12.0' No recovery; end of boring @ 12.0 ft bgs		Sample collected 073-SB-042-1012 from 10.5-11.0' bgs @ 11:05
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-043
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' CONCRETE		
						0.3 - 1.5' FILL: Dark brown fine to coarse sand with fine to coarse gravel, some wood, moist; moderate dense	178	
	1.0						157	Sample collected 073-SB-043-0002 from 1.5-2.0' bgs @ 11:10
						1.5 - 3.0' FILL: Brown silty clay, trace fine sand; firm moist	185	
	2.0						823	
							145	
	3.0					3.0 - 3.5' FILL: Brown fine to medium sand; moist, loose	10.0	Sample collected 073-SB-043-0204 from 3.0-3.5' bgs @ 11:15
						3.5 - 4.0' No recovery	8.3	
▽	4.0	S-2	NA	3.5		4.0 - 7.5' FILL: Brown fine to medium sand with lenses of clay and silt, trace fine to medium gravel; wet, loose	0	
	5.0						0	Sample collected 073-SB-043-0406 from 5.0-5.5' bgs @ 11:20; DUP @ 11:22
	6.0						0	
	7.0						0	Sample collected 073-SB-043-0608 from 6.5-7.05' bgs @ 11:25
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	3.25		8.0 - 11.0' FILL: Brown fine to medium sand with lenses of clay, wet, loose	0.5	
							0.3	
	9.0						0	Sample collected 073-SB-043-0810 from 8.5-9.0' bgs @ 11:30
	10.0						0	
	11.0					11.0 - 11.3' FILL: Brown silt; wet, very loose	0	Sample collected 073-SB-043-1012 from 10.5-11.0' bgs @ 11:35
						11.3 - 12.0' No recovery; end of boring @ 12.0' bgs		
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-044
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' CONCRETE		
	1.0					0.5 - 1.0' FILL: Brown fine to coarse sand, fine to medium gravel; moist, loose	166	Sample collected 073-SB-044-0002 from 1.0-1.5' bgs @ 11:40
						1.0 - 2.3' FILL: Brown silty clay, trace fine sand; moist, firm	268	
	2.0						67.6	
						2.3 - 3.0' FILL: Brown fine to medium sand with lenses of clay and silt, trace organics; moist, loose	50.1	
	3.0						140	Sample collected 073-SB-044-0204 from 2.5-3.0' bgs @ 11:45
▽	4.0	S-2	NA	3.5		3.0 - 4.0' No recovery		
						4.0 - 7.5' FILL: Brown fine to medium sand with mottling of clay and silt, less clay with depth, trace shells; wet, loose; (5.0-5.5' Black sand) (6.5-7.5' banding of brown and greyish brown fine to medium sand)	104	
	5.0						29.1	
							7.2	Sample collected 073-SB-044-0406 from 5.0-5.5' bgs @ 11:50
	6.0						4.3	
							4.1	
	7.0						1.9	
							0.9	Sample collected 073-SB-044-0608 from 6.5-7.0' bgs @ 11:55
						7.5 - 8.0' No recovery	0	
	8.0	S-3	NA	3.5		8.0 - 11.5' FILL: Brown fine to medium sand; wet, loose	0	
	9.0							Sample collected 073-SB-044-0810 from 9.0-9.5' bgs @ 12:00
	10.0						0	
	11.0							Sample collected 073-SB-044-1012 from 11.0-11.5' bgs @ 12:05
	12.0					11.5 - 12.0' No recovery; end of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-045

DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly

DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT

SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs

DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' CONCRETE		
						0.5 - 1.0' FILL: Dark brown silty sand, fine to medium gravel, trace brick; moist, loose	10.6	Sample collected 073-SB-045-0002 from 0.5-1.0' bgs @ 12:10; Organic Odor
	1.0					1.0 - 1.5' FILL: Concrete	1.3	
	2.0					1.5 - 2.0' FILL: Dark brown fine to course sand, some silt and fine to medium gravel; wet, loose	3.6	
							212	
	3.0					2.0 - 2.2' FILL: Brown silty clay	286	Sample collected 073-SB-045-0204 from 2.0-2.50' bgs @ 12:15
						2.2 - 2.8' FILL: Brown fine to coarse silty sand, fine to medium gravel; moist, firm		
▽	4.0	S-2	NA	4.0		2.8 - 3.0' FILL: Brown fine to medium sand with lenses of clay and silty; wet, loose	64.7	
							156	
	5.0					3.0 - 4.0' No recovery	34.7	Sample collected 073-SB-045--0406 from 4.5-5.0' bgs @ 12:20
						4.0 - 10.0' FILL: Brown fine to medium sand with lenses of clay and silt, trace brick, wet, loose	13.2	
	6.0						5.0	
							3.2	
	7.0						1.9	Sample collected 073-SB-045-0608 from 6.5-7.0' bgs @ 12:25
							1.4	
	8.0	S-3	NA	2.5			1.9	
							0	
	9.0							Sample collected 073-SB-045-0810 from 8.5-9.0' bgs @ 12:30
	10.0					10.0 - 10.5' FILL: Fine to coarse brown sand	0	
						10.5 - 12.0' No recovery; end of boring @ 12.0' bgs		
	11.0							Sample collected 073-SB-045-1012 from 10.0-10.5' bgs @ 12:35
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-046
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' CONCRETE		
	1.0					0.8 - 1.3' FILL: Dark brown fine to coarse silty sand, fine to medium gravel, trace brick and coal; moist, moderate dense	3.5	Sample collected 073-SB-046-0002 from 1.5-2.0' bgs @ 12:40
	2.0					1.3 - 2.0' FILL: Brown silty clay, trace fine sand and organics		
	3.0					2.0 - 3.5' FILL: Brown fine to medium sand with lenses of clay; moist, loose	0	Sample collected 073-SB-046-0204 from 3.0-3.5' bgs @ 12:45
	4.0	S-2	NA	3.5		3.5 - 4.0' No recovery		
	5.0					4.0 - 7.5' FILL: Brown fine to medium sand with lenses of clay; wet, loose	0	Sample collected 073-SB-046-0406 from 4.5-5.0' bgs @ 12:50: DUP @ 12:52
	6.0							
	7.0							Sample collected 073-SB-046-0608 from 6.5-7.0' bgs @ 12:55
	8.0	S-3	NA	2.5		7.5 - 8.0' No recovery		
	9.0					8.0 - 10.5' FILL: Brown fine to medium sand with lenses of clay; wet, loose	0	Sample collected 073-SB-046-0810 from 8.5-9.0' bgs @ 13:00
	10.0							
	11.0					10.5 - 12.0' No recovery; end of boring @ 12.0' bgs		Sample collected 073-SB-045-1012 from 10.0-10.5' bgs @ 13:05
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-047
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.2' ASPHALT	0	
	1.0					0.2 - 1.5' FILL: Dark brown silty fine to coarse sand, fine to medium gravel, trace brick, coal, clinker; moist, loose	12.0	
	2.0					1.5 - 3.0' FILL: Brown fine to medium sand, trace shells	20.2 4.5 2.4	
	3.0					3.0 - 4.0' No recovery	1.9	
	4.0	S-2	NA	3.0		4.0 - 7.5' FILL: Brown fine to medium sand with lenses of clay and silt, trace shells; loose, wet	0.6 0	
	5.0							
	6.0						0	
	7.0							Sample collected 073-SB-047-0608 from 6.5-7.0' bgs @ 13:15
	8.0	S-3	NA	2.5		7.0 - 8.0' No recovery	0	
	9.0					8.0 - 9.8' FILL: Brown fine to medium sand with lenses of clay and silt, trace shells; loose, wet		Sample collected 073-SB-047-0810 from 8.5-9.0' bgs @ 13:20
	10.0					9.8 - 10.5' FILL: Brown fine to medium silty sand; wet, loose	0	
	11.0					10.5 - 12.0' No recovery		Sample collected 073-SB-047-1012 from 10.0-10.5' bgs @ 13:25
	12.0	S-4	NA	1.5		12.0 - 13.5' FILL: Brown fine to medium silty sand, more silt with depth; wet, loose	0	
	13.0					13.5 - 14.0' No recovery; end of boring at 14.0' bgs.		Sample collected 073-SB-047-1214 from 12.5-13.0' bgs @ 13:30
	14.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-047R
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.2' ASPHALT	0	
	1.0					0.2 - 1.5' FILL: Dark brown silty fine to coarse sand, fine to medium gravel, trace brick, coal, clinker; moist, loose	12.0	
	2.0						20.2	
	3.0					1.5 - 3.0' FILL: Brown fine to medium sand, trace shells	4.5	
							2.4	
						3.0 - 4.0' No recovery	1.9	
	4.0	S-2	NA	3.0		4.0 - 7.5' FILL: Brown fine to medium sand with lenses of clay and silt, trace shells; loose, wet	0.6	
	5.0						0	
	6.0						0	
	7.0							
						7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 9.8' FILL: Brown fine to medium sand with lenses of clay and silt, trace shells; loose, wet	0	
	9.0							
	10.0					9.8 - 10.5' FILL: Brown fine to medium silty sand; wet, loose	0	
	11.0					10.5 - 12.0' No recovery		
	12.0	S-4	NA	1.5		12.0 - 13.5' FILL: Brown fine to medium silty sand, more silt with depth; wet, loose	0	
	13.0							
						13.5 - 14.0' No recovery		
	14.0	S-5	NA	2.0		14.0 - 16.0' FILL: Red brown silt, fine sand; wet; end of boring at 16.0' bgs.	0	Sample collected 073-SB-047R-1416 from 14.5-15.0' bgs @ 13:05
	15.0							
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 south

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480080011
BORING ID: 073-SB-048
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.4' CONCRETE	3.1	
	1.0					0.4 - 1.3' FILL: Dark brown fine to medium silty sand, fine to medium gravel, trace coal and organics; moist, loose	0	
	2.0					1.3 - 3.0' FILL: Brown fine to medium sand, fine to medium gravel, some mottling of clay; moist, moderate dense		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	2.75		4.0 - 6.8' FILL: Brown fine to medium sand with lenses of clay and silt, trace shells and coarse sand; loose, wet	0	
	5.0							
	6.0							
	7.0					6.8 - 8.0' No recovery		Sample collected 073-SB-048-0608 from 6.0-6.5' bgs @ 13:40
	8.0	S-3	NA	3.0		8.0 - 10.0' FILL: Brown fine to medium sand with lenses of clay and silt, trace shells and coarse sand; loose, wet	0	
	9.0							Sample collected 073-SB-048-0810 from 8.5-9.0' bgs @ 13:45
	10.0					10.0 - 11.0' OL: Brown silt, trace fine sand; wet, very loose		
	11.0					11.0 - 12.0' No recovery		Sample collected 073-SB-048-01012 from 10.5-11.0' bgs @ 13:50
	12.0	S-4	NA	1.75		12.0 - 13.8' OL: Brown silt, trace fine sand; wet, very loose	0	
	13.0					13.8 - 14.0' No recovery; end of boring @ 14.0' bgs		Sample collected 073-SB-048-1214 from 12.5-13.0' bgs @ 13:55
	14.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-049
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' APHALT	0	
	1.0					0.1 - 0.5' CONCRETE		
	2.0					0.5 - 0.8' FILL: Brown silty sand, trace coal; dry, dense		
	3.0					0.8 - 3.5' FILL: Red sandy silt, trace fine to medium gravel, coal and clay; more clay with depth, trace lenses of fine sand; moist, firm		
	4.0					3.5 - 4.0' No recovery		
		S-2	NA	3.0		4.0 - 7.0' FILL: Brown fine to medium sand with mottling of clay and silt, trace coarse sand and shells; wet, loose	0	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-049-0608 from 6.0-6.5' bgs @ 11:25: DUP @ 11:27
	8.0					7.0 - 8.0' No recovery		
		S-3	NA	2.5		8.0 - 10.5' FILL: Brown fine to medium sand with mottling of clay and silt, trace coarse sand and shells; wet, loose	0	
	9.0							Sample collected 073-SB-049-0810 from 9.0-9.5' bgs @ 11:30
	10.0							
	11.0					10.5 - 12.0' No recovery		Sample collected 073-SB-049-1012 from 10.0-10.5' bgs @ 11:35
	12.0	S-4	NA	1.5		12.0 - 12.5' SM: Black silty sand; wet, very loose	0	
	13.0					12.5 - 13.5' OL: Black silt , trace fine sand; wet, very loose		Sample collected 073-SB-049-1214 from 12.0-12.5' bgs @ 11:40 (HOLD)
	14.0					13.5 - 14.0' No recovery; end of boring @ 14.0' bgs		

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-050
DATE BEGAN: 4/21/10
DATE FINISHED: 4/21/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.1' ASPHALT	0	
						0.1 - 0.3' FILL: Dark brown fine to medium silty sand, fine to medium gravel; dry, loose		
	1.0					0.3 - 0.5' FILL: Concrete		
	2.0					0.5 - 2.5' FILL: Brown clayey silt, trace fine to medium gravel; moist, firm		
	3.0					2.5 - 3.0' FILL: Brown fine to coarse sand, mottling of grey silt; wet, loose		
	4.0	S-2	NA	3.5		3.0 - 4.0' No recovery	0	
						4.0 - 7.5' FILL: Brown fine to coarse sand, mottling of grey silt, lenses of brown clay; wet, loose		Sample collected 073-SB-050-0608 from 6.5-7.0' bgs @ 11:05: DUP @ 11:07
	5.0							
	6.0							
	7.0							
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	3.25		8.0 - 8.8' FILL: Brown fine to medium sand, mottling of brown clay; wet, loose	0	
	9.0					8.8 - 10.8' FILL: Black silt, trace fine sand; wet, very loose		Sample collected 073-SB-050-0810 from 9.0-9.5' bgs @ 11:10
	10.0							
						10.8 - 11.3' FILL: Brown fine to medium sand; wet, loose		
	11.0							Sample collected 073-SB-050-1012 from 10.5-11.0' bgs @ 11:15
						11.3 - 12.0' No recovery		
	12.0	S-4	NA	1.5		12.0 - 13.5' SM: Light brown fine to medium sand, mottling of clay and silt; wet, loose	0	Sample collected 073-SB-050-1214 from 12.5-13.0' bgs @ 11:20 (HOLD)
	13.0					13.5 - 14.0' No recovery; End of boring @ 14.0' bgs		
	14.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-051
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	1.0					0.5 - 1.0' FILL: Black/dark brown silty sand, gravel, coal, wood, glass		
	2.0					1.0 - 3.0' FILL: Red brown fine to medium sand, lenses of silt throughout		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Red brown fine to medium sand, lenses of silt throughout; wet; shells from 6.0-8.0'	0	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-051-0608 from 7.0-7.5' bgs @10:05
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine sand, silt	0	
	9.0							
	10.0							
	11.0					10.5 - 12.0' No recovery		
	12.0	S-4	NA	1.0		12.0 - 13.0' FILL: Light brown fine sand, silt	0	Sample collected 073-SB-051-1214 from 12.0-12.5' bgs @10:10
	13.0					13.0 - 14.0' No recovery; end of boring at 14.0'		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-052
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' CONCRETE	0	
						0.3 - 0.5' FILL: Black silty sand, coal, gravel		
	1.0					0.5 - 1.3' FILL: Light brown clayey silt		
	2.0					1.3 - 2.0' FILL: Red brown silt		
	3.0					2.0 - 3.5' FILL: Light brown fine to medium sand, fine to medium gravel		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Light brown fine to medium sand, fine to medium gravel; shells from 6.0-8.0'; wet	0	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-052-0608 from 6.5-7.0' bgs @10:40 DUP @10:42
	8.0	S-3	NA	2.0		8.0 - 10.0' FILL: Light brown fine sand, silt; saturated	0	
	9.0							
	10.0					10.0 - 12.0' : No recovery		
	11.0							
	12.0	S-4	NA	2.0		12.0 - 13.0' FILL: Light brown/red brown silt, trace fine sand	0	
	13.0					13.0 - 14.0' FILL: Light brown clayey silt; end of boring at 14.0'		Sample collected 073-SB-052-1214 from 13.5-14.0' bgs @10:45
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-053
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
						0.8 - 2.5' FILL: Black silty sand, wood, gravel, concrete		Sample collected 073-SB-053-0002 from 1.5-2.0' bgs @12:15
	1.0							
	2.0							
						2.5 - 3.5' FILL: Yellow silt, gravel; dense; potential COPR		Sample collected 073-SB-053-0204 from 3.0-3.5' bgs @12:20
	3.0							
						3.5 - 4.0' FILL: Concrete; end of boring at 4.0'		
	4.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-053R
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	1.0					0.8 - 2.5' FILL: Black silty sand, wood, gravel, concrete		
	2.0							
	3.0					2.5 - 3.5' FILL: Yellow silt, gravel; dense; potential COPR		
	4.0	S-2	NA	2.0		3.5 - 4.0' FILL: Concrete; end of boring at 4.0'	0	
	5.0					4.0 - 5.0' FILL: Dark brown silt, lenses of fine to medium sand, trace gravel		
	6.0					5.0 - 6.0' FILL: Red brown/light brown fine to medium sand, trace silt; end of boring at 6.0' bgs.		Sample collected 073-SB-053R-0406 from 5.5-6.0' bgs @11:30

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-054
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 5.0 ft. bgs.
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 3.0' CONCRETE	0	
	1.0							
	2.0							
	3.0					3.0 - 3.3' FILL: Light yellow silt; dense; potential COPR		Sample collected 073-SB-054-0204 from 3.0-3.5' bgs @12:35
						3.3 - 3.5' FILL: Concrete		
						3.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.5		4.0 - 5.0' FILL: Crushed concrete, coarse sand	0	
▽	5.0					5.0 - 6.5' FILL: Light brown silt; dense, wet		Sample collected 073-SB-054-0406 from 5.0-5.5' bgs @12:40
	6.0							
						6.5 - 7.5' FILL: Light brown fine to coarse sand, trace gravel; wet		
	7.0							
						7.5 - 8.0' No recovery; end of boring at 8.0'		
	8.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-055
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 3.5 ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.5 - 1.0' FILL: Dark brown silty sand, gravel		
	1.0					1.0 - 1.5' FILL: Concrete		
						1.5 - 2.0' FILL: Dark brown to black silty sand, wood, gravel, and coal		Sample collected 073-SB-055-0002 from 1.5-2.0' bgs @ 9:05
	2.0					2.0 - 3.0' FILL: Concrete	0	
	3.0					3.0 - 3.5' FILL: Light brown fine to medium sand, gravel; refusal at 3.5' bgs; end of boring at 3.5' bgs.		Sample collected 073-SB-055-0204 from 3.0-3.5' bgs @ 9:10

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-056
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' CONCRETE: Concrete	0	
	1.0					1.0 - 1.5' FILL: Dark brown silty sand, gravel, glass, coal		Sample collected 073-SB-056-0002 from 1.0-1.5' bgs @ 9:30
	2.0					1.5 - 2.3' FILL: Concrete		
	3.0					2.3 - 3.5' FILL: Gray fine to coarse sand, gravel		Sample collected 073-SB-056-0204 from 3.0-3.5' bgs @ 9:35
	4.0	S-2	NA	4.0		3.5 - 4.5' FILL: Concrete	0	
	5.0					4.5 - 5.0' FILL: Gray fine to coarse sand, gravel		Sample collected 073-SB-056-0406 from 4.5-5.0' bgs @ 9:40 (Hold)
						5.0 - 6.0' FILL: Red brown silt, trace fine to medium sand, gravel		
	6.0					6.0 - 8.0' FILL: Light brown fine to medium sand, trace fine to medium gravel; wet; end of boring at 8.0' bgs.		Sample collected 073-SB-056-0608 from 6.5-7.0' bgs @ 9:45 (Hold)
	7.0							
	8.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-057
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' CONCRETE	0	
	1.0					1.0 - 1.8' FILL: Dark brown silty sand, gravel, wet		Sample collected 073-SB-057-0002 from 1.0-1.5' bgs @ 10:00
	2.0					1.8 - 2.3' FILL: Gray fine to coarse sand		
						2.3 - 3.0' FILL: Concrete		Sample collected 073-SB-057-0204 from 2.0-2.5' bgs @ 10:05
	3.0					3.0 - 3.5' FILL: Brick		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 4.3' FILL: Brick	0	
						4.3 - 6.0' FILL: Brown silt, fine to medium sand, trace organics, trace brick, trace fine to medium gravel		
	5.0							
	6.0					6.0 - 7.5' FILL: Brown fine to coarse sand, red brown silt lenses throughout, wet		Sample collected 073-SB-057-0608 from 6.5-7.0' bgs @ 10:10
	7.0							
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	2.0		8.0 - 10.0' FILL: Brown fine to coarse sand, saturated; end of boring at 10.0 ft. bgs.	0	
	9.0							Sample collected 073-SB-057-0810 from 9.0-9.5' bgs @ 10:15 (Hold)
	10.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-058
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 1.0' CONCRETE	0	
	1.0					1.0 - 1.5' FILL: Dark brown silty sand, gravel; wet		Sample collected 073-SB-058-0002 from 1.0-1.5' bgs @ 10:55 (HOLD)
						1.5 - 2.0' FILL: Concrete		
	2.0					2.0 - 3.0' FILL: Gray fine to coarse sand, silt, gravel		Sample collected 073-SB-058-0204 from 2.5-3.0' bgs @ 11:00 (HOLD)
	3.0					3.0 - 3.3' FILL: Concrete		
						3.3 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 5.3' FILL: Gray fine to medium sand, silt	0	
	5.0					5.3 - 6.5' FILL: Light brown fine to medium sand, lenses of red brown silt, wet at 6.0'		Sample collected 073-SB-058-0406 from 5.0-5.5' bgs @ 11:05 (HOLD)
	6.0					6.5 - 7.5' FILL: Brown fine to coarse sand; wet		Sample collected 073-SB-058-0608 from 7.0-7.5' bgs @ 11:10 (HOLD)
	7.0					7.5 - 8.0' No recovery; end of boring at 8.0' bgs		
	8.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-059
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' CONCRETE	0	
	1.0					0.8 - 1.3' FILL: Dark brown silty sand, gravel		Sample collected 073-SB-059-0002 from 1.0-1.5' bgs @ 11:20
						1.3 - 2.0' FILL: Concrete		
	2.0					2.0 - 3.0' FILL: Light brown to gray fine to coarse sand, gravel		Sample collected 073-SB-059-0204 from 2.5-3.0' bgs @ 11:25
	3.0					3.0 - 3.5' FILL: Concrete		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 5.0' FILL: Gray silt	0	
	5.0					5.0 - 6.0' FILL: Brown silt, fine to medium sand		
	6.0					6.0 - 7.5' FILL: Brown fine to coarse sand , trace shells, trace gravel; wet		
	7.0							Sample collected 073-SB-059-0608 from 7.0-7.5' bgs @ 11:30
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	1.5		8.0 - 9.5' FILL: Brown fine to coarse sand; saturated	0	
	9.0							Sample collected 073-SB-059-0810 from 8.5-9.0' bgs @ 11:35
						9.5 - 10.0' No recovery; end of boring at 10 ft. bgs.		
	10.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-060
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE: Concrete	0	
						0.5 - 3.0' FILL: Brown fine to medium sand, trace coal, fuel oil odor	53.8	
	1.0						75.1	
							129	
	2.0						95.8	
	3.0					3.0 - 3.5' FILL: Dark brown fine to coarse sand, slight sheen, fuel oil odor, moist	183	
						3.5 - 4.0' FILL: No recovery	191	
	4.0	S-2	NA	2.0		4.0 - 6.0' FILL: Brown fine to coarse sand, silt, trace shells, gravel, fuel oil odor, sheen; wet; end of boring at 6.0 ft. bgs.	91.3	
							89.8	
	5.0						124	
							85.3	Sample collected 073-SB-060-0406 from 5.5-6.0' bgs @ 12:30
	6.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-061
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE	51.3	
						0.5 - 3.5' FILL: Dark brown fine to coarse sand, fuel oil odor, trace fine gravel, moist	75.1	
	1.0						85.9	
							105	
	2.0						73.8	
	3.0						94.8	
						3.5 - 4.0' No recovery	123	
	4.0	S-2	NA	2.0		4.0 - 6.0' FILL: Dark brown fine to coarse sand, fuel oil odor, trace fine gravel, wet; end of boring at 6.0 ft. bgs.	129	
							115	
	5.0						101	Sample collected 073-SB-061-0406 from 5.0-5.5' bgs @ 12:45
							65.3	
							58.7	
	6.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-062
DATE BEGAN: 8/5/10
DATE FINISHED: 8/5/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.8' CONCRETE	0	
	1.0	S-1	NA	3.0		0.8 - 1.8' FILL: Black silty sand		
	2.0					1.8 - 3.0' FILL: Brown fine to coarse sand		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 4.3' FILL: Brown fine to coarse sand	0	
	5.0					4.3 - 7.0' FILL: Red brown to light brown fine to coarse sand; wet		
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Red brown to light brown fine to coarse sand, lenses of red brown silt; wet	0	
	9.0							
	10.0							
	11.0					11.0 - 12.0' FILL: No recovery		Sample collected 073-SB-062-1012 from 10.5-11.0' bgs @ 13:10
	12.0	S-4	NA	1.0		12.0 - 13.0' FILL: Red brown to light brown fine to coarse sand, lenses of red brown silt; wet	0	
	13.0					13.0 - 14.0' No recovery; end of boring at 14.0 ft. bgs.		Sample collected 073-SB-062-1214 from 12.5-13.0' bgs @ 13:15
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-063
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.0' CONCRETE: Concrete	0	
	1.0					1.0 - 1.5' FILL: Dark brown silty sand		Sample collected 073-SB-063-0002 from 1.0-1.5' bgs @ 11:40
						1.5 - 2.0' CONCRETE: Concrete; end of boring at 2.0' bgs.		
	2.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-064
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' CONCRETE: Concrete	0	
						0.5 - 2.0' FILL: Red brown silty sand		
	1.0							
	2.0					2.0 - 3.0' CONCRETE: Concrete		
	3.0					3.0 - 4.0' FILL: Red brown/light brown silt; end of boring at 4.0' bgs.		Sample collected 073-SB-064-0204 from 3.5-4.0' bgs @ 12:30
	4.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-065
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 3 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		PID not working
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	9.0							
	10.0							Sample collected 073-SB-065-1012 from 10.5-11.0' bgs @ 13:35
	11.0					11.0 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-065R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 3 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		PID not working
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	2.0		12.0 - 14.0' FILL: Light brown silt, clayey silt; end of boring at 14.0'	NA	Sample collected 073-SB-065R-1214 from 12.5-13.0' bgs @ 8:40
	13.0							
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-066
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' CONCRETE: Concrete	NA	
						0.5 - 1.0' FILL: Dark brown silty sand, gravel		
	1.0					1.0 - 3.0' FILL: Light brown fine to medium sand, lenses of silt; wet at 2.5' bgs		PID not working
	2.0							
								Sample collected 073-SB-066-0204 from 2.5-3.0' bgs @ 14:30
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							Sample collected 073-SB-066-0406 from 4.5-5.0' bgs @ 14:35
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	1.5		8.0 - 10.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor; end of boring at 10.0' bgs.	NA	
	9.0							Sample collected 073-SB-066-0810 from 8.5-9.0' bgs @ 14:40
	10.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-066R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		PID not working
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor; end of boring at 8.0' bgs.	NA	
	5.0							
	6.0							
	7.0							Sample collected 073-SB-066R-1012 from 7.0-7.5' bgs @ 9:05
	8.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-067
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 7 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 2.0' FILL: Light brown fine to medium sand, fine to medium gravel	0	
	1.0							Sample collected 073-SB-067- 0002 from 1.0-1.5' bgs @7:55
	2.0					2.0 - 3.0' FILL: Light brown clayey silt, fine to medium sand		Sample collected 073-SB-067-0204 from 2.5-3.0' bgs @8:00
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 5.3' FILL: Light brown clayey silt, fine to medium sand	0	
	5.0					5.3 - 5.8' FILL: White COPR		Sample collected 073-SB-067-0406 from 5.5-6.0' bgs @8:05
	6.0					5.8 - 9.0' FILL: Light brown/light gray fine to coarse sand, shells; wet at 7.0' bgs.		
▽	7.0							
	8.0	S-3	NA	3.0			0	Sample collected 073-SB-067-0608 from 7.5-8.0' bgs @8:10
	9.0							Sample collected 073-SB-067-0810 from 8.5-9.0' bgs @8:15
	10.0					9.0 - 11.0' FILL: Light brown fine to medium sand, lenses of fine to coarse gravel throughout; wet		
	11.0					11.0 - 12.0' No recovery		Sample collected 073-SB-067-1012 from 10.5-11.0' bgs @8:20

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-067
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 7 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-4	NA	4.0		12.0 - 14.0' FILL: Light brown fine to medium sand, trace shells; wet	0	Sample collected 073-SB-067-1214 from 12.5-13.0' bgs @8:25
	13.0							
	14.0					14.0 - 16.5' FILL: Light brown/red brown clayey silt; soft; wet		
	15.0							
	16.0	S-5	NA	4.0			0	Sample collected 073-SB-067-1416 from 15.5-16.0' bgs @8:30
	17.0					16.5 - 18.5' OL: Light brown clayey silt; wet		Sample collected 073-SB-067-1618 from 16.5-17.0' bgs @8:35
	18.0							
	19.0					18.5 - 19.8' SM: Brown fine to medium sand; organic odor; wet		Sample collected 073-SB-067-1820 from 19.0-19.5' bgs @8:40
	20.0					19.8 - 20.0' SM: Brown fine to medium sand, organics; organic odor; wet; end of boring at 20.0' bgs.		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-068
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 22 ft bgs
GW DEPTH: 7 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.5' FILL: Black silty sand, gravel	0	Sample collected 073-SB-068- 0002 from 0.5-1.0' bgs @9:15
	1.0							
	2.0					1.5 - 3.0' FILL: Brown fine to medium sand, gravel		Sample collected 073-SB-068-0204 from 2.5-3.0' bgs @9:20
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.5' FILL: Light brown fine to medium sand, silt	0	Sample collected 073-SB-068-0406 from 4.5-5.0' bgs @9:25
	5.0							
	6.0					5.5 - 7.0' FILL: Gray fine to medium sand; wet at 7.0' bgs.		Sample collected 073-SB-068-0608 from 6.5-7.0' bgs @9:30
▽	7.0					7.0 - 8.0' FILL: No recovery		
	8.0	S-3	NA	4.0		8.0 - 9.5' FILL: Gray fine to medium sand; wet	0	Sample collected 073-SB-068-0810 from 8.0-8.5' bgs @9:35
	9.0					9.5 - 9.6' FILL: Dark brown fine to medium sand ; wet		
	10.0					9.6 - 12.0' FILL: Light brown fine sand, silt; wet		
	11.0							Sample collected 073-SB-

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-068
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 22 ft bgs
GW DEPTH: 7 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
								068-1012 from 11.0-11.5' bgs @9:40
	12.0	S-4	NA	3.0		12.0 - 14.0' FILL: Light gray fine to medium sand; wet	0	
	13.0							Sample collected 073-SB-068-1214 from 12.5-13.0' bgs @9:45
	14.0					14.0 - 14.5' FILL: Light brown fine to medium sand; wet		
						14.5 - 15.0' FILL: Light brown/red brown silt; wet		Sample collected 073-SB-068-1416 from 14.5-15.0' bgs @9:50
	15.0					15.0 - 16.0' No recovery		
	16.0	S-5	NA	3.5		16.0 - 17.0' FILL: Light brown/red brown silt; wet	0	
	17.0					17.0 - 19.0' OL: Light brown clayey silt; very moist		Sample collected 073-SB-068-1618 from 16.5-17.0' bgs @9:55; DUP at 9:57
	18.0							
	19.0					19.0 - 19.5' SM: Brown fine to medium sand, organics; wet		Sample collected 073-SB-068-1820 from 19.0-19.5' bgs @10:00
						19.5 - 20.0' No recovery		
	20.0	S-6	NA	2.0		20.0 - 22.0' SM: Brown fine to medium sand, trace organics; wet; end of boring at 22.0' bgs.	0	
	21.0							Sample collected 073-SB-068-2022 from 21.5-22.0' bgs @10:05
	22.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-069
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 24 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
						0.5 - 1.5' FILL: Dark brown/black silty sand, gravel		Sample collected 073-SB-069-0002 from 1.0-1.5' bgs @10:15
	1.0							
						1.5 - 2.0' FILL: Crushed concrete, gravel		
	2.0					2.0 - 2.8' FILL: Light brown fine to medium sand		Sample collected 073-SB-069-0204 from 2.0-2.5' bgs @10:20
	3.0					2.8 - 3.0' FILL: Wood		
						3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 6.0' FILL: Black silty sand, yellow/orange from 4.5 - 5.0', gravel; potential COPR; wet	0	Sample collected 073-SB-069-0406 from 4.5-5.0' bgs @10:25
	5.0							
	6.0					6.0 - 7.5' FILL: Light gray/light brown fine to medium sand, wet		
	7.0							Sample collected 073-SB-069-0608 from 7.0-7.5' bgs @10:30
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light gray/light brown fine to medium sand, shells, wet	0	Sample collected 073-SB-069-0810 from 8.5-9.0' bgs @10:35
	9.0							
	10.0							
	11.0					11.0 - 12.0' FILL: No recovery		Sample collected 073-SB-069-1012 from 10.5-11.0' bgs @10:40
	12.0	S-4	NA	3.0		12.0 - 15.0' FILL: Light gray/light brown fine	0	

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-069
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 24 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0					to coarse sand, fine gravel, shells, wet		Sample collected 073-SB-069-1214 from 12.5-13.0' bgs @10:45
	14.0							
	15.0					15.0 - 16.0' No recovery		Sample collected 073-SB-069-1416 from 14.5-15.0' bgs @10:50
	16.0	S-5	NA	3.25		16.0 - 16.5' FILL: Light brown/red brown silt; wet	0	
	17.0					16.5 - 18.8' OL: Red brown clayey silt; very moist		Sample collected 073-SB-069-1618 from 16.5-17.0' bgs @10:55; DUP at 10:57
	18.0							
	19.0					18.8 - 19.3' SM: Brown fine to medium sand, organics; wet		Sample collected 073-SB-069-1820 from 19.0-19.5' bgs @11:00
						19.3 - 20.0' No recovery		
	20.0	S-6	NA	3.0		20.0 - 23.0' SM: Light brown fine to medium sand, silt	0	
	21.0							Sample collected 073-SB-069-2022 from 21.5-22.0' bgs @11:05
	22.0							
	23.0					23.0 - 24.0' No recovery;end of boring at 24.0' bgs.		
	24.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-070
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
						0.5 - 1.0' FILL: Dark brown silty sand, gravel		Sample collected 073-SB-070-0002 from 0.5-1.0' bgs @11:15
	1.0					1.0 - 2.0' FILL: Crushed concrete, gravel		
	2.0					2.0 - 2.8' FILL: Dark brown silty sand, gravel, rubber, coal		
	3.0					2.8 - 3.5' FILL: Orange brown fine to medium sand		Sample collected 073-SB-070-0204 from 3.0-3.5' bgs @11:20
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 6.0' FILL: Orange brown/light brown silt; wet at 5.0' bgs.	0	Sample collected 073-SB-070-0406 from 4.5-5.0' bgs @11:25
▽	5.0							
	6.0					6.0 - 7.5' FILL: Light brown/light gray fine to medium sand; wet		
	7.0							Sample collected 073-SB-070-0608 from 7.0-7.5' bgs @11:30
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown/red brown fine to medium sand, lenses of silt, trace shells; wet	0	Sample collected 073-SB-070-0810 from 8.5-9.0' bgs @11:35
	9.0							
	10.0							Sample collected 073-SB-070-1012 from 10.5-11.0' bgs @11:40
	11.0							
						11.0 - 12.0' No recovery		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-070
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-4	NA	3.0		12.0 - 15.0' FILL: Red brown silt, fine sand; wet	0	Sample collected 073-SB-070-1214 from 12.5-13.0' bgs @11:45
	13.0							
	14.0							Sample collected 073-SB-070-1416 from 14.5-15.0' bgs @11:50
	15.0					15.0 - 16.0' No recovery		
	16.0	S-5	NA	3.5		16.0 - 17.3' FILL: Red brown silt, fine sand; wet	0	Sample collected 073-SB-070-1618 from 16.5-17.0' bgs @11:55
	17.0					17.3 - 19.0' OL: Brown clayey silt; soft; wet		
	18.0							
	19.0					19.0 - 19.5' SM: Brown fine to medium sand, organics; wet		Sample collected 073-SB-070-1820 from 19.0-19.5' bgs @12:00
	20.0					19.5 - 20.0' No recovery; end of boring at 20.0' bgs.		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-071
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 3 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery; end of boring at 12.0'		Sample collected 073-SB-071-1012 from 10.5-11.0' bgs @ 13:10
	12.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-072
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 3 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery; end of boring at 12.0'		Sample collected 073-SB-072-1012 from 10.5-11.0' bgs @ 13:20
	12.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-073
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' CONCRETE: Concrete	NA	
						0.5 - 1.0' FILL: Dark brown silty sand, gravel		
	1.0					1.0 - 3.0' FILL: Light brown fine to medium sand, lenses of silt; wet at 2.5' bgs		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	2.0		4.0 - 6.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor; end of boring at 6.0' bgs.	NA	
	5.0							Sample collected 073-SB-073-0406 from 5.0-5.5' bgs @ 13:30
	6.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480050143
BORING ID: 073-SB-074
DATE BEGAN: 11/29/10
DATE FINISHED: 11/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' CONCRETE: Concrete	NA	
						0.5 - 1.0' FILL: Dark brown silty sand, gravel		
	1.0					1.0 - 3.0' FILL: Light brown fine to medium sand, lenses of silt; wet at 2.5' bgs		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	2.0		4.0 - 6.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor; end of boring at 6.0' bgs.	NA	
	5.0							Sample collected 073-SB-074-0406 from 5.0-5.5' bgs @ 13:40
	6.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480100027
BORING ID: 073-SB-075
DATE BEGAN: 2/15/11
DATE FINISHED: 2/15/11
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 15 ft bgs
GW DEPTH: 3 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	3.0		12.0 - 12.5' FILL: Light brown fine to medium sand; wet	NA	
	13.0					12.5 - 15.0' FILL: Light brown/red brown silt; wet; end of boring at 15.0' bgs.		Sample collected 073-SB-075-1214 from 12.5-13.0' bgs @ 14:15
	14.0							
	15.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 073 Degen Oil
PROJECT NO: 3480100027
BORING ID: 073-SB-076
DATE BEGAN: 2/15/11
DATE FINISHED: 2/15/11
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 3 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' CONCRETE: Concrete	NA	
	1.0					0.8 - 1.8' FILL: Black silt		
	2.0					1.8 - 3.0' FILL: Light brown fine to coarse sand, lenses of silt; strong petroleum odor; wet at 3.0' bgs		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 10.0' FILL: Light brown fine to medium sand, silt, sheen; wet; petroleum odor	NA	
	9.0							
	10.0					10.0 - 12.5' FILL: Light brown/red brown fine to medium sand, trace silt; wet		Sample collected 073-SB-076-1012 from 10.5-11.0' bgs @ 14:35
	11.0							
	12.0	S-4	NA	2.0			NA	
	13.0					12.5 - 14.0' FILL: Red brown/light brown silt; wet; end of boring at 14.0' bgs.		Sample collected 073-SB-076-1214 from 13.0-13.5' bgs @ 14:40
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

LOCATION: Site 073 Degen Oil
PROJECT NO: 3480100027
BORING ID: 073-SB-077
DATE BEGAN: 3/21/2011
DATE FINISHED: 3/21/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8ft bgs
GW DEPTH: NA
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0						Raining	Continuous push, no sleeve taken
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	3.5		4.0 - 7.5' FILL: Greyish brown fine to medium sand, some mottling of reddish brown clayey silt, trace fine gravel; wet		Sheen from 4.0-5.0' bgs Sample collected 073-SB-077-0406 from 5.0-5.5' bgs @ 13:30 Organic Odor
	5.0							
	6.0							
	7.0					7.5 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: TG

Honeywell SA-6 South

LOCATION: Site 073 Degen Oil
PROJECT NO: 3480100027
BORING ID: 073-SB-078
DATE BEGAN: 1/16/2012
DATE FINISHED: 1/16/2012
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NA
DRILLER: Jake/Brian
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' CONCRETE	NA	
						0.8 - 1.5' FILL: Light brown fine sand, some silt, fine to medium gravel; moist, dense		Sample collected 073-SB-078-0002 from 1.0 - 1.5' bgs @ 10:25
	1.0							
						1.5 - 3.0' CONCRETE		
	2.0							
	3.0					3.0 - 3.8' FILL: Brown fine to medium sand, some fine gravel, silt; very dense, moist		Sample collected 073-SB-078-0204 from 3.5 - 4.0' bgs @ 10:27
						3.8 - 4.0' FILL: Light grey silt; dense, moist; end of boring @ 4.0' bgs		
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 073-SB-101
DATE BEGAN: 5/5/14
DATE FINISHED: 5/5/14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: -
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 19' bgs
GW DEPTH: 13' bgs
DRILLER: Ed Blewett
NORTH: N/A
EAST: N/A

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 2.0' CONCRETE: Augered through 2' of CONCRETE		
	1.0							
	2.0		26	0.75		2.0 - 2.8' FILL: Greenish brown fine to coarse SAND, trace fine gravel, concrete, COPR; dense, moist	N/A	Refusal at 2' 9" bgs
			3/50					Sample collected 073-SB-101-0204 @ 1025, from 2-2.5' bgs
	3.0		REFUSAL			2.8 - 5.0' CONCRETE: CONCRETE		
	4.0							
	5.0		12	1		5.0 - 6.0' FILL: Reddist brown SILT, trace fine sand and fine gravel; dense, moist	N/A	Sample collected 073-SB-101-0507 @ 1125, from 5-5.5' bgs
			14					
	6.0		20			6.0 - 7.0' No Recovery		
			14					
	7.0		12	0.5		7.0 - 7.5' FILL: Reddist brown SILT, trace fine sand and fine gravel; dense, moist	N/A	Sample collected 073-SB-101-0709 @ 1135, from 7-7.5' bgs
			17			7.5 - 9.0' No Recovery		
	8.0		22					
			12					
	9.0		10	0		9.0 - 11.0' No Recovery	N/A	
			15					
	10.0		11					

PREPARED BY: KK
CHECKED BY: MS

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 073-SB-101
DATE BEGAN: 5/5/14
DATE FINISHED: 5/5/14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: -
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 19' bgs
GW DEPTH: 13' bgs
DRILLER: Ed Blewett
NORTH: N/A
EAST: N/A

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
			10					
	11.0		4	0.5		11.0 - 11.5' FILL: Reddish brown SILT, some fine to medium sand, trace gravel; medium dense, moist	N/A	Sample collected 073-SB-101-1113 @ 1300, from 11-11.5' bgs
			3			11.5 - 13.0' No Recovery		
	12.0		3					
			2					
	13.0		2	0.5		13.0 - 13.5' FILL: Reddish brown SILT, some fine to medium sand, trace gravel; medium dense, wet	N/A	Sample collected 073-SB-101-1315 @ 1320, from 13-13.5' bgs
			2			13.5 - 15.0' No Recovery		
	14.0		1					
			1					
	15.0		1	2.0		15.0 - 17.0' FILL: Reddish brown SILT, some fine to medium sand, trace gravel; medium dense, wet, more silt in bottom	N/A	
			1					
	16.0		1					Sample collected 073-SB-101-1517 @ 1335, from 16-16.5' bgs
			1					
	17.0		3	2.0		17.0 - 18.5' ML: Reddish brown CLAYEY SILT; soft, wet	N/A	
			2					
	18.0		2					Sample collected 073-SB-101-1719 @ 1350, from 18-18.5' bgs; HOLD
			2			18.5 - 19.0' SW: Grey fine to coarse SAND; loose, wet; End of boring at 19'		
	19.0							

PREPARED BY: KK
CHECKED BY: MS

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 073-SB-102
DATE BEGAN: 5/6/14
DATE FINISHED: 5/6/14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: -
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 9' bgs
GW DEPTH: 7' bgs
DRILLER: Ed Blewett
NORTH: N/A
EAST: N/A

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 3.0' CONCRETE: Auger through 3' of CONCRETE	N/A	
	1.0							
	2.0							
	3.0		7	0.75		3.0 - 3.8' FILL: Brown/ reddish brown fine to coarse SAND, trace silt and fine to medium gravel; medium dense, moist		Sample collected 073-SB-102-0305 @ 0900, from 3-3.5' bgs
			15					
	4.0		24			3.8 - 5.0' No Recovery		
			39					
	5.0		1/14, 2/19	1		5.0 - 6.0' FILL: Brown fine to coarse SAND, trace shells; medium dense, moist	N/A	First spoon broke; moved location 3' north, drove second spoon to depth
			28, 26					Sample collected 073-SB-102-0507 @ 1055, from 5.5-6' bgs
	6.0		20, 26			6.0 - 7.0' No Recovery		
			30, 23					
	7.0		8	0.5		7.0 - 7.5' FILL: Grey fine to coarse SAND; loose, wet; End of boring at 9'	N/A	
			11			7.5 - 9.0' No Recovery		
	8.0		12					
			10					
	9.0							

PREPARED BY: KK
CHECKED BY: MS

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-103
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 6.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' SW: Gray fine to coarse SAND, fine gravel; loose, wet	NM	Starting elevation 9.75' 20 degrees past vertical boring angle Sample collected from 0.5-1.0' @ 8:30
	1.0							
	2.0					1.5 - 2.0' SW: Brown fine to medium SAND, trace fine gravel; medium dense, moist		Sample collected from 1.5-2.0' @ 8:32
	3.0					2.0 - 4.0' No recovery		
	4.0	S-2		2.5		4.0 - 6.5' SW: Light gray/light brown fine to coarse SAND, fine to coarse gravel; medium dense, moist (wet at 6.0' bgs)		Sample collected from 4.0-4.5' @ 8:40
	5.0							
	6.0							Sample collected from 6.0-6.5' @ 8:42
	7.0					6.5 - 8.0' No recovery		
	8.0					8.0 - 8.3' ML: Very light brown SILT, some		

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-103
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 6.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3		4.0		fine gravel		Sample collected from 8.0-8.5' @ 8:50
						8.3 - 10.4' SW: Light brown fine to coarse SAND; dense, wet		
	9.0							
	10.0							
						10.4 - 12.0' SW: Light brown/reddish brown fine to coarse SAND, some silt, trace fine gravel; dense, wet		Sample collected from 10.5-11.0' @ 8:55
	11.0							
	12.0	S-4		4.0		12.0 - 14.0' SW: Gray/reddish brown fine to medium SAND, some silt; medium dense, wet		Sample collected from 12.0-12.5' @ 9:10
	13.0							
	14.0					14.0 - 16.4' SW: Gray fine to coarse SAND; medium dense, wet		Sample collected from 14.0-14.5' @ 9:15
	15.0							
	16.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-103
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 6.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5		3.0				Sample collected from 16.0-16.5' @ 9:30
						16.4 - 18.7' ML: Brown SILT		
	17.0							
	18.0							Sample collected from 18.0-18.5' @ 9:35
						18.7 - 19.0' ML: Reddish brown clayey SILT		
	19.0					19.0 - 20.0' No recovery		
	20.0	S-6		2.0		20.0 - 21.3' ML: Reddish brown SILT		Sample collected from 20.0-20.5' @ 10:00
	21.0					21.3 - 21.5' OL: Dark gray/black SILT with organics		
						21.5 - 22.0' SW: Olive green/gray fine to medium SAND; loose, wet		
	22.0					22.0 - 24.0' No recovery. End of boring at 24.0' bgs.		
	23.0							
	24.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-104
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 8.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' FILL: Reddish brown FILL (celgene)	NM	Starting elevation 10.5'
						0.5 - 2.0' SW: Brown fine to coarse SAND, fine gravel; medium dense, moist		20 degrees past vertical boring angle
	1.0							Sample collected from 1.0-1.5' @ 10:30
	2.0					2.0 - 4.0' No recovery		
	3.0							
	4.0	S-2		4.0		4.0 - 4.8' GRAVEL: Crushed coarse gravel		
						4.8 - 5.3' SW: Brown fine to coarse SAND, fine to coarse gravel		Sample collected from 4.5-5.0' @ 10:40
	5.0					5.3 - 6.0' CONCRETE: Crushed concrete		
	6.0					6.0 - 8.0' SW: Brown fine to coarse SAND, fine to coarse gravel, trace glass, slag; medium dense, moist		Sample collected from 6.0-6.5' @ 10:42
	7.0							
	8.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-104
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 8.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3		3.0		8.0 - 9.0' ML: Very light brown SILT; loose, wet		Sample collected from 8.0-8.5' @ 11:00
	9.0					9.0 - 11.0' SW: Gray fine to coarse SAND; loose, wet		
	10.0							Sample collected from 10.0-10.5' @ 11:05
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4		4.0		12.0 - 13.3' SW: Dark brown fine to coarse SAND, fine gravel; loose, wet		Sample collected from 12.0-12.5' @ 11:20
	13.0					13.3 - 14.8' SW: Gray fine to coarse SAND; medium dense, wet		
	14.0							Sample collected from 14.0-14.5' @ 11:25
	15.0					14.8 - 16.8' SW: Reddish brown/ gray fine to medium SAND; medium dense, wet		
	16.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-104
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 8.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5		3.0				Sample collected from 16.0-16.5' @ 11:50
	17.0					16.8 - 19.0' SW: Reddish brown fine SAND, some silt; medium dense, wet		
	18.0							Sample collected from 18.0-18.5' @ 11:55
	19.0					19.0 - 20.0' No recovery		
	20.0	S-6		3.5		20.0 - 21.8' ML: Reddish brown SILT		Sample collected from 20.0-20.5' @ 12:45
	21.0							
	22.0					21.8 - 22.0' ML: Reddish brown/gray SILT 22.0 - 22.4' OL: Dark gray SILT with organics, trace sand		Sample collected from 22.0-22.5' @ 12:50
	23.0					22.4 - 23.5' SW: Gray fine to medium SAND, trace organics		
	24.0					23.5 - 24.0' No recovery. End of boring at 24.0' bgs.		

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-105
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 12.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.0' FILL: Reddish brown fine SAND (celgene)	NM	Starting elevation 10.6'
	1.0					1.0 - 1.5' SW: Dark brown fine to coarse SAND, fine to coarse gravel; medium dense, moist		20 degrees past vertical boring angle Sample collected from 1.0-1.5' @ 13:20
	2.0					1.5 - 2.0' CONCRETE: Crushed concrete		
	3.0					2.0 - 4.0' No recovery		
	4.0	S-2		4.0		4.0 - 4.8' SW: Brown fine to coarse SAND, fine to coarse gravel, trace crushed concrete; medium dense, moist		Sample collected from 4.0-4.5' @ 13:30
	5.0					4.8 - 5.0' SW: Black fine to coarse SAND, fine to coarse gravel		
	6.0					5.0 - 8.0' SW: Light/dark brown fine to medium SAND, fine to coarse gravel, trace glass, plastic; medium dense, moist		Sample collected from 6.0-6.5' @ 13:35
	7.0							
	8.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-105
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 12.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3		3.25		8.0 - 9.3' SW: Brown/black fine to coarse SAND, fine gravel, trace silt; medium dense, moist		Sample collected from 8.0-8.5' @ 13:45
	9.0					9.3 - 11.3' SW: Brown fine to coarse SAND, trace fine gravel; medium dense, wet		Hydrocarbon-like odor and sheen present (9.25-11.25')
	10.0							Sample collected from 10.0-10.5' @ 13:50
	11.0					11.3 - 12.0' No recovery		
	12.0	S-4		3.0		12.0 - 14.0' SW: Gray/brown fine to medium SAND; medium dense, wet		Sample collected from 12.0-12.5' @ 14:05
	13.0							
	14.0					14.0 - 14.3' ML: Reddish brown SILT		Sample collected from 14.0-14.5' @ 14:10
						14.3 - 15.0' SW: Reddish brown/gray fine SAND, trace silt; medium dense, wet		
	15.0					15.0 - 16.0' No recovery		
	16.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-105
DATE BEGAN: 5-9-16
DATE FINISHED: 5-9-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 12.0' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5		2.5		16.0 - 16.8' SW: Gray fine to coarse SAND, trace silt; loose, wet		Sample collected from 16.0-16.5' @ 14:30
	17.0					16.8 - 18.3' SM: Reddish brown/light gray intermingled SILT, trace fine sand; medium dense, moist		
	18.0					18.3 - 18.5' SP: Reddish brown fine SAND, trace silt; medium dense, wet		Sample collected from 18.0-18.5' @ 14:35
						18.5 - 20.0' No recovery		
	19.0							
	20.0	S-6		3.5		20.0 - 22.5' ML: Reddish brown SILT; medium dense, wet		Sample collected from 20.0-20.5' @ 14:50
	21.0							
	22.0							Sample collected from 22.0-22.5' @ 14:55
						22.5 - 22.8' ML: Dark gray SILT		
	23.0					22.8 - 23.5' SW: Olive green/gray fine to medium SAND; loose, wet		
						23.5 - 24.0' No recovery. End of boring at 24.0' bgs.		
	24.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-106
DATE BEGAN: 5-10-16
DATE FINISHED: 5-10-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 7.25' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.0		0.0 - 1.0' CONCRETE: Crushed CONCRETE, some fine to coarse sand; dense, dry	NM	Starting elevation 10.5' 20 degrees past vertical boring angle Sample collected from 0.5-1.0' @ 8:05
	1.0					1.0 - 4.0' No recovery		
	2.0							
	3.0							
	4.0	S-2		4.0		4.0 - 4.8' SW: Dark brown fine to coarse SAND, fine to coarse gravel, trace glass; medium dense, mosit		Sample collected from 4.0-4.5' @ 8:10
	5.0					4.8 - 6.0' CONCRETE: Crushed concrete and coarse gravel; dry		
	6.0					6.0 - 7.3' SW: Brown fine SAND, trace fine gravel and silt; medium dense, moist		Sample collected from 6.0-6.5' @ 8:15
	7.0					7.3 - 8.0' SM: Reddish brown fine SAND and SILT; medium dense, wet		
	8.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-106
DATE BEGAN: 5-10-16
DATE FINISHED: 5-10-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 7.25' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3		2.75		8.0 - 10.8' SW: Gray/reddish brown fine to coarse SAND, trace silt; medium dense, wet		Sample collected from 8.0-8.5' @ 8:20
	9.0							
	10.0							Sample collected from 10.0-10.5' @ 8:25
	11.0					10.8 - 12.0' No recovery		
	12.0	S-4		3.25		12.0 - 15.5' SM: Reddish brown/gray fine to coarse SAND and SILT; medium dense, wet		Sample collected from 12.0-12.5' @ 8:40
	13.0							
	14.0							Sample collected from 14.0-14.5' @ 8:45
	15.0							
	16.0					15.5 - 16.0' No recovery		

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Site 073
PROJECT NO: 3480130377
BORING ID: 073-SB-106
DATE BEGAN: 5-10-16
DATE FINISHED: 5-10-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 24' bgs
GW DEPTH: 7.25' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5		4.0		16.0 - 20.0' SW: Reddish brown fine SAND, some silt (from 19.5-20.0' bgs); medium dense, wet		Sample collected from 16.0-16.5' @ 9:00
	17.0							
	18.0							Sample collected from 18.0-18.5' @ 9:05
	19.0							
	20.0	S-6		4.0		20.0 - 22.0' ML: Reddish brown SILT, trace fine sand; medium dense, wet		Sample collected from 20.0-20.5' @ 9:30
	21.0							
	22.0					22.0 - 22.4' ML: Reddish brown and gray SILT		Sample collected from 22.0-22.5' @ 9:35
						22.4 - 22.6' OL: Gray SILT with organics		
	23.0					22.6 - 24.0' SW: Gray fine to medium SAND with organics; loose, wet. End of boring at 24.0' bgs.		
	24.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-MW-010
DATE BEGAN: 6/9/10
DATE FINISHED: 6/9/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5.25 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' TOPSOIL: Light brown topsoil	0	
	1.0					0.5 - 1.3' FILL: Brown silty sand, gravel, coal		
	2.0					1.3 - 2.8' FILL: Dark brown to brown silt, trace fine sand, gravel, coal, glass		
	3.0					2.8 - 2.9' FILL: Crushed concrete, gravel		
						2.9 - 3.0' FILL: Dark brown silty sand, gravel		
	4.0	S-2	NA	3.0		3.0 - 4.0' No recovery	0	
						4.0 - 4.3' FILL: Brown to light orange silt, fine to coarse sand, moist		
	5.0					4.3 - 5.3' FILL: Light brown to gray fine to medium sand, wet		Set well 124-MW-010 to 11' bgs.
	6.0					5.3 - 5.5' FILL: Light brown to gray silt, lenses of fine to medium sand, wet		Screen Interval 3' - 11' bgs.
	7.0					5.5 - 6.5' FILL: Brown peat, heavy organics, moist		
						6.5 - 7.0' FILL: Dark brown silty sand, fine to coarse gravel, clinker, wet		
	8.0	S-3	NA	3.5		7.0 - 8.0' No recovery	0	
	9.0					8.0 - 10.0' FILL: Dark brown silty sand, fine to coarse gravel, clinker, wet		
	10.0					10.0 - 10.5' OL: Light brown clayey silt, wet		
						10.5 - 11.3' OL: Black clayey silt, wet		
	11.0					11.3 - 11.5' PT: Brown peat, moist		
	12.0					11.5 - 12.0' No recovery; end of boring at 12.0 ft. bgs.		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-MW-011
DATE BEGAN: 6/9/10
DATE FINISHED: 6/9/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.8' TOPSOIL: Light brown topsoil	0	
	1.0					0.8 - 2.5' FILL: Dark brown to black silty sand, coal, gravel, trace glass		
	2.0							
	3.0					2.5 - 3.5' FILL: Light brown silty sand, coal, gravel, trace glass		
						3.5 - 3.8' FILL: Light brown fine to coarse sand, very moist		
	4.0	S-2	NA	3.5		3.8 - 4.0' No recovery	0	
						4.0 - 4.5' FILL: Light brown fine to coarse sand, very moist		
	5.0					4.5 - 6.0' FILL: Light brown to red brown silt, fine sand, wet		Set well 124-MW-011 to 8' bgs.
	6.0					6.0 - 7.0' FILL: Brown fine to medium sand, silt, wet		Screen Interval 2' - 8' bgs.
	7.0					7.0 - 7.5' FILL: Brown silt with organics, wet		
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	2.0		8.0 - 8.5' OL: Light brown clayey silt with heavy organics, wet	0	
	9.0					8.5 - 10.0' PT: Brown peat, moist; end of boring at 10 ft. bgs.		
	10.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 124-MW-12
DATE BEGAN: 2-19-16
DATE FINISHED: 2-19-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	12	2.0		10.0 - 11.7' SW: Gray fine to coarse SAND; medium dense, wet	NM	Augered to 10' bgs Starting elevation 10.0' GW elevation 6.0'
			20					
	11.0		13					Meadow mat expected at elevation -1 to -2 (11.0-12.0' bgs)
			9					
						11.7 - 11.8' OL: Dark gray SILT with organics		
	12.0					11.8 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 124-MW-13
DATE BEGAN: 2-10-16
DATE FINISHED: 2-10-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 13' bgs
GW DEPTH: 3' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0	SS1	30	0.8		9.0 - 9.3' Dark gray screenings	NM	Augered to 9' bgs Starting elevation 9.5' GW elevation 6.5'
			61			9.3 - 9.8' Crushed concrete		
	10.0		50			9.8 - 11.0' No recovery		
			19					
	11.0	SS2	1	2.0		11.0 - 13.0' PT: Dark brown PEAT. End of boring at 13.0' bgs.		
			3					
	12.0		3					
			7					
	13.0							

PREPARED BY: CR
CHECKED BY: NW

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-01
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH: 684386.21
EAST: 602706.88

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 2.0' FILL: Brown fine to medium sand, fine to medium concrete fragments, some silt and fine to medium gravel, loose	0	
	-1.0						0	
							0	
							0	Sample 124-PT-01_0002 collected from 1.5 - 2.0 ft bgs at 8:42
	-2.0					2.0 - 3.5' FILL: Reddish brown silt and fine to medium sand, some fine to coarse concrete fragments and gravel, firm, moist at 3.3 ft below ground surface (bgs)	0	
							0	
	-3.0						0	Sample 124-PT-01_0204 collected from 3.0 - 3.5 ft bgs at 8:44
						3.5 - 4.0' No Recovery	0	
	-4.0	S-2	NA	2.5		4.0 - 6.5' FILL: Brown fine to medium sand, some silt, wood from 4.5 - 4.75 ft bgs, trace gravel, wet	0	
							0	Sample 124-PT01_0406 collected from 4.5 - 5.0 ft bgs at 8:50
	-5.0						0	
							0	
	-6.0						0	Sample 124-PT01_0608 collected from 6.0 - 6.5 ft bgs at 8:55
						6.5 - 8.0' No Recovery	0	
	-7.0							
	-8.0	S-3	NA	3.0		8.0 - 10.0' FILL: Brown fine to medium sand, some silt, trace gravel, trace clay from 9.5 ft bgs, wet	0	
							0	
	-9.0						0	Sample 124-PT-01_0810 collected from 9.0 - 9.5 ft bgs at 9:03
							0	
	-10.0					10.0 - 10.5' ML: Brown (7.5 YR 4.2) CLAYEY SILT, trace fine sand, soft, wet	0	Sample 124-PT-01_1012 collected from 10.0 - 10.5 ft bgs at 9:09
						10.5 - 11.0' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some silt and clay, wet	0	
	-11.0						0	
	-12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-02
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH: 684348.26
EAST: 602745.96

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 4.3' FILL: Brown to reddish brown fine to medium sand, some silt, trace fine to medium gravel, fine to medium concrete fragments from 0.0 - 2.0 ft below ground surface (bgs), trace coal and brick, trace clay from 3.5 ft bgs, moist at 3.75 ft bgs, wet at 4.0 ft bgs	0	
	-1.0						0	
							0	Sample 124-PT-02_0002 collected from 1.0 - 1.5 ft bgs at 9:48
	-2.0						0	
							0	
							0	
	-3.0						0	Sample 124-PT-02_0204 collected from 3.5 - 4.0 ft bgs at 9:52
							0	
	-4.0	S-2	NA	3.0		4.3 - 5.0' FILL: Light gray and dark brown fine to coarse sand and fine gravel (possible COPR), some wood, wet	0	
							0	Sample 124-PT-03_0406 collected from 4.5 - 5.0 ft bgs at 9:55
	-5.0					5.0 - 7.0' FILL: Brown fine to medium sand, some silt, trace clay, wet	0	
							0	
	-6.0						0	Sample 124-PT-02_0608 collected from 6.5 - 7.0 ft bgs at 9:57
							0	
	-7.0					7.0 - 8.0' No Recovery	0	
	-8.0	S-3	NA	3.25		8.0 - 10.0' FILL: Brown fine to medium sand, some silt, trace clay, more clay from 8.0 - 8.25 ft bgs, wet	0	
							0	
	-9.0						0	Sample 124-PT-02_0810 collected from 9.0 - 9.5 ft bgs at 10:00
							0	
	-10.0					10.0 - 10.8' ML: Brown (7.5 YR 3/2) CLAYEY SILT, trace fine sand, soft, wet	0	Sample 124-PT-02_1012 collected from 10.0 - 10.5 ft bgs at 10:03
							0	
	-11.0					10.8 - 11.3' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some silt and clay, wet	0	
	-12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-03
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684430.00
EAST: 602729.93

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.8' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.8 - 2.0' Void		Cored through concrete
	2.0	S-1	NA	1.0		2.0 - 3.0' FILL: Black fine to coarse sand, some fine to medium gravel and concrete fragments, trace coal, wet	0	
							0	Sample 124-PT-03_0204 collected from 2.5 - 3.0 ft bgs at 10:32
	3.0					3.0 - 4.0' No Recovery	0	
	4.0	S-2	NA	2.0		4.0 - 4.5' FILL: Brown fine to coarse gravel, some fine to coarse sand, wet	0	
						4.5 - 5.0' FILL: Brown and light gray fine to medium sand, some silt (possible COPR), trace wood (green), wet	0	Sample 124-PT-03_0406 collected from 4.5 - 5.0 ft bgs at 10:35
	5.0						0	
						5.0 - 6.0' FILL: Brown fine to medium sand, trace silt, wet	0	
	6.0					6.0 - 8.0' No Recovery		
	7.0							
	8.0	S-3	NA	3.0		8.0 - 10.6' FILL: Brown fine sand and silt, some clay, wet	0	
							0	Sample 124-PT-03_0810 collected from 8.5 - 9.0 ft bgs at 11:06
	9.0						0	
							0	
	10.0					10.6 - 11.0' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some clay and silt, decaying organic odors, wet	0	Sample 124-PT-03_1012 collected from 10.0 - 10.5 ft bgs at 11:12
							0	
	11.0						0.1	
	12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-04
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684399.73
EAST: 602762.43

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.6' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.6 - 2.0' Void		Cored through concrete
	2.0	S-1	NA	2.0		2.0 - 3.8' FILL: Dark brown to black fine to medium sand, fine to medium gravel, trace silt, clinker material, coal, brick and concrete fragments, wet	0	
	3.0						0	Sample 124-PT-04_0204 collected from 2.5 - 3.0 ft bgs at 12:05
							0	
	4.0	S-2	NA	2.5		3.8 - 4.0' FILL: Brown fine to medium sand and silt, trace fine gravel and concrete fragments, wet	0	
						4.0 - 5.3' FILL: Same as above, slight petroleum odors from 4.5 - 5.25 ft below ground surface (bgs), wet	0.5	
	5.0						0.7	Sample 124-PT-04_0406 collected from 5.0 - 5.5 ft bgs at 12:10
						5.3 - 5.5' FILL: Brown and gray fine to medium sand and gravel (possible COPR), wet	0	
	6.0						0	Sample 124-PT-04_0608 collected from 6.0 - 6.5 ft bgs at 12:17
						5.5 - 6.5' FILL: Brown fine to medium sand, trace silt, wet	0	
	7.0					6.5 - 8.0' No Recovery		
	8.0	S-3	NA	3.5		8.0 - 10.8' FILL: Brown fine to medium sand, some silt, few clay lenses, wet	0	
							0	
	9.0						0	Sample 124-PT-04_0810 collected from 9.0 - 9.5 ft bgs at 12:23
							0	
	10.0						0	
						10.8 - 11.2' ML: Brown (7.5 YR 3/2) CLAYEY SILT, trace fine sand, wet	0	Sample 124-PT-04_1012 collected from 10.5-11.0 ft bgs at 12:28
	11.0						0	
						11.2 - 11.5' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some clay and silt, wet	0	
	12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-05
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684440.09
EAST: 602802.61

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.6' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.6 - 2.0' Void		Cored through concrete
	2.0	S-1	NA	2.0		2.0 - 3.3' FILL: Black to dark brown fine to coarse sand, some fine to medium gravel, trace silt, coal, clinker material, brick and concrete fragments, wet	0	
	3.0						0	Sample 124-PT-05_0204 collected from 2.5 - 3.0 ft bgs at 13:27
						3.3 - 3.8' FILL: Brown fine to medium sand, track silt and brick fragments, wet	0	
	4.0	S-2	NA	2.5		3.8 - 4.0' No Recovery	0	
						4.0 - 4.3' FILL: Reddish brown fine to medium sand, some silt and brick fragments, wet	0	
	5.0						0	Sample 124-PT-05_0406 collected from 5.5 - 6.0 ft bgs at 13:31
						4.3 - 5.5' FILL: Brown fine to medium sand, some silt, trace gravel, coal, wood and brick fragments, wet	0	
	6.0						0	Sample 124-PT-05_0608 collected from 6.0 - 6.5 ft bgs at 13:38
						5.5 - 5.7' FILL: Gray and greenish gray fine to medium sand, silt and wood (possible COPR), wet	0	
	7.0					5.7 - 6.5' FILL: Brown fine to medium sand, some silt, trace fine gravel, wet		
	8.0	S-3	NA	3.5		6.5 - 8.0' No Recovery	0	
							0	
	9.0					8.0 - 9.3' FILL: Brown fine to medium sand, some silt and clay, trace fine gravel, wet,	0	
						9.3 - 9.5' SM: Black (2.5 Y 2.5/1) SILTY SAND, wet	0	Sample 124-PT-05_0810 collected from 9.5 - 10.0 ft bgs at 13:42
	10.0						0	
						9.5 - 10.0' ML: Dark olive gray (5 Y 3/2) SANDY SILT, some black mottling, wet	0	
	11.0					10.0 - 11.0' PT: Black (2.5 Y 2.5/) PEAT, some clay, wet	0	
							0	
	12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-06
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684470.22
EAST: 602770.11

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.4' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
						0.4 - 2.0' Void		Cored through concrete
	1.0							
	2.0	S-1	NA	2.0		2.0 - 3.8' FILL: Dark brown to black fine to medium sand, some fine to medium gravel, trace coal, brick fragments, clinker material and silt, wet	0	
	3.0						0	Sample 124-PT-06_0204 collected from 2.5 - 3.0 ft bgs at 13:55
							0	
						3.8 - 4.0' FILL: Brown fine to medium sand, trace silt, wet	0	
	4.0	S-2	NA	2.5		4.0 - 6.0' FILL: Same as above, more silt, trace clay, trace green nodules from 4.5 - 5.0 ft below ground surface (bgs) (possible COPR), wet	0	
							0	Sample 124-PT-06_0406 collected from 4.5 - 5.0 ft bgs at 14:03
	5.0						0	
						6.0 - 6.5' FILL: Reddish brown to dark brown fine to medium sand, some silt and wood, some redoxomorphic mottling, wet	0	
	6.0						0	Sample 124-PT-06_0608 collected from 6.0 - 6.5 ft bgs at 14:10
						6.5 - 8.0' No Recovery	0	
	7.0							
	8.0	S-3	NA	3.5		8.0 - 10.0' FILL: Brown fine to medium sand, some silt, trace clay, some gravel from 9.8 - 10.0 ft bgs, wet	0	
							0	
	9.0						0	Sample 124-PT-06_0810 collected from 9.0 - 9.5 ft bgs at 14:13
							0	
	10.0						0	
						10.0 - 11.0' FILL: Pale yellow silt, clay and fine sand (possible COPR), wet	0	Sample 124-PT-06_1012 collected from 10.5 - 11.0 ft bgs at 14:17
	11.0					11.0 - 11.5' PT: Black (2.5 Y 2.5/1) PEAT, some clay and silt, wet	0	
							0	
	12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-07
DATE BEGAN: 3-12-08
DATE FINISHED: 3-12-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684533.50
EAST: 602838.48

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 1.2' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					1.2 - 2.0' Void		Cored through concrete
	2.0	S-1	NA	0.75		2.0 - 2.8' FILL: Black to brown fine to medium sand, some silt and fine gravel, wet	0 0	Sample 124-PT-07_0204 collected from 2.0 - 2.5 ft bgs at 14:35
	3.0					2.8 - 4.0' No Recovery		
	4.0	S-2	NA	2.5		4.0 - 6.5' FILL: Reddish brown fine to medium sand, some silt and clay, pale yellow from 6.3 - 6.5 ft below ground surface (bgs) (possible COPR), wet	0 0 0 0 0 0	Sample 124-PT-07_0406 collected from 4.5 - 5.0 ft bgs at 14:42 Sample 124-PT-07_0608 collected from 6.0 - 6.5 ft bgs at 14:46
	5.0							
	6.0							
	7.0					6.5 - 8.0' No Recovery		
	8.0	S-3	NA	3.5		8.0 - 9.0' FILL: Pale yellow fine to medium sand, some silt and clay (possible COPR), wet	0 0	Sample 124-PT-07_0810 collected from 8.5 - 9.0 ft bgs at 14:51
	9.0					9.0 - 10.8' FILL: Brown to dark brown fine to medium sand, some silt and fine gravel, wet	0 0 0 0	
	10.0							
	11.0					10.8 - 11.5' FILL: Pale yellow fine to medium sand and silt (possible COPR), wet	0 0	Sample 124-PT-07_1012 collected from 11.0 - 11.5 ft bgs at 14:55
	12.0	S-4	NA	2.0		11.5 - 12.0' No Recovery 12.0 - 14.0' PT: Black (2.5 Y 2.5/1) PEAT, some clay and silt, wet	0 0.2 0.3 0.1 0.4	End of boring at 14.0 ft bgs
	13.0							
	14.0							

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-08
DATE BEGAN: 3-13-08
DATE FINISHED: 3-13-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684569.99
EAST: 602872.99

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.4' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.4 - 2.0' Void		Hammered through concrete
	2.0	S-1	NA	2.0		2.0 - 4.0' FILL: Black fine to medium sand, some fine gravel, trace silt, fine to medium brick fragments, clinker material and coal, wet	0 0 0 0	Sample 124-PT-08_0204 collected from 3.0 - 3.5 ft bgs at 13:47
	3.0							
	4.0	S-2	NA	2.0		4.0 - 6.0' FILL: Reddish brown silty sand, some fine to coarse gravel, clay, brick fragments, clinker material and coal, wet	0 0 0 0	Sample 124-PT-08_0406 collected from 5.0 - 5.5 ft bgs at 13:51
	5.0							
	6.0					6.0 - 8.0' No Recovery	0	
	7.0							
	8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Dark brown fine to medium sand, trace clinker material and fine gravel, wet	0 0	
	9.0					9.0 - 10.0' FILL: Dark brown silt and clay, trace sand and fine gravel, wet	0 0	Sample 124-PT-08_0810 collected from 9.0 - 9.5 ft bgs at 14:03
	10.0					10.0 - 12.0' FILL: Pale yellow silt, clay and fine sand (possible COPR), wet	0 0 0 0	
	11.0							
	12.0	S-4	NA	2.0		12.0 - 14.0' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some clay and silt, wet	0 0 0 0	Sample 124-PT-08_1012 collected from 11.5 - 12.0 ft bgs at 14:07
	13.0							
	14.0							End of boring at 14.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-09
DATE BEGAN: 3-13-08
DATE FINISHED: 3-13-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH: 684497.96
EAST: 602803.78

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.4' CONCRETE		Boring elevation = 10.13' approximately 0.5' higher than surrounding grade
	1.0					0.4 - 2.0' Void		Hammered through concrete
	2.0	S-1	NA	1.75		2.0 - 3.4' FILL: Black to dark brown fine to medium sand and gravel, some clinker material, trace silt and brick fragments, wet	0 0	Sample 124-PT-09_0204 collected from 2.5 - 3.0 ft bgs at 14:51
	3.0					3.4 - 3.8' FILL: Brown fine to medium sand, trace fine gravel and brick fragments, wet	0 0	
	4.0	S-2	NA	2.0		3.8 - 4.0' No Recovery	0	
	5.0					4.0 - 6.0' FILL: Brown fine to medium sand, some silt, trace clay, fine gravel and brick fragments, wet	0 0 0	Sample 124-PT-09_0406 collected from 5.0 - 5.5 ft bgs at 14:55
	6.0					6.0 - 8.0' No Recovery	0	
	7.0							
	8.0	S-3	NA	3.0		8.0 - 9.5' FILL: Brown fine to medium sand, some silt, trace clay, fine gravel and brick fragments, wet	0 0 0	Sample 124-PT-09_0810 collected from 9.0 - 9.5 ft bgs at 15:13
	9.0							
	10.0					9.5 - 10.5' FILL: Dark brown silt and fine sand, some clay, trace gravel, wet	0 0	
	11.0					10.5 - 11.0' FILL: Pale yellow silt and fine sand, some clay, trace gravel (possible COPR), wet	0 0	Sample 124-PT-09_1012 collected from 10.5 - 11.0 ft bgs at 15:18
	12.0	S-4	NA	2.0		11.0 - 12.0' No Recovery		
	13.0					12.0 - 14.0' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some clay and silt, wet	0.2 0.5 0.3 0.1	
	14.0							End of boring at 14.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-10
DATE BEGAN: 3-14-08
DATE FINISHED: 3-14-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 1 ft bgs
DRILLER: Ed Blewett
NORTH: 684519.76
EAST: 602924.81

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.7' CONCRETE		Boring elevation = 11.4' approximately 1.5' higher than surrounding grade
	1.0	S-1	NA	2.5		0.7 - 1.0' Void	0	Hammered through concrete
	2.0					1.0 - 3.0' FILL: Dark brown to black fine to medium sand and gravel, some silt, brick fragments and clinker material, wet	0	Sample 124-PT-10_0002 collected from 1.5 - 2.0 ft bgs at 7:51
	3.0					3.0 - 3.5' FILL: Reddish brown fine to medium sand, some silt, fine gravel, brick fragments, trace coal, wet	0	Sample 124-PT-10_0204 collected from 3.0 - 3.5 ft bgs at 7:58
	4.0	S-2	NA	2.0		3.5 - 4.0' No Recovery	0	
	5.0					4.0 - 6.0' FILL: Same as above, trace fine to medium gravel, brick fragments and coal, wet	0	Sample 124-PT-10_0406 collected from 5.0 - 5.5 ft bgs at 8:03
	6.0					6.0 - 8.0' No Recovery	0	
	7.0							
	8.0	S-3	NA	4.0		8.0 - 10.0' FILL: Reddish brown silty sand, some clay, wet	0	
	9.0						0	Sample 124-PT-10_0810 collected from 9.0 - 9.5 ft bgs at 8:11
	10.0					10.0 - 10.5' FILL: Reddish brown to brown to black, and yellowish brown fine to medium sand and silt (possible COPR), wet	0	
	11.0					10.5 - 12.0' FILL: Pale yellow silt and clay, trace sand (possible COPR), wet	0	
	12.0	S-4	NA	4.0			0	Sample 124-PT-10_1012 collected from 11.5 - 12.0 ft bgs at 8:14
	13.0					12.0 - 14.0' FILL: Same as above, Pale yellow silt and clay, trace sand (possible COPR), wet	0	
	14.0						0	Sample 124-PT-10_1214 collected from 13.5 - 14.0 ft bgs at 8:20
	15.0					14.0 - 16.0' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some clay, wet	0	
	16.0						0	End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-11
DATE BEGAN: 3-14-08
DATE FINISHED: 3-14-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 1 ft bgs
DRILLER: Ed Blewett
NORTH: 684483.65
EAST: 602890.33

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' CONCRETE		Boring elevation = 11.4' approximately 1.5' higher than surrounding grade
	1.0	S-1	NA	2.0		0.5 - 1.0' Void	0	Hammered through concrete
	2.0					1.0 - 3.0' FILL: Reddish brown and black fine to medium sand, some fine to medium gravel and brick fragments, some silt, trace clinker material and coal, wet	0	Sample 124-PT-11_0002 collected from 1.5 - 2.0 ft bgs at 8:46
	3.0					3.0 - 4.0' No Recovery	0	Sample 124-PT-11_0204 collected from 2.5 - 3.0 ft bgs at 8:51
	4.0	S-2	NA	2.7		4.0 - 6.5' FILL: Reddish brown silty sand, some clay and fine to medium brick fragments, trace coal, wet	0	
	5.0						0	Sample 124-PT-11_0406 collected from 5.0 - 5.5 ft bgs at 8:57
	6.0					6.5 - 6.7' FILL: Fine to coarse gravel, wet	0	Sample 124-PT-11_0608 collected from 6.0 - 6.5 ft bgs at 9:02
	7.0					6.7 - 8.0' No Recovery		
	8.0	S-3	NA	4.0		8.0 - 9.3' FILL: Pale yellow with brown to black mottling fine to medium sand, some silt and clay (possible COPR), wet	0	Sample 124-PT-11_0810 collected from 8.5 - 9.0 ft bgs at 9:05
	9.0						0	
	10.0					9.3 - 12.0' FILL: Brown silty sand, trace fine gravel and brick fragments, trace clay from 11.5 - 12.0 ft below ground surface (bgs), wet	0	
	11.0						0	
	12.0	S-4	NA	2.0		12.0 - 14.0' PT: Very dark grayish brown (2.5 Y 3/2) PEAT, some clay, wet	0	Sample 124-PT-11_1012 collected from 11.5 - 12.0 ft bgs at 9:11
	13.0						1.1	
	14.0						0.7	
							0.4	
							0.5	End of boring at 14.0' bgs

PREPARED BY: FP
CHECKED BY: QA/QC

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-12
DATE BEGAN: 3-14-08
DATE FINISHED: 3-14-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Ed Blewett
NORTH: 684447.67
EAST: 602855.86

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.7' CONCRETE		Boring elevation = 11.4' approximately 1.5' higher than surrounding grade Hammered through concrete
	1.0					0.7 - 2.0' Void		
	2.0	S-1	NA	1.25		2.0 - 3.3' FILL: Dark brown to black fine to medium sand, some fine to medium gravel, silt, brick fragments and clinker material, wet	0	
	3.0						0	Sample 124-PT-12_0204 collected from 2.5 - 3.0 ft bgs at 9:35
							0	
	4.0					3.3 - 4.0' No Recovery		
		S-2	NA	2.5		4.0 - 6.5' FILL: Reddish brown silty sand, some fine to medium gravel and brick fragments, wet	0	
	5.0						0	
							0	Sample 124-PT-12_0406 collected from 5.0 - 5.5 ft bgs at 9:40
	6.0						0	Sample 124-PT-12_0608 collected from 6.0 - 6.5 ft bgs at 9:44
							0	
	7.0					6.5 - 8.0' No Recovery		
	8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Greenish yellow to brown silt and clay, some sand (possible COPR), wet	0	
							0	Sample 124-PT-12_0810 collected from 8.5 - 9.0 ft bgs at 9:49
	9.0					9.0 - 12.0' FILL: Brown silty sand, trace fine gravel, some clay from 11.25 - 12.0 ft below ground surface (bgs), wet	0	
							0	
	10.0						0	
							0	
	11.0						0	
							0	Sample 124-PT-12_1012 collected from 11.5 - 12.0 ft bgs at 9:53
	12.0	S-4	NA	4.0		12.0 - 14.0' FILL: Light brown to greenish yellow silt and clay, trace sand (possible COPR), wet	0.5	
							0.2	
	13.0						0	
							0	Sampel 124-PT-12_1214 collected from 13.5 - 14.0 ft bgs at 10:03
	14.0					14.0 - 16.0' PT: Very dary grayish brown (2.5 Y 3/2) PEAT, some clay, wet	0	
							0	
	15.0						0	
							0	
	16.0							End of boring at 16.0' bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-13
DATE BEGAN: 3-14-08
DATE FINISHED: 3-14-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Ed Blewett
NORTH: 684410.01
EAST: 602835.64

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' CONCRETE		Boring elevation = 11.5' approximately 1.5' higher than surrounding grade
	1.0					0.5 - 2.0' Void		Hammered through concrete
	2.0	S-1	NA	2.0		2.0 - 2.3' FILL: Pieces of concrete, wet	0	
	3.0					2.3 - 4.0' FILL: Black to dark browwn fine to medium sand, some fine gravel, clinker material, coal, trace silt, wet	0 0 0	Sample 124-PT-13_0204 collected from 2.5 - 3.0 ft bgs at 10:50
	4.0	S-2	NA	4.0		4.0 - 6.0' FILL: Brown to reddish brown silty sand, some fine to medium gravel, brick fragments, clinker material, trace coal, wet	0 0 0 0	Sample 124-PT-13_0406 collected from 5.0 - 5.5 ft bgs at 10:55
	5.0							
	6.0					6.0 - 6.5' FILL: Brick fragments, wet	0	
	7.0					6.5 - 8.0' FILL: Reddish brown silty sand, some fine to medium gravel and brick fragments, trace clay, greenish yellow from 7.9 - 8.0 ft below ground surface (possible COPR), wet	0 0 0	Sample 124-PT-13_0608 collected from 7.0 - 7.5 ft bgs at 10:59
	8.0	S-3	NA	4.0		8.0 - 8.2' FILL: Greenish yellow silt and clay (possible COPR), wet	0 0	Sample 124-PT-13_0810 collected from 8.0 - 8.5 ft bgs at 11:07
	9.0					8.2 - 10.0' FILL: Brown fine to medium sand, some silt and clay from 9.4 ft bgs, trace fine gravel, wet	0 0 0	
	10.0					10.0 - 12.0' PT: Very dary grayish brown (2.5 Y 3/2) PEAT, some clay, wet	0.2 0.3 0.3 0.2	
	11.0							
	12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

LOCATION: Site 124
PROJECT NO: 3480050165
BORING ID: 124-PT-14
DATE BEGAN: 3-14-08
DATE FINISHED: 3-14-08
INSPECTOR: J. Bacchus/F. Petrino
DRILLING CO: B&B Drilling Co.
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4' Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Ed Blewett
NORTH: 684371.83
EAST: 602797.43

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' CONCRETE		Boring elevation = 11.5' approximately 1.5' higher than surrounding grade Hammered through concrete
	1.0					0.5 - 2.0' Void		
	2.0	S-1	NA	1.5		2.0 - 3.5' FILL: Reddish brown to black fine to medium sand, some fine to medium gravel, concrete pieces, trace brick fragments and clinker material, wet	0	
	3.0						0	Sample 124-PT-14_0204 collected from 2.5 - 3.0 ft bgs at 11:19
	4.0	S-2	NA	3.0		3.5 - 4.0' No Recovery	0	
	5.0					4.0 - 6.0' FILL: Brown to reddish brown fine to medium sand, some fine to medium gravel, brick fragments, concrete pieces, trace silt and coal, wet	0	Sample 124-PT-14_0406 collected from 5.0 - 5.5 ft bgs at 11:24
	6.0					6.0 - 7.0' FILL: Brown fine to medium sand, some silt, grayish brown clay and wood from 6.5 - 6.7 ft below ground surface (bgs) (possible COPR), wet	0	
	7.0						0	Sample 124-PT-14_0608 collected from 6.5 - 7.0 ft bgs at 11:28
	8.0	S-3	NA	4.0		7.0 - 8.0' No Recovery	0	
	9.0					8.0 - 12.0' FILL: Brown fine to coarse sand, trace silt, trace clay from 8.75 - 9.5 ft bgs, wet	0	Sample 124-PT-14_0810 collected from 9.0 - 9.5 ft bgs at 11:37
	10.0						0	
	11.0						0	
	12.0	S-4	NA	4.0			0	Sample 124-PT-14_1012 collected from 11.5 - 12.0 ft bgs at 11:41
	13.0					12.0 - 13.0' FILL: Brown fine to medium sand, some clay and silt, wet	0	Sample 124-PT-14_1214 collected from 12.5 - 13.0 ft bgs at 11:49
	14.0					13.0 - 16.0' PT: Very dary grayish brown (2.5 Y 3/2) PEAT, some clay, wet	0	
	15.0						0	
	16.0						0	End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-PT-25

DATE BEGAN: 4/17/08
DATE FINISHED: 4/17/08
INSPECTOR: M. Daly / F. Petrino

DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT

SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 14.5 ft bgs
GW DEPTH: 4.0 ft bgs

DRILLER: Ed Shaming
NORTH: 684402.53
EAST: 602691.15

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 1.0' FILL: Dark brown to gray fine to coarse sand, fine to coarse gravel, some silt, trace pieces of concrete	1.8	
							0	
	-1.0					1.0 - 2.3' FILL: Reddish brown fine to coarse sand fine to coarse sand, some silt, some fine gravel, moist	0	Sample 124-PT-25_0002 collected at 10:52 from 1.0 - 1.5 ft bgs
							0	
	-2.0						0	
						2.3 - 2.5' FILL: Pieces of concrete		
						2.5 - 3.3' FILL: Brown fine to coarse sand, some silt, some fine gravel, moist, some mottling	2.1	Sample 124-PT-25_0204 collected at 10:55 from 2.5 - 3.0 ft bgs
	-3.0						0.2	
						3.3 - 4.0' No Recovery		
	-4.0	S-2	NA	2.75		4.0 - 4.5' FILL: Brown fine to coarse sand, some silt, some fine gravel, wet	0	Mothball-like odors
						4.5 - 4.8' FILL: Possible bentonite or grout, wet	0	Sample 124-PT-25_0406 collected at 11:00 from 4.0 - 4.5 ft bgs
	-5.0					4.8 - 5.5' SW: Dark Brown (7.5YR 3/2) fine to coarse sand, some silt, horizontal bedding planes, trace shell fragments, wet	0	
							0	
						5.5 - 6.0' CL: Dark brown (7.5YR 3/2) clay, very plastic, wet		
	-6.0						0	Sample 124-PT-25_0608 collected at 11:02 from 6.0 - 6.5 ft bgs
						6.0 - 6.8' ML: Dark brown (7.5YR 3/2) silty fine sand, wet		
							0	
	-7.0					6.8 - 8.0' No Recovery		
	-8.0							

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-PT-25
DATE BEGAN: 4/17/08
DATE FINISHED: 4/17/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 14.5 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Shaming
NORTH: 684402.53
EAST: 602691.15

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-8.0	S-3	NA	1.0		8.0 - 9.0' SW: Dark brown (7.5YR 3/2) fine to medium sand, some silt, one large piece of gravel, wet	0 0	Sample 124-PT-25_0810 collected at 11:24 from 8.5 - 9.0 ft bgs
	-9.0					9.0 - 12.0' No Recovery	1.2	
	-10.0							
	-11.0							
	-12.0	S-4	NA	2.5		12.0 - 13.0' ML: Dark brown (7.5YR 3/2) fine to medium sand and silt, organic material, wet	0 0	Sample 124-PT-25_1214 collected at 11:29 from 12.5 - 13.0 ft bgs
	-13.0					13.0 - 14.5' PT: Greenish black (GLEY1 2.5/10Y) silt and clay, organic material, wet	0	
	-14.0						0 0	
	-15.0						0	End of boring at 14.5 ft bgs
	-16.0							

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 124-SB-011 | **SITE ID:** 124

DATE BEGAN: 09/07/06 | **DATE FINISHED:** 09/07/06 | **INSPECTOR:** TG/JB

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 14 ft bgs | **GW DEPTH:** 6.5 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT		0	
	-1.0					FILL: Dark brown f-m sand, some silt and f-m gravel, trace brick, coal and glass			124-SB-011_014 collected from 1-1.5 ft bgs @ 11:15
	-2.0					FILL: Concrete			
	-3.0					FILL: Gray/brown f-c sand, f-m gravel, trace silt, some brick, concrete, ceramic shards, slight greenish brown mottling from 3.5 ft bgs (suspected COPR)			124-SB-011_015 collected from 3.5-4 ft bgs @ 11:19
	-4.0	S-2	N/A	4				0	
-5.0	-5.0					FILL: Grayish brown with slight green tint, f-c sand, f-m gravel and brick			124-SB-011_016 collected from 4.5-5 ft bgs @ 11:23
	-6.0					FILL: Gray f-c sand, f-m gravel, f-m concrete, trace silt, moist			124-SB-011_017 collected from 6-6.5 ft bgs @ 11:30
	-7.0					FILL: Gray/white/brown f-c sand and clay with some green suspected COPR			
	-8.0	S-3	N/A	3.5		FILL: Dark brown f-c sand, some silt, trace clay, wet		0	124-SB-011_018 collected from 7.5-8 ft bgs @ 11:35
	-9.0					FILL: Brown f-c sand, wet			124-SB-011_019 collected from 8.5-9 ft bgs @ 11:42
-10.0	-10.0					FILL: Brown clayey sand with layer of f-m sand from 11.5-11.75 ft bgs, wet			
	-11.0								
	-12.0	S-4	N/A	2		FILL: Brown f-m sand and clay, more clay from 12.5 ft bgs		0	124-SB-011_020 collected from 11.5-12 ft bgs @ 11:43
	-13.0					PT: Peat			124-SB-011_021 collected from 12.5-13 ft bgs @ 11:45
	-14.0					End boring @ 14 ft bgs			
-15.0	-15.0								

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-011A
DATE BEGAN: 7/8/2008
DATE FINISHED: 7/8/2008
INSPECTOR: E. Jackson
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt	0	Collect sample from 1.0-1.5' bgs @ 13:20
	-1.0					0.5 - 1.0' FILL: Dark brown silt and coarse sand		
	-2.0					1.0 - 2.0' FILL: Yellow brown/light brown silt and clay, some fine gravel, bright green mottling, predominantly in gravel from 1-1.25' bgs (COPR); moist		Collect sample from 2.5-3.0 @ 13:24
	-3.0					2.0 - 2.3' FILL: Concrete		
	-4.0	2	NA	3.0		2.3 - 3.5' FILL: Light grey/brown medium to coarse sand, trace silt, some fine-medium angular gravel, very firm, moist	0	Collect sample from 4.5-5.0' bgs @ 13:28
	-5.0					3.5 - 4.0' No recovery		
	-6.0					4.0 - 4.5' FILL: Light brown silty sand, some coarse angular gravel, loose, saturated		Collect sample from 6.0-6.5' bgs @ 13:30
	-7.0					4.5 - 5.3' FILL: Brown silty sand, trace angular gravel; wet		
	-8.0	3	NA	0		5.3 - 6.5' FILL: Light/yellow brown silty clay, some sand, COPR @ 6-6.5' bgs, saturated	0	
	-9.0					6.5 - 7.0' FILL: Brown silt and fine sand, firm, wet		
	-10.0					7.0 - 12.0' No Recovery		
	-11.0							
	-12.0	4	NA	2.0		12.0 - 14.0' PT: Peat; End of boring at 14' bgs	0	
	-13.0							
	-14.0							

PREPARED BY: EMJ
CHECKED BY: MWV

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 124-SB-012 | **SITE ID:** 124

DATE BEGAN: 09/07/06 | **DATE FINISHED:** 09/07/06 | **INSPECTOR:** TG/JB

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 16 ft bgs | **GW DEPTH:** 6.5 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT		0	
	-1.0					FILL: Dark brown f-c sand, some f-m gravel and silt, brick concrete, coal, black plastic @ 4.75 ft bgs			124-SB-012_008 collected from 1-1.5 ft bgs @ 10:13
	-2.0								
	-3.0								124-SB-012_009 collected from 2.5-3 ft bgs @ 10:18
	-4.0	S-2	N/A	2.5				0	124-SB-012_010 collected from 4.5-5 ft bgs @ 10:20
-5.0	-5.0					FILL: Brown f-m sand, wet at 6.5 ft bgs			
	-6.0								124-SB-012_011 collected from 6-6.5 ft bgs @ 10:25
	-7.0								
	-8.0	S-3	N/A	4		FILL: Brown f-m sand, wet		0	
	-9.0								124-SB-012_012 collected from 9-9.5 ft bgs @ 10:30
-10.0	-10.0					FILL: Brown clayey sand			
	-11.0					FILL: Brown clayey sand and gravel			
	-12.0	S-4	N/A	3		FILL: Very light brown clayey sand		0	124-SB-012_013 collected from 11.5-12 ft bgs @ 10:32
	-13.0					FILL: Brown/dark grayish brown f-m sand			
	-14.0					PT: Peat			
-15.0	-15.0								
	-16.0					End boring @ 16 ft bgs			
	-17.0								

MACTEC

SITE INFO:

DATE BEGAN: 10/26/10

DRILLING CO: B and B

SAMPLING TOOL:

DRILLER: Gordon Blewitt

PROJECT NO: 3480050143

DATE FINISHED: 10/26/10

DRILLING METHOD: Direct Push

COMPLETION DEPTH: 15ft bgs

NORTH:

BORING ID: **124-SB-012R**

INSPECTOR: B. Senna

DRILL EQUIP: Geoprobe 6610 DT

GW DEPTH: 6.5 ft bgs

EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	4		0.0 - 1.0' ASPHALT	0	
	1.0					1.0 - 5.0' FILL: Dark brown f-c sand, some f-m gravel and silt, brick concrete, coal, black plastic @ 4.75 ft bgs		
	2.0							
	3.0							
	4.0	S-2	N/A	2.5			0	
	5.0					5.0 - 6.5' FILL: Brown f-m sand, wet at 6.5 ft bgs		
	6.0							
▽	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	N/A	4		8.0 - 9.5' FILL: Brown f-m sand, wet	0	
	9.0							
	10.0					9.5 - 10.5' FILL: Brown clayey sand		
	11.0					10.5 - 11.0' FILL: Brown clayey sand and gravel		
	12.0	S-4	N/A	3		11.0 - 11.5' FILL: Very light brown clayey sand	0	124-SB-012_1214 collected from 12.0-12.5 ft bgs @ 11:30
	13.0					11.5 - 12.3' FILL: Brown/dark grayish brown f-m sand		
	14.0					12.3 - 15.0' PT: Peat; end of boring at 15.0' bgs.		
	15.0							

PREPARED BY:

CHECKED BY:

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 124-SB-013 **SITE ID:** 124

DATE BEGAN: 09/07/06 **DATE FINISHED:** 09/07/06 **INSPECTOR:** TG/JB

DRILLING CO: TPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 14 ft bgs **GW DEPTH:** 6.5 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	2.5		FILL: Dark brown f-c sand, gravel, asphalt, concrete and roots		0	
	-1.0								124-SB-013_038 collected from 1-1.5 ft bgs @ 14:52
	-2.0					FILL: Concrete, light brown f-c sand and gravel			124-SB-013_039 collected from 2-2.5 ft bgs @ 14:55
	-3.0					FILL: Dark brown f-c sand, gravel, some silt, brick and fibrous material			
	-4.0	S-2	N/A	2.5		FILL: Dark brown f-c sand, gravel, some silt, brick, fibrous material, wood at 4.5 ft bgs		0	124-SB-013_040 collected from 4-4.5 ft bgs @ 15:00
-5.0	-5.0					FILL: Dark grayish brown f-m sand, trace silt, wet @ 6.5 ft bgs			
	-6.0								124-SB-013_041 collected from 6-6.5 ft bgs @ 15:03
	-7.0								
	-8.0	S-3	N/A	4		FILL: Dark grayish brown f-m sand, trace silt, wet		0	
	-9.0					FILL: Dark grayish brown sandy clay, wet			124-SB-013_042 collected from 9-9.5 ft bgs @ 15:08
-10.0	-10.0								
	-11.0								
	-12.0	S-4	N/A	2				0	124-SB-013_043 collected from 11.5-12 ft bgs @ 15:10
	-13.0					PT: Peat			124-SB-013_044 collected from 12.5-13 ft bgs @ 15:12
	-14.0					End boring @ 14 ft bgs			
-15.0	-15.0								

MACTEC

SITE INFO:

DATE BEGAN: 10/26/10

DRILLING CO: B and B

SAMPLING TOOL:

DRILLER: Gordon Blewitt

PROJECT NO: 3480050143

DATE FINISHED: 10/26/10

DRILLING METHOD: Direct Push

COMPLETION DEPTH: 15 ft bgs

NORTH:

BORING ID: **124-SB-013R**

INSPECTOR: B. Senna

DRILL EQUIP: Geoprobe 6610 DT

GW DEPTH: 6.5 ft bgs

EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	2.5		0.0 - 1.0' FILL: Dark brown f-c sand, gravel, asphalt, concrete and roots	0	
	1.0					1.0 - 2.0' FILL: Concrete, light brown f-c sand and gravel		
	2.0					2.0 - 2.5' FILL: Dark brown f-c sand, gravel, some silt, brick and fibrous material		
	3.0					2.5 - 4.0'		
	4.0	S-2	N/A	2.5		4.0 - 4.5' FILL: Dark brown f-c sand, gravel, some silt, brick, fibrous material, wood at 4.5 ft bgs	0	
	5.0					4.5 - 6.5' FILL: Dark grayish brown f-m sand, trace silt, wet @ 6.5 ft bgs		
▽	6.0							
	7.0					6.5 - 8.0'		
	8.0	S-3	N/A	4.0		8.0 - 9.0' FILL: Dark grayish brown f-m sand, trace silt, wet	0	
	9.0					9.0 - 13.0' FILL: Dark grayish brown sandy clay, wet		
	10.0							
	11.0							
	12.0	S-4	N/A	3.0			0	
	13.0					13.0 - 14.0' PT: Peat		
	14.0					14.0 - 15.0' SM: Light brown fine to medium sand, organics; end boring @ 14' bgs.		124-SB-013_1416 collected from 14.0-14.5 ft bgs @ 11:10
	15.0							

PREPARED BY:

CHECKED BY:

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 124-SB-014 **SITE ID:** 124

DATE BEGAN: 09/07/06 **DATE FINISHED:** 09/07/06 **INSPECTOR:** TG/JB

DRILLING CO: TPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 6 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT		0	
	-1.0					FILL: Brick and brown silty sand			124-SB-014_001 collected from 1-1.5 ft bgs @ 9:10
	-2.0					FILL: Black/dark brown f-c sand, gravel, silt, brick, asphalt, clinker, metal fragment @ 3.75 ft bgs, waxy material @ 3.8 ft bgs and wood from 4 ft bgs			
	-3.0								124-SB-014_002 collected from 3-3.5 ft bgs @ 9:15
	-4.0	S-2	N/A	2.5				0	
-5.0	-5.0								Odors from 5.5-6 ft bgs; no sheen or PID readings
	-6.0					FILL: Brown f-m sand, trace silt, wet			124-SB-014_003 collected from 5.5-6 ft bgs @ 9:20
	-7.0								124-SB-014_006 collected from 6-6.5 ft bgs @ 9:40
	-8.0	S-3	N/A	4		FILL: Brown f-m sand, trace silt, wet		0	
	-9.0					FILL: Brown silty sand, trace clay			
-10.0	-10.0								124-SB-014_004 collected from 9.5-10 ft bgs @ 9:35
	-11.0					FILL: Brown clayey sand			
	-12.0	S-4	N/A	4		FILL: Reddish gray f-c sand		0	124-SB-014_005 collected from 11.5-12 ft bgs @ 9:37
	-13.0					FILL: Grayish brown f-m sand			
	-14.0					FILL: Grayish brown sandy clay, soft			124-SB-014_007 collected from 13-13.5 ft bgs @ 9:45
-15.0	-15.0					PT: Peat			
	-16.0					End boring @ 16 ft bgs			
	-17.0								

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 124-SB-015 **SITE ID:** 124

DATE BEGAN: 09/07/06 **DATE FINISHED:** 09/07/06 **INSPECTOR:** TG/JB

DRILLING CO: TPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 8 ft bgs **GW DEPTH:** 7.5 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	3.5		FILL: Reddish brown silty sand, roots, brick and gravel		0	124-SB-015_045 collected from 1-1.5 ft bgs @ 15:25
	-1.0								
	-2.0					FILL: Concrete			
	-3.0					FILL: Very dark brown f-c sand, gravel, silt, wood, brick and concrete			124-SB-015_046 collected from 3-3.5 ft bgs @ 15:28
	-4.0	S-2	N/A	4		FILL: Dark brown silty sand, gravel and concrete		0	124-SB-015_047 collected from 4.5-5 ft bgs @ 15:30
-5.0	-5.0					FILL: Brown f-m sand, trace silt, some clay from 7-7.5 ft bgs			
	-6.0								
	-7.0								124-SB-015_048 collected from 7-7.5 ft bgs @ 15:33
	-8.0					PT: Peat, wet			
	-9.0					End boring @ 8 ft bgs			
-10.0	-10.0								

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 124-SB-016 | **SITE ID:** 124

DATE BEGAN: 09/07/06 | **DATE FINISHED:** 09/07/06 | **INSPECTOR:** TG/JB

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 12 ft bgs | **GW DEPTH:** 7 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT		0	
	-1.0					FILL: Reddish brown silty sand and gravel, trace clay			124-SB-016_049 collected from 1-1.5 ft bgs @ 15:51
	-2.0					FILL: Dark brown f-c sand, gravel, brick, concrete and metal fragments			
	-3.0								124-SB-016_050 collected from 3-3.5 ft bgs @ 15:55
	-4.0					FILL: Concrete			
		S-2	N/A	4		FILL: Brown f-c sand, trace silt and gravel, wet at 7 ft bgs		0	
-5.0	-5.0								124-SB-016_051 collected from 4.5-5 ft bgs @ 16:00
	-6.0								
	-7.0								124-SB-016_052 collected from 6.5-7 ft bgs @ 16:03
	-8.0					FILL: Brown silt, trace clay, fine sand and organic material, wet			
		S-3	N/A	4		FILL: Brown f-c sand		0	
	-9.0								
-10.0	-10.0								124-SB-016_053 collected from 9.5-10 ft bgs @ 16:08
	-11.0					FILL: Brown silty sand, trace clay			
	-12.0					FILL: Dark brown sandy clay			124-SB-016_054 collected from 11.5-12 ft bgs @ 16:10
	-13.0					PT: Peat			
						End boring @ 12 ft bgs			

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 124-SB-017 | **SITE ID:** 124

DATE BEGAN: 09/07/06 | **DATE FINISHED:** 09/07/06 | **INSPECTOR:** TG/JB

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 12 ft bgs | **GW DEPTH:** 4 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	3		FILL: Dark brown silty sand, gravel, concrete, bricks and roots		0	
	-1.0					FILL: Reddish brown silty sand, brick and coal			124-SB-017_030 collected from 1-1.5 ft bgs @ 12:45
	-2.0					FILL: Gray/brown/white f-c sand, f-m gravel and concrete			
	-3.0								124-SB-017_031 collected from 2.5-3 ft bgs @ 12:51
	-4.0	S-2	N/A	4		FILL: Dark brown f-c sand, trace silt, wet		0	124-SB-017_032 collected from 4-4.5 ft bgs @ 12:56
-5.0	-5.0								Petroleum odors from 6-7 ft bgs
	-6.0					FILL: Very dark brown silty clay, trace fine sand, wet		1.2	
	-7.0					FILL: Light grayish brown clay, silt, and sand, trace fine gravel, wet		3.8 0	124-SB-017_033, 124-SB-017MS_034, and 124-SB-017MSD_035 collected from 6.5-7 ft bgs @ 13:00
	-8.0	S-3	N/A	4		FILL: Dark brown f-m sand, wet		0	
	-9.0								
-10.0	-10.0								124-SB-017_036 collected from 9.5-10 ft bgs @ 13:15
	-11.0					FILL: Dark brown sandy clay			
	-12.0					PT: Peat			124-SB-017_037 collected from 11.25-11.75 ft bgs @ 13:18
	-13.0					End boring @ 12 ft bgs			

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 124-SB-018 **SITE ID:** 124

DATE BEGAN: 6/20/2005 **DATE FINISHED:** 6/20/2005 **INSPECTOR:** CH

DRILLING CO: EPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Hurricane 5500

DRILLER: Ron Higgins **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		FILL: Topsoil; gravel, coal, ash, coarse		0	124-SB-018_005 collected from 1.5-2.0 ft bgs @ 0912 124-SB-018_006 collected from 1.5-2.0 ft bgs @ 0912 124-SB-018DUP_007 collected from 1.5-2.0 ft bgs @ 0913
	-1.0								
	-2.0					FILL: Green tint (suspected COPR), ash			
	-3.0								
	-4.0	S-2		4		FILL: Drak grey - green tint, ash; brick, concrete, gravel, fill		0	124-SB-018_008 collected from 3.5-4.0 ft bgs @ 0915
-5.0	-5.0					FILL: Greenish - gray tint, ash			
	-6.0								
	-7.0								
	-8.0	S-3		4				0	124-SB-018_009 collected from 7.5-8.0 ft bgs @ 0922
	-9.0								
-10.0	-10.0					PT: Peat; some sandy clay			
	-11.0								
	-12.0					End boring @ 12'		0	124-SB-018_010 collected from 11.5-12.0 ft bgs @ 0926
	-13.0								
	-14.0								

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 124-SB-019 **SITE ID:** 124

DATE BEGAN: 09/07/06 **DATE FINISHED:** 09/07/06 **INSPECTOR:** TG/JB

DRILLING CO: TPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 5400

DRILLER: Heath Kueller **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 14 ft bgs **GW DEPTH:** 7 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT		0	
	-1.0					FILL: Reddish brown f-c sand, gravel, silt, brick and wood			124-SB-019_022 collected from 1-1.5 ft bgs @ 11:56
	-2.0					FILL: Gray/white f-c sand, gravel, silt, concrete and ash			
	-3.0					FILL: Dark brown/black silty sand, gravel, wood and coal			124-SB-019_023 collected from 3.5-4 ft bgs @ 12:01
	-4.0	S-2	N/A	3.5				0	Slight odors from 4-5.5 ft bgs
									124-SB-019_024 collected from 4-4.5 ft bgs @ 12:10
-5.0	-5.0								124-SB-019DP_025 collected from 4-4.5 ft bgs @ 12:10
	-6.0					FILL: Gray/white f-c sand, gravel, and concrete; bentonite from 6.25-6.5 ft			
	-7.0					FILL: Brown f-m sand, wet at 7 ft bgs			124-SB-019_026 collected from 7-7.5 ft bgs @ 12:20
	-8.0	S-3	N/A	4		FILL: Brown f-m sand, trace silt, wet		0	
	-9.0								124-SB-019_027 collected from 9.5-10 ft bgs @ 12:26
-10.0	-10.0								
	-11.0								124-SB-019_028 collected from 11.5-12 ft bgs @ 12:28
	-12.0	S-4	N/A	2				0	
	-13.0					PT: Peat			124-SB-019_029 collected from 12.5-13 ft bgs @ 12:30
	-14.0					End boring @ 14 ft bgs			
-15.0	-15.0								

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-020
DATE BEGAN: 06/24/09
DATE FINISHED: 06/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 13.5 ft bgs
GW DEPTH: Not determined
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	2.0	R-1	N/A	1.25		1.5 - 1.8' FILL: Yellowish brown f-c sand, some fine gravel; wet	N/A	Field Map # 272
						1.8 - 2.5' FILL: Brown/black f-c sand and fine clinker; wet		Boring located in slab cutout; drilling started 1.5 ft below slab grade
	3.0					2.5 - 2.8' FILL: Coarse gravel and brown f-m sand; wet		No PID due to heavy rain
	4.0					2.8 - 5.5' No recovery		
	5.0					5.5 - 6.0' FILL: Brown/white/yellow clayey COPR, some white nodules and dark brown fine sand; wet		
	6.0	R-2	N/A	4.0		6.0 - 7.3' FILL: Brown f-c sand, trace silt; wet	N/A	
	7.0					7.3 - 8.0' FILL: Brown silty fine sand; wet		
	8.0					8.0 - 9.3' FILL: Brown sandy clay; wet		
	9.0							
	10.0	R-3	N/A	4.0		9.3 - 11.3' FILL: Brown f-c sand, trace silt, few clay lenses from 9.5'; wet	N/A	
	11.0							
	12.0					11.3 - 12.5' FILL: Brown silty clay, trace sand; trace organic material from 12'; wet		124-SB-020-1012 collected from 11.5-12.0' bgs @ 13:45
	13.0					12.5 - 13.5' OL: Very dark grayish brown (10YR 3/2) silty clay, some organic material; end of boring at 13.5'		

PREPARED BY: JB
CHECKED BY: BS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-021
DATE BEGAN: 06/24/09
DATE FINISHED: 06/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 13.5 ft bgs
GW DEPTH: Not determined
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	2.0	R-1	N/A	2.8		1.5 - 1.8' FILL: Yellowish brown f-c sand, some fine gravel; wet	N/A	Field Map # 270
						1.8 - 3.3' FILL: Dark brown f-c sand, some fine clinker and gravel; wet		Boring located in slab cutout; drilling started 1.5 ft below slab grade
	3.0							No PID due to heavy rain
						3.3 - 4.0' FILL: Gravel, f-m; wet		
	4.0					4.0 - 4.3' FILL: Brown clayey sand, trace fine gravel; wet		
						4.3 - 5.5' No recovery		
	5.0							
		R-2	N/A	3.0		5.5 - 6.0' FILL: Brown clayey sand, trace fine gravel; white clayey COPR from 5.75-5.9'; wet	N/A	124-SB-021-0406 collected from 5.5-6.0' bgs @ 14:15
	6.0							
						6.0 - 8.5' FILL: Brown f-m sand, trace silt and clay; wet		
	7.0							
	8.0							
						8.5 - 9.5' No recovery		
	9.0							
		R-3	N/A	4.0		9.5 - 11.3' FILL: Brown f-m sand, trace silt and clay; wet	N/A	
	10.0							
	11.0							
						11.3 - 13.0' FILL: Brown silty clay, some fine sand lenses; wet		124-SB-021-1012 collected from 11.5-12.0' bgs @ 14:20
	12.0							
	13.0					13.0 - 13.4' OL: Very dark grayish brown (10YR 3/2) silty clay		
						13.4 - 13.5' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 13.5'		

PREPARED BY: JB
CHECKED BY: BS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-022
DATE BEGAN: 06/24/09
DATE FINISHED: 06/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 13.5 ft bgs
GW DEPTH: Not determined
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	2.0	R-1	N/A	3.5		1.5 - 1.8' FILL: Yellowish brown f-c sand, some fine gravel; wet	N/A	Field Map # 269
	3.0					1.8 - 4.0' FILL: Dark brown f-c sand, some fine clinker and gravel, trace brick; wet		Boring located in slab cutout; drilling started 1.5 ft below slab grade No PID due to heavy rain
	4.0					4.0 - 5.0' FILL: Reddish brown silty sand, some fine gravel; wet		
	5.0					5.0 - 5.5' No recovery		
	6.0	R-2	N/A	2.0		5.5 - 6.0' FILL: Reddish brown silty sand, some fine gravel; some white COPR from 5.8-6.0'; wet	N/A	124-SB-022-0406 collected from 5.5-6.0' bgs @ 14:50
	7.0					6.0 - 7.5' FILL: Brown f-m sand, trace silt and clay; wet		
	8.0					7.5 - 9.5' No recovery		
	9.0							
	10.0	R-3	N/A	4.0		9.5 - 12.5' FILL: Brown silty sand, trace clay; wet	N/A	
	11.0							
	12.0							124-SB-022-1012 collected from 11.5-12.0' bgs @ 14:55
	13.0					12.5 - 13.5' FILL: Brown silty clay, trace fine sand, trace organic material from 13.4'; wet; end of boring at 13.5'		

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-023
DATE BEGAN: 06/24/09
DATE FINISHED: 06/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 13.5 ft bgs
GW DEPTH: Not determined
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	2.0	R-1	N/A	3.25		1.5 - 1.8' FILL: Yellowish brown f-c sand, some fine gravel; wet	N/A	Field Map # 271
	3.0					1.8 - 3.5' FILL: Dark brown/black f-c sand and fine clinker, trace gravel, brick, glass, and coal; wet		Boring located in slab cutout; drilling started 1.5 ft below slab grade
	4.0					3.5 - 4.8' FILL: Reddish brown silty sand, trace f-m gravel, brick, and coal; wet		No PID due to heavy rain
	5.0					4.8 - 5.5' No recovery		
	6.0	R-2	N/A	2.5		5.5 - 6.0' FILL: Reddish brown silty sand, trace f-m gravel, brick, and coal; trace white clayey COPR from 5.9-6.0'; wet	N/A	
						6.0 - 6.8' FILL: Brown f-c sand, trace silt; wet		
	7.0					6.8 - 8.0' FILL: Brown silty sand, trace clay; wet		
	8.0					8.0 - 9.5' No recovery		
	9.0	R-3	N/A	4.0		9.5 - 13.0' FILL: Brown silty sand, some clay from 11.25-12.0'; wet	N/A	
	10.0							
	11.0							
	12.0							124-SB-023-1012 collected from 11.5-12.0' bgs @ 15:20
	13.0					13.0 - 13.5' FILL: Brown silty clay, trace fine sand; wet; end of boring at 13.5'		

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

LOCATION: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-024

DATE BEGAN: 07/07/09 **DATE FINISHED:** 07/07/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 2 ft bgs

DRILLER: Gordon Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.8' CONCRETE		Boring elevation = 10.12' approximately 0.5' higher than surrounding grade Field Map # 225
	1.0					0.8 - 2.0' VOID		
	2.0	R-1	N/A	2.0		2.0 - 4.0' FILL: Dark brown/brown silty sand, some f-m gravel, trace clinker and coal; wet	N/A	Driller cored through concrete slab No PID due to rain
	3.0							
	4.0	R-2	N/A	2.0		4.0 - 5.0' FILL: Reddish brown clayey sand, some f-m gravel, trace wood and coal; wet	N/A	
	5.0					5.0 - 6.0' FILL: Reddish brown sandy clay, some f-m gravel; trace brick, coal, glass; petroleum odors and sheen from 5.8'; wet		
	6.0					6.0 - 8.0' No recovery		
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 8.5' FILL: Yellow/green sandy clay (COPR), some organic material; wet	N/A	
	9.0					8.5 - 11.0' FILL: Brown f-m sand, wet		
	10.0							
	11.0					11.0 - 11.9' FILL: Brown clayey silt, trace fine sand; wet		
	12.0	R-4	N/A	3.2		11.9 - 12.0' FILL: Gravel, f-m	N/A	
	13.0					12.0 - 12.5' FILL: Green/white/brown/black clayey silt, some f-m sand and organic material, trace f-m gravel; wet		124-SB-024-1214 collected from 13.0-13.5' bgs @ 13:05; DUP @ 13:08
	14.0					12.5 - 15.2' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat		
	15.0							EOB at 16 ft bgs
	16.0					15.2 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: JB

CHECKED BY: BS

Honeywell Study Area - 6 South

LOCATION: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-025

DATE BEGAN: 07/07/09 **DATE FINISHED:** 07/07/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 1.5 ft bgs

DRILLER: Gordon Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.8' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.8 - 1.5' VOID		
	2.0	R-1	N/A	2.0		1.5 - 3.5' FILL: Dark brown f-m sand, some fine gravel and clinker, trace brick and coal; wet	N/A	Field Map # 226 Driller cored through concrete slab No PID due to rain
	3.0					3.5 - 4.0' No recovery		
	4.0	R-2	N/A	2.3		4.0 - 5.0' FILL: Dark brown f-m sand, some fine gravel and clinker, trace brick and coal; wet	N/A	
	5.0					5.0 - 6.3' FILL: Reddish brown silty sand, trace fine gravel and brick; coarse gravel and yellow clayey COPR from 6.1'; wet		
	6.0							
	7.0					6.3 - 8.0' No recovery		
	8.0	R-3	N/A	3.5		8.0 - 10.0' FILL: Brown f-m sand; green clayey COPR, organic material, and medium gravel from 8.0-8.2'; wet	N/A	
	9.0							
	10.0					10.0 - 11.3' FILL: Brown sandy silt; v. stiff and dry from 11.0'		
	11.0					11.3 - 11.5' FILL: Grayish green clayey sand (COPR); wet		
	12.0	R-4	N/A	3.5		11.5 - 12.0' No recovery	N/A	
	13.0					12.0 - 12.8' FILL: Yellow clayey COPR, trace fine sand; wet		
	14.0					12.8 - 13.0' OL: Very dark grayish brown (10YR 3/2) clayey silt, some organic material		124-SB-025-1214 collected from 13.5-14.0' bgs @ 14:00
	15.0					13.0 - 15.5' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat		
	16.0					15.5 - 16.0' No recovery; end of boring at 16'		EOB at 16 ft bgs

PREPARED BY: JB

CHECKED BY: BS

Honeywell Study Area - 6 South

LOCATION: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-026

DATE BEGAN: 07/08/09 **DATE FINISHED:** 07/08/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 4 ft bgs

DRILLER: Gordon Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.5 - 2.0' VOID		
	2.0	R-1	N/A	2.0		2.0 - 3.5' FILL: Dark brown f-m sand, some f-m gravel, trace clinker and brick; wet	0.0	Field Map # 227 Driller cored through concrete slab
	3.0					3.5 - 4.0' FILL: Reddish brown/brown sandy silt, some fine gravel and coarse brick, trace coal; dry		
	4.0	R-2	N/A	2.5		4.0 - 6.4' FILL: Reddish brown/brown sandy silt, trace fine brick, f-m gravel, and coal; very firm, wet	0.0	
	5.0							
	6.0					6.4 - 6.5' FILL: Pale yellow/gray sandy clay (COPR); wet		
	7.0					6.5 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 8.2' FILL: Dark brown/green sandy silt (COPR), some organic material; wet	0.0	
	9.0					8.2 - 9.5' FILL: Brown f-m sand, trace silt; wet		
	10.0					9.5 - 11.0' FILL: Dark brown silty fine sand grading to sandy silt, trace clay; soft, wet		
	11.0					11.0 - 12.2' FILL: Yellow clayey COPR, trace fine sand; wet		
	12.0	R-4	N/A	4.0		12.2 - 12.5' FILL: Black clayey silt, some organic material and yellow clayey COPR	0.0 0.0	
	13.0					12.5 - 16.0' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat; end of boring at 16'	3.1	124-SB-026-1214 collected from 13.0-13.5' bgs @ 8:40
	14.0						17.1 12.0	
	15.0						8.9 10.5	
	16.0						8.0 9.4	EOB at 16 ft bgs

PREPARED BY: JB

CHECKED BY: BS

Honeywell Study Area - 6 South

LOCATION: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-027

DATE BEGAN: 07/08/09 **DATE FINISHED:** 07/08/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 4 ft bgs

DRILLER: Gordon Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' CONCRETE		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.5 - 2.0' VOID		Field Map # 228
	2.0	R-1	N/A	2.0		2.0 - 3.5' FILL: Dark brown f-m sand, some f-m gravel, trace clinker and brick; wet	0.0	Driller cored through concrete slab
	3.0							
	4.0	R-2	N/A	4.0		3.5 - 5.5' FILL: Reddish brown/brown sandy silt, some fine gravel, trace brick and coal; wet from 4.0'	0.0	
	5.0							
	6.0					5.5 - 8.0' FILL: Pale yellow/yellow/light brown clayey COPR; wet		
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 8.3' FILL: Dark brownsandy silt; thin lens of green-stained organic material (COPR) at 8.2'; wet	0.0	
	9.0					8.3 - 9.2' FILL: Brown f-m sand, trace silt; wet		
	10.0					9.2 - 10.5' FILL: Dark brown sandy silt, trace clay; very soft, wet		
	11.0					10.5 - 11.8' FILL: Yellow clayey COPR; wet		
	12.0	R-4	N/A	4.0		11.8 - 12.0' FILL: Brown f-c sand; trace silt, fine gravel and organic material; wet	0.0	
	13.0					12.0 - 12.5' OL: Very dark grayish brown (10YR 3/2) clayey silt, some organic material, trace f-m sand	0.2 5.3	124-SB-027-1214 collected from 12.5-13.0' bgs @ 9:30
	14.0					12.5 - 16.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 16'	7.4 6.9 12.7 14.0	124-SB-027-1416 collected from 14.0-14.5' bgs @ 9:40; HOLD
	15.0							
	16.0						11.5 4.4	EOB at 16 ft bgs

PREPARED BY: JB

CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-028

DATE BEGAN: 07/08/09 **DATE FINISHED:** 07/08/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 14 ft bgs **GW DEPTH:** 4 ft bgs

DRILLER: Gordon Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-2.0					-2.0 - -1.5' CONCRETE		Boring located on elevated portion of building slab, approx. 2 ft above slab grade. Driller cored through concrete slab
	-1.0					-1.5 - 0.0' VOID		
	0.0	R-1	N/A	2.0		0.0 - 0.3' FILL: Brown silty sand, wet	0.0	Field Map # 229
	1.0					0.3 - 2.0' FILL: Very dark grayish brown fine sand, trace silt; firm, moist		
	2.0	R-2	N/A	2.5		2.0 - 4.5' FILL: Reddish brown sandy silt, some f-m gravel, trace concrete and brick; very stiff, wet from 4.0'	0.0	
	3.0							
	4.0							
	5.0					4.5 - 6.0' No recovery		
	6.0	R-3	N/A	3.5		6.0 - 7.2' FILL: Yellow/green clayey COPR, wet	0.0	
	7.0					7.2 - 8.0' FILL: Brown silty fine sand; dense		
	8.0					8.0 - 8.5' FILL: Brown f-m sand, wet		
	9.0					8.5 - 9.0' FILL: Brown silty fine sand, wet		
	10.0	R-4	N/A	4.0		9.0 - 9.5' FILL: Brown sandy silt, trace clay	0.0	
	11.0					9.5 - 10.0' No recovery		
	12.0					10.0 - 11.8' FILL: Yellow clayey COPR, trace f-c sand and fine gravel; wet		
	13.0					11.8 - 12.5' OL: Very dark grayish brown (10YR 3/2) to dark olive brown (2.5Y 2/2) clayey silt, some organic material; soft, moist	0.0 1.3 8.7	124-SB-028-1214 collected from 12.0-12.5' bgs @ 11:05
	14.0					12.5 - 14.0' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat; end of boring at 14'	9.1 1.6	

PREPARED BY: JB

CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-029
DATE BEGAN: 07/08/09
DATE FINISHED: 07/08/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-2.0					-2.0 - -1.5' CONCRETE		Boring located on elevated portion of building slab, approx. 2 ft above slab grade. Driller cored through concrete slab
	-1.0					-1.5 - 0.0' VOID		
	0.0	R-1	N/A	2.0		0.0 - 0.5' FILL: Brown clayey silt, trace fine sand and gravel; soft, wet	0.0	Field Map # 230
	1.0					0.5 - 2.2' FILL: Black/dark brown fine sand, some f-m gravel; trace silt, clinker, glass; moist, very firm		
	2.0	R-2	N/A	3.5		2.2 - 2.3' FILL: Concrete	0.0	
	3.0					2.3 - 5.5' FILL: Reddish brown/brown sandy silt, some f-m gravel, trace clinker, coal, glass, and wood; wet from 3.5'		
	4.0							
	5.0							
	6.0					5.5 - 6.0' No recovery		
		R-3	N/A	4.0		6.0 - 6.5' FILL: Reddish brown/brown sandy silt, some f-m gravel, trace clinker, coal, glass, and wood; wet	0.0	
	7.0					6.5 - 7.5' FILL: Yellow clayey COPR, wet		
	8.0					7.5 - 9.0' FILL: Brown f-m sand, wet		
	9.0					9.0 - 10.0' FILL: Brown silty sand, wet		
	10.0	R-4	N/A	4.0		10.0 - 12.0' FILL: Yellow clayey COPR, wet	0.0	
	11.0							
	12.0					12.0 - 12.5' OL: Black (2.5Y 2.5/1) clayey silt, some organic material	0.0	124-SB-029-1214 collected from 12.0-12.5' bgs @ 13:35
	13.0					12.5 - 14.0' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat; end of boring at 14'	4.0 7.8 12.7 1.0	
	14.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-030
DATE BEGAN: 08/03/09
DATE FINISHED: 08/03/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 236
	1.0					0.3 - 0.6' FILL: Dark brown f-c sand, some fine clinker and gravel		Refusal at 2.5 ft bgs; moved 2 ft west
	2.0					0.6 - 4.0' FILL: Reddish brown f-c sand and f-m gravel; trace silt, clinker and brick; yellow COPR from 1.5-2.6'; concrete from 2.2-3.0'; white COPR from 3.8'		
	3.0							
	4.0	R-2	N/A	4.0		4.0 - 5.5' FILL: Grayish brown f-m gravel, some f-c sand; trace ceramics, silt and brick; wet	0.0	
	5.0							
	6.0					5.5 - 6.2' FILL: Light brown/white/yellow clayey COPR; v. soft, wet		
	7.0					6.2 - 8.0' FILL: Brown fine sand, trace silt; dense, wet		
	8.0	R-3	N/A	4.0		8.0 - 10.0' FILL: Grayish brown clayey sand and pale yellow COPR, trace f-m gravel; wet	0.0	
	9.0							
	10.0					10.0 - 12.0' FILL: Yellow clayey COPR, trace grayish brown f-m sand and gravel; v. soft, wet		
	11.0							
	12.0	R-4	N/A	4.0		12.0 - 15.8' PT: Very dark brown (7.5YR 2.5/2) peat; moist	0.0	
	13.0							124-SB-030-1214 collected from 13.0-13.5' bgs @ 8:55
	14.0							
	15.0					15.8 - 16.0' SP: Dark gray (2.5Y 4/1) f-m sand; end of boring at 16'		
	16.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-031
DATE BEGAN: 08/03/09
DATE FINISHED: 08/03/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 15 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 240
	1.0					0.5 - 1.0' FILL: Dark brown f-c sand and fine clinker		124-SB-031-0002 collected from 1.0-1.5' bgs @ 9:10
	2.0					1.0 - 1.5' FILL: Reddish brown sandy silt, some f-m gravel		
	3.0					1.5 - 2.0' FILL: Dark brown/brown silty sand; trace f-m gravel, wood, brick and clinker		
	4.0	R-2	N/A	4.0		2.0 - 11.8' FILL: Yellowish brown/gray/pale yellow silty sand (COPR); compact, wet	0.0	124-SB-031-0204 collected from 3.5-4.0' bgs @ 9:15
	5.0							124-SB-031-0406 collected from 4.5-5.0' bgs @ 9:20
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	124-SB-031-0608 collected from 7.5-8.0' bgs @ 9:25
	9.0							
	10.0							124-SB-031-0810 collected from 9.5-10.0' bgs @ 9:30
	11.0							
	12.0	R-4	N/A	3.0		11.8 - 12.0' FILL: Black clayey silt and wood		124-SB-031-1012 collected from 11.3-11.8' bgs @ 9:35
	13.0					12.0 - 15.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 15'	0.0	124-SB-031-1214 collected from 12.5-13.0' bgs @ 9:45
	14.0							
	15.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-032

DATE BEGAN: 08/03/09 **DATE FINISHED:** 08/03/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 15 ft bgs **GW DEPTH:** 2.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 244
	1.0					0.5 - 1.5' FILL: Dark brown f-c sand, some fine clinker and gravel, trace brick from 1.2-1.3'		
	2.0					1.5 - 3.5' FILL: Brown/grayish brown silty sand with gray COPR mottling; wet from 2.5'		
	3.0					3.5 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 11.8' FILL: Grayish brown/pale yellow silty sand (COPR); wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	
	9.0							
	10.0							
	11.0							
	12.0					11.8 - 12.0' FILL: Black clayey silt and wood		
		R-4	N/A	2.0		12.0 - 14.0' PT: Very dark brown (7.5YR 2.5/2) peat	0.0	124-SB-032-1214 collected from 12.5-13.0' bgs @ 10:40
	13.0							
	14.0					14.0 - 15.0' No recovery; end of boring at 15'		
	15.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-033

DATE BEGAN: 08/03/09 **DATE FINISHED:** 08/03/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 1.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 250
	1.0					0.5 - 1.0' FILL: Dark brown f-c sand, some fine gravel, trace clinker		
	2.0					1.0 - 1.7' FILL: Black f-c sand and fine clinker, wet		
	3.0					1.7 - 3.5' FILL: White/gray/yellow silty sand (COPR), wet		
	4.0					3.5 - 4.0' No recovery		
		R-2	N/A	4.0		4.0 - 10.0' FILL: Grayish brown/yellow silty sand (COPR); wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	
	9.0							
	10.0					10.0 - 10.5' FILL: Pale yellow clayey silt (COPR); soft, wet		
	11.0					10.5 - 10.7' FILL: Black clayey silt, some wood and fine gravel; wet		124-SB-033-1012 collected from 10.7-11.2' bgs @ 11.35
	12.0					10.7 - 11.0' OH: Black/dark olive brown (2.5Y 2.5/1 to 3/3) clayey silt, some organic material; soft, wet		
						11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-034

DATE BEGAN: 08/03/09 **DATE FINISHED:** 08/03/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 243
						0.2 - 0.6' FILL: Brown f-m sand and gravel		
	1.0					0.6 - 3.0' FILL: Yellowish brown/brown/dark brown silt sand, some fine gravel, trace brick, clinker and coal, trace grey/white mottling (COPR) from 1.0-1.2', grey/green/reddish brown mottling (COPR) from 2.6'; wet from 2.0'		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 11.0' FILL: Grayish brown/pale yellow silty sand (COPR); wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	
	9.0							
	10.0							
	11.0					11.0 - 11.5' FILL: Pale yellow clayey silt (COPR); soft, wet		124-SB-034-1012 collected from 11.5-12.0' bgs @ 12:55
						11.5 - 11.7' OL: Black (2.5Y 2.5/1) silt, trace fine sand and organic material; wet		
	12.0					11.7 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-034R
DATE BEGAN: 12/21/2010
DATE FINISHED: 12/21/2010
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	
						0.2 - 0.6' FILL: Brown f-m sand and gravel		
	1.0					0.6 - 3.0' FILL: Yellowish brown/brown/dark brown silt sand, some fine gravel, trace brick, clinker and coal, trace grey/white mottling (COPR) from 1.0-1.2', grey/green/reddish brown mottling (COPR) from 2.6'; wet from 2.0'		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 11.0' FILL: Grayish brown/pale yellow silty sand (COPR); wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	5.0			0.0	
	9.0							
	10.0							
	11.0					11.0 - 11.5' FILL: Pale yellow clayey silt (COPR); soft, wet		124-SB-034R-1214 collected from 12.0-12.5' bgs
						11.5 - 11.7' OL: Black (2.5Y 2.5/1) silt, trace fine sand and organic material; wet		
	12.0							

PREPARED BY: BS
CHECKED BY: TG

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** **124-SB-034R**

DATE BEGAN: 12/21/2010 **DATE FINISHED:** 12/21/2010 **INSPECTOR:** Brian Senna

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0					11.7 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat;		
	13.0					12.0 - 13.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 13'		

PREPARED BY: BS

CHECKED BY: TG

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-035

DATE BEGAN: 08/03/09 **DATE FINISHED:** 08/03/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.4' ASPHALT	0.0	Field Map # 247
	1.0					0.4 - 0.6' FILL: Brown f-m sand, some fine gravel and clinker		124-SB-035-0002 collected from 1.0-1.5' bgs @ 13:15
	2.0					0.6 - 2.0' FILL: Brown silty sand, some f-c concrete; trace fine gravel, coal, and brick; wood from 1.6-1.8'		124-SB-035-0204 collected from 2.0-2.5' bgs @ 13:20
	3.0					2.0 - 2.5' FILL: Reddish brown f-m sand, some dark reddish brown mottling and nodules (COPR); wet		
						2.5 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 5.5' FILL: Brown f-c sand, some silt and f-m gravel; wet	0.0	
	5.0							
	6.0					5.5 - 10.0' FILL: Grayish brown/pale yellow silty sand (COPR); light purple COPR from 5.5-5.6'; wet		124-SB-035-0406 collected from 5.5-6.0' bgs @ 13:25
	7.0							
	8.0	R-3	N/A	4.0			0.0	124-SB-035-0608 collected from 7.5-8.0' bgs @ 13:30
	9.0							
	10.0							124-SB-035-0810 collected from 9.5-10.0' bgs @ 13:40
						10.0 - 10.8' FILL: Pale yellow clayey silt (COPR); soft, wet		
	11.0					10.8 - 11.0' OH: Black (2.5Y 2.5/1) clayey silt, trace organic material; wet		124-SB-035-1012 collected from 11.5-12.0' bgs @ 13:45
	12.0					11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		

PREPARED BY: JB

CHECKED BY: FP

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-036

DATE BEGAN: 08/03/09 **DATE FINISHED:** 08/03/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 251
	1.0					0.5 - 0.7' FILL: Reddish brown f-m sand		
	2.0					0.7 - 4.0' FILL: Grayish brown silty sand and white/yellow/purple COPR, trace fine gravel, concrete from 1.6-1.8'; yellow crystalline COPR from 1.8-1.9'; wet from 2.0'		
	3.0							
	4.0	R-2	N/A	4.0		4.0 - 9.5' FILL: Grayish brown/pale yellow silty sand (COPR); wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	
	9.0							
	10.0					9.5 - 10.9' FILL: Pale yellow/light brown clayey silt (COPR); wet		
	11.0					10.9 - 11.0' FILL: Black silt and wood; wet		
	12.0					11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		124-SB-036-1012 collected from 11.5-12.0' bgs @ 14:30

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-037

DATE BEGAN: 08/04/09 **DATE FINISHED:** 08/04/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.1' ASPHALT	0.0	Field Map # 255
	1.0					0.1 - 1.0' FILL: Reddish brown silty sand, some f-m gravel		124-SB-037-0002 collected from 0.5-1.0' bgs @ 8:10
						1.0 - 1.7' FILL: Gravel, f-m		
	2.0					1.7 - 3.0' FILL: Brown silty sand, trace fine gravel; white COPR mottling from 1.8-1.9'; yellow COPR and wet from 2.0'		124-SB-037-0204 collected from 2.5-3.0' bgs @ 8:15
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 8.0' FILL: Grayish brown/pale yellow silty sand (COPR), trace fine gravel; wet	0.0	124-SB-037-0406 collected from 4.0-4.5' bgs @ 8:20
	5.0							
	6.0							
	7.0							124-SB-037-0608 collected from 7.5-8.0' bgs @ 8:25
	8.0	R-3	N/A	4.0		8.0 - 9.8' FILL: Pale yellow clayey silt (COPR); wet	0.0	
	9.0							124-SB-037-0810 collected from 9.0-9.5' bgs @ 8:30
	10.0					9.8 - 10.5' OH: Black (2.5Y 2.5/1) silt, trace clay; pale green seam of possible COPR at 10.3'; v. soft		
	11.0					10.5 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		124-SB-037-1012 collected from 11.0-11.5' bgs @ 8:35
	12.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-038

DATE BEGAN: 08/04/09 **DATE FINISHED:** 08/04/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 1.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 254
						0.2 - 0.5' FILL: Brown silty sand, some organic material		
	1.0					0.5 - 1.3' FILL: Gravel, f-m		124-SB-038-0002 collected from 1.5-2.0' bgs @ 8:45
	2.0					1.3 - 2.0' FILL: Dark brown f-c sand and fine clinker; trace brick, fine gravel and ceramics; wet from 1.5'		124-SB-038-0204 collected from 2.5-3.0' bgs @ 8:50
	3.0					2.0 - 3.0' FILL: Grayish brown silty sand, trace f-m gravel; white COPR mottling; few nodules of dark reddish brown COPR; wet		
	4.0	R-2	N/A	4.0		3.0 - 4.0' No recovery	0.0	124-SB-038-0406 collected from 4.0-4.5' bgs @ 8:55
						4.0 - 8.0' FILL: Grayish brown/pale yellow silty sand (COPR), trace fine gravel; wet		
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 9.8' FILL: Grayish brown/pale yellow clayey silt (COPR); wet	0.0	124-SB-038-0608 collected from 7.5-8.0' bgs @ 9:00
	9.0							
	10.0					9.8 - 10.3' OH: Black/dark olive brown (2.5Y 2.5/1 to 3/3) clayey silt, wet		124-SB-038-0810 collected from 9.8-10.3' bgs @ 9:05
	11.0					10.3 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		124-SB-038-1012 collected from 10.0-10.5' bgs @ 9:10
	12.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-039

DATE BEGAN: 08/04/09 **DATE FINISHED:** 08/04/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 232
	1.0					0.3 - 4.0' FILL: Reddish brown sandy silt; trace fine gravel, brick, coal, and concrete		124-SB-039-0002 collected from 0.5-1.0' bgs @ 9:55
	2.0							
	3.0							
	4.0	R-2	N/A	4.0			0.0	124-SB-039-0204 collected from 3.5-3.0' bgs @ 10:00
	5.0					4.0 - 7.9' FILL: Reddish brown silt; trace clay, fine sand, and f-m brick; greenish gray mottling; yellow/white clayey COPR from 7.7-7.9'; v. stiff, wet from 5.0'		124-SB-039-0406 collected from 5.0-5.5' bgs @ 10:10
	6.0							
	7.0							
	8.0	R-3	N/A	4.0		7.9 - 9.2' FILL: Brown fine sand; v. dense, wet	0.0	124-SB-039-0608 collected from 7.5-8.0' bgs @ 10:15
	9.0							
	10.0					9.2 - 12.0' FILL: Yellow/grayish brown silty sand, trace clay and fine gravel (COPR); wet		124-SB-039-0810 collected from 9.5-10.0' bgs @ 10:25
	11.0							124-SB-039-1012 collected from 11.5-12.0' bgs @ 10:30
	12.0	R-4	N/A	4.0		12.0 - 12.2' FILL: Brown f-m sand, wet	0.0	
	13.0					12.2 - 16.0' PT: Very dark brown (7.5YR 3/3) peat; end of boring at 16'		124-SB-039-1214 collected from 12.5-13.0' bgs @ 10:40
	14.0							
	15.0							
	16.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-040

DATE BEGAN: 08/04/09 **DATE FINISHED:** 08/04/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 4 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.3' ASPHALT: Asphalt and gravel	0.0	Field Map # 237
	1.0					0.3 - 3.0' FILL: Reddish brown sandy silt; trace fine gravel, brick, coal, and concrete; stiff		124-SB-040-0002 collected from 1.5-2.0' bgs @ 10:50
	2.0							124-SB-040-0204 collected from 2.5-3.0' bgs @ 10:55
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 4.5' FILL: Brown/dark brown clayey sand and f-m gravel; loose, wet	0.0	
	5.0					4.5 - 12.0' FILL: Grayish brown/pale yellow silty sand (COPR), trace fine gravel; wet		124-SB-040-0406 collected from 5.5-6.0' bgs @ 11:00
	6.0							
	7.0							124-SB-040-0608 collected from 7.5-8.0' bgs @ 11:05
	8.0	R-3	N/A	4.0			0.0	
	9.0							124-SB-040-0810 collected from 9.5-10.0' bgs @ 11:10
	10.0							
	11.0					12.0 - 12.1' FILL: Dark brown/black sandy silt, wet		124-SB-040-1012 collected from 11.5-12.0' bgs @ 11:15
	12.0	R-4	N/A	4.0		12.1 - 16.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 16'	0.0	
	13.0							124-SB-040-1214 collected from 12.5-13.0' bgs @ 11:25
	14.0							
	15.0							
	16.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-041
DATE BEGAN: 08/04/09
DATE FINISHED: 08/04/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 279
						0.2 - 1.2' FILL: Reddish brown fine sand, trace silt and fine gravel	0.0	
	1.0						0.0	
						1.2 - 2.0' FILL: Dark brown/brown f-m gravel, some f-m sand and brick, trace ceramics; slight petroleum odors and wet from 1.5'	2.1	
	2.0						1.3	
						2.0 - 4.0' No recovery		
	3.0							
						4.0 - 4.3' FILL: Brown f-m gravel and brick, some f-c sand; petroleum odors, wet	15.9	
	4.0	R-2	N/A	2.5		4.3 - 6.5' FILL: Brown silty sand; white/gray/green COPR from 5.0-5.5'; wet	9.5	
							4.3	124-SB-041-0406 collected from 5.0-5.5' bgs @ 13:00
	5.0						1.0	
							0.0	124-SB-041-0608 collected from 6.0-6.5' bgs @ 13:05
	6.0						0.0	
						6.5 - 8.0' No recovery		
	7.0							
	8.0	R-3	N/A	2.0		8.0 - 9.7' FILL: Brown clayey silt; soft, wet	0.0	No recovery from 8-10' bgs on initial attempt. Moved 2 ft E and re-sampled the 8-10' bgs interval.
	9.0							
						9.7 - 10.0' FILL: Brown silty sand, wet; end of boring at 10'		124-SB-041-0810 collected from 9.5-10.0' bgs @ 13:25
	10.0							

PREPARED BY: JB
CHECKED BY: FP

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-042
DATE BEGAN: 08/04/09
DATE FINISHED: 08/04/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 283
						0.2 - 1.8' FILL: Reddish brown silty sand, trace brick; dense		
	1.0							
	2.0					1.8 - 3.2' FILL: Brown f-m sand, some f-m clinker, trace coal and gray mottling (possible COPR)		
	3.0					3.2 - 4.0' FILL: Concrete		
	4.0	R-2	N/A	3.5		4.0 - 4.8' FILL: Grayish brown silty sand, some yellow COPR; wet from 4.5'	0.0	
						4.8 - 5.2' FILL: Dark gray f-c sand, some f-m ceramics; wet		
	5.0					5.2 - 6.0' FILL: Yellow clayey COPR, wet		
	6.0					6.0 - 6.2' FILL: Dark greenish gray COPR, wet		
						6.2 - 7.5' FILL: Dark reddish brown fine sand, trace silt; dense, wet		
	7.0							
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	2.0		8.0 - 8.2' FILL: Black silt, wet	0.0	
						8.2 - 8.5' FILL: Yellow silt (COPR), wet		
	9.0					8.5 - 9.0' FILL: Brown silty sand, wet		
						9.0 - 10.0' FILL: Brown clayey silt, thin lenses of organic material; end of boring at 10'		124-SB-042-0810 collected from 9.5-10.0' bgs @ 14:00
	10.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-043

DATE BEGAN: 08/04/09 **DATE FINISHED:** 08/04/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 1.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0.0	Field Map # 298
	1.0					0.5 - 0.8' FILL: Dark brown silty sand and clinker		
	2.0					0.8 - 1.5' FILL: Brown silty sand; trace coal, brick and fine gravel		
	3.0					1.5 - 3.0' FILL: Dark brown sandy silt; trace clay and brick; some wood from 2.8'; wet		
	4.0	R-2	N/A	3.5		3.0 - 4.0' No recovery	0.0	
	5.0					4.0 - 5.0' FILL: Dark brown sandy silt, some wood, trace clay and brick; wet		
	6.0					5.0 - 5.5' FILL: Gravel, f-c; wet		
	7.0					5.5 - 6.0' FILL: Brown clayey silt, trace greenish gray COPR; wet		
	8.0	R-3	N/A	4.0		6.0 - 7.4' FILL: Brown silty sand, trace clay; dense, wet	0.0	
	9.0					7.4 - 9.0' FILL: Yellow/white silty sand (COPR), wet		
	10.0					8.0 - 9.0' FILL: Yellow/white silty sand (COPR), wet		
	11.0					9.0 - 9.8' FILL: Brown silty sand, wet		124-SB-043-1012 collected from 10.5-11.0' bgs @ 14:45
	12.0					9.8 - 10.3' FILL: Brown/dark brown clayey silt, trace fine gravel		
						10.3 - 11.0' OL: Black clayey siilt, some organic material		
						11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-044

DATE BEGAN: 08/05/09 **DATE FINISHED:** 08/05/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.3' ASPHALT	0.0	Field Map # 292
						0.3 - 0.5' FILL: Concrete		
	1.0					0.5 - 2.5' FILL: Brown f-m sand, some concrete; trace silt, brick, gravel and coal; wood from 2.3'; wet from 2.0'		
	2.0							
						2.5 - 4.0' No recovery		
	3.0							
	4.0	R-2	N/A	4.0		4.0 - 5.0' FILL: Dark brown silty sand, some f-m gravel from 4.0-4.5'; loose, wet	0.0	
	5.0					5.0 - 8.0' FILL: Dark brown clayey silt; v. soft, wet		
	6.0							
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 10.2' FILL: Grayish brown silty sand, some yellow COPR, trace fine gravel and organic material; wet	0.0	124-SB-044-0608 collected from 7.5-8.0' bgs @ 8:05; DUP @ 8:07
	9.0							
	10.0							124-SB-044-0810 collected from 9.5-10.0' bgs @ 8:15
						10.2 - 11.0' FILL: Yellow clayey COPR; soft		
	11.0					11.0 - 11.4' OH: Dk olive brown/black (2.5Y 3/3 - 2.5/1) clayey silt, trace organic material		
	12.0					11.4 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		124-SB-044-1012 collected from 11.5-12.0' bgs @ 8:20

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** **124-SB-044R**

DATE BEGAN: 10/26/10 **DATE FINISHED:** 10/26/10 **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 14ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.3' ASPHALT	0.0	
						0.3 - 0.5' FILL: Concrete		
	1.0					0.5 - 2.5' FILL: Brown f-m sand, some concrete; trace silt, brick, gravel and coal; wood from 2.3'; wet from 2.0'		
	2.0							
	3.0					2.5 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 5.0' FILL: Dark brown silty sand, some f-m gravel from 4.0-4.5'; loose, wet	0.0	
	5.0					5.0 - 8.0' FILL: Dark brown clayey silt; v. soft, wet		
	6.0							
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 10.2' FILL: Grayish brown silty sand, some yellow COPR, trace fine gravel and organic material; wet	0.0	
	9.0							
	10.0					10.2 - 11.0' FILL: Yellow clayey COPR; soft		
	11.0					11.0 - 11.4' OH: Dk olive brown/black (2.5Y 3/3 - 2.5/1) clayey silt, trace organic material		
	12.0	R-4	N/A	2.0		11.4 - 14.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 14.0' bgs.	0.0	124-SB-044-1214 collected from 12.5-13.0' bgs @ 10:20
	13.0							
	14.0							

PREPARED BY: BS
CHECKED BY: FP

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-045

DATE BEGAN: 08/05/09 **DATE FINISHED:** 08/05/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 1.0' ASPHALT	0.0	Field Map # 294
	1.0					1.0 - 1.6' FILL: Brown f-m sand and gravel		
	2.0					1.6 - 2.0' FILL: Reddish brown fine sand, trace white COPR		
	3.0					2.0 - 4.7' FILL: Dark gray f-m clinker, some f-c sand; trace white COPR, brick and gravel; wet		
	4.0	R-2	N/A	4.0			0.0	
	5.0					4.7 - 8.5' FILL: Light brown/yellow/grayish brown silty sand (COPR); wet		
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	124-SB-045-0608 collected from 7.5-8.0' bgs @ 8:35
	9.0					8.5 - 10.5' FILL: Pale yellow clayey silt (COPR); wet		
	10.0							124-SB-045-0810 collected from 9.5-10.0' bgs @ 8:45
	11.0					10.5 - 11.0' OL: Dk olive brown/black (2.5Y 3/3 to 2.5/1) clayey silt, some organic material		
	12.0					11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		124-SB-045-1012 collected from 11.0-11.5' bgs @ 8:50

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-046

DATE BEGAN: 08/05/09 **DATE FINISHED:** 08/05/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	1.5		0.0 - 0.3' ASPHALT	0.0	Field Map # 304
	1.0					0.3 - 0.8' FILL: Reddish brown sandy silt; trace fine gravel, brick and coal		
		R-2	N/A	1.5		0.8 - 1.8' FILL: Concrete	0.0	Driller stopped first run at 1.5' bgs to prevent bit from damage by concrete
	2.0					1.8 - 2.5' FILL: Black f-m sand, some f-m gravel; trace brick, clinker and coal; wet from 2.0'		
	3.0					2.5 - 5.0' FILL: Brown f-m gravel and brick, some f-c sand; wet		
	4.0	R-3	N/A	3.0			0.0	
	5.0					5.0 - 7.0' FILL: Brown silty fine sand, yellow COPR from 6.7'; wet		
	6.0							124-SB-046-0608 collected from 6.5-7.0' bgs @ 9:40
	7.0					7.0 - 8.0' No recovery		
	8.0	R-4	N/A	4.0		8.0 - 10.5' FILL: Brown silty fine sand, thin seam of yellow COPR at 8.2'; wet	0.0	
	9.0							
	10.0							124-SB-046-0810 collected from 9.5-10.0' bgs @ 9:50
						10.5 - 11.0' OH: Dark olive brown/black (2.5Y 3/3 to 2.5/1) clayey silt		124-SB-046-1012 collected from 10.5-11.0' bgs @ 9:55
	11.0					11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		
	12.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-047

DATE BEGAN: 08/05/09 **DATE FINISHED:** 08/05/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 1.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 302
	1.0					0.2 - 1.0' FILL: Dark brown/yellowish brown f-m sand		
	2.0					1.0 - 3.0' FILL: Dark brown silty sand; trace f-m gravel, brick and wood; wet from 1.5'		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	2.0		4.0 - 5.8' FILL: Dark brown silty sand, trace fine gravel; wet	0.0	
	5.0							
	6.0					5.8 - 6.0' FILL: Wood		
	7.0					6.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 10.0' FILL: Brown silty sand; very loose, wet	0.0	8-10' bgs interval too saturated to sample; poured out of sleeve
	9.0							
	10.0					10.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		124-SB-047-1012 collected from 10.0-10.5' bgs @ 10:40; DUP @ 10:42
	11.0							
	12.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-048

DATE BEGAN: 08/05/09 **DATE FINISHED:** 08/05/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 1.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	1.8		0.0 - 0.2' ASPHALT	0.0	Field Map # 289
	1.0					0.2 - 0.5' FILL: Reddish brown silty sand, trace brick		Location # 290 was abandoned after multiple refusals on concrete from 0.5-1.5' bgs.
	2.0					0.5 - 1.8' FILL: Brown/dark brown silty sand; trace fine gravel, brick and glass; concrete from 1.0-1.3'; some wood from 1.4'; wet from 1.5'		
	3.0					1.8 - 4.0' No recovery		
	4.0	R-2	N/A	0.5		4.0 - 4.5' FILL: Black rubber fragments and f-m gravel; wet	0.0	
	5.0					4.5 - 8.0' No recovery		
	6.0							
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 11.0' FILL: Very dark grayish brown clayey sand; soft, wet	0.0	
	9.0							
	10.0							124-SB-048-0810 collected from 9.5-10.0' bgs @ 12:15; DUP @ 12:17
	11.0					11.0 - 11.5' FILL: Brown/reddish brown/dark brown f-c sand, some clayey silt lenses		124-SB-048-1012 collected from 11.5-12.0' bgs @ 12:20
	12.0					11.5 - 11.7' OH: Black (2.5Y 2.5/1) clayey silt		
						11.7 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

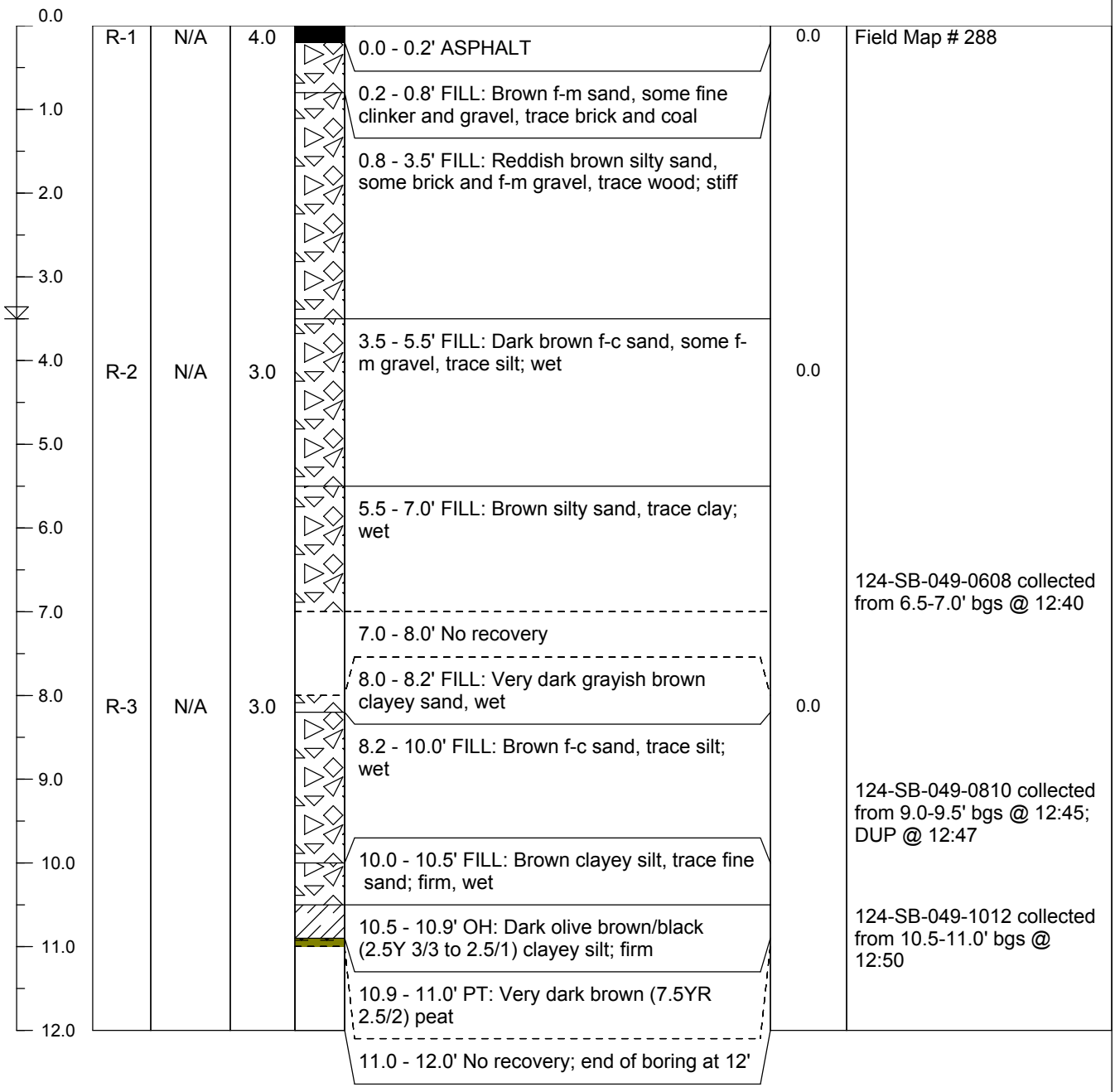
SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-049

DATE BEGAN: 08/05/09 **DATE FINISHED:** 08/05/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 3.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**



PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-050
DATE BEGAN: 08/06/09
DATE FINISHED: 08/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0.0	Field Map # 262
	1.0					0.5 - 1.5' FILL: Reddish brown sandy silt, trace fine gravel and coal		Boring located too close to shed; moved 1 ft SE Refusal at 5.5 ft bgs due to concrete; moved 2 ft SE
	2.0					1.5 - 2.0' FILL: Concrete		
	3.0					2.0 - 6.0' FILL: Grayish brown f-m sand and gray silt (COPR), some fine gravel, trace clinker; very dense, wet from 2.5'		
	4.0	R-2	N/A	4.0			0.0	124-SB-050-0406 collected from 3.5-4.0' bgs @ 8:25; HOLD
	5.0							
	6.0					6.0 - 6.5' FILL: White silty sand (COPR), some brown f-m sand, trace f-c gravel and dark green COPR; wet		124-SB-050-0608 collected from 6.0-6.5' bgs @ 8:30
	7.0					6.5 - 8.0' FILL: Brown f-m sand, trace silt; wet		
	8.0	R-3	N/A	2.0		8.0 - 10.0' FILL: Brown silty sand, trace clay; end of boring at 10'	0.0	
	9.0							
	10.0							124-SB-050-0810 collected from 9.5-10.0' bgs @ 8:35

PREPARED BY: JB
CHECKED BY: FP

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-051
DATE BEGAN: 08/06/09
DATE FINISHED: 08/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0.0	Field Map # 281
						0.5 - 0.7' FILL: Reddish brown sandy silt, some fine gravel		
	1.0					0.7 - 1.5' FILL: Concrete		
						1.5 - 4.0' FILL: Grayish brown f-m sand, some gray silt (COPR), trace fine gravel and clinker; wet		
	2.0							
	3.0							
	4.0	R-2	N/A	3.5		4.0 - 6.0' FILL: Grayish brown f-c sand, some f-c gravel, trace brick and gray/green COPR; wet	0.0	
	5.0							
	6.0					6.0 - 6.5' FILL: White/light brown clayey sand (COPR), trace fine gravel; wet		124-SB-051-0608 collected from 6.0-6.5' bgs @ 9:20
						6.5 - 7.5' FILL: Brown f-m sand, trace silt; wet		
	7.0							
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	2.0		8.0 - 10.0' FILL: Brown silty sand, trace clay, trace f-m sand from 9.9'; wet; end of boring at 10'	0.0	
	9.0							
	10.0							124-SB-051-0810 collected from 9.5-10.0' bgs @ 9:25

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-052
DATE BEGAN: 08/06/09
DATE FINISHED: 08/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.3' ASPHALT	0.0	Field Map # 264
	1.0					0.3 - 1.8' FILL: Brown f-m sand, some f-m gravel, trace brick; wet from 1.5'		
	2.0					1.8 - 2.2' FILL: Concrete; wet		
	3.0					2.2 - 3.5' FILL: Brown/reddish brown/dark brown f-m sand, some white/green/gray COPR, trace fine gravel; wet		
						3.5 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 5.5' FILL: Brown/reddish brown/dark brown f-m sand, some white/green/gray COPR and concrete, trace fine gravel; wet	0.0	124-SB-052-0406 collected from 4.0-4.5' bgs @ 10:00
	5.0							
	6.0					5.5 - 6.8' FILL: Dark brown f-c sand, some f-m gravel; wet		
	7.0					6.8 - 7.3' FILL: White/yellow sandy clay (COPR), trace wood and fine gravel; wet		124-SB-052-0608 collected from 6.8-7.3' bgs @ 10:05
						7.3 - 8.2' FILL: Brown f-m sand, trace silt; wet		
	8.0	R-3	N/A	2.0			0.0	
	9.0					8.2 - 10.0' FILL: Brown silty sand, trace clay; wet; end of boring at 10'		
	10.0							124-SB-052-0810 collected from 9.5-10.0' bgs @ 10:10

PREPARED BY: JB
CHECKED BY: FP

MACTEC — Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 124-SB-053
DATE BEGAN: 08/06/09
DATE FINISHED: 08/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 77300DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 296
	1.0					0.5 - 1.0' FILL: Concrete		
	2.0					1.0 - 2.0' FILL: Gray clinker, some reddish brown/brown silty sand, trace brick; wet from 1.5'		
	3.0					2.0 - 3.0' FILL: Yellowish brown silty sand (COPR), trace fine gravel; trace white/green COPR from 2.0-2.2'; wet		
	4.0					3.0 - 4.0' No recovery		
	5.0	R-2	N/A	4.0		4.0 - 6.5' FILL: Brown f-c sand, some f-m gravel, trace silt; trace white/yellow/green mottling; gray clinker from 5.5-6.0'; wet	0.0	124-SB-053-0608 collected from 6.0-6.5' bgs @ 10:45
	6.0							
	7.0					6.5 - 8.0' FILL: Brown f-m sand, trace silt; wet		
	8.0	R-3	N/A	3.5		8.0 - 8.5' FILL: Brown sandy clay and yellow/dark green COPR; soft, wet	0.0	124-SB-053-0810 collected from 8.0-8.5' bgs @ 10:50
	9.0					8.5 - 10.0' FILL: Brown clayey silt, trace fine sand; soft, wet		
	10.0					10.0 - 10.5' OH: Dark olive brown (2.5Y 3/3) clayey silt, trace organic material; stiff		124-SB-053-1012 collected from 10.0-10.5' bgs @ 10:55
	11.0					10.5 - 11.5' PT: Dark olive brown/very dark brown (2.5Y 3/3 to 7.5YR 2.5/2) peat; wet		
	12.0					11.5 - 12.0' No recovery; end of boring at 12'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-054

DATE BEGAN: 08/06/09 **DATE FINISHED:** 08/06/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 2.0 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 286
	1.0					0.2 - 0.7' FILL: Brown f-m sand, some f-m gravel		
	2.0					0.7 - 3.0' FILL: Dark brown/reddish brown silty sand, some brick, trace concrete, gravel and coal, trace green mottling from 2.3-2.6'; wet from 2.0'		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 6.0' FILL: Dark brown/reddish brown silty sand, some brick, trace concrete, gravel and coal, trace gray silt and fine gravel (possible COPR) from 4.8'; wet	0.0	
	5.0							
	6.0					6.0 - 7.6' FILL: Grayish brown f-c sand, some gray silt and clinker (possible COPR); white/green clayey COPR from 7.3'; wet		
	7.0					7.6 - 8.0' FILL: Brown f-m sand, trace gravel; wet		124-SB-054-0608 collected from 7.0-7.5' bgs @ 11:30
	8.0	R-3	N/A	2.8		8.0 - 9.8' FILL: Brown silty sand; yellow clayey sand (COPR) from 9.0-9.5'; wet	0.0	
	9.0					9.8 - 10.0' FILL: Brown clayey silt, trace sand; moist		124-SB-054-0810 collected from 9.0-9.5' bgs @ 11:35
	10.0					10.0 - 10.5' OL: Dark olive brown (2.5Y 3/3) clayey silt, trace organic material; moist		124-SB-054-1012 collected from 10.0-10.5' bgs @ 11:40
	11.0					10.5 - 10.8' PT: Dark olive brown (2.5Y 3/3) peat; wet		
	12.0					10.8 - 12.0' No recovery; end of boring at 12'		

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-055

DATE BEGAN: 08/06/09 **DATE FINISHED:** 08/06/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 14 ft bgs **GW DEPTH:** 2.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 300
						0.2 - 0.5' FILL: Brown f-m sand, some f-m gravel	0.0	
	1.0						6.5	
						0.5 - 3.0' FILL: Dark brown silty sand, some fine gravel, trace brick, clinker, coal, wood and concrete; very stiff, wet from 2.5'	54.6	
	2.0						2.7	
							1.8	
	3.0					3.0 - 4.0' No recovery	0.1	
	4.0	R-2	N/A	3.2		4.0 - 5.2' FILL: Dark brown/black silty sand, some fine gravel, trace brick, clinker, coal, wood and concrete; very stiff, wet	0.0	
	5.0					5.2 - 6.0' FILL: Concrete		
	6.0					6.0 - 6.5' FILL: Grayish brown f-c sand, some f-m gravel and white clayey COPR; wet		
	7.0					6.5 - 7.2' FILL: Brown f-m sand, trace silt; wet		
						7.2 - 8.0' No recovery		
	8.0	R-3	N/A	2.5		8.0 - 9.0' FILL: Brown silty sand; wet	0.0	
	9.0					9.0 - 9.5' FILL: Pale yellow/white clayey silt (COPR), some f-m sand; wet		
						9.5 - 10.3' FILL: Brown f-m sand; wet		
	10.0					10.3 - 10.5' FILL: Brown clayey silt, trace fine sand; wet		124-SB-055-1012 collected from 10.0-10.5' bgs @ 12:55
	11.0					10.5 - 12.0' No recovery		
	12.0	R-4	N/A	2.0		12.0 - 14.0' PT: Dark olive brown/very dark brown (2.5Y 3/3 to 7.5YR 2.5/2) peat; wet; end of boring at 14'	0.0	124-SB-055-1214 collected from 12.0-12.5' bgs @ 13:00
	13.0							
	14.0							

PREPARED BY: JB

CHECKED BY: FP

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** 124-SB-056

DATE BEGAN: 08/06/09 **DATE FINISHED:** 08/06/09 **INSPECTOR:** J. Bacchus

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 77300DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 8 ft bgs **GW DEPTH:** 2.5 ft bgs

DRILLER: Ed Blewett **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 1.0' FILL: Brown f-m sand, some f-m gravel and clinker	0.0	Field Map # 261
	1.0					1.0 - 2.5' FILL: Reddish brown sandy silt, trace fine gravel and brick, trace green mottling at 2.4'		
	2.0							124-SB-056-0204 collected from 2.0-2.5' bgs @ 14:15
						2.5 - 3.0' FILL: Brown silty sand, some f-m gravel and wood; wet		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	3.0		4.0 - 5.5' FILL: Dark brown/brown silty sand, some fine gravel; trace clinker, concrete and brick; white COPR and wood from 5.2-5.3'; wet	0.0	
	5.0							124-SB-056-0406 collected from 5.0-5.5' bgs @ 14:20
						5.5 - 6.8' FILL: Brown f-m sand, few silt lenses; wet		
	6.0							124-SB-056-0608 collected from 6.5-7.0' bgs @ 14:25
						6.8 - 7.0' FILL: Brown sandy silt; wet		
	7.0					7.0 - 8.0' No recovery; end of boring at 8'		
	8.0							

PREPARED BY: JB

CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** **124-SB-058**

DATE BEGAN: 11/11/09 **DATE FINISHED:** 11/11/09 **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 3.75 ft bgs.

DRILLER: Mike Kinnney **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT: Asphalt and gravel	0.0	
	1.0					0.3 - 0.8' FILL: Brown fine silty sand with trace coal and trace gravel		124-SB-058-0002 collected from 1.0-1.5' bgs @ 13:55
	2.0					0.8 - 3.8' FILL: Light green to green silt with white nodules; moist at 3.0 ft bgs.; potential COPR		
	3.0					3.8 - 4.0' FILL: Wet light green silt with white nodules and fine to medium gravel; potential COPR		124-SB-058-0204 collected from 3.5-4.0' bgs @ 14:00
	4.0	R-2	N/A	4.0		4.0 - 5.3' FILL: Wet light green silt with white nodules and fine to medium gravel; potential COPR	0.0	124-SB-058-0406 collected from 4.5-5.0' bgs @ 14:05
	5.0							
	6.0					5.3 - 7.0' FILL: White to light brown silt with white nodules and fine gravel; potential COPR		
	7.0					7.0 - 8.0' FILL: Light brown fine to medium sand with trace silt		124-SB-058-0608 collected from 7.5-8.0' bgs @ 14:10
	8.0	R-3	N/A	3.0		8.0 - 9.0' FILL: Light brown fine to medium sand with trace silt	0.0	124-SB-058-0810 collected from 8.5-9.0' bgs @ 14:15
	9.0					9.0 - 10.5' OL: Black clayey silt with organics		
	10.0							124-SB-058-1012 collected from 10.0-10.5' bgs @ 14:20
	11.0					10.5 - 11.0' PT: Brown peat; moist		
	12.0					11.0 - 12.0' No Recovery; end of boring at 12.0' bgs.		

PREPARED BY: BS
CHECKED BY: MV

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** **124-SB-059**

DATE BEGAN: 11/11/09 **DATE FINISHED:** 11/11/09 **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 3.0 ft bgs.

DRILLER: Mike Kinnney **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0.0	
	1.0					0.5 - 1.5' FILL: Moist light brown fine silty sand with gravel		124-SB-059-0002 collected from 1.0-1.5' bgs @ 14:25
	2.0					1.5 - 2.5' FILL: Dark brown fine gravelly sand with wood; wet at tip		124-SB-059-0204 collected from 2.0-2.5' bgs @ 14:30
	3.0					2.5 - 4.0' No Recovery		
	4.0	R-2	N/A	3.0		4.0 - 5.5' FILL: Saturated white clayey silt ; potential COPR	0.0	124-SB-059-0406 collected from 4.5-5.0' bgs @ 14:35
	5.0							
	6.0					5.5 - 7.0' FILL: Wet white to light purple to light green silt with white nodules; stiff; potential COPR		124-SB-059-0608 collected from 6.5-7.0' bgs @ 14:40
	7.0					7.0 - 8.0' No Recovery		124-SB-059DP-0608 collected from 6.5-7.0' bgs @ 14:43
	8.0	R-3	N/A	3.0		8.0 - 9.5' FILL: Wet light green to yellow clayey silt; Potential COPR	0.0	124-SB-059-0810 collected from 9.0-9.5' bgs @ 14:45
	9.0							
	10.0					9.5 - 10.3' OL: Black clayey silt with heavy organics		124-SB-059-1012 collected from 10.0-10.5' bgs @ 14:50
	11.0					10.3 - 11.0' PT: Brown peat; moist		
	12.0					11.0 - 12.0' No Recovery; end of boring at 12.0' bgs.		

PREPARED BY: BS
CHECKED BY: MV

Honeywell Study Area - 6 South

SITE INFO: Site 124, Roosevelt Lanes, Jersey City, NJ **PROJECT NO:** 3480050143 **BORING ID:** **124-SB-060**

DATE BEGAN: 11/11/09 **DATE FINISHED:** 11/11/09 **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore **COMPLETION DEPTH:** 12 ft bgs **GW DEPTH:** 3.0 ft bgs.

DRILLER: Mike Kinnney **NORTH:** **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0.0	
						0.5 - 0.8' FILL: Stiff red brown clayey silt		
	1.0					0.8 - 1.5' FILL: Dark brown fine silty sand with gravel		124-SB-060-0002 collected from 1.0-1.5' bgs @ 14:55
	2.0					1.5 - 3.5' FILL: Light brown to orange fine to medium sand; Wet at 3.0' bgs.		
▽	3.0							124-SB-060-0204 collected from 2.5-3.0' bgs @ 15:00
						3.5 - 4.0' No Recovery		
	4.0	R-2	N/A	3.5		4.0 - 5.3' FILL: Light brown to orange fine to medium sand	0.0	124-SB-060-0406 collected from 4.0-4.5' bgs @ 15:05
	5.0							
	6.0					5.3 - 7.5' FILL: Wet stiff light green to yellow silt with white nodules; potential COPR		
	7.0							124-SB-060-0608 collected from 7.0-7.5' bgs @ 15:10
						7.5 - 8.0' No Recovery		
	8.0	R-3	N/A	3.0		8.0 - 8.8' FILL: Wet white to light purple clayey silt	0.0	124-SB-060-0810 collected from 8.0-8.5' bgs @ 15:15
	9.0					8.8 - 10.3' OL: Saturated black clayey silt with organics		
	10.0					10.3 - 11.0' PT: Moist brown peat		124-SB-060-1012 collected from 10.0-10.5' bgs @ 15:20
	11.0					11.0 - 12.0' No Recovery; end of boring at 12.0' bgs.		
	12.0							

PREPARED BY: BS

CHECKED BY: MV

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-063
DATE BEGAN: 5/7/10
DATE FINISHED: 5/7/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT	0	
						0.5 - 2.5' FILL: Brown silty fine sand, brick, gravel, fine to coarse sand		
	1.0							
	2.0							
						2.5 - 3.0' FILL: Black silty coarse sand, wood, coarse gravel, gray material form 2.75-3.0' bgs; moist		
	3.0					3.0 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.5' FILL: Dark brown silty sand, gravel, trace shells; wet	0	
	5.0							
						5.5 - 6.5' FILL: Light brown fine to medium sand; wet		
	6.0							
						6.5 - 7.0' FILL: Light brown fine to medium sand, red brown silt; wet		Sample collected 124-SB-063-0608 from 6.5-7.0' bgs @9:30
	7.0					7.0 - 8.0' : No recovery; end of boring at 8' bgs		
	8.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

LOCATION: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-064
DATE BEGAN: 5/7/10
DATE FINISHED: 5/7/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' FILL: Brown silty sand, fine to coarse gravel; moist	0	Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					1.0 - 2.0' FILL: Red brown silt, fine to medium sand, gravel		
	2.0					2.0 - 3.0' FILL: Light brown silty sand, fine to medium gravel, brick		Sample collected 124-SB-064-0204 from 2.5-3.0' bgs @9:45
	3.0					3.0 - 4.0' : No recovery		
	4.0	S-2	NA	2.5		4.0 - 6.5' FILL: Light brown fine to medium sand, lenses of red brown silt throughout; wood and roots from 4.0-5.0' bgs; wet	0	Sample collected 124-SB-064-0406 from 4.5-5.0' bgs @9:50, DUP @ 9:52
	5.0							
	6.0							Sample collected 124-SB-064-0608 from 6.0-6.5' bgs @9:55
	7.0					6.5 - 8.0' : No recovery; end of boring at 8.0' bgs		EOB at 8 ft bgs
	8.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

LOCATION: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-065
DATE BEGAN: 5/7/10
DATE FINISHED: 5/7/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE	0	Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
						0.5 - 1.0' : Void		
	1.0					1.0 - 3.0' FILL: Dark brown silty sand, gravel		
	2.0							Sample collected 124-SB-065-0204 from 2.5-3.0' bgs @10:15
	3.0					3.0 - 3.5' FILL: Light brown silt, trace fine sand and fine to medium gravel		
						3.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Light brown silt, fine sand, fine to medium gravel, creosote odor, slight sheen; moist	0	Sample collected 124-SB-065-0406 from 4.5-5.0' bgs @10:20
	5.0					5.0 - 7.0' FILL: Light brown fine to medium sand, roots, trace silt lenses from 6.5-7.0' bgs; wet		
	6.0							Sample collected 124-SB-065-0608 from 6.5-7.0' bgs @10:25
	7.0					7.0 - 8.0' : No recovery; end of boring at 8' bgs		EOB at 8 ft bgs
	8.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

LOCATION: Site 124 | **PROJECT NO:** 3480050143 | **BORING ID:** 124-SB-066

DATE BEGAN: 5/7/10 | **DATE FINISHED:** 5/7/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 10 ft bgs | **GW DEPTH:** 5.0 ft bgs

DRILLER: G. Blewitt | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.5' CONCRETE	0	Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
						0.5 - 1.3' : Void		
	1.0					1.3 - 3.3' FILL: Dark brown/ black silty sand, coal, gravel, glass		Sample collected 124-SB-066-0002 from 1.5-2.0' bgs @10:40
	2.0							
	3.0							Sample collected 124-SB-066-0204 from 2.5-3.0' bgs @10:45
						3.3 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Light brown/ red brown silty sand, fine to medium gravel, potential COPR from 4.0-4.5' bgs, creosote odor	0	Sample collected 124-SB-066-0406 from 4.0-4.5' bgs @10:50
▽	5.0					5.0 - 6.0' FILL: Light brown silty sand, sheen, creosote odor; wet		Sample for VOCs-Hold sample at 5.0-5.5' bgs @10:55
	6.0					6.0 - 6.3' FILL: Yellow/light green silt, potential COPR		Sample collected 124-SB-066-0608 from 6.0-6.5' bgs @10:55
						6.3 - 7.0' FILL: Light brown fine to medium sand		
	7.0					7.0 - 8.0' : No recovery		
	8.0	S-3	NA	2.0		8.0 - 8.3' FILL: Light brown fine to medium sand, trace black clayey silt	0	
						8.3 - 10.0' FILL: Light brown silt, fine sand; end of boring at 10'		Sample collected 124-SB-066-0810 from 8.5-9.0' bgs @11:00
	9.0							EOB at 10 ft bgs
	10.0							

PREPARED BY: MS

CHECKED BY: TG

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-067
DATE BEGAN: 5/7/10
DATE FINISHED: 5/7/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.5' ASPHALT	0	
	1.0					0.5 - 1.5' FILL: Brown silty sand, trace wood and brick		
	2.0					1.5 - 2.0' FILL: COPR, purple and brown fine to medium sand; hard, dry		Sample collected 124-SB-067-0002 from 1.5-2.0' bgs @11:25
	3.0					2.0 - 4.0' FILL: COPR, greenish-gray sandy silt; dense, moist		Sample collected 124-SB-067-0204 from 3.0-3.5' bgs @11:30
	4.0	S-2	NA	4		4.0 - 8.0' FILL: COPR, greenish-gray sandy silt; medium dense, wet	0	Sample collected 124-SB-067-0406 from 4.5-5.0' bgs @11:35
	5.0							
	6.0							Sample collected 124-SB-067-0608 from 6.5-7.0' bgs @11:40, DUP @11:42
	7.0							
	8.0	S-3	NA	4		8.0 - 11.0' FILL: COPR, greenish-gray sandy silt, grayish brown silt from10.0-11.0' bgs; soft, wet	0	Sample collected 124-SB-067-0810 from 8.5-9.0' bgs @11:45
	9.0							
	10.0							
	11.0					11.0 - 11.3' OL: Black silty clay, trace fine sand; firm, moist		Sample collected 124-SB-067-1012 from 10.5-11.0' bgs @11:50
	12.0	S-4	NA	2		11.3 - 12.5' PT: Peat	0	
	13.0					12.5 - 14.0' SM: Brown sandy silt, organics; firm, wet; end of boring at 14' bgs		Sample collected 124-SB-067-1214 from 12.5-13.0' bgs @11:55
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-067R
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.5' ASPHALT	0	
	1.0					0.5 - 1.5' FILL: Brown silty sand, trace wood and brick		
	2.0					1.5 - 2.0' FILL: COPR, purple and brown fine to medium sand; hard, dry		
	3.0					2.0 - 4.0' FILL: COPR, greenish-gray sandy silt; dense, moist		
	4.0	S-2	NA	4		4.0 - 8.0' FILL: COPR, greenish-gray sandy silt; medium dense, wet	0	
	5.0							
	6.0							
	7.0							
	8.0	S-3	NA	4		8.0 - 11.0' FILL: COPR, greenish-gray sandy silt, grayish brown silt from10.0-11.0' bgs; soft, wet	0	
	9.0							
	10.0							
	11.0					11.0 - 11.3' OL: Black silty clay, trace fine sand; firm, moist		
	12.0	S-4	NA	2		11.3 - 12.5' PT: Peat	0	
	13.0					12.5 - 14.0' SM: Brown sandy silt, organics; firm, wet; end of boring at 14' bgs		Sample collected 124-SB-067R-1214 from 12.5-13.0' bgs @8:00
	14.0							

PREPARED BY: MS
CHECKED BY: BS

MACTEC Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-068
DATE BEGAN: 5/7/10
DATE FINISHED: 5/7/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.5' ASPHALT	0	
	1.0					0.5 - 1.0' FILL: Reddish brown silty sand, green staining, fine to medium gravel, trace wood and brick; dense, moist	21.9	Organic odor from 1.0-2.0'
	2.0					1.0 - 2.5' FILL: Wood with creosote	1.2	
	3.0					2.5 - 3.0' FILL: COPR, light brown silt, greenish brown nodules, possible porcelain; very soft, wet		
	4.0	S-2	NA	4		3.0 - 4.0' : No recovery	0	
	5.0					4.0 - 4.5' FILL: Gray fine to coarse gravel, dark brown fine to coarse sand; loose, wet		
	6.0					4.5 - 5.3' FILL: Brown fine to medium sand, trace brick; dense, wet		
	7.0					5.3 - 8.0' FILL: COPR, greenish gray silty sand; dense, wet		
	8.0	S-3	NA	4		8.0 - 11.5' FILL: COPR, greenish gray silty sand; very dense, wet	0	
	9.0							
	10.0							
	11.0					11.5 - 11.8' FILL: Brown fine to medium sand, trace silt; dense, moist		
	12.0	S-4	NA	4		11.8 - 12.0' CL: Black silt, trace clay; firm, moist	0	Sample collected 124-SB-068-1214 from 12.5-13.0' bgs @13:30
	13.0					12.0 - 15.0' PT: Peat		
	14.0							
	15.0					15.0 - 16.0' SM: Gray silty sand; end of boring at 16' bgs		Sample collected 124-SB-068-1416 from 15.0-15.5' bgs @13:35
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-069
DATE BEGAN: 5/18/10
DATE FINISHED: 5/18/10
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 3.75 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.75		0.0 - 0.5' ASPHALT: Asphalt and Gravel	0	
	1.0					0.5 - 1.5' FILL: Reddish brown silty sand, trace fine to medium gravel; dry; loose		
	2.0					1.5 - 1.8' FILL: Concrete and Tile		No PID readings - Raining
	3.0					1.8 - 2.6' FILL: Brown/gray fine to coarse sand with some brick and tile, trace silt; wet; loose		
	4.0	S-2	NA	1.75		2.6 - 2.8' FILL: Crushed concrete	0	
	5.0					2.8 - 4.0' No recovery		
	6.0					4.0 - 4.2' FILL: Crushed concrete		
	7.0					4.2 - 4.8' FILL: Brown sandy silt, trace coarse gravel; firm; wet		
	8.0	S-3	NA	3.0		4.8 - 5.8' FILL: Brown silt with trace fine sand and organics;firm; wet	0	
	9.0					5.8 - 8.0' : No recovery		
	10.0					8.0 - 9.0' FILL: Brown silt with trace fine sand and organics; firm; wet		
	11.0					9.0 - 10.0' CL: Brown silt with trace fine sand; very loose; very wet		Sample collected 124-SB-069-1012 from 10.5-11.0 bgs @ 8:05
	12.0	S-4	NA	1.75		10.0 - 11.0' OL: Black silty clay with trace organics; firm; moist	0	
	13.0					11.0 - 12.0' : No recovery		
	14.0					12.0 - 12.3' OL: Black silty clay with trace organics; firm; moist		
						12.3 - 13.8' PT: Brown peat; moist		Sample collected 124-SB-069-1214 from 12.5-13.0 bgs @ 8:10
						13.8 - 14.0' No recovery; end of boring @ 14.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-070
DATE BEGAN: 5/18/10
DATE FINISHED: 5/18/10
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT: Asphalt and Gravel	NA	
						0.3 - 1.0' FILL: Reddish brown silty sand, trace brick; dense		Sample collected 124-SB-070-0002 from 0.5-1.0 bgs @ 8:15
	1.0					1.0 - 1.5' FILL: Concrete		
						1.5 - 3.5' FILL: Gray/brown fine to medium silty sand; very dense		Sample collected 124-SB-070-0204 from 2.5-3.0 bgs @ 8:20
	2.0							
	3.0							
						3.5 - 4.0' FILL: Concrete		
	4.0	S-2	NA	4.0		4.0 - 6.0' FILL: Brown fine to course silty sand; very wet; very loose	NA	
	5.0							Sample collected 124-SB-070-0406 from 5.0-5.5 bgs @ 8:25
	6.0					6.0 - 6.3' FILL: Gray silt; moist; dense		
						6.3 - 6.5' FILL: Gray and orange silt; soft; wet		
	7.0					6.5 - 8.0' FILL: Reddish borwn fine to medium silty sand, lenses of dense red silt; wet; loose; end of boring @ 8.0' bgs		Sample collected 124-SB-070-0608 from 6.0-6.5bgs @ 8:30
	8.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell Site 124

SITE INFO: Honeywell SA-6 South
PROJECT NO: 3480050143
BORING ID: 124-SB-071
DATE BEGAN: 5/18/10
DATE FINISHED: 5/18/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 11 ft bgs
GW DEPTH: 3.75 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0							
			NA	2.5		0.0 - 0.3' ASPHALT: Asphalt and Gravel	0	
						0.3 - 1.0' FILL: Dark brown fine silty sand, some fine to medium gravel, trace brick		Sample collected 124-SB-071-0002 from 0.5-1.0 bgs @ 8:40
	1.0	S-1				1.0 - 1.3' FILL: Concrete		
						1.3 - 1.4' FILL: Wood		
						1.4 - 1.8' FILL: Concrete		
	2.0					1.8 - 2.5' FILL: Dark brown silt with fine to coarse gravel, wet, loose, trace organics		
						2.5 - 4.0' No recovery		Sample collected 124-SB-071-0204 from 2.0-2.5' bgs @ 8:45
	3.0							
	4.0	S-2	NA	4		4.0 - 6.0' FILL: Dark brown silt with fine to coarse gravel, very wet, very loose, trace organics	0	
	5.0							Sample collected 124-SB-071-0406 from 5.0-5.5 bgs @ 8:50
	6.0					6.0 - 6.8' FILL: Brown fine to medium sand, trace silt, wet		
	7.0					6.8 - 7.5' FILL: Red brown silt, trace fine sand, firm, wet		
						7.5 - 8.8' FILL: Yellow green COPR, silt, wet, firm		Sample collected 124-SB-071-0608 from 7.5-8.0'bgs @ 8:55
	8.0	S-3	NA	2.75			0	
						8.8 - 9.0' FILL: Brown fine to medium sand		

PREPARED BY: MD
CHECKED BY: BS

Honeywell Site 124

SITE INFO: Honeywell SA-6 South
PROJECT NO: 3480050143
BORING ID: 124-SB-071

DATE BEGAN: 5/18/10
DATE FINISHED: 5/18/10
INSPECTOR: M. Daly

DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT

SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 11 ft bgs
GW DEPTH: 3.75 ft bgs

DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.0 - 10.0' FILL: Saturated brown silt, trace fine sand, very loose		Sample collected 124-SB-071-0810 from 9.0-9.5'bgs @ 9:00
	10.0					10.0 - 10.7' OL: Black silty clay, trace organics, firm, wet		Sample collected 124-SB-071-1012 from 10.0-10.5'bgs @ 9:05
						10.7 - 10.8' PT: Moist brown peat		
	11.0					10.8 - 11.0' No recovery; end of boring at 11.0 ft. bgs.		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-072
DATE BEGAN: 5/18/10
DATE FINISHED: 5/18/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' FILL: Asphalt and gravel	NA	
						0.1 - 0.3' FILL: Concrete		
	1.0					0.3 - 3.3' FILL: Dark brown/red brown silt, trace fine sand, fine to medium gravel, trace glass, some brick; very dense; moist		No PID - Heavy rain
	2.0							
	3.0					3.3 - 3.5' FILL: Gray fine to medium silty sand; loose		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 5.3' FILL: Dark brown sandy silt, fine to medium gravel, trace brick, trace clay	NA	
	5.0					5.3 - 5.5' FILL: Wood		
						5.5 - 5.8' FILL: Light brown fine to medium silty sand; loose; wet		
	6.0					5.8 - 5.8' FILL: Gray silt, some fine to medium gravel; very soft; potential COPR; wet		
	7.0					5.8 - 6.5' FILL: Red brown fine to medium sand, mottling of silty clay, trace silt; loose; wet		
	8.0	S-3	NA	3.0		6.5 - 8.0' No recovery	NA	
						8.0 - 8.5' FILL: Red brown fine to medium sand, mottling of silty clay, trace silt; loose; wet		
	9.0					8.5 - 9.3' FILL: Black silt, trace fine sand; loose; wet		
	10.0					9.3 - 9.8' FILL: Black silt, trace fine sand; very loose; very wet		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-072
DATE BEGAN: 5/18/10
DATE FINISHED: 5/18/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	S-4	NA	3.0		9.8 - 10.5' FILL: Brown fine to medium silty sand; loose; wet 10.5 - 11.0' FILL: Brown silt; firm; wet 11.0 - 12.0' No recovery 12.0 - 12.5' OL: Brown silty clay, organics; firm; wet 12.5 - 15.0' PT: Brown peat; moist 15.0 - 16.0' No recovery; end of boring at 16.0' bgs.	NA	Sample collected 124-SB-072-1416 from 14.5-15.0' @ 9:30
	12.0							
	13.0							
	14.0							
	15.0							
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-073
DATE BEGAN: 5/18/2010
DATE FINISHED: 5/18/2010
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' FILL: Asphalt and gravel	NA	
						0.3 - 0.4' FILL: Light brown silty fine to medium sand, fine to medium gravel; dense		
	1.0					0.4 - 1.0' FILL: Reddish brown sand and silt, some fine to medium gravel, trace brick; dense		Heavy rain - No PID
						1.0 - 1.3' FILL: Concrete		
	2.0					1.3 - 2.5' FILL: Reddish brown silt, some sand, fine to medium gravel, trace brick; moist; dense		
	3.0					2.5 - 2.8' FILL: Concrete		
						2.8 - 3.3' FILL: Dark brown silty sand, gray coarse sand		
▽	4.0	S-2	NA	3.5		3.3 - 4.0' No recovery	NA	
						4.0 - 4.8' FILL: Brown silty clay; wet; firm		Organic odor at 4.75 - 5.25
	5.0					4.8 - 5.5' FILL: Dark brown silty fine to coarse sand, trace nodules of hard gray silt; wet; dense		
	6.0					5.5 - 5.9' FILL: Wood		
						5.9 - 6.3' FILL: Gray sillt, possible COPR; wet; very soft		Sample collected 124-SB-073-0608 from 6.0-6.5' @ 10:00 DUP at 10:02
	7.0					6.3 - 7.0' FILL: Reddish brown silt, trace organics; wet; loose		
						7.0 - 7.5' FILL: Brown fine to medium sand, some wood; wet; loose		Organic odor at 8.5 - 9.0'
	8.0	S-3	NA	2.0		7.5 - 8.0' No recovery	NA	
						8.0 - 10.0' FILL: Brown silt, some fine sand; wet; firm; end of boring at 10.0' bgs.		Sample collected 124-SB-073-0810 from 8.5-9.0' @ 10:05 (HOLD)
	9.0							
	10.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-074
DATE BEGAN: 5/21/10
DATE FINISHED: 5/21/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT	0	
						0.5 - 2.0' FILL: Dark brown silty sand, gravel, coal, glass, trace glass; moist		
	1.0							
	2.0					2.0 - 2.8' FILL: Light brown silty sand, gravel, coal, glass, trace glass; moist		
						2.8 - 3.0' FILL: Crushed brick		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 4.5' FILL: Red brown/light brown silty sand, gravel, trace fine brick	0	
						4.5 - 5.0' FILL: Black silt, wood; wet		
	5.0					5.0 - 7.0' FILL: Light brown fine to medium sand, trace silt; wet		
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.5		8.0 - 10.5' FILL: Light brown/brown silt; soft, wet	0	
	9.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-074
DATE BEGAN: 5/21/10
DATE FINISHED: 5/21/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0					10.5 - 11.5' FILL: Light brown/brown clayey silt; wet		
						11.5 - 12.0' No recovery		
	12.0	S-4	NA	2.0		12.0 - 12.5' FILL: Red brown fine to medium sand; wet	0	
						12.5 - 13.0' FILL: Red brown fine to medium sand, silt lenses; wet		
	13.0					13.0 - 13.5' FILL: Light brown/ red brown silt, fine to medium sand, organics; wet		Sample collected 124-SB-074-1214 from 13.0-13.5' @11:25
	14.0					13.5 - 14.0' PT: Dark brown peat; moist; end of boring at 14.0'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-075
DATE BEGAN: 5/21/10
DATE FINISHED: 5/21/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.25		0.0 - 0.5' TOPSOIL: Topsoil, grass, roots	0	
	1.0					0.5 - 0.6' FILL: Concrete		
						0.6 - 1.5' FILL: Light yellow/gray silt		
	2.0					1.5 - 2.0' FILL: Red brown fine to medium sand		
	3.0					2.0 - 2.3' FILL: Crushed concrete		
						2.3 - 4.0' No recovery		
	4.0	S-2	NA	1.5		4.0 - 4.5' FILL: Light brown silty sand, wood	0	
	5.0					4.5 - 5.5' FILL: Light brown fine to medium sand, shells		
						5.5 - 8.0' No recovery		
	6.0							
	7.0							
	8.0	S-3	NA	3.5		8.0 - 9.0' FILL: Light brown silt, shells	0	
	9.0					9.0 - 11.3' FILL: Brown silt; soft		
	10.0							
	11.0					11.3 - 11.5' FILL: Black silt		
						11.5 - 12.0' No recovery		
	12.0	S-4	NA	2.0		12.0 - 13.0' FILL: Light brown fine to medium sand, dark brown silt, organics; wet	0	Sample collected 124-SB-075-1214 from 12.5-13.0' @12:00
	13.0					13.0 - 14.0' PT: Brown peat; moist; end of boring at 14.0'		DUP @12:03
	14.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-076
DATE BEGAN: 5/21/10
DATE FINISHED: 5/21/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' TOPSOIL: Topsoil, grass, roots	0	
	1.0					0.5 - 1.5' FILL: Brown silty sand, gravel, brick		
	2.0					1.5 - 2.0' FILL: Crushed concrete		
	3.0					2.0 - 2.5' FILL: Light yellow crushed sandstone		
						2.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.25		4.0 - 6.0' FILL: Light brown fine to medium sand, trace silt	0	
	5.0							
	6.0					6.0 - 7.0' FILL: Black clayey silt		
	7.0					7.0 - 7.3' FILL: Light yellow/light brown fine to medium sand, silt		
						7.3 - 8.0' No recovery		
	8.0	S-3	NA	3.5		8.0 - 9.0' FILL: Light yellow/light brown fine to medium sand, silt	0	
	9.0					9.0 - 10.5' FILL: Black clayey silt		
	10.0							
	11.0					10.5 - 11.5' PT: Brown peat; moist		
						11.5 - 12.0' No recovery		
	12.0	S-4	NA	1.0		12.0 - 13.0' PT: Brown peat; moist	0	Sample collected 124-SB-076-1214 from 12.0-12.5' @12:50
	13.0					13.0 - 14.0' No recovery; end of boring at 14.0'		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124 | **PROJECT NO:** 3480050143 | **BORING ID:** 124-SB-077

DATE BEGAN: 5/21/10 | **DATE FINISHED:** 5/21/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 12 ft bgs | **GW DEPTH:** 4.5 ft bgs

DRILLER: G. Blewitt | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.5 - 1.0' FILL: Black silty sand, coal, brick		
	1.0					1.0 - 1.5' FILL: Crushed sandstone, brick, concrete		
	2.0					1.5 - 2.0' FILL: Black silty sand, coal, gravel		
						2.0 - 4.0' No recovery		
	3.0							
	4.0	S-2	NA	3.0		4.0 - 4.5' FILL: Gravel, brick, black silty sand; loose	0	
						4.5 - 5.5' FILL: Black silty sand, wood, newspaper, gravel; wet		
	5.0							
	6.0					5.5 - 7.0' FILL: Light brown silt, fine sand; wet		Sample collected 124-SB-077-0608 from 6.5-7.0' @13:00
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 10.5' FILL: Light brown silt, fine sand; wet	0	Sample collected 124-SB-077-0810 from 8.5-9.0' @13:05
	9.0							
	10.0							
						10.5 - 11.0' PT: Peat; moist		Sample collected 124-SB-077-1012 from 10.5-11.0' @13:10
	11.0					11.0 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: MS

CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-077R
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	1.0					0.5 - 1.0' FILL: Black silty sand, coal, brick		
	2.0					1.0 - 1.5' FILL: Crushed sandstone, brick, concrete		
	3.0					1.5 - 2.0' FILL: Black silty sand, coal, gravel		
	4.0	S-2	NA	3.0		2.0 - 4.0' No recovery		
	5.0					4.0 - 4.5' FILL: Gravel, brick, black silty sand; loose	0	
	6.0					4.5 - 5.5' FILL: Black silty sand, wood, newspaper, gravel; wet		
	7.0					5.5 - 7.0' FILL: Light brown silt, fine sand; wet		
	8.0	S-3	NA	3.0		7.0 - 8.0' No recovery		
	9.0					8.0 - 10.5' FILL: Light brown silt, fine sand; wet	0	
	10.0							
	11.0					10.5 - 11.0' PT: Peat; moist		
	12.0	S-4	NA	1.5		11.0 - 12.0' No recovery		
	13.0					12.0 - 13.5' PT: Peat; moist	0	Sample collected 124-SB-077-1214 from 12.5-13.0' @10:40
	14.0					13.5 - 14.0' No recovery; end of boring at 14.0' bgs.		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-078
DATE BEGAN: 5/21/10
DATE FINISHED: 5/21/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
						0.8 - 1.0' FILL: Brown silty sand, gravel		
	1.0					1.0 - 1.3' FILL: Plastic, gravel		
						1.3 - 1.5' FILL: Crushed sandstone		
	2.0					1.5 - 2.5' FILL: Dark brown silty sand, gravel, coal, wood, brick		
	3.0					2.5 - 4.0' No recovery		
						4.0 - 4.3' FILL: Dark brown silty sand, gravel, coal, wood, brick		
	4.0	S-2	NA	3.5		4.3 - 4.8' FILL: Brown fine sand, silt, trace fine gravel	0	
	5.0					4.8 - 7.5' FILL: Dark brown silt; soft, wet		
	6.0							
	7.0							
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	3.25		8.0 - 9.5' FILL: Dark brown silt; soft, wet	0	
	9.0							
						9.5 - 10.5' FILL: Gray clayey silt, organics		
	10.0					10.5 - 11.3' PT: Brown peat; moist		Sample collected 124-SB-078-1012 from 10.5-11.0' @13:25
	11.0					11.3 - 12.0' No recovery; end of boring at 12.0' bgs.		
	12.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-079
DATE BEGAN: 5/21/10
DATE FINISHED: 5/21/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	1.0					0.8 - 2.0' FILL: Brown silty fine sand, gravel, brick		
	2.0					2.0 - 2.3' FILL: Brown silty fine sand, gravel, brick, wood		
						2.3 - 3.0' FILL: Wood		
	3.0					3.0 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 6.0' FILL: Dark brown silty sand, fine to medium gravel, fine glass, trace wood; wet	0	
	5.0							
	6.0					6.0 - 6.3' FILL: Red brown silt		
						6.3 - 7.0' FILL: Red brown silt, fine sand		Sample collected 124-SB-079-0608 from 6.5-7.0' @13:35
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 8.3' FILL: Red brown/light brown silt; dense, wet	0	
						8.3 - 9.0' FILL: Dark brown silt, fine sand (light green tint); soft, wet; potential COPR		Sample collected 124-SB-079-0810 from 8.5-9.0' @13:40
	9.0					9.0 - 10.3' FILL: Black silt, trace organics		
	10.0							
						10.3 - 11.0' PT: Brown peat; moist		Sample collected 124-SB-079-1012 from 10.5-11.0' @13:45
	11.0					11.0 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

LOCATION: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-080
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 9.5 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
						0.3 - 0.8' FILL: Brown silty fine sand, some gravel (40%)		
	1.0					0.8 - 2.8' FILL: Brown sandy silt, trace brick coal, and trace sandstone and fine to medium gravel, moist, loose		Sample collected 124-SB-080-0002 from 1.0-1.5' @ 8:45
	2.0							
								Sample collected 124-SB-080-0204 from 2.5-3.0' @ 8:50
	3.0					2.8 - 3.3' FILL: Dark brown clayey silt, some organics (15%), very moist, firm		
						3.3 - 4.0' : No recovery		
	4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Dark brown clayey silt, some organics (15%), very moist, firm	0	
						4.5 - 7.0' FILL: Dark brown fine to medium sand, some clinker (30%), coal, and fine to medium gravel, wet, loose		Sample collected 124-SB-080-0406 from 4.5-5.0' @ 8:55
	5.0							
	6.0							
	7.0					7.0 - 7.5' OH: Dark brown silty clay, trace organics		Sample collected 124-SB-080-0608 from 7.0-7.5' @ 9:00
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	1		8.0 - 8.8' OL: Dark brown silty clay, trace organics	0	Sample collected 124-SB-080-0810 from 8.5-9.0' @ 9:05
						8.8 - 9.0' PT: Brown moist peat		
	9.0					9.0 - 9.5' No recovery; end of boring at 9.5' bgs		EOB at 9.5 ft bgs

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-081
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	
	1.0					0.3 - 1.0' FILL: Brown fine to medium silty sand, trace wood, brick, coal and fine to medium gravel, dry, loose		Sample collected 124-SB-081-0002 from 0.5-1.0' @8:15
	2.0					1.0 - 1.5' FILL: Light orange sandstone		
	3.0					1.5 - 3.0' FILL: Brown fine sandy silt, trace brick, coal and glass, dry, loose		Sample collected 124-SB-081-0204 from 2.5-3.0' @8:20
	4.0	S-2	NA	2.5		3.0 - 4.0' : No recovery	0	
	5.0					4.0 - 4.3' FILL: Brown fine sandy silt, trace brick, coal and glass, dry, loose		Sample collected 124-SB-081-0406 from 4.0-4.5' @8:25
	6.0					4.3 - 5.3' FILL: Brown silty sand, some wood and clay, wet, loose		
	7.0					5.3 - 6.3' FILL: Greyish brown fine sand, lenses of silty clay (20%), wet, loose		Sample collected 124-SB-081-0608 from 6.0-6.5' @ 8:30
	8.0	S-3	NA	3		6.3 - 6.5' FILL: Red sandy silt, wet, loose	0	
	9.0					6.5 - 8.0' No recovery		
	10.0					8.0 - 8.5' FILL: Red sandy silt, wet, loose		Sample collected 124-SB-081-0810 from 8.5-9.0' @8:35
	11.0					8.5 - 8.8' FILL: Red silty clay, trace organics, wet, firm		
	12.0					8.8 - 10.0' OL: Brown clay, organics (50%), wet, firm		
						10.0 - 11.0' PT: Brown moist peat		Sample collected 124-SB-081-1012 from 10.5-11.0' @8:40
						11.0 - 12.0' No recovery; End of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-082
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.1' ASPHALT: Asphalt and gravel	0	
	1.0					0.1 - 1.5' FILL: Brown silty sand, some fine to medium gravel, trace brick coal and glass, dry, loose		Sample collected 124-SB-082-0002 from 0.5-1.0' @ 10:30
	2.0					1.5 - 2.5' FILL: Dark brown silty sand, some wood, trace clinker and brick, moist, firm		Sample collected 124-SB-082-0204 from 2.0-2.5' @ 10:35
	3.0					2.5 - 4.0' FILL: No recovery		
	4.0	S-2	NA	2.5		4.0 - 4.5' FILL: Reddish brown fine sand, trace gravel, wet, firm	0	
	5.0					4.5 - 5.3' FILL: Dark brown sandy silt, trace wood, wet		Sample collected 124-SB-082-0406 from 4.5-5.0' @ 10:40
	6.0					5.3 - 6.5' FILL: Greyish brown fine to medium sand, wet		Sample collected 124-SB-082-0608 from 6.0-6.5' @ 10:45; DUP @ 10:47
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	3		8.0 - 8.8' FILL: Reddish brown silt, trace fine sand, wet, firm	0	
	9.0					8.8 - 9.5' OL: Greyish brown silty clay, some organics, wet, firm		Sample collected 124-SB-082-0810 from 8.5-9.0' @ 10:50
	10.0					9.5 - 11.0' PT: Brown moist peat		
	11.0					11.0 - 12.0' No recovery; End of boring @ 12.0' bgs		Sample collected 124-SB-082-1012 from 10.0-10.5' @ 10:55
	12.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-083
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.1' ASPHALT: Asphalt and gravel	0	
	1.0					0.1 - 2.5' FILL: Brown sandy silt, mottling of brown and orange silt, trace brick, fine to medium gravel, wood and glass, moist, loose		Sample collected 124-SB-083-0002 from 0.5-1.0' @ 11:00
	2.0							Sample collected 124-SB-083-0204 from 2.0-2.5' @ 11:05
	3.0					2.5 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 4.2' FILL: Concrete	0	Sample collected 124-SB-083-0406 from 4.0-4.5' @ 11:10
	5.0					4.2 - 4.8' FILL: Dark brown silt, trace fine sand and fine to medium gravel, wet, loose		
	6.0					4.8 - 6.0' FILL: Dark brown silt, some clinker, trace fine to medium gravel, very wet, very loose		Sample collected 124-SB-083-0608 from 6.0-6.5' @ 11:15
	7.0					6.0 - 6.5' FILL: Brown fine to coarse sand, some silt, wet, loose		
	8.0	S-3	NA	3		6.5 - 8.0' No recovery	0	
	9.0					8.0 - 8.5' FILL: Brown fine to coarse sand, some silt, wet, loose		Sample collected 124-SB-083-0810 from 8.5-9.0' @ 11:20 DUP @ 11:22
	10.0					8.5 - 9.5' FILL: Reddish brown silty sand, trace organics, wet, firm		
	11.0					9.5 - 11.0' OL: Greyish brown silty clay, some organics, wet, firm		Sample collected 124-SB-083-1012 from 10.0-10.5' @ 11:25
	12.0					9.7 - 11.0' PT: Brown moist peat		
						11.0 - 12.0' No recovery; End of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: **124-SB-084**
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	HOLD ALL SAMPLES
						0.3 - 0.5' FILL: Brown sandy silt, some fine to medium gravel, trace brick and coal, dry, loose		Sample collected 124-SB-084-0002 from 1.0-1.5' @ 11:30
	1.0					0.5 - 0.8' FILL: Concrete	7.9	
						0.8 - 1.5' FILL: Dark brown silt, trace brick and fine gravel		Slight petroleum odor
	2.0					1.5 - 2.0' FILL: Brown silt, some organics		
						2.0 - 2.5' FILL: Brick		Sample collected 124-SB-084-0204 from 3.0-3.5' @ 11:35
	3.0					2.5 - 3.0' FILL: Brown silty sand	5.1	
		S-2	NA	3		3.0 - 3.8' FILL: Dark brown silt, trace coal	0	Slight petroleum odor
	4.0					3.8 - 4.0' No recovery		Sample collected 124-SB-084-0406 from 4.5-5.0' @ 11:40
						4.0 - 4.5' FILL: Dark brown sandy silt, trace brick		
	5.0					4.5 - 4.7' FILL: Concrete		
						4.7 - 4.8' FILL: Dark brown silt, some wood and coarse gravel, very wet, very loose		Sample collected 124-SB-084-0608 from 6.0-6.5' @ 11:45
	6.0					4.8 - 7.0' FILL: Reddish brown fine to coarse sand, lenses of clayey silt (25%), wet, firm		
						7.0 - 8.0' No recovery		
	7.0					8.0 - 9.5' FILL: Reddish brown fine to coarse sand, lenses of clayey silt (25%), wet, firm		
		S-3	NA	3		9.5 - 10.0' OL: Greyish brown silty clay, some organics, wet, firm	0	Sample collected 124-SB-084-0810 from 9.0-9.5' @ 11:50
	8.0					10.0 - 11.0' PT: Brown moist peat		
						11.0 - 12.0' No recovery; End of Boring @ 12.0' bgs		Sample collected 124-SB-084-1012 from 10.5-11.0' @ 11:55
	9.0							
	10.0							
	11.0							
	12.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-085
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' ASPHALT: Asphalt and gravel	0	HOLD ALL SAMPLES
						0.1 - 0.5' FILL: Fine to medium gravel, some brown silt, dry, loose		
	1.0					0.5 - 0.8' FILL: Degraded brick		Sample collected 124-SB-085-0002 from 1.0-1.5' @ 10:00
						0.8 - 1.5' FILL: Light brown fine silty sand, dry, loose		
	2.0						0	
						1.5 - 3.5' FILL: Dark brown silty clay, trace organics, coal, brick, and fine sand, moist, firm		
	3.0							Sample collected 124-SB-085-0204 from 2.5-3.0' @ 10:05
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.25		4.0 - 5.5' FILL: Dark brown silty clay, trace organics, coal, brick, and some fine sand, wet, firm	0	
								Sample collected 124-SB-085-0406 from 4.5-5.0' @ 10:10
	5.0							
						5.5 - 6.0' FILL: Dark brown clayey silt, trace organics, very wet, loose		
	6.0					6.0 - 7.5' FILL: Brown fine to medium sand, lenses of silty clay, trace organics and fine to medium gravel, wet, loose	0	Sample collected 124-SB-085-0608 from 6.5-7.0' @ 10:15
	7.0							
						7.5 - 8.0' FILL: No recovery		
	8.0	S-3	NA	2.5		8.0 - 9.0' FILL: Reddish brown sandy silt, wet, firm	0	
								Sample collected 124-SB-085-0810 from 8.5-9.0' @ 10:20
	9.0					9.0 - 9.8' OL: Brown silty clay, some organics		
	10.0					9.8 - 10.5' PT: Brown moist peat	0	
						10.5 - 12.0' No recovery; end of Boring @ 12.0' bgs		Sample collected 124-SB-085-0810 from 10.0-10.5' @ 10:25
	11.0							
	12.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-086
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10.0 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' ASPHALT: Asphalt and gravel	0	HOLD ALL SAMPLES
						0.1 - 1.0' FILL: Reddish brown silt, some fine sand and fine to medium gravel		
	1.0					1.0 - 1.5' FILL: Brown sandy silt, trace brick, moist, firm		Sample collected 124-SB-086-0002 from 0.5-1.0' @ 9:35
	2.0					1.5 - 3.5' FILL: Dark brown clayey silt, trace clinker, brick, organics, and fine gravel, moist, firm	0	
	3.0							Sample collected 124-SB-086-0204 from 3.0-3.5' @ 9:40
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3		4.0 - 4.5' FILL: Dark brown silty clay, trace organics	0	
						4.5 - 5.5' FILL: Reddish brown silt, trace fine sand, wet, firm		Sample collected 124-SB-086-0406 from 4.5-5.0' @ 9:45
	5.0							
	6.0					5.5 - 7.0' FILL: Brown fine to medium and trace silt, wet, loose	0	
	7.0							Sample collected 124-SB-086-0608 from 6.5-7.0' @ 9:50
						7.0 - 8.0' No recovery		
	8.0	S-3	NA	2		8.0 - 9.0' FILL: Reddish brown silty clay	0	
	9.0					9.0 - 9.5' OL: Dark brown silty clay, some organics		Sample collected 124-SB-086-0810 from 9.5-10.0' @ 9:55
	10.0					9.5 - 10.0' PT: Brown moist peat; end of boring @ 10.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-087
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 9.5 ft bgs
GW DEPTH: 3.75ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	HOLD ALL SAMPLES
						0.3 - 1.0' FILL: Brown sandy silt, trace brick, fine to medium gravel and coal, dry, loose		
	1.0					1.0 - 3.0' FILL: Medium brown silt, trace fine sand, brick and fine gravel, moist, loose		Sample collected 124-SB-087-0002 from 1.0-1.5' @ 9:10
	2.0						0	
	3.0					3.0 - 3.5' FILL: Greyish brown silty clay, trace organics, wet, firm		Sample collected 124-SB-087-0204 from 3.0-3.5' @ 9:15
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 4.3' FILL: Greyish brown silty clay, trace organics, wet, firm	0	
						4.3 - 6.5' FILL: Clinker (80%), some brown fine to coarse sand, trace coal, wet, loose		Sample collected 124-SB-087-0406 from 5.0-5.5' @ 9:20
	5.0							
	6.0						0	
						6.5 - 6.8' FILL: Dark brown silt, trace dark brown fine sand and clay, wet, loose		Sample collected 124-SB-087-0608 from 6.5-7.0' @ 9:25
	7.0					6.8 - 7.0' OH: Dark brown clay, some organics and trace silt		
						7.0 - 8.0' No recovery		
	8.0	S-3	NA	1.5		8.0 - 9.0' OL: Dark brown silty clay, some organics (30%), firm, wet	0	
	9.0					9.0 - 9.5' PT: Brown moist peat; end of boring @ 9.5' bgs		Sample collected 124-SB-087-0810 from 9.0-9.5' @ 9:30

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-088
DATE BEGAN: 6/14/2010
DATE FINISHED: 6/14/2010
INSPECTOR: B. Senna/ M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: -10.0 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	4		0.0 - 0.3' FILL: Asphalt and gravel	0	
						0.3 - 1.0' FILL: Reddish brown sandy silt, some fine to medium gravel, trace brick		
	1.0					1.0 - 1.5' FILL: Degraded brick		
		S-1				1.5 - 2.5' FILL: Light brown fine sand, moist, firm	0	Sample collected 124-SB-088-0002 from 1.5-2.0' @ 12:00
	2.0							
						2.5 - 4.0' FILL: Dark brown silty sand, some clinker, trace coal and brick, moist, firm		
	3.0	S-2						Sample collected 124-SB-088-0204 from 3.0-3.5' @ 12:05
	4.0		NA	4		4.0 - 4.5' FILL: Brown silt, firm, dry	0	
						4.5 - 4.8' FILL: Brick		
	5.0	S-3				4.8 - 7.5' FILL: Dark brown silty fine to medium sand, some clinker, trace shells, brick and coal, very wet, firm		Sample collected 124-SB-088-0406 from 5.0-5.5' @ 12:10
	6.0						0	
		S-4						Sample collected 124-SB-088-0608 from 6.0-6.5' @ 12:15
	7.0							
						7.5 - 8.0' FILL: Reddish brown silt, trace fine sand, wet, firm		
	8.0		NA	2		8.0 - 9.0' OL: Dark brown silty clay,some organics (30%), firm, wet	0	
	9.0	S-5				8.0 - 9.0' OL: Greyish brown silty clay		Sample collected 124-SB-088-0810 from 9.0-9.5' @ 12:20
						9.0 - 10.0' PT: Brown moist peat; End of boring @ 10.0' bgs		
	10.0							

PREPARED BY: MD
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 124 | **PROJECT NO:** 3480050143 | **BORING ID:** 124-SB-089

DATE BEGAN: 6/14/2010 | **DATE FINISHED:** 6/14/2010 | **INSPECTOR:** B. Senna/ M. Daly

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 12.0 ft bgs | **GW DEPTH:** 4.5 ft bgs

DRILLER: G. Blewitt | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	HOLD ALL SAMPLES
	1.0					0.3 - 0.8' FILL: Brown sandy silt, some brick and coal		Sample collected 124-SB-089-0002 from 1.0-1.5' @ 12:25
	2.0					0.8 - 2.5' FILL: Reddish brown silt, some brick, trace fine to medium gravel	0	
	3.0					2.5 - 3.0' FILL: Concrete with gravel		Sample collected 124-SB-089-0204 from 2.5-3.0' @ 12:30
						3.0 - 3.5' FILL: Wood and fine to medium gravel	4.9	Creosote odor
	4.0	S-2	NA	3		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 4.5' FILL: Concrete		Sample collected 124-SB-089-0406 from 4.5-5.0' @ 12:35
						4.5 - 5.3' FILL: Dark brown sandy silt, trace organics and clay		
	6.0					5.3 - 7.0' FILL: Greyish brown fine to medium sand, lenses of clayey silt, wet, loose	0	Sample collected 124-SB-089-0608 from 6.0-6.5' @ 12:40
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3		8.0 - 9.0' FILL: Greyish brown fine to medium sand, lenses of clayey silt, wet, loose	0	
	9.0					9.0 - 9.5' FILL: Brown silty clay, some organics, moist, firm		
	10.0					9.0 - 9.8' FILL: Grey fine sand, trace organics, wet, loose		Sample collected 124-SB-089-0810 from 9.5-10.0' @ 12:45
	11.0					9.8 - 10.9' OL: Greyish brown silty clay, trace organics,		Sample collected 124-SB-089-0810 from 10.5-11.00' @ 12:50
						10.9 - 11.0' PT: Brown moist peat		
	12.0					11.0 - 12.0' No recovery; end of boring @ 12.0' bgs		

PREPARED BY: MD

CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-090
DATE BEGAN: 8/18/10
DATE FINISHED: 8/18/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.5 - 1.3' FILL: Brown silty sand, very moist		
	1.0					1.3 - 2.3' FILL: Concrete		
	2.0					2.3 - 2.5' FILL: Dark brown silt, fine sand, shells, gravel, brick, moist		
						2.5 - 4.0' No recovery		
	3.0							
	4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Dark brown silt, gravel, organics, very moist	0	
						4.5 - 5.0' FILL: Brick, coarse gravel		
	5.0					5.0 - 5.5' FILL: Dark brown silt, sand, medium to coarse gravel, wet		
						5.5 - 7.5' FILL: Light brown fine to medium sand, wet		Sample collected 124-SB-090-0608 from 6.5-7.0' @ 9:35
	6.0							
	7.0							
						7.5 - 8.0' No recovery; end of boring at 8.0 ft. bgs.		
	8.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

LOCATION: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-091
DATE BEGAN: 5/25/10
DATE FINISHED: 5/25/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE: Concrete	0	Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.5 - 1.5' Void		
	2.0					1.5 - 2.8' FILL: Dark brown fine to medium silty sand, trace coal; moderate dense; very wet		
	3.0					2.8 - 4.0' FILL: Brown fine to medium sand, some silt; loose		
	4.0	S-2	NA	3		4.0 - 6.9' FILL: Red brown silt, trace fine sand, trace brick, trace fine to medium gravel, trace clay; dense; moist	0	
	5.0							
	6.0							
	7.0					6.9 - 7.0' FILL: Green silty sand; COPR; wet		
	8.0	S-3	NA	3.5		7.0 - 8.0' FILL: No recovery	0	
	9.0					8.0 - 8.3' FILL: Green silty sand; COPR; wet		
	10.0					8.3 - 8.5' FILL: Red brown silty clay; wet		
	11.0					8.5 - 9.0' FILL: Brown silty sand; loose; wet		
	12.0	S-4	NA	2.0		9.0 - 11.0' FILL: Brown silt, some fine sand; very loose; very wet	0	
	13.0					11.0 - 11.5' FILL: Green/yellow silt; COPR; firm; wet		Sample collected 124-SB-091-1214 from 12.5-13.0' @ 13:10
	14.0					11.5 - 12.0' No recovery		EOB at 14 ft bgs
						12.0 - 12.3' FILL: Brown silt; wet		
						12.3 - 12.5' OL: Black silty clay		
						12.5 - 14.0' PT: Brown peat; moist; end of boring @ 14.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-091R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 15.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE: Concrete	0	
	1.0					0.5 - 1.5' Void		
	2.0					1.5 - 2.8' FILL: Dark brown fine to medium silty sand, trace coal; moderate dense; very wet		
	3.0					2.8 - 4.0' FILL: Brown fine to medium sand, some silt; loose		
	4.0	S-2	NA	3		4.0 - 6.9' FILL: Red brown silt, trace fine sand, trace brick, trace fine to medium gravel, trace clay; dense; moist	0	
	5.0							
	6.0							
	7.0					6.9 - 7.0' FILL: Green silty sand; COPR; wet		
	8.0	S-3	NA	3.5		7.0 - 8.0' FILL: No recovery	0	
	9.0					8.0 - 8.3' FILL: Green silty sand; COPR; wet		
	10.0					8.3 - 8.5' FILL: Red brown silty clay; wet		
	11.0					8.5 - 9.0' FILL: Brown silty sand; loose; wet		
	12.0	S-4	NA	3.0		9.0 - 11.0' FILL: Brown silt, some fine sand; very loose; very wet	0	
	13.0					11.0 - 11.5' FILL: Green/yellow silt; COPR; firm; wet		
	14.0					11.5 - 12.0' No recovery		
						12.0 - 12.3' FILL: Brown silt; wet		
						12.3 - 12.5' OL: Black silty clay		Sample collected 124-SB-091R-1214 from 13.0-13.5' @ 7:15
						12.5 - 14.0' PT: Brown peat; moist; end of boring @ 15.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

LOCATION: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-092
DATE BEGAN: 5/25/10
DATE FINISHED: 5/25/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE: Concrete	0	Boring elevation = 11.5' approximately 1.5' higher than surrounding grade
	1.0					0.5 - 1.5' Void		
	2.0					1.5 - 2.0' FILL: Brown silty fine to medium sand, some brick, trace clay; dense; wet		
	3.0					2.0 - 3.5' FILL: Black fine to medium silty sand, trace clinker; dense; wet		
	4.0	S-2	NA	2.5		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 6.5' FILL: Red brown clayey silt, trace fine sand, trace fine to medium gravel, trace brick; very dense moist		
	6.0							
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	3.5		8.0 - 9.5' FILL: Yellow/green silt; COPR; Hard brown COPR from 9.4' - 9.5' bgs; wet	0	
	9.0					9.5 - 9.8' FILL: Brown silt; dense; moist		
	10.0					9.8 - 10.5' FILL: Brown fine to medium sand; black staining at 10.0 - 10.5' bgs.		Organic odor from 10.0 - 10.5' bgs.
	11.0					10.5 - 11.4' FILL: Brown clayey silt		
	12.0	S-4	NA	2.0		11.4 - 11.5' FILL: Green/yellow silt; COPR	0	
						11.5 - 12.0' No recovery		Sample collected 124-SB-092-1214 from 13.5-14.0' @ 13:40
	13.0					12.0 - 13.3' FILL: Green/yellow silt; COPR; very soft; very wet		
	14.0					13.3 - 13.5' OL: Black silty clay; loose; wet		EOB at 14 ft bgs
						13.5 - 14.0' PT: Brown peat; moist; end of boring @ 14.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-092R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14.0 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE: Concrete	0	
	1.0					0.5 - 1.5' Void		
	2.0					1.5 - 2.0' FILL: Brown silty fine to medium sand, some brick, trace clay; dense; wet		
	3.0					2.0 - 3.5' FILL: Black fine to medium silty sand, trace clinker; dense; wet		
	4.0	S-2	NA	2.5		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 6.5' FILL: Red brown clayey silt, trace fine sand, trace fine to medium gravel, trace brick; very dense moist		
	6.0							
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	3.5		8.0 - 9.5' FILL: Yellow/green silt; COPR; Hard brown COPR from 9.4' - 9.5' bgs; wet	0	
	9.0					9.5 - 9.8' FILL: Brown silt; dense; moist		
	10.0					9.8 - 10.5' FILL: Brown fine to medium sand; black staining at 10.0 - 10.5' bgs.		Organic odor from 10.0 - 10.5' bgs.
	11.0					10.5 - 11.4' FILL: Brown clayey silt		
	12.0	S-4	NA	2.0		11.4 - 11.5' FILL: Green/yellow silt; COPR	0	
	13.0					11.5 - 12.0' No recovery		
	14.0					12.0 - 13.3' FILL: Green/yellow silt; COPR; very soft; very wet		Sample collected 124-SB-092R-1314 from 13.5-14.0' @ 7:30
						13.3 - 13.5' OL: Black silty clay; loose; wet		
						13.5 - 14.0' PT: Brown peat; moist; end of boring @ 14.0' bgs		

PREPARED BY: MD
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-108
DATE BEGAN: 7/7/2008
DATE FINISHED: 7/7/08
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	Collect sample from 1.0-1.5' bgs @ 11:25
	-1.0					0.5 - 3.0' FILL: Dark brown / Black silty sand (fine) with gravel (fine-coarse), some brick (fine-medium), wood, and crushed concrete (from 1.5-2.0' bgs); moist; light sheen from (2.0-3.0 ' bgs)	0	
	-2.0						0	
							29.7	Collect sample from 2.5-3.0' bgs @ 11:30
	-3.0						32.8	
							23.8	
	-4.0					3.0 - 4.0' No recovery		
		2	NA	2.5		4.0 - 6.0' FILL: Dark brown silty sand (fine), some wood, shells, gravel (fine), slight sheen, wet @ 4.5' bgs	12.4	Collect sample from 4.5-5.0' bgs @ 11:35
	-5.0						9.8	
							14.8	
	-6.0					6.0 - 6.5' FILL: Brown silt (fine) some gravel (fine-medium), lenses of sand (fine-medium), wet	9.1	
							6.3	Collect sample from 6.0-6.5' bgs @ 11:40
	-7.0					6.5 - 8.0' No recovery	0	
	-8.0	3	NA	2.75		8.0 - 10.5' FILL: Light brown sand (fine-medium) with lenses of red brown silt; wet	0	Collect sample from 8.5-9.0' bgs @ 11:45; DUP @ 11:50
	-9.0							
	-10.0					10.5 - 10.8' FILL: Red brown silt; wet		Collect sample from 10.0-10.5' bgs @ 11:55
	-11.0					10.8 - 12.0'		
	-12.0	4	NA	2.0		12.0 - 14.0' PEAT: Dark brown peat; wet; end of boring at 14'	0	
	-13.0							
	-14.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-109
DATE BEGAN: 7/7/2008
DATE FINISHED: 7/7/08
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	1.5		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	Collect sample from 0.5-1.0' bgs @ 10:55
	-1.0					0.3 - 0.8' FILL: Dark brown silty sand; dry		
	-2.0					0.8 - 1.5' FILL: Gravel (coarse); dry		
	-3.0					1.5 - 4.0' No recovery		
	-4.0	2	NA	3.0		4.0 - 5.0' FILL: Light brown silty sand (fine) with shells (fine) and gravel (fine); wet	2.6 1.8	Collect sample from 5.5-6.0' bgs @ 11:00
	-5.0					5.0 - 6.0' FILL: Dark brown/black silty sand (fine) with yellow/white nodules; (COPR) from 5-6' bgs; wet	2.9 0	
	-6.0					6.0 - 7.0' FILL: Red/light brown sand (fine-medium) with lenses of red brown silt (fine), wet		Collect sample from 6.5-7.0' bgs @ 11:05
	-7.0					7.0 - 8.0' No recovery		
	-8.0	3	NA	3.5		8.0 - 9.0' FILL: Light brown silt (fine) with sand (fine), wet	0	Collect sample from 8.5-9.0' bgs @ 11:10
	-9.0					9.0 - 10.5' FILL: Light brown sand (fine-medium), wet		
	-10.0							Collect sample from 10.5-11' bgs @ 11:15
	-11.0					10.5 - 11.5' FILL: Red brown clayey silt with trace shells (fine) and organics (fine), wet		
	-12.0	4	NA	1.75		11.5 - 12.0' No recovery		
	-13.0					12.0 - 13.8' PT: Dark brown peat; moist	0	
	-14.0					13.8 - 14.0' No recovery; end of boring at 14'		

PREPARED BY: EMJ
CHECKED BY: JB

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-109A
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 20.0 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt	0	
	-1.0					0.5 - 3.5' FILL: Brown silty sand (fine); trace gravel (coarse); dry to moist	0	
	-2.0						0	
	-3.0						0	124-SB-109A_0002 collected from 2.5-3.0' bgs @ 08:25
	-4.0	S-2	NA	4.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 5.0' FILL: Brown silty sand (fine); trace gravel (fine-medium); moist to wet	0	
	-6.0					5.0 - 6.5' FILL: Dark brown/black sand; trace gravel (fine-medium); medium stiff; wet	0	124-SB-109A_0204 collected from 5.5-6.0' bgs @ 08:30
	-7.0					6.5 - 8.0' FILL: Brown sand (fine-medium); wet	0	
	-8.0	S-3	NA	4.0		8.0 - 9.5' FILL: Brown silty clay; wet	0	
	-9.0						0	
	-10.0					9.5 - 11.0' FILL: Brown silty sand (medium); wet	0	
	-11.0					11.0 - 13.0' FILL: Brown silty clay; wet	0	
	-12.0	S-4	NA	4.0			0	
	-13.0					13.0 - 16.0' PT: Peat; meadow mat; organic material; moist	0	124-SB-109A_0406 collected from 12.5-13.0' bgs @ 08:35
	-14.0						0	
	-15.0						0	
	-16.0					16.0 - 17.0' PT: Peat; meadow mat; wet	0	124-SB-109A_0608 collected from 15.5-16.0' bgs @ 08:40
	-17.0					17.0 - 19.5' SM: Gray silty sand; wet		124-SB-109A_0810 collected from 17.0-17.5' bgs @ 08:45
	-18.0							
	-19.0					19.5 - 20.0' No recovery; end of boring at 20.0'		124-SB-109A_1820 collected from 19.0-19.5'
	-20.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-110
DATE BEGAN: 7/7/2008
DATE FINISHED: 7/7/08
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: G Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 3.5' FILL: Light brown silty sand (fine) with gravel (fine-coarse), glass (fine-medium), brick (fine-medium); potential COPR from 3.0-3.5'; dry	0	124-SB-110-0002 from 1.0-1.5' bgs @ 10:15
	-1.0							
	-2.0							124-SB-110-0204 from 3.0-3.5' bgs @ 10:20
	-3.0							
						3.5 - 4.0' No recovery		
	-4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Light brown silty sand (fine) with gravel (fine-coarse), glass (fine-medium), brick (fine-medium); moist	0	124-SB-110-0406 from 4.0-4.5' bgs @ 10:25
	-5.0					4.5 - 5.0' FILL: Crushed concrete		
	-6.0					5.0 - 7.0' FILL: Red brown silt (fine) with gravel (fine), wood (fine), coal (fine), and green/olive nodules, (COPR); moist		124-SB-110-0608 from 7.0-7.5' bgs @ 10:30
	-7.0					7.0 - 7.5' FILL: Light brown clayey silt with white and green nodules, (COPR), and organic material; moist		
	-8.0	S-3	NA	4.0		7.5 - 8.0' No recovery	0	124-SB-110-0810 from 8..0-8.5' bgs @ 10:35
	-9.0					8.0 - 9.0' FILL: Light brown sand (fine) with trace shells (fine) and gravel (fine)		
	-10.0					9.0 - 11.0' FILL: Dark brown saturated silt (fine) with trace sand (fine)		124-SB-110-1012 from 11-11.5' bgs @ 10:40
	-11.0					11.0 - 12.0' FILL: Green/yellow silt, (COPR)		
	-12.0	S-4	NA	2.0		12.0 - 12.3' FILL: Black silt (fine), (COPR), and some organic material	0	124-SB-110-1214 from 12-12.5' bgs @ 10:45
	-13.0					12.3 - 14.0' PT: Dark brown peat; end of boring at 14'		
	-14.0							

PREPARED BY: EMJ
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-111
DATE BEGAN: 7/8/2008
DATE FINISHED: 7/8/2008
INSPECTOR: E. Jackson
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt	0	Advance adjacent boring 124-SB-011A to obtain sufficient recovery for samples, see log for details
						0.5 - 1.0' FILL: Dark brown silt and coarse sand; moist		
	-1.0					1.0 - 2.0' FILL: Yellow brown/light brown silt and clay, some fine gravel; moist		
	-2.0					2.0 - 2.3' FILL: Concrete		
	-3.0					2.3 - 3.5' FILL: Light grey/brown medium to coarse sand, trace silt, some fine-medium angular gravel, very firm, moist		
						3.5 - 4.0' No recovery		
	-4.0	2	NA	1		4.0 - 5.0' FILL: Brown fine to coarse gravel and sand, trace silt and clay, wet	0	
	-5.0					5.0 - 8.0' No Recovery		
	-6.0							
	-7.0							
	-8.0	3	NA	0		8.0 - 12.0' No Recovery, End of boring at 12'	0	
	-9.0							
	-10.0							
	-11.0							
	-12.0							

PREPARED BY: EMJ
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-011A
DATE BEGAN: 7/8/2008
DATE FINISHED: 7/8/2008
INSPECTOR: E. Jackson
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt	0	Collect sample from 1.0-1.5' bgs @ 13:20
	-1.0					0.5 - 1.0' FILL: Dark brown silt and coarse sand		
	-2.0					1.0 - 2.0' FILL: Yellow brown/light brown silt and clay, some fine gravel, bright green mottling, predominantly in gravel from 1-1.25' bgs (COPR); moist		Collect sample from 2.5-3.0 @ 13:24
	-3.0					2.0 - 2.3' FILL: Concrete		
	-4.0	2	NA	3.0		2.3 - 3.5' FILL: Light grey/brown medium to coarse sand, trace silt, some fine-medium angular gravel, very firm, moist	0	Collect sample from 4.5-5.0' bgs @ 13:28
	-5.0					3.5 - 4.0' No recovery		
	-6.0					4.0 - 4.5' FILL: Light brown silty sand, some coarse angular gravel, loose, saturated		Collect sample from 6.0-6.5' bgs @ 13:30
	-7.0					4.5 - 5.3' FILL: Brown silty sand, trace angular gravel; wet		
	-8.0	3	NA	0		5.3 - 6.5' FILL: Light/yellow brown silty clay, some sand, COPR @ 6-6.5' bgs, saturated	0	
	-9.0					6.5 - 7.0' FILL: Brown silt and fine sand, firm, wet		
	-10.0					7.0 - 12.0' No Recovery		
	-11.0							
	-12.0	4	NA	2.0		12.0 - 14.0' PT: Peat; End of boring at 14' bgs	0	
	-13.0							
	-14.0							

PREPARED BY: EMJ
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-116
DATE BEGAN: 7/29/08
DATE FINISHED: 7/29/08
INSPECTOR: Brian Senna/Will Lang
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' TOPSOIL: Light brown topsoil	0	
	-1.0					0.5 - 1.5' FILL: Dark brown silty sand (fine); some gravel (fine-coarse) and glass; moist	0	
	-2.0					1.5 - 3.0' FILL: Brown sand (fine-medium); moist	0	
	-3.0					3.0 - 4.0' No recovery	0	
	-4.0	S-2	NA	2.5		4.0 - 5.0' FILL: brown sand (fine-medium); moist	0	
	-5.0					5.0 - 5.5' FILL: Red brown/ light brown sand (fine-medium); wet at 5.5'	0	
	-6.0					5.5 - 7.5' FILL: Light gray sand (fine-medium); wet	0	
	-7.0					7.5 - 8.0' No recovery	0	
	-8.0	S-3	NA	3.0		8.0 - 10.0' FILL: Light brown sand (fine); wet	0	
	-9.0						0	
	-10.0					10.0 - 10.8' FILL: Dark brown clayey silt (fine); some organic material, wet	0	
	-11.0					10.8 - 11.0' PT: Dark brown peat; moist	0	
	-12.0	S-4	NA	3.5		11.0 - 12.0' No recovery	0	
	-13.0					12.0 - 14.8' PT: Dark brown peat; moist	0	
	-14.0						0	124-SB-116_1416 collected from 14.5-15.0' bgs @ 14:45
	-15.0					14.8 - 15.5' SP: Light brown/red brown sand (fine); some organic material; trace silt; moist	0	124-SB-116DP_1416 collected from 14.5-15.0' bgs @ 14:50
	-16.0					15.5 - 16.0' No recovery; end of boring at 16.0'		

PREPARED BY: CH
CHECKED BY: MWV

Honeywell SA-6 South

LOCATION: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-117A
DATE BEGAN: 3/25/2011
DATE FINISHED: 3/25/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	NA	3.75		0.0 - 0.5' FILL: Dark grey fine to medium silty sand, some clinker; dense, wet	0	Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0					0.5 - 3.8' FILL: Reddish brown silt, some fine to medium gravel and brick, trace coal; dense, moist		
	2.0							
	3.0							Sample collected 124-SB-117A-0304 from 3.0-3.5' @ 10:15
	4.0	R-2	NA	3.5		3.8 - 4.0' No recovery		
						4.0 - 4.5' GW: Gravel	0	
	5.0					4.5 - 5.0' FILL: Greenish grey silt; soft, wet (COPR)		Sample collected 124-SB-117A-0405 from 4.5-5.0' @ 10:20
	6.0					5.0 - 6.5' FILL: Greyish brown fine to medium sand; loose, wet		Sample collected 124-SB-117A-0506 from 5.5-6.0' @ 10:25
	7.0					6.5 - 7.5' FILL: Reddish brown silt; stiff, wet		Sample collected 124-SB-117A-0608 from 7.0-7.5' @ 10:30
	8.0	R-3	NA	2.0		7.5 - 8.0' No recovery		
						8.0 - 9.0' FILL: Greyish brown fine silty sand	0	
	9.0					9.0 - 9.5' OL: Dark grey organic silt		
	10.0					9.5 - 10.0' PT: Peat; end of boring @ 10.0'		EOB at 10 ft bgs

PREPARED BY: MD
CHECKED BY: JB

Honeywell SA-6 South

LOCATION: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-121A
DATE BEGAN: 3/25/2011
DATE FINISHED: 3/25/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	NA	3.75		0.0 - 0.3' FILL: Orange red fine to coarse sand	0	Strong creosote odor
						0.3 - 3.3' FILL: Dark grey fine to coarse silty sand, some fine to medium gravel, trace coal and brick; dense, moist		Boring elevation = 10.1' approximately 0.5' higher than surrounding grade
	1.0							
	2.0							
	3.0					3.3 - 3.8' FILL: Reddish brown silt, gravel at bottom; stiff, moist		
	4.0	R-2	NA	3.5		3.8 - 4.0' No recovery	0	
						4.0 - 4.5' FILL: Dark grey fine sandy silt		
						4.5 - 5.0' FILL: Reddish brown silt; stiff, moist		Sample collected 124-SB-121A-0405 from 4.5-5.0' @ 10:35
	5.0					5.0 - 5.3' FILL: Greyish green silt (COPR); soft, moist		
						5.3 - 7.3' FILL: Brown fine to medium sand, trace fine gravel; loose, wet		Sample collected 124-SB-121A-0506 from 5.0-5.5' @ 10:40
	6.0							Rotten egg odor @ 7.0'
	7.0					7.3 - 7.5' FILL: Dark grey silt, soft; wet		Sample collected 124-SB-121A-0608 from 7.0-7.5' @ 10:45
						7.5 - 8.0' No recovery		
	8.0	R-3	NA	2.0		8.0 - 8.5' FILL: Brown sandy silt; loose, wet	0	
						8.5 - 9.5' OH: Brown clayey silt; soft, wet		
	9.0							
						9.5 - 10.0' PT: Peat; end of boring @ 10.0'		EOB at 10 ft bgs
	10.0							

PREPARED BY: MD
CHECKED BY: JB

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-122
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	1.0					0.5 - 3.0' FILL: Dark brown silty sand, gravel, shells, glass		
	2.0							
	3.0					3.0 - 3.5' FILL: Brown COPR		
	4.0	S-2	NA	3.0		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 7.0' FILL: Light green COPR		
	6.0							
	7.0					7.0 - 8.0' FILL: No recovery		
	8.0	S-3	NA	3.5		8.0 - 11.0' FILL: Light green COPR	0	
	9.0							
	10.0							
	11.0					11.0 - 11.3' OL: Black clayey silt		Sample collected 124-SB-122-1012 from 11.0-11.5' @ 8:35
						11.3 - 11.5' PT: Brown peat; moist		
	12.0	S-4	NA	1.0		11.5 - 12.0' No recovery	0	Sample collected 124-SB-122-1214 from 12.0-12.5' @ 8:40
	13.0					12.0 - 13.0' PT: Brown peat; moist		
	14.0					13.0 - 14.0' No recovery; end of boring at 14.0 ft. bgs.		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-123
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 6.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	1.0					0.5 - 3.0' FILL: Red brown silt, gravel, wood		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Red brown/light brown silt, fine sand, layers of gravel throughout; wet at 6.5' bgs.	0	
	5.0							
	6.0							
	7.0					7.0 - 8.0' FILL: No recovery		
	8.0	S-3	NA	4.0		8.0 - 10.0' FILL: Light brown silt; wet	0	
	9.0							
	10.0					10.0 - 12.0' FILL: Green COPR; wet		
	11.0							
	12.0	S-4	NA	1.5		12.0 - 13.5' PT: Brown peat; moist	0	Sample collected 124-SB-123-1214 from 12.5-13.0' @ 9:10
	13.0					13.5 - 14.0' No recovery; end of boring at 14.0 ft. bgs.		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-124
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 6.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.8' FILL: Brown silty sand, fine to coarse gravel	0	
	1.0							
	2.0					1.8 - 3.0' FILL: Light brown silt, gravel; moist		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Light brown silt, gravel; moist	0	
	5.0					5.0 - 6.0' FILL: Brown clayey silt; soft		
	6.0					6.0 - 6.3' FILL: White COPR; soft		
						6.3 - 7.0' FILL: Red brown/light brown fine to medium sand; wet at 6.5' bgs.		Sample collected 124-SB-124-0608 from 6.5-7.0' @ 9:25
	7.0					7.0 - 8.0' FILL: No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown/red brown clayey silt, lenses of fine to medium sand, shells; soft	0	Sample collected 124-SB-124-0810 from 8.5-9.0' @ 9:30
	9.0							
	10.0							Sample collected 124-SB-124-1012 from 10.5-11.0' @ 9:35
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	2.0		12.0 - 12.5' OL: Dark brown clayey silt, trace shells, heavy organics	0	Sample collected 124-SB-124-1214 from 12.0-12.5' @ 9:40
	13.0					12.5 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-125
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
	1.0					0.5 - 2.5' FILL: Dark brown silt, gravel, trace wood		
	2.0							
	3.0					2.5 - 3.0' FILL: Light brown fine to coarse sand, concrete, gravel		
	4.0	S-2	NA	2.5		3.0 - 4.0' No recovery	0	
	5.0					4.0 - 5.0' FILL: Black silty sand, wood; wet		
	6.0					5.0 - 6.5' FILL: Light brown silt, fine sand; saturated		
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 10.5' FILL: Light brown silt, fine sand; saturated	0	
	9.0							
	10.0					10.5 - 11.0' OL: Brown clayey silt, organics; soft		
	11.0					11.0 - 11.5' PT: Brown peat; moist		Sample collected 124-SB-125-1012 from 11.0-11.5' @ 11:55
	12.0	S-4	NA	2.0		11.5 - 12.0' No recovery	0	
	13.0					12.0 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.		Sample collected 124-SB-125-1214 from 12.0-12.5' @ 12:00
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-126
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt, gravel	0	
	1.0					0.8 - 1.3' FILL: Dark brown silty sand, brick		
	2.0					1.3 - 2.0' FILL: Concrete		
	3.0					2.0 - 3.0' FILL: Dark brown silty sand, gravel, coal, glass		
	4.0	S-2	NA	2.5		3.0 - 4.0' No recovery	0	
	5.0					4.0 - 5.5' FILL: Dark brown silty sand, gravel, coal, glass		
	6.0					5.5 - 6.5' FILL: Light brown silt, fine sand; wet		Sample collected 124-SB-126-0608 from 6.0-6.5' @ 12:15; DUP at 12:17
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 10.5' FILL: Light brown silt, fine to medium sand; wet	0	
	9.0							
	10.0					10.5 - 11.0' OL: Dark brown clayey silt, heavy organics		Sample collected 124-SB-126-1012 from 10.5-11.0' @ 12:20
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	2.0		12.0 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.	0	Sample collected 124-SB-126-1214 from 12.0-12.5' @ 12:25
	13.0							
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Site 124
PROJECT NO: 3480050143
BORING ID: 124-SB-127
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0							Begin sampling at 8.0' bgs.
	1.0							
	2.0							
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0	S-1	NA	3.5		8.0 - 9.5' FILL: Light brown clayey silt; soft; wet	0	Sample collected 124-SB-127-0810 from 8.0-8.5' @ 15:05
	9.0							
	10.0					9.5 - 11.0' FILL: Red brown/light brown clayey silt		
	11.0					11.0 - 11.5' OL: Light brown/olive clayey silt, organics		Sample collected 124-SB-127-1012 from 11.0-11.5' @ 15:10
	12.0	S-2	NA	2.0		11.5 - 12.0' No recovery 12.0 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.	0	Sample collected 124-SB-127-1214 from 12.5-13.0' @ 15:15
	13.0							
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

LOCATION: Honeywell Site 124
PROJECT NO: 3480
BORING ID: 124-SB-128
DATE BEGAN: 3/21/11
DATE FINISHED: 3/21/11
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: 7730 DT
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA	NA		0.0 - 14.0' See Boring Log 124-SB-34 for Details		Sample collected 124-SB-128-1213 from 12.5-13.0 bgs at 14:35
	1.0							
	2.0							
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0							
	9.0							
	10.0							
	11.0							
	12.0							
	13.0							
	14.0							

PREPARED BY: KK
CHECKED BY: TG

Honeywell SA-6 South

LOCATION: Site 124 - Cordova Property
PROJECT NO: 3480050143
BORING ID: 124-SB-129
DATE BEGAN: 3/25/2011
DATE FINISHED: 3/25/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and concrete	0	Initial refusal @ 2.0'. Moved 1.0' south, north, and east but encountered refusal in all attempts. Moved boring location 10' north and advanced to completion depth.
	1.0					0.5 - 1.0' FILL: Reddish brown sandy silt, some brick and fine to medium gravel; very dense, dry		
	2.0					1.0 - 2.0' FILL: Dark brown silt, trace fine gravel; dense, dry		
	3.0					2.0 - 2.3' FILL: Concrete		
	4.0					2.3 - 3.0' FILL: Fine to coarse brown sand, some brick, sandstone, green silt in tip (possible COPR)		
	4.0	R-1	NA	2.0		3.0 - 4.0' No recovery	0	
	5.0					4.0 - 5.0' FILL: Fine to medium gravel, some fine to medium brown sand and brick; wet		
	6.0					5.0 - 6.0' FILL: Dark grey sandy silty, some clay; dense, wet		
	7.0					6.0 - 8.0' No recovery		
	8.0	R-3	NA	3.0		8.0 - 9.0' FILL: Brown fine to medium sand; loose, wet	0	
	9.0					9.0 - 9.8' FILL: Brown silt; soft, wet		
	10.0					9.8 - 10.0' FILL: Greenish grey silt; soft, wet (COPR)		Sample collected 124-SB-129-1012 from 10.5-11.0' @ 12:00
	11.0					10.0 - 10.5' FILL: Brown fine to coarse sand; loose, wet		
	12.0					10.5 - 11.0' OH: Brown silt; soft, wet		
						11.0 - 12.0' No recovery; end of boring @ 12.0'		

PREPARED BY: MD
CHECKED BY: JB

Honeywell Study Area - 6 South

LOCATION: Site 124, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 124-SB-130
DATE BEGAN: 11/3/2011
DATE FINISHED: 11/3/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0							
			2	2.0		8.0 - 9.0' FILL: COPR	N/A	Location HSA-1 on sampling table. Augered to 8 ft bgs before sampling.
			1					
	9.0		1			9.0 - 9.5' OH: Black silt, some clay, trace organics		
			1			9.5 - 11.5' PT: Dark brown peat		
	10.0		3	2.0			N/A	Collected 124-SB-130-1011 from 10.0-10.5 ft bgs @ 10:15
			4					
	11.0		4					
			8			11.5 - 12.0' SP: Dark brown fine to medium sand; wet, loose; end of boring @ 12.0' bgs		
	12.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 124, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 124-SB-131
DATE BEGAN: 11/3/2011
DATE FINISHED: 11/3/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0		3	2.0		8.0 - 9.8' FILL: Greenish grey COPR	N/A	Location HSA-2 on sampling table. Augered to 8 ft bgs before sampling.
			2					
	9.0		4					
			3					
	10.0		1	2.0		9.8 - 10.5' OH: Black silt, some clay and organic material; plastic, wet	N/A	
			1			10.5 - 14.0' PT: Dark brown peat; end of boring @ 14.0' bgs		
	11.0		1					Collected 124-SB-131-1112 from 11.0-11.5 ft bgs @ 11:05
			3					
	12.0		NR	2.0			N/A	Collected 124-SB-131-1213 from 12.0-12.5 ft bgs @ 11:10
			NR					
	13.0		NR					
			NR					
	14.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 124, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 124-SB-132
DATE BEGAN: 11/3/2011
DATE FINISHED: 11/3/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		1	2.0		10.0 - 10.8' FILL: COPR	N/A	Location HSA-3 on sampling table. Augered to 8 ft bgs and augered 2 additional ft through COPR before sampling.
			1					
						10.8 - 11.0' OH: Black silt, some clay		
	11.0		2			11.0 - 12.0' PT: Very dark brown peat		
			5					
	12.0		1	2.0		12.0 - 14.0' PT: Dark brown peat	N/A	Collected 124-SB-132-1213 from 12.0-12.5 ft bgs @ 12:20
			3					
	13.0		6					
			7					
	14.0		2	0.0		14.0 - 16.0' No recovery; wood in tip; end of boring @ 16.0' bgs	N/A	
			7					
	15.0		54					
			28					
	16.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 124, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 124-SB-133
DATE BEGAN: 11/3/2011
DATE FINISHED: 11/3/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		1	2.0		10.0 - 10.8' FILL: COPR	N/A	Location HSA-6 on sampling table. Augered to 8 ft bgs and augered 2 additional ft through COPR before sampling.
			1					
						10.8 - 11.0' OH: Black silt, some clay		
	11.0		2			11.0 - 12.0' PT: Dark brown peat		
			4					
	12.0		2	2.0		12.0 - 15.5' PT: Very dark brown peat	N/A	Collected 124-SB-133-1213 from 12.0-12.5 ft bgs @ 14:10
			2					
	13.0		3					
			4					
	14.0		2	2.0			N/A	
			6					
	15.0		17					
			11			15.5 - 17.0' SP: Grey fine to medium sand; loose, wet		Collected 124-SB-133-1416 from 15.5 - 16.0 ft bgs @ 14:15
	16.0		9	2.0			N/A	
			12					
	17.0		19			17.0 - 18.0' SW: Reddish brown fine to coarse sand; loose, wet; end of boring @ 18.0' bgs		Collected 124-SB-133-1618 from 17.0 - 17.5 ft bgs @ 14:20
			17					
	18.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 124, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 124-SB-134
DATE BEGAN: 11/3/2011
DATE FINISHED: 11/3/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		5	2.0		10.0 - 11.5' FILL: COPR	N/A	Location HSA-5 on sampling table. Augered to 8 ft bgs and augered 2 additional ft through COPR before sampling.
			13					
	11.0		16					
			16			11.5 - 11.8' OH: Black silt, some clay		
						11.8 - 12.0' PT: Brown peat		
	12.0		3	2.0		12.0 - 14.0' PT: Very dark brown peat; end of boring @ 14.0' bgs	N/A	Collected 124-SB-134-1213 from 12.0-12.5 ft bgs @ 15:30
			5					
	13.0		6					
			8					
	14.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 124-SB-135
DATE BEGAN: 11/11/2011
DATE FINISHED: 11/11/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		4	1.5		10.0 - 12.5' FILL: Grayish brown fine to medium sand, trace silt, some lenses of clayey silt from 11.0'; loose, wet	N/A	Location HSA-4 on sampling table. Augered to 10 ft bgs before sampling.
			2					
	11.0		4					
			7					
	12.0		3	2.0			N/A	
			3			12.5 - 14.0' PT: Very dark gray (5Y 3/1) peat from 12.5-12.7'; dark brown (10YR 3/3) peat from 12.7'; medium stiff, crumbly, moist; end of boring at 14'		Collected 124-SB-135-1213 from 12.5-13.0 ft bgs @ 8:45
	13.0		5					Collected 124-SB-135-1314 from 13.0-13.5 ft bgs @ 8:50
			8					
	14.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 124-SB-136
DATE BEGAN: 1/17/2012
DATE FINISHED: 1/17/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57, freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0	S-1	4	0.7		10.0 - 10.7' FILL: Grayish brown fine to medium sand, trace silt; loose, wet	N/A	Location HSA-8 on sampling table. Augered to 10 ft bgs before sampling.
			4			10.7 - 12.0' No recovery		
	-11.0		4					Note: Concrete was 4" thick and therewas a 14" void to the top of soil. Grade is top of concrete
			3					
	-12.0	S-2	3	2.0		12.0 - 12.3' FILL: Grayish brown fine to medium sand, trace silt; very loose, wet	N/A	Collected 124-SB-136-1213 from 12.5-13.0 ft bgs @ 10:40
			1			12.3 - 12.6' OH: Black (2.5Y 2.5/1) silt and clay, trace fine sand and organic material; yellow clay (COPR) mixed in from 12.3-12.4' bgs; soft, wet		
	-13.0		2					Collected 124-SB-136-1314 from 13.0-13.5 ft bgs @ 10:45 (HOLD)
			4			12.6 - 14.0' PT: Dark olive brown (2.5Y/ 3/3) peat, some clay; soft wet; end of boring @ 14.0' bgs		
	-14.0							

PREPARED BY: MD
CHECKED BY: JB

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 124-SB-137
DATE BEGAN: 1/17/2012
DATE FINISHED: 1/17/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57, freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-1	1 2 1 2	2.0		12.0 - 13.4' FILL: Yellow clay (COPR); soft, wet 13.4 - 13.8' OH: Black (2.5YR 2.5/1) silt, some clay, trace organic material; soft, wet 13.8 - 14.0' PT: Dark olive brown (2.5 YR 3/3) peat; end of boring @ 14.0' bgs	N/A	Location HSA-7 on sampling table. Augered to 12 ft bgs before sampling. Note: Concrete was 5" thick and there was a 12" void to the top of soil, grade is top of concrete (~2' higher than HSA-8) No sample taken
	-13.0							
	-14.0							

PREPARED BY: MD
CHECKED BY: JB

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 124-SB-138
DATE BEGAN: 1/17/2012
DATE FINISHED: 1/17/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57, freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0	S-1	1 1 2 3	2.0		10.0 - 10.5' FILL: Dark brown silt with gray and green COPR, trace fine sand and gravel; soft, wet 10.5 - 11.0' OH: Dark olive brown/black (2.5YR 2.5/1 to 3/3) silt, some clay, trace organic material, some COPR mixed in from 10.5-10.6'; soft, plastic 11.0 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; soft, moist; end of boring at 12.0'	N/A	Adjacent to 124-SB-131 (HSA-2). Augered to 10 ft bgs before sampling. 124-SB-138-1012 collected from 11.0-11.5' bgs @ 14:00
	-11.0							
	-12.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-601
DATE BEGAN: 07/22/2013
DATE FINISHED: 07/22/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Ed/Justin
NORTH: 684132.4781
EAST: 603197.9486

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2		0.0 - 1.0' FILL: Dark brown/black coarse SAND, fine to medium gravel, asphalt; loose; dry	0	Sample 124-SB-601-U1 from 1.1-3.5 ft bgs @ 1325
	1.0					1.0 - 2.0' FILL: Black fine to coarse SAND, fine to medium gravel, coal; medium dense; wet	0	
	2.0					2.0 - 4.0' No Recovery	0	
	3.0						0	
	4.0	S-2	NA	4		4.0 - 4.5' FILL: Black fine to coarse SAND, fine to medium gravel, coal; medium dense; wet	0	Sample 124-SB-601-U2 from 3.5-5.0 ft bgs @ 1335; EnCore taken from 124-SB-601-U2 @ 1335
	5.0					4.5 - 8.0' FILL: Gray fine SAND and fine gravel, trace silt, COPR; medium dense; moist	0	Sample 124-SB-601-GG2 from 5.0-7.1 ft bgs @ 1340
	6.0						0	Sample 124-SB-601-MM1 from 7.1-8.8 ft bgs @ 1345; EnCore taken from 124-SB-601-MM1 @ 1345
	7.0						0	
	8.0	S-3	NA	4		8.0 - 10.0' FILL: Gray fine SAND and fine gravel, trace silt, COPR; medium dense; moist	0	Sample 124-SB-601-MM2 from 8.8-10.4 ft bgs @ 1350
	9.0						0	
	10.0					10.0 - 12.0' FILL: Light brown fine SAND, silt; medium dense; moist	0	
	11.0						0	
	12.0							End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-602
DATE BEGAN: 07/22/2013
DATE FINISHED: 07/22/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: NR
DRILLER: Ed/Justin
NORTH: 684169.6050
EAST: 603159.6973

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' FILL: Dark brown / black coarse to fine SAND, medium to fine gravel, some coal, trace glass; loose; dry	0	
							0	
	1.0						0	Sample 124-SB-602-T1 from 1.1-3.5 ft bgs @ 1405
							0	
	2.0					2.0 - 3.5' FILL: Gray medium to fine SAND, fine gravel, COPR; medium dense; moist	0	
							0	
	3.0						0	
						3.5 - 4.0' FILL: Gray medium to fine SAND, trace silt; medium dense; moist	0	Sample 124-SB-602-T2 from 3.5-5.0 ft bgs @ 1410; EnCore taken from 124-SB-602-T2 @ 1410
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Gray medium to fine SAND, silt, trace fine gravel; medium dense; moist	0	
							0	
	5.0						0	Sample 124-SB-602-GG1 from 5.0-7.0 ft bgs @ 1415; EnCore taken from 124-SB-602-GG1 @ 1415
							0	
	6.0						0	
							0	
	7.0						0	
							0	
	8.0							End of boring at 8 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-603
DATE BEGAN: 07/23/2013
DATE FINISHED: 07/23/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684221.4994
EAST: 603614.6301

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	2.5		4.0 - 6.5' FILL: Dark brown fine SAND, trace silt, fine gravel; medium dense; wet	0	
	5.0						0	Sample 124-SB-603-Z1 from 4.6-6.1 ft bgs @ 0815; EnCore taken from 124-SB-603-Z1 @ 0815
	6.0						0	Sample 124-SB-603-Z2 from 6.1-8.2 ft bgs @ 0820
	7.0					6.5 - 8.0' No Recovery	0	
	8.0	S-2	NA	3.0		8.0 - 11.0' FILL: Dark brown fine SAND, trace silt, fine gravel; medium dense; wet	0	Sample 124-SB-603-OO1 from 8.2-9.9 ft bgs @ 0825; EnCore taken from 124-SB-603-OO1 @ 0825
	9.0						0	
	10.0						0	Sample 124-SB-603-OO2 from 9.9-11.5 ft bgs @ 0830
	11.0					11.0 - 12.0' No Recovery	0	
	12.0						0	End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-604
DATE BEGAN: 07/22/2013
DATE FINISHED: 07/22/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Ed/Justin
NORTH: 684240.2014
EAST: 603093.3238

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' FILL: Black coarse to fine SAND, medium to fine gravel, brick; loose; dry	0	Sample 124-SB-604-O1 from 0.0-1.5 ft bgs @ 1430
	1.0					1.0 - 1.3' FILL: Wood	0	
						1.3 - 1.5' FILL: Orange/red coarse to fine SAND; medium dense; dry	0	Sample 124-SB-604-O2 from 1.5-3.9 ft bgs @ 1435; EnCore taken from 124-SB-604-O2 @ 1435
	2.0					1.5 - 4.0' FILL: Grayish-green coarse to fine SAND, fine gravel; medium dense; moist	0	
	3.0						0	
							0	
	4.0	S-2	NA	4.0		4.0 - 6.0' FILL: Dark brown coarse to fine SAND, trace fine gravel; medium dense; moist	0	Sample 124-SB-604-Y1 from 3.9-5.4 ft bgs @ 1445
	5.0						0	
							0	Sample 124-SB-604-Y2 from 5.4-7.5 ft bgs @ 1450; EnCore taken from 124-SB-604-Y2 @ 1450
	6.0					6.0 - 8.0' FILL: Grayish-green fine SAND and SILT, trace fine gravel; medium dense; moist	0	
	7.0						0	
							0	Sample 124-SB-604-NN1 from 7.5-9.2 ft bgs @ 1455; EnCore taken from 124-SB-604-NN1 @ 1455
	8.0	S-3	NA	4.0		8.0 - 10.5' FILL: Gray medium to fine SAND and SILT, trace fine gravel; medium dense; moist	0	
	9.0						0	
							0	Sample 124-SB-604-NN2 from 9.2-10.8 ft bgs @ 1500
	10.0						0	
						10.5 - 11.5' FILL: Light brown SILT; medium dense; moist	0	
	11.0						0	
						11.5 - 12.0' PEAT	0	
	12.0							End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-605
DATE BEGAN: 07/23/2013
DATE FINISHED: 07/23/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684276.9738
EAST: 602997.1604

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	3.0		4.0 - 5.5' FILL: Dark brown fine SAND, silt; loose; wet	0	Sample 124-SB-605-AA1 from 4.0-5.5 ft bgs @ 0900
	5.0						0	
	6.0					5.5 - 7.0' FILL: Dark brown medium to fine SAND, fine gravel; medium dense; moist	0	Sample 124-SB-605-AA2 from 5.5-7.6 ft bgs @ 0905; EnCore taken from 124-SB-605-AA2 @ 0905
	7.0					7.0 - 8.0' No Recovery	0	
	8.0	S-2	NA	4.0		8.0 - 10.0' FILL: Dark brown medium to fine SAND, fine gravel; loose; wet	0	Sample 124-SB-605-PP1 from 7.6-9.3 ft bgs @ 0910
	9.0						0	
	10.0					10.0 - 11.5' FILL: Gray fine SAND, fine gravel, silt; dense; moist	0	Sample 124-SB-605-PP2 from 9.3-10.9 ft bgs @ 0915; EnCore taken from 124-SB-605-PP2 @ 0915
	11.0					11.5 - 11.8' FILL: Light brown SILT; dense, moist	0	
	12.0					11.8 - 12.0' PEAT	0	End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: **124-SB-607**
DATE BEGAN: 07/23/2013
DATE FINISHED: 07/23/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684348.9175
EAST: 602853.9690

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	3.0		4.0 - 5.5' FILL: Dark brown coarse to fine SAND, medium to fine gravel; loose; wet	0 0 0	
	5.0							
	6.0					5.5 - 7.0' FILL: Dark brown medium to fine SAND, trace fine gravel; loose; wet	2.3 6.5 5.1	Sample 124-SB-607-EE1 from 5.6-7.7 ft bgs @ 1000; EnCore taken from 124-SB-607-EE1 @ 1000
	7.0					7.0 - 8.0' No Recovery	2.1	
	8.0	S-2	NA	4.0		8.0 - 9.0' FILL: Gray coarse to fine SAND, medium to fine gravel; loose; wet	3.7	
	9.0					9.0 - 10.5' FILL: Reddish-brown medium to fine SAND; loose; wet	0 0 0	
	10.0							
	11.0					10.5 - 11.5' FILL: Reddish-brown clayey silt; medium dense; moist	0 0	Sample 124-SB-607-EE2 from 11.0-12.3 ft bgs @ 1005
	12.0					11.5 - 12.0' FILL: Reddish-brown coarse to fine SAND; loose; moist	0	End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-608
DATE BEGAN: 07/23/2013
DATE FINISHED: 07/23/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684365.2500
EAST: 602952.3800

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.5' FILL: Dark brown/black coarse to fine SAND, medium to fine gravel; loose; moist	0 0 0	
	1.0							
	2.0					1.5 - 3.0' FILL: Reddish-brown fine SAND, some medium to fine gravel, trace coal; medium dense; moist	0 0 0	Sample 124-SB-608-V1 from 1.5-3.9 ft bgs @ 0930; EnCore taken from 124-SB-608-V1 @0930
	3.0					3.0 - 4.0' No Recovery	0 0	
	4.0	S-2	NA	4.0		4.0 - 5.5' FILL: Reddish-brown fine SAND, some medium to fine gravel, trace coal; medium dense; moist	0 0 0	Sample 124-SB-608-V2 from 3.9-5.4 ft bgs @ 0935
	5.0							
	6.0					5.5 - 6.5' FILL: Reddish-brown coarse to fine SAND, fine gravel; loose; moist	0 0	Sample 124-SB-608-FF1 from 5.4-7.5 ft bgs @ 0940; EnCore taken from 124-SB-608-FF1 @ 0940
	7.0					6.5 - 8.0' FILL: Grayish-green fine SAND, silt, trace fine gravel; medium dense; moist	0 0 0	Sample 124-SB-608-FF2 from 7.5-9.2 ft bgs @ 0945
	8.0	S-3	NA	4.0		8.0 - 10.0' FILL: Reddish-brown coarse to fine SAND, medium to fine gravel; loose; wet	0 0 0 0	Sample 124-SB-608-TT1 from 9.2-10.8 ft bgs @ 0950
	9.0							
	10.0					10.0 - 11.0' FILL: Reddish-brown coarse to fine SAND, fine gravel; loose; wet	0 0	Sample 124-SB-608-TT2 from 10.8-11.7 ft bgs @ 0955; EnCore taken from 124-SB-608-TT2 @ 0955
	11.0					11.0 - 12.0' FILL: Brown fine SAND, silt, possible COPR; medium dense; moist	0 0	
	12.0							End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-609
DATE BEGAN: 07/26/2013
DATE FINISHED: 07/26/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684386.5620
EAST: 602871.9181

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	4.0		4.0 - 5.0' FILL: Brown coarse to fine SAND, medium to fine gravel; loose; wet	0 0	Sample 124-SB-609-BB1 from 4.2-5.7 ft bgs @ 0940
	5.0					5.0 - 7.0' FILL: Reddish-brown fine SAND and SILT; dense; moist	0 0 0 0	Sample 124-SB-609-BB2 from 5.7-7.8 ft bgs @ 0945; EnCore taken from 124-SB-609-BB2 @ 0945
	6.0							
	7.0					7.0 - 7.3' FILL: Light brown SILT, trace wood; medium dense; moist	0	
	8.0	S-2	NA	4.0		7.3 - 9.5' FILL: Dark brown coarse to fine SAND; medium dense, moist	0 0 0 0	Sample 124-SB-609-QQ1 from 7.8-9.5 ft bgs @ 0950
	9.0							
	10.0					9.5 - 11.0' FILL: Dark brown SILT; medium dense; wet	0 0 0	Sample 124-SB-609-QQ2 from 9.5-11.1 ft bgs @ 0955; EnCore taken from 124-SB-609-QQ2 @ 0955
	11.0					11.0 - 12.0' FILL: Pale yellow SILT; medium dense; moist	0 0	Sample 124-SB-609-UU1 from 11.1-12.4 ft bgs @ 1000
	12.0							

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-610
DATE BEGAN: 07/26/2013
DATE FINISHED: 07/26/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684426.9410
EAST: 602853.0657

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	2.0		4.0 - 5.0' FILL: Dark brown / black coarse to fine SAND, medium to fine gravel; loose; wet	0	
	5.0					5.0 - 6.0' FILL: Reddish-brown fine SAND, some fine gravel, trace silt; medium dense; wet	0 0 0	Sample 124-SB-610-CC1 from 5.5-7.0 ft bgs @ 0905
	6.0					6.0 - 8.0' No Recovery	0	
	7.0							Sample 124-SB-610-CC2 from 7.0-9.1 ft bgs @ 0910; EnCore taken from 124-SB-610-CC2 @ 0910
	8.0							

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-610
DATE BEGAN: 07/26/2013
DATE FINISHED: 07/26/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684426.9410
EAST: 602853.0657

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-2	NA	3.75		8.0 - 8.8' FILL: Light brown fine SAND, silt, fine gravel; loose; wet	0	
							0.3	
	9.0					8.8 - 9.8' FILL: Reddish-brown coarse to fine SAND; loose; wet	0.7	Sample 124-SB-610-RR1 from 9.1-10.8 ft bgs @ 0915
	10.0					9.8 - 11.8' FILL: Dark brown fine SAND, silt; medium dense; wet	1.0	
							1.1	
	11.0						0.7	Sample 124-SB-610-RR2 from 10.8-12.4 ft bgs @ 0920; EnCore taken from 124-SB-610-RR2 @ 0920
						11.8 - 12.0' No Recovery	1.3	
	12.0	S-3	NA	4.0		12.0 - 13.0' FILL: Dark brown medium to fine SAND, fine gravel; loose; wet		Sample 124-SB-610-UU2 from 12.4-13.7 ft bgs @ 0925; EnCore taken from 124-SB-610-UU2 @ 0925
	13.0					13.0 - 15.8' FILL: Dark brown medium to fine SAND, medium to fine gravel; loose; wet		
	14.0							
	15.0							
						15.8 - 16.0' PEAT		End of boring at 16 ft bgs
	16.0							

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-611
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684464.8214
EAST: 602834.6079

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		PID not working
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	2.5		4.0 - 4.3' FILL: Black SILT, fine sand; loose; dry		
						4.3 - 6.5' FILL: Reddish-brown SILT, some medium gravel, trace coal; medium dense; moist		
	5.0							Sample 124-SB-611-DD1 from 5.2-6.7 ft bgs @ 1400
	6.0							
						6.5 - 8.0' No Recovery		Sample 124-SB-611-DD2 from 6.7-8.8 ft bgs @ 1405; EnCore taken from 124-SB-611-DD2 at 1405
	7.0							
	8.0	S-2	NA	4.0		8.0 - 8.5' FILL: Reddish-brown SILT, some		

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 124
PROJECT NO: 3480130354
BORING ID: 124-SB-611
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684464.8214
EAST: 602834.6079

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-2	NA	4.0		medium gravel, trace coal; medium dense; moist		
	9.0					8.5 - 11.0' FILL: Dark brown medium to fine SAND, trace fine gravel; loose; wet		Sample 124-SB-611-SS1 from 8.8-10.5 ft bgs @ 1410
	10.0							
	11.0					11.0 - 11.5' FILL: Dark brown SILT; medium dense; wet		Sample 124-SB-611-SS2 from 10.5-12.1 ft bgs @ 1415; EnCore take from 124-SB-611-SS2 at 1415
						11.5 - 12.0' FILL: Yellow/brown SILT, possible COPR; medium dense; moist		
	12.0	S-3	NA			12.0 - 13.8' FILL: Dark brown/yellow SILT, possible COPR; medium dense; wet		Sample 124-SB-611-VV1 from 12.1-13.4 ft bgs @ 1420
	13.0							
						13.8 - 14.0' PEAT		End of boring at 14 ft bgs
	14.0							

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 125-MW-02
DATE BEGAN: 2-19-16
DATE FINISHED: 2-19-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14' bgs
GW DEPTH: 4' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	6	2.0		10.0 - 13.4' SW: Gray fine to coarse SAND; medium dense, wet	NM	Augered to 10' bgs Starting elevation 8.5' GW elevation 4.5'
			9					
	11.0		6					
			10					
	12.0	SS2	13	2.0				
			10					
	13.0		9					
			12			13.4 - 13.5' OL: Dark gray SILT with organic fibers 13.5 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 125-MW-03
DATE BEGAN: 2-11-16
DATE FINISHED: 2-11-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 10' bgs
GW DEPTH: 2' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	24	1.5		8.0 - 9.4' SW: Gray fine to coarse SAND, fine gravel; medium dense, wet	NM	Augered to 8' bgs Starting elevation 7.5'
			41					
	9.0		25			9.4 - 9.5' OL: Dark gray SILT with organics		
			6			9.5 - 10.0' No recovery. End of boring at 10.0' bgs.		Meadow mat expected at -2 elevation (9.5' bgs)
	10.0							

PREPARED BY: CR
CHECKED BY: NW

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-15
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Shaming
NORTH: 684456.94
EAST: 602620.14

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' ASPHALT	2.0	
						0.3 - 1.5' CONCRETE	0	
	-1.0						0	
						1.5 - 2.8' FILL: Reddish brown silty sand, some fine to medium gravel, moist	0	Sample 125-PT-15_0002 collected at 9:03 from 1.5 - 2.0 ft bgs
	-2.0						0	
						2.8 - 3.3' FILL: Black fine to medium sand, some silt, some fine to medium gravel	0	
	-3.0						0.3	Sample 125-PT-15_0204 collected at 9:07 from 2.75 - 3.25 ft bgs
						3.3 - 4.0' No Recovery		
▽	-4.0	S-2	NA	0.75		4.0 - 4.8' FILL: Black fine to medium sand, some silt, some fine to medium gravel, wet	0	Sample 125-PT-15_0406 collected at 9:09 from 4.0 - 4.5 ft bgs
							0	
	-5.0					4.8 - 8.0' No Recovery		
	-6.0							
	-7.0							
	-8.0	S-3	NA	3.5		8.0 - 11.0' FILL: Brown to reddish brown fine to coarse sand, some fine gravel, trace silt, wet	0	Sample 125-PT-15_0810 collected at 9:14 from 8.0 - 8.5 ft bgs
							0	
	-9.0						0	
							0	
	-10.0						0	
							0	
	-11.0					11.0 - 11.5' FILL: Brown silty fine sand, definite Peat in tip, approx. 3", silt and clay, organic material, wet	0	Sample 125-PT-15_1012 collected at 9:16 from 11.0 - 11.5 ft bgs
	-12.0						0	End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-16
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Shaming
NORTH: 684503.33
EAST: 602660.80

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.5' CONCRETE	0	
	-1.0						1.2	
						1.5 - 3.3' FILL: Dark brown to black fine to coarse sand, some fine to medium gravel, some silt, brick from 1.75 - 2.0 ft bgs, wood at bottom	0	Sample 125-PT-16_0002 collected at 9:24 from 1.5 - 2.0 ft bgs
	-2.0						0	
							0	
	-3.0						0	Sample 125-PT-16_0204 collected at 9:26 from 2.75 - 3.25 ft bgs
						3.3 - 4.0' No Recovery		
	-4.0	S-2	NA	2.0		4.0 - 6.0' FILL: Dark brown to black fine to coarse sand, some fine to medium gravel, some silt, 2" lens of grayish sand and silt at 4.5 ft bgs with wood chips, wet	0	
							0	Sample 125-PT-16_0406 collected at 9:28 from 4.5 - 5.0 ft bgs
	-5.0						0	
							0	
	-6.0					6.0 - 8.0' No Recovery	0	
	-7.0							
	-8.0	S-3	NA	3.5		8.0 - 9.8' FILL: Dark brown to black fine to coarse sand, some fine to medium gravel, som silt loose, soft, wet	0	
							0	Sample 125-PT-16_0810 collected at 9:33 from 8.5 - 9.0 ft bgs
	-9.0						0	
							0	
	-10.0					9.8 - 11.5' FILL: Reddish brown fine to coarse sand, some silt, gets siltier with depth, trace organic material at bottom, wet	0	
							0	
	-11.0						0	Sample 125-PT-16_1012 collected at 9:35 from 11.0 - 11.5 ft bgs
						11.5 - 12.0' No Recovery	0	
	-12.0	S-4	NA	2.0		12.0 - 14.0' PT: Greenish black (GLEY 1 2.5/10Y) silt and clay, some sand, organic material, wet		
	-13.0							
	-14.0							End of boring at 14.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-17
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Shaming
NORTH: 684543.453
EAST: 602699.13

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.5' CONCRETE	0	
	-1.0						0	
						1.5 - 3.0' FILL: Dark brown to black fine to coarse sand, some fine to coarse gravel, trace silt, trace pieces of brick	0	Sample 125-PT-17_0002 collected at 10:01 from 1.5 - 2.0 ft bgs
	-2.0						0	
							0	Sample 125-PT-17_0204 collected at 10:03 from 2.5 - 3.0 ft bgs
	-3.0					3.0 - 4.0' FILL: Pieces of brick	0	
	-4.0	S-2	NA	1.75		4.0 - 5.8' FILL: Dark brown fine to coarse gravel, some fine to coarse sand, trace silt, trace organic material, wet, pieces of brick from 5.25 - 5.75 ft bgs	0	Sample 125-PT-17_0406 collected at 10:07 from 4.0 - 4.5 ft bgs
							0	
	-5.0						0	
							0	
	-6.0					5.8 - 8.0' No Recovery		
	-7.0							
	-8.0	S-3	NA	3.75		8.0 - 9.0' FILL: Dark brown fine to coarse gravel, some fine to coarse sand, trace silt, trace organic material, wet	0	
							0	
	-9.0					9.0 - 10.3' FILL: Brown to reddish brown fine to coarse sand, some silt, trace fine gravel, wet	0	Sample 125-PT-17_0810 collected at 10:20 from 9.0 - 9.5 ft bgs
							0	
	-10.0					10.3 - 11.8' FILL: Brown to reddish brown sandy silt, COPR material in tip, pasty, green, wet	0	
	-11.0						0	Sample 125-PT-17_1012 collected at 10:22 from 11.25 - 11.75 ft bgs
						11.8 - 12.0' No Recovery	0	
	-12.0	S-4	NA	4.0			0	
						12.0 - 13.5' FILL: Brown to reddish brown sandy silt, no COPR, more sand, firm, wet	0	
	-13.0						0	
						13.5 - 14.0' COPR: Greenish, pasty, silt and clay, wet	0	Sample 125-PT-17_1214 collected at 10:26 from 13.5 - 14.0 ft bgs
	-14.0						0	
						14.0 - 16.0' PT: Greenish black (GLEY 1 2.5/10Y) silt and clay, some sand, organic material, decaying organic odors, wet	0	
	-15.0						0	
							29	
	-16.0						57	End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-17R
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
	1.0					0.3 - 1.5' CONCRETE		
	2.0					1.5 - 3.0' FILL: Dark brown to black fine to coarse sand, some fine to coarse gravel, trace silt, trace pieces of brick		
	3.0					3.0 - 4.0' FILL: Pieces of brick		
	4.0	S-2	NA	1.75		4.0 - 5.8' FILL: Dark brown fine to coarse gravel, some fine to coarse sand, trace silt, trace organic material, wet, pieces of brick from 5.25 - 5.75 ft bgs	0	
	5.0							
	6.0					5.8 - 8.0' No Recovery		
	7.0							
	8.0	S-3	NA	3.75		8.0 - 9.0' FILL: Dark brown fine to coarse gravel, some fine to coarse sand, trace silt, trace organic material, wet	0	
	9.0					9.0 - 10.3' FILL: Brown to reddish brown fine to coarse sand, some silt, trace fine gravel, wet		
	10.0					10.3 - 11.8' FILL: Brown to reddish brown sandy silt, COPR material in tip, pasty, green, wet		
	11.0							
	12.0	S-4	NA	4.0		11.8 - 12.0' No Recovery	0	
	13.0					12.0 - 13.5' FILL: Brown to reddish brown sandy silt, no COPR, more sand, firm, wet		
	14.0					13.5 - 14.0' COPR: Greenish, pasty, silt and clay, wet		Sample 125-PT-17R-1416 from 14.0 - 14.5 ft bgs at 14:15
	15.0					14.0 - 16.0' PT: Brown peat; moist; end of boring at 16.0' bgs.		
	16.0							

PREPARED BY: BS
CHECKED BY: MS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-18
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Shaming
NORTH: 684592.97
EAST: 602747.03

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.5' FILL: Black fine to coarse sand, some fine to medium gravel, trace silt	0	Sample 125-PT-18_0002 collected at 10:47 from 1.0 - 1.5 ft bgs
	-1.0						0	
						1.5 - 2.0' FILL: Pieces of concrete	0	Sample 125-PT-18_0204 collected at 10:49 from 2.0 - 2.5 ft bgs
	-2.0						0	
						2.0 - 2.5' COPR: Tan to greenish silt and clay, some fine to coarse sand, dry	0	
	-3.0						0	
						2.5 - 3.0' FILL: Dark brown fine to coarse sand, some fine to medium gravel, some silt		
	-4.0	S-2	NA	3.5		3.0 - 4.0' FILL: Pieces of brick	0	Sample 125-PT-18_0406 collected at 10:55 from 4.0 - 4.5 ft bgs
							0	
	-5.0					4.0 - 6.0' FILL: Dark brown to black fine to coarse sand and fine to coarse gravel, pieces of brick, trace silt, organic material, wet	0	
							0	
	-6.0						0	
						6.0 - 7.5' COPR: Tan to pale green, pasty, silt and clay, wet	0	Sample 125-PT-18_0608 collected at 10:57 from 6.5 - 7.0 ft bgs
	-7.0						0	
						7.5 - 8.0' No Recovery	0	
	-8.0	S-3	NA	NR		8.0 - 12.0' No Recovery: Small amount of possible COPR in tip	0	Not enough COPR to sample
	-9.0							
	-10.0							
	-11.0							
	-12.0	S-4	NA	2.0		12.0 - 14.0' PT: Greenish black (GLEY 1 2.5/10Y) silt and sand, organic material, decaying organic odors, wet	0	
							0	
	-13.0						0	
							0	
	-14.0						0	
	-15.0							
	-16.0							End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-19
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Shaming
NORTH: 684641.18
EAST: 602793.35

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.8' FILL: Black fine to coarse sand and fine to coarse gravel, pieces of concrete	0	
	-1.0						0	Sample 125-PT-19_0002 collected at 11:34 from 1.0 - 1.5 ft bgs
							0	
	-2.0					1.8 - 2.3' FILL: Pieces of brick	0	
						2.3 - 2.6' FILL: Reddish brown fine to coarse sand, some silt, moist, organic material	0	Sample 125-PT-19_0204 collected at 11:36 from 2.5 - 3.0 ft bgs
	-3.0					2.6 - 3.2' FILL: Dark brown to black fine to coarse sand and silt, moist, organic material	0	
						3.2 - 3.8' FILL: Pieces of brick	0	
						3.8 - 4.0' No Recovery		
	-4.0	S-2	NA	2.75		4.0 - 6.0' FILL: Dark brown to black fine to coarse sand, some fine to coarse gravel, trace silt, pices of brick, organic material and wood chips, wet	0	Sample 125-PT-19_0406 collected at 11:38 from 4.0 - 4.5 ft bgs
							0	
	-5.0						0	
							0	
	-6.0					6.0 - 6.5' COPR: Tan to pale yellow, pasty, silt and clay, wet	0	Sample 125-PT-19_0608 collected at 11:41 from 6.0 - 6.5 ft bgs
						6.5 - 6.8' FILL: Dark brown silty fine sand, wet	0	
	-7.0					6.8 - 8.0' No Recovery		
	-8.0							

PREPARED BY: FP
CHECKED BY: AGS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-19
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Shaming
NORTH: 684641.18
EAST: 602793.35

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-8.0	S-3	NA	4.0		8.0 - 9.8' FILL: Dark brown silt and fine to coarse sand, wet	0	
							0	Sample 125-PT-19_0810 collected at 11:48 from 8.5 - 9.0 ft bgs
	-9.0						0	
							0	
	-10.0					9.8 - 10.3' FILL: Dark brown to reddish brown silty sand, very soft, wet	0	
						10.3 - 12.0' COPR: Tan to pale green, pasty, silt and clay, wet	0	Sample 125-PT-19_1012 collected at 11:50 from 10.5 - 11.0 ft bgs
	-11.0						0	
							0	
	-12.0	S-4	NA	3.5		12.0 - 15.5' PT: Greenish black (GLEY1 2.5/10Y) silt and clay, organic material, wet	0	
							0	
	-13.0						0	
							0	
	-14.0						0	
							0	
	-15.0						0	
							0	
	-16.0							End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-20
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 15 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Ed Shaming
NORTH: 684431.48
EAST: 602654.21

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT	0	
						0.3 - 2.0' FILL: Black fine to coarse sand and fine to coarse gravel, some pieces of concrete	0	
	-1.0						0	Sample 125-PT-20_0002 collected at 13:14 from 1.0 - 1.5 ft bgs
							0	
	-2.0					2.0 - 3.5' FILL: Reddish brown fine to coarse sand, some silt, some fine to medium gravel, very tightly packed, hard	0	
							0	
	-3.0						0	Sample 125-PT-20_0204 collected at 13:16 from 3.0 - 3.5 ft bgs
						3.5 - 4.0' No Recovery	47	
	-4.0	S-2	NA	3.5		4.0 - 5.0' FILL: Brown to gray fine to medium sand, some fine to medium gravel, trace silt	0	
							0	
	-5.0					5.0 - 6.0' FILL: Reddish brown fine to medium sand, some fine to medium gravel, some silt, some organic material, wet at 5.5 ft bgs	0	
▽							0	Sample 125-PT-20_0406 collected at 13:22 from 5.5 - 6.0 ft bgs
	-6.0						2.5	
						6.0 - 7.5' FILL: Reddish brown fine to coarse sand, some fine gravel, trace silt, some organic material, wet	0	
	-7.0						0	Sample 125-PT-20_0608 collected at 13:24 from 7.0 - 7.5 ft bgs
						7.5 - 8.0' No Recovery	0	
	-8.0	S-3	NA	4.0		8.0 - 10.5' FILL: Reddish brown fine to coarse sand, some fine gravel, trace silt, some organic material, wet	0	
							0	
	-9.0						0	
							0	Sample 125-PT-20_0810 collected at 13:28 from 9.5 - 10.0 ft bgs
	-10.0						0	
						10.5 - 11.3' FILL: Dark brown silty fine sand, very soft, wet	0	
	-11.0						0	
						11.3 - 12.0' FILL: Reddish brown fine to coarse sand, some fine gravel, some silt, wet	0	Sample 125-PT-20_1012 collected at 13:29 from 11.5 - 12.0 ft bgs
	-12.0	S-4	NA	3.0			0	
						12.0 - 13.0' FILL: Same as above, reddish brown fine to coarse sand, some fine gravel, some silt, wet	0	Sample 125-PT-20_1214 collected at 13:41 from 12.5 - 13.0 ft bgs
	-13.0						0	
						13.0 - 15.0' PT: Greenish black (GLEY1 2.5/10Y) silt and clay, organic material, wet	0	
	-14.0						0	
							0	
	-15.0							End of boring at 15.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-21
DATE BEGAN: 4/16/08
DATE FINISHED: 4/16/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Shaming
NORTH: 684473.11
EAST: 602697.71

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.3' CONCRETE	0	
	-1.0					1.3 - 2.0' FILL: Black fine to coarse sand, some fine to coarse gravel, trace silt	0	Sample 125-PT-21_0002 collected at 13:49 from 1.5 - 2.0 ft bgs
	-2.0					2.0 - 4.0' FILL: Reddish brown to red fine to medium sand, some fine gravel, some silt, moist, some mottling	0	
	-3.0						0	Sample 125-PT-21_0204 collected at 13:51 from 3.0 - 3.5 ft bgs
	-4.0	S-2	NA	2.5		4.0 - 6.5' FILL: Same as above, 1" lens of white, pasty COPR at 6.0 ft bgs, wet, trace organic material	0	
	-5.0						0	Sample 125-PT-21_0406 collected at 14:09 from 4.5 - 5.0 ft bgs
	-6.0						0	Sample 125-PT-21_0608 collected at 14:11 from 6.0 - 6.5 ft bgs
	-7.0					6.5 - 8.0' No Recovery	0	
	-8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Reddish brown fine to coarse sand, some silt, trace fine gravel, wet	0	
	-9.0						0	Sample 125-PT-21_0810 collected at 14:14 from 9.0 - 9.5 ft bgs
	-10.0						0	
	-11.0						0	
	-12.0	S-4	NA	3.5		12.0 - 15.5' PT: Greenish black (GLEY 1 2.5/10Y), silt and clay, organic material, wet	0	Sample 125-PT-21_1012 collected at 14:16 from 11.5 - 12.0 ft bgs
	-13.0						0	
	-14.0						0	
	-15.0						0	
	-16.0						0	End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-22
DATE BEGAN: 4/17/08
DATE FINISHED: 4/17/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5.25 ft bgs
DRILLER: Ed Shaming
NORTH: 684513.18
EAST: 602735.72

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.5' CONCRETE	0	
	-1.0					1.5 - 2.0' FILL: Dark brown to brown fine to cooarse sand, some fine to medium gravel, trace silt	0	Sample 125-PT-22_0002 collected at 7:55 from 1.5 - 2.0 ft bgs
	-2.0					2.0 - 4.0' FILL: Reddish brown fine to medium sand and silt, some fine to medium gravel, moist at approx. 3.0 ft bgs	0	
	-3.0						0	Sample 125-PT-22_0204 collected at 7:57 from 3.5 - 4.0 ft bgs
	-4.0	S-2	NA	2.75		4.0 - 4.5' FILL: Same as above	0	
	-5.0					4.5 - 5.3' FILL: Brown to gray to reddish brown fine to medium sand and silt, some fine to medium gravel	0	Sample 125-PT-22_0406 collected at 7:59 from 5.0 - 5.5 ft bgs
	-6.0					5.3 - 6.8' FILL: Reddish brown fine to medium sand and silt, some fine gravel, trace clay, wet	0	Sample 125-PT-22_0608 collected at 8:01 from 6.0 - 6.5 ft bgs
	-7.0					6.8 - 8.0' No Recovery		
	-8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Reddish brown fine to medium sand and silt, some fine gravel, tight, drier, trace organic material, some mottling	0	Sample 125-PT-22_0810 collected at 8:04 from 8.5 - 9.0 ft bgs
	-9.0					9.0 - 10.5' FILL: Brown fine to coarse sand, trace silt, trace fine gravel, wet	0	
	-10.0					10.5 - 11.8' FILL: Dark brown silty fine sand, very soft, wet	0	
	-11.0					11.8 - 12.0' COPR: Gray to tan, pasty, silty and clay, wet	0	Sample 125-PT-22_1012 collected at 8:06 from 11.5 - 12.0 ft bgs
	-12.0	S-4	NA	4.0		12.0 - 13.8' FILL: Reddish brown to brown fine to medium sand and silt, some clay, some fine gravel, wet	0	
	-13.0					13.8 - 14.0' COPR: Tan to green, pasty, silt and clay, wet	0.8	Sample 125-PT-22_1214 collected at 8:14 from 13.5 - 14.0 ft bgs
	-14.0					14.0 - 16.0' PT: Greenish black (GLEY 1 2.5/10Y) silt and clay, organic material, some wood, wet	0	
	-15.0						0	
	-16.0						0	End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-23
DATE BEGAN: 4/17/08
DATE FINISHED: 4/17/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5.3 ft bgs
DRILLER: Ed Shaming
NORTH: 684562.63
EAST: 602783.44

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.5' CONCRETE	0	
	-1.0						0	
						1.5 - 4.0' FILL: Brown to reddish brown fine to medium sand, some silt, some fine to medium gravel, moist from 3.0 ft bgs, some mottling	0	Sample 125-PT-23_0002 collected at 8:26 from 1.5 - 2.0 ft bgs
	-2.0						0	
							0	Sample 125-PT-23_0204 collected at 8:28 from 3.5 - 4.0 ft bgs
	-3.0						0	
							0	
	-4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Brown fine to coarse sand, some silt, some fine to medium gravel, trace pieces of brick	0	Hit wood obstruction (possibly a piling) at 5.0 ft bgs, had creosote odors, will step out 5 ft to the west
							0	
▽	-5.0					5.0 - 5.3' CONCRETE: Pieces of concrete	0	Sample 125-PT-23_0406 collected at 8:43 from 4.5 - 5.0 ft bgs
						5.3 - 6.3' FILL: Brown silty fine sand, trace fine gravel, trace organic material, wet	0	
	-6.0						0	
						6.3 - 7.0' COPR: Tan to pale yellow to bright green, pasty, silt and clay, wet	0	Sample 125-PT-23_0608 collected at 8:45 from 6.5 - 7.0 ft bgs
	-7.0						0	
						7.0 - 8.0' No Recovery		
	-8.0	S-3	NA	3.5			0	
						8.0 - 9.0' FILL: Brown fine to medium sand, some silt, some fine gravel, gray lens from 8.5 - 8.7 ft bgs, wet	0	
	-9.0						0	Sample 125-PT-23_0810 collected at 8:53 from 9.0 - 9.5 ft bgs
						9.0 - 9.8' FILL: Brown fine to coarse sand, some fine gravel, trace silt, wet	0	
	-10.0						0	
						9.8 - 10.8' FILL: Dark brown fine to medium sand and silt, wet	0	
	-11.0						0	Sample 125-PT-23_1012 collected at 8:55 from 11.0 - 11.5 ft bgs
						10.8 - 11.5' COPR: Pale yellow to tan to white, pasty, silt and clay, wet	0	
	-12.0	S-4	NA	4.0			0	
						11.5 - 12.0' No Recovery	0	
	-13.0						0	
						12.0 - 16.0' PT: Greenish black (GLEY 1 2.5/10Y) silty and clay, organic material, wet	0	
	-14.0						0	
							0	
	-15.0						0	
							0	
	-16.0							End of boring at 16.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-PT-24
DATE BEGAN: 4/17/08
DATE FINISHED: 4/17/08
INSPECTOR: M. Daly / F. Petrino
DRILLING CO: B&B Drilling
DRILLING METHOD: Geoprobe
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Shaming
NORTH: 684611.02
EAST: 602829.94

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.3' CONCRETE	0	
	-1.0						0	Sample 125-PT-24_0002 collected at 10:03 from 1.5 - 2.0 ft bgs
						1.3 - 2.0' FILL: Gray to black fine to coarse sand, some fine to coarse gravel, trace silt	0	
	-2.0					2.0 - 2.6' COPR: Pale yellow to pale green sand and silt, very dry	0	Sample 125-PT-24_0204 collected at 10:05 from 2.0 - 2.5 ft bgs
							0	
	-3.0					2.6 - 4.0' FILL: Reddish brown to brown fine to coarse sand, some fine to medium gravel, some silt, wood chips at bottom, moist at 3.0 ft bgs	0	
							0	
	-4.0	S-2	NA	3.0		4.0 - 5.3' FILL: Brown to black fine to coarse gravel and wood chips, some fine to coarse sand, trace silt, wet	0	
							0	Sample 125-PT-24_0406 collected at 10:08 from 4.5 - 5.0 ft bgs
	-5.0						0	
						5.3 - 7.0' COPR: Tan to pale yellow, pasty, silt and clay, wet	0	
	-6.0						0	Sample 125-PT-24_0608 collected at 10:10 from 6.5 - 7.0 ft bgs, Duplicate sample also collected at 10:12
							0	
	-7.0					7.0 - 8.0' No Recovery	0	
	-8.0	S-3	NA	4.0		8.0 - 9.8' FILL: Brown fine to coarse sand, some silt, wet	0	
							0.7	
	-9.0						0	Sample 125-PT-24_0810 collected at 10:16 from 9.0 - 9.5 ft bgs
							0	
	-10.0					9.8 - 11.5' COPR: Pale yellow to pale green to tan, pasty, silt and clay, wet	0	
							0	Sample 125-PT-24_1012 collected at 10:18 from 10.5 - 11.0 ft bgs
	-11.0						0	
						11.5 - 12.0' PT: Greenish black (GLEY 1 2.5/10Y) silt and clay, organic material, wet	0	
	-12.0							End of boring at 12.0 ft bgs

PREPARED BY: FP
CHECKED BY: AGS

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 125-SB-002 **SITE ID:** 125

DATE BEGAN: 6/20/2005 **DATE FINISHED:** 6/20/2005 **INSPECTOR:** CH

DRILLING CO: EPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Hurricane 5500

DRILLER: Ron Higgins **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 7.5 ft bgs **GW DEPTH:** NA

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	3		ASPHALT: Asphalt, DGA		0	
	-1.0					FILL: Topsoil, concrete, gravel, asphalt, coal, ash, trace suspected COPR			125-SB-002_005 collected from 2.0-2.5 ft bgs @ 1426 125-SB-002_006 collected from 2.0-2.5 ft bgs @ 1430
	-2.0								
	-3.0								
	-4.0	S-2		1		FILL: Brick		0	
-5.0	-5.0								
	-6.0								
	-7.0								
	-8.0					End boring @ 7.5'			Refusal @ 7.5 ft bgs
	-9.0								
-10.0	-10.0								

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 125-SB-003 **SITE ID:** 125

DATE BEGAN: 6/20/2005 **DATE FINISHED:** 6/20/2005 **INSPECTOR:** CH

DRILLING CO: EPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Hurricane 5500

DRILLER: Ron Higgins **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 16 ft bgs **GW DEPTH:** 2 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT: Asphalt, DGA		0	
	-1.0					FILL: Topsoil			
	-2.0					FILL: Brick			125-SB-003_007 collected from 1.5-2.0 ft bgs @ 1653
	-3.0					FILL: Black, silt; some wood			
	-4.0					FILL: Brick			
		S-2		4		FILL: Dark brown, sand, coarse; some gravel, medium		0	125-SB-003_008 collected from 4.5-5.0 ft bgs @ 1659
-5.0	-5.0								
	-6.0								
	-7.0					FILL: Brick			
	-8.0	S-3		4		FILL: Sand, coarse; some clay		0	
	-9.0					FILL: Dark brown, sand, fine			125-SB-003_009 collected from 9.5-10.0 ft bgs @ 1703
-10.0	-10.0								
	-11.0					FILL: Silty sand, fine			
	-12.0			4				0	
	-13.0					FILL: White sand; brown - black, some silt/clay; green (suspected COPR)			125-SB-003_010 collected from 13.5-14.0 ft bgs @ 1706
	-14.0					OH: Brown - black, silty clay; organics			125-SB-003_011 collected from 14.0-14.5 ft bgs @ 1707
-15.0	-15.0					PT: Peat			
	-16.0					End boring @ 16'		0	
	-17.0								

MACTEC

SITE INFO:

DATE BEGAN: 10/26/10

DRILLING CO: B and B

SAMPLING TOOL:

DRILLER: Gordon Blewitt

PROJECT NO: 3480050143

DATE FINISHED: 10/26/10

DRILLING METHOD: Direct Push

COMPLETION DEPTH: 16 ft bgs

NORTH:

BORING ID: **125-SB-003R**

INSPECTOR: B. Senna

DRILL EQUIP: Geoprobe 6610 DT

GW DEPTH: 2 ft bgs

EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	4		0.0 - 1.0' ASPHALT: Asphalt, DGA	0	
	1.0					1.0 - 1.5' FILL: Topsoil		
	2.0					1.5 - 2.5' FILL: Brick		
	3.0					2.5 - 3.5' FILL: Black, silt; some wood		
	4.0	S-2	N/A	4		3.5 - 4.0' FILL: Brick	0	
	5.0					4.0 - 7.0' FILL: Dark brown, sand, coarse; some gravel, medium		
	6.0							
	7.0					7.0 - 8.0' FILL: Brick		
	8.0	S-3	N/A	4		8.0 - 9.0' FILL: Sand, coarse; some clay	0	
	9.0					9.0 - 10.5' FILL: Dark brown, sand, fine		
	10.0							
	11.0					10.5 - 13.5' FILL: Silty sand, fine		
	12.0	S-4	N/A	4			0	
	13.0					13.5 - 14.0' FILL: White sand; brown - black, some silt/clay; green (suspected COPR)		
	14.0					14.0 - 14.5' OH: Brown - black, silty clay; organics		125-SB-003R-1416 collected from 14.0-14.5 ft bgs @ 14:00
	15.0					14.5 - 16.0' PT: Brown peat; moist; end of boring at 16.0' bgs.		
	16.0							

PREPARED BY:

CHECKED BY:

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-004
DATE BEGAN: 7/8/2008
DATE FINISHED: 7/8/2008
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	Collect sample from 1-1.5' bgs @ 10:24
	-1.0					0.8 - 1.5' FILL: Red brown silt, some sand, trace (fine) angular gravel, firm, few olive green mottles, dry		
	-2.0					1.5 - 2.0' FILL: Dark brown sand (medium-coarse) and angular gravel (fine-medium), white and black fine gravel at 2.0'; dry		Collect sample from 2.5-3' bgs @ 10:26
						2.0 - 2.5' FILL: Wood fragments, dry		
	-3.0					2.5 - 2.8' FILL: Olive green angular plastic pieces, (fine-medium) gravel sized; dry		
						2.8 - 3.3' FILL: Yellow brown (fine-coarse) sand and gravel; dry		Slight odor from 3.3-4.3' bgs
▽	-4.0	2	NA	4.0		3.3 - 3.5' FILL: Dark brown silt and gravel, some organic material, trace coal, slight odor, wet	0	Collect sample from 4.5-5' bgs @ 10:35
	-5.0					3.5 - 4.0' No recovery		
						4.0 - 4.3' FILL: Dark brown silt and gravel, some organics, trace coal, slight odor, saturated		
	-6.0					4.3 - 6.0' FILL: Dark brown sand (fine-coarse), trace silt and clay, saturated		Collect sample from 7.5-8' bgs @ 10:38
	-7.0					6.0 - 6.5' FILL: Light brown sand (fine-coarse) some rounded gravel (fine), saturated		
						6.5 - 8.0' FILL: Light brown clayey silt, some rounded gravel (fine), firm, saturated		
	-8.0	3	NA	0.5		8.0 - 8.5' FILL: Light brown sand (fine-coarse) and rounded gravel (fine), large piece of gravel at 8.5'; saturated	0	Collect sample from 8-8.5' bgs @ 10:40
	-9.0					8.5 - 10.0' No recovery		
	-10.0							

PREPARED BY: EMJ
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-004
DATE BEGAN: 7/8/2008
DATE FINISHED: 7/8/2008
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0					10.0 - 12.0' No recovery		
	-11.0							
	-12.0	4	NA	2.0		12.0 - 14.0' PT: Peat, trace sand at 12'; end of boring at 14'	0	
	-13.0							
	-14.0							

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-005
DATE BEGAN: 7/8/2008
DATE FINISHED: 7/8/2008
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	2		0.0 - 0.5' ASPHALT: Asphalt	0	Refusal @ 3' bgs due to concrete on first attempt
	-1.0					0.5 - 1.5' FILL: Dark brown/black silt, fine-coarse angular gravel throughout, dry		Collect sample from 1-1.5' bgs @ 9:49
	-2.0					1.5 - 2.0' FILL: Light brown sand (fine-coarse), loose, concrete pieces @ top and bottom, dry		
	-3.0					2.0 - 4.0' No recovery		
	-4.0	2	NA	3.5		4.0 - 4.5' FILL: Light brown fine-coarse rounded gravel and sand, saturated	0	Collect sample from 4.5-5' bgs @ 9:54
	-5.0					4.5 - 5.5' FILL: Dark brown silt and organic material, saturated		
	-6.0					5.5 - 7.5' FILL: Light brown sand (fine-coarse), some clay from 6-6.5' bgs, saturated		Collect sample from 6.5-7' bgs @ 9:56
	-7.0							
	-8.0					7.5 - 8.0' No recovery		
	-9.0	3	NA	4		8.0 - 12.0' FILL: Light/reddish brown sand (fine-coarse), saturated, clay lenses at 11' and 11.5', trace silt from 11-12' bgs; peat in tip; end of boring at 12'	0	Collect sample form 8.5-9' bgs @ 10:01
	-10.0							Collect sample from 10.5-11' bgs @ 10:04
	-11.0							
	-12.0							

PREPARED BY: EMJ
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-005A
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: Brian Senna/Will Lang
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 4.0 ft bgs
GW DEPTH: NE
DRILLER: Dave Myerchia
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
						0.5 - 2.8' FILL: Dark brown silty sand (fine); some gravel, glass, shells; dry	0	
	-1.0							
	-2.0						0	
						2.8 - 3.0' FILL: Crushed concrete; dry		
	-3.0					3.0 - 3.5' FILL: Black/dark brown silty sand (fine); some gravel, glass, brick; dry	0	
						3.5 - 4.0' No recovery; end of boring @ 4.0'		125-SB-005A_0204 collected from 3.0-3.5' bgs @ 14:45
	-4.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-006
DATE BEGAN: 6/26/08
DATE FINISHED: 6/26/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: E. Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt	0	Collect sample from 0.5-1' bgs @ 11:24
	-1.0					0.5 - 1.5' FILL: Brown silt and sand (fine), firm, dry		
	-2.0					1.5 - 3.0' FILL: Dark brown sand with red mottling, trace clay, trace organic material from 2.5'-3.0', firm, dry		Collect sample from 2.5-3' bgs @ 11:26
	-3.0					3.0 - 3.5' FILL: Dark brown silt, some sand (fine) and clay, firm, dry		
						3.5 - 4.0' No recovery		
	-4.0	2	NA	2.5		4.0 - 4.8' FILL: dark/red brown silt, some sand and clay, loose, moist	0	Collect sample from 4-4.5' bgs @ 11:35
	-5.0					4.8 - 5.3' FILL: dark brown silt, firm, wet		
	-6.0					5.3 - 6.5' FILL: dark brown sand (medium-coarse), some gravel, broken glass and concrete, yellow from 5.25-5.5' bgs, wet		Collect sample from 6-6.5' bgs @ 11:38
	-7.0					6.5 - 8.0' No recovery		
	-8.0	3	NA	2.0		8.0 - 9.5' FILL: Light brown sand (fine-medium), trace clay, saturated	0	Collect sample from 9-9.5' bgs @ 11:45
	-9.0					9.5 - 10.0' FILL: Silt and fine sand, trace clay, saturated		
	-10.0					10.0 - 10.1' PT: Peat		
	-11.0					10.1 - 12.0' No recovery; end of boring at 12'		
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125 | **PROJECT NO:** 3480050143 | **BORING ID:** 125-SB-007

DATE BEGAN: 6/28/08 | **DATE FINISHED:** 7/7/08 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610 DT

SAMPLING TOOL: Macrocore | **COMPLETION DEPTH:** 13 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: G Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	Refusal at 2.0' and 4.2 ft bgs on three previous attempts, remobilized on 7/7/08
	-1.0					1.0 - 1.8' FILL: Red brown silty sand with gravel (fine-medium), moist		Collect sample form 1-1.5' bgs @ 8:55
	-2.0					1.8 - 3.5' FILL: Dark brown silty sand (fine) with shells, brick, glass, gravel (fine-coarse), moist from 2.5' bgs		Collect sample form 3-3.5' bgs @ 9:00
	-3.0							
						3.5 - 4.0' No recovery		
	-4.0	2	NA	3.5		4.0 - 5.0' FILL: Dark brown/black silty sand with gravel (fine-medium), glass, brick, and wood, potential COPR from 4.5-5' bgs, wet	0	Collect smaple from 4.5-5' bgs @ 9:05
	-5.0					5.0 - 6.8' FILL: Light brown sand (fine) with trace silt, wet		
	-6.0							Collect sample from 6.5-7' bgs @ 9:10
	-7.0					6.8 - 7.5' FILL: Light brown/brown sand (fine-medium), wet		
						7.5 - 8.0' No recovery		
	-8.0	3		3.5		8.0 - 9.8' FILL: Light brown/brown sand (fine-medium), wet	0	Collect sample from 8.5-9' bgs @ 9:15
	-9.0					9.8 - 10.0' FILL: Red brown sand (fine) with trace silt, wet		
	-10.0					10.0 - 11.5' FILL: Light brown sand (fine-medium), stringy organic material from 11.3-11.5'; wet		Collect sample from 10.5-11' bgs @ 9:20
	-11.0							
						11.5 - 12.0' No recovery		
	-12.0	4		1.0		12.0 - 13.0' PT: Dark brown peat, very moist, end of boring at 13.0'	0	
	-13.0							

PREPARED BY: EMJ

CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-008
DATE BEGAN: 7/8/08
DATE FINISHED: 7/8/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4' bgs
DRILLER: E Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	Collect sample form 1-1.5' bgs @ 11:20
	-1.0					0.5 - 1.5' FILL: Red brown silt and trace gravel, firm, dry		
	-2.0					1.5 - 2.5' FILL: Dark brown sand (fine), some gravel, wood frags, and brick, dry		Collect sample from 3-3.5' bgs @ 11:22
	-3.0					2.5 - 3.5' FILL: Dark brown and olive sand (fine-coarse) and silt, trace coal, wet at 3.0'		
						3.5 - 4.0' No recovery		
	-4.0	2	NA	3.0		4.0 - 4.5' FILL: Dark brown sand and gravel (fine-coarse), saturated	0	Collect sample from 4.5-5' bgs @ 11:24
	-5.0					4.5 - 6.5' FILL: Light brown sand (fine), silt, and trace clay, saturated		
	-6.0							Collect sample from 6-6.5' bgs @ 11:26
	-7.0					6.5 - 7.0' FILL: Light brown clay and sand, subangular gravel (fine-coarse), wet		
						7.0 - 8.0' No recovery		
	-8.0	3	NA	4.0		8.0 - 12.0' FILL: Light brown sand (fine-coarse), trace subangular gravel (fine), clay lens from 11-11.25', finer sand from 11.25-12', peat in tip, end of boring at 12'	0	Collect sample form 9-9.5' bgs @ 11:28
	-9.0							
	-10.0							Collect sample from 11.5-12' bgs @ 11:30
	-11.0							
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-008A
DATE BEGAN: 8/6/08
DATE FINISHED: 8/6/08
INSPECTOR: Brian Senna/Will Lang
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 4.0 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0							
		S-1	NA	2.75		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
	-1.0					0.5 - 1.3' FILL: Red brown silt (fine); some gravel (fine-medium), moist	0	
	-2.0					1.3 - 2.5' FILL: Dark brown silty sand (fine); some crushed glass, gravel (fine), moist	0	
	-3.0					2.5 - 2.8' FILL: Dark brown silty sand (fine); some crushed glass, gravel (fine), wood, moist	0	
	-4.0	S-2	NA	3.0		2.8 - 4.0' No recovery	0	125-SB-008A_0406 collected from 4.0-4.5' bgs @ 13:30
	-5.0					4.0 - 4.3' FILL: Dark brown silty sand (fine); some white clayey substance; moist	0	
	-6.0					4.3 - 7.0' SM: Light brown sand (fine-medium); some silt lenses; wet	0	
	-7.0					7.0 - 8.0' No recovery	0	
	-8.0	S-3	NA	3.0		8.0 - 9.0' SM: Light brown sand (fine-medium); wet	0	
	-9.0					9.0 - 9.5' SM: Red brown silt (fine); trace sand (fine); wet	0	
	-10.0					9.5 - 11.0' SM: Light brown sand (fine-medium); wet; some organic material at 10.0-10.5'	0	
	-11.0					11.0 - 12.0' No recovery	0	
	-12.0	S-4	NA	4.0		12.0 - 16.0' PT: Dark brown peat; moist	0	125-SB-008A_1214 collected from 12.5-13.0' bgs @ 13:45
	-13.0						0	
	-14.0						0	125-SB-008A_1416 collected from 14.5-15.0' bgs @ 13:50
	-15.0						0	
	-16.0	S-5	NA	2.0		16.0 - 18.0' SW: Gray sand (fine-medium); end of boring at 18.0'	0	125-SB-008A_1618 collected from 16.0-16.5' bgs @ 14:00
	-17.0						0	
	-18.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-009
DATE BEGAN: 6/26/08
DATE FINISHED: 6/26/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4' bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	2.0		0.0 - 1.0' ASPHALT: Asphalt and concrete	0	Drillers cored through asphalt and concrete
	-1.0					1.0 - 2.0' FILL: Light brown silt and sand (fine-medium), firm, moist		Collect sample form 1-1.5' bgs @ 8:24; DUP @ 8:25
	-2.0					2.0 - 3.0' FILL: Dark brown silt, trace clay, brick from 2.5-2.75' bgs, firm, moist		Collect sample from 2-2.5' bgs @ 8:28
	-3.0					3.0 - 4.0' No recovery		
	-4.0	2	NA	3.0		4.0 - 4.8' FILL: Light brown silt, trace sand, loose, saturated	0	Collect sample from 4-4.5' bgs @ 8:35
	-5.0					4.8 - 5.0' FILL: Brick, wet		
						5.0 - 5.5' FILL: Black gravel (fine-coarse), silt, and organic material, wet		
	-6.0					5.5 - 7.0' FILL: Light brown sand (fine), clay lense from 5.5-6' & 7.5-7.75', wet		Collect sample from 6.5-7' bgs @ 8:38
	-7.0					7.0 - 8.0' No recovery		
	-8.0	3	NA	4.0		8.0 - 10.0' FILL: Light brown sand (fine-medium), saturated	0	Collect sample from 8.5-9' bgs @ 8:45
	-9.0							
	-10.0					10.0 - 10.5' PT: Peat		Collect sample from 10-10.5' bgs @ 8:47
	-11.0					10.5 - 11.5' OH: Dark brown organic clay, fine sand from 10.75-11', saturated		
	-12.0					11.5 - 12.0' PT: Peat; end of boring at 12'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-009A
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: Brian Senna/Will Lang
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: NE
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 6.0' Advance boring to 6' bgs to obtain additional samples		Log of missing depths from 125-SB-009
	-1.0							
	-2.0							
	-3.0							
	-4.0							
	-5.0							
	-6.0	S-1	NA	1.0		6.0 - 7.0' ML: Light brown silt; some lenses of black silt; wet	0	
	-7.0					7.0 - 8.0' No recovery	0	125-SB-009A_0608 collected from 6.5-7.0' bgs @ 14:05
	-8.0	S-2	NA	0.0		8.0 - 12.0' No recovery	0	
	-9.0						0	
	-10.0						0	
	-11.0						0	
	-12.0	S-3	NA	3.5		12.0 - 12.5' ML: Dark brown silt; heavy organic material; moist	0	
	-13.0					12.5 - 15.5' PT: Dark brown peat; moist	0	125-SB-009A_1214 collected from 12.0-12.5' bgs @ 14:20
	-14.0						0	
	-15.0						0	125-SB-009A_1416 collected from 14.5-15.0' bgs @ 14:25
	-16.0					15.5 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-010
DATE BEGAN: 7/8/08
DATE FINISHED: 7/8/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: E Schaming
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	-1.0					0.5 - 2.0' FILL: Light brown/grey silt with angular gravel (medium-coarse) and sand, concrete @ bottom, dry		Collect sample from 1-1.5' bgs @ 14:18
	-2.0					2.0 - 3.5' FILL: Dark brown silt and trace sand, some angular gravel (medium-coarse), 1" lens of white sand @ 3' bgs, trace coal, brick, dry		Collect sample from 2.5-3' bgs @ 14:20
	-3.0							
	-4.0					3.5 - 4.0' No recovery		
		2	NA	3.0		4.0 - 4.5' FILL: Dark brown silt, some clay, trace gravel, dry	0	Collect sample from 4.5-5' bgs @ 14:24
	-5.0					4.5 - 5.5' FILL: Light brown sand (fine-coarse), trace rounded gravel, wet		
	-6.0					5.5 - 7.0' FILL: Light brown sand (fine-medium), some clay towards bottom, wet		Collect sample from 6.5-7' bgs @ 14:26
	-7.0					7.0 - 8.0' No recovery		
	-8.0	3	NA	2.0		8.0 - 8.5' FILL: Dark brown (fine-coarse) sand and gravel, wet	0	
	-9.0					8.5 - 10.0' FILL: Dark brown silty clay, some rounded gravel (fine) from 9.5-10' , trace coarse sand, firm, saturated		Collect sample form 9.5-10' bgs @ 14:32
	-10.0					10.0 - 12.0' No recovery		
	-11.0							
	-12.0	4	NA	2.0		12.0 - 13.0' FILL: Light brown clay and some rounded gravel from 12-12.5' bgs, trace silt, saturated	0	Collect sample from 12-12.5' bgs @ 14:35
	-13.0					13.0 - 14.0' PT: Peat; end of boring at 14'		
	-14.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: 125
PROJECT NO: 3480050143
BORING ID: 125-SB-010A
DATE BEGAN: 7/31/08
DATE FINISHED: 7/31/08
INSPECTOR: Brian Senna/Will Lang
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4.0' Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Dave Myerchia
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 8.0' Advance borings to 8 ft bgs to obtain additional samples		
	-1.0							
	-2.0							
	-3.0							
	-4.0		NA	1				
	-5.0							
	-6.0						0	
	-7.0						0	
	-8.0	S-1	NA	0		8.0 - 10.0' CL: Red brown clayey silt with fine-medium sand lenses	0	
	-9.0						0	
	-10.0					10.0 - 10.5' CL: Red brown silt with fine-medium sand and some fine-medium gravel	0	Sample 10.0-10.5' @ 7:55
	-11.0					10.5 - 12.0' No recovery; end of boring @ 12'	0	
	-12.0							

PREPARED BY: CH
CHECKED BY: MWV

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-011
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 1.0' ASPHALT: asphalt and gravel	0	
	-1.0					1.0 - 3.0' FILL: reddish brown silt, coarse gravel from 1.25-1.3'; very stiff; dry	0	125-SB-011-0002 from 1.5-2.0' @ 855
	-2.0						0	
	-3.0					3.0 - 3.5' FILL: light brown silty sand, trace fine gravel; moist	0	125-SB-011-0204 from 3.0-3.5' @ 900
						3.5 - 4.0' No recovery		
	-4.0	S-2	N/A	2.0		4.0 - 6.0' FILL: light brown silty sand, some fine-medium gravel, yellow/green precipitate (COPR) from 5.5'; wet; end of boring at 6'	0	
	-5.0						0	125-SB-011-0406 from 5.5-6.0' @ 905
	-6.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-012
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 1.0' ASPHALT: asphalt and gravel		
	-1.0					1.0 - 2.0' FILL: reddish brown silt	0	125-SB-012-0002 from 1.0-1.5' @ 920
	-2.0					2.0 - 3.5' FILL: dark brown silty sand with some fine to medium gravel; moist from 3.0'	0	
	-3.0						0	125-SB-012-0204 from 3.0-3.5' @ 925
						3.5 - 4.0' No recovery		
	-4.0	S-2	N/A	2.0		4.0 - 5.0' FILL: dark brown silty sand with some fine to medium gravel	0	
	-5.0					5.0 - 5.5' FILL: light grey silty sand with fine to coarse gravel	0	125-SB-012-0406 from 5.0-5.5' @ 930
	-6.0					5.5 - 6.0' FILL: light brown silty sand with fine to medium gravel and yellow/green precipitate (COPR); end of boring at 6'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-013
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6.0 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
						0.5 - 1.0' FILL: light brown silty sand with fine to coarse gravel, dry		125-SB-013-0002 from 0.5-1.0' bgs @ 1045
	-1.0					1.0 - 1.5' FILL: concrete	0	
						1.5 - 2.5' FILL: reddish brown silty sand with green/grey lenses (COPR); very stiff; dry		
	-2.0						0	125-SB-013-0204 from 2.0-2.5' bgs @ 1050
						2.5 - 3.0' FILL: dark brown silt, trace sand; moist		
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	2.0		4.0 - 6.0' FILL: dark brown silt with trace sand; wet from 4.5'; end of boring at 6'	0	
	-5.0						0	125-SB-013-0406 from 5.0-5.5' bgs @ 1055
	-6.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-014
DATE BEGAN: 7/29/08
DATE FINISHED: 7/29/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
	-1.0					0.5 - 0.8' FILL: crushed concrete; dry	0	
	-2.0					0.8 - 3.0' FILL: dark brown silty sand with fine brick, fine coal, fine glass, shells; dry	0	
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	2.5		4.0 - 4.8' FILL: dark brown silty sand with fine brick, fine coal, fine glass, shells; moist	0	
	-5.0					4.8 - 6.0' FILL: reddish brown silty sand; wet from 5.0'	0	
	-6.0					6.0 - 6.5' FILL: light brown fine to medium sand; wet	0	
	-7.0					6.5 - 8.0' No recovery		
	-8.0	S-3	N/A	1.5		8.0 - 8.8' FILL: light brown fine to medium sand; wet	0	
	-9.0					8.8 - 9.5' FILL: reddish brown clayey silt, trace organic material; wet	0	
	-10.0					9.5 - 12.0' No recovery		
	-11.0							
	-12.0	S-4	N/A	3.5		12.0 - 15.5' PT: dark brown peat; moist	0	
	-13.0						0	
	-14.0						0	
	-15.0						0	125-SB-014-1416 from 14.5-15.0' bgs @ 1415
	-16.0					15.5 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-015
DATE BEGAN: 7/29/08
DATE FINISHED: 7/29/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
	-1.0					0.5 - 3.0' FILL: dark brown/black silty sand with fine shells, fine glass, fine coal; moist from 2.75'	0	
	-2.0						0	
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	3.5		4.0 - 4.5' FILL: dark brown/black silty sand with fine shells, fine glass, fine coal; moist	0	
	-5.0					4.5 - 6.0' FILL: light brown fine to medium sand; wet	0	
	-6.0					6.0 - 7.5' FILL: light brown/reddish brown fine to medium sand with lenses of clayey silt from 6.25-6.5'; wet	0	
	-7.0						0	
	-8.0	S-3	N/A	3.5		7.5 - 8.0' No recovery		
	-9.0					8.0 - 8.3' FILL: light brown/reddish brown fine to medium sand; wet	0	
	-10.0					8.3 - 8.8' FILL: light brown/light grey silty sand with organic material; wet	0	
	-11.0					8.8 - 11.5' FILL: light grey fine sand; wet	0	
	-12.0	S-4	N/A	2.0		11.5 - 12.0' No recovery	0	
	-13.0					12.0 - 13.0' FILL: light grey fine sand; wet	0	125-SB-015-1214 from 12.5-13.0' bgs @ 1320
	-14.0					13.0 - 13.8' PT: dark brown peat; moist	0	
						13.8 - 14.0' SM: light brown silty sand and		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-015
DATE BEGAN: 7/29/08
DATE FINISHED: 7/29/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-14.0					organic material; end of boring at 14'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-015A
DATE BEGAN: 8/8/08
DATE FINISHED: 8/8/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
						0.5 - 1.5' FILL: dark brown/black silty sand with coal, glass, gravel; moist		
	-1.0						0	
						1.5 - 3.5' FILL: brown silty sand, with fine to medium gravel; moist		
	-2.0						0	
								125-SB-015A-0204 from 2.5-3.0' bgs @ 1320
	-3.0						0	
						3.5 - 4.0' No recovery; end of boring at 4'		
	-4.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-016
DATE BEGAN: 7/29/08
DATE FINISHED: 7/29/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0							
		1.5	N/A	1.5		0.0 - 0.5' TOPSOIL	0	
	-1.0					0.5 - 1.5' FILL: light brown fine sand with fine coal and fine glass, dry	0	
	-2.0	2.0	N/A	2.0		1.5 - 2.0' No recovery	0	
						2.0 - 2.3' FILL: fine to coarse gravel; moist	0	
	-3.0					2.3 - 6.5' FILL: light brown fine to medium sand; silt lenses from 2.3-4'; wet from 5'		
	-4.0	3.5	N/A	3.5			0	
	-5.0						0	
	-6.0						0	
						6.5 - 7.0' FILL: reddish brown clayey silt, wet		
	-7.0					7.0 - 7.5' FILL: light brown/grey fine to medium sand; wet	0	
	-8.0	3.0	N/A	3.0		7.5 - 8.0' No recovery	0	
	-9.0					8.0 - 9.5' FILL: light brown fine to coarse sand; wet	0	
	-10.0					9.5 - 11.0' FILL: light grey/light brown fine to medium sand; wet	0	
	-11.0					11.0 - 12.0' No recovery		
	-12.0	3.5	N/A	3.5		12.0 - 12.5' FILL: light grey/light brown fine to medium sand; wet	0	
	-13.0					12.5 - 15.3' PT: dark brown peat; moist	0	
	-14.0						0	
	-15.0					15.3 - 15.5' SP: brown fine sand, some organic material, moist	0	125-SB-016-1416 from 14.5-15.0' bgs @ 1205
	-16.0					15.5 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-017
DATE BEGAN: 06/23/09
DATE FINISHED: 06/23/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.25		0.0 - 0.7' ASPHALT: Asphalt and gravel	0.0	Field Map # 224
	1.0					0.7 - 1.0' FILL: Brown/light brown f-c sand, some f-m gravel; trace silt, brick, and clinker		
	2.0					1.0 - 3.3' FILL: Reddish brown silty fine sand, trace fine gravel and clinker	0.0	
	3.0					3.3 - 4.0' No recovery		
	4.0	R-2	N/A	3.5		4.0 - 7.3' FILL: Reddish brown silt, some fine sand; trace clay, fine gravel and clinker; wood and medium gravel from 5.5-5.7'; wood from 6.6-6.7'; greenish yellow clayey COPR with reddish brown COPR nodules from 7.0-7.3'	0.0	
	5.0							
	6.0						0.0	
	7.0					7.3 - 7.5' FILL: Brown f-m sand, trace fine gravel and wood, trace green COPR mottling; moist		
	8.0	R-3	N/A	4.0		7.5 - 8.0' No recovery	0.0	
	9.0					8.0 - 9.5' FILL: Brown f-m sand, trace silt; wet		
	10.0					9.5 - 10.0' FILL: Yellowish brown clayey COPR, some f-m sand; soft, wet	0.0	
	11.0					10.0 - 11.5' FILL: Brown f-c sand, trace silt and wood		
	12.0	R-4	N/A	4.0		11.5 - 12.3' FILL: Dark grayish brown silty clay, trace fine sand and gravel; trace white COPR mottling; soft, wet	0.5	
	13.0					12.3 - 15.8' PT: Very dark grayish brown (10YR 3/2) peat; stiff	8.2 14.5 15.1 12.6 9.9	125-SB-017-1214 collected from 12.5-13.0' bgs @ 9:05
	14.0							
	15.0					15.8 - 16.0' SP: Dark grayish brown (10YR 4/2) fine sand; wet; end of boring at 16'	11.3 14.0	Driller sealed hole with bentonite chips due to peat penetration
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-018
DATE BEGAN: 06/23/09
DATE FINISHED: 06/23/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 8.75 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.25		0.0 - 1.0' ASPHALT: Asphalt and gravel	0.0	Field Map # 223
	1.0					1.0 - 1.8' FILL: Brown f-m sand, some f-m gravel, trace silt and concrete		
	2.0					1.8 - 2.0' FILL: Concrete		
	3.0					2.0 - 3.3' FILL: Brown to reddish brown silty sand, some f-m gravel; trace clinker, brick, and coal; dense		
	4.0	R-2	N/A	3.0		3.3 - 4.0' No recovery	0.0	
	5.0					4.0 - 8.8' FILL: Reddish brown silt, some clay, trace fine sand, gravel, and brick; moist from 5.5'; stiff		
	6.0							
	7.0							
	8.0	R-3	N/A	3.5		8.8 - 9.4' FILL: Green/reddish brown/white soft clayey COPR; some white/reddish brown nodules, some wood; wet	0.0	
	9.0					9.4 - 11.2' FILL: Dark brown f-m sand, trace f-m gravel, clinker, and silt; wet		
	10.0							
	11.0					11.2 - 11.5' FILL: Very dark grayish brown silty sand; wet; organic odors		
	12.0	R-4	N/A	3.25		11.5 - 12.0' No recovery	0.0	
	13.0					12.0 - 12.5' FILL: Very dark grayish brown silty sand, some white/yellow COPR; dense	10.2	125-SB-018-1214 collected from 13.0-13.5' bgs @ 9:55; DUP @ 10:00
	14.0					12.5 - 12.7' OL: Black (2.5Y 2.5/1) silty clay; trace organic material	14.7 21.0	
	15.0					12.7 - 15.3' PT: Dark olive brown (2.5Y 3/3) to dark grayish brown (10YR 3/2) peat	22.7 13.5	
	16.0					15.3 - 16.0' No recovery; end of boring at 16'	17.8 20.9	

PREPARED BY: EJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-019
DATE BEGAN: 06/23/09
DATE FINISHED: 06/23/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 1.5' ASPHALT: Asphalt and gravel	0.0	Field Map # 221
	1.0					1.5 - 3.0' FILL: Reddish brown f-m sand and silt, some f-m brick and gravel, trace concrete and coal, trace greeen/grey/yellow COPR mottling; moist from 2.5'		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 6.0' FILL: Brown/reddish brown f-c sand and gravel, some brick, wood from 5.5-5.75'; wet	0.0	
	5.0							
	6.0					6.0 - 9.3' FILL: Brownish yellow/pale greenish yellow clayey COPR, some f-c gravel and brick from 8.0'; soft, wet		
	7.0							
	8.0	R-3	N/A	3.5			0.0	
	9.0					9.3 - 9.5' FILL: Brown f-m sand, trace wood and green COPR mottling; wet		
	10.0					9.5 - 10.5' FILL: Dark brown f-m sand, trace silt; wet		
	11.0					10.5 - 11.5' FILL: Dark brown silty sand, trace clay; wet		
	12.0	R-4	N/A	4.0		11.5 - 12.0' No recovery	0.6	
	13.0					12.0 - 12.2' OL: Black (2.5Y 2.5/1) silty clay, trace organic material	17.2 15.9	125-SB-019-1214 collected from 12.5-13.0' bgs @ 10:55
	14.0					12.2 - 16.0' PT: Dark olive brown (2.5YR 3/3) to very dark grayish brown (10YR 3/2) peat; end of boring at 16'	35.2 24.9	
	15.0						28.3 19.5	
	16.0						20.4 18.8	

PREPARED BY: EJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-020
DATE BEGAN: 6/23/09
DATE FINISHED: 6/23/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT: Asphalt and gravel		Field Map #219
	1.0					1.0 - 1.8' FILL: Dark brown f-c sand and f-m gravel		
	2.0					1.8 - 2.3' FILL: Reddish brown silty sand, some f-m gravel and brick		
	3.0					2.3 - 4.0' FILL: Reddish brown to dark grown silt, some fine sand, trace clay, f-m gravel, coal and brick, trace greenish yellow COPR mottling, trace wood from 3.8'; stiff		
	4.0	R-2	N/A	2.5		4.0 - 4.5' FILL: Dark brown silty sand, some f-m gravel and brick; wet		
	5.0					4.5 - 6.5' FILL: Reddish brown to brown f-m brick, some f-c sand and f-m gravel, trace yellow clayey COPR from 6.4'; wet		
	6.0							
	7.0					6.5 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 8.5' FILL: Reddish brown to brown f-m brick, some f-c sand and f-m gravel; wet		
	9.0					8.5 - 10.5' FILL: Brown f-m sand, trace silt; wet		
	10.0							
	11.0					10.5 - 12.0' FILL: Dark brown silty sand, trace clay; wet		
	12.0	R-4	N/A	4.0		12.0 - 12.4' FILL: Black sandy clay, trace fine gravel, trace yellow COPR from 12.0-12.2'; wet		
	13.0					12.4 - 16.0' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat; end of boring at 16.0'		125-SB-020-1214 collected from 13.0-13.5' bgs @ 11:45
	14.0							
	15.0							
	16.0							

PREPARED BY: FP
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-021
DATE BEGAN: 6/23/09
DATE FINISHED: 6/23/09
INSPECTOR: J Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.5' ASPHALT: Asphalt and gravel	0.0	
	1.0					1.5 - 2.8' FILL: Reddish brown silty sand, come f-m gravel, trace brick, clinker, glass, coal and wood, trace yellow COPR mottling from 2.0-2.2'		
	2.0					2.8 - 3.8' FILL: Dark brown silty sand, trace f-m gravel and wood; moist		
	3.0					3.8 - 4.0' FILL: Brick		
▽	4.0	R-2	N/A	1.5		4.0 - 5.0' FILL: Brick, wood and gravel; wet	0.0	
	5.0					5.0 - 5.3' FILL: Light brown f-c sand, some f-m gravel; wet		
	6.0					5.3 - 5.5' FILL: Yellow/white clayey COPR, trace fine sand; wet		
	7.0					5.5 - 8.0' FILL: No recovery		
	8.0	R-3	N/A	4.0		8.0 - 9.0' FILL: Dark brown f-c sand, some fine brick and gravel, yellow clayey COPR from 8.75-8.9'; wet	0.0	
	9.0					9.0 - 9.5' FILL: Brown silty sand and f-m gravel, olive green COPR and fibrous wood from 9.1-9.2'; wet		
	10.0					9.5 - 11.5' FILL: Brown f-c sand, trace silt; wet		
	11.0					11.5 - 12.0' FILL: Brown fine sand, trace silt; wet		
	12.0	R-4	N/A	2.0			0.0	

PREPARED BY: MC
CHECKED BY: TG

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-021
DATE BEGAN: 6/23/09
DATE FINISHED: 6/23/09
INSPECTOR: J Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	R-4	N/A	2.0		12.0 - 12.5' FILL: Brown fine sand, trace silt, some lenses of f-c sand; wet 12.5 - 13.0' FILL: Brown silt and clay, trace fine sand, trace light brown to white clayey COPR; wet 13.0 - 13.3' OL: Black sitly clay, trace organic material; wet 13.3 - 14.0' PT: Dark olive brown (2.5Y 3/3) peat 14.0 - 16.0' No recovery; end of boring at 16.0'	0.0	125-SB-021-1214 collected from 13.5-14.0' bgs @13:15
	13.0							
	14.0							
	15.0							
	16.0							

PREPARED BY: MC
CHECKED BY: TG

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-022
DATE BEGAN: 6/23/09
DATE FINISHED: 6/23/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.5' ASPHALT	0.0	Field Map #222
	1.0					0.5 - 1.0' FILL: Brown f-m sand and gravel		
	2.0					1.0 - 2.0' FILL: Grey f-m gravel		
	3.0					2.0 - 2.5' FILL: Brick, some brown silty sand		
	4.0	R-2	N/A	2.5		2.5 - 4.0' No recovery	0.0	
	5.0					4.0 - 5.5' FILL: Brown f-c sand, brick and gravel, some wood from 5.0'; wet		
	6.0					5.5 - 6.5' FILL: Yellow/white/light brown clayey COPR, trace f-m gravel and wood from 5.5-6.0'; wet		
	7.0					6.5 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 9.6' FILL: Brown f-m sand and yellow clayey COPR, trace f-m gravel and brick; wet	0.0	
	9.0					9.6 - 11.0' FILL: Brown f-m sand, trace silt and fine gravel; wet		
	10.0					11.0 - 12.0' FILL: Brown to dark brown silty fine sand, trace clay; wet		
	11.0							
	12.0	R-4	N/A	3.5		12.0 - 12.3' FILL: White/light brown clayey COPR; wet	0.0	
	13.0					12.3 - 12.5' OL: Black (2.5Y 2.5/1) silty clay, trace organic material; wet	0.1 4.3 8.7	125-SB-022-1214 collected from 13.0-13.5' bgs @ 14:00
	14.0					12.5 - 15.5' PT: Dark olive brown (2.5Y 3/3) to very dark brown (7.5YR 2.5/2) peat	12.5 7.9	
	15.0					15.5 - 16.0' No recovery; end of boring at 16.0'	18.1 9.0	
	16.0							

PREPARED BY: FP
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-023
DATE BEGAN: 6/24/09
DATE FINISHED: 6/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT: Asphalt and gravel	0.0	Field Map #214
	1.0					1.0 - 2.0' FILL: Brown silty sand, some f-m gravel and concrete, trace brick, clinker and glass		
	2.0					2.0 - 4.0' FILL: Reddish brown silt, trace clay and fine sand; very stiff		
	3.0							
	4.0	R-2	N/A	3.0		4.0 - 5.0' FILL: Concrete	0.0	
	5.0					5.0 - 5.5' FILL: Light brown to white clayey COPR, trace dark brown sand; wet		
	6.0					5.5 - 7.0' FILL: Brown silty sand (f-m from 5.5-5.8'), some clay from 5.8-6.0'; wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 8.3' FILL: Brown sandy clay; wet	0.0	125-SB-023-0608 collected from 7.5-8.0' bgs @ 8:05; HOLD
	9.0					8.3 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 12.0'	3.1 4.7 11.9	125-SB-023-0810 collected from 8.5-9.0' bgs @ 8:10
	10.0						5.5 7.8	125-SB-023-1012 collected from 10.0-10.5' bgs @ 8:15; HOLD
	11.0						4.5	
	12.0						9.0	

PREPARED BY: FP
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-024
DATE BEGAN: 6/24/09
DATE FINISHED: 6/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #214
	1.0					0.5 - 1.8' FILL: Brown f-m sand and f-m gravel		
	2.0					1.8 - 3.3' FILL: Reddish brown silty sand, some f-m gravel, trace brick, clinker, and coal		
	3.0					3.3 - 4.0' FILL: Reddish brown clayey silt, trace fine sand and gravel; stiff		
	4.0	R-2	N/A	2.75		4.0 - 5.3' FILL: Reddish brown clayey silt, trace fine sand and gravel, white/green COPR from 5.1'; stiff; wet from 5.0'	0.0	
▽	5.0					5.3 - 6.0' FILL: Brown f-m sand		125-SB-024-0406 collected from 5.0-5.5' bgs @ 8:45
	6.0					6.0 - 6.5' FILL: Brown silty fine sand; wet		125-SB-024-0608 collected from 6.0-6.5' bgs @ 8:50
	7.0					6.5 - 6.8' FILL: Brown sandy clay; wet 6.8 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 10.0' FILL: Brown sandy clay; wet	0.0	
	9.0							125-SB-024-0810 collected from 9.0-9.5' bgs @ 8:55
	10.0					10.0 - 12.0' FILL: Brown f-m sand, trace silt; wet		
	11.0							125-SB-024-1012 collected from 11.0-11.5' bgs @ 9.00; HOLD
	12.0							

PREPARED BY: EJ
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-025
DATE BEGAN: 6/24/09
DATE FINISHED: 6/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #212
	1.0					0.5 - 1.8' FILL: Brown f-m sand and f-m gravel		
	2.0					1.8 - 3.2' FILL: Reddish brown silty sand, some fine gravel, trace clinker, brick, and coal		
	3.0					3.2 - 3.5' FILL: Concrete		
	4.0	R-2	N/A	3.5		3.5 - 4.0' FILL: Brown, f-c clayey sand, some f-m gravel, trace clinker, glass, and coal	0.0	
	5.0					4.0 - 6.0' FILL: Brown/reddish brown silt and clay, some f-c sand and fine gravel, trace brick, wet from 5.0'		
	6.0					6.0 - 6.3' FILL: Brown/white/green clayey COPR; wet		
	7.0					6.3 - 7.5' FILL: Brown silty sand, some f-c sand from 6.5-6.75', trace silt, trace organic material from 6.25-6.4'; wet		
	8.0	R-3	N/A	4.0		7.5 - 8.0' No recovery	0.0	125-SB-025-0608 collected from 7.0-7.5' bgs @ 9:35
						8.0 - 8.3' FILL: Brown f-m sand, trace silt; wet		
	9.0					8.3 - 10.0' FILL: Brown silty clay, trace fine sand; wet		125-SB-025-0810 collected from 9.0-9.5' bgs @ 9:40
	10.0					10.0 - 11.0' FILL: Brown f-m sand; wet		125-SB-025-1012 collected from 10.5-11.0' bgs @ 9:45; HOLD
	11.0					11.0 - 12.0' FILL: Brown, silty sand, some organic material from 11-11.25', trace clay; wet; end of boring @ 12.0'		
	12.0							

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-026
DATE BEGAN: 6/24/09
DATE FINISHED: 6/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map #210
	1.0					0.5 - 1.0' FILL: Brown silty sand and f-m gravel		
	2.0					1.0 - 2.0' FILL: Reddish brown/brown/black silty sand, trace fine gravel, brick, clinker, wood		
	3.0					2.0 - 2.5' FILL: Concrete		
						2.5 - 3.0' FILL: Brick		
						3.0 - 4.0' No recovery		
	4.0	R-2	N/A	3.0		4.0 - 5.3' FILL: Brown silty clay, some f-m gravel and brick; wet	0.0	
	5.0							
	6.0					5.3 - 7.0' FILL: Brown f-c sand, trace silt, white/green clayey COPR from 5.25-5.3', some clay from 6.5-6.7'; wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 9.0' FILL: Brown sandy clay; wet; soft	0.0	125-SB-026-0608 collected from 6.5-7.0' bgs @ 10:20; HOLD
	9.0					9.0 - 12.0' FILL: Brown f-m sand, trace silt, some clay from 11.8'; wet; end of boring at 12.0'		125-SB-026-0810 collected from 8.5-9.0' bgs @ 10:25
	10.0							125-SB-026-1012 collected from 10.5-11.0' bgs @ 10:30; HOLD
	11.0							
	12.0							

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-027
DATE BEGAN: 6/24/09
DATE FINISHED: 6/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5.25 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT: Asphalt and gravel	0.0	Field Map #213
	1.0					1.0 - 2.0' FILL: Reddish brown silty fine sand, some fine brick and gravel		
	2.0					2.0 - 3.0' FILL: Concrete		
	3.0					3.0 - 4.0' FILL: Reddish brown silt, some fine sand, trace wood and fine gravel		
	4.0	R-2	N/A	1.0		4.0 - 4.5' FILL: Reddish brown silt, some fine sand, trace wood and fine gravel	0.0	Due to poor recovery, the volume confirmation sampling was switched to 125-SB-028
						4.5 - 4.8' FILL: Wood		
	5.0					4.8 - 5.0' FILL: F-m gravel and brown clayey sand; wet @ 5.0'		
	6.0					5.0 - 8.0' No recovery		
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 9.3' FILL: Brown sandy clay; wet	0.0	125-SB-027-0810 collected from 8.5-9.0' bgs @ 11:05; DUP @ 11:08
	9.0					9.3 - 11.7' FILL: Brown f-m sand, trace silt, some clay from 11-11.25'; wet		
	10.0							125-SB-027-1012 collected from 11.0-11.5' bgs @ 11:10
	11.0							
	12.0					11.7 - 12.0' FILL: Brown silty clay, trace fine sand; wet; end of boring @ 12.0'		

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-028
DATE BEGAN: 6/24/09
DATE FINISHED: 6/24/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT: Asphalt and gravel	0.0	Field Map #215
	1.0					1.0 - 4.0' FILL: Reddish brown silty sand, some f-m gravel, trace brick, clincker and coal		
	2.0							
	3.0							
	4.0	R-2	N/A	4.0		4.0 - 6.0' FILL: Reddish brown silty sand, some f-m gravel, trace brick, clincker and coal	0.0	125-SB-028-0406 collected from 4.5-5.0' bgs @ 11:40
	5.0							
	6.0					6.0 - 6.3' FILL: White/green/borwn clayey COPR; wet		125-SB-028-0608 collected from 6.0-6.5' bgs @ 11:45
	7.0					6.3 - 8.0' FILL: Brown f-c sand, trace silt and clay, trace white/brown COPR from 6.3-6.5'; wet		
	8.0	R-3	N/A	4.0		8.0 - 10.0' FILL: Brown silty clay, trace fine sand; wet	0.0	125-SB-028-0810 collected from 9.0-9.5' bgs @ 11:05; DUP @ 11:50
	9.0							
	10.0					10.0 - 11.0' FILL: Brown f-m sand, trace silt; wet		125-SB-028-1012 collected from 11.0-11.5' bgs @ 11:55; HOLD
	11.0					11.0 - 12.0' FILL: Brown silty fine sand, some clay from 11.8'; wet; end of boring @ 12.0'		
	12.0							

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-029
DATE BEGAN: 6/25/09
DATE FINISHED: 6/25/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #207; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.5' VOID		Driller cored through concrete
	-2.0	R-1	N/A	2.5		-2.5 - -1.0' FILL: Brown f-m sand, trace coal and brick; moist	0.0	
	-1.0					-1.0 - 1.5' FILL: Reddish brown silty sand, trace fine gravel and coal; concrete from 0.7-1.0' ags		
	0.0	R-2	N/A	4.0			0.0	
	1.0							
	2.0					1.5 - 3.0' FILL: Brown f-m sand		
	3.0					3.0 - 5.0' FILL: Brick, gravel, and wood; some dark brown f-c sand and wet from 4.0' bgs		
	4.0	R-3	N/A	3.25			0.0	
	5.0					5.0 - 5.3' FILL: Green/white clayey COPR, some f-m sand; wet		125-SB-029-0406 collected from 5.0-5.5' bgs @ 10:45
	6.0					5.3 - 7.3' FILL: Brown f-c sand, trace silt, f-m gravel from 6.0-6.5' bgs; wet		125-SB-029-0608 collected from 6.5-7.0' bgs @ 10:50; HOLD
	7.0							
	8.0					7.3 - 8.0' No recovery		
	9.0	R-4	N/A	4.0		8.0 - 10.0' FILL: Brown silty clay, trace fine sand; wet	0.0	125-SB-029-0810 collected from 9.5-10.0' bgs @ 10:55
	10.0							
	11.0					10.0 - 12.0' FILL: Brown f-m sand, trace silt; wet; end of boring @ 12.0' bgs		125-SB-029-1012 collected from 11.0-11.5' bgs @ 11:00; HOLD
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, Jersey City, New Jersey
PROJECT NO: 3480050143
BORING ID: 125-SB-030
DATE BEGAN: 6/25/09
DATE FINISHED: 6/25/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4 ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #206; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.5' VOID		
		R-1	N/A	2.5		-2.5 - -1.0' FILL: Brown f-m sand, trace coal and brick; moist	0.0	Driller cored through concrete; moved 2 ft. SW due to thick concrete
	-2.0							
	-1.0					-1.0 - 0.0' FILL: Reddish brown silty sand, trace fine gravel and coal		
	0.0	R-2	N/A	3.5		0.0 - 1.0' FILL: Reddish brown fine sand	0.0	
	1.0					1.0 - 3.0' FILL: Brown/reddish brown/dark brown f-m sand and gravel; trace silt, coal, and brick; clinker from 2.0-2.2' bgs		
	2.0							
	3.0					3.0 - 3.5' FILL: Brick, wood and gravel		
▽	4.0	R-3	N/A	3.0		3.5 - 4.0' No recovery	0.0	
						4.0 - 5.5' FILL: Brick, wood, and gravel, some dark brown sand, some white clayey COPR from 5.3-5.4' bgs; wet		125-SB-030-0406 collected from 5.0-5.5' bgs @ 11:55
	5.0							
	6.0					5.5 - 6.0' FILL: Dark brown silty sand, trace brick and coal; wet		
	7.0					6.0 - 7.0' FILL: Brown f-m sand, trace silt; wet		125-SB-030-0608 collected from 6.5-7.0' bgs @ 12:00; HOLD
	8.0	R-4	N/A	4.0		7.0 - 8.0' FILL: No recovery	0.0	
						8.0 - 8.8' FILL: Brown f-m sand, trace silt; wet		
	9.0					8.8 - 10.3' FILL: Brown silty clay, trace fine sand; wet		125-SB-030-0810 collected from 9.0-9.5' bgs @ 12:05
	10.0							
	11.0					10.3 - 12.0' FILL: Brown f-m sand, trace silt; wet; end of boring @ 12.0' bgs		125-SB-030-1012 collected from 11.5-12.0' bgs @ 12:10; HOLD
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-031
DATE BEGAN: 6/25/09
DATE FINISHED: 6/25/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #209; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.5' VOID		
	-2.0	R-1	N/A	2.5		-2.5 - -1.0' FILL: Brown f-m sand, trace coal and brick; moist	0.0	
	-1.0					-1.0 - 0.0' FILL: Reddish brown silty sand, trace fine gravel and coal		
	0.0	R-2	N/A	3.5		0.0 - 2.5' FILL: Reddish brown silt and fine sand, some f-m gravel and brick, trace to some clay, lens of white COPR @ 2.5' bgs	0.0	MD collected sample for DPC test
	1.0							
	2.0							
	3.0					2.5 - 3.5' FILL: Brick		
						3.5 - 4.0' No recovery		
	4.0	R-3	N/A	2.5		4.0 - 5.3' FILL: Dark brown f-m sand and gravel, some wood and brick; wet	0.0	MD collected sample for DPC test
	5.0					5.3 - 6.5' FILL: Dark brown/brown f-m sand, some silt from 6.0' bgs; wet		
	6.0							125-SB-031-0608 collected from 6.0-6.5' bgs @ 13:25; HOLD
	7.0					6.5 - 8.0' No recovery		
	8.0	R-4	N/A	4.0		8.0 - 9.8' FILL: Brown, silty clay, trace fine sand; wet	0.0	
	9.0							125-SB-031-0810 collected from 9.0 9.5' bgs @ 13:30
	10.0					9.8 - 12.0' FILL: Brown f-m sand, trace to some silt; wet; end of boring @ 12.0' bgs		
	11.0							125-SB-031-1012 collected from 11.0-11.5' bgs @ 13:35; HOLD
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-032
DATE BEGAN: 6/25/09
DATE FINISHED: 6/25/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #208; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.5' VOID		
	-2.0	R-1	N/A	2.5		-2.5 - -1.8' FILL: Brown f-m sand and gravel	0.0	125-SB-032-0402AG collected from 2.5-2.0' ags @ 14:05 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
	-1.0					-1.8 - 0.0' FILL: Reddish brown fine sand, trace silt		
	0.0	R-2	N/A	3.5		0.0 - 3.0' FILL: Reddish brown fine sand, trace silt, trace clay and f-m gravel; moist from 2.5' bgs	0.0	125-SB-032-0200AG collected from 0.5-0.0' ags @ 14:10 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
	1.0							
	2.0							
	3.0					3.0 - 3.5' FILL: Brown f-c sand, trace silt and gravel		
	4.0	R-3	N/A	2.5		3.5 - 4.0' No recovery	0.0	
	5.0					4.0 - 5.0' FILL: Brick, gravel, and wood; wet		
	6.0					5.0 - 6.5' FILL: Brown f-m sand, trace silt; white/green COPR from 5.0-5.4' bgs; wet		125-SB-032-0406 collected from 5.0-5.5 bgs @ 14:30; Hex Chromium 125-SB-032-0608 collected from 6.0-6.5' bgs @ 14:35; Hex Chromium
	7.0					6.5 - 8.0' No recovery		
	8.0	R-4	N/A	4.0		8.0 - 10.0' FILL: Brown silty clay, trace fine sand; wet	0.0	
	9.0							
	10.0					10.0 - 12.0' FILL: Brown silty sand, wet; end of boring @ 12.0' bgs		125-SB-032-0810 collected from 9.5-10.0' bgs @ 14:40;Hex Chromium
	11.0							125-SB-032-1012 collected from 11.5-12.0' bgs @ 14:45; Hex Chromium; HOLD
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, Jersey City, New Jersey
PROJECT NO: 3480050143
BORING ID: 125-SB-033
DATE BEGAN: 6/26/09
DATE FINISHED: 6/26/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #181; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	2.0		-2.0 - -1.0' FILL: Brown f-m sand	0.0	
	-1.0					-1.0 - 3.5' FILL: Reddish brown silty sand, some f-m gravel; trace concrete, brick, clinker, and coal		
	0.0	R-2	N/A	3.5			0.0	
	1.0							
	2.0							
	3.0							
						3.5 - 4.0' No recovery		
	4.0	R-3	N/A	4.0		4.0 - 6.0' FILL: Reddish brown silty sand; trace f-m gravel, concrete, brick, clinker, and coal	0.0	
▼	6.0					6.0 - 6.5' FILL: Brick and wood; wet		
	7.0					6.5 - 7.8' FILL: Brown silty sand; wet		125-SB-033-0608 collected from 7.0-7.5' bgs @ 9:45; HOLD
	8.0	R-4	N/A	4.0		7.8 - 9.5' FILL: Brown silty clay, trace sand; wet	0.0	
	9.0							125-SB-033-0810 collected from 9.0-9.5' bgs @ 9:50
	10.0					9.5 - 12.0' FILL: Brown f-m sand, trace silt; wet; end of boring @ 12.0' bgs		
	11.0							125-SB-033-1012 collected from 11.5-12.0' bgs @ 9:55; HOLD
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, Jersey City, New Jersey
PROJECT NO: 3480050143
BORING ID: 125-SB-034
DATE BEGAN: 6/26/09
DATE FINISHED: 6/26/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #180; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	2.0		-2.0 - -1.0' FILL: Brown f-m sand	0.0	
	-1.0					-1.0 - -0.3' FILL: Reddish brown fine sand, trace fine gravel and silt		
	0.0	R-2	N/A	2.5		-0.3 - 0.0' FILL: Concrete	0.0	
	1.0					0.0 - 2.0' FILL: Reddish brown silty sand, some fine gravel, trace coal and brick		
	2.0					2.0 - 2.5' FILL: Dark brown f-m sand and clinker, some concrete		
	3.0					2.5 - 4.0' No recovery		
	4.0	R-3	N/A	2.2		4.0 - 6.2' FILL: Brown silty sand, some f-m gravel; trace clay, concrete, brick, clinker, and coal; trace white clayey COPR @ 6.2' bgs; wet from 5.0' bgs	0.0	
	5.0							
	6.0							
	7.0					6.2 - 8.0' No recovery		
	8.0	R-4	N/A	4.0		8.0 - 8.8' FILL: Yellow/white clayey COPR, some gravel, trace glass	0.0	125-SB-034-0810 collected from 8.0-8.5' bgs @ 10:15
	9.0					8.8 - 9.0' FILL: Brown f-c sand, some wood and fine gravel		
	10.0					9.0 - 13.0' FILL: Brown silty sand, some clay from 11.75' bgs; seam of white clayey COPR and black clay from 12.9' bgs		
	11.0							
	12.0	R-5	N/A	2.0			0.0	
	13.0						0.0	
	14.0					13.0 - 14.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 14.0' bgs	8.0 21.3 4.4	125-SB-034-1012 collected from 13.5-14.0' bgs @ 10:30

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-035
DATE BEGAN: 6/26/09
DATE FINISHED: 6/26/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14.5 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #179; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	2.0		-2.0 - -0.3' FILL: Brown f-m sand	0.0	
	-1.0					-0.3 - 0.0' FILL: Reddish brown silty sand; trace fine gravel, brick, coal, and clinker		125-SB-035-0200AG collected from 1.0-0.5' ags @ 10:55 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
	0.0	R-2	N/A	4.0		0.0 - 4.0' FILL: Reddish brown/brown/dark brown silty sand; trace fine gravel and reddish brown COPR nodules from 1.8-2.2' bgs; moist from 2.0' bgs	0.0	125-SB-035-0002 collected from 1.5-2.0 bgs @ 11:00; Hex Chromium
	1.0							
	2.0							125-SB-035-0204 collected from 3.5-4.0 bgs @ 11:05; Hex Chromium
	3.0							
	4.0	R-3	N/A	2.5		4.0 - 5.5' FILL: Brick and wood, some dark brown f-m sand; wet	0.0	125-SB-035-0406 collected from 4.0-4.5 bgs @ 11:10; Hex Chromium; low sample volume
	5.0							
	6.0					5.5 - 6.5' FILL: Yellow/light brown clayey COPR, trace fine sand; wet		125-SB-035-0608 collected from 6.0-6.5' bgs @ 11:15; Hex Chromium
	7.0					6.5 - 8.0' No recovery		
	8.0	R-4	N/A	4.0		8.0 - 9.0' FILL: Yellow/light brown clayey COPR, trace fine sand; wet	0.0	125-SB-035-0810 collected from 8.5-9.0' bgs @ 11:20; Hex Chromium
	9.0					9.0 - 11.0' FILL: Brown f-m sand, trace silt, some green-stained wood from 9.1-9.2' bgs; wet		
	10.0							
	11.0					11.0 - 12.0' FILL: Dark brown clayey silt, trace fine sand; wet		125-SB-035-1012 collected from 11.5-12.0' bgs @ 11:25; Hex Chromium
	12.0	R-5	N/A	2.5		12.0 - 12.5' FILL: White clayey COPR and black clayey silt, wet	0.0 0.0	
	13.0					12.5 - 14.5' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 14.5' bgs	11.6 12.3 8.9 7.4	125-SB-035-1214 collected from 13.5-14.0' bgs @ 11:30; Hex Chromium; HOLD
	14.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, Jersey City, New Jersey
PROJECT NO: 3480050143
BORING ID: 125-SB-036
DATE BEGAN: 6/26/09
DATE FINISHED: 6/26/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 5 ft bgs
GW DEPTH: Not encountered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.1' CONCRETE		Field Map #216; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.1 - -2.0' VOID		
	-2.0	R-1	N/A	1.0		-2.0 - -1.0' FILL: Brown fine sand, trace clinker and coal	0.0	
	-1.0					-1.0 - 0.0' No recovery		
	0.0	R-2	N/A	3.0		0.0 - 0.8' FILL: Brown fine sand, trace clinker and coal	0.0	
	1.0					0.8 - 2.3' FILL: Reddish brown sandy silt, some fine gravel, clinker, brick, coal, and concrete; moist from 1.5' bgs		
	2.0					2.3 - 3.0' FILL: Dark brown sandy silt, trace clay; very stiff		
	3.0					3.0 - 5.0' No recovery; refusal at 5.0' bgs		
	4.0	R-3	N/A	0.0			0.0	
	5.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-037
DATE BEGAN: 6/26/09
DATE FINISHED: 6/26/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.1' CONCRETE		
	-3.0					-3.1 - -2.0' VOID		
	-2.0	N/A	N/A	N/A		-2.0 - 4.0' FILL: See 125-SB-036 log for details	N/A	
	-1.0							
	0.0	N/A	N/A	N/A			N/A	
	1.0							
	2.0							
	3.0							
	4.0	R-1	N/A	1.5		4.0 - 5.5' FILL: Brown/dark brown silty sand, some f-m gravel and brick, trace clay and clinker; wet from 5.0'	0.0	Boring located in warehouse 4 ft above parking lot grade. Second attempt at Field Map #179; moved 2 ft NW of 125-SB-036. Driller cored through concrete and advanced to 4 ft bgs before sampling.
	5.0							
	6.0					5.5 - 8.0' No recovery		
	7.0							
	8.0	R-2	N/A	4.0		8.0 - 9.0' FILL: Yellow/white clayey COPR, trace sand and glass; trace green-stained wood @ 8.9'; wet	0.0	
	9.0					9.0 - 11.0' FILL: Brown f-m sand, trace silt; wet		
	10.0							
	11.0					11.0 - 12.0' FILL: Dark brown clayey silt, trace fine sand; wet		
	12.0	R-3	N/A	2.0		12.0 - 12.8' FILL: White clayey COPR, trace sand; wet	0.0	
	13.0					12.8 - 14.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 14.0' bgs	0.0 5.3 12.8 9.7	125-SB-037-1214 collected from 13.5-14.0' bgs @ 13:20
	14.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-038
DATE BEGAN: 6/29/09
DATE FINISHED: 6/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 1 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #218; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	2.0		-2.0 - -1.0' FILL: Brown/dark brown fine sand	0.0	
	-1.0					-1.0 - 1.0' FILL: Reddish brown silt and fine sand; trace fine gravel, concrete, brick, and clinker		
	0.0	R-2	N/A	2.0			0.0	
	1.0					1.0 - 1.8' FILL: Dark brown sandy silt; wet		
	2.0					1.8 - 2.0' FILL: Brick and f-m gravel, some wood and f-m sand; wet		
	3.0					2.0 - 4.0' No recovery		
	4.0	R-3	N/A	0.5		4.0 - 4.5' FILL: Brick and f-m gravel, some wood and f-m sand; wet	0.0	
	5.0					4.5 - 12.0' No recovery		
	6.0							
	7.0							
	8.0	R-4	N/A	0.0			0.0	
	9.0							
	10.0							
	11.0							
	12.0	R-5	N/A	2.0		12.0 - 13.0' FILL: Brown silty clay, trace fine sand; very soft, wet	0.0	
	13.0						0.0	
	14.0					13.0 - 13.6' OL: Very dark grayish brown (10YR 3/2) clayey silt, some organic material; moist, firm	0.0 8.4 19.8	125-SB-038-1214 collected from 13.5-14.0' bgs @ 8:25
						13.6 - 14.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 14.5' bgs		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-039
DATE BEGAN: 6/29/09
DATE FINISHED: 6/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #217; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	2.0		-2.0 - -1.0' FILL: Brown f-m sand	0.0	
	-1.0					-1.0 - 2.0' FILL: Reddish brown silt, some f-m sand; trace fine gravel, concrete, and brick; moist from 1.5'		
	0.0	R-2	N/A	2.5			0.0	
	1.0					2.0 - 2.5' FILL: Dark brown fine sand, trace fine gravel and clinker; wet		
	2.0					2.5 - 4.0' No recovery		
	3.0							
	4.0	R-3	N/A	3.5		4.0 - 7.3' FILL: Reddish brown/brown/dark brown silt, some f-m sand and gravel; trace clinker, wood, and brick; wet	0.0	
	5.0							
	6.0					7.3 - 7.5' FILL: Yellow clayey COPR, trace f-m sand; wet		
	7.0					7.5 - 8.0' No recovery		
	8.0	R-4	N/A	2.5		8.0 - 8.5' FILL: Yellow/white clayey COPR, trace f-m sand; wet	0.0	
	9.0					8.5 - 10.3' FILL: Brown f-m sand, trace silt		
	10.0					10.3 - 10.5' FILL: Dark brown silt, some fine sand; wet		
	11.0					10.5 - 12.0' No recovery	0.0	
	12.0	R-5	N/A	4.0		12.0 - 12.5' FILL: Dark brown silt, some fine sand; wet	0.0	
	13.0					12.5 - 12.7' FILL: Black fine sand, some clinker, trace silt and white/green COPR; wet	0.3	125-SB-039-1214 collected from 13.5-14.0' bgs @ 9:15
	14.0					12.7 - 13.0' OL: Very dark grayish brown (10YR 3/2) clayey silt, some organic material	5.5	
	15.0					13.0 - 16.0' PT: Dark olive brown (2.5Y 3/3) to very dark brown (10YR 2/2) peat	12.6 8.2 13.0 17.5	
	16.0						0.4	

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-040
DATE BEGAN: 6/29/09
DATE FINISHED: 6/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 1 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #194; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	0.3		-2.0 - -1.7' FILL: Reddish brown silt, some f-m sand and fine gravel	0.0	
	-1.0					-1.7 - 0.0' No recovery		
	0.0	R-2	N/A	1.5		0.0 - 1.3' FILL: Reddish brown silt, some f-m sand and fine gravel	0.0	
	1.0					1.3 - 1.5' FILL: Dark brown fine sand, trace fine gravel and clinker; wet		
	2.0							
	3.0					2.5 - 4.0' No recovery		
	4.0	R-3	N/A	3.0		4.0 - 6.0' FILL: Dark brown fine sand, trace fine gravel and clinker; wet	0.0	125-SB-040-0406 collected from 4.0-4.5' bgs @ 11:45
	5.0							
	6.0					6.0 - 7.0' FILL: Brown f-m sand, trace silt; wet		125-SB-040-0608 collected from 6.5-7.0' bgs @ 11:50
	7.0					7.0 - 8.0' No recovery		
	8.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-041
DATE BEGAN: 06/29/09
DATE FINISHED: 06/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #193; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	1.5		-2.0 - -1.5' FILL: Brown f-m sand, trace fine gravel	0.0	
	-1.0					-1.5 - -0.5' FILL: Reddish brown silt, some fine sand and gravel, trace brick		
						-0.5 - 0.0' No recovery		
	0.0	R-2	N/A	2.5		0.0 - 0.3' FILL: Reddish brown silt, some fine sand and gravel, trace brick	0.0	
	1.0					0.3 - 1.8' FILL: Yellowish brown fine sand, trace fine gravel, silt & coal		
▽	2.0					1.8 - 2.3' FILL: Brown/ reddish brown silt, some fine sand, trace fine gravel & coal & brick; wet from 2.0'		
						2.3 - 2.8' FILL: Wood; wet		Obstruction at 3.0' bgs; drilled through wood
	3.0					2.8 - 3.0' No recovery		
						3.0 - 3.5' FILL: Wood; wet		
	4.0	R-3	N/A	2.5		3.5 - 4.0' No recovery	0.0	125-SB-041-0406 from 4.0-4.5' bgs @ 12:50
	5.0					4.0 - 4.5' FILL: Yellowish brown fine sand; wet		
						4.5 - 6.0' FILL: Dark brown f-m gravel & wood, some f-m sand; wet		
	6.0					6.0 - 6.5' FILL: Brown f-m sand; wet		125-SB-041-0608 from 6.0-6.5' bgs @ 12:55
	7.0					6.5 - 8.0' No recovery; end of boring at 8.0' bgs		
	8.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-041R
DATE BEGAN: 12/1/10
DATE FINISHED: 12/1/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.3' FILL: Reddish brown silt, some fine sand and gravel, trace brick	0.0	
	1.0					0.3 - 1.8' FILL: Yellowish brown fine sand, trace fine gravel, silt & coal		
	2.0					1.8 - 2.3' FILL: Brown/ reddish brown silt, some fine sand, trace fine gravel & coal & brick; wet from 2.0'		
	2.3					2.3 - 2.8' FILL: Wood; wet		
	2.8					2.8 - 3.0' No recovery		
	3.0					3.0 - 3.5' FILL: Wood; wet		
	3.5					3.5 - 4.0' No recovery		
	4.0	R-2	N/A	2.5		4.0 - 4.5' FILL: Yellowish brown fine sand; wet	0.0	
	4.5					4.5 - 6.0' FILL: Dark brown f-m gravel & wood, some f-m sand; wet		
	6.0					6.0 - 6.5' FILL: Brown f-m sand; wet		
	6.5					6.5 - 8.0' No recovery		
	8.0	R-3	N/A	1.5		8.0 - 9.5' FILL: Light brown fine to medium sand; wet	0.0	125-SB-041R-0810 from 9.0-9.5' bgs @ 12:30
	9.5					9.5 - 10.0' No recovery; end of boring at 10.0' bgs.		
	10.0							

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-042
DATE BEGAN: 06/29/09
DATE FINISHED: 06/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.2' CONCRETE		Field Map #192; boring located in warehouse 4 ft above parking lot grade
	-3.0					-3.2 - -2.0' VOID		
	-2.0	R-1	N/A	2.0		-2.0 - -1.5' FILL: Brown f-m sand	0.0	
	-1.0					-1.5 - 2.0' FILL: Reddish brown silt, some fine sand and gravel; trace brick, clinker and coal; wet from 1.5'		
	0.0	R-2	N/A	2.5			0.0	
	1.0							
	2.0					2.0 - 2.5' FILL: Wood with creosote odors; wet		
	3.0					2.5 - 4.0' No recovery		
	4.0	R-3	N/A	3.0		4.0 - 4.5' FILL: Black silt, some fine sand & wood, some f-c gravel; wet	0.0	
	5.0					4.5 - 5.0' FILL: White clayey silt (potential COPR); wet		125-SB-042-0406 from 4.5-5.0' bgs @ 13:05
	6.0					5.0 - 7.0' FILL: Light brown silt, some f-m sand & gravel; wet		125-SB--042-0608 from 6.5-7.0' bgs @ 13:10
	7.0					7.0 - 8.0' No recovery, end of boring @ 8.0'		
	8.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-043
DATE BEGAN: 06/29/09
DATE FINISHED: 06/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 1.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.3' CONCRETE		
	-3.0					-3.3 - -2.0' VOID		
	-2.0	R-1	N/A	1.0		-2.0 - -1.0' FILL: Brown/ reddish brown silt, trace fine sand & gravel, trace concrete & brick	0.0	
	-1.0					-1.0 - 0.0' No recovery		
	0.0	R-2	N/A	2.0		0.0 - 1.0' FILL: Brown/ reddish brown silt, trace fine sand & gravel, trace concrete & brick	0.0	
	1.0					1.0 - 2.0' FILL: Wood with creosote odos and sheen; wet	0.9 2.0	
	2.0					2.0 - 4.0' FILL: No recovery	0.4	
	3.0							
	4.0	R-3	N/A	3.0		4.0 - 4.7' FILL: Dark brown silt, some fine sand & wood with tarry creosote, lens of while clayey COPR from 4.5-4.6'; wet	0.0 0.1	125-SB-043-0406 from 4.5-5.0' bgs @ 14:00; HOLD
	5.0					4.7 - 6.5' FILL: Brown f-m sand; wet		
	6.0						0.0	
	7.0					6.5 - 7.0' FILL: Brown silt, some fine sand		125-SB--043-0608 from 6.5-7.0' bgs @ 14:05; HOLD
	8.0					7.0 - 8.0' No recovery, end of boring @ 8.0'		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-044
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field # 204 Driller cored through asphalt
	1.0					0.5 - 1.5' FILL: Brown f-c sand, some f-m gravel, trace silt		
	2.0					1.5 - 3.0' FILL: Reddish brown/gray/brown silt & fine sand, trace f-m gravel, brick, wood, ceramics, coal & clinker		
	3.0					3.0 - 3.5' FILL: Brown f-m sand, some fine gravel, trace coal, asphalt, wood & clinker; moist		
						3.5 - 4.0' No recovery		
	4.0	R-2	N/A	3.0		4.0 - 4.5' FILL: Brown f-c sand and f-m brick, some wood; wet with sheen	0.0	
	5.0					4.5 - 6.8' FILL: Brown f-m sand, trace silt; wet		
	6.0					6.8 - 7.0' FILL: Brown clayey silt; trace fine sand; wet; soft		125-SB--044-0608 from 6.0-6.5' bgs @ 8:25; HOLD
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 9.0' FILL: Dark brown clayey silt; trace fine sand; wet; soft	0.0	125-SB-044-0810 from 8.5-9.0' bgs @ 8:30
	9.0					9.0 - 12.0' FILL: Brown f-m sand, trace silt, 0.5" clay lens @ 9.2'; wet; end of boring @ 12.0' bgs		
	10.0							
	11.0							125-SB-044-1012 from 11.5-12.0' bgs @ 8:55; HOLD
	12.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-045
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field # 202
	1.0					0.5 - 1.5' FILL: Brown f-m sand & gravel		
	2.0					1.5 - 4.0' FILL: Brown /dark brown f-m sand, some f-m gravel, trace brick, coal, glass, clinker, and silt		
	3.0							
	4.0	R-2	N/A	3.0		4.0 - 4.5' FILL: Wood with creosote & sheen, some f-m brick and sand; wet	0.0	
	5.0					4.5 - 5.5' FILL: Brown f-m sand, trace wood from 4.5-4.7'; wet		125-SB--045-0406 from 5.0-5.5' bgs @ 8:55
	6.0					5.5 - 6.8' FILL: Brown clayey silt, trace fine sand; wet		125-SB--045-0608 from 6.0-6.5' bgs @ 9:00
	7.0					6.8 - 7.0' FILL: Brown f-m sand, trace clay; wet		
	8.0	R-3	N/A	4.0		7.0 - 8.0' No recovery	0.0	
	9.0					8.0 - 11.0' FILL: Brown f-m sand, trace silt; wet		125-SB-045-0810 from 8.5-9.0' bgs @ 9:05
	10.0							
	11.0					11.0 - 11.4' FILL: Brown clayey silt, trace fine sand; wet		125-SB-045-1012 from 10.5-11.0' bgs @ 9:10; HOLD
	12.0					11.4 - 11.6' FILL: Brown f-m sand; wet		
						11.6 - 12.0' FILL: Dark brown fine sand, some silt and clay, trace organic material; wet; end of boring @ 12.0' bgs		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-046
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field # 199
						0.5 - 1.0' FILL: Brown f-m sand & gravel		Drillers cored through asphalt
	1.0					1.0 - 3.0' FILL: Reddish brown fine sand, trace concrete, fine gravel & brick		
	2.0							
	3.0					3.0 - 3.5' FILL: Concrete		
						3.5 - 4.0' FILL: Dark brown f-m sand, some silt, trace clinker, coal, fine gravel, metal fragments, & wood		
▽	4.0	R-2	N/A	3.0			0.0	
						4.0 - 4.5' FILL: Brown f-m sand, some f-m brick & gravel, trace wood and ceramics; wet		
	5.0					4.5 - 6.0' FILL: Brown f-m sand, some silt and fine gravel; wet		
	6.0					6.0 - 6.5' Brown silt, some fine sand; wet		
						6.5 - 7.0' FILL: Brown f-m sand; wet		125-SB--046-0608 from 6.5-7.0' bgs @ 9:40; HOLD
	7.0					7.0 - 8.0' FILL: No recovery		
	8.0	R-3	N/A	4.0		8.0 - 9.8' FILL: Brown f-c sand; wet	0.0	
								125-SB-046-0810 from 8.5-9.0' bgs @ 9:45; DUP @ 9:48
	9.0							
	10.0					9.8 - 10.3' FILL: Brown silty clay, trace fine sand; wet		
						10.3 - 12.0' FILL: Brown f-m sand; wet; end of boring @ 12.0' bgs		
	11.0							
	12.0							125-SB-046-1012 from 11.5-12.0' bgs @ 9:50; HOLD

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-047
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 4.5 ft bgs
GW DEPTH: NE ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1		3.5		0.0 - 0.5' ASPHALT	0.0	Field # 200
						0.5 - 1.0' FILL: Brown f-m sand & gravel		Drillers cored through asphalt
	1.0					1.0 - 2.5' FILL: Reddish brown fine sand & silt; trace f-m gravel, trace coal		
	2.0							
						2.5 - 4.0' FILL: Brown/dark brown f-m sand & clinker, trace f-m brick & gravel, trace greenish yellow granular COPR from 3.4-3.5'		
	3.0							
	4.0					4.0 - 4.5' No recovery; refusal @ 4.5' bgs		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-048
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' See Log for 125-SB-047 for 0-4.0'; Driller advanced to 4.0'		Step out 2 ft east for Location # 200 (125-SB-047)
	1.0							
	2.0							
	3.0							
	4.0	R-1	N/A	3.5		4.0 - 5.0' FILL: Dark brown f-m gravel & clinker, some f-m sand, trace brick, ceremics, coal, and wood, white clay and fine sand (COPR) from 4.8-4.9'; wet; trace sheen	0.0	
	5.0					5.0 - 7.5' FILL: Brown f-m sand, some silt from 5.5-6.0' and 6.5-7.0'; wet		
	6.0							
	7.0							125-SB--048-0608 from 7.0-7.5' bgs @ 10:20; HOLD
	8.0	R-2	N/A	4.0		7.5 - 8.0' FILL: No recovery 8.0 - 12.0' FILL: Brown f-c sand, some silt from 10.5-11.0'; wet; end of boring @ 12.0' bgs	0.0	125-SB-048-0810 from 8.5-9.0' bgs @ 10:25
	9.0							
	10.0							
	11.0							
	12.0							125-SB-048-1012 from 11.5-12.0' bgs @ 10:30; HOLD

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-049
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0							
				3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 201
		R-1	N/A			0.5 - 1.0' FILL: Brown f-m sand & gravel		Drillers cored through asphalt
	1.0					1.0 - 1.5' FILL: Reddish brown silt, some f-m gravel, trace fine sand		
	2.0					1.5 - 4.0' FILL: Dark brown/brown f-m sand, some f-m clinker , trace silt, brick, concrete, glass, & gravel		
	3.0							
	4.0	R-2	N/A	3.0		4.0 - 5.0' FILL: Dark brown/brown f-m sand, some f-m clinker , trace silt, brick, concrete, glass, & gravel, green/white clayey fine sand (COPR) from 4.6-4.8'; wet	0.0	
	5.0					5.0 - 5.5' FILL: Brown f-m sand; wet		
	6.0					5.5 - 6.5' FILL: Brown silt; trace clay & fine sand; wet		
	7.0					6.5 - 7.0' FILL: Brown f-m sand; wet		125-SB--049-0608 from 6.0-6.5' bgs @ 10:45; HOLD
						7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 11.0' FILL: Brown f-c sand; wet	0.0	
	9.0							125-SB-049-0810 from 8.5-9.0' bgs @ 10:50
	10.0							
	11.0					11.0 - 11.6' FILL: Brown clayey silt; trace fine sand; wet		125-SB-049-1012 from 11.0-11.5' bgs @ 10:55; HOLD
	12.0					11.6 - 12.0' FILL: Grayish brown fine sand, some lenses of silt; wet; end of boring @ 12.0'bgs		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-050
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' ASPHALT	0.0	Field Map # 205
	1.0	R-1	N/A	4.0		0.5 - 1.5' FILL: Brown f-m sand & gravel		Drillers cored through asphalt
	2.0					1.5 - 2.5' FILL: Reddish brown fine sand & silt, trace clinker, coal, glass, brick, & fine gravel	0.0	
	3.0					2.5 - 4.0' FILL: Dark brown/black f-m sand, some brick, trace clinker & gravel, wood & yellow/white clayey COPR from 3.8'		
	4.0	R-2	N/A	2.5		4.0 - 4.8' FILL: Dark brown f-m gravel and wood, some f-c sand and brick, trace white claysy COPR from 4.6'; wet	0.0	
	5.0					4.8 - 5.0' FILL: Green/yellow gray clayey COPR, some f-m sand, trace wood; wet		
	6.0					5.0 - 6.0' FILL: Brown f-m sand, trace silt; wet	0.0	125-SB--050-0608 from 6.0-6.5' bgs @ 11:35; HOLD
	7.0					6.0 - 6.5' FILL: Brown silt, some fine sand, trace clay; wet		
						6.5 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 8.8' FILL: Brown silt, some fine sand, trace clay; wet	0.0	125-SB-050-0810 from 8.0-8.5' bgs @ 11:40
	9.0					8.8 - 11.8' FILL: Brown f-m sand, trace silt; wet		
	10.0						0.0	
	11.0							125-SB-050-1012 from 11.0-11.5' bgs @ 11:45; HOLD
	12.0					11.8 - 12.0' FILL: Brown clayey silt; trace fine sand; wet; end of boring @ 12.0' bgs		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-051
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' ASPHALT	0.0	Field Map # 186
	1.0	R-1	N/A			0.5 - 1.2' FILL: Brown f-m sand and gravel		Drillers cored through asphalt
						1.2 - 1.5' FILL: Reddish brown silt and fine sand, trace gravel		
	2.0					1.5 - 2.0' FILL: Dark brown f-m sand, some f-m clinker, trace gravel, brick, coal, & glass		
	3.0					2.0 - 2.8' FILL: Yellowish brown clayey sand (COPR)		
						2.8 - 4.0' FILL: Dark brown fine sand, some silt		
	4.0	R-2	N/A	4		4.0 - 5.5' FILL: Dark brown fine sand, some silt, trace yellowish brown sandy COPR from 4.0-4.3', trace brick and fine gravel from 4.5-4.7'; wet	0.0	
	5.0							
	6.0					5.5 - 6.8' FILL: Dark brown f-m sand, some f-m gravel and clinker, trace wood and ceramics; wet		
						6.8 - 7.0' Wood and yellowish brown clayey COPR; wet		
	7.0					7.0 - 8.0' FILL: Brown f-m sand, trace silt; wet		
	8.0	R-3	N/A	0		8.0 - 12.0' FILL: No recovery; end of boring @ 12' bgs	NA	
	9.0							
	10.0							
	11.0							
	12.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-052
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' ASPHALT		2 ft. East of Field Map # 186 No PID due to rain
	1.0					0.5 - 8.0' FILL: See 125-SB-051 for 0-8'; driller advanced to 8.0'bgs.		
	2.0							
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0	R-1	N/A	4.0		8.0 - 10.5' FILL: Brown/dark brown f-m sand, trace silt; wet	N/A	125-SB-052-0810 from 8.5-9.0' bgs @ 12:55; HOLD
	9.0							
	10.0							
	11.0					10.5 - 11.5' FILL: Brown clayey silt, some lenses of f-c sand		
	12.0					11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs		125-SB-052-1112 from 11.5-12.0' bgs @ 13:00; HOLD

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-053
DATE BEGAN: 07/02/09
DATE FINISHED: 07/02/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' ASPHALT	N/A	Field Map # 176 No PID due to rain Drillers cored through asphalt
		R-1	N/A	3.5		0.5 - 1.5' FILL: Brown f-m sand & gravel		
	1.0							
						1.5 - 3.5' FILL: Reddish brown/dark brown fine sand & silt, some fine clinker from 2-2.5', trace f-m gravel, brick, coal, & glass		
	2.0							
	3.0							
						3.5 - 4.0' FILL: Dark brown silt & fine sand; firm; moist		
	4.0	R-2	N/A	3.0		4.0 - 5.0' FILL: Dark brown silt & fine sand; firm; wet	N/A	
	5.0							
						5.0 - 7.0' FILL: Dark brown f-m sand, some fine gravel & clinker, trace brick, coal & silt; wet		
	6.0							
								125-SB--053-0608 from 6.5-7.0' bgs @ 13:15; HOLD
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 11.5' FILL: Brown/ dark brown silty fine sand, some clay lenses; wet	N/A	
	9.0							125-SB-053-0810 from 9.0-9.5' bgs @ 13:20
	10.0							
	11.0							
						11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs		125-SB-053-1012 from 11.0-11.5' bgs @ 13:25; HOLD
	12.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-054
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 13.5 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 173
	1.0					0.5 - 1.0' FILL: Brown f-m sand & gravel		
	2.0					1.0 - 4.0' FILL: Reddish Brown silt & fine sand, trace gravel, coal, & clinker		125-SB--054-0002 from 1.5-2.0' bgs @ 8:30;
	3.0							
	4.0	R-2	N/A	4.0		4.0 - 4.5' FILL: Reddish Brown silt & fine sand, trace gravel, coal, & clinker	0.0	125-SB-054-0204 from 3.5-4.0' bgs @ 8:35
	5.0					4.5 - 8.0' FILL: Very dark grayish brown silt, some fine sand; white/green clayey COPR from 7.8'; wet; firm		125-SB-054-0406 from 4.5-5.0' bgs @ 8;40
	6.0							
	7.0							125-SB--054-0608 from 7.5-8.0' bgs @ 8:45;
	8.0	R-3	N/A	3.5		8.0 - 10.0' FILL: Brown silty fine sand; wet	0.0	125-SB-054-0810 from 8.0-8.5' bgs @ 8:50
	9.0							
	10.0					10.0 - 10.8' FILL: Dark brown sandy silt, trace clay; wet; soft		
	11.0					10.8 - 11.3' FILL: Dark brown f-m sand; wet		125-SB-054-1012 from 11.0-11.5' bgs @ 8:55
	12.0	R-4		1.5		11.3 - 11.5' OL: Very dark grayish brown (10YR 3/2) clayey silt & organic material	0.0	125-SB-054-1214 from 12.0-12.5' bgs @ 9:00; HOLD
	13.0					11.5 - 12.0' No recovery		
						12.0 - 13.5' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 13.5'		

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-055
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #182 2ft offset ESE
						0.5 - 1.0' FILL: Brown f-m sand & gravel		
	1.0					1.0 - 4.0' FILL: Reddish brown silt & fine sand, trace gravel, coal, & clinker		
	2.0							
	3.0							
	4.0	R-2	N/A	3.0		4.0 - 4.5' FILL: Reddish brown silt & fine sand, trace gravel, coal, & clinker	0.0	
						4.5 - 5.0' FILL: Brown f-m sand, fine gravel; wet		
	5.0					5.0 - 6.5' FILL: Very dark brown grayish brown silt & fine sand; wet; firm		
	6.0							
	7.0					6.5 - 7.0' FILL: Dark brown f-m sand, some f-m gravel, trace brick, clinker, wood, & plastic; wet		
						7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 9.0' FILL: Dark brown f-m sand, some f-m gravel, trace brick, clinker, wood, & plastic with yellow clayey COPR; wet	0.0 0.0 0.0	
	9.0					9.0 - 10.0' FILL: Brown silty fine sand; wet	0.0	
	10.0					10.0 - 10.8' FILL: Dark brown silt, some fine sand, trace clay; wet	0.0 0.0	
	11.0					10.8 - 11.0' FILL: Brown silt & fine sand, trace yellow/green COPR; wet	3.1	
						11.0 - 11.2' OL: Very dark grayish brown silt, some organic matter, trace fine sand & clay; wet	12.0 7.8	125-SB-055-1012 from 11.5-12.0' bgs @ 9:10
	12.0					11.2 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs.		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-056
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0	Field Map # 183
						0.5 - 1.0' FILL: Brown f-m sand and gravel		
	1.0					1.0 - 3.3' FILL: Reddish brown/brown fine sand, some silt and fine gravel; trace brick, clinker, coal, wood and glass; firm.		
	2.0							
	3.0					3.3 - 3.5' FILL: Very dark grayish brown silt and fine sand		125-SB-056-0204 collected from 3.0-3.5' bgs @ 9:40
						3.5 - 4.0' No recovery		
	4.0	R-2	N/A	3		4.0 - 5.0' FILL: Reddish brown fine sand, some f-m gravel; trace silt, brick and clinker	0	
	5.0					5.0 - 6.5' FILL: Dark brown f-c sand, some f-m gravel; trace silt, brick, wood, glass, plastic and clinker; wet		125-SB-056-0406 collected from 5.0-5.5' bgs @ 9:45
	6.0					6.5 - 6.6' FILL: White/gray clayey COPR, trace fine sand; wet		
	7.0					6.6 - 7.0' FILL: Brown clayey silt, trace fine sand; wet		125-SB-056-0608 collected from 6.5-7.0' bgs @ 9:50
						7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4		8.0 - 8.5' OL: Black (2.5Y 2.5/1) clayey silt, some organic material; wet	0	
						8.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0'	0.5	125-SB-056-0810 collected from 8.5-9.0' bgs @ 9:55
	9.0						4.9	
							11.2	
	10.0						8.5	
							9.1	
	11.0						14.7	
							5.3	
	12.0						6.4	

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-057
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 197 Encountered refusal @ 2' bgs due to concrete; Refusal @ 2nd and 3rd attemps in 2' radius E and SE. Moved 5' South and tried again. Refusal @ 2' bgs. Refusal @ 5'East offset. Moved 5' NE and advanced to 4'bgs
	0.5					0.5 - 1.0' FILL: Brown f-m sand & gravel		
	1.0					1.0 - 2.3' FILL: Reddish brown silty fine sand, trace fine gravel, brick, coal, & glass		
	2.0							
	2.3					2.3 - 3.5' FILL: Dark brown/light brown f-m sand, some concrete, trace fine gravel, wood, & clinker		
	3.0							
	3.5					3.5 - 4.0' No recovery		
	4.0	R-2	N/A	3.0		4.0 - 4.8' FILL: Dark brown/ black f-c sand, some f-m gravel & brick, white clayey COPR from 4.2-4.6', green mottling from 4.6-4.8'; wet	0.0	
	4.8					4.8 - 6.5' FILL: Reddish brown/brown silty fine sand, trace clay from 6.0'; wet		
	5.0							
	6.0							
	6.5					6.5 - 7.0' FILL: Brown f-m sand; wet		125-SB-057-0608 from 6.5-7.0' bgs @ 10:30 HOLD
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	2.5		8.0 - 10.0' FILL: Brown f-m sand, some silt from 8.5-8.8'; wet	0.0	
	8.5						0.0	
	9.0						0.0	125-SB-057-0810 from 9.0-9.5' bgs @ 10:35
	9.5						0.0	
	10.0					10.0 - 10.5' PT: Dark olive brown (2.5Y 3/3) peat	0.4	125-SB-057-1012 from 10.0-10.5' bgs @ 10:40; HOLD
	10.5					10.5 - 12.0' No recovery; end of boring @ 12.0' bgs	3.0	
	11.0							
	12.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-058
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 198
						0.5 - 1.0' FILL: Brown f-m sand & gravel		
	1.0					1.0 - 2.7' FILL: Redish brown/dark brown silty fine sand, some fine gravel, trace brick, clinker, & coal, concrete from 2.4-2.5'		
	2.0					2.7 - 3.0' FILL: Gray & pale yellow crushed brick		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	3.0		4.0 - 4.5' FILL: Dark brown f-m grqavel & brick, trace f-m sand & wood; wet	0.0	
						4.5 - 5.7' FILL: Brown silty fine sand, trace clay from 5.0'; wet		125-SB-058-0406 from 4.5-5.0' bgs @ 10:55
	5.0							
	6.0					5.7 - 7.0' FILL: Brown f-m sand		
	7.0					7.0 - 8.0' No recovery		125-SB-058-0608 from 6.5-7.0' bgs @ 11:00
	8.0	R-3	N/A	3.8		8.0 - 10.8' FILL: Brown f-m sand	0.0	
							0.0	
	9.0						0.0	125-SB-058-0810 from 9.0-9.5' bgs @11:05
							0.0	
	10.0					10.8 - 11.0' OL: Very dark grayish brown(10YR 3/2) clayey silt, trace organic material	0.0	
							0.0	
	11.0					11.0 - 11.8' PT: Dark olive brown (2.5Y 3/3) peat	0.0	125-SB-058-1012 from 11.0-11.5' bgs @ 11:10; HOLD
							1.8	
	12.0					11.8 - 12.0' No recovery; end of boring @ 12.0' bgs	5.1	

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-059

DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus

DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT

SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs

DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 185
	1.0					0.5 - 1.0' FILL: Brown f-m sand & gravel		
	2.0					1.0 - 2.0' FILL: Reddish brown silt and fine sand, trace fine gravel		
	3.0					2.0 - 3.0' FILL: Brown f-m sand, some f-m gravel, trace clinker, brick, glass, coal		
	4.0	R-2	N/A	1.0		3.0 - 4.0' FILL: Very dark grayish brown silt and fine sand, trace f-m gravel, clinker, & wood	0.0	
	5.0					4.0 - 4.8' FILL: Very dark grayish brown silt and fine sand, trace f-m gravel, clinker, & wood; wet; firm		
	6.0					4.8 - 5.0' FILL: Dark brown f-c sand, fine gravel, trace silt and clinker; wet		
	7.0					5.0 - 8.0' No recovery		
	8.0	R-3	N/A	1.2		8.0 - 9.0' FILL: Brown f-m sand, traace fine gravel; wet	0.0 0.0	125-SB-059-0810 from 8.5-9.0' bgs @ 11:45; HOLD
	9.0					9.0 - 9.2' OL: Very dark grayish brown (10YR 3/2) silt, some peat fragments, trace clay & fine sand; wet'	0.0	
	10.0					9.2 - 12.0' No recovery	0.0 1.0 6.5 3.1	
	11.0							
	12.0	R-4	N/A	2.0		12.0 - 14.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs	12.2 7.4	125-SB-059-1214 from 12.5-13.0' bgs @ 11:50
	13.0							
	14.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-060
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6.5 ft. bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 184
						0.5 - 1.5' FILL: Brown f-m sand & gravel		
	1.0							
						1.5 - 3.0' FILL: Raddish brown silty fine sand, trace fine gravel, brick, & wood		
	2.0							
	3.0					3.0 - 4.0' FILL: Very dark grayish brown silt, some fine sand; firm		
	4.0	R-2	N/A	2.5		4.0 - 4.5' FILL: Reddish brown/dark brown silty fine sand, trace fine gravel, brick	0.0	
						4.5 - 5.0' FILL: F-m gravel; wet		
	5.0					5.0 - 6.0' FILL: Dark brown silty fine sand some fine gravel & clinker; wet		
	6.0					6.0 - 6.5' FILL: Brick and concrete; wet; refusal at 6.5' bgs due to concrete, end of boring @ 6.5' bgs		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-061
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	5 ft NE of #184
						0.5 - 1.0' FILL: Brown f-m sand & gravel		
	1.0					1.0 - 2.8' FILL: Reddish brown/brown silty fine sand, some brick, trace fine gravel; firm		
	2.0							
	3.0					2.8 - 5.0' FILL: Very dark grayish brown silt, some fine sand; firm; wet at 4.0'		
	4.0	R-2	N/A	3.0			0.0	
	5.0					5.0 - 7.0' FILL: Dark brown f-c sand, some f-m gravel and brick, trace wood @ 6.5', concrete from 6.5-6.8'; wet		
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 8.7' FILL: Dark greenish gray silty sand, trace f-m gravel & clay, trace white clayey COPR from 8.1-8.2'; wet	0.0	125-SB-061-0810 from 8.0-8.5' bgs @ 13:20; HOLD
						8.7 - 11.0' FILL: Brown f-m sand, trace silt, more silt from 10.0', trace clay from 10.5'; wet	0.0	
	9.0						0.0	
							0.0	
	10.0						0.0	
						11.0 - 11.5' OL: Very dark grayish brown (10YR 3/2) clayey silt, some organic material; wet	0.0	
	11.0						0.0	
						11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs	2.1	125-SB-061-1012 from 11.5-12.0' bgs @ 13:25
	12.0						9.7	

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-062
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #174
						0.5 - 1.0' FILL: Brown f-m sand & gravel		
	1.0					1.0 - 3.0' FILL: Reddish brown/brown fine sand, some silt & fine gravel, trace brick, coal, & clinker, some yellow-brown mottling from 2.5-2.8' (possible COPR)		
	2.0							
	3.0					3.0 - 8.0' FILL: Very dark grayish brown silt, some fine sand; firm; moist, wet at 4.0'		
	4.0	R-2	N/A	4.0			0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 9.7' FILL: Brown f-m sand, trace silt	0.0	
	9.0						0.0	
							0.0	
							0.0	
	10.0					9.7 - 10.5' FILL: Dark brown clayey silt, trace fine sand; soft; wet	0.0	

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-062
DATE BEGAN: 07/06/09
DATE FINISHED: 07/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0					10.5 - 11.3' FILL: Brown silty sand, some fine gravel, whilte/light brown clayey COPR throughout; wet	0.0	
							0.0	
						11.3 - 11.5' OL: Very dark grayish brown (10YR 3/2) clayey silt, trace organic material; wet	2.0	125-SB-062-1012 from 11.5-12.0' bgs @ 14:00
	12.0					11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs		

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-063
DATE BEGAN: 07/07/09
DATE FINISHED: 07/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #175
	1.0					0.5 - 2.0' FILL: Brown f-m sand, some f-m gravel		Initial refusal at 2.5' bgs. Moved 2' west.
	2.0							125-SB-063-0002 from 1.5-2.0' bgs @ 7:55
	3.0					2.0 - 3.5' FILL: Reddish brown silt, some fine sand, trace fine gravel, coal, & brick		
	4.0	R-2	N/A	3.5		3.5 - 7.0' FILL: Very dark grayish brown silt, some fine sand; wet at 4.0'	0.0	125-SB-063-0204 from 3.5-4.0' bgs @ 8:00
	5.0							125-SB-063-0406 from 5.0-5.5' bgs @ 8:05
	6.0							
	7.0					7.0 - 7.5' FILL: Yellow/white clayey COPR, trace f-m sand; wet		125-SB-063-0608 from 7.0-7.5' bgs @ 8:10
	8.0	R-3	N/A	4.0		7.5 - 8.0' No recovery	0.0	
	9.0					8.0 - 9.0' FILL: Brown f-m sand; wet		125-SB-063-0810 from 8.5-9.0 bgs @ 8:15
	10.0					9.0 - 11.0' FILL: Dark brown sandy silt, trace to some clay; wet		
	11.0					11.0 - 11.5' FILL: Light brown clayey COPR, trace f-m sand, fine gravel; wet		125-SB-063-1012 from 11.0-11.5' bgs @ 8:20
	12.0	R-4	N/A	2.0		11.5 - 12.0' OL: Very dark grayish brown (10YR 3/2) clayey silt, organic material; wet	0.0	
	13.0					12.0 - 14.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 14.0' bgs	5.1 2.4 6.8	125-SB-063-1214 from 12.5-13.0 bgs @ 8:25; HOLD
	14.0						12.0	

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-064
DATE BEGAN: 07/07/09
DATE FINISHED: 07/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #177
	1.0					0.5 - 1.5' FILL: Brown f-m sand & gravel		
	2.0					1.5 - 3.0' FILL: Brown/reddish brown silty sand, some fine gravel, trace brick, coal, & clinker		
	3.0					3.0 - 4.0' FILL: Very dark grayish brown silt, some fine sand; firm		
	4.0	R-2	N/A	4.0		4.0 - 8.0' FILL: Very dark grayish brown silt, some fine sand, brick & wood from 6.7-6.9'; firm; wet		
	5.0							
	6.0						0.0	
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 9.8' FILL: Brown f-m sand; wet	0.0	125-SB-064-0608 from 7.5-8.0' bgs @ 8:45; HOLD
	9.0						0.0 0.0 0.0	125-SB-064-0810 from 8.5-9.0' bgs @ 8:50
	10.0					9.8 - 11.0' FILL: Dark brown sandy silt, trace clay; wet	0.0 0.0	
	11.0					11.0 - 11.5' FILL: Black/dark brown silty sand, some f-m gravel, trace clay; wet	0.0	
	12.0					11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring @ 12.0' bgs	3.5 0.1	125-SB-064-1012 from 11.5-12.0' bgs @ 8:55; HOLD

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-065
DATE BEGAN: 07/07/09
DATE FINISHED: 07/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #178
	1.0					0.5 - 1.0' FILL: Brown f-m sand & gravel		
	2.0					1.0 - 2.5' FILL: Brown/reddish brown silty sand, some fine gravel, trace brick, clinker, & coal		
	3.0					2.5 - 4.0' FILL: Dark brown silty sand, some f-m gravel & brick, trace wood, coal, & clinker; moist		
	4.0	R-2	N/A	4.0		4.0 - 5.7' FILL: Dark brown silty sand, some f-m gravel & brick, trace wood, coal, & clinker, f-m sand from 4.5'; wet	0.0	
	5.0							
	6.0					5.7 - 8.0' FILL: Brown/dark brown/black f-m sand, some f-m gravel, trace clinker, glass, brick, green silty sand (COPR) from 7.0-7.2' and 7.8-8.0', yellow clayey COPR from 7.5-7.8'; wet		
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 11.0' FILL: Brown silty sand; firm; wet	0.0 0.0 0.0 0.0 0.0 0.0	125-SB-065-0810 from 9.0-9.5' bgs @ 9:35; DUP @ 9:37
	9.0							
	10.0							
	11.0					11.0 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 12.0' bgs	2.2 8.0 1.0	125-SB-065-1012 from 11.5-12.0' bgs @ 9:40; HOLD
	12.0							

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-066
DATE BEGAN: 07/07/09
DATE FINISHED: 07/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.8		0.0 - 0.5' ASPHALT	0.0	Field Map #203
	1.0					0.5 - 2.0' FILL: Brown f-m sand and gravel		No recovery on first run (0-4') due to gravel in shoe. Moved 2' NE.
	2.0					2.0 - 3.0' FILL: Dark brown silty sand, some f-m gravel, trace brick and clinker		
	3.0					3.0 - 3.8' FILL: Wood and brick		
						3.8 - 4.0' No recovery		
	4.0	R-2	N/A	2.5		4.0 - 4.8' FILL: Wood, some dark brown f-c sand & fine gravel, white green clayey sand (COPR) from 4.7-4.8'; wet	0.0	
	5.0					4.8 - 6.0' FILL: Brown f-m sand; wet		
	6.0					6.0 - 6.5' FILL: Brown silty sand; wet		125-SB-066-0608 from 6.0-6.5' bgs @ 10:10; HOLD
						6.5 - 8.0' No recovery		
	7.0							
	8.0	R-3	N/A	4.0		8.0 - 10.0' FILL: Brown f-m sand; wet	0.0	
	9.0						0.0	125-SB-066-0810 from 8.5-9.0' bgs @ 10:15
							0.0	
	10.0						0.0	
						10.0 - 11.5' FILL: Brown silty sand' wet	0.0	
	11.0						0.0	
							0.0	
	12.0					11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 12.0' bgs	1.0 4.3	125-SB-066-1012 from 11.5-12.0' bgs @ 10:20; HOLD

PREPARED BY: MC
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-067
DATE BEGAN: 08/06/09
DATE FINISHED: 08/06/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #196
						0.5 - 0.7' FILL: Brown f-m sand and gravel	0.0	
	1.0					0.7 - 1.5' FILL: Concrete	0.0	
						1.5 - 3.3' FILL: Reddish brown/brown silty sand, some concrete and f-m gravel; strong creosote-like odors	5.4	
	2.0						22.8	
							25.8	
	3.0						13.3	
						3.3 - 4.0' FILL: Gray f-m sand and clinker	0.0	
	4.0	R-2		4.0		4.0 - 5.5' FILL: Brown f-m sand, some f-m gravel, trace concrete; gray clinker and wet from 5.0'	0.0	
							0.0	
	5.0						0.0	125-SB-067-0406 from 5.0-5.5' bgs @ 15:40
						5.5 - 5.7' FILL: Dark brown silty sand and wood; wet	0.0	
	6.0					5.7 - 8.0' FILL: Brown f-m sand, some silt from 6.5-6.7' and 7.5-8.0'; end of boring at 8.0'	0.0	
							0.0	
	7.0						0.0	
							0.0	125-SB-067-0608 from 7.5-8.0' bgs @ 15:45
	8.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-068
DATE BEGAN: 08/07/09
DATE FINISHED: 08/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT	0.0	Field Map #188
						0.3 - 0.7' FILL: Brown f-m sand, some f-m gravel		Macrocore bent by concrete layer; driller repaired and resumed drilling
	1.0					0.7 - 2.5' FILL: Reddish brown sandy silt; trace fine gravel, brick and coal; trace green mottling (reduction zones)		
	2.0							
	3.0					2.5 - 3.5' FILL: Dark brown f-c sand, some fine clinker and gravel, wood from 3.3'; wet		
						3.5 - 4.0' FILL: Concrete		
	4.0	R-2		4.0		4.0 - 5.3' FILL: Grayish brown f-c sand and f-m gravel, trace clinker and wood; wet	0.0	
	5.0					5.3 - 6.8' FILL: Brown silty sand, trace wood; wet		125-SB-068-0406 from 5.5-6.0' bgs @ 8:25
	6.0							
	7.0					6.8 - 7.2' FILL: Dark brown silt, trace fine sand and clay; wet		
	8.0					7.2 - 8.0' FILL: Brown f-m sand, trace silt from 7.8'; end of boring at 8.0'		125-SB-068-0608 from 7.5-8.0' bgs @ 8:30

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 125, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 125-SB-069
DATE BEGAN: 08/07/09
DATE FINISHED: 08/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.3' ASPHALT	0.0	Field Map #190
						0.3 - 0.5' FILL: Brown f-m sand and gravel		
	1.0					0.5 - 2.0' FILL: Brown/dark brown f-m sand, some fine gravel; trace clinker, wood, coal and brick		
	2.0					2.0 - 2.5' FILL: Wood, wet at 2.5'		
						2.5 - 4.0' No recovery		
	3.0							
	4.0	R-2		3.5		4.0 - 4.5' FILL: Dark brown fine clinker, some f-c sand, trace brick and gravel; wet	0.0	
						4.5 - 6.5' FILL: Brown silty sand, trace clay and coarse sand from 4.5-5.0'; wet		
	5.0							
								125-SB-069-0406 from 5.5-6.0' bgs @ 8:50
	6.0							
						6.5 - 7.2' FILL: Dark brown clayey silt, trace fine sand; soft, wet		
	7.0					7.2 - 7.5' FILL: Brown f-m sand, trace silt; wet		125-SB-068-0608 from 7.0-7.5' bgs @ 8:55
						7.5 - 8.0' No recovery; end of boring at 8.0'		
	8.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-070
DATE BEGAN: 5/4/10
DATE FINISHED: 5/4/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.3' ASPHALT	0	
	1.0					0.3 - 1.0' FILL: Fine to coarse gravel, brown silty sand; loose, dry		
	2.0					1.0 - 2.5' FILL: Red silt, some fine sand, fine to medium gravel, trace coal, lens of wood from 1.25-1.4'; dense, dry		
	3.0					2.5 - 3.8' FILL: Gray silt, some fine sand; dense, moist		
	4.0	S-2	NA	4		3.8 - 4.0' : No recovery	0	
	5.0					4.0 - 4.8' FILL: Gray silt, some fine sand, trace organics; dense, moist		
	6.0					4.8 - 5.3' FILL: Black sillty clay; firm, wet		
	7.0					5.3 - 8.0' FILL: Gray silt, trace fine sand and red brick; dense, wet		
	8.0	S-3	NA	4		8.0 - 8.0' FILL: Green and white COPR, orange silt; loose, wet	0	
	9.0					8.0 - 8.8' FILL: Brown fine to medium sand, mottling of silt and clay, trace silt; loose, wet		
	10.0					8.8 - 9.1' FILL: (Sheen) Brown silt, some fine sand; very loose, wet		
	11.0					9.1 - 11.3' FILL: Black gray silt; very loose, wet		Sample collected 125-SB-070-1012 from 11.5-12.0' bgs @12:20
	12.0	S-4	NA	4		11.3 - 11.9' FILL: Gray silt, possible light green/light yellow COPR; dense, moist	0	
	13.0					11.9 - 16.0' PT: Peat; end of boring at 16'		Sample collected 125-SB-070-1214 from 12.5-13.0' bgs @12:25
	14.0							
	15.0							Sample collected 125-SB-070-1416 from 14.5-15.0' bgs @12:30
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-071
DATE BEGAN: 5/4/10
DATE FINISHED: 5/4/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.4 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' ASPHALT	0	
	1.0					0.3 - 1.3' FILL: Fine to medium gravel, brown silty fine to medium sand		
	2.0					1.3 - 2.0' FILL: Red silt, some fine sand, trace coal; dense		
	3.0					2.0 - 2.2' FILL: Dark brown to light brown silt, some fine sand, trace wood and fine to medium gravel; loose, moist		
	4.0	S-2	NA	4		2.2 - 3.0' FILL: Concrete	0	
	5.0					3.0 - 4.0' : No recovery		
	6.0					4.0 - 7.6' FILL: Gray silt, some fine sand, trace brick; dense, moist		
	7.0					7.6 - 8.0' FILL: Yellowish brown/ orange silty sand (COPR); soft		
	8.0	S-3	NA	.5		8.0 - 8.5' FILL: Brown silty sand; wet	0	
	9.0					8.5 - 12.0' : No recovery		
	10.0							
	11.0							
	12.0	S-4	NA	4		12.0 - 16.0' PT: Peat; end of boring at 16'	0	
	13.0							Sample collected 125-SB-071-1214 from 12.5-13.0' bgs @12:50, DUP @12:52
	14.0							Sample collected 125-SB-071-1416 from 14.0-14.5' bgs @12:55
	15.0							
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-072
DATE BEGAN: 5/4/10
DATE FINISHED: 5/4/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.3' ASPHALT	0	
	1.0					0.3 - 1.0' FILL: Fine to medium gravel, dark brown silty fine to medium sand, trace wood and coal; dense, dry		
	2.0					1.0 - 2.0' FILL: Red silt, some fine sand, trace coal and fine to medium gravel; dense, dry		
	3.0					2.0 - 3.0' FILL: Black silty fine to medium, mottling of greenish gray silt (possible COPR); dense, moist		
	4.0	S-2	NA	4		3.0 - 3.9' FILL: Red silt, trace fine gravel; dense, dry	0	
▽	5.0					3.9 - 4.0' FILL: Black silt, trace coal; medium dense, moist		
	6.0					4.0 - 4.5' FILL: Red silt, trace brick; dense, dry		
	7.0					4.5 - 7.9' FILL: Black silt, some fine sand; dense, wet		
	8.0	S-3	NA	3.25		7.9 - 8.0' FILL: COPR; green, orange, and white silt; soft, wet	0	
	9.0					8.0 - 9.5' FILL: Brown silty sand, trace clay mottling; loose, wet		
	10.0					9.5 - 10.3' CL: Black silt, trace fine sand; very loose, wet		
	11.0					10.3 - 11.3' SM: Dark brown silty sand; loose, wet		
	12.0	S-4	NA	3.5		11.3 - 12.0' No recovery	0	Sample collected 125-SB-072-1214 from 12.5-13.0' bgs @13:35
	13.0					12.0 - 15.5' PT: Peat		
	14.0							Sample collected 125-SB-072-1416 from 14.0-14.5' bgs @13:30
	15.0					15.5 - 16.0' No recovery; end of boring at 16' bgs.		
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-073
DATE BEGAN: 5/4/10
DATE FINISHED: 5/4/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' ASPHALT	0	
						0.3 - 0.8' FILL: Fine to medium gravel, dark brown silty sand; loose, dry		
	1.0					0.8 - 1.0' FILL: Fine to coarse gravel, trace brown silty sand; loose, wet		
	2.0					1.0 - 2.5' FILL: Red silt, trace fine sand, wood, fine gravel, and coal; dense, dry		
	3.0					2.5 - 3.3' FILL: Dark brown silty fine to medium sand, trace coal, plaster, brick, and metal; dense, dry		
	4.0	S-2	NA	2		3.3 - 4.0' No recovery	0	
	5.0					4.0 - 4.5' FILL: Black silt, fine sand		Creosote odor at 5.0'
	6.0					4.5 - 5.0' FILL: Black fine to coarse sand, clinker, glass, wood, trace white silt and fine to medium gravel; wet		
	7.0					5.0 - 5.3' FILL: Wood		
						5.3 - 5.8' FILL: COPR, whitish/green silt; soft		
	8.0	S-3	NA	3.25		5.8 - 6.0' FILL: Brown silt; loose, wet	0	
	9.0					6.0 - 8.0' No recovery		
						8.0 - 8.2' FILL: Brown silt; loose, wet		
	10.0					8.2 - 8.5' OL: Black silt, fine sand; wet		
	11.0					8.5 - 11.3' PT: Peat		Sample collected 125-SB-073-1012 from 10.5-11.0' bgs @13:50
						11.3 - 12.0' No recovery		
	12.0	S-4	NA	2		12.0 - 14.0' PT: Peat; end of boring at 14' bgs.	0	Sample collected 125-SB-073-1214 from 12.5-13.0' bgs @13:55
	13.0							
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-074
DATE BEGAN: 5/4/10
DATE FINISHED: 5/4/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.8' FILL: Fine to medium gravel, brown silty fine to medium sand; dense, dry		
	1.0							
	2.0					1.8 - 2.8' FILL: Red silt, trace fine to medium gravel; dense, dry		
						2.8 - 2.9' FILL: Brown silty fine to medium sand, trace clinker, coal, organics, and brick; dense, dry		
	3.0					2.9 - 3.8' FILL: Dark brown silty fine to medium sand, fine to medium gravel, trace coal, glass and mottling of yellowish/green/orange silt (possible COPR)		
						3.8 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 4.3' FILL: Red silt	0	
						4.3 - 4.5' FILL: Brown fine to medium sand, fine to medium gravel		
	5.0					4.5 - 5.0' FILL: Black silt; dense, wet		
						5.0 - 6.3' FILL: Drak brown silty sand, clinker, fine to medium gravel, trace glass, coal, and brick; loose, wet		
	6.0					6.3 - 6.5' FILL: Brown silt, some fine sand; loose, wet		
						6.5 - 8.0' No recovery		
	7.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-074
DATE BEGAN: 5/4/10
DATE FINISHED: 5/4/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3	NA	3.25		8.0 - 10.0' FILL: Brown silty sand, trace clay; firm, wet	0	
	9.0							
	10.0					10.0 - 10.3' OL: Black silt, trace fine sand		Sample collected 125-SB-074-1012 from 10.5-11.0' bgs @14:20
						10.3 - 10.5' SW: Brown fine to medium sand, lens of clay and silt		
	11.0					10.5 - 11.3' OL: Black silt, fine sand		
						11.3 - 12.0' No recovery; end of boring at 12' bgs.		
	12.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-075
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.0' FILL: Fine to medium gravel, brown fine to medium sand, tar, some silt; dense, dry		
	1.0					1.0 - 1.3' FILL: Red silt, fine sand		
						1.3 - 1.8' FILL: Dark brown silt fine to medium sand, trace fine to medium gravel and coal; dense, dry		
	2.0					1.8 - 2.5' FILL: Red silt, fine sand, trace fine to medium gravel; dense, dry		
						2.5 - 2.7' FILL: Wood		
	3.0					2.7 - 4.0' FILL: Dark gray/ black silt; dense, moist		
	4.0	S-2	NA	4		4.0 - 4.8' FILL: Dark gray/ black silt; dense, wet	0	
						4.8 - 5.0' FILL: Dark brown fine to coarse sand, clinker, some brick		
	5.0					5.0 - 5.1' FILL: White lens of COPR, fine to medium gravel		
						5.1 - 5.3' FILL: Dark brown fine to medium sand, clinker		
	6.0					5.3 - 5.5' FILL: Yellowish brown lens of COPR, medium sand; dense, wet		
						5.5 - 7.3' FILL: Dark brown fine to medium sand, some clinker, fine to medium gravel, trace brick, wood; dense, wet		
	7.0					7.3 - 8.0' FILL: Green, gray, and white COPR, some wood, silt; soft		
	8.0	S-3	NA	3		8.0 - 10.5' OL: Brown sandy silt; loose, wet	0	

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-075
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0							
	10.0					10.5 - 10.6' SM: Brown fine to medium sand, trace silt		Sample collected 125-SB-075-1012 from 10.5-11.0' bgs @ 8:00
						10.6 - 11.0' PT: Peat		
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	3.25		12.0 - 15.3' PT: Peat	0	Sample collected 125-SB-075-1214 from 12.5-13.0' bgs @ 8:05
	13.0							
	14.0							Sample collected 125-SB-075-1416 from 14.5-15.0' bgs @ 8:10
	15.0							
						15.3 - 16.0' No recovery; end of boring at 16' bgs.		
	16.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-076
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.3' CONCRETE		
	1.0					1.3 - 1.4' FILL: Brownish yellow/ white fine to medium sand, concrete; dry		
						1.4 - 2.0' FILL: Reddish brown sandy silt, trace brick; dense, dry		
	2.0					2.0 - 2.2' FILL: Brownish yellow fine to medium sand, fine to medium gravel, possible COPR		
						2.2 - 3.5' FILL: Dark brown fine to coarse sand, trace coal, clinker, brick; dense, moist		
	3.0							
						3.5 - 4.0' FILL: Dark gray silt, trace glass and coal; dense, moist		
	4.0	S-2	NA	4		4.0 - 4.5' FILL: Brown and gray silt, fine to medium gravel; soft	0	
						4.5 - 5.0' FILL: Gray silt; dense, wet		
	5.0					5.0 - 5.2' FILL: Brownish yellow lens of COPR, fine silty sand, trace fine to medium gravel		
						5.2 - 7.0' FILL: Fine to medium sandy silt, trace clinker, coal, and brick; wood from 5.5-5.7, COPR from 6.7-6.8		
	6.0							
	7.0					7.0 - 8.0' FILL: COPR, yellow to green silt, trace wood; soft, wet		
	8.0	S-3	NA	3.25		8.0 - 8.5' FILL: Brown silty sand, trace wood;	0	

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-076
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
						soft, wet		
	9.0					8.5 - 9.5' FILL: Brown sand, silt, trace organics; loose, wet		
						9.5 - 10.3' FILL: Brown silt; loose, wet		
	10.0					10.3 - 11.3' PT: Peat		Sample collected125-SB-076-1012 from 10.5-11.0' bgs @08:35, DUP @08:37
	11.0					11.3 - 12.0' No recovery		
	12.0	S-4	NA	3		12.0 - 15.0' PT: Peat	0	
	13.0							Sample collected 125-SB-076-1214 from 12.5-13.0' bgs @08:40
	14.0							Sample collected 125-SB-076-1416 from 14.0-14.5' bgs @08:45
	15.0					15.0 - 16.0' No recovery; end of boring at 16' bgs.		
	16.0							

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-077
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' ASPHALT	0	
						0.3 - 0.8' FILL: Fine to medium gravel, brown silty sand, some tar		
	1.0					0.8 - 1.3' FILL: Red silt, some fine sand, trace fine to medium gravel		
						1.3 - 2.3' FILL: Dark brown fine to medium sand, some silt, clinker, brick, coal and glass		
	2.0					2.3 - 2.8' FILL: Concrete		
						2.8 - 3.0' FILL: Dark brown fine to medium sand, some silt, clinker, brick, and coal, trace fine to medium gravel; loose, moist		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.5		4.0 - 4.8' FILL: Dark brown fine to medium sand, some silt, clinker, brick, and coal, trace fine to medium gravel, orange and light yellow lens of COPR from 4.2-4.3; dense, wet	0	
	5.0					4.8 - 4.9' FILL: Dark brown fine to medium sand; loose, wet		Sample collected 125-SB-077-0406 from 5.0-5.5' bgs @09:00
						4.9 - 5.5' FILL: Brown fine to medium sand, some silt, mottling of silt and clay; wet		
	6.0					5.5 - 6.8' FILL: Brown silt, trace fine sand; loose, wet		
	7.0					6.8 - 7.5' FILL: Brown fine to medium silt; loose, wet		Sample collected 125-SB-077-0608 from 7.0-7.5' bgs @09:05
	8.0					7.5 - 8.0' No recovery; end of boring at 8' bgs.		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-078
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	2		-4.0 - -3.0' CONCRETE	0	
	-3.0					-3.0 - -2.0' Void		
	-2.0					-2.0 - -1.5' FILL: Brown silty sand, fine to medium gravel; loose, dry		
	-1.0					-1.5 - 0.0' FILL: Brown clayey silt, fine to medium gravel; dense, moist		Sample collected 125-SB-078-0200 from 1.0-.5' ags @07:45
	0.0	S-2	NA	2		0.0 - 1.5' FILL: Brown clayey silty sand, trace brick and coal; medium dense, moist	0	
	1.0					1.5 - 2.0' FILL: Brown clayey silt, some sand, trace brick and fine to medium gravel; loose, wet		Sample collected 125-SB-078-0002 from 1.0-1.5' bgs @07:50
	2.0					2.0 - 8.0' No recovery		
	3.0							
	4.0	S-3	NA	0			0	
	5.0							
	6.0							
	7.0							
	8.0	S-4	NA	3		8.0 - 10.5' FILL: Brown fine to medium sand, lenses of clay and silt; loose, wet	0	Sample collected 125-SB-078-0810 from 8.5-9.0' bgs @07:55
	9.0							
	10.0					10.5 - 11.0' FILL: Brown clayey silt; loose, wet		Sample collected 125-SB-078-1012 from 10.5-11.0' bgs @08:00
	11.0					11.0 - 12.0' No recovery		
	12.0	S-5	NA	2		12.0 - 13.0' FILL: Brown clayey silt, fine sand; firm, wet	0	Sample collected 125-SB-078-1214 from 12.5-13.0' bgs @08:05
	13.0					13.0 - 14.0' PT: Peat; end of boring at 14' bgs.		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: **125-SB-078**
DATE BEGAN: 5/5/10
DATE FINISHED: 5/5/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125 | **PROJECT NO:** 3480050143 | **BORING ID:** 125-SB-079

DATE BEGAN: 5/6/10 | **DATE FINISHED:** 5/6/10 | **INSPECTOR:** M.Daly

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 14 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: G. Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	1.5		-4.0 - -3.3' CONCRETE	0	
	-3.0					-3.3 - -2.0' Void		
	-2.0					-2.0 - -0.5' FILL: Brown silt, some fine sand, trace brick		
	-1.0					-0.5 - 0.0' No recovery		Sample collected 125-SB-079-0200 from 1.0-0.5' ags @08:15
	0.0	S-2	NA	3.5		0.0 - 2.8' FILL: Brown clayey silt, some fine sand, trace fine to medium gravel, glass, coal, and brick; dense, moist	0	Sample collected 125-SB-079-0002 from 0.5-1.0' bgs @08:20
	1.0							
	2.0							
	3.0					2.8 - 3.3' FILL: Dark brown fine to medium sand, clinker, coal, whit silt (possible COPR)		Sample collected 125-SB-079-0204 from 3.0-3.5' bgs @08:25 (COPR sample)
▽	4.0	S-3	NA	3		3.3 - 3.5' FILL: COPR, grayish white pastey silt	0	
	5.0					3.5 - 4.0' No recovery		Sample collected 125-SB-079-0406 from 4.0-4.5' bgs @08:30
	6.0					4.0 - 4.8' FILL: Dark brown fine to medium sand, some wood; loose, wet		
	7.0					4.8 - 5.0' FILL: Brown clayey silt; firm, wet		
	8.0	S-4	NA	3.25		5.0 - 6.0' No recovery	0	Sample collected 125-SB-079-0608 from 6.5-7.0' bgs @08:35
	9.0					6.0 - 6.5' FILL: Dark brown sandy silt, clinker; very loose, wet		
						6.5 - 7.3' FILL: Brown silt, fine sand; loose, wet		
						7.3 - 7.5' No recovery		
						7.5 - 9.5' FILL: Brown fine to medium sand, clay, trace silt; firm, wet		Sample collected 125-SB-079-0810 from 9.0-9.5' bgs

PREPARED BY: MS

CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-079
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	S-5	NA	2		9.5 - 10.3' FILL: Brown silt; firm, wet	0	@08:40
	11.0					10.3 - 11.3' CL: Gray fine to medium sand, silt, and clay; medium firm, wet		Sample collected 125-SB-079-1012 from 10.5-11.0' bgs @08:45
	12.0					11.3 - 12.0' No recovery		
	13.0					12.0 - 12.5' CL: Gray fine to medium sand, silt, and clay; medium firm, wet		Sample collected 125-SB-079-1214 from 12.5-13.0' bgs @08:50
	14.0					12.5 - 14.0' PT: Peat; end of boring at 14' bgs.		

PREPARED BY: MS
CHECKED BY: QA/QC

Honeywell SA-6 South

SITE INFO: Honeywell Site 125 | **PROJECT NO:** 3480050143 | **BORING ID:** 125-SB-080

DATE BEGAN: 5/6/10 | **DATE FINISHED:** 5/6/10 | **INSPECTOR:** M.Daly

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 14 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: G. Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	2		-4.0 - -3.0' CONCRETE	0	
	-3.0					-3.0 - -2.0' Void		
	-2.0					-2.0 - 0.0' FILL: Red silt, some fine sand, fine to medium gravel, wood; loose		Sample collected 125-SB-080-0200 from 1.5-1.0' ags @09:10
	-1.0							
	0.0	S-2	NA	4		0.0 - 2.5' FILL: Reddish brown silt, trace shells, lens of brick and coal from 1.9-2.0'; loose, moist	0	Sample collected 125-SB-080-0002 from 0.5-1.0' bgs @09:15, DUP @09:17
	1.0							
	2.0					2.5 - 2.8' FILL: Concrete		
	3.0					2.8 - 4.3' FILL: Dark brown fine to medium sand, clinker, trace coal, fine to medium gravel, rubber, and porcelin; loose, moist		Sample collected 125-SB-080-0204 from 3.0-3.5' bgs @09:20
▽	4.0	S-3	NA	4			0	
	5.0					4.3 - 4.5' FILL: Grayish/white COPR, wood; soft, wet		Sample collected 125-SB-080-0406 from 4.0-4.5' bgs @09:25
	6.0					4.5 - 6.0' FILL: Reddish brown silt, some fine sand, trace clay; firm, wet		
	7.0					6.0 - 7.5' FILL: Brown fine to medium sand, some silt; loose, wet		Sample collected 125-SB-080-0608 from 7.0-7.5' bgs @09:30
	8.0	S-4	NA	3		7.5 - 8.0' FILL: Brown silt; loose, wet	0	
	9.0					8.0 - 10.5' FILL: Brown silt, lens of clay; firm, wet		Sample collected 125-SB-080-0810 from 8.5-9.0' bgs @09:35
	10.0							
	11.0					10.5 - 11.0' FILL: Brown silty sand; firm, wet		Sample collected 125-SB-080-1012 from 10.5-11.0' bgs @09:40
	12.0	S-5	NA	2		11.0 - 12.0' No recovery		
	13.0					12.0 - 12.5' CL: Brown sandy clay, some silt; firm, wet	0	Sample collected 125-SB-080-1214 from 12.0-12.5' bgs @09:45
	14.0					12.5 - 14.0' PT: Peat; end of boring at 14' bgs.		

PREPARED BY: MS

CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-081
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	2		-4.0 - -3.3' CONCRETE	0	
	-3.0					-3.3 - -2.0' Void		
	-2.0					-2.0 - 0.0' FILL: Brown silt, some brick, trace fine sand and clay; firm, dry		Sample collected 125-SB-081-0200 from 0.5-0.0' ags @10:50
	-1.0							
	0.0	S-2	NA	3.5		0.0 - 2.0' FILL: Light reddish brown silt, fine to medium gravel, trace coal and brick; firm, moist	0	Sample collected 125-SB-081-0002 from 1.0-1.5' bgs @10:55
	1.0							
	2.0					2.0 - 3.0' FILL: Concrete		
	3.0					3.0 - 3.5' FILL: Brown fine to coarse sand, some clinker and wood, trace fine to coarse gravel		Sample collected 125-SB-081-0204 from 3.0-3.5' bgs @11:00
						3.5 - 4.0' No recovery		
▽	4.0	S-3	NA	2.5		4.0 - 5.0' Brown fine to coarse sand, some clinker and wood, trace fine to coarse gravel, band of greenish/ white sand at 4.1-4.2' (possible COPR); loose, wet	0	Sample collected 125-SB-081-0406 from 4.0-4.5' bgs @11:05
	5.0					5.0 - 5.5' FILL: Brown fine to medium sand; loose, wet		
						5.5 - 6.0' No recovery		
	6.0							Sample collected 125-SB-

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-081
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	7.0					6.0 - 6.5' FILL: Grayish brown fine to medium sand; loose, wet		081-0608 from 6.0-6.5' bgs @11:10, DUP @11:12
	8.0	S-4	NA	3		6.5 - 7.0' FILL: Brown silt, some fine sand, trace organics; loose, wet	0	
	9.0					7.0 - 8.0' No recovery		
	10.0					8.0 - 8.3' FILL: Brown silt, some fine sand, trace organics; loose, wet		
	11.0					8.3 - 10.8' FILL: Grayish brown fine to medium sand, lenses of silt; loose, wet		Sample collected 125-SB-081-0810 from 8.5-9.0' bgs @11:15
	12.0	S-5	NA	1.5		10.8 - 11.0' CL: Brown silt, some fine sand, trace organics; firm, wet	0	Sample collected 125-SB-081-1012 from 10.5-11.0' bgs @11:20
	13.0					11.0 - 12.0' No recovery		
	14.0					12.0 - 12.5' CL: Brown silt, some fine sand, trace organics; firm, wet		
						12.5 - 13.5' PT: Peat		Sample collected 125-SB-081-1214 from 13.0-13.5' bgs @11:25
						13.5 - 14.0' No recovery; end of boring at 14' bgs.		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-082
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	1.5		-4.0 - -3.3' CONCRETE	0	
	-3.0					-3.3 - -2.0' Void		
	-2.0					-2.0 - -0.5' FILL: Reddish brown silt, some fine sand, trace fine to medium gravel, brick, and clay; firm, dry		Sample collected 125-SB-082-0200 from 1.0-0.5' ags @10:15
	-1.0					-0.5 - 0.0' No recovery		
	0.0	S-2	NA	3		0.0 - 2.0' FILL: Reddish brown silt, some fine sand, trace fine to medium gravel, brick, and clay; firm, dry	0	Sample collected 125-SB-082-0002 from 0.5-1.0' bgs @10:20
	1.0							
	2.0					2.0 - 3.0' FILL: Brown fine to medium sand, trace fine to medium gravel, coal, brick, clinker, porcelain, concrete, and wood		Sample collected 125-SB-082-0204 from 2.5-3.0' bgs @10:25
	3.0					3.0 - 3.0' FILL: COPR, grayish/ white silt; soft, moist		
						3.0 - 4.0' No recovery		
	4.0	S-3	NA	1.75		4.0 - 4.3' FILL: Brown silt; hard, dry	0	Sample collected 125-SB-082-0406 from 4.0-4.5' bgs @10:30
						4.3 - 4.8' FILL: Brown fine to medium sand; loose, wet		
	5.0					4.8 - 6.0' No recovery; end of boring at 6' bgs.		
	6.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-083
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	2.5		-4.0 - -3.3' CONCRETE	0	
	-3.0					-3.3 - -2.5' Void		
	-2.0					-2.5 - 1.8' FILL: Red silt, some fine sand, trace coal, brick, glass, and fine to medium gravel; medium dense, dry		
	-1.0							Sample collected 125-SB-083-0200 from 1.0-0.5' ags @12:40
	0.0	S-2	NA	3.5			0	
	1.0					1.8 - 2.0' FILL: Brown silty sand, fine to medium gravel, trace coal, brick, and wood; loose, moist		Sample collected 125-SB-083-0002 from 1.5-2.0' bgs @12:45
	2.0					2.0 - 3.5' FILL: Dark brown fine to medium sand, some clinker and wood, trace coal, newspaper, glass, and rubber; loose, moist		Sample collected 125-SB-083-0204 from 2.5-3.0' bgs @12:50
	3.0							
	4.0	S-3	NA	2.5		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 4.5' FILL: White silty fiber mixed with paper (possible COPR)		Sample collected 125-SB-083-0406 from 4.0-4.5' bgs @12:55
	6.0					4.5 - 5.5' FILL: Brown fine to medium sand, trace silt; loose, wet		
	7.0					5.5 - 6.0' No recovery		
						6.0 - 6.8' FILL: Brown sandy silt, trace organics; loose, wet		
						6.8 - 7.0' FILL: Brown fine to medium sand		Sample collected 125-SB-083-0608 from 6.5-7.0' bgs @13:00
						7.0 - 8.0' No recovery		

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-083
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-4	NA	2.5		8.0 - 10.3' FILL: Brown fine to medium sand, lenses of silt; loose, wet	0	Sample collected 125-SB-083-0810 from 9.0-9.5' bgs @13:05
	9.0							
	10.0					10.3 - 10.5' FILL: Brown silt; firm, wet		
						10.5 - 12.0' No recovery		Sample collected 125-SB-083-1012 from 10.0-10.5' bgs @13:10
	11.0							
	12.0	S-5	NA	1		12.0 - 12.8' OL: Gray sandy silt, trace clay and organics; firm, wet	0	Sample collected 125-SB-083-1214 from 12.0-12.5' bgs @13:15
	13.0					12.8 - 13.0' PT: Peat		
						13.0 - 14.0' No recovery; end of boring at 14' bgs.		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-084
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	2.75		-4.0 - -3.8' CONCRETE	0	
						-3.8 - -2.8' Void		
	-3.0					-2.8 - 0.0' FILL: Red silt, trace sand, coal, fine to medium gravel		Sample collected 125-SB-084-0200 from 1.5-1.0' ags @13:40
	-2.0							
	-1.0							
	0.0	S-2	NA	4		0.0 - 1.5' FILL: Reddish brown sandy silt, trace coal, brick, and fine to medium gravel; medium dense, moist	0	Sample collected 125-SB-084-0002 from 1.0-1.5' bgs @13:45
	1.0							
	2.0					1.5 - 2.0' FILL: Brick		
						2.0 - 2.5' FILL: Brown silt, some fine sand, trace clay, coal, and fine to medium gravel; loose, dry		Sample collected 125-SB-084-0204 from 2.5-3.0' bgs @13:50
	3.0					2.5 - 4.0' FILL: Dark brown fine to medium sand, some clinker, brick, coal, and fine to medium gravel; loose, moist		
▽	4.0	S-3	NA	4		4.0 - 4.3' FILL: Brick	0	
						4.3 - 6.0' FILL: Dark brown fine to medium sand, trace wood		Sample collected 125-SB-084-0406 from 4.5-5.0' bgs @13:55
	5.0							
	6.0					6.0 - 8.0' FILL: Brown silt, fine sand, trace clay; loose, wet		
	7.0							Sample collected 125-SB-084-0608 from 7.0-7.5' bgs @14:00

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-084
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-4	NA	2		8.0 - 8.5' FILL: Brown clayey silt, some fine to medium sand; firm, wet	0	
	9.0					8.5 - 10.0' FILL: Brown fine to medium sand, lenses of clay and silt; medium dense, wet		Sample collected 125-SB-084-0810 from 9.0-9.5' bgs @14:05
	10.0					10.0 - 12.0' No recovery		
	11.0							
	12.0	S-5	NA	2		12.0 - 12.3' ML: Gray silty sand, trace organics; loose, wet	0	Sample collected 125-SB-084-1214 from 12.0-12.5' bgs @14:10
						12.3 - 12.5' CL: Gray silty clay, trace organics; firm, wet		
	13.0					12.5 - 14.0' PT: Peat; end of boring at 14' bgs.		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-085
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	1		-4.0 - -2.5' CONCRETE	0	
	-3.0					-2.5 - -1.5' Void		
	-2.0					-1.5 - -0.5' FILL: Red silt, trace fine sand, clay, coal, and fine to medium gravel; firm, dry		
	-1.0					-0.5 - 0.0' No recovery		
	0.0	S-2	NA	2.25		0.0 - 0.9' Red silt, trace fine sand, clay, coal, and fine to medium gravel, lens of concrete from 0.3-0.5'; firm, dry	0	Sample collected 125-SB-085-0002 from 0.5-1.0' bgs @14:50
	1.0					0.9 - 1.0' FILL: Dark brown fine to medium sand, some clinker and coal; loose, dry		
	2.0					1.0 - 2.0' No recovery		
	3.0					2.0 - 2.5' Dark brown fine to medium sand, some clinker and coal; loose, dry		Sample collected 125-SB-085-0204 from 2.5-3.0' bgs @14:55
▽	4.0	S-3	NA	4		2.5 - 3.0' FILL: Grayish white silt, glass, wood, bones, rock, lens of purple staining at 2.6-2.8'	0	
	5.0					3.0 - 3.3' FILL: Reddish brown sand, trace clay and sandstone; loose, moist		
	6.0					3.3 - 4.0' No recovery		
	7.0					4.0 - 6.0' FILL: Brown fine to medium clayey sand, some silt		Sample collected 125-SB-085-0406 from 5.5-6.0' bgs @15:00
						6.0 - 11.0' FILL: Fine to medium sand, some silt, lens of clay and silt; loose, wet		Sample collected 125-SB-085-0608 from 7.0-7.5' bgs @15:05

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-085
DATE BEGAN: 5/6/10
DATE FINISHED: 5/6/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-4	NA	3.25			0	Sample collected 125-SB-085-0810 from 8.5-9.0' bgs @15:10
	9.0							
	10.0							
	11.0					11.0 - 12.0' ML: Brown silt, some fine sand, trace organics; firm, wet		Sample collected 125-SB-085-1012 from 11.0-11.5' bgs @15:15
	12.0	S-5	NA	2		12.0 - 12.5' OL: Gray sandy silt, trace organics; firm, wet	0	Sample collected 125-SB-085-1214 from 12.0-12.5' bgs @15:20
	13.0					12.5 - 14.0' PT: Peat; end of boring at 14' bgs.		
	14.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-086
DATE BEGAN: 5/7/10
DATE FINISHED: 5/7/10
INSPECTOR: M.Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.5' ASPHALT: Gravel	0	
	1.0					0.5 - 1.5' FILL: Dark brown silty sand, coal, glass, brick, gravel		
	2.0					1.5 - 4.5' FILL: Red brown silt, fine sand, brick, gravel		
	3.0							
	4.0	S-2	NA	3			0	
	5.0					4.5 - 6.0' FILL: Light brown silt, trace fine sand and fine to medium gravel		
	6.0					6.0 - 6.5' FILL: Light brown silt, wood, potential COPR; wet at 5.5'		
	7.0					6.5 - 7.0' FILL: Brown fine to medium sand, trace organics; wet		
	8.0	S-3	NA	4		7.0 - 8.0' No recovery 8.0 - 8.5' Brown fine to medium sand, trace organics; wet	0	
	9.0					8.5 - 10.0' OL: Brown silt, heavy organics		
	10.0					10.0 - 12.0' PT: Brown moist peat; end of boring at 12' bgs.		
	11.0							Sample collected 125-SB-086-1012 from 11.0-11.5' bgs @ 8:55
	12.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-087
DATE BEGAN: 8/18/10
DATE FINISHED: 8/18/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and Gravel	0	
						0.5 - 3.0' FILL: Dark brown silty sand, brick, wood, gravel, glass, coal		
	1.0							
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	2.0		4.0 - 4.3' FILL: Dark brown silty sand, brick, wood, gravel, glass, coal	0	
						4.3 - 6.0' FILL: Light brown silt with fine to medium sand, wet at 4.5' bgs.; end of boring at 6.0 ft. bgs.		
	5.0							Sample collected 125-SB-087-0406 from 5.0-5.5' bgs @ 10:05
	6.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-088
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and Gravel	0	
						0.5 - 3.5' FILL: Brown silty sand, gravel, glass, trace brick		
	1.0							
	2.0							
	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 4.5' FILL: Brown silty sand, gravel, glass, trace brick; wet	0	
						4.5 - 6.5' FILL: Light brown fine to coarse sand, lenses of red brown/light brown silt; wet		
	5.0							
	6.0							Sample collected 125-SB-088-0608 from 6.0-6.5' bgs @ 13:20
						6.5 - 8.0' No recovery		
	7.0							
	8.0	S-3	NA	2.0		8.0 - 10.0' FILL: Light brown fine to coarse sand, lenses of red brown/light brown silt; saturated; end of boring at 10.0' bgs.	0	Sample collected 125-SB-088-0810 from 8.0-8.5' bgs @ 13:25
	9.0							
	10.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 125
PROJECT NO: 3480050143
BORING ID: 125-SB-089
DATE BEGAN: 10/26/10
DATE FINISHED: 10/26/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and Gravel	0	
						0.5 - 3.0' FILL: Dark brown silty sand, gravel, brick, clinker		
	1.0							
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 5.5' FILL: Dark brown silt; wet at 4.5' bgs.	0	
	5.0							
	6.0					5.5 - 6.5' FILL: Light brown silt with fine to coarse sand		
						6.5 - 8.0' No recovery		
	7.0							
	8.0	S-3	NA	1.5		8.0 - 10.0' FILL: Light brown fine to coarse sand, lenses of silt; saturated; end of boring at 10.0' bgs.	0	Sample collected 125-SB-089-0810 from 8.0-8.5' bgs @ 13:45
	9.0							
	10.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site 125

LOCATION: Honeywell SA-6 South
PROJECT NO: 3480050143
BORING ID: 125-SB-090
DATE BEGAN: 3/23/2011
DATE FINISHED: 3/23/2011
INSPECTOR: M.Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: -13.5
GW DEPTH: 7 ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	0		-4.0 - -3.5' CONCRETE	0	
	-3.0					-3.5 - -2.5' Void		
	-2.0					-2.5 - -0.5' FILL: Reddish brown silty fine to medium sand, trace tile		
	-1.0							
	0.0	S-2	NA	3		-0.5 - 1.5' no recovery	0	
	1.0							
	2.0					1.5 - 3.5' FILL: Reddish brown silty fine to medium sand, trace brick; dry		
	3.0					3.5 - 4.0' FILL: reddish brown silt, some fine sand, dense; moist		
	4.0	S-3	NA	3		4.0 - 4.5' FILL: Degraded Red Brick	0	
	5.0					4.5 - 5.5' No Recovery		
	6.0					5.0 - 5.5' FILL: Brown fine to medium sand; loose, wet		
	7.0					5.5 - 6.0' FILL: Brown fine to medium sand; loose, wet		
	8.0	S-4	NA	3.5		6.0 - 7.0' FILL: Dark grey silty fine to medium sand, some fine to medium gravel gravel and organics	0	
	9.0					7.0 - 8.5' FILL: Dark grey fine to medium sand; dense, wet		
	10.0					8.5 - 9.0' Fill: Brown sandy silt; moderate dense, wet		
	11.0					9.0 - 9.5' FILL: No Recovery		Sample collected 125-SB-090-1012 from 11.0-11.5' bgs @11:53
	12.0	S-5	NA	3.5		9.5 - 10.5' FILL: Dark grey fine to medium sand, trace fine to medium gravel	0	
	13.0					10.5 - 11.0' FILL: Brown silty clay; loose, wet		

PREPARED BY: MD
CHECKED BY: TG

Honeywell Site 125

LOCATION: Honeywell SA-6 South
PROJECT NO: 3480050143
BORING ID: 125-SB-090
DATE BEGAN: 3/23/2011
DATE FINISHED: 3/23/2011
INSPECTOR: M.Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: -13.5
GW DEPTH: 7 ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
						11.0 - 13.0' FILL: Greyish brown fine to medium sand, trace silt and mottling of reddish brown silty clay; moderate dense, wet		
						13.0 - 13.5' FILL: No recovery; end of boring @ 13.5' bgs		

PREPARED BY: MD
CHECKED BY: TG

Honeywell Site 125

LOCATION: Honeywell SA-6 South
PROJECT NO: 3480050143
BORING ID: 125-SB-091
DATE BEGAN: 3/23/2011
DATE FINISHED: 3/23/2011
INSPECTOR: M.Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: -10
GW DEPTH: 4 ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0	S-1	NA	2		-4.0 - -3.0' CONCRETE	0	
	-3.0					-3.0 - -2.0' Void		
	-2.0					-2.0 - 0.0' FILL: Red silt, some fine sand, fine to medium gravel, wood, loose		
	-1.0							
	0.0	S-2	NA	3.5		0.0 - 2.0' FILL: Light reddish brown silt, fine to medium gravel, trace coal and brick; firm, moist	0	
	1.0							
	2.0					2.0 - 3.0' FILL: Concrete		
	3.0					3.0 - 3.5' FILL: Brown fine to coarse sand, some clinker and wood, trace fine to coarse gravel		
	4.0	S-3	NA	2.5		3.5 - 4.0' No recovery	0	
	5.0					4.0 - 5.0' Brown fine to coarse sand, some clinker and wood, trace fine to coarse gravel, band of greenish/ white sand at 4.1-4.2' (possible COPR); loose, wet		
	6.0					5.0 - 5.5' FILL: Brown fine to medium sand; loose, wet		
	7.0					5.5 - 6.0' No recovery		
	8.0	S-4	NA	3		6.0 - 6.5' FILL: Grayish brown fine to medium sand; loose, wet	0	
	9.0					6.5 - 7.0' FILL: Brown silt, some fine sand, trace organics; loose, wet		Sample collected 125-SB-091-0810 from 8.5-9.0' bgs @15:20
	10.0					7.0 - 8.0' No recovery		
						8.0 - 8.3' FILL: Brown silt, some fine sand,		

PREPARED BY: MD
CHECKED BY: TG

Honeywell Site 125

LOCATION: Honeywell SA-6 South
PROJECT NO: 3480050143
BORING ID: 125-SB-091
DATE BEGAN: 3/23/2011
DATE FINISHED: 3/23/2011
INSPECTOR: M.Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: -10
GW DEPTH: 4 ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	S-5	NA			trace organics; loose, wet 8.3 - 10.8' FILL: Grayish brown fine to medium sand, lenses of silt; loose, wet 10.8 - 11.0' CL: Brown silt, some fine sand, trace organics; firm, wet 11.0 - 12.0' No recovery 12.0 - 12.5' CL: Brown silt, some fine sand, trace organics; firm, wet 12.5 - 13.5' PT: Peat 13.5 - 14.0' No recovery; end of boring at 14'	0	
	11.0							
	12.0							
	13.0							
	14.0							

PREPARED BY: MD
CHECKED BY: TG

Honeywell SA-6 South

LOCATION: Honeywell Site 125
PROJECT NO: 3480
BORING ID: 125-SB-092
DATE BEGAN: 3/24/11
DATE FINISHED: 3/24/11
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0							
	-1.0		NA	NA		0.0 - 10.0' See Boring Log 125-SB-079 for Details		
	-2.0							
	-3.0							
	-4.0							
	-5.0							
	-6.0							
	-7.0							
	-8.0							
	-9.0							Sample collected 125-SB-092-0810 from 8.5-9.0 bgs at 16:25
	-10.0							

PREPARED BY: KK
CHECKED BY: TG

Honeywell Study Area - 6 South

LOCATION: Site 125, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 125-SB-116
DATE BEGAN: 11/4/2011
DATE FINISHED: 11/4/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		2	2.0		10.0 - 11.8' FILL: Reddish brown fine to medium sand, fine gravel, silt, some clay; wet	N/A	Location HSA-9 on sampling table. Augered to 10 ft bgs before sampling.
			3					
	11.0		6					
			3					
	12.0		2	2.0		11.8 - 12.0' FILL: Coal		
						12.0 - 12.5' FILL: Reddish brown fine to medium sand, trace silt	N/A	
			2			12.5 - 14.0' PT: Dark brown peat; end of boring @ 14.0' bgs		Collected 125-SB-116-1213 from 12.5 - 13.0 ft bgs @ 09:55
	13.0		3					
			5					
	14.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 125, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 125-SB-117
DATE BEGAN: 11/4/2011
DATE FINISHED: 11/4/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		2	2.0		10.0 - 11.8' FILL: Greyish brown fine to medium sand, trace silt; loose, moist	N/A	Location HSA-10 on sampling table. Augered to 10 ft bgs before sampling.
			1					
	11.0		3					
			2					
						11.8 - 12.0' FILL: COPR		
	12.0		1	2.0		12.0 - 16.0' PT: Very dark brown peat; end of boring @ 16.0' bgs	N/A	
			2					Collected 125-SB-117-1213 from 12.5 - 13.0 ft bgs @ 11:15
	13.0		2					
			4					Collected 125-SB-117-1314 from 13.5 - 14.0 ft bgs @ 11:20
	14.0		NR	2.0				
			NR					
	15.0		NR					
			NR					
	16.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Honeywell Site 125
PROJECT NO: 3480100027
BORING ID: 125-SB-118
DATE BEGAN: 1/16/2012
DATE FINISHED: 1/16/2012
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4 ft Macrocore
COMPLETION DEPTH: 8ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Jake/Brian
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' CONCRETE		
						0.5 - 1.3' FILL: Dark grey silt, some fine to medium gravel, trace ash, tiles		
	1.0					1.3 - 2.0' CONCRETE: degraded		
	2.0					2.0 - 2.5' FILL: Dark grey fine sand, some silt, brown ash, grey ash; moist @ 2.0', loose		
						2.5 - 4.0' No recovery		
	3.0							
	4.0	S-2		2.5		4.0 - 4.5' FILL: Brown fine to medium sand; moist		
						4.5 - 5.8' FILL: Brown silt, trace fine sand, roots; wet, stiff		Sample collected 125-SB-118-0406 from 4.5 - 5.0' bgs @14:02
	5.0							
	6.0					5.8 - 6.5' FILL: Dark grey silt, coal, ash, fine to medium gravel, trace light grey silt; wet, very loose		Sample collected 125-SB-118-0608 from 6.0 - 6.5' bgs @14:05
						6.5 - 8.0' No recovery; end of boring @ 8.0' bgs		
	7.0							
	8.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 124, Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 125-SB-119
DATE BEGAN: 1/17/12
DATE FINISHED: 1/18/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57; freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0	S-1	1 2 2 3	2.0		12.0 - 12.3' OH: Black (2/5 YR 2.5/1) silt, some clay, trace organic material, yellow COPR from 12-12.02'; soft, plastic, wet 12.3 - 14.0' PT: Dark olive brown (2.5 YR 3/3) peat; medium stiff, moist; end of boring at 14'	N/A	Adjacent to HSA-10. Refusal at 5 ft bgs on 11/17/12. On 1/18/12, moved 4 ft north and augered to 12 ft bgs before sampling. 125-SB-119-1213 collected from 12.5 - 13.0' bgs @ 08:20
	-13.0							
	-14.0							

PREPARED BY: JB
CHECKED BY: MM

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 125-SB-120
DATE BEGAN: 1/18/2012
DATE FINISHED: 1/18/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57, freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0	S-1	WOH	2.0		10.0 - 11.4' FILL: Very dark grayish brown silt, some fine sand, green and gray COPR from 10.8' bgs; medium stiff, wet	N/A	Location HSA-11 on sampling table. Augered to 10 ft bgs before sampling.
			2					
	-11.0		3					No sample taken
			3			11.4 - 11.7' OH: Black silt, some clay and organic material; medium stiff, wet		
	-12.0					11.7 - 12.0' PT: Dark olive brown (2.5YR 3/3) peat; medium stiff, moist; end of boring @ 12.0' bgs		

PREPARED BY: MD
CHECKED BY: JB

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-601
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684497.0624
EAST: 602720.6280

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.8' ASPHALT	1.5	
	1.0					0.8 - 1.8' FILL: Grey coarse to fine SAND, medium to fine gravel; loose; dry	1.4	
							0.8	
	2.0					1.8 - 2.5' FILL: Dark brown coarse to fine SAND, medium to fine gravel, brick, coal, wood; loose; moist	0.8	
						2.5 - 4.0' No Recovery	0.7	
	3.0						0.5	
	4.0	S-2	NA	3.5		4.0 - 6.0' FILL: Reddish-brown SILT, some coarse to fine sand, medium to fine gravel; medium dense; moist	0	
	5.0						0.6	
							2.5	
	6.0					6.0 - 6.5' FILL: Reddish-brown SILT; medium dense; moist	9.5	
						6.5 - 7.0' FILL: Brown SILT, some fine gravel; medium dense; moist	4.6	
	7.0					7.0 - 7.3' FILL: Grey coarse to fine SAND, silt, wood; loose; wet	2.2	Sample 125-SB-601-LL1 from 7.0-8.7 ft bgs @ 1330
						7.3 - 7.5' FILL: Brown coarse to fine SAND; loose; moist	1.4	
	8.0	S-3	NA	4.0				

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-601
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684497.0624
EAST: 602720.6280

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3	NA	4.0		7.5 - 8.0' No Recovery		
						8.0 - 8.3' FILL: Reddish-brown SILT; medium dense; moist	0.6	Sample 125-SB-601-LL2 from 8.7-10.3 ft bgs @ 1335; EnCore taken from 125-SB-601-LL2 at 1335
	9.0					8.3 - 10.0' FILL: Dark brown coarse to fine SAND, fine gravel	0.5	
							0.2	
	10.0					10.0 - 11.0' FILL: Dark brown SILT, trace fine gravel; medium dense; moist	1.0	Sample 125-SB-601-VV2 from 10.3-11.6 ft bgs @ 1340; EnCore taken from 125-SB-601-VV2 at 1340
							0.9	
	11.0					11.0 - 11.8' FILL: Black coarse to fine SAND; loose; wet	1.0	
							0.4	
	12.0					11.8 - 12.0' PEAT		End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-602
DATE BEGAN: 07/26/2013
DATE FINISHED: 07/24/2013
INSPECTOR: V. Whelan
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684540.2275
EAST: 602750.0541

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 8.0' Push to 8 ft bgs.		
	1.0							
	2.0							
	3.0							
	4.0							
	5.0							
	6.0							
	7.0							
	8.0	S-1	NA	4.0		8.0 - 8.5' Reddish-brown SILT, trace fine sand, trace clay; soft, low plasticity; moist	0.3	
						8.5 - 9.0' Mottled reddish-brown SILT, dark gray coarse to fine sand, trace fine gravel; loose; moist	0.4	Sample 125-SB-602-WW1 from 8.5-10.1 ft bgs @ 0815
	9.0						0.4	
						9.0 - 12.0' Dark gray coarse to fine SAND, little silt, color darkening with depth; loose; wet from 9.0-10 ft bgs, moist from 10-12 ft bgs	0.1	
	10.0						0.8	Sample 125-SB-602-WW2 from 10.1-11.4 ft bgs @ 0820; EnCore taken from 125-SB-602-WW2 @ 0820
							1.1	
	11.0						1.5	
							1.4	End of boring at 12 ft bgs
	12.0							

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: **125-SB-603**
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684600.4861
EAST: 602566.6490

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT	0.6	Sample 125-SB-603-Q1 from 0.0-1.1 ft bgs @ 1300
	1.0					0.8 - 2.5' FILL: Dark brown/reddish-brown SILT, fine gravel; medium dense; moist	0.3 0.7 0.5	
	2.0							
	3.0					2.5 - 3.5' FILL: Black medium to fine SAND, silt, some fine gravel, trace wood; medium dense; moist	0.4 0.6	Sample 125-SB-603-Q2 from 1.1-3.5 ft bgs @ 1305; EnCore taken from 125-SB-603-Q2 @ 1305
	4.0					3.5 - 4.0' No Recovery		End of boring at 4.0 ft bgs

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-604
DATE BEGAN: 07/26/2013
DATE FINISHED: 07/26/2013
INSPECTOR: H. Cerbone
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684602.8905
EAST: 602675.5053

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0							
						-4.0 - 0.0' Direct push through concrete pad to 0 ft.		PID not working.
	-3.0							
	-2.0							
	-1.0							
	0.0	S-1	NA	4.0		0.0 - 3.3' FILL: Dark reddish-brown medium to fine SAND, little silt, trace coarse sand, brick; dry		
	1.0							
	2.0							
	3.0							1st attempt - hit debris at 2.5 ft bgs
	4.0	S-2	NA	4.0		3.3 - 4.0' FILL: Black fine SAND, trace coarse to medium sand and dark reddish-brown medium to fine sand, little silt; moist		

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-604
DATE BEGAN: 07/26/2013
DATE FINISHED: 07/26/2013
INSPECTOR: H. Cerbone
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684602.8905
EAST: 602675.5053

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Brown/black/reddish-brown coarse to fine SAND, little silt, wood pieces, brick, large gravel; moist		
	5.0							Sample 125-SB-604-KK1 from 5.5-7.6 ft bgs @ 1130
	6.0							
	7.0							Sample 125-SB-604-KK2 from 7.6-9.3 ft bgs @ 1135; EnCore taken from 125-SB-604-KK2 @ 1135
	8.0	S-3	NA	4.0		8.0 - 8.5' FILL: Dark brown SILT and fine SAND, trace coarse to medium sand; wet		
	9.0					8.5 - 10.0' FILL: White/green clayey SILT, possible COPR; moist		Sample 125-SB-604-XX1 from 9.3-10.9 ft bgs @ 1140; EnCore taken from 125-SB-604-XX1 @ 1140
	10.0					10.0 - 11.7' FILL: Dark brown/black coarse to fine SAND; wet		
	11.0							Sample 125-SB-604-XX2 from 10.9-12.2 ft bgs @ 1145
	12.0					11.7 - 12.0' FILL: Dark brown/black fine SAND; wet		End of boring at 12 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-605
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684627.3310
EAST: 602581.3458

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' ASPHALT		Sample 125-SB-605-P1 from 0.0-1.2 ft bgs @ 1140
						0.5 - 1.0' FILL: Dark brown coarse to fine SAND, medium to fine gravel; loose; dry	0.5	
	1.0					1.0 - 1.3' ASPHALT	0.8	
						1.3 - 3.0' FILL: Reddish-brown to dark brown SILT, some fine sand, some medium to fine gravel, some wood; medium dense; moist	0.8	Sample 125-SB-605-P2 from 1.2-3.6 ft bgs @ 1145; EnCore taken from 125-SB-605-P2 @ 1145
	2.0						1.2	
							0.9	
	3.0					3.0 - 4.0' FILL: Black SILT, some medium to fine gravel; dense; moist	0.9	
	4.0	S-2	NA	3.0		4.0 - 4.8' FILL: Reddish-brown to dark brown SILT, some fine sand; loose; moist	0.7	
	5.0					4.8 - 6.0' FILL: Black SILT, coarse to fine sand, medium to fine gravel, coal, wood, ash; dense; moist	0.9	Sample 125-SB-605-II1 from 5.1-7.2 ft bgs @ 1150; EnCore taken from 125-SB-605-II1 @ 1150
							1.8	
	6.0					6.0 - 7.0' FILL: Black SILT, some coarse to fine sand, medium to fine gravel, wood, light grey lense at 6.5 ft bgs; loose; wet	0.9	
							0.8	
	7.0					7.0 - 8.0' No Recovery		Sample 125-SB-605-II2 from 7.2-8.9 ft bgs @ 1155
	8.0	S-3	NA	1.0		8.0 - 9.0' FILL: Black coarse to fine SAND, medium to fine gravel, wood, metal, plastic, loose, wet	1.0	
	9.0					9.0 - 10.0' No Recovery	1.0	
	10.0							End of boring at 10 ft bgs.

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-606
DATE BEGAN: 07/23/2013
DATE FINISHED: 07/23/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684642.4436
EAST: 602630.2665

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	4.0		4.0 - 4.8' FILL: Black / Reddish-brown SILT, trace fine gravel; medium dense; wet	0	
	5.0					4.8 - 8.0' FILL: Black SILT, white medium to fine gravel from 7.0-7.25 ft bgs; medium dense; moist	0 0 0 0 0 0	Sample 125-SB-606-JJ1 from 5.4-7.5 ft bgs @ 1345
	6.0							
	7.0							
	8.0	S-2	NA	4.0		8.0 - 10.0' FILL: Black SILT; medium dense; moist	0 0.1	Sample 125-SB-606-JJ2 from 7.5-9.2 ft bgs @ 1350; EnCore taken from 125-SB-606-JJ2 @ 1350
	9.0						0	
	10.0					10.0 - 10.5' FILL: Reddish-brown SILT; medium dense; wet	0 0	
	11.0					10.5 - 12.0' FILL: Black SILT, fine gravel; medium dense; wet	0 0 0	
	12.0							End of boring at 12 ft bgs.

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 125
PROJECT NO: 3480130354
BORING ID: 125-SB-607
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 684680.7717
EAST: 602584.0706

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' FILL: Black coarse to fine SAND, medium to fine gravel, asphalt; loose; dry	0	Sample 125-SB-607-W1 from 1.2-3.6 ft bgs @ 1110
	1.0					1.0 - 1.5' FILL: Reddish-brown SILT, some fine gravel; medium dense; dry	0	
						1.5 - 3.0' FILL: Dark brown coarse to fine SAND, fine gravel; medium dense; dry	0 0.5 0.6	Sample 125-SB-607-W2 from 3.6-5.1 ft bgs @ 1115; EnCore taken from 125-SB-607-W2 @ 1115
	3.0					3.0 - 4.0' FILL: Black SILT, fine sand; medium dense; moist	0	
	4.0	S-2	NA	4.0		4.0 - 4.8' FILL: Reddish-brown/black SILT, some fine gravel; dense; moist	1.0	
	5.0					4.8 - 8.0' FILL: Black SILT, fine sand, possible COPR in shoe; medium dense; moist	1.2 1.1 1.8 0.9 1.4 1.3	Sample 125-SB-607-HH1 from 5.1-7.2 ft bgs @ 1120; EnCore taken from 125-SB-607-HH1 @ 1120 Sample 125-SB-607-HH2 from 7.2-8.9 ft bgs @ 1125
	8.0	S-3	NA	2.0		8.0 - 10.0' FILL: Black SILT, medium dense; moist		
	10.0							End of boring at 10 ft bgs.

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 134-MW-03
DATE BEGAN: 2-16-16
DATE FINISHED: 2-16-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16' bgs
GW DEPTH: 2' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	27	2.0		10.0 - 12.6' SW: Dark brown fine to medium SAND, fine to coarse gravel, trace SILT; dense, wet	NM	Augered to 10' bgs Starting elevation 7.5' GW elevation 5.5'
			60					
	11.0		67					
			43					Meadow mat expected at elevation -4 (11.5' bgs)
	12.0	SS2	23	2.0				
			75			12.6 - 15.0' SW: Gray fine to coarse SAND, fine to coarse gravel, crushed concrete; dense, wet		
	13.0		51					
			95					
	14.0	SS3	43	1.5				
			94					
	15.0		6			15.0 - 15.5' PT: Dark brown PEAT		
			3			15.5 - 16.0' No recovery. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 134-MW-04
DATE BEGAN: 2-22-16
DATE FINISHED: 2-22-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16' bgs
GW DEPTH: 2' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	SS1	22	0.5		12.0 - 12.5' SW: Gray fine to coarse SAND, fine to coarse gravel; loose, wet	NM	Augered to 12' bgs Starting elevation 7.0' GW elevation 5.0'
			26			12.5 - 14.0' No recovery		
	13.0		4					
			5					
	14.0	SS2	4	2.0		14.0 - 14.2' OL: Dark gray SILT with organic fibers		
						14.2 - 16.0' PT: Dark brown PEAT. End of boring at 16.0' bgs.		
			5					
	15.0		6					
			7					
	16.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 134-MW-V09R
DATE BEGAN: 2-22-16
DATE FINISHED: 2-22-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 18' bgs
GW DEPTH: 2.5' bgs
DRILLER: Gordon Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	8	2.0		14.0 - 15.0' SW: Reddish brown fine SAND, some silt; medium dense, wet	NM	Augered to 14' bgs Starting elevation 8.0' GW elevation 5.5'
			11					
	15.0		8			15.0 - 15.7' ML: Reddish brown CLAYEY SILT; wet		
			9					
						15.7 - 16.4' ML: Black SILT; wet		
	16.0	SS2	3	2.0				
						16.4 - 16.5' ML: Dark gray SILT with fibers		
			5			16.5 - 18.0' PT: Dark brown PEAT. End of boring at 18.0' bgs.		
	17.0		9					
			15					
	18.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 134-SB-001 | **SITE ID:** 134

DATE BEGAN: 6/17/2005 | **DATE FINISHED:** 6/17/2005 | **INSPECTOR:** CH

DRILLING CO: EPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Hurricane 5500

DRILLER: Bob | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 16.1 ft bgs | **GW DEPTH:** 2 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT: Asphalt		0	
	-1.0					FILL: Topsoil; Gravel, brick, fill material; some sand; strong hues of green & orange between 1.0-2.0 ft. bgs			134-SB-001_004 collected from 1.5-2.0 ft bgs @1353
	-2.0					FILL: Sand, medium - coarse; some gravel; ash, coal, fill material; trace green & orange hues			
	-3.0								
	-4.0	S-2		4		FILL: Dark Brown, sand, fine - medium		0	
-5.0	-5.0					FILL: Dark Brown, silty			
	-6.0								
	-7.0					FILL: Ash, green (suspected COPR)			
	-8.0	S-3		4		FILL: Dark Brown, sand, coarse		0	
	-9.0								
-10.0	-10.0								
	-11.0					FILL: Reddish brown, silt			
	-12.0	S-4		4		FILL: Brown, clay		0	
	-13.0					OH: Dark brown, clay; trace black coloring; organic odor			
	-14.0								
-15.0	-15.0								
	-16.0					PT: Peat			134-SB-001_003 collected from 15.5-16.0 ft bgs @1401
	-17.0					End boring @ 16.1'			

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 134-SB-002 **SITE ID:** 134

DATE BEGAN: 6/17/2005 **DATE FINISHED:** 6/17/2005 **INSPECTOR:** CH

DRILLING CO: EPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Hurricane 5500

DRILLER: Bob **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 20 ft bgs **GW DEPTH:** 2 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT: Asphalt		0	
	-1.0					FILL: Black - dark gray, sand, coarse			134-SB-002_005 collected from 1.5-2.0 ft bgs @1316
	-2.0					FILL: Black, sand, coarse			134-SB-002_010 collected from 1.5-2.0 ft bgs @1317
	-3.0					FILL: Sandy silt, gravel fragments, medium - fine			
	-4.0	S-2		4		FILL: Black, clay silt		0	134-SB-002_006 collected from 3.5-4.0 ft bgs @1322
-5.0	-5.0					FILL: Light-medium green, ash, fill			
	-6.0					FILL: Green tint, gray, ash			
	-7.0								134-SB-002_007 collected from 6.5-7.0 ft bgs @1328
	-8.0	S-3		4				0	
	-9.0					FILL: Brown-green tints, 10R 3/2			
-10.0	-10.0								134-SB-002_008 collected from 10.5-11.0 ft bgs @1333
	-11.0					FILL: Brown, silt, 10R 4/3			
	-12.0	S-4		0				0	
	-13.0								
	-14.0								
-15.0	-15.0								
	-16.0	S-5		2				0	
	-17.0								
	-18.0					OH: Black , clay; organic matter, saturated			
	-19.0								
-20.0	-20.0					End boring @ 20'			134-SB-002_009 collected from 19.5-20.0 ft bgs @1338
	-21.0								

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-012
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
	-1.0					0.5 - 3.5' FILL: reddish brown silty sand, some fine to medium gravel; dry	0	134-SB-012-0002 from 1.0-1.5' bgs @ 1250
	-2.0						0	
	-3.0						0	134-SB-012-0204 from 3.0-3.5' bgs @ 1255
	-4.0	S-2	N/A	4.0		3.5 - 4.0' No recovery		
	-5.0					4.0 - 8.0' FILL: light brown/reddish brown silty sand; wet	0	134-SB-012-0406 from 4.0-4.5' bgs @ 1300
	-6.0						0	
	-7.0						0	134-SB-012-0608 from 7.0-7.5' bgs @ 1305
	-8.0	S-3	N/A	4.0		8.0 - 14.5' FILL: light brown/reddish brown sandy silt; wet	0	
	-9.0						0	134-SB-012-0810 from 8.5-9.0' bgs @ 1310
	-10.0						0	
	-11.0						0	134-SB-012-1012 from 10.5-11.0' bgs @ 1315
	-12.0	S-4	N/A	4.0			0	
	-13.0						0	134-SB-012 -1214 from 12.5-13.0' bgs @ 1320
	-14.0						0	
	-15.0					14.5 - 15.5' OL: black silt with trace organic material	0	134-SB-012-1416 from 15.0-15.5' bgs @ 1325
	-16.0					15.5 - 16.0' PT: peat; end of boring at 16'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-013
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Goeprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 17 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
	-1.0					0.5 - 1.0' FILL: reddish brown silt, some fine to medium sand, dry	0	134-SB-013-0002 from 1.0-1.5' bgs @ 1030
	-2.0					1.0 - 1.5' FILL: dark brown/black silty sand with shells and wood, dry	0	134-SB-013-0204 from 2.5-3.0' bgs @ 1035
	-3.0					1.5 - 3.0' FILL: reddish brown silty sand; compact, moist		
	-4.0	S-2	N/A	3.75		3.0 - 4.0' No recovery	0	134-SB-013-0406 from 4.5-5.0' bgs @ 1040
	-5.0					4.0 - 7.5' FILL: light brown fine to medium sand with silt lenses; wet from 5'	0	
	-6.0						0	
	-7.0					7.5 - 7.8' FILL: fine to medium gravel; wet	0	134-SB-013-0608 from 7.0-7.5' bgs @ 1045
	-8.0	S-3	N/A	3.0		7.8 - 8.0' No recovery	0	134-SB-013-0810 from 8.0-8.5' bgs @ 1050
	-9.0					8.0 - 11.0' FILL: light brown fine to medium sand with silt lenses from 8.0-9.0'; wet	0	
	-10.0						0	134-SB-013-1012 from 10.0-10.5' bgs @ 1055
	-11.0					11.0 - 12.0' No recovery		
	-12.0	S-4	N/A	3.75		12.0 - 13.0' FILL: light brown fine to medium sand; wet	0	
	-13.0					13.0 - 14.8' FILL: brown silty sand; wet	0	134-SB-013-1214 from 13.0-13.5' bgs @ 1100
	-14.0						0	
	-15.0					14.8 - 15.8' FILL: brown silty clay, wet	0	134-SB-013-1416 from 15.0-15.5' bgs @ 1105
	-16.0	S-5	N/A	1.0		15.8 - 16.0' No recovery	0	
	-17.0					16.0 - 16.3' OL: black organic silt, wet	0	
						16.3 - 17.0' PT: dark brown peat; moist; end of boring at 17'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-014
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: E. Jackson / T. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	-1.0					0.5 - 1.0' FILL: Light brown sand (coarse) and gravel (fine-medium), dry		134-SB-014_0002 collected from 0.5-1.0' bgs @ 9:45
	-2.0					1.0 - 3.0' FILL: Dark brown silt, trace clay; sand (coarse), gravel and wood from 1.75-2'; firm, moist from 1.75'		134-SB-014_0204 collected from 2.5-3.0' bgs @ 9:48
	-3.0					3.0 - 4.0' No recovery		
	-4.0	2	NA	3.5		4.0 - 4.3' FILL: Dark brown silt, trace sand (coarse), clay, gravel and wood; loose, saturated	0	134-SB-014_0406 collected from 4.5-5.0' bgs @ 9:50
	-5.0					4.3 - 5.0' FILL: Light brown sand (medium-coarse) and gravel (fine), trace silt, saturated		
	-6.0					5.0 - 5.8' FILL: Light brown silt, firm, wet		134-SB-014_0608 collected from 7.0-7.5' bgs @ 9:52
	-7.0					5.8 - 6.3' FILL: Dark brown clayey silt, wet		
	-8.0	3	NA	4.0		6.3 - 7.5' FILL: Brown sand (fine-coarse), wet	0	134-SB-014_0810 collected from 8.0-8.5' bgs @ 9:54
	-9.0					7.5 - 8.0' No recovery		
	-10.0					8.0 - 10.5' FILL: Light brown sand (fine-medium), few clay lenses, saturated		134-SB-014_1012 collected from 10.5-11.0' bgs @ 9:56
	-11.0					10.5 - 12.0' FILL: Dark brown clay, saturated		
	-12.0	4	NA	2.0		12.0 - 13.3' FILL: Light brown sand (fine-medium), saturated	0	
	-13.0					13.3 - 15.0' FILL: Light brown silty clay with trace sand, saturated		134-SB-014_1214 collected from 13.5-14.0' bgs @ 9:58
	-14.0	5	NA	3.5			0	
	-15.0					15.0 - 16.0' OL: Black/dark brown clay and silt		134-SB-014_1416 collected from 14.5-15.0' bgs @ 10:00, DUP @ 10:02
	-16.0					16.0 - 17.5' PT: Dark brown peat		
	-17.0					17.5 - 18.0' No recovery; end of boring @ 18'		
	-18.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-015
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.5' ASPHALT: asphalt and gravel		
	-1.0					0.5 - 3.0' FILL: reddish brown silt, some fine to medium gravel; olive silt lenses from 2.0'; dry	0	134-SB-015-0002 from 1.0-1.5' bgs @ 1205
	-2.0						0	134-SB-015-0204 from 2.0-2.5' bgs @ 1210
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	3.5		4.0 - 4.5' FILL: reddish brown silt with fine to medium gravel; moist	0	
	-5.0					4.5 - 7.5' FILL: light brown fine to medium sand; wet from 5'	0	134-SB-015-0406 from 4.5-5.0' bgs @ 1215
	-6.0						0	
	-7.0						0	134-SB-015-0608 from 7.0-7.5' bgs @ 1220
	-8.0					7.5 - 8.0' No recovery		
		S-3	N/A	3.0		8.0 - 9.5' FILL: light brown fine to medium sand; wet	0	134-SB-015-0810 from 8.0-8.5' bgs @ 1225
	-9.0						0	
	-10.0					9.5 - 11.0' FILL: light brown silt with fine sand from 10.5'; wet	0	
	-11.0					11.0 - 12.0' No recovery		134-SB-015-1012 from 10.5-11.0' bgs @ 1230
	-12.0	S-4	N/A	4.0		12.0 - 14.0' FILL: light brown silt with fine sand; wet	0	134-SB-015-1214 from 12.0-12.5' bgs @ 1235
	-13.0						0	
	-14.0					14.0 - 15.5' OL: black silt with organic material from 15', wet	0	
	-15.0					15.5 - 16.0' PT: dark brown peat; moist; end of boring at 16'	0	134-SB-015-1416 from 15.0-15.5' bgs @ 1240
	-16.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-016
DATE BEGAN: 8/1/08
DATE FINISHED: 8/1/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 0.5' ASPHALT	0	
	-1.0					0.5 - 1.0' FILL: DGA	0	134-SB-016-0002 from 1.0-1.5' bgs @ 1350
	-2.0					1.0 - 1.5' FILL: reddish brown silty sand, trace coarse gravel	0	
	-3.0					1.5 - 2.0' FILL: black silty sand, trace coal and coarse gravel; dry	0	134-SB-016-0204 from 3.0-3.5' bgs @ 1355
	-4.0	S-2	N/A	3.5		2.0 - 3.5' FILL: reddish brown silty sand, trace coarse gravel; dry	0	
	-5.0					3.5 - 4.0' No recovery	0	134-SB-016-0406 from 4.5-5.0' bgs @ 1400
	-6.0					4.0 - 4.5' FILL: reddish brown silty sand, trace coarse gravel; moist	0	
	-7.0					4.5 - 6.5' FILL: brown silt, coarse sand, coarse gravel, lenses of red-brown silt; wet	0	134-SB-016-0608 from 7.0-7.5' bgs @ 1405
	-8.0	S-3	N/A	4.0		6.5 - 7.5' FILL: grey coarse sand, reddish brown silt lenses; wet	0	
	-9.0					7.5 - 8.0' No recovery	0	134-SB-016-0810 from 8.5-9.0' bgs @ 1410
	-10.0					8.0 - 9.0' FILL: grey coarse sand, reddish brown silt lenses; wet	0	
	-11.0					9.0 - 14.0' FILL: brown silty clay; wet	0	134-SB-016-1012 from 10.5-11.0' bgs @ 1415
	-12.0	S-4	N/A	3.1			0	
	-13.0						0	134-SB-016-1214 from 12.5-13.0' bgs @ 1420
	-14.0					14.0 - 15.0' OL: black silty organic material; wet	0	134-SB-016-1416 from 14.0-14.5' bgs @ 1425; DUP @ 1427
	-15.0					15.0 - 15.1' PT: peat; moist	0	
	-16.0					15.1 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell SA-6 South

LOCATION: Honeywell Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-016R
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: gravel	NA	
	1.0					0.3 - 1.5' FILL: Red silt; moist, firm		
	2.0					1.5 - 2.3' FILL: Dark grey fine sand, some silt, ash, and coal; moist, loose		
	3.0					2.3 - 2.5' FILL: Reddish brown clay, some silt; moist, very firm		
	4.0	S-2	NA	4.0		2.5 - 3.5' FILL: Light brown fine sand, some silt, some lenses of light brown silty clay; moist, loose	NA	
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 6.5' SP: Light brown fine sand, some silt, some lenses of light brown silty clay; moist, loose		
	7.0					6.5 - 8.0' SP: Greenish brown fine sand, some silt, some lenses of light brown silty clay; moist, loose		
	8.0	S-3	NA	4.0		8.0 - 10.5' SP: Greyish brown fine to medium sand, trace shells; wet, loose	NA	
	9.0							
	10.0							
	11.0					10.5 - 11.5' ML: Brown silt; wet, soft		
	12.0	S-4	NA	4.0		11.5 - 12.0' SW: Greyish brown fine sand, some silt, trace shells; moist, loose	NA	
	13.0					12.0 - 16.0' SW: Greyish brown fine to medium sand, some silt, trace shells; wet, loose; end of boring @ 16.0' bgs		
	14.0							Sample collected 134-SB-016R-1416 from14.5 - 15.0' bgs @ 934
	15.0							
	16.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-017
DATE BEGAN: 6/18/08
DATE FINISHED: 6/18/08
INSPECTOR: E. Jackson/T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	134-SB-017_0002 collected from 1.0-1.5' bgs @ 10:05
						0.5 - 1.0' FILL: Concrete		
	-1.0					1.0 - 2.5' FILL: Light brown sand (fine-coarse), some gravel, dry		
	-2.0						45	134-SB-017_0204 collected from 2.5-3.0' bgs @ 10:07
						2.5 - 3.0' FILL: Black sand (medium-coarse), some gravel and ash, dry		
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	3.0		4.0 - 5.5' FILL: Light tan silty sand (fine-medium), trace gravel, dry	35	134-SB-017_0406 collected from 5.0-5.5' bgs @ 10:10
	-5.0							
	-6.0					5.5 - 7.0' FILL: Tan sand (fine-coarse), trace gravel, moist	40	134-SB-017_0608 collected from 6.5-7.0' bgs @ 10:12
	-7.0					7.0 - 8.0' No recovery		
	-8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Light grey sand (fine-coarse), saturated	25	134-SB-017_0810 collected from 8.5-9.0' bgs @ 10:15, DUP @ 10:15
	-9.0							
	-10.0						22	134-SB-017_1012 collected from 11.0-11.5' bgs @ 10:20
	-11.0							
	-12.0	S-4	NA	4.0			1.5	134-SB-017_1214 collected

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-017
DATE BEGAN: 6/18/08
DATE FINISHED: 6/18/08
INSPECTOR: E. Jackson/T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0							
						12.0 - 14.0' FILL: Brown silty sand (fine-medium), saturated		from 12.5-13.0' bgs @ 10:22
	-13.0							
	-14.0					14.0 - 15.5' FILL: Brown silty sand (fine), saturated	0.5	134-SB-017_1416 collected from 15.0-15.5' bgs @ 10:30
	-15.0					15.5 - 16.0' FILL: Brown silty sand (fine-coarse), wet		
	-16.0	S-5	NA	4.0		16.0 - 17.5' FILL: Brown sand (fine), some silt and clay, wet		134-SB-017_1618 collected from 16.0-16.5' bgs @ 10:33
	-17.0							
						17.5 - 18.0' FILL: Tan silty clay, wet		
	-18.0					18.0 - 19.5' PT: Brown peat, wet		134-SB-017_1820 collected from 18.5-19.0' bgs @ 10:35
	-19.0							Driller grouted boring
						19.5 - 20.0' SW: Dark brown sand (medium-coarse), wet; end of boring at 20'		
	-20.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-018
DATE BEGAN: 6/18/08
DATE FINISHED: 6/18/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 2.8' FILL: Reddish brown silty sand (fine-coarse) and trace angular gravel, dry		134_SB-018_0002 collected from 1.0-1.5' bgs @ 11:50
	-2.0							
	-3.0					2.8 - 3.3' FILL: Red/dark brown silty clay, firm, low plasticity, dry		
						3.3 - 3.5' FILL: Brown sand (medium-coarse), moist		134_SB-018_0204 collected from 3.5-4.0' bgs @ 11:53
▽	-4.0	S-2	NA	4.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 6.0' FILL: Brown sand (fine-medium, trace coarse), wet		134_SB-018_0406 collected from 5.0-5.5' bgs @ 11:55
	-6.0							
	-7.0					6.0 - 7.3' FILL: Brown sand (medium-coarse), clay lens from 6.0-6.25', wet		
	-8.0	S-3	NA	4.0		7.3 - 8.0' FILL: Brown silty sand, wet		134_SB-018_0608 collected from 7.5-8.0' bgs @ 11:58
	-9.0					8.0 - 12.0' FILL: Brown sand (medium-coarse), brick at 9', clay from 11-11.25', wet	0	134_SB-018_0810 collected from 9.0-9.5' bgs @ 12:04
	-10.0							
	-11.0							134_SB-018_1012 collected from 11.5-12.0' bgs @ 12:08
	-12.0	S-4	NA	4.0			0	

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-018
DATE BEGAN: 6/18/08
DATE FINISHED: 6/18/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0							
	-13.0					12.0 - 14.5' FILL: Brown sand (fine-medium), saturated		134_SB-018_1214 collected from 12.0-12.5' bgs @ 12:19, DUP @ 12:21
	-14.0							
	-15.0					14.5 - 16.0' CH: Brown clay, plastic, saturated		134_SB-018_1416 collected from 15.0-15.5' bgs @ 12:23
	-16.0	S-5	NA	4.0		16.0 - 16.5' OH: Dark brown/black clay with organic odor, saturated, plastic	0	
	-17.0					16.5 - 19.5' PT: Peat		134_SB-018_1618 collected from 16.0-16.5' bgs @ 12:36
	-18.0							134_SB-018_1820 collected from 18.5-19.0' bgs @ 12:41
	-19.0							
	-20.0					19.5 - 20.0' CL: Dark brown silty clay, trace sand; end of boring at 20'		Driller grouted boring

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-019
DATE BEGAN: 6/18/08
DATE FINISHED: 6/18/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 1.5' FILL: Red brown silty sand (fine-medium)		
	-2.0					1.5 - 2.0' FILL: Light yellow sand (medium-coarse), trace silt and angular gravel, dry		134-SB-019_0002 collected from 1.5-2.0' bgs @ 9:08
	-3.0					2.0 - 2.8' FILL: Dark brown sand (coarse) and gravel (fine), trace silt, dry		134-SB-019_0204 collected from 2.5-3.0' bgs @ 9:02
						2.8 - 3.0' FILL: Brown/dark brown clayey silt		
	-4.0	S-2	NA	4.0		3.0 - 4.0' No recovery	0	134-SB-019_0406 collected from 4.0-4.5' bgs @ 9:11
	-5.0					4.0 - 4.8' FILL: Dark brown sand (medium-coarse), gravel (fine); moist		
	-6.0					4.8 - 7.0' FILL: Brown/dark brown silty clay; moist from 4.75', wet from 5.5'		134-SB-019_0608 collected from 6.0-6.5' bgs @ 9:13
	-7.0					7.0 - 8.8' FILL: Brown sand (fine-coarse), wet		
	-8.0	S-3	NA	4.0			0	
	-9.0					8.8 - 11.5' FILL: Brown sandy (fine-medium) silt, trace clay, clay layer from 8.75-9'; wet		134-SB-019_0810 collected from 9.0-9.5' bgs @ 9:15
	-10.0							
	-11.0							134-SB-019_1012 collected from 11.5-12.0' bgs @ 9:18
	-12.0	S-4	NA	4.0		11.5 - 12.0' FILL: Brown sand (fine) and silt, wet	0	

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-019
DATE BEGAN: 6/18/08
DATE FINISHED: 6/18/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0							
						12.0 - 13.0' FILL: Brown sand (fine) and silt, wet		134-SB-019_1214 collected from 12.0-12.5' bgs @ 9:20
	-13.0					13.0 - 15.0' FILL: Brown silty clay, wet		
	-14.0							
	-15.0					15.0 - 16.0' FILL: Brown sand (fine) and silt, wet		134-SB-019_1416 collected from 15.0-15.5' bgs @ 9:25
	-16.0	S-5	NA	4.0		16.0 - 18.0' CH: Brown clay, firm, high plasticity	0	
	-17.0							
	-18.0					18.0 - 19.9' PT: Peat and clay; end of boring at 20'		
	-19.0							Driller grouted boring
						19.9 - 20.0' SM: Brown sand (fine-medium) in tip;		
	-20.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-021
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 2.0' ASPHALT: Asphalt and concrete		Driller cored through asphalt and concrete pad
	-1.0							
	-2.0	S-1	NA	1.5		2.0 - 3.5' FILL: Dark brown silty sand (fine) and gravel (fine-medium)	0	134-SB-021_0204 collected from 2.5-3.0' bgs @ 12:10
	-3.0					3.5 - 4.0' No recovery		
	-4.0	S-2	NA	3.5		4.0 - 5.0' FILL: Dark brown silty sand (fine) and gravel (fine-medium), very moist	0	134-SB-021_0406 collected from 4.5-5.0' bgs @ 12:15
	-5.0					5.0 - 5.5' FILL: Light brown silt, wet		
	-6.0					5.5 - 7.5' FILL: Light brown sand (fine-medium), trace silt, wet		
	-7.0					7.5 - 8.0' No recovery		134-SB-021_0608 collected from 7.0-7.5' bgs @ 12:20
	-8.0	S-3	NA	3.0		8.0 - 9.0' FILL: Light brown silt, some sand (fine)	0	134-SB-021_0810 collected from 8.0-8.5' bgs @ 12:25
	-9.0					9.0 - 11.0' FILL: Light brown sand (fine), trace silt		
	-10.0							
	-11.0					11.0 - 12.0' No recovery		134-SB-021_1012 collected from 10.5-11.0' bgs @ 12:30
	-12.0	S-4	NA	3.5		12.0 - 12.8' FILL: Light brown clayey silt, saturated	0	
	-13.0					12.8 - 13.8' ML: Light brown/olive silt, some fine organic material from 13.5'		134-SB-021_1214 collected from 13.0-13.5' bgs @ 12:35
	-14.0					13.8 - 15.5' OL: Black silt, some fine organic material		134-SB-021_1416 collected from 15.0-15.5' bgs @ 12:40
	-15.0					15.5 - 16.0' No recovery		
	-16.0	S-5	NA	1.0		16.0 - 16.8' ML: Olive/light brown silt, trace fine organic material	0	134-SB-021_1618 collected from 16.0-16.5' bgs @ 12:45
	-17.0					16.8 - 17.0' PT: Dark brown peat; end of boring at 17'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-022
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	-1.0					0.5 - 1.0' FILL: Red brown silt and clay; tight, dry.		134-SB-022_0002 collected from 0.5-1.0' bgs @ 7:59
	-2.0					1.0 - 2.5' FILL: Dark brown silty sand, trace wood and clay; dry.		134-SB-022_0204 collected from 2.0-2.5' bgs @ 8:02
	-3.0					2.5 - 3.0' FILL: Light brown sand (coarse), clay lens at 2.6'; dry		
	-4.0	S-2	NA	3.5		3.0 - 4.0' No recovery	0	
	-5.0					4.0 - 7.5' FILL: Brown sand (fine-coarse), trace clay from 4.0-6.0'; saturated from 5'		134-SB-022_0406 collected from 4.5-5.0' bgs @ 8:05
	-6.0							
	-7.0							134-SB-022_0608 collected from 7.0-7.5' bgs @ 8:07
	-8.0	S-3	NA	3.5		7.5 - 8.0' No recovery	0	134-SB-022_0810 collected from 8.0-8.5' bgs @ 8:10
	-9.0					8.0 - 9.0' OH: Dark brown/black silty clay; high plasticity, wet;		
	-10.0					9.0 - 10.0' PT: Peat		
	-11.0					10.0 - 11.0' OL: Dark brown/black silty clay, wet		
	-12.0					11.0 - 11.5' OL: Dark brown/black silt, trace clay, wet		Driller grouted boring
						11.5 - 12.0' No recovery; end of boring at 12'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-022A
DATE BEGAN: 8/8/08
DATE FINISHED: 8/8/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
						0.5 - 1.0' FILL: reddish brown silt; stiff; dry		
	-1.0					1.0 - 1.5' FILL: dark brown sandy silt with fine to medium gravel, fine glass; dry	0	
	-2.0					1.5 - 3.0' FILL: light brown fine to medium sand, lenses of reddish brown silt from 2.5'; dry	0	
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	3.0		4.0 - 7.0' FILL: light brown fine to medium sand, fine gravel from 5.0'; wet from 4.5'	0	134-SB-22A-0406 fro SVOCs and metals from 4.0-4.5' bgs @ 1400
	-5.0						0	
	-6.0						0	
	-7.0					7.0 - 8.0' No recovery		
	-8.0	S-3	N/A	2.5		8.0 - 8.3' ML: black clayey silt, wet	0	
						8.3 - 9.0' PT: dark brown peat; moist		
	-9.0					9.0 - 10.0' ML: black clayey silt; moist	0	
	-10.0					10.0 - 10.5' ML: light brown clayey silt; moist	0	134-SB-22A-1012 from 10.0-10.5' bgs @ 1410
						10.5 - 12.0' No recovery; end of boring at 12'		
	-11.0							
	-12.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-023
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 1.5' FILL: Dark brown silt; firm, moist		134-SB-023_0002 collected from 1.0-1.5' bgs @ 8:55
	-2.0					1.5 - 3.0' FILL: Dark brown sand (medium-coarse), some coal, gravel, brick and slate; moist		134-SB-023_0204 collected from 2.5-3.0' bgs @ 8:58
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Dark brown sand (medium-coarse), some coal, gravel, brick and slate; wet	0 20	134-SB-023_0406 collected from 4.0-4.5' bgs @ 9:01
	-5.0					4.5 - 5.5' FILL: Brown silty clay; wet	24 25	
	-6.0					5.5 - 7.5' FILL: Brown sand (fine-coarse), wet		134-SB-023_0608 collected from 6.5-7.0' bgs @ 9:04
	-7.0					7.5 - 8.0' No recovery		
	-8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Brown sand (fine-medium), trace clay from 8.0-8.25' and 9.75-10.0'; saturated	0	134-SB-023_0810 collected from 8.5-9.0' bgs @ 9:08
	-9.0							
	-10.0							
	-11.0							134-SB-023_1012 collected from 11.0-11.5' bgs @ 9:11
	-12.0	S-4	NA	4.0		12.0 - 12.5' FILL: Dark brown silt and sand (fine), saturated	0	134-SB-023_1214 collected from 12.0-12.5' bgs @ 9:23
	-13.0					12.5 - 15.0' FILL: Brown clay, saturated		
	-14.0							
	-15.0					15.0 - 15.5' FILL: Yellow brown clay, moist		
	-16.0	S-5	NA	2.0		15.5 - 16.0' FILL: Silty clay, organic odor; moist	0	134-SB-023_1416 collected from 15.5-16.0' bgs @ 9:25
	-17.0					16.0 - 18.0' PT: Peat; end of boring at 18'		
	-18.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-024
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17.5 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	4.0	S-1	NA	2.5		-4.5 - -4.0' CONCRETE		Boring located in elevated trucking bay, approximately 4.5' above ground surface. Depth intervals in sample IDs are from top of boring, rather than depth above or below ground surface (see sampling notes below). Driller cored through concrete before drilling.
						-4.0 - -1.5' FILL: Brown silty sand (fine) and gravel (fine-coarse)	0	134-SB-024_0002 collected from 3.5-3.0' ags @ 9:00
	3.0							
	2.0							
						-1.5 - -0.5' No recovery		134-SB-024_0204 collected from 2.5-2.0' ags @ 9:05
	1.0					-0.5 - 0.0' FILL: Light brown silty sand (fine) and gravel (fine-medium)		
	0.0	S-2	NA	3.0		0.0 - 1.5' FILL: Black silty sand (fine) with yellow green precipitates (COPR), moist from 5'	0	134-SB-024_0406 collected from 0.5-1.0' bgs @ 9:10
	-1.0							
						1.5 - 2.5' FILL: Wood; creosote odor		
	-2.0							
						2.5 - 3.5' No recovery		
	-3.0	S-3	NA	3.0				
						3.5 - 4.5' FILL: Light brown silt with sand (fine-medium), wet from 4.25'	0	
▽	-4.0							134-SB-024_0810 collected from 4.0-4.5' bgs @ 9:15
						4.5 - 5.0' FILL: Dark brown clayey silt, saturated		
	-5.0					5.0 - 6.5' FILL: Light brown sand (fine-medium) with trace silt, wet		
	-6.0							
						6.5 - 7.5' No recovery		
	-7.0	S-4	NA	3.5			0	

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-024
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17.5 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-8.0					7.5 - 9.5' FILL: Light brown sand (fine-medium) with trace silt, wet		
	-9.0							
	-10.0					9.5 - 10.5' FILL: Light brown clayey silt, wet		134-SB-024_1012 collected from 6.0-6.5' bgs @ 9:20
	-11.0					10.5 - 11.0' FILL: Light brown silt, saturated		
						11.0 - 11.5' No recovery		
		S-5	NA	3.5		11.5 - 12.5' FILL: Light brown clayey silt; saturated	0	
	-12.0					12.5 - 12.8' FILL: Light brown/grey silt with trace sand (fine); wet		134-SB-024_1214 collected from 7.5-8.0' bgs @ 9:25; DUP @ 9:27
	-13.0					12.8 - 14.5' OL: Dark brown/black silt with fine organic material; wet		
	-14.0							134-SB-024_1416 collected from 10.5-11.0' bgs @ 9:30
						14.5 - 15.0' OL: Light brown silt with trace fine organic material; wet		
	-15.0					15.0 - 15.5' No recovery		
		S-6	NA	2.0		15.5 - 16.3' OL: Light brown/olive silt with organic material; wet	0	
	-16.0							134-SB-024_1618 collected from 12.5-13.0' bgs @ 9:35
						16.3 - 17.0' PT: Dark brown peat; wet		
	-17.0					17.0 - 17.5' SP: Light brown sand (fine) with trace silt; end of boring at 17.5' bgs		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-025
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 1.8' FILL: Red brown silty sand (fine), crushed concrete and brick, dry		134-SB-025_0002 collected from 1.0-1.5' bgs @ 13:00
	-2.0					1.8 - 2.3' FILL: Light brown sand (fine-medium), dry		
						2.3 - 3.0' FILL: Red brown silt and gravel (coarse), dry		
	-3.0					3.0 - 3.5' FILL: Light brown sand (fine-medium), dry		134-SB-025_0204 collected from 3.0-3.5' bgs @ 13:05
	-4.0	S-2	NA	4.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 8.0' FILL: Light brown sand (fine-medium) with lenses of red brown silt; wet at 5'		134-SB-025_0406 collected from 4.5-5.0' bgs @ 13:10
	-6.0							
	-7.0							134-SB-025_0608 collected from 7.0-7.5' bgs @ 13:15
	-8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown sand (fine-medium), trace gravel from 9.5-11.0'; saturated	0	
	-9.0							134-SB-025_0810 collected from 8.5-9.0' bgs @ 13:20
	-10.0							
	-11.0							134-SB-025_1012 collected from 10.5-11.0' bgs @ 13:25
						11.0 - 12.0' No recovery		
	-12.0	S-4	NA	4.0			0	134-SB-025_1214 collected

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-025
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0					12.0 - 14.0' FILL: Light/red brown silt, wet		from 12.0-12.5' bgs @ 13:30
	-13.0							
	-14.0					14.0 - 15.9' FILL: Light brown silt with trace clay lenses; soft, saturated		
	-15.0							134-SB-025_1416 collected from 15.0-15.5' bgs @ 13:35
	-16.0	S-5	NA	3.5		15.9 - 16.8' PT: Dark brown peat	0	
	-17.0					16.8 - 17.5' SP: Light brown sand (fine), trace silt, some organic material; wet		134-SB-025_1618 collected from 16.5-17.0' bgs @ 13:40
	-18.0					17.5 - 19.5' SP: Olive sand (fine-medium), trace fine organic material and silt, saturated		134-SB-025_1820 collected from 18.5-19.0' bgs @ 13:45
	-19.0							
	-20.0					19.5 - 20.0' No recovery; end of boring at 20'		Driller grouted boring

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-026
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	-1.0					0.5 - 2.8' FILL: Dark brown silty sand (fine) and gravel (fine), dry		134-SB-026_0002 collected from 1.0-1.5' bgs @ 14:05
	-2.0							
	-3.0					2.8 - 3.5' FILL: Light brown sand (fine-medium) some crushed concrete and brick, dry		134-SB-026_0204 collected from 3.0-3.5' bgs @ 14:10
	-4.0	S-2	NA	3.5		3.5 - 4.0' No recovery	0	134-SB-026_0406 collected from 4.0-4.5' bgs @ 14:15
	-5.0					4.0 - 4.8' FILL: Dark brown silty sand (fine) and gravel (fine-medium), trace organics, moist		
	-6.0					4.8 - 6.0' FILL: Light brown silty sand (fine), wet		134-SB-026_0608 collected from 6.0-6.5' bgs @ 14:20; DUP @ 14:25
	-7.0					6.0 - 7.5' FILL: Light brown sand (fine-medium), trace silt lenses; wet		
	-8.0	S-3	NA	3.0		7.5 - 8.0' No recovery	0	134-SB-026_0810 collected from 8.0-8.5' bgs @ 14:30
	-9.0					8.0 - 11.0' FILL: Light brown sand (fine), saturated		
	-10.0							
	-11.0					11.0 - 12.0' No recovery		134-SB-026_1012 collected from 10.5-11.0' bgs @ 14:35; DUP @14:40
	-12.0	S-4	NA	3.5		12.0 - 13.0' FILL: Light brown sand (fine), saturated	0	134-SB-026_1214 collected from 12.5-13.0' bgs @ 14:45
	-13.0					13.0 - 14.3' FILL: Light brown silt with clay lenses, saturated		
	-14.0					14.3 - 15.3' OL: Black clayey silt, wet		134-SB-026_1416 collected from 14.5-15.0' bgs @ 14:50
	-15.0					15.3 - 15.5' PT: Dark brown peat, wet		
	-16.0					15.5 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-027
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 2.5' FILL: Dark brown silt, firm with trace coal, brick, concrete, gravel (angular, fine), red brown from 1.75-2.0', dry		134-SB-027_0002 collected from 1.0-1.5' bgs @ 13:00
	-2.0							
	-3.0					2.5 - 3.0' FILL: Brown clayey sand (fine), some gravel, yellow green staining at 3.25', dry		134-SB-027_0204 collected from 2.5-3.0' bgs @ 13:03
	-4.0	S-2	NA	4.0		3.0 - 3.5' FILL: Dark brown gravelly sand, moist	0	
	-5.0					3.5 - 4.0' No recovery		134-SB-027_0406 collected from 5.0-5.5' bgs @ 13:08
	-6.0					4.0 - 4.5' FILL: Dark brown gravelly sand, saturated		
	-7.0					4.5 - 4.8' FILL: Brown clay, wet		134-SB-027_0810 collected from 7.0-7.5' bgs @ 13:10
	-8.0	S-3	NA	4.0		4.8 - 9.5' FILL: Brown/light brown sand (fine-medium), trace sand (coarse) from 4.75-8.0'; wet	0	
	-9.0							134-SB-027_0810 collected from 8.5-9.0' bgs @ 13:16
	-10.0					9.5 - 10.5' FILL: Brown silty clay, trace sand, saturated		
	-11.0					10.5 - 11.0' FILL: Brown/dark brown sand (fine-medium)		134-SB-027_1012 collected from 10.5-11.0' bgs @ 13:20
	-12.0	S-4	NA	4.0		11.0 - 12.0' FILL: Dark brown clay, silt in tip; soft, wet	0	
	-13.0					12.0 - 13.5' FILL: Brown/light brown sand (fine), saturated		134-SB-027_1214 collected from 13.0-13.5' bgs @ 13:26
	-14.0					13.5 - 14.5' FILL: Brown silty clay, trace sand; wet		
	-15.0					14.5 - 16.0' OL: Dark brown/black silty clay, trace organic material		134-SB-027_1416 collected from 15.0-15.5' bgs @ 13:30
	-16.0	S-5	NA	1.0		16.0 - 17.0' PT: Peat; end of boring at 17'	0	
	-17.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-028
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	134-SB-028_0002 collected from 1.0-1.5' bgs @ 7:50
	-1.0					0.5 - 3.3' FILL: Dark brown silty sand, some gravel (fine-coarse); moist from 2.5'		
	-2.0							134-SB-028_0204 collected from 2.5-3.0' bgs @ 7:55
	-3.0					3.3 - 3.5' FILL: Red brown silty sand (fine) with gravel (fine-medium), moist		
						3.5 - 4.0' FILL: No recovery		
	-4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Red brown silty sand (fine) with gravel (fine-medium), moist	0	134-SB-028_0406 collected from 4.5-5.0' bgs @ 8:00
▽	-5.0					4.5 - 5.0' FILL: Dark grey silty sand (fine) with gravel (fine-medium), moist		
						5.0 - 5.8' FILL: Light brown silt, very firm, wet		
	-6.0					5.8 - 7.0' FILL: Dark brown silty sand (fine), wet		134-SB-028_0608 collected from 7.0-7.5' bgs @ 8:05
	-7.0					7.0 - 7.5' FILL: Light brown sand (fine-medium) with lenses of silt, wet		
						7.5 - 8.0' FILL: No recovery		
	-8.0	S-3	NA	3.5		8.0 - 11.5' FILL: Light brown sand (fine-medium) with few silt lenses, saturated	0	134-SB-028_0810 collected from 8.5-9.0' bgs @ 8:10
	-9.0							
	-10.0							134-SB-028_1012 collected from 10.5-11.0' bgs @ 8:15
	-11.0							
						11.5 - 12.0' FILL: No recovery		
	-12.0	S-4	NA	3.5			0	134-SB-028_1214 collected

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-028
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0					12.0 - 12.5' FILL: Light brown silt, saturated		from 12.5-13.0' bgs @ 8:20
	-13.0					12.5 - 13.0' FILL: Olive/ yellow silt (COPR), wet		
						13.0 - 13.8' OL: Light brown silt with organic material, wet		
	-14.0					13.8 - 15.0' OL: Black silt with trace clay and organic material, wet		134-SB-028_1416 collected from 14.5-15.0' bgs @ 8:25
	-15.0					15.0 - 15.5' OL: Light brown silt with trace organic material, wet		
						15.5 - 16.0' No recovery		
	-16.0	S-5	NA	1.75		16.0 - 17.3' OL: Light brown clayey silt with organic material, wet	0	134-SB-028_1618 collected from 16.0-16.5' bgs @ 8:30; DUP @ 8:35
	-17.0					17.3 - 17.8' PT: Dark brown peat		
	-18.0					17.8 - 18.0' No recovery; end of boring at 18'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-029
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	134-SB-029_0002 collected form 1.0-1.5' bgs @ 8:50
	-1.0					1.0 - 2.0' FILL: Red/light brown silty sand (fine), dry		
	-2.0					2.0 - 2.3' FILL: Red brown silt with some gravel (fine-medium), moist		134-SB-029_0204 collected from 2.5-3.0' bgs @ 8:55
	-3.0					2.3 - 3.0' FILL: Olive sand (fine-medium), moist		
	-4.0	S-2	NA	4.0		3.0 - 4.0' No recovery	0	134-SB-029_0406 collected from 4.0-4.5' bgs @ 9:00
	-5.0					4.0 - 8.0' FILL: Light brown sand (fine-medium), some silt lenses; wet from 5.5', saturated from 7.0'		
	-6.0							134-SB-029_0608 collected from 7.0-7.5' bgs @ 9:05
	-7.0							
	-8.0	S-3	NA	3.5		8.0 - 9.8' FILL: Light brown/black clayey silt, wet	0	134-SB-029_0810 collected from 9.0-9.5' bgs @ 9:10
	-9.0							
	-10.0					9.8 - 11.5' FILL: Light brown sand (fine-medium) with lenses of red brown silt, wet		134-SB-029_1012 collected rom 11.0-11.5' bgs @ 9:15
	-11.0					11.5 - 12.0' No recovery		
	-12.0	S-4	NA	4.0		12.0 - 12.5' FILL: Light brown silt, trace sand (fine); wet	0	134-SB-029_1214 collected from 12.5-13.0' bgs @ 9:20
	-13.0					12.5 - 15.0' OL: Black clayey silt, some organic material, more organic material from 14-15'; wet		
	-14.0							134-SB-029_1416 collected from 15.0-15.5' bgs @ 9:25
	-15.0					15.0 - 15.5' ML: Light brown clayey silt with some organic material, wet		
	-16.0					15.5 - 16.0' PT: Dark brown peat; end of boring at 16'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-030
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 1.5' FILL: Dark brown sand (coarse), silt, and gravel with red/yellow brown mottling, dry		Collect 134-SB-030_0002 from 1.0-1.5' bgs @ 14:10
	-2.0					1.5 - 1.8' FILL: Gravel, sand (coarse) and concrete, dry		Hydrocarbon odor from 1.8-2.5' bgs
	-3.0					1.8 - 2.5' FILL: Black sand (coarse) and gravel (fine-medium), some ash and coal; moist		Collect 134-SB-030_0204 from 2.0-2.5' bgs @ 14:13
	-4.0	S-2	NA	4.0		2.5 - 3.0' FILL: Red brown silty sand, trace gravel; moist	0	Collect 134-SB-030_0406 from 4.0-4.5' bgs @ 14:15
						3.0 - 3.5' FILL: Brown silt, trace wood; moist		
	-5.0					3.5 - 4.0' No recovery		
						4.0 - 5.3' FILL: Silty clay, trace gravel; wet		
	-6.0					5.3 - 8.0' FILL: Sand (fine-medium), trace clay; wet		
	-7.0							Collect 134-SB-030_0608 from 7.0-7.5' bgs @ 14:17; DUP @ 14:19
	-8.0	S-3	NA	4.0		8.0 - 10.5' FILL: Brown sand (fine-medium), trace clay, more clay from 8.75-9.0'; saturated	0	
	-9.0							Collect 134-SB-030_0810 from 8.5-9.0' bgs @ 14:25
	-10.0							
	-11.0					10.5 - 12.0' CL: Brown silty clay; saturated, organic odor.		
	-12.0	S-4	NA	4.0			0	Collect 134-SB-030_1012 from 11.5-12.0' bgs @ 14:27

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-030
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0					12.0 - 14.0' CL: Light brown/brown silty clay, wet		Collect 134-SB-030_1214 from 12.5-13.0' bgs @ 14:40
	-13.0							
	-14.0					14.0 - 15.0' CL: Dark brown/black silty clay, wet		
	-15.0					15.0 - 15.9' CL: Brown clay, trace organic material, wet		Collect 134-SB-030_1416 from 15.5-16.0' bgs @ 14:45
	-16.0					15.9 - 16.0' PT: Peat in tip; end of boring at 16'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-031
DATE BEGAN: 6/20/08
DATE FINISHED: 6/20/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' FILL: Brown/light grey sand (fine-coarse), some brick and cinder; dry	0	Collect sample from 1.0-1.5 ft bgs @ 9:45
	-1.0					0.5 - 5.0' FILL: Dark/light grey silty sand (fine); dry from 0.5-4'; moist from 4'		
	-2.0							Collect sample from 2.5-3.0 ft bgs @ 9:50
	-3.0							
	-4.0	S-2	NA	4.0			0	Collect sample from 5.0-5.5 ft bgs @ 9:55
	-5.0					5.0 - 6.0' FILL: Olive brown silty sand, trace clay (suspect COPR); moist		
	-6.0					6.0 - 7.0' FILL: Light grey sandy silt, trace clay; wet		Collect sample from 7.0-7.5 ft bgs @ 10:00
	-7.0					7.0 - 7.5' FILL: Dark grey silt, trace clay; wet		
	-8.0	S-3	NA	4.0		7.5 - 8.0' FILL: Light brown sand (fine-coarse), wet	0	Collect sample from 8.5-9.0 ft bgs @ 10:05
	-9.0					8.0 - 11.0' FILL: Light brown sand (fine-medium), wet		
	-10.0							Collect sample from 11.0-11.5 ft bgs @ 10:10
	-11.0					11.0 - 12.0' FILL: Light brown silt, wet		
	-12.0	S-4	NA	4.0			0	Collect sample from 13.0-

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-031
DATE BEGAN: 6/20/08
DATE FINISHED: 6/20/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0					12.0 - 12.8' FILL: Light brown clayey silt, wet		13.5 ft bgs @ 10:15
	-13.0					12.8 - 13.8' FILL: Olive/light grey silt (COPR), moist		
	-14.0					13.8 - 14.5' FILL: Brown silty sand (fine-medium), some organic material, moist		Collect sample from 14.5-15.0 ft bgs @ 10:20
	-15.0					14.5 - 15.5' FILL: Light brown silty sand, possible COPR from 14.5-15'; wet		
						15.5 - 16.0' OL: Black organic silt, wet		
	-16.0	S-5	NA	4.0		16.0 - 17.5' PT: Peat	0	Collect sample from 17.5-18.0 ft bgs @ 10:25
	-17.0							
	-18.0					17.5 - 19.0' SP: Light grey sand (fine-medium), trace organic material from 17.5-18.5'; saturated		Collect sample from 19.0-19.5 ft bgs @ 10:30
	-19.0					19.0 - 20.0' SP: Olive sand (fine); wet, end of boring at 20'		
	-20.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-032
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17.5 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	4.0	S-1	NA	3.5		-4.5 - -4.0' CONCRETE: Core through concrete	0	Boring located in elevated trucking bay, approximately 4.5' above ground surface. Depth intervals in sample IDs are from top of boring, rather than depth above or below ground surface (see sampling notes below). Driller cored through concrete before drilling.
	3.0					-4.0 - -1.0' FILL: Dark brown silty sand (fine) with gravel (fine-medium), dry		134-SB-032_0002 collected from 4.0-3.5' ags @ 7:50
	2.0							134-SB-032_0204 collected from 2.5-2.0' ags @ 7:55
	1.0					-1.0 - -0.5' No recovery		
		S-2	NA	3.5		-0.5 - 1.0' FILL: Light brown silty sand (fine), moist	0	
	0.0							
	-1.0					1.0 - 3.0' FILL: Dark brown silty sand (fine), yellow/green COPR at 5.75'; very hard, moist		134-SB-032_0406 collected from 1.0-1.5' bgs @ 8:00
	-2.0							134-SB-0320608 collected from 2.5-3.0' bgs @ 8:05
	-3.0					3.0 - 3.5' No recovery		
		S-3	NA	3.0		3.5 - 4.0' FILL: Dark brown silty sand (fine) some glass and wood, moist	0	
▽	-4.0							134-SB-032_0810 collected from 4.0-4.5' bgs @ 8:10
	-5.0					4.0 - 5.0' FILL: Light brown silt, trace sand (fine); wet		
						5.0 - 5.3' FILL: Light brown clayey silt, wet		
	-6.0					5.3 - 6.5' FILL: Light brown sand (fine-medium), trace clayey silt; wet		134-SB-032_1012 collected from 6.0-6.5' bgs @ 8:15
	-7.0					6.5 - 7.5' No recovery		
		S-4	NA	3.5			0	

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-032
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17.5 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-8.0					7.5 - 11.0' FILL: Light brown sand (fine-medium) with trace clayey silt, saturated		134-SB-032_1214 collected from 8.0-8.5' bgs @ 8:20
	-9.0							
	-10.0							134-SB-032_1416 collected from 10.5-11.0' bgs @ 8:25
	-11.0					11.0 - 11.5' No recovery		
		S-5	NA	3.5		11.5 - 12.0' FILL: Light brown clayey silt, saturated	0	
	-12.0					12.0 - 12.8' FILL: Olive/light grey silt, saturated		134-SB-032_1618 collected from 12.0-12.5' bgs @ 8:30
	-13.0					12.8 - 13.5' FILL: Light/dark brown silt with fine organics, saturated		
	-14.0					13.5 - 15.0' OL: Black/light brown silt, trace fine organic material, organic odor, saturated		134-SB-032_1820 collected from 14.5-15.0' bgs @ 8:35
	-15.0					15.0 - 15.5' No recovery		
		S-6	NA	2.0		15.5 - 17.0' ML: Light brown silt with fine organics, wet	0	
	-16.0							134-SB-032_2022 collected from 16.0-16.5' bgs @ 8:40
	-17.0					17.0 - 17.5' PT: Dark brown peat; end of boring at 17.5' bgs		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-033
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16.5 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	4.0	S-1	NA	3.5		-4.5 - -4.0' CONCRETE	0	Boring located in elevated trucking bay, approximately 4.5' above ground surface. Depth intervals in sample IDs are from top of boring, rather than depth above or below ground surface (see sampling notes below). Driller cored through concrete before drilling.
						-4.0 - -3.8' FILL: Gravel		
	3.0					-3.8 - -1.0' FILL: Light brown silty sand (fine), brick, gravel (fine-medium), dry		
	2.0							
	1.0					-1.0 - -0.5' No recovery		134-SB-033_0002 collected from 3.0-2.5' ags @ 10:25
		S-2	NA	3.5		-0.5 - -0.3' FILL: Light brown silty sand (fine), brick, gravel (fine-medium), dry	0	134-SB-033_0204 collected from 1.5-1.0' ags @ 10:30
	0.0					-0.3 - 1.8' FILL: Red brown/dark brown silty sand (fine), trace gravel (fine), dry		134-SB-033_0406 collected from 0.5-1.0' bgs @ 10:35
	-1.0							
	-2.0					1.8 - 3.0' FILL: Dark grey silty sand (fine) with crushed concrete, gravel; moist		134-SB-033_0608 collected from 2.5-3.0' bgs @ 10:40
	-3.0					3.0 - 3.5' No recovery		
		S-3	NA	3.0		3.5 - 5.5' FILL: Light brown silt; wet from 4.5' bgs	0	134-SB-033_0810 collected from 4.0-4.5' bgs @ 10:45
	-4.0							
	-5.0							
						5.5 - 6.0' FILL: Black/light brown clayey silt, wet		
	-6.0					6.0 - 6.5' FILL: Light brown sand (fine-medium), wet		134-SB-033_1012 collected from 6.0-6.5' bgs @ 10:50
	-7.0					6.5 - 7.5' No recovery		
		S-4	NA	3.5			0	

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-033
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: B. Senna / M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16.5 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-8.0					7.5 - 11.0' FILL: Light brown sand (fine-medium), some silt from 10.5' bgs; saturated		134-SB-033_1214 collected from 8.0-8.5' bgs @ 10:55
	-9.0							
	-10.0							134-SB-033_1416 collected from 10.5-11.0' bgs @ 11:00
	-11.0					11.0 - 11.5' No recovery		
		S-5	NA	4.0		11.5 - 14.3' FILL: Light brown clayey silt; saturated	0	
	-12.0							134-SB-033_1618 collected from 12.0-12.5' bgs @ 11:05
	-13.0							
	-14.0							
						14.3 - 15.5' OL: Black silt, trace clay and organic material; organic odor; wet		134-SB-033_1820 collected from 14.5-15.0' bgs @ 11:10
	-15.0							
		S-6	NA	1.0		15.5 - 16.4' ML: Light brown clayey silt with fine organic material; moist	0	134-SB-033_2022 collected from 15.5-16.0' bgs @ 11:15
	-16.0					16.4 - 16.5' PT: Dark brown peat; end of boring at 16.5'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-034
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt & gravel	0	
	-1.0					0.8 - 1.5' FILL: Red brown silt and sand (fine), trace coal and gravel; tight; dry		
	-2.0					1.5 - 2.0' FILL: Light yellow/white sand, angular gravel (medium-coarse) and concrete, dry		134-SB-034_0002 collected from 1.5-2.0' bgs @ 11:10
	-3.0					2.0 - 3.5' FILL: Red brown silt, trace sand (fine), wood from 2.5-2.75', few dark green mottles; tight; moist from 2.75'		134-SB-034_0204 collected from 3.0-3.5' bgs @ 11:13
						3.5 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 4.8' FILL: Red brown silt, trace sand (fine) and gravel (fine), dark green mottling; tight, moist	0	134-SB-034_0406 collected from 4.0-4.5' bgs @ 11:20
	-5.0					4.8 - 6.0' FILL: Silty sand, trace clay; wet		
	-6.0					6.0 - 7.8' FILL: Brown/dark brown clay, trace silt; wet		
	-7.0					7.8 - 8.0' FILL: Brown silty sand, trace clay; wet		134-SB-034_0608 collected from 7.5-8.0' bgs @ 11:28
	-8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Brown sand (fine-medium), trace clay from 11.0-11.5'; saturated	0	
	-9.0							
	-10.0							134-SB-034_0810 collected from 9.5-10.0' bgs @ 11:34
	-11.0							
	-12.0	S-4	NA	4.0			0	134-SB-034_1012 collected from 11.5-12.0' bgs @ 11:40

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-034
DATE BEGAN: 6/19/08
DATE FINISHED: 6/19/08
INSPECTOR: E. Jackson / T.Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0							
	-13.0					12.0 - 15.0' FILL: Light brown clay, trace silt; plastic; wet		134-SB-034_1214 collected from 13.5-14.0' bgs @ 11:50
	-14.0							
	-15.0					15.0 - 16.8' CL: Dark brown/black silty clay; wet		134-SB-034_1416 collected from 15.5-16.0' bgs @ 11:53
	-16.0	S-5	NA	4.0			0	
	-17.0					16.8 - 18.5' PT: Peat		134-SB-034_1618 collected from 16.0-16.5' bgs @ 12:17
	-18.0							
	-19.0					18.5 - 20.0' OL: Brown/light brown silty clay with organic material, trace sand; end of boring at 20'		134-SB-034_1820 collected from 19.0-19.5' bgs @ 12:19
	-20.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-035
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	134-SB-035_0002 collected from 0.5-1.0' bgs @ 9:19
						0.5 - 1.5' FILL: Dark brown silt, sand (coarse) and gravel (fine-medium, angular); moist		
	-1.0							
						1.5 - 2.5' FILL: Dark brown silty sand (fine-medium); moist		
	-2.0							134-SB-035_0204 collected from 2.0-2.5' bgs @ 9:23
						2.5 - 4.0' No recovery		
	-3.0							
	-4.0	S-2	NA	0.75		4.0 - 4.8' FILL: Dark brown silty sand (fine-medium), red mottling; wet	0	134-SB-035_0406 collected from 4.0-4.5' bgs @ 9:26
						4.8 - 8.0' No recovery; end of boring at 8' bgs		
	-5.0							
	-6.0							
	-7.0							
	-8.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-036
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	134-SB-036_0002 collected from 0.5-1.0' bgs @ 8:49
						0.5 - 1.3' FILL: Dark grey/brown silty sand (fine), trace gravel (fine-medium), dry		
	-1.0					1.3 - 1.5' FILL: Gravel (coarse), dry		
						1.5 - 2.5' FILL: Dark/red brown silt; firm, moist		
	-2.0							134-SB-036_0204 collected from 2.5-3.0' bgs @ 8:53
						2.5 - 3.0' FILL: Grey silt, trace sand with bright green mottles (COPR), moist		
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 4.8' FILL: Olive/bright green silt, trace clay (COPR); firm, moist	0	134-SB-036_0406 collected from 4.0-4.5' bgs @ 8:56
	-5.0					4.8 - 6.0' FILL: Brown/olive green silty sand, trace clay; moist		
	-6.0					6.0 - 8.0' FILL: Red brown silty clay, saturated; end of boring at 8'		
	-7.0							
	-8.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-037
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: B. Senna/M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	134-SB-037_0002 collected from 1.0-1.5' bgs @ 11:50
	-1.0					1.0 - 3.0' FILL: Dark brown silty sand (fine) with some coal, brick and gravel (fine-medium), moist		
	-2.0							134-SB-037_0204 collected from 2.5-3.0' bgs @ 11:55
	-3.0					3.0 - 3.3' FILL: Crushed concrete		
						3.3 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 6.5' FILL: Dark brown silt, saturated	0	134-SB-037_0406 collected from 5.5-6.0' bgs @ 12:00
	-5.0							
	-6.0							
	-7.0					6.5 - 8.0' FILL: Yellow-green/white silt (COPR); very firm from 7', wet; end of boring at 8'		
	-8.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-038
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: B. Senna/M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	134-SB-038_0002 collected from 1.5-2.0' bgs @ 11:25
	-1.0					0.5 - 2.0' FILL: Dark brown silty sand (fine) with gravel (fine-coarse)		
	-2.0					2.0 - 2.5' FILL: Gravelly sand (fine), very moist		134-SB-038_0204 collected from 2.5-3.0' bgs @ 11:30
						2.5 - 3.0' FILL: Light orange/yellow orange silty sand (COPR)		
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 6.0' FILL: Dark brown silt, yellow green from 5.0-6.0' (COPR); wet from 4.5'	0	134-SB-038_0406 collected from 5.5-6.0' bgs @ 11:35
	-5.0							
	-6.0					6.0 - 8.0' FILL: Yellow-green silt (COPR), wet; end of boring at 8'		
	-7.0							
	-8.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-039
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: E Jackson / T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	134-SB-039_0002 collected from 1.5-2.0' bgs @ 8:24
						0.5 - 1.0' FILL: Dark brown sand (coarse) and gravel (fine-coarse), trace silt, some brick, dry		
	-1.0					1.0 - 3.5' FILL: Dark brown silt with bright green/yellow mottling from 2.75-3' (COPR); firm, moist		
	-2.0							134-SB-039_0002 collected from 3.0-3.5' bgs @ 8:26
	-3.0							
						3.5 - 4.0' No recovery		
	-4.0	S-2	NA	3.0		4.0 - 6.0' FILL: Dark brown silt with bright green/yellow mottling (COPR), saturated	0	134-SB-039_0002 collected from 5.0-5.5' bgs @ 8:30
	-5.0							
	-6.0					6.0 - 7.0' FILL: Dark brown clay and silt, trace sand; saturated		
	-7.0					7.0 - 8.0' No recovery; end of boring at 8'		
	-8.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-040
DATE BEGAN: 6/20/08
DATE FINISHED: 6/20/08
INSPECTOR: B. Senna/M. Vetter
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	134-SB-040_0002 collected from 1.5-2.0' bgs @ 11:10
	-1.0					1.0 - 2.0' FILL: Red brown silty sand with potential COPR from 1.75-2.0', dry		
	-2.0					2.0 - 3.5' FILL: Light brown silty sand (fine) with crushed concrete, some gravel (fine-coarse), yellow green/white COPR; firm, dry		134-SB-040_0002 collected from 3.0-3.5' bgs @ 11:15
	-3.0					3.5 - 4.0' No recovery		
	-4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Dark brown silty sand (fine) with gravel (fine), moist	0	134-SB-040_0204 collected form 5.0-5.5' bgs @ 11:20
	-5.0					4.5 - 7.0' FILL: Light brown silt, saturated		
	-6.0							
	-7.0					7.0 - 7.5' FILL: Yellow green silt (COPR)		
	-8.0					7.5 - 8.0' No recovery; end of boring at 8'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-041
DATE BEGAN: 10/1/08
DATE FINISHED: 10/1/08
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: asphalt	0	
	-1.0					0.3 - 0.5' FILL: black/dark brown silty sand with fine to coarse gravel, dry		
	-2.0					0.5 - 3.0' FILL: brown silty sand with brick concrete and gravel, dry		
	-3.0					3.0 - 3.5' FILL: light brown silty sand with fine to medium gravel, moist		
	-4.0	S-2	NA	3.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 4.8' FILL: brown/red brown silt with fine to medium gravel, very moist		
	-6.0					4.8 - 6.5' FILL: brown silt, fine to coarse gravel throughout, some wood from 6.0-6.5, wet at 5.5		
	-7.0					6.5 - 7.0' FILL: black/dark brown silty sand, wet		
	-8.0	S-3	NA	3.0		7.0 - 8.0' No recovery	0	
	-9.0					8.0 - 9.0' FILL: light brown silty sand, saturated		
	-10.0					9.0 - 11.0' FILL: light brown fine to medium sand, saturated		
	-11.0					11.0 - 12.0' No recovery		
	-12.0	S-4	NA	3.5		12.0 - 13.0' FILL: light brown fine to medium sand, saturated	0	
	-13.0					13.0 - 14.3' FILL: red brown/light brwon clayey silt, saturated		
	-14.0					14.3 - 15.5' FILL: black silt, tight, very moist		
	-15.0					15.5 - 16.0' No recovery		
	-16.0	S-5	NA	2.0		16.0 - 18.0' PEAT: dark brown peat, very moist	0	134-SB-041_1618 collected @ 13:50
	-17.0							
	-18.0							

PREPARED BY: EMJ
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, Old Dominion, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-042
DATE BEGAN: 07/08/09
DATE FINISHED: 07/08/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18.5 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 113
	1.0					0.5 - 2.0' FILL: Brown f-m sand and gravel		
	2.0					2.0 - 2.8' FILL: Black silt, some sand		
	3.0					2.8 - 3.5' FILL: Brown silty sand, some f-m gravel, trace brick, coal and clinker		
	4.0	R-2	N/A	4.0		3.5 - 4.0' No recovery	0.0	
	5.0					4.0 - 5.2' FILL: Brown silty sand, some f-m gravel, trace clay, brick, coal and clinker; moist		
	6.0					5.2 - 5.6' FILL: Brown clayey silt, trace fine sand; wet		
	7.0					5.6 - 6.9' FILL: Brown silty clay; soft, wet		
	8.0	R-3	N/A	4.0		6.9 - 10.5' FILL: Brown f-m sand, trace fine gravel from 6.9-8.0', few clay lenses from 8.0'; wet	0.0	
	9.0							
	10.0					10.5 - 11.0' FILL: Brown silty sand, wet		
	11.0					11.0 - 14.5' FILL: Brown/dark brown silty clay, trace fine sand; soft, wet		
	12.0	R-4	N/A	4.0			0.0	
	13.0							
	14.0					14.5 - 15.0' FILL: Brown clayey sand and f-m gravel; wet		
	15.0					15.0 - 15.5' FILL: Yellow clayey COPR; soft		
	16.0	R-5	N/A	2.5		15.5 - 16.5' OL: Very dark grayish brown (2.5Y 3/2) clayey silt, trace organic material	0.0 1.7	134-SB-042-1618 collected from 16.5-17.0' bgs @ 15:15
	17.0					16.5 - 18.5' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 18.5'	0.2 4.3 0.1	
	18.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-043
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 19.3 ft. bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 114
	1.0					0.2 - 1.0' FILL: Brown f-m sand and gravel		
	2.0					1.0 - 1.6' FILL: Reddish brown/brown silty sand, some f-m gravel, trace fine sand, trace brick, clinker	0.0	
	3.0					1.6 - 3.0' FILL: Very dark grayish brown fine sand, trace silt; dense		
	4.0	R-2	N/A	4.0		3.0 - 3.8' FILL: Dark brown f-c sand and fine gravel, trace clinker, coal, and brick; wet	0.0	
	5.0					3.8 - 4.0' FILL: Reddish brown f-m sand, trace fine gravel; wet		
	6.0					4.0 - 4.7' FILL: Dark brown f-c sand and fine gravel, trace coal and clinker; wet	0.0	
	7.0					4.7 - 5.5' FILL: Reddish brown f-m sand, trace fine gravel and silt; wet		
	8.0	R-3	N/A	4.0		5.5 - 6.2' FILL: Brown clayey silt, trace fine sand, soft; wet	0.0	
	9.0					6.2 - 8.0' FILL: Brown, f-m sand, trace fine gravel and silt; wet		
	10.0					8.0 - 12.0' FILL: Brown f-m sand, trace silt and clay from 9.0-9.5', few silt lenses from 10.0'; wet	0.0	
	11.0							
	12.0	R-4	N/A	1.0		12.0 - 13.0' FILL: Brown clayey silt, very soft	0.0	
	13.0					13.0 - 16.0' No recovery		
	14.0						0.0	
	15.0							
	16.0							

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-043
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 19.3 ft. bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	R-5	N/A	3.3		16.0 - 17.0' OL: Dark gray (2.5 Y4/1) clayey silt, some organic material; soft, wet	0.0	134-SB-043-1618 collected from 16.0-16.5' bgs @ 9:05
	17.0					17.0 - 18.3' PT: Very dark brown (7.5 YR 2.5/2) peat		
	18.0					18.3 - 18.6' OL: Very dark brown OL (7.5 YR 2.5/2), trace organic material; wet	0.0	
	19.0					18.6 - 19.3' SM: Gray (2.5 Y 5/1) silty sand; wet; end of boring at 19.3'		

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-044
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18.0 ft. bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 114
						0.3 - 0.5' FILL: Brown f-m sand and gravel		
	1.0					0.5 - 1.7' FILL: Dark brown/brown f-m sand, trace fine gravel, clinker, brick, coal, trace yellow green mottling at 1.5'		
	2.0					1.7 - 2.0' FILL: Yellow/white sandy silt, concrete from 1.9-2.0'	0.0	
	3.0					2.0 - 2.5' FILL: Very dark brown silty sand		
						2.5 - 3.5' FILL: Dark brown/black f-c sand and fine clinker, trace fine gravel and coal and brick; wet		
	4.0	R-2	N/A	4.0		3.5 - 3.7' FILL: Reddish brown f-m sand; wet	0.0	
	5.0					3.7 - 4.0' FILL: Brown/dark brown silt, trace fine sand and glass; wet		
	6.0					4.0 - 6.0' FILL: Dark brown/brown clayey silt; wet	0.0	
	7.0					6.0 - 8.0' FILL: Dark brown f-m sand, few silt lenses from 7.5'; wet		
	8.0	R-3	N/A	4.0		8.0 - 12.0' FILL: Brown/dark brown f-m sand,some silt and clay from 8.5-8.8', 9.2-9.5', 11.0-12.0'; wet	0.0	
	9.0							
	10.0						0.0	
	11.0							
	12.0	R-4	N/A	3.0				

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-044
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18.0 ft. bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	R-4	N/A	3.0		12.0 - 13.8' FILL: Brown/dark brown clayey silt, very soft; wet	0.0	
	13.0							
	14.0					13.8 - 15.0' OH: Very dark grayish brown (2.5Y 3/2) to black (2.5Y 2.5/1), trace organic material; wet	0.0	134-SB-043-1416 collected from 14.5-15.0' bgs @ 10:20; HOLD
	15.0					15.0 - 16.0' No recovery		
	16.0	R-5	N/A	2.0		16.0 - 16.8' OL: Dark grayish brown (2.5Y 4/2) clayey silt, some organic material; wet	0.0	134-SB-043-1618 collected from 16.0-16.5' bgs @ 10:40
	17.0					16.8 - 17.3' PT: Very dark brown (7.5YR 2.5/2) peat		
	18.0					17.3 - 18.0' SM: Gray (2.5Y 5/1) silty sand		

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-045
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18.0 ft. bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.3' ASPHALT	0.0	Field Map # 118
						0.3 - 1.0' FILL: Brown f-m sand and gravel		
	1.0					1.0 - 1.5' FILL: Reddish brown f-m sand, trace yellow brown mottling, trace silt and fine gravel and brick		
	2.0					1.5 - 2.5' FILL: Very dark grayish brown fine sand, trace silt, some brick from 1.7-1.9', yellow COPR from 2.0-2.2'	0.0	Sampled from 2.0-2.2' and performed DPT field test; result positive, i.e. pink color after 5 seconds
	3.0					2.5 - 3.1' FILL: Reddish brown silty sand, some f-m gravel, trace coarse concrete and wood, trace coal and clinker		
	4.0	R-2	N/A	3.0		3.1 - 3.5' FILL: Reddish brown f-m sand, trace medium gravel	0.0	
						3.5 - 4.0' No recovery		
	5.0					4.0 - 4.5' FILL: Reddish brown f-m sand, trace medium gravel, trace wood; wet		
	6.0					4.5 - 5.7' FILL: Brown/dark brown silty sand, some clay from 5.5'; wet	0.0	
	7.0					5.7 - 7.0' FILL: Brown f-m sand, few dark borwn silt lenses, trace coarse sand from 5.7-6.0'; wet		
						7.0 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 12.0' FILL: Brown f-m sand, some clay from 8.5-8.9' and 11.6-11.8'; wet	0.0	
	9.0							
	10.0						0.0	
	11.0							

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-045
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18.0 ft. bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	R-4	N/A	3.0		12.0 - 13.0' FILL: Light brown silty clay, trace fine gravel; wet	0.0	
	13.0					13.0 - 15.0' OL: Very dark grayish brown (2.5 Y 3/2) clayey silt, few brown (10 YR 5/3) lenses; wet		
	14.0						0.0	
	15.0					15.0 - 15.5' OH: Black (2.5 Y 2.5/1) silty clay; wet		
	16.0	R-5	N/A	2.0		15.5 - 16.5' OL: Dark grayish brown (2.5 Y 4/2) clayey silt, trace organic material; wet	0.0	134-SB-045-1416 collected from 15.5-16.0' bgs @ 11:50 HOLD 134-SB-045-1618 collected from 16.0-16.5 bgs @ 12:10
	17.0					16.5 - 17.0' PT: Very dark brown (7.5 YR 2.5/2) peat		
	18.0					17.0 - 18.0' SM: Dark gray (2.5 Y 4/1) silty sand; wet; end of boring at 18.0'		

PREPARED BY: MC
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-046
DATE BEGAN: 07/09/09
DATE FINISHED: 07/09/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16.0 ft. bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 118
	1.0					0.2 - 0.5' FILL: Brown f-m gravel, some f-m sand		
	2.0	R-2		2.0		0.5 - 1.8' FILL: Reddish brown/brown silty sand, some fine gravel and brick, trace coal, concrete, and clinker	0.0	Refusal at 2.5' bgs, moved 2ft NE
	3.0					1.8 - 2.0' FILL: Dark grayish brown silty sand, trace wood; moist, compact		
	4.0	R-3	N/A	3.5		2.0 - 3.0' FILL: Dark grayish brown silty sand, trace wood; moist, compact	0.0	
	5.0					3.0 - 3.5' FILL: Black f-m clinker, some f-m sand, trace fine gravel		
	6.0					3.5 - 4.0' FILL: Reddish brown f-m sand; wet	0.0	
	7.0					4.0 - 4.1' FILL: Reddish brown f-m sand; wet		
	8.0	R-4	N/A	4.0		4.1 - 6.2' FILL: Brown clayey silt, trace organic material and fine sand; wet	0.0	
	9.0					6.2 - 7.5' FILL: Brown f-m sand, few silt lenses; wet		
	10.0					7.5 - 8.0' FILL: No recovery	0.0	
	11.0					8.0 - 10.5' FILL: Brown f-m sand, few silt lenses; wet		
	12.0		N/A			10.5 - 12.0' FILL: Brown fine sand, trace silt, trace clay from 11.8'; wet	0.0	DPC test on gray clay showed pink (positive result)
	13.0					12.0 - 13.0' FILL: Light brown silty clay, soft, some gray COPR; wet		
	14.0					13.0 - 16.0' OH: Very dark grayish brown/black clayey silt with lenses of very dark brown (7.5YR 2.5/2) peat from 15.5-16.0'; end of boring at 16.0'	0.0	
	15.0							
	16.0							134-SB-046-1416 collected from 15.5-16.0' bgs @

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-047
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 117
	1.0					0.3 - 1.0' FILL: Brown f-m sand, some f-m gravel		
	2.0					1.0 - 4.5' FILL: Very dark grayish brown silt, trace fine sand; some f-c sand and f-m gravel from 4.2-4.3'; dense, wet from 4.0'		
	3.0							
	4.0	R-2	N/A	4.0			0.0	
	5.0					4.5 - 5.8' FILL: Dark brown/ brown silty sand, trace clay; trace white silt and sand (COPR); wet		
	6.0					5.8 - 7.5' FILL: Very dark grayish brown silty clay; soft, wet		
	7.0							
	8.0	R-3	N/A	3.5		7.5 - 9.7' FILL: Brown f-m sand, wet	0.0	
	9.0							
	10.0					9.7 - 11.5' FILL: Brown clayey silt, trace fine sand; wet		
	11.0							
	12.0	R-4	N/A	4.0		11.5 - 12.0' No recovery	0.0	
	13.0					12.0 - 13.0' FILL: Brown f-m sand, few lenses of stiff varved silt; some light gray clayey COPR from 12.5'; soft, wet		
	14.0					13.0 - 15.5' OH: Very dark grayish brown(7.5YR 3/2) to black (7.5YR 2/1) clayey silt, trace organic material		
	15.0							
	16.0					15.5 - 16.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 16.0'		134-SB-047-1416 collected from 15.0-15.5' bgs @ 8:40

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-048
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.4' ASPHALT	0.0	Field Map # 94
	1.0					0.4 - 1.0' FILL: Reddish brown silt, some f-m, trace fine gravel; trace yellowish brown mottling (COPR)		
	2.0					1.0 - 1.2' FILL: Brick		
	3.0					1.2 - 4.0' FILL: Very dark grayish brown silt, trace fine sand, coal, and glass; dense		
	4.0	R-2	N/A	2.5		4.0 - 4.5' FILL: Dark brown f-m gravel and wood, trace f-m sand; wet	0.0	
	5.0					4.5 - 5.3' FILL: Reddish brown silty sand, trace fine gravel; white silty sand (COPR) from 4.5-4.7'; wet		
	6.0					5.3 - 6.0' FILL: Very dark grayish brown silty clay; soft, wet		
	7.0							
	8.0	R-3	N/A	4.0		6.0 - 6.5' FILL: Brown f-m sand, wet	0.0	
	9.0					6.5 - 8.0' No recovery		
	10.0					8.0 - 9.5' FILL: Brown f-m sand, wet		
	11.0					9.5 - 10.0' FILL: Dark brown clayey silt, some lenses of fine sand, trace wood; soft, wet		
	12.0	R-4	N/A	4.0		10.0 - 13.0' FILL: Brown clayey silt; some gray clayey COPR and nodules of stiff varved clay from 12.0'; very soft, wet	0.0	
	13.0					13.0 - 15.5' OH: Very dark grayish brown(7.5YR 3/2) to black (7.5YR 2/1) clayey silt, trace organic material; soft to firm		
	14.0							
	15.0							
	16.0	R-5	N/A	2.0		15.5 - 16.7' OL: Dark gray (2.5Y 4/1) clayey silt, some coarse organic material; firm	0.0	134-SB-048-1618 collected from 16.0-16.5' bgs @ 9:25
	17.0					16.7 - 18.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 18.0'		
	18.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-049
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.2' ASPHALT	0.0	Field Map # 121
						0.2 - 0.7' FILL: Brown f-m sand and gravel		
	1.0					0.7 - 1.5' FILL: Dark brown/brown f-m sand, trace fine gravel; trace light brown/white/ yellowish brown mottling (possible COPR)		134-SB-049-0002 collected from 1.0-1.5' bgs @ 9:50
	2.0					1.5 - 2.0' FILL: Very dark grayish brown silt, trace fine sand; very stiff		134-SB-049-0204 collected from 2.5-3.0' bgs @ 9:55
	3.0					2.0 - 3.0' FILL: Dark brown f-c sand, some f-m clinker, trace fine gravel; wet		
	4.0	R-2	N/A	3.5		3.0 - 3.5' FILL: Reddish brown silty sand, trace f-m brick; wet	0.0	
						3.5 - 4.0' No recovery		
	5.0					4.0 - 4.5' FILL: Reddish brown silty sand, trace f-m brick; wet		134-SB-049-0406 collected from 5.0-5.5' bgs @ 10:00
	6.0					4.5 - 6.5' FILL: Brown clayey silt, some organic material from 4.5-5.0'; wet		
	7.0					6.5 - 7.5' FILL: Brown f-m sand, wet		134-SB-049-0608 collected from 7.0-7.5' bgs @ 10:05
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	3.5		8.0 - 9.0' FILL: Brown f-m sand, wet	0.0	
	9.0					9.0 - 9.5' FILL: Brown clayey silt, some nodules of stiff varved clay and silt; trace f-m sand; wet		134-SB-049-0810 collected from 8.5-9.0' bgs @ 10:10
						9.5 - 11.5' FILL: Dark brown silty clay; soft		
	10.0							
	11.0							134-SB-049-1012 collected from 11.0-11.5' bgs @ 10:15
						11.5 - 12.0' No recovery		
	12.0	R-4	N/A	4.0				134-SB-049-1214 collected

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-049
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	R-4	N/A	4.0		12.0 - 13.5' FILL: Dark brown silty clay; soft	0.0	134-SB-049-1214 collected from 12.0-12.5' bgs @ 10:20
	13.0					13.5 - 15.5' OH: Very dark grayish brown(7.5YR 3/2) to black (7.5YR 2/1) clayey silt, trace to some organic material		
	14.0							
	15.0							134-SB-049-1416 collected from 15.0-15.5' bgs @ 10:25; DUP @ 10:27
	16.0					15.5 - 16.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 16.0'		

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-049R
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 17 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.2' ASPHALT	0.0	
						0.2 - 0.7' FILL: Brown f-m sand and gravel		
	1.0					0.7 - 1.5' FILL: Dark brown/brown f-m sand, trace fine gravel; trace light brown/white/ yellowish brown mottling (possible COPR)		
	2.0					1.5 - 2.0' FILL: Very dark grayish brown silt, trace fine sand; very stiff		
						2.0 - 3.0' FILL: Dark brown f-c sand, some f-m clinker, trace fine gravel; wet		
	3.0					3.0 - 3.5' FILL: Reddish brown silty sand, trace f-m brick; wet		
	4.0	R-2	N/A	3.5		3.5 - 4.0' No recovery	0.0	
						4.0 - 4.5' FILL: Reddish brown silty sand, trace f-m brick; wet		
	5.0					4.5 - 6.5' FILL: Brown clayey silt, some organic material from 4.5-5.0'; wet		
	6.0							
	7.0					6.5 - 7.5' FILL: Brown f-m sand, wet		
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	3.5		8.0 - 9.0' FILL: Brown f-m sand, wet	0.0	
	9.0					9.0 - 9.5' FILL: Brown clayey silt, some nodules of stiff varved clay and silt; trace f-m sand; wet		
						9.5 - 11.5' FILL: Dark brown silty clay; soft		
	10.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-049R
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 17 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0							
	12.0	R-4	N/A	4.0		11.5 - 12.0' No recovery 12.0 - 13.5' FILL: Dark brown silty clay; soft	0.0	
	13.0							
	14.0					13.5 - 15.5' OH: Very dark grayish brown(7.5YR 3/2) to black (7.5YR 2/1) clayey silt, trace to some organic material		
	15.0							
	16.0	R-5	N/A	1.0		15.5 - 17.0' PT: Brown peat; end of boring at 17.0' bgs.	0.0	134-SB-049R-1618 collected from 16.5-17.0' bgs @ 9:10
	17.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-050
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.3' ASPHALT	0.0	Field Map # 110
	1.0					0.3 - 1.5' FILL: Brown f-m sand, some f-m gravel, trace brick; some clinker from 1.0-1.5'		
	2.0					1.5 - 2.0' FILL: Very dark grayish brown silty sand		134-SB-050-0002 collected from 1.5-2.0' bgs @ 11:00
	3.0					2.0 - 3.0' FILL: Dark brown f-c sand, some fine clinker and gravel; wet		134-SB-050-0204 collected from 3.0-3.5' bgs @ 11:05
	4.0	R-2	N/A	4.0		3.0 - 3.5' FILL: Reddish brown silty sand, trace organic material; wet	0.0	
	5.0					3.5 - 4.0' No recovery		134-SB-050-0406 collected from 4.5-5.0' bgs @ 11:10
	6.0					4.0 - 4.5' FILL: Brown f-m sand, some f-m gravel and brick; wet		
	7.0					4.5 - 5.0' FILL: Brown silty sand; dense, wet		
	8.0	R-3	N/A	4.0		5.0 - 5.5' FILL: Brown silt, trace fine sand and clay; firm, wet		134-SB-050-0608 collected from 7.5-8.0' bgs @ 11:15
	9.0					5.5 - 8.0' FILL: Brown f-m sand, wet	0.0	
	10.0					8.0 - 10.0' FILL: Brown silty sand, trace clay; wet		134-SB-050-0810 collected from 9.0-9.5' bgs @ 11:20
	11.0					10.0 - 11.9' FILL: Brown clayey silt; soft, wet		
	12.0	R-4	N/A	4.0		11.9 - 12.0' FILL: Brown fine sand, wet		134-SB-050-1012 collected from 11.0-11.5' bgs @ 11:25
	13.0					12.0 - 12.5' FILL: Brown clayey sand; wet	0.0	
	14.0					12.5 - 15.0' OL: Very dark grayish brown(7.5YR 3/2) to black (7.5YR 2/1) clayey silt, trace organic material; soft, wet		134-SB-050-1214 collected from 12.5-13.0' bgs @ 11:30
	15.0					15.0 - 16.0' OH: Dark gray (2.5Y 4/1) clayey silt, some organic material; stiff, moist; end of boring at 16.0'		134-SB-050-1416 collected from 15.5-16.0' bgs @ 11:35
	16.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-051
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 80
						0.2 - 1.0' FILL: Brown f-m sand and gravel		
	1.0					1.0 - 2.5' FILL: Dark brown/yellowish brown fine sand, trace f-m gravel, silt, clinker, and coal		
	2.0					2.5 - 3.0' FILL: Dark brown f-c sand, some fine clinker; trace fine gravel, wood and coal; wet		134-SB-051-0204 collected from 2.0-2.5' bgs @ 12:35
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	3.5		4.0 - 4.2' FILL: Dark brown f-c sand, some fine clinker; trace fine gravel; wet	0.0	
						4.2 - 5.5' FILL: Brown silt, trace clay and fine sand; firm, wet		134-SB-051-0406 collected from 4.5-5.0' bgs @ 12:40
	5.0							
	6.0					5.5 - 7.5' FILL: Brown f-m sand, silt from 6.8-7.0'; wet		134-SB-051-0608 collected from 6.5-7.0' bgs @ 12:45
	7.0							
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 10.5' FILL: Brown f-m sand, clayey silt from 10.0-10.2'; wet	0.0	
	9.0							134-SB-051-0810 collected from 9.0-9.5' bgs @ 12:50
	10.0							
	11.0					10.5 - 12.0' FILL: Brown silty clay; soft, wet; end of boring at 12.0'		134-SB-051-1012 collected from 11.5-12.0' bgs @ 12:55; HOLD
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-052
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 83
						0.2 - 1.0' FILL: Brown f-m sand and gravel		
	1.0					1.0 - 2.7' FILL: Reddish brown/brown silty sand, some f-m gravel; trace brick, coal, and concrete; wet from 2.0'		
	2.0							
						2.7 - 3.0' FILL: Dark brown/reddish brown f-c sand, trace clinker; wet		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	3.0		4.0 - 4.5' FILL: Dark brown/reddish brown f-c sand, trace clinker; wet	0.0	
						4.5 - 5.0' FILL: Reddish brown silty sand, trace f-m brick; dense, wet		
	5.0					5.0 - 5.5' FILL: Brown silt, trace fine sand and clay; firm, wet		
	6.0					5.5 - 6.2' FILL: Reddish brown fine sand; dense, wet		
	7.0					6.2 - 6.7' FILL: Dark brown silty clay; soft, wet		
						6.7 - 7.0' FILL: Brown f-c sand, wet		
	8.0	R-3	N/A	2.5		7.0 - 8.0' No recovery	0.0	134-SB-052-0810 collected from 8.0-8.5' bgs @ 13:15; HOLD
	9.0					8.0 - 9.5' FILL: Brown f-m sand, trace fine gravel; wet		
						9.5 - 10.2' FILL: Brown silty sand, wet		
	10.0					10.2 - 10.5' FILL: Dark brown clayey silt, trace organic material		134-SB-052-1012 collected from 10.0-10.5' bgs @ 13:20
	11.0					10.5 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-053
DATE BEGAN: 07/15/09
DATE FINISHED: 07/15/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.2' ASPHALT	0.0	Field Map # 81
						0.2 - 0.5' FILL: Brown f-m sand and gravel		
	1.0					0.5 - 3.0' FILL: Brown/reddish brown/black f-m sand; trace f-m gravel, brick, and coal		
	2.0							
	3.0					3.0 - 3.5' FILL: Wood		Driller cleared wood from hole before second sampling run
						3.5 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 4.2' FILL: Dark brown/reddish brown f-m sand, some fine gravel, trace brick and wood	0.0	
	5.0					4.2 - 6.2' FILL: Brown silty sand; compact, wet from 4.5'		
	6.0							
	7.0					6.2 - 8.0' FILL: Brown/dark brown silty clay; soft; stiff varved silty and clay from 7.4-7.5'; wet		
	8.0	R-3	N/A	4.0		8.0 - 11.5' FILL: Brown f-m sand, wet	0.0	
	9.0							
	10.0							134-SB-053-0810 collected from 9.5-10.0' bgs @ 13:50; HOLD
	11.0					11.5 - 12.0' FILL: Dark brown clayey silt, some lenses of fine sand; soft, wet; end of boring at 12.0'		134-SB-053-1012 collected from 11.5-12.05' bgs @ 13:55
	12.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-054
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 108
	1.0					0.2 - 1.0' FILL: Brown f-m sand and gravel		
	2.0					1.0 - 1.7' FILL: Reddish brown f-m sand; trace fine gravel, brick, and cinders; nodules of gray/white COPR at 1.6'		134-SB-054-0002 collected from 1.5-2.0' bgs @ 8:25
	3.0					1.7 - 2.5' FILL: Very dark grayish brown silt, some fine sand; firm		134-SB-054-0204 collected from 3.0-3.5' bgs @ 8:30
	4.0	R-2	N/A	3.2		2.5 - 3.0' FILL: Black f-m sand and clinker, wet	0.0 19.7	Petroleum odors from 4.5-5.0'
	5.0					3.0 - 3.7' FILL: Reddish brown f-m sand, some fine gravel; wet	0.4	134-SB-054-0406 collected from 4.5-5.0' bgs @ 8:35
	6.0					3.7 - 3.8' FILL: Dark brown f-c sand and clinker, wet	0.0	
	7.0					3.8 - 4.1' FILL: Brown silt, trace fine sand and organic material	0.0	134-SB-054-0608 collected from 6.5-7.0' bgs @ 8:40
	8.0	R-3	N/A	2.8		4.1 - 7.2' FILL: Brown/dark brown f-m sand, trace fine gravel and silt nodules; trace organic material from 4.1-5.0'; wet	0.0	
	9.0					7.2 - 8.0' No recovery		134-SB-054-0810 collected from 9.0-9.5' bgs @ 8:45
	10.0					8.0 - 10.8' FILL: Brown f-m sand, some lenses of dark brown clayey silt; wet		134-SB-054-1012 collected from 10.0-10.5' bgs @ 8:50
	11.0					10.8 - 12.0' No recovery		
	12.0	R-4	N/A	4.0		12.0 - 12.5' FILL: Brown silty clay; very soft, wet	0.0	
	13.0					12.5 - 14.0' FILL: Brown/dark brown silt, trace fine sand and clay; some gray silty COPR from 12.5-12.8'; stiff		134-SB-054-1214 collected from 12.5-13.0' bgs @ 8:55
	14.0					14.0 - 15.5' OH: Black (7.5YR 2/1) clayey silt, soft		
	15.0					15.5 - 16.0' OL: Dark gray (2.5Y 4/1) clayey silt, stiff; end of boring at 16.0'		134-SB-054-1416 collected from 15.5-16.0' bgs @ 9:00
	16.0							

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-055
DATE BEGAN: 07/28/09
DATE FINISHED: 07/28/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 106
	1.0					0.3 - 0.8' FILL: Concrete		134-SB-055-0002 collected from 1.5-2.0' bgs @ 8:35
	2.0					0.8 - 2.8' FILL: Brown/reddish brown silty sand, some fine gravel, trace brick and coal		134-SB-055-0204 collected from 2.0-2.5' bgs @ 8:40
	3.0					2.8 - 3.0' FILL: Wood		
	4.0	R-2	N/A	4.0		3.0 - 4.0' No recovery	0.0	134-SB-055-0406 collected from 4.0-4.5' bgs @ 8:45
	5.0					4.0 - 4.7' FILL: Brown clayey sand, trace fine gravel and clinker; moist		
	6.0					4.7 - 6.2' FILL: Brown clayey silt, soft to firm; wet from 5.0'		
	7.0					6.2 - 11.0' FILL: Brown f-m sand, trace fine gravel and silt; wet		
	8.0	R-3	N/A	4.0			0.0	134-SB-055-0608 collected from 7.5-8.0' bgs @ 8:50
	9.0							134-SB-055-0810 collected from 8.5-9.0' bgs @ 8:55; DUP @ 8:57
	10.0							
	11.0					11.0 - 12.0' FILL: Dark brown/black silty clay, soft; some nodules of stiff, varved silt; wet		134-SB-055-1012 collected from 11.5-12.0' bgs @ 9:00
	12.0	R-4	N/A	4.0		12.0 - 14.0' FILL: Brown silty clay; very soft, wet	0.0	134-SB-055-1214 collected from 12.5-13.0' bgs @ 9:05
	13.0							
	14.0					14.0 - 15.0' FILL: Yellow/light brown clayey COPR, wet		134-SB-055-1416 collected from 14.0-14.5' bgs @ 9:10
	15.0					15.0 - 16.1' OH: Very dark grayish brown (10YR 3/2) clayey silt		
	16.0	R-5	N/A	2.0		16.1 - 18.0' PT: Very dark brown (7.5YR 2/2) peat; end of boring at 18.0'	0.0	134-SB-055-1618 collected from 16.0-16.5' bgs @ 9:15
	17.0							
	18.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-056
DATE BEGAN: 07/28/09
DATE FINISHED: 07/28/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 79
	1.0					0.5 - 1.0' FILL: Brown f-m sand, some f-m gravel		
	2.0					1.0 - 3.7' FILL: Very dark grayish brown fine sand, trace silt; wood from 1.9-2.0'		
	3.0							134-SB-056-0204 collected from 3.0-3.5' bgs @ 9:55
	4.0	R-2	N/A	3.5		3.7 - 4.5' FILL: Reddish brown silty sand, trace f-m gravel and clay; wet from 4.0'	0.0	
	5.0					4.5 - 5.0' FILL: Brick		
	6.0					5.0 - 6.2' FILL: Brown clayey silt, soft; some nodules of stiff, varved silt; wet		134-SB-056-0406 collected from 5.0-5.5' bgs @ 10:00
	7.0					6.2 - 7.5' FILL: Brown f-c sand, few silt nodules; wet		134-SB-056-0608 collected from 7.0-7.5' bgs @ 10:05
	8.0	R-3	N/A	3.0		7.5 - 8.0' No recovery	0.0	
	9.0					8.0 - 9.5' FILL: Brown f-c sand, few silt nodules; wet		134-SB-056-0810 collected from 9.0-9.5' bgs @ 10:10
	10.0					9.5 - 11.0' FILL: Brown silty clay, soft		134-SB-056-1012 collected from 10.5-11.0' bgs @ 10:15
	11.0					11.0 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-057
DATE BEGAN: 07/28/09
DATE FINISHED: 07/28/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 77
	1.0					0.5 - 1.3' FILL: Concrete		
	2.0					1.3 - 3.0' FILL: Brown silty sand, some fine gravel; trace coal, brick, clinker and clay; moist		134-SB-057-0204 collected from 2.5-3.0' bgs @ 10:40
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 4.5' FILL: Brown f-m gravel and f-c sand; loose, wet	0.0	
	5.0					4.5 - 6.5' FILL: Brown fine sand, trace silt; dense, wet		134-SB-057-0406 collected from 5.0-5.5' bgs @ 10:45
	6.0					6.5 - 6.8' FILL: Dark brown clayey silt, trace fine sand; wet		
	7.0					6.8 - 10.5' FILL: Brown f-m sand, few silt nodules; wet		134-SB-057-0608 collected from 7.5-8.0' bgs @ 10:50
	8.0	R-3	N/A	3.0			0.0	
	9.0							134-SB-057-0810 collected from 9.0-9.5' bgs @ 10:55
	10.0							
	11.0					10.5 - 11.0' FILL: Dark brown silty clay, trace fine sand; wet		134-SB-057-1012 collected from 10.5-11.0' bgs @ 11:00
	12.0					11.0 - 12.0' No recovery; end of boring at 12.0'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-058
DATE BEGAN: 07/28/09
DATE FINISHED: 07/28/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.3' ASPHALT	0.0	Field Map # 75
	1.0					0.3 - 1.0' FILL: Brown f-m sand, some f-m gravel and concrete		
	2.0					1.0 - 3.0' FILL: Reddish brown silty sand, some concrete, trace coal and brick		134-SB-058-0204 collected from 2.5-3.0' bgs @ 11:35
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 5.5' FILL: Reddish brown silty sand, some concrete, trace coal and brick; dense, wet	0.0	134-SB-058-0406 collected from 4.0-4.5' bgs @ 11:40
	5.0							
	6.0					5.5 - 7.0' FILL: Brown fine sand, trace silt; very dense, wet		
	7.0					7.0 - 8.0' FILL: Dark brown/black clayey silt; firm, wet		134-SB-058-0608 collected from 7.5-8.0' bgs @ 11:45
	8.0	R-3	N/A	4.0		8.0 - 12.0' FILL: Brown f-m sand, some silt lenses from 11.7'; end of boring at 12.0'	0.0	
	9.0							134-SB-058-0810 collected from 8.5-9.0' bgs @ 11:50; DUP @ 11:52
	10.0							
	11.0							134-SB-058-1112 collected from 11.5-12.0' bgs @ 11:55
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-059
DATE BEGAN: 07/28/09
DATE FINISHED: 07/28/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0.0	Field Map # 51
	1.0					0.8 - 1.2' FILL: Concrete		
	2.0					1.2 - 3.5' FILL: Reddish brown f-m sand, some f-m gravel and silt; trace coal, brick and clinker		
	3.0							134-SB-058-0204 collected from 3.0-3.5' bgs @ 13:10
	4.0					3.5 - 4.0' No recovery		
		R-2	N/A	4.0		4.0 - 4.3' FILL: Reddish brown f-m sand, some f-m gravel and silt; trace coal, brick and clinker	0.0	134-SB-058-0406 collected from 4.5-5.0' bgs @ 13:15
	5.0					4.3 - 7.0' FILL: Brown silty sand, some clay from 4.3-4.5'; wet from 4.5'		
	6.0							
	7.0					7.0 - 7.9' FILL: Very dark grayish brown clayey silt; few thin lenses of light brown silt; wet		134-SB-058-0608 collected from 7.5-8.0' bgs @ 13:20
	8.0	R-3	N/A	3.5		7.9 - 10.0' FILL: Brown f-m sand; wet	0.0	
	9.0							
	10.0					10.0 - 11.5' FILL: Brown silty clay; very soft, wet		
	11.0							
	12.0					11.5 - 12.0' No recovery; end of boring at 12.0'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-060
DATE BEGAN: 07/28/09
DATE FINISHED: 07/28/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.7		0.0 - 0.5' ASPHALT	0.0	Field Map # 49
	1.0					0.5 - 1.5' FILL: Brown f-m sand, some concrete and fine gravel, trace clinker		
	2.0					1.5 - 3.7' FILL: Reddish brown clayey sand, some fine gravel, trace brick		
	3.0							134-SB-060-0204 collected from 3.0-3.5' bgs @ 13:35
						3.7 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 4.3' FILL: Reddish brown/brown f-c sand, some fine gravel and clinker	0.0	
	5.0					4.3 - 5.8' FILL: Brown fine sand, trace silt; dense, wet from 4.5'		134-SB-060-0406 collected from 4.5-5.0' bgs @ 13:40
	6.0					5.8 - 9.0' FILL: Brown f-m sand, trace silt from 7.7'; compact, wet		
	7.0							
	8.0	R-3	N/A	1.0			0.0	134-SB-060-0608 collected from 7.5-8.0' bgs @ 13:45
	9.0					9.0 - 10.0' No recovery; end of boring at 10.0'		
	10.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-061
DATE BEGAN: 07/29/09
DATE FINISHED: 07/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0							
	-3.0	R-1	N/A	2.0		-4.0 - -3.7' CONCRETE -3.7 - -3.5' VOID -3.5 - -1.5' FILL: Brown silty sand, trace coal and brick -1.5 - 0.0' No recovery	0.0	Field Map #104; boring located in warehouse 4 ft above parking lot grade
	-2.0							
	-1.0							
	0.0	R-2	N/A	3.5		0.0 - 3.3' FILL: Brown silty sand, trace coal and brick; some wood from 3.0-3.2'; wet from 1.5'	0.0	134-SB-061-0002 collected from 0.0-0.5' bgs @ 9:15
	1.0							
	2.0					3.3 - 3.5' FILL: Dark brown f-m gravel and clinker, some f-c sand; wet		134-SB-061-0204 collected from 2.5-3.0' bgs @ 9:20
	3.0							
	4.0	R-3	N/A	4.0		3.5 - 4.0' No recovery 4.0 - 4.7' FILL: Dark brown f-c gravel and clinker, some f-c sand; wet 4.7 - 6.5' FILL: Brown silty clay; firm, wet	0.0	
	5.0							134-SB-061-0406 collected from 5.0-5.5' bgs @ 9:25
	6.0							
	7.0					6.5 - 10.0' FILL: Brown f-m sand, some silt nodules; wet		134-SB-061-0608 collected from 7.5-8.0' bgs @ 9:30
	8.0	R-4	N/A	3.0			0.0	134-SB-061-0810 collected from 8.0-8.5' bgs @ 9:40
	9.0							
	10.0					10.0 - 11.0' FILL: Brown silty clay; firm to soft, wet		134-SB-061-1012 collected from 10.5-11.0' bgs @ 9:45
	11.0					11.0 - 12.0' No recovery		
	12.0	R-5	N/A	4.0		12.0 - 14.5' FILL: Brown silty clay, some f-m sand from 13.1-13.3'; wet	0.0	
	13.0							134-SB-061-1214 collected from 13.5-14.0' bgs @ 9:55
	14.0							
	15.0					14.5 - 16.0' OL: Black/dark olive brown (2.5YR 2.5/1 to 3/3) clayey silt, soft; end of boring at 16.0'		134-SB-061-1416 collected from 15.5-16.0' bgs @ 10:00
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-062
DATE BEGAN: 07/29/09
DATE FINISHED: 07/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 1.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.5' CONCRETE		Field Map #86; boring located in warehouse 4 ft above parking lot grade
	-3.0	R-1	N/A	3.2		-3.5 - -3.2' VOID	0.0	Refusal at 4 ft bgs due to wood; moved 2 ft NE of #86
	-2.0					-3.2 - 4.0' FILL: Brown/yellowish brown silty sand; trace fine gravel, brick and coal; wet from 1.0'		134-SB-062-0402AG collected from 3.0-2.5' ags @ 10:40 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
	-1.0							
	0.0	R-2	N/A	4.0			0.0	
	1.0							134-SB-062-0200AG collected from 1.0-0.5' ags @ 10:45 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
	2.0							
	3.0							134-SB-062-0002 collected from 1.5-2.0' bgs @ 10:55
	4.0	R-3	N/A	3.5		4.0 - 5.2' FILL: Brown silty sand, some f-m gravel and wood; loose, wet	0.0	134-SB-062-0204 collected from 3.5-4.0' bgs @ 11:00
	5.0					5.2 - 6.5' FILL: Brown silty clay; firm, wet		134-SB-062-0406 collected from 5.5-6.0' bgs @ 11:05
	6.0							
	7.0					6.5 - 7.5' FILL: Brown f-m sand, wet		134-SB-062-0608 collected from 7.0-7.5' bgs @ 11:10
	8.0	R-4	N/A	2.5		7.5 - 8.0' No recovery	0.0	134-SB-062-0810 collected from 8.0-8.5' bgs @ 11:20
	9.0					8.0 - 9.8' FILL: Brown f-m sand, wet		
	10.0					9.8 - 10.5' FILL: Brown silty clay; very soft, moist		134-SB-062-1012 collected from 10.0-10.5' bgs @ 11:25
	11.0					10.5 - 12.0' No recovery		
	12.0	R-5	N/A	4.0		12.0 - 14.5' FILL: Brown silty clay; very soft, moist	0.0	134-SB-062-1214 collected from 12.0-12.5' bgs @ 11:35; DUP @ 11:37
	13.0							
	14.0							
	15.0					14.5 - 16.0' OL: Black/dark olive brown (2.5YR 2.5/1 to 3/3) clayey silt, trace organic material; end of boring at 16.0'		134-SB-062-1416 collected from 15.5-16.0' bgs @ 11:40
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-063
DATE BEGAN: 07/29/09
DATE FINISHED: 07/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 1.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.3' CONCRETE		Field Map #92; boring located in warehouse 4 ft above parking lot grade
	-3.0	R-1	N/A	2.0		-3.3 - -3.0' VOID	0.0	
	-2.0					-3.0 - -1.0' FILL: Brown silty sand; trace fine gravel, concrete and coal		134-SB-063-0402AG collected from 3.0-2.5' ags @ 13:05 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
	-1.0					-1.0 - 0.0' No recovery		
	0.0	R-2	N/A	4.0		0.0 - 2.0' FILL: Brown silty sand; trace fine gravel, concrete and coal; trace yellow COPR from 1.8'; wet from 1.0'	0.0	134-SB-063-0200AG collected from 1.5-1.0' ags @ 13:10 for VOCs, SVOCs, TAL Metals, and Hex. Chromium
▽	1.0							
	2.0							134-SB-063-0002 collected from 1.5-2.0' bgs @ 13:15
	3.0					2.0 - 4.5' FILL: Very dark grayish brown silt, some to trace fine sand; some yellow COPR from 2.0-2.3'; some white COPR from 3.9'; trace yellow COPR from 4.0'; stiff, wet		134-SB-063-0204 collected from 2.0-2.5' bgs @ 13:20
	4.0	R-3	N/A	2.8			0.0	
	5.0					4.5 - 5.0' FILL: Brown silty sand and f-m gravel; wet		134-SB-063-0406 collected from 4.0-4.5' bgs @ 13:30
	6.0					5.0 - 5.4' FILL: Brown silt; stiff, moist		
	7.0					5.4 - 6.0' FILL: Very dark grayish brown silty clay; soft, wet		134-SB-063-0608 collected from 6.0-6.5' bgs @ 13:35
	8.0	R-4	N/A	3.0		6.0 - 6.8' FILL: Brown f-m sand, wet	0.0	
	9.0					6.8 - 8.0' No recovery		
	10.0					8.0 - 9.2' FILL: Brown f-m sand, trace shells; wet		134-SB-063-0810 collected from 9.5-10.0' bgs @ 13:45
	11.0					9.2 - 10.5' FILL: Brown silty clay; very soft		134-SB-063-1012 collected from 10.5-11.0' bgs @ 13:50
	12.0	R-5	N/A	4.0		10.5 - 11.0' FILL: Brown silty sand; wet	0.0	134-SB-063-1214 collected from 12.0-12.5' bgs @ 14:00
	13.0					11.0 - 12.0' No recovery		
	14.0					12.0 - 14.0' FILL: Brown/yellow clayey silt and COPR; moist		
	15.0					14.0 - 16.0' OL: Black/dark olive brown (2.5YR 2.5/1 to 3/3) clayey silt, trace organic material from 15.5'; end of boring at 16.0'		134-SB-063-1416 collected from 15.5-16.0' bgs @ 14:10
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-064
DATE BEGAN: 07/29/09
DATE FINISHED: 07/29/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0							
	-3.0	R-1	N/A	3.2		-4.0 - -3.5' CONCRETE -3.5 - -3.2' VOID -3.2 - 0.0' FILL: Brown silty sand; trace f-m gravel, brick and coal	0.0	Field Map #88; boring located in warehouse 4 ft above parking lot grade
	-2.0							
	-1.0							
	0.0	R-2	N/A	3.0		0.0 - 2.0' FILL: Reddish brown/brown silty sand, some brick, trace fine gravel; dense	0.0	
	1.0							
	2.0					2.0 - 2.5' FILL: Dark brown silt; very stiff, wet		
	3.0					2.5 - 3.0' FILL: Reddish brown sandy silt, some wood; wet		
	4.0	R-3	N/A	3.0		3.0 - 4.0' No recovery	0.0	
	5.0					4.0 - 4.5' FILL: Wood, some silt and f-m gravel; wet		
	6.0					4.5 - 5.3' FILL: Brown silty clay, wet		
	7.0					5.3 - 7.0' FILL: Dark brown/brown f-m sand, trace silt; wet		
	8.0	R-4	N/A	2.3		7.0 - 8.0' No recovery	0.0	
	9.0					8.0 - 9.5' FILL: Dark brown/brown f-m sand, trace silt; wet		
	10.0					9.5 - 10.3' FILL: Brown silty clay; very soft, moist		
	11.0					10.3 - 12.0' No recovery		
	12.0	R-5	N/A	2.5		12.0 - 13.5' FILL: Brown silty clay; stiff and varved from 12.5'	0.0	
	13.0							
	14.0					13.5 - 14.5' OL: Black (2.5YR 2.5/1) clayey silt; stiff, moist		134-SB-064-1416 collected from 14.0-14.5' bgs @ 15:05
	15.0					14.5 - 16.0' No recovery; end of boring at 16.0'		
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-065
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 0.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-4.0					-4.0 - -3.3' CONCRETE		Field Map #112; boring located in warehouse 4 ft above parking lot grade
	-3.0	R-1	N/A	3.1		-3.3 - -3.1' VOID	0.0	
	-2.0					-3.1 - 0.5' FILL: Brown silty sand, some f-m gravel; trace clinker, coal and brick; wet at grade		
	-1.0							
	0.0	R-2	N/A	0.5			0.0	134-SB-065-0002 collected from 0.0-0.5' bgs @ 7:55
	1.0					0.5 - 4.0' No recovery		
	2.0							Poor recovery in R-2 due to coarse gravel in macrocore tip
	3.0							
	4.0	R-3	N/A	3.5		4.0 - 4.5' FILL: Dark gray silt, trace fine gravel, sand, and yellow COPR; wet	0.0	134-SB-065-0406 collected from 4.0-4.5' bgs @ 8:05
	5.0					4.5 - 5.7' FILL: Brown clayey silt, trace f-m gravel; stiff, wet		
	6.0							
	7.0					5.7 - 7.5' FILL: Brown f-m sand, wet		
	8.0	R-4	N/A	2.8		7.5 - 8.0' No recovery	0.0	134-SB-065-0608 collected from 7.0-7.5' bgs @ 8:10 134-SB-065-0810 collected from 8.0-8.5' bgs @ 8:25
	9.0					8.0 - 9.4' FILL: Brown f-m sand, wet		
	10.0					9.4 - 10.8' FILL: Brown clayey silt, some lenses of fine sand; wet		134-SB-065-1012 collected from 10.0-10.5' bgs @ 8:30
	11.0					10.8 - 12.0' No recovery		
	12.0	R-5	N/A	2.0		12.0 - 12.5' FILL: Brown clayey silt, some lenses of fine sand; wet	0.0	
	13.0					12.5 - 13.5' FILL: Brown clayey silt; white/green COPR from 12.8-13.3; stiff		134-SB-065-1214 collected from 12.8-13.3' bgs @ 8:40
	14.0	R-6	N/A	2.0			0.0	
	15.0					13.5 - 14.0' OH: Very dark grayish brown (10YR 3/2) clayey silt, trace organic material; stiff, moist		134-SB-065-1416 collected from 15.5-16.0' bgs @ 8:50
	16.0					14.0 - 16.0' OL: Black/dark olive brown (2.5YR 2.5/1 to 3/3) clayey silt, some organic material; stiff, moist; end of boring at 16.0'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-066
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 95
	1.0					0.5 - 2.0' FILL: Brown silty sand, some f-m gravel; trace brick, clinker and coal; moist		
	2.0					2.0 - 3.0' FILL: Brown f-m sand, trace silt; wet from 2.5'		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 10.0' FILL: Brown f-c sand, trace silt; wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	2.2			0.0	134-SB-066-0608 collected from 7.5-8.0' bgs @ 10:25; DUP @ 10:27
	9.0							
	10.0					10.0 - 10.2' FILL: Brown fine sand, trace silt; compact, wet		134-SB-066-0810 collected from 9.5-10.0' bgs @ 10:35; HOLD
	11.0					10.2 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-067
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 96
	1.0					0.5 - 3.0' FILL: Brown silty sand, some fine gravel, trace brick, concrete, clinker and coal; wet from 2.0'		
	2.0							
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 10.0' FILL: Brown f-c sand, trace silt; stiff silt from 1.5-1.7'; wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	2.0			0.0	134-SB-067-0608 collected from 7.5-8.0' bgs @ 10:50
	9.0							
	10.0							134-SB-067-0810 collected from 9.5-10.0' bgs @ 11:00; HOLD
	11.0					10.0 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-068
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 1.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 103
	1.0					0.5 - 1.5' FILL: Dark brown f-c sand, some f-m clinker and gravel, trace brick and silt; wet from 1.0'		
	2.0					1.5 - 3.5' FILL: Brown f-c sand, trace silt, some reddish brown silt and clay from 2.6-3.0'; wet		
	3.0							
	4.0					3.5 - 4.0' No recovery		
		R-2	N/A	4.0		4.0 - 10.5' FILL: Brown f-c sand, trace fine gravel from 4.0-4.3'; wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	2.5			0.0	134-SB-068-0608 collected from 7.5-8.0' bgs @ 11:15; HOLD
	9.0							134-SB-068-0810 collected from 9.5-10.0' bgs @ 11:25
	10.0							134-SB-068-1012 collected from 10.0-10.5' bgs @ 11:30; HOLD
	11.0					10.5 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-069
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	0.0	Field Map # 102
	1.0					0.5 - 0.8' FILL: Concrete		
						0.8 - 1.8' FILL: Reddish brown silt, some f-m sand and gravel, trace brick and coal		
	2.0					1.8 - 3.0' FILL: Brown f-m sand, trace silt; wet from 2.0'		
	3.0					3.0 - 4.0' No recovery		
	4.0	R-2	N/A	4.0		4.0 - 8.4' FILL: Brown f-c sand, few silt lenses; wet	0.0	
	5.0							
	6.0							
	7.0							
	8.0	R-3	N/A	2.7			0.0	134-SB-069-0608 collected from 7.5-8.0' bgs @ 11:55; HOLD
	9.0					8.4 - 10.7' FILL: Black/brown silty clay; very soft, wet		134-SB-069-0810 collected from 9.5-10.0' bgs @ 12:05
	10.0							134-SB-069-1012 collected from 10.0-10.5' bgs @ 12:10; HOLD
	11.0					10.7 - 12.0' No recovery; end of boring at 12.0'		
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-070
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map # 100
	1.0					0.5 - 0.9' FILL: Concrete		
	2.0					0.9 - 1.2' FILL: Black/brown f-m sand and fine clinker		
	3.0					1.2 - 2.3' FILL: Reddish brown sandy silt, trace fine gravel; white COPR from 2.1-2.3'		
	4.0	R-2	N/A	4.0		2.3 - 3.5' FILL: Brown f-c sand, stiff silt from 2.5-2.6' and 3.3-3.4'; wet from 2.5'	0.0	
	5.0					3.5 - 4.0' No recovery	0.1	
	6.0					4.0 - 11.0' FILL: Brown f-c sand, some silt lenses; petroleum odors and sheen from 5.0-6.0'; wet	0.5	
	7.0						3.8	
	8.0	R-3	N/A	3.0			1.1	
	9.0						0.4	
	10.0						0.0	
	11.0						0.0	134-SB-070-0608 collected from 6.5-7.0' bgs @ 13:10
	12.0						0.0	134-SB-070-0810 collected from 9.5-10.0' bgs @ 13:15; HOLD
						11.0 - 12.0' No recovery; end of boring at 12.0'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 134, 60 Kellog St., Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 134-SB-071
DATE BEGAN: 08/11/09
DATE FINISHED: 08/11/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.2' ASPHALT	0.0	Field Map # 98
	1.0					0.2 - 1.5' FILL: Brown f-c sand and f-m gravel		
	2.0					1.5 - 6.0' FILL: Reddish brown silt, thinly laminated, some lenses of f-c sand, trace fine gravel from 3.8'; very stiff, wet from 3.0'		
	3.0							
	4.0	R-2	N/A	4.0			0.0	
	5.0							
	6.0					6.0 - 10.0' FILL: Brown f-c sand, few silt nodules, trace shells; wet; end of boring at 10.0'		
	7.0							
	8.0	R-3	N/A	2.0			0.0	134-SB-071-0608 collected from 7.5-8.0' bgs @ 8:30; HOLD
	9.0							
	10.0							134-SB-071-0810 collected from 9.5-10.0' bgs @ 8:40; DUP @ 8:42

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-072
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' ASPHALT: Asphalt and tar	0	
	1.0					0.3 - 1.0' FILL: Bronw fine to medium silty sand with some fine to medium gravel, trace wood and coal		
	2.0					1.0 - 3.3' FILL: Red fine to medium silty sand with motteling of grey silt and some clay, trace fine to medium gravel and coal, moist, dense		
	3.0					3.3 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 7.0' FILL: Reddish brown silty sand with trace clay, wet, loose	0	
	5.0							
	6.0							
	7.0					7.0 - 7.5' FILL: Black clayey silt, loose, wet		
	8.0	S-3	NA	2.5		7.5 - 8.0' FILL: Brown fine to medium sand, wet, loose	0	
	9.0					8.0 - 10.5' FILL: Brown fine to medium silty sand with motteling of silt, trace clay and fine gravel, wet, loose		Sample collected 134-SB-072-0810 from 8.5-9.0 bgs @ 12:15
	10.0							
	11.0					10.5 - 12.0' No recovery		Sample collected 134-SB-072-1012 from 10.0-10.5' bgs @ 12:20 (HOLD)
	12.0	S-4	NA	2.0		12.0 - 12.3' FILL: Brown fine to medium silty sand with motteling of silt, trace clay and fine gravel, wet, loose	0	
	13.0					12.3 - 12.5' OL: Brown clayey silt with some fine sand ,wet, loose		Sample collected 134-SB-072-1214 from 13.5-13.5' bgs @ 12:25
	14.0					12.5 - 14.0' SM: Brown fine silty sand with trace organics, wet, loose; end of boring @ 14.0' bgs		

PREPARED BY: MD
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-073
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 7 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' ASPHALT: Asphalt and tar		
						0.1 - 1.0' FILL: Brown fine to medium silty sand with fine to medium gravel, trace coal, dry, moderate dense		
	1.0					1.0 - 1.5' FILL: Red fine to medium silty sand with fine to medium gravel, dry, very dense		PID sensor not working properly
						1.5 - 2.0' FILL: Brown fine to medium sand with some clinker and coal. trace fine gravel, wet, dense		
	2.0					2.0 - 3.5' FILL: Red silt, some fine sand, mottling of grey silt, moist, very dense		
	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 5.0' FILL: Brown fine silty sand with some clay, trace organics, wet, firm		
	5.0					5.0 - 5.5' FILL: Brown silty caly with trace organics, wet, moderately firm		Sample collected 134-SB-073-0406 from 5.0-5.5 bgs @ 7:55
						5.5 - 6.5' FILL: Brown fine to medium sand with motteling of clay, wet, loose		
	6.0							
						6.5 - 7.0' No recovery; end of boring @ 7.0' bgs		
	7.0							

PREPARED BY: MD
CHECKED BY: FP

MACTEC Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-074
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 7 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.2' ASPHALT: Asphalt		
						0.2 - 0.8' FILL: Brown fine to medium sand with fine to medium gravel, trace silt and brick, dry, loose		
	1.0					0.8 - 1.3' FILL: Light brown fine to medium sand with motteling of clay and some fine to medium gravel		PID sensor not working properly
						1.3 - 1.4' FILL: Red fine silty sand		
	2.0					1.4 - 1.5' CONCRETE: Concrete		
						1.5 - 1.6' FILL: Brown fine silty sand		
						1.6 - 1.8' CONCRETE: Concrete		
	3.0					1.8 - 2.5' FILL: Dark brown fine to coarse sand, some clinker and coal, trace fine gravel and silt, wet, loose		
						2.5 - 3.0' FILL: Red fine silty sand with mottling of grey silt and some fine to medium gravel, moist, very dense		
	4.0	S-2	NA	2.5		3.0 - 4.0' No recovery		
						4.0 - 4.8' FILL: Reddish brown sandy silt, moist, firm		
	5.0					4.8 - 5.5' FILL: Brown silty clay, wet, loose		Sample collected 134-SB-074-0406 from 5.5-6.0 bgs @ 8:15
	6.0					5.5 - 6.5' FILL: Brown fine to medium sand, mottling of clay and trace fine gravel, wet, loose		
	7.0					6.5 - 7.0' No recovery; end of boring @ 7.0' bgs		

PREPARED BY: MD
CHECKED BY: FP

MACTEC Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-075
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 7 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: Asphalt		
						0.3 - 0.8' FILL: Brown fine to coarse sand with some fine to medium gravel, mottling of black silt, trace brick, coal, and clay		
	1.0					0.8 - 1.0' CONCRETE: Concrete		PID sensor not working properly
						1.0 - 1.5' FILL: Brown fine to medium sand with mottling of red, black, and brown sand, trace fine gravel, moist, loose		
	2.0					1.5 - 2.3' FILL: Wood		
						2.3 - 2.8' FILL: Reddish brown fine silty sand, some mottling of clay and trace fine gravel, moist, dense		
	3.0					2.8 - 3.5' FILL: Dark brown fine to coarse sand, some clinker, coal, and brick, trace organics, moist, loose		
						3.5 - 4.0' No recovery		
▽	4.0	S-2	NA	3		4.0 - 5.0' FILL: Brown fine sandy silt, loose, wet		
	5.0					5.0 - 5.5' FILL: Brown silty clay, wet, loose		Sample collected 134-SB-075-0406 from 5.5-6.0 bgs @ 8:30
						5.5 - 7.0' FILL: Brown fine to medium sand with lenses of clay and trace fine gravel, wet, loose; End of boring @ 7.0' bgs		
	6.0							
	7.0							

PREPARED BY: MD
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-076
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6.5 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: Asphalt		First run to 3.5' bgs
						0.3 - 0.5' CONCRETE: Concrete		
	1.0					0.5 - 1.5' FILL: Brown fine to medium silty sand, trace brick and fine to medium gravel, dry		PID sensor not working properly
	2.0					1.5 - 3.0' FILL: Grey silt, trace fine gravel and coal, moist, very dense		
	3.0					3.0 - 3.5' FILL: Reddish brown fine silty sand, trace organics and clay, wet, loose		
						3.5 - 3.8' FILL: Concrete		
	4.0	S-2	NA	3		3.8 - 4.0' FILL: Dark brown fine to coarse sand, some clinker and coal, wet, loose		Sample collected 134-SB-076-0406 from 4.0-4.5 bgs @ 8:45
						4.0 - 4.3' FILL: Brown sandy silt, wet, firm		
	5.0					4.3 - 5.5' FILL: Brown silty clay, wet, moderately dense		
	6.0					5.5 - 6.5' FILL: Brown fine to medium sand with lenses of clay, trace fine gravel, wet, loose; End of boring @ 6.5' bgs		

PREPARED BY: MD
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-077

DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly

DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT

SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 7.0ft bgs
GW DEPTH: 3.5 ft bgs

DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: Asphalt		
						0.3 - 0.5' FILL: Brown fine to medium sand, trace silt and fine gravel, dry		
						0.5 - 0.8' FILL: Concrete		
	1.0					0.8 - 2.3' FILL: Greyish brown sandy silt, moist, dense		PID sensor not working properly
	2.0					2.3 - 3.0' FILL: Concrete		
	3.0					3.0 - 3.5' FILL: Brown fine to medium sand, some wood and coal, trace fine to medium gravel, wet, dense		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3		4.0 - 4.3' FILL: Brown fine to medium gravel, some brown fine to medium sand, wet, loose		Sample collected 134-SB-077-0406 from 4.5-5.0 bgs @ 8:55
						4.3 - 5.0' FILL: Brown clayey silt, trace coal, wet, loose		
	5.0					5.0 - 5.8' FILL: Brown silty clay, wet, loose		
	6.0					5.8 - 7.0' FILL: Brown fine to medium sand, some silt, trace coarse sand, wet, loose; end of boring @ 7.0' bgs		
	7.0							

PREPARED BY: MD
CHECKED BY: FP

MACTEC Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-078
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-2.0	S-1	NA	3		-2.0 - -1.3' FILL: Fine to medium gravel with dark brown fine to medium sand, loose, dry	0	
	-1.0					-1.3 - -0.8' FILL: Brown fine to course sand, some fine to coarse gravel and brick, loose, dry		
	0.0					-0.8 - 0.0' FILL: Brown fine to medium silty sand with trace brick and gravel, very dense		
	1.0					0.0 - 0.5' CONCRETE: Concrete		
	2.0	S-2	NA	3		0.5 - 1.0' FILL: Brown fine to medium sand, some brick and fine to medium gravel, trace coal, moist, dense	0	
	3.0					1.0 - 2.0' No recovery		
	4.0					2.0 - 4.0' FILL: Brown fine to medium silty sand, some fine to medium gravel, trace concrete and brick, moist, moderate dense		
	5.0					4.0 - 4.2' FILL: Black sandy silt, wet, loose		
						4.2 - 4.8' FILL: Brown silty clay with bands of black silt, wet, loose		
	6.0	S-3	NA	4		4.8 - 5.0' FILL: Brown fine to medium sand, trace fine gravel, wet, loose	0	
	7.0					5.0 - 6.0' No recovery		Sample collected 134-SB-078-0810 from 6.5-7.0' bgs @ 9:50
	8.0					6.0 - 8.5' FILL: Brown fine to medium sand, trace fine gravel, wet, loose		Organic Odors in 6.0-10.0' sleeve
	9.0					8.5 - 9.0' FILL: Brown silty fine sand, wet, loose		
						9.0 - 9.5' FILL: Brown silty clay, wet, loose		
	10.0	S-4	NA	3		9.5 - 12.5' FILL: Brown fine to medium sand with lenses of firm clay, trace fine gravel, wet, loose	0	
	11.0							Sample collected 134-SB-078-1214 from 12.5-13.0' bgs @ 9:55
	12.0							

PREPARED BY:
CHECKED BY: QA/QC

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-078
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	S-5	NA	2		12.5 - 13.0' FILL: Greenish-grey sand; wet, loost (COPR) 13.0 - 14.0' No recovery	0	Sample collected 134-SB-078-1416 from 14.0-14.5' bgs @ 10:00
	14.0					14.0 - 15.9' OL: Black clayey silt, trace organics		
	15.0					15.9 - 16.0' PT: Peat; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY:
CHECKED BY: QA/QC

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-079
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 1.5 ft bgs
GW DEPTH: NA
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	0		0.0 - 0.0' No Recovery; Refusal @ 1.5' bgs		Hit concrete at 2' bgs, moved 1' in every direction and hit concrete at 2' bgs in all locations Moved 2' to the south, hit concrete at 2' bgs Moved 2' to the east, hit concrete at 2' bgs Moved 7' to the south, hit concrete at 2' bgs Moved 10' to the south, hit concrete at 2' bgs Moved 10' to the southwest, hit concrete at 2' bgs
	1.0							

PREPARED BY: MD
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-080
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' CONCRETE: Concrete	0	
						0.3 - 0.5' FILL: Red silty fine sand, some medium gravel; dry		
	1.0					0.5 - 0.8' FILL: Black sandy silt, moist, dense		
						0.8 - 1.3' FILL: Black fine to medium sand, some silt, trace fine to medium gravel; moist		
	2.0					1.3 - 2.0' FILL: Red fine sandy silt, trace mottling of grey silty, moist, dense		
	3.0					2.0 - 3.0' FILL: Reddish brown silty fine sand, some fine gravel, wet, moderate dense		
						3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.25		4.0 - 4.5' FILL: Brown silty sand, wet, loose	0	
						4.5 - 5.3' FILL: Brown sandy silt, some clay, more clay with depth, wet, loose		
	5.0					5.3 - 7.3' FILL: Brown fine to medium sand with lenses of clay, trace fine gravel, wet, loose		Sample collected 134-SB-080-0608 from 6.5-7.0 bgs @ 11:15
	6.0							
	7.0					7.3 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 9.5' FILL: Brown fine to medium sand with lenses of clay, trace fine gravel, wet, loose	0	
	9.0					9.5 - 9.8' FILL: Black silt, trace fine gravel, wet, moderate firm		Sample collected 134-SB-080-0810 from 9.5-10.0' bgs @ 11:20
	10.0					9.8 - 10.3' FILL: Grey silt, moist, dense; (possible COPR)		

PREPARED BY: MD
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-080
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0					10.3 - 11.0' FILL: Brown silt, wet, loose		
						11.0 - 12.0' No recovery		
	12.0	S-4	NA	4.0		12.0 - 15.3' FILL: Brown fine to medium sand, mottling of silt and clay, wet, loose	0	
	13.0							
	14.0							
	15.0							Sample collected 134-SB-080-1214 from 15.5-16.0' bgs @ 11:30
						15.3 - 15.9' FILL: Brown clayey silt with greenish-brown motteling; (possible COPR)		
	16.0	S-5	NA	2.0		15.9 - 16.0' OL: Black clayey silt, some fine sand, wet, loose	0	
						16.0 - 16.5' PEAT: PEAT		
	17.0					16.5 - 17.5' OL: Black silt, trace fine sand, moist, firm		Sample collected 134-SB-080-1416 from 16.5-17.0' bgs @ 11:35
	18.0					17.5 - 18.0' SW: Dark brown fine to medium sand, trace organics; transitions to light brown sand, trace silt; end of boring @ 18.0; bgs		

PREPARED BY: MD
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-081
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	0	
	1.0					0.3 - 1.0' CONCRETE		
	2.0					1.0 - 1.8' FILL: Silty fine to medium sand, fine to medium gravel, trace coal and brick; dense, dry		
	3.0					1.8 - 2.5' FILL: Red sandy silt, trace brick and fine to medium gravel; very dense, dry		
	4.0	S-2	NA	4.0		2.5 - 4.0' FILL: Fine to medium sand, fine to medium gravel, trace brick and coal	0	
	5.0					4.0 - 5.0' FILL: Brown fine sandy silt, trace clay; loose, wet		
	6.0					5.0 - 5.5' FILL: Brown silty clay, trace fine sand; medium firm, wet		
	7.0					5.5 - 8.0' FILL: Brown fine to coarse sand, trace mottling of clay; wet		Sample collected 134-SB-081-0608 from 7.0-7.5' bgs @13:00, DUP at 13:02
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Brown fine to medium sand, trace silt and mottling of clay	0	
	9.0							
	10.0							
	11.0					11.0 - 12.0' : No recovery		
	12.0	S-4	NA	4.0		12.0 - 13.8' FILL: Brown silt, trace fine sand; very loose, wet	0	
	13.0					13.8 - 14.3' FILL: Grayish green fine silt (possible COPR), with dark green nodules; firm, moist		Sample collected 134-SB-081-1214 from 13.5-14.0' bgs @13:10
	14.0					14.3 - 15.8' OL: Black silty clay, trace fine sand and organics; loose, wet		Sample collected 134-SB-081-1416 from 15.0-15.5' bgs @13:15
	15.0							
	16.0					15.8 - 16.0' PT: Peat; end of boring at 16' bgs		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-082
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' ASPHALT	0	
	1.0					0.3 - 1.5' FILL: Brown fine to coarse sand, some fine to medium gravel, trace coal, brick, tar, and ash; medium dense, dry		
	2.0					1.5 - 2.8' FILL: Red silt, trace fine sand, fine to medium gravel,coal, brick, shells; black at 2.0'; firm, moist		
	3.0					2.8 - 3.0' FILL: Concrete		
	4.0	S-2	NA	3.25		3.0 - 4.0' : No recovery	0	
	5.0					4.0 - 5.5' FILL: Brown silt, some fine sand, trace coal; medium firm, wet		
	6.0					5.5 - 6.0' FILL: Black silt; loose, wet		
	7.0					6.0 - 7.3' FILL: Brown fine to coarse sand, lenses of clay and silt; loose, wet		Sample collected 134-SB-082-0608 from 6.5-7.0' bgs @13:30, DUP at 13:32
	8.0	S-3	NA	3.0		7.3 - 8.0' : No recovery	0	
	9.0					8.0 - 10.0' FILL: Brown fine to coarse sand, lenses of clay and silt; more fine sand and trace silt with depth; loose, wet		
	10.0					10.0 - 11.0' FILL: Brown sandy silt; loose, wet		
	11.0					11.0 - 12.0' : No recovery		
	12.0	S-4	NA	3.75		12.0 - 13.5' FILL: Silt, some fine sand; very loose, wet	0	
	13.0							Sample collected 134-SB-082-1416 from 14.5-15.0' bgs @13:40, DUP at 13:42
	14.0					13.5 - 15.0' FILL: Greenish yellow COPR; soft,wet (harder with depth)		
	15.0					15.0 - 15.8' OL: Black clayey silt, fine sand, trace organics; firm, moist		Sample collected 134-SB-082-1416 from 15.5-16.0' bgs @13:45
	16.0					15.8 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-083
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT	0	
						0.3 - 0.5' FILL: Sub-base; dark brown fine to medium gravel, fine to coarse sand, trace silt, coal, and brick; dry		
	1.0					0.5 - 1.0' FILL: Red sandy silt, trace coal and fine gravel; very dense, dry		
	2.0					1.0 - 1.5' FILL: Dark brown silty fine sand; very dense, moist		
	3.0					1.5 - 2.0' FILL: Red silty fine to medium sand, trace fine gravel; moist		
	4.0	S-2	NA	3		2.0 - 3.0' FILL: Black silt, some fine sand; very dense, moist	0	
	5.0					3.0 - 3.4' FILL: Dark brown fine to coarse sand, some clinker, coal, brick, and ash; loose, moist		
	6.0					3.4 - 3.5' FILL: Reddish brown silt, trace fine sand and clay; dense, dry		
	7.0					3.5 - 4.0' : No recovery		
	8.0	S-3	NA	3		4.0 - 5.0' FILL: Reddish brown silt, trace fine sand and clay; dense, wet	0	
	9.0					5.0 - 7.0' FILL: Light brown fine to medium sand, lenses of clay and silt; black from 6.5-7.0'; loose, wet		
	10.0					7.0 - 8.0' : No recovery		
	11.0					8.0 - 9.0' FILL: Light brown fine to medium sand, lenses of clay and silt; loose, wet		
	12.0	S-4	NA	4		9.0 - 9.3' FILL: Brown sandy silt; loose, wet	0	
	13.0					9.3 - 11.0' FILL: Brown silty sand; loose, wet		Sample collected 134-SB-083-1214 from 12.5-13.0' bgs @14:10
						11.0 - 12.0' No recovery		
						12.0 - 12.8' FILL: Brown silt; very loose, wet		
						12.8 - 13.3' FILL: Grayish silt, (possible		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-083
DATE BEGAN: 4/22/10
DATE FINISHED: 4/22/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0					COPR) white nodules; medium firm, wet		
						13.3 - 15.8' OL: Black silty clay, trace organics; firm, wet		Sample collected 134-SB-083-1416 from 15.0-15.5' bgs @14:15, DUP @14:17
	15.0					15.8 - 16.0' PT: Peat; end of boring at 16.0'		
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480080011
BORING ID: 134-SB-084
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.2' ASPHALT	0	
						0.2 - 0.5' FILL: Sub-base; Brown fine to medium sand, fine to medium gravel, some silt, trace tar; loose, dry		
	1.0					0.5 - 1.8' FILL: Red sandy silt, yellow and orange mottling (possible COPR), fine to medium gravel, trace coal and brick; dense, dry		
	2.0					1.8 - 2.0' FILL: COPR material, yellowish green fine silt; dense		
	3.0	S-2	NA	3.5		2.0 - 2.8' FILL: Dark brown silt, trace fine to medium gravel; dense, dry	0	
	4.0					2.8 - 3.3' FILL: Dark brown fine to coarse sand, some clinker, fine gravel, and coal; loose, moist		
	5.0					3.3 - 3.8' FILL: Red silty fine sand, trace clay; medium dense, moist		
	6.0					3.8 - 4.0' : No recovery		
	7.0	S-3	NA	2		4.0 - 4.5' FILL: Dark brown sand and silt; firm, wet	0	
	8.0					4.5 - 5.0' FILL: Brown clayey silt; loose, wet		
	9.0					5.0 - 7.5' FILL: Brown fine to medium sand, trace silt, mottling of clay, and fine to medium gravel; wet		
	10.0					7.5 - 8.0' : No recovery		
	11.0					8.0 - 8.5' FILL: Brown fine to medium sand, trace silt, mottling of clay, and fine to medium gravel; wet		
	12.0	S-4	NA	4		8.5 - 8.8' FILL: Brown silt; firm	0	
	13.0					8.8 - 9.8' FILL: Brown fine to medium sand, some silt; loose, wet		
						9.8 - 10.0' FILL: Brown clayey silt; firm, wet		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480080011
BORING ID: 134-SB-084
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0					10.0 - 12.0' No recovery 12.0 - 15.8' OL: Black clayey silt; medium firm, wet		Sample collected 134-SB-084-1416 from 14.5-15.0' bgs @07:50
	15.0							
	16.0					15.8 - 16.0' PT: Peat; end of boring at 16'		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480080011
BORING ID: 134-SB-085
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' ASPHALT	0	
						0.3 - 0.8' FILL: Sub-base: Fine to medium sand, some silt and fine to medium gravel, trace coal; loose, dry		
	1.0					0.8 - 1.3' FILL: Red sandy silt, trace fine to medium gravel; dense, moist		
	2.0					1.3 - 1.4' FILL: COPR, gray silt, yellow-orange mottling		
	3.0					1.4 - 2.0' FILL: Black silt; dense, moist		
	4.0	S-2	NA	2.75		2.0 - 2.5' FILL: Fine to coarse sand, gray and brown mottling, some clinker, brick and fine to medium gravel	0	
	5.0					2.5 - 3.0' FILL: Red silty sand, fine to medium gravel; loose, moist		
	6.0					3.0 - 4.0' No recovery		
	7.0					4.0 - 4.5' FILL: Reddish brown sandy silt, some organics; dense, wet		
						4.5 - 5.3' FILL: Brown clayey silt, trace fine sand; loose, wet		
	8.0	S-3	NA	3		5.3 - 6.8' FILL: Fine to medium sand, trace mottling of silt; loose, wet	0	
	9.0					6.8 - 8.0' : No recovery		
	10.0					8.0 - 8.8' FILL: Fine to medium sand, trace mottling of silt; loose, wet		
	11.0					8.8 - 9.3' FILL: Brown silt, some fine sand; very loose, wet		
						9.3 - 11.0' FILL: Brown fine to medium sand, trace silt; loose, wet		
	12.0	S-4	NA	4		11.0 - 12.0' No recovery	0	
	13.0					12.0 - 12.5' FILL: Gray silt (possible COPR); very loose, wet		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480080011
BORING ID: 134-SB-085
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0					12.5 - 15.8' OL: Black clayey silt, trace organics; firm, wet		Sample collected 134-SB-085-1416 from 15.0-15.5' bgs @08:20, DUP @08:22
	15.0							
	16.0					15.8 - 16.0' PT: Peat; end of boring at 16'		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Site 134 Old Dominion

SITE INFO: Honeywell SA-6 South
PROJECT NO: 3480080011
BORING ID: 134-SB-086
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.3' ASPHALT	0	
						0.3 - 0.5' FILL: Sub-base		
	1.0					0.5 - 1.3' FILL: Red sandy silt, mottling of black silt; dense, dry		
	2.0					1.3 - 1.4' FILL: COPR, yellowish green fine sand; dense, dry		
						1.4 - 1.5' FILL: Red sandy silt; dense, dry		
	3.0					1.5 - 3.8' FILL: Black silt, trace fine sand: dense, dry		
						3.8 - 4.0' FILL: Wood		
	4.0	S-2	NA	3.5		4.0 - 4.2' FILL: Brownish white fine sand (possible COPR); loose, wet	0	
						4.2 - 5.3' FILL: Brown sandy silt; firm, wet		
	5.0					5.3 - 6.0' FILL: Brown silt, trace fine sand; very loose, wet		
	6.0					6.0 - 7.5' FILL: Brown fine to medium sand; loose, wet		
	7.0							
						7.5 - 8.0' : No recovery		
	8.0	S-3	NA	3.25		8.0 - 9.5' FILL: Brown fine to medium sand; loose, wet	0	
	9.0							
						9.5 - 10.3' FILL: Brown silt, lenses of fine sand; loose, wet		
	10.0					10.3 - 10.5' FILL: Silty fine sand; loose, wet		
						10.5 - 11.3' FILL: Brown silt, mottling of fine sand; very loose, wet		
	11.0							

PREPARED BY: MS
CHECKED BY: FP

Honeywell Site 134 Old Dominion

SITE INFO: Honeywell SA-6 South
PROJECT NO: 3480080011
BORING ID: 134-SB-086
DATE BEGAN: 4/23/10
DATE FINISHED: 4/23/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	S-4	NA	4		11.3 - 12.0' No recovery	0	
						12.0 - 12.5' FILL: Gray silt (possible COPR)		
	13.0					12.5 - 15.9' OL: Black clayey silt, trace organics; firm, wet		
	14.0							
	15.0							Sample collected 134-SB-086-1416 from 15.0-15.5' bgs @08:45
						15.9 - 16.0' PT: Peat; end of boring 16'		
	16.0							

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-087
DATE BEGAN: 4/30/10
DATE FINISHED: 4/30/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.0' FILL: Fine to coarse sand, some clinker, fine to medium gravel, trace brick, silt, and wood; dry		
	1.0					1.0 - 1.2' FILL: Brown lens of silt, trace fine sand; firm		
						1.2 - 3.0' FILL: Fine to coarse sand with lenses of clay and silt		
	2.0							
	3.0					3.0 - 4.0' : No recovery		
	4.0	S-2	NA	4		4.0 - 8.0' FILL: Fine to coarse sand, with lenses of clay and silt; end of boring at 8'	0	
	5.0							
	6.0							
	7.0							
	8.0							Sample collected 134-SB-087-0608 from 7.5-8.0' bgs @11:55

PREPARED BY: MS
CHECKED BY: FP

MACTEC Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-088
DATE BEGAN: 4/30/10
DATE FINISHED: 4/30/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT	0	
						0.3 - 0.8' FILL: Silty fine to medium sand and fine to medium gravel, trace coal; loose, dry		
	1.0					0.8 - 1.5' FILL: Brown silty sand with fine to medium gravel, trace coal, and brick (black from 1.25-1.5'); dense, moist		
	2.0					1.5 - 3.5' FILL: Brown fine to medium sand with lenses of clay and silt; loose, wet at bottom		
	3.0							
						3.5 - 4.0' : No recovery		
	4.0	S-2	NA	4		4.0 - 7.8' FILL: Brown fine to medium sand, lens of brown silt from 6.25-6.5'; dense, wet	0	
	5.0							
	6.0							
								Sample collected 134-SB-088-0608 from 6.5-7.0' bgs @12:45
	7.0							
						7.8 - 8.0' FILL: Brown silty sand; very loose, wet		
	8.0	S-3	NA	1.5		8.0 - 9.5' FILL: Brown silty sand, trace shells; very loose, wet	0	
								Sample collected 134-SB-088-0810 from 8.5-9.0' bgs @12:50
	9.0							
						9.5 - 10.0' : No recovery; end of boring at 10'		
	10.0							

PREPARED BY: MS
CHECKED BY: FP

Honeywell Site 134 Old Dominion

SITE INFO: Honeywell SA-6 South
PROJECT NO: 3480080011
BORING ID: 134-SB-089
DATE BEGAN: 4/30/10
DATE FINISHED: 4/30/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.75		0.0 - 0.3' ASPHALT	0	
						0.3 - 1.8' FILL: Brown silty sand with fine to medium gravel, trace coal; loose, dry		
	1.0							
	2.0					1.8 - 2.8' FILL: Brown silty sand, some clay, trace brick; loose, wet		
	3.0					2.8 - 4.0' : No recovery		
	4.0	S-2	NA	3.75		4.0 - 7.0' FILL: Brown fine to medium sand, trace fine to medium gravel, lens of clay from 6.0-6.25; loose, wet	0	
	5.0							
	6.0							Sample collected 134-SB-089-0608 from 7.0-7.5' bgs @11:45
	7.0					7.0 - 7.8' FILL: Brown silty fine to medium sand; loose, wet		
	8.0					7.8 - 8.0' : No recovery; end of boring at 8'		

PREPARED BY: MS
CHECKED BY: FP

Honeywell Study Area-6 South

SITE INFO: Site 134 Old Dominion
PROJECT NO: 3480050143
BORING ID: 134-SB-090
DATE BEGAN: 4/30/10
DATE FINISHED: 4/30/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.3' : Topsoil, grass	0	
						0.3 - 1.0' FILL: Concrete		
	1.0					1.0 - 1.3' FILL: Black fine to coarse sand, some clinker, trace coal		
	2.0					1.3 - 1.5' FILL: Gray fine silt (possible COPR)		
						1.5 - 1.6' FILL: Concrete		
	3.0					1.6 - 1.8' FILL: Fine to coarse sand, some clinker; loose, moist		
						1.8 - 1.9' FILL: Black clayey silt, some fine sand; loose, moist		
	4.0	S-2	NA	3.5		1.9 - 2.0' FILL: Brown silt	0	
						2.0 - 2.2' FILL: Brown fine to medium sand		
	5.0					2.2 - 2.5' FILL: Brown lens of silt; dense		
						2.5 - 4.0' FILL: Brown fine to medium sand and lenses of silt, trace organics; loose, wet at 3.5'		
	6.0					4.0 - 7.5' FILL: Brown fine to medium sand, lens of silt, trace clay; loose, wet		
	7.0							Sample collected 134-SB-090-0608 from 7.0-7.5' bgs @12:25
						7.5 - 10.0' : No recovery; end of boring at 10'		
	8.0	S-3	NA	0				
	9.0							
	10.0							

PREPARED BY: MS
CHECKED BY: FP

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-091
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' FILL: Brown silty sand; moist	0	+4-0 Slab for teal building (No recovery)
						0.5 - 2.0' FILL: Concrete		
	1.0							
	2.0					2.0 - 4.0' No recovery		
	3.0							
	4.0	S-2	NA	3.0		4.0 - 4.5' FILL: Red brown silt; moist	0	
						4.5 - 7.0' FILL: Light brown fine to medium sand, lenses of red brown silt		
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 9.0' FILL: Light brown fine to medium sand, lenses of red brown silt	0	
	9.0					9.0 - 9.5' FILL: Light gray silt; potential COPR		Sample collected 134-SB-091-0810 from 9.0-9.5' @14:05
						9.5 - 10.5' FILL: Red brown silt; dense		
	10.0							
						10.5 - 11.0' FILL: Black/light brown clayey silt		

PREPARED BY: MS
CHECKED BY: FP

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-091
DATE BEGAN: 5/24/10
DATE FINISHED: 5/24/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	S-4	NA	3.0		11.0 - 12.0' No recovery	0	Sample collected 134-SB-091-1214 from 12.5-13.0' @14:10
	12.0					12.0 - 13.0' FILL: Black/light brown clayey silt, light green mottling		
	13.0					13.0 - 14.0' FILL: Black clayey silt, organics		
	14.0					14.0 - 14.8' FILL: Black clayey silt		Sample collected 134-SB-091-1416 from 14.0-14.5' @14:15 HOLD
						14.8 - 15.0' PT: Peat		
	15.0					15.0 - 16.0' No recovery; end of boring at 16.0' bgs.		
	16.0							

PREPARED BY: MS
CHECKED BY: FP

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-092
DATE BEGAN: 5/25/10
DATE FINISHED: 5/25/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.8' ASPHALT: Asphalt, gravel	0	
	1.0					0.8 - 1.8' FILL: Black silt, trace fine to medium gravel; dense; moist		
	2.0					1.8 - 2.0' FILL: Concrete		
						2.0 - 2.3' FILL: Black silt		
	3.0					2.3 - 3.5' FILL: Red silty sand; moderate dense; wet		
						3.5 - 3.8' FILL: Dark brown fine to medium silty sand, trace clinker, trace coal; firm; moist		
	4.0					3.8 - 4.0' No recovery		
		S-2	NA	2.0		4.0 - 5.0' FILL: Brown silty clay, trace fine sand; firm; wet	0	
	5.0					5.0 - 5.5' FILL: Black fine to medium sand; loose; wet		Sample collected 134-SB-092-0406 from 5.0-5.5' @8:10
						5.5 - 6.0' FILL: Gray/brown fine to medium sand; loose; wet; end of boring at 6.0' bgs.		
	6.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-093
DATE BEGAN: 5/25/10
DATE FINISHED: 5/25/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.8' ASPHALT: Asphalt, gravel	0	
	1.0					0.8 - 2.8' FILL: Reddish brown silty fine to medium sand, trace fine to medium gravel, trace clay, trace coal; dense; moist		
	2.0							
	3.0					2.8 - 3.3' FILL: Dark brown/black silty fine to medium sand, some clinker, coal, fine to medium gravel,; dense; moist		
	4.0	S-2	NA	3.0		3.3 - 4.0' No recovery	0	
	5.0					4.0 - 7.0' FILL: Brown fine to medium clayey sand, some silt, trace fine gravel; moderate dense; wet		
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 9.3' FILL: Reddish brown fine to medium sand; wet	0	
	9.0					9.3 - 11.0' FILL: Brown/black silty clay, trace organics; firm; wet		Sample collected 134-SB-093-0810 from 9.0-9.5' @7:45
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	3.5		12.0 - 13.0' FILL: Reddish brown silt, trace fine sand	0	
	13.0					13.0 - 13.5' FILL: Greenish gray silt; COPR		Sample collected 134-SB-093-1214 from 13.0-13.5' @7:50; DUP at 7:52
	14.0					13.5 - 15.3' OL: Black silty clay; firm; wet		
	15.0					15.3 - 15.5' PT: Brown peat; moist		Sample collected 134-SB-093-1416 from 15.0-15.5' @7:55
	16.0					15.5 - 16.0' No recovery; end of boring at 16.0' bgs.		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-094
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt, gravel	0	
	1.0					0.8 - 1.5' FILL: Dark brown/gray silty sand, gravel, coal		
	2.0					1.5 - 2.8' FILL: Red brown silt, brick		
	3.0					2.8 - 3.0' FILL: Red brown silt, fine to coarse gravel		
						3.0 - 4.0' No recovery		
	4.0	S-2	NA	2.0		4.0 - 5.0' FILL: Light brown silt, trace fine sand	0	Sample collected 134-SB-094-0406 from 4.5-5.0' @7:55
	5.0					5.0 - 6.0' FILL: Light brown fine to medium sand; wet; end of boring at 6.0' bgs.		
	6.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-095
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: NE
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.3' ASPHALT: Asphalt, gravel	0	
	1.0					1.3 - 2.3' FILL: Concrete		
	2.0					2.3 - 3.0' FILL: Dark brown silty fine sand, some coal, clinker, trace medium gravel; medium dense; moist		
	3.0					3.0 - 3.5' FILL: Brown clayey silt; dense; moist		Sample collected 134-SB-095-0204 from 3.0-3.5' @8:10
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.75		4.0 - 4.5' FILL: Dark brown fine to medium silty sand, trace brick, some fine gravel; loose; moist	0	
						4.5 - 4.6' FILL: Concrete		
	5.0					4.6 - 7.8' FILL: Brown fine to medium sand, lenses of silty clay, trace organics, trace fine gravel; medium dense; moist		Sample collected 134-SB-095-0406 from 5.0-5.5' @8:15
	6.0							
	7.0							Sample collected 134-SB-095-0608 from 7.0-7.5' @8:20
	8.0					7.8 - 8.0' No recovery; end of boring at 8.0' bgs.		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-096
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt, gravel	0	
	1.0					1.0 - 1.3' FILL: Concrete, brick		
						1.3 - 3.0' FILL: Dark brown silt, some brick, trace fine brown sand; loose; moist		
	3.0					3.0 - 4.0' No recovery		Sample collected 134-SB-096-0204 from 3.0-3.5' @8:30
	4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Brown silty clay; dense; moist	0	
						4.5 - 7.5' FILL: Brown fine to medium sand, trace lenses of silty clay, trace fine gravel, trace organics; loose; wet		Sample collected 134-SB-096-0406 from 4.5-5.0' @8:35
	5.0							
	6.0							Sample collected 134-SB-096-0608 from 6.5-7.0' @8:40
	7.0							
						7.5 - 8.0' No recovery; end of boring at 8.0' bgs.		
	8.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-097
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.8' ASPHALT: Asphalt, gravel	0	
	1.0					0.8 - 2.0' FILL: Reddish brown fine to medium sand, some fine to medium gravel, some glass, trace silt and clay; loose; gravel in tip		Sample collected 134-SB-097-0002 from 1.5-2.0' @8:45
	2.0					2.0 - 4.0' No recovery		
	3.0							
	4.0	S-2	NA	3.0		4.0 - 4.5' FILL: Red brown silt, trace fine sand	0	
	5.0					4.5 - 6.0' FILL: Light brown/brown fine sand, red brown silt lenses, fine gravel; wet		Sample collected 134-SB-097-0406 from 4.5-5.0' @8:50
	6.0					6.0 - 7.0' FILL: Light brown/brown fine sand; wet		Sample collected 134-SB-097-0608 from 6.5-7.0' @8:55
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 9.5' FILL: Light brown fine to medium sand; wet	0	Sample collected 134-SB-097-0810 from 8.5-9.0' @9:00
	9.0							
	10.0					9.5 - 11.0' FILL: Light brown fine to coarse sand, trace fine gravel; wet		
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	1.5		12.0 - 13.5' FILL: Brown/light brown fine to coarse sand, lenses of red brown silt; wet	0	Sample collected 134-SB-097-1214 from 12.5-13.0' @9:05
	13.0					13.5 - 14.0' No recovery; end of boring at 14.0' bgs.		
	14.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-098
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.3' ASPHALT: Asphalt, gravel	0	
	1.0					0.3 - 2.5' FILL: Brown fine to medium silty sand, some fine to medium gravel and brick; loose		Sample collected 134-SB-098-0002 from 1.0-1.5' @9:10
	2.0					2.5 - 2.8' FILL: Brick		
	3.0					2.8 - 3.8' FILL: Brown fine to medium sand, lenses of red brown and light brown silt, trace coal		Sample collected 134-SB-098-0204 from 3.0-3.5' @9:15
	4.0	S-2	NA	4.0		3.8 - 4.0' No recovery	0	
	5.0					4.0 - 4.3' FILL: Brown fine to medium sand, lenses of red brown and light brown silt, trace coal		Sample collected 134-SB-098-0406 from 4.5-5.0' @9:20
	6.0					4.3 - 8.0' FILL: Brown fine to medium sand, trace lenses of brown silty clay, red brown silty clay; loose; wet		
	7.0							Sample collected 134-SB-098-0608 from 7.0-7.5' @9:25
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Gray/brown fine to medium sand, trace lenses of brown silty clay, red brown silty clay; loose; wet	0	Sample collected 134-SB-098-0810 from 8.0-8.5' @9:30
	9.0							
	10.0							Sample collected 134-SB-098-1012 from 10.0-10.5' @9:35
	11.0					10.5 - 12.0' No recovery		
	12.0	S-4	NA	1.5		12.0 - 13.5' FILL: Gray/brown fine to medium sand, trace lenses of brown silty clay, red brown silty clay; loose; wet	0	Sample collected 134-SB-098-1214 from 12.5-13.0' @9:40
	13.0					13.5 - 14.0' No recovery; end of boring at 14.0' bgs.		
	14.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-099
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
						0.5 - 1.0' FILL: Dark brown silty sand, coal, glass		
	1.0					1.0 - 1.5' FILL: Dark brown silt, light yellow fine to coarse sand, trace clinker		Sample collected 134-SB-099-0002 from 1.0-1.5' @10:20
	2.0					1.5 - 2.3' FILL: Dark brown silt with fine to coarse sand, light yellow fine to coarse sand, trace clinker		
	3.0					2.3 - 3.0' FILL: Red brown fine to medium sand, brick		Sample collected 134-SB-099-0204 from 3.0-3.5' @10:25
						3.0 - 3.5' FILL: Red brown/light brown silt		
	4.0	S-2	NA	3.5		3.5 - 4.0' No recovery	0	
						4.0 - 4.5' FILL: Red brown/light brown silt, black clayey silt; moist		Sample collected 134-SB-099-0406 from 4.5-5.0' @10:30
	5.0					4.5 - 7.5' FILL: Light brown/brown fine to coarse sand, lenses of red brown silt throughout; wet		
	6.0							
	7.0							Sample collected 134-SB-099-0608 from 7.0-7.5' @10:35; DUP at 10:37
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	3.5		8.0 - 9.3' FILL: Light brown/brown fine to coarse sand, lenses of red brown silt throughout; wet	0	
	9.0							Sample collected 134-SB-099-0810 from 8.5-9.0' @10:40
						9.3 - 11.0' FILL: Light brown clayey silt; soft; saturated		
	10.0							

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-099
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	S-4	NA	3.5		11.0 - 11.5' FILL: Light brown/red brown silt, trace fine sand; wet	0	Sample collected 134-SB-099-1012 from 11.0-11.5' @10:45
	12.0					11.5 - 12.0' No recovery		
						12.0 - 13.5' FILL: Brown/light gray clayey silt; very moist		
	13.0							Sample collected 134-SB-099-1214 from 13.0-13.5' @10:50
						13.5 - 14.0' FILL: Brown/light gray clayey silt, organics; very moist		
	14.0					14.0 - 14.8' OL: Black clayey silt; very moist		
						14.8 - 15.3' OL: Gray clayey silt, organics; very moist		Sample collected 134-SB-099-1416 from 14.5-15.0' @10:55
	15.0					15.3 - 15.5' PT: Brown peat; moist		
	16.0					15.5 - 16.0' No recovery; end of boring at 16.0' bgs.		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-100
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
						0.5 - 1.0' FILL: Dark brown silty sand, gravel, glass		
	1.0					1.0 - 2.0' FILL: Black silt, fine to medium sand, trace coal		Sample collected 134-SB-100-0002 from 1.5-2.0 @11:00
	2.0					2.0 - 2.5' FILL: Dark brown silty sand, clinker, gravel; wet		
	3.0					2.5 - 3.5' FILL: Red brown fine to coarse sand, silt, brick		Sample collected 134-SB-100-0204 from 3.0-3.5' @11:05
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Light brown clayey silt, trace organics; moist	0	Sample collected 134-SB-100-0406 from 4.5-5.0' @11:10
▽	5.0					5.0 - 7.0' FILL: Light brown fine to coarse sand; wet		
	6.0							Sample collected 134-SB-100-0608 from 6.5-7.0' @11:15; DUP at 11:17
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 8.5' FILL: Light brown fine to coarse sand; silt	0	Sample collected 134-SB-100-0810 from 8.0-8.5' @11:20
						8.5 - 10.5' FILL: Light brown fine to coarse sand		
	9.0							
	10.0							Sample collected 134-SB-100-1012 from 10.0-10.5' @11:25
						10.5 - 12.0' FILL: No recovery		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-100
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	S-4	NA	3.5		12.0 - 13.5' FILL: Light brown silt; loose; saturated	0	Sample collected 134-SB-100-1214 from 13.0-13.5' @11:30
	12.0							
	13.0					13.5 - 14.0' FILL: Light brown clayey silt; very moist		
	14.0					14.0 - 15.0' OL: Black clayey silt; moist		
	15.0					15.0 - 15.5' PT: Dark brown peat; moist		Sample collected 134-SB-100-1416 from 15.0-15.5' @11:35
	16.0					15.5 - 16.0' No recovery; end of boring at 16.0' bgs.		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-101
DATE BEGAN: 8/6/10
DATE FINISHED: 8/6/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt, gravel	0	
	1.0					1.0 - 3.0' FILL: Red brown silt; gravel, brick, trace coal		
	2.0							
	3.0					3.0 - 3.5' FILL: Red brown silt; gravel, brick, concrete, trace coal		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine san, trace silt; wet	0	
	5.0							
	6.0							
	7.0					7.0 - 7.5' FILL: Black clayey silt; wet		Sample collected 134-SB-101-0002 from 7.0-7.5 @8:00
	8.0					7.5 - 8.0' No recovery; end of boring at 8.0' bgs.		

PREPARED BY: MD
CHECKED BY: BS

Honeywell SA-6 South

SITE INFO: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-111
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt, gravel	0	
						0.5 - 3.0' FILL: Brown silt, gravel, trace coal		
	1.0							
	2.0							
	3.0					3.0 - 3.5' FILL: Red brown clayey silt, lenses of fine to medium sand; wet		
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, gravel from 4.0 - 6.0'; wet	0	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery; end of boring at 8.0' bgs.		Sample collected 134-SB-111-0608 from 6.5-7.0' @8:45
	8.0							

PREPARED BY: MS
CHECKED BY: FP

Honeywell SA-6 South

LOCATION: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-112
DATE BEGAN: 3/25/2011
DATE FINISHED: 3/25/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 3.25 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.5' ASPHALT	0	
						0.5 - 1.5' FILL: Brown fine to medium silty sand, some fine to medium gravel, trace organic material; dense, moist		
	1.0							
						1.5 - 3.3' FILL: Reddish brown fine to medium silty sand, trace coal, brick and organic material; dense, wet @ 3.25'		
	2.0							
	3.0							
						3.3 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Reddish brown clayey silt, trace organic material and fine sand; wet	0	
	5.0					5.0 - 6.5' FILL: Grey silt; soft, wet		
	6.0							
						6.5 - 7.0' FILL: Greyish brown fine to medium sand; loose, wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	1.5		8.0 - 9.0' FILL: Greyish brown fine to medium sand; loose, wet	0	Sample collected 134-SB-112-0810 from 8.5-9.0' @ 9:12; DUP @ 9:15
	9.0					9.0 - 9.5' FILL: Greyish brown fine silty sand; loose, wet		
	10.0					9.5 - 10.0' No recovery; end of boring @ 10.0'		

PREPARED BY: MD
CHECKED BY: JB

Honeywell SA-6 South

LOCATION: Honeywell Site 134
PROJECT NO: 3480050143
BORING ID: 134-SB-113
DATE BEGAN: 3/25/2011
DATE FINISHED: 3/25/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: G. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.5' ASPHALT	0	
	1.0					0.5 - 0.8' CONCRETE		
	2.0					0.8 - 2.8' FILL: Reddish grey to grey silt, some fine sand, trace fine to medium gravel and organic material; dense, moist		
	3.0					2.8 - 3.0' FILL: Dark grey fine to medium sand, some clinker and coal		
	4.0	S-2	NA	4.0		3.0 - 3.3' FILL: Reddish brown silty clay, trace fine gravel; dense, wet	0	
	5.0					3.3 - 4.0' No recovery		
	6.0					4.0 - 5.5' FILL: Reddish brown silt, trace clay; dense, wet		
	7.0					5.5 - 9.5' FILL: Greyish brown fine to medium sand, lenses of reddish brown silty clay, trace fine gravel; loose, wet		
	8.0	S-3	NA	2.5			0	
	9.0							
	10.0					9.5 - 10.5' FILL: Reddish brown silt; soft, wet		
	11.0					10.5 - 12.0' No recovery		
	12.0	S-4	NA	4.0		12.0 - 12.5' FILL: Reddish brown silt; soft, wet	0	
	13.0					12.5 - 13.5' FILL: Greenish grey silt (COPR)		
	14.0					13.5 - 15.8' OL: Dark grey silt		
	15.0							Sample collected 134-SB-113-1416 from 15.5-16.0' @ 9:55
	16.0					15.8 - 16.0' PT: Peat; end of boring @ 16.0'		

PREPARED BY: MD
CHECKED BY: JB

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-114
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 1.0' FILL: Dark brown fine to medium silty sand, some coal, fine to medium gravel, trace red silty sand, clinker, rubber; moist, dense	0	Sample collected 134-SB-114-0002 from 0.5 - 1.0' bgs @ 8:52
	-1.0					1.0 - 1.3' CONCRETE: Degraded		
	-2.0					1.3 - 1.5' FILL: Dark brown silty clay; moist, firm		Sample collected 134-SB-114-0204 from 2.5 - 3.0' bgs @ 8:55
	-3.0					1.5 - 2.0' FILL: Reddish brown fine to medium silty sand; moist, loose		
	-4.0			4.0		2.0 - 3.0' FILL: Reddish brown silty clay, lenses of fine to medium sand, moist, firm		Sample collected 134-SB-114-0406 from 4.5 - 5.0' bgs @ 9:00
	-5.0					3.0 - 4.0' No recovery		
	-6.0					4.0 - 6.0' FILL: Reddish brown silty clay, lenses of fine to medium sand, wet, firm		Sample collected 134-SB-114-0608 from 7.5 - 8.0' bgs @ 9:03 Petroleum odor and sheen
	-7.0					6.0 - 7.5' FILL: Brown fine to medium sand; wet, loose		Sample collected 134-SB-114-0810 from 8.5 - 9.0' bgs @ 9:06
	-8.0			2.5		7.5 - 8.0' OL: Black silt, wet, very soft (sheen)		
	-9.0					8.0 - 10.5' OL: Black silty, trace organics at bottom; wet, loose		Sample collected 134-SB-114-1012 from 10.0 - 10.5' bgs @ 9:08
	-10.0					10.5 - 12.0' No recovery		
	-11.0							
	-12.0			3.0		12.0 - 13.5' ML: Reddish brown fine silty sand; wet, loose		Sample collected 134-SB-114-1214 from 12.5 - 13.0' bgs @ 9:20
	-13.0					13.5 - 15.0' OH: Brown silty clay; wet, moderately firm		Sample collected 134-SB-114-1416 from 14.0 - 14.5' bgs @ 9:22
	-14.0							
	-15.0					15.0 - 16.0' No recovery		
	-16.0			3.0				Sample collected 134-SB-

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-114
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-16.0			3.0		16.0 - 17.0' OH: Black clay; wet, firm		Sample collected 134-SB-114-1618 from 16.0 - 16.5' bgs @ 9:30
	-17.0					17.0 - 19.0' PT: Brown peat, trace brown clay; moist, firm		
	-18.0							
	-19.0					19.0 - 20.0' No recovery, end of boring @ 20.0' bgs		
	-20.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-115
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.25		0.0 - 0.3' ASPHALT	0	
	-1.0					0.3 - 2.0' FILL: Dark brown fine to medium sand, some fine to medium gravel, coal, ash, black glass fragments, trace brick; moist, moderate dense		Sample collected 134-SB-115-0002 from 1.5 - 2.0' bgs @ 9:54
	-2.0							
	-3.0					2.0 - 3.3' FILL: Reddish-brown silt, some fine to medium sand, firm, moist		Sample collected 134-SB-115-0204 from 2.5 - 3.0' bgs @ 9:56
	-4.0					3.3 - 4.0' No recover		
				3.5		4.0 - 4.8' FILL: Black fine to medium silty sand, ash, coal, black glass fragments; wet, loose		Sample collected 134-SB-115-0406 from 4.5 - 5.0' bgs @ 10:00
	-5.0							
	-6.0					4.8 - 7.5' FILL: Brown silt, some fine sand, trace fine to medium gravel; wet, firm		
	-7.0							Sample collected 134-SB-115-0608 from 7.0 - 7.5' bgs @ 10:02
	-8.0					7.5 - 8.0' No recovery		
				4.0		8.0 - 12.0' FILL: Brown fine to medium sand, trace fine to medium gravel, silt, shells, lenses of still reddish clay; wet, moist		Sample collected 134-SB-115-0810 from 9.0 - 9.5' bgs @ 10:04
	-9.0							
	-10.0							
	-11.0							Sample collected 134-SB-115-1012 from 11.5 - 12.0' bgs @ 10:06
	-12.0			4.0		12.0 - 16.0' FILL: Brown fine to medium sand, trace fine to medium gravel, silt, shells, lenses of still reddish clay; wet, moist		Sample collected 134-SB-115-1214 from 13.0 - 13.5' bgs @ 10:08
	-13.0							
	-14.0							
	-15.0							Sample collected 134-SB-115-1416 from 15.5 - 16.0'
	-16.0			3.5				

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-115
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-16.0			3.5		16.0 - 17.3' CL: Brown silty clay; wet, moderate firm		bgs @ 10:10 Sample collected 134-SB-115-1618 from 16.0 - 16.5' bgs @ 10:15
	-17.0					17.3 - 17.5' OL: Black clay; moist, firm		
	-18.0					17.5 - 19.5' PT: Brown peat, dark brown clay; firm moist		
	-19.0					19.5 - 20.0' No recovery, end of boring @ 20.0' bgs		
	-20.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-116
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 19ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.3' ASPHALT	0	Creosote odor
						0.3 - 0.8' FILL: Red silt; moist, firm		Sample collected 134-SB-116-0002 from 1.5 - 2.0' bgs @ 10:32
						0.8 - 1.3' FILL: Wood		
	-1.0					1.3 - 2.3' FILL: Dark brown fine to medium sand, ash, black glass fragments, trace coal, moist		Sample collected 134-SB-116-0204 from 3.0 - 3.5' bgs @ 10:34
	-2.0							
	-3.0			3.75		2.3 - 3.5' FILL: Reddish brown silt, lenses of fine to medium brown sand, trace organics; moist, firm		Sample collected 134-SB-116-0406 from 4.0 - 4.5' bgs @ 10:36
	-4.0					3.5 - 4.0' No recovery		
	-5.0					4.0 - 4.8' FILL: Brown fine to coarse sand, some silt; wet, very loose		Sample collected 134-SB-116-0608 from 6.5 - 7.0' bgs @ 10:38
	-6.0							
	-7.0			4.0		4.8 - 7.8' FILL: Greyish brown fine to medium sand, trace lenses of clayey silt; wet, moderate dense		Sample collected 134-SB-116-0810 from 8.5 - 9.0' bgs @ 10:40
	-8.0					7.8 - 8.0' No recovery		
	-9.0					8.0 - 12.0' FILL: Greyish brown fine to medium sand, trace lenses of clayey silt; wet, moderate dense		Sample collected 134-SB-116-1012 from 11.0 - 11.5' bgs @ 10:42
	-10.0							
	-11.0			4.0		12.0 - 15.0' FILL: Greyish brown fine to medium sand, trace shells; wet, loose		Sample collected 134-SB-116-1214 from 12.5 - 13.0' bgs @ 10:50
	-12.0							
	-13.0							
	-14.0					15.0 - 15.5' ML: Reddish brown silt; wet, firm		Sample collected 134-SB-116-1416 from 15.0 - 15.5' bgs @ 10:52
	-15.0					15.5 - 16.0' OH: Black silty clay; wet, firm		
	-16.0			2.0		16.0 - 17.0' OH: Black silty clay; wet, firm		Sample collected 134-SB-116-1618 from 16.0 - 16.5' bgs @ 11:00
	-17.0					17.0 - 18.0' PT: Brown peat, brown clay; moist, firm		
	-18.0					18.0 - 19.0' No recovery; end of boring @ 19.0' bgs		
	-19.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-117
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 19ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 1.0' FILL: Red silt, firm, moist	0	Sample collected 134-SB-117-0002 from 0.5 - 1.0' bgs @ 11:22
	-1.0					1.0 - 1.5' FILL: Dark brown, fine to medium silty sand, fine to medium gravel, coal, wet, loose		
	-2.0					1.5 - 3.0' FILL: Reddish brown silt with lenses of fine to medium grayish brown sand, trace fine to medium gravel, firm, moist		Sample collected 134-SB-117-0204 from 2.5 - 3.0' bgs @ 11:24
	-3.0							
	-4.0			4.0		3.0 - 4.0' No recovery		Sample collected 134-SB-117-0406 from 4.5 - 5.0' bgs @ 11:26
	-5.0					4.0 - 8.0' FILL: Grayish brown fine to coarse sand turning fine to medium with lenses of reddish brown clayey silt, trace shells, wet, moderately dense		
	-6.0							
	-7.0							Sample collected 134-SB-117-0608 from 7.0 - 7.5' bgs @ 11:28
	-8.0			4.0		8.0 - 12.0' FILL: Greyish brown fine to medium sand, trace lenses of clayey silt; wet, moderate dense		Sample collected 134-SB-117-0810 from 8.5 - 9.0' bgs @ 11:31
	-9.0							
	-10.0							
	-11.0							Sample collected 134-SB-117-1012 from 11.0 - 11.5' bgs @ 11:33
	-12.0			2.0		12.0 - 14.0' FILL: Greyish brown fine to medium sand, trace shells; wet, loose		Sample collected 134-SB-117-1214 from 12.5 - 13.0' bgs @ 11:37
	-13.0							
	-14.0					14.0 - 16.0' No recovery		
	-15.0							
	-16.0			3.0				

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-117
DATE BEGAN: 6/20/2011
DATE FINISHED: 6/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 19ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-16.0			3.0		16.0 - 17.0' OH: Black silty clay; wet, firm		Sample collected 134-SB-117-1618 from 16.5 - 17.0' bgs @ 11:50
	-17.0					17.0 - 18.5' PT: Brown peat, brown clay; fine to medium dark gray sand, moist, firm		
	-18.0					18.5 - 19.0' No recovery; end of boring @ 19.0' bgs		
	-19.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-118
DATE BEGAN: 6/22/2011
DATE FINISHED: 6/22/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	4.0		0.0 - 0.3' ASPHALT	0	Sample collected 134-SB-118-0002 from 0.5 - 1.0' bgs @ 7:38
	-1.0					0.3 - 0.5' FILL: Dark grey fine to medium sand, fine to medium gravel; moist, loose		
	-2.0					0.5 - 4.0' FILL: Reddish brown silt, some fine sand, fine to medium gravel; moist, dense		Sample collected 134-SB-118-0204 from 3.5 - 4.0' bgs @ 7:40
	-3.0							
	-4.0			4.0		4.0 - 8.0' FILL: Reddish brown fine to medium silty sand, lenses of silty clay, trace fine to medium gravel and shells; wet, dense		Sample collected 134-SB-118-0406 from 4.5 - 5.0' bgs @ 7:42; Dup @ 7:43
	-5.0							
	-6.0							
	-7.0							
	-8.0			4.0		8.0 - 12.0' FILL: Greyish brown fine to medium sand, lenses of clay, trace shells; wet, loose		Sample collected 134-SB-118-0608 from 7.5 - 8.0' bgs @ 7:45
	-9.0							Sample collected 134-SB-118-0810 from 9.0 - 9.5' bgs @ 7:47
	-10.0							
	-11.0							Sample collected 134-SB-118-1012 from 11.0 - 11.5' bgs @ 7:49
	-12.0			4.0		12.0 - 16.0' FILL: Greyish brown fine to medium sand, trace shells; wet, loose		Sample collected 134-SB-118-1214 from 12.5 - 13.0' bgs @ 8:04
	-13.0							
	-14.0							
	-15.0							Sample collected 134-SB-118-1416 from 15.5 - 16.0' bgs @ 8:06
	-16.0			2.0		16.0 - 16.5' OL: Dark brown silty clay; wet, loose		
	-17.0					16.5 - 17.0' PT: Brown peat, dark brown clay; moist, firm		Sample collected 134-SB-118-1618 from 16.0 - 16.5' bgs @ 8:17
	-18.0					17.0 - 18.0' SW: Brown fine to medium sand, some organics; moist, loose; end of boring @ 18.0' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-119
DATE BEGAN: 6/22/2011
DATE FINISHED: 6/22/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.3' ASPHALT	0	Sample collected 134-SB-119-0002 from 1.0 - 1.5' bgs @ 8:29
	-1.0					0.3 - 1.5' FILL: Red fine to medium silty sand, trace coal and fine gravel; moist, dense		Sample collected 134-SB-119-0204 from 3.5 - 4.0' bgs @ 8:31
	-2.0							
	-3.0					1.5 - 3.5' FILL: Reddish brown fine to medium sand, trace silt, layer of red silty clay @ bottom; moist, dense		
	-4.0			4.0		3.5 - 4.0' No recovery		Sample collected 134-SB-119-0406 from 4.0 - 4.5' bgs @ 8:39
	-5.0					4.0 - 6.0' FILL: Reddish brown fine to coarse sand, lenses of red silty stiff clay; wet, loose		
	-6.0							Sample collected 134-SB-119-0608 from 6.0 - 6.5' bgs @ 8:41
	-7.0					6.0 - 8.0' FILL: Greyish brown fine to medium sand, nodules of dark brown silty clay; wet, loose		
	-8.0			3.0				
	-9.0					8.0 - 11.0' FILL: Greyish brown fine to medium sand; wet, very loose		Sample collected 134-SB-119-0810 from 8.5 - 9.0' bgs @ 8:43
	-10.0							
	-11.0					11.0 - 12.0' No recovery		Sample collected 134-SB-119-1012 from 10.5 - 11.0' bgs @ 8:45; Dup @ 8:47
	-12.0			4.0		12.0 - 15.5' OH: Black clay; wet, soft		
	-13.0							Sample collected 134-SB-119-1214 from 12.5 - 13.0' bgs @ 8:57
	-14.0							
	-15.0					15.5 - 16.0' PT: Peat, dark brown clay; moist, soft; end of boring @ 16.0' bgs		Sample collected 134-SB-119-1416 from 15.0 - 15.5' bgs @ 8:59
	-16.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-120
DATE BEGAN: 6/22/2011
DATE FINISHED: 6/22/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 0.5' ASPHALT	0	
	-1.0					0.5 - 1.0' CONCRETE		
	-2.0					1.0 - 1.5' FILL: Red sandy silt; moist, firm		Sample collected 134-SB-120-0002 from 1.5 - 2.0' bgs @ 9:19
	-3.0					1.5 - 2.0' FILL: Dark grey fine to medium sand, black glass-like fragments, coal and ash; moist, dense		Sample collected 134-SB-120-0204 from 2.5 - 3.0' bgs @ 9:21
	-4.0			4.0		2.0 - 3.0' FILL: Reddish brown fine to medium sand; moist, dense		Sample collected 134-SB-120-0406 from 4.5 - 5.0' bgs @ 9:23
	-5.0					3.0 - 4.0' No recovery		
	-6.0					4.0 - 8.0' FILL: Greyish brown fine to medium sand, trace shells and lenses of reddish brown silty stif clay; wet, loose		Sample collected 134-SB-120-0608 from 7.0 - 7.5' bgs @ 9:25
	-7.0							Sample collected 134-SB-120-0810 from 8.5 - 9.0' bgs @ 9:35
	-8.0			4.0		8.0 - 12.0' FILL: Greyish brown fine to medium sand, trace shells and red silt @ bottom; moist, loose		Sample collected 134-SB-120-1012 from 11.5 - 12.0' bgs @ 9:37
	-9.0							Sample collected 134-SB-120-1214 from 12.5 - 13.0' bgs @ 9:46
	-10.0							Sample collected 134-SB-120-1416 from 15.0 - 15.5' bgs @ 9:48
	-11.0							
	-12.0			3.75		12.0 - 15.8' FILL: Greyish brown fine to medium sand, trace shells and red silt; moist, loose		
	-13.0							
	-14.0							
	-15.0							
	-16.0			2		15.8 - 16.0' No recovery		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/22/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/22/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 18 ft bgs
NORTH:

BORING ID: 134-SB-120
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 4' bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-16.0			2		16.0 - 17.0' FILL: Greyish brown fine to medium sand, trace shells and red silt; moist, loose		Sample collected 134-SB-120-1618 from 16.0 - 16.5' bgs @ 10:02
	-17.0					17.0 - 17.8' PT: Brown peat, brown clay; moist, firm		
	-18.0					17.8 - 18.0' SM: Dark brown fine to medium silty sand, some organics; moist; moderate dense; end of boring @ 18.0' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-121
DATE BEGAN: 6/22/2011
DATE FINISHED: 6/22/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.75		0.0 - 0.5' ASPHALT: Gravel	0	
	-1.0					0.5 - 1.5' FILL: Red fine to medium sand, fine to medium gravel, trace silt; dry dense		Sample collected 134-SB-121-0002 from 1.5 - 2.0' bgs @ 14:59
	-2.0					1.5 - 2.0' FILL: Dark grey fine to medium dark grey slity sand, coal, ash, black glass pummice-like material		Sample collected 134-SB-121-0204 from 3.0 - 3.5' bgs @ 15:01
	-3.0							
	-4.0			4.0		2.0 - 2.1' FILL: Brown silty clay; moist, firm		Sample collected 134-SB-121-0406 from 4.5 - 5.0' bgs @ 15:03
	-5.0					2.1 - 3.8' FILL: Greyish brown fine to medium sand, lenses of red silty stiff clay; moist, firm		
	-6.0					3.8 - 4.0' No recovery		
	-7.0					4.0 - 8.0' FILL: Greyish brown fine to medium sand, lenses of red silty stiff clay, trace shells; moist, firm		Sample collected 134-SB-121-0608 from 7.0 - 7.5' bgs @ 15:05
	-8.0			4.0				Sample collected 134-SB-121-0810 from 8.5 - 9.0' bgs @ 15:11
	-9.0					8.0 - 12.0' FILL: Grey brown fine to coarse sand, lenses of red silty stiff clay, trace silt; wet, soft		
	-10.0							
	-11.0							Sample collected 134-SB-121-1012 from 11.0 - 11.5' bgs @ 15:13
	-12.0			3.75				Sample collected 134-SB-121-1214 from 12.5 - 13.0' bgs @ 15:21
	-13.0					12.0 - 15.0' FILL: Grey brown fine to coarse sand, lenses of red silty stiff clay, trace silt; wet, soft		
	-14.0							
	-15.0					15.0 - 15.8' FILL: Reddish brown silt, trace clay; wet, moderate firm		Sample collected 134-SB-121-1416 from 15.0 - 15.5' bgs @ 15:23
	-16.0			2.0		15.8 - 16.0' No recovery		Sample collected 134-SB-121-1618 from 16.0 - 16.5 bgs @ 15:30
	-17.0					16.0 - 16.8' OL: Black clay; moist, firm		
	-18.0					16.8 - 18.0' PT: Brown peat, dark brown clay; moist, firm, End of boring @ 18' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-122
DATE BEGAN: 6/22/2011
DATE FINISHED: 6/22/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.3' ASPHALT	0	
	-1.0					0.3 - 0.5' FILL: Dark brown fine to medium silty sand; dry, dense		Sample collected 134-SB-122-0002 from 1.0 - 1.5' bgs @ 15:40
	-2.0					0.5 - 1.0' FILL: Red fine to medium silty sand, trace fine gravel; moist, dense		
	-3.0					1.0 - 2.3' FILL: Dark brown fine to medium silty sand, trace coal, fine to medium gravel, ash; moist, dense		Sample collected 134-SB-122-0204 from 3.0 - 3.5' bgs @ 15:42
	-4.0			4.0				
	-5.0					2.3 - 3.5' FILL: Reddish brown fine to medium sand, lenses of red silty firm clay; moist, dense		Sample collected 134-SB-122-0406 from 4.5 - 5.0' bgs @ 15:44
	-6.0					3.5 - 4.0' No recovery		
	-7.0					4.0 - 8.0' FILL: Reddish brown fine to medium sand, lenses of red silty firm clay; moist, dense		Sample collected 134-SB-122-0608 from 7.0 - 7.5' bgs @ 15:46
	-8.0			4.0				
	-9.0					8.0 - 12.0' FILL: Reddish brown fine to medium sand, lenses of red silty firm clay; wet, very loose		Sample collected 134-SB-122-0810 from 9.0 - 9.5' bgs @ 15:50
	-10.0							
	-11.0							
	-12.0			4.0		12.0 - 15.8' FILL: Reddish brown fine to medium sand, lenses of red silty firm clay; wet, very loose		Sample collected 134-SB-122-1012 from 11.5 - 12.0' bgs @ 15:52
	-13.0							Sample collected 134-SB-122-1214 from 13.0 - 13.5' bgs @ 16:04
	-14.0							
	-15.0					15.8 - 16.0' FILL: Reddish brown silty; wet, moderate firm		Sample collected 134-SB-122-1416 from 15.5 - 16.0' bgs @ 16:06
	-16.0			2.0		16.0 - 17.0' CL: Brown clay		
	-17.0					17.0 - 18.0' PT: Brown peat, dark brown clay; moist, firm; end of boring @ 18.0' bgs		Sample collected 134-SB-122-1618 from 16.5 - 17.0' bgs @ 16:17
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-123
DATE BEGAN: 6/23/2011
DATE FINISHED: 6/23/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.25		0.0 - 0.5' ASPHALT: Gravel, coal, ash, glass pumice-like material; moist, loose	0	
	-1.0					0.5 - 1.3' FILL: Red fine to medium slity sand, trace fine gravel; moist, dense		Sample collected 134-SB-123-0002 from 0.5 - 1.0' bgs @ 7:40
	-2.0					1.3 - 2.8' FILL: Brown fine to medium silty sand, fine gravel; wet, moderate dense		Sample collected 134-SB-123-0204 from 2.5 - 3.0' bgs @ 7:42
	-3.0					2.8 - 3.3' FILL: Reddish brown silty clay; wet, firm		
	-4.0			4.0		3.3 - 4.0' No recovery		Sample collected 134-SB-123-0406 from 4.5 - 5.0' bgs @ 7:44
	-5.0					4.0 - 8.0' FILL: Greyish brown fine to medium sand, lenses of red silty stiff clay; trace fine to medium gravel; wet, moderate dense		
	-6.0							
	-7.0							Sample collected 134-SB-123-0608 from 7.0 - 7.5' bgs @ 7:46
	-8.0			2.5		8.0 - 10.5' FILL: Greyish brown fine to medium sand, lenses of red silty stiff clay; trace fine to medium gravel and shells; wet, moderate dense		Sample collected 134-SB-123-0810 from 8.5 - 9.0' bgs @ 7:53
	-9.0							
	-10.0							Sample collected 134-SB-123-1012 from 10.0 - 10.5' bgs @ 7:55
	-11.0					10.5 - 12.0' No recovery		Organic odor from 10.0 - 10.5' bgs
	-12.0			2.0		12.0 - 13.8' FILL: Brown sandy silt; wet, very loose		
	-13.0							Sample collected 134-SB-123-1214 from 13.5 - 14.0' bgs @ 8:04
	-14.0					13.8 - 14.0' OH: Black clay; wet, firm		
	-15.0					14.0 - 16.0' No recovery		
	-16.0			2.0		16.0 - 17.3' OH: Black clay; moist, firm		Sample collected 134-SB-123-1618 from 16.5 - 17.0 bgs @ 8:14
	-17.0					17.3 - 18.0' PT: Brown peat, dark brown clay; moist, firm; end of boring @ 18.0' bgs		
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/23/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/23/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 17.5 ft bgs
NORTH:

BORING ID: 134-SB-124
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 5' bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.5' ASPHALT: Gravel	0	
	-1.0					0.5 - 2.5' FILL: Red fine to medium silty sand; moist, dense		Sample collected 134-SB-124-0002 from 1.0 - 1.5' bgs @ 10:52
	-2.0							
	-3.0					2.5 - 3.0' FILL: Red silt; moist, very firm		
	-4.0			4.0		3.0 - 3.5' FILL: Dark brown silty clay, trace organics; moist, firm		Sample collected 134-SB-124-0204 from 3.0 - 3.5' bgs @ 10:54
	-5.0					3.3 - 4.0' No recovery		
	-6.0					4.0 - 6.0' FILL: Reddish brown silt to brown silt with depth; moist, firm		Sample collected 134-SB-124-0406 from 5.5 - 6.0' bgs @ 10:58
	-7.0					6.0 - 8.0' FILL: Greyish brown fine to medium sand, trace silty and lenses of red silty clay; wet, loose		Sample collected 134-SB-124-0608 from 7.0 - 7.5' bgs @ 11:00
	-8.0			4.0				
	-9.0					8.0 - 12.0' FILL: Greyish brown fine to medium sand, trace silty and lenses of red silty clay; wet, loose		Sample collected 134-SB-124-0810 from 8.0 - 8.5' bgs @ 11:04
	-10.0							
	-11.0							Sample collected 134-SB-124-1012 from 10.5 - 11.0' bgs @ 11:04
	-12.0			4.0		12.0 - 14.0' FILL: Brown silt, grey clay from 12.5 - 12.7' bgs; wet, firm		
	-13.0							Sample collected 134-SB-124-1214 from 12.5 - 13.0' bgs @ 11:14
	-14.0					14.0 - 15.3' CL: Brown silt, moist, firm		
	-15.0							Sample collected 134-SB-124-1416 from 14.5 - 15.0' bgs @ 11:16
	-16.0					15.3 - 16.0' OH: Black clay; moist, firm		
	-17.0			1.5		16.0 - 17.5' PT: Peat, brown clay; moist, firm; end of boring @ 17.5' bgs		Sample collected 134-SB-124-1618 from 16.0 - 16.5 bgs @ 11:27; HOLD

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-125
DATE BEGAN: 6/23/2011
DATE FINISHED: 6/23/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.5' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	4.0		0.0 - 0.5' ASPHALT	0	
	-1.0					0.5 - 0.8' FILL: Yellow green medium to coarse sand, trace gravel; dry		Sample collected 134-SB-125-0002 from 0.5 - 1.0' bgs @ 9:19
	-2.0					0.8 - 2.0' FILL: Reddish brown fine to medium sand; moist		
	-3.0					2.0 - 2.5' FILL: Reddish brown clayey silt; moist		Sample collected 134-SB-125-0204 from 3.0 - 3.5' bgs @ 9:21
	-4.0			4.0		2.5 - 3.0' FILL: Coal, ash, medium to coarse; moist		
	-5.0					3.0 - 4.0' FILL: Reddish brown silty clay, trace fine to medium sand and gravel		Sample collected 134-SB-125-0406 from 4.5 - 5.0' bgs @ 9:26
	-6.0					4.0 - 4.5' FILL: Reddish brown silty fine sand; moist, dense		
	-7.0					4.5 - 4.6' FILL: Yellow fine to medium sand (COPR); dry dense		
	-8.0			3.0		4.6 - 8.0' FILL: Brown medium sand; wet, loose		Sample collected 134-SB-125-0608 from 7.5 - 8.0' bgs @ 9:28
	-9.0					8.0 - 11.0' FILL: Brown fine to medium sand, trace gravel and shells; wet, loose		Sample collected 134-SB-125-0810 from 9.0 - 9.5' bgs @ 9:30
	-10.0							
	-11.0					11.0 - 12.0' No recovery		Sample collected 134-SB-125-1012 from 10.5 - 11.0' bgs @ 9:32
	-12.0			3.0		12.0 - 13.0' FILL: Brown fine to medium sand, trace gravel and shells; wet, loose		
	-13.0					13.0 - 14.0' FILL: Reddish yellow fine to medium sand, trace gravel; wet, loose		Sample collected 134-SB-125-1214 from 13.5 - 14.0' bgs @ 9:38
	-14.0					14.0 - 15.0' FILL: Brown clay, brown fine to medium sand; loose, moist		Sample collected 134-SB-125-1416 from 14.5 - 15.0' bgs @ 9:40
	-15.0					15.0 - 16.0' No recovery		
	-16.0			2.0				

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/23/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/23/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 18 ft bgs
NORTH:

BORING ID: 134-SB-125
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 4.5' bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-16.0			2.0		16.0 - 17.0' OL: Dark brown silty clay; moist, medium firm		Sample collected 134-SB-125-1618 from 16.5 - 17.0 bgs @ 9:49
	-17.0					17.0 - 18.0' PT: Peat, dark clay; moist, firm; end of boring @ 18.0' bgs		
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/23/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/23/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 18 ft bgs
NORTH:

BORING ID: 134-SB-126
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 4.0 bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.3' ASPHALT	0	
	-1.0					0.0 - 0.8' CONCRETE		Sample collected 134-SB-126-0002 from 1.0 - 1.5' bgs @ 9:58
	-2.0					0.8 - 1.3' FILL: Red fine to medium silty sand, trace fine to medium gravel, degraded brick @ bottom; moist, dense		
	-3.0					1.3 - 3.5' FILL: Reddish brown silt, trace fine to medium sand; moist, dense		Sample collected 134-SB-126-0204 from 3.0 - 3.5' bgs @ 10:00
	-4.0			3.25		3.5 - 4.0' No recovery		
	-5.0					4.0 - 6.0' FILL: Reddish brown silt, trace fine to medium sand; wet, dense		Sample collected 134-SB-126-0406 from 4.5 - 5.0' bgs @ 10:02
	-6.0					6.0 - 7.3' FILL: Reddish brown fine to coarse silty sand, fine to medium gravel; wet moderate dense		
	-7.0					7.3 - 8.0' No recovery		Sample collected 134-SB-126-0608 from 6.5-7.0' bgs @ 10:04
	-8.0			3.0		8.0 - 8.5' FILL: Brown fine to medium silty sand; wet, loose		
	-9.0					8.5 - 9.5' FILL: Orange-red fine to meium sand; trace silt and fine to medium gravel; wet, loose		Sample collected 134-SB-126-0810 from 8.5 - 9.0' bgs @ 10:12
	-10.0					9.5 - 11.0' FILL: Brown clay; wet, soft		
	-11.0					11.0 - 12.0' No recovery		Sample collected 134-SB-126-1012 from 10.0 - 10.5' bgs @ 10:14
	-12.0			2.75		12.0 - 13.5' CL: Brown clay; wet, medium firm		
	-13.0					13.5 - 14.8' OH: Black clay; moist, firm		Sample collected 134-SB-126-1214 from 12.0 - 12.5' bgs @ 10:27
	-14.0					14.8 - 16.0' No recovery		Sample collected 134-SB-126-1416 from 14.0 - 14.5' bgs @ 10:29
	-15.0							
	-16.0			1.0		16.0 - 16.3' OH: Black clay, moist, firm		Sample collected 134-SB-

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-126
DATE BEGAN: 6/23/2011
DATE FINISHED: 6/23/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-16.0			1.0		16.3 - 18.0' PT: Peat, dark clay; moist, firm; end of boring @ 18.0' bgs		Sample collected 134-SB-126-1618 from 16.0 - 16.5 bgs @ 10:30; Hold
	-17.0							
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-127
DATE BEGAN: 6/24/2011
DATE FINISHED: 6/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 8.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.5' ASPHALT: Gravel	0	
	-1.0					0.5 - 2.8' FILL: Red sandy silt, less sand with depth, fine to medium gravel, trace coal; dry, dense		Sample collected 134-SB-127-0002 from 1.5 - 2.0' bgs @ 11:26
	-2.0							
	-3.0					2.8 - 3.5' FILL: Dark greyish brown/brown silt, some fine sand, wood, fine to medium gravel; moist, stiff		Sample collected 134-SB-127-0204 from 3.0 - 3.5' bgs @ 11:28
	-4.0					3.5 - 4.0' No recovery		
				4.0		4.0 - 4.5' FILL: Red silt, trace fine sand; dry loose		
	-5.0							
	-6.0					4.5 - 4.8' FILL: Dark grey fine to medium silty sand, gravel and coal; dry, loose		Sample collected 134-SB-127-0406 from 5.0 - 5.5' bgs @ 11:30
	-7.0					4.8 - 5.0' FILL: Brown silty clay; moist, soft		Sample collected 134-SB-127-0608 from 7.5 - 8.0' bgs @ 11:32
	-8.0					5.0 - 8.0' FILL: Greyish brown fine to medium sand; moist, loose		
				3.5		8.0 - 11.5' FILL: Greyish brown fine to medium silty sand, trace shells; wet, loose		Sample collected 134-SB-127-0810 from 8.5 - 9.0' bgs @ 11:34
	-9.0							
	-10.0							
	-11.0							Sample collected 134-SB-127-1012 from 10.5 - 11.0' bgs @ 11:36
	-12.0					11.5 - 12.0' No recovery		
				3.75		12.0 - 14.5' MH: Brown sandy silt; wet, very soft		Sample collected 134-SB-127-1214 from 12.5 - 13.0' bgs @ 11:45
	-13.0							
	-14.0							
	-15.0					14.5 - 15.5' MH: Brown silt; wet, stiff		Sample collected 134-SB-127-1416 from 15.0 - 15.5' bgs @ 11:47
						15.5 - 15.8' OL: Dark grey clay; wet; stiff		
	-16.0			1.5		15.8 - 16.0' No recovery		Sample collected 134-SB-127-1618 from 16.0 - 16.5

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-127
DATE BEGAN: 6/24/2011
DATE FINISHED: 6/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 8.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-17.0					16.0 - 16.3' OL: Dark grey clay; wet; stiff		bgs @ 11:54; Hold
	-18.0					16.3 - 17.5' PT: Brown peat, dark brown clay; moist, stiff		
						17.5 - 18.0' No recovery; End boring @ 18' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-128
DATE BEGAN: 6/23/2011
DATE FINISHED: 6/23/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 17 ft bgs
GW DEPTH: 4.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 0.4' CONCRETE	0	
	-1.0					0.4 - 0.8' FILL: Red fine to medium silty sand; moist, dense		Sample collected 134-SB-128-0002 from 1.0 - 1.5' bgs @ 12:28
	-2.0					0.8 - 1.8' FILL: Red silty clay; moist, firm		
	-3.0					1.8 - 2.0' FILL: Degraded brick		Sample collected 134-SB-128-0204 from 2.5 - 3.0' bgs @ 12:30
	-4.0			4.0		2.0 - 2.5' FILL: Red silty clay; moist, firm		
	-5.0					2.5 - 3.0' FILL: Reddish brown silt, trace clay and organics; moist, firm		Sample collected 134-SB-128-0406 from 5.0 - 5.5' bgs @ 12:32
	-6.0					3.0 - 4.0' No recovery		
	-7.0					4.0 - 4.3' FILL: Reddish brown silt, trace clay and organics; wet, soft		Sample collected 134-SB-128-0608 from 7.5 - 8.0' bgs @ 12:34
	-8.0			3.0		4.3 - 4.5' CONCRETE		
	-9.0					4.5 - 8.0' FILL: Greyish brown fine to medium sand; layers of red silty firm clay; wet, loose		Sample collected 134-SB-128-0810 from 8.0 - 8.5' bgs @ 12:39
	-10.0					8.0 - 10.5' FILL: Greyish brown fine to medium sand; layers of red silty firm clay; wet, loose		
	-11.0					10.5 - 11.0' CL: Brown silty clay; wet, firm		Sample collected 134-SB-128-1012 from 10.5 - 11.0' bgs @ 12:41
	-12.0			3.5		11.0 - 12.0' No recovery		Sample collected 134-SB-128-1214 from 12.0 - 12.5' bgs @ 12:49
	-13.0					12.0 - 12.5' ML: Brown fine to medium silty sand; wet, loose		
	-14.0					12.5 - 15.5' CL: Brown silt, some fine sand; wet, firm		
	-15.0							Sample collected 134-SB-128-1416 from 14.5 - 15.0' bgs @ 12:51
	-16.0					15.5 - 16.0' No recovery		
	-17.0			1.0		16.0 - 16.5' OH: Black clay; wet, stiff		Sample collected 134-SB-128-1618 from 16.0 - 16.5 bgs @ 13:01
						16.5 - 17.0' PT: Peat, black clay; moist firm; end of boring @ 17.0' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-129
DATE BEGAN: 6/23/2011
DATE FINISHED: 6/23/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 17.5 ft bgs
GW DEPTH: 4.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	2.5		0.0 - 0.4' CONCRETE	0	
	-1.0					0.4 - 1.0' FILL: Red fine to medium silty sand, trace fine gravel; wet, loose		Sample collected 134-SB-129-0002 from 0.5 - 1.0' bgs @ 13:11
	-2.0					1.0 - 2.5' FILL: Red silt, fine gravel; moist, dense		Sample collected 134-SB-129-0204 from 2.0 - 2.5' bgs @ 13:13
	-3.0					2.5 - 4.0' No recovery		
	-4.0			4.0		4.0 - 4.5' FILL: Red silty sand, wet, loose (grey spots throughout)		Sample collected 134-SB-129-0406 from 4.0 - 4.5' bgs @ 13:16
	-5.0					4.5 - 5.0' FILL: Red silt; wet, firm		
	-6.0					5.0 - 8.0' FILL: Greyish brown fine to medium sand; wet, loose		Sample collected 134-SB-129-0608 from 7.5 - 8.0' bgs @ 13:18
	-7.0							Sample collected 134-SB-129-0810 from 8.5 - 9.0' bgs @ 13:24
	-8.0			3.0		8.0 - 11.0' FILL: Greyish brown fine to medium sand, 9.5 - 9-.75' bgs layer of grey silt; wet, soft		Sample collected 134-SB-129-1012 from 10.5 - 11.0' bgs @ 13:26
	-9.0							
	-10.0							
	-11.0					11.0 - 12.0' No recovery		
	-12.0			3.0		12.0 - 14.0' FILL: Brown fine to medium sand; loose, wet		Sample collected 134-SB-129-1214 from 12.5 - 13.0' bgs @ 13:37
	-13.0							
	-14.0					14.0 - 14.8' CL: Brown silty clay, trace fine to medium sand; wet, soft		Sample collected 134-SB-129-1416 from 14.0 - 14.5' bgs @ 13:39
	-15.0					14.8 - 15.0' OH: Black clay; moist, firm		
	-16.0			1.5		15.0 - 16.0' No recovery		Sample collected 134-SB-129-1618 from 16.0 - 16.5 bgs @ 13:46
	-17.0					16.0 - 16.5' OH: Black clay; moist, firm		
						16.5 - 17.5' PT: Peat, dark brown clay; moist, firm; end of boring @ 17.5' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/23/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/23/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 18.5 ft bgs
NORTH:

BORING ID: 134-SB-130
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 4.0 bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	2.5		0.0 - 0.5' CONCRETE	0	
	-1.0					0.5 - 2.0' FILL: Reddish brown silty sand, trace clay; dry, firm		Sample collected 134-SB-130-0002 from 0.5 - 1.0' bgs @ 14:01
	-2.0					2.0 - 2.5' OL: Brownish grey silty clay; moist, firm		Sample collected 134-SB-130-0204 from 2.0 - 2.5' bgs @ 14:03
	-3.0					2.5 - 4.0' No recovery		
	-4.0			4.0		4.0 - 4.3' SP: Reddish brown fine to medium sand; dry, loose		
	-5.0					4.3 - 4.5' Concrete: fragments		Sample collected 134-SB-130-0406 from 5.0 - 5.5' bgs @ 14:09
	-6.0					4.5 - 7.0' SM: Reddish brown fine to medium silty sand, trace clay; wet, loose		
	-7.0					7.0 - 8.0' SP: Brown fine to medium sand; loose, wet		Sample collected 134-SB-130-0608 from 7.5 - 8.0' bgs @ 11:11; DUP @ 14:12
	-8.0			3.5		8.0 - 9.5' SP: Brown fine to medium sand; wet, loose		Sample collected 134-SB-130-0810 from 8.5 - 9.0' bgs @ 14:16
	-9.0					9.5 - 11.5' OH: Black organic clay; wet, loose		
	-10.0					11.5 - 12.0' No recovery		Sample collected 134-SB-130-1012 from 10.5 - 11.0' bgs @ 14:18; DUP @ 14:19
	-11.0					12.0 - 15.0' SM: Brown fine to medium silty sand; wet, loose		Sample collected 134-SB-130-1214 from 12.0 - 12.5' bgs @ 14:23
	-12.0			3.0		15.0 - 16.0' No recovery		Sample collected 134-SB-130-1416 from 14.5 - 15.0' bgs @ 14:25
	-13.0					16.0 - 17.3' OL: Brown fine to medium silty clay; wet, loose		Sample collected 134-SB-130-1618 from 16.0 - 16.5 bgs @ 14:31
	-14.0					17.3 - 18.5' PT: Peat, dark brown clay; moist, firm; end of boring @ 18.5' bgs		
	-15.0							
	-16.0			2.5				
	-17.0							
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/24/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/24/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 18.5 ft bgs
NORTH:

BORING ID: 134-SB-131
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 4.0 bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	2.5		0.0 - 0.4' CONCRETE	0	Sample collected 134-SB-131-0002 from 1.0 - 1.5' bgs @ 7:40
	-1.0					0.4 - 1.0' FILL: Red fine to medium silty sand, trace fine gravel; dry, loose		Sample collected 134-SB-131-0204 from 2.0 - 2.5' bgs @ 7:42
	-2.0					1.0 - 2.5' FILL: Reddish brown silty clay, fine sand, trace fine to medium gravel; moist, very stiff		
	-3.0							
	-4.0			4.0		2.5 - 4.0' No recovery		
	-5.0					4.0 - 6.5' FILL: Reddish brown silty clay, trace fine to medium gravel; wet, firm		Sample collected 134-SB-131-0406 from 5.0 - 5.5' bgs @ 7:45
	-6.0							
	-7.0					6.5 - 8.0' FILL: Brownish grey fine to medium sand; wet, moderate dense		Sample collected 134-SB-131-0608 from 7.0 - 7.5' bgs @ 7:47; DUP @ 7:48
	-8.0			4.0		8.0 - 12.0' FILL: Brownish grey fine to medium sand; moist, dense		Sample collected 134-SB-131-0810 from 9.0 - 9.5' bgs @ 7:49
	-9.0							
	-10.0							Sample collected 134-SB-131-1012 from 11.5 - 12.0' bgs @ 7:51
	-11.0							
	-12.0			4.0		12.0 - 13.5' FILL: Brown fine to medium silty sand; wet, loose		Sample collected 134-SB-131-1214 from 12.5 - 13.0' bgs @ 8:02
	-13.0					13.5 - 14.5' MH: Brown silt, lenses of brown fine to medium silty sand; wet, loose		Sample collected 134-SB-131-1416 from 14.0 - 14.5' bgs @ 8:04
	-14.0							
	-15.0					14.5 - 16.0' No recovery		
	-16.0			2.5		16.0 - 16.3' MH: Brown silt, lenses of brown fine to medium silty sand; wet, loose		
	-17.0					16.3 - 17.0' OH: Black clay; moist, firm		Sample collected 134-SB-131-1618 from 16.5 - 17.0 bgs @ 8:16
	-18.0					17.0 - 18.5' PT: Peat, dark brown clay; moist, firm; end of boring @ 18.5' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-132
DATE BEGAN: 6/24/2011
DATE FINISHED: 6/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18.5 ft bgs
GW DEPTH: 5.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 0.5' CONCRETE	0	
	-1.0					0.5 - 3.0' FILL: Reddish brown fine sandy silt, trace coal, lense of dark grey fine to medium sand, coal, and ash from 1.5 - 1.65' bgs; moist, firm		Sample collected 134-SB-132-0002 from 1.5 - 2.0' bgs @ 8:27
	-2.0							
	-3.0					3.0 - 4.0' No recovery		Sample collected 134-SB-132-0204 from 2.5 - 3.0' bgs @ 8:29
	-4.0			3.25		4.0 - 5.0' FILL: Reddish brown silt, trace fine sand, dry, very firm		
	-5.0					5.0 - 6.0' FILL: Reddish brown silty clay, moist, moderate firm		Sample collected 134-SB-132-0406 from 5.0 - 5.5' bgs @ 8:32
	-6.0							
	-7.0					6.0 - 6.8' FILL: Reddish brown fine to coarse silty sand, some clay and fine gravel; wet, dense		Sample collected 134-SB-132-0608 from 6.0 - 6.5' bgs @ 8:34
	-8.0			4.0		6.8 - 7.0' FILL: Reddish brown silty clay; wet, firm		Sample collected 134-SB-132-0810 from 8.5 - 9.0' bgs @ 8:39
	-9.0					7.0 - 8.0' No recovery		
	-10.0					8.0 - 12.0' FILL: Greyish brown fine to medium sand, lenses of red silty clay @ top, wet; moderate dense		Sample collected 134-SB-132-1012 from 11.0 - 11.5' bgs @ 8:41
	-11.0							
	-12.0			3.5		12.0 - 15.5' FILL: Brown fine silty sand; trace shells, black clay in tip, wet, loose		Sample collected 134-SB-132-1214 from 12.5 - 13.0' bgs @ 9:04
	-13.0							
	-14.0							
	-15.0					15.5 - 16.0' No recovery		Sample collected 134-SB-132-1416 from 15.0 - 15.5' bgs @ 9:06
	-16.0			2.5		16.0 - 16.8' MH: Brown silt; wet, soft		
	-17.0					16.8 - 17.5' OH: Black clay; moist, firm		Sample collected 134-SB-132-1618 from 16.5 - 17.0 bgs @ 9:15
	-18.0					17.5 - 18.5' PT: Peat, brown clay, moist, firm; end of boring @ 18.5' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-133
DATE BEGAN: 6/24/2011
DATE FINISHED: 6/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18.0 ft bgs
GW DEPTH: 8.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.75		0.0 - 0.4' CONCRETE	0	
	-1.0					0.4 - 2.8' FILL: Red fine to medium silty sand, trace coal and ash; moist, loose		Sample collected 134-SB-133-0002 from 1.5 - 2.0' bgs @ 929
	-2.0							
	-3.0					2.8 - 3.8' FILL: Dark grey fine to medium silty sand, coal, trace ash, trash, fine gravel; moist, moderate dense		Sample collected 134-SB-133-0204 from 3.0 - 3.5' bgs @ 9:31; DUP @ 9:32
	-4.0			3.5		3.8 - 4.0' No recovery		
	-5.0					4.0 - 5.0' FILL: Brown clayey silt; wet, firm		Sample collected 134-SB-133-0406 from 4.5 - 5.0' bgs @ 9:33
	-6.0					5.0 - 7.5' FILL: Brownish grey fine to medium sand, lenses of red silty firm clay; wet, loose		
	-7.0					7.5 - 8.0' No recovery		Sample collected 134-SB-133-0608 from 7.0 - 7.5' bgs @ 9:35
▽	-8.0			4.0		8.0 - 12.0' FILL: Greyish brown fine to medium sand, brown silt in top; wet, loose		Sample collected 134-SB-133-0810 from 8.5 - 9.0' bgs @ 9:37
	-9.0							
	-10.0							
	-11.0							Sample collected 134-SB-133-1012 from 11.0 - 11.5' bgs @ 9:39
	-12.0			3.25		12.0 - 14.0' ML: Brown sandy silt; wet, loose		Sample collected 134-SB-133-1214 from 12.5 - 13.0' bgs @ 9:53
	-13.0							
	-14.0					14.0 - 15.3' MH: Brown silty; wet, soft		Sample collected 134-SB-133-1416 from 14.5 - 15.0' bgs @ 9:55
	-15.0					15.3 - 16.0' No recovery		
	-16.0			2.0		16.0 - 17.0' OH: Black clay; moist, firm		Sample collected 134-SB-133-1618 from 16.5 - 17.0 bgs @ 10:11
	-17.0					17.0 - 18.0' PT: Peat, brown clay, moist, firm; end of boring @ 18.0' bgs		
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-134
DATE BEGAN: 6/24/2011
DATE FINISHED: 6/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18.5 ft bgs
GW DEPTH: 8.0 bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.4' CONCRETE	0	
	-1.0					0.4 - 0.5' FILL: Brown silt; moist, firm		Sample collected 134-SB-134-0002 from 1.0 - 1.5' bgs @ 10:23
	-2.0					0.5 - 0.8' FILL: Red silty sand, trace coal; moist, loose		
	-3.0					0.8 - 3.0' FILL: Brown sandy silt, trace coal, fine to medium gravel and lenses of grey silt		Sample colleced 134-SB-134-0204 from 2.5 - 3.0' bgs @ 10:25
	-4.0			3.0		3.0 - 3.5' FILL: Brown silt; moist, firm		Sample collected 134-SB-134-0406 from 4.0 - 4.5' bgs @ 10:27
	-5.0					3.5 - 4.0' No recovery		
	-6.0					4.0 - 5.0' FILL: Brown silt; moderate firm		
	-7.0					5.0 - 7.0' FILL: Greyish brown fine to medium sand, trace lenses of reddish brown silty firm clay, fine to medium gravel; moist, loose		Sample collected 134-SB-134-0608 from 6.5 - 7.0' bgs @ 10:29
	-8.0			3.5		7.0 - 8.0' No recovery		Sample collected 134-SB-134-0810 from 8.5 - 9.0' bgs @ 10:32
	-9.0					8.0 - 11.5' FILL: Greyish brown fine to medium sand, trace shells; wet, loose		
	-10.0							
	-11.0					11.5 - 12.0' No recovery		Sample collected 134-SB-134-1012 from 11.0 - 11.5' bgs @ 10:34
	-12.0			3.0		12.0 - 14.5' FILL: Greyish brown fine to medium sand, trace shells; wet, loose		Sample collected 134-SB-134-1214 from 12.5 - 13.0' bgs @ 10:42
	-13.0							
	-14.0					14.5 - 15.0' MH: Brown silt; wet, loose		Sample collected 134-SB-134-1416 from 14.5 - 15.0' bgs @ 10:44
	-15.0					15.0 - 16.0' No recovery		
	-16.0			2.5		16.0 - 17.5' OH: Black clay; moist, firm		Sample collected 134-SB-134-1618 from 16.5 - 17.0 bgs @ 10:56
	-17.0							
	-18.0					17.5 - 18.5' PT: Peat, dark brown clay; moist, firm; end of boring @ 18.5' bgs		Sample collected 134-SB-134-1820 from 18.0 - 18.5 bgs @ 10:58; HOLD

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-135
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.5' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.75		0.0 - 0.8' FILL: Dark brown fine to medium silty sand, fine to medium gravel, coal, and ash; dry, loose	0	
	-1.0					0.8 - 1.0' FILL: Reddish brown silt; moist, very soft		Sample collected 134-SB-135-0002 from 1.0 - 1.5' bgs @ 11:37
	-2.0					1.0 - 2.8' FILL: Red fine to medium silty sand; moist, loose		
	-3.0					2.8 - 3.8' FILL: Brown clayey silt; trace organics; moist, stiff		Sample colleced 134-SB-135-0204 from 3.0 - 3.5' bgs @ 11:39
	-4.0			4.0		3.8 - 4.0' No recovery		
	-5.0					4.0 - 4.3' FILL: Reddish brown silty clay; moist, stiff		Sample collected 134-SB-135-0406 from 4.5 - 5.0' bgs @ 11:51
						4.3 - 4.5' FILL: Brown medium to coarse sand, trace gravel; wet, loose		
						4.5 - 5.5' FILL: Brown silty fine sand; trace gravel		
	-6.0					5.5 - 6.0' FILL: Brown silty clay; moist, loose		
	-7.0					6.0 - 8.0' FILL: Brown fine to medium sand; moist		
	-8.0			3.0		8.0 - 8.5' FILL: Brown silty sand; wet, loose		Sample collected 134-SB-135-0608 from 7.5 - 8.0' bgs @ 11:53
	-9.0					8.5 - 10.0' FILL: Brown silty sand; wet, loose		Sample collected 134-SB-135-0810 from 8.5 - 9.0' bgs @ 12:02

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-135
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.5' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0			3.5		10.0 - 11.0' CL: Brown fine to medium sand, wet, loose		Sample collected 134-SB-135-1012 from 10.0 - 10.5' bgs @ 12:04
	-11.0					11.0 - 12.0' No recovery		
	-12.0					12.0 - 13.5' CL: Brown fine to medium sand , wet, loose		
	-13.0							Sample collected 134-SB-135-1214 from 13.0 - 13.5' bgs @ 12:13
	-14.0					13.5 - 15.5' OH: Black clay; moist, stiff; peat in tip		
	-15.0							Sample collected 134-SB-135-1416 from 14.5 - 15.0' bgs @ 12:15
	-16.0					15.5 - 16.0' No recovery; end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
DATE BEGAN: 6/27/2011
DRILLING CO: B&B Drilling
BIT TYPE/SIZE:
CORE TYPE/SIZE:
SAMPLING TOOL: 4-ft Macrocore
DRILLER: E. Blewitt

PROJECT NO: 3480100027
DATE FINISHED: 6/27/2011
DRILLING METHOD: Direct Push
CASING:
ROCK DEPTH:
COMPLETION DEPTH: 18.0 ft bgs
NORTH:

BORING ID: 134-SB-136
INSPECTOR: M. Daly
DRILL EQUIP: Geoprobe 6610DT
HAMMER:
PERMIT NO:
GW DEPTH: 8.0' bgs
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 0.5' ASPHALT	0	
	-1.0					0.5 - 1.0' SM: Reddish brown fine to medium sand; moist, loose		Sample collected 134-SB-136-0002 from 0.5 - 1.0' bgs @ 8:08
	-2.0					1.0 - 2.0' CL: Brown silty clay, trace gravel; moist, dense		
	-3.0					2.0 - 2.5' ML: Reddish brown fine silty sand, trace gravel; dry, loose		Sample colleced 134-SB-136-0204 from 2.5 - 3.0' bgs @ 8:10
						2.5 - 3.0' CL: Brown silty clay, trace gravel; moist, dense		
	-4.0			4.0		3.0 - 4.0' No recovery		
	-5.0					4.0 - 6.0' SM: Brown silty fine sand; wet, loose		Sample collected 134-SB-136-0406 from 4.5 - 5.0' bgs @ 8:19
	-6.0					6.0 - 6.5' SM: Brown fine to medium sand; moist, loose		
	-7.0					6.5 - 6.8' OL: Organic clay, trace peat and silt; moist, loose		Sample collected 134-SB-136-0608 from 7.0 - 7.5' bgs @ 8:21
▽	-8.0			3.0		6.8 - 8.0' SM: Brown fine to medium sand, moist, loose		
	-9.0					8.0 - 10.0' CL: Brown silty clay; wet, loose		Sample collected 134-SB-136-0810 from 8.5 - 9.0' bgs @ 8:27
	-10.0					10.0 - 11.0' SM: Brown fine to medium sand, trace silt and clay; wet, loose		Sample collected 134-SB-136-1012 from 10.5 - 11.0' bgs @ 8:29
	-11.0					11.0 - 12.0' No recovery		
	-12.0			4.0		12.0 - 14.0' CH: Brown silty clay; wet, loose		Sample collected 134-SB-136-1214 from 12.5 - 13.0' bgs @ 8:37
	-13.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-136
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18.0 ft bgs
GW DEPTH: 8.0' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-14.0			2.0		14.0 - 15.5' CL: Brown clay; wet, loose		Sample collected 134-SB-136-1416 from 15.5 - 16.0' bgs @ 8:39 Sample collected 134-SB-136-16186 from 16.0 - 16.5' bgs @ 8:47
	-15.0					15.5 - 16.0' OH: Black clay; moist, firm		
	-16.0					16.0 - 18.0' PT: Peat, dark brown organic clay; moist, stiff; end of boring @ 18.0' bgs		
	-17.0							
	-18.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-137
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	4.0		0.0 - 0.5' ASPHALT		Sample collected 134-SB-137-0002 from 0.5 - 1.0' bgs @ 9:04
	-1.0					0.5 - 0.8' SILTY SAND: Dark gray fine to medium silty sand, moist, loose		
	-2.0					0.8 - 4.0' SILTY SAND: Reddish brown fine to medium silty sand, trace coal and fine to medium gravel, moist, loose, black stain @ 3.75 ft bgs		Sample colleced 134-SB-137-0204 from 3.5 - 4.0' bgs @ 9:06
	-3.0							
	-4.0			4.0		4.0 - 5.5' SILTY SAND: Dark gray. reddish brown fine silty sand, very soft, wet, fine to medium gravel @4.2-4.4 ft bgs		Sample collected 134-SB-137-0406 from 5.5 - 6.0' bgs @ 9:07
	-5.0							
	-6.0					5.5 - 6.0' SILT: Black silt, soft, wet		
	-7.0					6.0 - 8.0' SAND: Grayish borwn fine to medium sand, wet, loose		Sample collected 134-SB-137-0608 from 7.5 - 8.0' bgs @ 9:09
	-8.0			3.0		8.0 - 10.5' SAND: Grayish borwn fine to medium sand, wet, loose		Sample collected 134-SB-137-0810 from 8.5 - 9.0' bgs @ 9:13
	-9.0							
	-10.0							
	-11.0					10.5 - 11.0' SILT: Brownish silt soft, loose		Sample collected 134-SB-137-1012 from 10.5 - 11.0' bgs @ 9:15
	-12.0					11.0 - 12.0' No recovery		
	-13.0			3.5		12.0 - 13.3' SILT: Brownish silt soft, loose		
	-14.0					13.3 - 15.0' CLAY: Black clay, medium stiff, moist		Sample collected 134-SB-137-1214 from 13.5 - 14.0' bgs @ 9:24
	-15.0					15.0 - 15.5' PEAT: Peat, brown clay, moist, stiff		Sample collected 134-SB-137-1416 from 14.5 - 15.0' bgs @ 9:26: HOLD
	-16.0					15.5 - 16.0' No recovery, End of boring @ 16.0 ft bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-138
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.5' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.0		0.0 - 0.5' ASPHALT: gravel	0	
	-1.0					0.5 - 0.8' GRAVEL: Fine to medium		Sample collected 134-SB-138-0002 from 0.5 - 1.0' bgs @ 9:36
	-2.0					0.8 - 1.0' FILL: Reddish brown fine silty sand; moist, dense		
	-3.0					1.0 - 3.0' CL: Brown silt, trace organics; stiff		Sample colleced 134-SB-138-0204 from 2.5 - 3.0' bgs @ 9:38
	-4.0			3.5		3.0 - 4.0' No recovery		
	-5.0					4.0 - 5.0' CL: Brown silt, layer of dark grey fine to medium sand from 4.25 - 4.35' bgs; wet		Sample collected 134-SB-138-0406 from 4.5 - 5.0' bgs @ 9:40
	-6.0							
	-7.0					5.0 - 7.5' FILL: Greysih brown fine to medium sand, lenses of reddish brown silty stiff clay; wet, loose		Sample collected 134-SB-138-0608 from 7.0 - 8.0' bgs @ 9:42: DUP @ 9:43
	-8.0			3.0		7.5 - 8.0' No recovery		Sample collected 134-SB-138-0810 from 8.0 - 8.5' bgs @ 9:45
	-9.0					8.0 - 11.0' FILL: Brown silty fine to medium sand; wet, medium stiff		
	-10.0							
	-11.0					11.0 - 12.0' No recovery		Sample collected 134-SB-138-1012 from 10.5 - 11.0' bgs @ 9:47
	-12.0			3.5		12.0 - 14.0' CL: Brown silt, trace fine sand; wet, soft		
	-13.0							Sample collected 134-SB-138-1214 from 12.5 - 13.0' bgs @ 9:57
	-14.0					14.0 - 15.0' OH: Black clay, moist, medium stiff		
	-15.0					15.0 - 15.5' PT: Peat, brown clay, moist, very stiff		Sample collected 134-SB-136-1416 from 14.5 - 15.0' bgs @ 9:59
	-16.0					15.5 - 16.0' No recovery; end of boring @ 16' bgs		

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-139
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.5' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.5		0.0 - 0.5' FILL: Brown fine to medium silty sand, fine to medium gravel; dry, loose	0	
	-1.0					0.5 - 1.0' CONCRETE: degraded		Sample collected 134-SB-139-0002 from 1.0 - 1.5' bgs @ 10:06
	-2.0					1.0 - 1.8' FILL: Red clayey silt, some brick and coal; moist, stiff		
	-3.0					1.8 - 3.5' CL: Brown silt; moist, medium stiff		Sample colleced 134-SB-139-0204 from 3.0 - 3.5' bgs @ 10:08; DUP @ 10:09
	-4.0					3.5 - 4.0' No recovery		
				3.5		4.0 - 4.3' CL: Brown silt, moist, medium stiff		
	-5.0					4.3 - 4.5' FILL: Dark brown fine to medium sand, trace coal; moist, dense		Sample collected 134-SB-139-0406 from 5.0 - 5.5' bgs @ 10:10
	-6.0					4.5 - 5.0' CL: Brown silt; wet, medium stiff		
	-7.0					5.0 - 5.3' FILL: Black silt; wet, very soft		Sample collected 134-SB-139-0608 from 6.5 - 7.0' bgs @ 10:12
	-8.0					5.3 - 7.5' FILL: Dark grey to greyish brown fine to medium sand, trace silt; wet, loose		
				3.5		7.5 - 8.0' No recovery		Sample collected 134-SB-139-0810 from 8.5 - 9.0' bgs @ 10:19
	-9.0					8.0 - 10.5' FILL: Greyish brown fine to medium sand, trace silt; wet, loose		
	-10.0							
	-11.0					10.5 - 11.5' FILL : Brown medium to fine silty sand; wet, loose		Sample collected 134-SB-139-1012 from 11.0 - 11.5' bgs @ 10:21
	-12.0					11.5 - 12.0' No recovery		
				4.0		12.0 - 14.0' CL: Brown sandy silt; wet, soft		Sample collected 134-SB-139-1214 from 12.5 - 13.0' bgs @ 10:29
	-13.0							
	-14.0					14.0 - 14.5' CL: Brown silt; wet, soft		
	-15.0					14.5 - 16.0' OL: Black clay; moist, medium stiff; peat in tip; end of boring @ 16.0' bgs		Sample collected 134-SB-139-1416 from 14.5 - 15.0' bgs @ 10:31
	-16.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-140
DATE BEGAN: 6/27/2011
DATE FINISHED: 6/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
BIT TYPE/SIZE:
CASING:
HAMMER:
CORE TYPE/SIZE:
ROCK DEPTH:
PERMIT NO:
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	3.25		0.0 - 1.0' FILL: Dark brown fine to medium silty sand, fine to medium gravel, trace ash and coal	0	Sample collected 134-SB-140-0002 from 1.5 - 2.0' bgs @ 10:39
	-1.0					1.0 - 1.5' FILL: Reddish brown silt; moist, stiff		
	-2.0					1.5 - 1.8' FILL: Reddish brown fine to medium silty sand; moist, dense		Sample colleced 134-SB-140-0204 from 2.5 - 3.0' bgs @ 10:41
	-3.0					1.8 - 2.0' FILL: Brown silt; moist, very stiff		
	-4.0			4.0		2.0 - 3.3' FILL: Brown sandy silt; moist, medium stiff		
	-5.0					3.3 - 4.0' No recovery		Sample collected 134-SB-140-0406 from 4.5 - 5.0' bgs @ 10:42
	-6.0					4.0 - 4.3' FILL: Brown sandy silt; moist, medium stiff		
	-7.0					4.3 - 4.5' GRAVEL: Brown silt, trace organics, wet, very soft		Sample collected 134-SB-140-0608 from 7.0 - 7.5' bgs @ 10:44
	-8.0			4.0		4.5 - 5.0' FILL: Black silt		Sample collected 134-SB-140-0810 from 8.0 - 8.5' bgs @ 10:55
	-9.0					5.0 - 8.0' FILL: Greyish brown fine to medium sand, trace silt; wet, loose		
	-10.0					8.0 - 9.0' FILL: Greyish brown fine to medium sand, trace silt; wet, loose		
	-11.0					9.0 - 12.0' CL: Brown silt; wet, very soft		Sample collected 134-SB-140-1012 from 11.0 - 11.5' bgs @ 10:57
	-12.0			3.0		12.0 - 13.0' CL: Brown silt; wet, soft		
	-13.0					13.0 - 14.8' OH: Black clay, stiff, moist; peat in tip		Sample collected 134-SB-140-1214 from 12.5 - 13.0' bgs @ 11:09
	-14.0					14.8 - 15.0' PT: Peat, brown organic clay; moist, stiff; end of boring @ 16.0' bgs		
	-15.0							Sample collected 134-SB-139-1416 from 14.5 - 15.0' bgs @ 11:11; HOLD
	-16.0							

PREPARED BY: MD
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Honeywell Site 134 Boatyard
PROJECT NO: 3480100027
BORING ID: 134-SB-141
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18.0 ft bgs
GW DEPTH: 4.0' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT: gravel	NA	
	1.0					0.3 - 0.5' FILL: Light brown fine sand, some silt and fine to medium gravel; moist, loose		Sample collected 134-SB-141-0002 from 1.0 - 1.5' bgs @ 8:27
	2.0					0.5 - 3.0' FILL: Reddish brown silt, lenses of brown fine to medium sand, moist, very dense		
	3.0							
	4.0	S-2	NA	4.0		3.0 - 4.0' SP: Greyish brown fine to medium sand, lenses of reddish brown silt; moist, dense	NA	
	5.0					4.0 - 6.0' SP: Greyish brown fine to medium sand, lenses of reddish brown silt, fine to medium gravel from 5.75' to 5.85' bgs; wet, loose		
	6.0							
	7.0					6.0 - 6.5' CL: Reddish brown clay, some silt; wet, very firm		
	8.0	S-3	NA	3.5		6.5 - 8.0' SP: Greyish brown fine to medium sand; wet, loose	NA	
	9.0					8.0 - 11.5' SP: Greyish brown fine to medium sand, trace nodlues of reddish brown silty clay, trace shells; wet, very loose		
	10.0							
	11.0					11.5 - 12.0' No recovery		
	12.0	S-4	NA	4.0		12.0 - 15.0' SP: Greyish brown fine to medium sand, trace nodlues of reddish brown silty clay, trace shells; wet, very loose		
	13.0							
	14.0							
	15.0					15.0 - 16.0' SM: Greyish brown fine sand, some brown silt (30%); moist, loose		Sample colleced 134-SB-141-1416 from 15.5 - 16.0' bgs @ 8:50
	16.0			1.5		16.0 - 16.8' ML: Brown silt, trace shells; wet, loose		Sample collected 134-SB-141-1618 from 17.0 - 17.5' bgs @ 9:02: HOLD
	17.0					16.8 - 17.3' OH: Black clay		
	18.0					17.3 - 17.5' PT: Dark brown clay, peat; ,moist, firm; end of boring @ 18.0' bgs		

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Honeywell Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-142
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0' bgs
DRILLER: E. Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: gravel	NA	
	1.0					0.3 - 0.5' FILL: Orange brown sand, some silt, fine to medium gravel; dry, loose		Refusal @ 6" bgs,Petroleum odor, hit refusal again, cored through without success; moved to the south
	2.0					0.5 - 0.8' GRAVEL		
	3.0					0.8 - 2.0' FILL: Dark grey fine to medium sand, some silt and fine to medium gravel; dry, loose		
	4.0	S-2	NA	4.0		2.0 - 2.5' FILL: Reddish brown silt, some fine sand; moist, dense	NA	
	5.0					2.5 - 3.0' FILL: Reddish brown silt; dry, very firm		Petroleum odor, sheen from 4.5' bgs to 7.5' bgs, staining
	6.0					3.0 - 3.5' FILL: Dark grey/orange brown fine to medium sand, some silt, lenses of silty clay; moist, loose		
	7.0					3.5 - 4.0' No recovery		
	8.0	S-3	NA	4.0		4.0 - 8.0' SP: Greysih brown fine sand, some silt, lenses of reddish brown silty clay; wet, loose	NA	Sample collected 134-SB-142-0810 from 8.5 - 9.0' bgs @ 10:26
	9.0					8.0 - 11.0' SP: Brown fine sand, trace shells; wet, soft		
	10.0					11.0 - 12.0' OL: Black silt; wet, soft		
	11.0					12.0 - 13.0' SM: Brown sand, some silt; wet, loose		
	12.0	S-4	NA	3.5		13.0 - 15.0' ML: Brown silt; soft, loose		Sample collected 134-SB-142-1416 from 14.5 - 15.0' bgs @ 10:35
	13.0					15.0 - 15.5' OH: Black clay; wet, firm		
	14.0					15.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	15.0							
	16.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-143
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.2' ASPHALT: gravel	NA	Sample collected 134-SB-143-0002 from 1.0 - 1.5' bgs @ 12:05
						0.2 - 0.5' CONCRETE		
						0.5 - 1.0' FILL: Red silt, some fine gravel; moist, firm		
	1.0					1.0 - 1.1' CONCRETE: green staining		
						1.1 - 2.0' FILL: Redi silt, some fine sand (15%), trace fine to medium gravel; moist, very firm; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-144
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.2' ASPHALT	NA	Sample collected 134-SB-144-0002 from 1.5 - 2.0' bgs @ 12:16
						0.2 - 0.8' FILL: Brown silt, some fine sand (30%), fine to medium gravel; moist		
	1.0					0.8 - 2.0' FILL: Red silt, trace lenses of brown fine to medium sand, trace fine to medium gravel; moist; end of boring @ .20' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-145
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.3' ASPHALT	NA	Sample collected 134-SB-145-0002 from 1.5 - 2.0' bgs @ 12:27
						0.3 - 0.8' FILL: Red silt, trace wood and fine to medium gravel; dry, loose		
						0.8 - 1.0' FILL: Red silt, some clay; moist, firm		
	1.0					1.0 - 2.0' FILL: Reddish brown fine sand, some silt (40%); moist, loose; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-146
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' ASPHALT	NA	Sample collected 134-SB-146-0002 from 1.5 - 2.0' bgs @ 12:38
	1.0					1.5 - 2.0' FILL: Red and black silt, some fine sand (25%), trace fine to medium gravel; dry, loose; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-147
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' ASPHALT	NA	Sample collected 134-SB-147-0002 from 1.5 - 2.0' bgs @ 11:08
	1.0					0.3 - 1.5' CONCRETE		
	2.0					1.5 - 3.5' FILL: Reddish brown silt, trace fine sand; moist		
	3.0							
	4.0	S-2	NA	4.0		3.5 - 4.0' FILL: Reddish brown silt; moist	NA	
	5.0					4.0 - 8.0' SP: Greyish brown fine to medium sand, lenses of red silt, trace shells; wet, loose		
	6.0							
	7.0							
	8.0	S-3	NA	3.0		8.0 - 11.0' SP: Greysih brown fine to medium sand, some silt (25%), trace medium gravel and shells; wet, loose	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	3.5		12.0 - 15.5' SM: Brown silt, some fine sand (15%); wet, loose	NA	Sample collected 134-SB-147-1416 from 14.5 - 15.0' bgs @ 11:53
	13.0							
	14.0							
	15.0					15.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 134-SB-148
DATE BEGAN: 11/8/2011
DATE FINISHED: 11/8/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		3	1.8		12.0 - 13.0' FILL: White/light gray clayey silt (possible COPR); soft, plastic, wet	0	Location HSA-19 on sampling table. Augered to 12 ft bgs before sampling.
			1					
	13.0		3			13.0 - 13.6' OH: Very dark grayish brown (2.5Y 3/2) clayey silt, trace organic material; few fine sand from 13.25-13.3'; possible COPR from 13.5-13.6'; medium stiff, plastic, wet		
			4			13.6 - 13.8' ML: Brown (10YR 4/3) silt; medium stiff, non-plastic, moist		
						13.8 - 14.0' No recovery		
	14.0		WOH	2.0		14.0 - 15.2' OH: Black (2.5Y 2.5/1) clayey silt, trace organic material; soft, plastic, wet	0	
			1					
	15.0		3					
			4			15.2 - 16.0' PT: Dark brown (10YR 3/3) peat; soft, crumbly, moist; end of boring at 16'		No sample collected for chromium analysis
	16.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 134-SB-149
DATE BEGAN: 11/8/2011
DATE FINISHED: 11/8/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		WOH	2.0		12.0 - 13.0' FILL: Brown silty clay, little fine gravel from 12.0-12.1'; very soft, plastic, wet	0	Location HSA-21 on sampling table. Augered to 12 ft bgs before sampling.
			1					
	13.0		1			13.0 - 13.8' FILL: Brown/white/green silt, trace fine sand and clay (possible COPR); partially cemented from 13.0-13.2' and 13.4-13.6'; very soft, medium plastic, wet		
			3					
	14.0		1	1.0		13.8 - 14.0' OH: Very dark grayish brown/very dark gray (2.5Y 3/2 to 3/1) clayey silt, trace organic material; very soft, plastic, wet	0	
			1			14.0 - 14.6' OH: Black (2.5Y 2.5/1) clayey silt, trace fine sand; soft, plastic, wet		
						14.6 - 15.0' OH: Very dark grayish brown (2.5Y 3/2) silty clay, few organic material, trace fine sand; soft, plastic, wet		
	15.0		2			15.0 - 16.0' No recovery		
			3					
	16.0		2	2.0		16.0 - 17.7' PT: Dark brown (10YR 3/3) peat; medium stiff, crumbly, moist	0	Collected 134-SB-149-1617 from 16.0-16.5 ft bgs @ 14:20
			2					
	17.0		3					
			4			17.7 - 18.0' SM: Dark brown (10YR 3/3) fine sand and silt, some peat; loose, wet; end of boring at 18'		
	18.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 134-SB-150
DATE BEGAN: 11/11/2011
DATE FINISHED: 11/11/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		1	2.0		12.0 - 13.5' MH: Brown (10YR 3/2) silty clay, trace fine sand; very soft, plastic, wet	N/A	Location HSA-18 on sampling table. Augered to 12 ft bgs before sampling.
			1					
	13.0		1					
			2			13.5 - 14.5' OL: Very dark grayish brown/black (2.5Y 3/2 to 2.5/1) silt, little clay and organic material; very soft, medium plastic, wet; medium stiff from 14'		
	14.0		2	1.8			N/A	Collected 134-SB-150-1415 from 14.0-14.5 ft bgs @ 11:25
			2			14.5 - 16.0' PT: Dark brown (10YR 3/3) peat; medium stiff, crumbly, moist; end of boring at 16'		
	15.0		4					Collected 134-SB-150-1516 from 15.0-15.5 ft bgs @ 11:30
			4					
	16.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 134-SB-151
DATE BEGAN: 11/11/2011
DATE FINISHED: 11/11/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		2	2.0		12.0 - 13.0' FILL: Light gray/brown clayey silt, trace fine sand (possible COPR); medium stiff, plastic, wet	N/A	Location HSA-20 on sampling table. Augered to 12 ft bgs before sampling.
			3					
	13.0		4			13.0 - 14.3' OH: Very dark grayish brown/very dark gray (2.5Y 3/2 to 3/1) clayey silt, trace fine sand and organic material; medium stiff, plastic, wet		
			2					
	14.0		3	2.0			N/A	
			3			14.3 - 17.2' OH: Dark olive gray (5Y 3/2) silty clay, little organic material; medium stiff, plastic, wet; stiff from 16'		Collected 134-SB-151-1415 from 14.5-15.0 ft bgs @ 13:45
	15.0		5					
			5					
	16.0		2	2.0			N/A	
			4					
	17.0		5					
			5			17.2 - 17.8' PT: Dark brown (10YR 3/3) peat; stiff, moist		
	18.0					17.8 - 18.0' SC: Very dark gray (2.5YR 3/1) fine sand, some clay and silt; loose, wet; end of boring at 18'		

PREPARED BY: JB
CHECKED BY: KK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-152
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: Not encouuntered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.5		0.0 - 1.3' CONCRETE	NA	Sample collected 134-SB-152-0002 from 1.0 - 1.5' bgs @ 13:05; DUP 13:07
	1.0					1.3 - 1.5' FILL: Reddish brown silt; dry, dense		
						1.5 - 2.0' No recovery; end of boring at 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-153
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: Not encountered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.5		0.0 - 0.8' CONCRETE: Degraded	NA	Sample collected 134-SB-153-0002 from 1.0 - 1.5' bgs @ 13:20
						0.8 - 1.5' FILL: Reddish brown silt, some fine to medium gravel, trace grey fine sand; moist, dense		
	1.0							
						1.5 - 2.0' No recovery; end of boring at 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 134-SB-154
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.2' ASPHALT	NA	
						0.2 - 0.5' FILL: Dark brown fine to coarse sand and fine gravel; loose, dry		
						0.5 - 1.0' CONCRETE		
	1.0					1.0 - 2.5' FILL: Reddish brown/very dark grayish brown fine to coarse sand, some silt, little fine gravel, trace clinker, brick, coal, and concrete; medium dense, moist		
	2.0							
	3.0					2.5 - 4.0' FILL: Reddish brown silt, some lenses of fine to medium sand and fine gravel; stiff, dry; moist from 3.8'; end of boring at 4.0'		Sample collected 134-SB-154-0204 from 3.5-4.0' bgs @ 12:10
	4.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 134-SB-155
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.2' ASPHALT	NA	
						0.2 - 1.0' CONCRETE		
	1.0					1.0 - 2.5' FILL: Very dark grayish brown/reddish brown fine to coarse sand, some silt and fine gravel; trace clinker, coal, brick, and concrete; medium dense, dry		
	2.0							
	3.0					2.5 - 4.0' FILL: Reddish brown silt, few lenses of fine to medium sand, trace fine gravel; stiff, moist from 3.8'; end of boring at 4.0'		Sample collected 134-SB-155-0204 from 3.5-4.0' bgs @ 12:30
	4.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 134-SB-156
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.2' ASPHALT	NA	Sample collected 134-SB-156-0002 from 1.5-2.0' bgs @ 11:55
						0.2 - 1.0' CONCRETE		
	1.0					1.0 - 2.0' FILL: Brown fine to coarse sand, some fine to coarse gravel; trace silt, brick, coal; medium dense, dry		
	2.0					2.0 - 4.0' FILL: Reddish brown silt, some lenses of fine to medium sand, trace fine gravel; stiff, dry; moist from 3.8'; end of boring at 4.0'		
	3.0							
	4.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell SA-6 South

LOCATION: Site 134
PROJECT NO: 3480100027
BORING ID: 134-SB-157
DATE BEGAN: 1/16/2012
DATE FINISHED: 1/16/2012
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 540DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake/Brian
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT	NA	Refusal @ 2.0', moved to boatyard side of fence
	1.0					0.3 - 0.5' FILL: Brown fine sand, some silt, fine to medium gravel		
	2.0					0.5 - 1.3' CONCRETE		
	3.0					1.3 - 1.5' BRICK		
	4.0	S-2	NA	3.0		1.5 - 1.8' FILL: Grey silt, some fine sand, ash, coal; dry, loose	NA	
	5.0					1.8 - 3.5' FILL: Reddish brown silt, lenses of reddish brown fine to medium sand, trace fine gravel; stiff, moist		
	6.0					3.5 - 4.0' No recovery		
	7.0					4.0 - 5.5' FILL: Reddish brown fine to medium sand, lenses of reddish brown silt, trece fine gravele; loose, moist		
	8.0	S-3	NA	4.0		5.5 - 7.0' FILL: Greyish brown fine to medium sand, trace nodules of reddish brown clay; loose, moist	NA	Sample collected 134-SB-157-0810 from 8.0 - 8.5' bgs @ 14:45
	9.0					7.0 - 8.0' No recovery		
	10.0					8.0 - 12.5' FILL: Greyish brown fine to medium sand, trace nodules of reddish brown clay; loose, moist		
	11.0							
	12.0	S-4	NA	3.5			NA	
	13.0					12.5 - 13.5' OL: Brown silt; stiff, moist		
	14.0					13.5 - 14.5' SM: Brown silt, some fine sand; stiff, moist		Sample collected 134-SB-157-1416 from 15.0 - 15.5' bgs @ 15:00
	15.0					14.5 - 15.3' MH: Brown fine sand, some silt; loose, wet		
	16.0					15.3 - 15.5' CL: Brown clay, trace fine brown sand, silt; stiff, moist		
						15.5 - 16.0' No recovery; end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 134, Kellog St, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 134-SB-158
DATE BEGAN: 1/18/2012
DATE FINISHED: 1/18/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57; freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-14.0	S-1	3 4	1.5		14.0 - 14.3' FILL: Light brown silty COPR; stiff, dry 14.3 - 14.6' OH: Black (2/5 YR 2.5/1) silt, some clay, few COPR from 14.3-14.4'; medium stiff, plastic, wet	N/A	Adjacent to HSA-19. Augered to 14 ft bgs before sampling. 134-SB-158-1415 collected from 14.5 - 15.0' bgs @ 14:25
	-15.0		4 6			14.6 - 15.5' PT: Very dark brown (7.5 YR 2.5/3) peat; medium stiff, moist 15.5 - 16.0' No recovery; end of boring at 16'		134-SB-158-1516 collected from 15.0 - 15.5' bgs @ 14:30 (HOLD)
	-16.0							

PREPARED BY: JB
CHECKED BY: MM

Honeywell Study Area - 6 South

LOCATION: Site 134, Kellog St, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 134-SB-159
DATE BEGAN: 1/18/2012
DATE FINISHED: 1/18/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57; freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 15 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-13.0	S-1	5			13.0 - 13.5' FILL: Grayish brown fine to medium sand and clayey COPR, trace black silt; loose, wet	N/A	Adjacent to HSA-20. Augered to 13 ft bgs before sampling.
			3			13.5 - 14.0' OH: Black (2/5 YR 2.5/1) silt, some clay, trace organic material; soft, plastic, wet		134-SB-159-1314 collected from 13.5 - 14.0' bgs @ 14:55
	-14.0		2			14.0 - 15.0' OH: Dark olive gray (5Y 3/2) clay, little silt and organic material; medium stiff, plastic, wet; end of boring at 15'		
			2					134-SB-159-1415 collected from 14.5 - 15.0' bgs @ 15:00
	-15.0							

PREPARED BY: JB
CHECKED BY: MM

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-163
DATE BEGAN: 8-20-14
DATE FINISHED: 8-20-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 9'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	5.0	SS1	9	0.5		5.0 - 5.5' SM: Reddish brown/black fine SAND and SILT	NM	Augered to 5' bgs
			14			5.5 - 7.0' No recovery		
	6.0		12					
			5					
	7.0	SS2	2	1.25		7.0 - 7.3' SM: Reddish brown fine SAND and SILT		Sample taken at 8:40
			2			7.3 - 7.8' OL: Gray SILT with organics		
	8.0		1			7.8 - 8.3' PT: Dark brown PEAT		
			2			8.3 - 9.0' No recovery. End of boring at 9.0' bgs.		
	9.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-164
DATE BEGAN: 8-20-14
DATE FINISHED: 8-20-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 16.5'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	3	1.0		11.0 - 12.0' SM: Reddish brown/gray fine to coarse SAND, trace silt	NM	Augered to 11' bgs
			8					
	12.0		16			12.0 - 13.0' No recovery		
			21					
	13.0	SS2	9	2.0		13.0 - 15.8' SM: Reddish brown/gray fine to coarse SAND, trace silt		
			15					
	14.0		22					
			26					
	15.0	SS3	4	1.5				Sample from 15.25-15.75 at 13:40
			12					
						15.8 - 15.9' OL: Black SILT with organics		
	16.0		16			15.9 - 16.5' PT: Dark brown PEAT		
			15			16.5 - 17.0' No recovery. End of boring at 17.0' bgs.		
	17.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-165
DATE BEGAN: 8-21-14
DATE FINISHED: 8-21-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	3	1.0		11.0 - 12.0' SM: Brown/gray coarse SAND, trace silt	NM	Augered to 11' bgs
			2					
	12.0		2			12.0 - 13.0' No recovery		
			4					
	13.0	SS2	1	1.75		13.0 - 13.3' SM: Brown/gray coarse SAND, trace silt		
			1			13.3 - 14.3' ML: Reddish brown CLAYEY SILT		
	14.0		2					
			3			14.3 - 14.8' OL: Gray SILT with organics		Sample collected from 14.25 at 7:15 DPC test negative
	15.0					14.8 - 15.0' No recovery. End of boring at 15.0' bgs.		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-166
DATE BEGAN: 8-21-14
DATE FINISHED: 8-21-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	6	1.0		11.0 - 12.0' SM: Brownish gray fine to coarse SAND, silt in tip	NM	Augered to 11' bgs
			6					
	12.0		3			12.0 - 13.0' No recovery		
			3					
	13.0	SS2	2	2.0		13.0 - 13.5' SM: Brownish gray fine to coarse SAND, silt in tip		Sample collected at 13:30 DPC test negative
			3			13.5 - 14.0' ML: Reddish brown/black interlayered SILT		
	14.0		2			14.0 - 15.0' OL: Black/dark gray SILT with organic fibers. End of boring at 15.0' bgs.		
			3					
	15.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-174
DATE BEGAN: 9-11-14
DATE FINISHED: 9-11-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 14.5'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
		SS1	8	1.0		10.5 - 11.5' SM: Reddish brown fine SAND and SILT	NM	Augered to 10.5' bgs
	11.0		5					
			4			11.5 - 12.5' No recovery		
	12.0		5					
		SS2	2	1.75		12.5 - 13.3' SM: Dark brown fine SAND and SILT		
	13.0		2					
						13.3 - 13.4' ML: Brown SILT; very hard		Sample collected from 13.25-13.75 at 10:40
			3			13.4 - 13.5' ML: Brown/greenish gray layered SILT		
						13.5 - 13.7' ML: Brown/black layered SILT		
						13.7 - 14.3' OL: Black SILT with organics		
	14.0		3					
						14.3 - 14.5' No recovery. End of boring at 14.5' bgs.		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 134
PROJECT NO: 3480130354
BORING ID: 134-SB-602
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 685197.6285
EAST: 601865.6293

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 4.0' Push to 4.0 ft bgs		
	1.0							
	2.0							
	3.0							
	4.0	S-1	NA	3.5		4.0 - 4.5' FILL: Reddish-brown to dark brown SILT, some medium to fine sand, medium to fine gravel; loose; moist	0.1	Sample 134-SB-602-NI1 from 4.0-6.0 ft bgs @ 1045 (2 jars); EnCore taken from 134-SB-602-NI1 @ 1045
	5.0					4.5 - 5.5' FILL: Brown SILT, lense of black silt, some fine sand; medium dense; moist	1.1 0.5	
	6.0					5.5 - 6.0' FILL: Dark brown clayey SILT, some fine sand; medium dense; moist	1.2	
						6.0 - 7.0' FILL: Dark brown/black CLAY; soft; moist	0.6 0.6	
	7.0					7.0 - 7.5' FILL: Brown coarse to fine SAND, some silt; loose; moist	0.7	
	8.0					7.5 - 8.0' No Recovery	0.3	End of boring at 8 ft bgs.

PREPARED BY: VMW
CHECKED BY: CP

Honeywell

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-603-R
DATE BEGAN: 5/13/14
DATE FINISHED: 5/13/14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct push
DRILL EQUIP: Geoprobe 220
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH:
DRILLER: Gordon Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		N/A	3.0		0.0 - 3.0' FILL: Brown fine SAND, some fine gravel; loose, moist	0.0	Sample 134-SB-603-R1 (0.0'-4.0') @ 11:30
	1.0						0.0	
	2.0						0.0	
	3.0						0.0	
	4.0						0.0	
						3.0 - 4.0' No Recovery		
			N/A	3.5		4.0 - 4.5' FILL: Brown fine SAND, some fine gravel; loose, moist	0.0	
	5.0					4.5 - 5.5' FILL: Brown to olive green SILT, fine sand, some fine gravel; medium dense, moist	0.0	
	6.0					5.5 - 7.5' FILL: Black SILT, fine sand; medium dense, moist	0.0	
	7.0						0.0	
						7.0 - 8.0' No Recovery	0.0	
	8.0		N/A	4.0		8.0 - 10.0' FILL: Reddish brown SILT	0.0	
	9.0						0.0	
	10.0						0.0	
						10.0 - 11.0' ML: Black CLAYEY SILT; loose, wet	0.0	Sample 134-SB-603-R2 (10.4'-12.1') @ 11:45; Encores taken
	11.0						0.4	
						11.0 - 12.0' SP: Brown fine SAND; medium dense, wet; End of boring at 12'	0.0	
	12.0						0.0	

PREPARED BY: GB
CHECKED BY: MS

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 140-MW-08R
DATE BEGAN: 6-6-16
DATE FINISHED: 6-6-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12' bgs
GW DEPTH: 3.5' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	2	2.0		10.0 - 10.5' SW: Gray fine to coarse SAND; loose, wet	NM	Starting elevation 7.5' Augered to 10.0' bgs
			2			10.5 - 12.0' PEAT: Dark brown PEAT. End of boring at 12.0' bgs.		
	11.0		3					
			4					
	12.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 140-MW-09
DATE BEGAN: 2-12-16
DATE FINISHED: 2-12-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14' bgs
GW DEPTH: 4' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	3	2.0		10.0 - 13.8' SW: Gray fine to coarse SAND, trace reddish brown silt; loose, wet	NM	Augered to 10' bgs Starting elevation 8.75' GW elevation 4.75'
			3					
	11.0		4					
			16					Meadow mat expected at -3 elevation (11.75' bgs)
	12.0	SS2	5	2.0				
			6					
	13.0		2					
			3					
						13.8 - 13.9' ML: Black SILT		
	14.0					13.9 - 14.0' OL: Dark gray SILT with organics. End of boring at 14.0' bgs.		

PREPARED BY: CR
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 140-MW-10
DATE BEGAN: 2-11-16
DATE FINISHED: 2-11-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 10' bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0							
		SS1	75	1.75		8.0 - 9.8' SW: Screenings, fine to coarse SAND, crushed concrete; dense, wet	NM	Augered to 8' bgs Starting elevation 7.0'
			35					
	9.0		42					Meadow mat expected at -2 elevation (9.0' bgs)
			7			9.8 - 9.8' OL: Dark gray SILT with organics (tip of shoe)		
						9.8 - 10.0' No recovery. End of boring at 10.0' bgs.		
	10.0							

PREPARED BY: CR
CHECKED BY: NW

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 140-SB-001 | **SITE ID:** 140

DATE BEGAN: 6/20/2005 | **DATE FINISHED:** 6/20/2005 | **INSPECTOR:** CH

DRILLING CO: EPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Hurricane 5500

DRILLER: Ron Higgins | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 20.0 ft bgs | **GW DEPTH:** 5 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT: Asphalt, DGA			
	-1.0							4.3	
	-2.0					FILL: Dark brown, sand, medium - coarse; wood; topsoil		1.9	140-SB-001_010 collected from 1-1.5 ft bgs @ 1603
	-3.0					FILL: Dark brown, sand, med-coarse; gravel, concrete, ash		0	
	-4.0	S-2		4		FILL: Dark brown, clayey sand, med-coarse		0	
-5.0	-5.0					FILL: Dark brown, sand, fine			
	-6.0					FILL: Dark brown - black, clay; organic odor			
	-7.0					FILL: White, sand, med-fine; trace clay silt			
	-8.0	S-3		4		FILL: Reddish brown, silt, hardened mud		0	
	-9.0					FILL: Dark brown, clayey sand, fine; organic odor; wood			
-10.0	-10.0					FILL: Light brown med-fine sand			
	-11.0					FILL: Dark brown, clay; wood; hardened mud fragments			
	-12.0	S-4		3.5		FILL: Dark brown, sandy clay		0	
	-13.0								
	-14.0								
-15.0	-15.0								
	-16.0	S-5		4		FILL: Sand, coarse; gravel, brick; some silt		0	
	-17.0								
	-18.0					PT: Peat			140-SB-001_009 collected from 18.0-18.5t bgs @ 1556
	-19.0					ML: Dark Brown, sandy silt, fine			
-20.0	-20.0					End boring @ 20'			
	-21.0								

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 **BORING NO:** 140-SB-002 **SITE ID:** 140

DATE BEGAN: 6/20/2005 **DATE FINISHED:** 6/20/2005 **INSPECTOR:** CH

DRILLING CO: EPI **DRILLING METHOD:** Direct Push **DRILL EQUIP:** Hurricane 5500

DRILLER: Ron Higgins **NORTH:** **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore **COMPLETION DEPTH:** 20.0 ft bgs **GW DEPTH:** NA

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	3		ASPHALT: Asphalt			
	-1.0					FILL: Light brown, sand, coarse; some coarse gravel		0	140-SB-002_003 collected from 1.5-2.0 ft bgs @ 1412
	-2.0								
	-3.0								
	-4.0	S-2		3		FILL: Light brown, sand, coarse; some coarse gravel			
-5.0	-5.0					FILL: Asphalt, DGA		0	
	-6.0					FILL: Green, gray, & orange, silt; brick, gravel			140-SB-002_004 collected from 6.0-6.5t bgs @ 1416
	-7.0								
	-8.0	S-3		4		FILL: Green, gray, & orange, silt; brick, gravel		0	
	-9.0					FILL: Dark brown, sand, fine; some clay spots			
-10.0	-10.0								140-SB-002_006 collected from 10.0-10.5 bgs @ 1424
	-11.0					FILL: Brown, clay; trace organic material/odor		1.9	
	-12.0	S-4		4		FILL: Sand, fine; green traces (suspected COPR)		0	140-SB-002_005 collected from 11.5-12.0 bgs @ 1420
	-13.0								
	-14.0								
-15.0	-15.0							0	140-SB-002_007 collected from 15.0-15.5 bgs @ 1430
	-16.0	S-5		4		SC: Reddish brown, sandy clay, fine-medium; 10R-3/2			
	-17.0								
	-18.0								
	-19.0								
-20.0	-20.0								140-SB-002_008 collected from 19.5-20.0 bgs @ 1436
	-21.0					End boring @ 20'		0	

Honeywell Study Area - 6 South

PROJECT NO: 3480050143 | **BORING NO:** 140-SB-003 | **SITE ID:** 140

DATE BEGAN: 6/20/2005 | **DATE FINISHED:** 6/20/2005 | **INSPECTOR:** CH

DRILLING CO: EPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Hurricane 5500

DRILLER: Ron Higgins | **NORTH:** | **EAST:**

SAMPLING TOOL: 2-inch diameter macrocore | **COMPLETION DEPTH:** 16.0 ft bgs | **GW DEPTH:** 2 ft bgs

ELEV (FT.)	DEPTH (FT.)	SAMPLE NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	USCS	VOLATILE ORGANIC VAPORS (PPM) PID	REMARKS
0.0	0.0	S-1	N/A	4		ASPHALT: Asphalt, DGA		0	
	-1.0					FILL: Topsoil; some gravel, medium - coarse		1.9	
	-2.0					FILL: Brown, sand, medium - coarse; trace topsoil		2.2 0	140-SB-003_011 collected from 1.5-2.0 ft bgs @ 1115
	-3.0					FILL: Dark brown - black, sand, medium - coarse			140-SB-003_012 collected from 1.5-2.0 bgs @ 1116
	-4.0	S-2		4					140-SB-003_013 collected from 3.5-4.0 bgs @ 1119
-5.0	-5.0					FILL: Red - brown, clay; some sand, coarse			
	-6.0					FILL: Red - brown, sand, coarse			
	-7.0					FILL: Red - brown, clay; some sand, coarse			
	-8.0	S-3		4		FILL: Reddish brown, sand; some clay		0	140-SB-003_014, MS_015 and MD_016 collected from 7.5-8.0 bgs @ 1123
-10.0	-9.0								
	-10.0								
	-11.0								
	-12.0	S-4		4				0	140-SB-003_017 collected from 11.5-12.0 bgs @ 1129
	-13.0								
	-14.0					FILL: Reddish brown, clayey sand, coarse			
-15.0	-15.0					FILL: Brown - black, clay; trace organics			140-SB-003_018 collected from 15.0-15.5 bgs @ 1135
	-16.0					PT: Peat		19.8 24.7	140-SB-003_019 collected from 15.0-15.5 bgs @ 1136
	-17.0					End boring @ 16'			
	-18.0								

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-003A
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 0.9' ASPHALT	0	
	-1.0					0.9 - 1.2' CONCRETE	0	
	-2.0					1.2 - 3.5' FILL: brown silty sand, some fine to medium gravel and clayey silt lenses; moist	0	
	-3.0						0	
	-4.0	S-2	N/A	4.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 12.0' FILL: brown silty sand, trace shells and fine to medium gravel; wet from 4.0'	0	
	-6.0						0	
	-7.0						0	
	-8.0	S-3	N/A	4.0			0	
	-9.0						0	
	-10.0						0	
	-11.0						0	
	-12.0	S-4	N/A	4.0		12.0 - 13.0' FILL: light brown clayey silt; moist	0	
	-13.0					13.0 - 14.0' FILL: light brown/black silt; moist	0	
	-14.0					14.0 - 16.0' PT: dark brown peat; moist; end of boring at 16'	0	
	-15.0						0	140-SB-003A-1416 from 15.0-15.5' bgs @ 1440
	-16.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-004
DATE BEGAN: 7/10/08
DATE FINISHED: 7/10/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: 4' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel, dry	0	
	-1.0					0.8 - 1.5' FILL: Dark brown angular gravel (fine-coarse), some silt; moist		
	-2.0					1.5 - 3.5' FILL: Red brown sandy silt, some angular gravel, 2" lens of light gray/white clay at 3.3'; stiff, moist		140-SB-004_0002 collected from 1.5-2' bgs @ 8:42
	-3.0							140-SB-004_0204 collected form 3-3.5' bgs @ 8:45
	-4.0	S-2	NA	4.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 4.5' FILL: Light brown sand and gravel (fine-coarse); loose, wet		140-SB-004_0406 collected from 4.5-5' bgs @ 8:48
	-6.0					4.5 - 5.0' FILL: Light brown sandy clay, some gravel (fine-medium); wet		
	-7.0					5.0 - 7.5' FILL: Clayey sand, lenses of fine-medium sand; firm, wet		140-SB-004_0608 collected from 7-7.5' bgs @ 8:51
	-8.0	S-3	NA	4.0		7.5 - 8.0' FILL: Light brown sand (fine-medium), wet	0	
	-9.0					8.0 - 11.5' FILL: Light brown sand (fine-coarse); firm, wet		140-SB-004_0810 collected from 9-9.5' bgs @ 9:20
	-10.0							
	-11.0							140-SB-004_1012 collected from 11-11.5' bgs @ 9:23
	-12.0	S-4	NA	4.0		11.5 - 12.0' FILL: Light brown silty clay, trace shells; soft, wet	0	
	-13.0					12.0 - 12.5' FILL: Light brown sand (fine-medium) and silt; loose, wet		140-SB-004_1214 collected form 13-13.5' bgs @ 9:40
	-14.0					12.5 - 15.5' FILL: Light brown silty clay; soft, wet		
	-15.0					15.5 - 16.0' OL: Dark brown/black silt and clay, organic odor, peat in tip; soft, wet; end of boring at 16'		140-SB-004_1416 collected from 15-15.5' bgs @ 9:43
	-16.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-005
DATE BEGAN: 7/10/08
DATE FINISHED: 7/10/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: 4' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	140-SB-005_0002 collected from 1-1.5' bgs @ 10:15
	-1.0					0.8 - 1.5' FILL: Brown silt and trace sand; firm, moist		
	-2.0					1.5 - 2.0' FILL: Dark brown gravel (fine-medium), trace sand; moist		140-SB-005_0204 collected from 2-2.5' bgs @ 10:18
	-3.0					2.0 - 2.5' FILL: Red brown silt, 1" olive green COPR lens at 2.15', 1" concrete at 2.25'		
	-4.0	S-2	NA	4.0		2.5 - 4.0' No recovery	0	140-SB-005_0406 collected from 4-4.5' bgs @ 10:25
	-5.0					4.0 - 5.0' FILL: Brown gravelly sand, some clay and silt; wet		
	-6.0					5.0 - 7.5' FILL: Light red/brown sand (fine-medium), trace clay lenses; wet		140-SB-005_0608 collected form 6.5-7' bgs @ 10:28
	-7.0							
	-8.0	S-3	NA	4.0		7.5 - 8.0' FILL: Light brown sand (fine-medium), some clay; wet	0	140-SB-005_0810 collected from 9-9.5' bgs @ 10:45
	-9.0					8.0 - 12.0' FILL: Light brown sand (fine-medium), trace clay lenses; compact, wet		
	-10.0							140-SB-005_1012 collected form 11.5-12' bgs @ 10:48
	-11.0							
	-12.0	S-4	NA	4.0		12.0 - 13.0' FILL: Light brown silty clay, trace sand; very soft, wet	0	140-SB-005_1214 collected from 12.5-13' bgs @ 11:15
	-13.0					13.0 - 15.5' OL: Dark brown organic silty clay, wet		
	-14.0							140-SB-005_1416 collected from 14-14.5' bgs @ 11:18
	-15.0					15.5 - 16.0' OL: Light brown organic silt and clay, some peat; end of boring at 16'		
	-16.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-006
DATE BEGAN: 7/10/08
DATE FINISHED: 7/10/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 17' bgs
GW DEPTH: 4' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	0.0		0.0 - 4.0' No recovery	0	Liner stuck in macrocore
	-1.0							
	-2.0							Switched from truck-mounted 5410 rig to 6610 DT track rig and resumed drilling
	-3.0							
	-4.0	S-2	NA	4.0		4.0 - 4.5' FILL: Red brown gravelly sand and clay, wet	0	140-SB-006_0406 collected from 4.5-5' bgs @ 13:13
	-5.0					4.5 - 5.0' FILL: Red brown sandy silt; firm, moist		
	-6.0					5.0 - 7.0' FILL: Brown silty clay, trace gravel; wet		
	-7.0					7.0 - 8.0' FILL: Light brown sand (fine-medium); compact, wet		140-SB-006_0608 collected from 7-7.5' bgs @ 13:16
	-8.0	S-3	NA	4.0		8.0 - 10.0' FILL: Light brown sand (fine-coarse), compact, wet	0	140-SB-006_0810 collected from 8-8.5' bgs @ 13:26
	-9.0							
	-10.0					10.0 - 12.0' FILL: Light brown sand (fine-medium), trace clay; wet		
	-11.0							140-SB-006_1012 collected from 11-11.5' bgs @ 13:28
	-12.0	S-4	NA	4.0		12.0 - 12.5' FILL: Light brown sand (fine); dense, wet	0	
	-13.0					12.5 - 15.5' FILL: Light brown silty clay; very soft, wet		140-SB-006_1214 collected from 12.5-13' bgs @ 13:37; DUP @ 13:40
	-14.0							
	-15.0					15.5 - 16.0' OH: Dark brown/black silty clay, organic material; soft		140-SB-006_1416 collected from 15-15.5' bgs @ 13:43
	-16.0	S-5	NA	1.0		16.0 - 17.0' PT: Peat, sand in tip; end of boring at 17'	0	Driller grouted borehole
	-17.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-007
DATE BEGAN: 7/10/08
DATE FINISHED: 7/10/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: 5.75' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.5 - 1.0' FILL: Light brown silt, some angular gravel; dry		
	-1.0					1.0 - 1.5' FILL: Asphalt and gravel, dry		140-SB-007_0002 collected from 1.5-2' bgs @ 14:35
	-2.0					1.5 - 3.5' FILL: Dark brown/black silt; stiff, moist		
	-3.0							140-SB-007_0204 collected from 3-3.5' bgs @ 14:38
						3.5 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 4.3' FILL: Dark brown/black silt; stiff, moist	0	140-SB-007_0406 collected from 4-4.5' bgs @ 14:45; DUP @ 14:46
	-5.0					4.3 - 4.5' FILL: Black sand (medium-coarse) and gravel, dry		
						4.5 - 4.8' FILL: Dark brown/black silty clay, moist		
	-6.0					4.8 - 5.8' FILL: Concrete		140-SB-007_0608 collected from 6.5-7' bgs @ 14:48
	-7.0					5.8 - 6.5' FILL: Red brown sand (medium-coarse), tracel clay; wet		
						6.5 - 7.8' FILL: Red brown/brown silty clay; firm, wet		
	-8.0	S-3	NA	4.0		7.8 - 8.0' FILL: Dark brown sand (fine-medium); compact, wet	0	140-SB-007_0810 collected from 8-8.5' bgs @ 14:55
	-9.0					8.0 - 9.0' FILL: Light brown sand (fine-medium), trace rounded gravel (fine); dense, wet		
	-10.0					9.0 - 11.0' FILL: Light brown sand (fine-medium), trace rounded gravel (fine); dense, wet		
	-11.0					11.0 - 12.0' FILL: Light brown sand (fine), 1" silty clay lenses @ 11.2', 11.5', and 11.75', wet		
	-12.0	S-4	NA	4.0			0	140-SB-007_1012 collected from 11.5-12' bgs @ 14:58

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-007
DATE BEGAN: 7/10/08
DATE FINISHED: 7/10/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18' bgs
GW DEPTH: 5.75' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-12.0							
	-13.0					12.0 - 14.0' FILL: Light brown clayey silt; very soft, wet		140-SB-007_1214 collected form 13.5-14' bgs @ 15:09
	-14.0					14.0 - 15.0' FILL: Light/yellow brown silty clay, wet		
	-15.0					15.0 - 16.0' FILL: Dark/light brown silty clay, some angular gravel (fine-medium), less clay at tip, wet		140-SB-007_1416 collected from 15.5-16' bgs @ 15:12
	-16.0	S-5	NA	2.0		16.0 - 17.5' CL: Light/dark brown/black clay, some silt; soft, wet, organic odor	0	
	-17.0							
	-18.0					17.5 - 18.0' PT: Peat; end of boring at 18'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-007R
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft. bgs
GW DEPTH: 5.75' bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.5 - 1.0' FILL: Light brown silt, some angular gravel; dry		
	1.0					1.0 - 1.5' FILL: Asphalt and gravel, dry		
	2.0					1.5 - 3.5' FILL: Dark brown/black silt; stiff, moist		
	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 4.3' FILL: Dark brown/black silt; stiff, moist	0	
						4.3 - 4.5' FILL: Black sand (medium-coarse) and gravel, dry		
	5.0					4.5 - 4.8' FILL: Dark brown/black silty clay, moist		
	6.0					4.8 - 5.8' FILL: Concrete		
	7.0					5.8 - 6.5' FILL: Red brown sand (medium-coarse), tracel clay; wet		
	8.0	S-3	NA	4.0		6.5 - 7.8' FILL: Red brown/brown silty clay; firm, wet	0	
						7.8 - 8.0' FILL: Dark brown sand (fine-medium); compact, wet		
	9.0					8.0 - 9.0' FILL: Light brown sand (fine-medium), trace rounded gravel (fine); dense, wet		
	10.0					9.0 - 11.0' FILL: Light brown sand (fine-medium), trace rounded gravel (fine); dense, wet		
	11.0					11.0 - 12.0' FILL: Light brown sand (fine), 1" silty clay lenses @ 11.2', 11.5', and 11.75', wet		
	12.0	S-4	NA	4.0			0	

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: **140-SB-007R**
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 18 ft. bgs
GW DEPTH: 5.75' bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0					12.0 - 14.0' FILL: Light brown clayey silt; very soft, wet		
	14.0					14.0 - 15.0' FILL: Light/yellow brown silty clay, wet		
	15.0					15.0 - 16.0' FILL: Dark/light brown silty clay, some angular gravel (fine-medium), less clay at tip, wet		
	16.0	S-5	NA	2.0		16.0 - 17.5' CL: Black clayey silt	0	140-SB-007R-1618 collected from 16.0-16.5' bgs @ 9:50
	17.0					17.5 - 18.0' PT: Brown peat; moist; end of boring at 18' bgs.		
	18.0							

PREPARED BY: JB
CHECKED BY: BS

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-008
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: B. Senna/T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: 5.5' bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	
	-1.0					1.0 - 2.0' FILL: Dark brown silty sand (fine), some gravel (fine-medium); moist		140-SB-008_0002 collected from 1.5-2' bgs @ 7:35
	-2.0					2.0 - 3.5' FILL: Red brown silt, some sand (fine-medium); moist		
	-3.0							140-SB-008_0204 collected from 3-3.5' bgs @ 7:40
	-4.0	S-2	NA	3.0		3.5 - 4.0' No recovery	0	
	-5.0					4.0 - 4.8' FILL: Dark brown silty sand (fine), some gravel (fine), trace metal fragments		140-SB-008_0406 collected from 4.5-5' bgs @ 7:45
	-6.0					4.8 - 7.0' FILL: Light brown sand (fine-medium), some red brown silt lenses; moist, wet from 5.5'		
	-7.0					7.0 - 8.0' No recovery		140-SB-008_0608 collected form 6.5-7' bgs @ 7:50
	-8.0	S-3	NA	3.0		8.0 - 9.5' FILL: Light brown sand (fine), trace silt; wet	0	
	-9.0							140-SB-008_0810 collected from 8.5-9' bgs @ 7:55
	-10.0					9.5 - 10.5' FILL: Red/light brown silt, some sand (fine); wet		
	-11.0					10.5 - 10.8' FILL: Light brown clayey silt		140-SB-008_1012 collected from 10.5-11' bgs @ 8:00
	-12.0	S-4	NA	3.0		10.8 - 11.0' FILL: Light brown silt	0	
	-13.0					11.0 - 12.0' No recovery		140-SB-008_1214 collected from 12-12.5' bgs @ 8:05
	-14.0					12.0 - 13.0' FILL: Light brown clayey silt; firm, moist		
	-15.0					13.0 - 15.0' FILL: Brown clayey silt, trace organic material from 14.9'		
	-16.0					15.0 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-009
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: B. Senna/T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: 5.25' bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.5' ASPHALT	0	Driller cored through asphalt and concrete
	-1.0					0.5 - 1.5' CONCRETE		
	-2.0	S-1	NA	1.5		1.5 - 3.0' FILL: Red brown silty sand (fine), some gravel (fine-coarse), trace coal and glass from 2.5-3' bgs; firm, dry		140-SB-009_0002 collected from 1.5-2' bgs @ 8:30 140-SB-009_0204 collected from 2.5-3' bgs @ 8:35
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 5.3' FILL: Light brown silt, trace sand (fine); firm, moist	0	140-SB-009_0406 collected from 4.5-5' bgs @ 8:40
	-5.0					5.3 - 8.0' FILL: Light brown sand (fine-medium) with red brown lenses of silt, wet		140-SB-009_0608 collected from 7-7.5' bgs @ 8:45
	-6.0							
	-7.0							
	-8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Brown sand (fine-medium) and silt; very soft, wet	0	140-SB-009_0810 collected from 8.5-9' bgs @ 8:57
	-9.0					9.0 - 12.0' FILL: Light brown sand (fine-medium), silt at tip; compact, wet		140-SB-009_1012 collected from 11-11.5' bgs @ 9:00
	-10.0							
	-11.0							
	-12.0	S-4	NA	4.0		12.0 - 13.0' FILL: Sand (fine-coarse); very loose, wet	0	140-SB-009_1214 collected from 13-13.5' bgs @ 9:08
	-13.0					13.0 - 15.0' FILL: Sand (fine-coarse); compact, wet		140-SB-009_1416 collected from 14.5-15' bgs @ 9:10
	-14.0							
	-15.0							
	-16.0					15.0 - 16.0' CL: Light/dark brown silty clay, organic odor; end of boring at 16'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-010
DATE BEGAN: 7/11/08
DATE FINISHED: 7/11/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: 4.25' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	-1.0					0.8 - 2.0' FILL: Red brown silt, some angular gravel (fine-medium), bright green mottling (COPR) from 1-1.5' bgs; stiff, dry		140-SB-010_0002 collected from 1-1.5' bgs @ 9:35
	-2.0					2.0 - 3.0' FILL: Brown/red brown silt, trace clay; firm, moist		140-SB-010_0204 collected from 2.5-3' bgs @ 9:40
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	4.0		4.0 - 4.3' FILL: Brown/red brown silt, trace clay; firm, moist	0	140-SB-010_0406 collected from 4-4.5' bgs @ 9:43; DUP @ 9:44
	-5.0					4.3 - 5.0' FILL: Red/dark brown sandy silt, trace clay; soft, wet		
	-6.0					5.0 - 8.0' FILL: Red/light brown clayey silt, some sand; stiff, wet		
	-7.0							
	-8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Red/light brown clayey silt, some sand; loose, wet	0	140-SB-010_0608 collected from 7.5-8' bgs @ 9:45
	-9.0					9.0 - 11.0' FILL: Light/red brown sand (fine-medium); compact, wet		140-SB-010_0810 collected from 9-9.5' bgs @ 9:51
	-10.0							
	-11.0					11.0 - 12.0' FILL: Red/light brown silty sand; compact, wet		140-SB-010_1012 collected from 11-11.5' bgs @ 9:53
	-12.0	S-4	NA	4.0		12.0 - 14.0' OL: Light brown organic clayey silt; firm, moist	0	140-SB-010_1214 collected from 12.5-13' bgs @ 10:03
	-13.0							
	-14.0					14.0 - 15.0' OH: Dark brown organic clay; firm, moist		
	-15.0					15.0 - 16.0' PT: Peat; end of boring at 16'		
	-16.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-010R
DATE BEGAN: 10/25/10
DATE FINISHED: 10/25/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 4.25' bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	1.0					0.8 - 2.0' FILL: Red brown silt, some angular gravel (fine-medium), bright green mottling (COPR) from 1-1.5' bgs; stiff, dry		
	2.0					2.0 - 3.0' FILL: Brown/red brown silt, trace clay; firm, moist		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 4.3' FILL: Brown/red brown silt, trace clay; firm, moist	0	
	5.0					4.3 - 5.0' FILL: Red/dark brown sandy silt, trace clay; soft, wet		
	6.0					5.0 - 8.0' FILL: Red/light brown clayey silt, some sand; stiff, wet		
	7.0							
	8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Red/light brown clayey silt, some sand; loose, wet	0	
	9.0					9.0 - 11.0' FILL: Light/red brown sand (fine-medium); compact, wet		
	10.0							
	11.0					11.0 - 12.0' FILL: Red/light brown silty sand; compact, wet		
	12.0	S-4	NA	4.0		12.0 - 14.0' OL: Light brown organic clayey silt; firm, moist	0	
	13.0							
	14.0					14.0 - 15.0' OH: Dark brown clayey silt		140-SB-010R-1416 collected from 14.5 - 15.0' bgs @ 10:45; DUP at 10:47
	15.0					15.0 - 16.0' PT: Peat; end of boring at 16' bgs.		
	16.0							

PREPARED BY: BS
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-011
DATE BEGAN: 7/7/08
DATE FINISHED: 7/7/08
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 3' bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	
	-1.0					1.0 - 2.8' FILL: Black silty sand (fine), some brick, concrete, glass, and coal		140-SB-011_0002 collected from 1-1.5' bgs @ 13:10
	-2.0					2.8 - 3.0' FILL: Gravelly sand, some concrete and glass; wet		140-SB-011_0204 collected from 2.5-3' bgs @ 13:15
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	3.0		4.0 - 4.3' FILL: Gravelly sand, some concrete and glass; wet	0	
	-5.0					4.3 - 5.8' FILL: Light brown silt, some sand (fine-coarse); wet		140-SB-011_0406 collected from 4.5-5' bgs @ 13:20
	-6.0					5.8 - 7.0' FILL: Light brown sand (fine-medium), wet		140-SB-011_0608 collected from 6.5-7' bgs @ 13:25
	-7.0					7.0 - 8.0' No recovery		
	-8.0	S-3	NA	3.5		8.0 - 10.0' FILL: Light brown sand (fine-coarse), wet	0	140-SB-011_0810 collected from 8.5-9' bgs @ 13:30: DUP @ 13:35
	-9.0							
	-10.0					10.0 - 11.0' FILL: Red brown/light brown silt, trace sand (fine) and organic material		140-SB-011_1012 collected from 10-10.5' bgs @ 13:40
	-11.0					11.0 - 11.5' PT: Dark brown peat		
	-12.0					11.5 - 12.0' No recovery; end of boring at 12'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-012
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4' bgs
DRILLER: Moustafa Abouelmagd
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' ASPHALT: Asphalt, gravel and concrete	0	
	-1.0					1.0 - 1.8' FILL: Light grey sand (fine-coarse), silt, and gravel (fine-coarse); dry		140-SB-012_0002 collected from 1-1.5' bgs @ 7:27
	-2.0					1.8 - 2.5' FILL: Dark brown/black silt and sand (fine); compact, moist		140-SB-012_0204 collected from 2-2.5' bgs @ 7:29
	-3.0					2.5 - 3.0' FILL: Wood, brick and silt; moist		
						3.0 - 4.0' No recovery		
	-4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Dark brown sand (coarse), some brick, wood, and silt; wet	0	
	-5.0					4.5 - 5.0' FILL: Light brown silt, trace clay; wet		140-SB-012_0406 collected from 4.5-5' bgs @ 7:33
	-6.0					5.0 - 6.5' FILL: Light brown/brown clay and silt, wet		
	-7.0					6.5 - 7.5' FILL: Light brown sand (fine-medium), some clay lenses; wet		140-SB-012_0608 collected from 7-7.5' bgs @ 7:35
						7.5 - 8.0' No recovery		
	-8.0	S-3	NA	4.0		8.0 - 9.0' FILL: Light brown sand (fine-medium), some clay lenses; wet	0	
	-9.0					9.0 - 10.0' FILL: Light brown silty clay, soft, moist		140-SB-012_0810 collected from 9-9.5' bgs @ 7:45
	-10.0					10.0 - 11.5' FILL: Dark brown silty clay, some sand (fine) from 10.5-11', moist		140-SB-012_1012 collected from 10-10.5' bgs @ 7:48
	-11.0							
	-12.0					11.5 - 12.0' PT: Dark brown peat; end of boring at 12'		

PREPARED BY: EMJ
CHECKED BY: JB

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-013
DATE BEGAN: 6/25/08
DATE FINISHED: 6/25/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4' bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 2.0' FILL: Dark/light brown silt, sand (fine-coarse), and gravel (fine-coarse), concrete from 0.75-1'; dry	0	140-SB-013_0002 collected from 0.5-1' bgs @ 7:27
	-1.0							
	-2.0					2.0 - 2.5' FILL: Dark brown silt, trace fine sand; firm, moist		
	-3.0					2.5 - 3.0' FILL: Dark brown sand (fine-coarse) and gravel, some brick and glass; moist		140-SB-013_0204 collected from 2.5-3' bgs @ 7:29
	-4.0	S-2	NA	4.0		3.0 - 4.0'	0	
	-5.0					4.0 - 5.5' FILL: Light brown sand (fine-coarse) with olive mottling, trace clay and organic material; wet		140-SB-013_0406 collected from 4.5-5' bgs @ 7:33
	-6.0					5.5 - 6.0' FILL: Light brown sand (fine-coarse), wet		
	-7.0					6.0 - 8.0' FILL: Light brown sand (fine-medium), trace clay, more clay from 7-7.5'; saturated		140-SB-013_0608 collected from 7.5-8' bgs @ 7:35
	-8.0	S-3	NA	4.0		8.0 - 11.0' FILL: Light brown sand (fine-medium), saturated	0	140-SB-013_0810 collected from 8.5-9' bgs @ 7:45
	-9.0							
	-10.0							
	-11.0					11.0 - 11.8' FILL: Light/red brown silty clay and trace sand (fine), wet		140-SB-013_1012 collected from 11-11.5' bgs @ 7:48
	-12.0					11.8 - 12.0' PT: Dark brown peat; end of boring at 12'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-014
DATE BEGAN: 6/25/08
DATE FINISHED: 6/25/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4.5' bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 2.0' FILL: Yellow/dark brown silt, sand (fine-coarse), and gravel (fine-coarse); dry		140-SB-014_0002 collected from 0.5-1' bgs @ 8:21
	-1.0							
	-2.0					2.0 - 3.0' FILL: Yellow brown sand (medium-coarse), dry	115	140-SB-014_0204 collected from 2.5-3' bgs @ 8:23
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	NA	3.0		4.0 - 4.3' FILL: Yellow brown sand (medium-coarse), dry	0	
	-5.0					4.3 - 5.5' FILL: Light/greyish brown silty clay, wet		140-SB-014_0406 collected from 4.5-5' bgs @ 8:34
	-6.0					5.5 - 7.0' FILL: Light brown sand (fine-coarse), trace clay; wet		140-SB-014_0608 collected from 6-6.5' bgs @ 8:36
	-7.0					7.0 - 8.0' No recovery		
	-8.0	S-3	NA	4.0		8.0 - 10.0' FILL: Light brown sand (fine-medium), wet	0	140-SB-014_0810 collected from 8.5-9' bgs @ 8:42
	-9.0							
	-10.0					10.0 - 12.0' FILL: Light red brown sand (fine), peat in tip, wet; end of boring at 12'		140-SB-014_1012 collected from 10.5-11' bgs @ 8:45
	-11.0							
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-015
DATE BEGAN: 6/24/08
DATE FINISHED: 6/24/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 12' bgs
GW DEPTH: 4.5' bgs
DRILLER: E Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' ASPHALT	0	Driller cored through asphalt and concrete
	-1.0					0.5 - 2.0' CONCRETE		
	-2.0					2.0 - 3.0' FILL: Red brown silt; stiff, dry		
	-3.0					3.0 - 4.0' FILL: Dark brown/black silt; stiff, moist		140-SB-015_0204 collected from 3.5-4' bgs @ 12:31
	-4.0	S-2	NA	3.5		4.0 - 4.5' FILL: Red/dark brown silt and gravel (coarse), trace sand, moist	0	
	-5.0					4.5 - 6.5' FILL: Dark brown/black silt and sand (fine); firm, wet		140-SB-015_0406 collected from 5-5.5' bgs @ 12:40
	-6.0					6.5 - 7.0' FILL: Grey/light green silt (COPR), some organic material; dark brown with olive mottling at 6.6', wet		140-SB-015_0608 collected from 6.5-7' bgs @ 12:42
	-7.0					7.0 - 7.5' FILL: Dark brown clay, silt and wood, wet		
	-8.0	S-3	NA	4.0		7.5 - 8.0' No recovery	0	
						8.0 - 9.0' FILL: Dark brown silty clay, saturated		
	-9.0					9.0 - 10.0' FILL: Dark brown/black sandy clay, wet		140-SB-015_0810 collected from 9-9.5' bgs @ 12:45
	-10.0					10.0 - 12.0' PT: Dark brown peat; end of boring at 12'		Hydrogen sulfide detected with multi-gas meter
	-11.0							
	-12.0							

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-016
DATE BEGAN: 6/25/08
DATE FINISHED: 6/25/08
INSPECTOR: E Jackson/ T Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16' bgs
GW DEPTH: 4' bgs
DRILLER: E Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.3' FILL: Silt and sand (coarse), dry	0	
	-1.0					0.3 - 1.0' FILL: Light/red brown sand (fine-coarse), some gravel (fine-medium); dry		140-SB-016_0002 collected from 1-1.5' bgs @ 9:27
	-2.0					1.0 - 1.5' FILL: Dark brown sand (fine-coarse), silt and gravel, trace concrete; moist		
	-3.0					1.5 - 2.0' FILL: Red brown sand (fine) and silt, moist		
	-4.0	S-2	NA	4.0		2.0 - 4.0' No recovery	0	
	-5.0					4.0 - 5.0' FILL: Light brown silty sand (coarse), trace clay; wet		140-SB-016_0406 collected from 4.5-5' bgs @ 9:35
	-6.0					5.0 - 8.0' FILL: Light/red brown sand (fine-medium), trace clay, clay lenses from 6.5-7'; wet		
	-7.0							
	-8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Light brown sand (fine-medium), trace organic material from 8-9'; wet	0	140-SB-016_0608 collected from 7.5-8' bgs @ 9:38
	-9.0							140-SB-016_0810 and DUP collected from 8.5-9' bgs @ 9:45
	-10.0							
	-11.0							140-SB-016_1012 collected from 11-11.5' bgs @ 9:47
	-12.0	S-4	NA	2.0		12.0 - 15.0' FILL: Light brown sand (fine-medium), wet	0	
	-13.0							
	-14.0	S-5	NA	2.0			0	140-SB-016_1214 collected from 13.5-14' bgs @ 9:52
	-15.0							140-SB-016_1416 collected from 14-14.5' bgs @ 10:11
	-16.0					15.0 - 16.0' PT: Peat and silt; end of boring at 16'		

PREPARED BY: EMJ
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-016A
DATE BEGAN: 09/30/2008
DATE FINISHED: 09/30/2008
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610 DT
SAMPLING TOOL: Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 4.25' bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' FILL: Silt and sand (coarse), dry 0.3 - 1.0' FILL: Light/red brown sand (fine-coarse), some gravel (fine-medium); dry 1.0 - 1.5' FILL: Dark brown sand (fine-coarse), silt and gravel, trace concrete; moist 1.5 - 4.0' FILL: Red brwon sand (fine) and silt; moist	0	140-SB-016A-0002 collected from 1.0 - 1.5' bgs
	1.0							
	2.0							
	3.0							
	4.0							

PREPARED BY: BS
CHECKED BY: TG

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-017
DATE BEGAN: 7/29/08
DATE FINISHED: 7/29/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Gordon Blewitt
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.8' ASPHALT: asphalt and gravel	0	
	-1.0					0.8 - 2.0' FILL: light brown silty sand with fine gravel	0	140-SB-017-0002 from 1.0-1.5' bgs @ 1005
	-2.0					2.0 - 3.0' FILL: light brown silty sand with fine to coarse gravel; moist	0	140-SB-017-0204 from 2.0-2.5' bgs @ 1010
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	3.5		4.0 - 5.5' FILL: light brown silty sand with fine to coarse gravel; moist	0	140-SB-017-0406 from 4.0-4.5' bgs @ 1015
	-5.0					5.5 - 7.5' FILL: dark brown/reddish brown fine sand, trace silt; wet	0	
	-6.0					7.5 - 8.0' No recovery	0	
	-7.0					8.0 - 11.5' FILL: dark brown fine to medium sand, trace shells and fine gravel; wet	0	140-SB-017-0608 from 7.0-7.5' bgs @ 1020
	-8.0	S-3	N/A	4.0			0	140-SB-017-0810 from 8.5-9.0' bgs @ 1025
	-9.0						0	
	-10.0						0	
	-11.0						0	140-SB-017-1012 from 11.0-11.5' bgs @ 1030
	-12.0	S-4	N/A	3.5		11.5 - 14.5' PT: dark brown peat; moist	0	
	-13.0						0	140-SB-017-1214 from 12.5-13.0' bgs @ 1035
	-14.0						0	
	-15.0					14.5 - 15.5' SM: dark brown fine sand, some organic material, trace silt; moist	0	140-SB-017-1416 from 15.0-15.5' bgs @ 1040
	-16.0	S-5	N/A	3.0		15.5 - 16.0' No recovery	0	
	-17.0					16.0 - 16.8' SP: light brown/light grey fine sand; moist	0	140-SB-017-1618 from 16.5-17.0' bgs @ 1045
	-18.0					16.8 - 18.3' SM: light grey silty sand; moist	0	
	-19.0					18.3 - 19.0' SP: light brown fine sand, trace silt; moist		140-SB-017-1820 from 18.5-19.0' bgs @ 1050
	-20.0					19.0 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-018
DATE BEGAN: 8/7/08
DATE FINISHED: 8/7/08
INSPECTOR: B. Senna/W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Dave Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.75		0.0 - 0.5' ASPHALT	0	
	-1.0					0.5 - 2.0' FILL: brown silty sand, trace fine to coarse gravel	0	140-SB-018-0002 from 1.0-1.5' bgs @ 1510
	-2.0					2.0 - 3.0' FILL: white silt (COPR)	0	140-SB-018-0204 from 2.0-2.5' bgs @ 1515
	-3.0					3.0 - 3.8' FILL: brown silty sand, trace fine to coarse gravel, moist	0	
	-4.0	S-2	N/A	3.0		3.8 - 4.0' No recovery	0	
	-5.0					4.0 - 5.5' FILL: dark brown silty sand, trace fine to coarse gravel; wet	0	140-SB-018-0406 from 4.5-5.0' bgs @ 1520
	-6.0					5.5 - 7.0' FILL: light brown silty sand, trace fine to medium gravel and coarse coal; wet	0	140-SB-018-0406 for SVOCs and metals from 5.0-5.5' bgs @ 1523
	-7.0					7.0 - 8.0' No recovery		140-SB-018-0608 from 6.5-7.0' bgs @ 1525
	-8.0	S-3	N/A	3.5		8.0 - 11.0' FILL: light brown silty sand, trace fine to coarse gravel and shell fragments; wet	0	
	-9.0						0	140-SB-018-0810 from 8.5-9.0' bgs @ 1530
	-10.0						0	
	-11.0					11.0 - 11.5' PT: peat; moist	0	140-SB-018-1012 from 10.5-11.0' bgs @ 1535
	-12.0	S-4	N/A	3.5		11.5 - 12.0' No recovery	0	
	-13.0					12.0 - 15.5' PT: dark brown peat; moist	0	140-SB-018-1214 from 12.5-13.0' bgs @ 1540
	-14.0						0	140-SB-018-1416 from 14.0-14.5' bgs @ 1545
	-15.0						0	
	-16.0					15.5 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-019
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 0.5' ASPHALT: asphalt and gravel	0	
						0.5 - 1.8' FILL: light brown silty sand with fine to coarse gravel, dry	0	140-SB-019-0002 from 1.0-1.5' bgs @ 1220
	-1.0							
	-2.0					1.8 - 2.0' FILL: medium to coarse gravel, dry		
						2.0 - 3.5' FILL: dark brown silt with some fine sand; stiff; dry	0	140-SB-019-0204 from 3.0-3.5' bgs @ 1225
	-3.0						0	
						3.5 - 4.0' No recovery		
	-4.0	S-2	N/A	1.5		4.0 - 5.5' FILL: dark brown silty sand with trace fine gravel; wet at tip	0	
	-5.0						0	140-SB-019-0406 from 5.0-5.5' bgs @ 1230
						5.5 - 6.0' No recovery; end of boring at 6.0'		
	-6.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-020
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.8' ASPHALT: asphalt and gravel	0	
	-1.0					0.8 - 3.0' FILL: light brown fine sand with fine to coarse gravel, trace coal, dry	0	140-SB-020-0002 from 1.0-1.5' bgs @ 1240
	-2.0						0	
	-3.0							140-SB-020-0204 from 2.5-3.0' bgs @ 1245
						3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	2.0		4.0 - 5.0' FILL: dark brown fine to medium sand; dense, moist	0	
	-5.0					5.0 - 6.0' FILL: dark brown silt; stiff, wet from 5.5'; end of boring at 6.0'	0	140-SB-020-0406 from 5.0-5.5' bgs @ 1250
	-6.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480059143
BORING ID: 140-SB-021
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: Not encountered
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.8' ASPHALT: asphalt and gravel	0	
	-1.0					0.8 - 3.0' FILL: light brown fine sand, some fine to coarse gravel and fine to medium wood	0	140-SB-021-0002 from 1.5-2.0' bgs @ 1310
	-2.0						0	140-SB-021-0204 from 2.0-2.5' bgs @ 1315
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	2.0		4.0 - 4.8' FILL: crushed brick	0	
	-5.0					4.8 - 6.0' FILL: reddish brown/brown silt, some lenses of black silt; end of boring at 6'	0	140-SB-021-0406 from 5.0-5.5' bgs @ 1320; DUP @ 1325
	-6.0							

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-023
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 1.0' ASPHALT: asphalt and gravel	0	
	-1.0					1.0 - 1.3' FILL: crushed brick	0	
						1.3 - 3.0' FILL: dark brown silty sand with glass, brick, and fine to coarse gravel; moist		140-SB-023-0002 from 1.5-2.0' bgs @ 0945
	-2.0						0	140-SB-023-0204 from 2.5-3.0' bgs @ 0950; DUP @ 0953
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	1.5		4.0 - 5.5' FILL: dark brown sandy silt, trace fine gravel; wet	0	
	-5.0						0	140-SB-023-0406 from 5.0-5.5' bgs @ 0955
	-6.0					5.5 - 6.0' No recovery; end of boring at 6'		

PREPARED BY: MWV
CHECKED BY: JB

MACTEC

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-024
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4.75 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 0.8' ASPHALT: asphalt and gravel	0	
	-1.0					0.8 - 1.5' FILL: light brown fine sand with fine to coarse gravel	0	140-SB-024-0002 from 1.0-1.5' bgs @ 1015
	-2.0					1.5 - 3.0' FILL: reddish brown silt; very stiff; moist	0	140-SB-024-0204 from 2.5-3.0' bgs @ 1020
	-3.0					3.0 - 4.0' No recovery		
	-4.0	S-2	N/A	2.0		4.0 - 4.8' FILL: reddish brown silt; very stiff; moist	0	
	-5.0					4.8 - 6.0' FILL: light brown silty sand; wet; end of boring at 6'	0	140-SB-024-0406 from 5.0-5.5' bgs @ 1025
	-6.0							

PREPARED BY: MWV
CHECKED BY: JB

MACTEC Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-025
DATE BEGAN: 7/30/08
DATE FINISHED: 7/30/08
INSPECTOR: B. Senna/ W. Lang
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	2.5		0.0 - 0.5' FILL: mulch	0	
	-1.0					0.5 - 2.5' FILL: reddish brown silt with fine sand, some wood at 1.0-1.25'; moist	0	
	-2.0						0	
	-3.0					2.5 - 4.0' No recovery		
	-4.0	S-2	N/A	3.5		4.0 - 4.5' FILL: dark brown silty sand, some wood and shells	0	
	-5.0					4.5 - 5.0' FILL: reddish brown/light brown silt; wet	0	
	-6.0					5.0 - 7.5' FILL: light brown/reddish brown fine to medium sand; wet	0	
	-7.0						0	
	-8.0	S-3	N/A	3.5		7.5 - 8.0' No recovery		
	-9.0					8.0 - 11.5' FILL: light brown fine to medium sand, trace fine gravel; wet	0	
	-10.0						0	
	-11.0						0	140-SB-025-1012 from 10.5-11.0' bgs @ 0800
	-12.0	S-4	N/A	3.0		11.5 - 12.0' No recovery	0	
	-13.0					12.0 - 15.0' PT: dark brown peat	0	140-SB-024-1214 from 12.5-13.0' bgs @ 0815
	-14.0						0	
	-15.0						0	140-SB-024-1416 from 14.5-15.0' bgs @ 0820
	-16.0					15.0 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: MWV
CHECKED BY: JB

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-026
DATE BEGAN: 9/22/08
DATE FINISHED: 9/22/08
INSPECTOR: F. Petrino
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	N/A		0.0 - 5.0' FILL: Dark brown to black fine to coarse sand, some fine to coarse gravel and silt, pieces of stone, brick and concrete, wet @ 4.0' bgs.		Hand augered to 5.0' bgs
	-1.0							
	-2.0							
	-3.0							
	-4.0							
	-5.0	S-2	N/A	3.0		5.0 - 6.3' FILL: Dark brown to black fine to coarse sand, some fine to coarse gravel and silt, pieces of stone, brick and concrete, wet.		
	-6.0					6.3 - 6.8' FILL: Reddish brown silt and fine sand, trace clay, wet, firm		
	-7.0					6.8 - 8.0' FILL: Dark reddish brown to dark brown fine to coarse sand, some fine to medium gravel, trace silt, wet, loose		
	-8.0	S-3	N/A	4.0		8.0 - 10.5' FILL: Reddish brown fine to coarse sand and silt, some fine to medium gravel, loose, wet		140-SB-026-0810 from 8.0-8.5' bgs @ 14:55
	-9.0							
	-10.0							140-SB-026-1012 from 10.0-10.5' bgs @ 14:58
	-11.0					10.5 - 12.0' PEAT: Peat, mostly organic fibers, some silt and clay, anaerobic odors		
	-12.0							

PREPARED BY: EMJ
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140
PROJECT NO: 3480050143
BORING ID: 140-SB-027
DATE BEGAN: 10/27/08
DATE FINISHED: 10/27/08
INSPECTOR: B. Senna
DRILLING CO: B & B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.5		0.0 - 0.5' ASPHALT: Asaphalt & gravel	0	
						0.5 - 2.0' FILL: Brown silty sand (fine) some glass, gravel, and coal; moist		
	-1.0							
	-2.0					2.0 - 3.5' FILL: light brown sand (fine-medium) some gravel (fine), wet @ 2.5'		
	-3.0							
						3.5 - 4.0'		
	-4.0	S-2	N/A	3.5		4.0 - 5.0' FILL: Light brown sand (fine-coarse) with gravel (fine) and lenses of light brown silt throughout, saturated	0	
	-5.0					5.0 - 7.5' FILL: Light brown/light gray sand (fine-coarse), saturated		
	-6.0							
	-7.0							
						7.5 - 8.0' No recovery		
	-8.0	S-3	N/A	1.5		8.0 - 9.0' FILL: Light grey sand (fine-coarse), saturated	0	140-SB-027-0810 from 8.5-9.0' bgs @ 11:45
	-9.0					9.0 - 9.1' FILL: Light brown silt with some organics, saturated		
						9.1 - 9.5' PEAT: Dark brown peat, moist		
	-10.0					9.5 - 10.0' No recovery; End of boring @ 10'		

PREPARED BY: EMJ
CHECKED BY: EMJ

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-028
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.8		0.0 - 0.8' ASPHALT	0.0	Field Map #169
	1.0					0.8 - 1.5' FILL: Brown f-m sand and gravel		
	2.0					1.5 - 2.5' FILL: Reddish brown silty fine sand; trace f-m gravel, brick, and coal; dense	0.0	140-SB-028-0002 collected from 1.5-2.0' bgs @ 9:45
	3.0					2.5 - 2.7' FILL: Yellow f-m sand (COPR) and concrete		140-SB-028-0204 collected from 2.5-3.0' bgs @ 9:50
	4.0	R-2	N/A	4.0		2.7 - 3.8' FILL: Dark brown/black silt, some fine sand; stiff		
	5.0					3.8 - 4.0' No recovery	0.0	
	6.0					4.0 - 6.5' FILL: Dark brown/black silt, some fine sand; stiff, wet	0.0	140-SB-028-0406 collected from 4.5-5.0' bgs @ 9:55 140-SB-028-0608 collected from 6.0-6.5' bgs @ 10:00
	7.0					6.5 - 8.0' FILL: Wood		
	8.0	R-3	N/A	4.0		8.0 - 10.5' FILL: Reddish brown/brown/dark brown sandy silt, trace clay; soft, wet	0.0	140-SB-028-0810 collected from 8.5-9.0' bgs @ 10:05
	9.0							
	10.0						0.0	
	11.0					10.5 - 11.5' OH: Very dark grayish brown (7.5YR 3/2) clayey silt, some organic material; soft, wet		140-SB-028-1012 collected from 11.0-11.5' bgs @ 10:10
	12.0					11.5 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 12.0' bgs		

PREPARED BY: JB
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-029
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.8		0.0 - 0.5' ASPHALT	0.0	Field Map #165 Boring near hydrant, may account for higher water table
	1.0					0.5 - 1.2' FILL: Brown f-m sand		
	2.0					1.2 - 2.8' FILL: Dark brown silty sand, some f-m gravel, trace brick and concrete; wet from 1.5'		140-SB-029-0002 collected from 1.5-2.0' bgs @ 10:30 140-SB-029-0204 collected from 2.0-2.5' bgs @ 10:35
	3.0					2.8 - 4.0' No recovery		
	4.0	R-2	N/A	3.5		4.0 - 4.2' FILL: Dark brown silty sand, some f-m gravel, trace brick and concrete; wet	0.0	
	5.0					4.2 - 5.0' FILL: Wood, some black/ dark green sandy clay from 4.8-5.0'; wet		140-SB-029-0406 collected from 4.5-5.0' bgs @ 10:40
	6.0					5.0 - 6.2' FILL: Brown sandy silt, trace clay; wet; stiff		
	7.0					6.2 - 7.5' FILL: Brown/dark brown f-m sand; wet		140-SB-029-0608 collected from 7.0-7.5' bgs @ 10:45
	8.0					7.5 - 8.0' No recovery		
	9.0	R-3	N/A	4.0		8.0 - 10.0' FILL: Brown/dark brown f-m sand; wet	0.0	
	10.0					10.0 - 12.0' PT: Dark olive brown (2.5Y 3/3) peat; end of boring at 12.0' bgs		140-SB-029-0810 collected from 9.5-10.0' bgs @ 10:50 140-SB-029-1012 collected from 10.5-11.0' bgs @ 10:55
	11.0							
	12.0							

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-030
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 1.5' ASPHALT	0.0	Field Map #171
	1.0							
	2.0					1.5 - 3.0' FILL: Gray to light brown f-c sand, some fine gravel	0.0	140-SB-030-0002 collected from 1.5-2.0' bgs @ 11:35
	3.0					3.0 - 4.0' FILL: No recovery		
	4.0	R-2	N/A	2.5		4.0 - 5.3' Gray f-m gravel, some f-c brown sand; wet	0.0	
	5.0					5.3 - 5.6' FILL: Brown f-m sand		
	6.0					5.6 - 6.5' FILL: Reddish brown sandy silt; stiff; wet	0.0	140-SB-030-0608 collected from 6.0-6.5' bgs @ 11:50
	7.0					6.5 - 8.0' FILL: No recovery		
	8.0	R-3	N/A	3.5		8.0 - 10.0' FILL: Brown sand, layer of reddish brown silt from 8.8-9.0'; wet; stiff; compact	0.0	140-SB-030-0810 collected from 8.0-8.5' bgs @ 11:55
	9.0							
	10.0					10.0 - 11.0' FILL: Brown silty sand; wet; compact	0.0	
	11.0					11.0 - 11.5' PT: Dark olive brown (2.5YR 3/3) peat		140-SB-030-1012 collected from 10.5-11.0' bgs @ 12:00
	12.0					11.5 - 12.0' End of boring @ 12' bgs		

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-031
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 1.5' ASPHALT	0.0	Field Map #163
	1.0					1.5 - 2.0' FILL: Brown f-m sand & gravel		140-SB-031-0002 collected from 1.5-2.0' bgs @ 12:45
	2.0					2.0 - 3.5' FILL: Dark brown silty sand, some f-m gravel, trace clinker & brick, wood from 3.0-3.2'	0.0	
	3.0							140-SB-031-0204 collected from 3.0-3.5' bgs @ 12:50
	4.0	R-2	N/A	2.5		3.5 - 4.0' No recovery		
	5.0					4.0 - 4.3' FILL: f-m gravel; wet	0.0	140-SB-031-0406 collected from 4.5-5.0' bgs @ 12:55
	6.0					4.3 - 7.0' FILL: Brown f-m sand, reddish brown varved silt from 5.5-5.7'; wet	0.0	
	7.0					7.0 - 8.0' No recovery		140-SB-031-0608 collected from 6.5-7.0' bgs @ 13:00
	8.0	R-3	N/A	3.5		8.0 - 11.0' FILL: Brown f-m sand with reddish brown silt from 8.2-8.4'; wet	0.0	
	9.0							
	10.0						0.0	140-SB-031-0810 collected from 9.5-10.0' bgs @ 13:08
	11.0					11.0 - 11.5' PT: Dark olive brown (2.5YR 3/3) peat		
	12.0					11.5 - 12.0' End of boring @ 12' bgs		

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-032
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map #161
	1.0					0.5 - 1.5' FILL: Brown/dark brown/yellow brown f-m sand, some f-m gravel		140-SB-032-0002 collected from 1.0-1.5' bgs @ 13:20
	2.0					1.5 - 2.0' FILL: Concrete		
	3.0					2.0 - 3.0' FILL: Dark Brown f-m sand, trace gravel, coal, & clinker, concrete from 2.4-2.8'		140-SB-032-0204 collected from 2.0-2.5' bgs @ 13:25
						3.0 - 3.5' FILL: Black/gray f-c sand and gravel, some concrete; spots of stam and odors; wet		
						3.5 - 4.0' No recovery		
	4.0	R-2	N/A	3.5		4.0 - 4.5' FILL: Black/gray f-c sand and gravel, some concrete, white sandy COPR from 4.3'; spots of stam and odors; wet	0.0	140-SB-032-0406 collected from 4.0-4.5' bgs @ 13:30
	5.0					4.5 - 5.0' FILL: Reddish brown silty sand; wet; dense		
	6.0					5.0 - 7.5' FILL: Brown f-m sand, few nodules of reddish brown silt; wet		
	7.0							140-SB-032-0608 collected from 7.0-7.5' bgs @ 13:35
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	2.0		8.0 - 10.0' FILL: Brown f-m sand, few nodules of reddish brown silt; wet; end of boring @ 10' bgs	0.0	
	9.0							
	10.0							140-SB-032-0810 collected from 9.5-10.0' bgs @ 13:40

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-033
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 1.0' ASPHALT	0.0	Field Map #160
	1.0					1.0 - 2.0' FILL: Brown f-m sand & gravel		140-SB-033-0002 collected from 1.5-2.0' bgs @ 13:55
	2.0					2.0 - 2.3' FILL: Concrete		
	3.0					2.3 - 3.0' FILL: Dark Brown f-c sand, come f-m gravel & clinker, trace glass; wet from 2.5' bgs		140-SB-033-0204 collected from 2.5-3.0' bgs @ 14:00
						3.0 - 4.0' No recovery		
	4.0	R-2	N/A	2.5		4.0 - 4.5' Dark Brown f-c sand, come f-m gravel & clinker, trace glass; wet	0.0	
	5.0					4.5 - 6.3' FILL: Brown f-m sand		140-SB-033-0406 collected from 5.0-5.5' bgs @ 14:05
	6.0					6.3 - 6.5' FILL: Dark brown silty sand and fibrous organic material		140-SB-033-0608 collected from 6.0-6.5' bgs @ 14:10
						6.5 - 8.0' FILL: No recovery		
	7.0							
	8.0	R-3	N/A	2.0		8.0 - 10.0' Brown f-m sand, trace shells; wet; end of boring @ 10' bgs	0.0	
	9.0							
	10.0							140-SB-033-0810 collected from 9.5-10.0' bgs @ 14:15

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-034
DATE BEGAN: 07/16/09
DATE FINISHED: 07/16/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT	0.0	Field Map #159
	1.0					1.0 - 1.5' FILL: Brown f-m sand & gravel		
						1.5 - 1.6' FILL: Reddish brown fine sand		140-SB-034-0002 collected from 1.5-2.0' bgs @ 14:50
	2.0					1.6 - 2.0' FILL: Dark brown f-m sand, some fine gravel & clinker	0.0	140-SB-034-0204 collected from 2.0-2.5' bgs @ 14:55
						2.0 - 2.8' FILL: White/gray silty COPR, trace organic materials & glass; course & stiff		
	3.0					2.8 - 3.8' FILL: Reddish brown silty sand; wet from 3.5'		
						3.8 - 4.0' FILL: Brown f-m sand; wet		
	4.0	R-2	N/A	3.5		4.0 - 6.0' FILL: Brown f-m sand; wet	0.0	140-SB-034-0406 collected from 4.0-4.5' bgs @ 15:00
	5.0							
	6.0					6.0 - 6.8' FILL: Reddish brown silty sand, trace clay; wet	0.0	
						6.8 - 7.0' FILL: Dark brown silt, some organic material; wet		
	7.0					7.0 - 7.5' FILL: Brown f-m sand; wet		140-SB-034-0608 collected from 7.0-7.5' bgs @ 15:05
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	2.0		8.0 - 10.0' FILL: Brown f-m sand, trace shells; wet; end of boring @ 10.0' bgs	0.0	
	9.0							
	10.0							140-SB-034-0810 collected from 9.5-10.0' bgs @ 15:10

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-035
DATE BEGAN: 07/17/09
DATE FINISHED: 07/17/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT: Gravel, f-m sand	0.0	Field Map #125
	1.0					1.0 - 4.0' FILL: Very dark grayish brown silty sand; wet from 2.5'; compact		
	2.0							
	3.0							
	4.0	R-2	N/A	4.0		4.0 - 5.0' FILL: Very dark grayish brown silty sand, fine gravel from 4.5-4.6', wood from 4.9'; wet; compact	0.0	
	5.0					5.0 - 5.3' FILL: Dark brown f-m sand, trace silt, white silt and sand (COPR) from 5.2'; wet		
	6.0					5.3 - 7.5' FILL: Reddish brown silty sand; wet; dense		
	7.0					7.5 - 7.7' FILL: Dark brown silty clay; wet; soft		
	8.0	R-3	N/A	3.0		7.7 - 8.0' FILL: Brown f-m sand; wet	0.0	
	9.0					8.0 - 11.0' FILL: Brown f-m sand, some silt lenses from 10.0'; wet		
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	R-5	N/A	4.0				

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-035
DATE BEGAN: 07/17/09
DATE FINISHED: 07/17/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	R-5	N/A	4.0		12.0 - 13.0' FILL: Brown silt clay; wet; very soft	0.0	
	13.0					13.0 - 14.0' FILL: Brown silt, white silt (COPR) from 13.5'; wet; stiff and blocky		140-SB-035-1214 collected from 13.5-14.0' bgs @ 8:50
	14.0					14.0 - 14.5' FILL: Dark brown silt, trace sand, dark gray/light brown (COPR?) f-m sand from 14.4'; wet; soft		140-SB-035-1416 collected from 14.0-14.5' bgs @ 8:55
	15.0					14.5 - 15.7' FILL: Brown silt; wet; very stiff		
						15.7 - 16.0' FILL: Dark brown clayey silt; trace fine sand; wet		
	16.0	R-5	N/A	2.0		16.0 - 16.5' OH: Black (2.5Y 2.5/1) clayey silt; wet; soft	0.0	140-SB-035-1618 collected from 16.0-16.5' bgs @ 9:00
	17.0					16.5 - 17.7' PT: Very dark brown (7.5YR 2.5/2) peat		
	18.0					17.7 - 18.0' SP: Dark gray (7.5YR 4/1) fine sand; wet; end of boring @ 18' bgs		

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-036
DATE BEGAN: 07/17/09
DATE FINISHED: 07/17/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.0		0.0 - 1.0' ASPHALT: Gravel, f-m sand	0.0	Field Map #127
	1.0					1.0 - 1.8' FILL: Very darkgrayish brown silty trace fine sand; stiff		
	2.0	R-2		1.5		1.8 - 2.0' FILL: Concrete		
	3.0					2.0 - 2.3' FILL: Very dark grayish brown silt, trace fine sand; stiff		
	4.0	R-3	N/A	3.0		2.3 - 2.5' FILL: Wood	0.0	
	5.0					2.5 - 3.0' FILL: Black f-c sand and fine clinker, trace fine gravel; wet		
	6.0					3.0 - 3.5' FILL: Reddish brown f-m sand, trace fine gravel; wet		
	7.0					3.5 - 4.0' No recovery		
	8.0	R-4	N/A	2.5		4.0 - 4.5' FILL: Reddish brown f-m sand, trace fine gravel; wet	0.0	
	9.0					4.5 - 5.8' FILL: Brown, silty clay; wet; firm		
	10.0					5.8 - 7.0' FILL: Brown f-m sand; wet		
	11.0					7.0 - 8.0' FILL: No recovery		
	12.0	R-5	N/A	4.0		8.0 - 10.5' FILL: Brown f-m sand; wet	0.0	
	13.0					10.5 - 12.0' No recovery		
	14.0					12.0 - 12.3' FILL: Brown f-m sand; wet		
	15.0					12.3 - 15.0' FILL: Brown/ dark brown silty clay, trace fine sand; wet; soft		
	16.0					15.0 - 15.7' OH: Black (2.5Y 2.5/1) clayey silt; wet		140-SB-036-1416 collected from 15.0-15.5' bgs @ 10:20
						15.7 - 16.0' PT: Very dark brown (7.5YR 2.5/2) peat; wet; end of boring @ 16' bgs		

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-037
DATE BEGAN: 07/17/09
DATE FINISHED: 07/17/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.5' ASPHALT: Fine gravel and sand	0.0	Field Map #122
	1.0					1.5 - 2.0' FILL: Dark brown fine sand, trace fine gravel		
	2.0					2.0 - 2.5' FILL: Very dark grayish brown silt & fine sand		
	3.0					2.5 - 3.0' FILL: Black f-c sand, fine clinker; wet		
	4.0	R-2	N/A	4.0		3.0 - 4.0' FILL: Reddish brown silty sand, trace fine gravel; wet; dense	0.0	
	5.0					4.0 - 5.0' FILL: Dark brown f-c sand, some f-m gravel & clinker; wet		
	6.0					5.0 - 5.7' FILL: Reddish brown silty sand; wet		
	7.0					5.7 - 6.5' FILL: Brown silty clay; wet; soft		
	8.0	R-3	N/A	2.0		6.5 - 8.0' FILL: Brown f-m sand, some silt lenses; wet	0.0	
	9.0					8.0 - 10.0' FILL: Brown f-m sand, some silt lenses; wet		
	10.0					10.0 - 12.0' No recovery		
	11.0					12.0 - 12.2' FILL: Brown f-m sand, some silt lenses; wet		
	12.0	R-4	N/A	4.0		12.2 - 14.7' FILL: Brown silty clay; wet; very soft	0.0	
	13.0							
	14.0							140-SB-037-1214 collected from 13.5-14.0' bgs @ 11:00; HOLD
	15.0					14.7 - 16.0' OH: Dark gray (2.5Y 4/1) to black (2.5Y 2.5/1) clayey silt; wet; end of boring @ 16.0' bgs		140-SB-037-1416 collected from 15.5-16.0' bgs @ 11:05
	16.0							

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-038
DATE BEGAN: 07/17/09
DATE FINISHED: 07/17/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 3.7 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 1.0' ASPHALT	0.0	Field Map #129
	1.0					1.0 - 1.8' FILL: Brown f-m sand & gravel		
	2.0					1.8 - 3.7' FILL: Very dark grayish brown silt & fine sand		
	3.0					3.7 - 4.0' FILL: Black f-c sand, f-m clinker, trace fine gravel & brick; wet		
	4.0	R-2	N/A	3.0		4.0 - 4.5' FILL: Black f-c sand, f-m clinker, trace fine gravel & brick; wet	0.0	
	5.0					4.5 - 5.0' FILL: Dark brown silty sand; wet		
	6.0					5.0 - 7.0' FILL: Dark brown f-m sand, silt from 5.8-6.2'; wet		
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	2.5		8.0 - 10.0' FILL: Brown/ dark brown f-m sand; wet	0.0	
	9.0							
	10.0					10.0 - 10.5' FILL: Dark brown silty clay, trace fine sand; wet		
	11.0					10.5 - 12.0' No recovery		
	12.0	R-4	N/A	4.0		12.0 - 15.5' FILL: Brown/ dark brown silty clay; wet; mostly soft, but wil zones of very stiff, verved silt	0.0	
	13.0							
	14.0							
	15.0					15.5 - 16.0' OH: Black (2.5Y 2.5/1) clayey silt; trace organic material		140-SB-038-1416 collected from 15.5-16.0' bgs @ 11:55; HOLD
	16.0	R-5	N/A	2.0		16.0 - 18.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring @ 18' bgs	0.0	140-SB-038-1618 collected from 16.0-16.5' bgs @ 12:00
	17.0							
	18.0							

PREPARED BY: MC
CHECKED BY: BS

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-039
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.7		0.0 - 0.5' ASPHALT	0.0	Field Map #143
	1.0					0.5 - 1.5' FILL: Brown/dark brown f-c sand, some f-m gravel, trace silt		
	2.0					1.5 - 2.7' FILL: Very dark grayish brown sandy silt; stiff		
	3.0					2.7 - 4.0' No recovery		
	4.0	R-2	N/A	3.5		4.0 - 4.5' FILL: Brown f-m sand, some fine clinker and gravel	0.0	
	5.0					4.5 - 5.7' FILL: Reddish brown silty sand; dense, wet		
	6.0					5.7 - 7.5' FILL: Reddish brown f-c sand, some silt lenses; loose, wet		
	7.0					7.5 - 8.0' No recovery		
	8.0	R-3	N/A	2.7		8.0 - 10.5' FILL: Reddish brown f-c sand, some silt lenses; loose, wet	0.0	
	9.0							
	10.0					10.5 - 10.7' FILL: Reddish brown fine sand; loose, wet		
	11.0					10.7 - 12.0' No recovery		
	12.0	R-4	N/A	4.0		12.0 - 14.0' FILL: Brown clayey silt; soft, wet	0.0	
	13.0					14.0 - 14.1' FILL: Dark brown/black f-m sand; wet		140-SB-039-1214 collected from 13.5-14.0' bgs @ 14:35; HOLD
	14.0					14.1 - 14.8' FILL: Reddish brown/brown clayey silt; very stiff; wet		
	15.0					14.8 - 16.0' FILL: Brown silty clay; soft, wet; end of boring at 16.0'		140-SB-039-1416 collected from 15.5-16.0' bgs @ 14:40
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-040
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map #131
	1.0					0.5 - 2.0' FILL: Dark brown f-c sand, some gravel; yellowish brown COPR from 1.2'		
	2.0					2.0 - 2.5' FILL: Gravel, some fine brown sand		
	3.0					2.5 - 3.5' FILL: Very dark grayish brown silt, trace fine sand; very stiff		
	4.0					3.5 - 4.0' No recovery		
		R-2	N/A	4.0		4.0 - 4.5' FILL: Very dark grayish brown silt, trace fine sand; very stiff	0.0	
	5.0					4.5 - 5.3' FILL: Black fine clinker, some f-m sand and gravel, trace coal; wet		
	6.0					5.3 - 6.0' FILL: Brown silty sand; trace gravel, brick, wood and yellow/brown COPR		
	7.0					6.0 - 7.5' FILL: Brown/dark brown silty clay; some sand from 6.0-6.5'; trace white silty COPR from 6.0-6.2'; soft, wet		
	8.0	R-3	N/A	2.5		7.5 - 8.0' FILL: Dark brown f-m sand, some silt lenses; wet	0.0	
	9.0					8.0 - 10.5' FILL: Brown f-m sand, few stiff silt lenses; wet		
	10.0					10.5 - 12.0' No recovery		
	11.0							
	12.0	R-4	N/A	4.0		12.0 - 16.0' FILL: Brown/dark brown clayey silt, some green/yellow mottling from 15.6'; very soft from 12.0-13.5; stiff and blocky with some soft layers from 13.5'	0.0	
	13.0							
	14.0							
	15.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-040
DATE BEGAN: 07/30/09
DATE FINISHED: 07/30/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	R-5	N/A	3.0		16.0 - 16.5' OH: Black/dark olive brown (2.5Y 2.5/1 to 3/3) clayey silt; soft, wet	0.0	140-SB-040-1618 collected from 16.0-16.5' bgs @ 15:40
	17.0					16.5 - 18.0' PT: Very dark brown (7.5YR 2.5/2) peat; firm, moist		
	18.0					18.0 - 19.0' SP: Dark gray (2.5Y 4/1) f-m sand; loose, wet		
	19.0					19.0 - 20.0' No recovery; end of boring @ 20'		
	20.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-041
DATE BEGAN: 07/31/09
DATE FINISHED: 07/31/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	N/A	Field Map #133
	1.0					0.5 - 1.0' FILL: Brown silty sand, some f-m gravel, trace coal and brick		No PID due to rain
	2.0					1.0 - 1.6' FILL: Dark gray sandy silt; stiff		
	3.0					1.6 - 3.0' FILL: Dark brown/reddish brown f-c sand, some fine clinker and gravel, trace silt and brick; wet from 2.0'		
	4.0	R-2	N/A	4.0		3.0 - 4.0' No recovery	N/A	
	5.0					4.0 - 6.5' FILL: Dark brown/reddish brown f-c sand, some fine clinker and gravel, trace silt and brick; wet		
	6.0							
	7.0					6.5 - 10.5' FILL: Brown f-m sand; dark brown from 10.3'; wet		
	8.0	R-3	N/A	4.0			N/A	
	9.0							
	10.0							
	11.0					10.5 - 11.6' FILL: Brown fine sand, trace silt; wet		
	12.0	R-4	N/A	4.0		11.6 - 12.0' FILL: Brown silty clay, trace fine sand; very soft, wet	N/A	140-SB-041-1214 collected from 12.0-12.5' bgs @ 8:30
	13.0					12.0 - 15.5' FILL: Brown/dark brown clayey silt, few sand lenses; thin lens of white COPR @ 15.5'; soft, wet		
	14.0							
	15.0					15.5 - 16.0' PT: Very dark brown (10YR 2/2) peat; end of boring at 16'		140-SB-041-1416 collected from 15.5-16.0' bgs @ 8:35
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-042
DATE BEGAN: 07/31/09
DATE FINISHED: 07/31/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	N/A	Field Map #145 No PID due to rain
	1.0					0.5 - 1.0' FILL: Brown f-c sand, trace fine gravel		
	2.0					1.0 - 2.0' FILL: Dark brown silty sand, trace brick and fine gravel		
	3.0					2.0 - 2.7' FILL: Dark brown f-c sand and fine clinker, some fine gravel; wet		
	4.0	R-2	N/A	4.0		2.7 - 3.6' FILL: Reddish brown silty sand; compact, wet	N/A	140-SB-042-0406 collected from 4.0-4.5' bgs @ 9:10
	5.0					3.6 - 8.0' FILL: Brown f-c sand; few silt nodules from 4.0'; wet		
	6.0							
	7.0							140-SB-042-0608 collected from 7.5-8.0' bgs @ 9:15; DUP @ 9:17
	8.0	R-3	N/A	3.5		8.0 - 10.5' FILL: Brown f-m sand; wet	N/A	140-SB-042-0810 collected from 8.0-8.5' bgs @ 9:20
	9.0							
	10.0							
	11.0					10.5 - 11.5' FILL: Brown silty clay; wet		140-SB-042-1012 collected from 11.0-11.5' bgs @ 9:25
	12.0	R-4	N/A	4.0		11.5 - 12.0' No recovery 12.0 - 12.5' FILL: Brown silty clay; wet	N/A	140-SB-042-1214 collected from 13.5-14.0' bgs @ 9:40
	13.0					12.5 - 13.0' FILL: Brown silt, trace clay; very stiff, dry		
	14.0					13.0 - 15.0' FILL: Brown/dark brown silty clay; very soft, wet		
	15.0					15.0 - 15.5' OL: Dark olive brown/black (2.5Y 3/3 to 2.5/1) clayey silt, trace organic material; stiff		140-SB-042-1416 collected from 15.0-15.5' bgs @ 9:45
	16.0					15.5 - 16.0' PT: Very dark brown (10YR 2/2) peat; end of boring at 16'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-043
DATE BEGAN: 07/31/09
DATE FINISHED: 07/31/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 15 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.7		0.0 - 0.5' ASPHALT	N/A	Field Map #138 No PID due to rain
	1.0					0.5 - 2.0' FILL: Brown f-c sand, some fine clinker and gravel, trace coal and brick		
	2.0					2.0 - 3.5' FILL: Brown silty sand, concrete from 2.2-2.3'; wet		
	3.0					3.5 - 3.7' FILL: Brown f-m sand, trace silt; wet		
	4.0	R-2	N/A	4.0		3.7 - 4.0' No recovery	N/A	140-SB-043-0406 collected from 4.0-4.5' bgs @ 10:15
	5.0					4.0 - 10.5' FILL: Brown f-m sand, few silt lenses, trace fine gravel; wet		
	6.0							
	7.0							140-SB-043-0608 collected from 7.5-8.0' bgs @ 10:20
	8.0	R-3	N/A	2.5			N/A	140-SB-043-0810 collected from 8.0-8.5' bgs @ 10:25
	9.0							
	10.0							140-SB-043-1012 collected from 10.0-10.5' bgs @ 10:30
	11.0					10.5 - 12.0' No recovery		
	12.0	R-4	N/A	3.0		12.0 - 12.3' FILL: Brown f-m sand, few stiff silt lenses; wet	N/A	
	13.0					12.3 - 13.0' FILL: Brown/dark brown silty clay, trace f-m sand; wet		
	14.0					13.0 - 14.0' OL: Dark olive brown/black (2.5Y 3/3 to 2.5/1) clayey silt, trace fine sand		140-SB-043-1214 collected from 13.5-14.0' bgs @ 10:45
	15.0					14.0 - 15.0' PT: Very dark brown (10YR 2/2) peat; end of boring at 15'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-044
DATE BEGAN: 07/31/09
DATE FINISHED: 07/31/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.0		0.0 - 0.5' ASPHALT	N/A	Field Map #136
	1.0					0.5 - 2.0' FILL: Dark brown silty sand, some f-m gravel, trace clinker and brick		No PID due to rain
	2.0					2.0 - 2.5' FILL: Dark brown f-c sand, some f-m gravel and clinker; wet		
	3.0					2.5 - 3.0' FILL: Reddish brown clayey sand; wet		
	4.0	R-2	N/A	4.0		3.0 - 4.0' No recovery	N/A	
	5.0					4.0 - 4.5' FILL: Dark brown fine gravel, trace f-c sand and silt; wet		
	6.0					4.5 - 6.0' FILL: Brown f-m sand, trace fine gravel; wet		140-SB-044-0406 collected from 5.5-6.0' bgs @ 11:20
	7.0					6.0 - 6.5' FILL: Reddish brown clayey silt; stiff		
	8.0	R-3	N/A	3.0		6.5 - 10.7' FILL: Brown f-c sand, few silt nodules; wet	N/A	140-SB-044-0608 collected from 7.5-8.0' bgs @ 11:25
	9.0							
	10.0							140-SB-044-0810 collected from 9.5-10.0' bgs @ 11:30
	11.0					10.7 - 11.0' FILL: Brown sandy clay; very soft, wet		140-SB-044-1012 collected from 10.5-11.0' bgs @ 11:35
	12.0	R-4	N/A	2.0		11.0 - 12.0' No recovery	N/A	
	13.0					12.0 - 12.3' FILL: Brown sandy clay; very soft, wet		
	14.0					12.3 - 13.0' FILL: Brown silty clay; very soft, wet		140-SB-044-1214 collected from 13.5-14.0' bgs @ 11:40
						13.0 - 14.0' FILL: Brown/dark brown clayey silt, very stiff; end of boring at 14'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

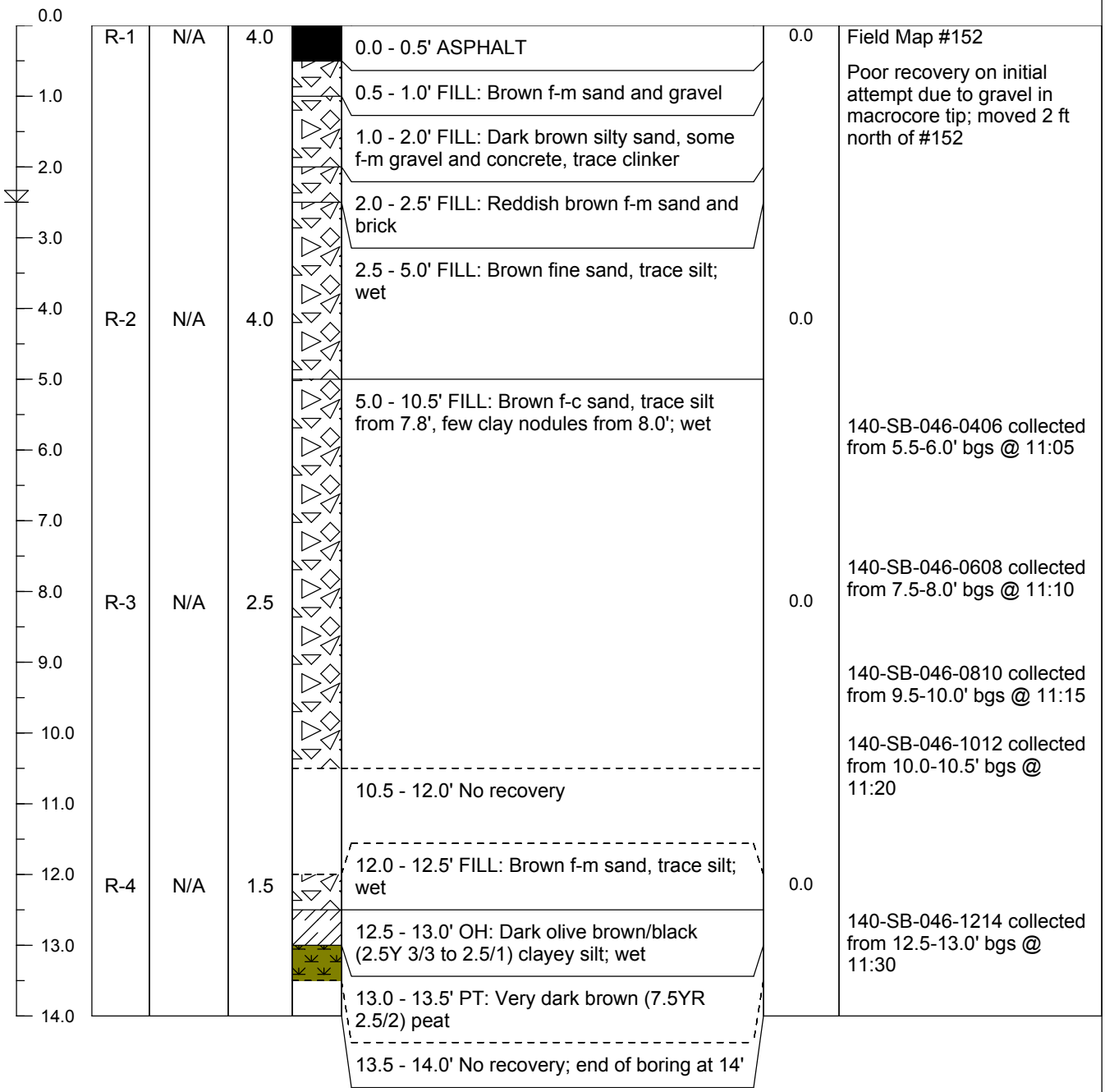
SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-045
DATE BEGAN: 08/07/09
DATE FINISHED: 08/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.7		0.0 - 0.5' ASPHALT	0.0	Field Map #153
	1.0					0.5 - 1.0' FILL: Brown f-m sand and gravel		
	2.0					1.0 - 2.5' FILL: Yellowish brown f-c sand, some f-m gravel; wet from 2.0'		
	3.0					2.5 - 2.7' FILL: Dark brown f-m sand, some fine clinker and coal; wet		
	4.0					2.7 - 2.9' FILL: Gravel, f-c; wet		
		R-2	N/A	3.5		2.9 - 3.7' FILL: Reddish brown silt, trace coal and fine sand, some gray clinker; wet	0.0	
	5.0					3.7 - 4.0' No recovery		
	6.0					4.0 - 5.2' FILL: Yellowish brown silt, trace coal and fine sand; wet		140-SB-045-0406 collected from 5.5-6.0' bgs @ 10:05
	7.0					5.2 - 6.5' FILL: Brown silty sand; wet		140-SB-045-0608 collected from 7.0-7.5' bgs @ 10:10
	8.0					6.5 - 7.0' FILL: Brown/dark brown silty clay		
		R-3	N/A	2.0		7.0 - 7.5' FILL: Dark brown f-m sand; wet	0.0	
	9.0					7.5 - 8.0' No recovery		
	10.0					8.0 - 10.0' FILL: Brown f-m sand, trace silt; wet		140-SB-045-0810 collected from 9.5-10.0' bgs @ 10:15
	11.0					10.0 - 12.0' No recovery		
	12.0	R-4	N/A	4.0		12.0 - 16.0' FILL: Brown/dark brown clayey silt, few sand lenses; end of boring at 16'	0.0	
	13.0							
	14.0							140-SB-045-1214 collected from 13.5-14.0' bgs @ 10:25
	15.0							140-SB-045-1416 collected from 15.5-16.0' bgs @ 10:30
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-046
DATE BEGAN: 08/07/09
DATE FINISHED: 08/07/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:



PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-047
DATE BEGAN: 08/10/09
DATE FINISHED: 08/10/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.2		0.0 - 0.5' ASPHALT	0.0	Field Map #151
	1.0					0.5 - 1.0' FILL: Brown f-m gravel		
	2.0					1.0 - 2.2' FILL: Dark brown silty sand, some f-m gravel and concrete, trace clinker; wet from 2.0' bgs		
	3.0					2.2 - 3.2' FILL: Reddish brown silt, few sand lenses, trace clay; stiff, moist		
	4.0	R-2	N/A	4.0		3.2 - 4.0' No recovery	0.0	
	5.0					4.0 - 10.8' FILL: Brown f-m sand, few silt lenses, trace f-m gravel; wet		
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	
	9.0							
	10.0							
	11.0					10.8 - 12.5' FILL: Brown silty sand, trace clay; wet		
	12.0	R-4	N/A	4.0			0.0	Possible COPR in 12-14' interval; no delineation sample collected
	13.0					12.5 - 14.5' FILL: Brown/dark brown clayey silt; thin, white lens of possible COPR at 14.3'; wet		
	14.0					14.5 - 15.0' OH: Dark olive brown/black (2.5Y 3/3 to 2.5/1) clayey silt; wet		140-SB-047-1416 collected from 14.5-15.0' bgs @ 8:55
	15.0					15.0 - 16.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 16'		
	16.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-048
DATE BEGAN: 08/10/09
DATE FINISHED: 08/10/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.5' ASPHALT	0.0	Field Map #149
	1.0					0.5 - 1.0' FILL: Brown f-m sand and gravel		
	2.0					1.0 - 2.5' FILL: Reddish brown/brown f-m sand; trace silt, f-m gravel, brick and coal; wet from 2.0'		
	3.0					2.5 - 3.0' FILL: Dark brown fine clinker and f-c sand; loose, wet		
	4.0	R-2	N/A	4.0		3.0 - 3.5' FILL: Reddish brown fine sand, trace silt; dense, wet	0.0	
	5.0					3.5 - 4.0' No recovery		140-SB-048-0406 collected from 4.5-5.0' bgs @ 9:15
	6.0					4.0 - 8.0' FILL: Brown f-m sand, trace silt and fine gravel; wet		
	7.0							140-SB-048-0608 collected from 7.5-8.0' bgs @ 9:20; DUP @ 9:22
	8.0	R-3	N/A	4.0		8.0 - 11.3' FILL: Brown/dark brown f-m sand; compact, wet	0.0	
	9.0							140-SB-048-0810 collected from 8.0-8.5' bgs @ 9:25
	10.0							
	11.0					11.3 - 12.0' FILL: Brown silt, trace fine sand; very soft, wet		140-SB-048-1012 collected from 10.5-11.0' bgs @ 9:30
	12.0	R-4	N/A	4.0		12.0 - 14.0' FILL: Brown clayey silt; lens of f-m sand from 12.6-12.7'; soft, wet	0.0	
	13.0							
	14.0					14.0 - 15.0' OH: Dark olive brown (2.5Y 3/3) clayey silt; soft, wet		140-SB-048-1214 collected from 13.5-14.0' bgs @ 9:35
	15.0					15.0 - 15.6' OH: Black (2.5Y 2.5/1) clayey silt, trace organic material; soft, wet		140-SB-048-1416 collected from 15.0-15.5' bgs @ 9:40
	16.0					15.6 - 16.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 16'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-049
DATE BEGAN: 08/10/09
DATE FINISHED: 08/10/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	3.5		0.0 - 0.3' ASPHALT	0.0	Field Map #139; location #141 abandoned due to overhead lines
						0.3 - 0.5' FILL: Brown f-m sand and gravel		
	1.0					0.5 - 2.8' FILL: Dark brown f-m sand, some f-c clinker, trace silt, f-m gravel, brick and coal; wet from 2.0'		
	2.0							
	3.0					2.8 - 3.3' FILL: Brown silt, trace clay and fine sand; stiff, wet		
						3.3 - 3.5' FILL: Brown f-m sand, wet		
	4.0	R-2	N/A	3.5		3.5 - 4.0' No recovery	0.0	
						4.0 - 7.5' FILL: Brown f-c sand, trace fine gravel, some silt from 5.0-5.5'; wet		140-SB-049-0406 collected from 4.5-5.0' bgs @ 10:40
	5.0							
	6.0							
	7.0							140-SB-049-0608 collected from 7.0-7.5' bgs @ 10:45
						7.5 - 8.0' No recovery		
	8.0	R-3	N/A	4.0		8.0 - 11.5' FILL: Brown f-c sand, trace fine gravel; wet	0.0	
	9.0							
	10.0							140-SB-049-0810 collected from 9.5-10.0' bgs @ 10:55
	11.0							140-SB-049-1012 collected from 11.5-12.0' bgs @ 11:00
						11.5 - 12.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 12'		
	12.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-050
DATE BEGAN: 08/10/09
DATE FINISHED: 08/10/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 2.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	2.5		0.0 - 0.3' ASPHALT	0.0	Field Map #158
	1.0					0.3 - 0.5' FILL: Brown f-m sand and gravel		
						0.5 - 1.5' FILL: Dark brown f-c sand, some fine clinker and gravel		
	2.0					1.5 - 2.2' FILL: Brown silty sand; wet from 2.0' bgs		
	3.0					2.2 - 2.5' FILL: Wood, some dark brown f-c sand and clinker; wet		
	4.0	R-2	N/A	4.0		2.5 - 4.0' No recovery	0.0	
						4.0 - 4.5' FILL: Dark brown f-c sand, some fine clinker and gravel; wet		140-SB-050-0406 collected from 4.5-5.0' bgs @ 12:05
	5.0					4.5 - 8.0' FILL: Brown/dark brown f-m sand, some silt lenses, trace wood; wet		
	6.0							
	7.0							
	8.0	R-3	N/A	4.0			0.0	140-SB-050-0608 collected from 7.5-8.0' bgs @ 12:10
	9.0					8.0 - 12.0' FILL: Brown f-c sand, trace shells; wet		
	10.0							140-SB-050-0810 collected from 9.5-10.0' bgs @ 12:15
	11.0							
	12.0	R-4	N/A	2.0		12.0 - 14.0' PT: Very dark brown (7.5YR 2.5/2) peat; end of boring at 14'	0.0	140-SB-050-1012 collected from 11.5-12.0' bgs @ 12:20
	13.0							140-SB-050-1214 collected from 12.0-12.5' bgs @ 12:30
	14.0							

PREPARED BY: JB
CHECKED BY: FP

Honeywell Study Area - 6 South

SITE INFO: Site 140, ABF Trucking, Jersey City, NJ
PROJECT NO: 3480050143
BORING ID: 140-SB-051
DATE BEGAN: 08/11/09
DATE FINISHED: 08/11/09
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 1.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	R-1	N/A	4.0		0.0 - 0.5' ASPHALT	0.0	Field Map #124
	1.0					0.5 - 1.5' FILL: Very dark brown silty sand, trace fine gravel		
	2.0					1.5 - 2.0' FILL: Very dark brown f-c sand and fine clinker; wet		
	3.0					2.0 - 5.0' FILL: Reddish brown silt, thinly laminated and stiff; few lenses of f-c sand, trace fine gravel and brick; wet		
	4.0	R-2	N/A	3.0			0.0	
	5.0					5.0 - 7.0' FILL: Brown f-m sand, trace silt; wet		
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	R-3	N/A	2.5		8.0 - 10.5' FILL: Brown f-m sand, some silt nodules; wet	0.0	
	9.0							
	10.0							
	11.0					10.5 - 12.0' No recovery		
	12.0	R-4	N/A	3.5		12.0 - 13.2' FILL: Brown sandy silt, trace clay; moist	0.0	
	13.0					13.2 - 14.0' FILL: Very dark grayish brown clayey silt; moist		140-SB-051-1214 collected from 13.5-14.0' bgs @ 10:45; DUP @ 10:47
	14.0					14.0 - 15.0' OH: Dark olive brown (2.5Y 3/3) clayey silt, some organic material; moist		
	15.0					15.0 - 15.5' PT: Very dark brown (7.5YR 2.5/2) peat; wet		140-SB-051-1416 collected from 14.5-15.0' bgs @ 10:50; DUP @ 10:52
	16.0					15.5 - 16.0' No recovery; end of boring at 16'		

PREPARED BY: JB
CHECKED BY: FP

Honeywell Site SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-059
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 1.0' ASPHALT	0	
	1.0					1.0 - 2.5' FILL: Brown silty fine to medium sand, some fine to medium gravel, trace brick and metal; moist, dense		
	2.0					2.5 - 3.0' FILL: Fine to medium gravel, trace coarse sand; wet, loose		
	3.0					3.0 - 3.3' FILL: Red clayey silt, some fine brown sand, trace brick; moist, firm		
▽	4.0	S-2	NA	4		3.3 - 3.8' FILL: Brown fine to coarse sand, some fine to medium gravel and clinker, trace coal; wet, dense	0	
	5.0					3.8 - 4.0' FILL: Brown silty sand, trace organics; moist, firm		
	6.0					4.0 - 6.0' FILL: Brown silty fine to medium sand, mottling of clay, trace coarse sand; wet, loose		
	7.0					6.0 - 8.0' FILL: Brown fine to coarse sand, motteling of silt; wet, loose		
	8.0	S-3	NA	2		8.0 - 10.0' FILL: Fine to medium brown sand, motteling of brown clay; wet, loose; end of boring @ 10.0' bgs	0	
	9.0							Sample collected 140-SB-059-0810 from 9.0-9.5 bgs @ 08:50
	10.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-060
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT	0	
	1.0					0.8 - 2.0' FILL: Brown silty fine to medium sand, fine to coarse gravel, trace red silt; moist, dense		
	2.0					2.0 - 2.5' FILL: Dark greyish brown fine to coarse sand, some white and orange clinker; wet, loose		
	3.0							
	4.0	S-2	NA	3.5		2.5 - 3.5' FILL: Brown fine to medium sand, trace fine gravel, wood, and coarse sand; moist, loose	0	
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 7.5' FILL: Brown fine to medium sand, lenses of reddish brown clay and silt, trace coarse sand; wet, loose		
	7.0							
	8.0	S-3	NA	4.0		7.5 - 8.0' No Recovery	0	
	9.0					8.0 - 8.8' FILL: Brown fine to medium sand, lenses of reddish brown clay and silt, trace coarse sand; wet, loose		
	10.0					9.8 - 11.8' FILL: Brown silt, mottling of clayey silt; wet, loose		
	11.0							
	12.0	S-4	NA	4.0		11.8 - 12.5' FILL: Brown clayey silt; wet, loose	0	
	13.0					12.5 - 14.5' OL: Greyish brown silty clay, trace fine to medium sand; we, moderately firm		Sample collected 140-SB-060-1214 from 13.0-13.5' bgs @ 0925
	14.0							
	15.0					14.5 - 15.5' OL: Grey silty clay, trace organics; wet, moderately firm		Sample collected 140-SB-060-1416 from 15.0-15.5' bgs @ 0930
	16.0					15.5 - 16.0' PT: PEAT; end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-061
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT	0	
	1.0					0.8 - 1.8' FILL: Dark brown silty sand, trace metal; moist, dense		
	2.0					1.8 - 2.3' FILL: Dark brown fine to coarse sand with clinker and fine to medium gravel, trace coal		
	3.0					2.3 - 3.0' FILL: Red silty fine sand, trace coal; moist, dense		
	4.0	S-2	NA	3.5		3.0 - 4.0' No recovery	0	
	5.0					4.0 - 4.5' FILL: Reddish brown fine to coarse sand with fine to medium gravel; wet, very loose		
	6.0					4.5 - 5.5' FILL: Reddish brown silty clay; wet, firm		
	7.0					5.5 - 7.5' FILL: Brown fine to medium sand, some silt, trace fine to medium gravel and wood; wet, loose		
	8.0	S-3	NA	4.0		7.5 - 8.0' No recovery	0	
	9.0					8.0 - 10.0' FILL: Brown fine to medium sand, some silt; wet, loose		
	10.0					10.0 - 11.8' FILL: Brown silt; wet, very loose		
	11.0					11.8 - 12.0' FILL: Brown and black mottling of silt, some clay		
	12.0	S-4	NA	4.0		12.0 - 14.5' OL: Brown clayey silt, some fine sand with depth	0	
	13.0							
	14.0							
	15.0					14.5 - 15.8' OL: Black silty clay, trace organics; wet, firm		Sample collected 140-SB-061-1416 from 15.0-15.5' bgs @ 1005; DUP @ 1007
	16.0					15.8 - 16.0' PT: Peat; end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-062
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	
	1.0					1.0 - 1.5' FILL: Dark brown to black fine to medium sand		
	2.0					1.5 - 2.5' FILL: Dark brown silt		
	3.0					2.5 - 3.0' FILL: Dark brown silty fine sand with clinker, trace glass and fine to medium gravel		
	4.0	S-2	NA	2.75		3.0 - 3.5' FILL: Reddish brown silty sand, some fine to medium brick	0	
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 4.5' FILL: Reddish brown silty sand, some fine to medium brick; wet		
	7.0					4.5 - 4.8' FILL: Light brown clayey silt; wet		
	8.0	S-3	NA	4.0		4.8 - 6.8' FILL: Light brown fine to medium sand with lenses of clayey silt; wet	0	
	9.0					6.8 - 8.0' No recovery		
	10.0					8.0 - 12.5' FILL: Light brown fine to medium sand with lenses of clayey silt; wet		
	11.0							
	12.0	S-4		4.0			0	
	13.0					12.5 - 13.8' OL: Light brown clayey silt; very soft		
	14.0					13.8 - 14.8' OL: Light brown clayey silt with fine to medium sand; very soft		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-062
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	S-5	NA	1.5		14.8 - 15.8' OL: Light brown clayey silt 15.8 - 16.0' OL: Black clayey silt 16.0 - 17.5' PT: Dark brown peat; moist 17.5 - 18.0' No recovery; end of boring @ 18.0' bgs	0	Sample collected 140-SB-062-1618 from 16.5-17.0' bgs @ 1040
	16.0							
	17.0							
	18.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-063
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 3.75 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt and gravel	0	
	1.0					0.8 - 1.5' FILL: Dark brown to black silt with coal		
	2.0					1.5 - 1.8' FILL: Concrete		
	3.0					1.8 - 3.0' FILL: Black silty sand with clinker and gravel		
	4.0	S-2	NA	3.0		3.0 - 3.5' FILL: Reddish brown fine to medium sand with silt and fine gravel; wet	0	
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 4.5' FILL: Reddish brown fine to medium sand with silt and fine gravel; wet		
	7.0					4.5 - 6.5' FILL: Light brown clayey silt with organics from 4.5-5.0' bgs; wet		
	8.0	S-3	NA	4.0		6.5 - 7.0' FILL: Light brown fine to medium sand; wet	0	
	9.0					7.0 - 8.0' No recovery		
	10.0					8.0 - 10.5' FILL: SAA		
	11.0					10.5 - 11.3' FILL: Ligh brown clayey silt with lenses of fine to medium sand and silt; soft		
	12.0	S-4		3.75		11.3 - 12.0' FILL: Light brown fine to medium sand	0	
	13.0					12.0 - 15.3' FILL: Light brown clayey silt with lenses of fine to medium sand and silt		
	14.0							
	15.0					15.3 - 15.8' OL: Black clayey silt		
	16.0	S-5	NA	2.0		15.8 - 16.0' No recovery	0	Sample collected 140-SB-063-1618 from 16.5-17.0' bgs @ 1145
	17.0					16.0 - 18.0' PT: Dark brown peat; moist; end of boring @ 18.0' bgs		
	18.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-064
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' ASPHALT: Asphalt and gravel	0	
	1.0					1.0 - 2.5' FILL: Brown silty sand, fine to coarse gravel and crushed concrete		
	2.0					2.5 - 3.0' FILL: Dark brown silty fine sand, fine gravel and fine brick; dense		
	3.0					3.0 - 4.0' No recovery		
▽	4.0	S-2	NA	3.0		4.0 - 5.0' FILL: Dark brown silty fine sand, fine gravel and fine brick; dense, wet	0	
	5.0					5.0 - 7.0' FILL: Light brown fine to medium sand, lenses of reddish brown silt; wet		
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Light brown fine to medium sand, lenses of reddish brown silt; wet	0	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	3.5		12.0 - 14.0' FILL: Reddish brown to light brown clayey silt, lenses of reddish brown silty sand; clayey silt is soft, silty sand is dense	0	
	13.0							
	14.0					14.0 - 15.0' FILL: Dark brown clayey silt with organics; faint organic odor		
	15.0					15.0 - 15.5' OL: Light brown clayey silt		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-064

DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna

DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.0 ft bgs

DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5	NA	3.0		15.5 - 16.0' No recovery	0	Sample collected 140-SB-064-1618 from 16.5-17.0' bgs @ 1300
	17.0					16.0 - 17.0' OL: Olive clayey silt with trace organics		
	18.0					17.0 - 18.3' PT: Brown peat; moist		Sample collected 140-SB-064-1820 from 18.0-18.5' bgs @ 1305
	19.0					18.3 - 19.0' SW: Olive to light brown fine to medium sand with organics		
	20.0					19.0 - 20.0' No recovery; end of boring @ 20.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-065
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.0 - 0.8' FILL: Concrete		
	1.0					0.8 - 3.0' FILL: Light brown fine to medium sand and fine to medium gravel, trace coal and orange sand; dry, dense		
	2.0							
	3.0					3.0 - 3.8' FILL: Concrete		
	4.0	S-2	NA	4.0		3.8 - 4.0' FILL: Red fine silty sand, trace brick, yellowish green mottling of fine sand (COPR); dense, dry	0	
						4.0 - 4.0' FILL: Greenish yellow fine sand (COPR); dry, dense		
	5.0					4.0 - 6.5' FILL: Brown silty sand, mottling of brick and black silt, trace organics, coal, and fine to medium gravel		
	6.0							
	7.0					6.5 - 8.0' FILL: Brown fine to medium sand, some silt, trace mottling of clay; moist, loose		
	8.0	S-3	NA	4.0		8.0 - 11.9' FILL: Brown fine to medium sand, some silt, trace mottling of clay; moist, loose	0	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	3.0		11.9 - 12.0' OL: Brown silt; wet, soft	0	
						12.0 - 14.0' OL: Brown clayey silt		
	13.0							
	14.0					14.0 - 15.0' OL: Brown and black silt, some fine sand		
	15.0					15.0 - 16.0' No recovery		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-065
DATE BEGAN: 5/03/10
DATE FINISHED: 5/03/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5	NA	3.5		16.0 - 17.0' OL: Black silty clay, trace organics; wet, soft	0	
	17.0					17.0 - 18.5' PT: Brown peat; moist		Sample collected 140-SB-065-1618 from 16.5-17.0' bgs @ 1405
	18.0							
	19.0					18.5 - 19.5' SM: Brown silty sand		Sample collected 140-SB-065-1820 from 19.0-19.5' bgs @ 1410
	20.0					19.5 - 20.0' No recovery; end of boring @ 20.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-066
DATE BEGAN: 5/04/10
DATE FINISHED: 5/04/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.2' ASPHALT: Asphalt and gravel	0	
	1.0					0.2 - 0.8' FILL: Light brown to dark brown silty fine to medium sand and fine to medium gravel, trace brick; dry, loose		
	2.0					0.8 - 0.8' FILL: Concrete		
	3.0					0.8 - 2.3' FILL: Brown silty fine sand, trace brick, coal, and fine to medium gravel; moist		
	4.0	S-2	NA	4.0		2.3 - 2.5' FILL: Dark brown fine to coarse sand, some clinker, trace silt	0	
	5.0					2.5 - 3.0' FILL: Light brown silt, trace fine sand, organics, and clay; moist, firm		
	6.0					3.0 - 4.0' No recovery		
	7.0					4.0 - 8.0' FILL: Brown fine to medium sand, lenses of silt and clay; saturated, loose		
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Brown fine to medium sand, lenses of silty and clay, some silt; saturated, loose	0	
	9.0							
	10.0							
	11.0							
	12.0	S-4		4.0		12.0 - 12.8' MH: Brown clayey silt, some fine sand; wet, firm	0	
	13.0					12.8 - 15.0' OL: Brown silty clay, some fine sand; wet, soft		
	14.0							
	15.0					15.0 - 15.9' OL: Grey silty clay, trace fine sand and organics; wet, firm		Sample collected 140-SB-066-1416 from 15.0-15.5' bgs @ 0800
	16.0					15.9 - 16.0' PT: Peat; end of boring @ 16.0' bgs		

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-067
DATE BEGAN: 5/04/10
DATE FINISHED: 5/04/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' ASPHALT: Asphalt and gravel		
	1.0					0.8 - 1.3' FILL: Concrete		Sample collected 140-SB-067-0002 from 1.5-2.0' bgs @ 835
	2.0					1.3 - 2.0' FILL: Red silt, some fine sand, trace fine to medium gravel and black silt; dry, dense	1.1 1.1	
	3.0					2.0 - 2.9' FILL: Greenish brown fine sand, some silt (COPR), trace wood	2.3 0	Sample collected 140-SB-067-0204 from 2.5-3.0' bgs @ 840
	4.0	S-2	NA	4.0		2.9 - 6.0' FILL: Black silt, some fine sand and trace organics; dry, dense	0	
	5.0							Sample collected 140-SB-067-0406 from 4.5-5.0' bgs @ 845
	6.0					6.0 - 7.0' FILL: White, grey, greenish grey, and light brown silty sand (COPR), some wood; wet, loose		Sample collected 140-SB-067-0608 from 6.5-7.0' bgs @ 850
	7.0					7.0 - 8.0' FILL: Brown clayey silt; wet, soft		
	8.0	S-3	NA	2.5		8.0 - 10.3' FILL: Brown fine to medium sand, some lenses of red silt, trace organics; wet, loose	0	Sample collected 140-SB-067-0810 from 8.5-9.0' bgs @ 855
	9.0							
	10.0					10.3 - 10.5' FILL: Roots, some black silt; wet, loose		Sample collected 140-SB-067-1012 from 10.0-10.5' bgs @ 900
	11.0					10.5 - 12.0' No recovery		
	12.0	S-4	NA	4.0		12.0 - 16.5' PT: Peat	0	Sample collected 140-SB-067-1214 from 12.5-13.0' bgs @ 905
	13.0							
	14.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-067
DATE BEGAN: 5/04/10
DATE FINISHED: 5/04/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	S-5	NA	3.0			0	Sample collected 140-SB-067-1416 from 15.5-16.0' bgs @ 910
	16.0					16.5 - 18.0' SM: Brown silty sand, trace organics; wet, loose		Sample collected 140-SB-067-1618 from 17.0-17.5' bgs @ 915
	17.0					18.0 - 18.8' SM: Greenish grey silty sand, trace clay; wet, loose		Sample collected 140-SB-067-1820 from 18.5-19.0' bgs @ 920; DUP @ 922
	18.0					18.8 - 19.0' CL: Greenish grey clayey fine sand, some silt, trace organics; wet, loose		
	19.0					19.0 - 20.0' No recovery; end of boring @ 20.0' bgs		
	20.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-068
DATE BEGAN: 5/04/10
DATE FINISHED: 5/04/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	
	1.0					0.3 - 0.5' FILL: Brown silty sand and fine gravel		Sample collected 140-SB-068-0002 from 0.5-1.0' bgs @ 935
	2.0					0.5 - 2.0' FILL: Concrete		
	3.0					2.0 - 3.0' FILL: Brown silty sand, some brick, wood and fine to medium gravel, trace coal, glass and plastic		Sample collected 140-SB-068-0204 from 2.5-3.0' bgs @ 940
	4.0	S-2	NA	4.0		3.0 - 3.3' FILL: Dark brown sandy silt, some clinker, coal and wood; wet, loose	0	Sample collected 140-SB-068-0406 from 4.0-4.5' bgs @ 945
	5.0					3.3 - 4.0' No recovery		
	6.0					4.0 - 4.3' FILL: Reddish brown sandy silt, mottling of green, orange, and white silt (COPR), trace organics		
	7.0					4.3 - 5.5' FILL: Reddish brown silty sand, trace organics; wet, loose		Sample collected 140-SB-068-0608 from 7.0-7.5' bgs @ 950
	8.0	S-3	NA	4.0		5.5 - 5.8' FILL: Reddish brown clayey silt; wet, very soft	0	
	9.0					5.8 - 9.0' FILL: Brown fine to medium sand, lenses of clayey silt; saturated, loose		Sample collected 140-SB-068-0810 from 8.5-9.0' bgs @ 955
	10.0					9.0 - 9.5' FILL: Brown clayey silt, some fine sand; wet, loose		
	11.0					9.5 - 11.8' SC: Brown fine to medium sand, mottling of organic black clay		Sample collected 140-SB-068-1012 from 11.0-11.5' bgs @ 1000
	12.0	S-4	NA	3.5		11.8 - 12.0' PT: Brown peat; moist	0	
	13.0					12.0 - 15.5' PT: Peat		Sample collected 140-SB-068-1214 from 12.5-13.0' bgs @ 1005
	14.0							
	15.0					15.5 - 16.0' No recovery; end of boring @ 16.0' bgs		Sample collected 140-SB-067-1416 from 14.5-15.0' bgs @ 1010
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-069
DATE BEGAN: 5/04/10
DATE FINISHED: 5/04/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	
	1.0					0.3 - 1.5' FILL: Dark brown fine to medium gravel, fine to medium silty sand, trace coal and tar		Sample collected 140-SB-069-0002 from 0.5-1.0' bgs @ 1020
	2.0					1.5 - 2.5' FILL: Dark brown silty sand, wood and fine to medium gravel, trace brick and coal		Sample collected 140-SB-069-0204 from 1.5-2.0' bgs @ 1025
	3.0					2.5 - 3.3' FILL: Whitish-grey silty sand (COPR); soft		Sample collected 140-SB-069-0406 from 3.0-3.5' bgs @ 1030
	4.0	S-2	NA	4.0		3.3 - 3.5' FILL: Red silty sand, trace wood; dry, dense	0	
						3.5 - 4.0' No recovery		
	5.0					4.0 - 7.0' FILL: Reddish brown fine to medium sand mixed with white, green, grey sand (Possible COPR precipitants)		Sample collected 140-SB-069-0406 from 5.0-5.5' bgs @ 1030
	6.0							
	7.0					7.0 - 8.0' FILL: Brown fine to medium, trace fine to medium gravel; wet, loose		Sample collected 140-SB-069-0608 from 7.5-8.0' bgs @ 1035
	8.0	S-3	NA	3.25		8.0 - 9.0' FILL: Reddish brown silt; wet, soft	0	Sample collected 140-SB-069-0810 from 8.5-9.0' bgs @ 1040
	9.0					9.0 - 11.2' SM: Grey silty fine to medium sand, lenses of clay @ 10.9-11.0, more organics with depth; wet, dense		
	10.0							
	11.0					11.2 - 11.3' PT: Peat		Sample collected 140-SB-069-1012 from 10.5-11.0' bgs @ 1045
						11.3 - 12.0' No recovery; end of boring @ 12.0' bgs		
	12.0							

PREPARED BY: MD
CHECKED BY: TG

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-070
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' ASPHALT: Asphalt, tar and gravel	0	
	1.0					0.8 - 2.0' FILL: Dark brown sand, fine to medium gravel, some tar and coal, trace silt; dense		Sample collected 140-SB-070-0002 from 1.5-2.0' bgs @ 935
	2.0					2.0 - 2.5' FILL: Brown fine to medium sand, trace silt and fine to medium gravel; dry ,dense		Sample collected 140-SB-070-0204 from 3.0-3.5' bgs @ 940
	3.0					2.5 - 2.8' FILL: Fine to coarse gravel, some fine to medium brown sand		
	4.0	S-2	NA	4.0		2.8 - 3.5' FILL: Dark brown silty sand, fine to medium gravel, some wood, clinker, coal and glass; moderate dense	0	Sample collected 140-SB-070-0406 from 4.0-4.5' bgs @ 945
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 4.8' FILL: Grey and white silt (COPR); soft, wet		Sample collected 140-SB-070-0608 from 7.0-7.5' bgs @ 950
	7.0					4.8 - 7.5' FILL: Brown fine to medium sand, some silt, more fine sand with depth; firm, moist		
	8.0	S-3	NA	3.25		7.5 - 9.0' FILL: Brown fine to meidum sand, trace fine to medium gravel and mottling of silt	0	Sample collected 140-SB-070-0810 from 9.0-9.5' bgs @ 955
	9.0					9.0 - 9.5' ML: Brown silt, some fine sand; wet, firm		Sample collected 140-SB-070-1012 from 10.0-10.5' bgs @ 1000
	10.0					9.5 - 10.0' OL: Black silt, trace fine sand; wet, soft		
	11.0	S-4	NA	2.5		10.0 - 11.3' PT: Brown peat; moist	0	Sample collected 140-SB-070-1214 from 12.0-12.5' bgs @ 1005
	12.0					11.3 - 12.0' No recovery		
	13.0					12.0 - 14.5' PT: Brown peat; moist		Sample collected 140-SB-070-1416 from 14.0-14.5' bgs @ 1010
	14.0							
	15.0					14.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-071
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12ft bgs
GW DEPTH: 3.75 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.3' ASPHALT: Asphalt and gravel	0	
						0.3 - 0.5' FILL: Brown fine to medium sand, trace fine to medium gravel; dry, loose		Sample collected 140-SB-068-0002 from 0.5-1.0' bgs @ 935
	1.0					0.5 - 1.0' FILL: Dark brown fine to medium silty sand, some coal, trace brick and fine to medium gravel; dry, moderate dense		
	2.0					1.0 - 2.0' FILL: Dark brown fine to coarse gravel, dark brown silty fine to medium sand and tar		
	3.0					2.0 - 3.8' FILL: Dark brown silty fine to coarse sand, some fine to medium gravel and clinker, trace brick, coal, and wood, lense of crushed concrete from 3.0-3.25; dense, moist		
	4.0	S-2	NA	3.75			0	
	5.0					3.8 - 4.0' No recovery		
						4.0 - 4.5' FILL: Grey and white silt (COPR); soft, wet		
	6.0					4.5 - 5.0' FILL: Brown silt, trace fine sand; wet, dense		
	7.0					5.0 - 7.8' FILL: Brown fine to medium sand, lenses of clayey silt, trace coarse sand; saturated, loose		
	8.0	S-3	NA	2.5		7.8 - 8.0' No recovery	0	
						8.0 - 9.5' FILL: Brown fine to medium sand, lenses of clayey silt, trace coarse sand; saturated, loose		
	9.0					9.5 - 10.0' SM: Brown sand, some silt; wet, dense		
	10.0					10.0 - 10.5' OL: Black silt, trace organics; wet, firm		Sample collected 140-SB-071-1012 from 10.0-10.5' bgs @ 10:20
	11.0					10.5 - 12.0' No recovery; end of boring @ 12.0' bgs		
	12.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: ite 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: **140-SB-072**
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' ASPHALT: Asphalt and gravel	0	
	1.0					1.5 - 2.0' FILL: Dark brown silty sand, fine to medium gravel, trace coal and brick; dry, loose; end of boring @ 2.0' bgs		Sample collected 140-SB-072-0002 from 1.5-2.0' bgs @ 10:40
	2.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-073
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
						0.5 - 1.8' FILL: Dark brown silt, some fine sand, trace coal, brick, and wood; dry, dense		
	1.0							Sample collected 140-SB-073-0002 from 1.5-2.0' bgs @ 12:25
						1.8 - 2.0' FILL: Dark brown silty sand; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-074
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.75 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.2' ASPHALT: Asphalt and gravel	0	
	1.0					0.2 - 0.5' FILL: Brown fine to medium sand, trace silt; dry, dense		Sample collected 140-SB-074-0002 from 1.0-1.5' bgs @ 1120
	2.0					0.5 - 0.8' FILL: Brown silty fine to medium sand, fine to medium gravel		
	3.0					0.8 - 0.9' FILL: Brown silt, some fine sand		Sample collected 140-SB-074-0204 from 3.0-3.5' bgs @ 1125
	4.0	S-2	NA	4.0		0.9 - 3.0' FILL: Dark brown sandy silt, trace coal, glass, fine to medium gravel, and wood; moist, dense	0	
	5.0					3.0 - 4.5' FILL: Brown silty sand; wet, moderate dense		Sample collected 140-SB-074-0406 from 4.0-4.5' bgs @ 1130
	6.0					4.5 - 10.0' FILL: Brown fine to medium sand, lenses of clayey silt, trace shells; wet, loose		
	7.0							Sample collected 140-SB-074-0608 from 7.0-7.5' bgs @ 1135
	8.0	S-3	NA	3.0			0	
	9.0							Sample collected 140-SB-074-0810 from 8.5-9.0' bgs @ 1140; DUP @ 1142
	10.0					10.0 - 11.0' PT: Peat		
	11.0					11.0 - 12.0' No recovery		Sample collected 140-SB-074-1012 from 10.5-11.0' bgs @ 1145
	12.0	S-4	NA	2.5		12.0 - 14.5' PT: Peat	0	
	13.0							Sample collected 140-SB-074-1214 from 12.5-13.0' bgs @ 1150
	14.0							Sample collected 140-SB-074-1416 from 14.0-14.5' bgs @ 1155
	15.0					14.5 - 16.0' No recovery; end of boring @ 16.0' bgs		
	16.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-075
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' ASPHALT: Asphalt	0	
	1.0					0.5 - 1.3' FILL: Dark brown silty sand, fine to medium gravel, trace brick and coal; moderate dense, dry		
	2.0					1.3 - 1.8' FILL: Light brown fine to medium sand, some silt, trace coal; moist, dense		
	3.0					1.8 - 3.3' FILL: Dark brown fine to coarse sand, some silt and clinker, trace clay; wet, dense		
	4.0	S-2	NA	3.75		3.3 - 3.8' FILL: Brown silt, some fine sand, trace glass; dense wet	0	
	5.0					3.8 - 4.0' FILL: Brown fine to coarse sand, some glass, trace silt; wet, loose		
	6.0					4.0 - 7.8' FILL: Brown fine to coase sand, lenses of silt, trace shells; wet, loose		
	7.0					7.8 - 8.0' No recovery		Sample collected 140-SB-075-0608 from 7.0-7.5' bgs @ 12:50
	8.0	S-3	NA	3.5		8.0 - 10.0' FILL: Brown fine to coarse sand, lenses of silt, trace shells; wet, loose	0	Sample collected 140-SB-075-0810 from 8.5-9.0' bgs @ 12:55
	9.0							
	10.0					10.0 - 11.5' PT: Peat		Sample collected 140-SB-075-1012 from 10.5-11.0' bgs @ 13:00
	11.0							
	12.0	S-4	NA	2.0		11.5 - 12.0' No recovery		
	13.0					12.0 - 14.0' PT: Peat; end of boring @ 14.0' bgs	0	Sample collected 140-SB-075-1214 from 12.5-13.0' bgs @ 13:05
	14.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-076
DATE BEGAN: 5/05/10
DATE FINISHED: 5/05/10
INSPECTOR: M. Daly/ B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt	0	
						0.5 - 1.0' FILL: Brown silty fine to medium sand, some fine to medium gravel, trace coal and brick		
	1.0					1.0 - 1.2' FILL: Reddish brown silt, some fine sand, trace wood and brick; dry, dense		
						1.2 - 2.0' FILL: Brown fine to medium sand, trace fine to medium gravel and glass		
	2.0					2.0 - 2.5' CONCRETE: Concrete		
						2.5 - 3.5' FILL: Brown fine to medium sand, fine to medium gravel, some silt, trace clay; moist, loose		
	3.0					3.5 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Brown fine to medium sand, mottling of silt and clay; wet, loose	0	Sample collected 140-SB-076-0608 from 6.5-7.0' bgs @ 13:30
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-077
DATE BEGAN: 8/18/10
DATE FINISHED: 8/18/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' ASPHALT: Asphalt and gravel	0	
	1.0					0.5 - 1.0' FILL: Black to brown silt, fine sand, coal, gravel, trace brick		
	2.0					1.0 - 2.5' FILL: Light brown silt, gravel, sandstone		
	3.0					2.5 - 3.5' FILL: Brown to gray fine to medium sand; wet at 3.0 ft. bgs.		
	4.0	S-2	NA	3.5		3.5 - 4.0' No recovery 4.0 - 6.0' FILL: Brown to gray fine to medium sand; wet at 3.0 ft. bgs.	0	Sample collected 140-SB-077-0406 from 4.5-5.0' bgs @ 8:50
	5.0							
	6.0					6.0 - 7.5' FILL: Wet light brown silt, lenses of fine to coarse sand throughout		
	7.0							Sample collected 140-SB-077-0608 from 7.0 - 7.5' bgs @ 8:55
	8.0	S-3	NA	3.5		7.5 - 8.0' No recovery 8.0 - 9.5' FILL: Wet gray fine to coarse sand , shells	0	
	9.0							Sample collected 140-SB-077-0810 from 8.5-9.0' bgs @ 9:00
	10.0					9.5 - 11.5' PT: Moist brown peat		
	11.0							Sample collected 140-SB-077-1012 from 10.5-11.0' bgs @ 9:05
	12.0					11.5 - 12.0' No recovery; end of boring at 12.0 ft. bgs.		

PREPARED BY: BS
CHECKED BY: QA QC

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-078
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.7' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.7 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.0' FILL: Red brown silt, gravel	0	Sample collected 140-SB-078-0200 from 2.0-0.0' bgs @ 8:15
	-1.0							
	0.0	S-3	NA	2.0		0.0 - 3.0' FILL: Light brown silt, fine sand	0	Sample collected 140-SB-078-0002 from 0.0 - 2.0' bgs @ 8:20
	1.0							
	2.0	S-4	NA	1.5			0	Sample collected 140-SB-078-0204 from 2.0-3.5' bgs @ 8:25
▽	3.0					3.0 - 3.5' FILL: Brown silt, fine sand, fine to coarse gravel; wet		
						3.5 - 4.0' No recovery		
	4.0	S-5	NA	1.0		4.0 - 5.0' FILL: Light brown fine sand, silt, trace wood, gravel; wet	0	Sample collected 140-SB-078-0406 from 4.0-5.0' bgs @ 8:30
	5.0					5.0 - 6.0' No recovery		
	6.0	S-6	NA	2.0		6.0 - 6.5' FILL: Light brown fine sand, silt, trace wood, gravel; wet	0	Sample collected 140-SB-078-0608 from 6.0-8.0' bgs @ 8:35
						6.5 - 7.0' FILL: Wood		
	7.0					7.0 - 8.0' FILL: Light gray/brown silt, light gray fine to medium sand; wood; wet		
	8.0	S-7	NA	1.0		8.0 - 9.0' FILL: Light brown silt; saturated	0	Sample collected 140-SB-078-0810 from 8.0-9.0' bgs @ 8:40
	9.0					9.0 - 10.0' No recovery		
	10.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-078
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	S-8	NA	1.0		10.0 - 11.0' FILL: Light gray fine to medium sand, shells; wet	0	Sample collected 140-SB-078-1012 from 10.0-11.0' bgs @ 8:45
	11.0					11.0 - 12.0' No recovery		
	12.0	S-9	NA	1.75		12.0 - 12.3' FILL: Light gray fine to medium sand, shells; wet	0	Sample collected 140-SB-078-1214 from 12.0-13.0' bgs @ 8:50
	13.0					12.3 - 13.8' PT: Brown peat; moist		
	14.0					13.8 - 14.0' No recovery; end of boring at 14.0' bgs.		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-079
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 12 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.7' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.7 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.0' FILL: Light brown/dark brown silt, gravel, concrete	0	Sample collected 140-SB-079-0200 from 2.0-0.0' bgs @ 9:15
	-1.0							
	0.0	S-3	NA	2.0		0.0 - 1.0' FILL: Dark brown/black silty sand	0	Sample collected 140-SB-079-0002 from 0.0 - 2.0' bgs @ 9:20
	1.0					1.0 - 2.0' FILL: Brown silt, gravel, concrete, green tint on concrete; potential COPR		
	2.0	S-4	NA	1.5		2.0 - 3.5' FILL: Light brown/red brown silt. fine sand, trace wood, gravel, wet at 3.0' bgs.	0	Sample collected 140-SB-079-0204 from 2.0-3.5' bgs @ 9:25
▽	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-5	NA	2.0		4.0 - 4.3' FILL: White clayey silt; moist; Potential COPR	0	Sample collected 140-SB-079-0406 from 4.0-5.0' bgs @ 9:30
	5.0					4.3 - 4.5' FILL: Dark brown silty sand; wet		
	6.0	S-6	NA	2.0		4.5 - 6.0' FILL: Brown fine to medium sand; wet	0	Sample collected 140-SB-079-0608 from 6.0-8.0' bgs @ 9:35
	7.0					6.0 - 8.0' FILL: Brown fine to medium sand, lenses of clayey silt from 7.0 - 7.5' bgs.; wet		
	8.0	S-7	NA	2.0		8.0 - 11.0' FILL: Brown silt, heavy organics; moist	0	Sample collected 140-SB-079-0810 from 8.0-10.0' bgs @ 9:40
	9.0							
	10.0	S-8	NA	2.0			0	Sample collected 140-SB-079-1012 from 10.0-11.0' bgs @ 9:45
	11.0							
	12.0					11.0 - 12.0' PT: Brown peat; moist; end of boring at 12.0' bgs.		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-080
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.4' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.4 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.0' FILL: Brown silt, gravel	0	Sample collected 140-SB-080-0200 from 2.0-0.0' bgs @ 10:15
	-1.0							
	0.0	S-3	NA	2.0		0.0 - 2.0' FILL: Brown silt, fine sand, gravel, sandstone from 1.5 - 2.0' bgs.	0	Sample collected 140-SB-080-0002 from 0.0 - 2.0' bgs @ 10:20
	1.0							
	2.0	S-4	NA	1.0		2.0 - 3.0' FILL: Light brown silt, fine sand, fine light yellow nodules; potential COPR	0	Sample collected 140-SB-080-0204 from 2.0-3.0' bgs @ 10:25
	3.0					3.0 - 4.0' No recovery		
▽	4.0	S-5	NA	2.0		4.0 - 5.0' FILL: Dark brown silt, fine to coarse gravel; wet	0	Sample collected 140-SB-080-0406 from 5.0-6.0' bgs @ 10:30
	5.0					5.0 - 6.0' FILL: White clayey silt; COPR		
	6.0	S-6	NA	2.0		6.0 - 8.0' FILL: Dark brown silt, fine to medium sand, trace wood from 6.0' - 7.0' bgs.; wet	0	Sample collected 140-SB-080-0608 from 6.0-8.0' bgs @ 10:35; DUP at 10:37
	7.0							
	8.0	S-7	NA	2.0		8.0 - 9.3' FILL: Light brown silt; wet	0	Sample collected 140-SB-080-0810 from 8.0-10.0' bgs @ 10:40

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-080
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.3 - 10.0' FILL: Dark brown/light brown fine to medium sand, lenses of silt; wet		
	10.0	S-8	NA	2.0		10.0 - 12.8' FILL: Light brown/light gray fine to medium sand	0	Sample collected 140-SB-080-1012 from 10.0-12.0' bgs @ 10:45
	11.0							
	12.0	S-9	NA	1.5			0	
						12.8 - 13.0' FILL: Red brown silt; wet		
	13.0					13.0 - 13.5' PT: Brown peat; moist		Sample collected 140-SB-080-1214 from 13.0-13.5' bgs @ 10:50
						13.5 - 14.0' No recovery; end of boring at 14.0' bgs.		
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-081
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.4' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.4 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.5' FILL: Light brown silty sand, gravel	0	Sample collected 140-SB-081-0200 from 2.0-0.0' bgs @ 12:15
	-1.0							
	0.0	S-3	NA	2.0			0	Sample collected 140-SB-081-0002 from 0.0 - 2.0' bgs @ 12:20
	1.0					0.5 - 3.0' FILL: Red brown silt, fine to coarse gravel		
	2.0	S-4	NA	2.0			0	
	3.0					3.0 - 4.0' FILL: Black silty sand, brick, clinker, gravel, glass		Sample collected 140-SB-081-0204 from 3.0-4.0' bgs @ 12:25
▽	4.0	S-5	NA	2.0		4.0 - 4.5' FILL: Black silty sand, brick, clinker, gravel, glass; wet	0	
	5.0					4.5 - 6.0' FILL: White/light green COPR; wet		Sample collected 140-SB-081-0406 from 5.0-6.0' bgs @ 12:30
	6.0	S-6	NA	2.0		6.0 - 7.0' FILL: Light brown silt; wet	0	Sample collected 140-SB-081-0608 from 6.0-8.0' bgs @ 12:35
	7.0					7.0 - 9.0' FILL: Light brown silt, lenses of fine to medium sand; wet		
	8.0	S-7	NA	2.0			0	

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-081
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.0 - 12.5' FILL: Light gray fine to medium sand; wet		Sample collected 140-SB-081-0810 from 9.0-10.0' bgs @ 12:40
	10.0	S-8	NA	2.0			0	Sample collected 140-SB-081-1012 from 10.0-12.0' bgs @ 12:45
	11.0							
	12.0	S-9	NA	2.0			0	Sample collected 140-SB-081-1214 from 12.0-13.0' bgs @ 12:50
	13.0					12.5 - 13.5' OL: Light brown silt, heavy organics; wet		
						13.5 - 14.0' FILL: Brown peat; moist; end of boring at 14.0' bgs.		
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-082
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.4' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.4 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.5' FILL: Red brown silt, gravel	0	Sample collected 140-SB-082-0200 from 2.0-0.0' bgs @ 13:40
	-1.0							
	0.0	S-3	NA	1.5			0	
	1.0					0.5 - 1.5' FILL: Dark brown silty sand, coal, gravel, clinker		Sample collected 140-SB-082-0002 from 1.0 - 1.5' bgs @ 13:45
						1.5 - 2.0' No recovery		
	2.0	S-4	NA	1.0		2.0 - 3.0' FILL: Brown silty sand, wood, gravel, coal, shells	0	Sample collected 140-SB-082-0204 from 2.0-3.0' bgs @ 13:50
	3.0					3.0 - 4.0' No recovery		
▽	4.0	S-5	NA	2.0		4.0 - 5.0' FILL: Brown silty sand, wood, gravel, coal, shells; wet	0	
	5.0					5.0 - 6.0' FILL: Red brown silt, fine to medium sand lenses; wet		Sample collected 140-SB-082-0406 from 5.0-6.0' bgs @ 13:55
	6.0	S-6	NA	2.0		6.0 - 8.0' FILL: Light brown silt, lenses of light gray fine to medium sand, trace shells	0	Sample collected 140-SB-082-0608 from 6.0-8.0' bgs @ 14:00; DUP at 14:02
	7.0							
	8.0	S-7	NA	1.0		8.0 - 9.0' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-082-0810 from 8.0-9.0' bgs @ 14:05

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-082
DATE BEGAN: 10/27/10
DATE FINISHED: 10/27/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.0 - 10.0' No recovery		
	10.0	S-8	NA	2.0		10.0 - 11.5' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-082-1012 from 10.0-11.0' bgs @ 14:10
	11.0							
						11.5 - 12.0' No recovery		
	12.0	S-9	NA	2.0		12.0 - 13.0' FILL: Red brown silt	0	
	13.0					13.0 - 14.0' OL: Gray clayey silt; very moist		Sample collected 140-SB-082-1214 from 13.0-14.0' bgs @ 14:15
	14.0	S-10	NA	2.0		14.0 - 15.0' OL: Black clayey silt; very moist	0	Sample collected 140-SB-082-1416 from 14.0-15.0' bgs @ 14:20
	15.0					15.0 - 16.0' PT: Brown peat; moist; end of boring at 16.0' bgs		
	16.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-083
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.0' FILL: Red brown silt, fine sand, fine gravel	0	Sample collected 140-SB-083-0200 from 2.0-0.0' bgs @ 7:30
	-1.0							
	0.0	S-3	NA	2.0		0.0 - 3.0' FILL: Brown silty sand, gravel, trace copper, trace coal	0	Sample collected 140-SB-083-0002 from 0.0 - 2.0' bgs @ 7:35
	1.0							
	2.0	S-4	NA	2.0			0	
▽	3.0					3.0 - 5.3' FILL: Dark brown silt; wet		Sample collected 140-SB-083-0204 from 3.0-4.0' bgs @ 7:40
	4.0	S-5	NA	2.0			0	
	5.0					5.3 - 5.5' FILL: White silt; wet; Potental COPR		Sample collected 140-SB-083-0406 from 5.0-6.0' bgs @ 7:45
						5.5 - 6.0' FILL: Light brown silt; wet		
	6.0	S-6	NA	1.5		6.0 - 7.5' FILL: Light brown fine to medium sand; wet	0	Sample collected 140-SB-083-0608 from 6.0-7.0' bgs @ 7:50
	7.0							
						7.5 - 8.0' No recovery		
	8.0	S-7	NA	1.5		8.0 - 8.5' FILL: Light brown fine to medium sand; wet	0	Sample collected 140-SB-083-0810 from 8.0-9.5' bgs @ 7:55; DUP at 7:57

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-083
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					8.5 - 9.0' FILL: Light brown silt; wet		
						9.0 - 9.5' FILL: Light brown fine to medium sand; wet		
	10.0	S-8	NA	2.0		9.5 - 10.0' No recovery	0	Sample collected 140-SB-083-1012 from 10.0-11.0' bgs @ 8:00
	11.0					10.0 - 12.0' FILL: Light brown/light gray fine to medium sand; wet		
	12.0	S-9	NA	2.0		12.0 - 12.5' FILL: Light brown/light gray fine to medium sand, shells; wet	0	
						12.5 - 13.9' FILL: Red brown silt; wet		
	13.0					13.9 - 14.0' PT: Brown peat; moist; end of boring at 16.0' bgs.		Sample collected 140-SB-083-1214 from 13.0-14.0' bgs @ 8:05
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-084
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	1.0		-2.0 - -1.0' FILL: Red brown silt, gravel, trace coal	0	Sample collected 140-SB-084-0210 from 2.0-1.0' bgs @ 8:40
	-1.0					-1.0 - 0.0' No recovery		
	0.0	S-3	NA	2.0		0.0 - 0.5' FILL: Red brown silt, gravel, trace coal	0	Sample collected 140-SB-084-0002 from 0.0 - 1.5' bgs @ 8:45
						0.5 - 0.8' FILL: Asphalt		
	1.0					0.8 - 1.5' FILL: Light brown silt, gravel		
						1.5 - 2.0' FILL: Wood		
	2.0	S-4	NA	2.0		2.0 - 3.0' FILL: Brown silty sand, glass, gravel, coal	0	
▽	3.0					3.0 - 4.0' FILL: Dark brown silt; wet		Sample collected 140-SB-084-0204 from 3.0-4.0' bgs @ 8:50
	4.0	S-5	NA	2.0		4.0 - 5.5' FILL: Dark brown silt, gravel; wet	0	
	5.0							Sample collected 140-SB-084-0406 from 5.0-6.0' bgs @ 8:55
						5.5 - 6.0' FILL: White COPR; we		
	6.0	S-6	NA	1.5		6.0 - 7.0' FILL: Dark brown silt; wet	0	Sample collected 140-SB-084-0608 from 6.0-7.5' bgs @ 9:00
	7.0					7.0 - 7.5' FILL: Light brown/red brown silt, fine sand; wet		
						7.5 - 8.0' No recovery		
	8.0	S-7	NA	1.5		8.0 - 8.5' FILL: Brown/light gray fine to medium sand; wet	0	Sample collected 140-SB-084-0810 from 8.0-9.0' bgs @ 9:05

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-084
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					8.5 - 9.5' FILL: Light brown fine sand; wet		
						9.5 - 10.0' No recovery		
	10.0	S-8	NA	1.5		10.0 - 11.5' FILL: Light brown/light gray fine to medium sand, trace coarse sand; wet	0	Sample collected 140-SB-084-1012 from 10.0-11.5' bgs @ 9:10
	11.0							
						11.5 - 12.0' No recovery		
	12.0	S-9	NA	1.75		12.0 - 12.8' FILL: Light brown/light gray fine to medium sand, trace coarse sand; wet	0	
	13.0					12.8 - 13.5' OL: Brown clayey silt, organics		Sample collected 140-SB-084-1214 from 12.5-13.5' bgs @ 9:15
						13.5 - 13.8' PT: Brown peat; moist		
	14.0					13.8 - 14.0' No recovery; end of boring at 14.0' bgs.		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-085
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 12 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.0' FILL: Red brown silt, gravel, trace coal	0	Sample collected 140-SB-085-0210 from 2.0-0.0' bgs @ 10:10
	-1.0							
	0.0	S-3	NA	2.0		0.0 - 3.0' FILL: Light brown silt, fine sand, gravel, brick, coal	0	
	1.0							Sample collected 140-SB-085-0002 from 1.0 - 2.0' bgs @ 10:15
	2.0	S-4	NA	1.75			0	
▽	3.0							Sample collected 140-SB-085-0204 from 2.5-3.5' bgs @ 10:20
						3.0 - 3.8' FILL: Dark brown silt, gravel; wet		
	4.0					3.8 - 4.0' No recovery		
		S-5	NA	2.0		4.0 - 6.0' FILL: Dark brown silt, gravel from 4.0' - 4.5' bgs.; wet	0	
	5.0							Sample collected 140-SB-085-0406 from 5.0-6.0' bgs @ 10:25
	6.0	S-6	NA	2.0		6.0 - 7.3' FILL: Light brown silt, fine sand, trace organics	0	Sample collected 140-SB-085-0608 from 6.0-8.0' bgs @ 10:30
	7.0							
						7.3 - 8.0' FILL: Red brown silt; wet		
	8.0	S-7	NA	1.5		8.0 - 9.0' FILL: Red brown silt, lenses of fine to medium sand; wet	0	Sample collected 140-SB-085-0810 from 8.0-9.5' bgs @ 10:35

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-085
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 12 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0	S-8	NA	2.0		9.0 - 9.5' FILL: Light gray fine to medium sand; wet 9.5 - 10.0' No recovery 10.0 - 11.9' FILL: Light gray/light brown fine to medium sand, lenses of red brown silt; wet 11.9 - 12.0' PT: Brown peat; moist; end of boring at 12.0' bgs.	0	Sample collected 140-SB-085-1012 from 11.0-12.0' bgs @ 10:40
	10.0							
	11.0							
	12.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-086
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 1.5' FILL: Light brown/red brown silt, gravel, brick	0	Sample collected 140-SB-086-0210 from 2.0-0.0' bgs @ 11:50
	-1.0							
	0.0	S-3	NA	2.0			0	
	1.0							Sample collected 140-SB-086-0002 from 1.0 - 2.0' bgs @ 11:55
	2.0	S-4	NA	2.0		1.5 - 3.0' FILL: Light brown/red brown silt, gravel, brick, wood. coal	0	
	3.0					3.0 - 4.0' FILL: Dark brown silty sand, wood, gravel, plastic, coal; wet at 3.25' bgs.		Sample collected 140-SB-086-0204 from 3.0-4.0' bgs @ 12:00
	4.0	S-5	NA	1.0		4.0 - 5.0' FILL: Brown silty sand, gravel, coal; saturated	0	Sample collected 140-SB-086-0406 from 4.0-5.5' bgs @ 12:05
	5.0					5.0 - 6.0' No recovery		
	6.0	S-6	NA	2.0		6.0 - 6.5' FILL: Red brown silt; wet	0	
	7.0					6.5 - 9.3' FILL: Light brown silt; wet		Sample collected 140-SB-086-0608 from 7.0-8.0' bgs @ 12:15; DUP at 12:12
	8.0	S-7	NA	2.0			0	

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-086
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.3 - 10.0' FILL: Light brown fine to medium sand, lenses of red brown silt; wet		Sample collected 140-SB-086-0810 from 9.0-10.0' bgs @ 12:15
	10.0	S-8	NA	2.0		10.0 - 11.9' FILL: Light brown/light gray fine to medium sand; wet	0	
	11.0					11.9 - 12.0' OL: Brown clayey silt, heavy organics; very moist		Sample collected 140-SB-086-1012 from 11.0-12.0' bgs @ 12:20
	12.0	S-9	NA	2.0		12.0 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.	0	Sample collected 140-SB-086-1214 from 12.0-13.0' bgs @ 12:25
	13.0							
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-087
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.5' FILL: Red brown silt, gravel	0	Sample collected 140-SB-087-0200 from 2.0-0.0' bgs @ 12:55; VOCs, SVOCs
	-1.0							
	0.0	S-3	NA	2.0			0	
	1.0					0.5 - 2.0' FILL: Dark brown silty sand, brick, sandstone, wood		Sample collected 140-SB-087-0002 from 1.0 - 2.0' bgs @ 13:00
	2.0	S-4	NA	1.5		2.0 - 3.5' FILL: Red brown silt, gravel, coal, trace glass	0	Sample collected 140-SB-087-0204 from 2.0-3.0' bgs @ 13:05
	3.0							
						3.5 - 4.0' No recovery		
▽	4.0	S-5	NA	2.0		4.0 - 5.5' FILL: Red brown silt, gravel, coal, trace glass; wet	0	
	5.0							Sample collected 140-SB-087-0406 from 5.0-6.0' bgs @ 13:10
						5.5 - 6.0' FILL: Olive/brown silt; wet		
	6.0	S-6	NA	2.0		6.0 - 8.0' FILL: Light brown silt, fine to medium sand; saturated	0	
	7.0							Sample collected 140-SB-087-0608 from 7.0-8.0' bgs @ 13:15
	8.0	S-7	NA	1.0		8.0 - 9.0' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-087-0810 from 8.0-9.0' bgs @ 13:20

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-087
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.0 - 10.0' No recovery		
	10.0	S-8	NA	1.5		10.0 - 11.3' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-087-1012 from 10.0-11.0' bgs @ 13:25; DUP at 13:27
	11.0					11.3 - 11.5' FILL: Brown clayey silt; wet		
						11.5 - 12.0' No recovery		
	12.0	S-9	NA	2.0		12.0 - 12.5' FILL: Green COPR	0	Sample collected 140-SB-087-1213 from 12.0-12.5' bgs @ 13:30
	13.0					12.5 - 13.8' FILL: Light brown silt; wet		
	14.0					13.8 - 14.0' FILL: Brown clayey silt; end of boring at 14.0' bgs.		Sample collected 140-SB-087-1314 from 13.5-14.0'

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-087R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.5' FILL: Red brown silt, gravel	0	
	-1.0							
	0.0	S-3	NA	2.0			0	
	1.0					0.5 - 2.0' FILL: Dark brown silty sand, brick, sandstone, wood		
	2.0	S-4	NA	1.5		2.0 - 3.5' FILL: Red brown silt, gravel, coal, trace glass	0	
	3.0							
▽	4.0					3.5 - 4.0' No recovery		
		S-5	NA	2.0		4.0 - 5.5' FILL: Red brown silt, gravel, coal, trace glass; wet	0	
	5.0							
						5.5 - 6.0' FILL: Olive/brown silt; wet		
	6.0	S-6	NA	2.0		6.0 - 8.0' FILL: Light brown silt, fine to medium sand; saturated	0	
	7.0							
	8.0	S-7	NA	1.0		8.0 - 9.0' FILL: Light gray fine to medium sand; wet	0	

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-087R
DATE BEGAN: 12/8/10
DATE FINISHED: 12/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0					9.0 - 10.0' No recovery		
	10.0	S-8	NA	1.5		10.0 - 11.3' FILL: Light gray fine to medium sand; wet	0	
	11.0					11.3 - 11.5' FILL: Brown clayey silt; wet		
						11.5 - 12.0' No recovery		
	12.0	S-9	NA	2.0		12.0 - 12.5' FILL: Green COPR	0	
	13.0					12.5 - 13.8' FILL: Light brown silt; wet		
						13.8 - 14.0' FILL: Brown clayey silt; wet		
	14.0	S-10	NA	1.5		14.0 - 14.8' FILL: Light brown clayey silt; wet; soft	0	
	15.0					14.8 - 15.0' FILL: Light brown silt; wet		Sample collected 140-SB-087R-1416 from 15.0-15.5' bgs @ 11:00
	16.0					15.0 - 15.5' OL: Black/brown clayey silt, trace organics; very moist; end of boring at 16.0' bgs.		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-088
DATE BEGAN: 10/29/10
DATE FINISHED: 10/29/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-3.0	S-1	NA	0.0		-3.5 - -2.5' CONCRETE: Concrete		Inside 80 Kellogg building - 3.5' above grade
						-2.5 - -2.0' Void		
	-2.0	S-2	NA	2.0		-2.0 - 0.0' FILL: Red brown silt, gravel	0	Sample collected 140-SB-088-0200 from 2.0-0.0' bgs @ 12:35
	-1.0							
	0.0	S-3	NA	2.0		0.0 - 2.0' FILL: Red brown silt, gravel, brick, coal	0	Sample collected 140-SB-088-0002 from 0.0 - 1.0' bgs @ 12:40
	1.0							
	2.0	S-4	NA	2.0		2.0 - 4.0' FILL: Red brown silt, gravel, brick, coal, concrete	0	Sample collected 140-SB-088-0204 from 2.0-3.0' bgs @ 12:45
	3.0							
▽	4.0	S-5	NA	1.5		4.0 - 5.5' FILL: Gray fine sand, silt, gravel; wet	0	Sample collected 140-SB-088-0406 from 4.0-5.0' bgs @ 12:50
	5.0					5.5 - 6.0' No recovery		
	6.0	S-6	NA	2.0		6.0 - 7.0' FILL: Light brown/gray clayey silt; soft; wet	0	Sample collected 140-SB-088-0608 from 6.0-7.0' bgs @ 12:55
	7.0					7.0 - 9.0' FILL: Light brown silt, fine sand; wet		
	8.0	S-7	NA	2.0			0	
	9.0					9.0 - 13.0' FILL: Dark gray fine to medium sand; wet		Sample collected 140-SB-088-0810 from 8.5-9.5' bgs @ 13:00
	10.0	S-8	NA	2.0			0	Sample collected 140-SB-088-1012 from 10.0-11.0' bgs @ 13:05
	11.0							
	12.0	S-9	NA	2.0			0	Sample collected 140-SB-088-1213 from 12.0-13.0' bgs @ 13:10
	13.0					13.0 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.		Sample collected 140-SB-088-1314 from 13.0-14.0' bgs @ 13:15
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-089
DATE BEGAN: 11/1/10
DATE FINISHED: 11/1/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.0		0.0 - 1.0' FILL: Dark brown silty sand, gravel, asphalt	0	Sample collected 140-SB-089-0002 from 0.0 - 1.0' bgs @ 13:20
	1.0					1.0 - 2.0' No recovery		
	2.0	S-2	NA	1.5		2.0 - 3.5' FILL: Dark brown/black silty sand, gravel, coal, brick, sandstone; wet at 3.0' bgs.	0	Sample collected 140-SB-089-0204 from 2.0-3.0' bgs @ 13:25
▽	3.0							
	3.5					3.5 - 4.0' No recovery		
	4.0	S-3	NA	2.0		4.0 - 7.5' FILL: Light brown fine to medium sand, lenses of silt; wet	0	Sample collected 140-SB-089-0406 from 4.0-6.0' bgs @ 13:30; DUP at 13:32
	5.0							
	6.0	S-4	NA	1.5			0	Sample collected 140-SB-089-0608 from 6.0-7.0' bgs @ 13:35
	7.0							
	7.5					7.5 - 8.0' No recovery		
	8.0	S-5	NA	1.5		8.0 - 9.4' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-089-0810 from 8.0-9.0' bgs @ 13:40
	9.0					9.4 - 9.5' FILL: Gray clayey silt		
	9.5					9.5 - 10.0' No recovery		
	10.0	S-6	NA	2.0		10.0 - 10.5' FILL: Gray fine to medium sand; wet	0	
	10.5					10.5 - 11.0' FILL: Red brown silt; wet		Sample collected 140-SB-089-1012 from 11.0-12.0' bgs @ 13:45
	11.0					11.0 - 12.5' OL: Black clayey silt		
	12.0	S-7	NA	2.0			0	Sample collected 140-SB-089-1214 from 12.0-13.0' bgs @ 13:50
	12.5					12.5 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.		
	13.0							
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-090
DATE BEGAN: 11/1/10
DATE FINISHED: 11/1/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' FILL: Asphalt, gravel	0	Sample collected 140-SB-090-0002 from 1.0 - 2.0' bgs @ 13:55
	1.0					0.5 - 1.0' FILL: Concrete		
	2.0	S-2	NA	1.5		1.0 - 2.0' FILL: Dark brown silty sand, gravel	0	Sample collected 140-SB-090-0204 from 2.0-3.5' bgs @ 14:00
▽	3.0					2.0 - 3.5' FILL: Dark brown silty sand, gravel, coal, glass; wet at 3.0' bgs.		
	4.0	S-3	NA	1.5		3.5 - 4.0' No recovery	0	Sample collected 140-SB-090-0406 from 4.0-5.0' bgs @ 14:05
	5.0					4.0 - 4.5' FILL: Dark brown silty sand, gravel, coal, glass; wet		
	6.0	S-4	NA	1.5		4.5 - 5.0' FILL: White COPR; wet	0	Sample collected 140-SB-090-0608 from 6.5-7.5' bgs @ 14:10
	7.0					5.0 - 5.5' FILL: Light brown silt; wet		
	8.0	S-5	NA	1.0		5.5 - 6.0' No recovery	0	Sample collected 140-SB-090-0810 from 8.0-9.0' bgs @ 14:15
	9.0					6.0 - 7.0' FILL: Light brown silt, fine to medium sand; wet		
	10.0	S-6	NA	1.75		7.0 - 7.5' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-090-1012 from 10.0-11.0' bgs @ 14:20
	11.0					7.5 - 8.0' No recovery		
	12.0	S-7	NA	2.0		8.0 - 9.0' FILL: Light gray fine to medium sand; saturated	0	Sample collected 140-SB-090-1214 from 12.0-13.0' bgs @ 14:25
	13.0					9.0 - 10.0' No recovery		
	14.0					10.0 - 11.5' FILL: Light gray fine to medium sand; saturated		
						11.5 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs.		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

SITE INFO: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-091
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Bosch Electric Drill
SAMPLING TOOL: 2-ft Macrocore
COMPLETION DEPTH: 14 ft. bgs.
GW DEPTH: 2.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.0' FILL: Asphalt, gravel	0	Sample collected 140-SB-091-0002 from 1.0 - 2.0' bgs @ 8:45
	1.0					1.0 - 2.0' FILL: Dark brown silty sand		
	2.0	S-2	NA	1.0		2.0 - 5.0' FILL: Dark brown silt; wet at 2.5' bgs.	0	Sample collected 140-SB-091-0204 from 2.0-3.0' bgs @ 8:50
	3.0							
	4.0	S-3	NA	1.0			0	Sample collected 140-SB-091-0406 from 4.0-5.0' bgs @ 8:55
	5.0					5.0 - 6.0' No recovery		
	6.0	S-4	NA	1.5		6.0 - 7.5' FILL: Red brown silt, lenses of fine to medium sand; wet	0	Sample collected 140-SB-091-0608 from 6.0-7.0' bgs @ 9:00
	7.0					7.5 - 8.0' No recovery		
	8.0	S-5	NA	1.5		8.0 - 9.5' FILL: Light gray fine to medium sand; wet	0	Sample collected 140-SB-091-0810 from 8.0-9.0' bgs @ 9:05
	9.0					9.5 - 10.0' No recovery		
	10.0	S-6	NA	1.5		10.0 - 11.5' PT: Brown peat; moist	0	Sample collected 140-SB-091-1012 from 10.0-11.0' bgs @ 9:10
	11.0					11.5 - 12.0' No recovery		
	12.0	S-7	NA	1.5		12.0 - 13.5' PT: Brown peat; moist	0	Sample collected 140-SB-091-1214 from 12.0-13.0' bgs @ 9:15
	13.0					13.5 - 14.0' No recovery; end of boring at 14.0' bgs.		
	14.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: 140-SB-094
DATE BEGAN: 3/23/2011
DATE FINISHED: 3/23/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 5ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' CONCRETE	0	Treatment Plant Building
	1.0					0.3 - 0.5' VOID		
	2.0	S-2	NA			0.5 - 4.0' FILL: Reddish brown silty fine to medium sand, some silt, trace brick and fine gravel; moderate dense, dry	0	
	3.0							
	4.0	S-3	NA	2.5		4.0 - 5.0' FILL: Reddish brown silty fine to medium sand, some silt, trace brick and fine tomedium gravel; moderate dense, dry	0	
	5.0					5.0 - 5.2' CONCRETE: Degraded		
	6.0	S-4	NA			5.2 - 5.5' FILL: Gravel with medium to course dark brown sand; loose, wet	0	
	7.0					5.5 - 6.4' FILL: Brown silty clay; dense, wet		
	8.0		NA	3.5		6.4 - 6.5' FILL: Greenish grey silt (possible COOPR)	0	
	9.0					6.5 - 8.0' No recovery		
	10.0		NA			8.0 - 8.5' FILL: Fine to medium gravel with some dark brown silty sand; loose, wet	0	
	11.0					8.5 - 9.0' FILL: Brown fine sand, trace silt; moderate dense, wet		
	12.0		NA	0.5		9.0 - 10.0' FILL: Brown clayey silt, some fine sand	0	No recovery, moved boring location over 2" to retrieve sample
	13.0					10.0 - 11.3' OH: Dark brown silty clay, dense, wet, organic odor		
	14.0					11.3 - 11.5' SW: Brown fine to medium sand; loose, wet		
	15.0					11.5 - 12.0' No Recovery		
	16.0					12.0 - 12.5' OH: Black organic clay		Sample collected 140-SB-094-1416 from 15.5-16.0' bgs @ 10:08
						12.5 - 16.0' No recovery; end of boring @ 16.0' bgs		

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480050143
BORING ID: **140-SB-094**
DATE BEGAN: 3/23/2011
DATE FINISHED: 3/23/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Dingo TX-420
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft. bgs.
GW DEPTH: 5ft bgs
DRILLER: John/Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0							

PREPARED BY: BS
CHECKED BY: MS

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-095
DATE BEGAN: 3/24/2011
DATE FINISHED: 3/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft. bgs.
GW DEPTH: 2.8 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.3' CONCRETE	0	
						0.3 - 1.0' ASPHALT		
	1.0					1.0 - 1.5' FILL: Brown silty sand, trace fine gravel and brick		
						1.5 - 3.0' FILL: Dark grey silty clay, some fine to medium gravel and brick		
	2.0	S-2	NA				0	
	3.0					3.0 - 3.3' FILL: Green silt (COPR)		
						3.3 - 4.0' No recovery		
	4.0		NA	2.75		4.0 - 4.5' FILL: Grey silty, some fine to medium sand; loose, wet	0	
						4.5 - 6.0' FILL: Dark grey clayey silt to brown in color @ 5.5' bgs; dense, wet		Sample collected 140-SB-095-0406 from 4.5-5.0' bgs @ 13:30
	5.0							
	6.0		NA			6.0 - 6.8' FILL: Brown fine to medium sand; loose, wet	0	
	7.0					6.8 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-095R
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft. bgs.
GW DEPTH: 2.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' ASPHALT	0	
	1.0					1.0 - 3.8' FILL: Black silt, moist,stiff		Barometer reading: 29.99
	2.0	S-2	NA				0	
	3.0							Mercury reading: 0.011 Hg mg/m3
						3.8 - 4.0' CONCRETE: degraded		
	4.0			1.0		4.0 - 4.5' FILL: Gravel, black silt; wet, loose	0	
						4.5 - 5.0' FILL: Wood, black silt; wet, loose		
	5.0					5.0 - 6.0' No recovery; end of boring @ 6.0' bgs		
	6.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-096
DATE BEGAN: 3/24/2011
DATE FINISHED: 3/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft. bgs.
GW DEPTH: 2.7 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.5' ASPHALT	0	
	1.0					1.5 - 1.8' Fill: Fine to coarse gravel, some dark grey fine silty sand; dense		
	2.0	S-2	NA			1.8 - 3.3' FILL: Dark grey silt; dense, wet @ bottom	0	
	3.0					3.3 - 3.5' FILL: Fine to medium gravel, trace fine sand; loose, wet		
						3.5 - 4.0' No recovery		
	4.0		NA	4		4.0 - 4.3' FILL: Greenish grey silty; loose, wet (COPR)	0	
	5.0					4.3 - 7.0' FILL: Brown silt, some fine sand and lenses of clay, trace organics; dense wet		Sample collected 140-SB-096-0406 from 4.5-5.0' bgs @ 13:55
	6.0		NA				0	
	7.0					7.0 - 8.0' FILL: Greyish brown fine to medium sand; loose, wet; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-096R
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 3 ft. bgs.
GW DEPTH: 2.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.2' ASPHALT	0	Barometer reading: 29.97 Mercury reading: 0.004 Hg mg/ m3
	1.0					1.2 - 2.0' CONCRETE: gravel		
	2.0		NA			2.0 - 3.0' FILL: Black silt; moist, firm; end of boring @ 3.0' bgs	0	
	3.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-097
DATE BEGAN: 3/24/2011
DATE FINISHED: 3/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft. bgs.
GW DEPTH: 2.7 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' CONCRETE	0	
						0.5 - 1.0' ASPHALT		
	1.0					1.0 - 2.0' FILL: Dark grey silt, trace fine sand		
	2.0	S-2	NA			2.0 - 4.0' No recovery	0	
	3.0							
	4.0		NA	3.0		4.0 - 4.5' FILL: Fine to medium gravel, trace fine to medium grey sand	0	
						4.5 - 6.0' FILL: Brown silt, trace organics; moderate dense, wet		Sample collected 140-SB-097-0406 from 5.0-5.5' bgs @ 14:20
	5.0							
	6.0		NA			6.0 - 7.0' FILL: Greyish brown fine to medium sand; loose, wet	0	
	7.0					7.0 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-097R
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 3 ft. bgs.
GW DEPTH: 2.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.8' ASPHALT	0	Barometer reading: 29.97
	1.0					0.8 - 1.6' CONCRETE		
						1.6 - 2.0' FILL: Reddish brown silt, trace coal; dry, firm		
	2.0		NA			2.0 - 3.0' FILL: Black silt; moist, firm; end of boring @ 3.0' bgs	0	Mercury reading: 0.022 Hg mg/m3
	3.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: **140-SB-098**
DATE BEGAN: 3/24/2011
DATE FINISHED: 3/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft. bgs.
GW DEPTH: 2.7 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' ASPHALT	0	
	1.0							
	2.0	S-2	NA			2.0 - 4.0' FILL: Dark grey silt; dense, wet @ bottom	0	
	3.0							
	4.0		NA	3.0		4.0 - 4.5' FILL: Fine to medium gravel, trace fine grey sand; loose, wet	0	
	5.0					4.5 - 5.5' FILL: Brown silt; moderate dense, wet		Sample collected 140-SB-098-0406 from 4.5-5.0' bgs @ 14:30
	6.0		NA			5.5 - 7.0' FILL: Greyish brown fine to medium sand, trace silt; loose wet	0	
	7.0					7.0 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-098R
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 3 ft. bgs.
GW DEPTH: 2.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.5' ASPHALT	0	Barometer reading: 29.96
	1.0					1.5 - 1.6' GRAVEL: fine to medium		
						1.6 - 2.0' FILL: Reddish brown silt, trace coal; dry, firm		
	2.0		NA			2.0 - 3.0' FILL: Black silt; moist, firm; end of boring @ 3.0' bgs	0	Mercury reading: 0.013 Hg mg/m3
	3.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-099
DATE BEGAN: 3/24/2011
DATE FINISHED: 3/24/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft. bgs.
GW DEPTH: 2.7 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.5' ASPHALT	0	
	1.0					1.5 - 3.0' FILL: Dark grey silt; dense, dry		
	2.0	S-2	NA				0	
	3.0					3.0 - 3.5' FILL: Fine to medium gravel, trace fine sand; loose wet; wood from -3.0 to -3.2' bgs		
						3.5 - 4.0' No recovery		
	4.0		NA	3.0		4.0 - 4.3' FILL: Fine to medium gravel, trace fine sand	0	
						4.3 - 4.3' FILL: Greyish brown silt (possible COPR)		Sample collected 140-SB-099-0406 from 4.5-5.0' bgs @ 9:40
	5.0					4.3 - 6.0' FILL: Brown silt; loose, wet		
	6.0		NA			6.0 - 7.0' FILL: Greyish brown fine to medium sand; loose, wet	0	Sample collected 140-SB-099-0608 from 6.5-7.0' bgs @ 9:42
	7.0					7.0 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480090030
BORING ID: 140-SB-099R
DATE BEGAN: 9/27/2011
DATE FINISHED: 9/27/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 3 ft. bgs.
GW DEPTH: 2.5 ft bgs
DRILLER: G. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.5' ASPHALT: gravel	0	Barometer reading: 29.96
	1.0					1.5 - 1.8' CONCRETE: gravel		
	2.0		NA			1.8 - 3.0' FILL: Black silt; moist, firm; greenish yellow grandular sand (COPR) in tip; end of boring @ 3.0' bgs	0	Mercury reading: 0.025 Hg mg/m3
	3.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell Study Area - 6 South

LOCATION: Site 140, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 140-SB-100
DATE BEGAN: 11/4/2011
DATE FINISHED: 11/4/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		5	2.0		10.0 - 12.0' FILL: Brown fine to medium sand, some silt; wet	N/A	Location HSA-14 on sampling table. Augered to 10 ft bgs before sampling.
			7					
	11.0		8					Collected 140-SB-100-1012 from 10.5 - 11.0 ft bgs @ 13:25
			5					
	12.0		2	2.0		12.0 - 15.0' OH: Brown silt, some clay	N/A	
			3					
	13.0		1					
			1					Collected 140-SB-100-1314 from 13.5 - 14.0 ft bgs @ 13:30
	14.0		1	2.0				
			1					
	15.0		1			15.0 - 17.0' OH: Black silt, some clay		
			2					Collected 140-SB-100-1516 from 15.5 - 16.0 ft bgs @ 13:35
	16.0		1	2.0				
			1					
	17.0		NR			17.0 - 18.0' PT: Dark brown peat; end of boring @ 18.0' bgs		
			NR					
	18.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Site 140, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 140-SB-101
DATE BEGAN: 11/4/2011
DATE FINISHED: 11/4/2011
INSPECTOR: A. Giouzelis
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		1	2.0		12.0 - 13.5' OH: Brown silt, some clay; wet	N/A	Location HSA-16 on sampling table. Augered to 12 ft bgs before sampling.
			1					
	13.0		3					Collected 140-SB-101-1213 from 12.5 - 13.0 ft bgs @ 14:45
			2			13.5 - 15.0' OH: Dark grey silt, some clay		
	14.0		1	2.0			N/A	
			1					
	15.0		3			15.0 - 16.0' OH: Olive silt, some clay; end of boring @ 16.0' bgs		
			5					Collected 140-SB-101-1516 from 15.5 - 16.0 ft bgs @ 14:50
	16.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 140-SB-102
DATE BEGAN: 11/8/2011
DATE FINISHED: 11/8/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		2	1.5		10.0 - 11.0' FILL: Very dark grayish brown fine to coarse sand, trace silt; loose, wet	0	Location HSA-15 on sampling table. Augered to 10 ft bgs before sampling.
			1					
	11.0		4			11.0 - 11.5' MH: Very dark grayish brown (10Y 3/2) clayey silt, few nodules of organic material and fine to medium sand (appears disturbed); medium stiff, medium plastic, wet		
			2			11.5 - 12.0' No recovery		
	12.0		2	1.5		12.0 - 13.0' OH: Olive/dark olive gray (5Y 4/3 to 3/2) silty clay, few organic material, trace fine sand; soft, plastic, wet	0	
			1					
	13.0		1			13.0 - 13.5' OL: Dark olive gray (5Y 3/2) silt, few clay and organic material; soft, medium plastic, wet		Collected 140-SB-102-1314 from 13.0-13.5 ft bgs @ 09:05
			3			13.5 - 14.0' No recovery		
	14.0		2	1.5		14.0 - 14.2' OL: Dark olive gray (5Y 3/2) silt, few clay and organic material; medium stiff, medium plastic, wet	0	
						14.2 - 14.4' OH: Black (5Y 2.5/1) clayey silt; medium stiff, plastic, wet		
			2			14.4 - 15.5' PT: Dark brown (10YR 3/3) peat; medium stiff, crumbly, moist		
	15.0		4					No COPR observed on augers or in cuttings
			7			15.5 - 16.0' No recovery; end of boring at 16'		
	16.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 140-SB-103
DATE BEGAN: 11/8/2011
DATE FINISHED: 11/8/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		1	2.0		12.0 - 12.9' MH: Very dark grayish brown (2.5Y 3/2) clayey silt, trace fine sand, possible COPR lenses at 12.55-12.6' and 12.75-12.8'; very soft, plastic, wet	0	Location HSA-17 on sampling table. Augered to 12 ft bgs before sampling.
			1					
	13.0		1			12.9 - 13.4' MH: Brown (10YR 4/3) clayey silt, trace fine sand; very soft, plastic, wet		
			1			13.4 - 14.0' OH: Very dark gray (2.5Y 3/1) clayey silt, trace organic material; peat lens from 13.9-14.0'; very soft, plastic, wet		
	14.0		1	2.0		14.0 - 15.4' OH: Very dark grayish brown (2.5Y 3/2) clayey silt, peat lens from 14.8-15.0'; medium stiff, plastic, wet	0	
			2					
	15.0		2					
			5			15.4 - 15.6' OH: Black (2.5Y 2.5/1) clayey silt; medium stiff, plastic, wet		
						15.6 - 15.8' OH: Dark gray (2.5Y 3/1) clayey silt, trace organic material; medium stiff, plastic, wet		
	16.0		2	1.2		15.8 - 16.8' PT: Dark brown (10YR 3/3) peat; stiff, crumbly, moist	0	Collected 140-SB-103-1617 from 16.0-16.5 ft bgs @ 10:45
			4					
	17.0		10			16.8 - 17.2' SP: Brown (7.5YR 4/2) fine sand, trace silt; medium dense, wet		
			23			17.2 - 18.0' No recovery; end of boring at 18'		
	18.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 140-SB-104
DATE BEGAN: 11/11/2011
DATE FINISHED: 11/11/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0	S-1	1	2.0		10.0 - 10.1' MH: Brown (10YR 4/3) silt, some clay, trace fine sand; wet, very soft, plastic	N/A	Location HSA-12 on sampling table. Augered to 10 ft bgs before sampling.
			1			10.1 - 11.0' OH: Very dark grayish brown/black (2/5 YR 3/2 to 2.5/1) silt, some clay and organic material, trace fine sand; wet, very soft, plastic		Sample collected 140-SB-104-1011 from 10.5 - 11.0' bgs @ 10:10
	-11.0		1					
			2			11.0 - 14.0' PT: Dark brown (10 YR 3/3) peat; moist, soft, crumbly; end of boring @ 14.0' bgs		Sample collected 140-SB-104-1112 from 11.0 - 11.5' bgs @ 10:15
	-12.0	S-2	1	2.0			N/A	
			2					Sample collected 140-SB-104-1213 from 12.0 - 12.5' bgs @ 10:30
	-13.0		2					
			4					
	-14.0							

PREPARED BY: MD
CHECKED BY: TG

Honeywell SA-6 South

LOCATION: Site 140 ABF Trucking
PROJECT NO: 3480100027
BORING ID: 140-SB-105
DATE BEGAN: 1/16/2012
DATE FINISHED: 1/16/2012
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push/ Soft Dig
DRILL EQUIP: Geoprobe 5400DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft. bgs.
GW DEPTH: 4.0 ft bgs
DRILLER: Jake/Brian
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	NA (soft dig)		0.0 - 0.4' ASPHALT	NA	
						0.4 - 4.0' FILL: Dark grey silt, some fine sand, ash, grey pumice like material (clinker); wet @ 4.0' bgs		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Greyish brown fine to medium sand, lenses of brown silt, trace fine gravel; wet, loose	NA	Collected 140-SB-105-0608 from 7.5 - 8.0' bgs @ 13:10
	8.0	S-3		2.0		8.0 - 10.0' FILL: Greyish brown fine to medium sand, trace nodules of reddish brown clay; end of boring 10.0' bgs	NA	Collected 140-SB-105-0810 from 9.5 - 10.0' bgs @ 13:15
	10.0							

PREPARED BY: MD
CHECKED BY: MM

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 140-SB-106
DATE BEGAN: 1/18/2012
DATE FINISHED: 1/18/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57 freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-8.0	S-1	2	2.0		8.0 - 14.0' FILL: Gray fine to medium sand, trace shells and silt; loose, wet; end of boring @ 14.0' bgs	N/A	Location HSA-13 on sampling table. Augered to 8 ft bgs before sampling.
			2					
	-9.0		4					
			5					
	-10.0	S-2	4	2.0			N/A	
			5					
	-11.0		7					
			8					Sample collected 140-SB-106-1112 from 11.5 - 12.0' bgs @ 11:00
	-12.0	S-3	5	2.0			N/A	
			7					Suspect heaving sand for 12 - 14' spoon
	-13.0		7					
			8					
	-14.0							

PREPARED BY: MD
CHECKED BY: JB

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 140-SB-107
DATE BEGAN: 1/18/2012
DATE FINISHED: 1/18/2012
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Mobile B-57, freefall winch
BIT TYPE/SIZE: 4.25-in. diam. auger
CASING: N/A
HAMMER: 140 lbs/30 inches
CORE TYPE/SIZE: N/A
ROCK DEPTH: Not encountered
PERMIT NO: N/A
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: Not measured
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	-10.0	S-1	4	2.0		10.0 - 12.8' FILL: Gray fine to medium sand, trace silt and shells; loose, wet	N/A	Drilled ~5 ft east of 140-SB-106 to verify peat contact
			6					
	-11.0		3					
			3					
	-12.0	S-2	4	1.5			N/A	
			3					
	-13.0		2			12.8 - 13.5' PT: Very dark brown (7.5 YR 2.5/3) peat; medium stiff, moist; end of boring @ 14.0' bgs		
			2					
	-14.0							

PREPARED BY: MD
CHECKED BY: JB

Honeywell

LOCATION: Site 140
PROJECT NO: 3480130377
BORING ID: 140-SB-603-X
DATE BEGAN: 5/13/14
DATE FINISHED: 5/13/14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct push
DRILL EQUIP: Geoprobe 220
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 8' bgs
GW DEPTH:
DRILLER: Gordon Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		N/A	3.0		0.0 - 0.5' GRAVEL: GRAVEL	0.0	
						0.5 - 1.0' FILL: Brown fine to coarse SAND, fine to medium gravel; loose, moist	0.0	
	1.0					1.0 - 1.5' FILL: Reddish brown fine SAND, fine to medium gravel	0.0	Sample 140-SB-603-X1 (1.1'-3.5') @ 9:40
						1.5 - 3.0' FILL: Grayish black fine SAND, fine to medium gravel, trace silt, COPR	0.0	
	2.0						0.0	
							0.0	
	3.0					3.0 - 4.0' No Recovery		
	4.0		N/A	3.0		4.0 - 4.3' FILL: Grayish black fine SAND, fine to medium gravel, trace silt, COPR	0.0	
						4.3 - 6.5' FILL: Black fine SAND, some silt; medium dense, moist	0.0	
	5.0						0.0	Sample 140-SB-603-X2 (5.0'-7.1') @ 9:55; Encores taken
							0.0	
	6.0						0.0	
						6.5 - 7.0' FILL: Black fine to coarse SAND, fine to medium gravel, metal, newspaper, plastic; loose, wet	0.0	
	7.0					7.0 - 8.0' No Recovery; End of boring at 8'		
	8.0							

PREPARED BY: GB
CHECKED BY: MS

Honeywell Jersey City

LOCATION: SA-6 South Meter Building (East)
PROJECT NO: 3480130377
BORING ID: 140-SB-606
DATE BEGAN: 3-28-16
DATE FINISHED: 3-28-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 8' bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH: 684622.7
EAST: 602395.5

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' ASPHALT: Asphalt/Gravel	NM	Ground surface elevation +8.50
	1.0					1.0 - 2.0' FILL: Dark brown SANDY SILT, some fine to coarse gravel; moist		
	2.0					2.0 - 3.0' SM: Yellowish red/light brown SANDY SILT; moist		
	3.0					3.0 - 5.0' SW: Brown fine SAND, few clay; medium dense		
	4.0	S-2		3.0				
	5.0					5.0 - 7.0' SW: Brown fine to medium SAND; medium dense, wet		
	6.0							Sample collected from 2.7-3.1' bgs at 8:55
	7.0					7.0 - 8.0' No recovery. End of boring at 8.0' bgs.		
	8.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South Meter Building (West)
PROJECT NO: 3480130377
BORING ID: 140-SB-607
DATE BEGAN: 3-28-16
DATE FINISHED: 3-28-16
INSPECTOR: Ari Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 8' bgs
GW DEPTH: NE
DRILLER: Gordon Blewett
NORTH: 684622.7
EAST: 602395.5

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' ASPHALT: Asphalt/Gravel; loose	NM	Ground surface elevation +8.45
	1.0					1.0 - 2.5' FILL: Brown SILT, some fine to coarse gravel; moist		
	2.0							
	2.5					2.5 - 3.0' SW: Light brown fine SAND; moist		
	3.0					3.0 - 3.5' SM: Brown SANDY SILT; moist		
	3.5	S-2		3.0		3.5 - 5.0' SW: Dark brown fine to medium SAND; medium dense, moist		
	4.0							
	5.0					5.0 - 7.0' SW: Light brown fine to medium SAND; dense, moist		Sample collected from 6.1-6.7' bgs at 8:55
	6.0							
	7.0					7.0 - 8.0' No recovery. End of boring at 8.0' bgs.		
	8.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: 163-MW-03
DATE BEGAN: 6-1-16
DATE FINISHED: 6-1-16
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 18' bgs
GW DEPTH: 4' bgs
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	11	1.0		14.0 - 15.0' SW: Reddish brown fine to coarse SAND, few fine to coarse gravel; loose, wet	NM	Starting elevation 7.5' Augered to 14.0' bgs
			18					
	15.0		17			15.0 - 16.0' No recovery		
			16					
	16.0	SS2	8	2.0		16.0 - 17.5' SM: Reddish brown/gray fine to medium SAND and SILT; medium dense, wet		
			17					
	17.0		16					
			12			17.5 - 17.8' ML: Dark gray SILT		
						17.8 - 17.9' OL: Dark gray SILT with organics		
	18.0					17.9 - 18.0' PEAT: Dark brown PEAT. End of boring at 18.0' bgs.		

PREPARED BY: CR
CHECKED BY: KK

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-001
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' CONCRETE	0	
	1.0					0.8 - 1.5' FILL: Black silty sand, clinker, trace coal		
	2.0					1.5 - 2.0' FILL: Red brown silt, gravel		Sample collected 163-SB-001-0002 from 1.5-2.0' bgs @9:45
	3.0					2.0 - 3.5' FILL: Red brown silt, lenses of fine to coarse sand; wet at tip		Sample collected 163-SB-001-0204 from 3.0-3.5' bgs @9:50
	4.0	S-2	NA	3.5		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 5.0' FILL: Gray/red brown silt, gravel; wet		Sample collected 163-SB-001-0406 from 4.5-5.0' bgs @9:55
	6.0					5.0 - 7.5' FILL: Light brown/light gray fine to medium sand; wet		
	7.0							Sample collected 163-SB-001-0608 from 6.5-7.0' bgs @10:00: DUP at 10:02
	8.0	S-3	NA	3.0		7.5 - 8.0' : No recovery	0	
	9.0					8.0 - 9.3' FILL: Light brown fine to medium sand; wet		Sample collected 163-SB-001-0810 from 8.0-8.5' bgs @10:05
	10.0					9.3 - 10.0' FILL: Red brown silt; wet		
	11.0					10.0 - 11.0' CL: Light brown clayey silt, organics; very moist		Sample collected 163-SB-001-1012 from 10.0-10.5' bgs @10:10
	12.0	S-4	NA	2.0		11.0 - 12.0' No recovery	0	
	13.0					12.0 - 12.5' CL: Light brown clayey silt, trace shells; wet		
	14.0					12.5 - 13.5' CL: Black clayey silt, organics; very moist		Sample collected 163-SB-001-1214 from 13.0-13.5' bgs @10:15
						13.5 - 14.0' PT: Brown peat; moist; end of boring at 14.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

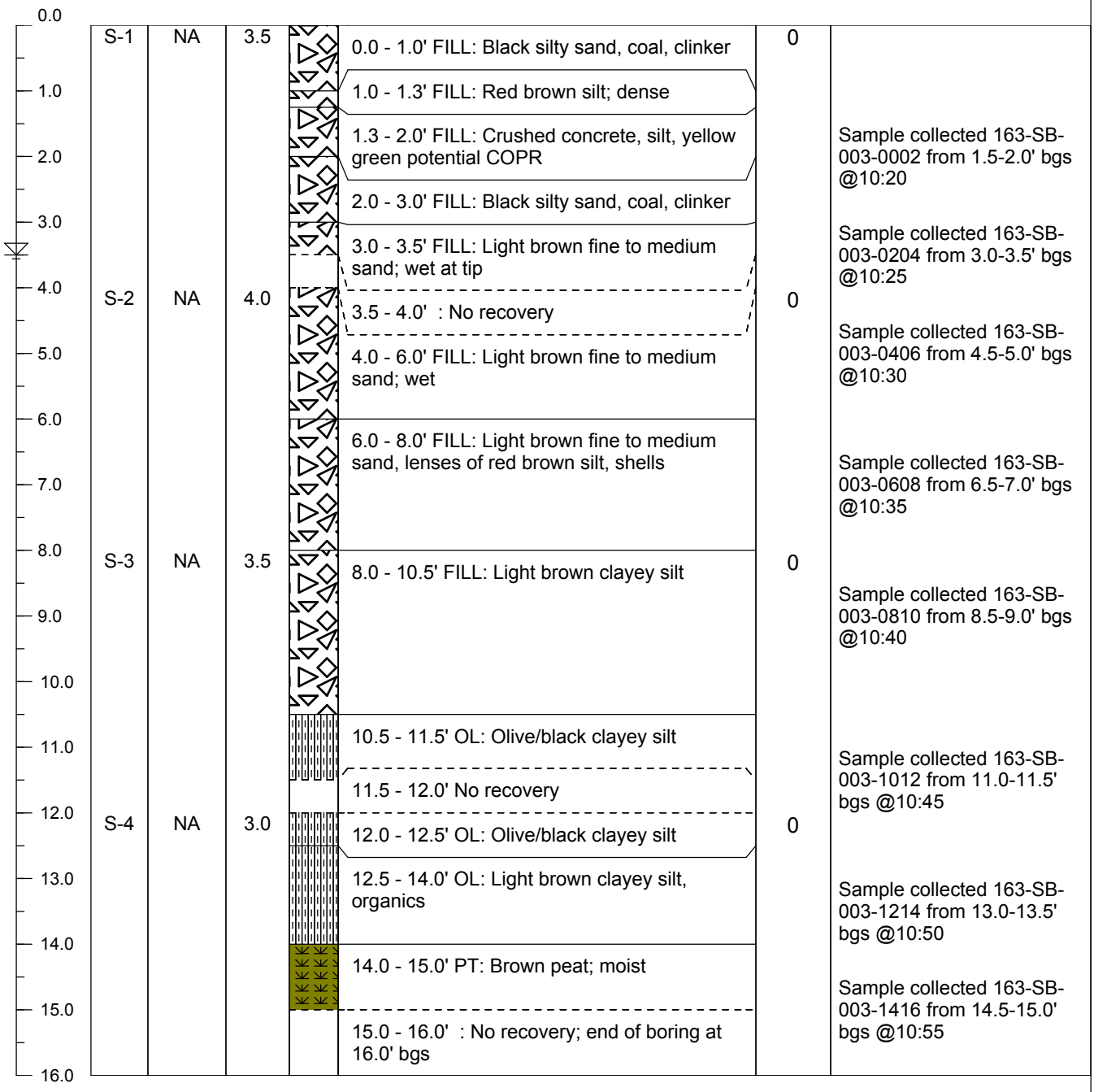
SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-002
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' TOPSOIL: Light brown topsoil	0	
	1.0					0.5 - 1.0' FILL: Crushed concrete		Sample collected 163-SB-002-0002 from 1.0-1.5' bgs @9:00
	2.0					1.0 - 1.5' FILL: Black silty sand, coal, gravel		
	3.0					1.5 - 3.5' FILL: Light brown silt, lenses of fine to medium sand		Sample collected 163-SB-002-0204 from 2.5-3.0' bgs @9:05
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 7.0' FILL: Light gray/light red brown fine to medium sand, lenses of red brown silt, clayey silt throughout; wet		Sample collected 163-SB-002-0406 from 4.5-5.0' bgs @9:10
	6.0							
	7.0					7.0 - 8.0' : No recovery		Sample collected 163-SB-002-0608 from 6.5-7.0' bgs @9:15
	8.0	S-3	NA	3.0		8.0 - 9.0' FILL: Light gray/light red brown fine to medium sand, lenses of red brown silt, clayey silt throughout; wet	0	
	9.0					9.0 - 10.5' FILL: Red brown clayey silt; soft, wet		Sample collected 163-SB-002-0810 from 9.0-9.5' bgs @9:20
	10.0							
	11.0					10.5 - 11.0' FILL: Light gray fine to medium sand; wet		Sample collected 163-SB-002-1012 from 10.5-11.0' bgs @9:25
	12.0	S-4	NA	2.5		11.0 - 12.0' No recovery	0	Sample collected 163-SB-002-1214 from 12.0-12.5' bgs @9:30
	13.0					12.0 - 14.5' FILL: Light brown fine to medium sand, light brown/red brown silt; wet		
	14.0							Sample collected 163-SB-002-1416 from 14.0-14.5' bgs @9:35
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.5		16.0 - 17.5' FILL: Light brown clayey silt, trace organics and shells; very moist	0	
	17.0							Sample collected 163-SB-002-1618 from 17.0-17.5' bgs @9:40
	18.0					17.5 - 18.5' PT: Brown peat; moist		
	19.0					18.5 - 20.0' No recovery; end of boring at 20.0' bgs		
	20.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-003**
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:



ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' FILL: Black silty sand, coal, clinker	0	
	1.0					1.0 - 1.3' FILL: Red brown silt; dense		
	2.0					1.3 - 2.0' FILL: Crushed concrete, silt, yellow green potential COPR		Sample collected 163-SB-003-0002 from 1.5-2.0' bgs @10:20
	3.0					2.0 - 3.0' FILL: Black silty sand, coal, clinker		
	4.0	S-2	NA	4.0		3.0 - 3.5' FILL: Light brown fine to medium sand; wet at tip	0	Sample collected 163-SB-003-0204 from 3.0-3.5' bgs @10:25
						3.5 - 4.0' : No recovery		
	5.0					4.0 - 6.0' FILL: Light brown fine to medium sand; wet		Sample collected 163-SB-003-0406 from 4.5-5.0' bgs @10:30
	6.0					6.0 - 8.0' FILL: Light brown fine to medium sand, lenses of red brown silt, shells		Sample collected 163-SB-003-0608 from 6.5-7.0' bgs @10:35
	8.0	S-3	NA	3.5		8.0 - 10.5' FILL: Light brown clayey silt	0	Sample collected 163-SB-003-0810 from 8.5-9.0' bgs @10:40
	9.0							
	10.0							
	11.0					10.5 - 11.5' OL: Olive/black clayey silt		Sample collected 163-SB-003-1012 from 11.0-11.5' bgs @10:45
						11.5 - 12.0' No recovery		
	12.0	S-4	NA	3.0		12.0 - 12.5' OL: Olive/black clayey silt	0	
	13.0					12.5 - 14.0' OL: Light brown clayey silt, organics		Sample collected 163-SB-003-1214 from 13.0-13.5' bgs @10:50
	14.0					14.0 - 15.0' PT: Brown peat; moist		Sample collected 163-SB-003-1416 from 14.5-15.0' bgs @10:55
	15.0					15.0 - 16.0' : No recovery; end of boring at 16.0' bgs		
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-004
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' FILL: Concrete	0	
	1.0					0.8 - 1.0' FILL: Black silty sand, gravel		
	2.0					1.0 - 1.5' FILL: Fine to coarse gravel		Sample collected 163-SB-004-0002 from 1.5-2.0' bgs @12:00
	3.0					1.5 - 2.0' FILL: Black silty sand, coal, brick		
	4.0	S-2	NA	3.5		2.0 - 3.5' FILL: Light brown fine to medium sand		Sample collected 163-SB-004-0204 from 3.0-3.5' bgs @12:05
	5.0					3.5 - 4.0' : No recovery	0	Sample collected 163-SB-004-0406 from 4.0-4.5' bgs @12:10
	6.0					4.0 - 5.5' FILL: Light brown fine to medium sand, gray clayey silt; wet		
	7.0					5.5 - 6.5' FILL: Red brown/light brown silt, lenses of fine to medium sand; wet		
	8.0	S-3	NA	2.5		6.5 - 7.5' FILL: Light brown fine to medium sand; wet		Sample collected 163-SB-004-0608 from 7.0-7.5' bgs @12:15
	9.0					7.5 - 8.0' No recovery	0	
	10.0					8.0 - 10.5' FILL: Light brown/red brown fine sand, silt; wet		Sample collected 163-SB-004-0810 from 8.5-9.0' bgs @12:20; DUP at 12:22
	11.0					10.5 - 12.0' : No recovery		Sample collected 163-SB-004-1012 from 10.0-10.5' bgs @12:25
	12.0	S-4	NA	3.0		12.0 - 13.0' FILL: Light brown/red brown fine sand, silt; wet	0	
	13.0					13.0 - 14.3' OL: Black clayey silt, trace shells; wet		Sample collected 163-SB-004-1214 from 13.0-13.5' bgs @12:30
	14.0					14.3 - 15.0' PT: Brown peat; moist		Sample collected 163-SB-004-1416 from 14.0-14.5' bgs @12:35
	15.0					15.0 - 16.0' : No recovery; end of boring at 16.0' bgs		
	16.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-005
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' FILL: Concrete	0	
						0.5 - 2.5' FILL: Dark brown silty sand, fine to coarse gravel, coal		Sample collected 163-SB-005-0002 from 1.0-1.5' bgs @12:40
	1.0							
	2.0							
	3.0					2.5 - 3.5' FILL: Light brown fine to medium sand; wet at tip		Sample collected 163-SB-005-0204 from 3.0-3.5' bgs @12:45
						3.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.5		4.0 - 6.0' FILL: Light brown fine to medium sand; saturated	0	Sample collected 163-SB-005-0406 from 4.5-5.0' bgs @12:50
	5.0							
	6.0					6.0 - 7.5' FILL: Light brown fine to medium sand, red/brown silt; shells from 6.5-7.5'; wet		
	7.0							Sample collected 163-SB-005-0608 from 7.0-7.5' bgs @12:55
						7.5 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown/light gray fine to medium sand; saturated	0	Sample collected 163-SB-005-0810 from 8.0-8.5' bgs @13:00
	9.0							
	10.0							Sample collected 163-SB-005-1012 from 10.0-10.5' bgs @13:05
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	3.0		12.0 - 13.3' FILL: Light brown/light gray fine to medium sand; saturated	0	

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-005**
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0					13.3 - 14.0' FILL: Light brown clayey silt; soft; very moist		Sample collected 163-SB-005-1214 from 13.0-13.5' bgs @13:10
	14.0					14.0 - 14.5' OL: Black clayey silt; very moist		Sample collected 163-SB-005-1416 from 14.0-14.5' bgs @13:15
	15.0					14.5 - 15.0' PT: Brown peat; moist		
	16.0					15.0 - 16.0' : No recovery; end of boring at 16.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-006**
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 3.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 2.5' FILL: Dark brown silty sand, gravel, coal, wood	0	
	1.0							Sample collected 163-SB-006-0002 from 1.0-1.5' bgs @13:20
	2.0							
	3.0					2.5 - 3.5' FILL: Red brown silt, lenses of fine to medium sand; dense		Sample collected 163-SB-006-0204 from 3.0-3.5' bgs @13:25
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 7.0' FILL: Light brown fine to medium sand, silt; wet		Sample collected 163-SB-006-0406 from 4.0-4.5' bgs @13:30
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-006-0608 from 6.5-7.0' bgs @13:35
	8.0	S-3	NA	3.0		8.0 - 9.8' FILL: Light brown fine to medium sand, silt; wet	0	
	9.0							Sample collected 163-SB-006-0810 from 8.5-9.0' bgs @13:40
	10.0					9.8 - 11.0' FILL: Light brown silt; wet		
	11.0					11.0 - 12.0' : No recovery		Sample collected 163-SB-006-1012 from 10.5-11.0' bgs @13:45
	12.0	S-4	NA	3.0		12.0 - 13.0' FILL: Light brown clayey silt; soft; wet	0	
	13.0					13.0 - 14.0' FILL: Light brown silt; wet		Sample collected 163-SB-006-1214 from 13.0-13.5' bgs @13:50
	14.0					14.0 - 14.5' FILL: Black clayey silt; wet		
	15.0					14.5 - 15.0' PT: Brown peat; moist		Sample collected 163-SB-006-1416 from 14.5-15.0' bgs @13:55
	16.0					15.0 - 16.0' : No recovery; end of boring at 16.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-007
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE	0	
	1.0					0.5 - 2.0' FILL: Dark brown/black silty sand, brick, coal, gravel		Sample collected 163-SB-007-0002 from 1.0-1.5' bgs @14:00
	2.0					2.0 - 2.3' FILL: Crushed concrete		
	3.0					2.3 - 3.3' FILL: Black silty sand, coal, glass, trace clinker		Sample collected 163-SB-007-0204 from 2.5-3.0' bgs @14:05
	4.0	S-2	NA	3.5		3.3 - 3.5' FILL: Light brown fine to medium sand	0	
	5.0					3.5 - 4.0' : No recovery		Sample collected 163-SB-007-0406 from 5.0-5.5' bgs @14:10
	6.0					4.0 - 6.3' FILL: Light brown fine to medium sand; wet		
	7.0					6.3 - 7.5' FILL: Light gray fine to medium sand, clayey silt from 7.0-7.5'; wet		Sample collected 163-SB-007-0608 from 7.0-7.5' bgs @14:15
	8.0	S-3	NA	2.5		7.5 - 8.0' No recovery	0	
	9.0					8.0 - 10.5' FILL: Light brown fine to medium sand, silt; wet		Sample collected 163-SB-007-0810 from 8.5-9.0' bgs @14:20
	10.0							Sample collected 163-SB-007-1012 from 10.0-10.5' bgs @14:25
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	3.5		12.0 - 14.0' FILL: Light brown clayey silt; soft; wet	0	
	13.0							Sample collected 163-SB-007-1214 from 12.5-13.0' bgs @14:30
	14.0					14.0 - 14.5' FILL: Olive clayey silt; very moist		
	15.0					14.5 - 15.3' OL: Black clayey silt; very moist		Sample collected 163-SB-007-1416 from 14.5-15.0' bgs @14:35
						15.3 - 15.5' PT: Brown peat; moist		
	16.0					15.5 - 16.0' : No recovery; end of boring at 16.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-008

DATE BEGAN: 11/3/10 | **DATE FINISHED:** 11/3/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 20 ft bgs | **GW DEPTH:** 4.0 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.3' TOPSOIL: Light brown topsoil	0	
	1.0					0.3 - 2.0' FILL: Dark brown silty sand, wood, gravel		Sample collected 163-SB-008-0002 from 1.0-1.5' bgs @8:20
	2.0					2.0 - 3.0' FILL: Light brown fine to medium sand		Sample collected 163-SB-008-0204 from 2.5-3.0' bgs @8:25
	3.0					3.0 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt lenses from 6.0-7.0'; wet	0	Sample collected 163-SB-008-0406 from 4.0-4.5' bgs @8:30
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-008-0608 from 6.5-7.0' bgs @8:35 DUP @8:37
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand; wet	0	Sample collected 163-SB-008-0810 from 8.0-8.5' bgs @8:40
	9.0							
	10.0							Sample collected 163-SB-008-1012 from 10.0-10.5' bgs @8:45
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 12.5' FILL: Light brown fine to medium sand; wet	0	Sample collected 163-SB-008-1214 from 12.0-12.5' bgs @8:50
	13.0					12.5 - 14.5' FILL: Light brown silt; soft, wet		
	14.0							Sample collected 163-SB-008-1416 from 14.0-14.5' bgs @8:55
	15.0					14.5 - 16.0' : No recovery		

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-008
DATE BEGAN: 11/3/10
DATE FINISHED: 11/3/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5	NA	3.0		16.0 - 18.5' FILL: Light brown silt; very soft, saturated	0	Sample collected 163-SB-008-1618 from 16.0-16.5' bgs @9:00
	17.0							
	18.0							
	19.0					18.5 - 19.0' PT: Brown peat; moist		Sample collected 163-SB-008-1820 from 18.5-19.0' bgs @9:05
	20.0					19.0 - 20.0' : No recovery; end of boring at 20.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-009

DATE BEGAN: 11/3/10 | **DATE FINISHED:** 11/3/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 20 ft bgs | **GW DEPTH:** 4.0 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 2.0' FILL: Dark brown silty sand, coal, gravel, shells	0	Sample collected 163-SB-009-0002 from 1.0-1.5' bgs @9:10
	2.0					2.0 - 3.5' FILL: Light brown fine to medium sand		Sample collected 163-SB-009-0204 from 3.0-3.5' bgs @9:15
	3.0					3.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, silt, lenses throughout; wet	0	Sample collected 163-SB-009-0406 from 4.5-5.0' bgs @9:20
	5.0							
	6.0							Sample collected 163-SB-009-0608 from 6.5-7.0' bgs @9:25
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 9.5' FILL: Light brown silt; wet	0	Sample collected 163-SB-009-0810 from 8.0-8.5' bgs @9:30
	9.0							
	10.0					9.5 - 10.5' FILL: Red brown/light brown silt		Sample collected 163-SB-009-1012 from 10.0-10.5' bgs @9:35
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	3.0		12.0 - 12.8' FILL: Light brown silt, trace fine to medium sand; wet	0	
	13.0					12.8 - 13.5' FILL: Light brown fine to medium sand; wet		Sample collected 163-SB-009-1214 from 12.5-13.0' bgs @9:40
	14.0					13.5 - 14.5' FILL: Light brown silt; soft, wet		
	15.0					14.5 - 15.0' FILL: Light brown silt; wet		Sample collected 163-SB-009-1416 from 14.5-15.0' bgs @9:45
						15.0 - 16.0' : No recovery		

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-009**
DATE BEGAN: 11/3/10
DATE FINISHED: 11/3/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5	NA	3.0		16.0 - 16.5' FILL: Light brown silt; wet	0	Sample collected 163-SB-009-1618 from 16.5-17.0' bgs @9:50 Sample collected 163-SB-009-1820 from 18.0-18.5' bgs @9:55
	17.0					16.5 - 18.0' FILL: Light brown clayey silt; soft		
	18.0					18.0 - 18.3' FILL: Light brown clayey silt, trace organics		
	19.0					18.3 - 19.0' PT: Brown peat; moist		
	20.0					19.0 - 20.0' : No recovery; end of boring at 20.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-010
DATE BEGAN: 11/3/10
DATE FINISHED: 11/3/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 19 ft bgs
GW DEPTH: 4.25 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' CONCRETE	0	
	1.0					0.5 - 0.8' FILL: Fine to coarse gravel		Sample collected 163-SB-010-0002 from 1.5-2.0' bgs @10:00
	2.0					0.8 - 1.5' FILL: Conrete, gravel		
	3.0					1.5 - 2.0' FILL: Orange/red brown silt		Sample collected 163-SB-010-0204 from 3.0-3.5' bgs @10:05
	4.0	S-2	NA	3.5		2.0 - 3.5' FILL: Black silty sand, coal, clinker, glass	0	
	5.0					3.5 - 4.0' : No recovery		Sample collected 163-SB-010-0406 from 4.5-5.0' bgs @10:10
	6.0					4.0 - 4.3' FILL: Black silty sand, coal, clinker, glass		
	7.0					4.3 - 5.8' FILL: Light brown fine to medium sand, silt lenses; wet		Sample collected 163-SB-010-0608 from 7.0-7.5' bgs @10:15
	8.0	S-3	NA	2.5		5.8 - 7.5' FILL: Brown fine to medium sand, silt; wet	0	
	9.0					7.5 - 8.0' No recovery		Sample collected 163-SB-010-0810 from 8.5-9.0' bgs @10:20
	10.0					8.0 - 10.5' FILL: Light brown silt, lenses of fine to coarse sand, shells; wet		Sample collected 163-SB-010-1012 from 10.0-10.5' bgs @10:25
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	3.0		12.0 - 14.5' FILL: Light brown silt, fine sand	0	
	13.0							Sample collected 163-SB-010-1214 from 12.5-13.0' bgs @10:30
	14.0					14.5 - 15.0' OL: Black clayey silt		
	15.0					15.0 - 16.0' : No recovery		Sample collected 163-SB-010-1416 from 14.5-15.0' bgs @10:35
	16.0	S-5	NA	3.0		16.0 - 17.0' OL: Black clayey silt	0	
	17.0					17.0 - 19.0' PT: Brown peat; moist; end of boring at 19.0' bgs		
	18.0							Sample collected 163-SB-010-1618 from 17.5-18.0' bgs @10:40
	19.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-011

DATE BEGAN: 11/3/10 | **DATE FINISHED:** 11/3/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 18 ft bgs | **GW DEPTH:** 3.5 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.8' CONCRETE	0	Sample collected 163-SB-011-0002 from 1.0-1.5' bgs @10:45
	1.0					0.8 - 2.0' FILL: Dark brown silty sand, gravel, crushed concrete		
	2.0					2.0 - 2.5' FILL: Orange/red brown silt, yellow nodules, potential COPR; moist		Sample collected 163-SB-011-0204 from 2.0-2.5' bgs @10:50
	3.0					2.5 - 3.0' FILL: Crushed concrete		
	4.0	S-2	NA	2.5		3.0 - 3.5' FILL: Black silty sand, coal, gravel, clinker; wet at tip	0	Sample collected 163-SB-011-0406 from 4.0-4.5' bgs @10:55
	5.0					3.5 - 4.0' : No recovery		
	6.0					4.0 - 6.5' FILL: Light brown silt, fine to medium sand, shells		Sample collected 163-SB-011-0608 from 6.0-6.5' bgs @11:00
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown silt, fine to medium sand, shells	0	Sample collected 163-SB-011-0810 from 8.0-8.5' bgs @11:05; DUP at 11:07
	9.0							
	10.0							Sample collected 163-SB-011-1012 from 10.0-10.5' bgs @11:10
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 14.5' FILL: Light brown fine to medium, trace silt	0	Sample collected 163-SB-011-1214 from 12.0-12.5' bgs @11:15
	13.0							
	14.0							Sample collected 163-SB-011-1416 from 14.0-14.5' bgs @11:20
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.0		16.0 - 17.0' OL: Black clayey silt	0	Sample collected 163-SB-011-1618 from 16.0-16.5' bgs @11:25
	17.0					17.0 - 18.0' PT: Brown peat; moist; end of boring at 18.0' bgs		
	18.0							

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-012
DATE BEGAN: 11/3/10
DATE FINISHED: 11/3/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 3.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.5' CONCRETE	0	
	1.0					1.5 - 2.0' FILL: Brown silty sand, crushed concrete		Sample collected 163-SB-012-0002 from 1.5-2.0' bgs @11:30
	2.0					2.0 - 3.0' FILL: Crushed concrete		
▽	3.0					3.0 - 3.5' FILL: Light brown silt; dense, wet		Sample collected 163-SB-012-0204 from 3.0-3.5' bgs @11:35
	4.0	S-2	NA	2.5		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 4.5' FILL: Light brown silt; dense, wet		Sample collected 163-SB-012-0406 from 4.0-4.5' bgs @11:40
	6.0					4.5 - 6.5' FILL: Gray fine to medium sand; wet		Sample collected 163-SB-012-0608 from 6.0-6.5' bgs @11:45
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Gray fine to medium sand, lenses of silt, shells; wet	0	Sample collected 163-SB-012-0810 from 8.0-8.5' bgs @11:50
	9.0							
	10.0							Sample collected 163-SB-012-1012 from 10.0-10.5' bgs @11:55
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 14.0' FILL: Light brown fine to medium sand; wet	0	Sample collected 163-SB-012-1214 from 12.0-12.5' bgs @12:00
	13.0							
	14.0					14.0 - 14.5' FILL: Red brown silt; wet		Sample collected 163-SB-012-1416 from 14.0-14.5' bgs @12:05
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.0		16.0 - 16.5' OL: Black clayey silt; very moist	0	Sample collected 163-SB-012-1618 from 16.0-16.5' bgs @12:10
	17.0					16.5 - 18.0' PT: Brown peat; moist; end of boring at 18.0' bgs		
	18.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-013**
DATE BEGAN: 11/3/10
DATE FINISHED: 11/3/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' FILL: Gravel, crushed concrete	0	
	1.0					1.0 - 1.5' FILL: Orange silt, very dark brown nodules		Sample collected 163-SB-013-0002 from 1.0-1.5' bgs @13:25
	2.0					1.5 - 1.8' FILL: Gravel, concrete		
	3.0					1.8 - 3.0' FILL: Black silty sand, coal, gravel, clinker		Sample collected 163-SB-013-0204 from 2.5-3.0' bgs @13:30
▽	4.0	S-2	NA	3.0		3.0 - 4.0' : No recovery	0	Sample collected 163-SB-013-0406 from 4.0-4.5' bgs @13:35
	5.0					4.0 - 4.8' FILL: Light brown clayey silt, shells, gravel; dense, wet		
	6.0					4.8 - 7.0' FILL: Light brown clayey silt, lenses of red brown silt, fine to medium sand; wet		Sample collected 163-SB-013-0608 from 6.5-7.0' bgs @13:40
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 10.0' FILL: Wood	0	Cannot sample from 8.0-10.0'
	9.0							
	10.0					10.0 - 11.0' FILL: Light brown clayey silt; soft; wet		Sample collected 163-SB-013-1012 from 10.5-11.0' bgs @13:45
	11.0					11.0 - 12.0' : No recovery		
	12.0	S-4	NA	3.5		12.0 - 14.5' FILL: Light brown clayey silt; soft; wet	0	Sample collected 163-SB-013-1214 from 12.5-13.0' bgs @13:50
	13.0							
	14.0							
	15.0					14.5 - 15.0' FILL: Light brown silt; wet		Sample collected 163-SB-013-1416 from 15.0-15.5' bgs @13:55
	16.0	S-5	NA	2.0		15.0 - 15.5' OL: Black clayey silt, trace organics; very moist	0	
	17.0					15.5 - 16.0' : No recovery		Sample collected 163-SB-013-1618 from 16.0-16.5' bgs @14:00
	18.0					16.0 - 18.0' PT: Brown peat; moist; end of boring at 18.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-014
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.5' FILL: Gravel, crushed concrete	0	
	1.0					1.5 - 2.0' FILL: Orange silt, very dark brown nodules		Sample collected 163-SB-014-0002 from 1.5-2.0' bgs @12:40
	2.0					2.0 - 3.5' FILL: Black silty sand, coal, fine gravel, clinker		
	3.0					3.5 - 4.0' : No recovery		Sample collected 163-SB-014-0204 from 3.0-3.5' bgs @12:45
▽	4.0	S-2	NA	3.0		4.0 - 4.5' FILL: Black silty sand, coal, fine gravel, clinker; wet	0	
	5.0					4.5 - 7.0' FILL: Light brown fine to medium sand, lenses of silt, clayey silt; wet		Sample collected 163-SB-014-0406 from 4.5-5.0' bgs @12:50
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-014-0608 from 6.5-7.0' bgs @12:55
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, lenses of silt, clayey silt, shells; wet	0	
	9.0							Sample collected 163-SB-014-0810 from 8.5-9.0' bgs @13:00
	10.0							Sample collected 163-SB-014-1012 from 10.0-10.5' bgs @13:05
	11.0					11.0 - 12.0' : No recovery		
	12.0	S-4	NA	3.0		12.0 - 12.5' FILL: Light brown fine to medium sand, lenses of silt, clayey silt, shells; wet	0	
	13.0					12.5 - 13.0' FILL: Light brown/red brown silt; wet		Sample collected 163-SB-014-1214 from 12.5-13.0' bgs @13:10
	14.0					13.0 - 15.0' FILL: Light brown fine to medium sand, lenses of silt; wet		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-014
DATE BEGAN: 11/2/10
DATE FINISHED: 11/2/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0							
	15.0	S-5	NA	2.0		15.0 - 16.0' : No recovery	0	Sample collected 163-SB-014-1416 from 14.5-15.0' bgs @13:15
	16.0					16.0 - 16.5' OL: Light brown clayey silt; soft, wet		
	17.0					16.5 - 17.3' OL: Black clayey silt, trace organics; very moist		Sample collected 163-SB-014-1618 from 16.5-17.0' bgs @13:20
	18.0					17.3 - 18.0' PT: Brown peat; moist; end of boring at 18.0' bgs		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-015

DATE BEGAN: 11/3/10 | **DATE FINISHED:** 11/3/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 18 ft bgs | **GW DEPTH:** 4.0 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' FILL: Gravel, concrete	0	
	1.0					1.0 - 1.5' FILL: Orange/red silt, dark brown nodules; dense		Sample collected 163-SB-015-0002 from 1.0-1.5' bgs @14:05
	2.0					1.5 - 3.3' FILL: Black silty sand, coal, gravel, clinker; dense		Sample collected 163-SB-015-0204 from 2.5-3.0' bgs @14:10
	3.0					3.3 - 3.5' FILL: Light brown fine to medium sand		
▽	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	Sample collected 163-SB-015-0406 from 4.5-5.0' bgs @14:15
	5.0					4.0 - 7.0' FILL: Light brown fine to medium sand, lenses of silt throughout, shells from 5.0-7.0'; wet		Sample collected 163-SB-015-0608 from 6.5-7.0' bgs @14:20
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand, lenses of silt throughout; wet	0	Sample collected 163-SB-015-0810 from 8.0-8.5' bgs @14:25; DUP at 14:27
	9.0							
	10.0							Sample collected 163-SB-015-1012 from 10.0-10.5' bgs @14:30
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	3.0		12.0 - 15.0' FILL: Red brown/light brown silt, lenses of fine to medium sand throughout; wet	0	Sample collected 163-SB-015-1214 from 12.0-12.5' bgs @14:35
	13.0							
	14.0							Sample collected 163-SB-015-1416 from 14.5-15.0' bgs @14:40
	15.0					15.0 - 16.0' : No recovery		
	16.0	S-5	NA	2.0		16.0 - 16.5' FILL: Red brown silt; wet	0	
	17.0					16.5 - 17.0' OL: Black clayey silt; very moist		Sample collected 163-SB-015-1618 from 16.5-17.0' bgs @14:45
	18.0					17.0 - 18.0' PT: Brown peat; moist; end of boring at 18.0' bgs		

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-016

DATE BEGAN: 11/3/10 | **DATE FINISHED:** 11/3/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 18 ft bgs | **GW DEPTH:** 4.0 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 2.0' FILL: Gray silty sand, fine to coarse gravel, crushed concrete	0	
	1.0							Sample collected 163-SB-016-0002 from 1.0-1.5' bgs @14:50
	2.0					2.0 - 2.5' FILL: Black silt, coal, gravel, clinker; dense		
	3.0					2.5 - 4.0' : No recovery		Sample collected 163-SB-016-0204 from 2.0-2.5' bgs @14:55
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, lenses of silt throughout, shells from 5.0-7.0'; wet	0	
	5.0							Sample collected 163-SB-016-0406 from 4.5-5.0' bgs @15:00
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-016-0608 from 6.5-7.0' bgs @15:05
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand, lenses of silt throughout; saturated	0	
	9.0							Sample collected 163-SB-016-0810 from 8.5-9.0' bgs @15:10
	10.0							Sample collected 163-SB-016-1012 from 10.0-10.5' bgs @15:15
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 12.5' FILL: Light brown fine to medium sand; wet	0	Sample collected 163-SB-016-1214 from 12.0-12.5' bgs @15:20
	13.0					12.5 - 14.5' FILL: Light brown/red brown fine sand, some silt; wet		
	14.0							Sample collected 163-SB-016-1416 from 14.0-14.5' bgs @15:25
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.0		16.0 - 16.5' FILL: Red brown silt; wet	0	
	17.0					16.5 - 18.0' OL: Olive/black clayey silt, organics; very moist; end of boring at 18.0'		Sample collected 163-SB-016-1618 from 17.0-17.5' bgs @15:30
	18.0							

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-017
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' CONCRETE	0	
	1.0					1.0 - 1.8' FILL: Black silty sand, coal, clinker		Sample collected 163-SB-017-0002 from 1.0-1.5' bgs @14:35
	2.0					1.8 - 3.0' FILL: Light brown silt; dense		
	3.0					3.0 - 4.0' : No recovery		Sample collected 163-SB-017-0204 from 2.5-3.0' bgs @14:45
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, lenses of silt throughout; wet at 4.5'	0	Sample collected 163-SB-017-0406 from 4.5-5.0' bgs @14:45
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-017-0608 from 6.5-7.0' bgs @14:50
	8.0	S-3	NA	3.0		8.0 - 10.5' FILL: Light brown silt, fine sand; wet	0	Sample collected 163-SB-017-0810 from 8.0-8.5' bgs @14:55
	9.0							
	10.0					10.5 - 11.0' FILL: Light brown silt, fine sand; wet		Sample collected 163-SB-017-1012 from 10.5-11.0' bgs @15:00
	11.0					11.0 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 13.0' FILL: Light brown silt, fine sand; wet	0	Sample collected 163-SB-017-1214 from 12.0-12.5' bgs @15:10
	13.0					13.0 - 13.5' FILL: Light brown clayey silt; soft; wet		
	14.0					13.5 - 14.5' FILL: Light brown silt; wet		Sample collected 163-SB-017-1416 from 14.0-14.5' bgs @15:10
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.0		16.0 - 16.5' FILL: Light brown silt; wet	0	
	17.0					16.5 - 18.0' PT: Brown peat; moist; end of boring at 18.0'		Sample collected 163-SB-017-1618 from 16.5-17.0' bgs @15:15
	18.0							

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-018

DATE BEGAN: 11/8/10 | **DATE FINISHED:** 11/8/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 20 ft bgs | **GW DEPTH:** 5.0 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.0' FILL: Brown sand, fine to coarse gravel	0	Sample collected 163-SB-018-0002 from 0.5-1.0' bgs @13:45
	1.0					1.0 - 3.0' FILL: Brown sand, fine to coarse gravel, crushed concrete		
	2.0							
	3.0					3.0 - 3.5' FILL: Dark brown/black silty sand, coal, gravel		Sample collected 163-SB-018-0204 from 3.0-3.5' bgs @13:50
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 5.0' FILL: Light brown fine to medium sand; petroleum odor		Sample collected 163-SB-018-0406 from 4.0-4.5' bgs @13:55
	6.0					5.0 - 7.0' FILL: Light brown fine to medium sand, lenses of clayey silt; wet		
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-018-0608 from 6.5-7.0' bgs @14:00
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, lenses of clayey silt, shells; wet	0	Sample collected 163-SB-018-0810 from 8.0-8.5' bgs @14:05; DUP @ 14:07
	9.0							
	10.0							
	11.0					11.0 - 12.0' : No recovery		Sample collected 163-SB-018-1012 from 10.5-11.0' bgs @14:10
	12.0	S-4	NA	2.5		12.0 - 14.5' FILL: Light brown fine to medium sand, trace silt	0	Sample collected 163-SB-018-1214 from 12.0-12.5' bgs @14:15
	13.0							
	14.0							Sample collected 163-SB-018-1416 from 14.0-14.5' bgs @14:20
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	3.0		16.0 - 17.5' FILL: Light brown fine to medium sand, trace silt	0	Sample collected 163-SB-018-1618 from 16.0-16.5' bgs @14:25
	17.0							
	18.0					17.5 - 19.0' OL: Olive/light brown clayey silt, organics; very moist		Sample collected 163-SB-018-1820 from 18.0-18.5' bgs @14:30; DUP @ 14:32
	19.0							
	20.0					19.0 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-019
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' FILL: Brown sand, gravel	0	Sample collected 163-SB-019-0002 from 0.5-1.0' bgs @12:55
	1.0					0.5 - 0.8' FILL: Black silty sand, coal, gravel		
	2.0					0.8 - 1.8' FILL: Crushed concrete		
	3.0					1.8 - 3.5' FILL: Light brown silt; dense		Sample collected 163-SB-019-0204 from 3.0-3.5' bgs @13:00
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 7.0' FILL: Light brown silt, lenses of fine to medium sand; dense; wet at 5.0'		Sample collected 163-SB-019-0406 from 4.0-4.5' bgs @13:05
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-019-0608 from 6.5-7.0' bgs @13:10
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand, lenses of silt, shells; wet	0	Sample collected 163-SB-019-0810 from 8.0-8.5' bgs @13:15
	9.0							
	10.0							Sample collected 163-SB-019-1012 from 10.0-10.5' bgs @13:20
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 14.5' FILL: Light brown fine to medium sand, lenses of silt, shells; wet	0	Sample collected 163-SB-019-1214 from 12.0-12.5' bgs @13:25
	13.0							
	14.0							Sample collected 163-SB-019-1416 from 14.0-14.5' bgs @13:30
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.75		16.0 - 16.5' FILL: Light brown fine to medium sand, lenses of silt, shells; wet	0	Sample collected 163-SB-019-1618 from 16.0-16.5' bgs @13:35
	17.0					16.5 - 18.5' OL: Light brown clayey silt, organics; very moist		
	18.0					18.5 - 18.8' PT: Brown peat; moist		Sample collected 163-SB-019-1820 from 18.0-18.5' bgs @13:40
	19.0					18.8 - 20.0' No recovery; end of boring at 20'		
	20.0							

PREPARED BY: MS
CHECKED BY: BS

MACTEC Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-020
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 2.0' FILL: Crushed concrete, gray coarse sand, fine to coarse gravel	0	
	1.0					2.0 - 2.5' FILL: Light orange fine to medium sand		Sample collected 163-SB-020-0002 from 1.0-1.5' bgs @12:05
	2.0					2.5 - 3.5' FILL: Black silty sand, gravel, coal, clinker		Sample collected 163-SB-020-0204 from 3.0-3.5' bgs @12:10
	3.0							
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	Sample collected 163-SB-020-0406 from 4.0-4.5' bgs @12:15
	5.0					4.0 - 5.0' FILL: Red brown silt		
	6.0					5.0 - 7.0' FILL: Light brown fine to medium sand, lenses of red brown silt; wet		Sample collected 163-SB-020-0608 from 6.5-7.0' bgs @12:20
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Light brown fine to medium sand, lenses of red brown silt; wet	0	Sample collected 163-SB-020-0810 from 8.0-8.5' bgs @12:25
	9.0							
	10.0							
	11.0					11.0 - 12.0' : No recovery		Sample collected 163-SB-020-1012 from 10.5-11.0' bgs @12:30
	12.0	S-4	NA	2.5		12.0 - 14.0' FILL: Light brown fine to medium sand, lenses of red brown silt; wet	0	Sample collected 163-SB-020-1214 from 12.0-12.5' bgs @12:35
	13.0							
	14.0					14.0 - 14.5' FILL: Red brown silt; wet		Sample collected 163-SB-020-1416 from 14.0-14.5' bgs @12:40
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	3.5		16.0 - 19.0' FILL: Light brown clayey silt; soft; wet	0	Sample collected 163-SB-020-1618 from 16.0-16.5' bgs @12:45
	17.0							
	18.0							
	19.0					19.0 - 19.5' OL: Black clayey silt; very moist		Sample collected 163-SB-020-1820 from 19.0-19.5' bgs @12:50
	20.0					19.5 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-021
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 2.0' FILL: Light gray fine to medium sand, gravel, crushed concrete	0	Sample collected 163-SB-021-0002 from 1.0-1.5' bgs @11:15
	1.0							
	2.0					2.0 - 3.5' FILL: Black silty sand, coal, clinker, gravel		
	3.0					3.5 - 4.0' : No recovery		Sample collected 163-SB-021-0204 from 3.0-3.5' bgs @11:20
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Light brown fine to medium sand, lenses of silt; wet at 5.0'	0	Sample collected 163-SB-021-0406 from 4.0-4.5' bgs @11:25
▽	5.0							
	6.0							Sample collected 163-SB-021-0608 from 6.5-7.0' bgs @11:30
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand, lenses of silt, shells; saturated	0	Sample collected 163-SB-021-0810 from 8.0-8.5' bgs @11:35
	9.0							
	10.0							Sample collected 163-SB-021-1012 from 10.0-10.5' bgs @11:40
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 14.5' FILL: Light brown fine to medium sand, lenses of silt, shells; saturated	0	Sample collected 163-SB-021-1214 from 12.0-12.5' bgs @11:45
	13.0							
	14.0							Sample collected 163-SB-021-1416 from 14.0-14.5' bgs @11:50
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	2.5		16.0 - 17.8' FILL: Light brown fine to medium sand, lenses of silt; wet	0	Sample collected 163-SB-021-1618 from 16.0-16.5' bgs @11:55
	17.0							
	18.0					17.8 - 18.0' OL: Black clayey silt; very moist		
	19.0					18.0 - 18.5' PT: Brown peat; moist		Sample collected 163-SB-021-1820 from 18.0-18.5' bgs @12:00
	20.0					18.5 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-022
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 3.0' FILL: Light gray sand, gravel, crushed concrete	0	Sample collected 163-SB-022-0002 from 1.0-1.5' bgs @10:25
	1.0							
	2.0							
	3.0					3.0 - 3.5' FILL: Light brown fine to mediumn sand		Sample collected 163-SB-022-0204 from 3.0-3.5' bgs @10:30
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	Sample collected 163-SB-022-0406 from 4.0-4.5' bgs @10:35
	5.0					4.0 - 4.5' FILL: Light brown fine to medium sand		
	6.0					4.5 - 5.0' FILL: Light brown clayey silt; sheen, petroleum odor; wet		Sample collected 163-SB-022-0608 from 6.5-7.0' bgs @10:40; DUP @ 10:42
	7.0					5.0 - 7.0' FILL: Light brown fine to medium sand, lenses of red brown silt; wet		
	8.0	S-3	NA	2.5		7.0 - 8.0' No recovery	0	Sample collected 163-SB-022-0810 from 8.0-8.5' bgs @10:45
	9.0					8.0 - 10.5' FILL: Light brown fine to medium sand, lenses of red brown silt, shells; wet		
	10.0					10.5 - 12.0' : No recovery		Sample collected 163-SB-022-1012 from 10.0-10.5' bgs @10:50
	11.0							
	12.0	S-4	NA	2.5		12.0 - 14.5' FILL: Light brown/light gray fine to medium sand, trace shells; wet	0	Sample collected 163-SB-022-1214 from 12.0-12.5' bgs @10:55
	13.0							
	14.0					14.5 - 16.0' : No recovery		Sample collected 163-SB-022-1416 from 14.0-14.5' bgs @11:00
	15.0							
	16.0	S-5	NA	3.0		16.0 - 18.0' FILL: Light brown clayey silt; soft, wet	0	Sample collected 163-SB-022-1618 from 16.0-16.5' bgs @11:05
	17.0							
	18.0					18.0 - 18.5' OL: Black clayey silt, trace organics; very moist		Sample collected 163-SB-022-1820 from 18.0-18.5' bgs @11:10
	19.0					18.5 - 19.0' PT: Brown peat; moist		
	20.0					19.0 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-023
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 2.5' FILL: Light brown/gray fine to medium sand, gravel, crushed concrete	0	
	1.0							Sample collected 163-SB-023-0002 from 1.0-1.5' bgs @9:35
	2.0					2.5 - 3.0' FILL: Black silty sand, coal, clinker, gravel		
	3.0					3.0 - 3.5' FILL: Light brown fine to medium sand		Sample collected 163-SB-023-0204 from 3.0-3.5' bgs @9:40
▽	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 7.0' FILL: Light brown fine to medium sand, lenses of red brown silt; wet		Sample collected 163-SB-023-0406 from 4.0-4.5' bgs @9:45
	6.0							
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-023-0608 from 6.5-7.0' bgs @9:50
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand, lenses of red brown silt; wet	0	Sample collected 163-SB-023-0810 from 8.0-8.5' bgs @9:55
	9.0							
	10.0							Sample collected 163-SB-023-1012 from 10.0-10.5' bgs @10:00
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 14.5' FILL: Light brown fine to medium sand, trace shells; wet	0	Sample collected 163-SB-023-1214 from 12.0-12.5' bgs @10:05
	13.0							
	14.0							Sample collected 163-SB-023-1416 from 14.0-14.5' bgs @10:10
	15.0					14.5 - 16.0' : No recovery		
	16.0	S-5	NA	3.0		16.0 - 18.0' FILL: Light brown clayey silt; soft; wet	0	Sample collected 163-SB-023-1618 from 16.0-16.5' bgs @10:15
	17.0							
	18.0					18.0 - 18.5' OL: Black clayey silt, trace organics; very moist		Sample collected 163-SB-023-1820 from 18.0-18.5' bgs @10:20
	19.0					18.5 - 19.0' PT: Brown peat; moist		
	20.0					19.0 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: 163-SB-024
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.5' FILL: Light brown sand, gravel, crushed concrete	0	Sample collected 163-SB-024-0002 from 0.5-1.0' bgs @8:45
	1.0							
	2.0					1.5 - 3.0' FILL: Black silty sand, gravel		Sample collected 163-SB-024-0204 from 2.5-3.0' bgs @8:50
	3.0					3.0 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 4.5' FILL: Black silty sand, gravel	0	Sample collected 163-SB-024-0406 from 4.0-4.5' bgs @8:55
▽	5.0					4.5 - 6.5' FILL: Light brown silt, lenses of fine to medium sand; dense, wet at 5.0'		
	6.0							Sample collected 163-SB-024-0608 from 6.5-7.0' bgs @9:00
	7.0					6.5 - 8.0' No recovery		
	8.0	S-3	NA	3.5		8.0 - 11.5' FILL: Light brown fine to medium sand, lenses of red brown silt; wet	0	Sample collected 163-SB-024-0810 from 8.5-9.0' bgs @9:05
	9.0							
	10.0							Sample collected 163-SB-024-1012 from 10.5-11.0' bgs @9:10
	11.0					11.5 - 12.0' : No recovery		
	12.0	S-4	NA	3.0		12.0 - 12.8' FILL: Light gray fine to coarse sand; wet	0	Sample collected 163-SB-024-1214 from 12.0-12.5' bgs @9:15
	13.0					12.8 - 13.5' FILL: Red brown silt; wet		
	14.0					13.5 - 15.0' FILL: Light brown/light gray fine to medium sand; wet		Sample collected 163-SB-024-1416 from 14.5-15.0' bgs @9:20
	15.0					15.0 - 16.0' : No recovery		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-024**
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5	NA	3.0		16.0 - 18.0' FILL: Light brown clayey silt; soft, wet	0	Sample collected 163-SB-024-1618 from 16.5-17.0' bgs @9:25
	17.0							
	18.0					18.0 - 18.5' FILL: Light brown/red brown silt; wet		
	19.0					18.5 - 19.0' OL: Black clayey silt, organics; very moist		Sample collected 163-SB-024-1820 from 18.5-19.0' bgs @9:30
	20.0					19.0 - 20.0' No recovery; end of boring at 20'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163 | **PROJECT NO:** 3480050143 | **BORING ID:** 163-SB-025

DATE BEGAN: 11/8/10 | **DATE FINISHED:** 11/8/10 | **INSPECTOR:** B. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 6610DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 20 ft bgs | **GW DEPTH:** 5.0 ft bgs

DRILLER: Gordon Blewett | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 3.0' FILL: Crushed concrete, gravel	0	
	1.0							Sample collected 163-SB-025-0002 from 1.0-1.5' bgs @7:55
	2.0							
	3.0					3.0 - 3.5' FILL: Black silty sand, coal, gravel, clinker, trace brick		Sample collected 163-SB-025-0204 from 3.0-3.5' bgs @8:00
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	0	
	5.0					4.0 - 5.0' FILL: Black silty sand, coal, gravel, clinker, trace brick		Sample collected 163-SB-025-0406 from 4.0-4.5' bgs @8:05
	6.0					5.0 - 7.0' FILL: Light brown fine to medium sand, silt lenses; wet		
	7.0					7.0 - 8.0' No recovery		Sample collected 163-SB-025-0608 from 6.5-7.0' bgs @8:10
	8.0	S-3	NA	2.5		8.0 - 10.5' FILL: Light brown fine to medium sand, silt lenses; wet	0	Sample collected 163-SB-025-0810 from 8.0-8.5' bgs @8:15
	9.0							
	10.0							Sample collected 163-SB-025-1012 from 10.0-10.5' bgs @8:20
	11.0					10.5 - 12.0' : No recovery		
	12.0	S-4	NA	2.5		12.0 - 12.8' FILL: Light brown fine to medium sand, silt lenses; wet	0	Sample collected 163-SB-025-1214 from 12.0-12.5' bgs @8:25
	13.0					12.8 - 14.5' FILL: Light brown silt; wet		
	14.0							Sample collected 163-SB-025-1416 from 14.0-14.5' bgs @8:30
	15.0					14.5 - 16.0' : No recovery		

PREPARED BY: MS

CHECKED BY: BS

Honeywell Site SA-6 South

SITE INFO: Site 163
PROJECT NO: 3480050143
BORING ID: **163-SB-025**
DATE BEGAN: 11/8/10
DATE FINISHED: 11/8/10
INSPECTOR: B. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Gordon Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	S-5	NA	4.0		16.0 - 16.3' FILL: Light brown silt; wet	0	Sample collected 163-SB-025-1618 from 16.0-16.5' bgs @8:35
	17.0					16.3 - 19.5' OL: Light brown clayey silt; soft; wet		
	18.0							
	19.0					19.5 - 19.9' OL: Light brown clayey silt, trace organics; very moist		Sample collected 163-SB-025-1820 from 18.5-19.0' bgs @8:40
	20.0					19.9 - 20.0' PT: Peat in tip; end of boring at 20.0'		

PREPARED BY: MS
CHECKED BY: BS

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-026
DATE BEGAN: 09/15/2011
DATE FINISHED: 09/15/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA			0.0 - 2.5' CONCRETE		Driller used concrete bit to advance to 2.5 ft bgs before sampling
	1.0							
	2.0					2.5 - 3.0' FILL: Black/yellowish brown/ lt. brown f-m sand, some clinker from 2.5-2.7', trace fine gravel + silt; loose		
	3.0	S-1		1.5				
	4.0	S-2	NA	3.0		3.0 - 4.6' SM: Reddish-brown/brown alternating lenses of clayey silt and f-c sand; dense, moise	NA	
	5.0					4.6 - 6.0' SW: Brown f-c sand, trace nodules of reddish brown silt; med, dense, moist		
	6.0					6.0 - 16.0' SW: Grayish brown f-c sand, trace silt; loose, wet		No sheen or odors observed
	7.0							
	8.0	S-3	NA	4.0				
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA				NA	163-SB-026 1214 from 12.0-12.5' @ 0915
	13.0							
	14.0							
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-027
DATE BEGAN: 09/14/2011
DATE FINISHED: 09/15/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA	NA		0.0 - 2.0' CONCRETE	NA	
	1.0							09/14/11 Driller used concrete bit to advance to 2ft bgs
	2.0	S-1		2.0		2.0 - 2.8' FILL: Black f-c sand + clinker, few trace coal; fine gravel, dense, dry		
	3.0					2.8 - 4.0' FILL: Lt brown f-c sand, trace silt, loose, dry		09/15/11 Began sampling from 2.0 ft bgs
	4.0	S-2	NA	4.0		4.0 - 8.0' SW: Brown/ grayish brown f-c sand few lenses of clayey silt, trace seashells; med dense, wet from 6.0'	NA	No sheen but chemical odor (poss. petroleum) from 6.0'. JB grabbed sample as requested by TG. Not for lab submittal; odor evaluation
▽	6.0							
	7.0							
	8.0	S-3	NA	4.0		8.0 - 12.0' SW: SAA, little sheen throughout but odor is less obvious	NA	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	4.0		12.0 - 16.0' SW: SAA; no sheen or odor	NA	
	13.0							163-SB-027-1214 from 12.0-12.5' @ 0800
	14.0							
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-028
DATE BEGAN: 09/14/2011
DATE FINISHED: 09/14/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA	NA		0.0 - 2.5' CONCRETE	NA	
	1.0							09/14/11 Driller used concrete bit to advance to 2.5ft bgs before sampling
	2.0							
		S-1	NA	1.5		2.5 - 2.8' FILL: Brick		
	3.0					2.8 - 4.5' FILL: Brown/black fine sand and silt, little clinker + coal; trace brick, sense, dry		
	4.0	S-2	NA	4.0			NA	
	5.0					4.5 - 6.0' SC: Brown f-c sand, some lenses of silty clay; med-dense, moist		
	6.0					6.0 - 12.0' SW: Brown/grayish brown f-c sand + trace silt; med dense, wet		Petroleum odors but no sheen from 6.0'
	7.0							
	8.0	S-3	NA	4.0			NA	SAA
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	4.0		12.0 - 14.0' SP: Brown fine sand, trace silt; loose, wet	NA	163-SB-028-1214 from 12.0-12.5' @1430
	13.0							
	14.0					14.0 - 16.0' SW: Grayish brown f-c sand, trace silt; loose, wet		
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-029
DATE BEGAN: 09/15/2011
DATE FINISHED: 09/15/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA			0.0 - 2.5' CONCRETE	NA	Driller used concrete bit to advance to 2.5ft bgs before sampling
	1.0							
	2.0					2.5 - 3.0' FILL: Black f-c sand and clinker, little coal, trace fine gravel; dense, dry		
	3.0	S-1		1.5		3.0 - 3.5' ML: Reddish brown, thinly bedded silt with very thin lenses of fine sand; stiff, dry		Liner jammed + some sample lost from S-1
	4.0	S-2	NA	2.5		silt	NA	
	5.0					4.0 - 5.0' SM: Alternating lenses of reddish brown silt and brown f-m sand, trace seashells; dense, moise		
▽	6.0					5.0 - 6.5' ML: Reddish brown/gray silt, few lenses of fine sand, trace clay; stiff, wet from 6.0'		
	7.0					6.5 - 8.0' No Recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' SW: Brown/grayish brown f-c sand, few lenses of silt; med, dense, wet	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No Recovery		
	12.0	S-4	NA	4.0		12.0 - 16.0' SW: Brown/grayish brown fine to coarse sand, few lenses of silt; med, dense, wet	NA	163-SB-029 1214 from 12.0-12.5' @ 1100
	13.0							
	14.0							
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-030
DATE BEGAN: 09/14/2011
DATE FINISHED: 09/14/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA	NA		0.0 - 2.5' CONCRETE	NA	
	1.0	S-1						Driller used concrete bit to advance to 2.5ft bgs before sampling
	2.0			1.5		2.5 - 3.2' FILL: Black/brown/red f-c sand, some clinker + fine gravel; dense, dry		
	3.0					3.2 - 6.0' FILL: Lt brown f-m sand; moise, loose		
	4.0	S-2	NA	4.0			NA	
	5.0							
	6.0					6.0 - 16.0' SW: Brown/ grayish brown f-c sand, trace lenses of silt; wet, loose		
	7.0							
	8.0	S-3	NA	4.0			NA	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	4.0			NA	
	13.0							
	14.0							163-SB-030-1416 from 14.0-14.5' @ 11:45; DP @ 11:50
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-031
DATE BEGAN: 09/14/2011
DATE FINISHED: 09/14/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA	NA		0.0 - 0.5' FILL: Lt brown f-c sand and fine gravel, some brick, loose, dry	NA	
	1.0					0.5 - 2.0' CONCRETE		Driller used concrete bit to advance to 2ft bgs before sampling
	2.0	S-1		2.0		2.0 - 4.0' FILL: Lt brown f-c sand + fine gravel, dense, dry		
	3.0							
	4.0	S-2	NA	4.0		4.0 - 7.0' SC: Brown f-c sand, some lenses of silty clay; med dense, wet from 6.0'	NA	
	5.0							
	6.0							
	7.0					7.0 - 12.0' SW: Grayish brown f-c sand, trace lenses of silty clay; med dense, wet		
	8.0	S-3	NA	4.0			NA	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	4.0		12.0 - 14.0' SM: Brown fine sand, some silt, med-dense, wet	NA	
	13.0							
	14.0					14.0 - 16.0' SW: Grayish brown f-c sand, trace silt and fine gravel; loose, wet		163-SB-031-1416 from 14.0-14.5' @ 1325
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-032
DATE BEGAN: 09/06/2011
DATE FINISHED: 09/06/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	NA		0.0 - 1.0' CONCRETE	NA	
	1.0					1.0 - 2.0' FILL: Reddish brown/dark brown fine to coarse sand, some fine to coarse gravel, trace silt; yellow COPR (granular) from 1.3-1.6'; moist		
	2.0			3.5		2.0 - 2.5' FILL: Black fine to coarse sand, some fine gravel, trace clinker and coal		
	3.0					2.5 - 3.5' FILL: Brown fine to coarse sand, trace silt; moist		
	4.0	S-2	NA	3.5		3.5 - 4.0' No Recovery	NA	
	5.0					4.0 - 7.5' SM: Reddish brown fine to coarse sand, some lenses of silty clay, trace sea shell fragments; moist		
	6.0							
	7.0							
	8.0	S-3	NA	4.0		7.5 - 8.0' No Recovery	NA	
	9.0					8.0 - 12.0' SW: Reddish gray fine to coarse sand, few lenses of silty clay; wet		
	10.0							
	11.0							
	12.0	S-4	NA	3.0		12.0 - 15.0' SW: Grayish brown fine to coarse sand, few lenses of silty clay; wet	NA	
	13.0							
	14.0							
	15.0					15.0 - 16.0' No Recovery; End of boring at 16'		
	16.0							

PREPARED BY: NOK
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-033
DATE BEGAN: 09/6/2011
DATE FINISHED: 09/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 8.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 3.5' FILL: Yellowish brown to grayish brown f-c sand, few fine gravel; trace concrete from 0-2'; trace silt, moist	NA	
	1.0							
	2.0							
	3.0							
						3.5 - 4.0' No Recovery		
	4.0	S-2	NA	3.0		4.0 - 8.0' FILL: Yellowish brown/ grayish brown f-c sand, few f-c gravel, trace silt, moist	NA	
	5.0							
	6.0							
	7.0							
	8.0	S-3	NA	4.0		8.0 - 10.0' FILL: Same as above, Wet	NA	
	9.0							
	10.0					10.0 - 12.0' SW: Reddish gray f-c sand, few lenses of silty clay, trace fine gravel, wet		
	11.0							
	12.0	S-4	NA	4.0		12.0 - 16.0' SW: Reddish gray/gray f-c sand, trace fine gravel, trace lenses of reddish grey silty clay, wet	NA	163-SB-033-1416 from 14.0-14.5' @ 1040 DP @ 1045
	13.0							
	14.0							
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Honeywell SA-6 South
PROJECT NO: 34800100027
BORING ID: 163-SB-034
DATE BEGAN: 09-12-11
DATE FINISHED: 09-12-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	2.0		0.0 - 2.0' FILL: Light gray fine to coarse sand and fine gravel, few silt; dry, loose	N/A	
	1.0							163-SB-034-0002 from 1.0-1.5' at 1320
	2.0							EOB at 2.0'

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: 163-SB-035
DATE BEGAN: 09-12-11
DATE FINISHED: 09-12-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	1.5		0.0 - 1.5' FILL: Grayish brown fine to coarse sand, some fine gravel, trace silt and concrete; dry, loose	N/A	163-SB-035-0002 from 1.0-1.5' at 1335
	1.0					1.5 - 2.0' No Recovery		EOB at 2.0'
	2.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: 163-SB-036
DATE BEGAN: 09-12-11
DATE FINISHED: 09-12-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	1.5		0.0 - 1.2' FILL: Brown fine to coarse sand, some fine to coarse gravel; dry	N/A	
	1.0					1.2 - 1.5' FILL: Black fine to coarse sand, some clinker and coal, trace brick and fine gravel; dry		
						1.5 - 2.0' No Recovery		163-SB-036-0002 from 1.0-1.5' at 1250
	2.0							EOB at 2.0'

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: 163-SB-037
DATE BEGAN: 09-12-11
DATE FINISHED: 09-12-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 14.0 ft bgs
GW DEPTH: 6.0 ft
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	4.0		0.0 - 0.7' FILL: Brown fine to coarse sand and fine gravel; dry	N/A	
	1.0					0.7 - 1.8' FILL: Concrete		
	2.0					1.8 - 2.5' FILL: Dark brown fine to medium sand, some silt and fine gravel; dry		
	3.0					2.5 - 3.5' FILL: Black fine to coarse sand, some clinker and coal, trace fine gravel; moist from 3.0'		
	4.0	S-2		4.0		3.5 - 4.0' SP: Grayish brown fine to medium sand		
	5.0					4.0 - 8.0' SP: Grayish brown fine to medium sand, few silt, from 7.0'; wet from 6.0'		
	6.0							
	7.0							
	8.0	S-3		3.0		8.0 - 11.0' SW: Grayish brown fine to coarse sand, few lenses of reddish brown clayey silt; wet		
	9.0							
	10.0							
	11.0					11.0 - 12.0' No Recovery		
	12.0	S-4		1.2		12.0 - 13.2' SW: Grayish brown fine to coarse sand, few lenses of reddish brown clayey silt; wet, loose		163-SB-037-1214 from 12.0-12.5 at 1105
	13.0					13.2 - 14.0' No Recovery		
	14.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-038
DATE BEGAN: 09/14/2011
DATE FINISHED: 09/14/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	NA	NA	NA		0.0 - 0.5' FILL: Lt brown f-c sand, little fine gravel; loose, dry	NA	
	1.0					0.5 - 3.0' CONCRETE		Driller used concrete bit to advance to 3.0ft bgs before sampling
	2.0							
	3.0	S-1		1.0		3.0 - 4.0' FILL: Black f-c sand and clinker, some coal, trace fine gravel; dry, dense		
	4.0	S-2	NA	4.0		4.0 - 6.0' SW: Grayish brown f-c sand few lenses of brown silt, trace fine gravel; loose, wet from 5.0'	NA	
▽	5.0							
	6.0					6.0 - 8.0' SC: Brown alternating layers of f-c sand trace fine gravel and seashells and silty clay, trace fine sand; med dense, wet		
	7.0							
	8.0	S-3	NA	4.0		8.0 - 16.0' SW: Brown f-c sand, few lenses of silty clay, few seashells, trace fine gravel; loose, wet	NA	
	9.0							
	10.0							
	11.0							
	12.0	S-4	NA	4.0			NA	163-SB-038-1416 from 14.0-14.5' @1030
	13.0							
	14.0							
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: 163-SB-039
DATE BEGAN: 09-12-11
DATE FINISHED: 09-12-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 6.5 ft
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	4.0		0.0 - 2.2' FILL: Brown/ dark brown fine to coarse sand, some fine gravel, few silt; trace concrete, asphalt, clinker; dry	N/A	
	1.0							
	2.0					2.2 - 3.5' FILL: Concrete		
	3.0					3.5 - 4.0' FILL: Black fine to coarse sand, some clinker and coal, trace fine gravel; dry		
	4.0	S-2		4.0		4.0 - 5.0' FILL: Black fine to coarse sand, some clinker and coal, trace fine gravel; dry		
	5.0					5.0 - 7.0' SP: Grayish brown fine to medium sand, trace fine gravel and lenses of reddish brown silt; wet from 6.5'		
	6.0							
	7.0					7.0 - 7.8' ML: Reddish brown/ gray clayey silt, some lenses of fine to medium sand; wet, stiff		
	8.0	S-3		4.0		7.8 - 8.0' SW: Reddish brown fine to coarse sand, trace silt, fine gravel and sea shell fragments; wet, loose		
	9.0					8.0 - 10.0' SM: Alternating lenses of reddish brown fine to coarse sand, some fine gravel, and clayey silt; wet, dense		
	10.0							
	11.0					10.0 - 12.0' No Recovery		
	12.0	S-4		3.0		12.0 - 15.0' SW: Reddish gray fine to coarse sabd, trace fine gravel, few lenses of reddish brown clayey silt; wet		163-SB-039-1416 from 14.0-14.5' at 0915
	13.0							
	14.0							
	15.0					15.0 - 16.0' No Recovery		
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: 163-SB-040
DATE BEGAN: 09-9-11
DATE FINISHED: 09-9-11
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 16.0 ft bgs
GW DEPTH: 4 ft
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	4.0		0.0 - 1.0' FILL: Light brown fine to medium silty sand, fine to medium gravel; moist, dense	N/A	
	1.0					1.0 - 1.5' ASPHALT		
	2.0					1.5 - 3.5' CONCRETE		
	3.0					3.5 - 4.0' SILTY SAND: Dark gray fine to medium silty sand, ash, coal, clinker		
	4.0	S-2		4.0		4.0 - 10.5' SAND AND SILT: Grayish brown fine to medium sand, lenses of reddish brown silty f-m clay; wet, loose		
	5.0							
	6.0							
	7.0							
	8.0	S-3		3.0				
	9.0							
	10.0					10.5 - 11.0' SAND AND SILT: Black silt; wet, soft		
	11.0					11.0 - 12.0' No Recovery		
	12.0	S-4		3.0		12.0 - 16.0' SILT: Black silt; wet, soft		
	13.0							
	14.0							163-SB-040 from 15.5-16.0 at 1425. Duplicate at 1430.
	15.0							
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-041
DATE BEGAN: 9/9/2011
DATE FINISHED: 9/9/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 0.5' FILL: Reddish orange fine to medium sand	NA	
						0.5 - 0.8' FILL: Brown fine sand, some silt, nodules of red stiff silt; moist, stiff		
	1.0					0.8 - 1.3' FILL: Banded dark grey/reddish brown silt, trace fien sand, coal, and fine to medium gravel; moist, dense		
	2.0					1.3 - 2.3' FILL: Dark grey fine to medium sand, some silt, coal, ash, and lenses of reddish brown firm silt; moist, loose		
						2.3 - 3.5' FILL: Reddish brown silt, lenses of dark grey fine to medium sand; moist, dense		
	3.0					3.5 - 4.0' SW: Greyish brown fine to medium sand; moist, loose		
	4.0	S-2	NA	2.5		4.0 - 6.5' SP: Greysih brown fine to medium sand, lenses of reddish brown firm silt; wet, loose	NA	Petroleum odor @ 4.0' bgs
	5.0							
	6.0							Sample collected 163-SB-041-0608 from 6.0 - 6.5' bgs @ 13:15
						6.5 - 8.0' No recovery; end of boring @ 8.0' bgs		
	7.0							
	8.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-042
DATE BEGAN: 9/9/2011
DATE FINISHED: 9/9/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 1.8' CONCRETE	NA	
	1.0					1.8 - 2.0' FILL: Brown fine sand, some silt; moist, loose		Sample collected 163-SB-042-0002 from1.5 - 2.0' bgs @ 12:08
	2.0					2.0 - 2.8' CONCRETE: green staining		
	3.0					2.8 - 3.3' FILL: Dark brown/yellowish brown fine sand, some silt; trace fine gravel; wet, loose		
	4.0	S-2	NA	3.0		3.3 - 4.0' No recovery	NA	
	5.0					4.0 - 5.0' FILL: Dark brown/yellowish brown fine sand, some silt; trace fine gravel; wet, loose		
	6.0					5.0 - 7.0' SP: Dark greyish brown fine to medium sand, nodules of red silt, trace course sand; wet, loose		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' SP: Dark greyish brown fine to medium sand, nodules of red silt; moist, loose	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	1.0		12.0 - 13.0' SP: Dark greyish brown fine to medium sand, nodules of red silt, trace fine gravel; moist, loose		Sample collected 163-SB-042-1214 from 12.5 - 13.0' bgs @ 12:30
	13.0					13.0 - 14.0' No recovery; end of boring @ 14.0' bgs		
	14.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-043

DATE BEGAN: 9/9/2011 | **DATE FINISHED:** 9/9/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5410DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 14.0 ft bgs | **GW DEPTH:** 6.0 ft bgs

DRILLER: Jake | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' FILL: Brown fine sand, some silt and fine to medium gravel; dry, loose	NA	
	1.0					0.3 - 0.4' ASPHALT		
	2.0					0.4 - 0.8' CONCRETE		Sample collected 163-SB-043-0002 from 1.5 - 2.0' bgs @ 11:15
	3.0					0.8 - 2.0' FILL: Brown fine sand, some silt, asphalt, reddish brown nodules of silt, trace gravel and glass; moist, dense		
	4.0	S-2	NA	4.0		2.0 - 3.5' FILL: Brown fine to medium sand, some silt and coal, trace nodules of red silt; moist, dense	NA	
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 8.0' SP: Dark brown fine sand, some silt, trace fine to medium gravel and nodules of red silty clay, wet @ 6.0' bgs, dense		
	7.0							
	8.0	S-3	NA	3.0		8.0 - 11.0' SP: Dark brown fine sand, some silt, trace fine to medium gravel, nodules of red silty clay, and shells; wet	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	0.5		12.0 - 12.5' SP: Greyish brown fine sand, nodules of red silty clay; wet, loose		Sample collected 163-SB-043-1214 from 12.0 - 12.5' bgs @ 11:40
	13.0					12.5 - 14.0' No recovery; end of boring @ 14.0' bgs		
	14.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-044
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.2' TOPSOIL: Organics	NA	
						0.2 - 0.5' FILL: Light brown fine to medium silty sand, fine to medium gravel; dry, dense		
	1.0					0.5 - 2.0' FILL: Dark grey fine to medium silty sand, coal, ash, brown pumice-like material (clinker); moist, dense		
	2.0					2.0 - 3.3' ML: Reddish brown silt, trace clay; moist, firm		Sample collected 163-SB-044-0204 from 2.0 - 2.5' bgs @ 12:20
	3.0					3.3 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 7.0' SP: Reddish brown silt, lenses of greysih brown fine to meidum sand from 5.5' - 6.0' bgs; wet, firm	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' SP: Greyish brown fine to course sand, some red silty clay throughout; firm, wet		
	8.0	S-3	NA	2.5		8.0 - 9.5' SW: Greysih brown fine to medium sand; wet, loose	NA	Sample collected 163-SB-044-1012 from 10.0 - 10.5' bgs @ 12:30
	9.0							
	10.0					9.5 - 10.5' SM: Greyish brown fine silty sand; wet, loose		
	11.0					10.5 - 12.0' No recovery; end of boring @ 12.0' bgs		
	12.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-045

DATE BEGAN: 9/8/2011 | **DATE FINISHED:** 9/8/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5410DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 4 ft bgs | **GW DEPTH:** NA

DRILLER: Jake | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4		0.0 - 2.0' CONCRETE	NA	No Sample collected 163-SB-045-0002 due to concrete
	1.0							Sample collected 163-SB-045-0204 from 2.5 - 3.0' bgs@ 15:15
	2.0					2.0 - 2.8' FILL: Red silt, trace clay and fine sand; moist, very stiff		
						2.8 - 3.0' FILL: Green fine to medium and; dry, stiff		
	3.0					3.0 - 3.5' CONCRETE: green staining		
						3.5 - 4.0' FILL: Dark grey silt, trace fine sand; moist, stiff; end of boring @ 4.0' bgs		
	4.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-046
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2		0.0 - 1.3' CONCRETE: degraded from 0.75 - 1.25' bgs	NA	Sample collected 163-SB-046-0002 from 1.5 - 2.0' bgs @ 14:58
	1.0					1.3 - 1.5' FILL: Red silt; moist, dense		
						1.5 - 2.0' FILL: Reddish brown fine to medium silty sand, trace green silt; moist, loose; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-047
DATE BEGAN: 09/7/2011
DATE FINISHED: 09/7/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' FILL: Grayish brown f-c sand + gravel, trace clinker + silt; wet	NA	
						0.5 - 1.0' FILL: Concrete		
	1.0					1.0 - 1.8' FILL: Black f-c sand, some clinker, trace coal + fine gravel; moist		163-SB-047-0002 from 1.5-2.0' @ 0925
						1.8 - 2.0' FILL: Yellow/white f-c sand, some fine gravel and crushed concrete (COPR); dry		Refusal @ 2.0'
	2.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-048
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.0		0.0 - 0.5' Asphalt	NA	Sample collected 163-SB-048-0002 from 0.5-1.0' bgs @ 9:40
						0.5 - 0.8' FILL: Reddish brown silt, fine to medium gravel; moist, very dense		
						0.8 - 1.0' CONCRETE: green staining		
	1.0					1.0 - 2.0' No recovery; end of boring @ 2.0' bgs due to refusal		Sample of concrete also collected; refusal @ 2', unable to power drill through
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-049
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10.0 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' TOPSOIL: organics	NA	
						0.1 - 0.5' FILL: Light brown fine silty sand, fine to medium gravel, organics; moist, dense		
	1.0					0.5 - 1.3' FILL: Brown fine silty sand; moist, loose		
	2.0					1.3 - 2.3' FILL: Dark grey fine to medium silty sand, coal, ash, brown pumice-like material (clinker), trace organics; moist, dense		
	3.0					2.3 - 2.5' FILL: Reddish brown fine silty sand; loose, moist		
						2.5 - 3.5' SW: Greyish brown fien to medium sand; wet, loose		
	4.0	S-2	NA	4.0		3.5 - 4.0' No recovery	NA	
						4.0 - 8.0' SP: Greyish brown fine to medium sand, lenses of red silty stiff clay from 4.75 - 5.25' and 7.0-7.75' bgs, trace shells; wet, loose		
	5.0							
	6.0							
	7.0							
	8.0	S-3	NA	1.0		8.0 - 9.0' Greyish brown fine to medium sand, lenses of red silty stiff clay; wet, loose		Sample collected 163-SB-049-0810 from 8.5 - 9.0' bgs @ 14:20
	9.0					9.0 - 10.0' No recovery; end of boring @ 10.0' bgs		
	10.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-050
DATE BEGAN: 9/7/2011
DATE FINISHED: 9/7/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' CONCRETE	NA	
						0.3 - 0.5' FILL: Reddish brown fine to medium silty sand, fine to medium gravel; moist, very dense		Sample collected 163-SB-050-0002 from 1.0 - 1.5' bgs @ 15:55
	1.0					0.5 - 1.3' FILL: Dark grey fine to medium silty sand, fine to medium gravel, trace red silt; moist, very dense		
	2.0					1.3 - 1.8' FILL: Dark grey fine to medium silty sand, coal, and ash		
	3.0					1.8 - 2.3' FILL: Reddish brown silt; dry, dense		
						2.3 - 2.5' FILL: Reddish brown fine sandy silt, trace clay; moist, dense		
	4.0	S-2	NA	4.0		2.5 - 3.0' FILL: Dark grey fine silty sand, trace fine gravel	NA	
						3.0 - 3.5' SP: Greyish brown fine to medium sand, lenses of silty clay, trace fine gravel		
	5.0					3.5 - 4.0' No recovery		
	6.0					4.0 - 5.0' SP: Greyish brown fine to medium sand; wet, loose		
						5.0 - 5.5' CH: Red silty clay; wet, very firm		
	7.0					5.5 - 8.0' SP: Greyish brown fine to course sand, lenses of red firm silt; wet, loose		
	8.0	S-3	NA	1.0		8.0 - 9.0' SP: Greyish brown fine to course sand, lenses of red firm silt; wet, loose	NA	Sample collected 163-SB-050-0810 from 8.0 - 8.5' bgs @ 16:10
	9.0					9.0 - 10.0' No recovery; end of boring 10.0' bgs		
	10.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-051

DATE BEGAN: 9/7/2011 | **DATE FINISHED:** 9/7/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5410DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 10.5 ft bgs | **GW DEPTH:** 8.0 ft bgs

DRILLER: Jake | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' FILL: Dark brown fine to medium silty sand, fine to medium gravel, trace light brown sand and red fine to medium silty sand; moist, loose	NA	
	1.0					1.0 - 1.5' FILL: Fine to medium gravel, dark brown fine to medium sand; moist, loose		Sample collected 163-SB-051-0002 from 0.5 - 1.0' bgs @ 11:25
	2.0					1.5 - 4.0' SP: Brownish grey fine to medium sand, trace silt, nodules of red silty clay, trace gravel; moist, loose		
	3.0							
	4.0	S-2	NA	4.0		4.0 - 8.0' SP: Brownish grey fine to medium sand, trace silt, nodules of red silty clay, trace gravel and course sand moist, loose	NA	
	5.0							
	6.0							
	7.0							
▽	8.0	S-3	NA	2.5		8.0 - 10.5' SP: Brownish grey fine to medium sand, trace silt, nodules of red silty clay, trace gravel and course sand moist, loose; end of boring @ 10.5' bgs	NA	Hydrocarbon odor
	9.0							Sample collected 163-SB-051-0810 from 8.5 - 9.0' bgs @ 11:50; DUP @ 11:52
	10.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-052
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' TOPSOIL: Organics, marble, plastic; moist, loose	NA	
						0.5 - 1.5' FILL: Reddish brown fine to medium sand; moist, loose		
	1.0							
						1.5 - 3.5' VOID		
	2.0							
	3.0							
						3.5 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 7.5' SW: Greysih brown fine to medium sand; wet, loose	NA	Black staininng and organic odor @ 7.5' bgs
	5.0							
	6.0							
	7.0					7.5 - 8.0' SP: Greyish brown fine silty sand, lense of reddish brown silty clay from 7.8' - 8.0' bgs; wet. loose; end of boring @ 8.0' bgs		Sample collected 163-SB-052-0608 from 7.5 - 8.0' bgs @ 11:40
	8.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-053
DATE BEGAN: 09/6/2011
DATE FINISHED: 09/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NA
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' CONCRETE	NA	
						0.3 - 1.5' FILL: Reddish brown f-c sand and gravel, little silt; moist		
	1.0							
						1.5 - 2.0' FILL: Concrete and yellow f-c sand and gravel (COPR), dry		163-SB-053-0002 from 1.5-2.0' @ 1300
	2.0					2.0 - 3.0' FILL: Black f-c sand, some clinker and coal; dry		163-SB-053-0204 from 2.5-3.0' @ 1305
	3.0					3.0 - 4.0' SW: Reddish gray f-c sand, few lenses of silty clay, trace fine gravel; moist		
	4.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-054
DATE BEGAN: 09/6/2011
DATE FINISHED: 09/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NE
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.5' FILL: Reddish brown f-c sand + gravel; trace concrete + silt	NA	163-SB-054-0002 from 1.5-2.0' @ 1315
	1.0					1.5 - 3.0' FILL: Black/grayish brown f-c sand; some clinker, brick + coal; few fine gravel		
	2.0							
	3.0					3.0 - 4.0' SW: Reddish gray f-c sand, trace lenses of silty clay		
	4.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-055
DATE BEGAN: 09/6/2011
DATE FINISHED: 09/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NA
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 3.5' FILL: Gray/black f-c sand; brick from 0.8-1.2', some clinker + coal from 2.0-3.0'	NA	163-SB-055-0002 from 1.5-2.0' @ 1400
	1.0							
	2.0							
	3.0					3.5 - 4.0' SW: Grayish brown f-c sand, few silt, trace clay		
	4.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-056
DATE BEGAN: 09/6/2011
DATE FINISHED: 09/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NA
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' FILL: Brown f-c sand+gravel; trace silt	NA	163-SB-056-0002 from 1.5-2.0' @ 1335
	1.0							
	2.0					2.0 - 2.5' FILL: Dk brown f-c sand, some f-c gravel + silt, trace clinker + coal		
						2.5 - 3.5' SW: Reddish gray f-c sand; little silt, trace clay from 3.2'		
	3.0							
						3.5 - 4.0' SW: Grayish brown f-c sand		
	4.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

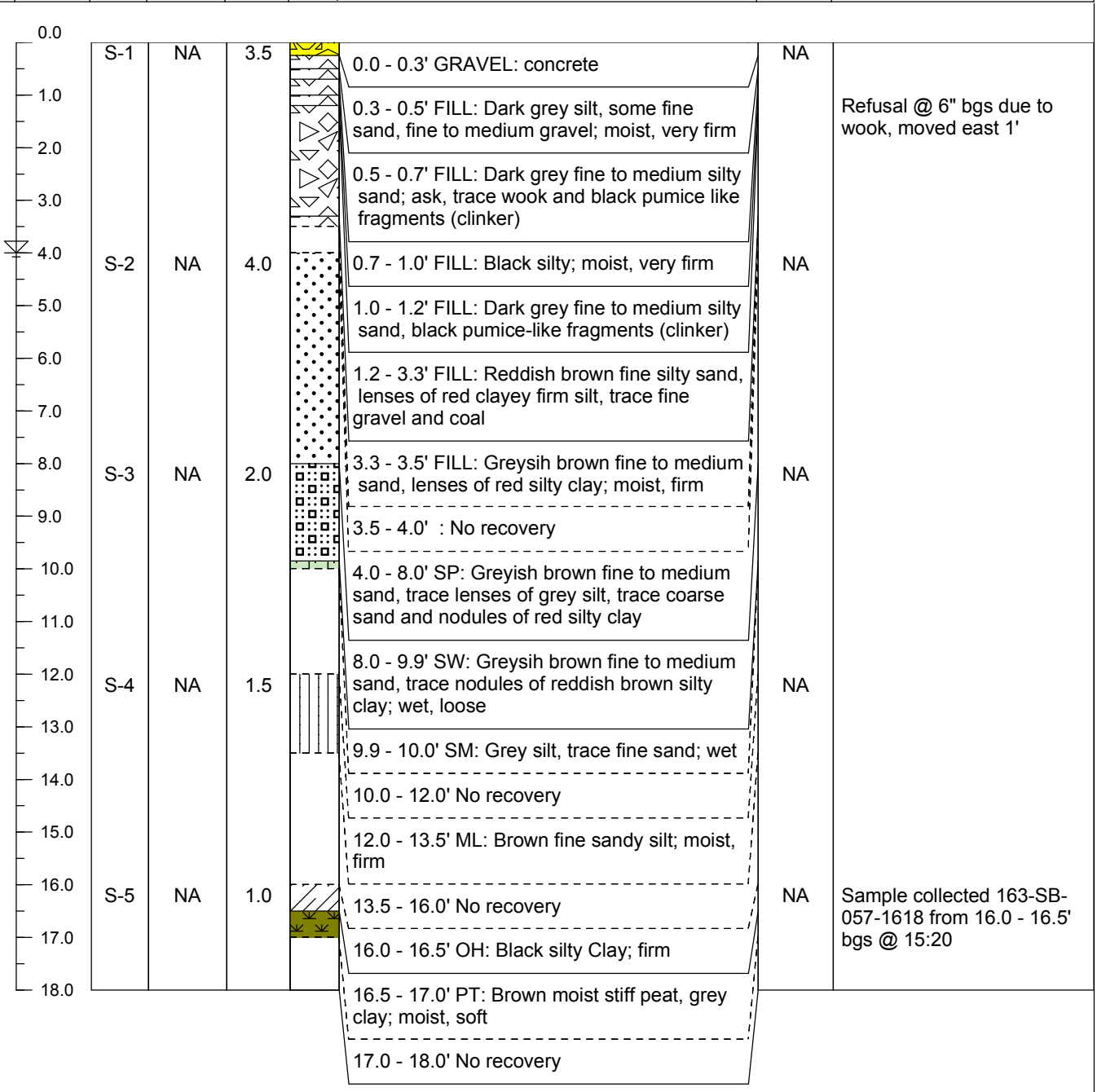
LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-057

DATE BEGAN: 9/7/2011 | **DATE FINISHED:** 9/7/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5410DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 18 ft bgs | **GW DEPTH:** 4.0 ft bgs

DRILLER: Jake | **NORTH:** | **EAST:**



ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' GRAVEL: concrete	NA	
						0.3 - 0.5' FILL: Dark grey silt, some fine sand, fine to medium gravel; moist, very firm		Refusal @ 6" bgs due to wook, moved east 1'
						0.5 - 0.7' FILL: Dark grey fine to medium silty sand; ask, trace wook and black pumice like fragments (clinker)		
	4.0	S-2	NA	4.0		0.7 - 1.0' FILL: Black silty; moist, very firm	NA	
						1.0 - 1.2' FILL: Dark grey fine to medium silty sand, black pumice-like fragments (clinker)		
						1.2 - 3.3' FILL: Reddish brown fine silty sand, lenses of red clayey firm silt, trace fine gravel and coal		
	8.0	S-3	NA	2.0		3.3 - 3.5' FILL: Greysih brown fine to medium sand, lenses of red silty clay; moist, firm	NA	
						3.5 - 4.0' : No recovery		
						4.0 - 8.0' SP: Greyish brown fine to medium sand, trace lenses of grey silt, trace coarse sand and nodules of red silty clay		
	12.0	S-4	NA	1.5		8.0 - 9.9' SW: Greysih brown fine to medium sand, trace nodules of reddish brown silty clay; wet, loose	NA	
						9.9 - 10.0' SM: Grey silt, trace fine sand; wet		
						10.0 - 12.0' No recovery		
						12.0 - 13.5' ML: Brown fine sandy silt; moist, firm		
	16.0	S-5	NA	1.0		13.5 - 16.0' No recovery	NA	Sample collected 163-SB-057-1618 from 16.0 - 16.5' bgs @ 15:20
						16.0 - 16.5' OH: Black silty Clay; firm		
						16.5 - 17.0' PT: Brown moist stiff peat, grey clay; moist, soft		
	18.0					17.0 - 18.0' No recovery		

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-058
DATE BEGAN: 09/7/2011
DATE FINISHED: 09/14/2011
INSPECTOR: M. Daly/ J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0					0.0 - 0.3' CONCRETE	NA	
						0.3 - 0.5' SILTY SAND: Reddish brown fine to med silty sand, F-M gravel, moist, very dense		
	1.0					0.5 - 1.3' SILTY SAND: Dark gray fine to medium silty sand; f-m gravel, trace red silt, very dense, moist		163-SB-058-0002 from 1.0-1.5' @ 1555
						1.3 - 1.8' SILTY SAND: Dark gray, F-M silty sand; coal, ash		
	2.0			3.5		1.8 - 2.0' SILT: Reddish brown silt, fine sand; trace clay, moist		
		S-1				2.0 - 2.5' SILTY SAND: Reddish brown fine sandy silt, trace clay, moist		
	3.0					2.5 - 3.5' SILTY SAND: Grayish brown f-m sand, lenses of red silty clay, trace fine gravel		
						3.5 - 4.0' No Recovery		
	4.0					4.0 - 5.0' SAND: Grayish brown F-M sand, wet	NA	
	5.0					5.0 - 5.5' CLAY AND SILT: Red silty clay, wet, fine to med		
		S-2				5.5 - 8.0' SILTY SAND: Grayish brown F-C sand, lenses of red F-M silt, wet, loose		
	6.0			4.0				
	7.0							
	8.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-058
DATE BEGAN: 09/7/2011
DATE FINISHED: 09/14/2011
INSPECTOR: M. Daly/ J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 4.5 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	S-3	NA	4		8.0 - 10.0' SW: Grayish brown f-c sand, trace sill, loose, wet	NA	163-SB-058-0810 from 8.0-8.5' @ 1600
	9.0							
	10.0					10.0 - 11.5' CH: Brown silty clay, trace fine sand; highly plastic, soft, wet; lenses of f-m sand from 10.6-10.8'		
	11.0							
						11.5 - 12.0' SP: Brown/grayish brown f-m sand, few silt, med, dense, wet		
	12.0	S-4	NA	4		12.0 - 14.0' CH: Brown silty clay, lense of f-m sand from 13-13.2'; highly plastic, soft, wet	NA	
	13.0							
	14.0					14.0 - 14.5' OH: Black clayey silt, trace fine sand, soft, wet		163-SB-058-1416 from 14.5-15.0' @ 0915
						14.5 - 15.0' OH: Olive silty clay, few organic material; med, stiff, wet		
	15.0					15.0 - 16.0' PT: Dk brown peat; med dense, moist		
	16.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-059
DATE BEGAN: 9/7/2011
DATE FINISHED: 9/7/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' GRAVEL: concrete	NA	
	1.0					0.3 - 2.0' FILL: Dark brown fine to medium silty sand, some clay and fine to medium gravel, trace light brown medium sand; moist, dense		
	2.0							
	3.0					2.0 - 2.1' FILL: Red silty clay; firm, moist		
	4.0	S-2	NA	4.0		2.1 - 3.3' SP: Reddish brown fine to medium sand, trace course sand, nodules of red silty clay; moist, firm	NA	
	5.0					3.3 - 3.5' SW: Greyish brown fine to medium sand		
	6.0					3.5 - 4.0' No recovery		
	7.0					4.0 - 7.0' SW: Greyish brown fine to medium sand, some layer of red silty firm clay, trace course sand and fine gravel; wet, moderate firm		
	8.0	S-3	NA	4.0			NA	
	9.0					7.0 - 8.0' SP: Reddish grey fine sand, lenses of red silty frim clay; moist, moderate firm		
	10.0					8.0 - 10.0' SW: Greyish brown fine to medium sand, trace coarse sand; wet, loose		
	11.0					10.0 - 12.0' SM: Greyish brown fine sandy silt, nodules of brown silt; moist, firm		
	12.0	S-4	NA	1.5		12.0 - 13.5' ML: Greyish brown fine sandy silt, lenses of grey soft silt; wet, loose	NA	
	13.0							
	14.0					13.5 - 16.0' No recovery		
	15.0							
	16.0	S-5	NA	2.0		16.0 - 16.3' ML: Greyish brown fine sandy silt, lenses of grey soft silt; wet, loose	NA	Sample collected 163-SB-059-1618 from 16.5 - 17.0' bgs @ 13:20
	17.0					16.3 - 18.0' OH: Dark brown silt; moist, moderate firm; peat in tip; end of boring @ 18.0' bgs		
	18.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 Posnak & Turkish
PROJECT NO: 3480100027
BORING ID: 163-SB-060
DATE BEGAN: 09/7/2011
DATE FINISHED: 09/7/2011
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 2.0' FILL: Brown/reddish brown f-c sand, some fine gravel, little silt, trace concrete moist	NA	
	1.0							
	2.0					2.0 - 3.3' FILL: Black/brown f-c sand, some clinker, little fine gravel; coal + silt; moist		
	3.0					3.3 - 4.0' SW: Reddish brown f-c sand, few lenses of silty clay; moist		
	4.0	S-2		2.0		4.0 - 6.0' SW: Same as above; trace fine gravel; wet		163-SB-060-0406 from 5.5-6.0' @ 0855
	5.0							
	6.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: 163-SB-061
DATE BEGAN: 09-12-11
DATE FINISHED: 09-12-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 3.0 ft bgs
GW DEPTH: NA
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	3.0		0.0 - 1.5' CONCRETE	N/A	
	1.0					1.5 - 2.0' FILL: Brown fine to medium sand, some silt, trace concrete		163-SB-061-0002 from 1.5-2.0' at 1315
	2.0					2.0 - 2.7' FILL: Black fine to coarse sand, some clinker and coal; moist		
	3.0					2.7 - 3.0' ML: Brown silt, some fine to medium sand, trace clay; moist stiff		

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-062
DATE BEGAN: 9/9/2011
DATE FINISHED: 9/9/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2		0.0 - 0.5' FILL: Reddish orange fine to course sand, loose	NA	Sample collected 163-SB-062-0002 from 1.5 - 2.0' bgs @ 12:57
						0.5 - 0.7' FILL: Brown fine sand, some silt and fine gravel; moist, dense		
						0.7 - 0.8' FILL: Light brown silt, some fine gravel; moist, dense		
	1.0					0.8 - 2.0' FILL: Dark grey fine to medium sand, some silt, coal, ask brown pumice-like material (clinker); moist, dense; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-063
DATE BEGAN: 9/9/2011
DATE FINISHED: 9/9/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 7.0 ft bgs
GW DEPTH: 5.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.25		0.0 - 0.4' CONCRETE	NA	
						0.4 - 1.0' FILL: Brown fine sand, some silt, organics, fine to medium gravel; moist, dense		
	1.0					1.0 - 1.3' FILL: Dark grey silt; moist, very firm		
						1.3 - 1.4' FILL: Greenish yellow sand stone, dense, dry		
						1.4 - 1.5' FILL: Brownish red silt; moist, dense		
	2.0					1.5 - 3.3' FILL: Dark grey fine sand, some silt, coal, ash, black pumice-like material (clinker)		Refusal @ 2.0' bgs due to wook, moved NE 2'
	3.0					3.3 - 4.0' No recovery		
	4.0	S-2	NA	2.5		4.0 - 5.5' SM: Reddish brown silt, some fine to medium sand; wet @ 5.0' bgs, dense	NA	
	5.0							
	6.0					5.5 - 6.5' SP: Greyish brown fine to medium sand, lenses of reddish brown firm silty clay, trace shells; wet, dense; wood in tip		Sample collected 163-SB-063-0608 from 6.0 - 6.5' bgs @ 10:43
						6.5 - 7.0' No recovery; end of boring @ 7.0' bgs		Refusal @ 7.0' due to wood
	7.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-064
DATE BEGAN: 9/9/2011
DATE FINISHED: 9/9/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NA
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.3' GRAVEL: some light brown sand	NA	Refusal @ 6" bgs, moved north 3'
						0.3 - 0.8' FILL: Brownish red silt, fine to medium gravel; moist, stiff		
						0.8 - 1.3' FILL: Gravel, some light grey silt		
	1.0					1.3 - 1.4' FILL: Green gravel, trace green sand (COPR)		
						1.4 - 2.5' FILL: Dark grey silt, some sand, coal ash, and fine to medium gravel; moist, dense		Sample collected 163-SB-064-0002 from 1.0 - 1.5' bgs @ 9:58
	2.0							
						2.5 - 3.5' FILL: Reddish brown silt, trace coal; moist, very stiff		
	3.0							Sample collected 163-SB-064-0204 from 3.0 - 3.5' bgs @ 10:00
						3.5 - 4.0' No recovery; end of boring @ 4.0' bgs		
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-065
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NA
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.1' TOPSOIL: Organics	NA	Sample collected 163-SB-065-0002 from 0.0-0.5' bgs @ 13:05
						0.1 - 0.3' FILL: Light brown silt; moist, dense		
						0.3 - 1.0' FILL: Dark brown fine to medium silty sand, organics; moist, stiff		
	1.0					1.0 - 1.5' FILL: Dark grey fine to medium sand, coal, black pumice-like material (clinker), ash; moist, dense		
						1.5 - 3.5' SP: Reddish brown fine to medium sand, some silt and lenses of reddish brown silty clay		
	2.0							
	3.0							
						3.5 - 4.0' No recovery; end of boring @ 4.0' bgs		
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-066

DATE BEGAN: 9/8/2011 | **DATE FINISHED:** 9/8/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5410DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 10.0 ft bgs | **GW DEPTH:** 4.0 ft bgs

DRILLER: Jake | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 0.5' FILL: Brown fine silty sand, fine to medium gravel, organics	NA	
						0.5 - 1.5' FILL: Dark grey fine to medium silty sand, coal, ash, black pumice-like material (clinker); moist, loose		Hit refusal due to building material, moved west 1'; hit refusal again, moved further west
	1.0							
	2.0					1.5 - 3.8' FILL: Reddish brown clayey silt, lenses of reddish brown fine to medium sand; moist, stiff		
	3.0							
						3.8 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 7.0' SP: Greyish brown fine to course sand, lenses of red silty stiff clay; wet, loose	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' SW: Greyish brown fine sand, trace lenses of grey silt; wet, loose		
	8.0	S-3	NA	1.0		8.0 - 9.0' SW: Greyish brown fine sand, trace lenses of grey silt and shells; wet, loose	NA	Sample collected 163-SB-066-0810 from 8.5 - 9.0' bgs @ 13:42
	9.0					9.0 - 10.0' No recovery; end of boring @ 10.0' bgs		
	10.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-067
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/8/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8.0 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: Jake
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.5		0.0 - 0.5' TOPSOIL: Organics, marble, plastic; moist, loose	NA	
						0.5 - 1.5' FILL: Reddish brown fine to medium sand; moist, loose		
	1.0					1.5 - 3.5' VOID		
	2.0							
	3.0					3.5 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 7.5' SW: Greysih brown fine to medium sand; wet, loose	NA	Trace petrolium odor @ 7.0' bgs
	5.0							
	6.0							
	7.0					7.5 - 8.0' SP: Greyish brown fine silty sand, lense of reddish brown silty clay from 7.8' - 8.0' bgs; wet. loose; end of boring @ 8.0' bgs		Sample collected 163-SB-067-0608 from 7.0 - 7.5' bgs @ 11:58
	8.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-068
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/14/2011
INSPECTOR: M. Daly/ J. Bacchus
DRILLING CO: TPI/ B+B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: J. Timmins/ E. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.2' TOPSOIL: Organics	NA	
						0.2 - 0.5' CONCRETE		
	1.0					0.5 - 1.6' FILL: Dark grey fine silty sand, lenses of red silty clay, trace fine gravel and wood; moist, loose		
						1.6 - 1.8' FILL: Red clayey silt; moist, firm		
	2.0					1.8 - 2.0' FILL: Greyish brown fine to medium silty sand; wet, loose		
						2.0 - 4.0' No recovery		
	3.0							
	4.0	S-2	NA	4.0		4.0 - 6.8' SP: Reddish brown fine to course sand, nodules of red clayey silt, trace fine gravel; wet, loose	NA	
	5.0							
	6.0							
	7.0					6.8 - 8.0' SP: Greyish brown fine to medium sand, nodules of red silty clay; wet, loose; end of boring @ 8.0' bgs		Sample collected 163-SB-0680-0608 from 7.0 - 7.5' bgs @ 9:00
	8.0	S-3				8.0 - 12.0' SP: Greyish brown fine to medium sand, few silt lenses from 11'; medium dense, wet		
	9.0							

PREPARED BY: MD/NOK
CHECKED BY: DN

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-068
DATE BEGAN: 9/8/2011
DATE FINISHED: 9/14/2011
INSPECTOR: M. Daly/ J. Bacchus
DRILLING CO: TPI/ B+B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: 4.0 ft bgs
DRILLER: J. Timmins/ E. Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	9.0							
	10.0							
	11.0							
	12.0	S-4				12.0 - 15.0' SC: Alternating beds of very dark grayish brown fine sand, trace silt, and silty clay, trace fine sand; med dense, wet		
	13.0							
	14.0							
	15.0					15.0 - 16.0' No Recovery		163-SB-068-1618 from 17.0-17.5' at 0825
	16.0	S-5				16.0 - 17.8' OH: Very dark gray silty clay, trace fine sand; highly plastic, wet, soft EOB at 18 ft bgs		
	17.0							
	18.0							

PREPARED BY: MD/NOK
CHECKED BY: DN

Honeywell SA-6 South

LOCATION: Site 163
PROJECT NO: 34800100027
BORING ID: **163-SB-069**
DATE BEGAN: 09-07-11
DATE FINISHED: 09-07-11
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4ft Macrocore
COMPLETION DEPTH: 2.0 ft bgs
GW DEPTH: NA
DRILLER: J. Timmins
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	N/A	2.0		0.0 - 0.8' FILL: Grayish brown fine-coarse sand, some fine to coarse gravel, trace silt; wet	N/A	10 ft west of 163-SB-047
						0.8 - 1.5' FILL: Concrete, trace brick; dry		
	1.0					1.5 - 2.0' FILL: Dark brown fine to coarse sand, some silt, trace fine gravel		163-SB-069-0002 from 1.5-2.0' at 0935
	2.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-070
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.4' CONCRETE	NA	Sample collected 163-SB-070-0002 from 1.5 - 2.0' bgs @ 13:20; DUP @ 13:22
						0.4 - 2.0' FILL: Reddish brown silt, trace clay; moist, firm; end of boring @ 2.0' bgs		
	1.0							
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-071
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' FILL: Brown fine sand, some silt (30%), fine to medium gravel; moist, loose	NA	Sample collected 163-SB-071-0002 from 1.5 - 2.0' bgs @ 13:40
	1.0					1.5 - 2.0' FILL: Black fine sand, some silt, coal, clinker; moist, loose; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-072
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		-0.6 - 0.2' CONCRETE	NA	
						0.2 - 1.5' FILL: Dark brown silt, some fine sand (35%), coal, firm ash, trace brick and clay; moist, loose		Sample collected 163-SB-072-0002 from 1.0 - 1.5' bgs @ 15:00
	1.0							
	2.0					1.5 - 2.5' FILL: Reddish brown fine sand; moist, loose		
	3.0					2.5 - 3.0' FILL: Brownish grey fine to medium sand, trace silt; moist, dense		
						3.0 - 4.0' No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' SP: Brown fine to medium sand; wet, loose	NA	Sample collected 163-SB-072-0608 from 6.5 - 7.0' bgs @ 15:01; DUP @ 15:03
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	1.5		8.0 - 9.5' SP: Brown fine to medium sand; wet, loose	NA	Sample collected 163-SB-072-0810 from 9.0 - 9.5' bgs @ 15:12
	9.0							
						9.5 - 10.0' No recovery; end of boring @ 10.0' bgs		
	10.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-073
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 10 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.75		0.0 - 0.2' CONCRETE	NA	
						0.2 - 1.0' FILL: Reddish brown fine sand, some silt (30%), dry, loose		
	1.0					1.0 - 2.3' FILL: Dark brown fine sand, some silt, coal, and ash; moist, dense		Sample collected 163-SB-073-0002 from 1.5- 2.0' bgs @ 14:05
	2.0							163-SB-073-0204 from 2.0-2.5' bgs @1407
						2.3 - 2.8' FILL: Reddish brown fine to medium sand, trace clay; loose, moist		
	3.0					2.8 - 4.0' No recovery		
▽	4.0	S-2	NA	4.0		4.0 - 7.0' SP: Reddish brown fine to medium sand, trace lenses of reddish brown clay, some silt; wet, loose	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' SP: Greyish brown fine to medium sand; wet, loose		
	8.0	S-3	NA	2.0		8.0 - 10.0' SP: Greyish brown fine to medium sand; wet, loose; end of boring @ 10.0' bgs	NA	
	9.0							Sample collected 163-SB-073-0810 from 9.5 - 10.0' bgs @ 14:26
	10.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-074
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' FILL: Light brown silt, some fine sand (40%), trace brick and fine gravel; dry, very dense	NA	Sample collected 163-SB-074-0204 from 3.5- 4.0' bgs @ 15:30
						0.5 - 1.0' CONCRETE		
	1.0					1.0 - 2.8' FILL: Reddish silt, trace coal; moist, very stiff		
	2.0							
	3.0					2.8 - 3.8' CONCRETE: fine to medium gravel, green staining		
						3.8 - 4.0' FILL: Dark brown silt; moist, very stiff; end of boring @ 4.0' bgs		
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-075
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' CONCRETE: Green staining 1.3-1.5' bgs	NA	Sample collected 163-SB-075-0002 from 1.5- 2.0' bgs @ 15:46
	1.0					1.5 - 2.0' FILL: Reddish silt, trace clay; wet, very stiff; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-076
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 3 ft bgs
GW DEPTH: NA
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.5' CONCRETE	NA	
	1.0					1.5 - 2.5' FILL: Grey silt, some fine to medium gravel; very loose, then stiff, wet, then moist		Sample collected 163-SB-076-0002 from 1.5- 2.0' bgs @ 16:07
	2.0					2.5 - 2.8' CONCRETE		
						2.8 - 3.0' FILL: Brown fine to medium sand, some silt and fine to medium gravel; moist, dense; end of boring @ 2.0' bgs		
	3.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-077

DATE BEGAN: 10/19/2011 | **DATE FINISHED:** 10/19/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Geoprobe 5410DT

SAMPLING TOOL: 4-ft Macrocore | **COMPLETION DEPTH:** 14 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: George | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' FILL: Light brown fine sand, some silt (30%). fine to medium gravel	NA	
	1.0					0.3 - 0.7' CONCRETE: degraded		Sample collected 163-SB-078-0002 from 1.5 - 2.0' bgs @ 17:05
	2.0					0.7 - 2.0' FILL: Medium grey fine to medium sand, some silt and fine to medium gravel, trace brick; dry, loose		
	3.0					2.0 - 3.0' FILL: Dark grey silt, lenses of grey fine to medium sand, some fine to meidum gravel, trace brick; moist, dense		
	4.0	S-2	NA	3.0		3.0 - 4.0' FILL: Dark grey fine sand, some silt ash, coal, brown pumice-like material (clinker); moist, dense	NA	
	5.0					4.0 - 7.0' SP: Greyish brown fine to medium sand, trace lenses of silt and clay; wet, loose		Strong petroleum odor, sheen
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	4.0		8.0 - 12.0' SP: Greyish brown fine to medium sand, trace lenses of silt and clay, trace shells; wet, loose	NA	
	9.0							Strong petroleum odor, sheen
	10.0							
	11.0							
	12.0	S-4	NA	2.0		12.0 - 14.0' SP: Greyish brown fine to medium sand, some silt, trace lenses of silt and clay, trace shells; wet, loose; end of boring @ 14.0' bgs		Sample collected 163-SB-078-214 from 13.5 - 14.0' bgs @ 17:20; DUP @ 17:22
	13.0							
	14.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-078
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 14 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.3' FILL: Light brown fine sand, some silt (30%). fine to medium gravel	NA	
	1.0					0.3 - 0.7' CONCRETE: degraded concrete		Sample collected 163-SB-078-0002 from 1.5 - 2.0' bgs @ 17:05
	2.0					0.7 - 2.0' FILL: Medium grey fine to medium sand, some silt and fine to medium gravel, trace brick; dry, loose		
	3.0					2.0 - 3.0' FILL: Dark grey silt, lenses of grey fine to medium sand, some fine to meidum gravel, trace brick; moist, dense		Petroleum odor 2-4'
	4.0	S-2	NA	3.0		3.0 - 4.0' FILL: Dark grey fine sand, some silt ash, coal, clinker; moist, dense	NA	
	5.0					4.0 - 7.0' SP: Greyish brown fine to medium sand, trace lenses of silt and clay; wet, loose		Strong petroleum odor, sheen
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	4.0		8.0 - 12.0' SP: Greyish brown fine to medium sand, trace lenses of silt and clay, trace shells; wet, loose	NA	
	9.0							Strong petroleum odor, sheen
	10.0							
	11.0							
	12.0	S-4	NA	2.0		12.0 - 14.0' SP: Greyish brown fine to medium sand, some silt, trace lenses of silt and clay, trace shells; wet, loose; end of boring @ 14.0' bgs		Sample collected 163-SB-078-1214 from 13.5 - 14.0' bgs @ 17:20; DUP @ 17:22
	13.0							
	14.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-079
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' FILL: Light brown fine to medium sand, some fine to medium gravel; wet, loose	NA	
	1.0					0.8 - 2.0' FILL: Dark grey silt, some coal and dark grey pumice-like material; moist, very dense		
	2.0					2.0 - 4.0' FILL: Reddish brown silt, some clay, trace shells; moist, very stiff		
	3.0							
	4.0	S-2	NA	3.0		4.0 - 6.0' SW: Reddish silt, trace clay, lenses of greyish brown fine to medium sand; wet, stiff	NA	
	5.0							
	6.0					6.0 - 7.0' SP: Greysih brown fine to medium sand, lenses of reddish silt and clay, trace shells; wet, loose		Sample collected 163-SB-079-0608 from 6.5 - 7.0' bgs @ 16:47
	7.0					7.0 - 8.0' No recovery; end of boring @ 8.0' bgs		
	8.0							

PREPARED BY: NOK
CHECKED BY: MM

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-080
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' FILL: Light brown fine to medium sand, some fine to medium gravel, trace wood; moist, loose	NA	
	1.0					1.0 - 1.3' ASPHALT		
						1.3 - 2.0' FILL: Greyish brown fine sand, some fine to medium gravel; wet, very loose		
	2.0					2.0 - 2.3' FILL: Fine to medium gravel, some greyish brown silt		Sample collected 163-SB-080-0002 from 1.5 - 2.0' bgs @ 17:34; Petroleum odor
						2.3 - 3.0' FILL: Reddish silt, some clay		
	3.0					3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 6.8' SM: Dark grey silt, some fine sand (35%), fine to medium gravel; wet, very loose	NA	Sample collected 163-SB-080-0204 from 2.0 - 2.5' bgs @ 17:35 Sheen, petroleum odor Sample collected 163-SB-080-0406 from 5.0 - 5.5' bgs @ 17:40
	5.0							
	6.0							
	7.0					6.8 - 8.0' SP: Greyish brown fine to medium sand, lenses of silt and clay; wet, loose		Sample collected 163-SB-080-0608 from 7.5 - 8.0' bgs @ 17:42
	8.0	S-3	NA	4.0		8.0 - 12.0' SP: Greyish brown fine to medium sand, lenses of silt and clay, trace shells; wet, loose		Sample collected 163-SB-080-0810 from 8.5 - 9.0' bgs @ 17:45
	9.0							
	10.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-080
DATE BEGAN: 10/19/2011
DATE FINISHED: 10/19/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 20 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: George
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0							
	11.0							Sample collected 163-SB-080-1012 from 11.5 - 12.0' bgs @ 17:47
	12.0	S-4	NA	0.5		12.0 - 12.5' SP: Greyish brown fine to medium sand; wet, loose		
						12.5 - 16.0' No recovery		
	13.0							Sample collected 163-SB-080-1214 from 12.0 - 12.5' bgs @ 17:49; Petroleum odor
	14.0							
	15.0							
	16.0	S-5	NA	3.0		16.0 - 16.5' CL: Brown silty clay; wet, loose		Sample collected 163-SB-080-1618 from 16.0 - 16.5' bgs @ 18:01
	17.0					16.5 - 18.0' CL: Black clay; moist, stiff		
	18.0					18.0 - 19.0' PT: Brown clay, some brown peat (20%); moist, stiff		Sample collected 163-SB-080-1820 from 18.5 - 19.0' bgs @ 18:03
	19.0					19.0 - 20.0' No recovery; end of boring @ 20.0' bgs		
	20.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-081
DATE BEGAN: 11/20/2011
DATE FINISHED: 11/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 24 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.0' CONCRETE	NA	
	1.0					1.0 - 2.0' VOID		HOLD ALL SAMPLES
	2.0					2.0 - 3.0' CONCRETE		
	3.0					3.0 - 3.8' FILL: Greyish brown fine sand, some silt and fine to medium gravel		Collected 163-SB-081-0204 from 3.0 - 3.5' bgs @ 11:40
	4.0	S-2	NA	3.0		3.8 - 4.0' FILL: Reddish brown fine to medium sand, some silt and clay; wet, stiff	NA	
	5.0					4.0 - 6.8' FILL: Reddish brown fine to medium sand, lenses of silt and clay, trace fine gravel; wet, stiff		Collected 163-SB-081-0406 from 5.0 - 5.5' bgs @ 11:45
	6.0					6.8 - 7.0' FILL: Greyish brown fine sand, some silt, trace fine to medium gravel; wet, dense		
	7.0					7.0 - 8.0' No recovery		Collected 163-SB-081-0608 from 6.5 - 7.0' bgs @ 11:50
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Greyish brown fine to medium sand, lenses of silt and clay, trace shells; wet, dense	NA	Collected 163-SB-081-0810 from 8.5 - 9.0' bgs @ 11:55
	9.0							
	10.0							
	11.0							Collected 163-SB-081-1012 from 11.5 - 12.0' bgs @ 12:00
	12.0	S-4	NA	4.0		12.0 - 15.0' FILL: Greyish brown fine to coarse sand, trace nodules of silt; wet, loose; sheen	NA	
	13.0							

PREPARED BY: MD
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-081
DATE BEGAN: 11/20/2011
DATE FINISHED: 11/20/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 6610DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 24 ft bgs
GW DEPTH: 8 ft bgs
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0							Collected 163-SB-081-1214 from 13.0 - 13.5' bgs @ 12:05
	14.0							
	15.0					15.0 - 16.0' FILL: Reddish brown silt, some fine sand, trace nodules of clay; wet, stiff		Collected 163-SB-081-1416 from 15.5 - 16.0' bgs @ 12:15
	16.0	S-5	NA	4.0		16.0 - 19.9' FILL: Greyish brown fine to medium sand, some silt; wet, loose	NA	Collected 163-SB-081-1618 from 16.5 - 17.0' bgs @ 12:10
	17.0							
	18.0							
	19.0							Collected 163-SB-081-1820 from 19.0 - 19.5' bgs @ 12:20
						19.9 - 20.0' FILL: Reddish brown fine sand, some silt		
	20.0	S-6	NA	4.0		20.0 - 23.0' SP: Brown fine sand, some organic material; moist, loose	NA	Collected 163-SB-081-2022 from 20.5 - 21.0' bgs @ 12:25
	21.0							
	22.0							Collected 163-SB-081-2224 from 23.0 - 23.5' bgs @ 12:30
	23.0					23.0 - 23.5' SM: Brown fine sand, some silt and organic material, trace clay; moist, loose		
	24.0					23.5 - 24.0' PT: Peat, brown clay; moist, stiff; end of boring @ 24.0' bgs		

PREPARED BY: MD
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-082
DATE BEGAN: 10/24/2011
DATE FINISHED: 10/24/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: 6 ft bgs
DRILLER: John
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.75		0.0 - 3.8' FILL: (SP): Reddish orange fine to medium sand, some fine to medium gravel, trace silt; moist, dense	NA	
	1.0							
	2.0							
	3.0					3.8 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: (SP): Reddish orange fine to medium sand, some fine to medium gravel and silt; layer of loose gravel from 6.75' to 7.0' bgs; wet @ 6.0'	NA	
	5.0							
	6.0							
	7.0					8.0 - 8.5' SP: Reddish orange fine to medium sand, some fine to medium gravel and silt; wet		
	8.0	S-3	NA	2.5				
	9.0					8.5 - 10.5' SP: Greyish brown fine to medium sand, trace silt; wet, loose		
	10.0							
	11.0					10.5 - 12.0' No recovery		
	12.0	S-4	NA	3.0		12.0 - 15.0' SP: Greyish brown fine to medium sand, trace silt and shells; wet, loose		
	13.0							
	14.0							
	15.0					15.0 - 16.0' No recovery, end of boring @ 16.0' bgs		Sample collected 163-SB-082-1416 from 15.0 - 15.5' bgs @ 12:15
	16.0							
	17.0							
	18.0							
	19.0							
	20.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-083
DATE BEGAN: 10/24/2011
DATE FINISHED: 10/24/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: John
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' FILL: Dark grey fine sand, some silt and fine to medium gravel; moist, dense	NA	Sample collected 163-SB-083-0002 from 0.5 - 1.0' bgs @ 12:30
						0.5 - 1.5' FILL: Light brown silt, some fine to medium gravel; moist, dense		
	1.0					1.5 - 2.0' FILL: Dark grey fine sand, some silt; moist, dense; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-084

DATE BEGAN: 10/24/2011 | **DATE FINISHED:** 10/24/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Hand Drill

SAMPLING TOOL: 2-ft Macrocore | **COMPLETION DEPTH:** 9 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: John | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.0		0.0 - 0.2' TOPSOIL	NA	
						0.2 - 0.5' FILL: Marble		
	1.0					0.5 - 1.0' TOPSOIL: Dark brown fine to medium sand, some silt, organics; moist, loose		
						1.0 - 2.0' No recovery		
	2.0	S-2		2.0		2.0 - 4.0' FILL: Reddish brown fine to medium sand, lenses of silt and clay, trace organics; moist, loose		
	3.0							
	4.0	S-3	NA	1.5		4.0 - 4.5' No Recovery	NA	
						4.5 - 5.0' CL: Reddish brown clay, trace silt; wet, stiff		
	5.0					5.0 - 5.5' SP: Greyish brown fine to medium sand; wet, loose		
						5.5 - 6.0' CL: Reddish brown clay, trace silt; moist, stiff		
	6.0	S-4		2.0		6.0 - 7.5' SP: Greyish brown fine to medium sand; wet, loose		
	7.0							
						7.5 - 8.0' CL: Reddish brown clay, some silt; stiff, moist		
	8.0	S-5	NA	1.0		8.0 - 9.0' CL: Grey clay, some grey silt; wet, stiff; Refusal @ 9.0' bgs; end of boring @ 9.0' bgs		Sample collected 163-SB-084-0810 from 8.0 - 8.5' bgs @ 10:40
	9.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-085

DATE BEGAN: 10/24/2011 | **DATE FINISHED:** 10/24/2011 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Direct Push | **DRILL EQUIP:** Hand Drill

SAMPLING TOOL: 2-ft Macrocore | **COMPLETION DEPTH:** 10 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: John | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0		NA	NA		0.0 - 4.0' NA	NA	Void in ground from 0-4'
	1.0							
	2.0			NA				
	3.0							
	4.0					4.0 - 4.1' CONCRETE		
		S-1	NA	2.0		4.1 - 6.0' SP: Reddish brown fine to medium sand, lenses of greyish brown silt and clay; wet, loose	NA	
	5.0							
	6.0	S-2		2.0		6.0 - 8.0' SP: Greyish brown fine to medium sand, lenses of greyish brown silt and clay; wet, loose		
	7.0							
	8.0	S-3	NA	2.0		8.0 - 10.0' SP: Greyish brown fine to medium sand, lenses of greyish brown silt and clay, trace shells; wet, loose; end of boring @ 10.0' bgs		Sample collected 163-SB-085-0810 from 8.5 - 9.0' bgs @ 10:00
	9.0							
	10.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-086
DATE BEGAN: 10/24/2011
DATE FINISHED: 10/24/2011
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NA
DRILLER: John
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' CONCRETE: degraded concrete	NA	Sample collected 163-SB-086-0002 from 1.5 - 2.0' bgs @ 11:26
	1.0							
						1.5 - 2.0' FILL: Dark grey silt, some fine to medium gravel; concrete in tip; dry, loose; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: Route 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 163-SB-087
DATE BEGAN: 12/6/2011
DATE FINISHED: 12/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0		5 8	2.0		10.0 - 12.0' FILL: Brown fine to coarse sand, some silt, trace shells and lenses of reddish brown clayey silt; medium dense, wet	N/A	Location HSA-25 on sampling table. Augered to 10 ft bgs before sampling.
	11.0		11 13					
	12.0		3 5	1.5		12.0 - 13.5' FILL: Brown fine to medium sand, trace shells; medium dense, wet	N/A	
	13.0		6 8					Collected 163-SB-087-1314 from 13.0-13.5 ft bgs @ 9:25
						13.5 - 14.0' No recovery		
	14.0		2 3	2.0		14.0 - 15.5' FILL: Brown fine to medium sand, trace shells; medium dense, wet	N/A	
	15.0		4 3			15.5 - 15.8' CH: Very dark greyish brown (10YR 3/2) silty clay; medium stiff, plastic, wet		
	16.0		1 1	2.0		15.8 - 16.7' OH: Black (2.5Y 2.5/1) clayey silt, trace organic material; miedium stiff, plastic, wet	N/A	
	17.0		4 4			16.7 - 18.0' PT: Dark brown (10YR 3/3) peat; medium stiff, crumbly, moist; end of boring @ 18'		
	18.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 163-SB-088
DATE BEGAN: 12/6/2011
DATE FINISHED: 12/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 22 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0		2	2.0		12.0 - 17.0' FILL: Brown fine to medium sand, some lenses of clayey silt, trace shells; medium dense, loose from 16.0', wet	N/A	Location HSA-23 on sampling table. Augered to 12 ft bgs before sampling.
			2					
	13.0		3					
			6					
	14.0		6	2.0			N/A	
			10					
	15.0		10					
			10					Collected 163-SB-088-1516 from 15.5-16.0 ft bgs @ 11:30
	16.0		4	1.7			N/A	
			4					
	17.0		4			17.0 - 17.7' OH: Black/very dark grayish brown (2.5Y 2.5/1 to 3/2) clayey silt, trace organic material and fine sand; medium stiff, plastic, wet		
			3					
	18.0		3	1.8		17.7 - 18.0' No recovery	N/A	
			3			18.0 - 19.8' OH: Dark olive gray (5Y 3/2) silty clay, little organic material; medium stiff, plastic, wet		
	19.0		5					
			6			19.8 - 20.0' No recovery		
	20.0		1	2.0		20.0 - 21.5' OH: Dark olive gray (5Y 3/2) silty clay, little organic material; medium stiff, plastic, wet	N/A	
			2					
	21.0		3					
			5			21.5 - 22.0' SM: Very dark gray (5Y 3/1) fine sand, some silt; loose, wet; end of boring at 22'		
	22.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 163-SB-089
DATE BEGAN: 12/6/2011
DATE FINISHED: 12/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0		3	2.0		14.0 - 15.4' FILL: Brown fine to medium sand, some silt; loose, wet	N/A	Location HSA-22 on sampling table. Augered to 14 ft bgs before sampling.
			3					
	15.0		2					
			2			15.4 - 16.0' CH: Very dark grayish brown (10YR 3/2) silty clay, some pieces of fibrous organic material (appears disturbed), one 2" root fragment at 15.8'; medium stiff, plastic, wet		
	16.0		1	2.0		16.0 - 16.8' OH: Dark olive gray (5Y 3/2) silty clay, some organic material; soft, plastic, wet	N/A	
			1					
	17.0		1			16.8 - 18.0' PT: Dark brown (10YR 3/3) peat; soft, moist; end of boring at 18'		
			1					
	18.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Study Area - 6 South

LOCATION: Rt 440, Jersey City, NJ
PROJECT NO: 3480100022
BORING ID: 163-SB-090
DATE BEGAN: 12/6/2011
DATE FINISHED: 12/6/2011
INSPECTOR: J. Bacchus
DRILLING CO: B&B Drilling
DRILLING METHOD: Hollow-Stem Auger
DRILL EQUIP: Gus Pech BRAT-22R
SAMPLING TOOL: 3-in. diam., 2-ft split spoon
COMPLETION DEPTH: 18 ft bgs
GW DEPTH: Not measured
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0							
			4	2.0		14.0 - 17.1' FILL: Brown fine to medium sand, some nodules of clayey silt, trace shells; medium dense, wet	N/A	Location HSA-24 on sampling table. Augered to 14 ft bgs before sampling.
			7					
	15.0		6					
			4					Collected 163-SB-090-1516 from 15.5-16.0 ft bgs @ 15:15
	16.0		1	2.0			N/A	
			1					
	17.0		1			17.1 - 17.5' OH: Black (2.5Y 2.5/1) clayey silt, trace organic material; soft, plastic, wet		
			1			17.5 - 18.0' PT: Dark brown (10YR 3/3) peat; soft, moist; end of boring at 18'		
	18.0							

PREPARED BY: JB
CHECKED BY: KK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-091
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: Not encountered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.5' CONCRETE	NA	
						0.5 - 2.0' FILL: Dark grey silt, coal, ash, clinker (brown pumice-like material); moist, dense; end of boring at 2.0'bgs		Sample collected 163-SB-091-0002 from 1.0 - 1.5' bgs @12:10
	1.0							
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-092
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.2' FILL: Fine to medium gravel, brown silt, some fine sand; moist, dense	NA	
						0.2 - 0.4' FILL: Dark brown silt, fine to medium gravel; wet, dense		
						0.4 - 0.8' FILL: Brown silt, some fine sand, fine to medium gravel		
	1.0					0.8 - 1.5' FILL: Dark brown silt, some fine sand, fine to medium gravel, and coal; moist, dense		
						1.5 - 1.8' FILL: Red silt; dry, dense		
						1.8 - 2.0' FILL: Dark grey silt, ash, and coal; moist, dense		
	2.0					2.0 - 2.3' FILL: Red silt; dry, dense		
						2.3 - 3.0' FILL: Dark grey silt, ash and coal; moist, dense		
	3.0					3.0 - 4.0' FILL: Red silt,some clay, lenses of reddish brown fine to medium sand; moist, dense; end of boring at 4.0' bgs		Sample collected 163-SB-092-0204 from 3.0 - 3.5' bgs @ 11:47
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-093
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.4' CONCRETE	NA	
						0.4 - 0.6' FILL: Brown silt, some fine sand, fine to medium gravel; moist, dense		
						0.6 - 1.0' CONCRETE: fine to medium gravel		
	1.0					1.0 - 2.0' FILL: Red silt, wet, soft		Sample collected 163-SB-093-0002 from 1.5 - 2.0' bgs @ 11:08
	2.0					2.0 - 3.5' FILL: Dark grey silt, trace coal, fine to medium gravel, and grey fine sand; moist, dense		
	3.0							Sample collected 163-SB-093-0204 from 3.0 - 3.5' bgs @ 11:10; HOLD
						3.5 - 4.0' No recovery; end of boring at 4.0' bgs		
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-094
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.8' FILL: Fine to medium gravel, grey fine to medium sand; moist, loose	NA	
						0.8 - 1.3' CONCRETE: green staining		
	1.0							Sample collected 163-SB-094-0002 from 1.0 - 1.5' bgs @ 11:55
						1.3 - 2.8' FILL: Reddish brown silt; moist, dense		
	2.0							
						2.8 - 4.0' FILL: Dark grey silt, ash, coal, and clinker (brown pumice-like material); moist, very dense; end of boring at 4.0' bgs		
	3.0							Sample collected 163-SB-094-0204 from 3.0 - 3.5' bgs @ 11:57; HOLD
	4.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: **163-SB-095**
DATE BEGAN: 12/7/2011
DATE FINISHED: 12/7/2011
INSPECTOR: M. Daly
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NE
DRILLER: Ed Blewett
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.5' FILL: Brown fine to medium sand, some medium gravle; moist, loose	NA	Sample collected 163-SB-095-0002 from 1.5 - 2.0' bgs @ 10:48: HOLD
	1.0					1.5 - 2.0' FILL: Reddish orange fine to medium sand, some medium gravel; moist, loose; end of boring @ 2.0' bgs		
	2.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 163-SB-096
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 5.5 ft bgs
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' FILL: Gravel, fine to coarse	NA	
						0.5 - 2.0' FILL: Light gray fine to coarse sand, some fine gravel, few concrete, brick, and silt; loose, moist		
	1.0							
	2.0					2.0 - 2.5' FILL: Concrete		
						2.5 - 3.1' FILL: Reddish brown silt, some fine sand, little fine gravel; stiff, dry		
	3.0					3.1 - 3.5' FILL: Concrete, trace yellow discoloration from 3.1-3.2'		
						3.5 - 4.0' FILL: Very dark grayish brown fine to medium sand, some silt, little clinker, trace brick; medium dense, moist		
	4.0	S-2	NA	2.0		4.0 - 5.5' FILL: Very dark grayish brown fine to medium sand, some silt, little clinker, trace brick and shells; medium dense, moist	NA	
	5.0							Sample collected 163-SB-096-0406 from 5.0-5.5' bgs @ 9:15
						5.5 - 6.0' FILL: Shredded wood; wet; end of boring at 6.0'		
	6.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 163-SB-097
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.2' FILL: Light gray fine to coarse sand, trace fine gravel and shells; loose, wet 0.2 - 1.5' FILL: Concrete 1.5 - 3.5' FILL: Reddish brown silt, trace fine sand; stiff, dry 3.5 - 4.0' No recovery; end of boring at 4.0'	NA	Sample collected 163-SB-097-0002 from 1.5-2.0' bgs @ 10:20
	1.0							
	2.0							
	3.0							
	4.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 163-SB-098
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.5' CONCRETE	NA	
	1.0					1.5 - 2.0' FILL: Reddish brown fine to medium sand, some silt and some yellow granular COPR, little fine gravel; medium dense, moist		Sample collected 163-SB-098-0204 from 3.5-4.0' bgs @ 10:50
	2.0					2.0 - 3.4' FILL: Very dark grayish brown fine to coarse sand; few clinker, fine gravel, silt, trace brick and concrete; dense, moist		
	3.0					3.4 - 4.0' FILL: Grayish brown fine to medium sand, few lenses of brown silt; medium dense; end of boring at 4.0'		
	4.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 163-SB-099
DATE BEGAN: 1/13/12
DATE FINISHED: 1/13/12
INSPECTOR: J. Bacchus
DRILLING CO: TPI
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 5410
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: Not encountered
DRILLER: George Demetriou
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.2' CONCRETE	NA	
	1.0					1.2 - 2.0' FILL: Reddish brown fine to medium sand, some silt, trace fine gravel and brick; medium dense, dry		Sample collected 163-SB-099-0002 from 1.5-2.0' bgs @ 11:10
	2.0					2.0 - 3.3' FILL: Very dark grayish brown fine to coarse sand, little clinker and fine gravel, trace silt and brick; medium dense, moist		
	3.0					3.3 - 4.0' FILL: Grayish brown fine to medium sand, few lenses of brown silt; medium dense, moist; end of boring at 4.0'		Sample collected 163-SB-099-0204 from 3.5-4.0' bgs @ 11:15
	4.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027
BORING ID: 163-SB-100
DATE BEGAN: 1/16/2012
DATE FINISHED: 1/16/2012
INSPECTOR: M. Daly
DRILLING CO: TPI
DRILLING METHOD: Hand Sampling/drill
DRILL EQUIP: Hand Drill
SAMPLING TOOL: 2-ft Macrocore, 1 inch diameter
COMPLETION DEPTH: 6 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Jake/Brian
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.5		0.0 - 1.3' FILL: Dark grey fine sand, some silt, some fine gravel, trace ash, brown pumice like material (clinker); moist, loose	NA	Sample collected 163-SB-100-0002 from 0.5 - 1.0' bgs @ 8:38; DUP @ 8:49
	1.0					1.3 - 1.5' FILL: Dark grey fine sand, some silt, wood, ash, and clay; moist, dense		
						1.5 - 2.0' No recovery		
	2.0	S-2		2.0		2.0 - 4.0' FILL: Brown silt, some clay, brown fine sand, trace shells; moist, dense		Sample collected 163-SB-100-0204 from 2.5 - 3.0' bgs @ 8:40
	3.0							
▽	4.0	S-3		1.5		4.0 - 5.5' FILL: Brown silt, some clay, brown fine sand, trace shells; wet, dense		Sample collected 163-SB-100-0406 from 4.5 - 5.0' bgs @ 8:42; HOLD
	5.0							
						5.5 - 6.0' No recovery; end of boring @ 6.0' bgs		
	6.0							

PREPARED BY: MD
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163 | **PROJECT NO:** 3480100027 | **BORING ID:** 163-SB-101

DATE BEGAN: 1/16/2012 | **DATE FINISHED:** 1/16/2012 | **INSPECTOR:** M. Daly

DRILLING CO: TPI | **DRILLING METHOD:** Hand Sampling/drill | **DRILL EQUIP:** Hand Drill

SAMPLING TOOL: 2-ft Macrocore; 1 inch diameter | **COMPLETION DEPTH:** 6 ft bgs | **GW DEPTH:** 4 ft bgs

DRILLER: Jake/Brian | **NORTH:** | **EAST:**

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 1.3' FILL: Dark grey silt, some fine sand, trace ash coal; moist	NA	Sample collected 163-SB-101-0002 from 1.0 - 1.5' bgs @ 8:55
	1.0					1.3 - 2.0' FILL: Reddish brown silt, some fine sand, trace wood; moist		
	2.0	S-2		1.5		2.0 - 3.5' FILL: Reddish brown silt, some lenses of fine sand, trace fine gravel; moist, dense		
	3.0							
						3.5 - 4.0' No recovery		Sample collected 163-SB-101-0204 from 3.0 - 3.5' bgs @ 8:57
	4.0	S-3		2.0		4.0 - 5.5' FILL: Reddish brown silt, some lenses of fine sand, trace fine gravel and shells; wet, dense		Sample collected 163-SB-101-0406 from 4.0 - 4.5' bgs @ 9:00; HOLD
	5.0							
						5.5 - 6.0' FILL: Brown fine to medium sand; wet, loose; end of boring @ 6.0' bgs		
	6.0							

PREPARED BY: MD

CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 163-SB-102
DATE BEGAN: 1/19/12
DATE FINISHED: 1/19/12
INSPECTOR: J. Bacchus
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 1.6' FILL: Brown fine to coarse sand, some concrete and fine gravel; medium dense, dry	NA	
	1.0					1.6 - 2.1' FILL: Black fine to medium sand, some clinker, trace coal and silt; medium dense, dry		
	2.0					2.1 - 3.0' FILL: Reddish brown silt, some lenses of fine to medium sand, trace clay; stiff, dry		
	3.0					3.0 - 4.0' FILL: Brown fine to medium sand, trace silt; loose, moist		
	4.0	S-2	NA	4.0		4.0 - 8.0' FILL: Grayish brown fine to medium sand; trace fine gravel, silt and clay; medium dense, wet	NA	Sample collected 163-SB-102-0406 from 5.5-6.0' bgs @ 10:25
	5.0							
	6.0							
	7.0							
	8.0	S-3	NA	4.0		8.0 - 12.0' FILL: Grayish brown fine to coarse sand, trace lenses of clayey silt; medium dense, wet; end of boring at 12.0'	NA	
	9.0							
	10.0							Sample collected 163-SB-102-0810 from 9.5-10.0' bgs @ 10:35
	11.0							
	12.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163, Kellog St, Jersey City, NJ
PROJECT NO: 3480100027
BORING ID: 163-SB-103
DATE BEGAN: 1/19/12
DATE FINISHED: 1/19/12
INSPECTOR: J. Bacchus
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 12 ft bgs
GW DEPTH: 4 ft bgs
DRILLER: Doug Myerchin
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 0.6' CONCRETE	NA	
						0.6 - 0.9' FILL: Brown fine to medium sand, some silt; loose, dry		
	1.0					0.9 - 1.4' FILL: Black fine to medium sand, some clinker, trace coal; medium dense, dry		
	2.0					1.4 - 1.6' FILL: Reddish brown silt, trace fine sand and clay; stiff, dry		
	3.0					1.6 - 3.0' FILL: Brown fine to medium sand, trace silt; loose, moist from 2.5'		
						3.0 - 4.0' No recovery		
	4.0	S-2	NA	4.0		4.0 - 12.0' FILL: Brown/grayish brown fine to medium sand, few lenses of silty clay, trace fine gravel and shells; medium dense, wet; end of boring at 12.0'	NA	
	5.0							
	6.0							
	7.0							
	8.0	S-3	NA	4.0			NA	
	9.0							
	10.0							Sample collected 163-SB-103-0810 from 9.5-10.0' bgs @ 11:15
	11.0							
	12.0							

PREPARED BY: MS
CHECKED BY: JB

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027.4100.43002
BORING ID: 163-SB-104
DATE BEGAN: 2/2/12
DATE FINISHED: 2/2/12
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: NE
DRILLER: Doug
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 1.0' FILL: Crushed concrete	NA	
	1.0					1.0 - 1.5' FILL: Crushed red brick		
	2.0					1.5 - 2.5' FILL: Dark brown fine to coarse sand, fine gravel, glass, wood; loose, moist		
	3.0					2.5 - 4.0' : No recovery		
	4.0	S-2	NA	2.0		4.0 - 4.5' FILL: Dark brown fine to coarse sand, fine gravel, glass, wood; loose, moist	NA	
	5.0					4.5 - 4.8' FILL: Light brown clayey silt; firm, moist		
	6.0					4.8 - 5.5' FILL: Dark brown fine to coarse sand, fine to medium gravel; loose, moist		
	7.0					5.5 - 6.0' FILL: Reddish brown silty clay, some fine to medium sand; firm, moist		
	8.0	S-3	NA	3.5		6.0 - 8.0' No recovery	NA	
	9.0					8.0 - 11.5' FILL: Gray/reddish brown fine to coarse sand, trace silt, trace fine gravel; loose, wet		
	10.0							
	11.0							
	12.0	S-4	NA	4.0		11.5 - 12.0' No recovery	NA	
	13.0					12.0 - 14.0' FILL: Gray/reddish brown fine to coarse sand, trace silt, trace fine gravel; loose, wet		
	14.0					14.0 - 14.8' FILL: Dark gray silt; medium dense, moist		
	15.0					14.8 - 16.0' FILL: Reddish brown/light brown fine sand; medium dense, wet; End of boring at 16.0'		Sample collected 163-SB-104-1416 from 15.0 - 15.5' bgs @ 9:15
	16.0							

PREPARED BY: MS
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027.4100.43002
BORING ID: 163-SB-105
DATE BEGAN: 2/2/12
DATE FINISHED: 2/2/12
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH: NE
DRILLER: Doug
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' FILL: Light brown fine to coarse sand, fine to medium gravel; loose, moist	NA	
	1.0					0.5 - 2.0' FILL: Very dark brown fine to coarse, trace fine gravel; dense, moist		
	2.0					2.0 - 2.5' FILL: Very dark brown fine to coarse, trace fine gravel; dense, moist		
	3.0					2.5 - 3.5' FILL: Light brown fine to medium sand; loose, moist		
	4.0	S-2	NA	3.0		3.5 - 4.0' : No recovery	NA	
	5.0					4.0 - 6.0' FILL: Light brown fine to coarse sand; loose, moist		
	6.0					6.0 - 7.0' FILL: Dark brown fine to coarse sand; loose, moist		
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Gray/reddish brown fine to coarse sand, trace fine gravel; loose, wet; reddish brown silt from (9.5-10.0')	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	4.0		12.0 - 16.0' FILL: Dark gray fine to coarse sand; loose, wet; End of boring at 16.0'	NA	
	13.0							
	14.0							
	15.0							Sample collected 163-SB-105-1416 from 15.5 - 16.0' bgs @ 10:00
	16.0							

PREPARED BY: MS
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027.4100.43002
BORING ID: 163-SB-106
DATE BEGAN: 2/2/12
DATE FINISHED: 2/2/12
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 16 ft bgs
GW DEPTH:
DRILLER: Doug
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.5		0.0 - 0.5' FILL: Concrete slab	NA	
	1.0					0.5 - 1.5' FILL: Crushed concrete and gravel		
	2.0					1.5 - 2.5' FILL: Dark brown fine to coarse sand, fine to medium gravel; loose, dry		
	3.0					2.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.0		4.0 - 7.0' FILL: Brown/reddish brown fine to medium sand, trace silt; loose, moist	NA	
	5.0							
	6.0							
	7.0					7.0 - 8.0' No recovery		
	8.0	S-3	NA	3.0		8.0 - 11.0' FILL: Dark brown fine to coarse sand, trace reddish brown silt; loose, wet	NA	
	9.0							
	10.0							
	11.0					11.0 - 12.0' No recovery		
	12.0	S-4	NA	3.0		12.0 - 15.0' FILL: Dark brown fine to coarse sand, trace reddish brown silt; loose, wet	NA	
	13.0							
	14.0							
	15.0					15.0 - 16.0' No recovery; End of boring at 16.0'		Sample collected 163-SB-106-1416 from 14.5 - 15.0' bgs @ 11:25
	16.0							

PREPARED BY: MS
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027.4100.43002
BORING ID: 163-SB-107
DATE BEGAN: 2/2/12
DATE FINISHED: 2/2/12
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NE
DRILLER: Doug
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' FILL: Dark brown gravel; loose, dry	NA	
						0.5 - 3.3' FILL: Light brown fine to coarse sand, fine to medium gravel; dense, moist		
	1.0							
	2.0							
	3.0					3.3 - 3.5' FILL: Reddish brown silt; firm, moist		Sample collected 163-SB-107-0204 from 3.0 - 3.5' bgs @ 11:45
						3.5 - 4.0' : No recovery; End of boring at 4.0'		
	4.0							

PREPARED BY: MS
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027.4100.43002
BORING ID: 163-SB-108
DATE BEGAN: 2/2/12
DATE FINISHED: 2/2/12
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 66010DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: NE
DRILLER: Doug
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 0.5' FILL: Crushed concrete	NA	
						0.5 - 1.0' FILL: Dark brown fine to coarse sand; loose, dry		
	1.0					1.0 - 1.8' FILL: Orange/red silt with dark red and black staining; firm, moist		
	2.0					1.8 - 2.5' FILL: Black fine to coarse sand, fine gravel; dense, moist		
						2.5 - 3.5' FILL: Dark brown fine to medium sand; dense, moist		
	3.0							Sample collected 163-SB-108-0204 from 3.0 - 3.5' bgs @ 12:45
						3.5 - 4.0' : No recovery		
	4.0	S-2	NA	3.5		4.0 - 5.0' FILL: Dark brown fine to medium sand, trace orange red silt; dense, wet	NA	
	5.0					5.0 - 6.0' FILL: Reddish brown fine to coarse sand, silt; medium dense, wet		Sample collected 163-SB-108-0406 from 5.0 - 5.5' bgs @ 13:00 (HOLD)
	6.0					6.0 - 7.5' FILL: Dark brown fine to coarse sand, trace silt; medium dense, wet		
	7.0							
						7.5 - 8.0' No recovery; End of boring at 8.0'		
	8.0							

PREPARED BY: MS
CHECKED BY: NOK

Honeywell Site SA-6 South

LOCATION: Site 163
PROJECT NO: 3480100027.4100.43002
BORING ID: 163-SB-109
DATE BEGAN: 2/2/12
DATE FINISHED: 2/2/12
INSPECTOR: M. Senna
DRILLING CO: B&B
DRILLING METHOD:
DRILL EQUIP: Hand Auger
SAMPLING TOOL: Hand Auger
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NE
DRILLER: Doug
NORTH:
EAST:

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	1.0		0.0 - 0.5' FILL: Gravel	NA	Sample collected 163-SB-109-0002 from 0.5 - 1.0' bgs @ 12:10
						0.5 - 1.0' FILL: Dark brown/black fine to coarse sand, fine gravel; loose, moist		
	1.0					1.0 - 2.0' No recovery; End of boring at 2.0'		
	2.0							

PREPARED BY: MS
CHECKED BY: NOK

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 163
PROJECT NO: 3480130354
BORING ID: **163-SB-601**
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 4 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 685066.2085
EAST: 601664.0214

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	4.0		0.0 - 0.5' FILL: Grey coarse to fine SAND, medium to fine gravel; loose; moist		Sample 163-SB-601-S1 from 0.0-0.9 ft bgs @ 0955
						0.5 - 0.8' ASPHALT	0.1	
						0.8 - 1.0' FILL: Brown coarse to fine SAND, medium to fine gravel; loose; moist		
	1.0					1.0 - 1.3' ASPHALT	6.3	Sample 163-SB-601-S2 from 0.9-3.3 ft bgs @ 1000; EnCore taken from 163-SB-601-S2 @ 1000
						1.3 - 2.0' FILL: Brown coarse to fine SAND, medium to fine gravel; loose; moist, dry from 1.0-1.5 ft bgs	8.4	
	2.0					2.0 - 2.8' FILL: Reddish-brown SILT; medium dense; moist	13.7	
							4.4	
	3.0					2.8 - 3.5' FILL: White coarse to fine SAND, medium to fine gravel, possible COPR; loose; dry	2.1	
						3.5 - 4.0' FILL: Dark brown SILT, some fine sand, medium to fine gravel, coal; dense; moist		End of boring at 4 ft bgs
	4.0							

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 163
PROJECT NO: 3480130354
BORING ID: **163-SB-602**
DATE BEGAN: 07/24/2013
DATE FINISHED: 07/24/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 685143.8569
EAST: 601555.6529

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.5		0.0 - 1.5' FILL: Brown to gray coarse to fine SAND, medium to fine gravel; loose; moist	1.5	Sample 163-SB-602-ND1 from 0.0-2.0 ft bgs @ 1400
	1.0						1.4	
						1.5 - 2.5' FILL: Black coarse to fine SAND, medium to fine gravel, trace coal; loose; dry	30.3	
	2.0						259	
						2.5 - 3.5' FILL: Black coarse to fine SAND, fine gravel, coal, ash; loose; dry	65.8	Sample 163-SB-602-ND2 from 2.0-4.0 ft bgs @ 1405; EnCore taken from 163-SB-602-ND2 @ 1405
	3.0						28.7	
						3.5 - 4.0' FILL: Reddish-brown SILT; dense; moist		
	4.0	S-2	NA	3.5		4.0 - 4.8' FILL: Reddish-brown SILT, fine sand, trace fine gravel; loose; moist	107	
							284	
	5.0					4.8 - 5.5' FILL: Dark brown coarse to fine SAND; loose; moist	84.4	
						5.5 - 6.3' FILL: Reddish-brown clayey SILT; medium dense; moist	59.2	
	6.0						36	Sample 163-SB-602-NJ2 from 6.0-8.0 ft bgs @ 1410; EnCore taken from 163-SB-602-NJ2 @ 1410
						6.3 - 7.5' FILL: Dark brown coarse to fine SAND, trace silt; loose; moist	25	
	7.0						8.0	
						7.5 - 8.0' FILL: Dark brown coarse to fine SAND, silt, trace shells; loose; moist		End of boring at 8 ft bgs
	8.0							

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 163
PROJECT NO: 3480130354
BORING ID: 163-SB-603
DATE BEGAN: 07/24/2013
DATE FINISHED: 07/24/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 8 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 685179.0113
EAST: 601551.8883

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	3.0		0.0 - 1.0' CONCRETE	1.1	Sample 163-SB-603-NC1 from 0.0-2.0 ft bgs @ 1420
	1.0					1.0 - 1.8' FILL: Light brown coarse to fine SAND, medium to fine gravel; loose; moist	1.3	
							0.4	
	2.0					1.8 - 2.5' FILL: Black coarse to fine SAND, medium to fine gravel, coal; loose; moist	0.1	
						2.5 - 3.0' FILL: Reddish-brown clayey SILT; medium dense; moist	0.4	Sample 163-SB-603-NC2 from 2.5-4.5 ft bgs @ 1425; EnCore taken from 163-SB-603-NC2 @ 1425
	3.0					3.0 - 4.0' No Recovery	0.2	
	4.0	S-2	NA	4.0		4.0 - 4.3' FILL: Reddish-brown clayey SILT; medium dense; moist	0	
						4.3 - 5.0' FILL: Dark brown SAND, silt; loose; moist	0.2	
	5.0					5.0 - 8.0' FILL: Reddish-brown SILT, some coarse to fine sand; medium dense; wet	0.1	
							0	
	6.0						0	Sample 163-SB-603-NJ1 from 6.0-8.0 ft bgs @ 1430
							0	
	7.0						0	
							0	
	8.0							End of boring at 8 ft bgs

PREPARED BY: VMW
CHECKED BY: CMP

Honeywell Study Area - 6 South

LOCATION: SA-6S Site 163
PROJECT NO: 3480130354
BORING ID: **163-SB-604**
DATE BEGAN: 07/25/2013
DATE FINISHED: 07/25/2013
INSPECTOR: M. Senna
DRILLING CO: HRS Drilling
DRILLING METHOD: Direct Push
DRILL EQUIP: Geoprobe 7730DT
SAMPLING TOOL: 4-ft Macrocore
COMPLETION DEPTH: 2 ft bgs
GW DEPTH: NR
DRILLER: Justin
NORTH: 685238.6133
EAST: 601477.9898

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	0.0	S-1	NA	2.0		0.0 - 0.8' FILL: Brown coarse to fine SAND, medium to fine gravel; loose; moist	0.2	Sample 163-SB-604-NA1 from 0.0-1.0 ft bgs @ 1010 (2 jars)
	1.0					0.8 - 1.5' FILL: Dark grey SILT, some fine sand; medium dense; moist	1.6	
						1.5 - 2.0' FILL: Grey coarse to fine SAND, medium to fine gravel; loose; dry	0.4	
	2.0							

PREPARED BY: VMW
CHECKED BY: CP

Honeywell Jersey City

LOCATION: Site 163
PROJECT NO: 3480130377
BORING ID: B-1
DATE BEGAN: 12-11-15
DATE FINISHED: 12-11-15
INSPECTOR: M. Senna, A. Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 20'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685241.3
EAST: 601466.2

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	12	0		10.0 - 12.0' No recovery	NM	Augered to 10' bgs
			8					
	11.0		5					
			7					
	12.0	SS2	14	2.0		12.0 - 14.0' SW: Dark gray fine to coarse SAND; loose, wet		
			19					
	13.0		13					
			14					
	14.0	SS3	7	2.0		14.0 - 16.0' SM: Dark gray coarse SAND, trace reddish brown silt; loose, wet		
			9					
	15.0		12					
			12					
	16.0	SS4	29	2.0		16.0 - 18.0' SW: Dark gray fine to coarse SAND; medium dense, wet		
			25					
	17.0		32					
			30					
	18.0	SS5	3	2.0		18.0 - 18.5' SW: Gray fine to medium SAND		
			7			18.5 - 20.0' PT: PEAT, gray silt clay with organic fibers. End of boring at 20.0' bgs.		
	19.0		8					
			9					
	20.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: Site 163
PROJECT NO: 3480130377
BORING ID: B-2
DATE BEGAN: 12-11-15
DATE FINISHED: 12-11-15
INSPECTOR: A. Eslaminejad
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685218.5
EAST: 601498.2

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	16.0	SS1	1	2.0		16.0 - 16.5' ML: Gray SILT; soft, wet	NM	Augered to 16' bgs
			1			16.5 - 17.5' ML: Black SILT		
	17.0		1					
			2			17.5 - 18.0' PT: PEAT, gray silty clay with fibers. End of boring at 18.0' bgs.		
	18.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: Site 163
PROJECT NO: 3480130377
BORING ID: B-3
DATE BEGAN: 12-14-15
DATE FINISHED: 12-14-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 20'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685186.7
EAST: 601518.6

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	2	2.0		14.0 - 15.6' SW: Dark gray fine to coarse SAND; loose, wet	NM	Augered to 14' bgs
			2					
	15.0		5					
			4			15.6 - 16.3' ML: Reddish brown SILT; medium dense, wet		
	16.0	SS2	5	1.75		16.3 - 16.5' OL: Black SILT with organic fibers		
			3			16.5 - 17.8' OL: Dark gray SILT with organic fibers; medium dense, wet		
	17.0		4					
			3					
						17.8 - 18.0' No recovery.		
	18.0	SS3	4	2.0		18.0 - 20.0' OL: Dark gray SILT with organic fibers; medium dense, wet. End of boring at 20.0' bgs.		
			3					
	19.0		4					MS spoke with Ari E, said we could stop here; stratum D achieved
			5					
	20.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: Site 163
PROJECT NO: 3480130377
BORING ID: B-4
DATE BEGAN: 12-14-15
DATE FINISHED: 12-14-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685160.7
EAST: 601564

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	3	2.0		14.0 - 16.0' SM: Gray fine to coarse SAND and reddish brown SILT, trace shells; loose, wet	NM	Augered to 14' bgs
			8					
	15.0		9					
			13					
	16.0	SS2	10	2.0		16.0 - 17.2' SM: Gray fine to coarse SAND and reddish brown SILT, trace shells; loose, wet		
			14					
	17.0		13					
						17.2 - 17.4' ML: Black SILT		
			13			17.4 - 18.0' PT: Dark brown PEAT. End of boring at 18.0' bgs.		
	18.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: Site 163
PROJECT NO: 3480130377
BORING ID: B-5
DATE BEGAN: 12-14-15
DATE FINISHED: 12-14-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685118.2
EAST: 601587.2

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	1	2.0		14.0 - 15.3' ML: Reddish brown clayey SILT	NM	Augered to 14' bgs
			1					
	15.0		1					
						15.3 - 16.0' ML: Black SILT; medium dense, wet		
			2					
	16.0	SS2	2	2.0		16.0 - 16.1' ML: Black SILT		
						16.1 - 18.0' PT: Dark brown PEAT. End of boring at 18.0' bgs		
			2					
	17.0		3					
			5					
	18.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: Site 163
PROJECT NO: 3480130377
BORING ID: B-6
DATE BEGAN: 12-15-15
DATE FINISHED: 12-15-15
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: 685118.2
EAST: 601587.2

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	6	2.0		14.0 - 14.7' ML: Reddish brown SILT	NM	Augered to 14' bgs
			4					
						14.7 - 15.8' OL: Black SILT, organic fibers from 15.6-15.8		
	15.0		4					
			3					
						15.8 - 16.0' PT: Dark brown PEAT. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: CR
CHECKED BY: KK

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: DW-1
DATE BEGAN: 9-9-13
DATE FINISHED: 9-10-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	1	2.0		10.0 - 10.5' FILL: Dark brown fine to medium SAND	NM	Augered to 10' bgs
			1			10.5 - 12.0' OL: Black SILT with organics		
	11.0		2					
			2					
	12.0	SS2	3	2.0		12.0 - 15.5' PEAT: Dark brown PEAT		
			3					
	13.0		4					10 inch casing for well set at 13.0 ft bgs.
			5					
	14.0	SS3	3	2.0				
			3					
	15.0		2					
			5			15.5 - 16.0' ML: Dark brown SILT. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: DW-2
DATE BEGAN: 9-18-13
DATE FINISHED: 9-20-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	7	1.5		10.0 - 11.0' SW: Dark brown fine to medium SAND; loose, wet	NM	Augered to 10' bgs
			3					
	11.0		1			11.0 - 11.5' ML: Dark brown SILT; medium dense, moist		
			6			11.5 - 12.0' No recovery		
	12.0	SS2	1	2.0		12.0 - 12.3' ML: Dark brown SILT; medium dense, moist		
			1			12.3 - 12.6' OL: Black SILT/organics		
	13.0		2			12.6 - 17.0' PT: Dark brown PEAT		
			3					Stopped drilling for day until casing set
	14.0	SS3	1	2.0				9/20/13- Resumed drilling
			2					
	15.0		2					
			5					
	16.0	SS4	2	2.0				
			3					
	17.0		10			17.0 - 18.0' SW: Dark gray fine to medium SAND; medium dense, wet. End of boring at 18.0' bgs.		
			17					
	18.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-10B
DATE BEGAN: 8-9-13
DATE FINISHED: 8-9-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	2 1 7 11	2.0		8.0 - 10.0' FILL: Brown fine to medium SAND, trace silt	NM	Augered to 8' bgs.
	10.0	SS2	8 8 11 14	1.75		10.0 - 11.8' SW: Fine to medium SAND		
						11.8 - 12.0' No recovery		
	12.0	SS3		2.0		12.0 - 12.5' SW: Fine to medium SAND		
						12.5 - 12.8' OL: Organic SILT		
	13.0					12.8 - 14.0' PT: PEAT. End of boring at 14.0' bgs		
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-13B
DATE BEGAN: 8-9-13
DATE FINISHED: 8-9-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	2	2.0		8.0 - 11.5' SW: Brown fine to medium SAND	NM	Augered to 8' bgs.
			1					
	9.0		8					
			10					
	10.0	SS2	2	1.5				
			2					
	11.0		4					
			6			11.5 - 12.0' No recovery		
	12.0	SS3	2	2.0		12.0 - 12.2' SW: Brown fine to medium SAND		
						12.2 - 13.0' OL: Organic SILTY CLAY		
			3					
	13.0		5			13.0 - 14.0' PT: PEAT. End of boring at 14.0' bgs		
			8					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-16B
DATE BEGAN: 8-9-13
DATE FINISHED: 8-9-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	1	2.0		8.0 - 9.0' ML: Brown sandy SILT	NM	Augered to 8' bgs.
			1					
	9.0		2			9.0 - 11.8' SW: Brown fine to medium SAND		
			5					
	10.0	SS2	3	2.0				
			3					
	11.0		4					
			5			11.8 - 12.0' OL: Dark brown organic SILT, dry		
	12.0	SS3	2	1.0		12.0 - 12.2' OL: Dark organic SILT		
						12.2 - 14.0' PT: PEAT. End of boring at 14.0' bgs		
			2					
	13.0		2					
			3					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-19B
DATE BEGAN: 8-12-13
DATE FINISHED: 8-12-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	16	1.5		8.0 - 9.5' FILL: Dark brown SAND and SILT	NM	Augered to 8' bgs
			13					Slight sheen in spoon
	9.0		13					
			12			9.5 - 10.0' No recovery		
	10.0	SS2	27	0.5		10.0 - 10.5' FILL: Dark brown SAND and SILT		
			19			10.5 - 12.0' No recovery		
	11.0		20					
			12					
	12.0	SS3	13	0.5		12.0 - 12.5' FILL: Dark brown SAND and SILT		
			18			12.5 - 14.0' No recovery		
	13.0		16					
			16					
	14.0	SS4	7	2.0		14.0 - 16.0' PT: Dark brown PEAT. End of boring at 16.0' bgs.		
			3					
	15.0		6					
			8					Sheen on augers when pulled from ground
	16.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-23B
DATE BEGAN: 8-12-13
DATE FINISHED: 8-12-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	2.0		8.0 - 12.6' FILL: Dark brown SAND/SILT/GRAVEL	NM	Augered to 8' bgs.
			6					
	9.0		7					
			9					
	10.0	SS2	5	2.0				
			4					
	11.0		2					
			3					
	12.0	SS3	2	2.0				
			2					
	13.0		3			12.6 - 12.9' OL: Black SILT/CLAY, organics 12.9 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			5					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-26B
DATE BEGAN: 8-12-13
DATE FINISHED: 8-12-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	1 2	2.0		10.0 - 11.0' FILL: Brown SAND/SILT	NM	Augered to 10' bgs
	11.0		2			11.0 - 11.5' OL: Black SILT, organic		
			3			11.5 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

```
:Last Modified - 1/29/2016

SETUP:  -8      -14     0       0       0
<COL_WIDTH>             237     242     242     242     242     </COL_WIDTH>

GROUP:  E-TEXT

EDIT-TEXT:      SITE INFO.
SA-6 South

EDIT-TEXT:      DATE BEGAN
8-13-13

EDIT-TEXT:      DRILLING CO
B&B Drilling

EDIT-TEXT:      DRILLER
Ed Blewett

EDIT-TEXT:      PROJECT NO.
3480130377

EDIT-TEXT:      DATE FINISHED
8-13-13

EDIT-TEXT:      DRILLING METHOD
HSA 140 lbs/30 inches

EDIT-TEXT:      NORTH
Northing

EDIT-TEXT:      COMPLETION DEPTH
14'

EDIT-TEXT:      INSPECTOR
M. Senna

EDIT-TEXT:      DRILL EQUIP
Gus Pech

EDIT-TEXT:      EAST
Easting

EDIT-TEXT:      GW DEPTH
Not Recorded

EDIT-TEXT:      BORING NO.
EPS-30B

EDIT-TEXT:      SAMPLER
2ft Split Spoon

GROUP-END:
<COL_WIDTH>     160     1028    </COL_WIDTH>

TEXT-COLUMN:    RUN NO.
-8      SS1^
-10     SS2^
-12     SS3^
END-DATA:
<COL_WIDTH>     80      1125    </COL_WIDTH>

TEXT-COLUMN:    SPT BLOWS PER .5'
-8      10^
-8.5    12^
-9      9^
-9.5    7^
-10     8^
-10.5   6^
-11     7^
-11.5   10^
-12     5^
```

```
-12.5   2^
-13     4^
-13.5   6^
END-DATA:
<COL_WIDTH>     80      1125    </COL_WIDTH>

TEXT-COLUMN:    REC, FT
-8      0.0^
-10     1.0^
-12     2.0^
END-DATA:
<COL_WIDTH>     80      1125    </COL_WIDTH>

TEXT-COLUMN:    REMARKS
-8      Augered to 8' bgs^
END-DATA:
<COL_WIDTH>     80      1125    </COL_WIDTH>

SYMBOL-COLUMN:  WATER
END-DATA:
<COL_WIDTH>     104     104     104     104     </COL_WIDTH>

GROUP:  Site Name

EDIT-TEXT:      Site Name
Honeywell Jersey City

GROUP-END:
<COL_WIDTH>     160     1028    </COL_WIDTH>

GROUP:  QA/QC Initials

EDIT-TEXT:      Preparer
CR

EDIT-TEXT:      QA/QC
KK/SH

GROUP-END:
<COL_WIDTH>     160     1028    </COL_WIDTH>

TEXT-COLUMN:    vol-org-pid
-8      NM^
END-DATA:
<COL_WIDTH>     80      1125    </COL_WIDTH>

LITH:   LITHOLOGY
-8      -10
No recovery^1/1/0
-10     -11     FILL
Brown SAND/SILT^1/1/0
-11     -12
No recovery^4/1/0
-12     -12.6   FILL
Brown SAND/SILT^1/1/0
-12.6   -14     PT
Dark brown PEAT. End of boring at 14.0' bgs.^0/1/0
END-DATA:
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END-LOG:
```

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-33B
DATE BEGAN: 8-13-13
DATE FINISHED: 8-13-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	3	2.0		10.0 - 12.6' FILL: Brown SAND/SILT	NM	Augered to 10' bgs
			5					
	11.0		5					
			3					
	12.0	SS2	2	2.0				
			5			12.6 - 12.8' OL: Black SILT, organics		
	13.0		5			12.8 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			4					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-36B
DATE BEGAN: 8-12-13
DATE FINISHED: 8-12-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	2.0		8.0 - 11.5' FILL: Brown SAND and SILT	NM	Refusal at 3.0'- moved 3' east Refusal at 3.5'- moved 3' north Augered to 8' bgs
			5					
	9.0		6					
			9					
	10.0	SS2	4	1.5				
			5					
	11.0		2					
			4			11.5 - 12.0' No recovery		
	12.0	SS3	2	2.0		12.0 - 12.8' FILL: Brown SAND and SILT		
			4					
						12.8 - 12.9' OL: Black SILT, organics		
	13.0		4			12.9 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			5					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-43B
DATE BEGAN: 9-25-13
DATE FINISHED: 9-25-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 15.5'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
		SS1	3	1.0		9.5 - 10.5' SW: Dark brown fine to medium SAND; loose, wet	0.0	Augered to 9.5' bgs
	10.0		3					
			12			10.5 - 11.5' No recovery		
	11.0		16					
		SS2	12	1.5		11.5 - 13.0' SW: Dark brown fine to medium SAND; loose, wet		
	12.0		12					
			10					
	13.0		10			13.0 - 13.5' No recovery		
		SS3	2	2.0		13.5 - 15.5' PEAT: Dark brown PEAT. End of boring at 15.5' bgs.		
	14.0		3					
			6					
	15.0		10					

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-47B
DATE BEGAN: 9-25-13
DATE FINISHED: 9-25-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	3	1.0		10.0 - 11.0' SW: Dark brown fine to medium SAND, loose, wet	NM	Augered to 10' bgs
			3					
	11.0		2			11.0 - 12.0' No recovery		
			3					
	12.0	SS2	3	2.0		12.0 - 12.7' SW: Dark brown fine to medium SAND, loose, wet		
			2					
						12.7 - 12.9' OL: Black SILT with organics		
	13.0		3			12.9 - 14.0' PEAT: Dark brown PEAT. End of boring at 14.0' bgs.		
			5					
	14.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-49B
DATE BEGAN: 9-25-13
DATE FINISHED: 9-25-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	5	2.0		10.0 - 12.0' SW: Dark brown/gray fine to coarse SAND; loose, wet	NM	Augered to 10' bgs
			7					
	11.0		6					
			7					
	12.0	SS2	6	2.0		12.0 - 13.5' SW: Dark brown/gray fine to coarse SAND; loose, wet		
			4					
	13.0		4					
			6			13.5 - 14.0' PEAT: Dark brown PEAT. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-4B
DATE BEGAN: 8-9-13
DATE FINISHED: 8-9-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	4	2.0		8.0 - 10.0' FILL: Brown fine SAND, trace silt	NM	Odors at 1-3' Rubber debris at 2-4' Augered to 8' bgs.
			2					
	9.0		2					
			3					
	10.0	SS2	1	2.0		10.0 - 11.8' CL: Dark brown silty CLAY		
			1					
	11.0		2					
			3					
	12.0	SS3	1	2.0		11.8 - 12.3' OL: Organic SILT		
			2			12.3 - 14.0' PT: PEAT. End of boring at 14.0' bgs.		
	13.0		3					
			5					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-53B
DATE BEGAN: 9-26-13
DATE FINISHED: 9-26-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	3	1.5		10.0 - 11.5' FILL: Brown/gray fine to coarse SAND, loose, wet	NM	Augered to 10' bgs
			2					
	11.0		1					
			5			11.5 - 12.0' No recovery		
	12.0	SS2	2	2.0		12.0 - 12.1' OL: Black SILT with organics		
			1			12.1 - 14.0' PEAT: Dark brown PEAT. End of boring at 14.0' bgs.		
	13.0		3					
			3					
	14.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: EPS-7B
DATE BEGAN: 8-9-13
DATE FINISHED: 8-9-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	7 5	2.0		8.0 - 9.0' SW: Brown fine to medium SAND	NM	Augered to 8' bgs.
	9.0		2 9			9.0 - 10.0' ML: Brown SILT with some clay		
	10.0	SS2	13 16	0.0		10.0 - 12.0' No Recovery		
	11.0		12					
	12.0	SS3	16 2	2.0		12.0 - 12.5' OL: Organic SILT		
	13.0		2 4			12.5 - 14.0' PT: PEAT. End of boring at 14.0' bgs.		
	14.0		5					

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H1-1B
DATE BEGAN: 8-5-13
DATE FINISHED: 8-5-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	6.0	SS1	12	2.0		6.0 - 8.0' FILL: Greenish gray chromium FILL, COPR	NM	Augered to 6' bgs
			24					
	7.0		40					
			82					
	8.0	SS2	10	2.0		8.0 - 10.8' FILL: Greenish gray FILL material, COPR		
			8					
	9.0		5					
			3					
	10.0	SS3	1	2.0				
			1					
	11.0		2			10.8 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
			3					
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H12-16B
DATE BEGAN: 9-27-13
DATE FINISHED: 9-27-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA -140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 15.0 ft bgs
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	SS1	1	2.0		13.0 - 14.2' ML: Dark gray SILT; medium dense, wet	NM	Augered to 13' bgs
			1					
	14.0		1			14.2 - 14.5' ML: Black SILT; dense, wet		
			4			14.5 - 15.0' PT: Dark brown PEAT. End of boring at 15.0' bgs.		
	15.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H12-21B
DATE BEGAN: 9-26-13
DATE FINISHED: 9-26-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	4 6	1.0		10.0 - 11.0' SW: Gray/black fine to medium SAND; loose, wet	NM	Augered to 10' bgs
	11.0		6 6			11.0 - 12.0' No recovery		
	12.0	SS2	1 1	2.0		12.0 - 14.0' ML: Light brown SILT; medium dense, wet		
	13.0		1 1					Lens of black from 13.0-13.25' bgs
	14.0	SS3	WOR WOR	2.0		14.0 - 15.0' ML: Light brown SILT; medium dense, wet		
	15.0		WOH 2			15.0 - 17.0' ML: Black SILT; dense, wet		
	16.0	SS4	1 3	2.0				
	17.0		4 8			17.0 - 18.0' PT: Dark brown PEAT. End of boring at 18.0' bgs.		
	18.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H12-3B
DATE BEGAN: 9-30-13
DATE FINISHED: 9-30-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	SS1	WOH	2.0		12.0 - 13.0' ML: Light brown SILT; medium dense, moist	NM	Augered to 12' bgs
			1					
	13.0		1			13.0 - 14.5' ML: Dark brown SILT; medium dense, moist		
			1					
	14.0		1	2.0				
			1			14.5 - 15.5' OL: Dark gray SILT with organics; medium dense, moist		
	15.0		1					
			3			15.5 - 16.0' PEAT: Dark brown PEAT. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H12-8B
DATE BEGAN: 9-27-13
DATE FINISHED: 9-27-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	SS1		2.0		13.0 - 14.0' ML: Dark gray SILT; medium dense, wet	NM	Augered to 13' bgs
	14.0					14.0 - 14.5' ML: Black SILT; medium dense, wet		
						14.5 - 15.0' PEAT: Dark brown PEAT. End of boring at 15.0' bgs.		
	15.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H13-20B
DATE BEGAN: 9-26-13
DATE FINISHED: 9-26-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	SS1	WOR	2.0		12.0 - 13.0' ML: Light brown SILT; medium dense, wet	NM	Augered to 12' bgs
			1					
	13.0		2			13.0 - 14.5' ML: Gray SILT; medium dense, wet		
			1					
	14.0	SS2	1	2.0				
			1			14.5 - 15.0' ML: Dark gray SILT; medium dense, wet		
	15.0		2			15.0 - 15.5' ML: Black SILT; medium dense, wet		
			2			15.5 - 16.0' PT: Dark brown PEAT. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H13-3B
DATE BEGAN: 9-27-13
DATE FINISHED: 9-27-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	SS1	2	2.0		13.0 - 14.0' ML: Light brown SILT; medium dense, wet	NM	Augered to 13' bgs
			2					
	14.0		2			14.0 - 16.0' ML: Black SILT; medium dense, wet		
			3					
	15.0	SS2	1	2.0				
			1					
	16.0		6			16.0 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
			6					
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H13-5B
DATE BEGAN: 9-30-13
DATE FINISHED: 9-30-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1		2.0		14.0 - 14.5' ML: Black SILT	NM	Augered to 14' bgs
						14.5 - 15.5' OL: Dark gray SILT with organics		
	15.0							
						15.5 - 16.0' PEAT: Dark brown PEAT. End of boring at 16.0' bgs.		
	16.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H13-8B
DATE BEGAN: 9-30-13
DATE FINISHED: 9-30-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	2	2.0		14.0 - 14.5' ML: Gray SILT; medium dense, wet	NM	Augered to 14' bgs
			1			14.5 - 17.5' OL: Dark gray SILT with organics; medium dense, moist		
	15.0		1					
			2					
	16.0	SS2	2	2.0				
			2					
	17.0		4					
			5			17.5 - 17.7' PEAT: Dark brown PEAT		
	18.0					17.7 - 18.0' SW: Dark gray fine to medium SAND, medium dense, moist. End of boring 18.0' bgs.		

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H14-21B
DATE BEGAN: 10-1-13
DATE FINISHED: 10-1-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	SS1	1	2.0		13.0 - 14.0' SM: Dark brown fine SAND, some silt	NM	Augered to 13' bgs
			3					
	14.0		8			14.0 - 14.3' ML: Light brown SILT		
						14.3 - 14.5' COPR		COPR
			6			14.5 - 15.5' ML: Black SILT		
	15.0	SS2	2	2.0				
			2			15.5 - 16.5' OL: Dark gray SILT with organics		
	16.0		3					
			4			16.5 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H1-4B
DATE BEGAN: 8-5-13
DATE FINISHED: 8-5-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	8	2.0		8.0 - 10.2' FILL: Greenish gray FILL, COPR	NM	Augered to 8' bgs
			12					
	9.0		8					
			8					
	10.0	SS2	1	2.0				
						10.2 - 10.4' OL: Black, organic CLAY/SILT		
			1			10.4 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	11.0		1					
			2					
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H1-9B
DATE BEGAN: 8-5-13
DATE FINISHED: 8-5-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	7	2.0		8.0 - 10.5' FILL: Greenish gray FILL, COPR	NM	Augered to 8' bgs
			6					
	9.0		7					
			6					
	10.0	SS2	1	2.0				
			1			10.5 - 10.7' ML: Black SILT/CLAY		
						10.7 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	11.0		2					
			3					
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H2-11B
DATE BEGAN: 8-6-13
DATE FINISHED: 8-6-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	19	2.0		8.0 - 11.0' FILL: FILL, COPR	NM	Augered to 8' bgs
			28					
	9.0		24					
			21					
	10.0	SS2	10	2.0				
			4					
	11.0		5			11.0 - 11.5' OL: Black SILT/CLAY, organics		
			6			11.5 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H2-3B
DATE BEGAN: 8-5-13
DATE FINISHED: 8-5-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	16	2.0		8.0 - 10.8' FILL: FILL, COPR	NM	Augered to 8' bgs
			11					
	9.0		9					
			9					
	10.0	SS2	1	2.0				
			2					
	11.0		2			10.8 - 11.5' OL: Black organic SILT/CLAY		
			3			11.5 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H2-6B
DATE BEGAN: 8-6-13
DATE FINISHED: 8-6-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	6	1.5		8.0 - 9.5' FILL: FILL, COPR	NM	Augered to 8' bgs
			19					
	9.0		20					
			9			9.5 - 10.0' No recovery		
	10.0	SS2	1	1.7		10.0 - 10.5' FILL: FILL, COPR		
			2			10.5 - 10.8' OL: Black SILT, organic		
	11.0		2			10.8 - 11.7' PT: Dark brown PEAT		
			3					
	12.0					11.7 - 12.0' No recovery. End of boring at 12.0' bgs.		

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H3-12B
DATE BEGAN: 8-6-13
DATE FINISHED: 8-6-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	6	2.0		8.0 - 11.0' FILL: FILL, COPR	NM	Augered to 8' bgs
			13					
	9.0		11					
			9					
	10.0	SS2	1	2.0				
			2					
	11.0		1			11.0 - 11.6' OL: Black SILT/CLAY, organics		
			2			11.6 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H3-3B
DATE BEGAN: 8-6-13
DATE FINISHED: 8-6-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	2.0		8.0 - 11.2' FILL: FILL, COPR	NM	Augered to 8' bgs
			4					
	9.0		4					
			2					
	10.0	SS2	1	2.0				
			1					
	11.0		1					
			3			11.2 - 12.0' OL: Black SILT/CLAY, organics		
	12.0	SS3	2	2.0		12.0 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			2					
	13.0		4					
			4					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H3-7B
DATE BEGAN: 8-6-13
DATE FINISHED: 8-6-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	21	0.0		8.0 - 10.0' No recovery	NM	Petroleum odor while augering from 0-3'. Sample collected at 9:30.
			7					Augered to 8' bgs.
	9.0		2					
			3					
	10.0	SS2	10	1.5		10.0 - 11.3' SW: Reddish brown fine SAND		
			6					
	11.0		2					
						11.3 - 11.5' SM: Dark brown SILT/SAND		
			2			11.5 - 12.0' No recovery		
	12.0	SS3	2	2.0		12.0 - 12.5' SM: Dark brown SILT/SAND		
			2			12.5 - 12.8' OL: Black SILT, organic		
	13.0		4			12.8 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			5					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H4-10B
DATE BEGAN: 8-7-13
DATE FINISHED: 8-7-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	2.0		8.0 - 12.5' FILL: FILL, COPR	NM	Augered to 8' bgs.
			3					
	9.0		3					
			8					
	10.0	SS2	1	2.0				
			2					
	11.0		3					
			3					
	12.0	SS3	1	2.0				
			2			12.5 - 12.7' OL: Black SILT/CLAY, organics		
	13.0		4			12.7 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			5					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H4-3B
DATE BEGAN: 8-7-13
DATE FINISHED: 8-7-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	6	1.0		8.0 - 9.0' FILL	NM	Augered to 8' bgs. Sheen in auger spoils
			3					
	9.0		13			9.0 - 10.0' No recovery		
			8					
	10.0	SS2	3	2.0		10.0 - 11.5' FILL		
			3					
	11.0		2					
			3			11.5 - 12.0' OL: Black SILT/CLAY, organics		
	12.0	SS3	5	2.0		12.0 - 13.0' FILL: Fine to coarse SAND		
			5					
	13.0		5			13.0 - 13.2' OL: Black SILT/CLAY, organics		
			5			13.2 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H5-2B
DATE BEGAN: 8-8-13
DATE FINISHED: 8-8-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	2	1.0		8.0 - 9.0' FILL: Light brown fine to medium SAND	NM	Augered to 8' bgs.
			4					
	9.0		3			9.0 - 10.0' No recovery		
			4					
	10.0	SS2	1	2.0		10.0 - 10.5' SW: SAND/SILT/CLAY		
			1			10.5 - 11.4' OL: Organic SILT		
	11.0		2					
			2			11.4 - 12.0' PT: PEAT. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H5-5B
DATE BEGAN: 8-8-13
DATE FINISHED: 8-8-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	5	2.0		8.0 - 10.0' FILL: Brown fine to medium SAND	NM	Augered to 8' bgs.
			4					
	9.0		4					
			4					
	10.0	SS2	1	2.0		10.0 - 10.5' OL: Black organic SILT		
			1			10.5 - 12.0' PT: PEAT. End of boring at 12.0' bgs.		
	11.0		2					
			3					
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H6-10B
DATE BEGAN: 8-7-13
DATE FINISHED: 8-7-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	3	1.5		8.0 - 9.5' FILL	NM	Augered to 8' bgs
			7					
	9.0		4					
			2			9.5 - 10.0' No recovery		
	10.0	SS2	WR	0.5		10.0 - 10.5' FILL: FILL, COPR		
			1			10.5 - 12.0' No recovery		
	11.0		8					
			3					
	12.0	SS3	1	2.0		12.0 - 12.8' FILL: FILL, COPR		
			2					
	13.0		3			12.8 - 13.0' OL: Black SILT/CLAY, organics		
						13.0 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			3					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H6-3B
DATE BEGAN: 8-7-13
DATE FINISHED: 8-7-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	2	2.0		8.0 - 11.8' FILL: Brown SAND and SILT	NM	Augered to 8' bgs.
			1					
	9.0		5					
			5					
	10.0	SS2	2	2.0				
			7					
	11.0		2					
			3					
	12.0	SS3	2	2.0		11.8 - 13.0' OL: Black SILT/CLAY, organics		
			3					
	13.0		7			13.0 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			6					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H6-5B
DATE BEGAN: 8-8-13
DATE FINISHED: 8-8-13
INSPECTOR: K. Kacperowski
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	1 3	2.0		8.0 - 10.0' FILL: Brown SILTY CLAY, some sand	NM	Augered to 8' bgs.
	9.0		1 6					
	10.0	SS2	3 3	2.0		10.0 - 11.5' SW: Brown fine to medium SAND		
	11.0		3 5			11.5 - 12.0' OL: SANDY SILT (organic silt in tip)		
	12.0	SS3	1 1	1.0		12.0 - 12.3' OL: Black organic SILT 12.3 - 13.0' PT: PEAT		
	13.0		3 4			13.0 - 14.0' No recovery. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H7-11B
DATE BEGAN: 9-24-13
DATE FINISHED: 9-24-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	4	2.0		10.0 - 13.5' SW: Black/gray fine to medium SAND	NM	Augered to 10' bgs
			4					
	11.0		3					
			2					
	12.0	SS2	5	2.0				
			3					
	13.0		3					
			2			13.5 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H7-3B
DATE BEGAN: 9-24-13
DATE FINISHED: 9-24-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	3	1.5		10.0 - 11.5' SM: Dark brown fine to medium SAND, trace silt; loose, wet	NM	Augered to 10' bgs
			5					
	11.0		7					
			9			11.5 - 12.0' No recovery		
	12.0	SS2	2	2.0		12.0 - 13.5' SM: Dark brown fine to medium SAND, trace silt; loose, wet		
			2					
	13.0		2					
			3			13.5 - 14.5' OL: Black SILT with organics present; medium dense, moist		
	14.0	SS3	5	2.0				
			4			14.5 - 16.0' PEAT: Dark brown PEAT. End of boring at 16.0' bgs.		
	15.0		6					
			8					
	16.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H7-6B
DATE BEGAN: 9-24-13
DATE FINISHED: 9-24-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	2	1.0		10.0 - 11.0' SW: Brown fine to coarse SAND, some fine gravel; loose, wet	NM	Augered to 10' bgs
			4					
	11.0		6			11.0 - 12.0' No recovery		
			4					
	12.0	SS2	1	2.0		12.0 - 13.3' SW: Brown fine to coarse SAND, some fine gravel; loose, wet		
			1					
	13.0		2					
			2			13.3 - 13.6' OL: Black Silt with organics		
	14.0					13.6 - 14.0' PEAT: Dark brown PEAT. End of boring at 14.0' bgs.		

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H8-11B
DATE BEGAN: 8-29-13
DATE FINISHED: 8-29-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	1 2	2.0		10.0 - 11.2' SW: Grayish brown fine to medium SAND	NM	Augered to 10' bgs
	11.0		2			11.2 - 11.4' OL: Black organic SILT		
			3			11.4 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		
	12.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H8-3B
DATE BEGAN: 8-29-13
DATE FINISHED: 8-29-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 12'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	6	2.0		8.0 - 11.7' SW: Grayish brown fine to medium SAND; wet	NM	Augered to 8' bgs
			2					
	9.0		3					
			4					
	10.0	SS2	1	2.0				
			1					
	11.0		2					
			3			11.7 - 11.8' OL: Black SILT, organics		
	12.0					11.8 - 12.0' PT: Dark brown PEAT. End of boring at 12.0' bgs.		

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H8-6B
DATE BEGAN: 8-28-13
DATE FINISHED: 8-28-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	7	2.0		8.0 - 11.0' FILL: Grayish/brown fine to coarse SAND; loose, wet	NM	Augered to 8' bgs
			7					
	9.0		7					
			8					
	10.0	SS2	9	1.0				
			8					
	11.0		5			11.0 - 12.0' No recovery		
			3					
	12.0	SS3	2	2.0		12.0 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			1					
	13.0		3					
			2					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H9-3B
DATE BEGAN: 8-29-13
DATE FINISHED: 8-29-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	12	1.0		10.0 - 11.0' SW: Grayish brown fine to medium SAND	NM	Augered to 10' bgs
			11					
	11.0		8			11.0 - 12.0' No recovery		
			10					
	12.0	SS2	2	2.0		12.0 - 12.5' SW: Grayish brown fine to medium SAND		
			2			12.5 - 12.8' OL: Black SILT/organics		
	13.0		7			12.8 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
			8					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: H9-7B
DATE BEGAN: 8-29-13
DATE FINISHED: 8-29-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Gus Pech
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	8.0	SS1	4	1.5		8.0 - 9.5' SW: Grayish brown fine to medium SAND; wet	NM	Augered to 8' bgs
			9					
	9.0		9					
			17			9.5 - 10.0' No recovery		
	10.0	SS2	5	1.0		10.0 - 11.0' SW: Grayish brown fine to medium SAND; wet		
			6					
	11.0		4			11.0 - 12.0' No recovery		
			3					
	12.0	SS3	2	2.0		12.0 - 12.1' SW: Grayish brown fine to medium SAND; wet		
						12.1 - 12.4' OL: Black organic SILT		
			3			12.4 - 14.0' PT: Dark brown PEAT. End of boring at 14.0' bgs.		
	13.0		3					
			5					
	14.0							

PREPARED BY: CR
CHECKED BY: KK/SH

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-12B
DATE BEGAN: 10-1-13
DATE FINISHED: 10-1-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	SS1	2	2.0		13.0 - 14.0' SW: Dark brown fine SAND; loose, wet	NM	Augered to 13' bgs
			1					
	14.0		1			14.0 - 15.0' ML: Black SILT; medium dense, moist		
			2					
	15.0	SS2	3	2.0		15.0 - 16.0' SW: Dark brown fine to medium SAND; loose, wet		
			2					
	16.0		3			16.0 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
			4					
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-15B
DATE BEGAN: 10-1-13
DATE FINISHED: 10-1-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 18'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	2	2.0		14.0 - 14.5' SW: Dark gray fine to medium SAND; loose, wet	NM	Augered to 14' bgs
			2			14.5 - 16.5' OL: Gray SILT with organics; medium dense, moist		
	15.0		3					
			5					
	16.0	SS2	3	2.0				
			3			16.5 - 17.2' PEAT: Dark brown PEAT		
	17.0		5					
			5			17.2 - 18.0' SM: Dark gray fine to medium SAND, some silt; loose, wet. End of boring at 18.0' bgs.		
	18.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-19B
DATE BEGAN: 10-3-13
DATE FINISHED: 10-3-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1	1	2.0		15.0 - 16.7' OL: Gray SILT with organics	NM	Augered to 15' bgs
			2					
	16.0		4					
			3					
						16.7 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-22B
DATE BEGAN: 10-3-13
DATE FINISHED: 10-3-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1	1	2.0		15.0 - 15.7' ML: Black SILT	NM	Augered to 15' bgs
			2			15.7 - 16.2' OL: Gray SILT with organics		
	16.0		3			16.2 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
			6					
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-25B
DATE BEGAN: 10-3-13
DATE FINISHED: 10-3-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1		2.0		15.0 - 15.6' ML: Black SILT	NM	Augered to 15' bgs
						15.6 - 15.9' OL: Gray SILT with organics		
	16.0					15.9 - 17.0' PT: Dark brown PEAT. End of boring at 17.0' bgs.		
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-29B
DATE BEGAN: 10-4-13
DATE FINISHED: 10-4-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1	6	2.0		15.0 - 15.5' ML: Brown and gray SILT	NM	Augered to 15' bgs
			6			15.5 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
	16.0		8					
			10					
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-32B
DATE BEGAN: 10-4-13
DATE FINISHED: 10-4-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1	1	2.0		15.0 - 15.2' ML: Dark gray SILT	NM	Augered to 15' bgs
			2			15.2 - 16.2' PEAT: Dark brown PEAT		
	16.0		3					
			5			16.2 - 17.0' SW: Dark brown fine SAND with organics. End of boring at 17.0' bgs.		
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-35B
DATE BEGAN: 10-4-13
DATE FINISHED: 10-4-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 16'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	14.0	SS1	6	2.0		14.0 - 14.5' ML: Dark brown SILT	NM	Augered to 14' bgs
			5			14.5 - 15.8' ML: Black SILT		
	15.0		4					
			3					
	16.0					15.8 - 16.0' PEAT: Dark brown PEAT. End of boring at 16.0' bgs.		

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: SA-6 South
PROJECT NO: 3480130377
BORING ID: WPS-39B
DATE BEGAN: 10-4-13
DATE FINISHED: 10-4-13
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: B-61
SAMPLING TOOL: 2ft Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	15.0	SS1	1	2.0		15.0 - 15.5' ML: Gray SILT	NM	Augered to 15' bgs
			1			15.5 - 16.3' ML: Black SILT		
	16.0		2					
			3			16.3 - 17.0' PEAT: Dark brown PEAT. End of boring at 17.0' bgs.		
	17.0							

PREPARED BY: JA
CHECKED BY: NW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-167
DATE BEGAN: 9-9-14
DATE FINISHED: 9-9-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	1	1.0		11.0 - 11.5' SM: Dark brown/reddish brown fine SAND, some silt; medium dense, wet	NM	Augered to 11' bgs Elevation 7.75'
			2			11.5 - 12.0' ML: Dark brown/reddish brown CLAYEY SILT		
	12.0		1			12.0 - 13.0' No recovery		
			4					
	13.0	SS2	6	1.25		13.0 - 13.3' ML: Dark brown SILT		Sample taken from 13.0-13.5 at 11:40
						13.3 - 13.4' Light brown/bluish green. Possible COPR		DPC test positive
			5			13.4 - 13.5' ML: Dark brown/black SILT		
						13.5 - 14.3' OL: Black SILT with organics. Peat in tip		
	14.0		4					
						14.3 - 15.0' No recovery. End of boring at 15.0' bgs.		
			6					
	15.0							

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134 | **PROJECT NO:** 3480130377 | **BORING ID:** 134-SB-168

DATE BEGAN: 9-9-14 | **DATE FINISHED:** 9-10-14 | **INSPECTOR:** M. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** HSA 140 lbs/30 inches | **DRILL EQUIP:** Bret 22

SAMPLING TOOL: 2' Split Spoon | **COMPLETION DEPTH:** 14' | **GW DEPTH:** Not Recorded

DRILLER: Ed Blewett | **NORTH:** - | **EAST:** -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	8	1.0		10.0 - 11.0' SM: Brown fine to medium SAND and SILT	NM	Augered to 10' bgs Elevation 7.43'
			6					
	11.0		4			11.0 - 12.0' No recovery		
			5					
	12.0	SS2	3	1.75		12.0 - 12.8' SM: Brown fine to medium SAND and SILT		
			8					
						12.8 - 13.0' ML: Dark brown/very light brown (greenish tint) interlayered SILT. Possible COPR		Sample from 12.75-13.25 at 7:30
	13.0		4			13.0 - 13.8' OL: Black SILT with organics		DPC = very light pink
			4					
						13.8 - 14.0' No recovery. End of boring at 14.0' bgs.		
	14.0							

PREPARED BY: CR

CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-169
DATE BEGAN: 9-9-14
DATE FINISHED: 9-9-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	9	0.5		11.0 - 11.5' SM: Dark brown fine SAND, trace silt	NM	Augered to 11' bgs Elevation 8.5'
			10			11.5 - 13.0' No recovery		
	12.0		7					
			6					
	13.0	SS2	7	2.0		13.0 - 13.8' SM: Dark brown fine to medium SAND, trace silt		
			5					
						13.8 - 14.0' ML: Brown SILT; very hard		
	14.0		3			14.0 - 14.3' ML: Black/brown SILT with possible COPR		Sample from 14.0-14.5 at 13:30
						14.3 - 14.5' OL: Gray SILT with organics		DPC test negative
			4			14.5 - 15.0' OL: Black SILT with organics. End of boring at 15.0' bgs.		
	15.0							

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-170
DATE BEGAN: 9-10-14
DATE FINISHED: 9-10-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	5	1.25		11.0 - 12.3' SM: Dark brown fine SAND, trace silt	NM	Augered to 11' bgs Elevation 7.26'
			3					
	12.0		3					
						12.3 - 13.0' No recovery		
			4					
	13.0	SS2	3	2.0		13.0 - 13.9' SM: Dark brown fine SAND, trace silt		
			1					
	14.0		2			13.9 - 14.3' ML: Dark brown/black layered SILT		Sample collected from 14.0-14.5 at 10:20 DPC negative
			2			14.3 - 15.0' OL: Dark gray/black SILT with organics. End of boring at 15.0' bgs.		
	15.0							

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-171
DATE BEGAN: 9-10-14
DATE FINISHED: 9-10-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	8	1.75		11.0 - 12.8' SW: Brownish gray coarse SAND	NM	Augered to 11' bgs Elevation 8.03'
			13					
	12.0		12					
			15					
						12.8 - 13.0' No recovery		
	13.0	SS2	15	2.0		13.0 - 14.5' SW: Brownish gray coarse SAND		
			14					
	14.0		16					
			32			14.5 - 15.0' SM: Grayish brown coarse SAND and SILT		
	15.0	SS3	10	1.0		15.0 - 16.0' SW: Grayish brown coarse SAND		
			23					
	16.0		23			16.0 - 17.0' No recovery. End of boring at 17.0' bgs.		B&B will move 3' NE and drill another boring to depth.
			22					
	17.0							

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-171b
DATE BEGAN: 9-10-14
DATE FINISHED: 9-10-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 13'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0							
		SS1	5	2.0		11.0 - 13.0' SW: Grayish brown fine to coarse SAND. End of boring at 13.0' bgs.	NM	Augered to 11' bgs Elevation 7.94'
			5					
	12.0		9					
			10					
	13.0							B&B cannot get hole to stay open due to running sand. Pulled rods, moved to 507.

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-171c
DATE BEGAN: 9-11-14
DATE FINISHED: 9-11-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 17'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	5	1.5		11.0 - 12.5' SW: Grayish brown coarse SAND	NM	Augered to 11' bgs Elevation 8.0' B&B will drill with light mud in auger to keep sand from leaving.
			7					
	12.0		11					
			15			12.5 - 13.0' No recovery		
	13.0	SS2	27	2.0		13.0 - 17.0' SW: Grayish brown coarse SAND. End of boring at 17.0' bgs.		
			23					
	14.0		22					Sample collected from 14.0-14.5 at 8:30
			20					
	15.0	SS3	12	2.0				
			15					
	16.0		15					
			17					
	17.0							

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134 | **PROJECT NO:** 3480130377 | **BORING ID:** 134-SB-172

DATE BEGAN: 9-10-14 | **DATE FINISHED:** 9-11-14 | **INSPECTOR:** M. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** HSA 140 lbs/30 inches | **DRILL EQUIP:** Bret 22

SAMPLING TOOL: 2' Split Spoon | **COMPLETION DEPTH:** 15' | **GW DEPTH:** Not Recorded

DRILLER: Ed Blewett | **NORTH:** - | **EAST:** -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	WOR	2.0		11.0 - 12.0' SW: Grayish brown fine to coarse SAND	NM	Augered to 11' bgs Elevation 7.66'
			1					
	12.0		3			12.0 - 13.0' ML: Dark brown/reddish brown CLAYEY SILT, some coarse sand		
			3					
	13.0	SS2	8	1.75		13.0 - 13.8' SM: Brown SILT and fine SAND		
			3					
	14.0		2			13.8 - 14.2' ML: Brown SILT and green COPR		Sample collected from 13.75-14.25 at 7:30 DPC positive
						14.2 - 14.4' ML: Brown/black layered SILT		
			3			14.4 - 14.8' OL: Black SILT with organics		
	15.0					14.8 - 15.0' No recovery. End of boring at 15.0' bgs.		

PREPARED BY: CR

CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-173
DATE BEGAN: 9-11-14
DATE FINISHED: 9-11-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	WOR	2.0		11.0 - 13.5' ML: Dark brown CLAYEY SILT	NM	Augered to 11' bgs Elevation 7.9'
			1					
	12.0		1					
			1					
	13.0	SS2	3	2.0				
			2			13.5 - 13.8' ML: Brown and grayish green layered SILT (possible COPR)		Sample collected from 13.5-14.0 at 9:40
						13.8 - 14.0' ML: Light/dark brown interlayered SILT		DPC positive
	14.0		1			14.0 - 15.0' OL: Black SILT with organics, peat in tip. End of boring at 15.0' bgs.		
			3					
	15.0							

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-175
DATE BEGAN: 9-11-14
DATE FINISHED: 9-11-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 14.5'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
		SS1	1	1.5		10.5 - 11.5' SM: Dark brown fine SAND and SILT	NM	Augered to 10.5' bgs Elevation 7.2'
	11.0		4					
			9			11.5 - 12.0' SM: Reddish brown fine SAND and SILT		
	12.0		8			12.0 - 12.5' No recovery		
		SS2	9	1.0		12.5 - 13.3' SM: Reddish brown/black fine SAND, trace silt		Sample from 12.75-13.25 at 11:30 DPC negative
	13.0		5					
						13.3 - 13.5' OL: Black SILT with organics		
			4			13.5 - 14.5' No recovery. End of boring at 14.5' bgs.		
	14.0		4					

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: 134-SB-176
DATE BEGAN: 9-11-14
DATE FINISHED: 9-11-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: -
EAST: -

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	10.0	SS1	2	2.0		10.0 - 12.0' ML: Dark brown CLAYEY SILT	NM	Augered to 10' bgs Elevation 7.0'
			1					
	11.0		1					
			1					
	12.0	SS2	2	2.0		12.0 - 12.5' ML: Light brown/dark brown layered SILT		Sample from (12.0-12.5) at 13:40 DPC negative
			1			12.5 - 13.8' OL: Black SILT with organics		
	13.0		1					
			3					
	14.0					13.8 - 14.0' PT: PEAT. End of boring at 14.0' bgs.		

PREPARED BY: CR
CHECKED BY: KK/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: A002
DATE BEGAN: 8-20-14
DATE FINISHED: 8-20-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 10.5'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
		SS1	2	1.25		6.5 - 7.8' ML: Reddish brown CLAYEY SILT	NM	Augered to 6.5' bgs
	7.0		2					
			1					
						7.8 - 8.5' No recovery		
	8.0		1					
		SS2	1	2.0		8.5 - 9.3' ML: Reddish brown CLAYEY SILT		
	9.0		1					
						9.3 - 10.5' OL: Black SILT with organics. End of boring at 10.5' bgs.		
			1					
	10.0		1					

PREPARED BY: CR
CHECKED BY: NW/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: A004
DATE BEGAN: 8-20-14
DATE FINISHED: 8-20-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15.5'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
		SS1	4	1.5		11.5 - 12.8' SW: Reddish brown fine SAND	NM	Augered to 11.5' bgs
	12.0		2					
			4					
						12.8 - 13.0' SC: Reddish brown CLAYEY SAND		
	13.0		2			13.0 - 13.5' No recovery		
		SS2	3	1.25		13.5 - 13.9' SW: Reddish brown fine SAND		
	14.0		5			13.9 - 14.8' PT: Dark brown PEAT		
			5					
						14.8 - 15.5' No recovery. End of boring at 15.5' bgs.		
	15.0		6					Will move 2' N to try and get better recovery

PREPARED BY: CR
CHECKED BY: NW/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: A004R
DATE BEGAN: 8-20-14
DATE FINISHED: 8-20-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	13.0	SS1	1	1.5		13.0 - 13.5' SM: Reddish brown fine SAND, trace silt	NM	Augered to 13' bgs Sample from 13.0-13.5 at 11:40
			2			13.5 - 14.0' OL: Black SILT with organics		
	14.0		1			14.0 - 14.5' PT: Dark brown PEAT		
			4			14.5 - 15.0' No recovery. End of boring at 15.0' bgs.		
	15.0							

PREPARED BY: CR
CHECKED BY: NW/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: A006
DATE BEGAN: 8-20-14
DATE FINISHED: 8-20-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 14'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	12.0	SS1	3 2	2.0		12.0 - 12.8' SW: Dark brown fine SAND	NM	Augered to 12' bgs
	13.0		1			12.8 - 13.3' ML: Dark brown CLAYEY SILT		
			4			13.3 - 13.8' ML: Dark brown stratified SILT with COPR; dry		Sample collected from 13.25-13.75 at 14:30 DPC test positive
	14.0					13.8 - 14.0' ML: Dark brown CLAYEY SILT. End of boring at 14.0' bgs.		

PREPARED BY: CR
CHECKED BY: NW/VW

Honeywell Jersey City

LOCATION: Site 134 | **PROJECT NO:** 3480130377 | **BORING ID:** A007

DATE BEGAN: 8-21-14 | **DATE FINISHED:** 8-21-14 | **INSPECTOR:** M. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** HSA 140 lbs/30 inches | **DRILL EQUIP:** Bret 22

SAMPLING TOOL: 2' Split Spoon | **COMPLETION DEPTH:** 15' | **GW DEPTH:** Not Recorded

DRILLER: Ed Blewett | **NORTH:** Northing | **EAST:** Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	5	1.0		11.0 - 12.0' SM: Brownish gray fine to coarse SAND, clayey silt in tip	NM	Augered to 11' bgs
			6					
	12.0		4			12.0 - 13.0' No recovery		
			5					
	13.0	SS2	4	2.0		13.0 - 13.5' SM: Brownish gray fine to coarse SAND, clayey silt in tip		
			2			13.5 - 13.8' ML: Brown/black SILT, trace fine sand		Sample collected from 13.5-14.0 at 9:40
	14.0		2			13.8 - 15.0' OL: Black SILT with organics, peat in tip. End of boring at 15.0' bgs.		DPC test negative
			3					
	15.0							

PREPARED BY: CR

CHECKED BY: NW/VW

Honeywell Jersey City

LOCATION: Site 134 | **PROJECT NO:** 3480130377 | **BORING ID:** A009

DATE BEGAN: 8-21-14 | **DATE FINISHED:** 8-21-14 | **INSPECTOR:** M. Senna

DRILLING CO: B&B Drilling | **DRILLING METHOD:** HSA 140 lbs/30 inches | **DRILL EQUIP:** Bret 22

SAMPLING TOOL: 2' Split Spoon | **COMPLETION DEPTH:** 15' | **GW DEPTH:** Not Recorded

DRILLER: Ed Blewett | **NORTH:** Northing | **EAST:** Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	5	1.7		11.0 - 11.6' SM: Brownish gray fine to coarse SAND, trace silt	NM	Augered to 11' bgs
			3			11.6 - 12.7' ML: Reddish brown clayey SILT		
	12.0		1					
			3					
						12.7 - 13.0' No recovery		
	13.0	SS2	WOR	1.5		13.0 - 13.3' ML: Reddish brown clayey SILT		
						13.3 - 13.8' ML: Light brown SILT		
			5					Sample collected from 13.5-14.0 at 8:15
								DPC test positive
						13.8 - 14.0' Very light brown/yellow COPR		
	14.0		5			14.0 - 14.5' OL: Gray SILT with organics		
			3					
						14.5 - 15.0' No recovery. End of boring at 15.0' bgs.		
	15.0							

PREPARED BY: CR

CHECKED BY: NW/VW

Honeywell Jersey City

LOCATION: Site 134
PROJECT NO: 3480130377
BORING ID: A012
DATE BEGAN: 8-21-14
DATE FINISHED: 8-21-14
INSPECTOR: M. Senna
DRILLING CO: B&B Drilling
DRILLING METHOD: HSA 140 lbs/30 inches
DRILL EQUIP: Bret 22
SAMPLING TOOL: 2' Split Spoon
COMPLETION DEPTH: 15'
GW DEPTH: Not Recorded
DRILLER: Ed Blewett
NORTH: Northing
EAST: Easting

ELEV (FT.)	DEPTH (FT.)	RUN NO.	SPT BLOWS PER 0.5'	REC (FT.)	PROFILE	DESCRIPTION	VOLATILE ORGANIC VAPORS (PPM)	REMARKS
	11.0	SS1	6	2.0		11.0 - 12.0' SW: Brownish gray fine SAND	NM	Augered to 11' bgs
			4					
	12.0		2			12.0 - 13.8' ML: Reddish brown CLAYEY SILT		
			1					
	13.0	SS2	2	2.0				
			3					Sample collected from 13.5-14.0 at 14:15
						13.8 - 14.0' Greenish brown/pale green COPR		DPC test positive
	14.0		2			14.0 - 15.0' OL: Dark gray/black SILT with organics. End of boring at 15.0' bgs.		
			2					
	15.0							

PREPARED BY: CR
CHECKED BY: NW/VW

APPENDIX I

DEWATERING LOGS

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/17/13			1.5	0.45	19.49	19,040	19,040	Test Operation: Potable Water
10/18/13			1.0	19.49	27.50	8,010	27,050	
10/22/13			4.0	27.50	85.74	58,240	85,290	
10/23/13			2.0	85.74	116.87	31,130	116,420	
10/24/13			1.3	116.87	135.20	18,330	134,750	
10/28/13			4.5	135.20	200.88	65,680	200,430	
10/29/13			4.0	200.88	258.53	57,650	258,080	
11/01/13			4.3	258.53	300.34	41,810	299,890	
11/04/13			4.8	300.34	368.43	68,090	367,980	
11/05/13			4.3	368.43	408.77	40,340	408,320	
11/06/13			1.5	408.77	425.89	17,120	425,440	
11/07/13			1.0	425.89	453.88	27,990	453,430	
11/08/13			1.0	453.88	478.10	24,220	477,650	
11/12/13			4.5	478.10	526.82	48,720	526,370	
11/14/13			1.3	526.82	556.26	29,440	555,810	
11/18/13			5.0	556.26	619.36	63,100	618,910	
11/21/13			4.0	619.36	652.91	33,550	652,460	
11/26/13			6.0	652.91	719.80	66,890	719,350	
11/27/13			6.0	719.80	784.49	64,690	784,040	
11/29/13			5.0	784.49	840.47	55,980	840,020	
12/02/13			6.5	840.47	923.11	82,640	922,660	
12/03/13			7.0	923.11	1,011.32	88,210	1,010,870	
12/05/13			8.0	1,011.32	1,103.37	92,050	1,102,920	
12/06/13			4.0	1,103.37	1,143.07	39,700	1,142,620	
12/09/13			6.5	1,143.07	1,224.23	81,160	1,223,780	
12/10/13			6.0	1,224.23	1,286.03	61,800	1,285,580	
12/13/13			8.0	1,286.03	1,374.91	88,880	1,374,460	
12/16/13			8.0	1,374.91	1,485.04	110,130	1,484,590	
12/17/13			6.0	1,485.04	1,551.22	66,180	1,550,770	
12/18/13			7.0	1,551.22	1,628.26	77,040	1,627,810	
12/19/13			4.5	1,628.26	1,678.47	50,210	1,678,020	
12/20/13			5.0	1,678.47	1,732.93	54,460	1,732,480	
12/23/13			8.0	1,732.93	1,894.96	162,030	1,894,510	
12/24/13			7.0	1,894.96	1,989.84	94,880	1,989,390	
12/27/13			5.0	1,989.84	2,054.25	64,410	2,053,800	
12/30/13			8.0	2,054.25	2,147.46	93,210	2,147,010	
12/31/13			8.0	2,147.46	2,244.54	97,080	2,244,090	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/02/14			8.0	2,244.54	2,368.54	124,000	2,368,090	
01/06/14			8.0	2,368.54	2,485.40	116,860	2,484,950	
01/09/14			8.0	2,485.40	2,567.15	81,750	2,566,700	
01/10/14			8.0	2,567.15	2,635.97	68,820	2,635,520	
01/13/14			6.0	2,635.97	2,719.26	83,290	2,718,810	
01/14/14			8.0	2,719.26	2,864.73	145,470	2,864,280	
01/15/14			8.0	2,864.73	2,981.21	116,480	2,980,760	
01/16/14			8.0	2,981.21	3,111.28	130,070	3,110,830	
01/17/14			8.0	3,111.28	3,190.67	79,390	3,190,220	
01/20/14			8.0	3,190.67	3,297.59	106,920	3,297,140	
01/21/14			4.0	3,297.59	3,338.21	40,620	3,337,760	
01/27/14			8.0	3,338.21	3,438.26	100,050	3,437,810	
01/31/14			8.0	3,438.26	3,516.69	78,430	3,516,240	
02/04/14			8.0	3,516.69	3,628.15	111,460	3,627,700	
02/07/14			8.0	3,628.15	3,733.31	105,160	3,732,860	
02/11/14			8.0	3,733.31	3,854.45	121,140	3,854,000	
02/12/14			2.0	3,854.45	3,884.29	29,840	3,883,840	
02/14/14			6.0	3,884.29	3,933.69	49,400	3,933,240	
02/15/14			8.0	3,933.69	4,032.69	99,000	4,032,240	
02/18/14			8.0	4,032.69	4,123.91	91,220	4,123,460	
02/20/14			8.0	4,123.91	4,251.33	127,420	4,250,880	
02/21/14			8.0	4,251.33	4,412.37	161,040	4,411,920	
02/22/14			8.0	4,412.37	4,536.78	124,410	4,536,330	
02/24/14			8.0	4,536.78	4,660.60	123,820	4,660,150	
02/25/14			8.0	4,660.60	4,850.50	189,900	4,850,050	
02/26/14			8.0	4,850.50	4,970.69	120,190	4,970,240	
03/04/14			8.0	4,970.69	5,064.73	94,040	5,064,280	
03/05/14			8.0	5,064.73	5,170.07	105,340	5,169,620	
03/10/14			8.0	5,170.07	5,299.77	129,700	5,299,320	
03/11/14			8.0	5,299.77	5,368.86	69,090	5,368,410	
03/12/14			8.0	5,368.86	5,433.63	64,770	5,433,180	
03/17/14			8.0	5,433.63	5,590.00	156,370	5,589,550	
03/18/14			8.0	5,590.00	5,690.00	100,000	5,689,550	
03/19/14			8.0	5,690.00	5,849.46	159,460	5,849,010	
03/20/14			8.0	5,849.46	5,912.45	62,990	5,912,000	
03/21/14			8.0	5,912.45	6,024.94	112,490	6,024,490	
03/24/14			8.0	6,024.94	6,125.64	100,700	6,125,190	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
03/25/14			8.0	6,125.64	6,175.64	50,000	6,175,190	
03/26/14			8.0	6,175.64	6,248.89	73,250	6,248,440	
03/27/14			8.0	6,248.89	6,310.44	61,550	6,309,990	
03/28/14			8.0	6,310.44	6,380.45	70,010	6,380,000	
03/31/14			8.0	6,380.45	6,575.85	195,400	6,575,400	
04/01/14			8.0	6,575.85	6,717.81	141,960	6,717,360	
04/02/14			8.0	6,717.81	6,951.38	233,570	6,950,930	
04/03/14			8.0	6,951.38	7,050.47	99,090	7,050,020	
04/04/14			8.0	7,050.47	7,173.74	123,270	7,173,290	
04/05/14			8.0	7,173.74	7,250.14	76,400	7,249,690	
04/08/14			8.0	7,250.14	7,452.80	202,660	7,452,350	
04/09/14			8.0	7,452.80	7,538.06	85,260	7,537,610	
04/10/14			8.0	7,538.06	7,687.85	149,790	7,687,400	
04/11/14			8.0	7,687.85	7,810.35	122,500	7,809,900	
04/14/14			6.0	7,810.35	7,883.23	72,880	7,882,780	
04/15/14			6.0	7,883.23	7,948.35	65,120	7,947,900	
04/16/14			8.0	7,948.35	8,036.99	88,640	8,036,540	
04/17/14			8.0	8,036.99	8,120.52	83,530	8,120,070	
04/18/14			8.0	8,120.52	8,241.81	121,290	8,241,360	
04/19/14			8.0	8,241.81	8,416.26	174,450	8,415,810	
04/21/14			8.0	8,416.26	8,503.96	87,700	8,503,510	
04/22/14			8.0	8,503.96	8,649.60	145,640	8,649,150	
04/23/14			8.0	8,649.60	8,775.22	125,620	8,774,770	
04/24/14			8.0	8,775.22	8,877.66	102,440	8,877,210	
04/25/14			8.0	8,877.66	8,949.22	71,560	8,948,770	
04/26/14	7:00	15:30	8.0	8,949.22	9,030.24	81,020	9,029,790	
04/27/14	7:00	15:30	0.0	9,030.24	9,030.24	0	9,029,790	
04/28/14	7:00	15:30	8.0	9,030.24	9,133.26	103,020	9,132,810	
04/29/14	7:00	17:00	9.0	9,133.26	9,371.72	238,460	9,371,270	
04/30/14	7:00	15:30	0.0	9,371.72	9,371.72	0	9,371,270	
05/01/14	7:00	19:00	12.0	9,371.72	9,550.80	179,080	9,550,350	
05/02/14	7:00	18:30	23.5	9,665.35	9,775.14	224,340	9,774,690	Includes system operation through 05/01/12
05/03/14	7:00	15:30	21.0	9,921.23	10,020.57	245,430	10,020,120	Includes system operation through 05/02/13
05/05/14	7:00	16:55	37.0	10,377.22	10,584.99	564,420	10,584,540	Includes system operation through 05/04/14
05/06/14	7:00	15:30	9.5	10,584.99	10,825.62	240,630	10,825,170	
05/07/14	7:00	15:30	7.5	10,825.62	11,006.06	180,440	11,005,610	
05/08/14	7:50	12:30	4.5	11,006.06	11,112.94	106,880	11,112,490	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/09/14	7:40	14:15	6.0	1,112.94	11,253.32	140,380	11,252,870	
05/12/14	6:55	14:03	7.0	11,253.32	11,439.87	186,550	11,439,420	
05/13/14	7:10	15:00	7.0	11,439.87	11,600.00	160,130	11,599,550	
05/14/14	8:00	15:05	6.5	11,600.00	11,712.86	112,860	11,712,410	
05/15/14	9:30	15:30	5.5	11,712.86	11,810.42	97,560	11,809,970	
05/16/14	8:25	15:00	6.0	11,810.42	11,885.46	75,040	11,885,010	
05/18/14	9:45	13:00	2.8	11,885.46	11,960.68	75,220	11,960,230	
05/19/14	8:30	16:00	7.0	11,960.68	12,098.90	138,220	12,098,450	
05/20/14	9:15	16:30	7.0	12,098.90	12,188.74	89,840	12,188,290	
05/21/14	10:00	15:30	5.0	12,188.74	12,262.55	73,810	12,262,100	
05/22/14	8:10	16:05	7.5	12,262.55	12,329.43	66,880	12,328,980	
05/23/14	7:10	14:42	7.5	12,329.43	12,405.66	76,230	12,405,210	
05/24/14	7:30	13:00	5.0	12,405.66	12,482.60	76,940	12,482,150	
05/25/14	14:45	17:30	2.0	12,482.60	12,527.46	44,860	12,527,010	
05/27/14	7:30	14:10	5.5	12,527.46	12,662.13	134,670	12,661,680	
05/28/14	13:00	15:00	2.0	12,662.13	12,696.70	34,570	12,696,250	
05/29/14	8:25	15:15	7.0	12,696.70	12,809.54	112,840	12,809,090	
05/30/14	8:00	15:12	7.0	12,809.54	12,906.92	97,380	12,906,470	
06/02/14	8:30	15:00	6:30	12,906.92	13,081.94	175,020	13,081,490	
06/04/14	8:00	15:00	7:00	13,081.94	13,233.54	151,600	13,233,090	
06/05/14	8:30	17:00	8:30	13,233.54	13,391.28	157,740	13,390,830	
06/06/14	7:30	15:30	8:00	13,391.28	13,444.66	53,380	13,444,210	
06/08/14	12:00	17:00	5:00	13,444.66	13,498.28	53,620	13,497,830	
06/09/14	8:30	14:45	6:15	13,498.28	13,667.07	168,790	13,666,620	
06/10/14	8:30	14:10	5:40	13,667.07	13,839.23	172,160	13,838,780	
06/11/14	8:10	13:00	4:50	13,839.23	13,952.75	113,520	13,952,300	
06/12/14	11:45	18:35	6:50	13,952.75	14,138.23	185,480	14,137,780	
06/13/14	7:30	20:45	13:15	14,138.23	14,296.51	158,280	14,296,060	
06/14/14	8:00	15:50	7:50	14,296.51	14,447.78	151,270	14,447,330	
06/16/14	7:30	15:50	8:20	14,447.78	14,602.88	155,100	14,602,430	
06/17/14	7:05	15:00	7:55	14,602.88	14,717.27	114,390	14,716,820	
06/18/14	7:00	15:00	8:00	14,717.27	14,832.09	114,820	14,831,640	
06/19/14	7:10	14:30	7:20	14,832.09	14,937.60	105,510	14,937,150	
06/20/14	6:20	14:40	8:20	14,937.60	15,083.23	145,630	15,082,780	
06/21/14	10:15	13:15	3:00	15,083.23	15,127.76	44,530	15,127,310	
06/23/14	6:40	14:30	7:50	15,127.76	15,294.76	167,000	15,294,310	
06/24/14	6:15	14:45	8:30	15,294.76	15,348.15	53,390	15,347,700	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
06/25/14	6:45	15:00	8:15	15,348.15	15,452.33	104,180	15,451,880	
06/26/14	6:55	14:45	7:50	15,452.33	15,551.63	99,300	15,551,180	
06/27/14	7:45	15:30	7:45	15,551.63	15,616.53	64,900	15,616,080	
06/30/14	6:25	14:25	8:00	15,616.53	15,754.00	137,470	15,753,550	
07/02/14	6:15	14:45	8:30	15,754.00	15,879.17	125,170	15,878,720	
07/03/14	9:30	14:45	5:15	15,879.17	15,995.15	115,980	15,994,700	
07/04/14	7:30	14:45	7:15	15,995.15	16,174.96	179,810	16,174,510	
07/05/14	7:25	14:25	7:00	16,174.96	16,354.58	179,620	16,354,130	
07/06/14	7:35	13:30	5:55	16,354.58	16,443.35	88,770	16,442,900	
07/07/14	6:45	15:50	9:05	16,443.35	16,582.28	138,930	16,581,830	
07/08/14	6:45	14:50	8:05	16,582.28	16,719.12	136,840	16,718,670	
07/09/14	7:00	14:30	7:30	16,719.12	16,813.21	94,090	16,812,760	
07/10/14	7:15	14:30	7:15	16,813.21	16,861.07	47,860	16,860,620	
07/11/14	8:00	14:00	6:00	16,861.07	16,927.80	66,730	16,927,350	
07/14/14	6:50	14:25	7:35	17,039.50	17,039.50	111,700	17,039,050	
07/15/14	6:35	14:45	8:10	17,151.47	17,151.47	111,970	17,151,020	
07/16/14	6:00	13:30	7:30	17,151.47	17,277.51	126,040	17,277,060	
07/17/14	9:45	15:00	5:15	17,277.51	17,369.50	91,990	17,369,050	
07/18/14	6:15	14:00	7:45	17,369.50	17,470.26	100,760	17,469,810	
07/21/14	6:15	14:45	8:30	17,470.26	17,603.88	133,620	17,603,430	
07/22/14	6:00	14:00	8:00	17,603.88	17,697.76	93,880	17,697,310	
07/23/14	6:15	13:45	7:30	17,697.76	17,756.61	58,850	17,756,160	
07/24/14	6:45	14:15	7:30	17,756.61	17,794.18	37,570	17,793,730	
07/25/14	7:00	14:00	7:00	17,794.18	17,849.88	55,700	17,849,430	
07/28/14	6:15	14:15	8:00	17,849.88	17,964.12	114,240	17,963,670	
07/29/14	6:15	14:15	8:00	17,964.12	18,017.49	53,370	18,017,040	
07/30/14	6:30	14:20	7:50	18,017.49	18,060.14	42,650	18,059,690	
08/04/14	6:45	9:00	2:15	18,060.14	18,144.28	84,140	18,143,830	
08/05/14	7:00	15:00	8:00	18,144.28	18,237.50	93,220	18,237,050	
08/06/14	6:30	14:15	7:45	18,237.50	18,289.93	52,430	18,289,480	
08/07/14	8:30	14:00	5:30	18,289.93	18,324.27	34,340	18,323,820	
08/08/14	7:00	14:20	7:20	18,324.27	18,357.38	33,110	18,356,930	
08/11/14	6:30	15:30	9:00	18,357.38	18,450.45	93,070	18,450,000	
08/12/14	7:00	14:00	7:00	18,450.45	18,524.19	73,740	18,523,740	
08/13/14	8:30	14:45	6:15	18,524.19	18,579.42	55,230	18,578,970	
08/14/14	8:00	15:00	7:00	18,579.42	18,610.35	30,930	18,609,900	
08/15/14	8:30	14:30	6:00	18,610.35	18,630.29	19,940	18,629,840	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/17/14	8:30	14:30	6:00	18,630.29	18,701.73	71,440	18,701,280	
08/19/14	6:15	14:15	8:00	18,701.73	18,805.82	104,090	18,805,370	
08/20/14	9:30	15:30	6:00	18,805.82	18,884.84	79,020	18,884,390	
08/21/14	6:15	14:15	8:00	18,884.84	18,986.62	101,780	18,986,170	
08/22/14	6:15	14:00	7:45	18,986.62	19,094.08	107,460	19,093,630	
08/25/14	6:30	14:30	8:00	19,094.08	19,193.73	99,650	19,193,280	
08/26/14	7:00	15:45	8:45	19,193.73	19,298.14	104,410	19,297,690	
08/27/14	7:30	15:00	7:30	19,298.14	19,368.93	70,790	19,368,480	
08/28/14	7:00	15:45	8:45	19,368.93	19,461.76	92,830	19,461,310	
08/29/14	6:30	12:15	5:45	19,461.76	19,495.63	33,870	19,495,180	
08/31/14	8:00	13:00	5:00	19,495.63	19,566.27	70,640	19,565,820	
09/02/14	7:00	15:00	8:00	19,566.27	19,626.24	59,970	19,625,790	
09/03/14	8:30	14:30	6:00	19,626.24	19,683.38	57,140	19,682,930	
09/04/14	7:30	14:00	6:30	19,683.38	19,752.78	69,400	19,752,330	
09/05/14	11:30	15:00	3:30	19,752.78	19,779.42	26,640	19,778,970	
09/06/14	9:00	14:00	5:00	19,779.42	19,824.20	44,780	19,823,750	
09/07/14	9:00	14:00	5:00	19,824.20	19,853.23	29,030	19,852,780	
09/08/14	7:30	14:45	7:15	19,853.23	19,922.16	68,930	19,921,710	
09/11/14	6:30	15:15	8:45	19,922.16	20,004.70	82,540	20,004,250	
09/12/14	13:00	14:30	1:30	20,004.70	20,053.63	48,930	20,053,180	
09/14/14	10:00	13:30	3:30	20,053.63	20,068.27	14,640	20,067,820	
09/15/14	7:30	14:30	7:00	20,068.77	20,133.27	65,000	20,132,820	
09/16/14	7:30	15:00	7:30	20,133.27	20,179.69	46,420	20,179,240	
09/17/14	7:00	14:00	7:00	20,179.69	20,231.28	51,590	20,230,830	
09/18/14	7:00	14:30	7:30	20,231.28	20,263.94	32,660	20,263,490	
09/19/14	6:30	15:00	8:30	20,263.94	20,347.22	83,280	20,346,770	
09/21/14	7:00	11:00	4:00	20,347.22	20,396.72	49,500	20,396,270	
09/22/14	7:00	15:20	8:20	20,396.72	20,491.07	94,350	20,490,620	
09/23/14	7:00	15:30	8:30	20,491.07	20,558.92	67,850	20,558,470	
09/24/14	7:00	15:15	8:15	20,558.92	20,654.42	95,500	20,653,970	
09/25/14	9:30	14:30	5:00	20,654.42	20,703.09	48,670	20,702,640	
09/26/14	7:00	14:30	7:30	20,703.09	20,732.78	29,690	20,732,330	
09/29/14	7:00	15:00	8:00	20,732.78	20,810.38	77,600	20,809,930	
09/30/14	7:00	14:30	7:30	20,810.38	20,855.01	44,630	20,854,560	
10/02/14	6:45	15:15	8:30	20,855.01	20,938.29	83,280	20,937,840	
10/03/14	8:00	14:00	6:00	20,938.29	20,977.59	39,300	20,977,140	
10/05/14	8:00	12:30	4:30	20,977.59	21,023.46	45,870	21,023,010	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/06/14	7:30	15:15	7:45	21,023.46	21,102.23	78,770	21,101,780	
10/09/14	7:00	15:00	8:00	21,102.23	21,182.13	79,900	21,181,680	
10/10/14	7:00	14:30	7:30	21,182.13	21,208.69	26,560	21,208,240	
10/12/14	7:00	11:30	4:30	21,208.69	21,228.53	19,840	21,228,080	
10/13/14	8:00	14:30	6:30	21,228.53	21,289.72	61,190	21,289,270	
10/14/14	7:30	9:30	2:00	21,289.72	21,292.46	2,740	21,292,010	
10/15/14	7:30	15:30	8:00	21,292.46	21,349.49	57,030	21,349,040	
10/16/14	7:30	15:30	8:00	21,349.49	21,411.09	61,600	21,410,640	
10/17/14	7:30	14:30	7:00	21,411.09	21,463.04	51,950	21,462,590	
10/19/14	8:00	13:00	5:00	21,463.04	21,523.23	60,190	21,522,780	
10/21/14	7:30	14:30	7:00	21,523.23	21,574.85	51,620	21,574,400	
10/22/14	7:30	15:30	8:00	21,574.85	21,611.86	37,010	21,611,410	
10/23/14	7:00	16:30	9:30	21,611.86	21,728.57	116,710	21,728,120	
10/24/14	8:00	15:00	7:00	21,728.57	21,795.15	66,580	21,794,700	
10/25/14	8:30	12:30	4:00	21,795.15	21,836.74	41,590	21,836,290	
10/27/14	7:30	15:30	8:00	21,836.74	21,934.46	97,720	21,934,010	
10/29/14	10:00	14:15	4:15	21,934.46	21,979.83	45,370	21,979,380	
10/30/14	9:00	11:00	2:00	21,979.83	21,987.45	7,620	21,987,000	
11/05/14	8:00	15:00	7:00	21,987.45	22,068.71	81,260	22,068,260	
11/07/14	10:00	15:00	5:00	22,068.71	22,093.24	24,530	22,092,790	
11/10/14	8:00	14:30	6:30	22,093.24	22,125.00	31,760	22,124,550	CGWES pumped and isolated from 930 to 1530
11/11/14	11:00	16:00	5:00	22,125.00	22,151.18	26,180	22,150,730	
11/12/14	7:15	15:15	8:00	22,151.18	22,205.08	53,900	22,204,630	
11/13/14	7:30	15:30	8:00	22,205.08	22,232.39	27,310	22,231,940	
11/14/14	7:00	12:00	5:00	22,232.39	22,270.23	37,840	22,269,780	
11/15/14	11:00	14:45	3:45	22,270.23	22,327.83	57,600	22,327,380	
11/16/14	10:00	14:00	4:00	22,327.83	22,387.57	59,740	22,387,120	
11/17/14	9:00	16:00	7:00	22,387.57	22,488.01	100,440	22,487,560	
11/18/14	8:00	15:30	7:30	22,488.01	22,568.74	80,730	22,568,290	
11/19/14	8:00	15:30	7:30	22,568.74	22,653.22	84,480	22,652,770	
11/20/14	7:30	12:30	5:00	22,653.22	22,692.55	39,330	22,692,100	
11/21/14	8:00	16:00	8:00	22,692.55	22,747.08	54,530	22,746,630	
11/22/14	8:00	12:00	4:00	22,747.08	22,783.08	36,000	22,782,630	
11/24/14	7:00	15:30	8:30	22,783.08	22,833.40	50,320	22,832,950	
11/26/14	7:30	15:00	7:30	22,833.40	22,889.40	56,000	22,888,950	
11/28/14	11:00	16:00	5:00	22,889.40	22,984.22	94,820	22,983,770	
11/30/14	14:00	16:20	2:20	22,984.22	23,021.47	37,250	23,021,020	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
12/01/14	8:30	14:30	6:00	23,021.47	23,125.75	104,280	23,125,300	
12/02/14	7:00	15:00	8:00	23,125.75	23,223.33	97,580	23,222,880	
12/03/14	7:30	15:00	7:30	23,223.33	23,306.88	83,550	23,306,430	
12/04/14	7:30	15:15	7:45	23,306.88	23,418.88	112,000	23,418,430	
12/05/14	7:30	15:00	7:30	23,418.88	23,505.57	86,690	23,505,120	
12/06/14	12:30	16:30	4:00	23,505.57	23,547.36	41,790	23,546,910	
12/08/14	6:30	16:45	10:15	23,547.36	23,734.14	186,780	23,733,690	
12/09/14	7:00	17:00	10:00	23,734.14	23,938.58	204,440	23,938,130	
12/10/14	6:30	15:30	9:00	23,938.58	24,127.10	188,520	24,126,650	
12/11/14	7:00	15:00	8:00	24,127.10	24,278.59	151,490	24,278,140	
12/12/14	7:00	14:30	7:30	24,278.59	24,400.95	122,360	24,400,500	
12/13/14	7:00	14:00	7:00	24,400.95	24,465.38	64,430	24,464,930	
12/15/14	7:00	15:30	8:30	24,465.38	24,642.32	176,940	24,641,870	
12/16/14	7:00	16:00	9:00	24,642.32	24,790.34	148,020	24,789,890	
12/17/14	7:00	15:00	8:00	24,790.34	24,891.32	100,980	24,890,870	
12/18/14	7:00	14:30	7:30	24,891.32	24,942.66	51,340	24,942,210	
12/19/14	7:00	14:30	7:30	24,942.66	24,984.39	41,730	24,983,940	
12/22/14	7:00	15:00	8:00	24,984.39	25,135.32	150,930	25,134,870	
12/23/14	8:00	15:45	7:45	25,135.32	25,225.78	90,460	25,225,330	
12/24/14	7:00	14:00	7:00	25,225.78	25,261.74	35,960	25,261,290	
12/29/14	7:00	16:15	9:15	25,261.74	25,355.68	93,940	25,355,230	
12/30/14	7:00	16:00	9:00	25,355.68	25,472.64	116,960	25,472,190	
12/31/14	7:00	14:00	7:00	25,472.64	25,613.83	141,190	25,613,380	
01/02/15	7:00	14:30	7:30	25,613.83	25,704.93	91,100	25,704,480	
01/05/15	7:00	16:45	9:45	25,704.93	25,803.51	98,580	25,803,060	
01/06/15	7:00	15:15	8:15	25,803.51	25,934.54	131,030	25,934,090	
01/07/15	7:00	15:00	8:00	25,934.54	26,010.92	76,380	26,010,470	
01/11/15	9:00	14:00	5:00	26,010.92	26,076.69	65,770	26,076,240	
01/12/15	13:30	16:00	2:30	26,076.69	26,123.43	46,740	26,122,980	
01/13/15	13:30	16:00	2:30	26,123.43	26,242.94	119,510	26,242,490	
01/14/15	10:15	16:00	5:45	26,242.94	26,294.50	51,560	26,294,050	
01/15/15	7:30	15:00	7:30	26,294.50	26,374.46	79,960	26,374,010	
01/16/15	7:30	14:00	6:30	26,374.46	26,431.98	57,520	26,431,530	
01/19/15	7:00	16:00	9:00	26,431.98	26,544.34	112,360	26,543,890	
01/20/15	7:00	16:30	9:30	26,544.34	26,671.53	127,190	26,671,080	
01/21/15	7:00	16:00	9:00	26,671.53	26,795.65	124,120	26,795,200	
01/22/15	7:00	15:30	8:30	26,795.65	26,937.52	141,870	26,937,070	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/23/15	7:00	15:00	8:00	26,937.52	27,077.78	140,260	27,077,330	
01/28/15	7:00	14:30	7:30	27,077.78	27,127.82	50,040	27,127,370	
01/29/15	7:00	15:00	8:00	27,127.82	27,180.82	53,000	27,180,370	
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	
02/04/15	7:00	12:30	5:30	27,268.67	27,317.51	48,840	27,317,060	
02/05/15	7:30	15:00	7:30	27,317.51	27,437.11	119,600	27,436,660	
02/09/15	9:30	14:30	5:00	27,437.11	27,484.85	47,740	27,484,400	
02/10/15	9:30	16:15	6:45	27,484.85	27,587.00	102,150	27,586,550	
02/11/15	8:00	14:30	6:30	27,587.00	27,626.34	39,340	27,625,890	
02/12/15	8:00	14:30	6:30	27,626.34	27,687.34	61,000	27,686,890	
02/20/15	10:30	12:15	1:45	27,687.34	27,702.61	15,270	27,702,160	
02/23/15	7:30	15:30	8:00	27,702.61	27,758.65	56,040	27,758,200	
02/25/15	7:30	15:00	7:30	27,758.65	27,788.98	30,330	27,788,530	
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	
03/04/15	7:30	14:00	6:30	27,853.74	27,955.09	101,350	27,954,640	
03/05/15	8:00	14:00	6:00	27,955.09	28,075.85	120,760	28,075,400	
03/06/15	7:30	14:30	7:00	28,075.85	28,200.09	124,240	28,199,640	
03/09/15	7:30	15:00	7:30	28,200.09	28,324.06	123,970	28,323,610	
03/10/15	7:30	15:00	7:30	28,324.06	28,458.25	134,190	28,457,800	
03/11/15	8:00	14:30	6:30	28,458.25	28,520.01	61,760	28,519,560	
03/12/15	9:00	15:00	6:00	28,520.01	28,571.66	51,650	28,571,210	
03/13/15	8:00	15:00	7:00	28,571.66	28,691.97	120,310	28,691,520	
03/14/15	8:00	16:30	8:30	28,691.97	28,827.02	135,050	28,826,570	
03/15/15	10:00	17:00	7:00	28,827.02	28,912.43	85,410	28,911,980	
03/16/15	7:30	15:15	7:45	28,912.43	29,086.98	174,550	29,086,530	
03/17/15	8:00	14:30	6:30	29,086.98	29,181.23	94,250	29,180,780	
03/18/15	7:30	15:00	7:30	29,181.23	29,228.98	47,750	29,228,530	
03/19/15	7:30	15:15	7:45	29,228.98	29,340.87	111,890	29,340,420	
03/20/15	8:00	14:00	6:00	29,340.87	29,436.92	96,050	29,436,470	
03/23/15	8:30	15:00	6:30	29,436.92	29,533.78	96,860	29,533,330	
03/24/15	7:30	15:00	7:30	29,533.78	29,615.04	81,260	29,614,590	
03/25/15	7:30	15:15	7:45	29,615.04	29,748.59	133,550	29,748,140	
03/26/15	7:30	15:30	8:00	29,748.59	29,862.15	113,560	29,861,700	
03/27/15	7:30	15:30	8:00	29,862.15	29,986.08	123,930	29,985,630	
03/28/15	9:00	15:00	6:00	29,986.08	30,091.41	105,330	30,090,960	
03/30/15	7:30	15:30	8:00	30,091.41	30,203.08	111,670	30,202,630	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
03/31/15	7:30	14:30	7:00	30,203.08	30,378.43	175,350	30,377,980	
04/01/15	7:30	15:00	7:30	30,378.43	30,506.05	127,620	30,505,600	
04/02/15	7:15	15:15	8:00	30,506.05	30,637.07	131,020	30,636,620	
04/04/15	7:30	15:30	8:00	30,637.07	30,677.37	40,300	30,676,920	
04/06/15	7:00	15:00	8:00	30,677.37	30,776.12	98,750	30,775,670	
04/07/15	7:15	15:00	7:45	30,776.12	30,842.73	66,610	30,842,280	
04/08/15	7:15	15:00	7:45	30,842.73	30,910.48	67,750	30,910,030	
04/09/15	8:30	15:00	6:30	30,910.48	30,974.48	64,000	30,974,030	
04/10/15	7:30	15:00	7:30	30,974.48	31,065.01	90,530	31,064,560	
04/13/15	11:45	16:15	4:30	31,065.01	31,142.89	77,880	31,142,440	
04/14/15	7:30	15:00	7:30	31,142.89	31,231.27	88,380	31,230,820	
04/15/15	7:30	14:00	6:30	31,231.27	31,277.99	46,720	31,277,540	
04/17/15	7:15	12:00	4:45	31,277.99	31,315.22	37,230	31,314,770	
04/20/15	7:30	15:15	7:45	31,315.22	31,405.02	89,800	31,404,570	
04/21/15	7:00	14:00	7:00	31,405.02	31,446.44	41,420	31,445,990	
04/22/15	7:30	13:00	5:30	31,446.44	31,498.34	51,900	31,497,890	
04/23/15	7:00	13:30	6:30	31,498.34	31,544.28	45,940	31,543,830	
04/24/15	7:30	14:00	6:30	31,544.28	31,600.00	55,720	31,599,550	
04/27/15	7:30	14:30	7:00	31,600.00	31,637.05	37,050	31,636,600	
04/29/15	9:30	15:00	5:30	31,637.05	31,706.56	69,510	31,706,110	
04/30/15	8:00	15:00	7:00	31,706.56	31,755.10	48,540	31,754,650	
05/01/15	10:00	14:30	4:30	31,755.10	31,779.92	24,820	31,779,470	
05/05/15	7:00	14:00	7:00	31,779.92	31,862.76	82,840	31,862,310	
05/08/15	7:30	14:30	7:00	31,862.76	31,923.11	60,350	31,922,660	
05/11/15	10:00	15:00	5:00	31,923.11	31,978.26	55,150	31,977,810	
05/14/15	10:00	15:00	5:00	31,978.26	32,016.71	38,450	32,016,260	
05/18/15	7:30	14:30	7:00	32,016.71	32,102.90	86,190	32,102,450	
05/19/15	7:30	14:00	6:30	32,102.90	32,136.78	33,880	32,136,330	
05/20/15	7:30	15:00	7:30	32,136.78	32,157.02	20,240	32,156,570	
05/21/15	7:00	13:30	6:30	32,157.02	32,194.76	37,740	32,194,310	
05/22/15	8:00	12:00	4:00	32,194.76	32,208.64	13,880	32,208,190	
05/24/15	10:00	14:00	4:00	32,208.64	32,256.26	47,620	32,255,810	
05/27/15	6:30	13:30	7:00	32,256.26	32,322.85	66,590	32,322,400	
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	
06/01/15	9:00	15:45	6:45	32,377.97	32,528.67	150,700	32,528,220	
06/02/15	7:00	14:00	7:00	32,528.67	32,620.67	92,000	32,620,220	
06/04/15	6:30	14:00	7:30	32,620.67	32,756.41	135,740	32,755,960	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
06/05/15	6:30	13:30	7:00	32,756.41	32,833.26	76,850	32,832,810	
06/08/15	7:00	14:00	7:00	32,833.26	32,958.71	125,450	32,958,260	
06/10/15	10:00	16:00	6:00	32,958.71	33,019.45	60,740	33,019,000	
06/11/15	7:00	16:00	9:00	33,019.45	33,086.57	67,120	33,086,120	
06/12/15	6:30	12:00	5:30	33,086.57	33,146.46	59,890	33,146,010	
06/15/15	6:30	12:15	5:45	33,146.46	33,183.12	36,660	33,182,670	
06/16/15	7:00	14:15	7:15	33,183.12	33,226.73	43,610	33,226,280	
06/17/15	6:30	16:00	9:30	33,226.73	33,276.97	50,240	33,276,520	
06/18/15	6:30	14:30	8:00	33,276.97	33,338.90	61,930	33,338,450	
06/19/15	6:30	14:00	7:30	33,338.90	33,439.40	100,500	33,438,950	
06/21/15	9:30	13:30	4:00	33,439.40	33,485.10	45,700	33,484,650	
06/22/15	6:30	14:00	7:30	33,485.10	33,567.88	82,780	33,567,430	
06/23/15	11:30	14:00	2:30	33,567.88	33,609.80	41,920	33,609,350	
06/24/15	9:00	13:30	4:30	33,609.80	33,646.89	37,090	33,646,440	
06/26/15	8:00	14:00	6:00	33,646.89	33,720.85	73,960	33,720,400	
06/29/15	7:00	14:30	7:30	33,720.85	33,738.82	17,970	33,738,370	
06/30/15	7:00	13:00	6:00	33,738.82	33,791.38	52,560	33,790,930	
07/01/15	6:30	14:00	7:30	33,791.38	33,923.97	132,590	33,923,520	
07/02/15	6:30	13:00	6:30	33,923.97	34,000.38	76,410	33,999,930	
07/06/15	7:00	13:30	6:30	34,000.38	34,066.66	66,280	34,066,210	
07/07/15	8:00	14:00	6:00	34,066.66	34,125.32	58,660	34,124,870	
07/08/15	6:30	13:30	7:00	34,125.32	34,199.65	74,330	34,199,200	
07/09/15	6:30	13:30	7:00	34,199.65	34,252.75	53,100	34,252,300	
07/10/15	6:30	12:00	5:30	34,252.75	34,298.94	46,190	34,245,390	
07/13/15	7:00	11:45	4:45	34,298.94	34,325.94	27,000	34,226,200	
07/14/15	6:30	12:30	6:00	34,325.94	34,396.15	70,210	34,269,410	
07/15/15	7:00	14:00	7:00	34,396.15	34,474.85	78,700	34,331,000	
07/16/15	6:30	13:00	6:30	34,474.85	34,526.84	51,990	34,382,990	
07/17/15	12:00	14:00	2:00	34,526.84	34,556.84	30,000	34,412,990	
07/21/15	6:30	14:30	8:00	34,556.84	34,653.22	96,380	34,509,370	
07/23/15	6:30	13:30	7:00	34,653.22	34,690.24	37,020	34,546,390	
07/24/15	10:30	13:30	3:00	34,690.24	34,702.10	11,860	34,558,250	
07/27/15	6:30	14:00	7:30	34,702.10	34,790.64	88,540	34,646,790	
07/31/15	6:30	14:30	8:00	34,790.64	34,908.04	117,400	34,764,190	
08/03/15	9:00	13:30	4:30	34,908.04	34,940.20	32,160	34,796,350	
08/04/15	10:30	21:30	11:00	34,940.20	35,081.91	141,710	34,938,060	
08/07/15	6:30	12:30	6:00	35,081.91	35,221.03	139,120	35,077,180	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/10/15	6:15	12:00	5:45	35,221.03	35,298.93	77,900	35,155,080	
08/11/15	6:35	14:30	7:55	35,298.93	35,398.03	99,100	35,254,180	
08/12/15	6:30	13:30	7:00	35,398.03	35,457.13	59,100	35,313,280	
08/13/15	7:00	13:30	6:30	35,457.13	35,497.93	40,800	35,354,080	
08/14/15	7:00	13:00	6:00	34,497.93	35,552.43	54,500	35,408,580	
08/17/15	6:30	12:30	6:00	35,552.43	35,618.63	66,200	35,474,780	
08/19/15	8:00	15:00	7:00	35,618.63	35,662.04	43,410	35,518,190	
08/20/15	7:00	14:00	7:00	35,662.04	35,706.84	44,800	35,562,990	
08/21/15	7:00	13:30	6:30	35,706.84	35,724.91	18,070	35,581,060	
08/25/15	8:00	14:00	6:00	35,724.91	35,790.40	65,490	35,646,550	
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	
09/01/15	7:00	13:00	6:00	35,841.14	35,929.31	88,170	35,785,460	
09/04/15	7:00	13:00	6:00	35,929.31	35,970.92	41,610	35,827,070	
09/09/15	7:00	15:00	8:00	35,970.92	36,046.73	75,810	35,902,880	
09/11/15	7:00	14:00	7:00	36,046.73	36,113.32	66,590	35,969,470	
09/18/15	7:00	15:00	8:00	36,113.32	36,198.63	85,310	36,054,780	
09/28/15	8:00	11:00	3:00	36,198.63	36,238.88	40,250	36,095,030	
09/30/15	7:30	15:00	7:30	36,238.88	36,367.55	128,670	36,223,700	
10/01/15	7:00	13:30	6:30	36,367.55	36,413.58	46,030	36,269,730	
10/02/15	7:00	15:00	8:00	36,413.58	36,458.01	44,430	36,314,160	
10/03/15	8:00	13:00	5:00	36,458.01	36,558.18	100,170	36,414,330	
10/04/15	9:30	13:00	3:30	36,558.18	36,598.54	40,360	36,454,690	
10/05/15	7:30	12:00	4:30	36,598.54	36,653.18	54,640	36,509,330	
10/06/15	7:30	11:30	4:00	36,653.18	36,704.47	51,290	36,560,620	
10/09/15	7:30	14:00	6:30	36,704.47	36,777.92	73,450	36,634,070	
10/15/15	8:00	15:00	7:00	36,777.92	36,888.81	110,890	36,744,960	
10/21/15	8:00	15:00	7:00	36,888.81	36,951.56	62,750	36,807,710	
10/23/15	11:00	14:30	3:30	36,951.56	36,973.34	21,780	36,829,490	
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	
11/02/15	8:00	13:00	5:00	37,092.42	37,158.61	66,190	37,014,760	
11/04/15	8:30	14:30	6:00	37,158.61	37,207.47	48,860	37,063,620	
11/06/15	12:00	15:00	3:00	37,207.47	37,237.70	30,230	37,093,850	
11/18/15	8:00	15:00	7:00	37,237.70	37,375.84	138,140	37,231,990	
11/22/15	9:00	13:00	4:00	37,375.84	37,440.68	64,840	37,296,830	
11/23/15	9:30	14:30	5:00	37,440.68	37,505.15	64,470	37,361,300	
11/25/15	7:15	13:45	6:30	37,505.15	37,566.11	60,960	37,422,260	
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
12/01/15	8:00	15:15	7:15	37,667.64	37,743.44	75,800	37,599,590	
12/02/15	7:00	15:00	8:00	37,743.44	37,805.70	62,260	37,661,850	
12/03/15	9:00	15:15	6:15	37,805.70	37,863.53	57,830	37,719,680	
12/04/15	7:00	12:30	5:30	37,863.53	37,912.70	49,170	37,768,850	
12/06/15	12:00	14:00	2:00	37,912.70	37,958.66	45,960	37,814,810	
12/07/15	10:30	15:15	4:45	37,958.66	37,984.16	25,500	37,840,310	
12/08/15	11:00	14:30	3:30	37,984.16	38,016.05	31,890	37,872,200	
12/09/15	10:30	15:00	4:30	38,016.05	38,051.66	35,610	37,907,810	
12/10/15	8:00	15:15	7:15	38,051.66	38,176.63	124,970	38,032,780	
12/13/15	9:00	12:15	3:15	38,176.63	38,243.45	66,820	38,099,600	
12/14/15	13:45	15:30	1:45	38,243.45	38,278.63	35,180	38,134,780	
12/15/15	7:00	12:30	5:30	38,278.63	38,398.71	120,080	38,254,860	
12/16/15	11:30	15:30	4:00	38,398.71	38,456.74	58,030	38,312,890	
12/17/15	7:00	11:00	4:00	38,456.74	38,495.28	38,540	38,351,430	
12/18/15	8:00	15:15	7:15	38,495.28	38,587.27	91,990	38,443,420	
12/20/15	8:45	12:00	3:15	38,587.27	38,637.00	49,730	38,493,150	
12/21/15	7:30	13:00	5:30	38,637.00	38,700.54	63,540	38,556,690	
12/23/15	7:30	13:45	6:15	38,700.54	38,805.80	105,260	38,661,950	
12/24/15	8:00	15:00	7:00	38,805.80	38,835.49	29,690	38,691,640	
12/26/15	8:00	14:00	6:00	38,835.49	38,889.27	53,780	38,745,420	
12/28/15	7:00	15:30	8:30	38,889.27	39,029.27	140,000	38,885,420	
12/30/15	7:15	14:30	7:15	39,029.27	39,125.05	95,780	38,981,200	
12/31/15	7:00	13:45	6:45	39,125.05	39,167.86	42,810	39,024,010	
01/04/16	7:30	16:15	8:45	39,167.86	39,269.10	101,240	39,125,250	
01/07/16	8:00	16:15	8:15	39,269.10	39,354.16	85,060	39,210,310	
01/11/16	7:30	14:00	6:30	39,354.16	39,425.93	71,770	39,282,080	
01/12/16	8:00	13:00	5:00	39,425.93	39,510.66	84,730	39,366,810	
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	
02/02/16	7:00	11:30	4:30	39,632.04	39,691.51	59,470	39,547,660	
02/03/16	7:30	15:30	8:00	39,691.51	39,789.38	97,870	39,645,530	
02/04/16	8:00	15:30	7:30	39,789.38	39,869.34	79,960	39,725,490	
02/05/16	8:00	15:30	7:30	39,869.34	39,962.83	93,490	39,818,980	
02/06/16	8:00	14:00	6:00	39,962.83	40,010.68	47,850	39,866,830	
02/08/16	7:15	15:15	8:00	40,010.68	40,119.75	109,070	39,975,900	
02/09/16	8:30	15:30	7:00	40,119.75	40,195.00	75,250	40,051,150	
02/10/16	9:30	15:30	6:00	40,195.00	40,313.68	118,680	40,169,830	

Construction Water Discharge Data
Study Area 6
Honeywell International Inc.
Jersey City, New Jersey

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT OR PUMP START TIME	SHIFT OR PUMP END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal[2])	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal[1]) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/11/16	10:30	15:30	5:00	40,313.68	40,407.45	93,770	40,263,600	
02/16/16	10:00	16:00	6:00	40,407.45	40,472.48	65,030	40,328,630	
02/17/16	7:00	15:30	8:30	40,472.48	40,635.48	163,000	40,491,630	
02/18/16	9:30	14:30	5:00	40,635.48	40,695.00	59,520	40,551,150	
02/22/16	7:30	13:00	5:30	40,695.00	40,767.90	72,900	40,624,050	
02/23/16	7:30	15:00	7:30	40,767.90	40,847.01	79,110	40,703,160	
02/24/16	8:30	15:00	6:30	40,847.01	40,947.06	100,050	40,803,210	
02/25/16	9:00	16:00	7:00	40,947.06	41,052.04	104,980	40,908,190	
02/26/16	7:30	15:00	7:30	41,052.04	41,114.52	62,480	40,970,670	
02/27/16	9:00	12:30	3:30	41,114.52	41,172.24	57,720	41,028,390	
02/28/16	8:00	13:00	5:00	41,172.24	41,227.51	55,270	41,083,660	
02/29/16	6:30	15:15	8:45	41,227.51	41,400.89	173,380	41,257,040	

* This Table Includes North Acitivity

[1] Gal = gallon

[2] KGal = 1,000 gallons

APPENDIX J

ITEMS ENCOUNTERED DURING REMEDIAL ACTIVITIES

APPENDIX J-1
ARSENIC-IMPACTED ASPHALT DEBRIS IN SOIL

During excavation activities at SA-6 South numerous subsurface features, conditions, or structures were encountered. Additional details regarding activities related to those conditions are included below.

Concrete Reuse

On December 20, 2013, Honeywell submitted a Certificate of Authority to Operate-Beneficial Use Determination (CAO-BUD) application to govern the onsite reuse of such concrete as initially directed by NJDEP. However, during subsequent conversations with NJDEP, Honeywell and NJDEP jointly concluded that a CAO-BUD was not necessary since concrete encountered during excavations was handled under the following guidelines:

- The management of the reused concrete is governed by the NJDEP-approved SMP.
- The concrete was sampled and tested in accordance with the September 2013 CASP. Only concrete material that met the most stringent standards set forth in NJDEP's *Alternative and Clean Fill Guidance for SRP Sites* was considered for onsite re-use. In accordance with the NJDEP-approved SMP, if the material did not meet the reuse criteria, then it was transported offsite for disposal at an approved waste facility.
- Honeywell proposed reusing the concrete that met those standards as bridging lift for backfill in the onsite excavations. The concrete was then subsequently buried under additional fill material and is not exposed at the ground surface.

Therefore, on July 29, 2014 via electronic mail, Honeywell requested approval from NJDEP to rescind the December 20, 2013 CAO-BUD application. On September 30, 2014 NJDEP issued a letter approving Honeywell's request to rescind the CAO-BUD.

Arsenic-impacted Asphalt

As part of the SA-6 Chromium Remedy, Entact collected 16 samples (Asphalt-001 through Asphalt-016) of the existing asphalt pavement throughout the excavation footprint at SA-6 South in accordance with the September 2013 CASP as shown on the attached figure. The following summarizes the disposition of the arsenic-impacted asphalt encountered at SA-6 South:

- Minimum arsenic concentration for the six samples: 23.6 mg/kg;
- Maximum arsenic concentration for the six samples: 64.4 mg/kg; and

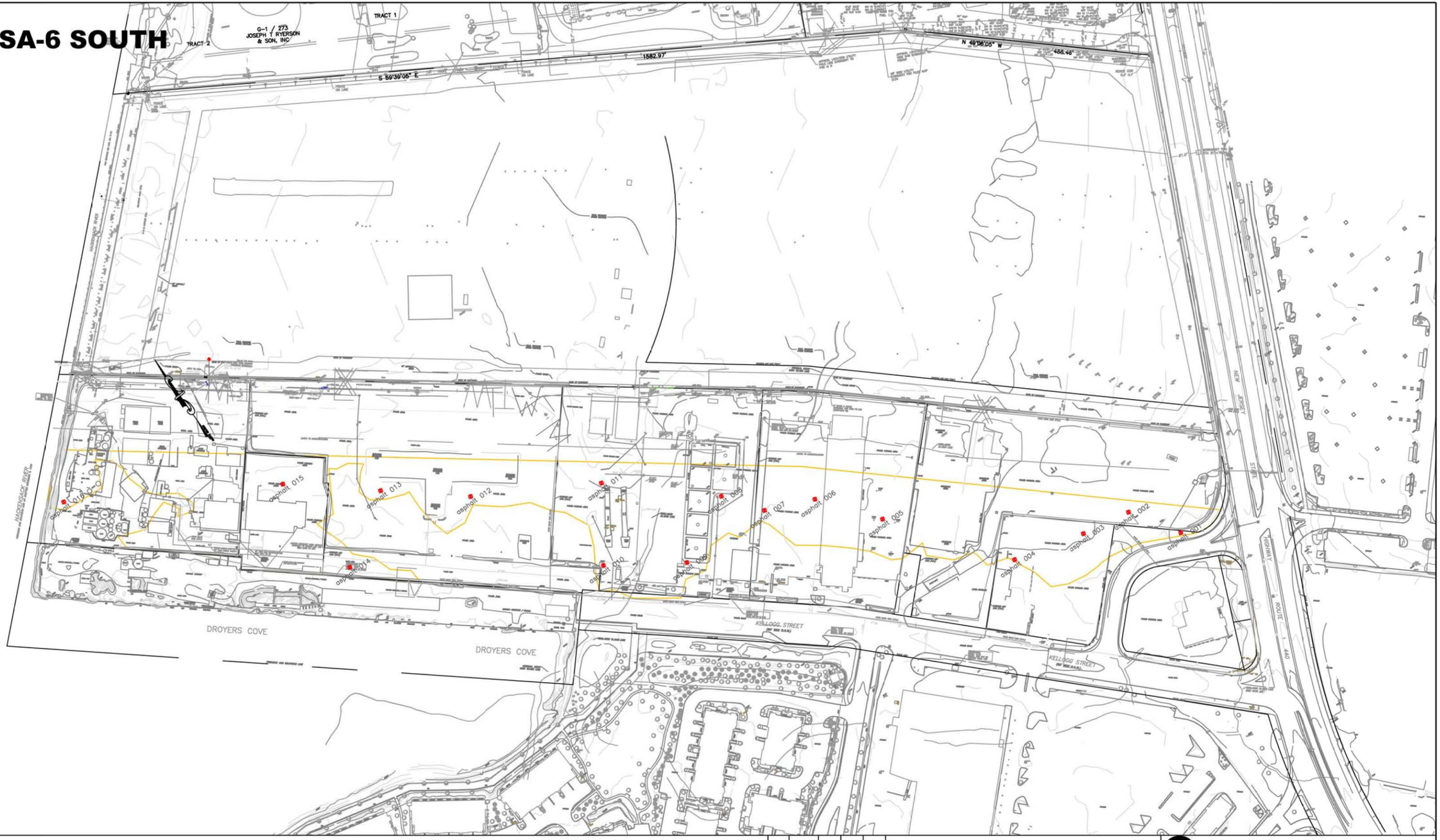
- Quantity of asphalt represented by the six samples: approximately 1,250 CYs or 2,100 tons.

On August 19, 2014, Honeywell submitted a letter via electronic mail to NJDEP requesting approval to consolidate the arsenic-impacted material within either the SA-6 North Open Space Area and/or SA-6 South Open Space AOC along with consolidated chromium-impacted soils. As required by the *Alternative and Clean Fill Guidance for SRP Sites* guidance document, Honeywell performed a "Like-on-Like" and "75th percentile analyses" on the historic fill soil sample results for the Open Space Areas at each Site. As explained in the August 19, 2014 letter, since conditions of the "75th percentile analyses" were not met, Honeywell sought a variance in accordance with Section 5.2 of the *Alternative and Clean Fill Guidance for SRP Sites* guidance document. Honeywell provided clarifying information on September 12, 2014 in response to verbal questions posed by NJDEP. Subsequently, in a September 15, 2014 letter to all Parties, Arnold and Porter clarified the proposal request to NJDEP in response to a September 9, 2014 letter from Plaintiffs. In response to Honeywell's written response and information subsequently provided, NJDEP sent an electronic mail to Honeywell approving of the proposed plan on October 15, 2014.

Debris

A larger volume than expected of debris was encountered comingled with soil in the eastern (Sites 124 and 125) and central (Site 134) portions of the SA-6 South excavation areas. The debris consisted of creosote-impacted piles from below buildings, concrete pieces, tires, sections of pipes, miscellaneous unrecognizable pieces of metal, general household items, etc. The debris co-mingled with soils that were being evaluated for reuse (i.e. soils previously classified as <20 mg/kg for hexavalent chromium) or those designated for consolidation in the Open Space AOC (i.e. soils previously classified as between 20 and 1,000 mg/kg for hexavalent chromium), posed a concern for jeopardizing the desired geotechnical properties of the re-compacted soil. Therefore, Entact mechanically separated the debris from soils designated for reuse or consolidation using the buckets of excavation equipment. The debris-free soil was then considered suitable for reuse or consolidation. The debris was disposed of offsite, totaling 315 tons. Entact did not separate debris comingled with soil already designated for offsite disposal. The soil co-mingled with the debris was loaded into trucks for offsite disposal.

SA-6 SOUTH



NOTES:

Grab samples were collected randomly by breaking asphalt down to the soil interface.

LEGEND:

Asphalt Sample Point

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME: Asphalt Sample Locations

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY		REV	1
DATE	10/15/13	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

APPENDIX J-2
HYDROCARBON-IMPACTED SOIL

Hydrocarbon-Impacted Soil

Initially based upon findings during the PDI borings, it was believed that a very limited quantity of hydrocarbon-impacted soil would be encountered primarily in the eastern part of the Site and that this limited quantity of hydrocarbon-impacted soil would be disposed of offsite. However, as the quantity of the hydrocarbon-impacted soil grew, it became apparent that alternatives to offsite disposal were necessary. Amec Foster Wheeler evaluated whether the hydrocarbon-impacted soils could be consolidated in the Open Space AOC along with other chromium-impacted soils that were <1,000 mg/kg for hexavalent chromium. Since the cap constructed over the Open Space AOC incorporates passive venting, Amec Foster Wheeler evaluated the inhalation risk associated with volatile organics and semi-volatile organic COCs in the hydrocarbon-impacted soil. This evaluation determined that any VOCs and naphthalene that were below their respective NJDEP inhalation-based residential standards would not pose an unacceptable inhalation risk or cause nuisance odors if the hydrocarbon-impacted soils were consolidated and capped in the Open Space AOC as approved by the NJDEP and indicated in DCB 012. Hydrocarbon-impacted soils that did not meet the NJDEP inhalation-based residential standards were shipped offsite for disposal.

The characterization sampling of the stockpiled hydrocarbon-impacted soils indicated that certain samples of this material exhibited selected metals and/or polynuclear aromatic hydrocarbons (PAHs) above the NJDEP Impact to Groundwater (IGW) standards. For such samples, representative portions of the stockpiles were subsequently re-sampled for Synthetic Precipitation Leaching Procedure (SPLP) analysis for the COCs above the IGW standards to evaluate the potential for the material to impact groundwater. In all such cases, the SPLP results were below the default leachate criteria for Class II groundwater. Two samples also exhibited select metals above NJDEP Residential Direct Contact Soil Remediation Standards (RDCSRS) and IGW standards. While these samples were tested for SPLP metals, not all of the SPLP default leachate criteria were met.

On August 25, 2014 via electronic mail, Honeywell requested approval from NJDEP to consolidate the remaining 24,000 CYs hydrocarbon-impacted material within the SA-6 South Open Space AOC along with other chromium-impacted soils that are <1,000 mg/kg for hexavalent chromium as long as the hydrocarbon-impacted soils meet the NJDEP inhalation-based residential standards. Honeywell's electronic mail included an August 20, 2014 memo prepared by Amec Foster Wheeler which, using the *Alternative and Clean Fill Guidance for SRP Sites* as a guide, outlined why this approach is consistent with the TRSR. Based upon a follow-up telephone conversation between Honeywell, NJDEP, and Amec Foster Wheeler on September 26, 2014, NJDEP sent an electronic mail to Honeywell

approving the proposed plan on October 2, 2014. Based upon the memo, supplemental information provided, and the September 26, 2014 conversation, NJDEP agreed that this approach is consistent with the TRSR for the following reasons:

- The Open Space AOC is completely contained with a hydraulic barrier and a cap.
- The contaminants and concentrations detected in the hydrocarbon-impacted soils are generally similar to those detected in the historic fill soils and are lower than the maximum values in the historic fill. Thus, the Like-on-Like requirement specified in the *Alternative and Clean Fill Guidance for SRP Sites* is satisfied.
- Extractable Petroleum Hydrocarbon (EPH) data were < 1,700 mg/kg; therefore, EPH was not a concern.
- Generally, the highest levels of PAHs in the hydrocarbon-impacted soils were associated with samples also with elevated naphthalene levels and those soils were disposed offsite.
- Generally, the contaminant concentrations in the hydrocarbon-impacted soils were lower than the maximum concentrations of COCs in the historic fill in the Open Space AOC.
- Only three samples of hydrocarbon-impacted soils exhibited selected metals above the RDCSRS.
- While some metals were detected above the IGW standards in the hydrocarbon-impacted soils, subsequent SPLP analysis for such metals were below the NJDEP Default Leachate Criteria with the exception of two samples for arsenic and one sample for antimony.
- Consolidating the hydrocarbon-impacted soils in the Open Space AOC expanded the remediated area in the Development AOC.
- Given the overall similarity of the hydrocarbon-impacted soils with the historic fill soils in the Open Space AOC, a 75th percentile analysis of the historic fill in the Open Space AOC as specified in the *Alternative and Clean Fill Guidance for SRP Sites* is not warranted.
- As requested by NJDEP, Honeywell agreed to direct Entact to consolidate the few portions of the hydrocarbon-impacted soils that contained PAHs and metals above the standards in the Open Space AOC in the vicinity of existing historic fill with similar COCs/concentrations.

TABLE A

Petroleum Soil Sample Results – VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-01-010814		124-A_B-Pet-02-010814		124-A_B-Pet-03-012014		124-A_B-Pet-04-012814		124-A_B-Pet-05-012814		124-A_B-Pet-06-012814		124-A_B-Pet-07-012814		124-A_B-Pet-08-012814		124-A_B-Pet-09-012814		124-A_B-Pet-10-022714		124-A_B-Pet-11-022714	
Lab Sample ID				JB57182-1		JB57182-2		JB58165-1		JB58764-1		JB58764-2		JB58764-3		JB58764-4		JB58764-5		JB58764-6		JB60759-1		JB60759-2	
Date Sampled		NJ 2012 MOST	NJ 2013	01/08/2014		01/08/2014		01/20/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		02/27/2014		02/27/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
1,1-DICHLOROETHANE	mg/kg	8	0.2	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
1,1-DICHLOROETHENE	mg/kg	11	0.008	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.43	U	0.39	U	0.35	U	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.86*	*U*	*0.78*	*U*	*0.7*	*U*	*1.7*	*U*	*0.013*	*U*	*0.011*	*U*	*0.011*	*U*	*0.011*	*U*	*0.012*	*U*	*0.011*	*U*	*0.63*	*U*
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	*0.086*	*U*	*0.078*	*U*	*0.07*	*U*	*0.17*	*U*	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0012	U	0.0011	U	*0.063*	*U*
1,2-DICHLOROBENZENE	mg/kg	5300	17	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	*0.086*	*U*	*0.078*	*U*	*0.07*	*U*	*0.17*	*U*	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0012	U	0.0011	U	*0.063*	*U*
1,2-DICHLOROPROPANE	mg/kg	2	0.005	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	*0.0065*	*U*	*0.0057*	*U*	*0.0053*	*U*	*0.0053*	*U*	*0.006*	*U*	*0.0054*	*U*	*0.32*	*U*
1,3-DICHLOROBENZENE	mg/kg	5300	19	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
1,4-DICHLOROBENZENE	mg/kg	5	2	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
2-BUTANONE	mg/kg	3100	0.9	0.86	U	0.78	U	0.7	U	*1.7*	*U*	0.013	U	0.011	U	0.011	U	0.011	U	0.012	U	0.011	U	0.63	U
2-HEXANONE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
ACETONE	mg/kg	70000	19	0.86	U	0.78	U	0.7	U	1.7	U	0.013	U	0.0126		0.027		0.0231		0.0227		0.0078	J	0.63	U
BENZENE	mg/kg	2	0.005	*0.086*	*U*	*0.078*	*U*	*0.07*	*U*	*0.17*	*U*	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0012	U	0.0011	U	*0.063*	*U*
BROMOCHLOROMETHANE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	*0.0065*	*U*	*0.0057*	*U*	*0.0053*	*U*	*0.0053*	*U*	*0.006*	*U*	*0.0054*	*U*	*0.32*	*U*
BROMOFORM	mg/kg	81	0.03	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.00053	J	0.006	U	0.0054	U	*0.32*	*U*
BROMOMETHANE	mg/kg	25	0.04	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
CARBON DISULFIDE	mg/kg	7800	6	0.43	U	0.39	U	0.35	U	0.87	U	0.0035	J	0.0016	J	0.00069	J	0.0053	U	0.006	U	0.0054	U	0.32	U
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	*0.0065*	*U*	*0.0057*	*U*	*0.0053*	*U*	*0.0053*	*U*	*0.006*	*U*	*0.0054*	*U*	*0.32*	*U*
CHLOROBENZENE	mg/kg	510	0.6	0.43	U	0.39	U	0.35	U	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
CHLOROETHANE	mg/kg	220	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
CHLOROFORM	mg/kg	0.6	0.4	*0.43*	*U*	0.39	U	0.35	U	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
CHLOROMETHANE	mg/kg	4	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
CYCLOHEXANE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
Dibromochloromethane	mg/kg	3	0.005	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	*0.0065*	*U*	*0.0057*	*U*	*0.0053*	*U*	*0.0053*	*U*	*0.006*	*U*	*0.0054*	*U*	*0.32*	*U*
DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
ETHYLBENZENE	mg/kg	7800	13	0.0177	J	0.078	U	0.0289	J	0.0877	J	0.0013	U	0.00048	J	0.00097	J	0.00033	J	0.0012	U	0.0011	U	0.063	U
ISOPROPYLBENZENE	mg/kg	NC	NC	0.43	U	0.39	U	0.0398	J	0.87	U	0.0065	U	0.0057	U	0.00061	J	0.0053	U	0.006	U	0.0054	U	0.32	U
METHYL ACETATE	mg/kg	78000	22	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.086	U	0.078	U	0.07	U	0.17	U	0.0013	U	0.0011	U	0.0011	U	0.0011	U	0.0012	U	0.0011	U	0.063	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	0.43	U	0.39	U	0.134	J	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
METHYLENE CHLORIDE	mg/kg	34	0.01	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
O-XYLENE	mg/kg	NC	NC	0.086	U	0.078	U	0.0186	J	0.0443	J	0.0013	U	0.00046	J	0.00160		0.00058	J	0.00075	J	0.0011	U	0.063	U
STYRENE	mg/kg	90	3	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
TETRACHLOROETHENE	mg/kg	2	0.005	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	*0.0065*	*U*	*0.0057*	*U*	*0.0053*	*U*	*0.0053*	*U*	*0.006*	*U*	*0.0054*	*U*	*0.32*	*U*
TOLUENE	mg/kg	6300	7	0.086	U	0.078	U	0.07	U	0.17	U	0.0013	U	0.0011	U	0.00037	J	0.0011	U	0.0012	U	0.0011	U	0.063	U
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.43	U	0.39	U	0.35	U	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
TRICHLOROETHENE	mg/kg	7	0.01	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	*0.32*	*U*
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.43	U	0.39	U	0.35	U	0.87	U	0.0065	U	0.0057	U	0.0053	U	0.0053	U	0.006	U	0.0054	U	0.32	U
VINYL CHLORIDE	mg/kg	0.7	0.005	*0.43*	*U*	*0.39*	*U*	*0.35*	*U*	*0.87*	*U*	*0.0065*	*U*	*0.0057*	*U*	*0.0053*	*U*	*0.0053*	*U*	*0.006*	*U*	*0.0054*	*U*	*0.32*	*U*
XYLENES, M & P	mg/kg	NC	NC	0.0454	J	0.078	U	0.0461	J	0.144	J	0.0013	U	0.00083	J	0.00210		0.00063	J	0.00089	J	0.0011	U	0.063	U
XYLENES, TOTAL	mg/kg	12000	19	0.0454	J	0.078	U	0.0648	J	0.188		0.0013	U	0.0013		0.0037		0.0012		0.0016		0.0011	U	0.063	U
TOTAL TICS, ALKANES	mg/kg			0		0		0		0		0.365	J	0.0187	J	0		0.009	J	0		0		0	
TOTAL TICS, VOLATILES	mg/kg			20.41	J	15.73	J	47.8	J	79.5	J	0.342	J	3.8348	J	5.6923	J	0.4486	J	0.7893	J	0.0485	J	12.04	J

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE A

Petroleum Soil Sample Results – VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-12-022714		124-A_B-Pet-13-022714		124-A_B-Pet-14-022714		124-A_B-Pet-15-022714		124-A_B-Pet-16-022714		124-A_B-Pet-17-031214		124-A_B-Pet-18-031214		124-A_B-Pet-19-031214		124-A_B-Pet-20-031214		124-A_B-Pet-21-031414		124-A_B-Pet-22-031414	
Lab Sample ID				JB60759-3		JB60759-4		JB60759-5		JB60759-6		JB60759-7		JB61696-1		JB61696-2		JB61696-3		JB61696-4		JB62045-1		JB62045-2	
Date Sampled		NJ 2012 MOST	NJ 2013	02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/14/2014		03/14/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	*2.9*	*U*	0.3	U	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
1,1-DICHLOROETHANE	mg/kg	8	0.2	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
1,1-DICHLOROETHENE	mg/kg	11	0.008	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	*2.9*	*U*	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*5.9*	*U*	*0.61*	*U*	*0.014*	*U*	*1*	*U*	*0.01*	*U*	*0.62*	*U*	*0.63*	*U*	*0.61*	*U*	*0.63*	*U*	*0.0097*	*U*	*0.011*	*U*
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	*0.59*	*U*	*0.061*	*U*	0.0014	U	*0.1*	*U*	0.001	U	*0.062*	*U*	*0.063*	*U*	*0.061*	*U*	*0.063*	*U*	0.00097	U	0.0011	U
1,2-DICHLOROBENZENE	mg/kg	5300	17	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	*0.59*	*U*	*0.061*	*U*	0.0014	U	*0.1*	*U*	0.001	U	*0.062*	*U*	*0.063*	*U*	*0.061*	*U*	*0.063*	*U*	0.00097	U	0.0011	U
1,2-DICHLOROPROPANE	mg/kg	2	0.005	*2.9*	*U*	*0.3*	*U*	*0.007*	*U*	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	*0.0056*	*U*
1,3-DICHLOROBENZENE	mg/kg	5300	19	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
1,4-DICHLOROBENZENE	mg/kg	5	2	*2.9*	*U*	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
2-BUTANONE	mg/kg	3100	0.9	*5.9*	*U*	0.61	U	0.014	U	*1*	*U*	0.01	U	0.62	U	0.63	U	0.61	U	0.63	U	0.0097	U	0.011	U
2-HEXANONE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
ACETONE	mg/kg	70000	19	5.9	U	0.61	U	0.0115	J	1	U	0.0088	J	0.62	U	0.63	U	0.61	U	0.63	U	0.185		0.123	
BENZENE	mg/kg	2	0.005	*0.59*	*U*	*0.061*	*U*	0.0014	U	*0.1*	*U*	0.001	U	*0.062*	*U*	*0.063*	*U*	*0.061*	*U*	*0.063*	*U*	0.00097	U	0.0033	
BROMOCHLOROMETHANE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	*2.9*	*U*	*0.3*	*U*	*0.007*	*U*	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	*0.0056*	*U*
BROMOFORM	mg/kg	81	0.03	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
BROMOMETHANE	mg/kg	25	0.04	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
CARBON DISULFIDE	mg/kg	7800	6	2.9	U	0.3	U	0.00087	J	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.00069	J	0.0013	J
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	*2.9*	*U*	*0.3*	*U*	*0.007*	*U*	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	*0.0056*	*U*
CHLOROBENZENE	mg/kg	510	0.6	*2.9*	*U*	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
CHLOROETHANE	mg/kg	220	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
CHLOROFORM	mg/kg	0.6	0.4	*2.9*	*U*	0.3	U	0.007	U	*0.5*	*U*	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
CHLOROMETHANE	mg/kg	4	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	*2.9*	*U*	0.3	U	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
CYCLOHEXANE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
Dibromochloromethane	mg/kg	3	0.005	*2.9*	*U*	*0.3*	*U*	*0.007*	*U*	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	*0.0056*	*U*
DICHLORODIFLUOROMETHANE	mg/kg	490	39	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
ETHYLBENZENE	mg/kg	7800	13	0.167	J	0.082		0.00039	J	0.1	U	0.00031	J	0.062	U	0.063	U	0.061	U	0.063	U	0.0008	J	0.106	
ISOPROPYLBENZENE	mg/kg	NC	NC	2.9	U	0.0238	J	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.00027	J	0.0176	
METHYL ACETATE	mg/kg	78000	22	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	*0.59*	*U*	0.061	U	0.0014	U	0.1	U	0.001	U	0.062	U	0.063	U	0.061	U	0.063	U	0.00097	U	0.0011	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.00048	J
METHYLENE CHLORIDE	mg/kg	34	0.01	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.0056	U
O-XYLENE	mg/kg	NC	NC	0.203	J	0.09660		0.00045	J	0.1	U	0.00032	J	0.062	U	0.063	U	0.061	U	0.063	U	0.00110		0.1060	
STYRENE	mg/kg	90	3	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
TETRACHLOROETHENE	mg/kg	2	0.005	*2.9*	*U*	*0.3*	*U*	*0.007*	*U*	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	*0.0056*	*U*
TOLUENE	mg/kg	6300	7	0.59	U	0.034	J	0.0014	U	0.1	U	0.001	U	0.062	U	0.063	U	0.061	U	0.063	U	0.00035	J	0.0436	
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	*2.9*	*U*	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
TRICHLOROETHENE	mg/kg	7	0.01	*2.9*	*U*	*0.3*	*U*	0.007	U	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	0.00039	J
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	2.9	U	0.3	U	0.007	U	0.5	U	0.005	U	0.31	U	0.32	U	0.31	U	0.32	U	0.0048	U	0.0056	U
VINYL CHLORIDE	mg/kg	0.7	0.005	*2.9*	*U*	*0.3*	*U*	*0.007*	*U*	*0.5*	*U*	0.005	U	*0.31*	*U*	*0.32*	*U*	*0.31*	*U*	*0.32*	*U*	0.0048	U	*0.0056*	*U*
XYLENES, M & P	mg/kg	NC	NC	0.524	J	0.2560		0.0014	U	0.1	U	0.001	U	0.062	U	0.063	U	0.061	U	0.063	U	0.00210		0.2610	
XYLENES, TOTAL	mg/kg	12000	19	0.727		0.352		0.00095	J	0.0229	J	0.00062	J	0.062	U	0.063	U	0.061	U	0.063	U	0.0032		0.367	
TOTAL TICS, ALKANES	mg/kg			0		0		0		0		0		0		0		0		0		0.287	J	0	
TOTAL TICS, VOLATILES	mg/kg			321.5	J	113.93	J	0.111	J	27.08	J	0.058	J	6.67	J	18.11	J	23.74	J	3.48	J	0.9	J	3.947	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE A

Petroleum Soil Sample Results – VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID Lab Sample ID Date Sampled		NJ 2012 MOST	NJ 2013	124-A_B-Pet-23-031414 JB62045-3 03/14/2014		124-A_B-Pet-24-031414 JB62045-4 03/14/2014		124-A_B-Pet-25-042214 JB65312-1A 04/22/2014		124-A_B-Pet-26-042214 JB65312-2A 04/22/2014		124-A_B-Pet-27-052214 JB67718-1A 05/22/2014		124-A_B-Pet-28-052214 JB67718-2A 05/22/2014		124-A_B-Pet-29-052214 JB67718-3A 05/22/2014		124-A_B-Pet-30-052214 JB67718-4A 05/22/2014		124-A_B-Pet-31-052214 JB67718-5A 05/22/2014		124-A_B-Pet-32-052214 JB67718-6A 05/22/2014		124-A_B-Pet-33-052214 JB67718-7A 05/22/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	0.27	U
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.01*	*U*	*0.01*	*U*	*0.011*	*U*	*0.011*	*U*	*0.58*	*U*	*0.58*	*U*	*0.0099*	*U*	*0.011*	*U*	*0.66*	*U*	*0.01*	*U*	*0.55*	*U*
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.001	U	0.001	U	0.0011	U	0.0011	U	*0.058*	*U*	*0.058*	*U*	0.00099	U	0.0011	U	*0.066*	*U*	0.001	U	*0.055*	*U*
1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.001	U	0.001	U	0.0011	U	0.0011	U	*0.058*	*U*	*0.058*	*U*	0.00099	U	0.0011	U	*0.066*	*U*	0.001	U	*0.055*	*U*
1,2-DICHLOROPROPANE	mg/kg	2	0.005	*0.0051*	*U*	0.005	U	*0.0054*	*U*	*0.0053*	*U*	*0.29*	*U*	*0.29*	*U*	0.0049	U	*0.0053*	*U*	*0.33*	*U*	*0.0052*	*U*	*0.27*	*U*
1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
1,4-DICHLOROBENZENE	mg/kg	5	2	0.0051	U	0.005	U	0.0032	J	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
2-BUTANONE	mg/kg	3100	0.9	0.01	U	0.01	U	0.011	U	0.011	U	0.58	U	0.58	U	0.0099	U	0.011	U	0.66	U	0.01	U	0.55	U
2-HEXANONE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
ACETONE	mg/kg	70000	19	0.0758		0.189		0.011	U	0.011	U	0.58	U	0.58	U	0.0099	U	0.011	U	0.66	U	0.01	U	0.55	U
BENZENE	mg/kg	2	0.005	0.0019		0.001	U	0.0011	U	0.0011	U	*0.058*	*U*	*0.058*	*U*	0.00099	U	0.0011	U	*0.066*	*U*	0.001	U	*0.055*	*U*
BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	*0.0051*	*U*	0.005	U	*0.0054*	*U*	*0.0053*	*U*	*0.29*	*U*	*0.29*	*U*	0.0049	U	*0.0053*	*U*	*0.33*	*U*	*0.0052*	*U*	*0.27*	*U*
BROMOFORM	mg/kg	81	0.03	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
BROMOMETHANE	mg/kg	25	0.04	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
CARBON DISULFIDE	mg/kg	7800	6	0.0014	J	0.0021	J	0.0054	U	0.0053	U	0.29	U	0.29	U	0.00032	J	0.00059	J	0.33	U	0.0052	U	0.27	U
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	*0.0051*	*U*	0.005	U	*0.0054*	*U*	*0.0053*	*U*	*0.29*	*U*	*0.29*	*U*	0.0049	U	*0.0053*	*U*	*0.33*	*U*	*0.0052*	*U*	*0.27*	*U*
CHLOROBENZENE	mg/kg	510	0.6	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
CHLOROETHANE	mg/kg	220	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
CHLOROFORM	mg/kg	0.6	0.4	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
CHLOROMETHANE	mg/kg	4	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0051	U	0.005	U	0.0054	U	0.0022	J	0.29	U	0.29	U	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	0.27	U
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
CYCLOHEXANE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
Dibromochloromethane	mg/kg	3	0.005	*0.0051*	*U*	0.005	U	*0.0054*	*U*	*0.0053*	*U*	*0.29*	*U*	*0.29*	*U*	0.0049	U	*0.0053*	*U*	*0.33*	*U*	*0.0052*	*U*	*0.27*	*U*
DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
ETHYLBENZENE	mg/kg	7800	13	0.114		0.0022		0.0011	U	0.0011	U	0.127		0.106		0.00099	U	0.0011	U	0.078		0.001	U	0.0887	
ISOPROPYLBENZENE	mg/kg	NC	NC	0.0223		0.00066	J	0.0054	U	0.0053	U	0.29	U	0.0157	J	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
METHYL ACETATE	mg/kg	78000	22	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.001	U	0.001	U	0.0011	U	0.0011	U	0.058	U	0.058	U	0.00099	U	0.0011	U	0.066	U	0.001	U	0.055	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	0.00048	J	0.005	U	0.0054	U	0.0053	U	0.0787	J	0.0167	J	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
METHYLENE CHLORIDE	mg/kg	34	0.01	0.0051	U	0.005	U	0.0054	U	0.0053	U	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
O-XYLENE	mg/kg	NC	NC	0.1250		0.00260		0.0011	U	0.0011	U	0.0269	J	0.0225	J	0.00099	U	0.0011	U	0.0339	J	0.001	U	0.0121	J
STYRENE	mg/kg	90	3	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
TETRACHLOROETHENE	mg/kg	2	0.005	*0.0051*	*U*	0.005	U	*0.0054*	*U*	*0.0053*	*U*	*0.29*	*U*	*0.29*	*U*	0.0049	U	*0.0053*	*U*	*0.33*	*U*	*0.0052*	*U*	*0.27*	*U*
TOLUENE	mg/kg	6300	7	0.0276		0.00066	J	0.0011	U	0.0011	U	0.0123	J	0.058	U	0.00099	U	0.0011	U	0.066	U	0.001	U	0.055	U
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
TRICHLOROETHENE	mg/kg	7	0.01	0.0051	U	0.005	U	0.0054	U	0.00084	J	*0.29*	*U*	*0.29*	*U*	0.0049	U	0.0053	U	*0.33*	*U*	0.0052	U	*0.27*	*U*
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0051	U	0.005	U	0.0054	U	0.0053	U	0.29	U	0.29	U	0.0049	U	0.0053	U	0.33	U	0.0052	U	0.27	U
VINYL CHLORIDE	mg/kg	0.7	0.005	*0.0051*	*U*	0.005	U	*0.0054*	*U*	*0.0053*	*U*	*0.29*	*U*	*0.29*	*U*	0.0049	U	*0.0053*	*U*	*0.33*	*U*	*0.0052*	*U*	*0.27*	*U*
XYLENES, M & P	mg/kg	NC	NC	0.2870		0.00550		0.0011	U	0.0011	U	0.2560		0.3380		0.00099	U	0.0011	U	0.1940		0.001	U	0.1130	
XYLENES, TOTAL	mg/kg	12000	19	0.412		0.0081		0.0011	U	0.0011	U	0.283		0.36		0.00099	U	0.0011	U	0.228		0.001	U	0.125	
TOTAL TICS, ALKANES	mg/kg			0		0.012	J	0.206	J	0		4.9	J	6.3	J	0.211	J	0.113	J	0		0		0	
TOTAL TICS, VOLATILES	mg/kg			2.919	J	1.981	J	0.753	J	0.331	J	66.3	J	24.1	J	0.442	J	0.582	J	6.92	J	0		48.5	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE A

Petroleum Soil Sample Results – VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID Lab Sample ID Date Sampled		NJ 2012 MOST	NJ 2013	124-A_B-Pet-34-060414 JB68443-1A 06/04/2014		124-A_B-Pet-35-060414 JB68443-2A 06/04/2014		124-A_B-Pet-36-060414 JB68443-3A 06/04/2014		124-A_B-Pet-37-060414 JB68443-4A 06/04/2014		124-A_B-Pet-38-062714 JB70484-1A 06/27/2014		124-A_B-Pet-39-062714 JB70484-2A 06/27/2014		124-A_B-Pet-40-062714 JB70484-3A 06/27/2014		124-A_B-Pet-41-062714 JB70484-4A 06/27/2014		124-A_B-Pet-42-062714 JB70484-5A 06/27/2014		124-A_B-Pet-43-081414 JB74045-1 08/14/2014		124-A_B-Pet-44-081414 JB74045-2 08/14/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.0092*	*U*	*0.01*	*U*	*0.0093*	*U*	*0.0092*	*U*	*0.0056*	*U*	0.0045	U	*0.0052*	*U*	*0.0091*	*U*	*0.0067*	*U*	*0.0054*	*U*	*0.0053*	*U*
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
1,2-DICHLOROPROPANE	mg/kg	2	0.005	0.0046	U	*0.0052*	*U*	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
1,4-DICHLOROBENZENE	mg/kg	5	2	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
2-BUTANONE	mg/kg	3100	0.9	0.0092	U	0.01	U	0.0093	U	0.0092	U	0.011	U	0.0091	U	0.01	U	0.018	U	0.013	U	0.011	U	0.011	U
2-HEXANONE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
ACETONE	mg/kg	70000	19	0.0092	U	0.01	U	0.0093	U	0.0092	U	0.0299		0.0234		0.0206		0.018	U	0.0203		0.011	U	0.0057	J
BENZENE	mg/kg	2	0.005	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.00056	U	0.00045	U	0.00052	U	0.00091	U	0.00067	U	0.00054	U	0.00053	U
BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	0.0046	U	*0.0052*	*U*	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
BROMOFORM	mg/kg	81	0.03	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
BROMOMETHANE	mg/kg	25	0.04	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
CARBON DISULFIDE	mg/kg	7800	6	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0011	J	0.0033		0.00092	J	0.001	J	0.0022	U	0.0021	U
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	0.0046	U	*0.0052*	*U*	0.0047	U	0.0046	U	0.0022	U	0.001	J	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
CHLOROBENZENE	mg/kg	510	0.6	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0033		0.0174		0.0034		0.0022	J	0.00089	J	0.0022	U	0.0021	U
CHLOROETHANE	mg/kg	220	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
CHLOROFORM	mg/kg	0.6	0.4	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.00036	J	0.0029		0.0042		0.00074	J	0.00072	J	0.0022	U	0.0021	U
CHLOROMETHANE	mg/kg	4	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
CYCLOHEXANE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
Dibromochloromethane	mg/kg	3	0.005	0.0046	U	*0.0052*	*U*	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
ETHYLBENZENE	mg/kg	7800	13	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
ISOPROPYLBENZENE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.00027	J	0.0091	U	0.0067	U	0.0054	U	0.0053	U
METHYL ACETATE	mg/kg	78000	22	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.00067	J
METHYLENE CHLORIDE	mg/kg	34	0.01	0.0046	U	0.0019	J	0.0047	U	0.0046	U	0.0023	J	0.0016	J	0.0019	J	0.0091	U	0.0067	U	0.0054	U	0.0053	U
O-XYLENE	mg/kg	NC	NC	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
STYRENE	mg/kg	90	3	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
TETRACHLOROETHENE	mg/kg	2	0.005	0.0046	U	*0.0052*	*U*	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
TOLUENE	mg/kg	6300	7	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
TRICHLOROETHENE	mg/kg	7	0.01	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0046	U	0.0052	U	0.0047	U	0.0046	U	0.0056	U	0.0045	U	0.0052	U	0.0091	U	0.0067	U	0.0054	U	0.0053	U
VINYL CHLORIDE	mg/kg	0.7	0.005	0.0046	U	*0.0052*	*U*	0.0047	U	0.0046	U	0.0022	U	0.0018	U	0.0021	U	0.0036	U	0.0027	U	0.0022	U	0.0021	U
XYLENES, M & P	mg/kg	NC	NC	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
XYLENES, TOTAL	mg/kg	12000	19	0.00092	U	0.001	U	0.00093	U	0.00092	U	0.0011	U	0.00091	U	0.001	U	0.0018	U	0.0013	U	0.0011	U	0.0011	U
TOTAL TICS, ALKANES	mg/kg			0.0077	J	0.246	J	0.074	J	0.55	J	0		0.011	J	0		0		0		0		0	
TOTAL TICS, VOLATILES	mg/kg			0.1384	J	0.686	J	0.287	J	1.819	J	0.0266	J	0.1977	J	0.75	J	0		0.0069	J	0.0063	J	0.0335	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE A

Petroleum Soil Sample Results – VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID Lab Sample ID Date Sampled		NJ 2012 MOST	NJ 2013	124-A_B-Pet-45-081414 JB74045-3 08/14/2014		124-A_B-Pet-46-081914 JB74372-1 08/19/2014		124-A_B-Pet-47-090514 JB75848-1 09/05/2014		124-A_B-Pet-48-090514 JB75848-2 09/05/2014		124-A_B-Pet-49-090514 JB75848-3 09/05/2014		124-A_B-Pet-50-102414 JB80064-1 10/24/2014		124-A_B-Pet-51-102414 JB80064-2 10/24/2014		124-A_B-Pet-52-102414 JB80064-3 10/24/2014		124-A_B-Pet-53-102414 JB80064-4 10/24/2014		124-C-Pet-01-102414 JB80065-1 10/24/2014		134-SB-604-0627 JB70486-1A 06/27/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.002	J	0.0071	U	0.0049	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0011	U	*0.054*	*U*	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.0053*	*U*	*0.27*	*U*	*0.0054*	*U*	0.0049	U	*0.0053*	*U*	*0.0059*	*U*	0.0046	U	0.0042	U	*0.0068*	*U*	*0.0071*	*U*	0.0049	U
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.0011	U	*0.054*	*U*	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.0011	U	*0.054*	*U*	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
1,2-DICHLOROPROPANE	mg/kg	2	0.005	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
1,4-DICHLOROBENZENE	mg/kg	5	2	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
2-BUTANONE	mg/kg	3100	0.9	0.011	U	0.54	U	0.011	U	0.0097	U	0.011	U	0.012	U	0.0092	U	0.0084	U	0.014	U	0.014	U	0.0097	U
2-HEXANONE	mg/kg	NC	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
ACETONE	mg/kg	70000	19	0.0068	J	0.54	U	0.011	U	0.0097	U	0.011	U	0.012	U	0.0065	J	0.0339		0.014	U	0.014	U	0.014	
BENZENE	mg/kg	2	0.005	0.00053	U	*0.027*	*U*	0.00054	U	0.00049	U	0.00053	U	0.00059	U	0.0002	J	0.00042	U	0.00069		0.00092		0.00049	U
BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
BROMOFORM	mg/kg	81	0.03	0.0053	U	*0.27*	*U*	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
BROMOMETHANE	mg/kg	25	0.04	0.0053	U	*0.27*	*U*	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
CARBON DISULFIDE	mg/kg	7800	6	0.00054	J	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.00041	J	0.00066	J	0.0018		0.00046	J	0.0028	U	0.00062	J
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
CHLOROBENZENE	mg/kg	510	0.6	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0779	
CHLOROETHANE	mg/kg	220	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
CHLOROFORM	mg/kg	0.6	0.4	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.00052	J	0.0027	U	0.0028	U	0.00048	J
CHLOROMETHANE	mg/kg	4	NC	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.00048	J	0.00097	U
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
CYCLOHEXANE	mg/kg	NC	NC	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.00083	J	0.0017	U	0.0027	U	0.0028	U	0.0019	U
Dibromochloromethane	mg/kg	3	0.005	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
ETHYLBENZENE	mg/kg	7800	13	0.0011	U	0.0173	J	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00083	J	0.00033	J	0.0014	U	0.0014	U	0.0036	
ISOPROPYLBENZENE	mg/kg	NC	NC	0.0053	U	0.0169	J	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.00031	J	0.0042	U	0.00095	J	0.0071	U	0.00023	J
METHYL ACETATE	mg/kg	78000	22	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0021	U	0.168		0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.002		0.00019	J	0.0027	U	0.0028	U	0.0019	U
METHYLENE CHLORIDE	mg/kg	34	0.01	0.0053	U	*0.27*	*U*	0.0054	U	0.0049	U	0.0053	U	0.0022	J	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
O-XYLENE	mg/kg	NC	NC	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00200		0.00077	J	0.0014	U	0.0005	J	0.00810	
STYRENE	mg/kg	90	3	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
TETRACHLOROETHENE	mg/kg	2	0.005	0.0011	U	*0.054*	*U*	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
TOLUENE	mg/kg	6300	7	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00054	J	0.00084	U	0.0014	U	0.0014	U	0.00097	U
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0014	U	0.00097	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0021	U	0.11	U	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
TRICHLOROETHENE	mg/kg	7	0.01	0.0011	U	*0.054*	*U*	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00092	U	0.00084	U	0.0014	U	0.0023		0.00097	U
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0053	U	0.27	U	0.0054	U	0.0049	U	0.0053	U	0.0059	U	0.0046	U	0.0042	U	0.0068	U	0.0071	U	0.0049	U
VINYL CHLORIDE	mg/kg	0.7	0.005	0.0021	U	*0.11*	*U*	0.0022	U	0.0019	U	0.0021	U	0.0024	U	0.0018	U	0.0017	U	0.0027	U	0.0028	U	0.0019	U
XYLENES, M & P	mg/kg	NC	NC	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.00160		0.00082	J	0.0014	U	0.0014	U	0.00380	
XYLENES, TOTAL	mg/kg	12000	19	0.0011	U	0.054	U	0.0011	U	0.00097	U	0.0011	U	0.0012	U	0.0036		0.0016		0.0014	U	0.0005	J	0.0119	
TOTAL TICS, ALKANES	mg/kg			0		0		0		0		0		0		0.0456	J	0		0		0		0	
TOTAL TICS, VOLATILES	mg/kg			0		159	J	0.03	J	0.0676	J	0.0499	J	0.0342	J	0.1223	J	0.2666	J	0.0303	J	0.009	J	0.0626	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

TABLE B

Petroleum Soil Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-01-010814		124-A_B-Pet-02-010814		124-A_B-Pet-03-012014		124-A_B-Pet-04-012814		124-A_B-Pet-05-012814		124-A_B-Pet-06-012814		124-A_B-Pet-07-012814		124-A_B-Pet-08-012814		124-A_B-Pet-09-012814		124-A_B-Pet-10-022714		124-A_B-Pet-11-022714	
Lab Sample ID				JB57182-1		JB57182-2		JB58165-1		JB58764-1		JB58764-2		JB58764-3		JB58764-4		JB58764-5		JB58764-6		JB60759-1		JB60759-2	
Date Sampled		NJ 2012 MOST	NJ 2013	01/08/2014		01/08/2014		01/20/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		02/27/2014		02/27/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1'-BIPHENYL	mg/kg	3100	140	0.032	J	0.103		0.176		0.721		0.646		0.723		0.0664	J	0.346		0.246		0.805		0.855	
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
1,4-DIOXANE	mg/kg	NC	NC	-		-		-		0.038	U	0.036	U	0.036	U	0.037	U	0.035	U	0.038	U	0.036	U	0.035	U
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.18	U	0.19	U	*0.21*	*U*	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.18	U	0.19	U	*0.21*	*U*	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.73*	*U*	*0.76*	*U*	*0.83*	*U*	*0.75*	*U*	*0.72*	*U*	*0.72*	*U*	*0.75*	*U*	*0.71*	*U*	*0.77*	*U*	*0.71*	*UJ*	*0.69*	*UJ*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.036	U	0.038	U	0.042	U	0.038	U	0.036	U	0.036	U	0.037	U	0.035	U	0.038	U	0.036	U	0.035	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.036	U	0.038	U	0.042	U	0.038	U	0.036	U	0.036	U	0.037	U	0.035	U	0.038	U	0.036	U	0.035	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
2-METHYLNAPHTHALENE	mg/kg	230	8	0.27		1.01		2.25		1.99		1.56		2.24		0.568		1.03		0.813		1.87		2.58	
2-METHYLPHENOL	mg/kg	310	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
2-NITROANILINE	mg/kg	39	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
2-NITROPHENOL	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
3-NITROANILINE	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.73*	*U*	*0.76*	*U*	*0.83*	*U*	*0.75*	*U*	*0.72*	*U*	*0.72*	*U*	*0.75*	*U*	*0.71*	*U*	*0.77*	*U*	*0.71*	*U*	*0.69*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
4-CHLOROANILINE	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
4-NITROANILINE	mg/kg	NC	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
4-NITROPHENOL	mg/kg	NC	NC	0.36	U	0.38	U	0.42	U	0.38	U	0.36	U	0.36	U	0.37	U	0.35	U	0.38	U	0.36	U	0.35	U
ACENAPHTHENE	mg/kg	3400	110	0.0987		0.231		0.486		2.65		2.47		2.07		0.484		1.38		0.996		3.53		2.44	
ACENAPHTHYLENE	mg/kg	300000	NC	0.036	U	0.151		0.042	U	0.202		0.2		0.249		0.0278	J	0.119		0.0928		0.19		0.138	
ACETOPHENONE	mg/kg	2	3	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
ANTHRACENE	mg/kg	17000	2400	0.132		0.287		0.624		3.56		3.49		2.62		0.803		13.1		8.92		31		17.6	
ATRAZINE	mg/kg	210	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
BENZALDEHYDE	mg/kg	6100	NC	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.19	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.22		0.339		**0.841**		**1.18**		**1.1**		**1.09**		0.154		**1.06**		**0.691**		**2.19**		**1.34**	
BENZO(A)PYRENE	mg/kg	0.2	0.2	**0.213**		**0.322**		**0.843**		**0.646**		**0.424**		**0.616**		0.096		**0.552**		**0.434**		**0.729**		**0.394**	
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.259		0.396		**1**		**0.89**		**0.726**		**0.888**		0.134		**0.927**		**0.601**		**1.75**		**0.806**	
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.145		0.245		0.51		0.322		0.19		0.352		0.0489		0.278		0.207		0.361		0.18	
BENZO(K)FLUORANTHENE	mg/kg	6	25	0.0948		0.137		0.434		0.298		0.238		0.299		0.0464		0.296		0.244		0.575		0.213	
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.185		4.52		0.672		0.0889		0.0642	J	0.0912		0.075	U	0.071	U	0.077	U	0.071	U	0.0535	J
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.073	U	0.576		0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
CAPROLACTAM	mg/kg	31000	12	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
CARBAZOLE	mg/kg	24	NC	0.0634	J	0.0576	J	0.131		1.42		1.37		0.985		0.45		5.54		2.91		12.7		7.1	
CHRYSENE	mg/kg	62	80	0.247		0.326		0.952		1.31		1.22		1.22		0.194		1.35		0.871		2.51		1.28	
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.073	U	0.112		0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.0406		0.0637		0.133		0.101		0.068		0.108		0.0151	J	0.0829		0.0645		0.139		0.0685	
DIBENZOFURAN	mg/kg	NC	NC	0.151		0.182		0.511		2.76		2.84		2.54		0.341		1.59		1.12		4.65		3.12	
DIETHYL PHTHALATE	mg/kg	49000	88	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
FLUORANTHENE	mg/kg	2300	1300	0.515		0.745		2.04		6.53		4.76		5.2		0.657		5.22		2.37		12.9		6.98	
FLUORENE	mg/kg	2300	170	0.325		0.529		0.727		3.17		2.93		1.91		0.438		2.42		1.62		5.46		3.44	
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.036	U	0.038	U	0.042	U	0.038	U	0.036	U	0.036	U	0.037	U	0.035	U	0.038	U	0.036	U	0.035	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.36	U	0.38	U	0.42	U	0.38	U	0.36	U	0.36	U	0.37	U	0.35	U	0.38	U	0.36	U	0.35	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.18	U	0.19	U	*0.21*	*U*	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.147		0.215		0.526		0.34		0.207		0.359		0.051		0.293		0.221		0.372		0.172	
ISOPHORONE	mg/kg	510	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.18	U	0.19	U	0.21	U	0.19	U	0.18	U	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U
NAPHTHALENE	mg/kg	6	25	0.0682		0.109		0.859		**6.53**		3.09		4.41		2.59		1.34		1.21		**7.62**		4.34	
NITROBENZENE	mg/kg	31	0.2	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
PHENANTHRENE	mg/kg	300000	NC	0.655		1.49		2.48		11.9		8.91		9.66		0.852		7.47		3.21		20.1		14.5	
PHENOL	mg/kg	18000	8	0.073	U	0.076	U	0.083	U	0.075	U	0.072	U	0.072	U	0.075	U	0.071	U	0.077	U	0.071	U	0.069	U
PYRENE	mg/kg	1700	840	0.463		0.971		1.67		3.02		3.16		2.83		0.455		2.59		1.67		8.04		4.09	
TOTAL TICS, ALKANES	mg/kg			10.49	J	41.84	J	71.3	J	6.05	J	6.46	J	9.21	J	0.41	J	6.84	J	3.98	J	0		0	
TOTAL TICS, SEMI-VOLATILES	mg/kg			14.73	J	8.45	J	132.3	J	12.01	J	11.62	J	17.07	J	5.11	J	19.02	J	10.59	J	15.98	J	10.75	J

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

B: Analyte found in sample and associated blank

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE B

Petroleum Soil Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-12-022714		124-A_B-Pet-13-022714		124-A_B-Pet-14-022714		124-A_B-Pet-15-022714		124-A_B-Pet-16-022714		124-A_B-Pet-17-031214		124-A_B-Pet-18-031214		124-A_B-Pet-19-031214		124-A_B-Pet-20-031214		124-A_B-Pet-21-031414		124-A_B-Pet-22-031414	
Lab Sample ID				JB60759-3		JB60759-4		JB60759-5		JB60759-6		JB60759-7		JB61696-1		JB61696-2		JB61696-3		JB61696-4		JB62045-1		JB62045-2	
Date Sampled		NJ 2012 MOST	NJ 2013	02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/14/2014		03/14/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1'-BIPHENYL	mg/kg	3100	140	20.2		2.37		0.848		0.874		0.252		1.71		2.09		0.899		0.194		0.403		3.49	
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
1,4-DIOXANE	mg/kg	NC	NC	0.038	U	0.038	U	0.042	U	0.046	U	0.037	U	0.035	U	0.038	U	0.039	U	0.034	U	0.034	U	0.034	U
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.19	U	0.19	U	*0.21*	*U*	*0.23*	*U*	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.19	U	0.19	U	*0.21*	*U*	*0.23*	*U*	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.807	J	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.76*	*UJ*	*0.77*	*UJ*	*0.83*	*UJ*	*0.91*	*UJ*	*0.75*	*UJ*	*0.7*	*U*	*0.75*	*U*	*0.77*	*U*	*0.68*	*U*	*0.67*	*U*	*0.68*	*U*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.038	U	0.038	U	0.042	U	0.046	U	0.037	U	0.035	U	0.038	U	0.039	U	0.034	U	0.034	U	0.034	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.038	U	0.038	U	0.042	U	0.046	U	0.037	U	0.035	U	0.038	U	0.039	U	0.034	U	0.034	U	0.034	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
2-METHYLNAPHTHALENE	mg/kg	230	8	**89.2**		**9.04**		1.75		1.39		0.751		2.21		3.22		1.13		1.02		0.493		**13.6**	
2-METHYLPHENOL	mg/kg	310	NC	0.108	J	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
2-NITROANILINE	mg/kg	39	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
2-NITROPHENOL	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.4	J	0.06	J	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
3-NITROANILINE	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.76*	*U*	*0.77*	*U*	*0.83*	*U*	*0.91*	*U*	*0.75*	*U*	*0.7*	*U*	*0.75*	*U*	*0.77*	*U*	*0.68*	*U*	*0.67*	*U*	*0.68*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
4-CHLOROANILINE	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
4-NITROANILINE	mg/kg	NC	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
4-NITROPHENOL	mg/kg	NC	NC	0.38	U	0.38	U	0.42	U	0.46	U	0.37	U	0.35	U	0.38	U	0.39	U	0.34	U	0.34	U	0.34	U
ACENAPHTHENE	mg/kg	3400	110	64.4		6.49		3.23		3.51		1.19		5.56		8.08		3.31		1.33		2.17		15.3	
ACENAPHTHYLENE	mg/kg	300000	NC	1.93	J	0.289		0.248		0.175		0.0867		0.288		0.406		0.174		0.131		0.169		0.493	
ACETOPHENONE	mg/kg	2	3	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
ANTHRACENE	mg/kg	17000	2400	331		32.9		26.9		35.3		11		36.7		39.9		23.5		1.23		3.03		22.6	
ATRAZINE	mg/kg	210	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
BENZALDEHYDE	mg/kg	6100	NC	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	**18.4**		**2.96**		**2.02**		**1.79**		**0.869**		**3.18**		**4.44**		**1.8**		**1.13**		**1.52**		**3.46**	
BENZO(A)PYRENE	mg/kg	0.2	0.2	**3.23**		**0.8**		**0.909**		**0.825**		**0.505**		**0.962**		**1.29**		**0.534**		**1.09**		**0.973**		**1.36**	
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	**7.59**		**1.52**		**1.85**		**1.5**		**0.807**		**1.68**		**2.16**		**0.943**		**1.21**		**1.17**		**2.3**	
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	1.08	J	0.311		0.387		0.368		0.253		0.354		0.497		0.198		0.54		0.416		0.448	
BENZO(K)FLUORANTHENE	mg/kg	6	25	1.45	J	0.427		0.511		0.396		0.222		0.571		0.726		0.377		0.419		0.379		0.609	
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.076	U	0.0534	J	0.083	U	0.0585	J	0.075	U	0.07	U	0.149		0.077	U	0.068	U	0.0426	J	0.068	U
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
CAPROLACTAM	mg/kg	31000	12	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
CARBAZOLE	mg/kg	24	NC	**199**		15.9		11.9		16.3		4.41		17		-		9.55		0.803		1.22		8.77	
CHRYSENE	mg/kg	62	80	15.9		2.73		2.28		1.99		0.985		2.99		3.48		1.67		1.13		1.41		3.16	
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	**0.582**	**J**	0.129		0.15		0.134		0.0924		0.14		0.187		0.0814		0.166		0.12		0.167	
DIBENZOFURAN	mg/kg	NC	NC	71.2		7.73		3.86		3.93		1.28		6.31		-		3.87		1.11		1.65		14.7	
DIETHYL PHTHALATE	mg/kg	49000	88	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
FLUORANTHENE	mg/kg	2300	1300	111		13.5		9.7		9.91		3.25		13.1		18.3		8.27		1.94		3.83		19.4	
FLUORENE	mg/kg	2300	170	89.7		8.65		5.15		4.41		1.72		8.7		11.5		5.18		1.36		2.5		17.3	
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.038	U	0.038	U	0.042	U	0.046	U	0.037	U	0.035	U	0.038	U	0.039	U	0.034	U	0.034	U	0.034	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.38	U	0.38	U	0.42	U	0.46	U	0.37	U	0.35	U	0.38	U	0.39	U	0.34	U	0.34	U	0.34	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.19	U	0.19	U	*0.21*	*U*	*0.23*	*U*	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	**1.27**	**J**	0.315		0.392		0.353		0.229		0.439		0.591		0.243		**0.616**		0.371		0.424	
ISOPHORONE	mg/kg	510	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.19	U	0.19	U	0.21	U	0.23	U	0.19	U	0.17	U	0.19	U	0.19	U	0.17	U	0.17	U	0.17	U
NAPHTHALENE	mg/kg	6	25	**234**		**30.1**		1.9		1.77		1.05		3.08		5.56		1.62		3.61		2.12		**60.8**	
NITROBENZENE	mg/kg	31	0.2	0.076	U	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
PHENANTHRENE	mg/kg	300000	NC	270		30.8		17.1		19.9		5.3		26.1		34.8		15.8		2.3		6.81		50.4	
PHENOL	mg/kg	18000	8	0.0982	J	0.077	U	0.083	U	0.091	U	0.075	U	0.07	U	0.075	U	0.077	U	0.068	U	0.067	U	0.068	U
PYRENE	mg/kg	1700	840	59.4		7.47		6.92		7.3		2.56		8.65		12.5		5.49		1.5		3.02		12.2	
TOTAL TICS, ALKANES	mg/kg			0		0		0		0		0.48	J	0		3.22	J	0		0		0.46	J	0.6	J
TOTAL TICS, SEMI-VOLATILES	mg/kg			26.15	J	20.95	J	14.49	J	17.51	J	8.67	J	12.42	J	35	J	24.03	J	6.48	J	12.64	J	33.27	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

B: Analyte found in sample and associated blank

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE B

Petroleum Soil Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-23-031414		124-A_B-Pet-24-031414		124-A_B-Pet-25-042214		124-A_B-Pet-26-042214		124-A_B-Pet-27-052214		124-A_B-Pet-28-052214		124-A_B-Pet-29-052214		124-A_B-Pet-30-052214		124-A_B-Pet-31-052214		124-A_B-Pet-32-052214		124-A_B-Pet-33-052214	
Lab Sample ID				JB62045-3		JB62045-4		JB65312-1A		JB65312-2A		JB67718-1A		JB67718-2A		JB67718-3A		JB67718-4A		JB67718-5A		JB67718-6A		JB67718-7A	
Date Sampled		NJ 2012 MOST	NJ 2013	03/14/2014		03/14/2014		04/22/2014		04/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1'-BIPHENYL	mg/kg	3100	140	4.46		0.272		0.046	J	0.0661	J	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
1,4-DIOXANE	mg/kg	NC	NC	0.037	U	0.037	U	0.036	U	0.037	U	-		-		-		-		-		-		-	
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.74*	*U*	*0.75*	*U*	*0.73*	*U*	*0.75*	*U*	*0.71*	*U*	*0.7*	*U*	*0.7*	*U*	*0.65*	*U*	*0.7*	*U*	*0.71*	*U*	*0.67*	*U*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.037	U	0.037	U	0.036	U	0.037	U	0.036	U	0.035	U	0.035	U	0.033	U	0.035	U	0.035	U	0.033	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.037	U	0.037	U	0.036	U	0.037	U	0.036	U	0.035	U	0.035	U	0.033	U	0.035	U	0.035	U	0.033	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
2-METHYLNAPHTHALENE	mg/kg	230	8	**21**		1.08		0.073	U	0.217		0.473		0.0338	J	0.07	U	0.0341	J	0.07	U	0.0232	J	0.067	U
2-METHYLPHENOL	mg/kg	310	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
2-NITROANILINE	mg/kg	39	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
2-NITROPHENOL	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
3-NITROANILINE	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.74*	*U*	*0.75*	*U*	*0.73*	*U*	*0.75*	*U*	*0.71*	*U*	*0.7*	*U*	*0.7*	*U*	*0.65*	*U*	*0.7*	*U*	*0.71*	*U*	*0.67*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
4-CHLOROANILINE	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
4-NITROANILINE	mg/kg	NC	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
4-NITROPHENOL	mg/kg	NC	NC	0.37	U	0.37	U	0.36	U	0.37	U	0.36	U	0.35	U	0.35	U	0.33	U	0.35	U	0.35	U	0.33	U
ACENAPHTHENE	mg/kg	3400	110	19.3		1.24		0.181		1.01		0.245		0.035	U	0.035	U	0.033	U	0.035	U	0.035	U	0.204	
ACENAPHTHYLENE	mg/kg	300000	NC	0.534		0.0984		0.166		0.171		0.036	U	0.0319	J	0.0373		0.0172	J	0.035	U	0.0226	J	0.033	U
ACETOPHENONE	mg/kg	2	3	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
ANTHRACENE	mg/kg	17000	2400	24.4		1.86		0.441		0.585		0.036	U	0.0154	J	0.0248	J	0.0479		0.035	U	0.0187	J	0.033	U
ATRAZINE	mg/kg	210	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
BENZALDEHYDE	mg/kg	6100	NC	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	**3.89**		**0.682**		0.379		**0.953**		0.152		0.0922		0.104		0.0887		0.0481		0.0838		0.0732	
BENZO(A)PYRENE	mg/kg	0.2	0.2	**1.04**		**0.473**		**0.301**		**0.616**		0.163		0.116		0.134		0.103		0.0488		0.0931		0.0657	
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	**1.84**		0.539		0.329		**0.797**		0.182		0.117		0.125		0.0982		0.0504		0.0851		0.0561	
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.276		0.209		0.2		0.348		0.116		0.0748		0.0839		0.0698		0.0418		0.0693		0.0424	
BENZO(K)FLUORANTHENE	mg/kg	6	25	0.662		0.17		0.103		0.3		0.075		0.0442		0.0528		0.0436		0.0228	J	0.0417		0.0264	J
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.074	U	0.121		0.328		0.0658	J	0.0941	B	0.0614	JB	0.0544	JB	0.065	U	0.0586	JB	0.0481	JB	0.0652	JB
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
CAPROLACTAM	mg/kg	31000	12	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
CARBAZOLE	mg/kg	24	NC	9.33		0.723		0.127		0.196		0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
CHRYSENE	mg/kg	62	80	3.62		0.68		0.427		0.912		0.167		0.104		0.122		0.0942		0.0602		0.0894		0.0755	
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.074	U	0.075	U	0.0501	J	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.074	U	0.075	U	0.073	U	0.075	U	0.175		0.209		0.166		0.149		1.34		0.258		0.067	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.112		0.0636		0.0538		0.0959		0.0381		0.035	U	0.0206	J	0.0156	J	0.035	U	0.0213	J	0.033	U
DIBENZOFURAN	mg/kg	NC	NC	18		1.06		0.0776		0.406		0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
DIETHYL PHTHALATE	mg/kg	49000	88	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
FLUORANTHENE	mg/kg	2300	1300	23.5		2.29		0.635		3.28		0.19		0.109		0.11		0.102		0.072		0.0877		0.1	
FLUORENE	mg/kg	2300	170	21.4		1.44		0.149		0.552		0.359		0.035	U	0.035	U	0.0189	J	0.035	U	0.035	U	0.298	
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.037	U	0.037	U	0.036	U	0.037	U	0.036	U	0.035	U	0.035	U	0.033	U	0.035	U	0.035	U	0.033	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.37	U	0.37	U	0.36	U	0.37	U	0.36	U	0.35	U	0.35	U	0.33	U	0.35	U	0.35	U	0.33	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.286		0.183		0.203		0.388		0.112		0.076		0.0964		0.063		0.0406		0.0691		0.0339	
ISOPHORONE	mg/kg	510	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.18	U	0.19	U	0.18	U	0.19	U	0.18	U	0.17	U	0.17	U	0.16	U	0.18	U	0.18	U	0.17	U
NAPHTHALENE	mg/kg	6	25	**104**		5.21		0.08		0.155		0.036	U	0.0204	J	0.0153	J	0.0223	J	0.035	U	0.0187	J	0.033	U
NITROBENZENE	mg/kg	31	0.2	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
PHENANTHRENE	mg/kg	300000	NC	51.9		4.46		0.288		1.66		0.303		0.0374		0.0297	J	0.0563		0.0467		0.0302	J	0.149	
PHENOL	mg/kg	18000	8	0.074	U	0.075	U	0.073	U	0.075	U	0.071	U	0.07	U	0.07	U	0.065	U	0.07	U	0.071	U	0.067	U
PYRENE	mg/kg	1700	840	14.4		1.89		0.742		2.83		0.344		0.133		0.164		0.163		0.156		0.121		0.272	
TOTAL TICS, ALKANES	mg/kg			0.48	J	0.28	J	8.13	J	7.87	J	41.2	J	5.72	J	4.73	J	6.66	J	17.49	J	3.29	J	26.6	J
TOTAL TICS, SEMI-VOLATILES	mg/kg			33.44	J	7.79	J	18.02	J	53.72	J	42.2	J	4.78	J	4.88	J	7.84	J	16.36	J	3.03	J	30.87	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

B: Analyte found in sample and associated blank

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE B

Petroleum Soil Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-34-060414		124-A_B-Pet-35-060414		124-A_B-Pet-36-060414		124-A_B-Pet-37-060414		124-A_B-Pet-38-062714		124-A_B-Pet-39-062714		124-A_B-Pet-40-062714		124-A_B-Pet-41-062714		124-A_B-Pet-42-062714		124-A_B-Pet-43-081414		124-A_B-Pet-44-081414	
Lab Sample ID				JB68443-1A		JB68443-2A		JB68443-3A		JB68443-4A		JB70484-1A		JB70484-2A		JB70484-3A		JB70484-4A		JB70484-5A		J74045-1		J74045-2	
Date Sampled		NJ 2012 MOST	NJ 2013	06/04/2014		06/04/2014		06/04/2014		06/04/2014		06/27/2014		06/27/2014		06/27/2014		06/27/2014		06/27/2014		08/14/2014		08/14/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1'-BIPHENYL	mg/kg	3100	140	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.0176	J	0.074	U
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.19	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
1,4-DIOXANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		0.035	U	0.037	U
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	*0.25*	*U*	*0.24*	*U*	0.18	U	0.18	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	*0.25*	*U*	*0.24*	*U*	0.18	U	0.18	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.75*	*U*	*0.67*	*U*	*0.68*	*U*	*0.69*	*U*	*0.7*	*U*	*0.71*	*U*	*0.76*	*U*	*1*	*U*	*0.98*	*U*	*0.71*	*U*	*0.74*	*U*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.038	U	0.034	U	0.034	U	0.034	U	0.035	U	0.036	U	0.038	U	0.05	U	0.049	U	0.035	U	0.037	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.038	U	0.034	U	0.034	U	0.034	U	0.035	U	0.036	U	0.038	U	0.05	U	0.049	U	0.035	U	0.037	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
2-METHYLNAPHTHALENE	mg/kg	230	8	0.0742	J	0.221		0.0339	J	0.0583	J	0.07	U	0.071	U	0.0252	J	0.0407	J	0.0286	J	0.0651	J	0.0222	J
2-METHYLPHENOL	mg/kg	310	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
2-NITROANILINE	mg/kg	39	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
2-NITROPHENOL	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
3-NITROANILINE	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.75*	*U*	*0.67*	*U*	*0.68*	*U*	*0.69*	*U*	*0.7*	*U*	*0.71*	*U*	*0.76*	*U*	*1*	*U*	*0.98*	*U*	*0.71*	*U*	*0.74*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
4-CHLOROANILINE	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
4-NITROANILINE	mg/kg	NC	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
4-NITROPHENOL	mg/kg	NC	NC	0.38	U	0.34	U	0.34	U	0.34	U	0.35	U	0.36	U	0.38	U	0.5	U	0.49	U	0.35	U	0.37	U
ACENAPHTHENE	mg/kg	3400	110	0.039		0.0857		0.0139	J	0.0397		0.035	U	0.036	U	0.0329	J	0.05	U	0.0702		0.0302	J	0.0173	J
ACENAPHTHYLENE	mg/kg	300000	NC	0.0443		0.101		0.0307	J	0.0492		0.0145	J	0.036	U	0.0918		0.05	U	0.0813		0.0406		0.027	J
ACETOPHENONE	mg/kg	2	3	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
ANTHRACENE	mg/kg	17000	2400	0.0681		0.034	U	0.0333	J	0.0809		0.0166	J	0.0181	J	0.137		0.05	U	0.161		0.152		0.0534	
ATRAZINE	mg/kg	210	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
BENZALDEHYDE	mg/kg	6100	NC	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.182		0.479		0.113		0.178		0.0367		0.0442		0.384		0.0396	J	0.377		0.215		0.199	
BENZO(A)PYRENE	mg/kg	0.2	0.2	**0.201**		**0.58**		0.155		**0.233**		0.0304	J	0.0428		**0.405**		0.039	J	**0.346**		**0.206**		**0.203**	
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.236		**0.699**		0.183		0.284		0.0278	J	0.0577		0.402		0.0365	J	0.292		0.244		0.232	
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.134		0.387		0.0929		0.151		0.014	J	0.0263	J	0.196		0.0302	J	0.173		0.14		0.128	
BENZO(K)FLUORANTHENE	mg/kg	6	25	0.0816		0.252		0.0565		0.0896		0.035	U	0.0216	J	0.146		0.05	U	0.0996		0.0973		0.0855	
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.114		0.13		0.0628	J	0.0741		0.07	U	0.0556	J	0.076	U	0.1	U	0.0873	J	0.0359	J	0.074	U
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
CAPROLACTAM	mg/kg	31000	12	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
CARBAZOLE	mg/kg	24	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.0299	J	0.074	U
CHRYSENE	mg/kg	62	80	0.211		0.594		0.153		0.242		0.0403		0.0571		0.395		0.0375	J	0.394		0.266		0.235	
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.0675	BJ	0.085	B
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.0351	J	0.113		0.0294	J	0.0446		0.035	U	0.036	U	0.062		0.05	U	0.0534		0.0477		0.0357	J
DIBENZOFURAN	mg/kg	NC	NC	0.0338	J	0.0423	J	0.068	U	0.069	U	0.07	U	0.071	U	0.0176	J	0.1	U	0.098	U	0.0423	J	0.016	J
DIETHYL PHTHALATE	mg/kg	49000	88	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
FLUORANTHENE	mg/kg	2300	1300	0.267		0.502		0.139		0.228		0.053		0.075		0.533		0.0506		0.517		0.314		0.263	
FLUORENE	mg/kg	2300	170	0.0584		0.034	U	0.034	U	0.034	U	0.035	U	0.036	U	0.0313	J	0.05	U	0.0595		0.0471		0.037	U
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.038	U	0.034	U	0.034	U	0.034	U	0.035	U	0.036	U	0.038	U	0.05	U	0.049	U	0.035	U	0.037	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.38	U	0.34	U	0.34	U	0.34	U	0.35	U	0.36	U	0.38	U	0.5	U	0.49	U	0.35	U	0.37	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	*0.25*	*U*	*0.24*	*U*	0.18	U	0.18	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.109		0.334		0.0791		0.123		0.0159	J	0.0284	J	0.219		0.0252	J	0.165		0.139		0.133	
ISOPHORONE	mg/kg	510	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.19	U	0.17	U	0.17	U	0.17	U	0.18	U	0.18	U	0.19	U	0.25	U	0.24	U	0.18	U	0.18	U
NAPHTHALENE	mg/kg	6	25	0.0435		0.144		0.0262	J	0.0556		0.0183	J	0.0164	J	0.0469		0.0242	J	0.0466	J	0.0706		0.0293	J
NITROBENZENE	mg/kg	31	0.2	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
PHENANTHRENE	mg/kg	300000	NC	0.168		0.219		0.047		0.114		0.0196	J	0.0245	J	0.133		0.05	U	0.22		0.171		0.111	
PHENOL	mg/kg	18000	8	0.075	U	0.067	U	0.068	U	0.069	U	0.07	U	0.071	U	0.076	U	0.1	U	0.098	U	0.071	U	0.074	U
PYRENE	mg/kg	1700	840	0.313		0.664		0.183		0.353		0.0547		0.0742		0.462		0.0516		0.686		0.353		0.264	
TOTAL TICS, ALKANES	mg/kg			4.82	J	10.98	J	4.17	J	7.52	J	0		0		0.15	J	0		0.56	J	1.61	J	0	
TOTAL TICS, SEMI-VOLATILES	mg/kg			9.94	J	17.35	J	5.78	J	8.46	J	0		8.25	J	1.64	J	0		6.56	J	1.36	J	0.35	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

B: Analyte found in sample and associated blank

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE B

Petroleum Soil Sample Results – SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-45-081414		124-A_B-Pet-46-081914		124-A_B-Pet-47-090514		124-A_B-Pet-48-090514		124-A_B-Pet-49-090514		124-A_B-Pet-50-102414		124-A_B-Pet-51-102414		124-A_B-Pet-52-102414		124-A_B-Pet-53-102414		124-C-Pet-01-102414		134-SB-604-0627	
Lab Sample ID				JB74045-3		JB74372-1		JB75848-1		JB75848-2		JB75848-3		JB80064-1		JB80064-2		JB80064-3		JB80064-4		JB80065-1		JB70486-1A	
Date Sampled		NJ 2012 MOST	NJ 2013	08/14/2014		08/19/2014		09/05/2014		09/05/2014		09/05/2014		10/24/2014		10/24/2014		10/24/2014		10/24/2014		10/24/2014		06/27/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
1,1'-BIPHENYL	mg/kg	3100	140	0.072	U	0.0618	J	0.07	U	0.073	U	0.071	U	0.0275	J	0.077	U	0.067	U	0.077	U	0.224		0.0306	J
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
1,4-DIOXANE	mg/kg	NC	NC	0.036	U	0.036	U	0.035	U	0.036	U	0.036	U	0.042	U	0.038	U	0.033	U	0.038	U	0.043	U	-	
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	*0.21*	*U*	0.19	U	0.17	U	0.19	U	*0.21*	*U*	0.19	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	*0.21*	*U*	0.19	U	0.17	U	0.19	U	*0.21*	*U*	0.19	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.72*	*U*	*0.72*	*U*	*0.7*	*U*	*0.73*	*U*	*0.71*	*U*	*0.84*	*U*	*0.77*	*U*	*0.67*	*U*	*0.77*	*U*	*0.86*	*U*	*0.76*	*U*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.036	U	0.036	U	0.035	U	0.036	U	0.036	U	0.042	U	0.038	U	0.033	U	0.038	U	0.043	U	0.038	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.036	U	0.036	U	0.035	U	0.036	U	0.036	U	0.042	U	0.038	U	0.033	U	0.038	U	0.043	U	0.038	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
2-METHYLNAPHTHALENE	mg/kg	230	8	0.0213	J	0.459		0.07	U	0.073	U	0.071	U	0.115		0.0565	J	0.067	U	0.033	J	0.0565	J	0.127	
2-METHYLPHENOL	mg/kg	310	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
2-NITROANILINE	mg/kg	39	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
2-NITROPHENOL	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.1790		0.076	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
3-NITROANILINE	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.72*	*U*	*0.72*	*U*	*0.7*	*U*	*0.73*	*U*	*0.71*	*U*	*0.84*	*U*	*0.77*	*U*	*0.67*	*U*	*0.77*	*U*	*0.86*	*U*	*0.76*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
4-CHLOROANILINE	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
4-NITROANILINE	mg/kg	NC	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
4-NITROPHENOL	mg/kg	NC	NC	0.36	U	0.36	U	0.35	U	0.36	U	0.36	U	0.42	U	0.38	U	0.33	U	0.38	U	0.43	U	0.38	U
ACENAPHTHENE	mg/kg	3400	110	0.0172	J	0.036	U	0.035	U	0.036	U	0.036	U	0.0539		0.14		0.033	U	0.0261	J	0.0588		0.527	
ACENAPHTHYLENE	mg/kg	300000	NC	0.0223	J	0.036	U	0.0441		0.0146	J	0.036	U	0.071		0.0237	J	0.033	U	0.0352	J	0.102		0.221	
ACETOPHENONE	mg/kg	2	3	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
ANTHRACENE	mg/kg	17000	2400	0.0419		0.228		0.0685		0.0263	J	0.0215	J	0.118		0.317		0.0163	J	0.0709		0.195		0.763	
ATRAZINE	mg/kg	210	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
BENZALDEHYDE	mg/kg	6100	NC	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.162		**0.826**		0.225		0.0491		0.0697		0.316		**0.677**		0.0411		0.212		**0.609**		**1.13**	
BENZO(A)PYRENE	mg/kg	0.2	0.2	0.173		**0.824**		**0.223**		0.036		0.0637		**0.348**		**0.647**		0.0428		**0.216**		**0.621**		**1.01**	
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.206		**0.903**		0.254		0.0438		0.0842		0.367		**0.697**		0.0444		0.23		**0.668**		**1.13**	
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.11		0.457		0.111		0.0254	J	0.04		0.24		0.407		0.0335		0.139		0.405		0.542	
BENZO(K)FLUORANTHENE	mg/kg	6	25	0.0766		0.351		0.0888		0.0208	J	0.0269	J	0.141		0.275		0.0165	J	0.0823		0.286		0.416	
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.072	U	0.072	U	0.0455	J	0.073	U	0.071	U	0.103		0.0715	J	0.0868		0.0652	J	0.166		0.269	
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
CAPROLACTAM	mg/kg	31000	12	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
CARBAZOLE	mg/kg	24	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.132		0.067	U	0.077	U	0.0375	J	0.131	
CHRYSENE	mg/kg	62	80	0.193		0.884		0.249		0.0516		0.0691		0.407		0.75		0.0459		0.258		0.748		1.18	
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.0515	BJ	0.072	U	0.07	U	0.073	U	0.071	U	0.114	B	0.186	B	0.0921	B	0.117	B	0.105	B	0.076	U
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.0305	J	0.137		0.0277	J	0.036	U	0.036	U	0.0692		0.109		0.033	U	0.037	J	0.123		0.166	
DIBENZOFURAN	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.0445	J	0.0578	J	0.067	U	0.0177	J	0.0467	J	0.266	
DIETHYL PHTHALATE	mg/kg	49000	88	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.0675	J	0.077		0.0762	J	0.086	U	0.076	U
FLUORANTHENE	mg/kg	2300	1300	0.238		0.988		0.248		0.102		0.115		0.469		1.43		0.0614		0.343		0.903		2.68	
FLUORENE	mg/kg	2300	170	0.019	J	0.036	U	0.0161	J	0.036	U	0.036	U	0.042	U	0.129		0.033	U	0.0282	J	0.0584		0.371	
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.036	U	0.036	U	0.035	U	0.036	U	0.036	U	0.042	U	0.038	U	0.033	U	0.038	U	0.043	U	0.038	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.36	U	0.36	U	0.35	U	0.36	U	0.36	U	0.42	U	0.38	U	0.33	U	0.38	U	0.43	U	0.38	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	*0.21*	*U*	0.19	U	0.17	U	0.19	U	*0.21*	*U*	0.19	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.115		0.527		0.0871		0.0193	J	0.0316	J	0.199		0.327		0.0248	J	0.12		0.346		0.589	
ISOPHORONE	mg/kg	510	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.18	U	0.18	U	0.18	U	0.18	U	0.18	U	0.21	U	0.19	U	0.17	U	0.19	U	0.21	U	0.19	U
NAPHTHALENE	mg/kg	6	25	0.018	J	0.036	U	0.0402		0.036	U	0.036	U	0.269		0.0421		0.033	U	0.0352	J	0.0947		0.319	
NITROBENZENE	mg/kg	31	0.2	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.086	U	0.076	U
PHENANTHRENE	mg/kg	300000	NC	0.0997		0.344		0.0804		0.0818		0.0719		0.172		0.94		0.0257	J	0.159		0.318		0.897	
PHENOL	mg/kg	18000	8	0.072	U	0.072	U	0.07	U	0.073	U	0.071	U	0.084	U	0.077	U	0.067	U	0.077	U	0.217		0.076	U
PYRENE	mg/kg	1700	840	0.242		0.853		0.307		0.108		0.14		0.473		1.23		0.0826		0.33		0.735		2.15	
TOTAL TICS, ALKANES	mg/kg			0.15	J	6.95	J	0		0		0		12.13	J	2.61	J	1.6	J	3.21	J	6.79	J	0	
TOTAL TICS, SEMI-VOLATILES	mg/kg			0.33	J	26.68	J	0.84	J	0.21	J	0		6.28	J	4.25	J	1.24	J	23.42	J	6.08	J	9.94	J

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

B: Analyte found in sample and associated blank

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

R or N: Rejected or negated by laboratory or data validator

U: Not detected above method detection limit

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

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE C

Petroleum Soil Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-01-010814		124-A_B-Pet-02-010814		124-A_B-Pet-03-012014		124-A_B-Pet-04-012814		124-A_B-Pet-05-012814		124-A_B-Pet-06-012814		124-A_B-Pet-07-012814		124-A_B-Pet-08-012814		124-A_B-Pet-09-012814		124-A_B-Pet-10-022714		124-A_B-Pet-11-022714	
Lab Sample ID				JB57182-1		JB57182-2		JB58165-1		JB58764-1		JB58764-2		JB58764-3		JB58764-4		JB58764-5		JB58764-6		JB60759-1		JB60759-2	
Date Sampled		NJ 2012 MOST	NJ 2013	01/08/2014		01/08/2014		01/20/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		02/27/2014		02/27/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
ALUMINUM	mg/kg	78000	6000	**7680**		5820		**9210**		**6130**		**8460**		**9040**		**7860**		**9460**		**6450**		**8540**		4760	
ANTIMONY	mg/kg	31	6	2.3	UJ	2.4	UJ	2.6	UJ	2.2	U	2.2	U	2.4	U	2.6	U	2.4	U	2.5	U	*12*	*U*	*7*	*U*
ARSENIC	mg/kg	19	19	8.4		6.7		7.6		5.8		5.4		5.7		5.2		5.9		4.5		6.8		7	U
BARIUM	mg/kg	16000	2100	105		260		192		65.5		72.3		83.1		60.3		189		66.9		51.1		37.7	
BERYLLIUM	mg/kg	16	0.7	0.70		0.62		0.53		0.32		0.46		0.40		0.42		0.45		0.31		*1.2*	*U*	0.7	U
CADMIUM	mg/kg	78	2	0.68		0.60		0.76		0.67		0.55	U	0.6	U	0.64	U	0.6	U	0.62	U	0.6	U	0.58	U
CALCIUM	mg/kg	NC	NC	10500		15900		14700		4850		5790		11400		7110		12100		4320		2450		3400	
CHROMIUM	mg/kg	NC	NC	378		897		991		390		336		929		151		449		825		1870		333	
COBALT	mg/kg	590	90	6.1		5.9	U	9.3		5.5		7.8		9.9		6.4	U	6	U	6.2	U	8.9		5.8	U
COPPER	mg/kg	3100	11000	153		66.6		101		27.5		31.0		34.3		19.3		36.3		19.9		21.0		14.0	
IRON	mg/kg	NC	NC	14500		13300		18600	J	12300		16300		17300		16800		21000		12800		15100		12100	
LEAD	mg/kg	400	90	**222**	J	**256**	J	**265**		50.0		56.5		55.5		40.3		82.4		50.0		24.7		30.8	
MAGNESIUM	mg/kg	NC	NC	3490		3560		4890		3280		4910		5180		4180		2560		2730		3750		2500	
MANGANESE	mg/kg	11000	65	**208**		**186**		**312**	J	**223**		**334**		**326**		**346**		**940**		**395**		**361**		**196**	
MERCURY	mg/kg	23	0.1	**1.1**		**0.46**		**0.38**		**0.23**		**0.17**		**0.25**		**0.22**		**0.23**		**0.11**		**0.29**		**0.15**	
NICKEL	mg/kg	1600	48	18.8		25.1		35.8		15.8		22.8		32.4		14.3		15.7		17.1		28.4		9.9	
POTASSIUM	mg/kg	NC	NC	1200	U	1200	U	1300	U	1100	U	1320		1290		1490		1200	U	1200	U	1270		1200	U
SELENIUM	mg/kg	390	11	2.3	U	2.4	U	5.2	U	2.2	U	2.2	U	2.4	U	2.6	U	2.4	U	2.5	U	*12*	*U*	2.3	U
SILVER	mg/kg	390	1	0.95		**1.6**		**1.5**		0.55	U	**1.1**		0.6	U	**1.2**		**1.7**		**1.1**		**24.2**		**9.2**	
SODIUM	mg/kg	NC	NC	1200	U	1200	U	1300	U	1100	U	1100	U	1200	U	1300	U	1200	U	1200	U	1200	U	1200	U
THALLIUM	mg/kg	5	3	1.2	U	1.2	U	2.6	U	1.1	U	1.1	U	1.2	U	1.3	U	1.2	U	1.2	U	*6*	*U*	*3.5*	*U*
VANADIUM	mg/kg	78	NC	32.7		33.1		61.9		25.2		36.7		60.0		25.1		30.3		24.5		**87.5**		20.9	
ZINC	mg/kg	23000	930	**1690**		**3160**		**9800**		**3540**		**3270**		**3240**		**1160**		**2820**		**3550**		**24100**		**9090**	

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE C

Petroleum Soil Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-12-022714		124-A_B-Pet-13-022714		124-A_B-Pet-14-022714		124-A_B-Pet-15-022714		124-A_B-Pet-16-022714		124-A_B-Pet-17-031214		124-A_B-Pet-18-031214		124-A_B-Pet-19-031214		124-A_B-Pet-20-031214		124-A_B-Pet-21-031414		124-A_B-Pet-22-031414	
Lab Sample ID				JB60759-3		JB60759-4		JB60759-5		JB60759-6		JB60759-7		JB61696-1		JB61696-2		JB61696-3		JB61696-4		JB62045-1		JB62045-2	
Date Sampled		NJ 2012 MOST	NJ 2013	02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/14/2014		03/14/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
ALUMINUM	mg/kg	78000	6000	**9030**		**8010**		**7260**		**6780**		**6860**		**7880**		**8100**		**10500**		3530		**8960**		**9110**	
ANTIMONY	mg/kg	31	6	2.2	U	2.3	U	2.8	U	2.6	U	2.4	U	2.2	U	2.2	U	2.2	U	2.2	U	2.1	U	2.2	U
ARSENIC	mg/kg	19	19	5.0		7.0		5.7		5.0		7.0		4.9		5.6		5.1		2.2	U	3.9		4.8	
BARIUM	mg/kg	16000	2100	50.3		75.3		71.1		77.4		78.3		76.9		97.9		84.5		51.2		90.9		142	
BERYLLIUM	mg/kg	16	0.7	0.41		0.48		0.46		0.42		0.45		0.55		0.53		**0.81**		0.24		0.47		0.53	
CADMIUM	mg/kg	78	2	0.56	U	0.59	U	0.7	U	0.66	U	0.61	U	0.55	U	**2.1**		0.56	U	0.54	U	0.53	U	0.56	U
CALCIUM	mg/kg	NC	NC	3860		6210		6110		7290		5290		33100		18000		5570		2020		3640		4110	
CHROMIUM	mg/kg	NC	NC	98.0		374		877		521		806		919		1390		572		431		562		433	
COBALT	mg/kg	590	90	7.3		6.5		7	U	6.6	U	6.1	U	5.5	U	7.7		10.2		5.4	U	6.0		9.7	
COPPER	mg/kg	3100	11000	29.0		26.9		29.0		27.3		43.2		29.7		62.0		28.1		8.5		40.1		48.9	
IRON	mg/kg	NC	NC	16300		19200		13400		13400		13800		13900		15200		19300		6980		14900		16800	
LEAD	mg/kg	400	90	31.7		38.7		36.7		46.1		54.3		38.2		**116**		35.9		12.4		53.7		45.5	
MAGNESIUM	mg/kg	NC	NC	3900		3630		3010		2840		3320		3740		5400		4690		1500		3190		3730	
MANGANESE	mg/kg	11000	65	**310**		**292**		**233**		**247**		**240**		**308**		**291**		**347**		**78.7**		**247**		**317**	
MERCURY	mg/kg	23	0.1	**0.55**		**0.25**		**0.17**		**0.43**		**0.20**		**0.24**		**0.28**		**0.27**		0.070		**0.29**		**0.28**	
NICKEL	mg/kg	1600	48	19.4		17.3		17.6		17.4		16.3		17.8		34.1		26.1		9.8		28.3		**222**	
POTASSIUM	mg/kg	NC	NC	1270		1760		1400	U	1300	U	1320		1650		1200		2930		1100	U	1320		1510	
SELENIUM	mg/kg	390	11	2.2	U	2.3	U	2.8	U	2.6	U	2.4	U	2.2	U	2.2	U	2.2	U	2.2	U	2.1	U	2.2	U
SILVER	mg/kg	390	1	**1.6**		**2.0**		**8.4**		**5.9**		**5.8**		0.55	U	0.56	U	0.79		0.54	U	0.53	U	1.0	
SODIUM	mg/kg	NC	NC	1100	U	1200	U	1400	U	1300	U	1200	U	1100	U	1100	U	1100	U	1100	U	1100	U	1100	U
THALLIUM	mg/kg	5	3	1.1	U	1.2	U	1.4	U	1.3	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
VANADIUM	mg/kg	78	NC	28.8		32.5		30.7		26.9		26.9		27.3		41.4		43.0		10.9		22.3		24.9	
ZINC	mg/kg	23000	930	915		**1990**		**7690**		**5480**		**5300**		**3550**		**2700**		**3380**		894		**2610**		777	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE C

Petroleum Soil Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-23-031414		124-A_B-Pet-24-031414		124-A_B-Pet-25-042214		124-A_B-Pet-26-042214		124-A_B-Pet-27-052214		124-A_B-Pet-28-052214		124-A_B-Pet-29-052214		124-A_B-Pet-30-052214		124-A_B-Pet-31-052214		124-A_B-Pet-32-052214		124-A_B-Pet-33-052214	
Lab Sample ID				JB62045-3		JB62045-4		JB65312-1A		JB65312-2A		JB67718-1A		JB67718-2A		JB67718-3A		JB67718-4A		JB67718-5A		JB67718-6A		JB67718-7A	
Date Sampled		NJ 2012 MOST	NJ 2013	03/14/2014		03/14/2014		04/22/2014		04/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
ALUMINUM	mg/kg	78000	6000	**9900**		**10900**		**6480**		**9410**		3590		3460		3710		4180		4110		4310		4520	
ANTIMONY	mg/kg	31	6	2.4	U	2.4	U	**53.9**		2.5	U	2.3	UJ	2.4	UJ	2.2	UJ	2.2	UJ	2.2	UJ	2.2	UJ	2.2	UJ
ARSENIC	mg/kg	19	19	5.8		4.8		8.0		**19.6**		2.6		2.4	U	2.8		2.7		2.2	U	2.3		2.2	U
BARIUM	mg/kg	16000	2100	123		108		**2170**		449		34.2		32.5		37.3		39.0		30.6		34.7		31.9	
BERYLLIUM	mg/kg	16	0.7	0.66		0.63		0.38		**0.84**		0.24		0.24	U	0.22		0.22		0.22	U	0.24		0.25	
CADMIUM	mg/kg	78	2	0.59	U	0.59	U	**4.9**		0.87		0.57	U	0.59	U	0.55	U	0.56	U	0.56	U	0.54	U	0.54	U
CALCIUM	mg/kg	NC	NC	5540		4410		11600		11000		4900		2580		2570		2440		2040		2870		1880	
CHROMIUM	mg/kg	NC	NC	738		913		2720	J	260	J	306		231		358		232		116		255		100	
COBALT	mg/kg	590	90	8.6		7.6		13.4		10.9		5.7	U	5.9	U	5.5	U	5.6	U	5.6	U	5.4	U	5.4	U
COPPER	mg/kg	3100	11000	43.3		34.9		86.4		156		9.5		8.9		11.7		10.9		12.9		122		8.8	
IRON	mg/kg	NC	NC	18000		18000		20700		36100		7170		7100		7680		7870		7740		8140		8300	
LEAD	mg/kg	400	90	54.9		53.1		**332**		**406**		14.9		10.3		19.0		14.3		9.1		11.7		8.2	
MAGNESIUM	mg/kg	NC	NC	3760		4370		2790		2580		1820		1680		1740		1810		1920		2020		1980	
MANGANESE	mg/kg	11000	65	**350**		**261**		**865**		**266**		**109**		**97.1**		**112**		**115**		**93.3**		**117**		**110**	
MERCURY	mg/kg	23	0.1	**0.31**		**0.26**		**6.4**		**0.78**		0.086		**0.14**		**0.14**		**0.12**		**0.18**		0.098		0.097	
NICKEL	mg/kg	1600	48	**159**		34.4		**669**		**101**		8.5		7.1		8.5		28.9		8.6		8.6		8.7	
POTASSIUM	mg/kg	NC	NC	1740		2160		1100	U	1300	U	1100	U	1200	U	1100	U	1100	U	1100	U	1100	U	1100	U
SELENIUM	mg/kg	390	11	2.4	U	2.4	U	11	U	2.5	U	2.3	U	2.4	U	2.2	U	2.2	U	2.2	U	2.2	U	2.2	U
SILVER	mg/kg	390	1	0.74		0.75		**16.7**		**2.7**		0.57	U	0.59	U	0.55	U	0.70		0.56	U	0.69		0.57	
SODIUM	mg/kg	NC	NC	1200	U	1200	U	1100	U	1300	U	1100	U	1200	U	1100	U	1100	U	1100	U	1100	U	1100	U
THALLIUM	mg/kg	5	3	1.2	U	1.2	U	*5.7*	*U*	1.3	U	1.1	U	1.2	U	1.1	U	1.1	U	1.1	U	1.1	U	1.1	U
VANADIUM	mg/kg	78	NC	32.0		33.3		35.6		43.0		9.9		9.7		10		10.2		10.7		10		10.4	
ZINC	mg/kg	23000	930	**3610**		**4860**		**19000**		666		33.0		30.8		42.5		34.0		28.9		32.9		26.9	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE C

Petroleum Soil Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-34-060414		124-A_B-Pet-35-060414		124-A_B-Pet-35a-061914		124-A_B-Pet-35b-061914		124-A_B-Pet-35c-061914		124-A_B-Pet-36-060414		124-A_B-Pet-37-060414		124-A_B-Pet-38-062714		124-A_B-Pet-39-062714		124-A_B-Pet-40-062714		124-A_B-Pet-41-062714	
Lab Sample ID				JB68443-1A		JB68443-2A		JB69908-1/1R		JB69908-2/2R		JB69908-3/3R		JB68443-3A		JB68443-4A		JB70484-1A		JB70484-2A		JB70484-3A		JB70484-4A	
Date Sampled		NJ 2012 MOST	NJ 2013	06/04/2014		06/04/2014		06/19/2014		06/19/2014		06/19/2014		06/04/2014		06/04/2014		06/27/2014		06/27/2014		06/27/2014		06/27/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
ALUMINUM	mg/kg	78000	6000	5890		**6810**								4920		4510		2800		3250		3630		5410	
ANTIMONY	mg/kg	31	6	2.3	U	2.3	U							2.2	U	2.2	U	2.2	UJ	2.1	UJ	2.1	UJ	3.3	UJ
ARSENIC	mg/kg	19	19	2.3		3.5								2.2	U	2.3		2.9		3.4		2.5		3.3	U
BARIUM	mg/kg	16000	2100	56.7		63.1								38.8		37.4		22	U	41.6		46.8		39.8	
BERYLLIUM	mg/kg	16	0.7	0.32		0.38								0.26		0.26		0.22	U	0.21	U	0.21	U	0.33	U
CADMIUM	mg/kg	78	2	0.57	U	0.57	U	0.2	U	0.2	U	0.2	U	0.55	U	0.56	U	0.56	U	0.52	U	0.52	U	0.82	U
CALCIUM	mg/kg	NC	NC	5940		4440								2710		4110		2330	J	2340	J	2630	J	2630	J
CHROMIUM	mg/kg	NC	NC	364		529								188		249		356	J	268	J	318	J	356	J
COBALT	mg/kg	590	90	5.7	U	5.7	U							5.5	U	5.6	U	5.6	U	5.2	U	5.2	U	8.2	U
COPPER	mg/kg	3100	11000	16.3		31.1								11.8		12.3		4.9		11.7		7.6		8.8	
IRON	mg/kg	NC	NC	11300		12500								9910		7780		5280		8300		7620		10700	
LEAD	mg/kg	400	90	22.1		37.1								14.2		15.9		4.8		23.8		9.3		8.5	
MAGNESIUM	mg/kg	NC	NC	2860		2890		0.1	U	0.1	U	0.1	U	2080		1970		1330		1380		1740		2530	
MANGANESE	mg/kg	11000	65	**164**		**192**		0.1	U	0.1	U	0.1	U	**180**		**119**		**76.6**	J	**110**	J	**106**	J	**127**	J
MERCURY	mg/kg	23	0.1	**0.13**		**0.39**								**0.14**		**0.12**		0.061		**2.9**		0.039		0.062	
NICKEL	mg/kg	1600	48	33.6		16.6								11.6		11.0		5.5		11.9		7.4		10.9	
POTASSIUM	mg/kg	NC	NC	1180		1420								1100	U	1100	U	1100	U	1000	U	1000	U	1600	U
SELENIUM	mg/kg	390	11	2.3	U	2.3	U							2.2	U	2.2	U	2.2	U	2.1	U	2.1	U	3.3	U
SILVER	mg/kg	390	1	0.57	U	0.57	U							0.55	U	0.56	U	0.56	U	0.52	U	0.52	U	0.82	U
SODIUM	mg/kg	NC	NC	1100	U	1100	U							1100	U	1100	U	1100	U	1000	U	1000	U	1600	U
THALLIUM	mg/kg	5	3	1.1	U	1.1	U							1.1	U	1.1	U	1.1	U	1	U	1	U	1.6	U
VANADIUM	mg/kg	78	NC	18.2		18.3								12.7		12.2		11.2		14.8		10.0		13.7	
ZINC	mg/kg	23000	930	57.8		98.1								39.1		41.2		18.7		39.6		26.9		105	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE C

Petroleum Soil Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-42-062714		124-A_B-Pet-43-081414		124-A_B-Pet-44-081414		124-A_B-Pet-45-081414		124-A_B-Pet-46-081914		124-A_B-Pet-47-090514		124-A_B-Pet-48-090514		124-A_B-Pet-49-090514		124-A_B-Pet-50-102414		124-A_B-Pet-51-102414		124-A_B-Pet-52-102414	
Lab Sample ID				JB70484-5A		JB74045-1		JB74045-2		JB74045-3		JB74372-1		JB75848-1		JB75848-2		JB75848-3		JB80064-1		JB80064-2		JB80064-3	
Date Sampled		NJ 2012 MOST	NJ 2013	06/27/2014		08/14/2014		08/14/2014		08/14/2014		08/19/2014		09/05/2014		09/05/2014		09/05/2014		10/24/2014		10/24/2014		10/24/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
ALUMINUM	mg/kg	78000	6000	**7790**		**6440**	J	3950	J	3900	J	5510	J	5430	J	**7170**	J	5780	J	**6630**		**6630**		**7910**	
ANTIMONY	mg/kg	31	6	2.7	UJ	2.3	UJ	2.2	UJ	2.3	UJ	2.3	UJ	2.1	UJ	2.2	UJ	2.2	UJ	*6.2*	*U*	2.4	U	2.1	U
ARSENIC	mg/kg	19	19	**44.9**		5.5	J	2.5	J	3.2	J	4.8		8.1		10.7		5.5		12.6		5.9		6.4	
BARIUM	mg/kg	16000	2100	122		60.1	J	39.2	J	47.8	J	94.9		81.7		97.7		57.2		1370		161		129	
BERYLLIUM	mg/kg	16	0.7	0.43		0.47	J	0.26	J	0.28	J	0.40		0.41		0.57		0.38		0.48		0.46		0.48	
CADMIUM	mg/kg	78	2	0.85		0.57	UJ	0.56	UJ	0.58	UJ	0.58	U	0.52	U	0.54	U	0.56	U	**5.0**		0.59	U	0.52	U
CALCIUM	mg/kg	NC	NC	3250	J	2920	J	1600	J	1990	J	2830	J	5240	J	3300	J	3200	J	17900		11100		18900	
CHROMIUM	mg/kg	NC	NC	415	J	245		88.6		137		97.6		350		272		218		2540	J	813		1620	
COBALT	mg/kg	590	90	6.8	U	5.7	UJ	5.6	UJ	5.8	UJ	5.8	U	5.2	U	7.1		5.6	U	28.8		9.4		13.8	
COPPER	mg/kg	3100	11000	126		22.3	J	11.4	J	10.4	J	17.9	J	29.2		44.7		21.3		3000		43.7		90.7	
IRON	mg/kg	NC	NC	17400		12700	J	7170	J	8310	J	11700	J	13500		17300		11600		39300		18400		19800	
LEAD	mg/kg	400	90	**183**		36.8	J	16.2	J	25.9	J	25.6	J	19.4		19.9		18.5		**608**		24.6		27.0	
MAGNESIUM	mg/kg	NC	NC	3260		2480	J	1430	J	1600	J	2630		2290	J	2630	J	2310	J	4700		4120		5480	
MANGANESE	mg/kg	11000	65	**186**	J	**165**	J	**79.9**	J	**98**	J	**196**		**148**	J	**163**	J	**155**	J	**902**		**245**		**279**	
MERCURY	mg/kg	23	0.1	0.048	U	0.046		0.037		0.071		**0.20**		**0.22**		**0.18**		**0.11**		**5.2**		**0.76**		**0.38**	
NICKEL	mg/kg	1600	48	28.8		**85.5**	J	8.4	J	9.3	J	12.4	J	**98.9**		**167**		**90.8**		**6070**		**152**		**169**	
POTASSIUM	mg/kg	NC	NC	1450		1180	J	1100	UJ	1200	UJ	1200	U	1000	U	1100	U	1100	U	1090		1220		1000	U
SELENIUM	mg/kg	390	11	2.7	U	2.3	UJ	2.2	UJ	2.3	UJ	2.3	U	2.1	U	2.2	U	2.2	U	2.1	U	2.4	U	2.1	U
SILVER	mg/kg	390	1	**1.7**		0.57	UJ	0.56	UJ	0.58	UJ	0.69		0.52	U	0.54	U	0.56	U	**25.4**		0.94		**1.2**	
SODIUM	mg/kg	NC	NC	1400	U	1100	UJ	1100	UJ	1200	UJ	1200	U	1000	U	1100	U	1100	U	1000	U	1200	U	1000	U
THALLIUM	mg/kg	5	3	1.4	U	1.1	UJ	1.1	UJ	1.2	UJ	1.2	U	1	U	1.1	U	1.1	U	*3.1*	*U*	1.2	U	1	U
VANADIUM	mg/kg	78	NC	21.5		21.2	J	11.7	J	13.1	J	15.7		23.5		30.4		18.5		49.7		33.8		58.4	
ZINC	mg/kg	23000	930	264		87.2	J	36.7	J	39.8	J	50	J	76.0		57.7		56.9		**6820**		649		771	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE C

Petroleum Soil Sample Results – Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-53-102414		124-C-Pet-01-102414		134-SB-604-0627	
Lab Sample ID				JB80064-4		JB80065-1		JB70486-1A	
Date Sampled		NJ 2012 MOST	NJ 2013	10/24/2014		10/24/2014		06/27/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q
ALUMINUM	mg/kg	78000	6000	**8780**		**9770**	**J**		
ANTIMONY	mg/kg	31	6	*12*	*U*	6	J		
ARSENIC	mg/kg	19	19	11.5		11.8		5.5	
BARIUM	mg/kg	16000	2100	**2200**		**2750**		104	
BERYLLIUM	mg/kg	16	0.7	*1.2*	*U*	*1*	*U*	0.39	
CADMIUM	mg/kg	78	2	**2.1**		**19.7**		0.53	U
CALCIUM	mg/kg	NC	NC	33400		23100	J		
CHROMIUM	mg/kg	NC	NC	6360		1530	J	963	J
COBALT	mg/kg	590	90	9.9		15.7			
COPPER	mg/kg	3100	11000	79.4		245		24.2	
IRON	mg/kg	NC	NC	21300		32700	J		
LEAD	mg/kg	400	90	**93.2**		**499**		56.6	
MAGNESIUM	mg/kg	NC	NC	4160		4720	J		
MANGANESE	mg/kg	11000	65	**468**		**1300**	**J**		
MERCURY	mg/kg	23	0.1	**2.3**		**10.5**		**0.29**	
NICKEL	mg/kg	1600	48	**503**		**784**		**94.4**	
POTASSIUM	mg/kg	NC	NC	1520		1100			
SELENIUM	mg/kg	390	11	2.3	U	2	U	2.1	U
SILVER	mg/kg	390	1	**4.7**		**14.5**		0.53	U
SODIUM	mg/kg	NC	NC	1200	U	1000	U		
THALLIUM	mg/kg	5	3	*5.8*	*U*	*5*	*U*		
VANADIUM	mg/kg	78	NC	42.5		41.1		26.2	
ZINC	mg/kg	23000	930	**16700**		**14100**	**J**	506	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE D

Petroleum Soil Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-01-010814		124-A_B-Pet-02-010814		124-A_B-Pet-03-012014		124-A_B-Pet-04-012814		124-A_B-Pet-05-012814		124-A_B-Pet-06-012814		124-A_B-Pet-07-012814		124-A_B-Pet-08-012814		124-A_B-Pet-09-012814		124-A_B-Pet-10-022714		124-A_B-Pet-11-022714	
Lab Sample ID				JB57182-1/1A		JB57182-2/2A		JB58165-1/1A		JB58764-1/1A		JB58764-2/2A		JB58764-3/3A		JB58764-4/4A		JB58764-5/5A		JB58764-6/6A		JB60759-1/1A		JB60759-2/2A	
Date Sampled				01/08/2014		01/08/2014		01/20/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		02/27/2014		02/27/2014	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	mg/kg	3	4	-		-		-		-		-		-		-		-		-		-		-	
4,4'-DDE	mg/kg	2	18	-		-		-		-		-		-		-		-		-		-		-	
4,4'-DDT	mg/kg	2	11	-		-		-		-		-		-		-		-		-		-		-	
ALDRIN	mg/kg	0.04	0.2	-		-		-		-		-		-		-		-		-		-		-	
ALPHA-BHC	mg/kg	0.1	0.002	-		-		-		-		-		-		-		-		-		-		-	
ALPHA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
AROCLOR-1016	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1221	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1232	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1242	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1248	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1254	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1260	mg/kg	NC	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
AROCLOR-1262	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		-	
AROCLOR-1268	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		-	
TOTAL PCBs	mg/kg	0.2	0.2	0.037	U	0.039	U	0.041	U	0.035	U	0.036	U	0.041	U	0.04	U	0.038	U	0.041	U	0.037	U	0.036	U
BETA-BHC	mg/kg	0.4	0.002	-		-		-		-		-		-		-		-		-		-		-	
BETA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
CHLORDANE	mg/kg	0.2	0.05	-		-		-		-		-		-		-		-		-		-		-	
DELTA-BHC	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	mg/kg	0.04	0.003	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN I	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN II	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN SULFATE	mg/kg	470	2	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN	mg/kg	23	1	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN ALDEHYDE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN KETONE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	-		-		-		-		-		-		-		-		-		-		-	
HEPTACHLOR	mg/kg	0.1	0.5	-		-		-		-		-		-		-		-		-		-		-	
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	-		-		-		-		-		-		-		-		-		-		-	
METHOXYCHLOR	mg/kg	390	160	-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	mg/kg	3	0.3	*0.36*	*U*	*0.38*	*U*	*0.42*	*U*	*0.38*	*U*	*0.36*	*U*	*0.36*	*U*	*0.37*	*U*	*0.35*	*U*	*0.38*	*U*	*0.36*	*U*	*0.35*	*U*
TOXAPHENE	mg/kg	0.6	0.3	-		-		-		-		-		-		-		-		-		-		-	

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

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

P: Pesticide/Aroclor analyte has greater than 25% difference between the two GC columns

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

PCBs: Polychlorinated Biphenyls

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE D

Petroleum Soil Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-12-022714		124-A_B-Pet-13-022714		124-A_B-Pet-14-022714		124-A_B-Pet-15-022714		124-A_B-Pet-16-022714		124-A_B-Pet-17-031214		124-A_B-Pet-18-031214		124-A_B-Pet-19-031214		124-A_B-Pet-20-031214		124-A_B-Pet-21-031414		124-A_B-Pet-22-031414	
Lab Sample ID				JB60759-3/3A		JB60759-4/4A		JB60759-5/5A		JB60759-6/6A		JB60759-7/7A		JB61696-1/1A		JB61696-2/2A		JB61696-3/3A		JB61696-4/4A		JB62045-1/1A		JB62045-2/2A	
Date Sampled		NJ 2012 MOST	NJ 2013	02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/14/2014		03/14/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	mg/kg	3	4	-		-		-		-		-		-		-		-		-		-		-	
4,4'-DDE	mg/kg	2	18	-		-		-		-		-		-		-		-		-		-		-	
4,4'-DDT	mg/kg	2	11	-		-		-		-		-		-		-		-		-		-		-	
ALDRIN	mg/kg	0.04	0.2	-		-		-		-		-		-		-		-		-		-		-	
ALPHA-BHC	mg/kg	0.1	0.002	-		-		-		-		-		-		-		-		-		-		-	
ALPHA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
AROCLOR-1016	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1221	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1232	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1242	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1248	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1254	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1260	mg/kg	NC	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
AROCLOR-1262	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		-	
AROCLOR-1268	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		-	
TOTAL PCBs	mg/kg	0.2	0.2	0.035	U	0.038	U	0.038	U	0.044	U	0.035	U	0.035	U	0.034	U	0.038	U	0.033	U	0.036	U	0.039	U
BETA-BHC	mg/kg	0.4	0.002	-		-		-		-		-		-		-		-		-		-		-	
BETA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
CHLORDANE	mg/kg	0.2	0.05	-		-		-		-		-		-		-		-		-		-		-	
DELTA-BHC	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	mg/kg	0.04	0.003	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN I	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN II	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN SULFATE	mg/kg	470	2	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN	mg/kg	23	1	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN ALDEHYDE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN KETONE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	-		-		-		-		-		-		-		-		-		-		-	
HEPTACHLOR	mg/kg	0.1	0.5	-		-		-		-		-		-		-		-		-		-		-	
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	-		-		-		-		-		-		-		-		-		-		-	
METHOXYCHLOR	mg/kg	390	160	-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	mg/kg	3	0.3	*0.38*	*U*	*0.38*	*U*	*0.42*	*U*	*0.46*	*U*	*0.37*	*U*	*0.35*	*U*	*0.38*	*U*	*0.39*	*U*	*0.34*	*U*	*0.34*	*U*	*0.34*	*U*
TOXAPHENE	mg/kg	0.6	0.3	-		-		-		-		-		-		-		-		-		-		-	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

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

P: Pesticide/Aroclor analyte has greater than 25% difference between the two GC columns

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

PCBs: Polychlorinated Biphenyls

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE D

Petroleum Soil Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-23-031414		124-A_B-Pet-24-031414		124-A_B-Pet-25-042214		124-A_B-Pet-26-042214		124-A_B-Pet-27-052214		124-A_B-Pet-28-052214		124-A_B-Pet-29-052214		124-A_B-Pet-30-052214		124-A_B-Pet-31-052214		124-A_B-Pet-32-052214		124-A_B-Pet-33-052214	
Lab Sample ID				JB62045-3/3A		JB62045-4/4A		JB65312-1/1A/1B		JB65312-2/2A/2B		JB67718-1A		JB67718-2A		JB67718-3A		JB67718-4A		JB67718-5A		JB67718-6A		JB67718-7A	
Date Sampled		NJ 2012 MOST	NJ 2013	03/14/2014		03/14/2014		04/22/2014		04/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	mg/kg	3	4	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.0018		0.00076	U	0.0055		0.0007	U
4,4'-DDE	mg/kg	2	18	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.0022		0.00076	U	0.00067	U	0.0007	U
4,4'-DDT	mg/kg	2	11	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.0036		0.00076	U	0.0032		0.0007	U
ALDRIN	mg/kg	0.04	0.2	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ALPHA-BHC	mg/kg	0.1	0.002	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ALPHA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
AROCLOR-1016	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1221	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1232	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1242	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1248	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1254	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1260	mg/kg	NC	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1262	mg/kg	NC	0.2	-		-		-		-		0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
AROCLOR-1268	mg/kg	NC	0.2	-		-		-		-		0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
TOTAL PCBs	mg/kg	0.2	0.2	0.039	U	0.039	U	0.04	U	0.039	U	0.035	U	0.038	U	0.036	U	0.034	U	0.038	U	0.034	U	0.035	U
BETA-BHC	mg/kg	0.4	0.002	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
BETA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
CHLORDANE	mg/kg	0.2	0.05	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
DELTA-BHC	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
DIELDRIN	mg/kg	0.04	0.003	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ENDOSULFAN I	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ENDOSULFAN II	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ENDOSULFAN SULFATE	mg/kg	470	2	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ENDRIN	mg/kg	23	1	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ENDRIN ALDEHYDE	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
ENDRIN KETONE	mg/kg	NC	NC	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
HEPTACHLOR	mg/kg	0.1	0.5	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	-		-		-		-		0.0007	U	0.00076	U	0.00071	U	0.00069	U	0.00076	U	0.00067	U	0.0007	U
METHOXYCHLOR	mg/kg	390	160	-		-		-		-		0.0014	U	0.0015	U	0.0014	U	0.0014	U	0.0015	U	0.0013	U	0.0014	U
PENTACHLOROPHENOL	mg/kg	3	0.3	*0.37*	*U*	*0.37*	*U*	*0.36*	*U*	*0.37*	*U*	*0.36*	*U*	*0.35*	*U*	*0.35*	*U*	*0.33*	*U*	*0.35*	*U*	*0.35*	*U*	*0.33*	*U*
TOXAPHENE	mg/kg	0.6	0.3	-		-		-		-		0.018	U	0.019	U	0.018	U	0.017	U	0.019	U	0.017	U	0.018	U

Notes:

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Depths reported in feet below ground surface

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

P: Pesticide/Aroclor analyte has greater than 25% difference between the two GC columns

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

PCBs: Polychlorinated Biphenyls

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE D

Petroleum Soil Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-34-060414		124-A_B-Pet-35-060414		124-A_B-Pet-36-060414		124-A_B-Pet-37-060414		124-A_B-Pet-38-062714		124-A_B-Pet-39-062714		124-A_B-Pet-40-062714		124-A_B-Pet-41-062714		124-A_B-Pet-42-062714		124-A_B-Pet-43-081414		124-A_B-Pet-44-081414	
Lab Sample ID				JB68443-1A		JB68443-2A		JB68443-3A		JB68443-4A		JB70484-1A		JB70484-2A		JB70484-3A		JB70484-4A		JB70484-5A		JB74045-1		JB74045-2	
Date Sampled		NJ 2012 MOST	NJ 2013	06/04/2014		06/04/2014		06/04/2014		06/04/2014		06/27/2014		06/27/2014		06/27/2014		06/27/2014		06/27/2014		08/14/2014		08/14/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	mg/kg	3	4	0.0013		0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
4,4'-DDE	mg/kg	2	18	0.0011		0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
4,4'-DDT	mg/kg	2	11	0.0019		0.0017		0.0011		0.0009		-		-		-		-		-		-		-	
ALDRIN	mg/kg	0.04	0.2	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ALPHA-BHC	mg/kg	0.1	0.002	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ALPHA-CHLORDANE	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
AROCLOR-1016	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1221	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1232	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1242	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1248	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1254	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1260	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1262	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
AROCLOR-1268	mg/kg	NC	0.2	0.036	U	0.037	U	0.036	U	0.036	U	-		-		-		-		-		-		-	
TOTAL PCBs	mg/kg	0.2	0.2	0.036	U	0.037	U	0.036	U	0.036	U														
BETA-BHC	mg/kg	0.4	0.002	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
BETA-CHLORDANE	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
CHLORDANE	mg/kg	0.2	0.05	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
DELTA-BHC	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
DIELDRIN	mg/kg	0.04	0.003	0.00073	U	0.0009		0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ENDOSULFAN I	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ENDOSULFAN II	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ENDOSULFAN SULFATE	mg/kg	470	2	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ENDRIN	mg/kg	23	1	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ENDRIN ALDEHYDE	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
ENDRIN KETONE	mg/kg	NC	NC	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
HEPTACHLOR	mg/kg	0.1	0.5	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	0.00073	U	0.00074	U	0.00073	U	0.00072	U	-		-		-		-		-		-		-	
METHOXYCHLOR	mg/kg	390	160	0.0015	U	0.0015	U	0.0015	U	0.0014	U	-		-		-		-		-		-		-	
PENTACHLOROPHENOL	mg/kg	3	0.3	*0.38*	*U*	*0.34*	*U*	*0.34*	*U*	*0.34*	*U*	*0.35*	*U*	*0.36*	*U*	*0.38*	*U*	*0.5*	*U*	*0.49*	*U*	*0.35*	*U*	*0.37*	*U*
TOXAPHENE	mg/kg	0.6	0.3	0.018	U	0.019	U	0.018	U	0.018	U	-		-		-		-		-		-		-	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

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

P: Pesticide/Aroclor analyte has greater than 25% difference between the two GC columns

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

PCBs: Polychlorinated Biphenyls

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE D

Petroleum Soil Sample Results – Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-45-081414		124-A_B-Pet-46-081914		124-A_B-Pet-47-090514		124-A_B-Pet-48-090514		124-A_B-Pet-49-090514		124-A_B-Pet-50-102414		124-A_B-Pet-51-102414		124-A_B-Pet-52-102414		124-A_B-Pet-53-102414		124-C-Pet-01-102414		134-SB-604-0627	
Lab Sample ID				JB74045-3		JB74372-1		JB75848-1		JB75848-2		JB75848-3		JB80064-1		JB80064-2		JB80064-3		JB80064-4		JB80065-1		JB70486-1A	
Date Sampled				08/14/2014		08/19/2014		09/05/2014		09/05/2014		09/05/2014		10/24/2014		10/24/2014		10/24/2014		10/24/2014		10/24/2014		06/27/2014	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
4,4'-DDD	mg/kg	3	4	-		-		-		-		-		-		-		-		-		-		-	
4,4'-DDE	mg/kg	2	18	-		-		-		-		-		-		-		-		-		-		-	
4,4'-DDT	mg/kg	2	11	-		-		-		-		-		-		-		-		-		-		-	
ALDRIN	mg/kg	0.04	0.2	-		-		-		-		-		-		-		-		-		-		-	
ALPHA-BHC	mg/kg	0.1	0.002	-		-		-		-		-		-		-		-		-		-		-	
ALPHA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
AROCLOR-1016	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1221	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1232	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1242	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1248	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1254	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1260	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1262	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
AROCLOR-1268	mg/kg	NC	0.2	-		-		-		-		-		-		-		-		-		-		0.038	U
TOTAL PCBs	mg/kg	0.2	0.2																					0.038	U
BETA-BHC	mg/kg	0.4	0.002	-		-		-		-		-		-		-		-		-		-		-	
BETA-CHLORDANE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
CHLORDANE	mg/kg	0.2	0.05	-		-		-		-		-		-		-		-		-		-		-	
DELTA-BHC	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
DIELDRIN	mg/kg	0.04	0.003	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN I	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN II	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDOSULFAN SULFATE	mg/kg	470	2	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN	mg/kg	23	1	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN ALDEHYDE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
ENDRIN KETONE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	-		-		-		-		-		-		-		-		-		-		-	
HEPTACHLOR	mg/kg	0.1	0.5	-		-		-		-		-		-		-		-		-		-		-	
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	-		-		-		-		-		-		-		-		-		-		-	
METHOXYCHLOR	mg/kg	390	160	-		-		-		-		-		-		-		-		-		-		-	
PENTACHLOROPHENOL	mg/kg	3	0.3	*0.36*	*U*	*0.36*	*U*	*0.35*	*U*	*0.36*	*U*	*0.36*	*U*	*0.42*	*U*	*0.38*	*U*	*0.33*	*U*	*0.38*	*U*	*0.43*	*U*	*0.38*	*U*
TOXAPHENE	mg/kg	0.6	0.3	-		-		-		-		-		-		-		-		-		-		-	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C.

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

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

P: Pesticide/Aroclor analyte has greater than 25% difference between the two GC columns

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

PCBs: Polychlorinated Biphenyls

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-01-010814		124-A_B-Pet-02-010814		124-A_B-Pet-03-012014		124-A_B-Pet-04-012814		124-A_B-Pet-04a-012914		124-A_B-Pet-04b-012914		124-A_B-Pet-04c-012914		124-A_B-Pet-05-012814		124-A_B-Pet-05a-012914		124-A_B-Pet-05b-012914		124-A_B-Pet-05c-012914		124-A_B-Pet-06-012814	
		Lab Sample ID	JB57182-1R		JB57182-2R		JB58165-1		JB58764-1		JB58764-7		JB58764-8		JB58764-9		JB58764-2		JB58764-10		JB58764-11		JB58764-12		JB58764-3	
		Date Sampled	01/08/2014		01/08/2014		01/20/2014		01/28/2014		01/29/2014		01/29/2014		01/29/2014		01/28/2014		01/29/2014		01/29/2014		01/29/2014		01/28/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		1070		5550		1880		542		170		241		258		444		186		140		41.3		870	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		13	U	13	U	31.1		13	U	13	U	13	U	15	U	12	U	12	U	11	U	13	U	14	U
Residual Range Organics, Aliphatic	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amended 8/9/2010

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

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-06a-012914		124-A_B-Pet-06b-012914		124-A_B-Pet-06c-012914		124-A_B-Pet-07-012814		124-A_B-Pet-07a-012914		124-A_B-Pet-07b-012914		124-A_B-Pet-07c-012914		124-A_B-Pet-07d-012914		124-A_B-Pet-08-012814		124-A_B-Pet-08a-012914		124-A_B-Pet-08b-012914		124-A_B-Pet-08c-012914	
		Lab Sample ID	JB58764-13		JB58764-14		JB58764-15		JB58764-4		JB58764-16		JB58764-17		JB58764-18		JB58764-19		JB58764-5		JB58764-20		JB58764-21		JB58764-22	
		Date Sampled	01/29/2014		01/29/2014		01/29/2014		01/28/2014		01/29/2014		01/29/2014		01/29/2014		01/29/2014		01/28/2014		01/29/2014		01/29/2014		01/29/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		547		1040		325		328		1380		130		668		737		410		3100		191		273	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		14	U	10	U	13	U	14	U	12	U	13	U	12	U	12	U	13	U	12	U	11	U	12	U
Residual Range Organics, Aliphatic	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID	124-A_B-Pet-08d-012914		124-A_B-Pet-09-012814		124-A_B-Pet-09a-012914		124-A_B-Pet-09b-012914		124-A_B-Pet-09c-012914		124-A_B-Pet-09d-012914		124-A_B-Pet-10-022714		124-A_B-Pet-10a-022714		124-A_B-Pet-10b-022714		124-A_B-Pet-10c-022714		124-A_B-Pet-10d-022714		124-A_B-Pet-11-022714	
	Lab Sample ID	JB58764-23		JB58764-6		JB58764-24		JB58764-25		JB58764-26		JB58764-27		JB60759-1		JB60759-8		JB60759-9		JB60759-10		JB60759-11		JB60759-2	
	Date Sampled	01/29/2014		01/28/2014		01/29/2014		01/29/2014		01/29/2014		01/29/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	171		370		591		752		329		420		348		336		155		627		212		196	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	14	U	15	U	12	U	13	U	14	U	13	U	13	U	14	U	13	U	15	U	12	U	14	U
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-11a-022714		124-A_B-Pet-11b-022714		124-A_B-Pet-11c-022714		124-A_B-Pet-11d-022714		124-A_B-Pet-11-EPH-071014		124-A_B-Pet-12-022714		124-A_B-Pet-12a-022714		124-A_B-Pet-12b-022714		124-A_B-Pet-12c-022714		124-A_B-Pet-12d-022714		124-A_B-Pet-13-022714	
Lab Sample ID		JB60759-12		JB60759-13		JB60759-14		JB60759-15		JB71450-1		JB60759-3		JB60759-16		JB60759-17		JB60759-18		JB60759-19		JB60759-4	
Date Sampled		02/27/2014		02/27/2014		02/27/2014		02/27/2014		07/10/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		6.64		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		21.4		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		186		-		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		66.7		-		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		60.9		-		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg	-		-		-		-		342		-		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	303		322		501		204		-		1090	J	2320		1190		2340		1280		842	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	13	U	15	U	15	U	13	U	-		13	U	13	U	13	U	12	U	14	U	14	U
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		89.0		-		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		253		-		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-13a-022714		124-A_B-Pet-13b-022714		124-A_B-Pet-13c-022714		124-A_B-Pet-13d-022714		124-A_B-Pet-14-022714		124-A_B-Pet-14a-022714		124-A_B-Pet-14b-022714		124-A_B-Pet-14c-022714		124-A_B-Pet-14d-022714		124-A_B-Pet-14-EPH-071014		124-A_B-Pet-15-022714	
Lab Sample ID		JB60759-20		JB60759-21		JB60759-22		JB60759-23		JB60759-5		JB60759-24		JB60759-25		JB60759-26		JB60759-27		JB71450-2		JB60759-6	
Date Sampled		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		07/10/2014		02/27/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		5.5	U	-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		5.5	U	-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		5.5	U	-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		5.5	U	-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		19.2		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		-		-		21.5		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		25.2		-	
Total EPH (C9-C40)	mg/kg	-		-		-		-		-		-		-		-		-		66.0		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	892		575		521		807		713		381		766		284		187		-		270	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	12	U	14	U	14	U	13	U	15	U	13	U	15	U	13	U	19	U	-		16	U
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		-		-		-		-		-		25.2		-	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		-		-		-		-		-		40.7		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		-		-		-		-		-		5.5	U	-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-15a-022714		124-A_B-Pet-15b-022714		124-A_B-Pet-15c-022714		124-A_B-Pet-15d-022714		124-A_B-Pet-15-EPH-071014		124-A_B-Pet-16-022714		124-A_B-Pet-16a-022714		124-A_B-Pet-16b-022714		124-A_B-Pet-16c-022714		124-A_B-Pet-16d-022714		124-A_B-Pet-16-EPH-071014	
Lab Sample ID		JB60759-28		JB60759-29		JB60759-30		JB60759-31		JB71450-3		JB60759-7		JB60759-32		JB60759-33		JB60759-34		JB60759-35		JB71450-4	
Date Sampled		02/27/2014		02/27/2014		02/27/2014		02/27/2014		07/10/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		07/10/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.4	U	-		-		-		-		-		5.1	U
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		5.4	U	-		-		-		-		-		5.1	U
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.4	U	-		-		-		-		-		5.1	U
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		5.4	U	-		-		-		-		-		8.54	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		28.3		-		-		-		-		-		26.6	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		18.8		-		-		-		-		-		33.8	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		23.0		-		-		-		-		-		33.5	
Total EPH (C9-C40)	mg/kg	-		-		-		-		70.1		-		-		-		-		-		102	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	448		559		406		374		-		186		284		268		443		333		-	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	15	U	15	U	13	U	14	U	-		13	U	15	U	13	U	13	U	14	U	-	
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		23.0		-		-		-		-		-		42.0	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		47.0		-		-		-		-		-		60.4	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		5.4	U	-		-		-		-		-		5.1	U

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-17-031214		124-A_B-Pet-17a-031214		124-A_B-Pet-17b-031214		124-A_B-Pet-17c-031214		124-A_B-Pet-17d-031214		124-A_B-Pet-17-EPH-071014		124-A_B-Pet-18-031214		124-A_B-Pet-18a-031214		124-A_B-Pet-18b-031214		124-A_B-Pet-18c-031214		124-A_B-Pet-18d-031214	
Lab Sample ID		JB61696-1		JB61696-5		JB61696-6		JB61696-7		JB61696-8		JB71450-5		JB61696-2		JB61696-9		JB61696-10		JB61696-11		JB61696-12	
Date Sampled		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		07/10/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		5.1	U	-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		5.1	U	-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		5.1	U	-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		11.3		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		60.3		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		29.3		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		43.0		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg	-		-		-		-		-		144		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	759		861		867		495		993		-		528		322		481		514		528	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	12	U	12	U	14	U	13	U	11	U	-		13	U	13	U	11	U	12	U	13	U
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		-		54.3		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		-		89.6		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		-		5.1	U	-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID		124-A_B-Pet-18-EPH-071014		124-A_B-Pet-19-031214		124-A_B-Pet-19a-031214		124-A_B-Pet-19b-031214		124-A_B-Pet-19c-031214		124-A_B-Pet-19d-031214		124-A_B-Pet-19-EPH-071014		124-A_B-Pet-20-031214		124-A_B-Pet-20a-031214		124-A_B-Pet-20b-031214		124-A_B-Pet-20c-031214	
		Lab Sample ID		JB71450-6		JB61696-3		JB61696-13		JB61696-14		JB61696-15		JB61696-16		JB71450-7		JB61696-4		JB61696-17		JB61696-18		JB61696-19	
		Date Sampled		07/10/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		07/10/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			5.5	U	-		-		-		-		-		5.1	U	-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg			7.71		-		-		-		-		-		5.1	U	-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			7.57		-		-		-		-		-		5.1	U	-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg			21.0		-		-		-		-		-		8.00		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			118		-		-		-		-		-		27.3		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			64.2		-		-		-		-		-		18.9		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg			88.1		-		-		-		-		-		38.7		-		-		-		-	
Total EPH (C9-C40)	mg/kg			307		-		-		-		-		-		92.9		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg			-		1030		712		749		721		508		-		79.5		157		90.7		131	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg			-		13	U	12	U	12	U	12	U	13	U	-		12	U	12	U	12	U	12	U
Residual Range Organics, Aliphatic	mg/kg			117		-		-		-		-		-		46.7		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg			190		-		-		-		-		-		46.1		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg			5.5	U	-		-		-		-		-		5.1	U	-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-20d-031214		124-A_B-Pet-20-EPH-071014		124-A_B-Pet-21-031414		124-A_B-Pet-21a-031414		124-A_B-Pet-21b-031414		124-A_B-Pet-21c-031414		124-A_B-Pet-21d-031414		124-A_B-Pet-21-EPH-071014		124-A_B-Pet-22-031414		124-A_B-Pet-22a-031414		124-A_B-Pet-22b-031414	
Lab Sample ID		JB61696-20		JB71450-8		JB62045-1		JB62045-5		JB62045-6		JB62045-7		JB62045-8		JB71450-9		JB62045-2		JB62045-9		JB62045-10	
Date Sampled		03/12/2014		07/10/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		07/10/2014		03/14/2014		03/14/2014		03/14/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		5.8	U	-		-		-		-		-		5.3	U	-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		10.9		-		-		-		-		-		6.26		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		5.8	U	-		-		-		-		-		5.3	U	-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		19.8		-		-		-		-		-		12.7		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		44.6		-		-		-		-		-		19.1		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		42.8		-		-		-		-		-		29.0		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		67.9		-		-		-		-		-		59.3		-		-		-	
Total EPH (C9-C40)	mg/kg	-		186		-		-		-		-		-		126		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	122		-		366	J	227	J	176	J	122	J	104	J	-		256	J	335	J	406	J
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	11	U	-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg	-		98.6		-		-		-		-		-		78.3		-		-		-	
Residual Range Organics, Aromatic	mg/kg	-		87.3		-		-		-		-		-		48.1		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		5.8	U	-		-		-		-		-		5.3	U	-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-22c-031414		124-A_B-Pet-22d-031414		124-A_B-Pet-23-031414		124-A_B-Pet-23a-031414		124-A_B-Pet-23b-031414		124-A_B-Pet-23c-031414		124-A_B-Pet-23d-031414		124-A_B-Pet-24-031414		124-A_B-Pet-24a-031414		124-A_B-Pet-24b-031414		124-A_B-Pet-24c-031414		124-A_B-Pet-24d-031414	
		Lab Sample ID	JB62045-11		JB62045-12		JB62045-3		JB62045-13		JB62045-14		JB62045-15		JB62045-16		JB62045-4		JB62045-17		JB62045-18		JB62045-19		JB62045-20	
		Date Sampled	03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		952	J	138	J	1060	J	713	J	613	J	663	J	1740	J	128	J	35.2	J	72.3	J	58.5	J	157	J
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		-		-		-		-		-		-		-		-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-24-EPH-071014		124-A_B-Pet-25-042214		124-A_B-Pet-25a-042214		124-A_B-Pet-25b-042214		124-A_B-Pet-25c-042214		124-A_B-Pet-25d-042214		124-A_B-Pet-25-EPH-071014		124-A_B-Pet-26-EPH-071014		124-A_B-Pet-26a-042214		124-A_B-Pet-26b-042214		124-A_B-Pet-26c-042214	
		Lab Sample ID	JB71450-10		JB65312-1A		JB65312-3		JB65312-4		JB65312-5		JB65312-6		JB71450-11		JB71450-12		JB65312-7		JB65312-8		JB65312-9	
		Date Sampled	07/10/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		07/10/2014		07/10/2014		04/22/2014		04/22/2014		04/22/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		5.6	U	-		-		-		-		-		5.7	U	6.5	U	-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		5.6	U	-		-		-		-		-		25.5		17.2		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		5.6	U	-		-		-		-		-		9.62		6.5	U	-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		11.4		-		-		-		-		-		40.9		81.0		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		40.1		-		-		-		-		-		24.9		23.8		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		50.3		-		-		-		-		-		102		99.1		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		75.6		-		-		-		-		-		246		374		-		-		-	
Total EPH (C9-C40)	mg/kg		177		-		-		-		-		-		449		595		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		-		1900		1710		907		1010		707		-		-		599		571		986	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg		87.0		-		-		-		-		-		312		472		-		-		-	
Residual Range Organics, Aromatic	mg/kg		90.5		-		-		-		-		-		137		123		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		5.6	U	-		-		-		-		-		5.7	U	6.5	U	-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-26d-042214		124-A_B-Pet-26-042214		124-A_B-Pet-27-052214		124-A_B-Pet-27a-052214		124-A_B-Pet-27b-052214		124-A_B-Pet-27c-052214		124-A_B-Pet-27d-052214		124-A_B-Pet-27-EPH-072814		124-A_B-Pet-28-052214		124-A_B-Pet-28a-052214		124-A_B-Pet-28b-052214	
Lab Sample ID		JB65312-10		JB65312-2A		JB67718-1A		JB67718-8		JB67718-9		JB67718-10		JB67718-11		JB72707-1		JB67718-2A		JB67718-12		JB67718-13	
Date Sampled		04/22/2014		04/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		07/28/2014		05/22/2014		05/22/2014		05/22/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		5.8	U	-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		27.2		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		5.8	U	-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		40.6		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		21.3		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		-		-		-		5.8	U	-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		-		-		-		29.1		-		-		-	
Total EPH (C9-C40)	mg/kg	-		-		-		-		-		-		-		118		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	1900		575		987		3230		828		546		813		-		362		342		319	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		-		-		-		96.9		-		-		-	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		-		-		-		21.3		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		-		-		-		5.8	U	-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

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Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-28c-052214		124-A_B-Pet-28d-052214		124-A_B-Pet-28-EPH-072814		124-A_B-Pet-29-052214		124-A_B-Pet-29a-052214		124-A_B-Pet-29b-052214		124-A_B-Pet-29c-052214		124-A_B-Pet-29d-052214		124-A_B-Pet-29-EPH-072814		124-A_B-Pet-30-052214		124-A_B-Pet-30a-052214	
Lab Sample ID		JB67718-14		JB67718-15		JB72707-2		JB67718-3A		JB67718-16		JB67718-17		JB67718-18		JB67718-19		JB72707-3		JB67718-4A		JB67718-20	
Date Sampled		05/22/2014		05/22/2014		07/28/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		07/28/2014		05/22/2014		05/22/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		6.9	U	-		-		-		-		-		5.9	U	-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		88.7		-		-		-		-		-		5.9	U	-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		6.9	U	-		-		-		-		-		5.9	U	-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		133		-		-		-		-		-		5.9	U	-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		54.7		-		-		-		-		-		5.9	U	-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		97.3		-		-		-		-		-		23.0		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		369		-		-		-		-		-		5.9	U	-		-	
Total EPH (C9-C40)	mg/kg	-		-		768		-		-		-		-		-		23.0		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	286		257		-		299		223		228		134		155		-		119		583	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg	-		-		616		-		-		-		-		-		5.9	U	-		-	
Residual Range Organics, Aromatic	mg/kg	-		-		152		-		-		-		-		-		23.0		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		25.6		-		-		-		-		-		5.9	U	-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-30b-052214		124-A_B-Pet-30c-052214		124-A_B-Pet-30d-052214		124-A_B-Pet-30-EPH-072814		124-A_B-Pet-31-052214		124-A_B-Pet-31a-052214		124-A_B-Pet-31b-052214		124-A_B-Pet-31c-052214		124-A_B-Pet-31d-052214		124-A_B-Pet-31-EPH-072814		124-A_B-Pet-32-052214	
		Lab Sample ID	JB67718-21		JB67718-22		JB67718-23		JB72707-4		JB67718-5A		JB67718-24		JB67718-25		JB67718-26		JB67718-27		JB72707-5		JB67718-6A	
		Date Sampled	05/22/2014		05/22/2014		05/22/2014		07/28/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		07/28/2014		05/22/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		5.6	U	-		-		-		-		-		5.8	U	-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		71.3		-		-		-		-		-		44.5		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		5.6	U	-		-		-		-		-		5.8	U	-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		79.9		-		-		-		-		-		48.3		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		28.1		-		-		-		-		-		5.8	U	-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		22.0		-		-		-		-		-		5.8	U	-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		55.6		-		-		-		-		-		48.9		-	
Total EPH (C9-C40)	mg/kg		-		-		-		282		-		-		-		-		-		142		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		194		170		194		-		390		470		641		946		371		-		40.1	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg		-		-		-		232		-		-		-		-		-		142		-	
Residual Range Organics, Aromatic	mg/kg		-		-		-		50.2		-		-		-		-		-		5.8	U	-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		-		-		-		25.5		-		-		-		-		-		5.8	U	-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-32a-052214		124-A_B-Pet-32b-052214		124-A_B-Pet-32c-052214		124-A_B-Pet-32d-052214		124-A_B-Pet-32-EPH-072814		124-A_B-Pet-33-052214		124-A_B-Pet-33a-052214		124-A_B-Pet-33b-052214		124-A_B-Pet-33c-052214		124-A_B-Pet-33d-052214		124-A_B-Pet-33-EPH-072814	
Lab Sample ID		JB67718-28		JB67718-29		JB67718-30		JB67718-31		JB72707-6		JB67718-7A		JB67718-32		JB67718-33		JB67718-34		JB67718-35		JB72707-7	
Date Sampled		05/22/2014		05/22/2014		05/22/2014		05/22/2014		07/28/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		07/28/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		5.7	U
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		35.7		-		-		-		-		-		115	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		5.7	U
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		33.7		-		-		-		-		-		125	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		28.6	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		5.7	U
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	-		-		-		-		54.9		-		-		-		-		-		82.7	
Total EPH (C9-C40)	mg/kg	-		-		-		-		124		-		-		-		-		-		369	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	110		48.4		46.0		64.5		-		770		1160		682		1150		503		-	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg	-		-		-		-		124		-		-		-		-		-		341	
Residual Range Organics, Aromatic	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		28.6	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	-		-		-		-		5.6	U	-		-		-		-		-		17.9	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-34-060414		124-A_B-Pet-34a-060414		124-A_B-Pet-34b-060414		124-A_B-Pet-34c-060414		124-A_B-Pet-34d-060414		124-A_B-Pet-34-EPH-071014		124-A_B-Pet-35-060414		124-A_B-Pet-35a-060414		124-A_B-Pet-35b-060414		124-A_B-Pet-35c-060414		124-A_B-Pet-35d-060414	
		Lab Sample ID	JB68443-1A		JB68443-5		JB68443-6		JB68443-7		JB68443-8		JB71450-13		JB68443-2A		JB68443-9		JB68443-10		JB68443-11		JB68443-12	
		Date Sampled	06/04/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014		07/10/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		6.91		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		169		-		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		23.4		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		168		-		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		68.1		-		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		-		-		-		-		36.6		-		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		-		-		-		-		83.3		-		-		-		-		-	
Total EPH (C9-C40)	mg/kg		-		-		-		-		-		651		-		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		256		457		423		353		338		-		774		981		642		812		523	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg		-		-		-		-		-		516		-		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg		-		-		-		-		-		135		-		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		-		-		-		-		-		95.9		-		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		124-A_B-Pet-35-EPH-071014		124-A_B-Pet-36-060414		124-A_B-Pet-36a-060414		124-A_B-Pet-36b-060414		124-A_B-Pet-36c-060414		124-A_B-Pet-36d-060414		124-A_B-Pet-36-EPH-071014		124-A_B-Pet-37-060414		124-A_B-Pet-37a-060414		124-A_B-Pet-37b-060414		124-A_B-Pet-37c-060414	
Lab Sample ID		JB71450-14		JB68443-3A		JB68443-13		JB68443-14		JB68443-15		JB68443-16		JB71450-15		JB68443-4A		JB68443-17		JB68443-18		JB68443-19	
Date Sampled		07/10/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014		07/10/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	5.6	U	-		-		-		-		-		13.2		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	107		-		-		-		-		-		362		-		-		-		-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	13.9		-		-		-		-		-		57.5		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	92.7		-		-		-		-		-		312		-		-		-		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	39.2		-		-		-		-		-		126		-		-		-		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	27.9		-		-		-		-		-		40.5		-		-		-		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	46.2		-		-		-		-		-		109		-		-		-		-	
Total EPH (C9-C40)	mg/kg	401		-		-		-		-		-		1230		-		-		-		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg	-		219		317		290		278		268		-		373		416		211		272	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg	320		-		-		-		-		-		994		-		-		-		-	
Residual Range Organics, Aromatic	mg/kg	81.0		-		-		-		-		-		237		-		-		-		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	73.6		-		-		-		-		-		211		-		-		-		-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID	124-A_B-Pet-37d-060414		124-A_B-Pet-37-EPH-071014		124-A_B-Pet-38-062714		124-A_B-Pet-38-EPH-071814		124-A_B-Pet-39-062714		124-A_B-Pet-39-EPH-071814		124-A_B-Pet-40-062714		124-A_B-Pet-40-EPH-071814		124-A_B-Pet-41-062714		124-A_B-Pet-41-EPH-071814		124-A_B-Pet-42-062714	
		Lab Sample ID	JB68443-20		JB71450-16		JB70484-1A		JB72047-1		JB70484-2A		JB72047-2		JB70484-3A		JB72047-3		JB70484-4A		JB72047-4		JB70484-5A	
		Date Sampled	06/04/2014		07/10/2014		06/27/2014		07/18/2014		06/27/2014		07/18/2014		06/27/2014		07/18/2014		06/27/2014		07/18/2014		06/27/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		5.1	U	-		5.9	U	-		5.8	U	-		5.9	U	-		6.4	U	-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		67.9		-		5.9	U	-		5.8	U	-		5.9	U	-		6.4	U	-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		5.40		-		5.9	U	-		5.8	U	-		5.9	U	-		6.4	U	-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		87.3		-		5.9	U	-		5.8	U	-		5.9	U	-		18.4		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		29.5		-		35.6		-		5.8	U	-		5.9	U	-		31.6		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg		-		17.7		-		77.2		-		5.8	U	-		21.6		-		57.6		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg		-		67.4		-		34.2		-		5.8	U	-		30.3		-		81.4		-	
Total EPH (C9-C40)	mg/kg		-		292		-		147		-		5.8	U	-		52.0		-		189		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg		367		-		16.3		-		84.9		-		99.6		-		31.6		-		48.3	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg		-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg		-		239		-		34.2		-		5.8	U	-		30.3		-		99.8		-	
Residual Range Organics, Aromatic	mg/kg		-		52.6		-		113		-		5.8	U	-		21.6		-		89.2		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg		-		16.9		-		5.9	U	-		5.8	U	-		5.9	U	-		6.4	U	-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

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Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

	Client Sample ID	124-A_B-Pet-42-EPH-071814		124-A_B-Pet-43-081414		124-A_B-Pet-43-081414		124-A_B-Pet-44-081414		124-A_B-Pet-44-081414		124-A_B-Pet-45-081414		124-A_B-Pet-45-081414		124-A_B-Pet-46-081914		124-A_B-Pet-47-090514		124-A_B-Pet-48-090514		124-A_B-Pet-49-090514	
	Lab Sample ID	JB72047-5		JB74045-1		JB74045-1R		JB74045-2		JB74045-2R		JB74045-3		JB74045-3R		JB74372-1		JB75848-1		JB75848-2		JB75848-3	
	Date Sampled	07/18/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/14/2014		08/19/2014		09/05/2014		09/05/2014		09/05/2014	
Parameter Name	**Units**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	5.4	U	-		6	U	-		5.4	U	-		5.6	U	16.0		5.8	U	5.6	U	5.6	U
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	5.4	U	-		18.8		-		5.4	U	-		5.6	U	169		5.8	U	5.6	U	5.6	U
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	5.4	U	-		6	U	-		5.4	U	-		5.6	U	87.3		5.8	U	5.6	U	5.6	U
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	5.4	U	-		30.0		-		5.4	U	-		5.6	U	67.4		5.8	U	5.6	U	5.6	U
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	5.4	U	-		15.5		-		5.4	U	-		5.6	U	135		5.8	U	5.6	U	5.6	U
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg	5.4	U	-		15.6		-		5.4	U	-		5.6	U	34.7		5.8	U	5.6	U	5.6	U
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg	5.4	U	-		29.0		-		5.4	U	-		5.6	U	33.4		5.8	U	5.6	U	5.6	U
Total EPH (C9-C40)	mg/kg	5.4	U	-		109		-		5.4	U	-		5.6	U	603		5.8	U	5.6	U	5.6	U
PETROLEUM HYDROCARBONS C10-C28	mg/kg	-		145		-		476		-		67.0		-		-		-		-		-	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg	-		-		-		-		-		-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg	5.4	U	-		77.8		-		5.4	U	-		5.6	U	330		5.8	U	5.6	U	5.6	U
Residual Range Organics, Aromatic	mg/kg	5.4	U	-		31.1		-		5.4	U	-		5.6	U	273		5.8	U	5.6	U	5.6	U
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg	5.4	U	-		6	U	-		5.4	U	-		5.6	U	60.7		5.8	U	5.6	U	5.6	U

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016
Reviewed by: JD 05/24/2016

TABLE E

Petroleum Soil Sample Results – EPH/Petroleum Hydrocarbons

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

		Client Sample ID		124-A_B-Pet-50-102414		124-A_B-Pet-51-102414		124-A_B-Pet-52-102414		124-A_B-Pet-53-102414		124-C-Pet-01-102414		134-SB-604-0627	
		Lab Sample ID		JB80064-1		JB80064-2		JB80064-3		JB80064-4		JB80065-1		JB70486-1A	
		Date Sampled		10/24/2014		10/24/2014		10/24/2014		10/24/2014		10/24/2014		06/27/2014	
Parameter Name	**Units**			**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
C10-C12 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			6.6	U	5.7	U	5.4	U	6.4	U	6.8	U	-	
C12-C16 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg			69.2		45.3		24.3		6.4	U	6.8	U	-	
C12-C16 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			23.6		17.2		5.4	U	6.4	U	6.8	U	-	
C16-C21 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg			157		55.3		36.6		6.4	U	44.8		-	
C16-C21 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			138		69.9		61.4		6.4	U	32.7		-	
C21-C36 PETROLEUM HYDROCARBONS, AROMATIC	mg/kg			185		67.6		58.8		49.2		124		-	
C21-C40 PETROLEUM HYDROCARBONS, ALIPHATIC	mg/kg			348		70.9		60.9		123		414		-	
Total EPH (C9-C40)	mg/kg			921		326		242		172		615		-	
PETROLEUM HYDROCARBONS C10-C28	mg/kg			-		-		-		-		-		161	
PETROLEUM HYDROCARBONS AS GASOLINE	mg/kg			-		-		-		-		-		-	
Residual Range Organics, Aliphatic	mg/kg			574		171		122		123		459		-	
Residual Range Organics, Aromatic	mg/kg			347		155		120		49.2		156		-	
VOLATILE PETROLEUM HYDROCARBONS C9-C12 ALIPHATIC	mg/kg			6.6	U	5.7	U	5.4	U	6.4	U	6.8	U	-	

Notes:

EPH: Extractable Petroleum Hydrocarbons

Criterion for EPH is EPH Ecological Concern Criteria of 1700 mg/kg; last amende

Criterion for total petroleum hydrocarbons based on 10,000 mg/kg cap value fo

Bold and underlined concentrations exceed the Criteria

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JD 05/24/2016

TABLE F

Petroleum Soil Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-01-010814		124-A_B-Pet-01-012914		124-A_B-Pet-02-010814		124-A_B-Pet-02-012914		124-A_B-Pet-03-012014		124-A_B-Pet-03-012914		124-A_B-Pet-04-012814		124-A_B-Pet-05-012814		124-A_B-Pet-06-012814		124-A_B-Pet-07-012814		124-A_B-Pet-08-012814	
Lab Sample ID				JB57182-1A		JB58756-1		JB57182-2A		JB58756-2/2R		JB58165-1A		JB58756-3		JB58764-1/1A/1T		JB58764-2/2A/2T		JB58764-3/3A/3T		JB58764-4/4A/4T		JB58764-5/5A/5T	
Date Sampled				01/08/2014		01/29/2014		01/08/2014		01/29/2014		01/20/2014		01/29/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CORROSIVITY	NEG	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
CYANIDE	mg/kg	1600	20	-		-		-		-		-		-		-		-		-		-		-	
HEXAVALENT CHROMIUM	mg/kg	20	NC	-		**28.5**	J	-		5.2		-		**68**	J	14.2	J	13.3	J	**48.3**	J	18.3	J	19.7	J
Ignitability (liquids) Pensky-Martens	NEG	NC	NC	NEG		-		NEG		-		NEG		-		NEG		NEG		NEG		NEG		NEG	
OIL & GREASE, TOTAL REC	mg/kg	NC	NC	2630		-		7510		-		1860		-		570	U	530	U	600	U	600	U	1010	
PAINT FILTER TEST	ml/100g	NC	NC	0.5	U	-		0.5	U	-		0.5	U	-		2.5	U	2.5	U	2.5	U	2.5	U	2.5	U
pH	S.U.	NC	NC	7.98		-		8.08		-		7.92		-		7.84		8.01		8.19		8.04		8.26	
REACTIVE CYANIDE	mg/kg	NC	NC	12	U	-		12	U	-		13	U	-		11	U	11	U	12	U	12	U	11	U
REACTIVE SULFIDE	mg/kg	NC	NC	120	U	-		120	U	-		130	U	-		110	U	110	U	120	U	120	U	110	U

Notes:

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

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

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE F

Petroleum Soil Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-09-012814		124-A_B-Pet-10-022714		124-A_B-Pet-11-022714		124-A_B-Pet-12-022714		124-A_B-Pet-13-022714		124-A_B-Pet-14-022714		124-A_B-Pet-15-022714		124-A_B-Pet-16-022714		124-A_B-Pet-17-031214		124-A_B-Pet-18-031214		124-A_B-Pet-19-031214	
Lab Sample ID				JB58764-6/6A/6T		JB60759-1/1A/1R		JB60759-2/2A/2R		JB60759-3/3A		JB60759-4/4A/4R		JB60759-5/5A/5R		JB60759-6/6A		JB60759-7/7A/7R		JB61696-1/1A/1R		JB61696-2/2A/2R		JB61696-3/3A	
Date Sampled				01/28/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		03/12/2014		03/12/2014		03/12/2014	
Parameter Name	Units	NJ 2012 MOST STRINGENT SRS	NJ 2013 IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CORROSIVITY	NEG	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
CYANIDE	mg/kg	1600	20	-		-		-		-		-		-		-		-		-		-		-	
HEXAVALENT CHROMIUM	mg/kg	20	NC	**33.4**	**J**	15.8	J	16	J	6.2	J	13.2	J	**21.4**	**J**	11.1	J	15.8	J	**21.5**		**25.7**		**23.2**	
Ignitability (liquids) Pensky-Martens	NEG	NC	NC	NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG	
OIL & GREASE, TOTAL REC	mg/kg	NC	NC	2250		1200	U	1250		2070		1200	U	1200	U	1300	U	1100	U	1050		939		1280	
PAINT FILTER TEST	ml/100g	NC	NC	2.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
pH	S.U.	NC	NC	8.03		7.64		7.62		8.10		8.22		7.95		8.33		7.84				7.96		7.96	
REACTIVE CYANIDE	mg/kg	NC	NC	12	U	12	U	12	U	12	U	12	U	13	U	14	U	12	U	11	U	12	U	12	U
REACTIVE SULFIDE	mg/kg	NC	NC	120	U	120	U	120	U	120	U	120	U	130	U	140	U	120	U	110	U	120	U	120	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE F

Petroleum Soil Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-20-031214		124-A_B-Pet-21-031414		124-A_B-Pet-22-031414		124-A_B-Pet-23-031414		124-A_B-Pet-24-031414		124-A_B-Pet-25-042214		124-A_B-Pet-26-042214		124-A_B-Pet-27-052214		124-A_B-Pet-28-052214		124-A_B-Pet-29-052214		124-A_B-Pet-30-052214	
Lab Sample ID				JB61696-4/4A/4R		JB62045-1/1A		JB62045-2/2A		JB62045-3/3A		JB62045-4/4A		JB65312-1/1B		JB65312-2/2B/2R		JB67718-1/1A/1AB		JB67718-2/2A/2AB		JB67718-3/3A/3AB		JB67718-4/4A/4AB	
Date Sampled				03/12/2014		03/14/2014		03/14/2014		03/14/2014		03/14/2014		04/22/2014		04/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CORROSIVITY	NEG	NC	NC	-		-		-		-		-		-		-		NEG		NEG		NEG		NEG	
CYANIDE	mg/kg	1600	20	-		-		-		-		-		-		-		0.25	U	0.25	U	0.24	U	0.24	U
HEXAVALENT CHROMIUM	mg/kg	20	NC	13.4		**29.3**	J	**40.3**	J	**60.4**	J	**36.2**	J	4.7		17.4		13.1		14.0		11.3		7.9	
Ignitability (liquids) Pensky-Martens	NEG	NC	NC	NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG		NEG	
OIL & GREASE, TOTAL REC	mg/kg	NC	NC	550	U	1830		1200	U	1540		2640		1450		1240		-		-		-		-	
PAINT FILTER TEST	ml/100g	NC	NC	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
pH	S.U.	NC	NC	7.97		8.38		8.10		7.80		7.78		7.34		8.38		8.06		8.05		8.00		7.97	
REACTIVE CYANIDE	mg/kg	NC	NC	11	U	11	U	12	U	12	U	12	U	12	U	12	U	11	U	11	U	11	U	11	U
REACTIVE SULFIDE	mg/kg	NC	NC	110	U	110	U	120	U	120	U	120	U	120	U	120	U	110	U	110	U	110	U	110	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE F

Petroleum Soil Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-31-052214		124-A_B-Pet-32-052214		124-A_B-Pet-33-052214		124-A_B-Pet-34-060414		124-A_B-Pet-35-060414		124-A_B-Pet-36-060414		124-A_B-Pet-37-060414		124-A_B-Pet-38-062714		124-A_B-Pet-39-062714		124-A_B-Pet-40-062714		124-A_B-Pet-41-062714	
Lab Sample ID				JB67718-5/5A/5AB		JB67718-6/6A/6AB		JB67718-7/7A/7AB/7R		JB68443-1/1A/1AB		JB68443-2/2A/2AB		JB68443-3/3A/3AB/3R		JB68443-4/4A/4AB/4R		JB70484-1/1R		JB70484-2/2R		JB70484-3/3R		JB70484-4	
Date Sampled		NJ 2012 MOST	NJ 2013	05/22/2014		05/22/2014		05/22/2014		06/04/2014		06/04/2014		06/04/2014		06/04/2014		06/27/2014		06/27/2014		06/27/2014		06/27/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CORROSIVITY	NEG	NC	NC	NEG		NEG		NEG		NEG		NEG		NEG		NEG		-		-		-		-	
CYANIDE	mg/kg	1600	20	0.24	U	0.23	U	0.23	U	0.21	U	0.25	U	0.25	U	0.22	U	-		-		-		-	
HEXAVALENT CHROMIUM	mg/kg	20	NC	10.0		10.3		2.5		**21.6**		**38.2**		**29.8**		**42.5**		**21.7**		**24.5**		**62.2**		16.4	
Ignitability (liquids) Pensky-Martens	NEG	NC	NC	NEG		NEG		NEG		NEG		NEG		NEG		NEG		-		-		-		-	
OIL & GREASE, TOTAL REC	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
PAINT FILTER TEST	ml/100g	NC	NC	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	-		-		-		-	
pH	S.U.	NC	NC	8.27		8.31		8.16		8.43		8.13		8.74		8.18		-		-		-		-	
REACTIVE CYANIDE	mg/kg	NC	NC	12	U	11	U	11	U	11	U	11	U	11	U	11	U	-		-		-		-	
REACTIVE SULFIDE	mg/kg	NC	NC	120	U	110	U	110	U	110	U	110	U	110	U	110	U	-		-		-		-	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE F

Petroleum Soil Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-42-062714		124-A_B-Pet-43-081414		124-A_B-Pet-44-081414		124-A_B-Pet-45-081414		124-A_B-Pet-46-081914		124-A_B-Pet-47-090514		124-A_B-Pet-48-090514		124-A_B-Pet-49-090514		124-A_B-Pet-50-102414		124-A_B-Pet-51-102414		124-A_B-Pet-52-102414	
Lab Sample ID				JB70484-5/5R		JB74045-1		JB74045-2		JB74045-3		JB74372-1		JB75848-1		JB75848-2		JB75848-3		JB80064-1/1R		JB80064-2/2R		JB80064-3/3R	
Date Sampled		NJ 2012 MOST	NJ 2013	06/27/2014		08/14/2014		08/14/2014		08/14/2014		08/19/2014		09/05/2014		09/05/2014		09/05/2014		10/24/2014		10/24/2014		10/24/2014	
Parameter Name	Units	STRINGENT SRS	IGW SOIL	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q	CONC	Q
CORROSIVITY	NEG	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
CYANIDE	mg/kg	1600	20	-		-		-		-		-		-		-		-		-		-		-	
HEXAVALENT CHROMIUM	mg/kg	20	NC	**55.1**		**36.6**		**20.4**		**20.8**		**45.7**		9.8		9.3		4.9		16.6		**45.0**		**37.1**	
Ignitability (liquids) Pensky-Martens	NEG	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
OIL & GREASE, TOTAL REC	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
PAINT FILTER TEST	ml/100g	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
pH	S.U.	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
REACTIVE CYANIDE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	
REACTIVE SULFIDE	mg/kg	NC	NC	-		-		-		-		-		-		-		-		-		-		-	

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE F

Petroleum Soil Sample Results – General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-A_B-Pet-53-102414		124-C-Pet-01-102414		134-SB-604-0627	
Lab Sample ID				JB80064-4		JB80065-1		JB70486-1/1A/1AB/1R	
Date Sampled		NJ 2012 MOST	NJ 2013	10/24/2014		10/24/2014		06/27/2014	
Parameter Name	**Units**	**STRINGENT SRS**	**IGW SOIL**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
CORROSIVITY	NEG	NC	NC	-		-		NEG	
CYANIDE	mg/kg	1600	20	-		-		0.26	U
HEXAVALENT CHROMIUM	mg/kg	20	NC	**40.6**		9.2		**25.3**	
Ignitability (liquids) Pensky-Martens	NEG	NC	NC	-		-		NEG	
OIL & GREASE, TOTAL REC	mg/kg	NC	NC	-		-		-	
PAINT FILTER TEST	ml/100g	NC	NC	-		-		1.5	U
pH	S.U.	NC	NC	-		-		7.75	
REACTIVE CYANIDE	mg/kg	NC	NC	-		-		12	U
REACTIVE SULFIDE	mg/kg	NC	NC	-		-		120	U

Notes:

NJ 2012 MOST STRINGENT SRS- NJDEP Most Stringent Soil Remediation Standards [N.J.A.C. 7

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

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE G

Petroleum Soil Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		RCRA Toxicity Characteristics (40 CFR261.24)	124-A_B-Pet-01-010814		124-A_B-Pet-02-010814		124-A_B-Pet-03-012014		124-A_B-Pet-04-012814		124-A_B-Pet-05-012814		124-A_B-Pet-06-012814		124-A_B-Pet-07-012814		124-A_B-Pet-08-012814		124-A_B-Pet-09-012814		124-A_B-Pet-10-022714		124-A_B-Pet-11-022714	
Lab Sample ID			JB57182-1A/1B		JB57182-2A/2B		JB58165-1A/1B		JB58764-1A		JB58764-2A		JB58764-3A		JB58764-4A		JB58764-5A		JB58764-6A		JB60759-1A		JB60759-2A	
Date Sampled			01/08/2014		01/08/2014		01/20/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		01/28/2014		02/27/2014		02/27/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	mg/L	100	1	U	1.1		1.0		1	U	1	U	1.1		1	U	1	U	1	U	1	U	1	U
CADMIUM	mg/L	1	0.0059		0.005	U	0.025	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHROMIUM	mg/L	5	0.056		0.036		0.015		0.080		0.15		0.16		0.056		0.10		0.14		0.49		0.063	
COPPER	mg/L	NC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
LEAD	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
NICKEL	mg/L	NC	0.076		0.11		0.10		0.065		0.096		0.15		0.053		0.046		0.04	U	0.073		0.04	U
SELENIUM	mg/L	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	mg/L	5	0.01	U	0.03	U	0.05	U	0.03	U	0.03	U	0.05	U	0.03	U	0.05	U	0.05	U	0.05	U	0.05	U
ZINC	mg/L	NC	50.3	J	76.7	J	129		64.0		54.4		134		56.3		95.2		139		272	J	112	J
2,4,5-TP (SILVEX)	mg/L	1	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U
2,4-D	mg/L	10	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
ENDRIN	mg/L	0.02	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
GAMMA-BHC (LINDANE)	mg/L	0.4	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
HEPTACHLOR	mg/L	0.008	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
HEPTACHLOR EPOXIDE	mg/L	NC	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
METHOXYCHLOR	mg/L	10	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
PENTACHLOROPHENOL	mg/L	100	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
TOXAPHENE	mg/L	0.5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U
CHEMICAL OXYGEN DEMAND	mg/L	NC	20	U	20	U	20	U	-		-		-		-		-		-		-		-	
NITROGEN, AMMONIA (AS N)	mg/L	NC	0.2	U	0.2	U	0.2	U	-		-		-		-		-		-		-		-	
OIL & GREASE, TOTAL REC	mg/L	NC	5.1	U	5.1	U	5.1	U	-		-		-		-		-		-		-		-	
1,1-DICHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-DICHLOROETHANE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,4-DICHLOROBENZENE	mg/L	7.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
2-BUTANONE	mg/L	200	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
BENZENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CARBON TETRACHLORIDE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHLOROBENZENE	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHLOROFORM	mg/L	6	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
TETRACHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
TRICHLOROETHENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
VINYL CHLORIDE	mg/L	0.2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
2,4,5-TRICHLOROPHENOL	mg/L	400	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
2,4,6-TRICHLOROPHENOL	mg/L	2	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
2,4-DINITROTOLUENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
2-METHYLPHENOL	mg/L	200	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
3&4-METHYLPHENOL	mg/L	NC	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
HEXACHLOROBENZENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
HEXACHLOROBUTADIENE	mg/L	0.5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
HEXACHLOROETHANE	mg/L	3	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
NITROBENZENE	mg/L	2	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
PYRIDINE	mg/L	5	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U

Notes:

RCRA Toxicity Characteristics (40 CFR261.24)

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics (40 CFR261.24)

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

TCLP: Toxicity Characteristic Leaching Procedure

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE G

Petroleum Soil Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		RCRA Toxicity Characteristics (40 CFR261.24)	124-A_B-Pet-12-022714		124-A_B-Pet-13-022714		124-A_B-Pet-14-022714		124-A_B-Pet-15-022714		124-A_B-Pet-16-022714		124-A_B-Pet-17-031214		124-A_B-Pet-18-031214		124-A_B-Pet-19-031214		124-A_B-Pet-20-031214		124-A_B-Pet-21-031414		124-A_B-Pet-22-031414	
Lab Sample ID			JB60759-3A		JB60759-4A		JB60759-5A		JB60759-6A		JB60759-7A		JB61696-1A		JB61696-2A		JB61696-3A		JB61696-4A		JB62045-1A		JB62045-2A	
Date Sampled			02/27/2014		02/27/2014		02/27/2014		02/27/2014		02/27/2014		03/12/2014		03/12/2014		03/12/2014		03/12/2014		03/14/2014		03/14/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	mg/L	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1	U	1.2		1.1	
CADMIUM	mg/L	1	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.025	U	0.01	U	0.025	U	0.005	U	0.005	U	0.005	U
CHROMIUM	mg/L	5	0.054		0.074		0.051		0.046		0.086		0.081		0.14		0.14		0.30		0.061		0.12	
COPPER	mg/L	NC	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
LEAD	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
NICKEL	mg/L	NC	0.046		0.047		0.057		0.061		0.057		0.098		0.12		0.072		0.04	U	0.30		0.30	
SELENIUM	mg/L	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	mg/L	5	0.01	U	0.01	U	0.05	U	0.05	U	0.05	U	0.05	U	0.02	U	0.05	U	0.01	U	0.01	U	0.01	U
ZINC	mg/L	NC	28	J	49.3	J	247	J	151	J	168	J	144	J	61.4	J	159	J	22.8	J	78.8		33.6	
2,4,5-TP (SILVEX)	mg/L	1	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U
2,4-D	mg/L	10	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
ENDRIN	mg/L	0.02	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
GAMMA-BHC (LINDANE)	mg/L	0.4	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
HEPTACHLOR	mg/L	0.008	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
HEPTACHLOR EPOXIDE	mg/L	NC	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
METHOXYCHLOR	mg/L	10	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
PENTACHLOROPHENOL	mg/L	100	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
TOXAPHENE	mg/L	0.5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U
CHEMICAL OXYGEN DEMAND	mg/L	NC	-		-		-		-		-		-		-		-		-		-		-	
NITROGEN, AMMONIA (AS N)	mg/L	NC	-		-		-		-		-		-		-		-		-		-		-	
OIL & GREASE, TOTAL REC	mg/L	NC	-		-		-		-		-		-		-		-		-		-		-	
1,1-DICHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-DICHLOROETHANE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,4-DICHLOROBENZENE	mg/L	7.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
2-BUTANONE	mg/L	200	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
BENZENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CARBON TETRACHLORIDE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHLOROBENZENE	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHLOROFORM	mg/L	6	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
TETRACHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
TRICHLOROETHENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
VINYL CHLORIDE	mg/L	0.2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
2,4,5-TRICHLOROPHENOL	mg/L	400	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
2,4,6-TRICHLOROPHENOL	mg/L	2	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
2,4-DINITROTOLUENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
2-METHYLPHENOL	mg/L	200	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
3&4-METHYLPHENOL	mg/L	NC	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
HEXACHLOROBENZENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
HEXACHLOROBUTADIENE	mg/L	0.5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
HEXACHLOROETHANE	mg/L	3	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
NITROBENZENE	mg/L	2	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
PYRIDINE	mg/L	5	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U

Notes:

RCRA Toxicity Characteristics (40 CFR261.24)

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics (40 CFR261.24)

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

TCLP: Toxicity Characteristic Leaching Procedure

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE G

Petroleum Soil Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		RCRA Toxicity Characteristics (40 CFR261.24)	124-A_B-Pet-23-031414		124-A_B-Pet-24-031414		124-A_B-Pet-25-042214		124-A_B-Pet-26-042214		124-A_B-Pet-27-052214		124-A_B-Pet-28-052214		124-A_B-Pet-29-052214		124-A_B-Pet-30-052214		124-A_B-Pet-31-052214		124-A_B-Pet-32-052214		124-A_B-Pet-33-052214	
Lab Sample ID			JB62045-3A		JB62045-4A		JB65312-1B		JB65312-2B		JB67718-1AB		JB67718-2AB		JB67718-3AB		JB67718-4AB		JB67718-5AB		JB67718-6AB		JB67718-7AB	
Date Sampled			03/14/2014		03/14/2014		04/22/2014		04/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014		05/22/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	mg/L	100	1.1		1.3		1.6		1.7		1	U	1	U	1	U	1	U	1	U	1	U	1	U
CADMIUM	mg/L	1	0.0050		0.0068		0.018		0.0078		0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHROMIUM	mg/L	5	0.096		0.21		0.41		0.067		0.081		0.066		0.055		0.072		0.044		0.10		0.076	
COPPER	mg/L	NC	0.025	U	0.025	U	0.01	U	0.01	U	-		-		-		-		-		-		-	
LEAD	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
NICKEL	mg/L	NC	0.92		0.53		3.5		0.90		-		-		-		-		-		-		-	
SELENIUM	mg/L	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	mg/L	5	0.03	U	0.05	U	0.1	U	0.013		0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
ZINC	mg/L	NC	95.3		155		262		14.1		-		-		-		-		-		-		-	
2,4,5-TP (SILVEX)	mg/L	1	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U	0.0015	U
2,4-D	mg/L	10	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
ENDRIN	mg/L	0.02	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
GAMMA-BHC (LINDANE)	mg/L	0.4	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
HEPTACHLOR	mg/L	0.008	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
HEPTACHLOR EPOXIDE	mg/L	NC	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U	0.0001	U
METHOXYCHLOR	mg/L	10	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
PENTACHLOROPHENOL	mg/L	100	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
TOXAPHENE	mg/L	0.5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U	0.0025	U
CHEMICAL OXYGEN DEMAND	mg/L	NC	-		-		-		-		-		-		-		-		-		-		-	
NITROGEN, AMMONIA (AS N)	mg/L	NC	-		-		-		-		-		-		-		-		-		-		-	
OIL & GREASE, TOTAL REC	mg/L	NC	-		-		-		-		-		-		-		-		-		-		-	
1,1-DICHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,2-DICHLOROETHANE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
1,4-DICHLOROBENZENE	mg/L	7.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
2-BUTANONE	mg/L	200	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U	0.1	U
BENZENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0182		0.005	U
CARBON TETRACHLORIDE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHLOROBENZENE	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
CHLOROFORM	mg/L	6	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
TETRACHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U
TRICHLOROETHENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.005	U	0.0055		0.005	U	0.005	U	0.005	U
VINYL CHLORIDE	mg/L	0.2	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U	0.025	U
2,4,5-TRICHLOROPHENOL	mg/L	400	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
2,4,6-TRICHLOROPHENOL	mg/L	2	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
2,4-DINITROTOLUENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
2-METHYLPHENOL	mg/L	200	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
3&4-METHYLPHENOL	mg/L	NC	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
HEXACHLOROBENZENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
HEXACHLOROBUTADIENE	mg/L	0.5	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U	0.01	U
HEXACHLOROETHANE	mg/L	3	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U	0.05	U
NITROBENZENE	mg/L	2	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U
PYRIDINE	mg/L	5	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U	0.02	U

Notes:

RCRA Toxicity Characteristics (40 CFR261.24)

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics (40 CFR261.24)

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

TCLP: Toxicity Characteristic Leaching Procedure

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE G

Petroleum Soil Sample Results – TCLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID		RCRA Toxicity Characteristics (40 CFR261.24)	124-A_B-Pet-34-060414		124-A_B-Pet-35-060414		124-A_B-Pet-36-060414		124-A_B-Pet-37-060414		124-WC-Pet-01-C-111014		124-WC-Pet-50-AB-111014		134-SB-604-0627	
Lab Sample ID			JB68443-1AB		JB68443-2AB		JB68443-3AB		JB68443-4AB		JB81370-2		JB81370-1		JB70486-1AB	
Date Sampled			06/04/2014		06/04/2014		06/04/2014		06/04/2014		11/10/2014		11/10/2014		06/27/2014	
Parameter Name	**Units**		**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
BARIUM	mg/L	100	1	U	1	U	1	U	1	U	1	U	1	U	1	U
CADMIUM	mg/L	1	0.005	U	0.005	U	0.005	U	0.005	U	0.025		0.051		0.005	U
CHROMIUM	mg/L	5	0.056		0.040		0.025		0.049		0.05	U	0.81		0.10	
COPPER	mg/L	NC	-		-		-		-		0.05	U	0.05	U	0.01	U
LEAD	mg/L	5	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
MERCURY	mg/L	0.2	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U	0.0002	U
NICKEL	mg/L	NC	-		-		-		-		11.5		1.2		0.11	
SELENIUM	mg/L	1	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U	0.5	U
SILVER	mg/L	5	0.01	U	0.01	U	0.01	U	0.01	U	0.05	U	0.05	U	0.01	U
ZINC	mg/L	NC	-		-		-		-		14.6		38.8		12.8	
2,4,5-TP (SILVEX)	mg/L	1	0.0015	U	0.0015	U	0.0015	U	0.0015	U	-		-		-	
2,4-D	mg/L	10	0.005	U	0.005	U	0.005	U	0.005	U	-		-		-	
CONSTITUENTS OF CHLORDANE (ALPHA, BETA, AND GAMMA)	mg/L	0.03	0.005	U	0.005	U	0.005	U	0.005	U	-		-		-	
ENDRIN	mg/L	0.02	0.0001	U	0.0001	U	0.0001	U	0.0001	U	-		-		-	
GAMMA-BHC (LINDANE)	mg/L	0.4	0.0001	U	0.0001	U	0.0001	U	0.0001	U	-		-		-	
HEPTACHLOR	mg/L	0.008	0.0001	U	0.0001	U	0.0001	U	0.0001	U	-		-		-	
HEPTACHLOR EPOXIDE	mg/L	NC	0.0001	U	0.0001	U	0.0001	U	0.0001	U	-		-		-	
METHOXYCHLOR	mg/L	10	0.0002	U	0.0002	U	0.0002	U	0.0002	U	-		-		-	
PENTACHLOROPHENOL	mg/L	100	0.1	U	0.1	U	0.1	U	0.1	U	-		-		0.1	U
TOXAPHENE	mg/L	0.5	0.0025	U	0.0025	U	0.0025	U	0.0025	U	-		-		-	
CHEMICAL OXYGEN DEMAND	mg/L	NC	-		-		-		-		-		-		-	
NITROGEN, AMMONIA (AS N)	mg/L	NC	-		-		-		-		-		-		-	
OIL & GREASE, TOTAL REC	mg/L	NC	-		-		-		-		-		-		-	
1,1-DICHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	-		-		0.005	U
1,2-DICHLOROETHANE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	-		-		0.005	U
1,4-DICHLOROBENZENE	mg/L	7.5	0.005	U	0.005	U	0.005	U	0.005	U	-		-		0.005	U
2-BUTANONE	mg/L	200	0.1	U	0.1	U	0.1	U	0.1	U	-		-		0.1	U
BENZENE	mg/L	0.5	0.0191		0.0064		0.0219		0.005	U	-		-		0.005	U
CARBON TETRACHLORIDE	mg/L	0.5	0.01	U	0.01	U	0.01	U	0.01	U	-		-		0.005	U
CHLOROBENZENE	mg/L	100	0.005	U	0.005	U	0.005	U	0.005	U	-		-		0.004	J
CHLOROFORM	mg/L	6	0.01	U	0.01	U	0.01	U	0.01	U	-		-		0.005	U
TETRACHLOROETHENE	mg/L	0.7	0.005	U	0.005	U	0.005	U	0.005	U	-		-		0.0037	J
TRICHLOROETHENE	mg/L	0.5	0.005	U	0.005	U	0.005	U	0.005	U	-		-		0.005	U
VINYL CHLORIDE	mg/L	0.2	0.025	U	0.025	U	0.025	U	0.025	U	-		-		0.025	U
2,4,5-TRICHLOROPHENOL	mg/L	400	0.05	U	0.05	U	0.05	U	0.05	U	-		-		0.05	U
2,4,6-TRICHLOROPHENOL	mg/L	2	0.05	U	0.05	U	0.05	U	0.05	U	-		-		0.05	U
2,4-DINITROTOLUENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	-		-		0.02	U
2-METHYLPHENOL	mg/L	200	0.02	U	0.02	U	0.02	U	0.02	U	-		-		0.02	U
3&4-METHYLPHENOL	mg/L	NC	0.02	U	0.02	U	0.02	U	0.02	U	-		-		0.02	U
HEXACHLOROBENZENE	mg/L	0.13	0.02	U	0.02	U	0.02	U	0.02	U	-		-		0.02	U
HEXACHLOROBUTADIENE	mg/L	0.5	0.01	U	0.01	U	0.01	U	0.01	U	-		-		0.01	U
HEXACHLOROETHANE	mg/L	3	0.05	U	0.05	U	0.05	U	0.05	U	-		-		0.05	U
NITROBENZENE	mg/L	2	0.02	U	0.02	U	0.02	U	0.02	U	-		-		0.02	U
PYRIDINE	mg/L	5	0.02	U	0.02	U	0.02	U	0.02	U	-		-		0.02	U

Notes:

RCRA Toxicity Characteristics (40 CFR261.24)

NC: No criterion established

Bold and shaded concentrations exceed the RCRA Toxicity Characteristics (40 CFR261.24)

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

TCLP: Toxicity Characteristic Leaching Procedure

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE H

Petroleum Soil Sample Results – SPLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID			124-A_B-Pet-15a-061214		124-A_B-Pet-15b-061214		124-A_B-Pet-15c-061214		124-A_B-Pet-18a-061214		124-A_B-Pet-18b-061214		124-A_B-Pet-18c-061214		124-A_B-Pet-25a-042214		124-A_B-Pet-25b-042214		124-A_B-Pet-25c-042214		124-A_B-Pet-26a-042214		124-A_B-Pet-26b-042214		124-A_B-Pet-26c-042214	
Lab Sample ID			JB69164-1		JB69164-2		JB69164-3		JB69166-1		JB69166-2		JB69166-3		65312-3T		65312-4T		65312-5T		65312-7T		65312-8T		65312-9T	
Date Sampled		NJ_Default Leachate	06/12/2014		06/12/2014		06/12/2014		06/12/2014		06/12/2014		06/12/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014		04/22/2014	
Parameter Name	**Units**	**Criteria for Class II GW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	ug/l	3	-		-		-		-		-		-		3	U	3	U	3	U	**11.8**		**15.8**		**16.3**	
BARIUM	ug/l	120000	-		-		-		-		-		-		1000	U	1000	U	1000	U	1000	U	1000	U	1000	U
BERYLLIUM	ug/l	20	-		-		-		-		-		-		5	U	5	U	5	U	5	U	5	U	5	U
CADMIUM	ug/l	80	-		-		-		-		-		-		5	U	5	U	5	U	5	U	5	U	5	U
LEAD	ug/l	100	-		-		-		-		-		-		50	U	50	U	50	U	50	U	50	U	50	U
MERCURY	ug/l	40	0.2	U	0.2	U	0.2	U	-		-		-		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NICKEL	ug/l	2000	-		-		-		-		-		-		570		61.9		413		10	U	10	U	10	U
ZINC	ug/l	40000	-		-		-		-		-		-		695		20	U	20	U	21		20	U	20	U
ACENAPHTHENE	ug/l	4200	-		-		-		-		-		-		-		-		-		-		-		-	
ACENAPHTHYLENE	ug/l	NC	-		-		-		-		-		-		-		-		-		-		-		-	
ANTHRACENE	ug/l	43	-		-		-		-		-		-		-		-		-		-		-		-	
BENZO(A)ANTHRACENE	ug/l	1	-		-		-		1	U	1	U	1	U	-		-		-		-		-		-	
BENZO(A)PYRENE	ug/l	0.1	-		-		-		**1**	**U**	**1**	**U**	**1**	**U**	-		-		-		-		-		-	
BENZO(B)FLUORANTHENE	ug/l	1	-		-		-		1	U	1	U	1	U	-		-		-		-		-		-	
BENZO(G,H,I)PERYLENE	ug/l	NC	-		-		-		-		-		-		-		-		-		-		-		-	
BENZO(K)FLUORANTHENE	ug/l	0.8	-		-		-		-		-		-		-		-		-		-		-		-	
CHRYSENE	ug/l	2	-		-		-		-		-		-		-		-		-		-		-		-	
DIBENZO(A,H)ANTHRACENE	ug/l	0.3	-		-		-		-		-		-		-		-		-		-		-		-	
FLUORANTHENE	ug/l	210	-		-		-		-		-		-		-		-		-		-		-		-	
FLUORENE	ug/l	2000	-		-		-		-		-		-		-		-		-		-		-		-	
INDENO(1,2,3-CD)PYRENE	ug/l	0.2	-		-		-		-		-		-		-		-		-		-		-		-	
NAPHTHALENE	ug/l	6000	-		-		-		-		-		-		-		-		-		-		-		-	
PHENANTHRENE	ug/l	NC	-		-		-		-		-		-		-		-		-		-		-		-	
PYRENE	ug/l	140	-		-		-		-		-		-		-		-		-		-		-		-	

Notes:

NJ_Default Leachate Criteria for Class II Groundwater

NC: No criterion established

Bold and shaded concentrations exceed the NJ_Default Leachate Criteria for Class II GW

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in micrograms per liter (ug/l)

B: Analyte found in sample and associated blank

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

SPLP: Synthetic Precipitation Leaching Procedure

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

TABLE H
Petroleum Soil Sample Results – SPLP
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID			124-A_B-Pet-31a-061214		124-A_B-Pet-31b-061214		124-A_B-Pet-31c-061214		124-A_B-Pet-35a-061914		124-A_B-Pet-35b-061914		124-A_B-Pet-35c-061914		124-A_B-Pet-39a-071114		124-A_B-Pet-39b-071114		124-A_B-Pet-39c-071114		124-A_B-Pet-42a-071114		124-A_B-Pet-42b-071114		124-A_B-Pet-42c-071114	
Lab Sample ID			JB69165-1		JB69165-2		JB69165-3		JB69908-1/1R		JB69908-2/2R		JB69908-3/3R		JB71451-1		JB71451-2		JB71451-3		JB71451-4		JB71451-5		JB71451-6	
Date Sampled		NJ_Default Leachate	06/12/2014		06/12/2014		06/12/2014		06/19/2014		06/19/2014		06/19/2014		07/11/2014		07/11/2014		07/11/2014		07/11/2014		07/11/2014		07/11/2014	
Parameter Name	**Units**	**Criteria for Class II GW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	ug/l	3	-		-		-		-		-		-		-		-		-		**4.3**		**3.5**		3	U
BARIUM	ug/l	120000	-		-		-		-		-		-		-		-		-		-		-		-	
BERYLLIUM	ug/l	20	-		-		-		-		-		-		-		-		-		-		-		-	
CADMIUM	ug/l	80	-		-		-		-		-		-		-		-		-		-		-		-	
LEAD	ug/l	100	-		-		-		-		-		-		-		-		-		50	U	50	U	50	U
MERCURY	ug/l	40	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-	
NICKEL	ug/l	2000	-		-		-		-		-		-		-		-		-		-		-		-	
ZINC	ug/l	40000	-		-		-		-		-		-		-		-		-		-		-		-	
ACENAPHTHENE	ug/l	4200	-		-		-		-		-		-		-		-		-		-		-		-	
ACENAPHTHYLENE	ug/l	NC	-		-		-		-		-		-		-		-		-		-		-		-	
ANTHRACENE	ug/l	43	-		-		-		-		-		-		-		-		-		-		-		-	
BENZO(A)ANTHRACENE	ug/l	1	-		-		-		-		-		-		-		-		-		-		-		-	
BENZO(A)PYRENE	ug/l	0.1	-		-		-		0.1	U	0.1	U	0.1	U	-		-		-		0.1	U	0.1	U	0.1	U
BENZO(B)FLUORANTHENE	ug/l	1	-		-		-		0.1	U	0.1	U	0.1	U	-		-		-		-		-		-	
BENZO(G,H,I)PERYLENE	ug/l	NC	-		-		-		-		-		-		-		-		-		-		-		-	
BENZO(K)FLUORANTHENE	ug/l	0.8	-		-		-		-		-		-		-		-		-		-		-		-	
CHRYSENE	ug/l	2	-		-		-		-		-		-		-		-		-		-		-		-	
DIBENZO(A,H)ANTHRACENE	ug/l	0.3	-		-		-		-		-		-		-		-		-		-		-		-	
FLUORANTHENE	ug/l	210	-		-		-		-		-		-		-		-		-		-		-		-	
FLUORENE	ug/l	2000	-		-		-		-		-		-		-		-		-		-		-		-	
INDENO(1,2,3-CD)PYRENE	ug/l	0.2	-		-		-		-		-		-		-		-		-		-		-		-	
NAPHTHALENE	ug/l	6000	-		-		-		-		-		-		-		-		-		-		-		-	
PHENANTHRENE	ug/l	NC	-		-		-		-		-		-		-		-		-		-		-		-	
PYRENE	ug/l	140	-		-		-		-		-		-		-		-		-		-		-		-	

Notes:
NJ_Default Leachate Criteria for Class II Groundwater
NC: No criterion established
Bold and shaded concentrations exceed the NJ_Default Leachate Criteria for Class II GW
Italicized values not detected: reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in micrograms per liter (ug/l)
B: Analyte found in sample and associated blank
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
SPLP: Synthetic Precipitation Leaching Procedure

Prepared by: DP 04/04/2016
Reviewed by: JLD 05/24/2016

TABLE H
Petroleum Soil Sample Results – SPLP
Study Area 6 South
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID			124-A_B-Pet-43a-082214		124-A_B-Pet-43b-082214		124-A_B-Pet-43c-082214		124-A_B-Pet-46a-090514		124-A_B-Pet-46b-090514		124-A_B-Pet-46c-090514		124-A_B-Pet-49a-092414		124-A_B-Pet-49b-092414		124-A_B-Pet-49c-092414		124-A_B-Pet-51a-110514		124-A_B-Pet-51b-110514		124-A_B-Pet-51c-110514	
Lab Sample ID			JB74771-13		JB74771-14		JB74771-15		JB75849-1		JB75849-2		JB75849-3		JB77562-1		JB77562-2		JB77562-3		JB80971-1		JB80971-2		JB80971-3	
Date Sampled		NJ_Default Leachate	08/22/2014		08/22/2014		08/22/2014		09/05/2014		09/05/2014		09/05/2014		09/24/2014		09/24/2014		09/24/2014		11/05/2014		11/05/2014		11/05/2014	
Parameter Name	**Units**	**Criteria for Class II GW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	ug/l	3	-		-		-		-		-		-		-		-		-		-		-		-	
BARIUM	ug/l	120000	-		-		-		-		-		-		-		-		-		-		-		-	
BERYLLIUM	ug/l	20	-		-		-		-		-		-		-		-		-		-		-		-	
CADMIUM	ug/l	80	-		-		-		-		-		-		-		-		-		-		-		-	
LEAD	ug/l	100	-		-		-		-		-		-		-		-		-		-		-		-	
MERCURY	ug/l	40	-		-		-		0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	-		-		-	
NICKEL	ug/l	2000	10	U	10	U	10	U	-		-		-		10	U	10	U	10	U	-		-		-	
ZINC	ug/l	40000	-		-		-		-		-		-		-		-		-		-		-		-	
ACENAPHTHENE	ug/l	4200	-		-		-		-		-		-		-		-		-		0.131		0.367		0.410	
ACENAPHTHYLENE	ug/l	NC	-		-		-		-		-		-		-		-		-		0.1	U	0.13	U	0.162	
ANTHRACENE	ug/l	43	-		-		-		-		-		-		-		-		-		0.206		0.381		0.278	
BENZO(A)ANTHRACENE	ug/l	1	-		-		-		-		-		-		-		-		-		0.1	U	0.181		0.11	U
BENZO(A)PYRENE	ug/l	0.1	-		-		-		-		-		-		-		-		-		0.1	U	**0.13**	**U**	**0.11**	**U**
BENZO(B)FLUORANTHENE	ug/l	1	-		-		-		-		-		-		-		-		-		0.1	U	0.13	U	0.11	U
BENZO(G,H,I)PERYLENE	ug/l	NC	-		-		-		-		-		-		-		-		-		0.1	U	0.13	U	0.11	U
BENZO(K)FLUORANTHENE	ug/l	0.8	-		-		-		-		-		-		-		-		-		0.1	U	0.13	U	0.11	U
CHRYSENE	ug/l	2	-		-		-		-		-		-		-		-		-		0.1	U	0.261		0.11	U
DIBENZO(A,H)ANTHRACENE	ug/l	0.3	-		-		-		-		-		-		-		-		-		0.1	U	0.13	U	0.11	U
FLUORANTHENE	ug/l	210	-		-		-		-		-		-		-		-		-		0.204		0.373		0.224	
FLUORENE	ug/l	2000	-		-		-		-		-		-		-		-		-		0.196		0.416		0.548	
INDENO(1,2,3-CD)PYRENE	ug/l	0.2	-		-		-		-		-		-		-		-		-		0.1	U	0.13	U	0.11	U
NAPHTHALENE	ug/l	6000	-		-		-		-		-		-		-		-		-		0.1	U	0.172		0.11	U
PHENANTHRENE	ug/l	NC	-		-		-		-		-		-		-		-		-		1.22	B	2.14	B	1.71	
PYRENE	ug/l	140	-		-		-		-		-		-		-		-		-		0.488		0.966		0.518	

Notes:
NJ_Default Leachate Criteria for Class II Groundwater
NC: No criterion established
Bold and shaded concentrations exceed the NJ_Default Leachate Criteria for Class II GW
Italicized values not detected: reporting limit exceeds criteria
Depths reported in feet below ground surface
CONC: Concentration reported in micrograms per liter (ug/l)
B: Analyte found in sample and associated blank
Q: Data qualifier assigned by laboratory or data validator
U: Not detected above method detection limit
SPLP: Synthetic Precipitation Leaching Procedure

Prepared by: DP 04/04/2016
Reviewed by: JLD 05/24/2016

TABLE H

Petroleum Soil Sample Results – SPLP

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID			124-A_B-Pet-53a-103014		124-A_B-Pet-53b-103014		124-A_B-Pet-53c-103014		134-SB-604a		134-SB-604b		134-SB-604c	
Lab Sample ID			JB80622-1		JB80622-2		JB80622-3		JB71449-1		JB71449-2		JB71449-3	
Date Sampled		NJ_Default Leachate	10/30/2014		10/30/2014		10/30/2014		07/11/2014		07/11/2014		07/11/2014	
Parameter Name	**Units**	**Criteria for Class II GW**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**	**CONC**	**Q**
ARSENIC	ug/l	3	-		-		-		-		-		-	
BARIUM	ug/l	120000	200	U	200	U	200	U	-		-		-	
BERYLLIUM	ug/l	20	-		-		-		-		-		-	
CADMIUM	ug/l	80	5	U	5	U	5	U	-		-		-	
LEAD	ug/l	100	50	U	50	U	50	U	-		-		-	
MERCURY	ug/l	40	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U	0.2	U
NICKEL	ug/l	2000	10	U	10	U	10	U	10	U	10	U	10	U
ZINC	ug/l	40000	-		-		-		-		-		-	
ACENAPHTHENE	ug/l	4200	-		-		-		-		-		-	
ACENAPHTHYLENE	ug/l	NC	-		-		-		-		-		-	
ANTHRACENE	ug/l	43	-		-		-		-		-		-	
BENZO(A)ANTHRACENE	ug/l	1	-		-		-		-		-		-	
BENZO(A)PYRENE	ug/l	0.1	-		-		-		-		-		-	
BENZO(B)FLUORANTHENE	ug/l	1	-		-		-		-		-		-	
BENZO(G,H,I)PERYLENE	ug/l	NC	-		-		-		-		-		-	
BENZO(K)FLUORANTHENE	ug/l	0.8	-		-		-		-		-		-	
CHRYSENE	ug/l	2	-		-		-		-		-		-	
DIBENZO(A,H)ANTHRACENE	ug/l	0.3	-		-		-		-		-		-	
FLUORANTHENE	ug/l	210	-		-		-		-		-		-	
FLUORENE	ug/l	2000	-		-		-		-		-		-	
INDENO(1,2,3-CD)PYRENE	ug/l	0.2	-		-		-		-		-		-	
NAPHTHALENE	ug/l	6000	-		-		-		-		-		-	
PHENANTHRENE	ug/l	NC	-		-		-		-		-		-	
PYRENE	ug/l	140	-		-		-		-		-		-	

Notes:

NJ_Default Leachate Criteria for Class II Groundwater

NC: No criterion established

Bold and shaded concentrations exceed the NJ_Default Leachate Criteria for Class II GW

Italicized values not detected: reporting limit exceeds criteria

Depths reported in feet below ground surface

CONC: Concentration reported in micrograms per liter (ug/l)

B: Analyte found in sample and associated blank

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

SPLP: Synthetic Precipitation Leaching Procedure

Prepared by: DP 04/04/2016

Reviewed by: JLD 05/24/2016

APPENDIX J-3
QUARTERLY GROUNDWATER SAMPLING

Honeywell

115 Tabor Road
Morris Plains, NJ 07950

May 16, 2016

Via Electronic Mail

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Groundwater Sampling Results
Study Area 6 (SA-6) South
Jersey City, New Jersey

Dear Senator Torricelli:

In accordance with Section 4.0 of the October 2015 draft SA-6 Long Term Monitoring Plan (LTMP), Honeywell is providing the attached brief memorandum of groundwater sampling results prepared by Honeywell's engineering consultant, Amec Foster Wheeler. As we had indicated in our letter dated March 30, 2016, Amec Foster Wheeler implemented this initial round of post-remedial groundwater sampling in the Development AOC during the week of April 4, 2016. A description of the monitoring well installation, the groundwater sampling procedures, and the sample analytical results are provided in the attached memo.

Should you have any questions please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Design and Constructionp

WJH:dn/sgf

Encl: 05/16/16 Amec Foster Wheeler Memorandum: Summary of Post-Remedial Shallow Groundwater Sampling, First Quarterly Event, SA-6 South, Sites 073, 124, 125, 134, 140 and 163

cc: (electronic copy only)
Joe Clifford – Amec Foster Wheeler
Michael Daneker – Arnold & Porter LLP
Jeremy Karpatkin – Arnold & Porter LLP
Kim Hosea – Carpenter Environmental Associates, Inc.
Jeremy Farrell – City Hall
Jason Watson – City Hall
Agnieszka Antonian – Connell Foley LLP
Kevin Coakley, Esq. – Connell Foley LLP
Frank Borin – DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella – DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross – Disposal Safety, Inc.
David Isabel – Golub & Isabel PC

Tom Byrne – Honeywell
Maria Kaouris – Honeywell
John Morris – Honeywell
Alicia Clark Alcorn – Terris, Pravlik & Millian, LLP
Kathleen Millian – Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik – Terris, Pravlik & Millian, LLP
Steve Egnaczyk – The Louis Berger Group, Inc.
Thomas Lewis – The Louis Berger Group, Inc.
Liza Walsh – Walsh Pizzi O'Reilly Falanga LLP

Memo

Date: May 16, 2016

From: Joe Clifford/Dennis Nagg – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – Arnold & Porter

Subject: Summary of Post-Remedial Shallow Groundwater Sampling, First Quarterly Event SA-6 South, Sites 073, 124, 125, 134, 140 and 163

Amec Foster Wheeler E & I (Amec Foster Wheeler), on behalf of Honeywell, has prepared this memorandum to summarize the initial round of post-remedial shallow groundwater sampling activities and analytical results for samples collected in the Development area of concern (AOC) at SA-6 South (Sites 073, 124, 125, 134, 140, and 163) (the Site).

Introduction

Groundwater sampling is being conducted to evaluate the effectiveness of recently completed remediation of hexavalent chromium (Cr(VI)) impacted soils at the Site pursuant to the draft Long Term Monitoring Plan (LTMP) submitted to all Parties on October 9, 2015. As proposed in the LTMP, quarterly sampling will continue for one year, at which time Honeywell will evaluate the need for continued quarterly monitoring. Depending on the results of the monitoring of any four consecutive quarters, Honeywell may propose a revision to the frequency of monitoring, subject to review and approval by NJDEP, the SA 6 South Consent Decree parties and the Special Master.

The attached **Figure 1**, revised from the Development AOC Shallow Groundwater Monitoring Plan (SGWMP) included as Appendix D of the SA-6 South 100% Design Report, shows all twelve well designations and locations. Well designations are also listed below:

- 073-MW-06;
- 073-MW-07;
- 073-MW-08;

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

- 124-MW-12;
- 124-MW-13;
- 125-MW-02;
- 125-MW-03;
- 134-MW-03;
- 134-MW-04;
- 140-MW-09;
- 140-MW-10; and
- 163-MW-02R

Eleven of the twelve wells were recently installed in February 2016[1]. The first quarter of sampling was conducted on April 6, 7, and 8, 2016.

Drilling and Groundwater Sampling Procedures

Amec Foster Wheeler's drilling subcontractor, B&B Drilling, mobilized a rotary drill rig to the Site to perform the drilling and install the post-remediation monitoring wells between February 10 and February 23, 2016. Hollow-stem augers were used to advance borings into the subsurface to the target drilling depths. Subsequently, 2-inch diameter, Schedule 40 polyvinyl chloride (PVC), pipe was lowered into the interior of the annulus, to construct the wells. Wells were installed as deep as 20 feet below grade and consist of a screened intervals (0.010" slot size) and solid riser pipe. A sand/gravel filter pack was installed in the borehole annular space and the boring was restored to grade with a cement grout. Constructed wells were then developed utilizing surging and pumping techniques. Monitoring well installation and development work was completed consistent with the NJDEP's "Well Construction and Maintenance, Sealing of Abandoned Wells Rules" (N.J.A.C. 7:9D; NJDEP, 2007) by a New Jersey Licensed driller (B&B Drilling). The post-remediation groundwater monitoring well installation documentation records will be included in the forthcoming final Remedial Action Report.

Prior to sampling, a round of synoptic groundwater level measurements was taken from all wells within the Development AOC. After the synoptic round, samples were collected via low-flow purging/sampling protocols per the NJDEP Field Sampling Procedures Manual and the Data Validation Report (Appendix H of SA-6 North 100% Design Report). Submersible pumps were utilized to extract the water from the wells and all non-dedicated/disposable sampling equipment was decontaminated before and after sampling of each well. Field parameters, including

[1] 163-MW-02R was an existing well installed on September 16, 2011 as a replacement for a previous monitoring well installed in a non-chromium AOC and retained after remediation for post-construction monitoring at Site 163.

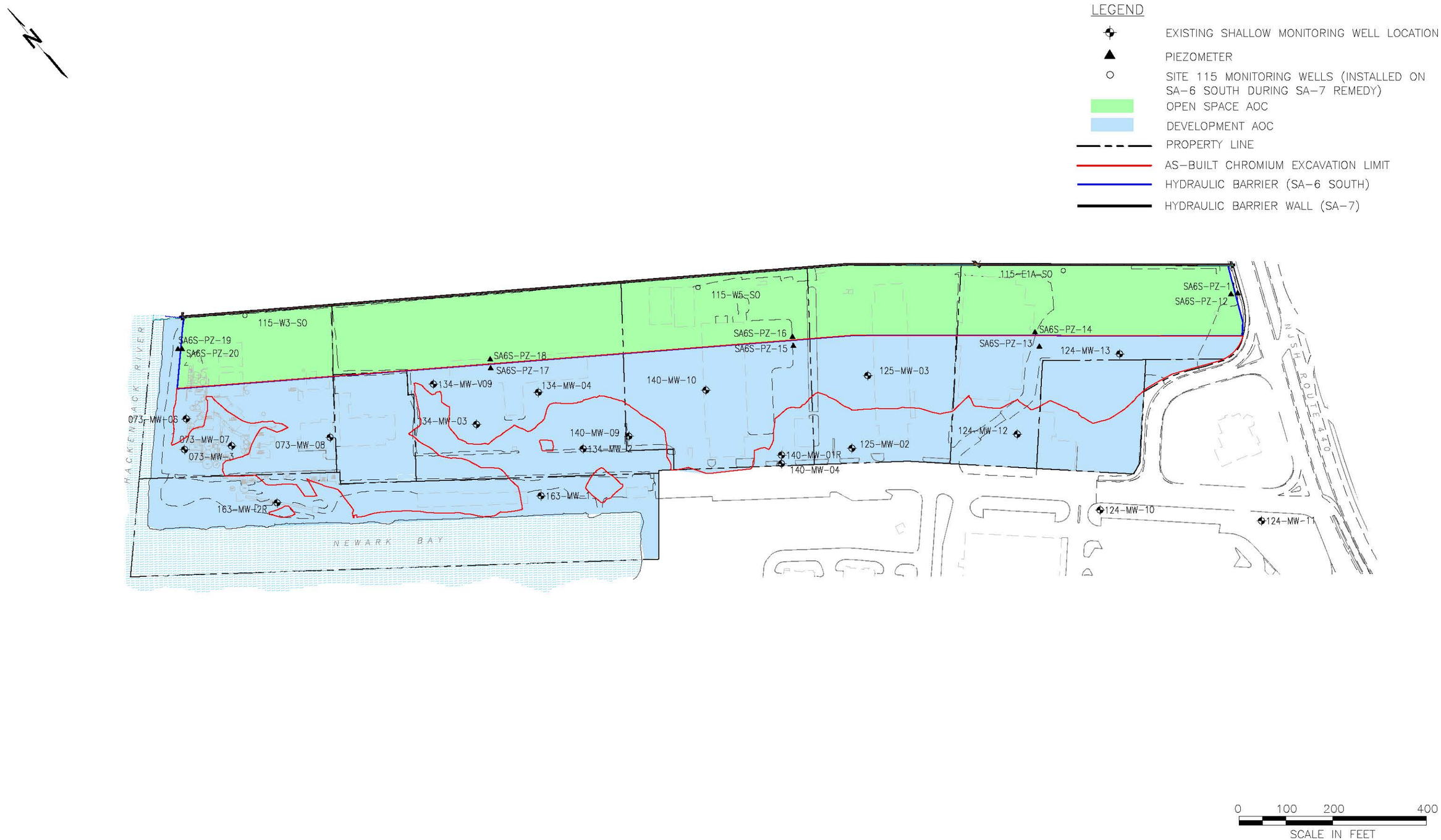
temperature, specific conductivity, pH, dissolved oxygen (DO), salinity, turbidity and oxidation-reduction potential (ORP), were measured using a multiparameter water quality meter (Horiba U-52) and recorded during purging. Groundwater Sampling Forms summarizing the field sampling parameters will be provided in the forthcoming final Remedial Action Report.

Once purging was completed, laboratory-provided sample containers with appropriate preservatives were filled. Additionally, a portion of the water obtained from the wells was also field-filtered and placed in sample containers. Once filled, all containers were placed in coolers with ice. The samples were transported to Accutest Laboratories, Inc. of Dayton, New Jersey for analysis under chain of custody. Samples were analyzed for total and hexavalent chromium using USEPA Methods SW846 200.7 and SW846 7199, respectively, in accordance with the SGWMP. Additional analyses included field pH, which was measured in accordance with N.J.A.C 7:18, Subchapter 8, in a portion of the unfiltered water, and oxidation reduction potential.

Groundwater Sample Analysis and Results

The analytical results for the unfiltered and filtered samples are summarized on the attached **Table 1**. Hexavalent chromium was either at or below the laboratory reporting limit of 5.5 µg/L at all locations, for both unfiltered and filtered samples. Total chromium concentrations in the unfiltered samples were below the NJDEP Groundwater Quality Standard (GWQS) of 70 µg/L at all but two of the twelve locations, with concentrations of 139 µg/L in 134-MW-04 and the highest observed concentration of 216 µg/L in 140-MW-09. However, the filtered data indicates that none of the samples contained total chromium above this standard, with the highest reported concentration being 62 µg/L in 140-MW-09.

FIGURE 1



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

REV.	DATE	STATUS	PRPD BY	CHKD BY
2	02/01/16	UPDATE WITH NEW WELLS / REMOVE ABANDONED WELLS	STR	DEN
1	04/10/13	ADDED 2 NEW MONITORING WELLS	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-MWL0-F900

PREPARED/DATE: STR 04/20/16

CHECKED/DATE: DEN 05/06/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 1
MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

TABLE 1

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	073-MW-06-040616	073-MW-06-040616-F	073-MW-07-040616	073-MW-07-040616-F	073-MW-07-040616-DP	073-MW-07-040616-DPF	073-MW-08-040716	073-MW-08-040716-F	124-MW-13-040816	124-MW-13-040816-F
Lab Sample ID:			**JC17735-1**	**JC17735-1F**	**JC17735-2**	**JC17735-2F**	**JC17735-3**	**JC17735-3F**	**JC17835-1**	**JC17835-1F**	**JC17927-1**	**JC17927-1F**
Date Sampled:			**4/6/2016**	**4/6/2016**	**4/6/2016**	**4/6/2016**	**4/6/2016**	**4/6/2016**	**4/7/2016**	**4/7/2016**	**4/8/2016**	**4/8/2016**
Matrix:			**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**
Metals Analysis												
Chromium	70	ug/l	**13.1**	<10	**21.8**	<10	**21.1**	<10	**25.8**	<10	**19.2**	<10
General Chemistry												
Chromium, Hexavalent	-	mg/l	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055

Footnotes:
Bold and highlighted values are above the GWQS.

Prepared By: DP 5/3/16
Checked By: JAB 5/3/16

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	124-MW-12-040816	124-MW-12-040816-F	125-MW-02-040816	125-MW-02-040816-F	125-MW-03-040816	125-MW-03-040816-F	134-MW-03-040716	134-MW-03-040716-F	134-MW-04-040716	134-MW-04-040716-F	140-MW-09-040716	140-MW-09-040716-F
Lab Sample ID:			**JC17927-2**	**JC17927-2F**	**JC17927-3**	**JC17927-3F**	**JC17927-4**	**JC17927-4F**	**JC17835-4**	**JC17835-4F**	**JC17835-2**	**JC17835-2F**	**JC17835-5**	**JC17835-5F**
Date Sampled:			**4/8/2016**	**4/8/2016**	**4/8/2016**	**4/8/2016**	**4/8/2016**	**4/8/2016**	**4/7/2016**	**4/7/2016**	**4/7/2016**	**4/7/2016**	**4/7/2016**	**4/7/2016**
Matrix:			**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**
Metals Analysis														
Chromium	70	ug/l	<10	<10	<10	<10	<10	<10	**11.8**	<10	**139**	<10	**216**	**62**
General Chemistry														
Chromium, Hexavalent	-	mg/l	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055	<0.0055

Footnotes:
Bold and highlighted values are above the GWQS

Prepared By: DP 5/3/16
Checked By: JAB 5/3/16

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	140-MW-10-040716	140-MW-10-040716-F	163-MW-02R-040616	163-MW-02R-040616	FB-040616	FB-040716	FB-040816
Lab Sample ID:			**JC17835-3**	**JC17835-3F**	**JC17735-4**	**JC17735-4F**	**JC17735-5**	**JC17835-6**	**JC17927-5**
Date Sampled:			**4/7/2016**	**4/7/2016**	**4/6/2016**	**4/6/2016**	**4/6/2016**	**4/7/2016**	**4/8/2016**
Matrix:			**Groundwater Unfiltered**	**Groundwater Filtered**	**Groundwater Unfiltered**	**Groundwater Filtered**	**Field Blank**	**Field Blank**	**Field Blank**
Metals Analysis									
Chromium	70	ug/l	**63**	<10	<10	<10	<10	<10	<10
General Chemistry									
Chromium, Hexavalent	-	mg/l	**0.0055**	<0.0055	<0.0055	<0.0055	<0.0055	<0.0050	<0.0055

Footnotes:
Bold and highlighted values are above the GWQS

Prepared By: DP 5/3/16
Checked By: JAB 5/3/16

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 1, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Groundwater Sampling Results
Study Area 6 (SA-6) South
Jersey City, New Jersey

Dear Senator Torricelli:

In accordance with Section 4.0 of the October 2015 draft SA-6 Long Term Monitoring Plan (LTMP), Honeywell is providing the attached brief memorandum of groundwater sampling results prepared by Honeywell's engineering consultant, Amec Foster Wheeler. Monitoring well installation and the initial round of post-remedial groundwater sampling in the Development AOC was presented in a memo dated May 16, 2016. Amec Foster Wheeler implemented the second quarterly round of post-remedial groundwater sampling in the Development AOC during the week of July 4, 2016. The groundwater sampling procedures and the sample analytical results for this second round are provided in the attached memo.

Should you have any questions please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:dn/sgf

Encl: 09/01/16 Amec Foster Wheeler Memorandum: Summary of Post-Remedial Shallow Groundwater Sampling, Second Quarterly Event, SA-6 South, Sites 073, 124, 125, 134, 140 and 163

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.

Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

Memo

Date: September 1, 2016

From: Joe Clifford/Dennis Nagg – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – Arnold & Porter

Subject: Summary of Post-Remedial Shallow Groundwater Sampling, Second Quarterly Event SA-6 South, Sites 073, 124, 125, 134, 140 and 163

Amec Foster Wheeler E & I (Amec Foster Wheeler), on behalf of Honeywell, has prepared this memorandum to summarize the second round of post-remedial shallow groundwater sampling activities and analytical results for samples collected in the Development area of concern (AOC) at SA-6 South (Sites 073, 124, 125, 134, 140, and 163) (the Site).

Introduction

Groundwater sampling is being conducted to evaluate the effectiveness of recently completed remediation of hexavalent chromium (Cr(VI)) impacted soils at the Site pursuant to the draft Long Term Monitoring Plan (LTMP) submitted to all Parties on October 9, 2015.

The attached **Figure 1**, revised from the Development AOC Shallow Groundwater Monitoring Plan (SGWMP) included as Appendix D of the SA-6 South 100% Design Report, shows all twelve well designations and locations. Well designations are also listed below:

- 073-MW-06;
- 073-MW-07;
- 073-MW-08;
- 124-MW-12;
- 124-MW-13;
- 125-MW-02;
- 125-MW-03;
- 134-MW-03;

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

- 134-MW-04;
- 140-MW-09;
- 140-MW-10; and
- 163-MW-02R

Eleven of the twelve wells were installed in February 2016[1] with the first quarter of sampling conducted in April 2016. The well installation and first quarter event are described in further detail within Amec Foster Wheeler's May 16, 2016 memo entitled *Summary of Post-Remedial Shallow Groundwater Sampling, First Quarterly Event*. The second quarterly sampling event was conducted on July 5, 6, and 7, 2016 and is detailed herein.

Groundwater Sampling Procedures

Prior to sampling, a round of synoptic groundwater level measurements was taken from all wells within the Development AOC. After the synoptic round, samples were collected via low-flow purging/sampling protocols per the NJDEP Field Sampling Procedures Manual and the Data Validation Report (Appendix H of SA-6 North 100% Design Report). Submersible pumps were utilized to extract the water from the wells and all non-dedicated/disposable sampling equipment was decontaminated before and after sampling of each well. Field parameters, including temperature, specific conductivity, pH, dissolved oxygen (DO), salinity, turbidity and oxidation-reduction potential (ORP), were measured using a multiparameter water quality meter (Horiba U-52) and recorded during purging. Groundwater Sampling Forms summarizing the field sampling parameters will be provided in the forthcoming final Remedial Action Report.

Once purging was completed, laboratory-provided sample containers with appropriate preservatives were filled. Additionally, a portion of the water obtained from the wells was also field-filtered and placed in sample containers. Once filled, all containers were placed in coolers with ice. The samples were transported to Accutest Laboratories, Inc. of Dayton, New Jersey for analysis under chain of custody. Samples were analyzed for total and hexavalent chromium using USEPA Methods SW846 200.7 and SW846 7199, respectively, in accordance with the SGWMP. Additional analyses included field pH, which was measured in accordance with N.J.A.C 7:18, Subchapter 8, in a portion of the unfiltered water, and oxidation reduction potential.

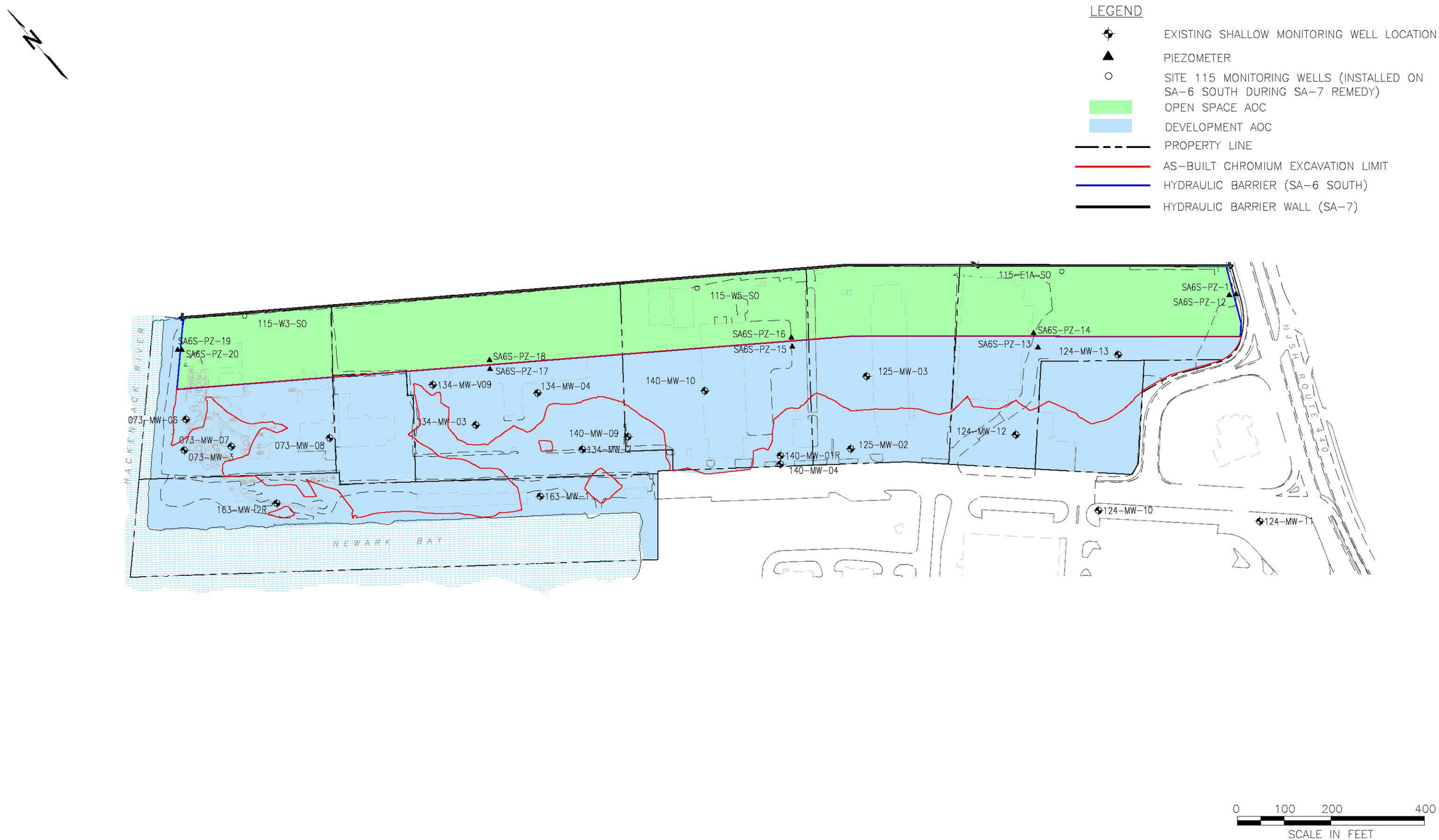
Groundwater Sample Analysis and Results

The analytical results for the unfiltered and filtered samples are summarized on the attached **Table 1**. Hexavalent chromium was not detected at any of the locations, for both unfiltered and

[1] 163-MW-02R was an existing well installed on September 16, 2011 as a replacement for a previous monitoring well installed in a non-chromium AOC and retained after remediation for post-construction monitoring at Site 163.

filtered samples. Total chromium concentrations exceeded the NJDEP Groundwater Quality Standard (GWQS) of 70 µg/L at only two of the twelve locations, with concentrations of 145 µg/L (unfiltered) and 123 µg/L (filtered) in 140-MW-09 and 71.3 µg/L (unfiltered) in 125-MW-03.

FIGURE 1



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

REV.	DATE	STATUS	PRPD BY	CHKD BY
2	02/01/16	UPDATE WITH NEW WELLS / REMOVE ABANDONED WELLS	STR	DEN
1	04/10/13	ADDED 2 NEW MONITORING WELLS	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-MWL0-F900

PREPARED/DATE: STR 04/20/16

CHECKED/DATE: DEN 05/06/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 1
MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

TABLE 1

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	073-MW-06-070616		073-MW-06-0701616F		073-MW-07-070516		073-MW-07-070516F		073-MW-07-070516DP	
Lab Sample ID			JC23489-5		JC23489-5F		JC23431-2		JC23431-2F		JC23431-3	
Date Sampled:			07/06/2016		07/06/2016		07/05/2016		07/05/2016		07/05/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered	
Metals Analysis												
CHROMIUM	70	ug/L	10	U	10	U	15.1		13.1		16	
General Chemistry												
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	UJ	0.0055	UJ	0.0055	UJ

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A.C 7:9C; last amended 7/20/2010

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 8/15/2016
Checked By: JAB 8/16/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	073-MW-07-070516DPF		073-MW-08-070616		073-MW-08-070616F		124-MW-12-070716		124-MW-12-070716F	
Lab Sample ID			JC23431-3F		JC23489-1		JC23489-1F		JC23593-2		JC23593-2F	
Date Sampled:			07/05/2016		07/06/2016		07/06/2016		07/07/2016		07/07/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Metals Analysis												
CHROMIUM	70	ug/L	12.1		18.2		10	U	10	U	10	U
General Chemistry												
HEXAVALENT CHROMIUM	-	mg/L	0.0055	UJ	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 8/15/2016
Checked By: JAB 8/16/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	124-MW-13-070716		124-MW-13-070716F		125-MW-02-070516		125-MW-02-070516F		125-MW-03-070716	
Lab Sample ID			JC23593-1		JC23593-1F		JC23431-6		JC23431-6F		JC23593-3	
Date Sampled:			07/07/2016		07/07/2016		07/05/2016		07/05/2016		07/07/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered	
Metals Analysis												
CHROMIUM	70	ug/L	10	U	10	U	10	U	10	U	**71.3**	
General Chemistry												
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	UJ	0.0055	UJ	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 8/15/2016
Checked By: JAB 8/16/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	125-MW-03-070716F		134-MW-03-0701616		134-MW-03-0701616F		134-MW-04-0701616		134-MW-04-0701616F	
Lab Sample ID			JC23593-3F		JC23489-2		JC23489-2F		JC23489-3		JC23489-3F	
Date Sampled:			07/07/2016		07/06/2016		07/06/2016		07/06/2016		07/06/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Metals Analysis												
CHROMIUM	70	ug/L	10	U	10	U	10	U	10	U	10	U
General Chemistry												
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 8/15/2016
Checked By: JAB 8/16/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	140-MW-09-070516		140-MW-09-070516F		140-MW-10-070716		140-MW-10-070716F		163-MW-02R-070516	
Lab Sample ID			JC23431-1		JC23431-1F		JC23593-5		JC23593-5F		JC23431-4	
Date Sampled:			07/05/2016		07/05/2016		07/07/2016		07/07/2016		07/05/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered	
Metals Analysis												
CHROMIUM	70	ug/L	**145**		**123**		16.1		10	U	10	U
General Chemistry												
HEXAVALENT CHROMIUM	-	mg/L	0.0055	UJ	0.0055	UJ	0.0055	U	0.0055	U	0.0055	UJ

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 8/15/2016
Checked By: JAB 8/16/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	163-MW-02R-070516F		FB-070516		FB-070616		FB-070716	
Lab Sample ID			JC23431-4F		JC23431-5		JC23489-4		JC23593-4	
Date Sampled:			07/05/2016		07/05/2016		07/06/2016		07/07/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Filtered		Unfiltered		Unfiltered		Unfiltered	
Metals Analysis										
CHROMIUM	70	ug/L	10	U	10	U	10	U	10	U
General Chemistry										
HEXAVALENT CHROMIUM	-	mg/L	0.0055	UJ	0.0055	UJ	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 8/15/2016
Checked By: JAB 8/16/2016

Honeywell

115 Tabor Road
Morris Plains, NJ 07950

November 7, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Initiation of Long Term Groundwater Monitoring
Study Area 6 (SA-6) South
Jersey City, New Jersey

Dear Senator Torricelli:

In accordance with the September 1, 2016 Revised Draft SA-6 Long Term Monitoring Plan (LTMP) and the Groundwater Level Monitoring Plan (GWLMP) which was Appendix J of the SA-6 North Chromium Remedy 100% Design Report, Honeywell is hereby providing notice to the Parties that we will initiate long-term groundwater monitoring activities at SA-6 South the week of November 14, 2016. While Honeywell acknowledges the LTMP has not been approved as final by the parties, Honeywell will act to meet the requirements of the current draft to move site activities forward. Since the Chromium Remedy at SA-6 South was substantially complete when the geomembrane liner was installed in October 2015, the 12-month "transition period" for groundwater specified in the LTMP and GWLMP ended in October 2016. We have authorized our environmental consultants, Amec Foster Wheeler and Cornerstone, to implement the following general activities at SA-6 South:

- Install data loggers in piezometers,
- Conduct manual water level gauging, and
- Implement quarterly groundwater sampling of the twelve specified monitoring wells in the Development AOC.

Similarly for SA-6 North, we are monitoring the groundwater level recovery following completion of excavation and geomembrane liner installation, and anticipate that the "transition period" will be complete in Spring 2017. At that time, we will initiate long-term monitoring at SA-6 North. The Spring 2017 monitoring will include the inspections associated with the cap vegetation.

In response to Plaintiffs' request to establish baseline groundwater quality conditions inside the Open Space Areas, Amec Foster Wheeler collected filtered and unfiltered groundwater samples from each piezometer on the interior of both Sites. The samples were analyzed for total and hexavalent chromium. A summary of this data is provided in the attached Table 1. The location of the piezometers is shown on the attached Figure 1.

Should the Parties wish to discuss this further, we will be prepared to discuss at the next All Parties meeting on November 15th. Should you have any questions in the meantime, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:dn/sgf

Encl: Table 1: Summary of SA-6 North and South Interior Piezometer Groundwater Sample Data
Figure 1: SA-6 North and South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 North & South
Honeywell International Inc.
Honeywell International Inc.

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 087-PZ-02		Piezometer 087-PZ-04		Piezometer 087-PZ-06		Piezometer 087-PZ-08		Piezometer 087-PZ-10	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/06/2016	09/06/2016	10/14/2016	10/14/2016	09/02/2016	09/02/2016	09/02/2016	09/02/2016
Metals Analysis												
CHROMIUM	70	ug/L	**62.2**	<10	**10.2**	<10	**28.4**	<4	**<10**	<10	**29**	12.6
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5

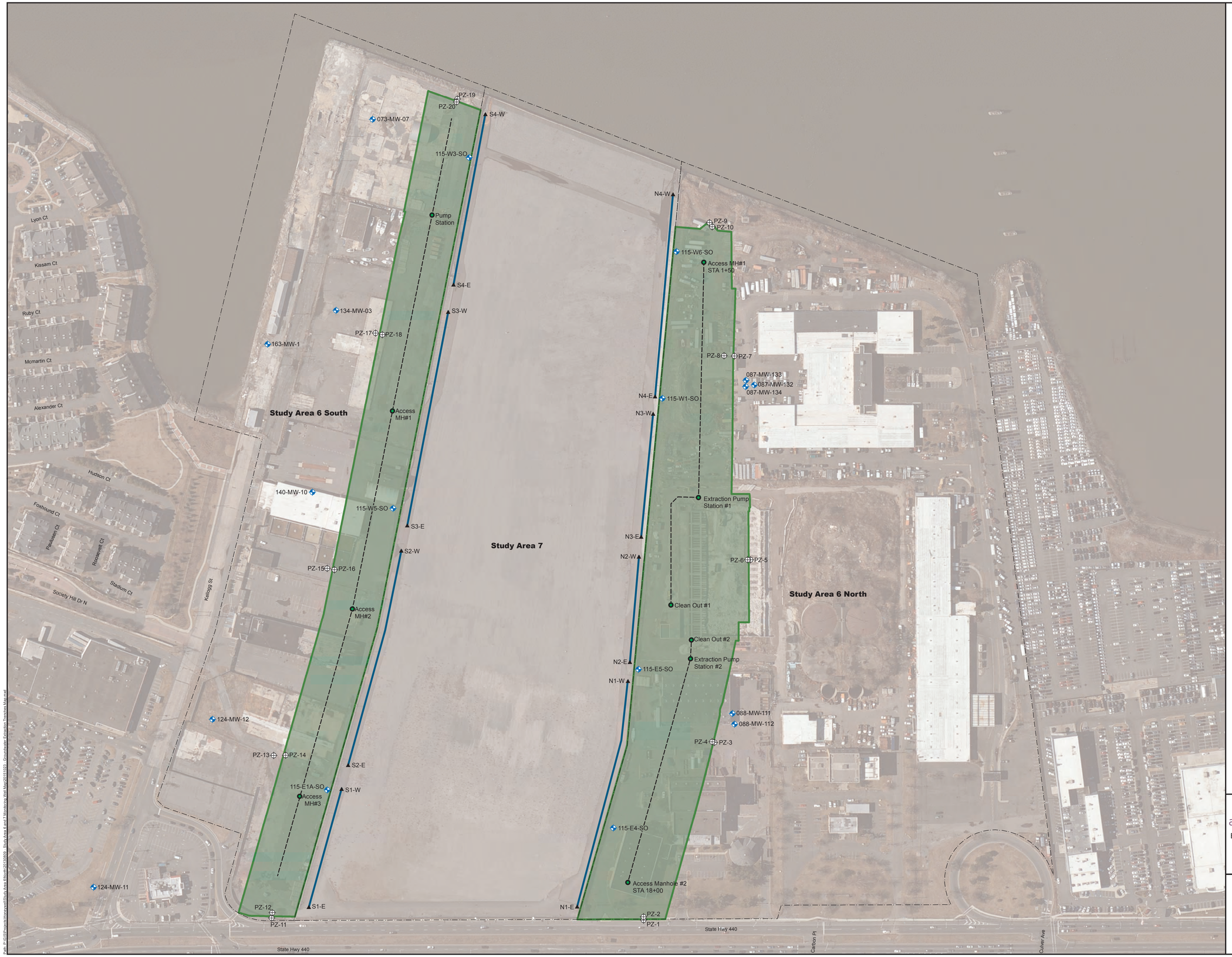
Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 North & South
Honeywell International Inc.
Honeywell International Inc.

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 124-PZ-12		Piezometer 124-PZ-14		Piezometer 124-PZ-16		Piezometer 124-PZ-18		Piezometer 124-PZ-20	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/02/2016	09/02/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016
Metals Analysis												
CHROMIUM	70	ug/L	**24,200**	**23,300**	**37.3**	<10	**1,720**	**1,690**	**83.7**	<4	<4	<4
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	**24,500**	**24,500**	<5.5	<5.5	**1,700 J**	**1,900**	<5.5 J	<5.5	<5.5 J	<5.5

Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration



Legend

- Piezometer Location
- Existing Monitoring Well Location
- Groundwater Collection Manhole (approx.)
- Standpipe Location
- Perimeter Pool Location (approx.)
- Contingent Groundwater Trenches (approx.)
- Cap Area
- Study Area Boundary

Source:
New Jersey 2012 - 2013 High Resolution Orthophotography, NAD83 NJ State Plane Feet, MrSID Tile; NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS); Trenton, NJ; 2013/03.

120 60 0 120 240
SCALE IN FEET

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Amec Project No.
3480130354

Prepared/Date
WSL 05/28/2014

Checked/Date

Figure 1
SA-6 North & South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations
Study Area 6 & Study Area 7
Jersey City, New Jersey

Path: P:\GIS\Projects\Honeywell\Study Area 6\North\20130909_Study Area 6 and 7 Monitoring Well Map\20141023 - Groundwater Extraction Trenches Map.mxd

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 30, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Groundwater Sampling Results
Study Area 6 (SA-6) South
Jersey City, New Jersey

Dear Senator Torricelli:

In accordance with Section 4.0 of the September 2016 Revised Draft SA-6 Long Term Monitoring Plan (LTMP), Honeywell is providing the attached brief memorandum of groundwater sampling results prepared by Honeywell's engineering consultant, Amec Foster Wheeler. Monitoring well installation and the first two rounds of post-remedial groundwater sampling in the Development AOC were presented in memos dated May 16, 2016 and September 1, 2016. Amec Foster Wheeler implemented the third quarterly round of post-remedial groundwater sampling in the Development AOC during the week of October 3, 2016. The groundwater sampling procedures and the sample analytical results for this third round are provided in the attached memo. As mentioned in my email to All Parties on October 13, 2016, Amec Foster Wheeler also filtered the sample from two of the monitoring wells through a smaller filter size (0.1 micron) in addition to the standard filter size (0.45 micron). The objective of the extra filtering was to evaluate whether trivalent chromium detected in the monitoring wells during the previous sampling event is complexing on colloidal particles smaller than the standard 0.45 micron filters.

The analytical data provided in the attached Amec Foster Wheeler memo indicates that the post-remedy groundwater conditions at the SA-6 South Development AOC are now below NJDEP standards in all filtered samples. As indicated in Honeywell's October 13, 2016 email, the presence of total chromium in filtered groundwater samples may be related to trivalent chromium in soils complexing on small particles. The analytical data for the samples filtered through the 0.1 micron filter supports this conclusion. Further, we do not believe that COPR is the source of the total chromium. Instead, we note that the 140-MW-09 well is located within an area of historic fill, thus differences between total chromium and hexavalent chromium may be associated, at least in part, with non-COPR sources of chromium such as historic fill or other historical industries in this part of the site.

Should you have any questions please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:dn/sgf

Encl: 11/30/16 Amec Foster Wheeler Memorandum: Summary of Post-Remedial Shallow Groundwater Sampling, Third Quarterly Event, SA-6 South, Sites 073, 124, 125, 134, 140 and 163

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
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Tom Byrne - Honeywell
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Kathleen Millian - Terris, Pravlik & Millian, LLP
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Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

Memo

Date: November 30, 2016

From: Joe Clifford/Dennis Nagg – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – Arnold & Porter

Subject: Summary of Post-Remedial Shallow Groundwater Sampling, Third Quarterly Event SA-6 South, Sites 073, 124, 125, 134, 140 and 163

Amec Foster Wheeler E & I (Amec Foster Wheeler), on behalf of Honeywell, has prepared this memorandum to summarize the third round of post-remedial shallow groundwater sampling activities and analytical results for samples collected in the Development area of concern (AOC) at SA-6 South (Sites 073, 124, 125, 134, 140, and 163) (the Site).

Introduction

Groundwater sampling is being conducted to evaluate the effectiveness of recently completed remediation of hexavalent chromium (Cr(VI)) impacted soils at the Site pursuant to the Revised Draft Long Term Monitoring Plan (LTMP) submitted to all Parties on September 1, 2016.

The attached **Figure 1**, revised from the Development AOC Shallow Groundwater Monitoring Plan (SGWMP) included as Appendix D of the SA-6 South 100% Design Report, shows all twelve well designations and locations. Well designations are also listed below:

- 073-MW-06;
- 073-MW-07;
- 073-MW-08;
- 124-MW-12;
- 124-MW-13;
- 125-MW-02;
- 125-MW-03;
- 134-MW-03;
- 134-MW-04;

200 American Metro Blvd
Suite 113
Hamilton, NJ 08619
609-689-2829
amecfw.com

- 140-MW-09;
- 140-MW-10; and
- 163-MW-02R

Eleven of the twelve wells were installed in February 2016[1] with the first quarter sampling conducted in April 2016 and the second quarter sampling conducted in July 2016. The well installation and first quarter event are described in further detail within Amec Foster Wheeler's May 16, 2016 memo entitled *Summary of Post-Remedial Shallow Groundwater Sampling, First Quarterly Event* and the second quarter event is summarized in Amec Foster Wheeler's September 1, 2016 memo entitled *Summary of Post-Remedial Shallow Groundwater Sampling, Second Quarterly Event*. The third quarterly sampling event was conducted on October 4, 5, and 6, 2016 and is detailed herein.

Groundwater Sampling Procedures

Prior to sampling, a round of synoptic groundwater level measurements was taken from all wells within the Development AOC. After the synoptic round, samples were collected via low-flow purging/sampling protocols per the NJDEP Field Sampling Procedures Manual and the Data Validation Report (Appendix H of SA-6 North 100% Design Report). Submersible pumps were utilized to extract the water from the wells and all non-dedicated/disposable sampling equipment was decontaminated before and after sampling of each well. Field parameters, including temperature, specific conductivity, pH, dissolved oxygen (DO), salinity, turbidity and oxidation-reduction potential (ORP), were measured using a multiparameter water quality meter (Horiba U-52) and recorded during purging. Groundwater Sampling Forms summarizing the field sampling parameters will be provided in the forthcoming final Remedial Action Report.

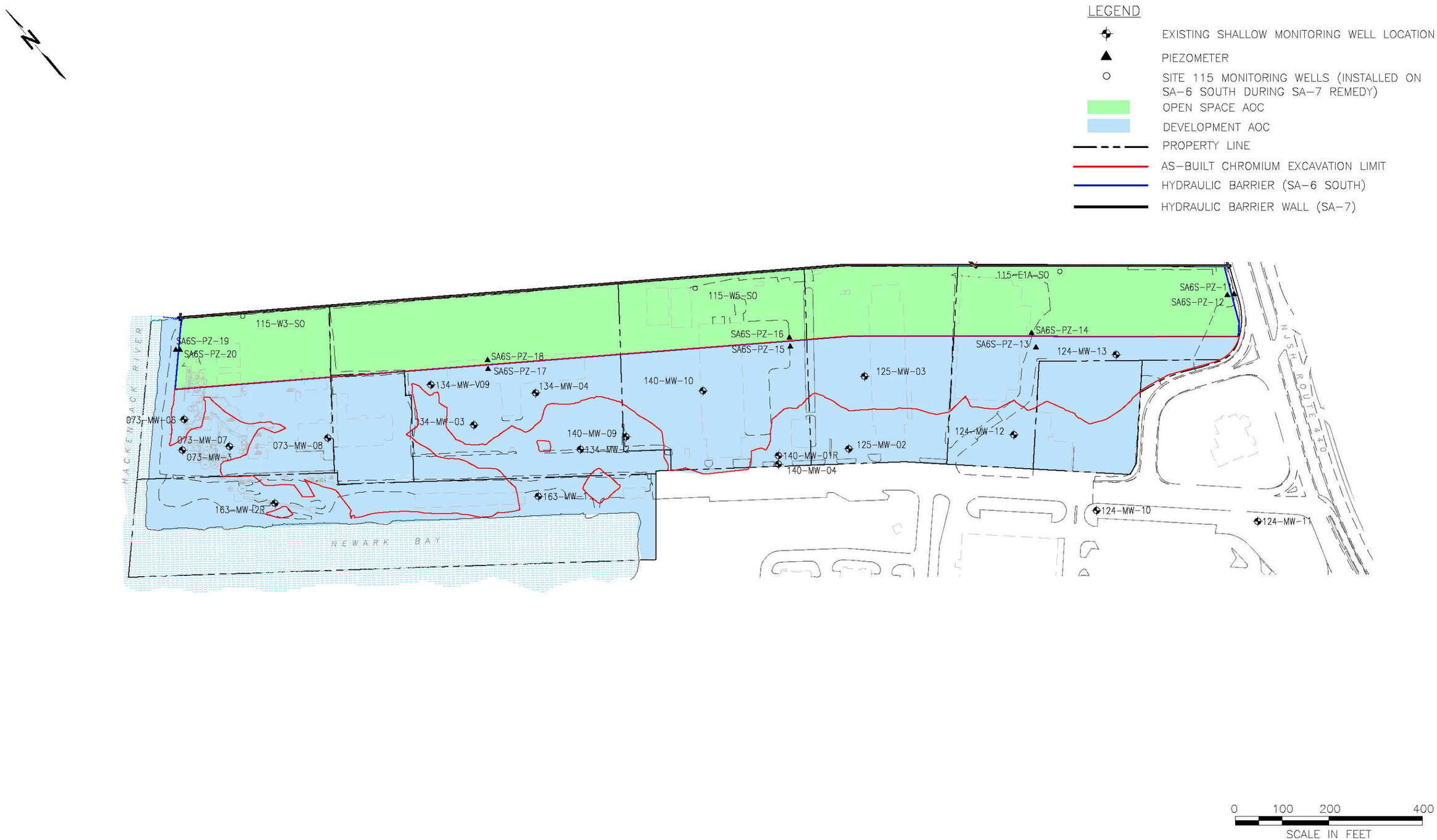
Once purging was completed, laboratory-provided sample containers with appropriate preservatives were filled. Additionally, a portion of the water obtained from the wells was also field-filtered, utilizing a 0.45 micron (µ) filter for all wells. For wells 125-MW-03 and 140-MW-09, samples were also filtered through a 0.1 µ filter in addition to the 0.45 µ filter to evaluate whether trivalent chromium is complexing on particles smaller than the standard 0.45 micron filters. After filtering, the samples were placed in sample containers. Once filled, all containers were placed in coolers with ice and samples were transported to Accutest Laboratories, Inc. of Dayton, New Jersey for analysis under chain of custody. Samples were analyzed for total and hexavalent chromium using USEPA Methods SW846 200.7 and SW846 7199, respectively, in accordance with the SGWMP. Additional analyses included field pH, which was measured in accordance with N.J.A.C 7:18, Subchapter 8, in a portion of the unfiltered water, and oxidation reduction potential.

[1] 163-MW-02R was an existing well installed on September 16, 2011 as a replacement for a previous monitoring well installed in a non-chromium AOC and retained after remediation for post-construction monitoring at Site 163.

Groundwater Sample Analysis and Results

The analytical results for the unfiltered and filtered samples are summarized on the attached **Table 1**. Hexavalent chromium was detected at low levels at only one location, 140-MW-10, with concentrations of 0.011 mg/L and 0.0099 mg/L for unfiltered and filtered samples, respectively. Total chromium concentrations exceeded the NJDEP Groundwater Quality Standard (GWQS) of 70 µg/L at only one of the twelve locations, with concentrations of 184 µg/L (unfiltered) and 134 µg/L (filtered w/ 0.45 µ filter) in 140-MW-09. However the total chromium for this well when sampled through the 0. 1 µ filter was 61.6 ug/L. An email from Honeywell to all Parties, dated October 13, 2016 provided additional explanation of the 140-MW-09 data.

FIGURE 1



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

REV.	DATE	STATUS	PRPD BY	CHKD BY
2	02/01/16	UPDATE WITH NEW WELLS / REMOVE ABANDONED WELLS	STR	DEN
1	04/10/13	ADDED 2 NEW MONITORING WELLS	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-MWL0-F900

PREPARED/DATE: STR 04/20/16

CHECKED/DATE: DEN 05/06/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 1
MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

TABLE 1

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - October 2016
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	073-MW-06-100516		073-MW-06-100516F		073-MW-07-100516		073-MW-07-100516F		073-MW-08-100516		073-MW-08-100516F	
Lab Sample ID			JC29015-3		JC29015-3F		JC29015-4		JC29015-4F		JC29015-1		JC29015-1F	
Date Sampled:			10/05/2016		10/05/2016		10/05/2016		10/05/2016		10/05/2016		10/05/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Metals Analysis														
CHROMIUM	70	ug/L	10	U	10	U	24.2		10	U	10	U	10	U
General Chemistry														
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A.C 7:9C; last amended
Bolded and highlighted concentrations exceed the GWQS
U: Not detected above method detection limit
J: Estimated concentration

Prepared By: DP 10/31/2016
Checked By: JAB 11/01/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - October 2016
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	124-MW-12-100416		124-MW-12-100416F		124-MW-13-100416		124-MW-13-100416F		125-MW-02-100416		125-MW-02-100416F	
Lab Sample ID			JC28915-2		JC28915-2F		JC28915-1		JC28915-1F		JC28915-8		JC28915-8F	
Date Sampled:			10/04/2016		10/04/2016		10/04/2016		10/04/2016		10/04/2016		10/04/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered	
Metals Analysis														
CHROMIUM	70	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
General Chemistry														
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A.C 7:9C; last amended

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 10/31/2016
Checked By: JAB 11/01/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - October 2016
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	125-MW-03-100416		125-MW-03-100416DP		125-MW-03-100416F		125-MW-03-100416FA		125-MW-03-100416FADP		125-MW-03-100416FDP	
Lab Sample ID			JC28915-4		JC28915-6		JC28915-4F		JC28915-5F		JC28915-7F		JC28915-6F	
Date Sampled:			10/04/2016		10/04/2016		10/04/2016		10/04/2016		10/04/2016		10/04/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Unfiltered		Filtered-0.45 µ		Filtered-0.1 µ		Filtered		Filtered	
Metals Analysis														
CHROMIUM	70	ug/L	10	U	10	U	10	U	10	U	10	U	10	U
General Chemistry														
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A.C 7:9C; last amended

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 10/31/2016
Checked By: JAB 11/01/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - October 2016
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	134-MW-03-100516		134-MW-03-100516F		134-MW-04-100616		134-MW-04-100616F		140-MW-09-100616		140-MW-09-100616F		140-MW-09-100616FA	
Lab Sample ID			JC29015-2		JC29015-2F		JC29084-3		JC29084-3F		JC29084-1		JC29084-1F		JC29084-2F	
Date Sampled:			10/05/2016		10/05/2016		10/06/2016		10/06/2016		10/06/2016		10/06/2016		10/06/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Filtered-0.45 µ		Filtered-0.1 µ	
Metals Analysis																
CHROMIUM	70	ug/L	31.5		10	U	10	U	10	U	**184**		**134**		61.1	
General Chemistry																
HEXAVALENT CHROMIUM	-	mg/L	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A.C 7:9C; last amended

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 10/31/2016
Checked By: JAB 11/01/2016

TABLE 1
SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS - October 2016
Study Area 6 South Development AOC
Honeywell International Inc.
Jersey City, New Jersey

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	140-MW-10-100416		140-MW-10-100416F		163-MW-02R-100516		163-MW-02R-100516F		125-FB-100416		163-FB-100516		134-FB-100616	
Lab Sample ID			JC28915-3		JC28915-3F		JC29015-5		JC29015-5F		JC28915-9		JC29015-6		JC29084-4	
Date Sampled:			10/04/2016		10/04/2016		10/05/2016		10/05/2016		10/04/2016		10/05/2016		10/06/2016	
Matrix:			Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater		Groundwater	
Filtered:			Unfiltered		Filtered		Unfiltered		Filtered		Unfiltered		Unfiltered		Unfiltered	
Metals Analysis																
CHROMIUM	70	ug/L	10.4		10	U	10	U	10	U	10	U	10	U	10	U
General Chemistry																
HEXAVALENT CHROMIUM	-	mg/L	0.011		0.0099		0.0055	U	0.0055	U	0.0055	U	0.0055	U	0.0055	U

Notes:

GWQS: NJDEP Ground Water Quality Standards (GWQS), N.J.A.C 7:9C; last amended

Bolded and highlighted concentrations exceed the GWQS

U: Not detected above method detection limit

J: Estimated concentration

Prepared By: DP 10/31/2016
Checked By: JAB 11/01/2016

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS

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

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 087-PZ-02		Piezometer 087-PZ-04		Piezometer 087-PZ-06		Piezometer 087-PZ-08		Piezometer 087-PZ-10	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/06/2016	09/06/2016	10/14/2016	10/14/2016	09/02/2016	09/02/2016	09/02/2016	09/02/2016
Metals Analysis												
CHROMIUM	70	ug/L	**62.2**	<10	**10.2**	<10	**28.4**	<4	**<10**	<10	**29**	12.6
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5

Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS

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

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 124-PZ-12		Piezometer 124-PZ-14		Piezometer 124-PZ-16		Piezometer 124-PZ-18		Piezometer 124-PZ-20	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/02/2016	09/02/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016
Metals Analysis												
CHROMIUM	70	ug/L	**24,200**	**23,300**	**37.3**	<10	**1,720**	**1,690**	**83.7**	<4	<4	<4
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	**24,500**	**24,500**	<5.5	<5.5	**1,700 J**	**1,900**	<5.5 J	<5.5	<5.5 J	<5.5

Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration

APPENDIX J-4
SITE 073 DEFERRED AREA SAMPLING

Site 073 Deferred Area Sampling

The additional soil borings conducted to further investigate hexavalent chromium-impacted soils in the Site 073 deferred area are described in the Sections below. The samples were analyzed for hexavalent chromium as summarized in **Table 6C.**

Phase I Borings

The Phase I borings were drilled with a hollow stem auger rig. Boring 073-SB-101 was drilled to a depth of 19 feet bgs to evaluate soil conditions below the concrete slab. Boring 073-SB-102 was drilled to a depth of 9 feet bgs to confirm shallow soil observations in boring 073-SB-101 south of the Site 073 20 mg/kg delineation line. The 5-foot thick concrete slab was encountered at boring 073-SB-101, but there was a band of soils containing COPR at 2 to 2.8 feet bgs, sandwiched between a concrete slab above and below at this location. A 3-foot thick concrete slab was observed at boring 073-SB-102, but COPR was not observed in soils underlying the slab to the end of the boring. Thus, samples collected from boring 073-SB-101 were analyzed for hexavalent chromium, but those collected from boring 073-SB-102 were not. The samples confirm conditions in the deferred area based upon RI and PDI sample results.

Phase II Borings

The Phase II borings were drilled with a Geoprobe® rig. To assess soils as close as possible to the bulkhead, the borings were drilled on a 20º angle (from vertical) starting from a point located as far west as possible given the access constraints of the asphalt/concrete berm located along the river's edge in this area (see Photo 271). The NJ-licensed driller determined that 20º was the maximum angle at which the rig could operate and still advance the tooling/sampling equipment into the ground. Each boring was drilled 24 feet along the drilling axis. At the 20º angle, each boring was completed approximately 7 feet horizontally (west and closer to the bulkhead) of its starting position. By selecting a starting position as close as possible to the berm and angling the borings, samples were collected from soils farther west and closer to the bulkhead than had been collected previously in vertical borings (073-SB-067 through 073-SB-070) conducted during the PDI.

COPR was not observed in any of the Phase II borings. Based upon the analytical results from the previous PDI soil borings, soil samples from the Phase II borings were not collected from the 0 to 2 feet bgs interval. Instead, sampling started at 4 feet bgs and continued until 23 feet (measured along the drilling axis) was reached. Hexavalent chromium concentrations in soils collected from the Phase II angled borings were similar to those from the PDI vertical borings (073-SB-067 through 073-SB-070) in this area.

APPENDIX J-5
"ANOMALOUS" MATERIAL SAMPLING

"Anomalous" Material Sampling

Additional details regarding activities related to the so-called "anomalous" or "suspect" material observed during excavation activities are described below.

"Anomalous" material was visually identified as potentially chromium-impacted soil at several locations in the excavation sidewall at the previously delineated horizontal extent of the >20 mg/kg hexavalent chromium impacted soils. At such locations, Amec Foster Wheeler collected a sample of the visually-impacted material.

Three locations in the Kellogg Street Development AOC where the "anomalous" material was visually identified included the following locations are as shown on **Figure 11**:

- The southern excavation sidewall on Site 125 behind the 60 Kellogg Street building (Honeywell and Amec Foster Wheeler facility offices); and
- Two locations on the southern excavation sidewall on Site 140.

Post-excavation sidewall samples (125-SB-306, 140-SB-107, and 140-SB-108) were collected at these three locations. Amec Foster Wheeler submitted the post-excavation sidewall samples to Accutest for analysis for hexavalent chromium. **Table 6B** shows that the hexavalent chromium results were <20 mg/kg; therefore, no additional excavation or sampling was required for these three locations.

Another location in the Kellogg Street Development AOC where potentially chromium-impacted soil was observed was in the sidewall and bottom of the western portion of the excavation at Site 134 as shown on **Figure 12**. This portion of the excavation had been following the surface of the Stratum D. The visually anomalous material was a thin lens observed just above the Stratum D. Three samples, 134-SB-160, 134-SB-161, and 134-SB-162, were collected and analyzed by Accutest for hexavalent chromium in the sidewalls of this area as excavation advanced to the west, but each was >20 mg/kg for hexavalent chromium. Additional excavation was conducted to the west to remove the visible material, but eventually Honeywell and Amec Foster Wheeler decided to halt further excavation until the chromium-impacted material (>20 mg/kg for hexavalent chromium) could be delineated. Consequently, supplemental delineation borings, 134-SB-164 through 134-SB-175, were installed west of this initially identified anomaly at the locations shown on **Figure 12**.

The soil borings were conducted using a hollow stem auger drill rig provided by B&B Drilling. Each boring was logged by a representative of Amec Foster Wheeler and the logs

are provided in **Appendix H**. Soil samples were collected from the soil borings at generally the same elevation as the initially identified visual anomalous material and samples 134-SB-160, 134-SB-161, and 134-SB-162, and were analyzed by Accutest for hexavalent chromium.

As seen on **Table 6A**, hexavalent chromium in several samples collected from this area were >20 mg/kg. Thus, step-out soil borings were continued until this area was delineated to <20 mg/kg for hexavalent chromium. Once the limits were established, the excavation was expanded to those limits, and delineation samples that were <20 mg/kg for hexavalent chromium became the final sidewall samples. The southern extent of the expanded excavation area was not accessible for a soil boring due to an adjacent soil stockpile at the time delineation drilling was occurring. The stockpile was moved after the drill rig was demobilized and the excavation commenced to expand this anomalous area, so a post-excavation sidewall sample, 134-SB-177 was collected once the excavation was expanded to the south and this location was visually checked and confirmed that there was no visibly anomalous material in this area.

The material was handled similar to other SA-6 South excavated materials, in that it was segregated based upon its designation (A, B, C, or D) according to hexavalent chromium concentrations.

During excavation at Site 073 in the Kellogg Street Development AOC, a potentially chromium-impacted 1-foot thick concrete slab was observed lying immediately below the ground surface at approximately 1 to 2 feet bgs at the location shown on **Figure 13**. The stained side of the concrete slab was in contact with underlying soils. The stained concrete was broken up and removed for subsequent offsite disposal with D Material. Two post-excavation sidewall samples (073-SB-079 and 073-SB-080) were then collected from approximately 3 feet deep from the soils underlying the stained concrete and analyzed for hexavalent chromium. The hexavalent chromium results are shown on **Table 6B** and indicate that soils underlying the stained concrete at sample location 073-SB-079 were not chromium-impacted (<20 mg/kg for hexavalent chromium) and those at 073-SB-080 were chromium-impacted (>20 mg/kg for hexavalent chromium). Therefore, step-out soil borings were conducted with a Geoprobe® drill rig east of the 073-SB-080 sidewall sample location to 3.25 feet bgs. A soil sample collected from approximately 3 feet deep at the furthest step-out soil boring, 073-SB-082, was analyzed for hexavalent chromium. The results confirmed that soil at the 073-SB-082 location was not chromium-impacted (<20 mg/kg for hexavalent chromium). Thus, the excavation was expanded to the east approximately 4 feet to the 073-SB-082 soil boring sample location as shown on **Figure 13.**

Suspect Material at Site 125 under 60 Kellogg Street Building Slab

The suspect material observed in shallow soils within the 60 Kellogg Street building footprint during the demolition activities on April 29, 2016 was investigated and excavated. Initially, the excavation was completed to approximately 10 feet by 10 feet in size in accordance with the approach identified in the May 17, 2016 submittal. The bottom and sides of the excavation at the final limits were visually inspected by Amec personnel. Whitish discoloration was observed in several sidewall locations. The excavation was subsequently extended to approximately 14 feet by 14 feet to remove additional soil until no further discolorations were observed. The depth of excavation varied from approximately 2.9 feet to 4.2 feet bgs.

Once the final limits were reached and the whitish material observed in the sidewalls was determined, based upon previous observances and analysis of samples of such material, to most likely be un-impacted material, one post-excavation soil samples were collected from each sidewall and one post-excavation soil sample from the bottom of the excavation. This sampling frequency meets the approved frequencies established in the SA-6 South 100% Design Report.

APPENDIX L

BACKFILL DOCUMENTATION

Imported Fill (NJCU) Soil Analytical Report

VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
1,1,1-TRICHLOROETHANE	mg/kg	290	0.3	0.0038	U
1,1,2,2-TETRACHLOROETHANE	mg/kg	1	0.007	0.0038	U
1,1,2-Trichloro-1,2,2-Trifluoroethane	mg/kg	NC	NC	0.0096	U
1,1,2-TRICHLOROETHANE	mg/kg	2	0.02	0.0038	U
1,1-DICHLOROETHANE	mg/kg	8	0.2	0.0019	U
1,1-DICHLOROETHENE	mg/kg	11	0.008	0.0019	U
1,2,3-TRICHLOROBENZENE	mg/kg	NC	NC	0.0096	U
1,2,4-TRICHLOROBENZENE	mg/kg	73	0.7	0.0096	U
1,2-DIBROMO-3-CHLOROPROPANE	mg/kg	0.08	0.005	*0.0096*	*U*
1,2-DIBROMOETHANE	mg/kg	0.008	0.005	0.0019	U
1,2-DICHLOROBENZENE	mg/kg	5300	17	0.0019	U
1,2-DICHLOROETHANE	mg/kg	0.9	0.005	0.0019	U
1,2-DICHLOROPROPANE	mg/kg	2	0.005	0.0038	U
1,3-DICHLOROBENZENE	mg/kg	5300	19	0.0019	U
1,4-DICHLOROBENZENE	mg/kg	5	2	0.0019	U
2-BUTANONE	mg/kg	3100	0.9	0.019	U
2-HEXANONE	mg/kg	NC	NC	0.0096	U
4-METHYL-2-PENTANONE	mg/kg	NC	NC	0.0096	U
ACETONE	mg/kg	70000	19	0.0165	J
BENZENE	mg/kg	2	0.005	0.00096	U
BROMOCHLOROMETHANE	mg/kg	NC	NC	0.0096	U
BROMODICHLOROMETHANE	mg/kg	1	0.005	0.0038	U
BROMOFORM	mg/kg	81	0.03	0.0096	U
BROMOMETHANE	mg/kg	25	0.04	0.0096	U
CARBON DISULFIDE	mg/kg	7800	6	0.0038	U
CARBON TETRACHLORIDE	mg/kg	0.6	0.005	0.0038	U
CHLOROBENZENE	mg/kg	510	0.6	0.0038	U
CHLOROETHANE	mg/kg	220	NC	0.0096	U
CHLOROFORM	mg/kg	0.6	0.4	0.0038	U
CHLOROMETHANE	mg/kg	4	NC	0.0096	U
CIS-1,2-DICHLOROETHENE	mg/kg	230	0.3	0.0019	U
CIS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0038	U
CYCLOHEXANE	mg/kg	NC	NC	0.0038	U
Dibromochloromethane	mg/kg	3	0.005	0.0038	U
DICHLORODIFLUOROMETHANE	mg/kg	490	39	0.0096	U
ETHYLBENZENE	mg/kg	7800	13	0.0019	U
ISOPROPYLBENZENE	mg/kg	NC	NC	0.0096	U
METHYL ACETATE	mg/kg	78000	22	0.0096	U
METHYL TERT-BUTYL ETHER	mg/kg	110	0.2	0.0019	U
METHYLCYCLOHEXANE	mg/kg	NC	NC	0.0038	U
METHYLENE CHLORIDE	mg/kg	34	0.01	0.0096	U
O-XYLENE	mg/kg	NC	NC	0.0019	U
STYRENE	mg/kg	90	3	0.0038	U
TETRACHLOROETHENE	mg/kg	2	0.005	0.0019	U
TOLUENE	mg/kg	6300	7	0.0019	U
TRANS-1,2-DICHLOROETHENE	mg/kg	300	0.6	0.0019	U
TRANS-1,3-DICHLOROPROPENE	mg/kg	NC	NC	0.0038	U
TRICHLOROETHENE	mg/kg	7	0.01	0.0019	U
TRICHLOROFLUOROMETHANE	mg/kg	23000	34	0.0096	U
VINYL CHLORIDE	mg/kg	0.7	0.005	0.0038	U

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

VOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
XYLENES, M & P	mg/kg	NC	NC	0.0019	U
XYLENES, TOTAL	mg/kg	12000	19	0.0019	U
TOTAL TICS, ALKANES	mg/kg	NC	NC	0.0000	
TOTAL TICS, VOLATILES	mg/kg	NC	NC	0.0000	

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
1,1'-BIPHENYL	mg/kg	3100	140	0.078	U
1,2,4,5-TETRACHLOROBENZENE	mg/kg	NC	NC	0.2	U
1,4-DIOXANE	mg/kg	NC	NC	0.039	U
2,2'-OXYBIS(1-CHLOROPROPANE)	mg/kg	23	5	0.078	U
2,3,4,6-TETRACHLOROPHENOL	mg/kg	NC	NC	0.2	U
2,4,5-TRICHLOROPHENOL	mg/kg	6100	68	0.2	U
2,4,6-TRICHLOROPHENOL	mg/kg	19	0.2	0.2	U
2,4-DICHLOROPHENOL	mg/kg	180	0.2	0.2	U
2,4-DIMETHYLPHENOL	mg/kg	1200	1	0.2	U
2,4-DINITROPHENOL	mg/kg	120	0.3	*0.78*	*U*
2,4-DINITROTOLUENE	mg/kg	0.7	NC	0.039	U
2,6-DINITROTOLUENE	mg/kg	0.7	NC	0.039	U
2-CHLORONAPHTHALENE	mg/kg	NC	NC	0.078	U
2-CHLOROPHENOL	mg/kg	310	0.8	0.078	U
2-METHYLNAPHTHALENE	mg/kg	230	8	0.078	U
2-METHYLPHENOL	mg/kg	310	NC	0.078	U
2-NITROANILINE	mg/kg	39	NC	0.2	U
2-NITROPHENOL	mg/kg	NC	NC	0.2	U
3&4-METHYLPHENOL	mg/kg	NC	NC	0.078	U
3,3'-DICHLOROBENZIDINE	mg/kg	1	0.2	0.078	U
3-NITROANILINE	mg/kg	NC	NC	0.2	U
4,6-DINITRO-2-METHYLPHENOL	mg/kg	6	0.3	*0.78*	*U*
4-BROMOPHENYL PHENYL ETHER	mg/kg	NC	NC	0.078	U
4-CHLORO-3-METHYLPHENOL	mg/kg	NC	NC	0.2	U
4-CHLOROANILINE	mg/kg	NC	NC	0.2	U
4-CHLOROPHENYL PHENYL ETHER	mg/kg	NC	NC	0.078	U
4-NITROANILINE	mg/kg	NC	NC	0.2	U
4-NITROPHENOL	mg/kg	NC	NC	0.39	U
ACENAPHTHENE	mg/kg	3400	110	0.039	U
ACENAPHTHYLENE	mg/kg	300000	NC	0.039	U
ACETOPHENONE	mg/kg	2	3	0.2	U
ANTHRACENE	mg/kg	17000	2400	0.039	U
ATRAZINE	mg/kg	210	0.2	0.078	U
BENZALDEHYDE	mg/kg	6100	NC	0.2	U
BENZO(A)ANTHRACENE	mg/kg	0.6	0.8	0.0169	J
BENZO(A)PYRENE	mg/kg	0.2	0.2	0.0165	J
BENZO(B)FLUORANTHENE	mg/kg	0.6	2	0.0178	J
BENZO(G,H,I)PERYLENE	mg/kg	30000	NC	0.039	U
BENZO(K)FLUORANTHENE	mg/kg	6	25	0.039	U
BIS(2-CHLOROETHOXY)METHANE	mg/kg	NC	NC	0.078	U
BIS(2-CHLOROETHYL)ETHER	mg/kg	0.4	0.2	0.078	U
BIS(2-ETHYLHEXYL)PHTHALATE	mg/kg	35	1200	0.078	U
BUTYLBENZYL PHTHALATE	mg/kg	1200	230	0.078	U
CAPROLACTAM	mg/kg	31000	12	0.078	U
CARBAZOLE	mg/kg	24	NC	0.078	U
CHRYSENE	mg/kg	62	80	0.0175	J
DI-N-BUTYL PHTHALATE	mg/kg	6100	760	0.078	U
DI-N-OCTYL PHTHALATE	mg/kg	2400	3300	0.078	U
DIBENZO(A,H)ANTHRACENE	mg/kg	0.2	0.8	0.039	U
DIBENZOFURAN	mg/kg	NC	NC	0.078	U

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

SVOCs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
DIETHYL PHTHALATE	mg/kg	49000	88	0.078	U
DIMETHYL PHTHALATE	mg/kg	NC	NC	0.078	U
FLUORANTHENE	mg/kg	2300	1300	0.0366	J
FLUORENE	mg/kg	2300	170	0.039	U
HEXACHLOROBENZENE	mg/kg	0.3	0.2	0.078	U
HEXACHLOROBUTADIENE	mg/kg	6	0.9	0.039	U
HEXACHLOROCYCLOPENTADIENE	mg/kg	45	320	0.39	U
HEXACHLOROETHANE	mg/kg	35	0.2	0.2	U
INDENO(1,2,3-CD)PYRENE	mg/kg	0.6	7	0.039	U
ISOPHORONE	mg/kg	510	0.2	0.078	U
N-NITROSO-DI-N-PROPYLAMINE	mg/kg	0.2	0.2	0.078	U
N-NITROSODIPHENYLAMINE	mg/kg	99	0.4	0.2	U
NAPHTHALENE	mg/kg	6	25	0.039	U
NITROBENZENE	mg/kg	31	0.2	0.078	U
PHENANTHRENE	mg/kg	300000	NC	0.0226	J
PHENOL	mg/kg	18000	8	0.078	U
PYRENE	mg/kg	1700	840	0.0315	J
TOTAL TICS, ALKANES	mg/kg			0.0000	
TOTAL TICS, SEMI-VOLATILES	mg/kg			0.0000	

Notes:

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

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

NC: No criterion established

Bold and underlined concentrations exceed the NJ 2012 MOST STRINGENT SRS

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

Italicized values not detected; reporting limit exceeds criteria

Depths reported in feet below ground surface

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

J: Estimated concentration

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

Metals

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
ALUMINUM	mg/kg	78000	6000	**10700**	
ANTIMONY	mg/kg	31	6	2.6	U
ARSENIC	mg/kg	19	19	2.6	U
BARIUM	mg/kg	16000	2100	125	
BERYLLIUM	mg/kg	16	0.7	0.34	
CADMIUM	mg/kg	78	2	0.65	U
CALCIUM	mg/kg	NC	NC	7680	
CHROMIUM	mg/kg	NC	NC	21.2	
COBALT	mg/kg	590	90	10.7	
COPPER	mg/kg	3100	11000	39.1	
IRON	mg/kg	NC	NC	21100	
LEAD	mg/kg	400	90	25.8	
MAGNESIUM	mg/kg	NC	NC	6250	
MANGANESE	mg/kg	11000	65	**249**	
MERCURY	mg/kg	23	0.1	0.093	
NICKEL	mg/kg	1600	48	19.6	
POTASSIUM	mg/kg	NC	NC	5000	
SELENIUM	mg/kg	390	11	2.6	U
SILVER	mg/kg	390	1	0.65	U
SODIUM	mg/kg	NC	NC	1300	U
THALLIUM	mg/kg	5	3	1.3	U
VANADIUM	mg/kg	78	NC	39.6	
ZINC	mg/kg	23000	930	55.5	

Notes:

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

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

NC: No criterion established

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

Depths reported in feet below ground surface

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

NS: Not sampled

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

Pesticides and PCBs

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
2,2-DICHLOROPROPANOIC ACID	mg/kg	NC	NC	0.0039	U
2,4,5-T	mg/kg	NC	NC	0.0039	U
2,4,5-TP (SILVEX)	mg/kg	NC	NC	0.0039	U
2,4-D	mg/kg	NC	NC	0.019	U
2,4-DB	mg/kg	NC	NC	0.019	U
4,4'-DDD	mg/kg	3	4	0.00084	U
4,4'-DDE	mg/kg	2	18	0.00084	U
4,4'-DDT	mg/kg	2	11	0.000900	
ALDRIN	mg/kg	0.04	0.2	0.00084	U
ALPHA-BHC	mg/kg	0.1	0.002	0.00084	U
ALPHA-CHLORDANE	mg/kg	NC	NC	0.00084	U
AROCLOR-1016	mg/kg	NC	0.2	0.042	U
AROCLOR-1221	mg/kg	NC	0.2	0.042	U
AROCLOR-1232	mg/kg	NC	0.2	0.042	U
AROCLOR-1242	mg/kg	NC	0.2	0.042	U
AROCLOR-1248	mg/kg	NC	0.2	0.042	U
AROCLOR-1254	mg/kg	NC	0.2	0.042	U
AROCLOR-1260	mg/kg	NC	0.2	0.042	U
AROCLOR-1262	mg/kg	NC	0.2	0.042	U
AROCLOR-1268	mg/kg	NC	0.2	0.042	U
Total PCBs	mg/kg	0.2	0.2	0.042	U
BETA-BHC	mg/kg	0.4	0.002	0.00084	U
BETA-CHLORDANE	mg/kg	NC	NC	0.00084	U
CHLORDANE	mg/kg	0.2	0.05	0.00084	U
DELTA-BHC	mg/kg	NC	NC	0.00084	U
DICAMBA	mg/kg	NC	NC	0.0039	U
DICHLOROPROP	mg/kg	NC	NC	0.019	U
DIELDRIN	mg/kg	0.04	0.003	0.00084	U
DINOSEB	mg/kg	NC	NC	0.019	U
ENDOSULFAN I	mg/kg	NC	NC	0.00084	U
ENDOSULFAN II	mg/kg	NC	NC	0.00084	U
ENDOSULFAN SULFATE	mg/kg	470	2	0.00084	U
ENDRIN	mg/kg	23	1	0.00084	U
ENDRIN ALDEHYDE	mg/kg	NC	NC	0.00084	U
ENDRIN KETONE	mg/kg	NC	NC	0.00084	U
GAMMA-BHC (LINDANE)	mg/kg	0.4	0.002	0.00084	U
HEPTACHLOR	mg/kg	0.1	0.5	0.00084	U
HEPTACHLOR EPOXIDE	mg/kg	0.07	0.01	0.00084	U
MCPA	mg/kg	NC	NC	1.9	U
Mecoprop	mg/kg	NC	NC	1.9	U
METHOXYCHLOR	mg/kg	390	160	0.0017	U
PENTACHLOROPHENOL	mg/kg	3	0.3	0.0019	U
TOXAPHENE	mg/kg	0.6	0.3	0.021	U

Notes:

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

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

NC: No criterion established

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by:DP 05/24/2016

Reviewed by: JLD 05/24/2016

Imported Fill (NJCU) Soil Analytical Report

General Chemistry

Study Area 6 South

Honeywell International Inc.

Jersey City, New Jersey

Client Sample ID				124-WC-NJCU1-020515	
Lab Sample ID				JB87709-1	
Date Sampled				02/05/2015	
Parameter Name	**Units**	**NJ 2012 MOST STRINGENT SRS**	**NJ 2013 IGW SOIL**	**CONC**	**Q**
HEXAVALENT CHROMIUM	mg/kg	20	NC	0.51	U

Notes:

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

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

NC: No criterion established

Depths reported in feet below ground surface

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

Q: Data qualifier assigned by laboratory or data validator

U: Not detected above method detection limit

Prepared by: DP 05/24/2016

Reviewed by: JLD 05/24/2016

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

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Study Area 6
6/5/2017

| Clean Fill Comparison | | |

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Study Area 6
6/5/2017

| Clean Fill Comparison | | |

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Study Area 6
6/5/2017

| Clean Fill Comparison | | |

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

Backfill Sample Comparison to NJDEP Soil Standards
Study Area 6
6/5/2017

| Clean Fill Comparison | | |

EXCAVATING MATERIALS & EQUIPMENT, INC.
849 ROUTE 539 • NEW EGYPT, NJ 08533 • 609.758.3400 • FAX: 609.758.5545

10-12-16

GENERAL CONTRACTOR : Entach Corp

CERTIFICATION: Clean Fill Certification

PROJECT: Honeywell Jersey City NJ.

Please accept this letter as our certification that the Clean Fill to be supplied to you through EME for the above referenced project is produced at our Plumsted Township Plant located at 849 Route 539, New Egypt, NJ 08533. Block 80 lot 4.

The material provided from our pit is:
Excavated from undisturbed geologic formations;
Obtained from a licensed quarry/mine;
Not been subject to a discharged hazardous substance at any time;
Not located on or impacted by other contaminant sources;
Not comingled with any other materials;
Not known or suspected of being contaminated.
Not adversely impacted by discharges of hazardous materials or chemical applications;
Not affected by conditions or processes that would result in the introduction of contaminates into the licensed quarry/mine material in concentrations above regulatory concern; and
Not affected by conditions or processes that would increase the concentrations of contaminants already present in the licensed quarry/mine to concentrations above regulatory concern.
Also please find a copy of our state mine registration.

If you need any further assistance, please feel free to contact me.

Sincerely,

Keith Prince
Vice President

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004218
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: EME Inc

LOCATION: 849 Route 539
New Egypt, NJ

BLK NO(S): 80
LOT NO(S): 4
COUNTY: Ocean

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES 140 (R-1-05)

PARTAC PEAT CORPORATION

ONE KELSEY PARK, GREAT MEADOWS, NEW JERSEY 07838

800-247-BEAM (2326) • 908-637-4151 • FAX 908-637-8421

sales@beamclay.com • sales@partac.com

BEAM CLAY — THE PROFESSIONAL'S CHOICE ... SINCE 1922 — www.beamclay.com

Kelsey Park Sod Farms

PARTAC GOLF COURSE TOP-DRESSINGS — www.partac.com

October 18, 2016

EME, Inc.
849 Route 539
New Egypt, NJ 08533

Att: Keith Prince

Dear Keith:

This is to certify that our **SPHAGNUM PEAT MOSS** comes from a virgin, non-contaminated source in Maine.

Sincerely yours,

PARTAC PEAT CORPORATION

Jim

James C. Kelsey, President

Nature's Choice Corporation

March 18, 2016

Caroline Panico
Entact Environmental Services Inc.
800 North Kings Highway, Suite 501
Cherry Hill, NJ 08034

RE: Topsoil located 20 Mansard Court, Wayne NJ 07470

Dear: Ms. Panico:

This letter is to certify that the above reference material is produced from a virgin source supply. All Material is excavated from the pre-existing location and put through a scalper prior to delivery.

Please contact me with any questions.

Very truly yours,

Matthew Vastano
Vice President

398 Lincoln Boulevard, Middlesex, New Jersey Phone 973.969.3299 Fax 732.469.0054

Horizon B, Page 1

Rosano Trucking, Inc.
26 Maple Avenue
Oceanport, New Jersey 07757
(732) 542-5009 • Fax (732) 542-5014

TANDEM TRUCK RENTAL
FILL DIRT
TOP SOIL
STONE

MAY 16, 2016

To Whom It May Concern:

This letter is to certify that the material Rosano Trucking, Inc. (RTI) supplies to the public comes from Blueberry Acres, located at Block 930; Lot 1 in Wall Township, New Jersey, comes from a virgin sand pit.

In addition, a sample of the soil from our sand pit was analyzed by a New Jersey certified laboratory for Target Compound List (TCL) and Target Analyte List (TAL parameters. The analytic results are below the New Jersey Department of Environmental Protection (NJDEP) Residential Direct Contact Soil Remediation Standards (RDCSRS) and the Impact to Ground Water Soil Screening Levels (IGWSSL).

A copy of the analytical data package is on file with out office and is available upon request. If you require further information, please feel free to contact us at (732)620-8400.

Sincerely,

Frank R. Rosano

Horizon B, Page 2

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004217
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: Rosano Trucking

LOCATION: School House Rd
Wall Township, NJ

BLK NO(S): 930
LOT NO(S): 1
COUNTY: Monmouth

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES-148 (R-1-05)

Nature's Choice Corporation

March 18, 2016

Caroline Panico
Entact Environmental Services Inc.
800 North Kings Highway, Suite 501
Cherry Hill, NJ 08034

RE: Horizon C material located 476 Deans Rhode Hall Road, Cranbury, NJ

Dear: Ms. Panico:

This letter is to certify that the above reference material is produced from a virgin source supply. All Material is excavated from the pre-existing location and put through a scalper prior to delivery.

Please contact me with any questions.

Very truly yours,

Matthew Vastano
Vice President

398 Lincoln Boulevard, Middlesex, New Jersey Phone 973.969.3299 Fax 732.469.0054

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004285
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: A.B. Kurre Contracting Inc

LOCATION: PORTABLE

NJ

BLK NO(S): 18
LOT NO(S): 4
COUNTY: Middelsex

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES-148 (R-1-05)

TILCON NEW YORK INC.

PHONE: 973-366-7741 • 625 MT. HOPE ROAD • WHARTON, NEW JERSEY 07885 • FAX: 973-659-3902

September 28, 2016

ENTACT, LLC
575 State Route 440
Jersey City, NJ 07305

Attn: Caroline Panico
Re: Honeywell SA6 South Cap Toe Drains

Caroline,

Tilcon NY Inc. New Jersey Division confirms that the materials produced from our Mt. Hope Quarry are defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mt. Hope Road, Block No(s) 20001, 70001, 20101 – Lot No(s) 5.01, 5.02, 7, 2, 6 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon NJ delivery tickets.

The material produced at the Mt. Hope quarry is processed through the plant to the various sizes with the source remaining the same. The 1 ½" stone is produced from the same quarry/material as the DGA.

Attached is also the analytical data for your reference.

Please feel free to contact me for any additional information.
Thank You,

Aleksandra Rogozinski
Quality Control Supervisor
Tilcon New York, Inc.
(973) 659-3790
arogozinski@tilconny.com

TILCON-NY **Mt. Hope Quarry** Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

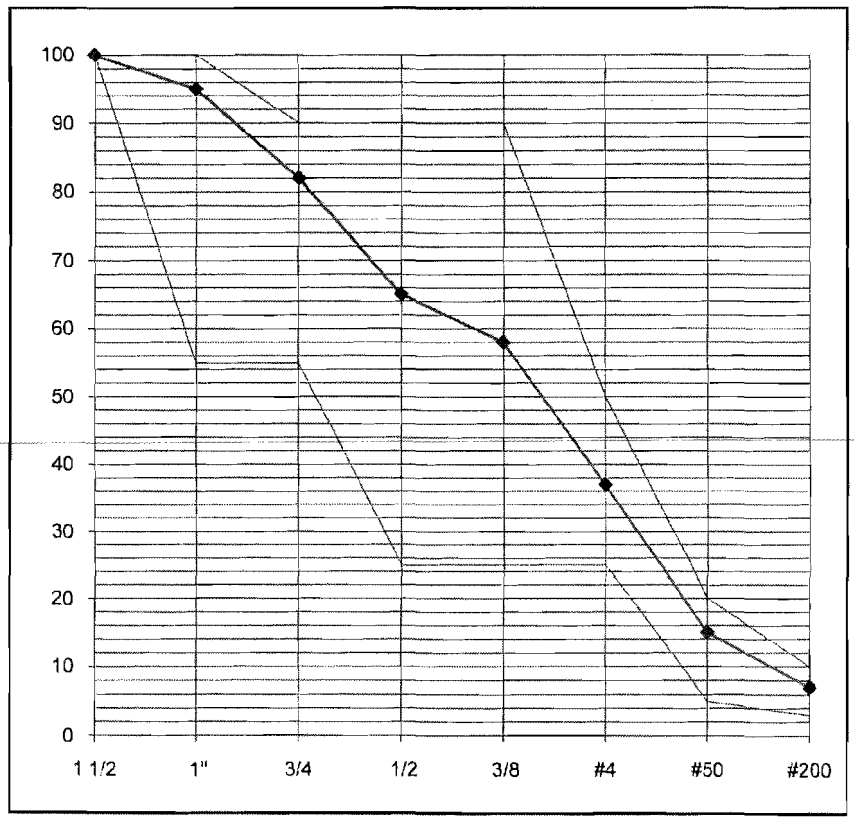
Typical Gradation,DGABC

Project
Honeywell SA6 Jersey City, NJ

Contractor
Entact

Sp. Gr	**2.71**
Loose	**95.7**
Rodded	**104**

	Typical	Prod. Target	
	% Pass	Low	High
1 1/2	**100**	100	100
1"	**95**	55	100
3/4	**82**	55	90
1/2	**65**	25	90
3/8	**58**	25	90
#4	**37**	25	50
#50	**15**	5	20
#200	**7**	3	10



Tilcon Inc confirms that DGABC available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

August 21, 2013

ENTACT, LLC
Fax: email

Attn: Caroline Panico

Reference: Honeywell Project
Jersey City, NJ

Material: QUARRY PROCESSED AGGREGATE

To whom it may concern:

We certify that the aggregate to be purchased for the project in reference is produced by Fanwood Crushed Stone Company established and mining since 1907, from sources of virgin basalt indigenous to the region. These aggregates are free from contamination when stockpiled at our quarries in Watchung, New Jersey.

Our Quarry is located at:

 # 1 New Providence Road
Watchung, NJ
Somerset County.
Block #: 76.01, Lots #: 5 and 20
Mine Certificate #: 003455

Sincerely,

RICARDO AROCHA
TECHNICAL SERVICES

Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

July 31, 2014

ENTACT Environmental Services
Fax: email

Attn: Caroline Panico

Reference: Honeywell SA6 Property
Jersey City, NJ

Material: DUST / SCREENINGS

To whom it may concern:

We certify that the aggregate to be purchased for the project in reference is produced by Fanwood Crushed Stone Company established and mining since 1907, from sources of virgin basalt indigenous to the region. These aggregates are free from contamination when stockpiled at our quarries in Watchung, New Jersey.

Our Quarry is located at:

 # 1 New Providence Road
Watchung, NJ
Somerset County.
Block #: 76.01, Lots #: 5 and 20
Mine Certificate #: 003951

Sincerely,



Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

September 25, 2014

ENTACT, LLC

Fax: Email

Attn: Caroline Panico

Reference: Honeywell Project
Jersey City, NJ

Material(s): Screenings/Dust and NJDOT DGA/TYPE 5A

To whom it may concern:

We certify that the aggregates to be purchased for the project in reference are produced by Weldon Quarry Company, from sources of virgin granite indigenous to the region. These aggregates are free from contamination when stockpiled at our quarry in Hopatcong, New Jersey.

Our Quarry is located at:

Route 181
Hopatcong, NJ
Sussex County.
Block #: 1, Lot #: 70001
Mine Certificate #: 003959

Sincerely,



Common Borrow

WELDON MATERIALS, INC.

ENGINEERING DIVISION - TECHNICAL SERVICES
141 CENTRAL AVENUE, WESTFIELD, NJ 07090
(908) 233-4444 ext. 2288 FAX (908) 233-4215
email: ra@weldonmat.com

September 15, 2014

Contractor: ENTACT, LLC
Fax: email

Attn: Caroline Panico

Reference: Honeywell Project
Jersey City, NJ

Material: NJDOT DGA/TYPE 5A

To whom it may concern:

We certify that the aggregate to be purchased for the project in reference is produced by Fanwood Crushed Stone Company established and mining since 1907, from sources of virgin basalt indigenous to the region. These aggregates are free from contamination when stockpiled at our quarries in Watchung, New Jersey.

Our Quarry is located at:

 # 1 New Providence Road
Watchung, NJ
Somerset County.
Block #: 76.01, Lots #: 5 and 20
Mine Certificate #: 003951

Sincerely,



Structural Fill

July 10, 2015

LIBERTY AGGREGATES, LLC.

758 GARFIELD AVENUE

JERSEY CITY, NEW JERSEY 07305

PHONE: 201-240-4767

FAX: 201-432-6479

EMAIL: TPSenatore@aol.com

STATE OF NEW JERSEY PERMIT#: 004021 / CITY OF JERSEY CITY PERMIT#: P12-086

ENTACT, LLC.

ADAM EWERT

1 EAST OAK HILL DRIVE / SUITE 102

WESTMONT, IL. 60559

CELL: 630-675-9788

EMAIL: aewert@entact.com

Reference: Virgin Rock Certification

To Whom It May Concern,

Liberty Aggregates certifies that the aggregate (11/2" DGA and 3/4" clean) to be purchased for the Honeywell project in Jersey City, New Jersey are produced from clean, virgin rock excavated from the Mayrich project located at 524-530 East 74th Street, New York, New York. The depth of this excavation is approximately 50 feet and contains over 90,000 yards of material. This material is free from any contaminants and is stockpiled at our facility located at 34 Caven Point Avenue, Jersey City, New Jersey.

Sincerely,

Thomas P. Senatore

Managing Member

RALPH CLAYTON & SONS
CLAYTON BLOCK CO., INC.
CLAYTON SAND CO.

POST OFFICE BOX 3015
LAKEWOOD, NJ 08701
TOLL FREE 800-662-3044
WWW.CLAYTONCO.COM

CLAYTON
CONCRETE ▪ BLOCK ▪ SAND
American Owned

June 16, 2015

CONTRACTOR: Entact, LLC

CERTIFICATION: Clean Fill Certification

PROJECT: 60 Kellogg Street – Jersey City, NJ 07305

To Whom It May Concern:

Please accept this letter as our certification that the sand to be supplied to you for the above referenced project is clean sand from a "virgin bank" at our Woodmansie Plant located in Woodland Twp., New Jersey 08731.
Block No(s): 6401 /6402 Lot No(s): 4-4.01/8
If you need any further assistance, please feel free to contact me.

Sincerely,

Jerry Dooley
Sales and Technical Consultant
Clayton Sand Company

Sworn and subscribed to before me this 16th day

of June 2015 at Neptune, NJ 07753

CHERYLL MCCARTHY
Notary Public State of New Jersey
My Comm. Expires April 5, 2017

JD/cm

CERTIFICATION

"Celgene Soil" - New Source of Imported Clean Fill

In 2014, Honeywell identified a new source for backfill material to be used at SA-6 during the chromium remedy. The material was from a nearby construction site at the Celgene facility. The material was not from a quarry, but rather from a virgin portion of the Celgene property where a new underground structure and parking garage was being constructed. It was tested for environmental impacts and for geotechnical properties and was found to meet the NJDEP and the SA-6 100% Design requirements for use as clean fill at SA-6. Honeywell prepared correspondence entitled, "New Source of Imported Clean Fill," dated July 3, 2014 which was submitted to all the Parties. Given the above, the "Celgene Soil" is suitable for unrestricted use at SA-6.

CERTIFICATION

"Celgene Soil" - New Source of Imported Clean Fill

In 2014, Honeywell identified a new source for backfill material to be used at SA-6 during the chromium remedy. The material was from a nearby construction site at the Celgene facility. The material was not from a quarry, but rather from a virgin portion of the Celgene property where a new underground structure and parking garage was being constructed. It was tested for environmental impacts and for geotechnical properties and was found to meet the NJDEP and the SA-6 100% Design requirements for use as clean fill at SA-6. Honeywell prepared correspondence entitled, "New Source of Imported Clean Fill," dated July 3, 2014 which was submitted to all the Parties. Given the above, the "Celgene Soil" is suitable for unrestricted use at SA-6.

ENVIRON

July 12, 2012

MEMORANDUM

To: William J. Hague, P.E., Honeywell

From: Jose Sananes, P.E., ENVIRON
Gary DiPippo, P.E., Cornerstone
Mark Nielsen, P.E., ENVIRON

Subject: SA7 Contractor Submittal #15C - Earth Material Testing Report

ENVIRON and Cornerstone have reviewed Sevenson Environmental Services' (SES) submittal #15C (Earth Material Testing Report) for compliance with the project specifications. The testing report is applicable to all sand and stone materials to be used for the remedy construction at SA7. The materials will originate from Tilcon's Mount Hope Quarry.

As required in **Specification 35 43 00**, "cap materials shall not be obtained from an industrial site or from a source suspected to have been modified by the addition of man-made chemicals. For each source, material type prior to acceptance and for each 5,000 cubic yards, Contractor shall provide analytical data to indicate that the material is free from contamination, the total chromium concentration is below 370 mg/kg and the hexavalent chromium concentration is below 20 mg/kg, and a certificate of Clean Fill as per NJDEP requirements (N.J.A.C. 7:26E-6), unless other material is approved by the consent of the Parties" (i.e., the Special Master). Note that subsequent to the revision to the 100% Design Report we informed Sevenson that we are requiring a 1 mg/kg limit on hexavalent chromium.

In accordance with the NJDEP's Fill guidance (August 2011), SES has submitted a certification stating that the materials originate from a virgin source of rock not located on or impacted by any contaminated sources (see attached TILCON mining certificate and a certification prepared by S&S Environmental dated June 8, 2012). In addition, SES has provided analytical results for the materials (attached). Based on the information provided, we find the material to be acceptable, although we noted the following:

1. Beryllium was detected at a concentration of 0.549 ppm, which marginally exceeds the New Jersey impact-to-groundwater (IGW) soil screening level of 0.5 ppm. However,

    a. As per the NJDEP IGWSRS guideline and FAQs (http://www.nj.gov/dep/srp/guidance/rs/igw_faq.pdf), if detected concentrations are demonstrated to be due to background conditions as opposed to discharges, then no remediation is required (i.e., there is no AOC). As indicated above, SES has provided a certification from the quarry stating that the materials are not impacted by any contaminant source.

b. The detected concentration of beryllium is consistent with NJDEP's published median concentration for the urban piedmont region where the materials will be placed. Although the beryllium concentration is higher than the median concentration reported for rural areas of the New Jersey ridge and valley province where the quarry is located, the detected concentration is lower than the 90th percentile concentration (see NJDEP report on background: http://www.nj.gov/dep/dsr/research/ambient-levels-metal.pdf).

- NJ Urban Piedmont:
  - median=0.51 mg/kg;
  - 90th Percentile = 0.82 mg/kg
- NJ Ridge& Valley Province:
  - median = <0.01 mg/kg;
  - 90th Percentile = 0.91 mg/kg

c. The published EPA method 6020 QA/QC for beryllium indicates that the percent recovery on spiked samples is 75% to 125%. Given this range, the slightly elevated result in comparison to the default IGW soil screening level is within the level of accuracy of the analysis.

d. The IGW soil screening levels which are based on protection of potable drinking water are not necessarily applicable to this project. The sediment cap material is being placed in the Hackensack River (a saline surface water body) where there would be no potential for impact to potable water. If we consider the saline water quality criterion as the more appropriate end point, then the adjusted clean fill "IGW" soil screening level would be 21 mg/kg (i.e., a factor of 42 when changing from a groundwater quality criterion of1 ug/L to a saline surface water quality criterion of 42 ug/L) assuming all other factors remain the same.

e. The NJ Clean Fill Policy specifies that clean fill proposed for use at a site cannot impact sediment quality in a way that is "inconsistent with the proposed remedial action. In other words, the proposed remedial action for the receiving AOC must address all sediment issues whether from the existing contamination or the placement of the clean fill." In this regard, we note that the beryllium concentration in the quarry material is the approximately the same as the mean sediment concentration reported in the SA7 sediment investigation report (ENVIRON 2006).

2. Aluminum and Manganese concentrations in the quarry sample also exceeded the IGW soil screening levels, however, the NJDEP has determined that the IGW pathway does not need to be addressed for these contaminants unless there is cause to believe that their presence is due to a site discharge. As indicated above, SES has provided a certification from the quarry stating that the materials are not impacted by any contaminant source.

3. The quality of the materials will continue to be verified through the required testing every 5,000 CY.

SA7 – Earth Material Testing Reports/Clean Fill Affidavit

Specification – 31 23 16; 1.4D, D

Revised 6.27.12 based on comments from June 6, 2012

1. Filtering criteria design results and xls file as a separate attachment
2. Letter from Tilcon on source of material
3. Letter from S and S Environmental for their site review on the Mount Hope Quarry
4. "Fines" analysis from S and S Environmental in accordance with NJDEP Site Remediation Program
5. Gradation curves for sand, filter material, and armor stone (Mount Hope Quarry)
    a. Dense Graded Aggregate (Roadways)
    b. Grits (Sand)
    c. ASTM 57 (Filter Layer)
    d. ASTM 5 (0.75" Armor Stone)
    e. ASTM 4 (1.0" Armor Stone)
    f. ASTM 1 (1.5", 1.6", 2.0" Armor Stone)
    g. 4's and 5's (3.5" Armor Stone)
    h. Light Stone Filling (6" Armor Stone)
    i. Medium Stone Filling (10" Armor Stone)

1.0 Filtering Criteria Design

Filter Design Calculations
April 28, 2012 - Donegan
Jersey City SA7
Revised 6.28.12

Aggregate Specification/Type	D15 (in)	D50 (in)	D85 (in)	Proposed Layer
Insitu Material 1 - "coarse"			0.0163	Insitu Material 1
Insitu Material 2 - "Fine"			0.0025	Insitu Material 2
Grits Mount Hope Quarry (Sand)	0.010	0.055	0.118	Proposed "Sand Layer"
ASTM 5 (0.75" Armor)	0.551	0.768	0.906	Proposed 0.75" Material
ASTM 57 (Filter Layer)	0.433	0.551	0.709	Proposed Filter Layer
ASTM 4 (1.0" Armor)	0.827	1.063	1.339	Proposed 1" Material
ASTM1 (1.5", 1.6" and 2.0" Armor)	1.673	2.638	3.287	Proposed 1.5, 1.6, and 2.0" Material
4's and 5's (3.5" Armor)	2.953	3.543	5.118	Proposed 3.5" Material

Filter Material Design Criteria

Filter Criteria for Coarse Grained — D15 upper layer ≤ 5 x D85 lower layer
Filter Criteria for Fine Grained — D15 upper layer ≤ 9 x D85 lower layer

Analysis of Sand and Armor Cap Materials Based Against and Permeability Criteria

Note: Criteria results in red are outside of the acceptable range.

Insitu Layer				"Sand Material"			Filter Criteria
Type			D85(in)	Type	D15(in)	D50(in)	D15 armor / D85 sand
Insitu Material 1 - "coarse"			0.0163	Grits Mount Hope Quarry (Sand)	0.010	0.055	0.605
Insitu Material 2 - "Fine"			0.0025	Grits Mount Hope Quarry (Sand)	0.010	0.055	3.900

Sand Material				Filter Layer			Filter Criteria
Type	D15(in)	D50(in)	D85(in)	Type	D15(in)	D50(in)	D15 armor / D85 sand
Grits Mount Hope Quarry (Sand)	0.010	0.055	0.118	ASTM 57 (Filter Layer)	0.433	0.551	3.667

Filter/Sand Layer				Armor Cap			Filter Criteria
Type	D15(in)	D50(in)	D85(in)	Type	D15(in)	D50(in)	D15 armor / D85 sand
Grits Mount Hope Quarry (Sand)	0.010	0.055	0.118	ASTM 5 (0.75" Armor)	0.551	0.768	4.667
ASTM 57 (Filter Layer)	0.433	0.551	0.709	ASTM 4 (1.0" Armor)	0.827	1.063	1.167
ASTM 57 (Filter Layer)	0.433	0.551	0.709	ASTM1 (1.5", 1.6" and 2.0" Armor)	1.673	2.638	2.361
ASTM 57 (Filter Layer)	0.433	0.551	0.709	4's and 5's (3.5" Armor)	2.953	3.543	4.167

2.0 Letter from Tilcon

TILCON

TILCON NEW YORK INC.

625 MT. HOPE ROAD • WHARTON, NEW JERSEY 07885 • PHONE 973-366-7741

June 26, 2012

Mr. Timothy Donegan, PE
Engineering Manager
Sevenson Environmental Services, Inc.
815 Ritchie Highway, Suite 107
Severna Park, MD 21146

RE: Quarry Source and NJDEP Residential Direct Soil Remediation Standards/Clean Fill Criteria

Mr. Donegan,

As discussed today, June 26, 2012, the table below provides a summary of the materials we intend to provide for the Jersey City SA7 project and the source (quarry). A sample report is provided as an attachment for our Mount Hope Quarry identified in table 1 below.

Table 1 – Material Source Identification

Tilcon Material Type	Sevenson Designation	Quarry Source
Grits	Sand	Mount Hope Quarry
ASTM 57	Filterlayer	Mount Hope Quarry
ASTM 5	0.75 Inch Armor	Mount Hope Quarry
ASTM 4	1.0 Inch Armor	Mount Hope Quarry
ASTM 1	1.5, 1.6 AND 2.0 Inch Armor	Mount Hope Quarry
4's and 5's	3.5 Inch Armor	Mount Hope Quarry
Light Stone Filling	6" Armor Stone	Mount Hope Quarry
Medium Stone Filling	10" Armor Stone	Mount Hope Quarry
DGA	Roadway Stone	Mount Hope Quarry

All of the materials will be supplied from the Mount Hope Quarry and are durable and quarried from virgin gneiss. The materials identified come from the same location in the quarry as provided in the environmental analysis attached. All of the materials detailed above meet the NJDEP Residential Direct Soil Remediation Standards/Clean Fill Criteria. Please let us know if you have any questions.

Sincerely,

William H. Aspinall, IV
VP New Jersey Operations

cc: S. Laudone
S. O'Reilly
G. Labatte
C. Morris
R. Linton

3 - Letter from S and S Environmental Site Review of the Mount Hope Quarry

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Road, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

Kamil Sor, Ph.D.
Yilmaz Arhan, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.
Kenneth J. Rowbotham, P.E.

June 8, 2012
Report No. 12-E-188

Tilcon New York Inc.
625 Mount Hope Road
Wharton, NJ 07885

Attention: Mr. Steve O'Reilly

Re: Mount Hope Rock Quarry, New Jersey

Dear Mr. O'Reilly:

As requested, I visited the referenced quarry site on June 7, 2012. The purpose of my site visit was to visually check the area of the quarry where granite rock is being surface mined from an undisturbed geologic formation. The rock which is mined at this location is blasted, transported to the on-site crushing operation, and then processed into various sized aggregates including ¾ inch stone which is sold to various customers. The stone is virgin material, and no chemicals and/or additives are added to the product.

A Site Review was conducted in accordance with the New Jersey Department of Environmental Protection (NJDEP) Site Remediation Program Fill Guidance at SRP Sites dated August 11, 2011.

TILCON has owned and operated the rock quarry since 2001. The area of the quarry site was also used for mining iron, beginning around 1710, and the Mount Hope iron mines operated for over 250 years. The area of the quarry where virgin rock is being surface mined has never been used for any other industrial or commercial purposes.

Based on my site visit of June 7, 2012, information provided by Tilcon New York, Inc. (TILCON) with respect to their ownership and use of the site, and according to the preliminary investigation regarding site development and use history, the rock which is being obtained from this quarry has not been located on or impacted by any contaminant sources.

If there are any questions or should you require additional information, please do not hesitate to contact me.

Very truly yours,

S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arhan, Ph.D.
Vice President

YA/ya

4 - “Fines” ! nalysis from S and S Environmental in Accordance With NJDEP Site Remediation Program

S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

98 Sand Park Road, Cedar Grove, NJ 07009
Tel (973) 857-7188 Fax (973) 239-8380

Kamil Sor, Ph.D.
Yilmaz Arhan, Ph.D.
Orhun Sor, P.E.
Peter G. Micklus, P.E.
Kenneth J. Rowbotham, P.E.

This report is the confidential property of the Client, and information contained may not be published or reproduced without our written permission.

Client:	TILCON New York, Inc.				
Project:	Mount Hope, New Jersey				
Subject:	Laboratory Analysis of Stone Fines				
Job No.:	07-E-34	**Report Number:**	12-E-206	**Date:**	06-15-2012

We present herewith the laboratory test results of the stone fines sample picked up by a representative of our firm on June 8, 2012. The sample was collected by a representative of TILCON on June 8, 2012.

As requested, the sample was analyzed for the U.S. EPA Target Compound List (TCL)+30/Target Analyte List (TAL) parameters, Extractable Petroleum Hydrocarbons (EPH), pH, and Hexavalent Chromium. The analyses were performed by Integrated Analytical Laboratories, LLC (IAL) (NJDEP Lab ID No. 14751).

The test results are summarized in Table Nos. 1 through 4. A copy of the IAL sample chain-of-custody form and a copy of the preliminary faxed IAL laboratory summary report are attached.

Based on the laboratory data, the sample meets all of the NJDEP Residential Direct Contact Soil Remediation Standards/Clean Fill Criteria.

If there are any questions or if we can be of further assistance in this matter please call us.

Very truly yours,

S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arhan, Ph.D.
Vice President

YA/ya

Attachments: (1) IAL Laboratory Summary Report and Sample Chain-of-Custody Form
(2) NJDEP Residential Soil Remediation Standards List

cc: (1) Client (Attn: Mr. Steve O'Reilly)

TABLE 1 - SUMMARY OF LABORATORY TEST RESULTS

PARAMETERS	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
Organic Compounds		
Volatile Organic Compounds	Not Detected (See Table 2)	See Attached List
Semi-Volatile Organics	Not Detected (See Table 3)	See Attached List
Pesticides	Not Detected (See Table 4)	See Attached List
PCBs	Not Detected (See Table 4)	Total 0.20
Metals:		
Aluminum	4,820	78,000
Antimony	ND (<0.250)	31
Arsenic	1.06	19
Barium	47.1	16,000
Beryllium	0.549	16
Cadmium	ND (<0.125)	78
Calcium	4,570	NA
Chromium	14.2	120,000
Cobalt	5.75	1,600
Copper	16.3	3,100
Iron	17,300	NA
Lead	1.78	400
Magnesium	3,680	NA
Manganese	170	11,000
Mercury	ND (<0.00594)	23
Nickel	7.69	1,600
Potassium	1,960	NA
Selenium	ND (<1.00)	390
Silver	ND (<0.125)	390
Sodium	126	NA
Thallium	0.147 J	5
Vanadium	19.3	78
Zinc	19.0	23,000
Others		
Extractable Petroleum Hydrocarbons (EPH) (C9-C40)	ND (<9.00)	1,000
Cyanide	ND (<0.700)	1,600
Hexavalent Chromium	ND (<0.236)	1(**)
pH, SU	8.59	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

(**)The hexavalent chromium standard is a site-specific requirement

ND: N*ot Detected* < - Indicates less than (the value reported is the Method Detection Limit)
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 2 - TEST RESULTS FOR VOLATILE ORGANIC COMPOUNDS

SAMPLING DATE: 06-08-2012 (Client)		SAMPLE MATRIX: Stone Fines
PARAMETER	**SAMPLE #12-121 RESULT**	**NJDEP SOIL REMEDIATION STANDARD(*)**
1,1-Dichloroethane	ND	8
1,1,1-Trichloroethane	ND	290
1,1,2,2-Tetrachloroethane	ND	1
1,1,2-Trichloroethane	ND	2
1,1-Dichloroethene	ND	11
1,2-Dichloroethene	ND	230
1,2-Dichloropropane	ND	2
1,3-Dichloropropene (cis and trans)	ND	2
1,2-Dichloroethane	ND	0.9
2-Butanone (MEK)	ND	3100
4-Methyl-2-Pentanone (MIBK)	ND	NA
Acetone	ND	70000
Acrylonitrile	ND	0.9
Benzene	ND	2
Bromodichloromethane	ND	1
Bromoform	ND	81
Bromomethane	ND	25
Carbon tetrachloride	ND	0.6
Chlorobenzene	ND	510
Chloroform	ND	0.6
Chloromethane	ND	4
Cis-1,2-Dichloroethene	ND	230
Trans-1,2-Dichloroethene	ND	300
Dibromochloromethane	ND	3
Ethylbenzene	ND	7800
Methylene Chloride	ND	34
Styrene	ND	90
Naphthalene	ND	6
Tetrachloroethene (PCE)	ND	2
Toluene	ND	6300
Xylenes (Total)	ND	12000
Trichloroethene (TCE)	ND	7
Trichlorofluoromethane	ND	23000
Tertiary Butyl Alcohol	ND	1400
Vinyl Chloride	ND	0.7
Tentatively Identified Compounds	ND	NA
Total VO's and TICs	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
ND: NOT DETECTED (see laboratory report for detection limits) NA–NOT AVAILABLE

TABLE 3 – TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS

SAMPLING DATE:	06-08-2012 (Client)	**SAMPLE MATRIX:** Stone Fines

PARAMETER	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
bis(2-chloroethyl) ether	ND	0.4
1,3–Dichlorobenzene	ND	5300
1,4–Dichlorobenzene	ND	5
1,2–Dichlorobenzene	ND	5300
Benzyl alcohol	ND	NA
bis(2-chloroisopropyl) ether	ND	23
bis(2-ethylhexyl) phthalate	ND	35
Hexachloroethane	ND	35
n-Nitroso-di-n-propylamine	ND	0.2
Nitrobenzene	ND	31
Isophorone	ND	510
1,2,4–Trichlorobenzene	ND	73
4–Chloroaniline	ND	NA
Hexachloro-1,3-butadiene	ND	6
Hexachlorocyclopentadiene	ND	45
Dimethylphthalate	ND	NA
Diethylphthalate	ND	49,000
2,4-Dinitrotoluene	ND	0.7
2,6- Dinitrotoluene	ND	0.7
n-Nitrosodiphenylamine	ND	99
Hexachlorobenzene	ND	0.3
Butylbenzylphthalate	ND	1200
4–Chloro-3-methylphenol	ND	NA
2–Chlorophenol	ND	310
Di-n-butyl phthalate	ND	6100
Di-n-octyl phthalate	ND	2400
3,3'-Dichlorobenzidine	ND	1
2,4-Dichlorophenol	ND	180

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

ND: *Not Detected (see laboratory report for detection limits)*

NA – NOT APPLICABLE/NOT AVAILABLE

TABLE 3 - TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS (continued)

SAMPLING DATE:	06-08-2012 (Client)	SAMPLE MATRIX: Stone Fines

PARAMETER	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
2,4-Dimethylphenol	ND	1200
2,4-Dinitrophenol	ND	120
2-Methylphenol (o-Cresol)	ND	310
4-Methylphenol (p-Cresol)	ND	31
Pentachlorophenol	ND	3
Phenol	ND	18,000
2,4,5-Trichlorophenol	ND	6100
2,4,6-Trichlorophenol	ND	19
Benzoic Acid	ND	NA
Acenaphthene	ND	3400
Acenaphthylene	ND	NA
Anthracene	ND	17,000
Benzo[a]anthracene	ND	0.6
Benzo[a]pyrene	ND	0.2
Benzo[b]fluoranthene	ND	0.6
Benzo[k]fluoranthene	ND	6
Carbazole	ND	24
Chrysene	ND	62
Dibenz[a,h]anthracene	ND	0.2
Dibenzofuran	ND	NA
Fluoranthene	ND	2300
Fluorene	ND	2300
Indeno[1,2,3-cd]pyrene	ND	0.6
Naphthalene	ND	6
2-Methylnaphthalene	ND	230
Pyrene	ND	1700
Benzo[g,h,i]perylene	ND	380000
Phenanthrene	ND	NA
Total	ND	NA
Tentatively Identified Compounds (TICs)	ND	NA
Total	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.
(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"
ND: *Not Detected (see laboratory report for detection limits)*
NA - Not Applicable/Not Available
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 4- TEST RESULTS FOR PESTICIDES AND PCBs

SAMPLING DATE:	06-08-2012 (Client)	**SAMPLE MATRIX:** Stone Fines

PARAMETER	SAMPLE #12-121 RESULT	NJDEP SOIL REMEDIATION STANDARDS(*)
PESTICIDES		
Aldrin	ND	0.04
4,4' – DDD	ND	3
4,4' – DDE	ND	2
4,4' – DDT	ND	2
Dieldrin	ND	0.04
Endosulfan I and Endosulfan II	ND	470
Endosulfan sulfate	ND	470
Endrin	ND	23
Heptachlor	ND	0.1
Heptachlor epoxide	ND	0.07
alpha-BHC	ND	0.1
beta-BHC	ND	0.4
gamma – BHC (Lindane)	ND	0.4
Methoxychlor	ND	390
Toxaphene	ND	0.6
Chlordane	ND	0.2
PCBs		
Aroclor - 1016	ND	NA
Aroclor - 1221	ND	NA
Aroclor - 1232	ND	NA
Aroclor - 1242	ND	NA
Aroclor - 1248	ND	NA
Aroclor - 1254	ND	NA
Aroclor - 1260	ND	NA
Aroclor - 1262	ND	NA
Aroclor - 1268	ND	NA
Total PCBs	ND	0.20 (TOTAL PCBs)

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's most stringent "Residential Direct Contact Soil Remediation Standards"

ND: *Not Detected (see laboratory report for detection limits)*
NA - Not Applicable/Not Available

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: MT. HOPE
Lab Case No.: E12-05656

Lab ID:	**05656-001**		
Client ID:	**12-121**		
Matrix:	**Solid**		
Sampled Date	**6/8/12**		
PARAMETER(Units)	Conc	Q	MDL
Volatiles (Units)	*(mg/Kg-ppm)*		
TOTAL VO's:	ND		
TOTAL TIC's:	ND		
TOTAL VO's & TIC's:	ND		
Semivolatiles - BNA (Units)	*(mg/Kg-ppm)*		
TOTAL BNA'S:	ND		
TOTAL TIC's:	ND		
TOTAL BNA'S & TIC's:	ND		
PCB's (Units)	*(mg/Kg-ppm)*		
Aroclor-1016	ND		0.00066
Aroclor-1221	ND		0.00066
Aroclor-1232	ND		0.00066
Aroclor-1242	ND		0.00066
Aroclor-1248	ND		0.00066
Aroclor-1254	ND		0.00066
Aroclor-1260	ND		0.00066
Aroclor-1262	ND		0.00066
Aroclor-1268	ND		0.00066
PCBs	ND		0.00066
Pesticides (Units)	*(mg/Kg-ppm)*		
alpha-BHC	ND		0.000165
beta-BHC	ND		0.000165
gamma-BHC (Lindane)	ND		0.000165
delta-BHC	ND		0.000165
Heptachlor	ND		0.000165
Aldrin	ND		0.000165
Heptachlor epoxide	ND		0.000165
Endosulfan I	ND		0.000165
4,4'-DDE	ND		0.000165
Dieldrin	ND		0.000165
Endrin	ND		0.000165
Endosulfan II	ND		0.000165
4,4'-DDD	ND		0.000165
Endrin aldehyde	ND		0.000165
Endosulfan sulfate	ND		0.000165
4,4'-DDT	ND		0.000165
Endrin ketone	ND		0.000165
Methoxychlor	ND		0.000165
alpha-Chlordane	ND		0.000165
gamma-Chlordane	ND		0.000165
Toxaphene	ND		0.00198
Endosulfan (I and II)	ND		0.000165
Chlordane (alpha and gamma)	ND		0.000165

ND = Analyzed for but Not Detected at the MDL

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT
Client: S & S Environmental
Project: MT. HOPE
Lab Case No.: E12-05656

Lab ID:	**05656-001**		
Client ID:	**12-121**		
Matrix:	**Solid**		
Sampled Date	**6/8/12**		
PARAMETER(Units)	Conc	Q	MDL
Hydrocarbons (Units)	***(mg/Kg-ppm)***		
C9-C40	ND		9.00
Metals (Units)	***(mg/Kg-ppm)***		
Aluminum	4820		5.00
Antimony	ND		0.250
Arsenic	1.06		0.250
Barium	47.1		2.50
Beryllium	0.549		0.200
Cadmium	ND		0.125
Calcium	4570		25.0
Chromium	14.2		0.500
Cobalt	5.75		0.500
Copper	16.3		0.500
Iron	17300		12.5
Lead	1.78		0.125
Magnesium	3680		12.5
Manganese	170		0.250
Mercury	ND		0.00594
Nickel	7.69		0.500
Potassium	1960		12.5
Selenium	ND		1.00
Silver	ND		0.125
Sodium	126		25.0
Thallium	0.147	J	0.125
Vanadium	19.3		0.500
Zinc	19.0		2.00
General Analytical (Units)			
Hexavalent Chromium(mg/Kg-ppm)	ND		0.236
Cyanide, Total(mg/Kg-ppm)	ND		0.700
pH/Corrosivity(SU)	8.59		NA

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL

S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-05656

Sample #:		NJDEP SOIL REMEDIAT	12-121			
Field ID:		STANDARDS				
Lab ID:		Residential	05656-001			
Date Sampled:		SRS	06/08/2012			
Depth(ft):						
	CAS	(mg/Kg)				
Volatiles (mg/Kg)			Conc	Q	RL	MDL
Dichlorodifluoromethane	75-71-8	490	ND		0.00152	0.000608
Chloromethane	74-87-3	4	ND		0.00152	0.000623
Vinyl chloride	75-01-4	0.7	ND		0.00152	0.00073
Bromomethane	74-83-9	25	ND		0.00304	0.000532
Chloroethane	75-00-3	220	ND		0.00152	0.000684
Trichlorofluoromethane	75-69-4	23000	ND		0.00152	0.000623
1,1-Dichloroethene	75-35-4	11	ND		0.00152	0.00076
Acetone	67-64-1	70000	ND		0.0076	0.00106
Carbon disulfide	75-15-0	7800	ND		0.00152	0.000517
Methylene chloride	75-09-2	34	ND		0.00304	0.00301
trans-1,2-Dichloroethene	156-60-5	300	ND		0.00152	0.000654
Methyl tert-butyl ether (MTBE)	1634-04-4	110	ND		0.00152	0.00035
1,1-Dichloroethane	75-34-3	8	ND		0.00152	0.00041
cis-1,2-Dichloroethene	156-59-2	230	ND		0.00152	0.000471
2-Butanone (MEK)	78-93-3	3100	ND		0.00152	0.000562
Bromochloromethane	74-97-5	NS	ND		0.00152	0.000365
Chloroform	67-66-3	0.6	ND		0.00152	0.000441
1,1,1-Trichloroethane	71-55-6	290	ND		0.00152	0.000502
Carbon tetrachloride	56-23-5	0.6	ND		0.00152	0.000623
1,2-Dichloroethane (EDC)	107-06-2	0.9	ND		0.00152	0.000319
Benzene	71-43-2	2	ND		0.00152	0.000365
Trichloroethene	79-01-6	7	ND		0.00152	0.000486
1,2-Dichloropropane	78-87-5	2	ND		0.00152	0.000334
1,4-Dioxane	123-91-1	NS	ND		0.304	0.024
Bromodichloromethane	75-27-4	1	ND		0.00152	0.000486
cis-1,3-Dichloropropene	10061-01-5	NS	ND		0.00152	0.000395
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	ND		0.00152	0.000365
Toluene	108-88-3	6300	ND		0.00152	0.00038
trans-1,3-Dichloropropene	10061-02-6	NS	ND		0.00152	0.000395
1,1,2-Trichloroethane	79-00-5	2	ND		0.00152	0.000304
Tetrachloroethene	127-18-4	2	ND		0.00152	0.000395
2-Hexanone	591-78-6	NS	ND		0.00152	0.000547
Dibromochloromethane	124-48-1	3	ND		0.00152	0.000334
1,2-Dibromoethane (EDB)	106-93-4	0.008	ND		0.00152	0.000319
Chlorobenzene	108-90-7	510	ND		0.00152	0.000334
Ethylbenzene	100-41-4	7800	ND		0.00152	0.000471
Total Xylenes	1330-20-7	12000	ND		0.00304	0.00161
Styrene	100-42-5	90	ND		0.00152	0.000456

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S S Environmental
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Bromoform	75-25-2	**81**	ND		0.00152	0.000486
Isopropylbenzene	98-82-8	**NS**	ND		0.00152	0.000623
1,1,2,2-Tetrachloroethane	79-34-5	**1**	ND		0.00152	0.00035
1,3-Dichlorobenzene	541-73-1	**5300**	ND		0.00152	0.000471
1,4-Dichlorobenzene	106-46-7	**5**	ND		0.00152	0.000471
1,2-Dichlorobenzene	95-50-1	**5300**	ND		0.00152	0.000547
1,2-Dibromo-3-chloropropane	96-12-8	**0.08**	ND		0.00152	0.00076
1,2,4-Trichlorobenzene	120-82-1	**73**	ND		0.00152	0.00079
1,2,3-Trichlorobenzene	87-61-6	**NS**	ND		0.00152	0.00073
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	**NS**	ND		0.00152	0.000836
Methyl acetate	79-20-9	**78000**	ND		0.00152	0.000882
Cyclohexane	110-82-7	**NS**	ND		0.00304	0.000638
Methylcyclohexane	108-87-2	**NS**	ND		0.00152	0.00076
1,3-Dichloropropene (cis- and trans-)	542-75-6	**2**	ND		0.00152	0.000395
TOTAL VO's:		**NS**	ND			NA
TOTAL TIC's:		**NS**	ND			NA
TOTAL VO's & TIC's:		**NS**	ND			NA

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Semivolatiles - BNA (mg/Kg)			Conc	Q	RL	MDL
Benzaldehyde	100-52-7	6100	ND		0.033	0.013
Phenol	108-95-2	18000	ND		0.033	0.014
Bis(2-chloroethyl) ether	111-44-4	0.4	ND		0.033	0.023
2-Chlorophenol	95-57-8	310	ND		0.033	0.014
2-Methylphenol	95-48-7	310	ND		0.033	0.026
Bis(2-chloroisopropyl) ether	108-60-1	23	ND		0.033	0.012
4-Methylphenol **	106-44-5	31	ND		0.033	0.019
N-Nitrosodi-n-propylamine	621-64-7	0.2	ND		0.033	0.022
Acetophenone	98-86-2	2	ND		0.033	0.011
Hexachloroethane	67-72-1	35	ND		0.033	0.013
Nitrobenzene	98-95-3	31	ND		0.033	0.029
Isophorone	78-59-1	510	ND		0.033	0.021
2-Nitrophenol	88-75-5	NS	ND		0.033	0.024
2,4-Dimethylphenol	105-67-9	1200	ND		0.033	0.026
Bis(2-chloroethoxy) methane	111-91-1	NS	ND		0.033	0.028
2,4-Dichlorophenol	120-83-2	180	ND		0.033	0.032
Naphthalene	91-20-3	6	ND		0.033	0.025
4-Chloroaniline	106-47-8	NS	ND		0.033	0.031
Hexachlorobutadiene	87-68-3	6	ND		0.033	0.032
Caprolactam	105-60-2	31000	ND		0.033	0.021
4-Chloro-3-methylphenol	59-50-7	NS	ND		0.033	0.029
2-Methylnaphthalene	91-57-6	230	ND		0.033	0.027
Hexachlorocyclopentadiene	77-47-4	45	ND		0.033	0.010
2,4,6-Trichlorophenol	88-06-2	19	ND		0.033	0.010
2,4,5-Trichlorophenol	95-95-4	6100	ND		0.033	0.013
1,1'-Biphenyl	92-52-4	3100	ND		0.033	0.00989
2-Chloronaphthalene	91-58-7	NS	ND		0.033	0.031
2-Nitroaniline	88-74-4	39	ND		0.033	0.020
Dimethyl phthalate	131-11-3	NS	ND		0.033	0.00989
2,6-Dinitrotoluene	606-20-2	0.7	ND		0.033	0.019
Acenaphthylene	208-96-8	NS	ND		0.033	0.023
3-Nitroaniline	99-09-2	NS	ND		0.033	0.00989
Acenaphthene	83-32-9	3400	ND		0.033	0.026
2,4-Dinitrophenol	51-28-5	120	ND		0.033	0.013
4-Nitrophenol	100-02-7	NS	ND		0.033	0.024
2,4-Dinitrotoluene	121-14-2	0.7	ND		0.033	0.029
Dibenzofuran	132-64-9	NS	ND		0.033	0.011
Diethyl phthalate	84-66-2	49000	ND		0.033	0.024
Fluorene	86-73-7	2300	ND		0.033	0.018
4-Chlorophenyl phenyl ether	7005-72-3	NS	ND		0.033	0.015
4-Nitroaniline	100-01-6	NS	ND		0.033	0.021
1,2,4,5-Tetrachlorobenzene	95-94-3	NS	ND		0.033	0.00989
2,3,4,6-Tetrachlorophenol	58-90-2	NS	ND		0.033	0.014
4,6-Dinitro-2-methylphenol	534-52-1	6	ND		0.033	0.019
N-Nitrosodiphenylamine	86-30-6	99	ND		0.033	0.014

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4-Bromophenyl phenyl ether	101-55-3	**NS**	ND		0.033	0.019
Hexachlorobenzene	118-74-1	**0.3**	ND		0.033	0.023
Atrazine	1912-24-9	**210**	ND		0.033	0.023
Pentachlorophenol	87-86-5	**3**	ND		0.033	0.014
Phenanthrene	85-01-8	**NS**	ND		0.033	0.022
Anthracene	120-12-7	**17000**	ND		0.033	0.032
Carbazole	86-74-8	**24**	ND		0.033	0.019
Di-n-butyl phthalate	84-74-2	**6100**	ND		0.033	0.023
Fluoranthene	206-44-0	**2300**	ND		0.033	0.013
Pyrene	129-00-0	**1700**	ND		0.033	0.024
Butyl benzyl phthalate	85-68-7	**1200**	ND		0.033	0.021
3,3'-Dichlorobenzidine	91-94-1	**1**	ND		0.033	0.023
Benzo[a]anthracene	56-55-3	**0.6**	ND		0.033	0.032
Chrysene	218-01-9	**62**	ND		0.033	0.022
Bis(2-ethylhexyl) phthalate	117-81-7	**35**	ND		0.033	0.016
Di-n-octyl phthalate	117-84-0	**2400**	ND		0.033	0.013
Benzo[b]fluoranthene	205-99-2	**0.6**	ND		0.033	0.017
Benzo[k]fluoranthene	207-08-9	**6**	ND		0.033	0.012
Benzo[a]pyrene	50-32-8	**0.2**	ND		0.033	0.018
Indeno[1,2,3-cd]pyrene	193-39-5	**0.6**	ND		0.033	0.016
Dibenz[a,h]anthracene	53-70-3	**0.2**	ND		0.033	0.020
Benzo[g,h,i]perylene	191-24-2	**380000**	ND		0.033	0.010
Dinitrotoluene (2,4- and 2,6-)	25321-14-6	**0.7**	ND		0.033	0.029
TOTAL BNA'S:		**NS**	ND			NA
TOTAL TIC's:		**NS**	ND			NA
TOTAL BNA'S & TIC's:		**NS**	ND			NA

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PCB's (mg/Kg)			Conc	Q	RL	MDL
Aroclor-1016	12674-11-2	NS	ND		0.00165	0.00066
Aroclor-1221	11104-28-2	NS	ND		0.00165	0.00066
Aroclor-1232	11141-16-5	NS	ND		0.00165	0.00066
Aroclor-1242	53469-21-9	NS	ND		0.00165	0.00066
Aroclor-1248	12672-29-6	NS	ND		0.00165	0.00066
Aroclor-1254	11097-69-1	NS	ND		0.00165	0.00066
Aroclor-1260	11096-82-5	NS	ND		0.00165	0.00066
Aroclor-1262	37324-23-5	NS	ND		0.00165	0.00066
Aroclor-1268	11100-14-4	NS	ND		0.00165	0.00066
PCBs	1336-36-3	0.2	ND		0.00165	0.00066

S S Environmental
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IAL SDG No:E12-05656

Pesticides (mg/Kg)			Conc	Q	RL	MDL
alpha-BHC	319-84-6	**0.1**	ND		0.00033	0.000165
beta-BHC	319-85-7	**0.4**	ND		0.00033	0.000165
gamma-BHC (Lindane)	58-89-9	**0.4**	ND		0.00033	0.000165
delta-BHC	319-86-8	**NS**	ND		0.00033	0.000165
Heptachlor	76-44-8	**0.1**	ND		0.00033	0.000165
Aldrin	309-00-2	**0.04**	ND		0.00033	0.000165
Heptachlor epoxide	1024-57-3	**0.07**	ND		0.00033	0.000165
Endosulfan I	959-98-8	**NS**	ND		0.00033	0.000165
4,4'-DDE	72-55-9	**2**	ND		0.00033	0.000165
Dieldrin	60-57-1	**0.04**	ND		0.00033	0.000165
Endrin	72-20-8	**23**	ND		0.00033	0.000165
Endosulfan II	33213-65-9	**NS**	ND		0.00033	0.000165
4,4'-DDD	72-54-8	**3**	ND		0.00033	0.000165
Endrin aldehyde	7421-93-4	**NS**	ND		0.00033	0.000165
Endosulfan sulfate	1031-07-8	**470**	ND		0.00033	0.000165
4,4'-DDT	50-29-3	**2**	ND		0.00033	0.000165
Endrin ketone	53494-70-5	**NS**	ND		0.00033	0.000165
Methoxychlor	72-43-5	**390**	ND		0.00033	0.000165
alpha-Chlordane	5103-71-9	**NS**	ND		0.00033	0.000165
gamma-Chlordane	5103-74-2	**NS**	ND		0.00033	0.000165
Toxaphene	8001-35-2	**0.6**	ND		0.00413	0.00198
Endosulfan (I and II)	115-29-7	**470**	ND		0.00033	0.000165
Chlordane (alpha and gamma)	57-74-9	**0.2**	ND		0.00033	0.000165

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Hydrocarbons (mg/Kg)			Conc	Q	RL	MDL
C9-C40	IALC9C40	NS	ND		36.0	9.00

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S S Environmental
Project Name: MT. HOPE
IAL SDG No:E12-05656

Metals (mg/Kg)			Conc	Q	RL	MDL
Aluminum	7429-90-5	**78000**	4820		10.0	5.00
Antimony	7440-36-0	**31**	ND		1.00	0.250
Arsenic	7440-38-2	**19**	1.06		0.500	0.250
Barium	7440-39-3	**16000**	47.1		10.0	2.50
Beryllium	7440-41-7	**16**	0.549		0.500	0.200
Cadmium	7440-43-9	**78**	ND		0.500	0.125
Calcium	7440-70-2	**NS**	4570		50.0	25.0
Chromium	7440-47-3	**NS**	14.2		2.00	0.500
Cobalt	7440-48-4	**1600**	5.75		2.00	0.500
Copper	7440-50-8	**3100**	16.3		2.00	0.500
Iron	7439-89-6	**NS**	17300		25.0	12.5
Lead	7439-92-1	**400**	1.78		0.500	0.125
Magnesium	7439-95-4	**NS**	3680		50.0	12.5
Manganese	7439-96-5	**11000**	170		1.00	0.250
Mercury	7439-97-6	**23**	ND		0.012	0.00594
Nickel	7440-02-0	**1600**	7.69		1.00	0.500
Potassium	7440-09-7	**NS**	1960		50.0	12.5
Selenium	7782-49-2	**390**	ND		2.00	1.00
Silver	7440-22-4	**390**	ND		0.500	0.125
Sodium	7440-23-5	**NS**	126		100	25.0
Thallium	7440-28-0	**5**	0.147	J	0.500	0.125
Vanadium	7440-62-2	**78**	19.3		2.00	0.500
Zinc	7440-66-6	**23000**	19.0		2.00	2.00

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General Analytical			Conc	Q	RL	MDL
Hexavalent Chromium-mg/Kg	18540-29-9	**240**	ND		1.00	0.236
Cyanide, Total-mg/Kg	57-12-5	**1600**	ND		1.00	0.700
pH/Corrosivity-SU	SRP 6	**NS**	8.59		NA	NA
NJDEP Soil Remediation Standards: Remediation Standards N.J.A.C. 7:26D, June 2008						
BOLD Conc	Indicates a concentration that exceeds applicable criteria.					
BOLD RL	Indicates RL that exceeds applicable criteria.					
BOLD MDL	Indicates MDL that exceeds applicable criteria.					
NS = No Standard Available						
ND = Analyzed for but Not Detected at the MDL						
J = The concentration was detected at a value below the RL and above the MDL						

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Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Contact Us: 973-361-4252
Fax: 973-989-5288
Web: www.ialonline.com

CUSTOMER INFO	REPORTING INFO
Company: STS	REPORT TO:
Address: 98 Sand Park Rd Cedar Grove, NJ 07009	Address: Same
Telephone #:	Attn:
Fax #:	FAX #
Project Manager: Y. Arden, PhD	INVOICE TO:
EMAIL Address:	Address: Same
Sampler: EO	
Project Name: Mt. Hope	
Project Location (State): NJ	Attn:
Bottle Order #:	PO # 12-121
Quote # :	

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)

*Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. **RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE

PHC - MUST CHOOSE

NJ EPH DRO (5 day TAT) NJ EPH Fractionated (5 day TAT)

NJ EPH - C40 (5 day TAT)

~~DRO-8015~~ (3-5 day TAT) QAM025 (5 day TAT)

Verbal/Fax: Std 2 wk unless otherwise specified

24 hr** 48 hr** 72 hr** 96 hr** 1 wk**

Other** (specify): 5 DAY

Hard Copy: Std 3 week * Other - call for price

Rush TAT Charge **: 24 hr - 100%... 48 hr - 75%.... 72 hr - 50%.... 96 hr - 35%.... 5 day - 25%.... 6-9 day 10%

Report Format: Results Only; Reduced; Regulatory - 15% Surcharge applies; Other (describe)

EDDs: SRP format; lab approved custom EDD; NO EDD/CD REQ'D

Cooler Temp 4 °C

SAMPLE INFORMATION

Sample Matrix

DW - Drinking Water AQ - Aqueous WW - Waste Water
OI - Oil LIQ - Liquid (Specify) OT - Other (Specify)
S - Soil SL - Sludge SOL - Solid W - Wipe

ANALYTICAL PARAMETERS

BOTTLES & PRESERVATIVES

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# container	IAL #	TAL TCL + 30	EPH	pH, Cr+6	HCL	HNO3	MeOH	Other	None	Encore
12-121		6/8/12		OT	6		✓	✓	✓			1	2	3	

Mod # 13875 # 7642 # 7670

Known Hazard: Yes or No Describe:

Conc. Expected: Low Med High

MDL Req: GWQS (11/05) - SRS - SRS/IGW - SRS Residential - OTHER (SEE COMMENTS)

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Carrier (check one): _____ IAL Courier _____ Client Courier _____ FedEx/UPS

Signature/Company	Date	Time	Signature/Company	Date	Time
Relinquished by:	6/8/12	2:45	Received by: Kim James	6/8/12	2:45
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		
Relinquished by:			Received by:		

Comments: OT * - Rock Lines

Lab Case # 05656

PAGE: of

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E 12** **05656** CLIENT: S+S

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

Comments

COC: (COMPLETE) / INCOMPLETE

KEY

✓ = YES/NA
✗ = NO

		Comments
✓	Bottles Intact	
✓	no-Missing Bottles	
✓	no-Extra Bottles	
✓	Sufficient Sample Volume	
✓	no-headspace/bubbles in VOs	
✓	Labels intact/correct	
✓	pH Check (exclude VOs)[1]	
✓	Correct bottles/preservative	
✓	Sufficient Holding/Prep Time[1]	
	Sample to be Subcontracted	
✓	**Chain of Custody is Clear**	

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL [ ] DATE 6/8/12

CORRECTIVE ACTION REQUIRED: **YES** [ ] (SEE BELOW) **NO** [ ]

If COC is **NOT** clear, ***STOP*** until you get client to authorize/clarify work.

CLIENT NOTIFIED: YES [ ] Date/ Time: _____ NO [ ]

PROJECT CONTACT:

SUBCONTRACTED LAB:

DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL KJ DATE 6/8/12

REV 03/2009

CONFIRMATION FOR PROJECT

E12-05656: MT. HOPE

To: Dr. Yilmaz Arhan
S & S Environmental
Fax: 1(973) 239-8380
EMail: angelal@sorlabs.com;Alig@sorlabs.com

Report To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Bill To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: Dr. Yilmaz Arhan

Report Format	P.O. #	Received At Lab	TPHC Due	Verbal Due	Hardcopy Due
Reduced		Jun 08, 2012 @ 14:45	NA	Jun 15, 2012	Jun 29, 2012 *

* Any ***Conditional or Hold*** status will delay final hardcopy report sent date.

Diskette Req. Not Required

**** QC Requirement (must meet):** NJ IGW

Lab ID	Client Sample ID	Depth	Sampling Time	Matrix	Unit	Field pH/Temp
05656-001	12-121	NA	06/08/12	Solid	mg/Kg (ppm)	

Sample #	Test	Status	QA Method	TAT	Holding Time Expires
001	TCL VO+10	Analyze	8260B	RUSH 1 WK	6/22/2012
	TCL BNA+20	Analyze	8270C	RUSH 1 WK	6/22/2012
	TCL Pesticides	Analyze	8081A	RUSH 1 WK	6/22/2012
	NJ-EPH-Fractionated	Hold	Method 10.08 Re	RUSH 1 WK	6/22/2012
	NJ-EPH-C40	Analyze	Method 10.08 Re	RUSH 1 WK	6/22/2012
	TCL PCB-9	Analyze	8082	RUSH 1 WK	6/22/2012
	TAL Metals	Analyze	6020/7471A	RUSH 1 WK	7/6/2012
	Cyanide, Total	Analyze	9012B	RUSH 1 WK	6/22/2012
	Cr-VI (Hexavalent Chromium)	Analyze	3060A/7196A	RUSH 1 WK	7/8/2012
	pH/Corrosivity	Analyze	9045C	RUSH 1 WK	7/6/2012

Project Notes:

NOTE 1 taken by Ellen on 06/08/2012 03:26
AS PER YILMAZ A., EPH = NJEPH-C40.

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

IAL is a NELAC New Jersey Certified Lab (14751) and maintains certification in Connecticut (PH-0699), New York (11402), Rhode Island (00126), Florida (E87670) and in the Department of Navy IR QA Program

NOTE: THIS IS A COURTESY COPY OF THIS RULE. ALL OF THE DEPARTMENT'S RULES ARE COMPILED IN TITLE 7 OF THE NEW JERSEY ADMINISTRATIVE CODE.

APPENDIX 1 - SOIL REMEDIATION STANDARDS TABLES

Table 1A - Residential Direct Contact Health Based Criteria and Soil Remediation Standards (mg/kg)

Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Acenaphthene	83-32-9	3,400	NA	0.2	3,400
Acenaphthylene	208-96-8	NA	NA	0.2	NA
Acetone (2-Propanone)	67-64-1	70,000	NA	0.01	70,000
Acetophenone	98-86-2	6,100	2	0.2	2
Acrolein	107-02-8	39	0.5	0.5	0.5
Acrylonitrile	107-13-1	1	0.9	0.5	0.9
Aldrin	309-00-2	0.04	5	0.002	0.04
Aluminum	7429-90-5	78,000	NA	20	78,000
Anthracene	120-12-7	17,000	380,000	0.2	17,000
Antimony	7440-36-0	31	360,000	6	31
Arsenic	7440-38-2	0.4	980	1	19*
Atrazine	1912-24-9	210	NA	0.2	210
Barium	7440-39-3	16,000	910,000	20	16,000
Benzaldehyde	100-52-7	6,100	NA	0.2	6100
Benzene	71-43-2	3	2	0.005	2
Benzidine	92-87-5	0.002	0.004	0.7	0.7
Benzo(a)anthracene (1,2-Benzanthracene)	56-55-3	0.6	38,000	0.2	0.6
Benzo(a)pyrene	50-32-8	0.06	3,800	0.2	0.2
Benzo(b)fluoranthene (3,4-Benzofluoranthene)	205-99-2	0.6	38,000	0.2	0.6
Benzo(ghi)perylene	191-24-2	NA	380,000	0.2	380,000
Benzo(k)fluoranthene	207-08-9	6	38,000	0.2	6
Beryllium	7440-41-7	16	1,800	0.5	16
1,1'-Biphenyl	92-52-4	3,100	NA	0.2	3,100
Bis(2-chloroethyl)ether	111-44-4	0.4	0.6	0.2	0.4
Bis(2-chloroisopropyl)ether	108-60-1	2,400	23	0.2	23
Bis(2-ethylhexyl) phthalate	117-81-7	35	NA	0.2	35
Bromodichloromethane (Dichlorobromomethane)	75-27-4	10	1	0.005	1
Bromoform	75-25-2	81	98	0.005	81
Bromomethane (Methyl bromide)	74-83-9	110	25	0.005	25
bromide)					
2-Butanone (Methyl ethyl ketone) (MEK)	78-93-3	3,100	NA	0.01	3,100
Butyl benzyl phthalate	85-68-7	1,200	NA	0.2	1,200
Cadmium	7440-43-9	78	1,000	0.5	78
Caprolactam	105-60-2	31,000	NA	0.2	31,000
Carbazole	86-74-8	24	740,000	0.2	24
Carbon disulfide	75-15-0	7,800	NA	0.5	7,800
Carbon tetrachloride	56-23-5	7	0.6	0.005	0.6

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Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Chlordane (alpha and gamma)	57-74-9	0.2	42,000	0.002	0.2
Chlorobenzene	108-90-7	510	NA	0.005	510
Chloroethane (Ethyl chloride)	75-00-3	220	NA	0.005	220
Chloroform	67-66-3	780	0.6	0.005	0.6
Chloromethane (Methyl chloride)	74-87-3	NA	4	0.005	4
2-Chlorophenol (o-Chlorophenol)	95-57-8	310	910	0.2	310
Chrysene	218-01-9	62	380,000	0.2	62
Cobalt	7440-48-4	1,600	9,100	5	1,600
Copper	7440-50-8	3,100	NA	3	3,100
Cyanide	57-12-5	1,600	NA	3	1,600
4,4'-DDD	72-54-8	3	61,000	0.003	3
4,4'-DDE	72-55-9	2	670	0.003	2
4,4'-DDT	50-29-3	2	44,000	0.003	2
Dibenz(a,h)anthracene	53-70-3	0.06	3,500	0.2	0.2
Dibromochloromethane (Chlorodibromomethane)	124-48-1	8	3	0.005	3
1,2-Dibromo-3-chloropropane	96-12-8	0.3	0.08	0.005	0.08
1,2-Dibromoethane	106-93-4	0.008	0.1	0.005	0.008
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	5,300	NA	0.005	5,300
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	5,300	NA	0.005	5,300
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	610	5	0.005	5
3,3'-Dichlorobenzidine	91-94-1	1	3	0.2	1
Dichlorodifluoromethane	75-71-8	16,000	490	0.005	490
1,1-Dichloroethane	75-34-3	510	8	0.005	8
1,2-Dichloroethane	107-06-2	5	0.9	0.005	0.9
1,1-Dichloroethene	75-35-4	11	61	0.005	11
1,2-Dichloroethene (cis) (c-1,2-Dichloroethylene)	156-59-2	780	230	0.005	230
1,2-Dichloroethene (trans) (t-1,2-Dichloroethylene)	156-60-5	1,300	300	0.005	300
2,4-Dichlorophenol	120-83-2	180	NA	0.2	180
1,2-Dichloropropane	78-87-5	9	2	0.005	2
1,3-Dichloropropene (cis and trans)	542-75-6	6	2	0.005	2
Dieldrin	60-57-1	0.04	1	0.003	0.04
Diethyl phthalate	84-66-2	49,000	NA	0.2	49,000
2,4-Dimethyl phenol	105-67-9	1,200	NA	0.2	1,200
Di-n-butyl phthalate	84-74-2	6,100	NA	0.2	6,100
4,6-Dinitro-2-methylphenol (4,6-Dinitro-o-cresol)	534-52-1	6	730,000	0.3	6
2,4-Dinitrophenol	51-28-5	120	NA	0.3	120
2,4-Dinitrotoluene	121-14-2	0.7	6	0.2	0.7
2,6-Dinitrotoluene	606-20-2	0.7	2	0.2	0.7
2,4-Dinitrotoluene/2,6-Dinitrotoluene (mixture)	25321-14-6	0.7	NA	0.2	0.7
Di-n-octyl phthalate	117-84-0	2,400	NA	0.2	2,400
1,2-Diphenylhydrazine	122-66-7	0.6	5	0.7	0.7

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Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Endosulfan I and Endosulfan II (alpha and beta)	115-29-7	470	NA	0.003	470
Endosulfan sulfate	1031-07-8	470	NA	0.003	470
Endrin	72-20-8	23	NA	0.003	23
Ethyl benzene	100-41-4	7,800	NA	0.005	7,800
Fluoranthene	206-44-0	2,300	NA	0.2	2,300
Fluorene	86-73-7	2,300	NA	0.2	2,300
alpha-HCH (alpha-BHC)	319-84-6	0.1	0.7	0.002	0.1
beta-HCH (beta-BHC)	319-85-7	0.4	8,000	0.002	0.4
Heptachlor	76-44-8	0.1	6	0.002	0.1
Heptachlor epoxide	1024-57-3	0.07	5	0.002	0.07
Hexachlorobenzene	118-74-1	0.3	1	0.2	0.3
Hexachloro-1,3-butadiene	87-68-3	6	12	0.2	6
Hexachlorocyclopentadiene	77-47-4	370	45	0.2	45
Hexachloroethane	67-72-1	35	83	0.2	35
Indeno(1,2,3-cd)pyrene	193-39-5	0.6	38,000	0.2	0.6
Isophorone	78-59-1	510	NA	0.2	510
Lead	7439-92-1	400	44,000	1	400
Lindane (gamma-HCH) (gamma-BHC)	58-89-9	0.4	3	0.002	0.4
Manganese	7439-96-5	11,000	91,000	2	11,000
Mercury	7439-97-6	23	27	0.1	23
Methoxychlor	72-43-5	390	NA	0.02	390
Methyl acetate	79-20-9	78,000	NA	0.005	78,000
Methylene chloride (Dichloromethane)	75-09-2	46	34	0.005	34
2-Methylnaphthalene	91-57-6	230	NA	0.17	230
2-Methylphenol (o-Creosol)	95-48-7	310	NA	0.2	310
4-Methylphenol (p-Creosol)	106-44-5	31	NA	0.2	31
Methyl tert-butyl ether (MTBE)	1634-04-4	780	110	0.005	110
Naphthalene	91-20-3	2,400	6	0.2	6
Nickel (Soluble salts)	7440-02-0	1,600	360,000	4	1,600
2-Nitroaniline	88-74-4	NA	39	0.3	39
Nitrobenzene	98-95-3	31	160	0.2	31
N-Nitrosodimethylamine	62-75-9	0.01	0.02	0.7	0.7
N-Nitrosodi-n-propylamine	621-64-7	0.07	0.2	0.2	0.2
N-Nitrosodiphenylamine	86-30-6	99	NA	0.2	99
Pentachlorophenol	87-86-5	3	590	0.3	3
Phenanthrene	85-01-8	NA	NA	0.2	NA
Phenol	108-95-2	18,000	NA	0.2	18,000
Polychlorinated biphenyls (PCBs)	1336-36-3	0.2	20	0.03	0.2
Pyrene	129-00-0	1,700	NA	0.2	1,700
Selenium	7782-49-2	390	NA	4	390
Silver	7440-22-4	390	NA	1	390

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Contaminant	CAS No.	Ingestion-Dermal Health Based Criterion	Inhalation Health Based Criterion	Soil PQL	Residential Direct Contact Soil Remediation Standard
Styrene	100-42-5	16,000	90	0.005	90
Tertiary butyl alcohol (TBA)	75-65-0	1,400	4,800	0.1	1,400
1,1,2,2-Tetrachloroethane	79-34-5	10	1	0.005	1
Tetrachloroethene (PCE) (Tetrachloroethylene)	127-18-4	8	2	0.005	2
Thallium	7440-28-0	5	360,000	3	5
Toluene	108-88-3	6,300	NA	0.005	6,300
Toxaphene	8001-35-2	0.6	70	0.2	0.6
1,2,4-Trichlorobenzene	120-82-1	73	NA	0.005	73
1,1,1-Trichloroethane	71-55-6	290	NA	0.005	290
1,1,2-Trichloroethane	79-00-5	31	2	0.005	2
Trichloroethene (TCE) (Trichloroethylene)	79-01-6	21	7	0.005	7
Trichlorofluoromethane	75-69-4	23,000	NA	0.005	23,000
2,4,5-Trichlorophenol	95-95-4	6,100	NA	0.2	6,100
2,4,6-Trichlorophenol	88-06-2	19	340	0.2	19
Vanadium	7440-62-2	78	NA	5	78
Vinyl chloride	75-01-4	2	0.7	0.005	0.7
Xylenes	1330-20-7	12,000	NA	0.005	12,000
Zinc	7440-66-6	23,000	NA	6	23,000

NA = Standard not available

* The direct contact standard for arsenic is based on natural background

CHROMIUM SOIL CLEANUP CRITERIA

September 2008 Revised April 2010[1]

The Department did not develop soil remediation standards for trivalent or hexavalent chromium as part of its Remediation Standards rules at N.J.A.C. 7:26D. The Department was awaiting the release of the final report from the National Toxicology Program (NTP) study evaluating hexavalent chromium as an oral carcinogen prior to proposing soil remediation standards. The NTP report was released in August 2008. The Department is reviewing the report and will make a determination regarding the adoption of remediation standards for chromium. Until such time, the Department will continue to use the following soil cleanup criteria for trivalent and hexavalent chromium as guidance.

Soil Cleanup Criteria for Chromium

Residential (mg/kg)						
Contaminant	**CAS No.**	**Ingestion-Dermal**	**Inhalation**	**Allergic Contact Dermatitis (ACD)**	**Soil PQL**	**Residential Criterion**
Trivalent Chromium	16065-83-1	120,000	NA	NA	2	120,000
Hexavalent Chromium	18540-29-9	240	270	Site-specific determination	2	240 or ACD value whichever is lower

Non-Residential (mg/kg)						
Contaminant	**CAS No.**	**Ingestion-Dermal**	**Inhalation**	**Allergic Contact Dermatitis**	**Soil PQL**	**Non-Residential Criterion**
Trivalent Chromium	16065-83-1	NA	NA	NA	2	Not Regulated
Hexavalent Chromium	18540-29-9	6,100	20	Site-specific determination	2	20

NA = Standard not available

[1] This revision corrects the CAS numbers that were mistakenly used for trivalent and hexavalent chromium in the September 2008 version. The CAS numbers were inadvertently switched.

Impact to ground water soil remediation standards must be developed on a site-specific basis for chromium. For Class II ground water, the ground water quality standard is 70 ug/l measured as total chromium but assuming that it is all in the form of hexavalent chromium.

In addition to the cleanup criteria listed above, all remedial actions at sites that have hexavalent chromium must comply with Commissioner Jackson's memorandum dated February 8, 2007. A copy of this memorandum can be found on the Department web site at http://www.state.nj.us/dep/dsr/chromium/crmorlift200702.pdf

More information about the Department chromium work group and chromium research efforts are available on the NJDEP web site at http://www.state.nj.us/dep/dsr/chromium .

5 - Gradation Curves for Roadway Stone, Sand, Filter Material, and Armor Stone (Mount Hope Quarry)

TILCON-NY Mt. Hope Quarry

Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

Stone for Roadways (staging areas)

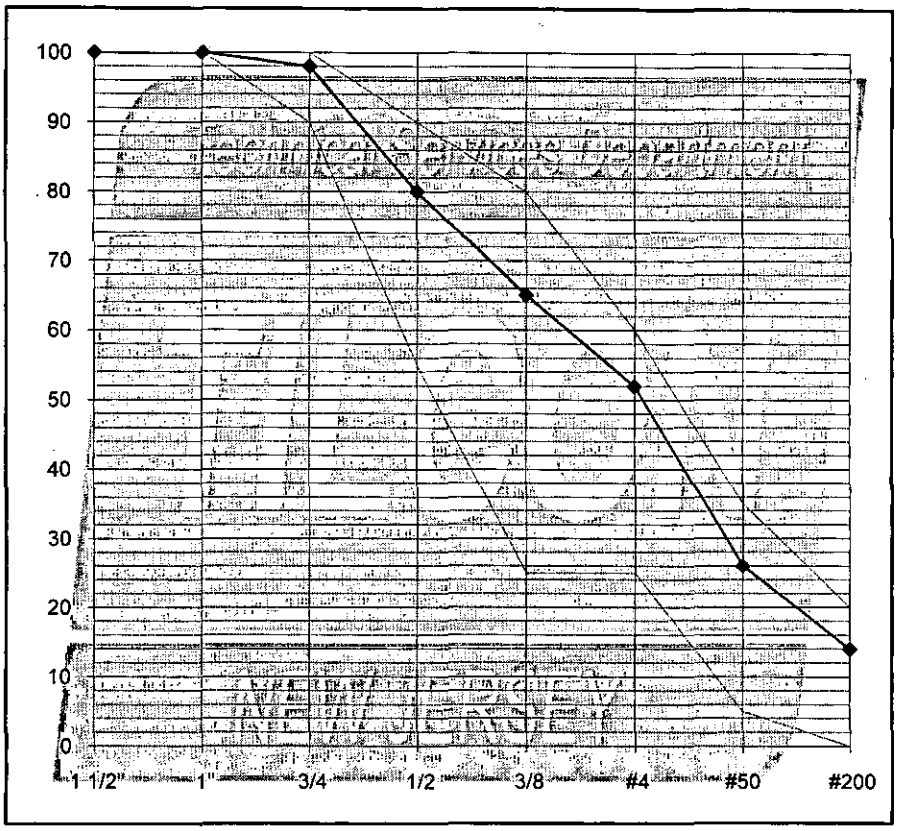
Typical Gradation,Fine QP (3/4")

Project
SA-7 Sediment Remediation Jersey City, Kellog Street

Contractor
Sevenson Enviromental

Sp. Gr	**2.66**
Loose	**98**
Rodded	**110**

	Typical	Prod. Target	
1 1/2"	**100**	100	100
1"	**100**	100	100
3/4	**98**	90	100
1/2	**80**	55	90
3/8	**65**	25	80
#4	**52**	25	60
#50	**26**	5	35
#200	**14**		20



Tilcon Inc confirms that Fine QP (3/4") available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

TILCON
an Oldcastle company

Proposed 0.75" Armor Stone

Product Quality Summary Report

Period 01/01/2011 - 12/31/2011

Plant **06000418-Mt. Hope Quarry**

	Product	ASTM #5	005 Grits
	Specification	ASTM 5	Grits
1 1/2" (37.5mm)		100.0	
1" (25mm)		93.5	
3/4" (19mm)		47.7	
1/2" (12.5mm)		5.6	
3/8" (9.5mm)		2.9	100
#4 (4.75mm)			100
#8 (2.36mm)			75
#16 (1.18mm)			42
#30 (0.6mm)			24
Pan		0.00	0.0

Sand Layer

TILCON
an Oldcastle company

1.0" Armor Stone

Product Quality Summary Report

Period 01/01/2012 - 05/11/2012
Plant **06000418-Mt. Hope Quarry**

	Product	1 1/2" ASTM 4	1015002 washed 3/4"
	Specification	ASTM 4	ASTM 57
2" (50mm)		100	
1 1/2" (37.5mm)		100	
1" (25mm)		39	99.8
3/4" (19mm)		4	92.4
1/2" (12.5mm)		1	30.9
3/8" (9.5mm)		1	5.7
#4 (4.75mm)			1.1
#8 (2.36mm)			0.6
Pan		0.0	0.00

Filter Layer

TILCON-NY Mt. Hope Quarry

Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

1.5", 1.6", and 2.0" Armor Stone

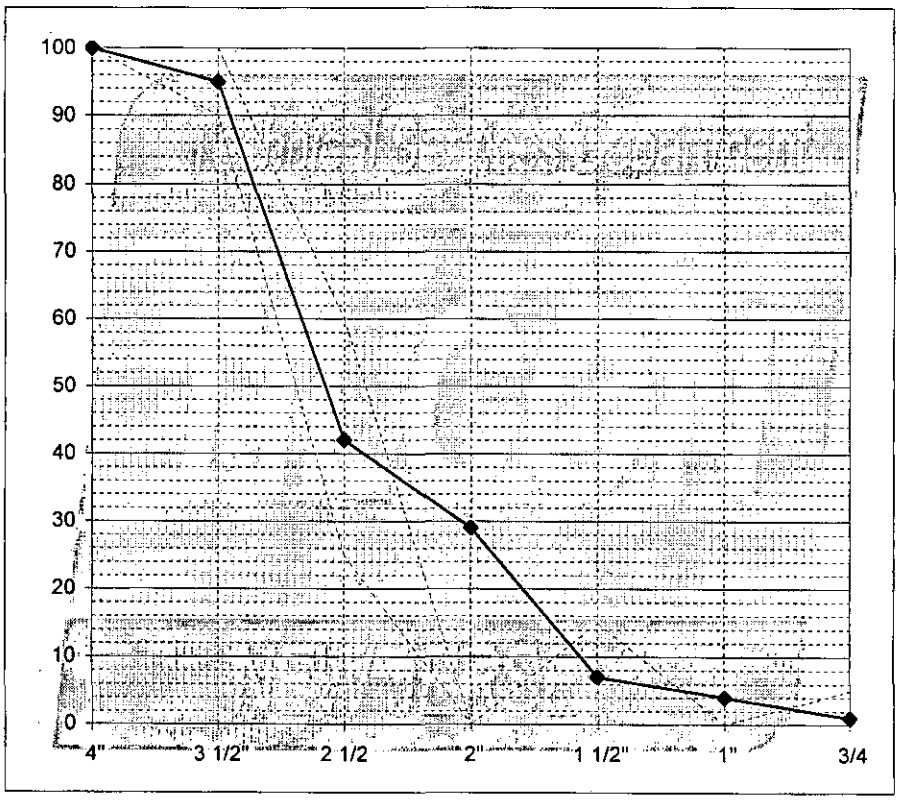
Typical Gradation,#1 (3 1/2" Clean)

Project
SA7 Project Jersey City

Contractor
Sevenson Environmental

Sp. Gr	**2.68**
Loose	**75**
Rodded	**90**

	Typical	Prod. Target	
4"	**100**	100	100
3 1/2"	**95**	90	100
2 1/2	**42**	25	60
2"	**29**		
1 1/2"	**7**		15
1"	**4**		
3/4	**1**		5



Tilcon Inc confirms that #1 (3 1/2" Clean) available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

TILCON NY - Mt. Hope Facility

Mt Hope Surge (12" - 1/2") - Light Stone Filling
Sevenson Environmental - SA7 Project, Jersey City

Tilcon-NJ confirms that the Surge available at Mt. Hope Quarry Conforms to the quality requirements of section 901 of ***The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction.*** It is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mt. Hope Rd. Blk 20001-Lot 6.01Wharton Boro, Morris County NJ. The material is identified on the job with Tilcon NJ delivery tickets.
This Rip Rap has the following properties:

Sodium Sulfate Soundness	(ASTM C88)	**2.0% Loss**
Water Absorption	(ASTM C97)	**0.50%**
LA Abrasion	(ASTM-C535)	**13.65% Loss**
Bulk Specific Gravity	(ASTM-C97)	**2.72**
Freeze-Thaw Test	(ASTM-T103)	**2.4% Loss**

And the following Gradation

D_{100}	12"
D_{60}	6"
D_{10}	1/2"

If you have anyquestions or concerns, please call.

(973)-366-3740
Central Materials Lab
Tilcon, NJ

TILCON NY - Mt. Hope Facility

Mt Hope Hammer Rock (20" - 6") - Medium Stone Filling
Sevenson Environmental - SA7 Project, Jersey City

Tilcon-NJ confirms that the Hammer Rock available at Mt. Hope Quarry Conforms to the quality requirements of section 901 of ***The New Jersey Department of Transportation Standard Specifications for Road and Bridge Construction.*** It is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mt. Hope Rd. Blk 20001-Lot 6.01Wharton Boro, Morris County NJ. The material is identified on the job with Tilcon NJ delivery tickets.
This Rip Rap has the following properties:

Sodium Sulfate Soundness	(ASTM C88)	**2.0% Loss**
Water Absorption	(ASTM C97)	**0.50%**
LA Abrasion	(ASTM-C535)	**13.65% Loss**
Bulk Specific Gravity	(ASTM-C97)	**2.72**
Freeze-Thaw Test	(ASTM-T103)	**2.4% Loss**

And the following Gradation

D_{100}	20"
D_{50}	12"
D_{10}	6"

If you have anyquestions or concerns, please call.

(973)-366-3740
Central Materials Lab
Tilcon, NJ

TILCON-NY Mt. Hope Quarry

Fax 973-659-3978

625 Mount Hope Rd. • Wharton, N.J. 07946 • 973-366-7741

3.5 Inch Stone

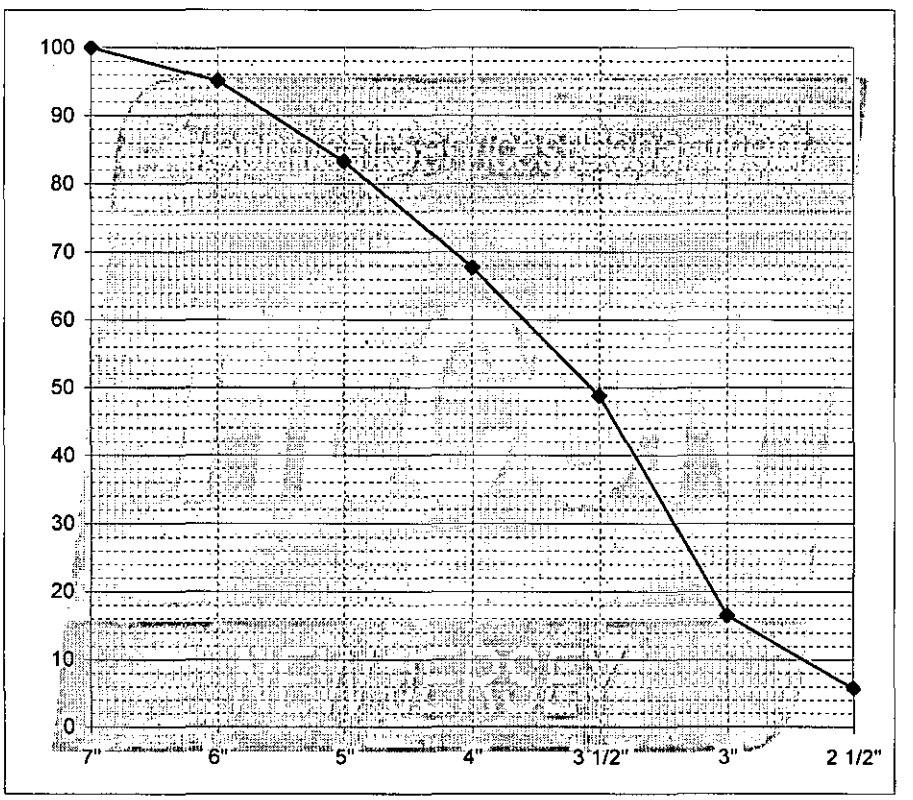
Typical Gradation,Re-Crush - 4's & 5's

Project
SA 7 Project Jersey City, NJ 07302

Contractor
Sevenson Environmental

Sp. Gr	2.68
Loose	
Rodded	

	Typical	Prod. Target	
7"	100		
6"	95.1		
5"	83.3		
4"	67.7		
3 1/2"	48.8		
3"	16.5		
2 1/2"	5.8		



Tilcon Inc confirms that Re-Crush - 4's & 5's available at Mt. Hope Quarry conforms to section 901 of the ***New Jersey Department of Transportation StandardSpecifications for Road and Bridge Construction.*** The material is defined as virgin Gneiss mined at Mt. Hope Quarry, 625 Mount Hope Road, Block 20001-Lot 6.01 Wharton Borough, Morris County NJ. The material is identified on the job with Tilcon delivery tickets.

The unit weights and voids are for process control and should be verified by the contractor before use.

APPENDIX M

COMPACTION TESTS

ATTACHMENT D-2

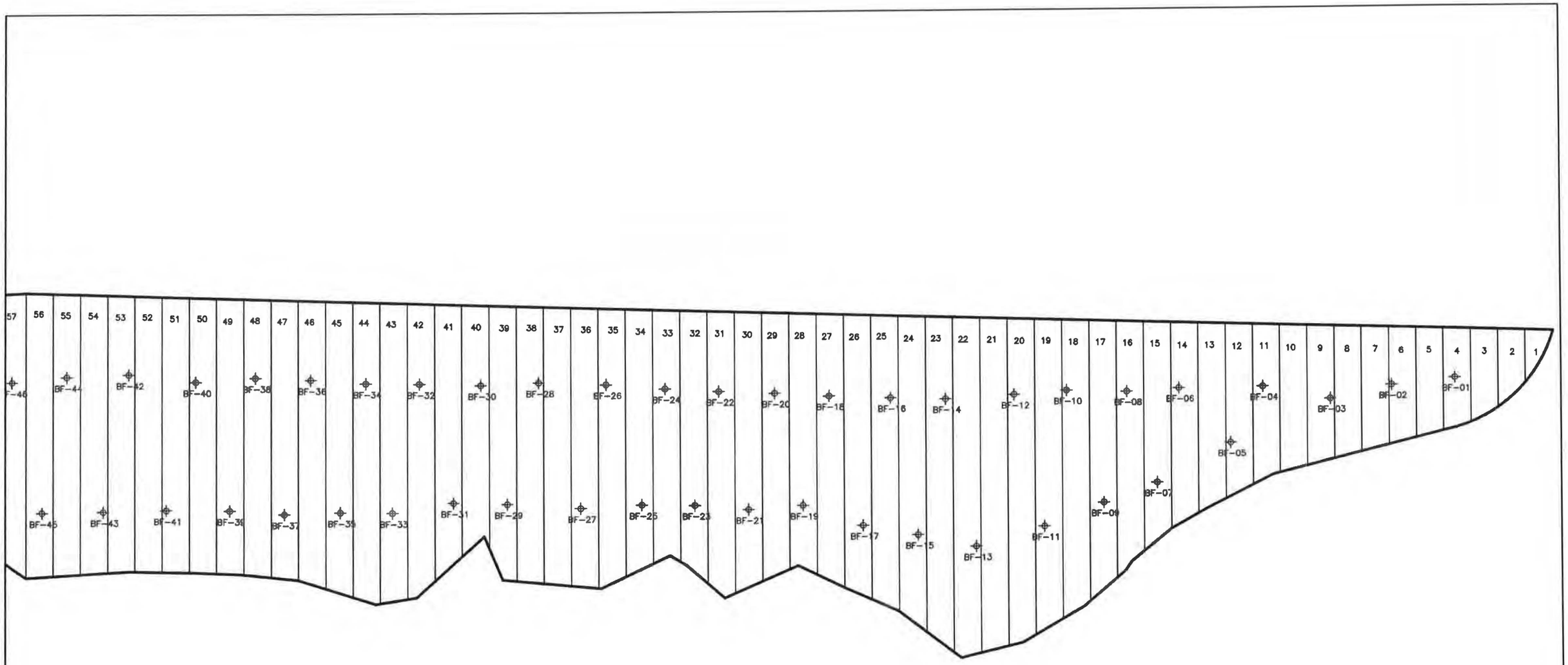
Figure Backfill Compaction Locations BF-01 to B-45

Figure Backfill Compaction Locations BF-46 to BF-94

Figure Backfill Compaction Locations BF-95 to BF-136

Figure Backfill Compaction Locations RF-01 to RF-21

Figure Backfill Compaction Locations RF 22 to RF-39



NOTE:

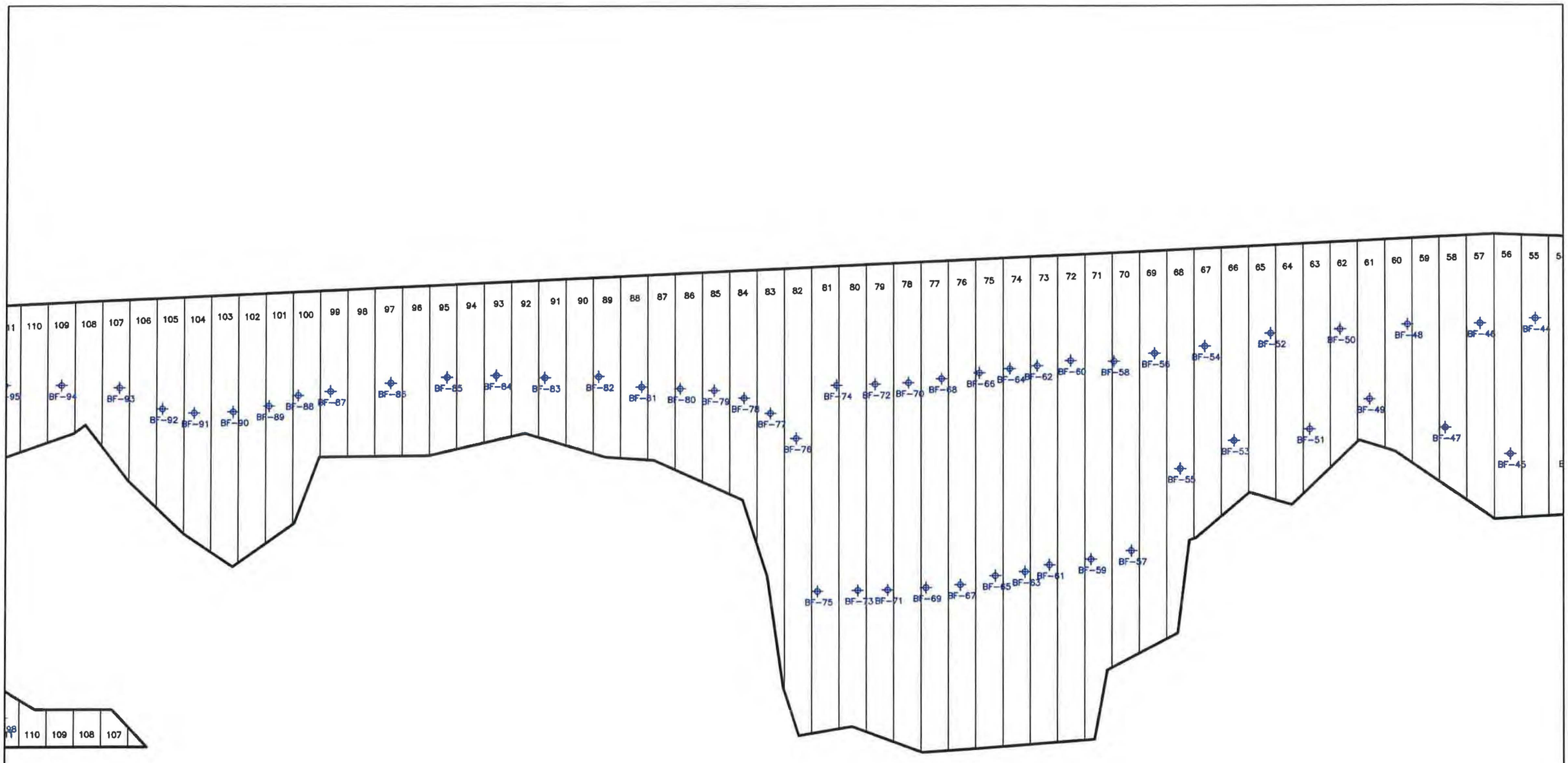
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JN 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-01 TO BF-45

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

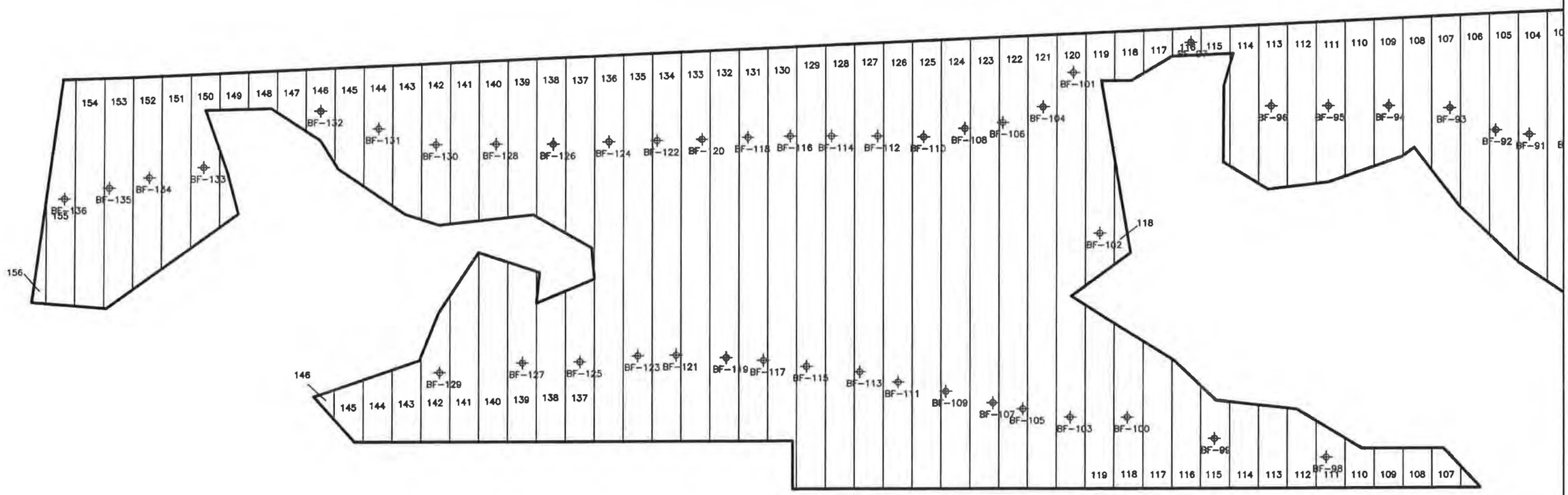
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-46 TO BF-94

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

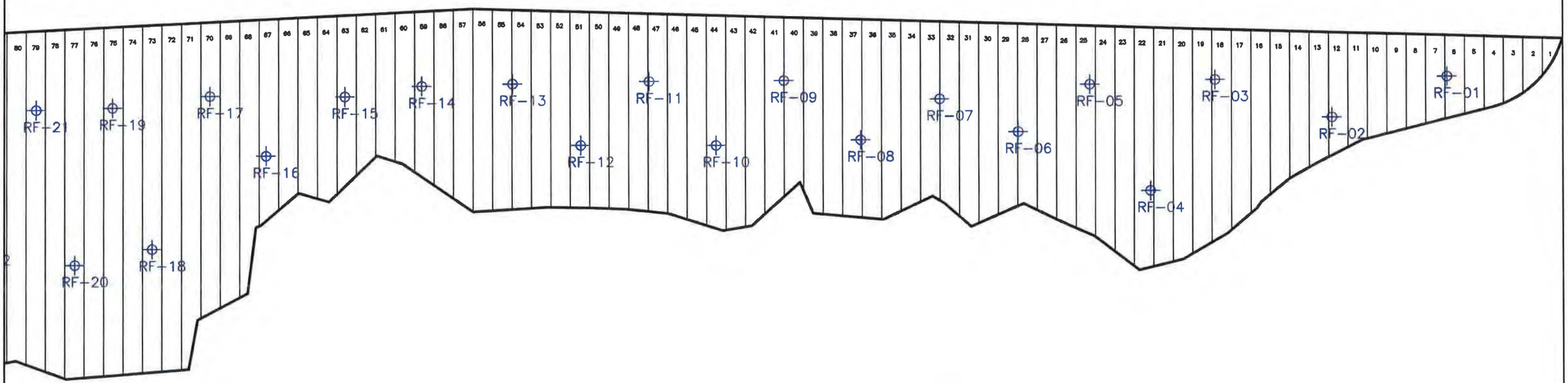
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

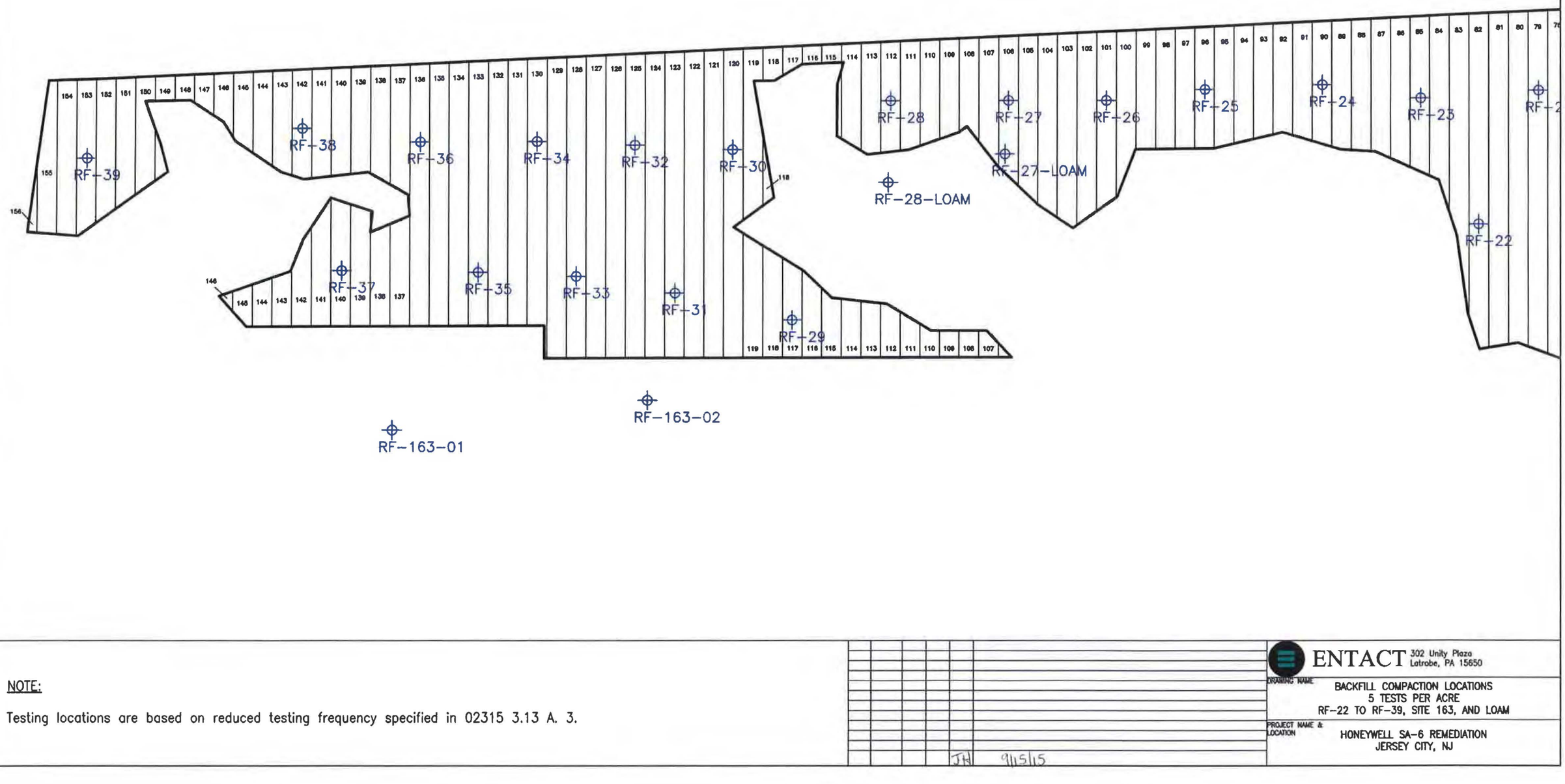
Testing locations are based on reduced testing frequency specified in 02315 3.13 A. 3.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-01 TO RF-21

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 02315 3.13 A. 3.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, SITE 163, AND LOAM

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-3

Field Density Test Summary Log Table (Pages 1 to 7)

Field Density Test Summary Log Table (Pages 1 to 4)

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01*	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02*	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Brid	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again
= Area subject to re-compaction

* *Initial field testing indicated compaction of greater then 95% (see attached Sor Testing Lab (STL) memo). Laboratory results for initially provided Weldon WC QP sample indicated a maximum dry density of 136.7 pcf. Using this density the compaction results are greater than the 95%. Laboratory tests on later deliveries indicated density results of 142.6 pcf. This range is typical of what can be expected for this type of source. The Engineer of Record (EOR) directed that the results be reported using the higher more conservative value and that the STL field test report verifying the higher passing results be attached to the final documentation. It is further noted that the Design Documents do not designate this area for compaction as Structural Fill per Specification Section 02315 Section 3.12, Structural Fill 95%; Non Structural Fill 90% Standard Proctor. The 95% value noted in this Table was implemented to provide for uniform compaction in areas slated for future development. It is the EOR's opinion that these two samples meet the 100% Design and project requirements.*

SOR TESTING LABORATORIES, INC.

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Orhun Sor, P.E.
Yilmaz Arhan, Ph.D.
Kenneth Rowbotham, P.E.
Atilla Sencar, P.E.

This report is the confidential property of the Client, and information
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Client:	Entact Environmental Services		
Project:	Honeywell SA-6, Jersey City NJ		
Subject:	In-Place Density Tests		
Job No.:	13-208	Report No.: 13-1994	Date: 12/3/13

At the request of the client, on November 22, 2013 a field technician from Sor Testing Laboratories, Inc. reported to the project site for the purpose of performing in-place density tests over previously compacted lifts of materials at locations indicated by the client's representative.

Using a nuclear density gauge, our technician performed two density tests at locations 01BF-2 and 02BF-2 per the client's instructions. The proctor value of 136.7 pcf at our optimum moisture content of 8.1% was also provided by the client.

Test results were 97.5% and 95.7% compaction.

Technician: J.C. Jean-Toussaint

Very truly yours,

SOR TESTING LABORATORIES, INC.

Atilla Sencar, P.E.
Senior Engineer

AS/jh
Attachment

cc: (1) Client, Attn: Craig Cymbor (Email: ccymbor@entact.com)
(1) Client, Attn: Caroline Panico (Email: cpanico@entact.com)
(1) Client, Attn: Andrew Rizzuto (Email: arizzuto@entact.com)

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Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Mickus, P.E.

NUCLEAR DENSITY TEST DATA

Client: Entact Date: 11-22-2013
Project: HoneyWell SA-6 Job No.: 13-208 Report No. 13-1994
Daily Standard Count: _____ Density: 1975 Moisture 627

TEST NUMBER	1	X	2	X			
Station							
Offset							
Elevation	01BF-2		02BF-2				
Mode & Depth (inches)	NORMAL/+10"		NORMAL +10"				
Density Count	N/A		N/A				
Wet Density (P.C.F.)	137.8		134.6				
Moisture Count	N/A		N/A				
Dry Density (P.C.F.)	133.3		130.8				
Moisture (P.C.F.)	4.5		3.6				
Moisture (%)	3.4		2.8				
Proctor Density (P.C.F.)	136.7		136.7				
Optimum Moisture (%)							
% Compaction	97.5		95.7				
Moisture Correction							

REMARKS:

Jean C. Jean Mouaint
INSPECTOR

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes: Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again
= Area subject to re-compaction

TRANSMITTAL FOR ACCEPTANCE OF REMEDIAL ACTION SUBMITTALS

Date:	Project Name and Contract No.	Location:	**Transmittal No.**
6/17/16	Honeywell SA6 North and South ENTACT Job #8140C	Jersey City, NJ	**154**

To:	**From:**
AMEC 60 Kellogg Street Jersey City, NJ 07305 Attn: Eric Christodoulatos	ENTACT 302 Unity Plaza Latrobe, PA 15650 Preparer: Caroline Panico

No. Copies	Item No.	Description (Name, Type, Size, Capacity Use)	Spec. Sect. No.	Manufacturer/ Designer	**For AMEC's use** Action Code	Review
1		SA6 South Cap Compaction Testing	02315-3.13.A			
	1	Field Density Test Summary Log				
	2	Test Location Drawings • GDL Cover Soil • Horizon C • Structural Fill				

Special Instructions by Contractor/Vendor

AMEC's Comments

Checked by Contractor for Project Conformance:
Signed:/Title:
Caroline Panico
Quality Control Manager

Acceptance Action Code:

1. No exceptions taken
2. Make corrections noted
3. Amend and resubmit
4. Rejected - see remarks

■ Installation shall proceed only when acceptance code is #1 or #2.
■ Acceptance does not relieve Contractor from responsibility of compliance with all requirements of the Subcontract documents.
■ Acceptance coded 3 or 4 shall be resubmitted unless otherwise indicated.

Date Returned_____

by_____
AMEC

IN-HOUSE SHOP DRAWING AND VENDOR DRAWING REVIEW

Seq.	Role	Individual	Initial	Date	Comments
					Review Period _____ days

1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-03-1	10/20/2015	685534.39	601506.6	17.45	114.3	3.3	117	8.6	97.7	90	10	GDL Cover Soil		V5N
1	CS-04-1	10/20/2015	685573.6	601571	18.25	118	4.1	117	8.6	100.9	90	10	GDL Cover Soil		V5N
1	CS-05-1	10/20/2015	685530.6	601543.8	17.84	116.6	6.4	117	8.6	99.7	90	1	GDL Cover Soil		V5N
1	CS-06-1	10/20/2015	685488.8	601532.7	14.72	118.6	7.1	117	8.6	101.4	90	1	GDL Cover Soil		V5N
1	CS-07-1	10/20/2015	685512.5	601575.8	17.71	115	5.9	117	8.6	98.3	90	1	GDL Cover Soil		V5N
1	CS-08-1	10/20/2015	685536.3	601610.7	17.61	117.3	5.4	117	8.6	100.3	90	1	GDL Cover Soil		V5N
1	CS-09-1	10/20/2015	685492.5	601601.9	16.43	122.4	3.7	117	8.6	104.6	90	1	GDL Cover Soil		V5N
1	CS-10-1	10/20/2015	685448.8	601585.8	14.79	114.5	5.6	117	8.6	97.9	90	1	GDL Cover Soil		V5N
1	CS-11-1	10/20/2015	685477.6	601634.6	17.08	122.2	5.8	117	8.6	104.4	90	1	GDL Cover Soil		V5N
1	CS-12-1	10/20/2015	685503.5	601668.8	17.32	115.3	5.9	117	8.6	98.5	90	1	GDL Cover Soil		V5N
1	CS-13-1	10/20/2015	685462.1	601659.8	16.59	115.5	4.5	117	8.6	98.7	90	1	GDL Cover Soil		V5N
1	CS-14-1	10/20/2015	685423.8	601646.8	14.54	117.9	3.2	117	8.6	100.8	90	1	GDL Cover Soil		V5N
1	CS-15-1	10/20/2015	685444.3	601687.7	14.73	114.8	5	117	8.6	98.1	90	1	GDL Cover Soil		V5N
1	CS-16-1	10/20/2015	685460.2	601724.9	16.34	115.8	4	117	8.6	99.0	90	1	GDL Cover Soil		V5N
1	CS-17-1	10/20/2015	685433.8	601722.1	14.62	113.7	7.3	117	8.6	97.2	90	1	GDL Cover Soil		V5N
1	CS-18-1	10/20/2015	685394.4	601715.0	17.21	118.9	3.4	117	8.6	101.6	90	1	GDL Cover Soil		V5N
1	CS-129-1	11/4/2015	684281.4	603180.2	8.75	120.2	8.0	117	8.6	102.7	90	2	GDL Cover Soil		V5N
1	CS-130-1	11/4/2015	684216.2	603153.2	8.83	113.6	6.7	117	8.6	97.1	90	2	GDL Cover Soil		V5N
1	CS-131-1	11/4/2015	684261.4	603206.7	8.42	114.1	10.9	117	8.6	97.5	90	2	GDL Cover Soil		V5N
1	CS-132-1	11/4/2015	684292.4	603250.5	9.53	118.3	6.2	117	8.6	101.1	90	2	GDL Cover Soil		V5N
1	CS-133-1	11/4/2015	684236.5	603231.2	8.64	111.6	8.1	117	8.6	95.4	90	2	GDL Cover Soil		V5N
1	CS-134-1	11/4/2015	684175.3	603214.9	8.57	122.5	7.7	117	8.6	104.7	90	2	GDL Cover Soil		V5N
1	CS-135-1	11/4/2015	684215.0	603254.8	8.32	118.4	6.6	117	8.6	101.2	90	2	GDL Cover Soil		V5N
1	CS-136-1	11/4/2015	684251.9	603305.8	8.40	115.1	8.8	117	8.6	98.4	90	2	GDL Cover Soil		V5N
1	CS-137-1	11/4/2015	684189.5	603274.7	7.64	116.9	9.3	117	8.6	99.9	90	2	GDL Cover Soil		V5N
1	CS-138-1	11/4/2015	684143.3	603253.5	7.36	117.9	10.5	117	8.6	100.8	90	2	GDL Cover Soil		V5N
1	CS-125-1	11/6/2015	684314.5	603125.9	7.68	111.2	8.2	117	8.6	95.0	90	3	GDL Cover Soil		V5N
1	CS-126-1	11/6/2015	684270.3	603123.5	7.05	120.0	9.7	117	8.6	102.6	90	3	GDL Cover Soil		V5N
1	CS-127-1	11/6/2015	684305.4	603158.0	7.55	115.7	7.6	117	8.6	98.9	90	3	GDL Cover Soil		V5N
1	CS-128-1	11/6/2015	684334.4	603202.5	7.75	117.7	7.4	117	8.6	100.6	90	2	GDL Cover Soil		V5N
1	SF-17-1	11/6/2015	684184.8	603260.8	8.67	126.8	5.4	133	8.6	95.3	95	2	Structural Fill -Liberty	East Side	V5N
1	SF-18-1	11/6/2015	684230.8	603283.7	9.16	127.2	5.9	133	8.6	95.6	95	2	Structural Fill -Liberty	East Side	V5N
1	CS-117-1	11/10/2015	684405.2	603020.3	11.64	111.0	5.2	117	8.6	94.9	90	4	GDL Cover Soil		V5N
1	CS-118-1	11/10/2015	684350.5	603002.3	9.66	115.2	7.3	117	8.6	98.5	90	4	GDL Cover Soil		V5N
1	CS-119-1	11/10/2015	684384.6	603051.2	10.55	116.0	6.3	117	8.6	99.1	90	4	GDL Cover Soil		V5N
1	CS-120-1	11/10/2015	684422.3	603088.8	11.72	115.7	6.6	117	8.6	98.9	90	4	GDL Cover Soil		V5N
1	CS-122-1	11/10/2015	684307.2	603059.7	8.50	116.8	7.5	117	8.6	99.8	90	3	GDL Cover Soil		V5N
1	CS-110-1	11/11/2015	684445.1	602994.4	13.50	115.5	9.7	117	8.6	98.7	90	5	GDL Cover Soil		V5N
1	CS-111-1	11/11/2015	684477.2	602955.6	15.83	125.3	9.0	117	8.6	107.1	90	4	GDL Cover Soil		V5N
1	CS-112-1	11/11/2015	684507.0	602999.4	16.21	122.7	9.0	117	8.6	104.9	90	4	GDL Cover Soil		V5N
1	CS-113-1	11/11/2015	684455.2	602974.1	14.56	118.0	9.0	117	8.6	100.9	90	4	GDL Cover Soil		V5N
1	CS-114-1	11/11/2015	684396.7	602954.9	12.21	120.6	10.0	117	8.6	103.1	90	4	GDL Cover Soil		V5N
1	CS-115-1	11/11/2015	684426.7	603002.4	12.86	118.5	8.4	117	8.6	101.3	90	4	GDL Cover Soil		V5N
1	CS-116-1	11/11/2015	684459.1	603046.2	13.60	122.3	8.1	117	8.6	104.5	90	4	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-121-1	11/11/2015	684364.2	603084.9	9.73	121.3	9.3	117	8.6	103.7	90	4	GDL Cover Soil		V5N
1	CS-123-1	11/11/2015	684344.5	603105.3	9.51	119.7	10.3	117	8.6	102.3	90	3	GDL Cover Soil		V5N
1	CS-124-1	11/11/2015	684370.5	603148.7	9.80	116.4	11.3	117	8.6	99.5	90	3	GDL Cover Soil		V5N
1	SF-15-1	11/11/2015	684280.3	603136.7	7.80	131.4	7.0	133	8.6	98.8	95	3	Structural Fill -Liberty		V5N
2	SF-15-2	11/11/2015	684279.3	603138.5	9.15	129.9	6.8	133	8.6	97.7	95	3	Structural Fill -Liberty		V5N
3	SF-15-3	11/11/2015	684271.2	603129.6	9.64	132.5	3.3	133	8.6	99.6	95	3	Structural Fill -Liberty		V5N
1	SF-16-1	11/11/2015	684316.8	603171.2	8.29	133.6	6.8	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
2	SF-16-2	11/11/2015	684319.3	603178.5	9.48	133.6	5.4	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
3	SF-16-3	11/11/2015	684314.6	603172.8	10.70	135.6	5.0	133	8.6	102.0	95	3	Structural Fill -Liberty		V5N
2	SF-17-2	11/11/2015	684184.9	603258.9	9.56	126.4	6.7	133	8.6	95.0	95	2	Structural Fill -Liberty	East Side	V5N
2	SF-18-2	11/11/2015	684234.3	603282.9	9.71	133.9	6.3	133	8.6	100.7	95	2	Structural Fill -Liberty	East Side	V5N
1	HC-10-1	11/13/2015	685444.5	601588.5	15.22	114.6	9.5	126	9.5	91.0	90	1	Horizon C	Back Scatter	V5N
1	HC-11-1	11/13/2015	685477.6	601635.1	17.64	122.2	9.7	126	9.5	97.0	90	1	Horizon C	Back Scatter	V5N
1	HC-128-1	11/13/2015	684307.4	603209.5	9.94	114.5	10.8	126	9.5	90.9	90	2	Horizon C	Back Scatter	V5N
1	HC-129-1	11/13/2015	684280.0	603181.7	9.33	110.0	10.2	126	9.5	87.3	90	2	Horizon C	Back Scatter	V5N
1	HC-13-1	11/13/2015	685461.4	601657.1	17.20	122.5	9.3	126	9.5	97.2	90	1	Horizon C	Back Scatter	V5N
1	HC-131-1	11/13/2015	684261.3	603208.3	8.99	119.8	10.7	126	9.5	95.1	90	2	Horizon C	Back Scatter	V5N
1	HC-130-1	11/13/2015	684238.9	603170.2	9.33	121.4	10.6	126	9.5	96.3	90	2	Horizon C	Back Scatter	V5N
1	HC-132-1	11/13/2015	684294.6	603252.5	10.11	114.6	13.1	126	9.5	91.0	90	2	Horizon C	Back Scatter	V5N
1	HC-133-1	11/13/2015	684236.1	603230.2	9.14	124.7	11.3	126	9.5	99.0	90	2	Horizon C	Back Scatter	V5N
1	HC-134-1	11/13/2015	684173.7	603204.1	9.17	120.2	11	126	9.5	95.4	90	2	Horizon C	Back Scatter	V5N
1	HC-135-1	11/13/2015	684223.3	603252.6	8.92	120	11.5	126	9.5	95.2	90	2	Horizon C	Back Scatter	V5N
1	HC-136-1	11/13/2015	684264.7	603275	9.06	128.5	10.45	126	9.5	102.0	90	2	Horizon C	Back Scatter	V5N
1	HC-137-1	11/13/2015	684206.1	603237.7	9.16	118.4	10.5	126	9.5	94.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1	11/13/2015	684160.6	603231.8	7.70	110.2	12.4	126	9.5	87.5	90	2	Horizon C	Back Scatter	V5N
1	HC-14-1	11/13/2015	685422.6	601647.6	15.13	117.4	9.9	126	9.5	93.2	90	1	Horizon C	Back Scatter	V5N
1	HC-15-1	11/13/2015	684443.2	601689.6	15.42	117.3	9.9	126	9.5	93.1	90	1	Horizon C	Back Scatter	V5N
1	CS-106-1	11/17/2015	684477.6	602852.8	7.70	117.5	8.0	117	8.6	100.4	90	5	GDL Cover Soil		V5N
1	CS-107-1	11/17/2015	684525.2	602897.0	7.36	108.0	4.3	117	8.6	92.3	90	5	GDL Cover Soil		V5N
1	CS-108-1	11/17/2015	684553.4	602948.7	15.71	123.4	7.5	117	8.6	105.5	90	5	GDL Cover Soil		V5N
1	CS-109-1	11/17/2015	684499.0	602921.5	14.74	119.4	5.9	117	8.6	102.1	90	5	GDL Cover Soil		V5N
1	HC-118-1	11/17/2015	684353.8	603000.7	10.34	113.6	11.1	126	9.5	90.2	90	4	Horizon C	Back Scatter	V5N
1	HC-119-1	11/17/2015	684385.6	603051.8	11.10	120.1	12.4	126	9.5	95.3	90	4	Horizon C	Back Scatter	V5N
1	HC-120-1	11/17/2015	684417.3	603086.2	12.07	128.7	10.9	126	9.5	102.1	90	4	Horizon C	Back Scatter	V5N
1	HC-121-1	11/17/2015	684363.8	603008.5	10.29	116.5	8.3	126	9.5	92.5	90	4	Horizon C	Back Scatter	V5N
1	HC-122-1	11/17/2015	684319.6	603062.6	9.47	115.4	10.1	126	9.5	91.6	90	3	Horizon C	Back Scatter	V5N
1	HC-123-1	11/17/2015	684343.7	603110.5	10.08	122.0	12.0	126	9.5	96.8	90	3	Horizon C	Back Scatter	V5N
1	HC-124-1	11/17/2015	684373.8	603148.2	10.36	116.8	9.5	126	9.5	92.7	90	3	Horizon C	Back Scatter	V5N
1	HC-125-1	11/17/2015	684322.9	603123.8	9.85	113.4	11.3	126	9.5	90.0	90	3	Horizon C	Back Scatter	V5N
1	HC-126-1	11/17/2015	684294.5	603104.5	9.33	113.7	9.7	126	9.5	90.2	90	3	Horizon C	Back Scatter	V5N
1	HC-127-1	11/17/2015	684344.3	603150.7	10.16	118.9	11.6	126	9.5	94.4	90	3	Horizon C	Back Scatter	V5N
1	HC-129-1R	11/17/2015	684276.4	603183.7	9.24	113.4	9.2	126	9.5	90.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1R	11/17/2015	684162.8	603230.4	7.91	114.8	10.3	126	9.5	91.1	90	2	Horizon C	Back Scatter	V5N
1	HC-108-1	11/19/2015	684536.2	902967.2	18.62	113.4	10.0	126	9.5	90.0	90	5	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-109-1	11/19/2015	684492.9	602930.4	18.27	127.2	10.0	126	9.5	101.0	90	5	Horizon C	Back Scatter	V5N
1	HC-110-1	11/19/2015	684449.3	602900.5	14.40	115.7	10.0	126	9.5	91.8	90	5	Horizon C	Back Scatter	V5N
1	HC-111-1	11/19/2015	684475.6	602955.2	16.38	118.6	11.3	126	9.5	94.1	90	4	Horizon C	Back Scatter	V5N
1	HC-112-1	11/19/2015	684507.3	602998.5	16.87	119.2	9.9	126	9.5	94.6	90	4	Horizon C	Back Scatter	V5N
1	HC-113-1	11/19/2015	684452.2	602978.3	14.98	121.1	12.1	126	9.5	96.1	90	4	Horizon C	Back Scatter	V5N
1	HC-114-1	11/19/2015	684397.7	602956.1	12.85	121.5	10.7	126	9.5	96.4	90	4	Horizon C	Back Scatter	V5N
1	HC-115-1	11/19/2015	684428.1	603001.7	13.53	125.5	9.9	126	9.5	99.6	90	4	Horizon C	Back Scatter	V5N
1	HC-116-1	11/19/2015	684461.4	603048.2	14.24	115.4	9.9	126	9.5	91.6	90	4	Horizon C	Back Scatter	V5N
1	HC-117-1	11/19/2015	684402.1	603019.3	12.08	121.6	10.5	126	9.5	96.5	90	4	Horizon C	Back Scatter	V5N
1	SF-12-1	11/19/2015	684485.9	602888.7	15.10	129.8	3.5	133	8.6	97.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-13-1	11/19/2015	684515.4	602913.9	15.90	129.9	4.3	133	8.6	97.7	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-14-1	11/19/2015	684548.8	602937.5	16.40	125.4	3.5	133	8.6	94.3	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-14-1R	11/19/2015	684548.8	602937.5	16.40	127.3	3.5	133	8.6	95.7	95	5	Structural Fill -Liberty	Re-roll/re-test; D Street-shallow	V5N
1	SF-19-1	11/19/2015	684505.8	602882.5	8.54	129.3	3.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-19-2	11/19/2015	684507.6	602881.4	9.70	126.4	4.4	133	8.6	95.0	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-19-3	11/19/2015	684507.5	602880.7	10.66	131.5	3.7	133	8.6	98.9	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-19-4	11/19/2015	684508.0	602880.1	11.49	131.0	4.7	133	8.6	98.5	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	SF-20-1	11/19/2015	684546.3	602907.6	8.77	129.3	4.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-20-2	11/19/2015	684545.4	602907.4	9.83	129.9	3.2	133	8.6	97.7	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-20-3	11/19/2015	684547.9	602908.6	10.90	130.1	3.5	133	8.6	97.8	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-20-4	11/19/2015	684548.3	602910.0	11.78	129.3	3.5	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-100-1	11/24/2015	684631.4	602847.9	21.61	115.7	8.1	117	8.6	98.9	90	6	GDL Cover Soil		V5N
1	CS-101-1	11/24/2015	684579.4	602829.3	21.00	122.2	5.3	117	8.6	104.4	90	6	GDL Cover Soil		V5N
1	CS-103-1	11/24/2015	684559.4	602849.9	20.50	117.0	4.5	117	8.6	100.0	90	6	GDL Cover Soil		V5N
1	CS-104-1	11/24/2015	684591.9	602894.4	20.26	118.5	6.3	117	8.6	101.3	90	6	GDL Cover Soil		V5N
1	CS-105-1	11/24/2015	684549.1	602875.2	19.46	116.3	8.1	117	8.6	99.4	90	6	GDL Cover Soil		V5N
1	CS-93-1	11/24/2015	684673.4	602728.7	17.07	115.0	9.4	117	8.6	98.3	90	7	GDL Cover Soil		V5N
1	CS-95-1	11/24/2015	684652.5	602744.8	17.71	126.5	5.5	117	8.6	108.1	90	7	GDL Cover Soil		V5N
1	CS-96-1	11/24/2015	684681.1	602793.4	18.36	119.7	6.8	117	8.6	102.3	90	6	GDL Cover Soil		V5N
1	CS-97-1	11/24/2015	684634.5	602782.1	18.43	115.4	6.5	117	8.6	98.6	90	6	GDL Cover Soil		V5N
1	CS-98-1	11/24/2015	684578.8	602757.8	18.44	117.4	6.3	117	8.6	100.3	90	6	GDL Cover Soil		V5N
1	CS-99-1	11/24/2015	684610.9	602806.5	18.70	118.6	6.8	117	8.6	101.4	90	6	GDL Cover Soil		V5N
5	SF-19-5	11/24/2015	684507.1	602879.1	13.03	133.2	5.6	133	8.6	100.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-19-6	11/24/2015	684506.8	602882.9	14.10	131.8	3.7	133	8.6	99.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-19-7	11/24/2015	684510.4	602881.3	15.06	130.9	4.2	133	8.6	98.4	95	5	Structural Fill -Liberty	Location added to D Street	V5N
5	SF-20-5	11/24/2015	684546.9	602907.7	12.52	126.8	6.7	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-20-6	11/24/2015	684545.9	602910.3	13.50	133.1	4.7	133	8.6	100.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-20-7	11/24/2015	684540.5	602910.5	14.48	129.1	4.7	133	8.6	97.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-102-1	12/8/2015	684522.1	602789.6	9.92	119.0	9.9	117	8.6	101.7	90	6	GDL Cover Soil		V5N
1	CS-86-1	12/8/2015	684691.4	602613.8	6.27	120.7	8.5	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-87-1	12/8/2015	684741.0	602650.3	9.32	120.8	8.7	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-88-1	12/8/2015	684774.1	602700.3	8.44	122.0	9.4	117	8.6	104.3	90	7	GDL Cover Soil		V5N
1	CS-89-1	12/8/2015	684713.8	602685.9	19.10	113.6	5.5	117	8.6	97.1	90	7	GDL Cover Soil		V5N
1	CS-90-1	12/8/2015	684663.9	602654.3	15.96	115.2	6.4	117	8.6	98.5	90	7	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-91-1	12/8/2015	684668.9	602109.2	19.40	113.2	8.2	117	8.6	96.8	90	7	GDL Cover Soil		V5N
1	CS-92-1	12/8/2015	684729.2	602749.3	16.89	117.9	7.2	117	8.6	100.8	90	7	GDL Cover Soil		V5N
1	CS-94-1	12/8/2015	684610.2	602684.0	7.41	116.3	9.6	117	8.6	99.4	90	7	GDL Cover Soil		V5N
1	HC-100-1	12/8/2015	684624.6	602844.3	22.22	116.6	10.6	126	9.5	92.5	90	6	Horizon C	Back Scatter	V5N
1	HC-101-1	12/8/2015	684579.3	602829.2	21.65	128.5	9.0	126	9.5	102.0	90	6	Horizon C	Back Scatter	V5N
1	HC-102-1	12/8/2015	684517.4	602793.0	10.54	115.0	11.3	126	9.5	91.3	90	6	Horizon C	Back Scatter	V5N
1	HC-103-1	12/8/2015	684558.5	602852.7	20.94	121.1	10.2	126	9.5	96.1	90	6	Horizon C	Back Scatter	V5N
1	HC-104-1	12/8/2015	684589.0	602899.7	20.69	119.1	11.1	126	9.5	94.5	90	6	Horizon C	Back Scatter	V5N
1	HC-105-1	12/8/2015	684547.5	602874.7	20.00	114.1	12.6	126	9.5	90.6	90	6	Horizon C	Back Scatter	V5N
1	HC-106-1	12/8/2015	684488.5	602824.5	11.23	117.5	10.4	126	9.5	93.3	90	5	Horizon C	Back Scatter	V5N
1	HC-97-1	12/8/2015	684634.5	602785.1	19.13	113.4	10.4	126	9.5	90.0	90	6	Horizon C	Back Scatter	V5N
1	HC-98-1	12/8/2015	684580.8	602761.3	19.04	114.9	10.3	126	9.5	91.2	90	6	Horizon C	Back Scatter	V5N
1	HC-99-1	12/8/2015	684613.8	602809.7	19.33	115.5	9.6	126	9.5	91.7	90	6	Horizon C	Back Scatter	V5N
1	SF-10-1	12/8/2015	684712.0	602632.9	8.47	146.3	3.0	133	8.6	110.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
1	SF-11-1	12/8/2015	684764.1	602680.4	9.70	138.2	4.8	133	8.6	103.9	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-12-2	12/8/2015	684486.5	602887.8	16.20	132.2	7.3	133	8.6	99.4	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-12-3	12/8/2015	684483.4	602896.1	17.66	129.1	8.2	133	8.6	97.1	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-13-2	12/8/2015	684519.0	602908.4	17.00	127.7	6.0	133	8.6	96.0	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-13-3	12/8/2015	684517.8	602915.5	18.34	130.7	6.3	133	8.6	98.3	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-14-2	12/8/2015	684545.3	602935.8	17.44	127.2	6.6	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-14-3	12/8/2015	684538.7	602936.2	18.35	127.2	7.0	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
8	SF-19-8	12/8/2015	684511.3	602878.7	16.16	133.8	6.3	133	8.6	100.6	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-19-9	12/8/2015	684512.4	602884.5	17.40	120.8	7.0	133	8.6	90.8	95	5	Structural Fill -Liberty	Re-roll Area	V5N
9	SF-19-9R	12/8/2015	684512.0	602884.0	17.40	130.2	7.4	133	8.6	97.9	95	5	Structural Fill -Liberty	Re-test lift after rolling	V5N
8	SF-20-8	12/8/2015	684559.3	602906.9	15.66	127.8	7.6	133	8.6	96.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-20-9	12/8/2015	684559.5	602915.7	17.27	126.7	7.4	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-10-2	12/10/2015	684716.8	602639.7	9.79	132.4	6.0	133	8.6	99.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-10-3	12/10/2015	684718.1	602641.1	10.74	129.7	3.0	133	8.6	97.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-11-2	12/10/2015	684763.0	602675.2	10.41	130.5	6.0	133	8.6	98.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3	12/10/2015	684762.5	602675.9	11.33	125.7	3.0	133	8.6	94.5	95	7	Structural Fill -Liberty	Re-roll Area	V5N
4	SF-10-4	12/14/2015	684719.5	602644.8	11.71	126.4	1.9	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-10-5	12/14/2015	684713.2	602644.6	12.77	126.4	2.5	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-10-6	12/14/2015	684716.5	602649.2	13.99	126.5	3.4	133	8.6	95.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3R	12/14/2015	684762.0	602675.0	11.33	126.4	1.5	133	8.6	95.0	95	7	Structural Fill -Liberty	Re-test lift after rolling	V5N
4	SF-11-4	12/14/2015	684761.3	602678.2	12.57	127.9	2.1	133	8.6	96.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-11-5	12/14/2015	684770.8	602673.9	13.60	126.6	3.2	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-11-6	12/14/2015	684762.3	602666.3	14.54	126.6	3.9	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
7	SF-10-7	12/15/2015	684716.8	602641.2	15.03	131.0	5.3	133	8.6	98.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-10-8	12/15/2015	684716.0	602649.9	16.07	126.7	3.3	133	8.6	95.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-10-9	12/15/2015	684719.3	602639.9	16.86	128.9	5.7	133	8.6	96.9	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
7	SF-11-7	12/15/2015	684765.3	602680.3	15.76	126.3	3.4	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-11-8	12/15/2015	684762.4	602675.2	16.71	128.1	5.7	133	8.6	96.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-11-9	12/15/2015	684752.5	602686.1	16.86	130.0	7.4	133	8.6	97.7	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
5	SF-10-5R	3/6/2016	684712.8	602643.3	13.55	108.2	2.5	112.2	9.7	96.4	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
4	SF-10-4R	3/16/2016	684708.7	602643.3	12.47	111.6	2.8	112.2	9.7	99.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
4	SF-11-4R	3/16/2016	684760.2	602681.4	12.15	112.0	2.5	112.2	9.7	99.8	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
5	SF-11-5R	3/16/2016	684748.8	602679.9	13.15	108.0	2.4	112.2	9.7	96.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-10-6R	3/17/2016	684707.5	602634.2	15.23	109.5	2.3	112.2	9.7	97.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-10-7R	3/17/2016	684716.6	602642.7	16.50	114.0	3.2	112.2	9.7	101.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-11-6R	3/17/2016	684750.5	602661.5	15.23	107.3	2.2	112.2	9.7	95.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-11-7R	3/17/2016	684750.3	602672.5	16.40	115.4	2.5	112.2	9.7	102.9	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
1	CS-12-1R	4/14/2016	685504.9	601673	17.30	121.5	8.7	117	8.6	103.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-16-1R	4/14/2016	685457.6	601721.7	16.30	117.9	7.8	117	8.6	100.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-17-1R	4/14/2016	685434.6	601718.5	14.70	122.5	8.0	117	8.6	104.7	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-18-1R	4/14/2016	685395.1	601714.8	17.20	120.3	5.3	117	8.6	102.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-19-1	4/14/2016	685414.3	601758.3	17.20	120.6	5.6	117	8.6	103.1	90	8	GDL Cover Soil		V5N
1	CS-20-1	4/14/2016	685421.8	601782.3	17.30	122.8	7.0	117	8.6	105.0	90	8	GDL Cover Soil		V5N
1	CS-21-1	4/14/2016	685388.8	601769.3	17.40	120.0	6.8	117	8.6	102.6	90	8	GDL Cover Soil		V5N
1	CS-22-1	4/14/2016	685341.2	601751.2	17.60	119.0	8.0	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-23-1	4/14/2016	685366.5	601794.2	18.10	121.4	4.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-24-1	4/14/2016	685390.4	601829.7	18.20	114.8	6.0	117	8.6	98.1	90	8	GDL Cover Soil		V5N
1	CS-25-1	4/14/2016	685348.8	601819.2	19.00	121.5	7.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-26-1	4/14/2016	685305.2	601804.9	19.30	117.9	5.4	117	8.6	100.8	90	9	GDL Cover Soil		V5N
1	CS-27-1	4/14/2016	685325.1	601846.4	16.90	120.3	7.0	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-28-1	4/15/2016	685354.8	601891.6	16.00	125.7	6.8	117	8.6	107.4	90	12	GDL Cover Soil		V5N
1	CS-29-1	4/15/2016	685310.4	601883.3	19.60	120.1	7.3	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-30-1	4/15/2016	685259.5	601859.9	17.30	120.9	6.7	117	8.6	103.3	90	12	GDL Cover Soil		V5N
1	CS-31-1	4/15/2016	685289.6	601902.5	19.60	125.3	7.4	117	8.6	107.1	90	12	GDL Cover Soil		V5N
1	HC-08-1	4/15/2016	685535.1	601617.9	17.00	115.8	9.8	126	9.8	91.9	90	1	Horizon C	Back Scatter	V5N
1	HC-09-1	4/15/2016	685492.6	601603.4	17.10	116.4	9.7	126	9.5	92.4	90	1	Horizon C	Back Scatter	V5N
1	HC-12-1	4/15/2016	685500.6	601671.6	17.90	115.1	9.4	126	9.5	91.3	90	1	Horizon C	Back Scatter	V5N
1	HC-16-1	4/15/2016	685457.5	601729.1	16.80	120.2	9.4	126	9.5	95.4	90	1	Horizon C	Back Scatter	V5N
1	SF-04-01	4/18/2016	685309.3	601839.5	14.50	107.5	1.7	112.2	9.7	95.8	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-04-02	4/18/2016	685311.3	601840.4	16.00	110.5	1.6	112.2	9.7	98.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
3	SF-04-03	4/18/2016	685289.9	601837.7	17.60	108.1	1.8	112.2	9.7	96.3	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-05-01	4/18/2016	685325.3	601867.3	18.00	114.9	2.0	112.2	9.7	102.4	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-06-01	4/18/2016	685357.4	601889.1	17.50	111.6	2.0	112.2	9.7	99.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
4	SF-04-04	4/20/2016	685294.4	601842.4	19.10	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-05-02	4/20/2016	685320.8	601866.4	19.70	107.7	2.0	112.2	9.7	96.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-06-02	4/20/2016	685348.9	601890.6	19.50	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	HC-17-01	4/20/2016	685432.8	601721.6	15.20	122.4	9.5	126	9.5	97.1	90	1	Horizon C	Back Scatter	V5N
1	HC-18-01	4/20/2016	685393.5	601712.7	17.70	117.2	10.2	126	9.5	93.0	90	1	Horizon C	Back Scatter	V5N
1	HC-19-01	4/20/2016	685419.8	601751.3	15.30	117.4	9.5	126	9.5	93.2	90	8	Horizon C	Back Scatter	V5N
1	HC-20-01	4/20/2016	685423.4	601782.8	17.80	125.8	8.8	126	9.5	99.8	90	8	Horizon C	Back Scatter	V5N
1	HC-21-01	4/20/2016	685383.0	601770.6	18.20	127.3	8.9	126	9.5	101.0	90	8	Horizon C	Back Scatter	V5N
1	HC-22-01	4/20/2016	685340.2	601758.3	18.30	118.4	8.6	126	9.5	94.0	90	8	Horizon C	Back Scatter	V5N
1	HC-23-01	4/20/2016	685366.4	601793.6	18.50	122.2	8.8	126	9.5	97.0	90	8	Horizon C	Back Scatter	V5N
1	HC-24-01	4/20/2016	685392.1	601831.1	18.90	119.7	8.4	126	9.5	95.0	90	8	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-25-01	4/20/2016	685351.7	601822.1	19.40	129.8	9.2	126	9.5	103.0	90	8	Horizon C	Back Scatter	V5N
1	HC-26-01	4/20/2016	685303.8	601806.5	19.90	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-27-01	4/20/2016	685361.7	601845.0	19.70	121.0	9.0	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	CS-01-01	4/20/2016	685552.1	601486.2	16.40	111.2	9.0	117	8.6	95.1	90	10	GDL Cover Soil		V5N
1	CS-02-01	4/20/2016	685571.4	601519.1	18.50	120.5	9.1	117	8.6	103.0	90	10	GDL Cover Soil		V5N
1	CS-47-01	4/22/2016	685133.2	602127.9	6.50	117.0	8.6	117	8.6	100.0	90	13	GDL Cover Soil	B Street Corridor	V5N
1	CS-48-01	4/22/2016	685161.9	602170.3	7.10	115.8	8.4	117	8.6	99.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	CS-49-01	4/22/2016	685114.8	602135.6	6.40	111.2	8.4	117	8.6	95.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	HC-05-01	4/22/2016	685511.7	601549.5	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	HC-06-01	4/22/2016	685479.0	601533.4	15.00	119.7	8.0	126	9.5	95.0	90	1	Horizon C	Back Scatter	V5N
1	HC-07-01	4/22/2016	685514.3	601578.6	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	SF-01-01	4/22/2016	685510.3	601523.6	16.60	107.7	8.0	112.2	9.7	96.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01	4/22/2016	685547.6	601542.6	18.30	102.0	8.1	112.2	9.7	90.9	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-03-01	4/22/2016	685585.2	601572.6	18.20	106.6	8.2	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01R	4/22/2016	685547.6	601542.6	18.30	106.6	8.1	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive; reroll and retes	V5N
1	HC-04-01	4/26/2016	685586.2	601559.0	19.40	117.5	9.1	126	9.5	93.3	90	10	Horizon C	Back Scatter	V5N
1	HC-02-01	4/26/2016	685575.9	601519.7	19.30	114.2	10.6	126	9.5	90.6	90	10	Horizon C	Back Scatter	V5N
1	HC-03-01	4/26/2016	685531.2	601505.9	17.90	124.3	8.1	126	9.5	98.7	90	10	Horizon C	Back Scatter	V5N
1	HC-01-01	4/26/2016	685554.0	601483.2	16.80	114.7	9.6	126	9.5	91.0	90	10	Horizon C	Back Scatter	V5N
2	SF-01-02	4/26/2016	685512.5	601525.3	17.50	118.2	7.0	112.2	9.7	105.3	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-02-02	4/26/2016	685553.1	601555.1	18.90	114.9	4.7	112.2	9.7	102.4	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-03-02	4/26/2016	685577.3	601575.2	19.30	120.3	4.9	112.2	9.7	107.2	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	CS-32-01	4/26/2016	685305.2	601932.9	19.50	117.6	7.2	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-33-01	4/26/2016	685271.2	601934.8	19.60	117.0	10.6	117	8.6	100.0	90	12	GDL Cover Soil		V5N
1	CS-34-01	4/26/2016	685225.8	601921.4	19.80	117.7	9.8	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-35-01	4/26/2016	685251.7	601967.3	19.30	117.6	10.5	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-36-01	4/26/2016	685269.0	601997.3	18.80	114.6	9.7	117	8.6	97.9	90	12	GDL Cover Soil		V5N
1	SF-07-01	4/26/2016	685096.6	606106.8	7.10	130.5	6.2	112.2	9.7	116.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-08-01	4/26/2016	685131.5	602130.1	7.40	129.9	5.8	112.2	9.7	115.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-09-01	4/26/2016	685163.1	602153.3	7.60	127.8	5.7	112.2	9.7	113.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-07-02	4/26/2016	685098.7	602108.8	7.90	124.6	4.8	112.2	9.7	111.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-08-02	4/26/2016	685134.0	602134.2	8.20	116.8	3.7	112.2	9.7	104.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-09-02	4/26/2016	685173.6	602160.2	8.60	128.1	5.5	112.2	9.7	114.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-07-03	4/27/2016	685096.6	602106.8	9.40	113.2	2.8	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-08-03	4/27/2016	685131.5	602133.6	9.60	112.5	3.2	112.2	9.7	100.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-09-03	4/27/2016	685168.9	602159.4	10.00	116.2	2.9	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-07-04	4/28/2016	685089.9	602105.5	10.40	107.2	4.7	112.2	9.7	95.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-08-04	4/28/2016	685130.3	602135.1	10.50	108.4	2.6	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-09-04	4/28/2016	685158.3	602159.3	10.80	110.9	3.7	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-07-05	4/28/2016	658087.4	602109.5	11.30	106.9	4.6	112.2	9.7	95.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-08-05	4/28/2016	685126.7	602137.8	11.60	115.8	3.2	112.2	9.7	103.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-09-05	4/28/2016	685164.5	602163.5	11.50	112.6	3.3	112.2	9.7	100.4	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-37-01	4/28/2016	685234.1	601983.7	18.80	121.7	8.8	117	8.6	104.0	90	12	GDL Cover Soil		V5N
1	CS-38-01	4/28/2016	685185.5	601970.6	18.70	116.6	6.7	117	8.6	99.7	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-39-01	4/28/2016	685213.8	602102.2	18.20	122.0	8.3	117	8.6	104.3	90	12	GDL Cover Soil		V5N
1	CS-40-01	4/28/2016	685227.8	602065.5	17.70	119.1	8.7	117	8.6	101.8	90	12	GDL Cover Soil		V5N
1	CS-41-01	4/28/2016	685193.2	602041.5	17.40	120.0	10.9	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-42-01	4/28/2016	685152.5	602025.7	17.30	119.6	8.9	117	8.6	102.2	90	13	GDL Cover Soil		V5N
6	SF-07-06	4/29/2016	658082.9	602108.5	12.26	114.3	2.7	112.2	9.7	101.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-08-06	4/29/2016	685136.5	602126.5	12.47	110.8	2.4	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-09-06	4/29/2016	685146.5	602166.6	12.35	113.3	2.4	112.2	9.7	101.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-28-01	4/29/2016	685334.6	601903.6	19.80	119.8	9.5	126	9.5	95.1	90	12	Horizon C	Back Scatter	V5N
1	HC-29-01	4/29/2016	685294.7	601866.8	20.20	128.7	8.4	126	9.5	102.1	90	12	Horizon C	Back Scatter	V5N
1	HC-30-01	4/29/2016	685258.9	601854.0	17.80	114.7	10.7	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-31-01	4/29/2016	685286.1	601905.7	20.20	124.7	9.2	126	9.5	99.0	90	12	Horizon C	Back Scatter	V5N
1	HC-32-01	4/29/2016	685294.9	601951.8	19.90	124.5	8.7	126	9.5	98.8	90	12	Horizon C	Back Scatter	V5N
1	HC-33-01	4/29/2016	685267.6	601932.2	20.10	114.7	10.2	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-35-01	4/29/2016	685251.4	601960.8	19.80	113.7	10.5	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
7	SF-07-07	5/2/2016	685098.9	602107.7	13.20	113.7	2.2	112.2	9.7	101.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-08-07	5/2/2016	685131.4	602134.6	13.40	113.2	3.4	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-09-07	5/2/2016	685141.4	602154.3	13.20	113.0	2.1	112.2	9.7	100.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-07-08	5/2/2016	685090.8	602099.0	14.20	119.6	4.0	112.2	9.7	106.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-08-08	5/2/2016	685126.1	602130.8	14.50	116.2	2.6	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-09-08	5/2/2016	685060.5	602159.1	14.00	117.3	3.4	112.2	9.7	104.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-43-01	5/2/2016	685178.7	602060.3	17.20	119.7	10.1	117	8.6	102.3	90	13	GDL Cover Soil		V5N
1	CS-44-01	5/2/2016	685227.7	602065.5	17.70	115.8	7.3	117	8.6	99.0	90	13	GDL Cover Soil		V5N
1	CS-45-01	5/2/2016	685152.4	602803.2	17.60	114.5	7.1	117	8.6	97.9	90	13	GDL Cover Soil		V5N
1	CS-46-01	5/2/2016	685108.7	602067.4	15.00	109.9	7.8	117	8.6	93.9	90	13	GDL Cover Soil		V5N
1	HC-34-01	5/2/2016	685227.3	601914.0	20.50	117.5	10.3	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-36-01	5/2/2016	685269.4	601989.1	19.50	119.1	11.1	126	9.5	94.5	90	12	Horizon C	Back Scatter	V5N
1	HC-37-01	5/2/2016	685232.0	601988.5	19.30	115.0	9.8	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-38-01	5/2/2016	685181.9	601969.6	19.30	113.7	11.7	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
1	HC-39-01	5/2/2016	685213.9	602004.5	18.70	116.0	8.9	126	9.5	92.1	90	12	Horizon C	Back Scatter	V5N
1	HC-40-01	5/2/2016	685226.0	602151.1	18.10	125.0	10.0	126	9.5	99.2	90	12	Horizon C	Back Scatter	V5N
1	HC-41-01	5/2/2016	685199.7	602037.5	18.00	120.1	10.4	126	9.5	95.3	90	12	Horizon C	Back Scatter	V5N
9	SF-07-09	5/5/2016	685008.1	602099.3	14.90	120.0	3.5	112.2	9.7	107.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-08-09	5/5/2016	685134.3	602127.7	15.00	123.4	3.2	112.2	9.7	110.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-09-09	5/5/2016	685169.3	602144.8	14.90	115.7	4.2	112.2	9.7	103.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-07-10	5/5/2016	685087.7	602155.6	16.50	120.4	4.4	112.2	9.7	107.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-08-10	5/5/2016	685117.3	602137.9	16.60	111.9	3.8	112.2	9.7	99.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-09-10	5/5/2016	685155.3	602167.4	16.30	107.8	3.1	112.2	9.7	96.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-42-01	5/5/2016	685157.1	602028.8	17.80	117.3	11.6	126	9.5	93.1	90	13	Horizon C	Back Scatter	V5N
1	HC-43-01	5/5/2016	685169.9	602065.8	17.80	117.2	12.1	126	9.5	93.0	90	13	Horizon C	Back Scatter	V5N
1	HC-44-01	5/5/2016	685193.6	602102.8	18.00	124.0	11.7	126	9.5	98.4	90	13	Horizon C	Back Scatter	V5N
1	HC-45-01	5/5/2016	685166.2	602112.5	18.40	123.3	10.3	126	9.5	97.9	90	13	Horizon C	Back Scatter	V5N
1	HC-46-01	5/5/2016	685107.4	602064.3	15.40	125.5	11.6	126	9.5	99.6	90	13	Horizon C	Back Scatter	V5N
1	HC-47-01	5/5/2016	685140.2	602092.3	18.30	121.2	9.2	126	9.5	96.2	90	13	Horizon C	Back Scatter	V5N
1	CS-50-01	5/11/2016	685060.3	602129.0	16.00	114.9	9.2	117	8.6	98.2	90	14	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-51-01	5/11/2016	685095.6	602173.6	18.80	115.3	9.2	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-52-01	5/11/2016	685118.1	602212.6	18.30	116.9	9.2	117	8.6	99.9	90	14	GDL Cover Soil		V5N
1	CS-53-01	5/11/2016	685077.2	602198.8	18.80	115.3	9.8	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-54-01	5/11/2016	685018.9	602196.7	19.40	113.0	8.8	117	8.6	96.6	90	14	GDL Cover Soil		V5N
1	CS-55-01	5/11/2016	685037.7	602225.0	16.90	112.7	13.2	117	8.6	96.3	90	14	GDL Cover Soil		V5N
1	CS-57-01	5/11/2016	685029.4	602258.5	17.50	116.7	11.6	117	8.6	99.7	90	14	GDL Cover Soil		V5N
1	CS-58-01	5/11/2016	684989.3	602236.4	20.10	117.6	9.4	117	8.6	100.5	90	14	GDL Cover Soil		V5N
1	CS-59-01	5/11/2016	685005.7	602278.3	17.80	119.0	11.8	117	8.6	101.7	90	14	GDL Cover Soil		V5N
1	CS-61-01	5/11/2016	684990.1	602311.3	18.30	112.5	14.7	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-62-01	5/11/2016	684954.1	602272.2	20.80	116.1	9.5	117	8.6	99.2	90	15	GDL Cover Soil		V5N
1	CS-63-01	5/11/2016	684978.4	602338.7	18.70	110.8	6.8	117	8.6	94.7	90	15	GDL Cover Soil		V5N
11	SF-07-11	5/11/2016	685085.8	602102.0	17.60	108.4	2.1	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-08-11	5/11/2016	685120.0	602122.7	17.80	107.5	2.5	112.2	9.7	95.8	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-09-11	5/11/2016	685157.2	602150.4	17.70	109.8	2.6	112.2	9.7	97.9	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
3	SF-01-03	5/11/2016	685512.3	601525.2	19.30	113.1	2.0	112.2	9.7	100.8	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-02-03	5/11/2016	685546.3	601552.4	19.40	116.2	2.4	112.2	9.7	103.6	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-03-03	5/11/2016	685585.6	601575.9	19.30	116.9	2.0	112.2	9.7	104.2	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
1	HC-48-01	5/16/2016	685126.3	602180.8	19.30	114.6	14.9	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-49-01	5/16/2016	685093.4	602149.0	17.00	145.7	9.9	126	9.5	115.6	90	14	Horizon C	Back Scatter	V5N
1	HC-50-01	5/16/2016	685061.4	602128.9	16.50	119.8	13.2	126	9.5	95.1	90	14	Horizon C	Back Scatter	V5N
1	HC-51-01	5/16/2016	685096.6	602178.9	19.30	120.1	11.0	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-52-01	5/16/2016	685119.9	602212.3	18.80	114.5	11.6	126	9.5	90.9	90	14	Horizon C	Back Scatter	V5N
1	HC-53-01	5/16/2016	685054.2	602219.1	19.60	118.1	10.7	126	9.5	93.7	90	14	Horizon C	Back Scatter	V5N
1	HC-54-01	5/16/2016	685019.8	602191.5	19.80	114.2	12.4	126	9.5	90.6	90	14	Horizon C	Back Scatter	V5N
1	HC-55-01	5/16/2016	685054.2	602219.1	19.60	120.1	12.8	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-56-01	5/16/2016	685075.9	602263.9	19.80	116.8	12.7	126	9.5	92.7	90	14	Horizon C	Back Scatter	V5N
1	HC-57-01	5/16/2016	685032.7	602252.7	17.90	118.6	9.8	126	9.5	94.1	90	14	Horizon C	Back Scatter	V5N
1	HC-58-01	5/16/2016	684988.4	602235.8	20.60	114.7	11.1	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-59-01	5/16/2016	685010.1	602267.9	18.10	122.6	8.7	126	9.5	97.3	90	14	Horizon C	Back Scatter	V5N
1	CS-56-01	5/16/2016	685025.1	602299.5	20.30	118.5	11.5	117	8.6	101.3	90	14	GDL Cover Soil		V5N
1	CS-60-01	5/16/2016	685025.9	602329.2	18.00	113.1	11.9	117	8.6	96.7	90	14	GDL Cover Soil		V5N
5	SF-04-05	5/16/2016	685352.5	601871.7	19.40	114.6	1.5	112.2	9.7	102.1	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-05-03	5/16/2016	685321.5	601855.6	19.70	117.7	1.8	112.2	9.7	104.9	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-06-03	5/16/2016	685289.7	601832.8	19.70	108.3	1.4	112.2	9.7	96.5	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
1	CS-64-01	5/18/2016	684999.1	602372.6	18.70	115.6	7.7	117	8.6	98.8	90	15	GDL Cover Soil		V5N
1	CS-65-01	5/18/2016	684995.4	602360.5	18.90	116.5	11.3	117	8.6	99.6	90	15	GDL Cover Soil		V5N
1	CS-66-01	5/18/2016	684907.9	602343.4	19.00	120.8	9.0	117	8.6	103.2	90	15	GDL Cover Soil		V5N
1	CS-67-01	5/18/2016	684935.3	602386.4	18.90	115.3	11.1	117	8.6	98.5	90	15	GDL Cover Soil		V5N
1	CS-68-01	5/18/2016	684960.5	602427.3	18.80	112.6	9.6	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-69-01	5/18/2016	684918.4	602414.4	18.70	114.0	11.0	117	8.6	97.4	90	15	GDL Cover Soil		V5N
1	CS-71-01	5/18/2016	684888.7	602434.3	18.00	116.7	12.4	117	8.6	99.7	90	16	GDL Cover Soil		V5N
1	CS-72-01	5/18/2016	684917.8	602480.4	18.00	117.5	8.8	117	8.6	100.4	90	16	GDL Cover Soil		V5N
1	HC-49-01R	5/18/2016	685093.4	602149.0	17.00	117.5	9.9	126	9.5	93.3	90	14	Horizon C	Back Scatter; re-run test	V5N
1	CS-70-01	5/20/2016	684860.3	602329.6	18.20	111.8	7.6	117	8.6	95.6	90	16	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-73-01	5/20/2016	684869.9	602462.4	17.40	115.6	11.7	117	8.6	98.8	90	16	GDL Cover Soil		V5N
1	CS-74-01	5/20/2016	684821.2	602444.5	16.60	116.4	12.6	117	8.6	99.5	90	16	GDL Cover Soil		V5N
1	CS-75-01	5/20/2016	684852.3	602488.7	16.60	114.2	10.0	117	8.6	97.6	90	16	GDL Cover Soil		V5N
1	HC-60-01	5/20/2016	685036.3	602315.7	18.50	117.4	9.5	126	9.5	93.2	90	15	Horizon C	Back Scatter	V5N
1	HC-61-01	5/20/2016	685958.1	602318.7	19.30	123.7	11.9	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-62-01	5/20/2016	684943.1	602291.6	21.70	116.8	10.2	126	9.5	92.7	90	15	Horizon C	Back Scatter	V5N
1	HC-63-01	5/20/2016	684974.6	602334.4	19.20	116.1	13.3	126	9.5	92.1	90	15	Horizon C	Back Scatter	V5N
1	HC-64-01	5/20/2016	685000.9	602370.5	19.20	116.7	9.4	126	9.5	92.6	90	15	Horizon C	Back Scatter	V5N
1	HC-65-01	5/20/2016	684954.1	602361.6	19.50	120.6	13.2	126	9.5	95.7	90	15	Horizon C	Back Scatter	V5N
1	HC-66-01	5/20/2016	684906.2	602342.6	19.50	114.5	11.8	126	9.5	90.9	90	15	Horizon C	Back Scatter	V5N
1	HC-68-01	5/20/2016	684955.8	602413.4	19.40	120.4	12.5	126	9.5	95.6	90	15	Horizon C	Back Scatter	V5N
1	HC-69-01	5/20/2016	684906.3	602419.1	19.00	123.7	10.1	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-70-01	5/20/2016	684858.7	302396.2	18.70	124.3	11.1	126	9.5	98.7	90	16	Horizon C	Back Scatter	V5N
1	HC-71-01	5/20/2016	684882.1	602433.1	18.50	114.6	13.6	126	9.5	91.0	90	16	Horizon C	Back Scatter	V5N
1	HC-72-01	5/20/2016	684913.9	602473.4	18.60	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	HC-73-01	5/20/2016	684870.2	602464.3	18.00	122.3	12.4	126	9.5	97.1	90	16	Horizon C	Back Scatter	V5N
1	HC-74-01	5/20/2016	684819.9	602423.5	16.90	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	CS-76-01	5/27/2016	684877.8	602531.3	19.20	107.5	6.6	117	8.6	91.9	90	17	GDL Cover Soil		V5N
1	CS-77-01	5/27/2016	684831.7	602514.5	15.90	111.5	9.1	117	8.6	95.3	90	17	GDL Cover Soil		V5N
1	CS-78-01	5/27/2016	684774.7	602493.1	14.40	111.0	8.8	117	8.6	94.9	90	17	GDL Cover Soil		V5N
1	CS-79-01	5/27/2016	684809.3	602541.2	17.60	111.8	6.4	117	8.6	95.6	90	17	GDL Cover Soil		V5N
1	CS-80-01	5/27/2016	684830.6	602582.9	15.20	113.6	9.0	117	8.6	97.1	90	17	GDL Cover Soil		V5N
1	CS-81-01	5/27/2016	684786.1	602567.2	14.90	113.7	8.1	117	8.6	97.2	90	17	GDL Cover Soil		V5N
1	CS-82-01	5/27/2016	684747.7	602551.4	14.30	108.8	8.0	117	8.6	93.0	90	17	GDL Cover Soil		V5N
1	CS-83-01	5/27/2016	684775.8	602598.9	15.40	108.9	8.7	117	8.6	93.1	90	17	GDL Cover Soil		V5N
1	CS-84-01	5/27/2016	684806.4	602648.6	15.30	107.6	10.1	117	8.6	92.0	90	17	GDL Cover Soil		V5N
1	CS-85-01	5/27/2016	684758.7	602624.2	18.20	111.2	7.6	117	8.6	95.0	90	17	GDL Cover Soil		V5N
1	HC-67-01	5/27/2016	684934.5	602386.8	19.50	122.9	10.4	126	9.5	97.5	90	16	Horizon C	Back Scatter	V5N
1	HC-75-01	5/27/2016	684852.9	602485.9	17.20	114.0	7.0	126	9.5	90.5	90	16	Horizon C	Back Scatter	V5N
1	HC-76-01	6/2/2016	684876.3	602531.1	19.70	119.3	9.3	126	9.5	94.0	90	17	Horizon C	Back Scatter	V5N
1	HC-77-01	6/2/2016	684830.6	602514.8	16.40	122.3	8.4	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-78-01	6/2/2016	684776.0	602494.2	15.10	114.4	8.4	126	9.5	90.8	90	17	Horizon C	Back Scatter	V5N
1	HC-79-01	6/2/2016	684810.5	602540.7	18.10	122.2	7.3	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-80-01	6/2/2016	684834.1	602583.5	15.80	121.5	8.2	126	9.5	96.4	90	17	Horizon C	Back Scatter	V5N
1	HC-81-01	6/2/2016	684789.9	602568.2	15.50	122.3	12.2	126	9.5	97.1	90	17	Horizon C	Back Scatter	V5N
1	HC-82-01	6/2/2016	684752.2	602543.1	17.30	126.2	10.2	126	9.5	100.2	90	17	Horizon C	Back Scatter	V5N
1	HC-83-01	6/2/2016	684781.1	602601.8	16.00	118.6	10.2	126	9.5	94.1	90	17	Horizon C	Back Scatter	V5N
1	HC-84-01	6/2/2016	684801.5	602638.4	17.70	124.5	9.3	126	9.5	98.8	90	17	Horizon C	Back Scatter	V5N
1	HC-85-01	6/2/2016	684757.6	602625.7	18.70	121.4	8.7	126	9.5	96.3	90	17	Horizon C	Back Scatter	V5N
1	HC-86-01	6/2/2016	684704.4	602572.9	8.10	126.9	11.6	126	9.5	100.7	90	17	Horizon C	Back Scatter	V5N
1	HC-87-01	6/2/2016	684739.4	602607.5	18.30	124.2	9.8	126	9.5	98.6	90	17	Horizon C	Back Scatter	V5N
1	HC-88-01	6/2/2016	684755.1	602716.9	16.70	113.2	13.2	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
1	HC-89-01	6/2/2016	684729.9	602698.7	19.60	115.7	11.8	126	9.5	91.8	90	7	Horizon C	Back Scatter	V5N
1	HC-90-01	6/2/2016	684676.0	602662.2	19.50	127.3	11.2	126	9.5	101.0	90	7	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT		TEST	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	HC-91-01	6/2/2016	684684.9	602718.4	17.30	120.5	12.8	126	9.5	95.6	90	7	Horizon C	Back Scatter	V5N
1	HC-92-01	6/2/2016	684700.5	602765.4	20.60	113.6	9.3	126	9.5	90.2	90	7	Horizon C	Back Scatter	V5N
1	HC-93-01	6/2/2016	684673.2	602735.5	17.70	116.1	13.6	126	9.5	92.2	90	7	Horizon C	Back Scatter	V5N
1	HC-94-01	6/2/2016	684616.3	602716.8	18.00	125.0	9.4	126	9.5	99.2	90	7	Horizon C	Back Scatter	V5N
1	HC-95-01	6/2/2016	684650.6	602768.2	18.70	120.9	12.6	126	9.5	96.0	90	7	Horizon C	Back Scatter	V5N
1	HC-96-01	6/2/2016	684681.4	602798.3	18.90	113.5	12.7	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
8	SF-10-8R	6/2/2016	684712.5	602638.8	17.50	111.0	1.5	112.2	8.6	99.1	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
8	SF-11-8R	6/2/2016	684758.7	602671.8	17.40	110.5	1.8	112.2	8.6	98.7	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-10-9R	6/2/2016	684715.2	602640.1	18.40	113.7	1.4	112.2	8.6	101.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-11-9R	6/2/2016	684759.7	602673.9	18.40	115.7	1.4	112.2	8.6	103.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
10	SF-19-10	6/15/2016	684509.5	602871.3	18.50	108.3	2.9	112.2	8.6	96.7	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N
10	SF-20-10	6/15/2016	684550.8	602901.1	19.00	108.7	2.6	112.2	8.6	97.0	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N

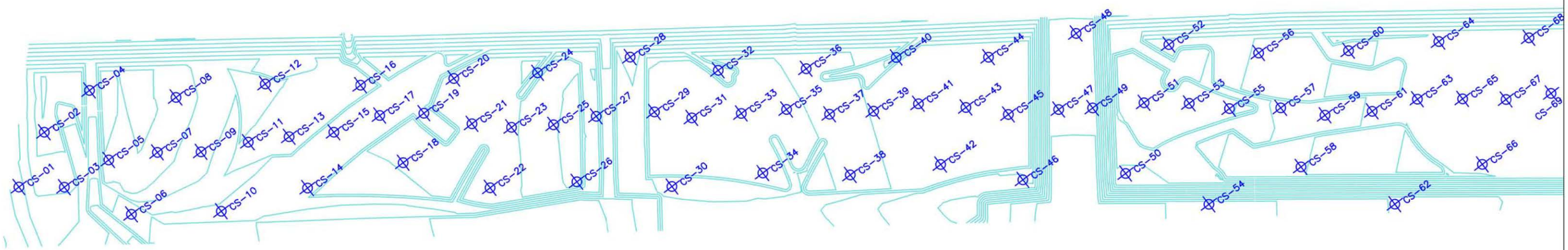
Notes: Maximum Dry Density for Celgene GDL Cover Soil (CS) based on Vertical 5 Northeast Inc Sample ID 12691 approved in Entact Submittal 112B
Maximum Dry Density for 6 inch lift of Horizon C based on Vertical 5 Northeast Inc Sample ID 12934
Maximum Dry Density for Liberty Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 12924 approved in Entact Submittal 117A
Maximum Dry Density for Tilcon Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 13163 approved in Entact Submittal 128
Sample ID CS-1-2 Where:
CS=Cover Soil; HC=Horizon C; SF=Structural Fill
1 = Test Location as noted on Compaction Location Figures
2 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

HC-107 became a Structural Fill test location after the D Street Corridor was widened

2.0 Test Location Drawings

- **GDL Cover Soil**
- **Horizon C**
- **Structural Fill**

SA-6 SOUTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION CS-XX

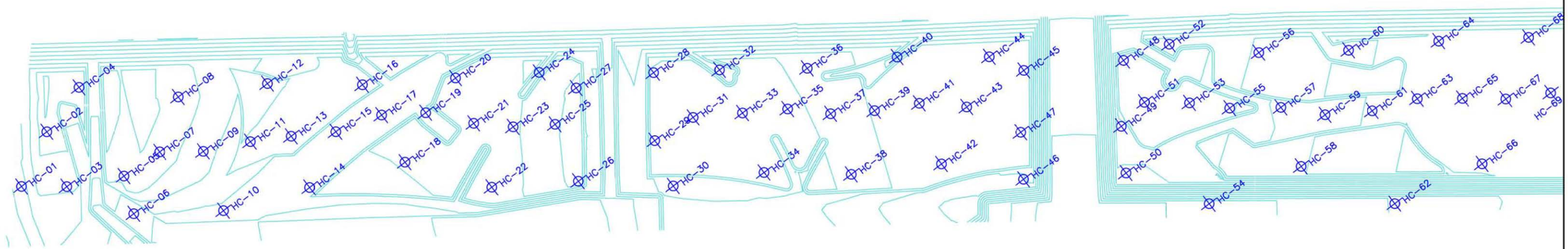
GDL COVER SOIL ELEVATION CONTOURS

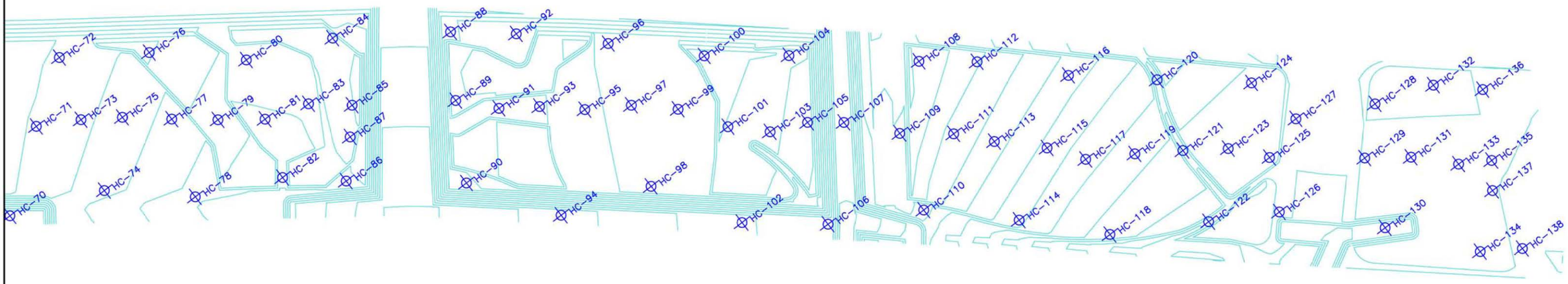
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	GDL COVER SOIL COMPACTION LOCATIONS
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

DRAWN BY	C. CYMBOR	APPROVED BY			
DATE	10/15/15	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

2) HC-107 became a structural fill test location after the D street corridor was widened.

LEGEND:

COMPACTION TEST LOCATION HC-XX

GDL COVER SOIL ELEVATION CONTOURS

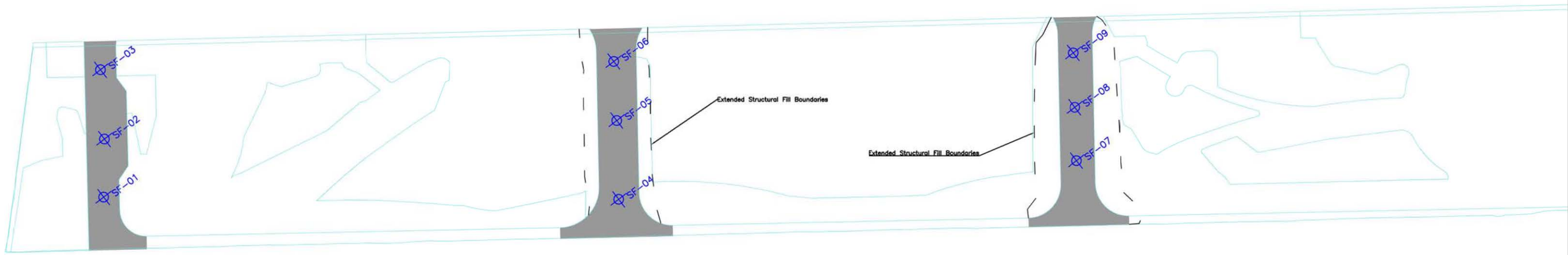
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

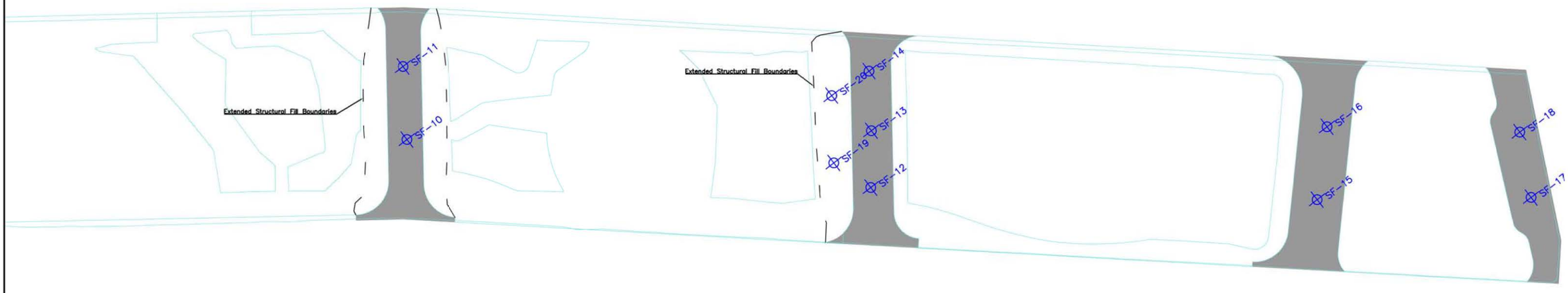
DRAWING NAME: HORIZON C PLANTING SOIL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	06/17/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION SF-XX

PLANTING SOIL BOUNDARIES

STRUCTURAL FILL

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

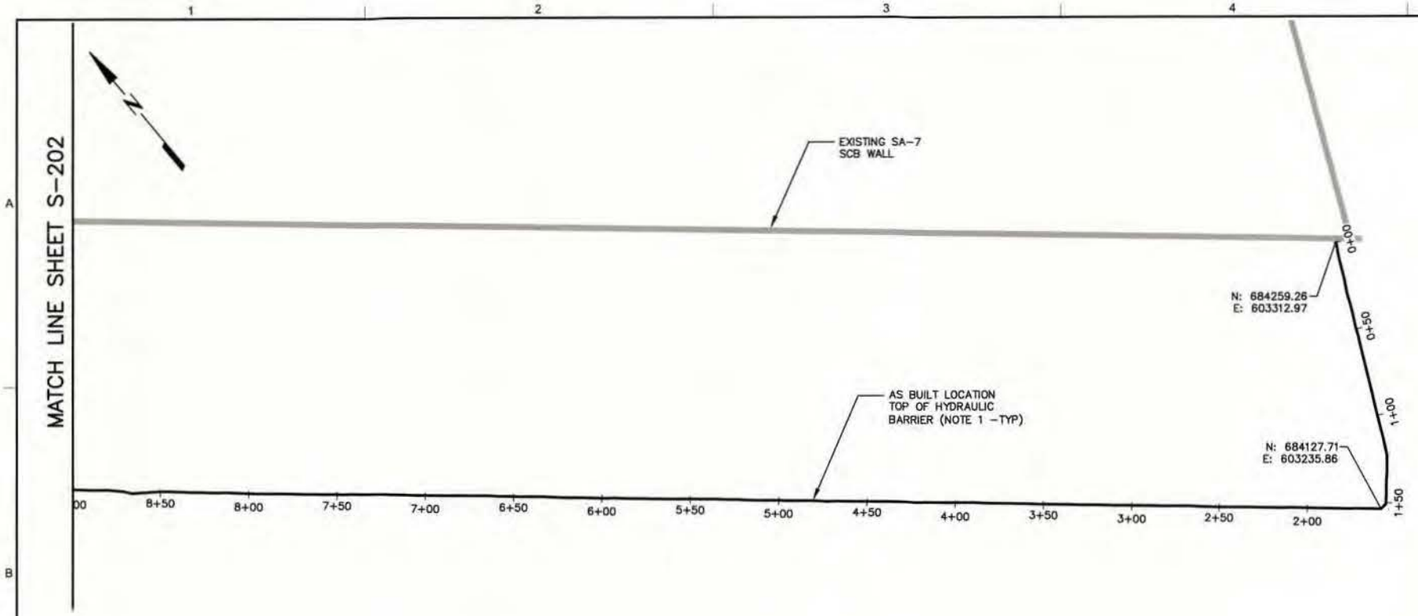
DRAWING NAME: STRUCTURAL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	05/19/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

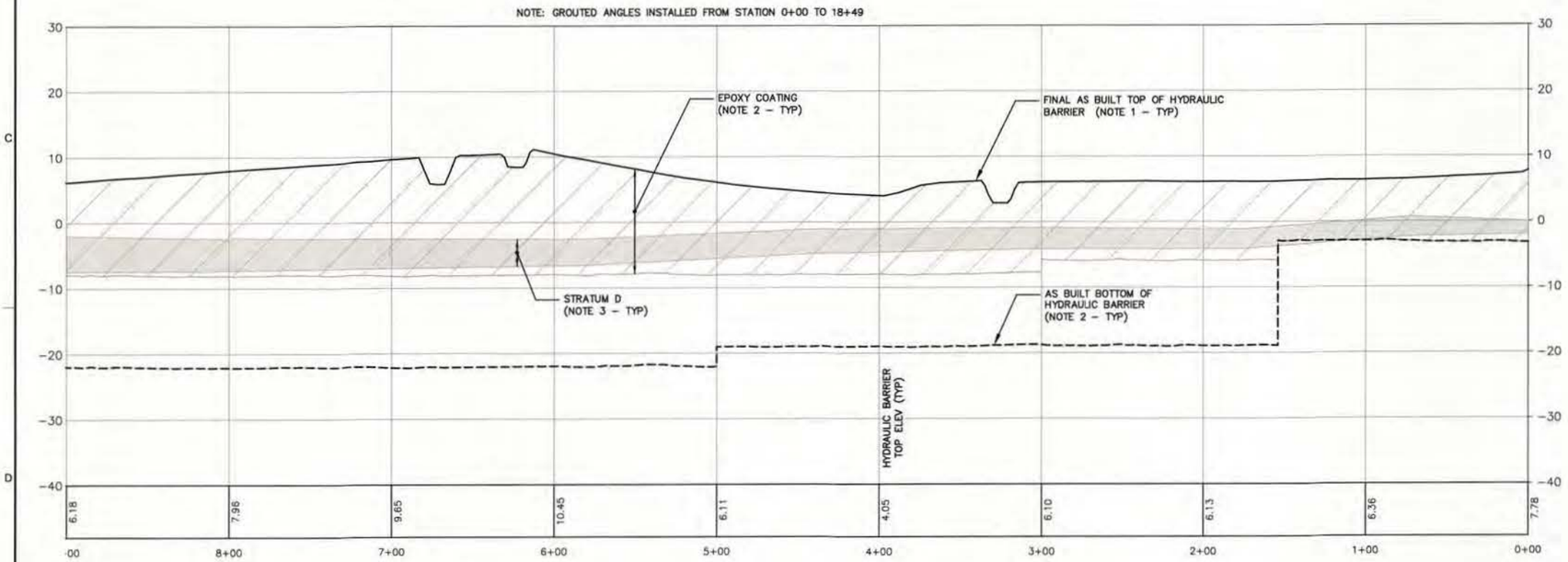
APPENDIX N

SHEETPILE DOCUMENTATION



NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY COMPLETED UNDER SUPERVISON OF MASER AND REPRSENTS THE FINAL ELEVATION AFTER THE WALL WAS CUT TO MATCH DESIGN LINER GRADES.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.



0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	REVISION	BY	APVD
1	2/10/16	DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

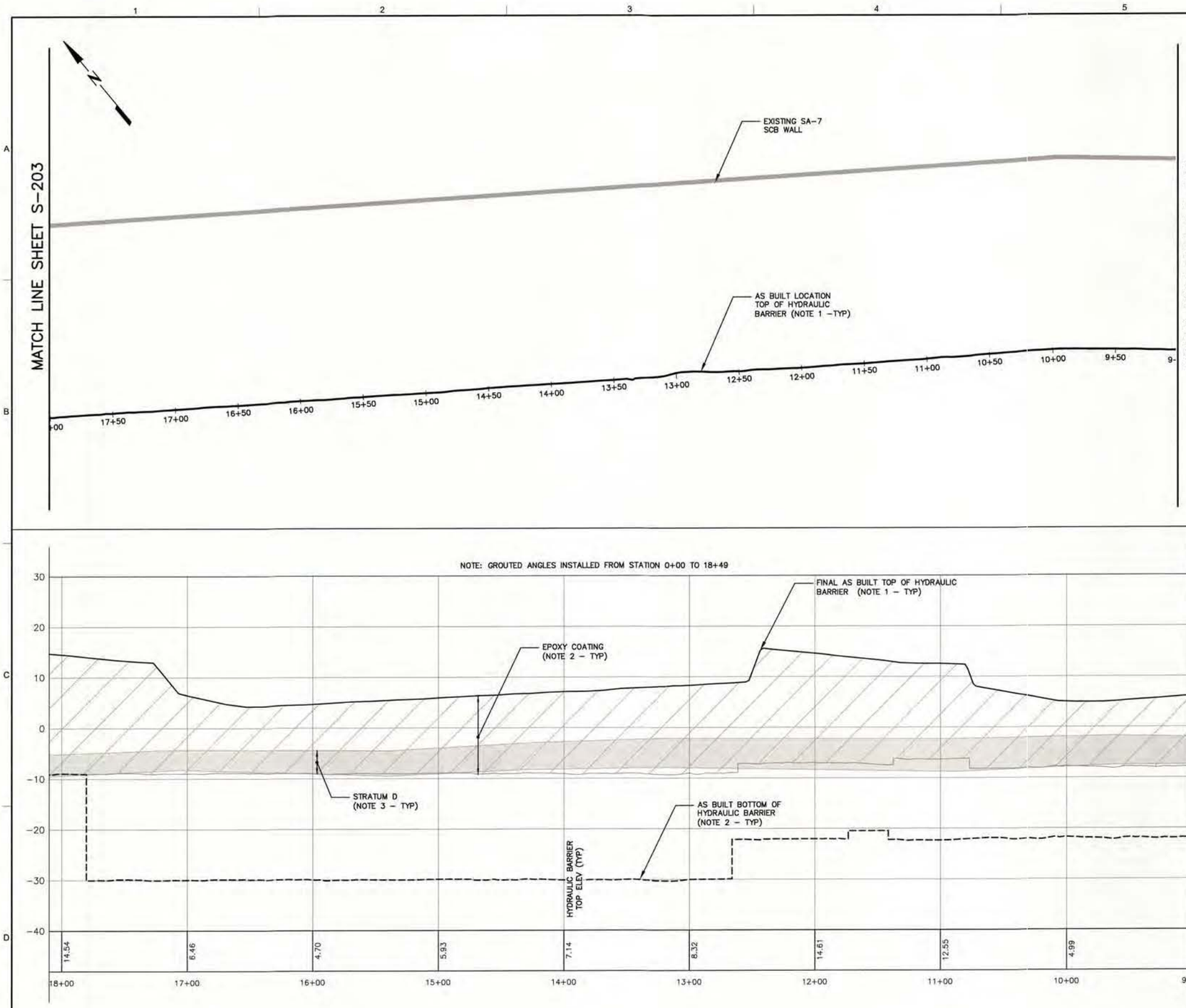
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/10/16
PROJ	3480-10-0027
DWG	S-201
SHEET	OF

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Declarations\Declaration No 2\SA-6 South VHB\SA-6 South VHB Final Profile.dwg PLOT DATE: Tue, 18 Oct 2016 PLOT TIME: 7:06 PM



NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET S-201

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	REVISION	CHK	APVD	BY	APVD
1	2/10/16	DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT	TDD	APVD	TDD	SGS
DSGN		DR	RJR	TDD		SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL

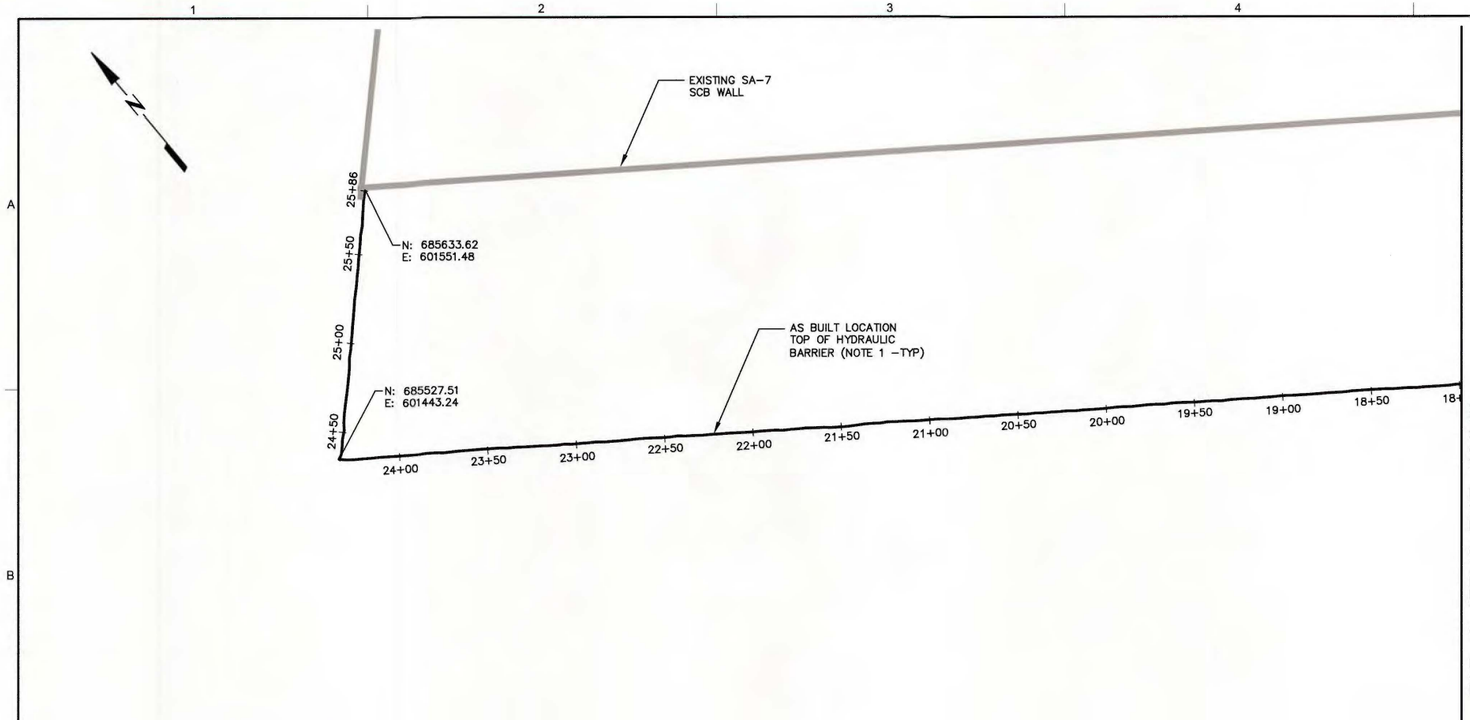
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 585 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/10/16
PROJ	3480-10-0027
DWG	S-202
SHEET	OF

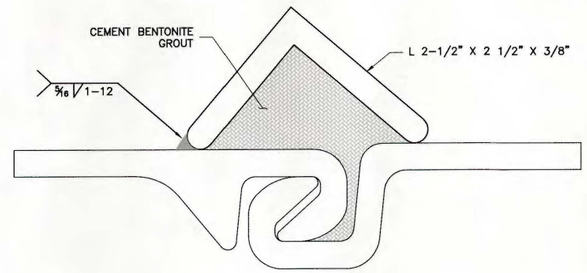
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Declarations\Declaration No 2\SA-6 South VHB\SA-6 South VHB Final Profile.dwg PLOT DATE: Tue, 18 Oct 2016 PLOT TIME: 7:05 PM



MATCH LINE SHEET S-202

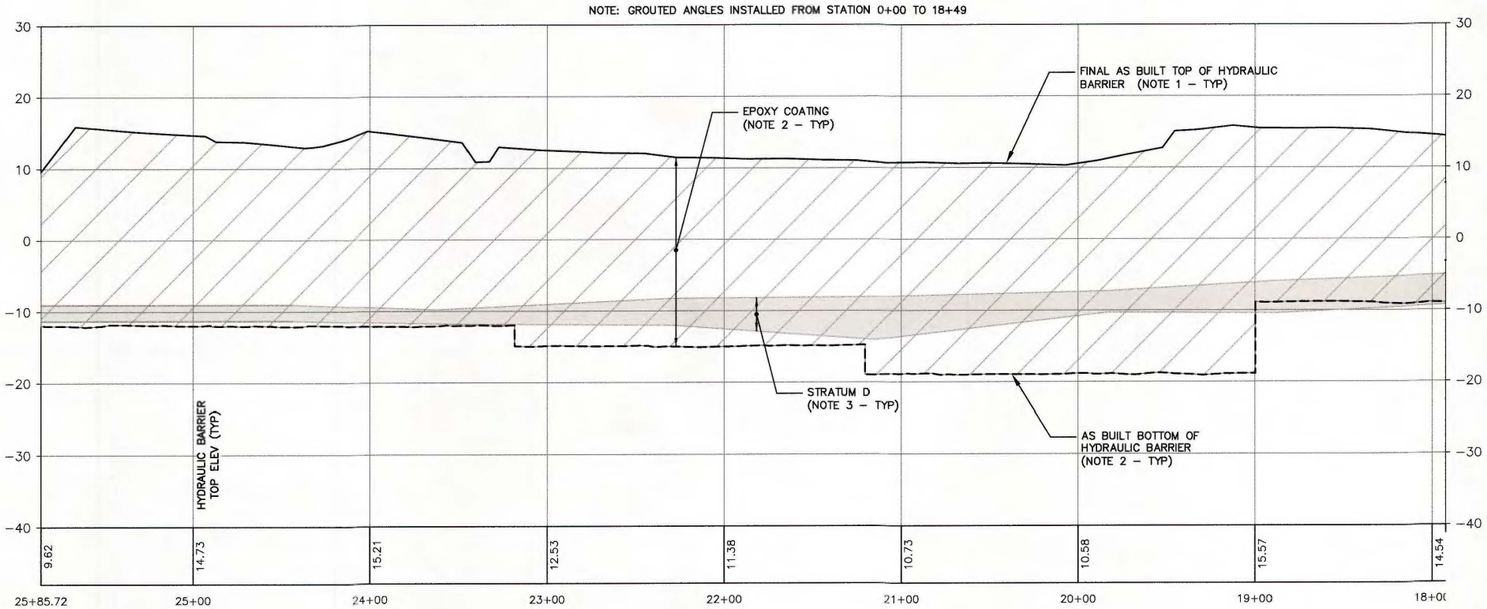
NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET S-201



SEE NOTE HB19 ON SHEET GN-003

SHEET SEALING DETAIL (F)
NTS
SN-201 | CN-301



0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APVD
1	2/10/16	TDD	RJR	TDD	

DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT

REVISION BY TDD APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 588 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/10/16
PROJ	3480-10-0027
DWG	S-203
SHEET	OF

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FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Declarations\Declaration No 2\SA-6 South VHB\SA-6 South VHB Final Profile.dwg PLOT DATE: Tue, 18 Oct 2016 PLOT TIME: 7:02 PM

APPENDIX O

VIBRATION MONITORING
(CD ONLY)

Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring

Study Area 6 South
Chromium Remedy

Prepared by
Geocomp Engineering
August 13, 2013

Geocomp Engineering
For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

Notes:

- Activity for the day was sheets driving along 440 North and Jug handle
- Total number of sheets driven was two(2)
- Summary of sheet driving activity is as follows
    - Sheets driving started at 13:39 stopped at 13:42,
    - Started at 13:52 stopped at 13:57,
    - Started at 14:13 stopped at 14:14

Sheet driving activities were stopped early due to complications. Completion time was at 14:14.

Crack Gauges:

- Crack guages were checked at the end of day. Crack gauges show no movement.

Event Report

Histogram Start Time	09:51:50 August 12, 2013
Histogram Finish Time	11:41:55 August 13, 2013
Number of Intervals	46502 at 2 seconds
Range	Geo :10.00 in/s
Sample Rate	1024sps

Notes

Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

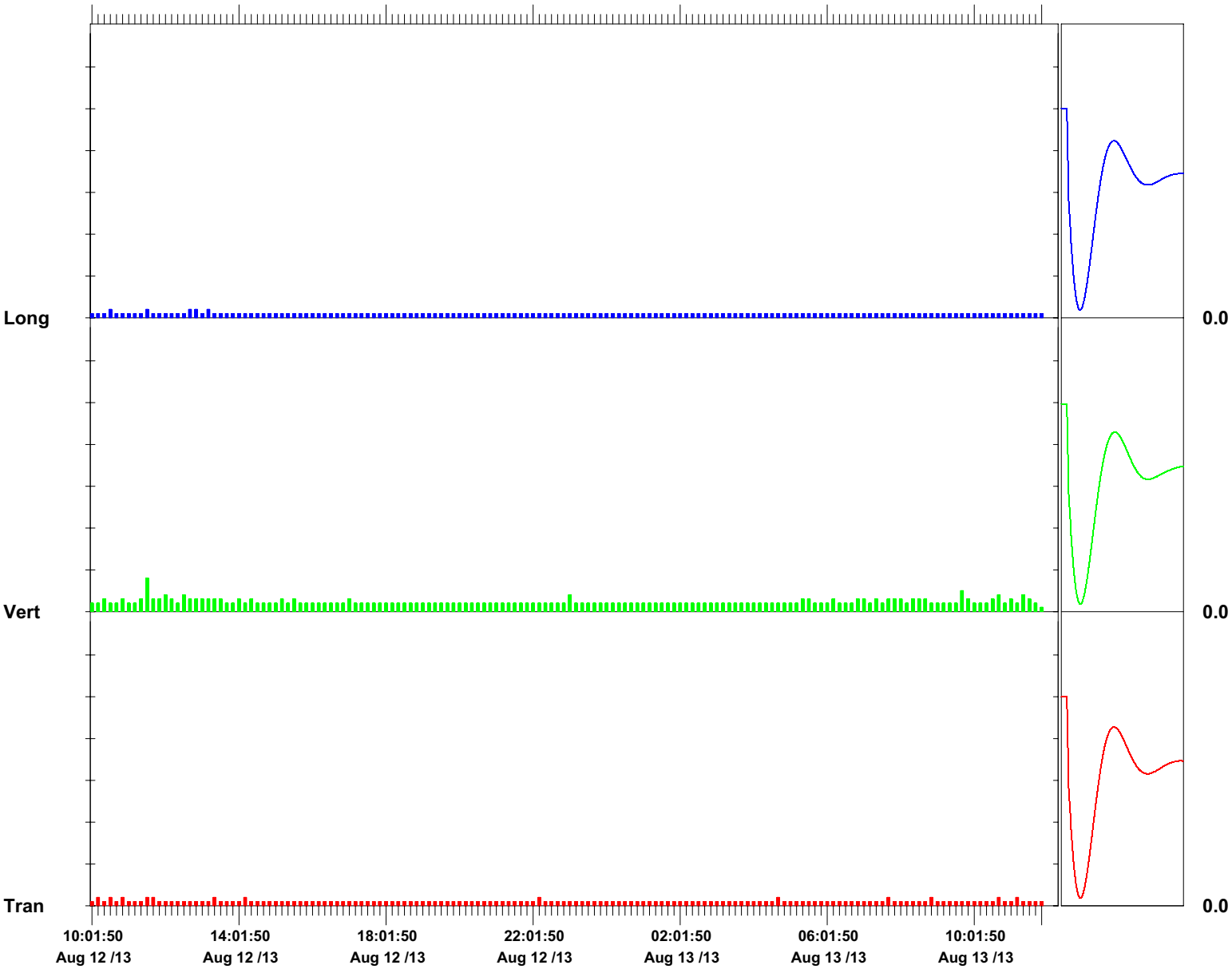
Serial Number	BA14150 V 8.12-8.0 BlastMate III
Battery Level	6.7 Volts
Unit Calibration	July 17, 2008 by Instantel Inc.
File Name	P150EXKM.2E0

Post Event Notes
Base line data Jersey city diner Route 440 North
8-12-2013 to 8-13-2013
PPV = 0.04 in/s (Verticle)

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0400	0.01000	in/s
ZC Freq	>100	>100	>100	Hz
Date	Aug 12 /13	Aug 12 /13	Aug 12 /13	
Time	10:11:00	11:28:56	10:29:50	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.4	7.5	Hz
Overswing Ratio	3.7	3.6	3.9	

Peak Vector Sum 0.0400 in/s on August 12, 2013 at 11:28:56



Time Scale: 10 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Printed: August 13, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Histogram Start Time	13:07:36 August 13, 2013
Histogram Finish Time	15:16:23 August 13, 2013
Number of Intervals	3863 at 2 seconds
Range	Geo :10.00 in/s
Sample Rate	1024sps

Notes

Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

Serial Number	BA14150 V 8.12-8.0 BlastMate III
Battery Level	6.6 Volts
Unit Calibration	July 17, 2008 by Instantel Inc.
File Name	P150EXMP.SO0

Post Event Notes

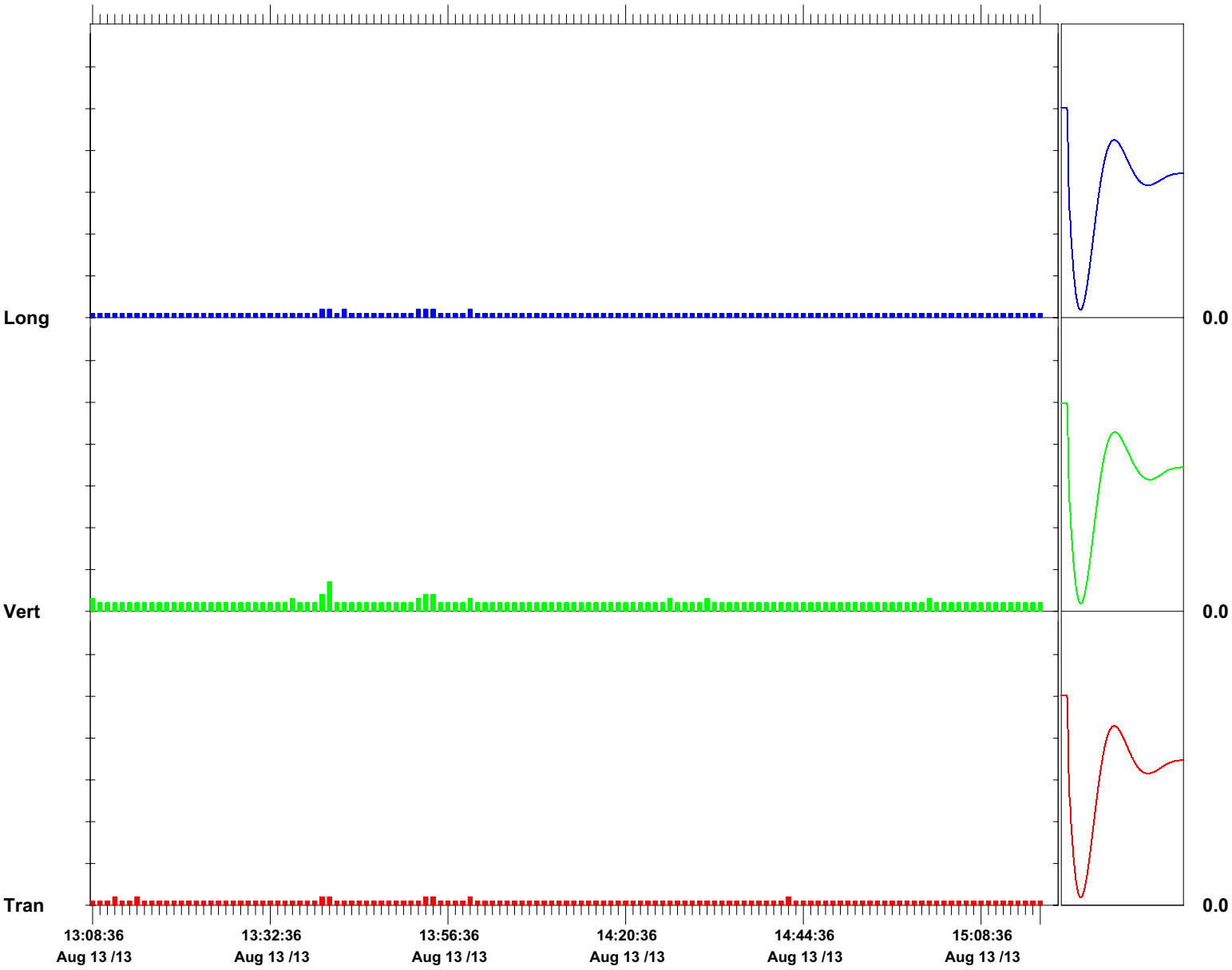
Jersey city diner Route 440 North
Data from 8-13-2013
TIme of Vibration is from 13:39 to 14:14 (2 sheets)
PPV = 0.035 in/s (Verticle) @ 13:39

Extended Notes

SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0350	0.01000	in/s
ZC Freq	>100	37	>100	Hz
Date	Aug 13 /13	Aug 13 /13	Aug 13 /13	
Time	13:10:42	13:39:40	13:38:50	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.6	3.6	3.8	

Peak Vector Sum 0.0357 in/s on August 13, 2013 at 13:39:40



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation

Event Report

Histogram Start Time	13:13:38 August 13, 2013
Histogram Finish Time	15:09:01 August 13, 2013
Number of Intervals	115 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

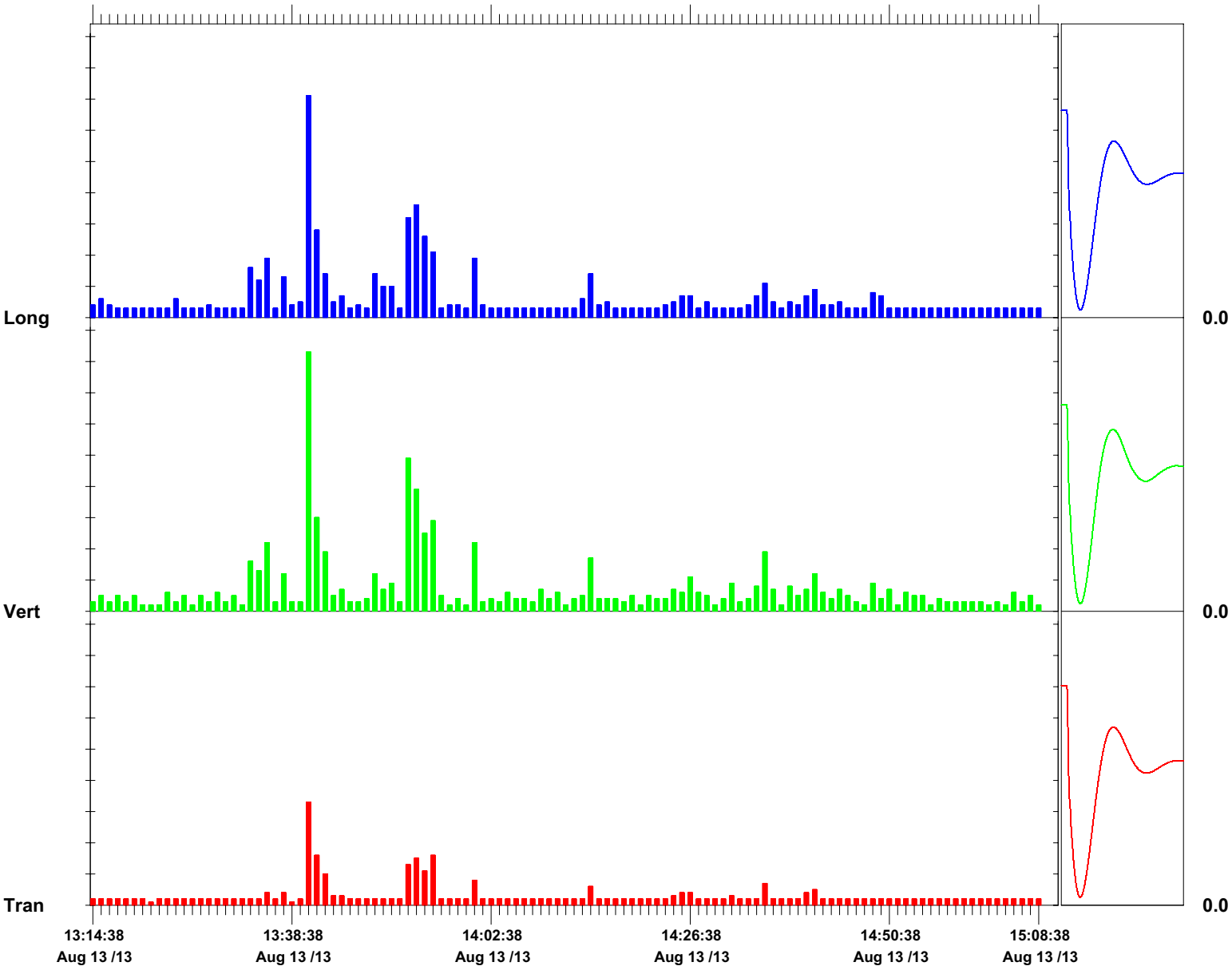
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
File Name	Q370EXMQ.2Q0

Post Event Notes
Utility line along Route 440 North
Vibration started from 13:39 to 14:14
PPV during the vibration period = 0.42 in/s (Verticle) @ 13:40

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.165	0.415	0.355	in/s
ZC Freq	37	30	30	Hz
Date	Aug 13 /13	Aug 13 /13	Aug 13 /13	
Time	13:40:38	13:40:38	13:40:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.8	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.479 in/s on August 13, 2013 at 13:40:38



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Printed: August 13, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Date/Time Vert at 13:39:52 August 13, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: Olushea
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

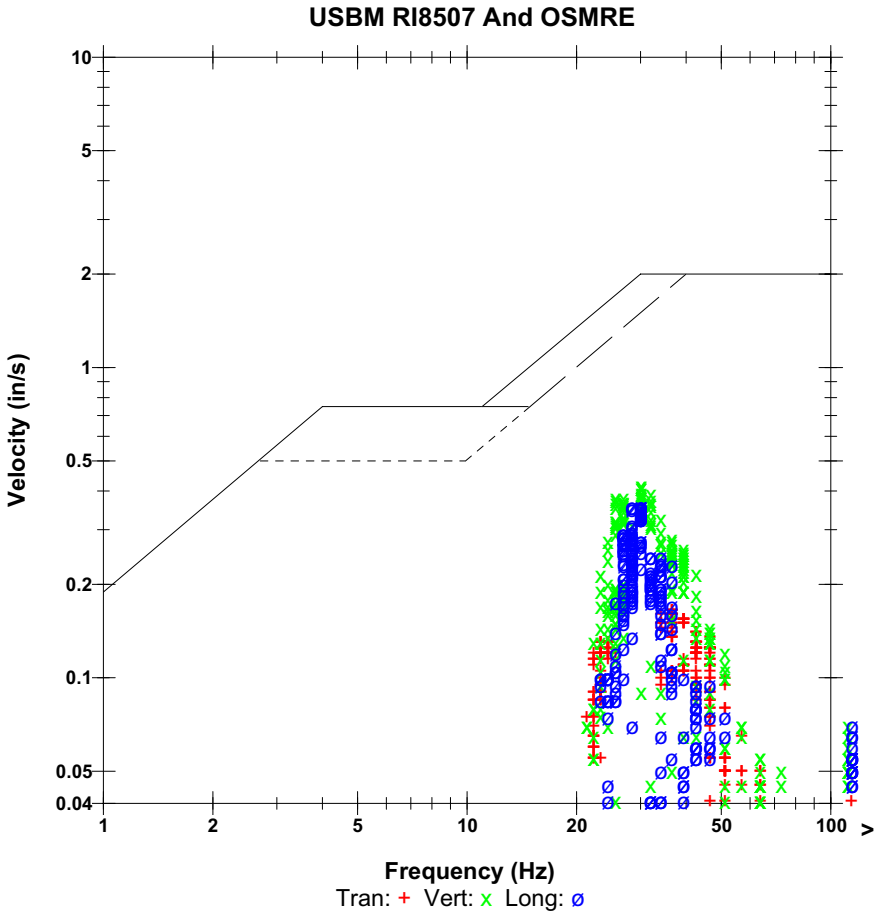
Serial Number BA15370 V 10.06-8.17 BlastMate III/8
Battery Level 6.1 Volts
Unit Calibration December 4, 2009 by Instantel inc.
N/A
File Name Q370EXMR.AG0

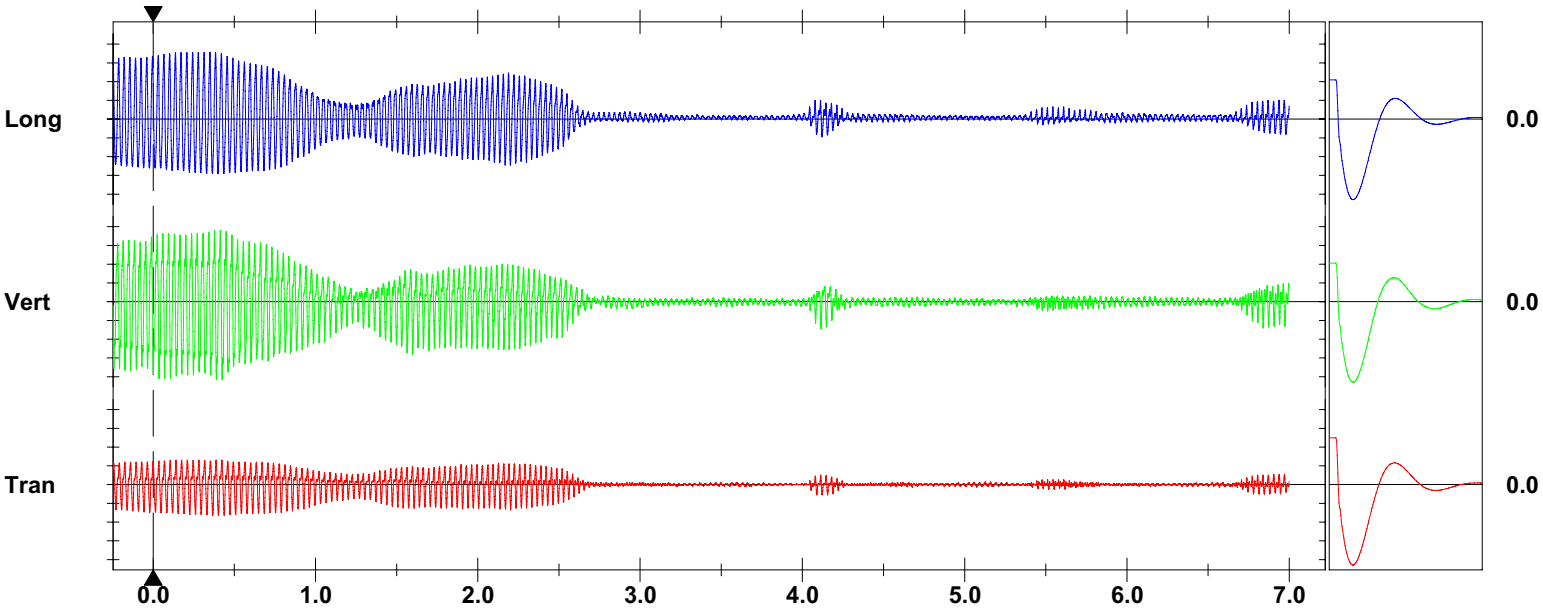
Post Event Notes
Utility line along Route 440 North
Vibration started from 13:39 to 14:14
PPV during the vibration period = 0.42 in/s (Verticle) @ 13:40

Extended Notes
Combo Mode August 13, 2013 13:13:37
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.165	0.415	0.355	in/s
ZC Freq	37	30	30	Hz
Time (Rel. to Trig)	0.366	0.390	0.137	sec
Peak Acceleration	0.119	0.371	0.199	g
Peak Displacement	0.00071	0.00218	0.00186	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.8	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.479 in/s at 0.388 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check
Trigger =

Printed: August 13, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

FFT Report

Date/Time	Vert at 13:39:52 August 13, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.1 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXMR.AG0
Operator/Setup:	Olushea		

Notes

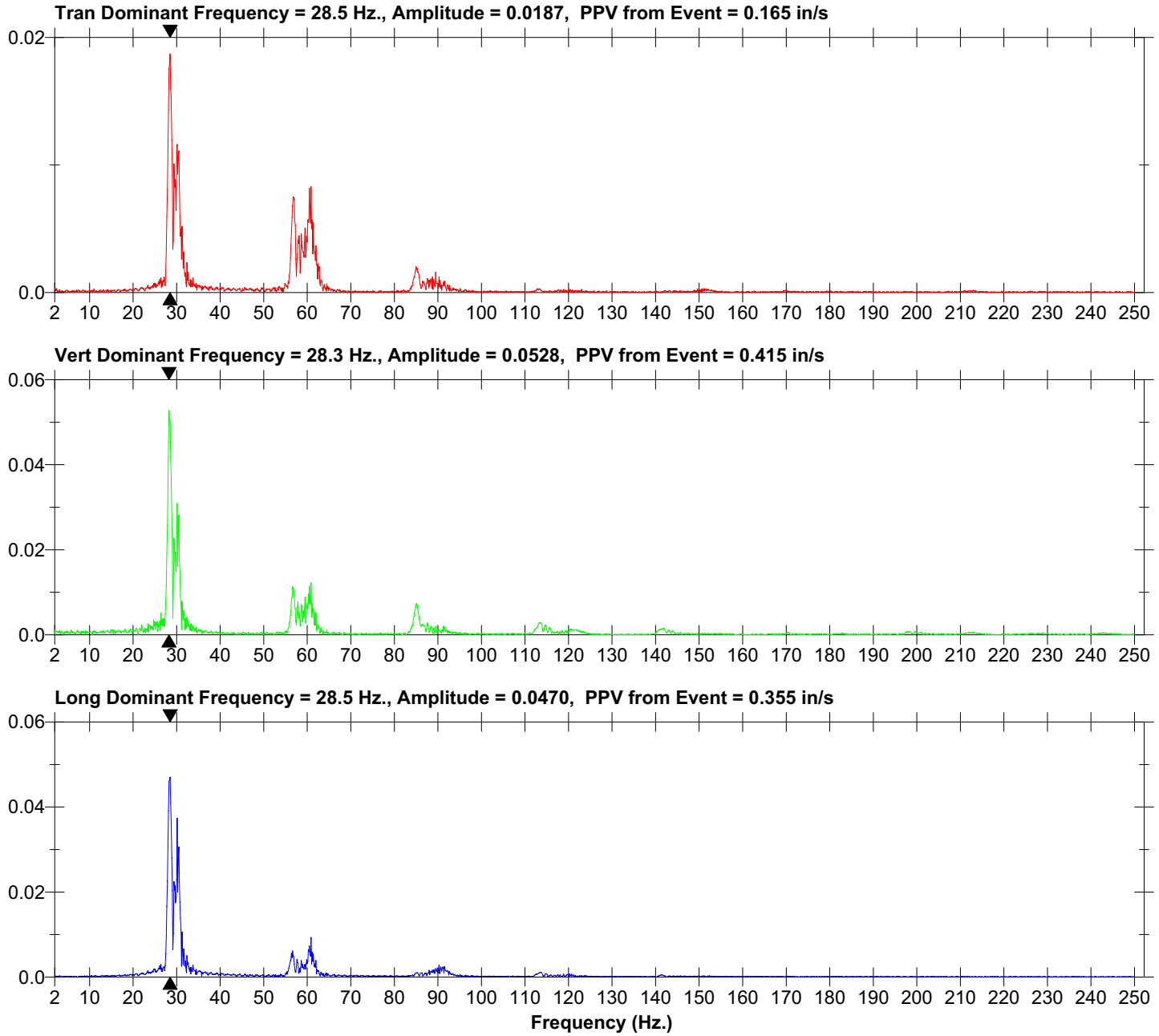
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

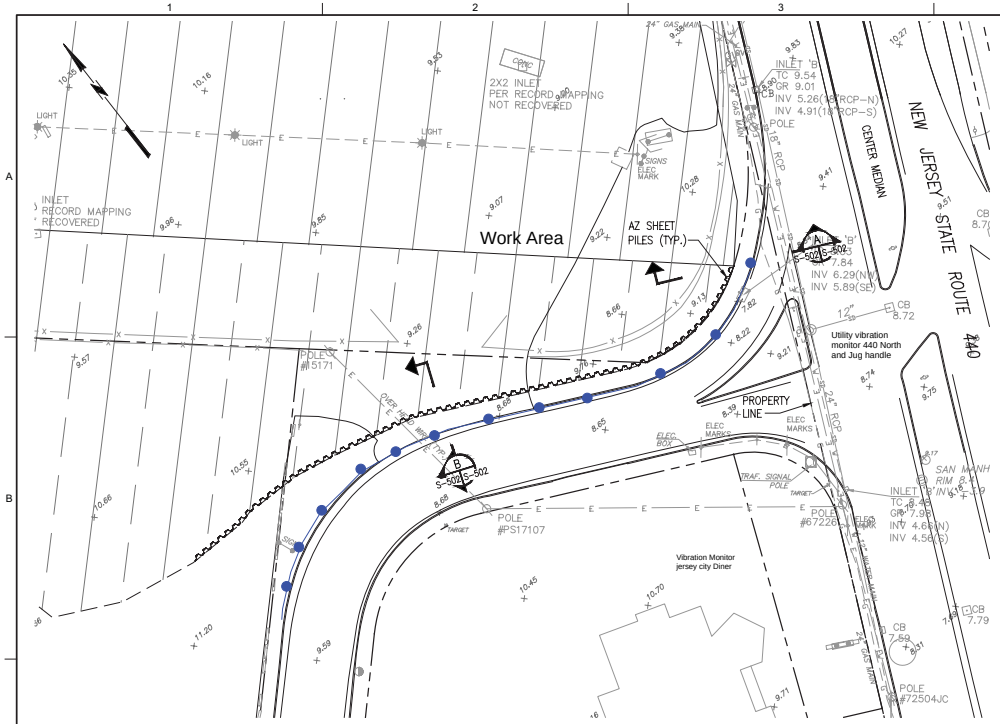
Combo Mode August 13, 2013 13:13:37
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Vibration started from 13:39 to 14:14
PPV during the vibration period = 0.42 in/s (Verticle) @ 13:40



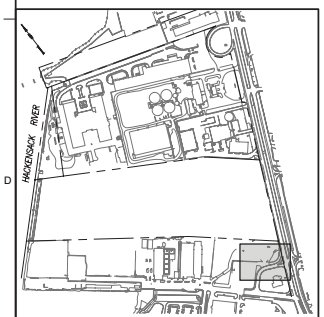
Format Copyrighted 2004-2005 Instantel Inc.



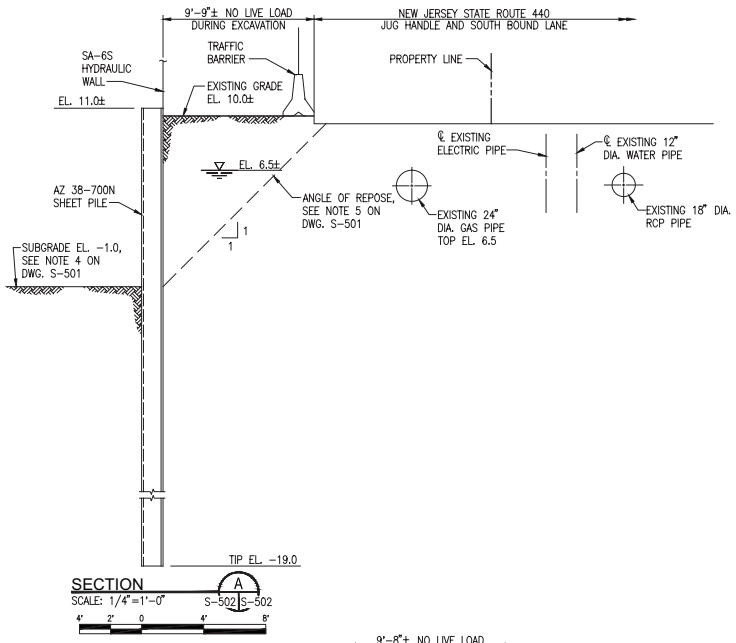
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

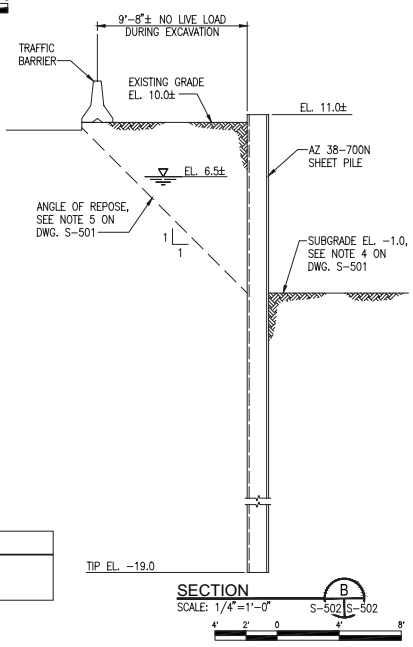
SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



KEY PLAN





Legend

Center line of Vibration Monitoring Locations

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46322

NO.	DATE	REVISION	CHK	BY	APVD
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD		
DSGN	G.S.	DR B.B.	G.P.	APVD P.W.D.	

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ. 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 111173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-10-0027
DWG S-502
SHEET 60 OF 66

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FILE NAME: G:\DWGS\111\111173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring Plan

Study Area 6 South
Chromium Remedy

Prepared by
Geocomp Engineering
August 14, 2013

Geocomp Engineering
For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

Twelve sheets were driven in total for the day. The work commenced at 7:50am until 11:30am. The location of the seismograph was changed a total of 4 times to be at the closest distance possible to the utility lines.

A high exceedance was noted at 10:00am while the seismograph was in location 3 along jug handle. Work was stopped briefly. Meanwhile, I checked the crack gauges and did a walk-through of the basement of the diner. No changes were observed. I also checked the reading in the diner's seismograph and it showed a reading of **0.03 in/s** at the time of exceedance which is lower than the **threshold limit** of **0.375 in/s**. Upon the inspection of the geophone, I noticed that the sandbag had moved and geophone was loose. It is most likely that this was the cause of the high reading.

The exact start & stop times that the vibrations occurred were noted, as well as the time that seismograph locations were changed.

Sheet 2 –7:51 to 7:59(pair)

Sheet 3 – 8:11 to 8:12 (pair)

Sheet 4 – 8:23 to 8:24 (pair)

Sheet 5 – 9:11 to 9:12 (pair)

Location of Geophone moved at 9:16

Sheet 6 – 9:20 to 9:21 (pair)

Location of Geophone moved at 9:24

Sheet 7 – 9:27 to 9:28 (pair)

Sheet 8 – 9:43 to 9:44 (pair)

Sheet 9 – 9:53 to 9:54 (pair)

Sheet 10 – 10:01 to 10:01 (pair)

Sheet 11 – 10:25 to 10:26 (pair)

Sheet 12 – 10:32 to 10:34 (pair)

Sheet 13 – 10:44 to 10:44 (pair)

Location of Geophone moved at 11:02

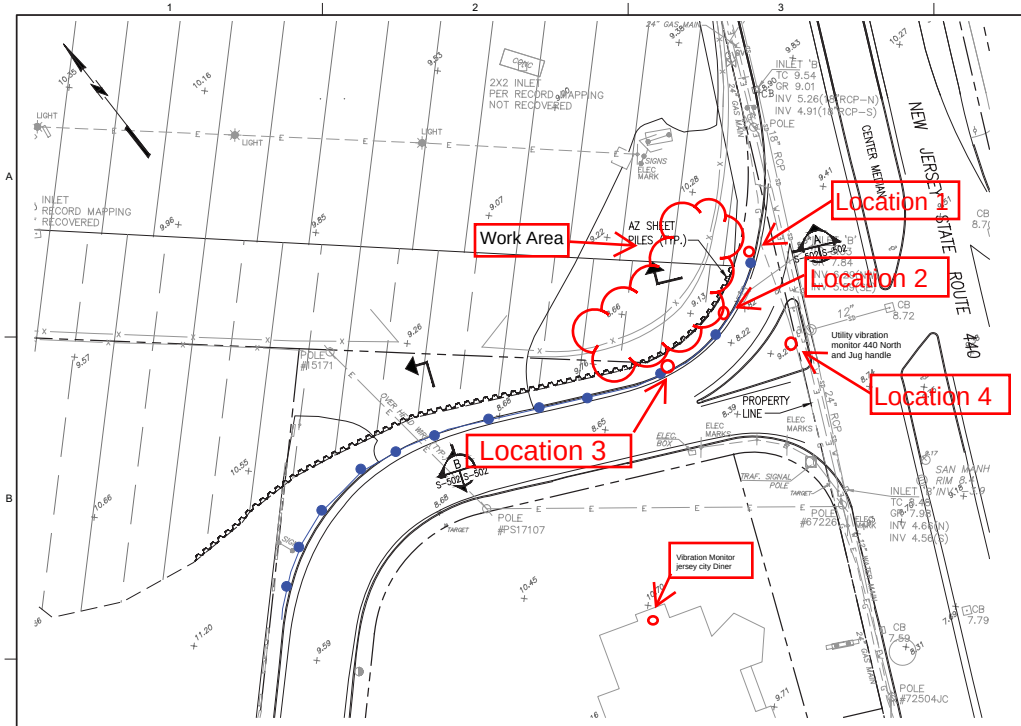
Sheet 13 – 11:02 to 10:24 (pair)

Exceedance:

- Water/Force main Alert limit exceedance at 7:52am 0.72 in/s (Vert) , 0.61 in/s (Long)
- Water/Force main Alert limit exceedance at 9:28am 0.52in/s (Tran) , 0.61 in/s (Vert)
- Water/Force main Alert limit exceedance at 9:43am 0.71 in/s (Vert)
- Water/Force main Alert limit exceedance at 9:53am 0.675in/s (Tran) , 1.57 in/s (Vert), 1.17 in/s (Long)
- Water/Force main limit exceedance at 10:25:43 0.88 in/s (Tran), 0.98 in/s (Vert), 0.55 in/s (Long)
- Water/Force main Alert limit exceedance at 10:25:51am 0.61in/s (Tran) , 0.50in/s(Vert)
- Water/Force main Alert limit exceedance at 10:26am & 10:58am 0.88 in/s (Tran), 1.06 in/s (Vert), 0.85 in/s (Long)

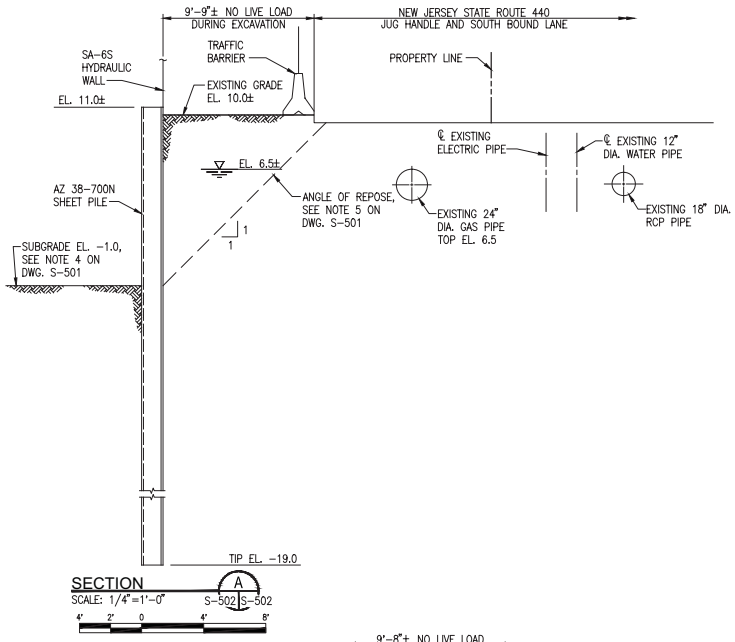
Crack Guages:

Crack gauges were checked in the morning before work began, after the exceedance at 10:00 AM and afternoon after completion of work. There were no movements in cracks.



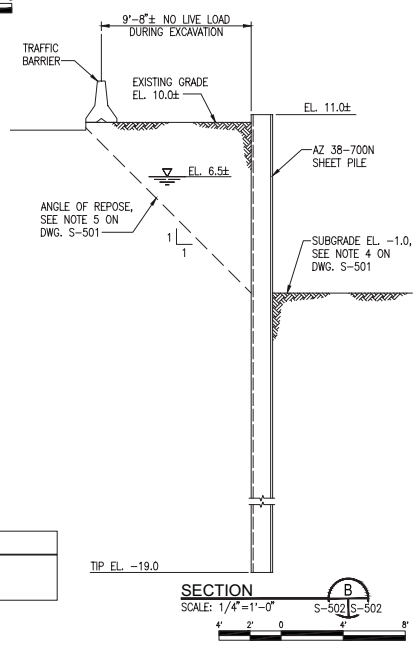
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"



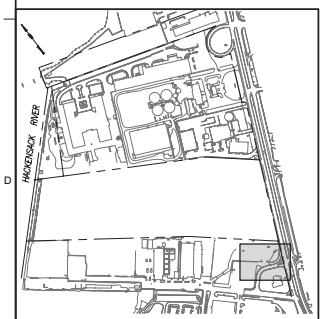
SECTION A S-502 S-502

SCALE: 1/4"=1'-0"



SECTION B S-502 S-502

SCALE: 1/4"=1'-0"



KEY PLAN

Legend

Center line of Vibration Monitoring Locations

PETER W. DEMING

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 46522

NO.	DATE	REVISION	BY	APVD
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	

DSGN G.S. | DR B.B. | CHK G.P. | APVD P.W.D.

Honeywell

101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA - 225 WEST 34TH STREET, NEW YORK, NY 10122

amec

Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689-2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

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FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

Histogram Start Time 07:33:01 August 14, 2013
Histogram Finish Time 13:17:20 August 14, 2013
Number of Intervals 10329 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Operator/Setup: `→^ xkÐ ! /NA
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

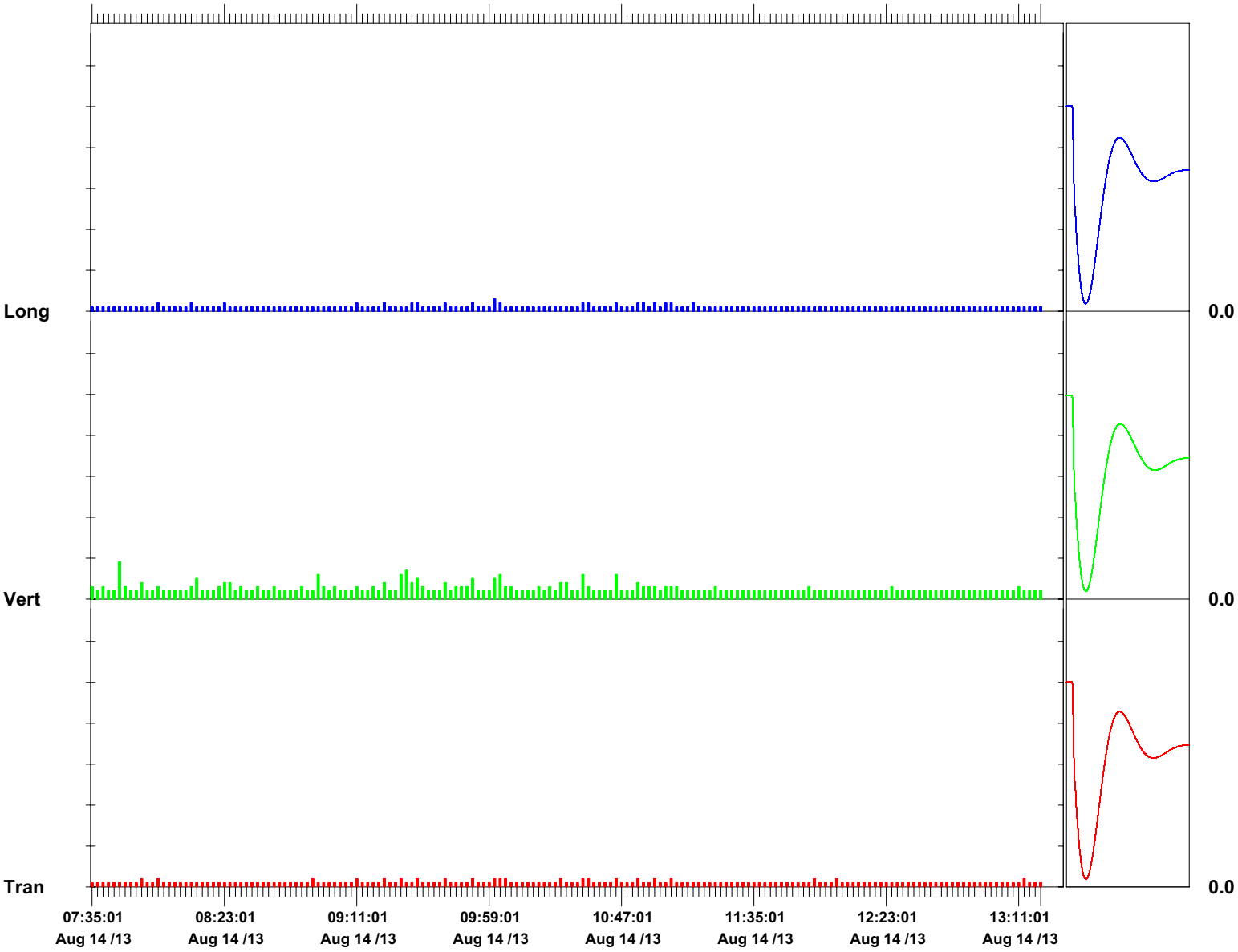
Serial Number BA14150 V 8.12-8.0 BlastMate III
Battery Level 6.7 Volts
Unit Calibration July 17, 2008 by Instantel Inc.
N/A
File Name P150EXO4.Z10

Post Event Notes
Jersey city diner Route 440
Data from 8-14-2013,
TIme of Vibration is from 7:50AM to 11:30AM (12 sheets)
PPV during vibration time = 0.035 in/s @ 9:27AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0450	0.0150	in/s
ZC Freq	>100	10	>100	Hz
Date	Aug 14 /13	Aug 14 /13	Aug 14 /13	
Time	07:51:07	07:44:45	10:00:57	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.6	3.7	3.8	

Peak Vector Sum 0.0456 in/s on August 14, 2013 at 07:44:45



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	07:40:55 August 14, 2013
Histogram Finish Time	09:14:54 August 14, 2013
Number of Intervals	93 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
File Name	Q370EXO5.C70

Post Event Notes

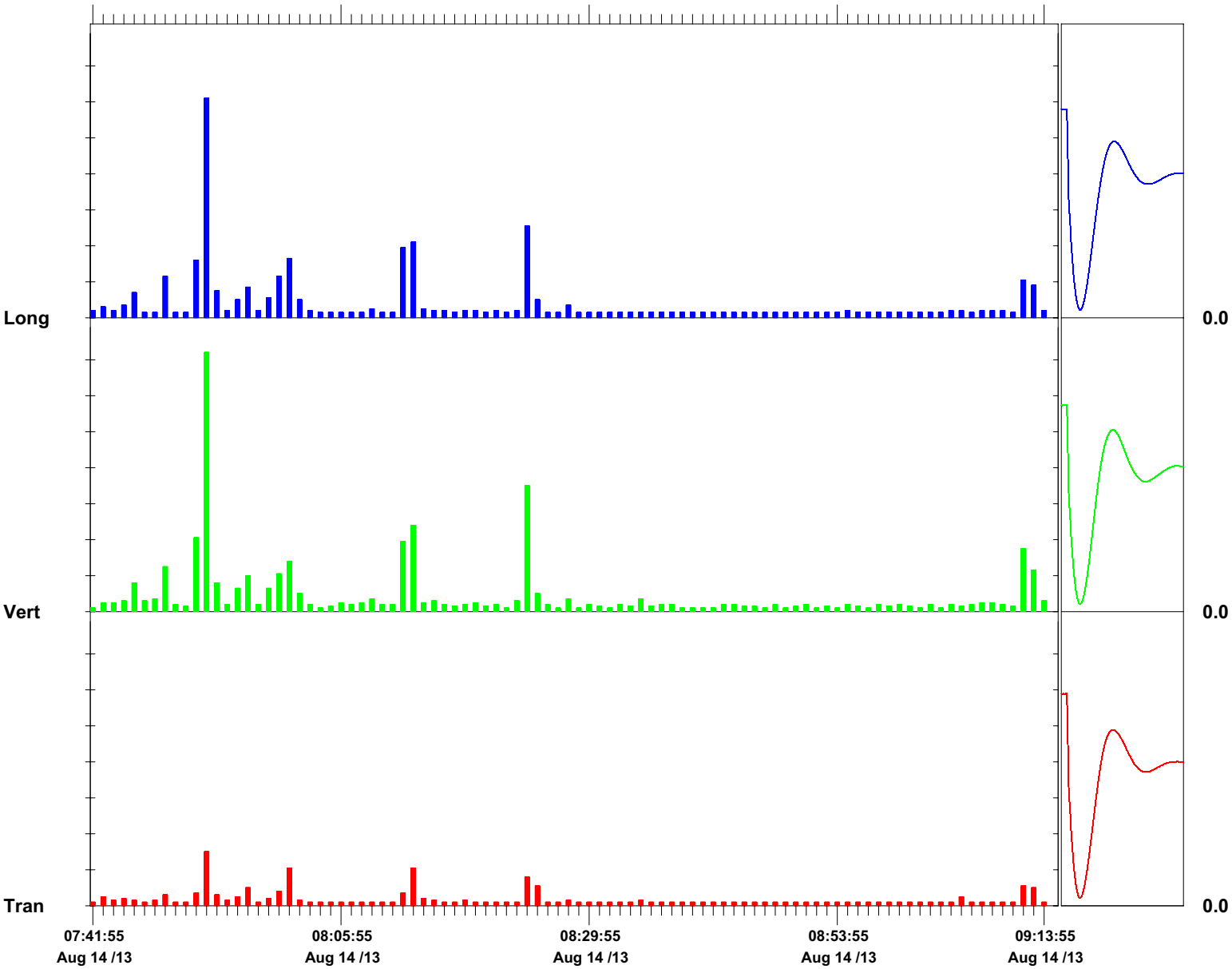
Utility line along Route 440 North
Data from 8-14-2013
Location 1,
PPV during the vibration perid = 0.72in/s (Verticle) @ 7:52AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.150	0.720	0.610	in/s
ZC Freq	19	22	28	Hz
Date	Aug 14 /13	Aug 14 /13	Aug 14 /13	
Time	07:52:55	07:52:55	07:52:55	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.8	7.4	Hz
Overswing Ratio	4.0	3.4	3.9	

Peak Vector Sum 0.843 in/s on August 14, 2013 at 07:52:55



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Date/Time Long at 07:52:17 August 14, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: ┘/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

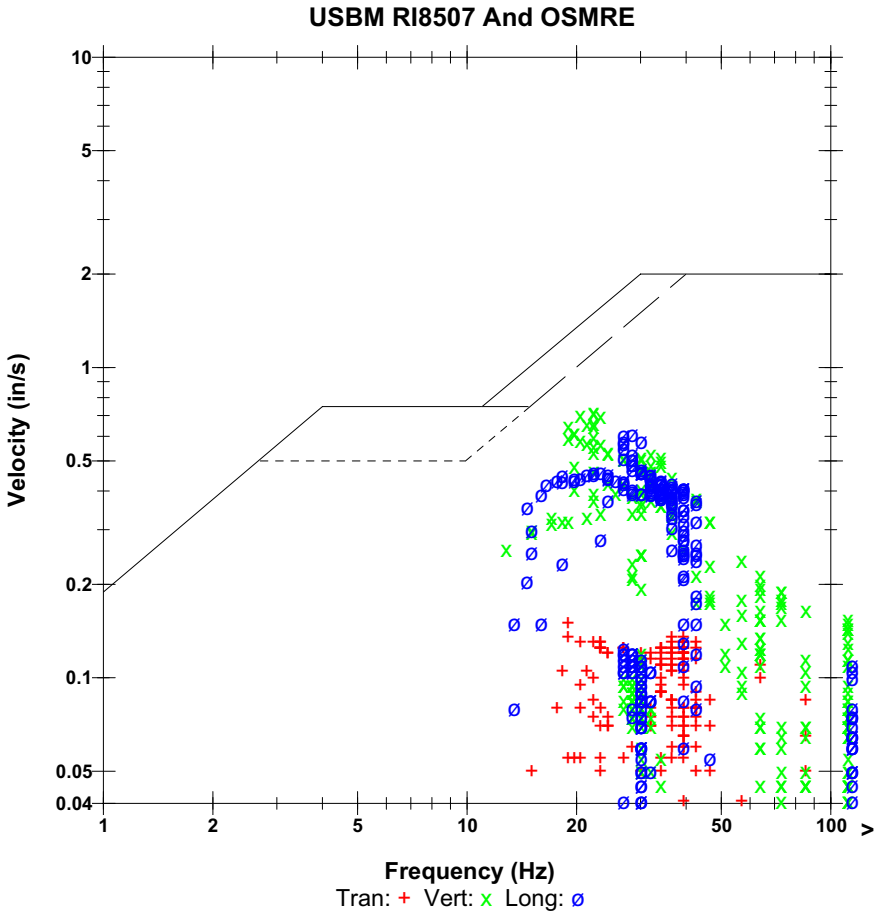
Serial Number BA15370 V 10.06-8.17 BlastMate III/8
Battery Level 6.2 Volts
Unit Calibration December 4, 2009 by Instantel inc.
N/A
File Name Q370EXO5.V50

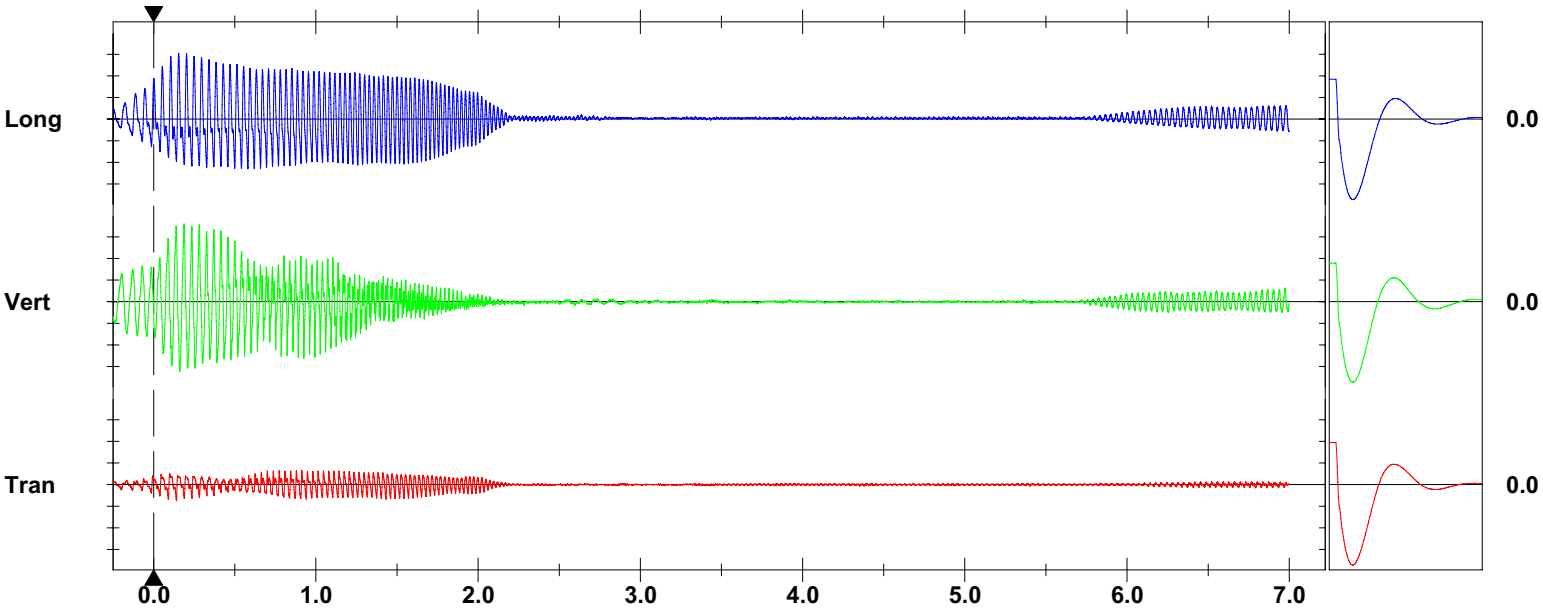
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 1,
PPV during the vibration period = 0.72in/s (Verticle) @ 7:52AM

Extended Notes
Combo Mode August 14, 2013 07:40:55
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.150	0.720	0.610	in/s
ZC Freq	19	22	28	Hz
Time (Rel. to Trig)	0.141	0.188	0.154	sec
Peak Acceleration	0.186	0.716	0.331	g
Peak Displacement	0.00081	0.00504	0.00333	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.8	7.4	Hz
Overswing Ratio	4.0	3.4	3.9	

Peak Vector Sum 0.843 in/s at 0.281 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check
Trigger = ▶——◀

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FFT Report

Date/Time	Long at 07:52:17 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.2 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXO5.V50
Operator/Setup:	┘/NA		

Notes

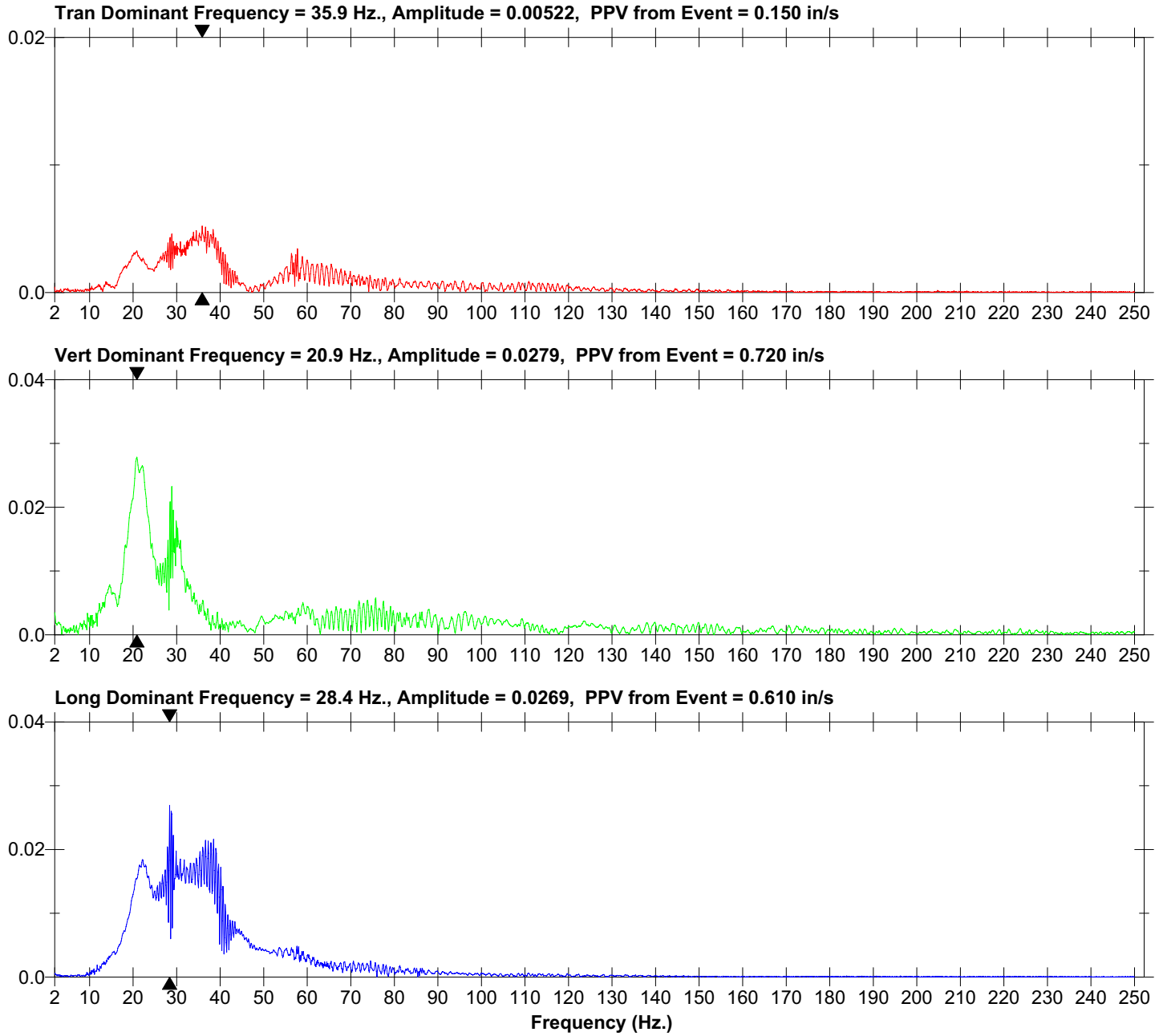
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

Combo Mode August 14, 2013 07:40:55
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 1,
PPV during the vibration period = 0.72in/s (Verticle) @ 7:52AM



Format Copyrighted 2004-2005 Instantel Inc.

Event Report

Histogram Start Time	09:16:45 August 14, 2013
Histogram Finish Time	09:22:46 August 14, 2013
Number of Intervals	6 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.2 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
File Name	Q370EXO9.RX0

Post Event Notes

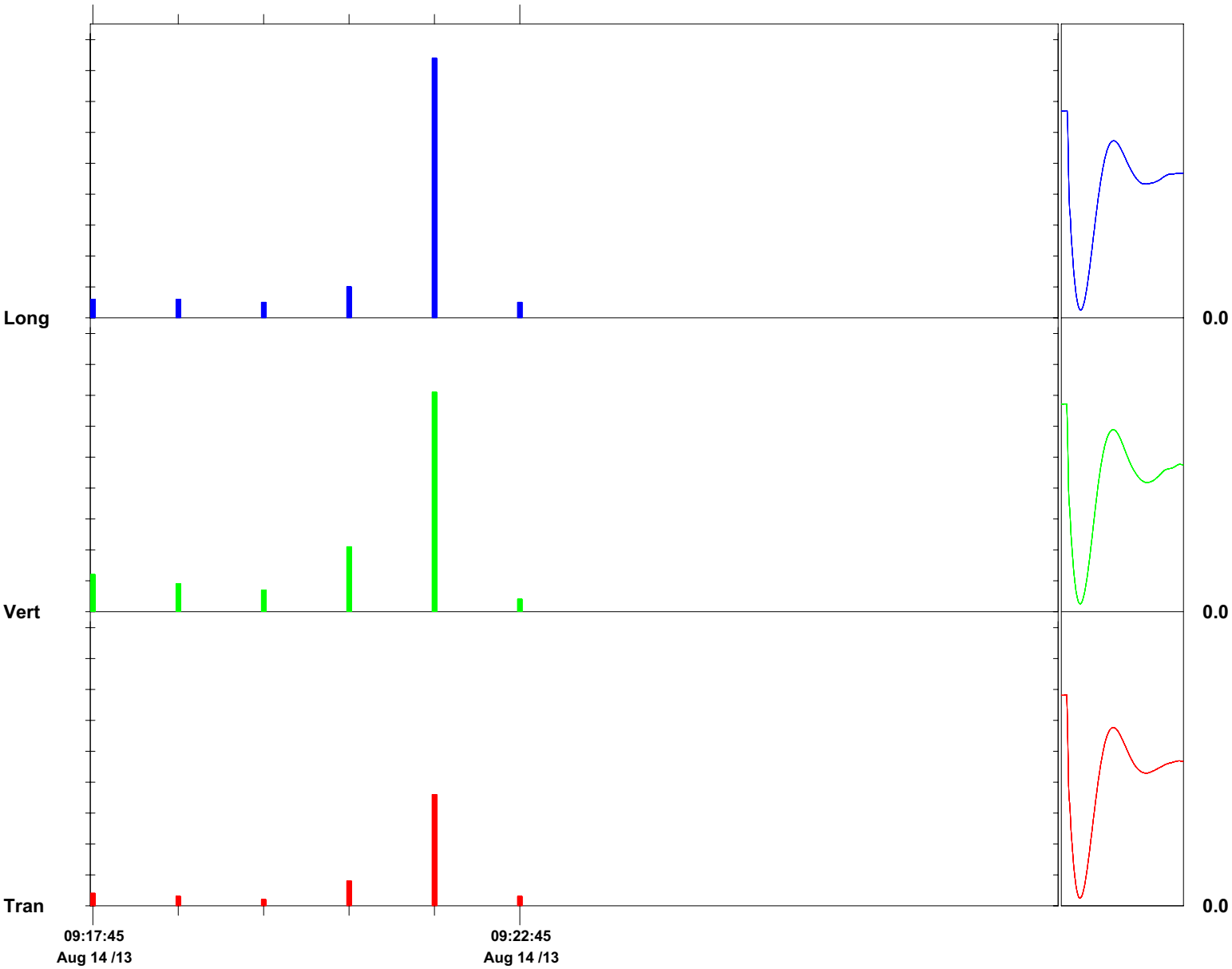
Utility line along Route 440 North
Data from 8-14-2013
Location 2 ,
PPV during the vibration period = 0.42 in/s (Longitude) @ 9:21AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.180	0.355	0.420	in/s
ZC Freq	51	39	39	Hz
Date	Aug 14 /13	Aug 14 /13	Aug 14 /13	
Time	09:21:45	09:21:45	09:21:45	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.6	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.452 in/s on August 14, 2013 at 09:21:45



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Date/Time Long at 09:21:26 August 14, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: ┼/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

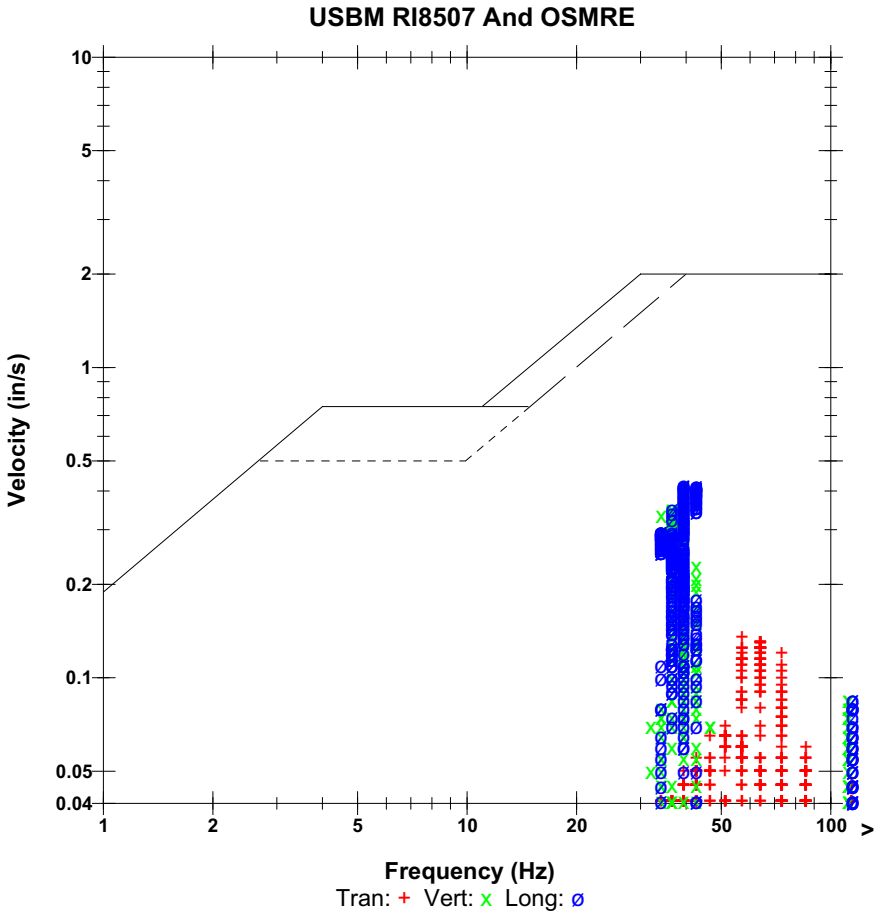
Serial Number BA15370 V 10.06-8.17 BlastMate III/8
Battery Level 6.2 Volts
Unit Calibration December 4, 2009 by Instantel inc.
N/A
File Name Q370EXO9.ZQ0

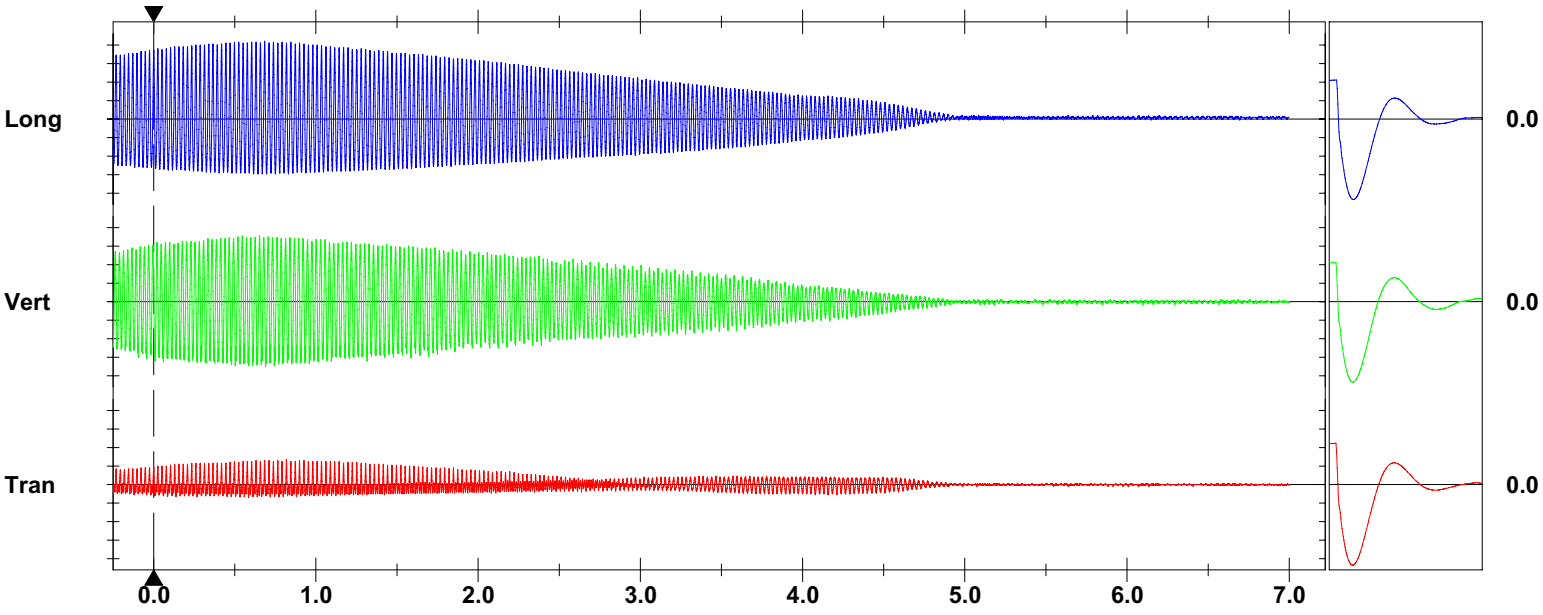
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 2
PPV during the vibration period = 0.42 in/s (Longitude) @ 9:21AM

Extended Notes
Combo Mode August 14, 2013 09:16:45
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.135	0.355	0.420	in/s
ZC Freq	57	39	39	Hz
Time (Rel. to Trig)	0.818	0.546	0.685	sec
Peak Acceleration	0.133	0.358	0.292	g
Peak Displacement	0.00031	0.00152	0.00149	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.6	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.452 in/s at 0.657 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check
Trigger =

Printed: August 15, 2013 (V 10.02 - 10.02) Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation

FFT Report

Date/Time	Long at 09:21:26 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.2 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXO9.ZQ0
Operator/Setup:	┼/NA		

Notes

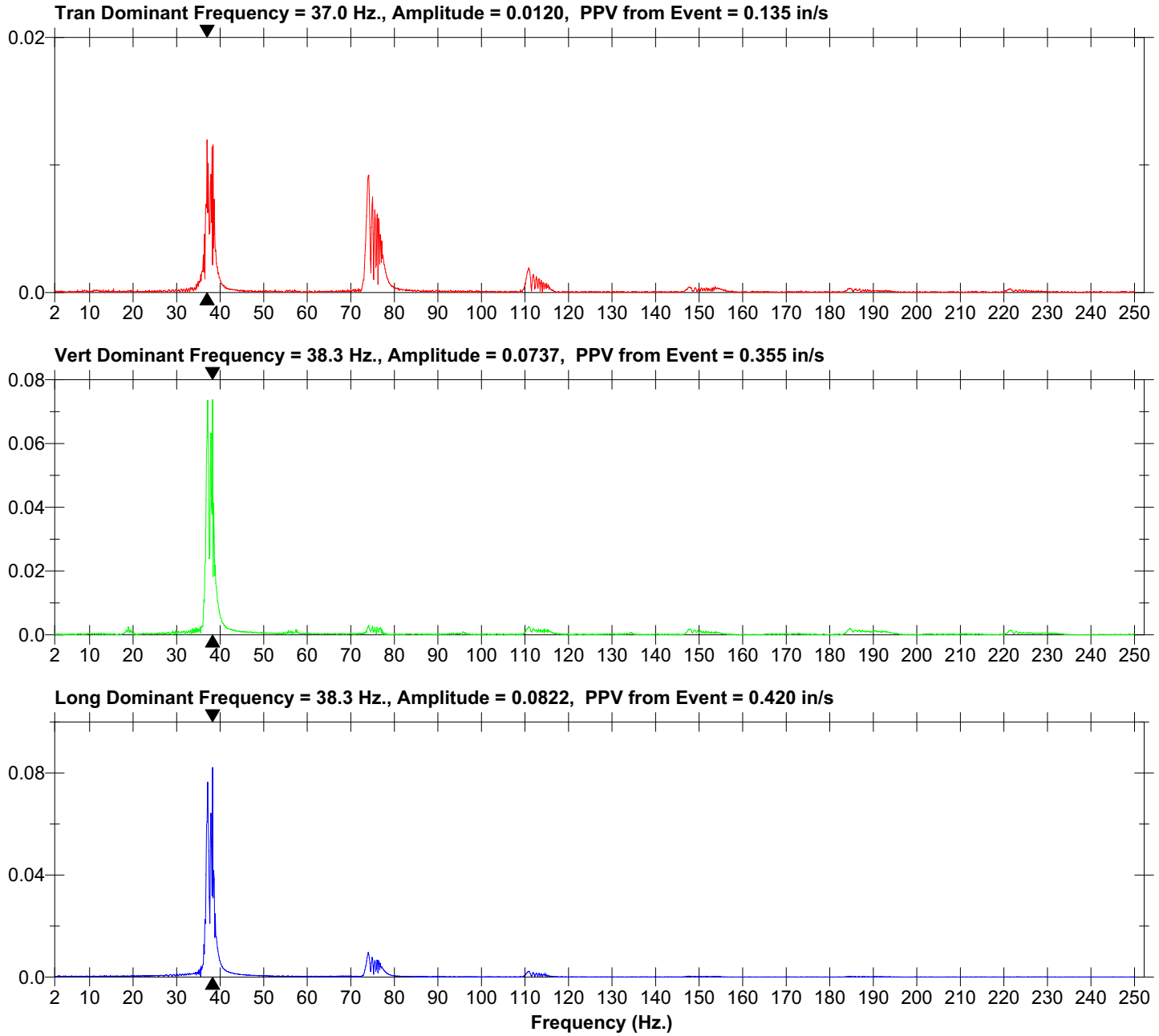
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

Combo Mode August 14, 2013 09:16:45
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 2
PPV during the vibration period = 0.42 in/s (Longitude) @ 9:21AM



Format Copyrighted 2004-2005 Instantel Inc.

Event Report

Histogram Start Time	09:24:51 August 14, 2013
Histogram Finish Time	10:15:49 August 14, 2013
Number of Intervals	50 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	/NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes
SA-6 Utility line Vibration monitoring.

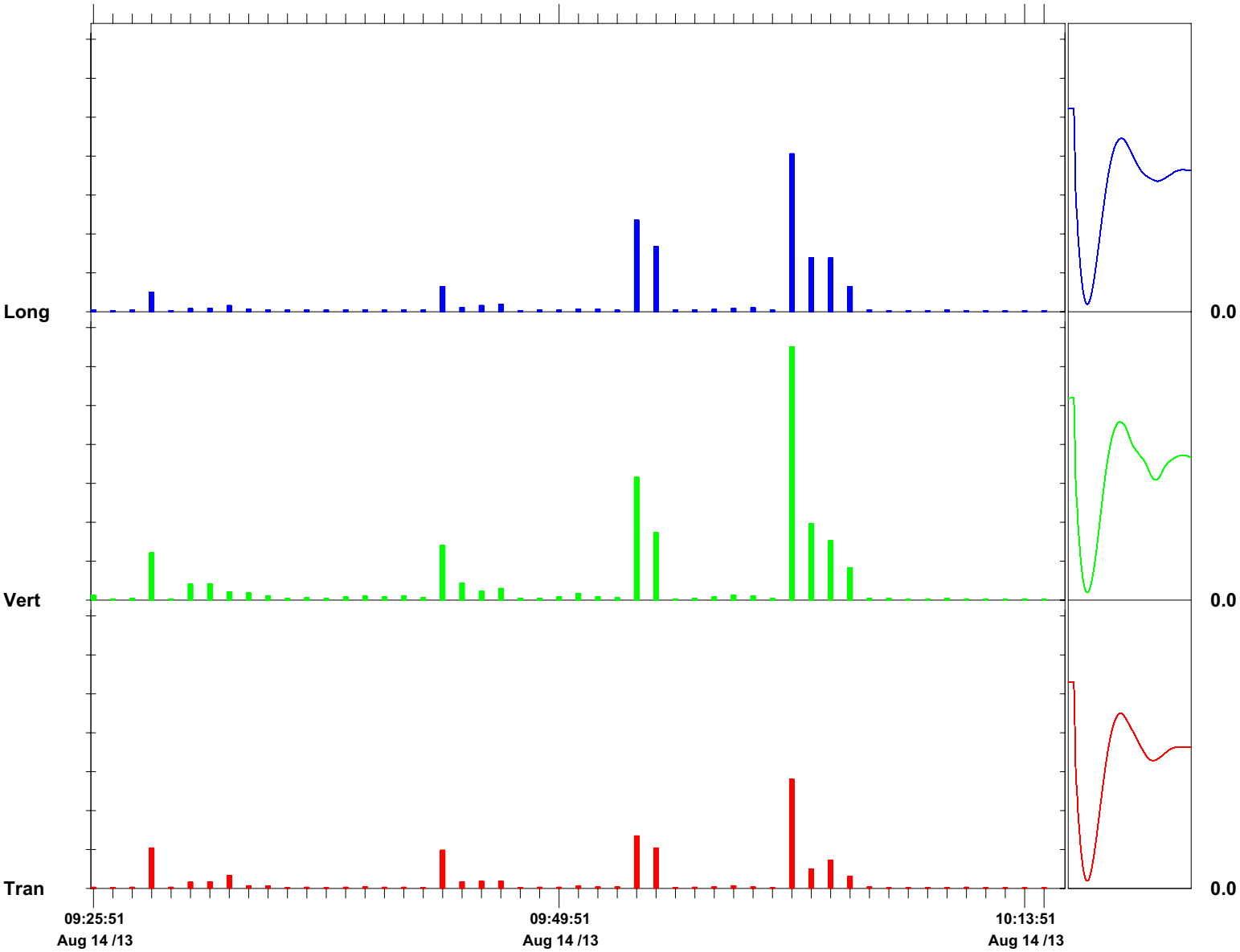
	Tran	**Vert**	**Long**	
PPV	1.40	3.25	2.03	in/s
ZC Freq	47	27	28	Hz
Date	Aug 14 /13	Aug 14 /13	Aug 14 /13	
Time	10:01:51	10:01:51	10:01:51	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 3.37 in/s on August 14, 2013 at 10:01:51

Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXOA.5F0

Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 3,
PPV during the vibration period = 3.25 in/s (Vertical) @ 10:01AM

Note: After the exceedance, inspection of the seismograph showed that the sandbag placed on geophone had moved and wasn't holding geophone in place. This was the cause of the high reading.



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check

Printed: August 15, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Date/Time	Tran at 09:28:00 August 14, 2013
Trigger Source	Geo: 0.375 in/s
Range	Geo : 10.00 in/s
Record Time	7.0 sec at 1024 sps
Job Number:	1
Operator/Setup:	¼ò7vU2þìÜá‼#U1ýº˩ úúùú ┼¿¶vec íÜÎ #5T0Ûª/NA
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

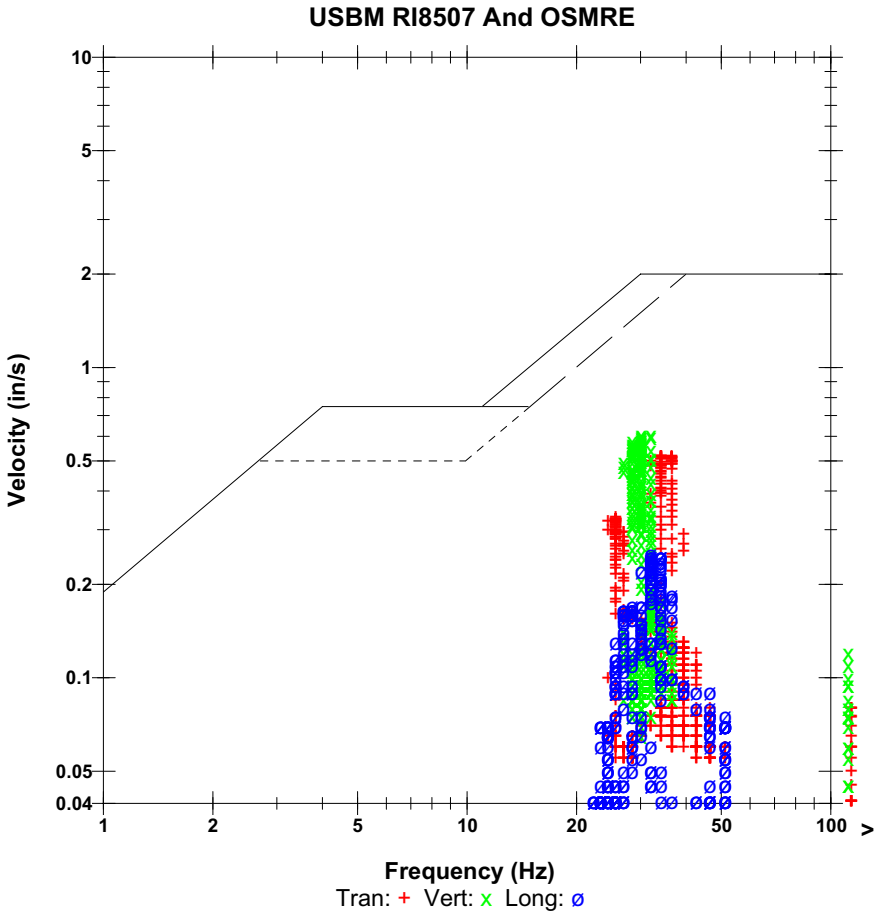
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.2 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXOA.AO0

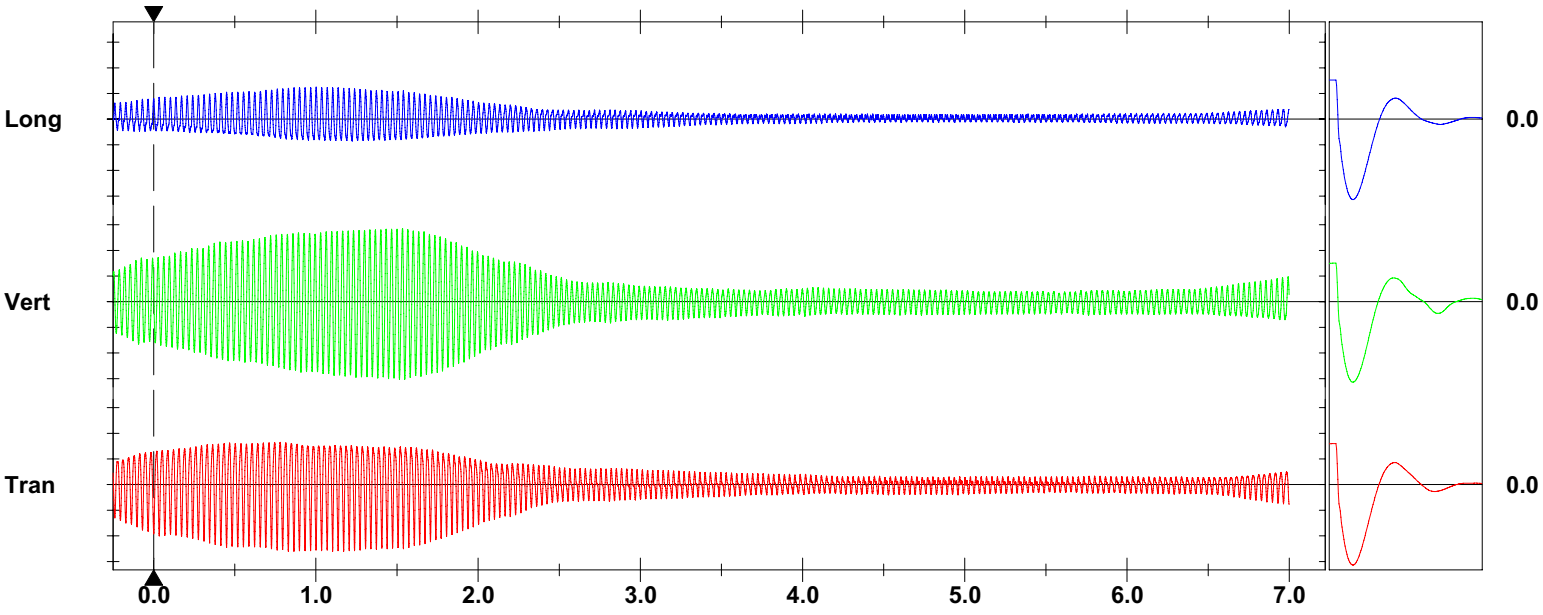
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.61 in/s (Vertical) @ 9:28AM

Extended Notes
Combo Mode August 14, 2013 09:24:51
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.520	0.605	0.250	in/s
ZC Freq	34	32	32	Hz
Time (Rel. to Trig)	0.830	1.515	1.002	sec
Peak Acceleration	0.292	0.358	0.133	g
Peak Displacement	0.00221	0.00308	0.00115	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.651 in/s at 0.862 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check
Trigger =

Printed: August 15, 2013 (V 10.02 - 10.02) Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation

FFT Report

Date/Time	Tran at 09:28:00 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.2 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXOA.AO0
Operator/Setup:	¼ò7vU2þìÜá‼#U1ý°˩ úúùú ┼¿¶vec íÜÎ #5T0Ûª/NA		

Notes

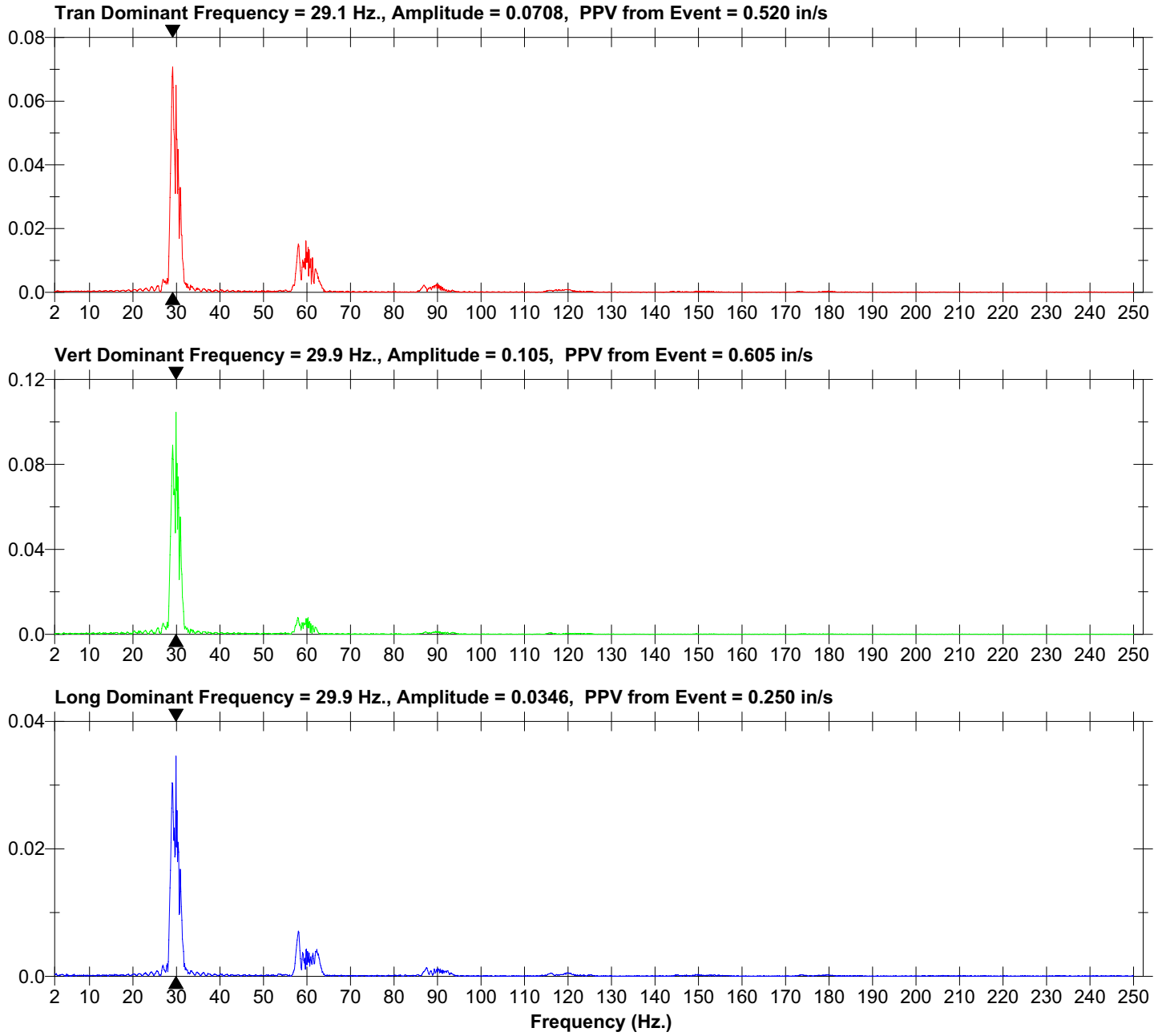
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

Extended Notes

Combo Mode August 14, 2013 09:24:51
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.61 in/s (Vertical) @ 9:28AM



Format Copyrighted 2004-2005 Instantel Inc.

Event Report

Date/Time	Vert at 09:43:23 August 14, 2013
Trigger Source	Geo: 0.375 in/s
Range	Geo : 10.00 in/s
Record Time	7.0 sec at 1024 sps
Job Number:	1
Operator/Setup:	d0ý½¬Ï "!ìÛÌð5WVT┼ÝÚ»à‼#!☼ü¼¬à%WgT íÛ¼ß/NA
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc. N/A
File Name	Q370EXOB.0B0

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Post Event Notes

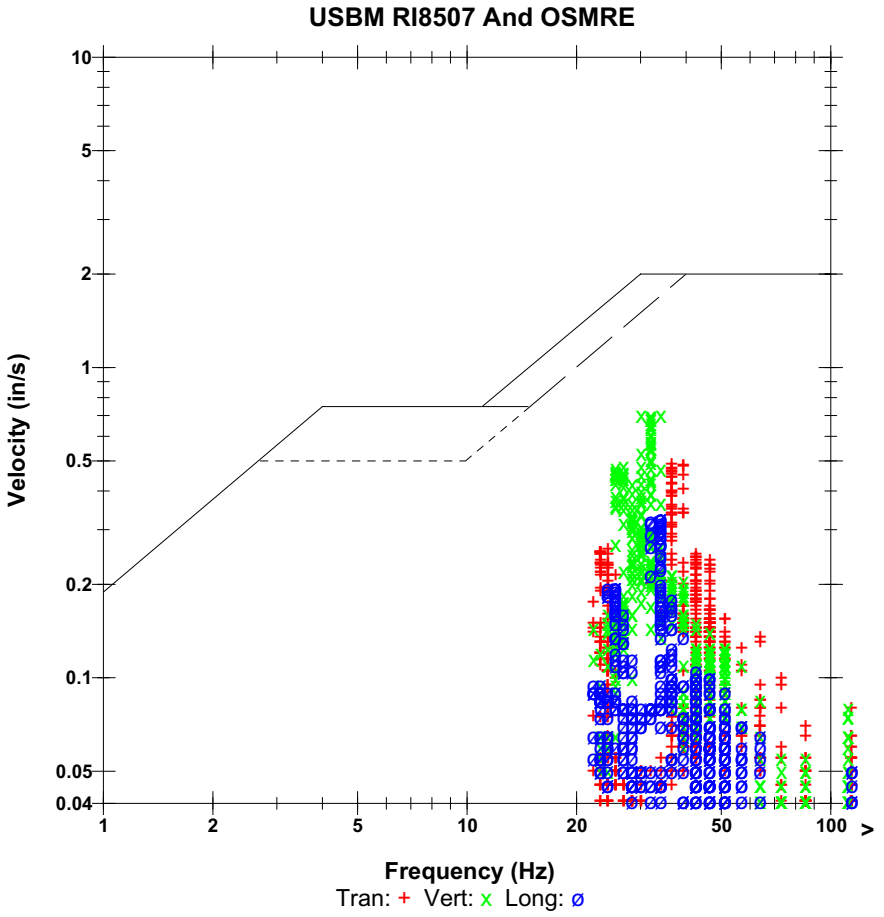
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.71 in/s (Vertical) @ 9:43AM

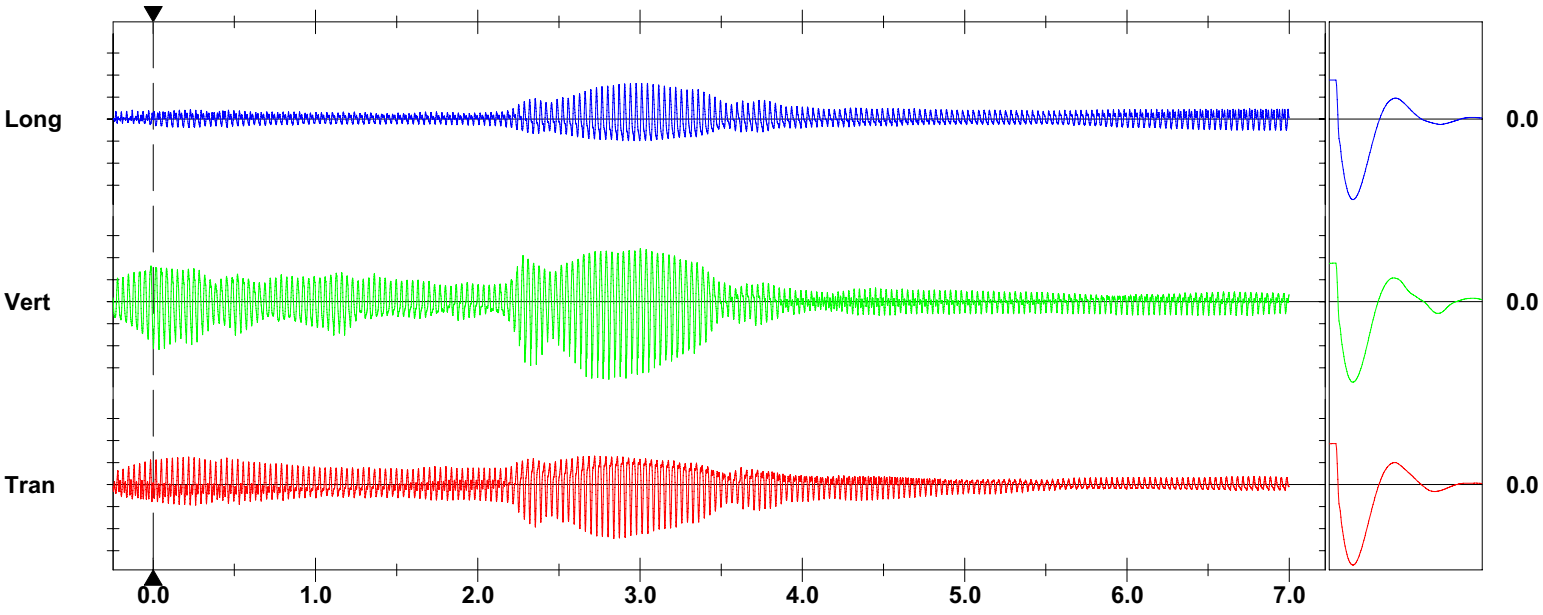
Extended Notes

Combo Mode August 14, 2013 09:24:51
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.490	0.705	0.325	in/s
ZC Freq	37	34	34	Hz
Time (Rel. to Trig)	2.838	2.808	2.940	sec
Peak Acceleration	0.278	0.822	0.199	g
Peak Displacement	0.00188	0.00285	0.00138	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.735 in/s at 2.702 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check
Trigger =

Printed: August 15, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

FFT Report

Date/Time	Vert at 09:43:23 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.1 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXOB.0B0
Operator/Setup:	d0ý½¬Ï "!ìÛÌð5WVT┼ÝÚ»à‼#!☼ü¼¬à%WgT íÛ¼ß/NA		

Notes

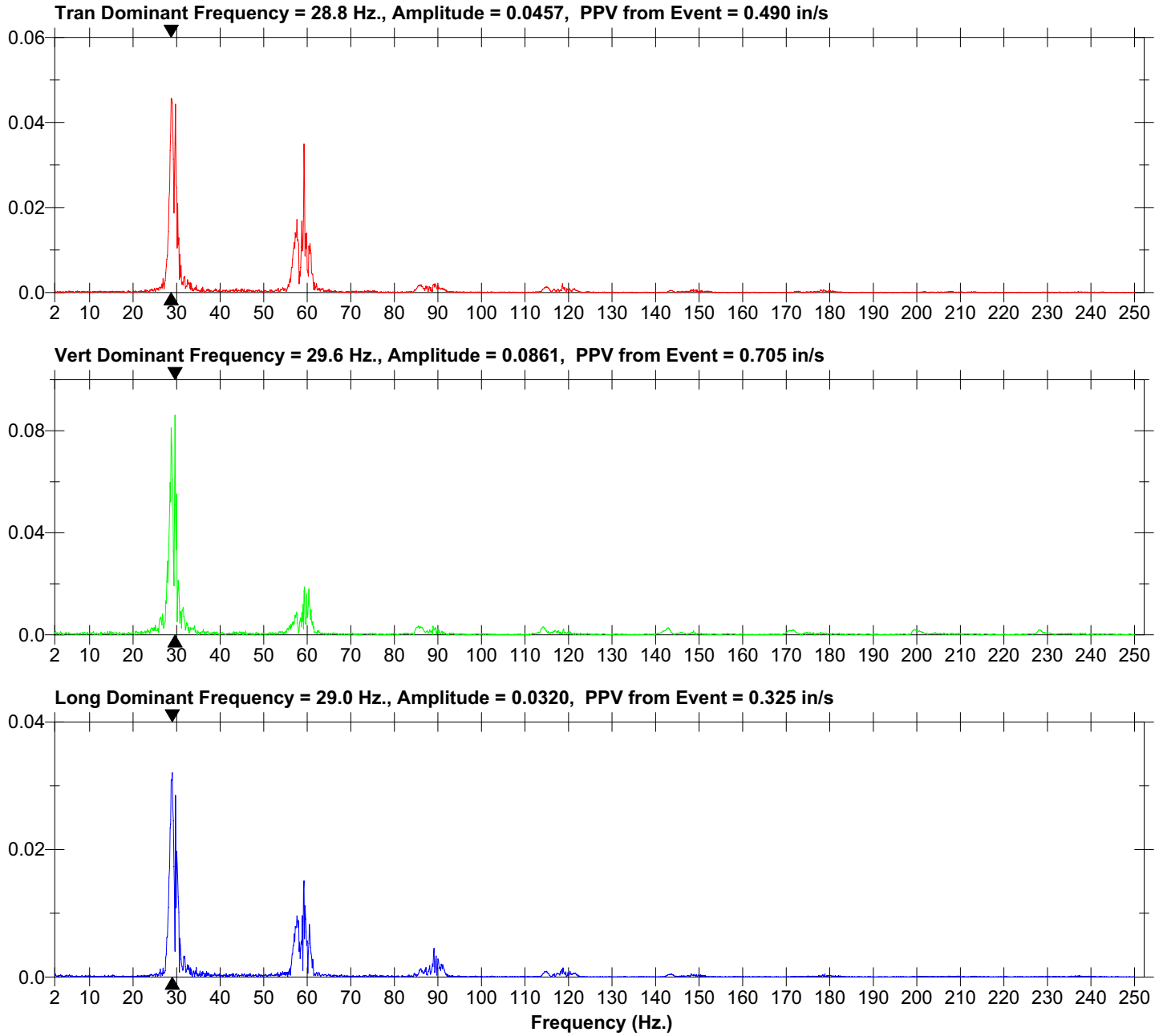
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

Extended Notes

Combo Mode August 14, 2013 09:24:51
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.71 in/s (Vertical) @ 9:43AM



Format Copyrighted 2004-2005 Instantel Inc.

Event Report

Date/Time	Vert at 09:53:27 August 14, 2013
Trigger Source	Geo: 0.375 in/s
Range	Geo : 10.00 in/s
Record Time	7.0 sec at 1024 sps
Job Number:	1
Operator/Setup:	¼ò7vU2þìÜá‼#U1ýº˩ úúùú ┼¿¶vec íÜÎ #5T0Ûª/NA
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

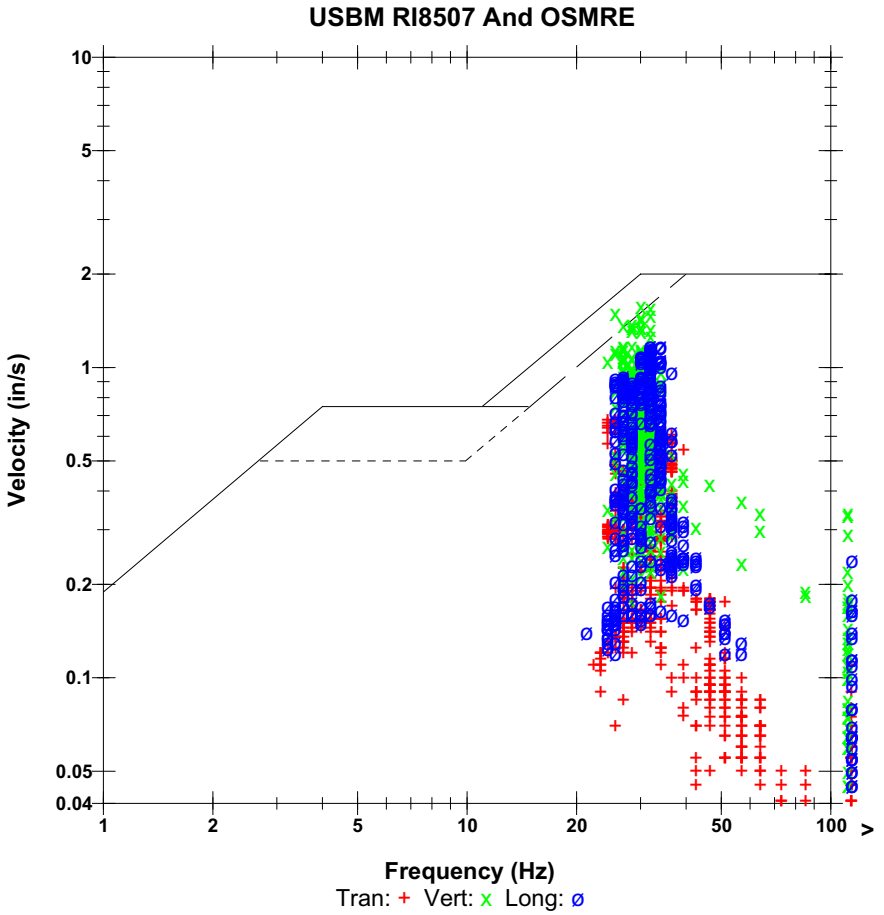
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXOB.H30

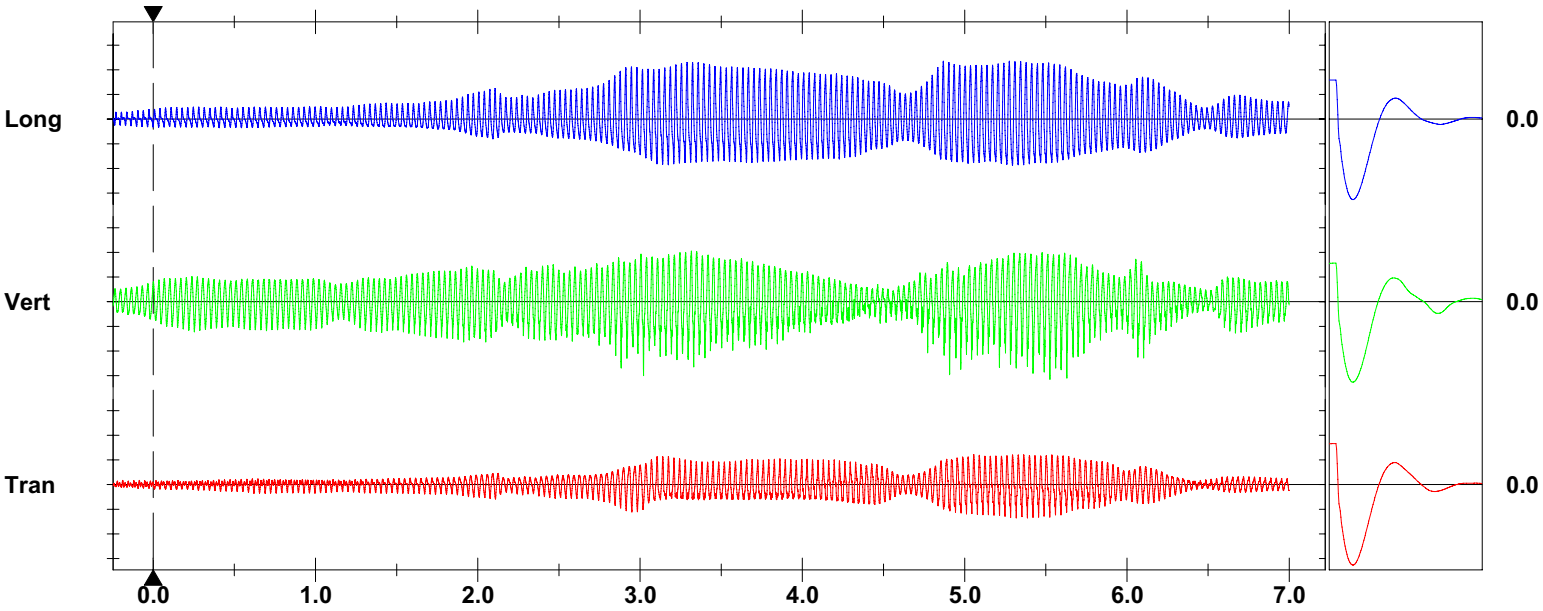
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 1.57 in/s (Vertical) @ 9:53AM

Extended Notes
Combo Mode August 14, 2013 09:24:51
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.675	1.57	1.17	in/s
ZC Freq	26	30	34	Hz
Time (Rel. to Trig)	5.317	5.525	4.868	sec
Peak Acceleration	0.636	1.48	0.835	g
Peak Displacement	0.00279	0.00585	0.00576	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 1.69 in/s at 5.525 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check
Trigger =

Printed: August 15, 2013 (V 10.02 - 10.02) Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation

FFT Report

Date/Time	Vert at 09:53:27 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.1 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXOB.H30
Operator/Setup:	¼ò7vU2þìÜá‼#U1ý°˩ úúùú ┼¿¶vec íÜÎ #5T0Ûª/NA		

Notes

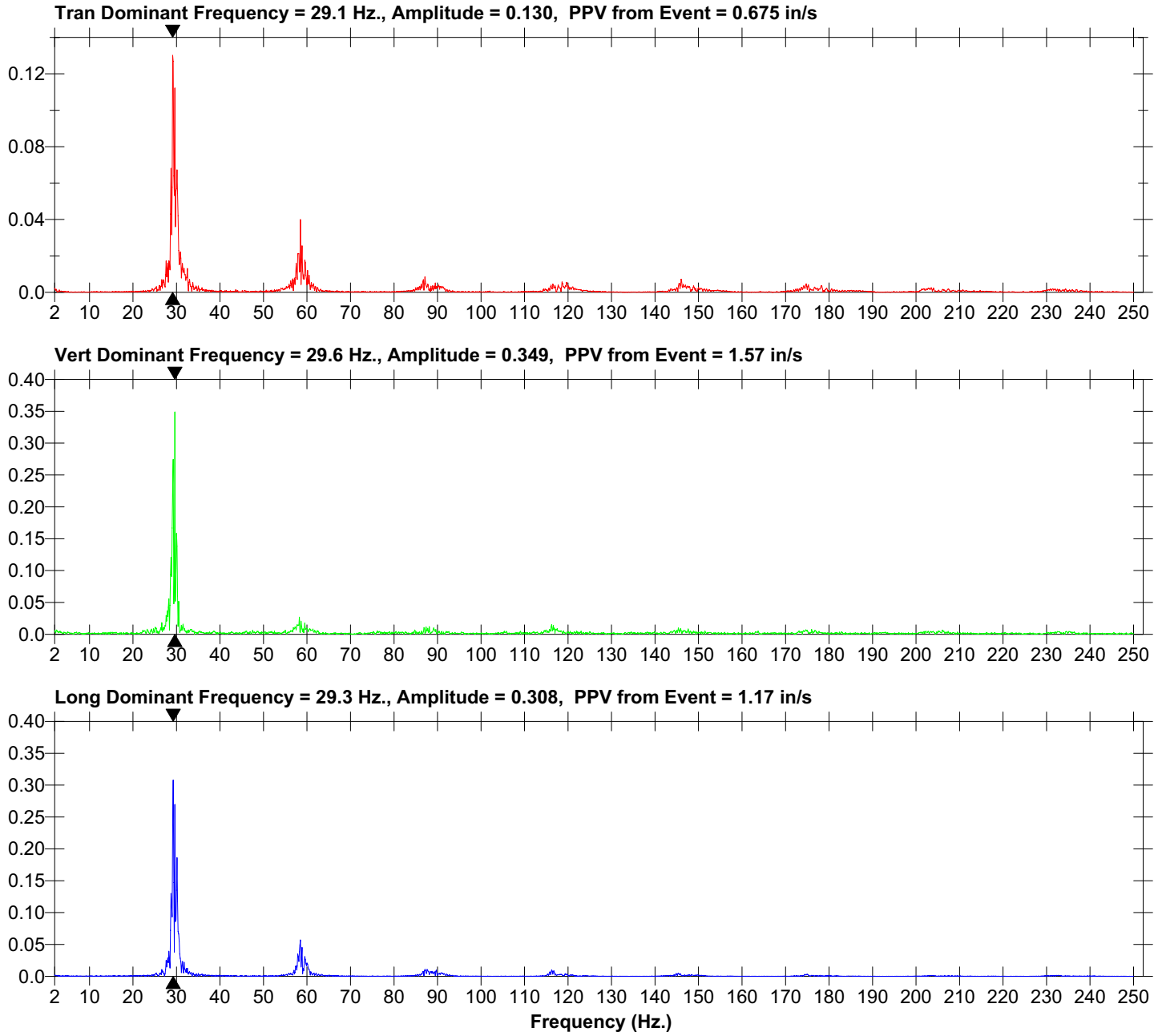
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

Extended Notes

Combo Mode August 14, 2013 09:24:51
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 1.57 in/s (Vertical) @ 9:53AM



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Event Report

Histogram Start Time	10:16:30 August 14, 2013
Histogram Finish Time	11:02:07 August 14, 2013
Number of Intervals	45 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	

Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXOC.JI0

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Post Event Notes

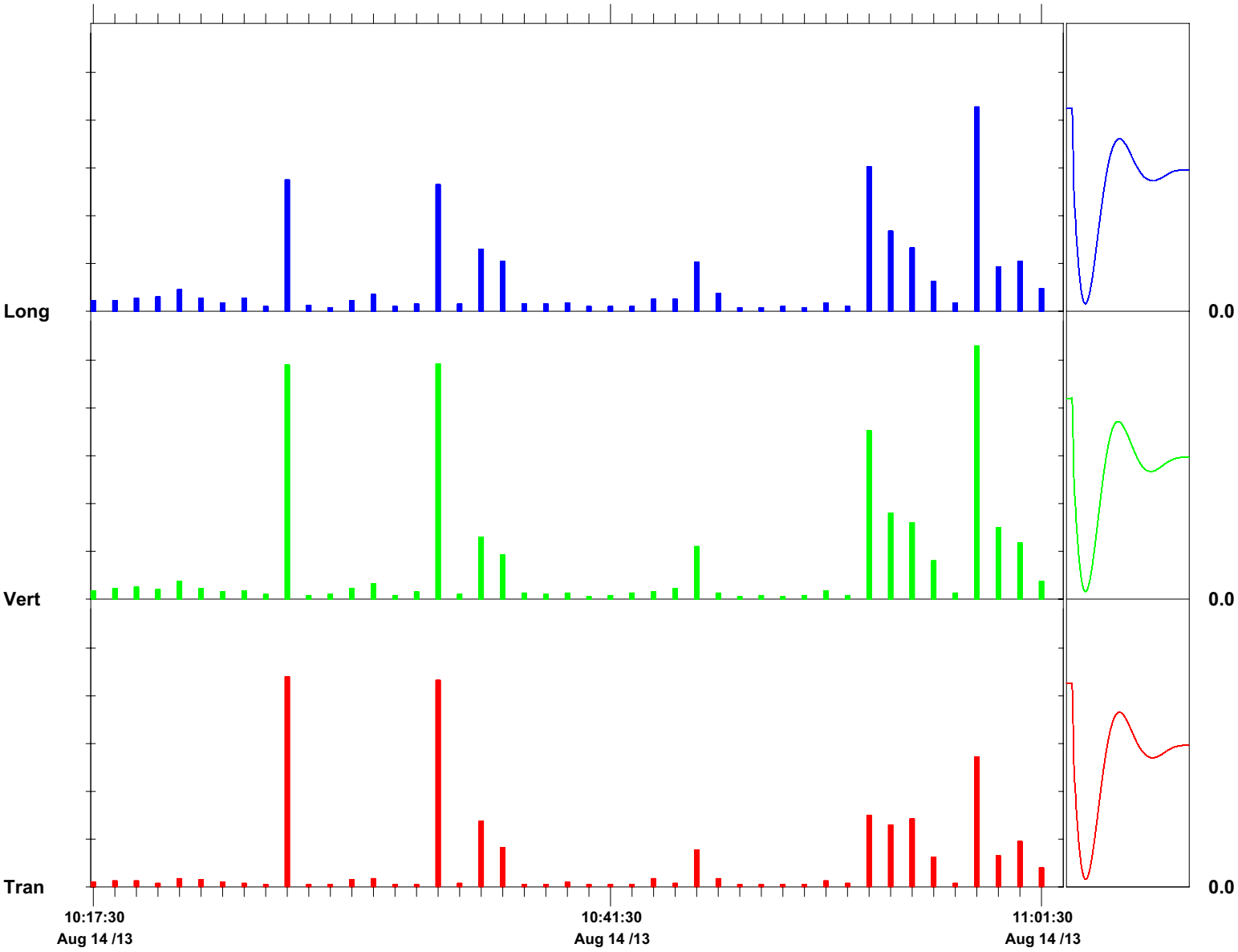
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 1.06 in/s (Vertical) @ 10:58AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.880	1.06	0.855	in/s
ZC Freq	30	>100	28	Hz
Date	Aug 14 /13	Aug 14 /13	Aug 14 /13	
Time	10:26:30	10:58:30	10:58:30	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 1.34 in/s on August 14, 2013 at 10:33:30



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

Date/Time Vert at 10:25:43 August 14, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: Äp[/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

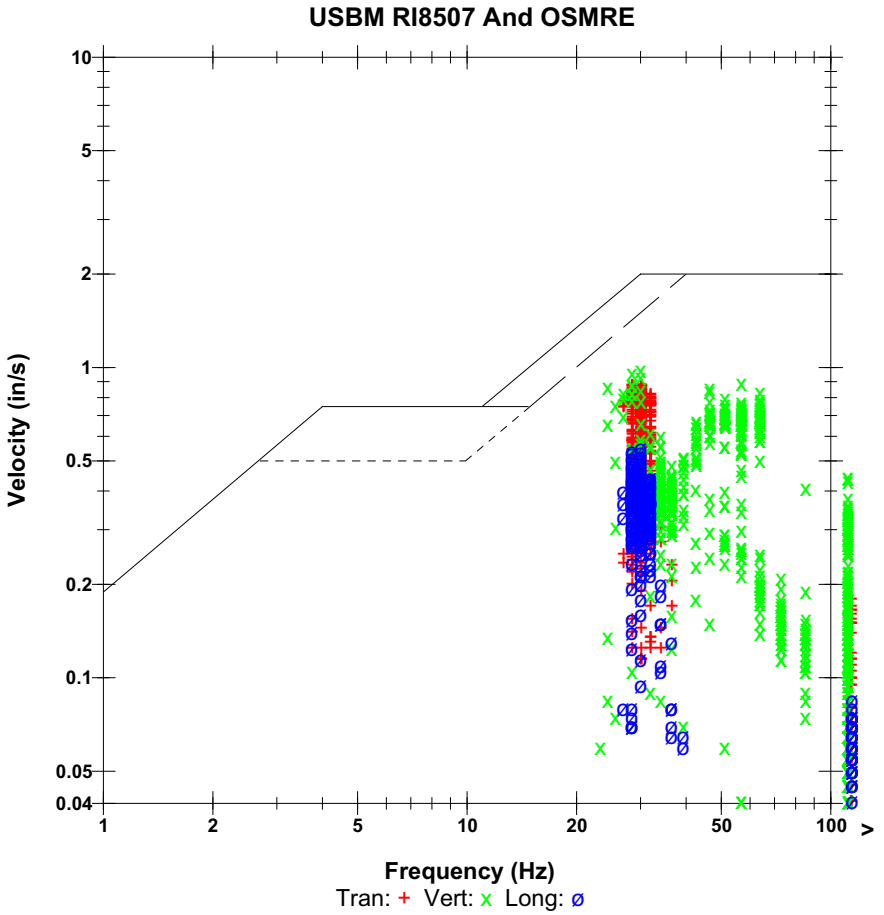
Serial Number BA15370 V 10.06-8.17 BlastMate III/8
Battery Level 6.1 Volts
Unit Calibration December 4, 2009 by Instantel inc.
N/A
File Name Q370EXOC.YV0

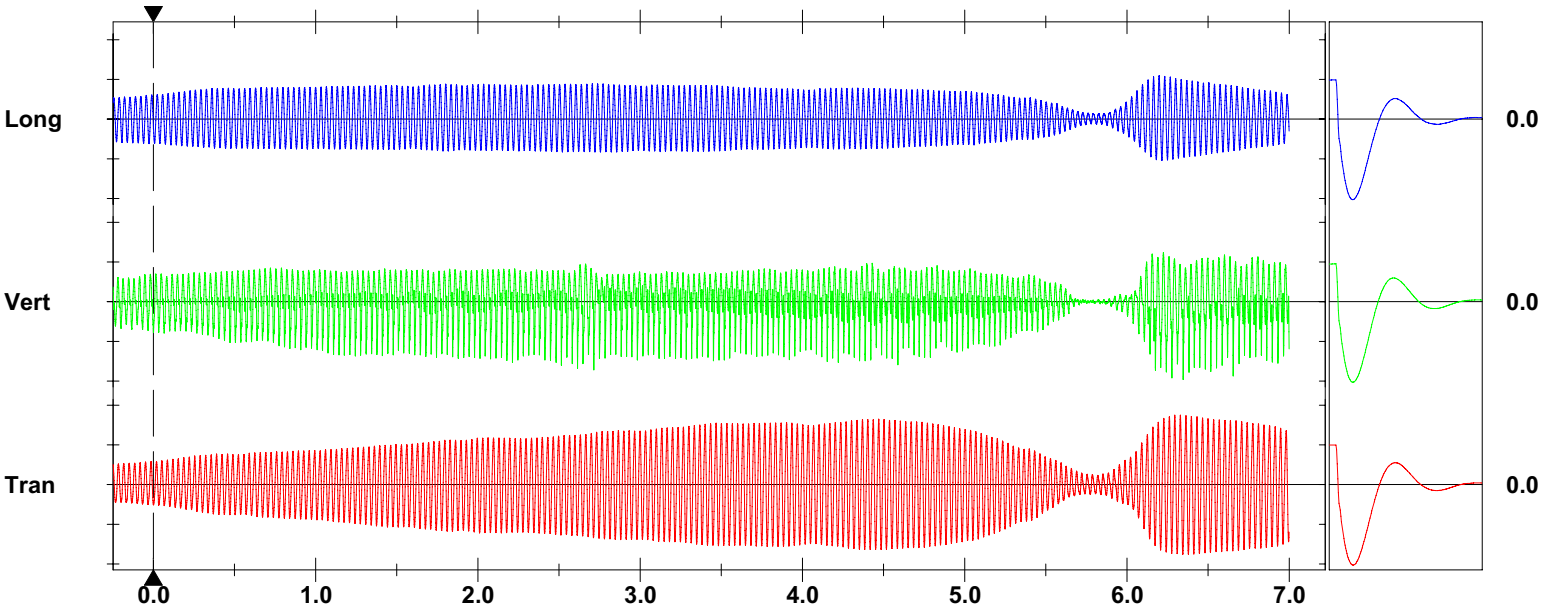
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.98 in/s (Vertical) @ 10:25AM

Extended Notes
Combo Mode August 14, 2013 10:16:30
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.880	0.980	0.550	in/s
ZC Freq	30	30	30	Hz
Time (Rel. to Trig)	6.344	6.346	6.198	sec
Peak Acceleration	0.517	1.54	0.252	g
Peak Displacement	0.00464	0.00390	0.00279	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 1.31 in/s at 6.346 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check
Trigger =

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FFT Report

Date/Time	Vert at 10:25:43 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.1 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXOC.YV0
Operator/Setup:	Äp[/NA		

Notes

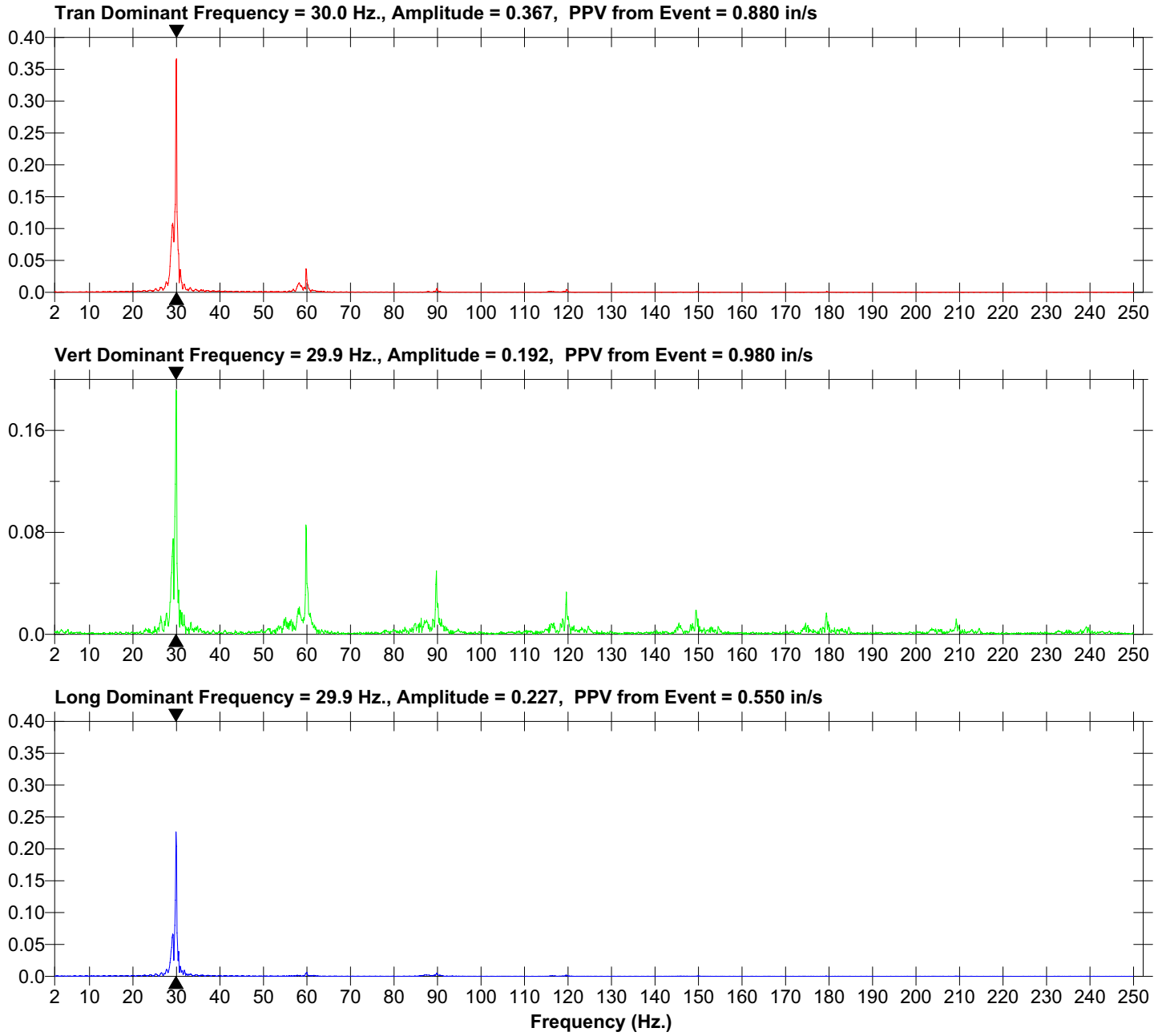
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

Extended Notes

Combo Mode August 14, 2013 10:16:30
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.98 in/s (Vertical) @ 10:25AM



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Event Report

Date/Time Tran at 10:25:51 August 14, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: `d[↑┤•dq[/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

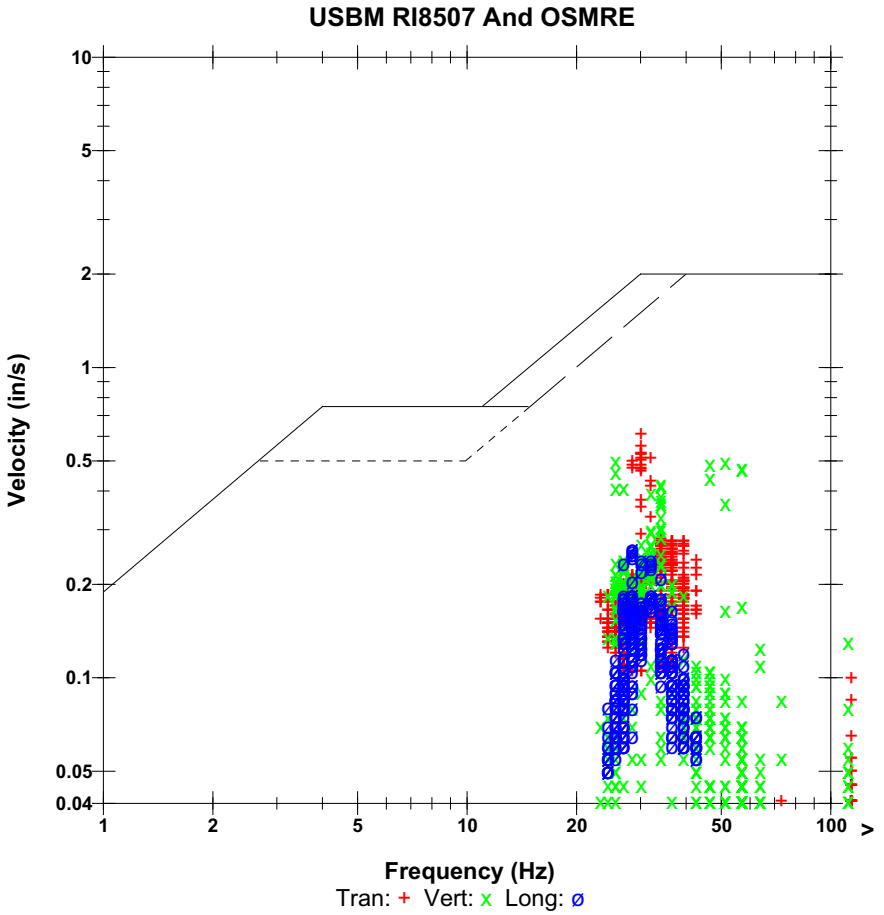
Serial Number BA15370 V 10.06-8.17 BlastMate III/8
Battery Level 6.1 Volts
Unit Calibration December 4, 2009 by Instantel inc.
N/A
File Name Q370EXOC.Z30

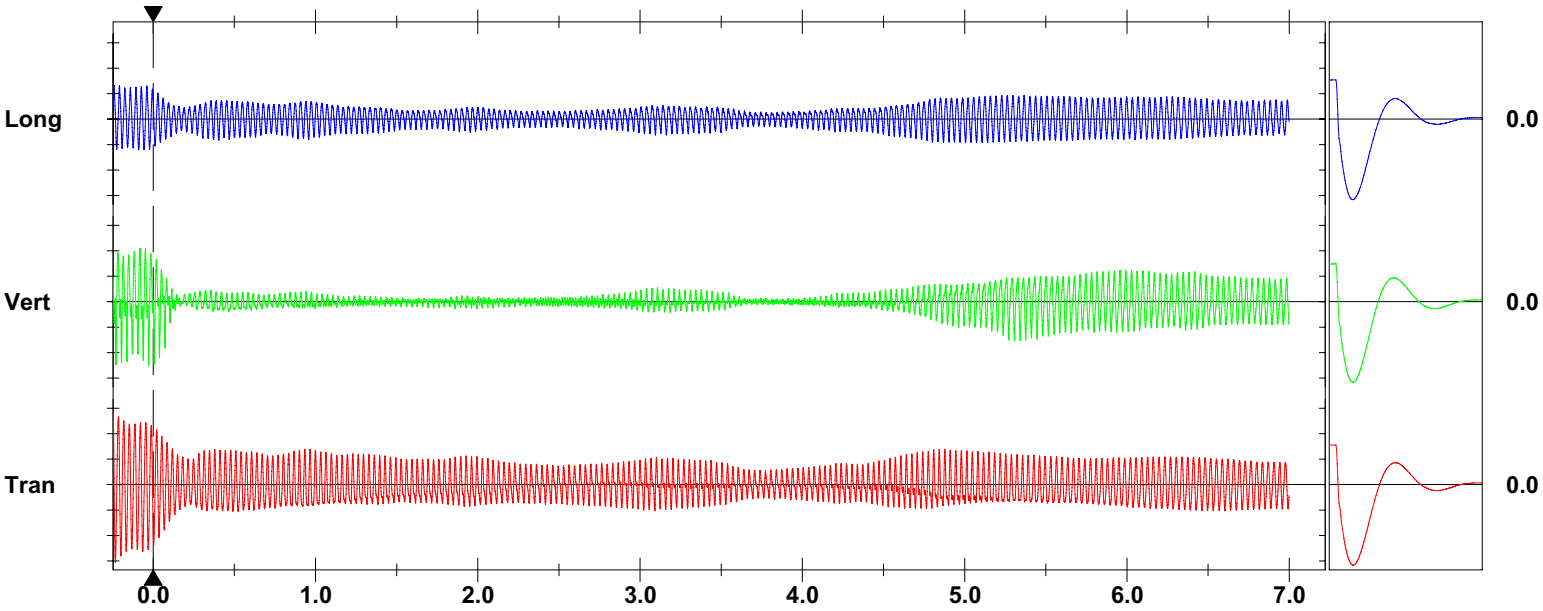
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.61 in/s (Transverse) @ 10:25AM

Extended Notes
Combo Mode August 14, 2013 10:16:30
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.610	0.500	0.265	in/s
ZC Freq	30	26	34	Hz
Time (Rel. to Trig)	-0.233	-0.027	-0.242	sec
Peak Acceleration	0.345	0.530	0.133	g
Peak Displacement	0.00306	0.00203	0.00131	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.707 in/s at -0.230 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check
Trigger = ▶—— ——◀

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FFT Report

Date/Time	Tran at 10:25:51 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.1 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXOC.Z30
Operator/Setup:	`d[↑┤•dq[/NA		

Notes

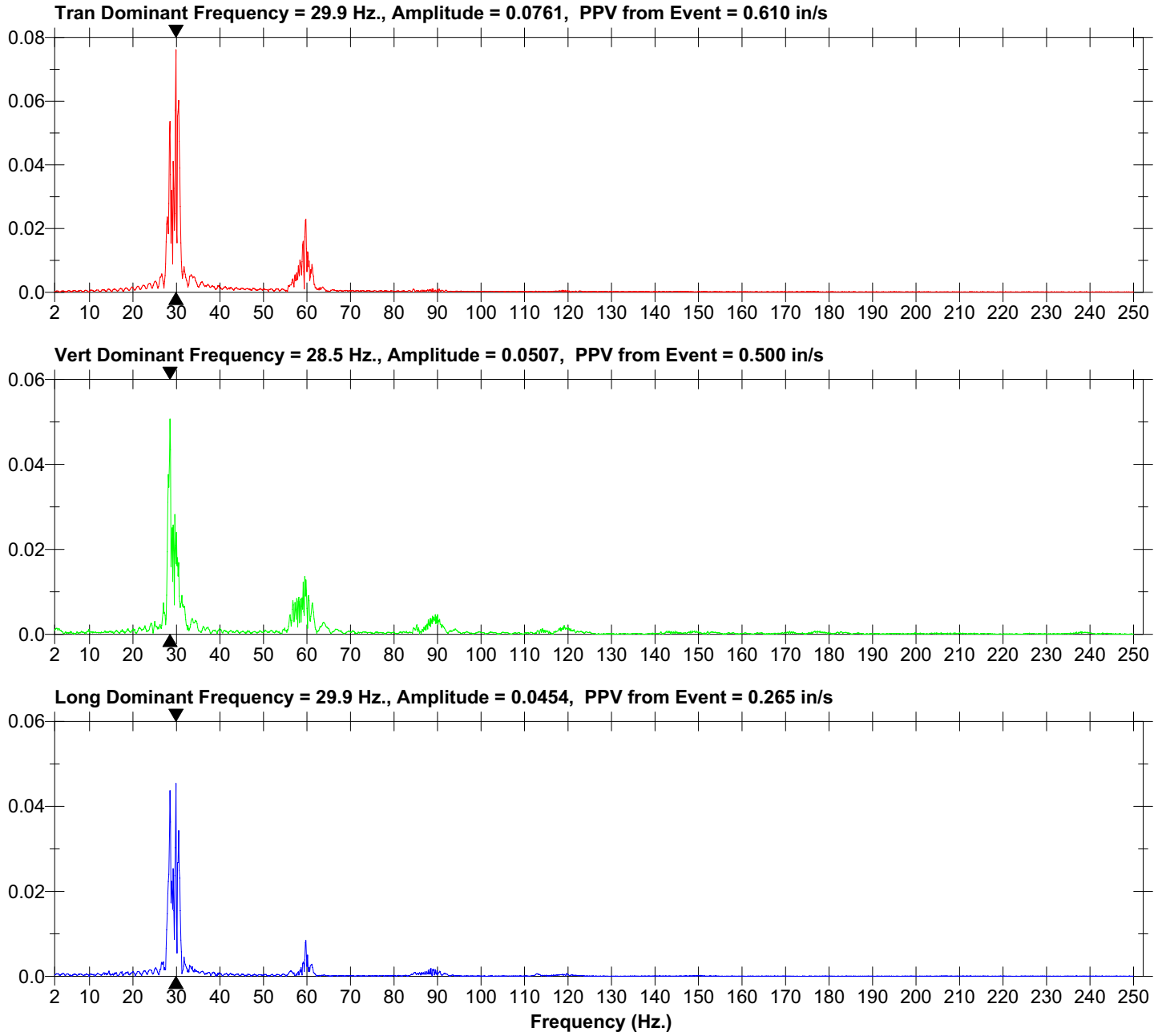
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

Combo Mode August 14, 2013 10:16:30
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.61 in/s (Transverse) @ 10:25AM



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Event Report

Date/Time Tran at 10:25:58 August 14, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 5.59 sec at 1024 sps
Job Number: 1
Operator/Setup: Që┐alg/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

Serial Number BA15370 V 10.06-8.17 BlastMate III/8
Battery Level 6.1 Volts
Unit Calibration December 4, 2009 by Instantel inc.
N/A
File Name Q370EXOC.ZA0

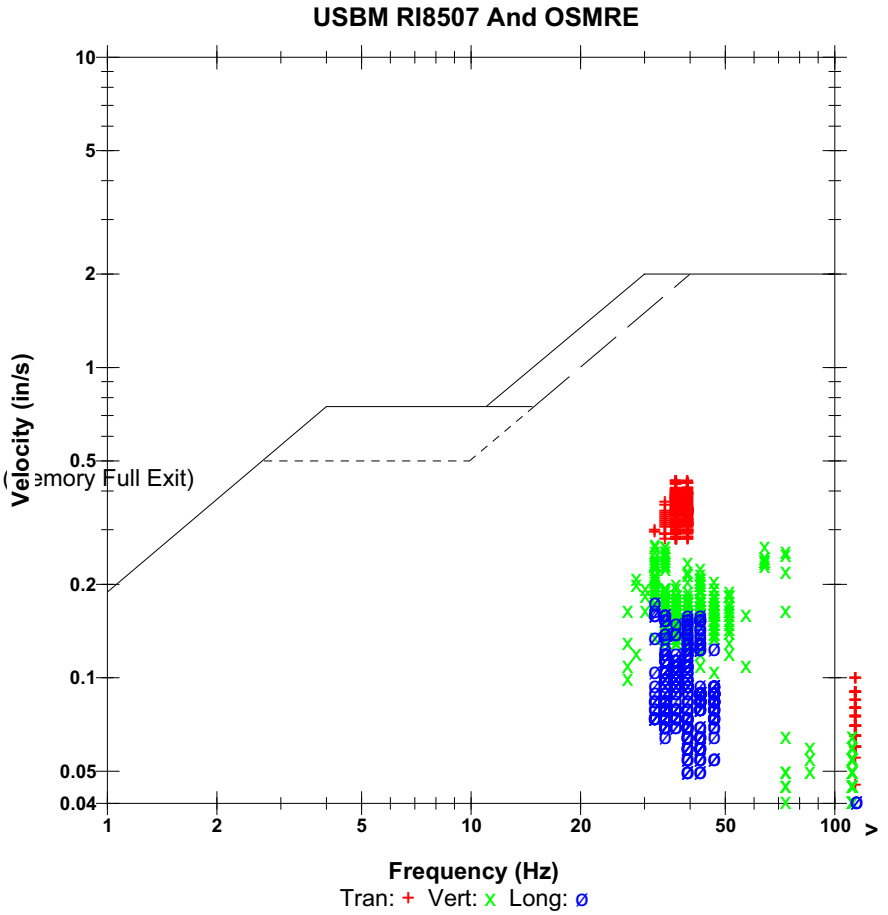
Post Event Notes
Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.43 in/s (Transverse) @ 10:25AM

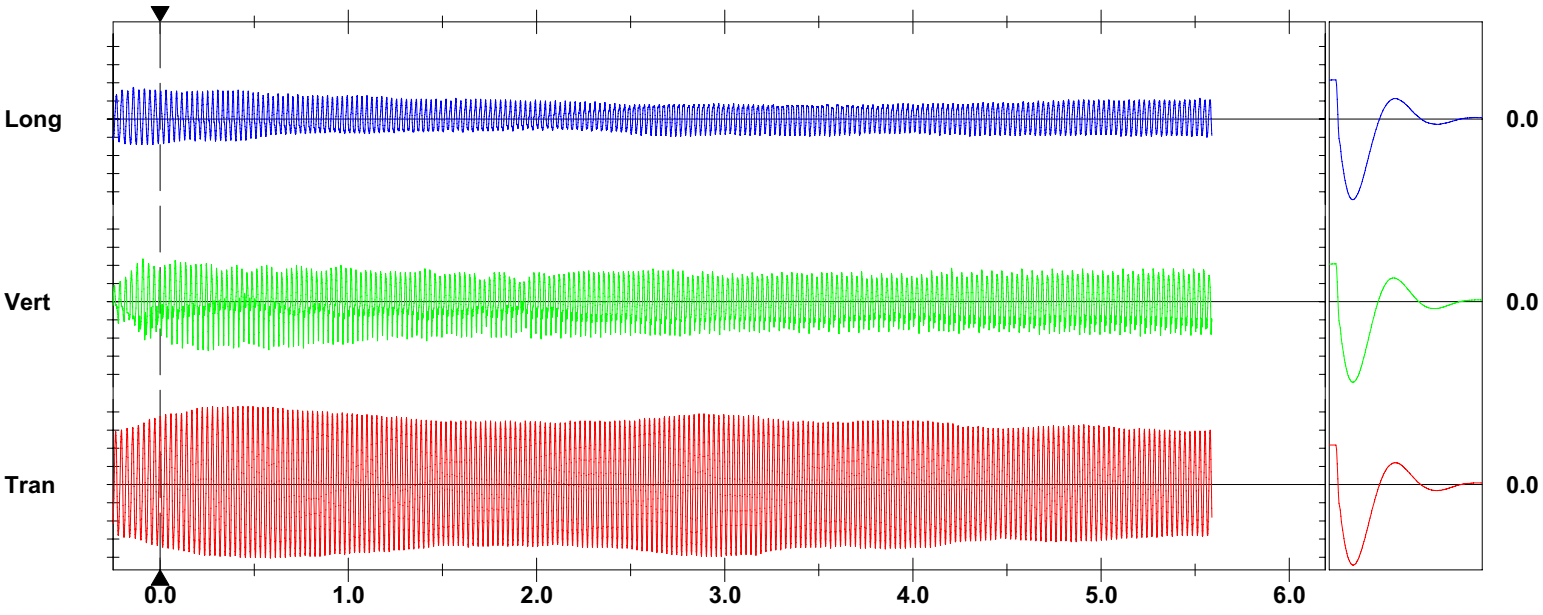
Extended Notes
Combo Mode August 14, 2013 10:16:30
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.430	0.270	0.175	in/s
ZC Freq	37	32	32	Hz
Time (Rel. to Trig)	0.278	0.256	-0.143	sec
Peak Acceleration	0.292	0.292	0.119	g
Peak Displacement	0.00176	0.00104	0.00083	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.457 in/s at 0.413 sec

Monitor Log
Aug 14 /13 10:25:58 Aug 14 /13 10:26:04 Event recorded. (Memory Full Exit)





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check
Trigger =

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FFT Report

Date/Time	Tran at 10:25:58 August 14, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.1 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	5.59 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXOC.ZA0
Operator/Setup:	Që┐alg/NA		

Notes

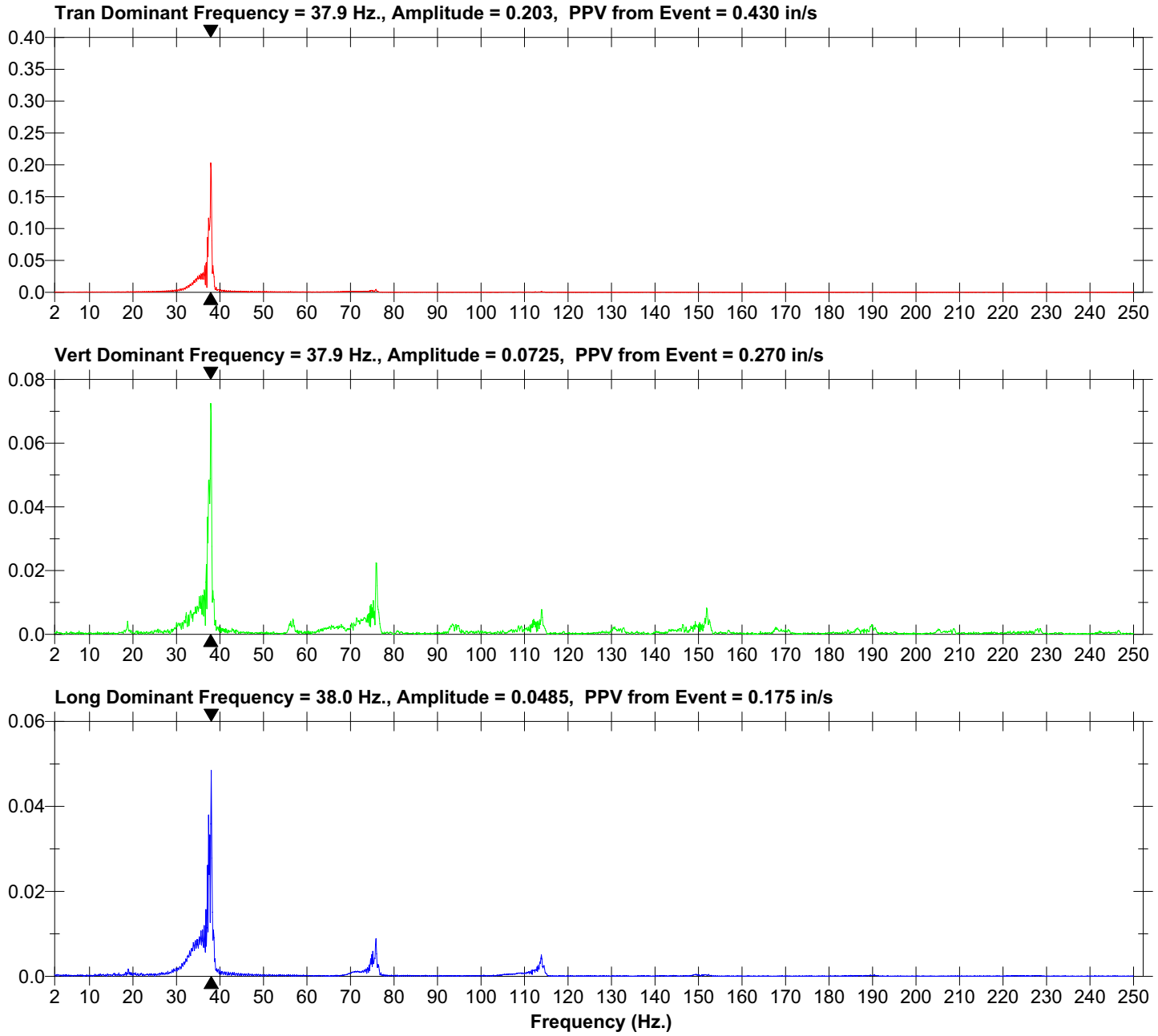
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

Combo Mode August 14, 2013 10:16:30
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-14-2013
Location 3
PPV during the vibration period = 0.43 in/s (Transverse) @ 10:25AM



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Event Report

Histogram Start Time	11:03:34 August 14, 2013
Histogram Finish Time	13:13:09 August 14, 2013
Number of Intervals	129 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	¬h[▪←Ã¹ê┐aøg/NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.1 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXOE.PY0

Post Event Notes

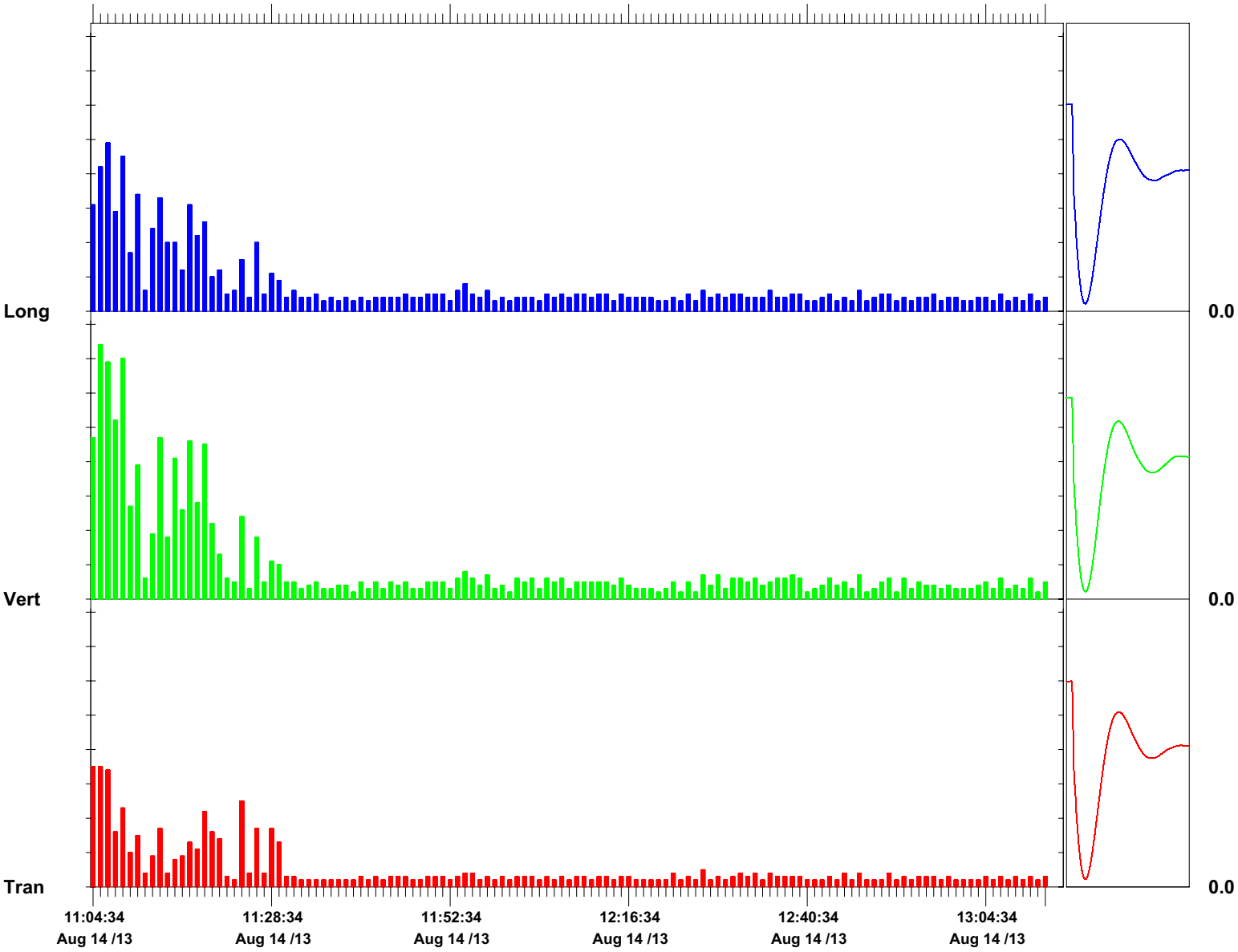
Utility line along Route 440 North
Data from 8-14-2013
Location 4 from 11:03:34am to 13:13:09am
PPV during the vibration period = 0.370 in/s (Vertical) @ 11:05AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.175	0.370	0.245	in/s
ZC Freq	32	32	37	Hz
Date	Aug 14 /13	Aug 14 /13	Aug 14 /13	
Time	11:04:34	11:05:34	11:06:34	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.7	7.4	Hz
Overswing Ratio	3.7	3.4	4.0	

Peak Vector Sum 0.406 in/s on August 14, 2013 at 11:05:34



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Printed: August 15, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

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Vibration Monitoring Plan

Study Area 6 South
Chromium Remedy

Prepared by
Geocomp Engineering
August 15, 2013

Geocomp Engineering
For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

Ten sheets were driven in total for the day. The work commenced at 1:27PM until 2:43PM. The location of the seismograph was "Location 1" along route 440. The total distance of sheets driven for the day were from sta. 1+52 to sta. 1+94)

One exceedance was noted at 13:29 while the seismograph was in location 1. Distance of the sheet to the underground utility pipe was approximately 11 Feet.

The crack gauges in the diner were checked in the morning before work started and afternoon after completion of work. There were no discernable movements.

The exact start & stop time of vibration was noted. The times are as follows:-

Location 1 approx. 7.5 Feet from edge of sheet.

Sheet 1: Start time 1:27PM, stop time 1:28PM, Sta. 1+52

Sheet 2: Start time 1:42PM, stop time 1:44PM

Sheet 3: Start time 1:50PM, Stop time 1:51PM

Sheet 4: Start time 1:58PM, stop time 1:59PM

Sheet 5: Start time 2:08PM, stop time 2:09PM

Sheet 6: Start time 2:16PM, stop time 2:17PM

Sheet 7: Start time 2:24PM, stop time 2:25PM

Sheet 8: Start time 2:29PM, stop time 2:30PM

Sheet 9: Start time 2:37PM, stop time 2:38PM

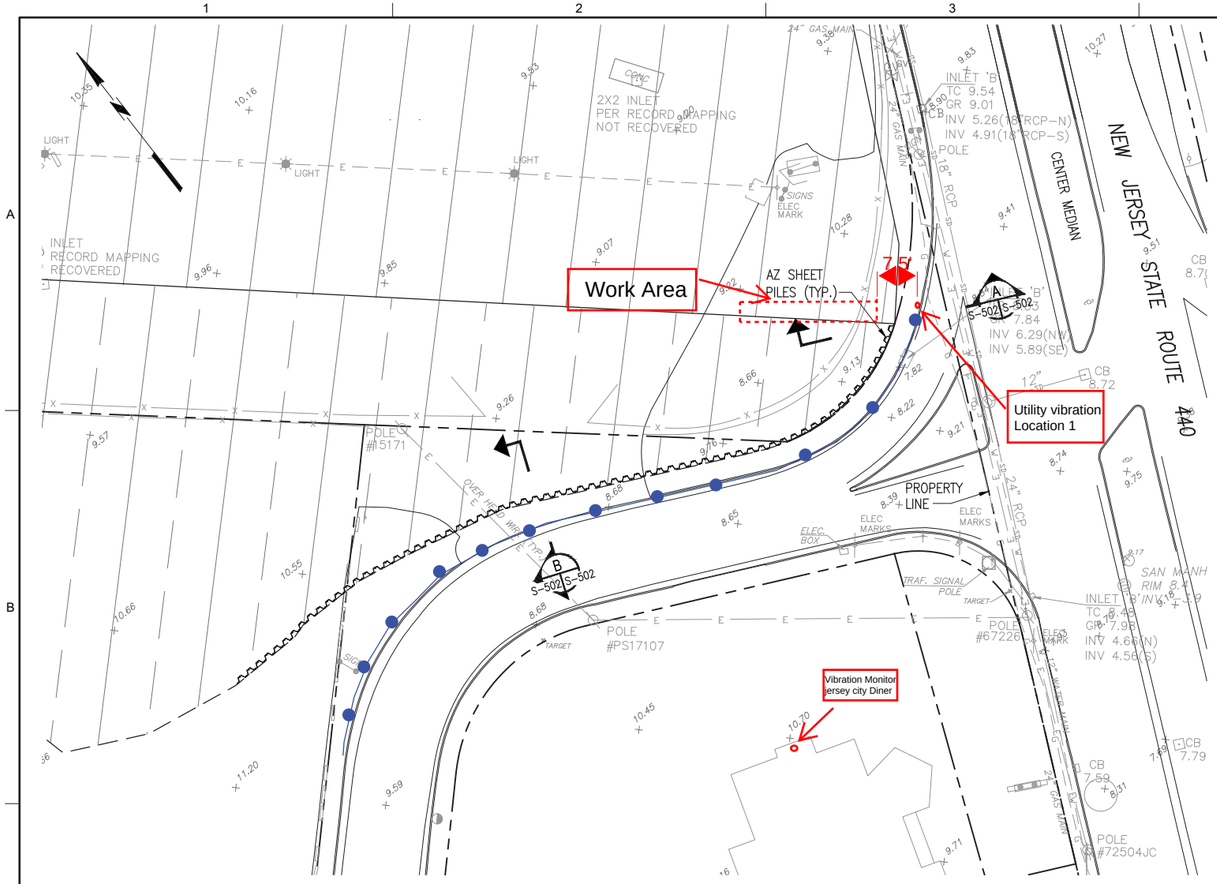
Sheet 10: Start time 2:43PM, stop time 2:43, Sta. 1+94

Exceedance:

- Water/Force main threshold exceedance at 13:29. 0.42 in/s (Vert) & 0.61 in/s (Long)

Crack gauges:

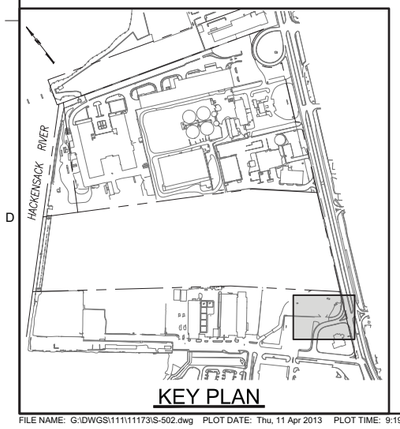
There were no movements in crack gauges.



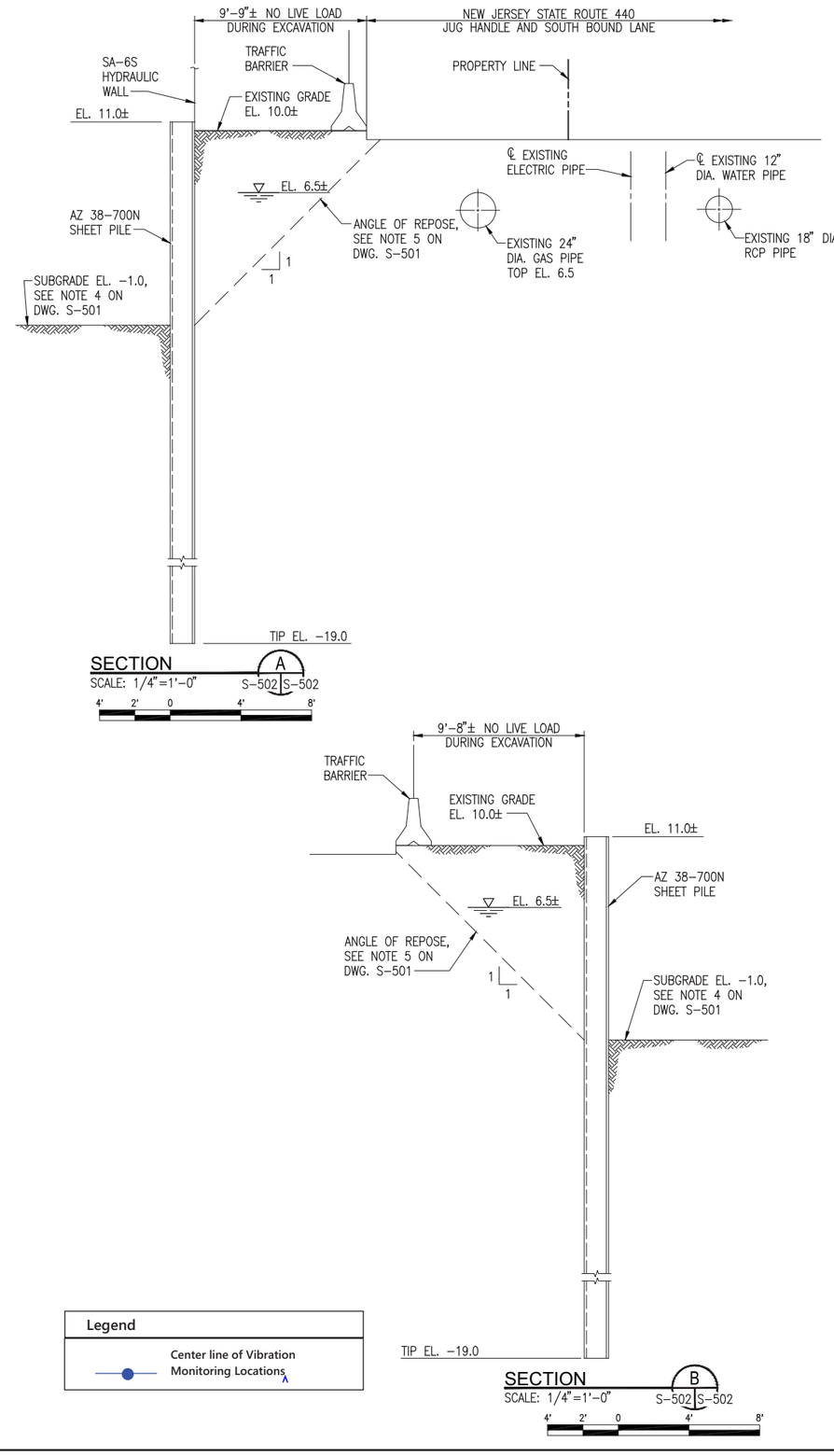
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



KEY PLAN



Legend

Center line of Vibration Monitoring Locations

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
A	04/15/13	G.S.	B.B.	G.P.	P.W.D.	PWD	P.W.D.

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 585-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

Event Report

Histogram Start Time 07:51:17 August 15, 2013
Histogram Finish Time 14:57:54 August 15, 2013
Number of Intervals 12798 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

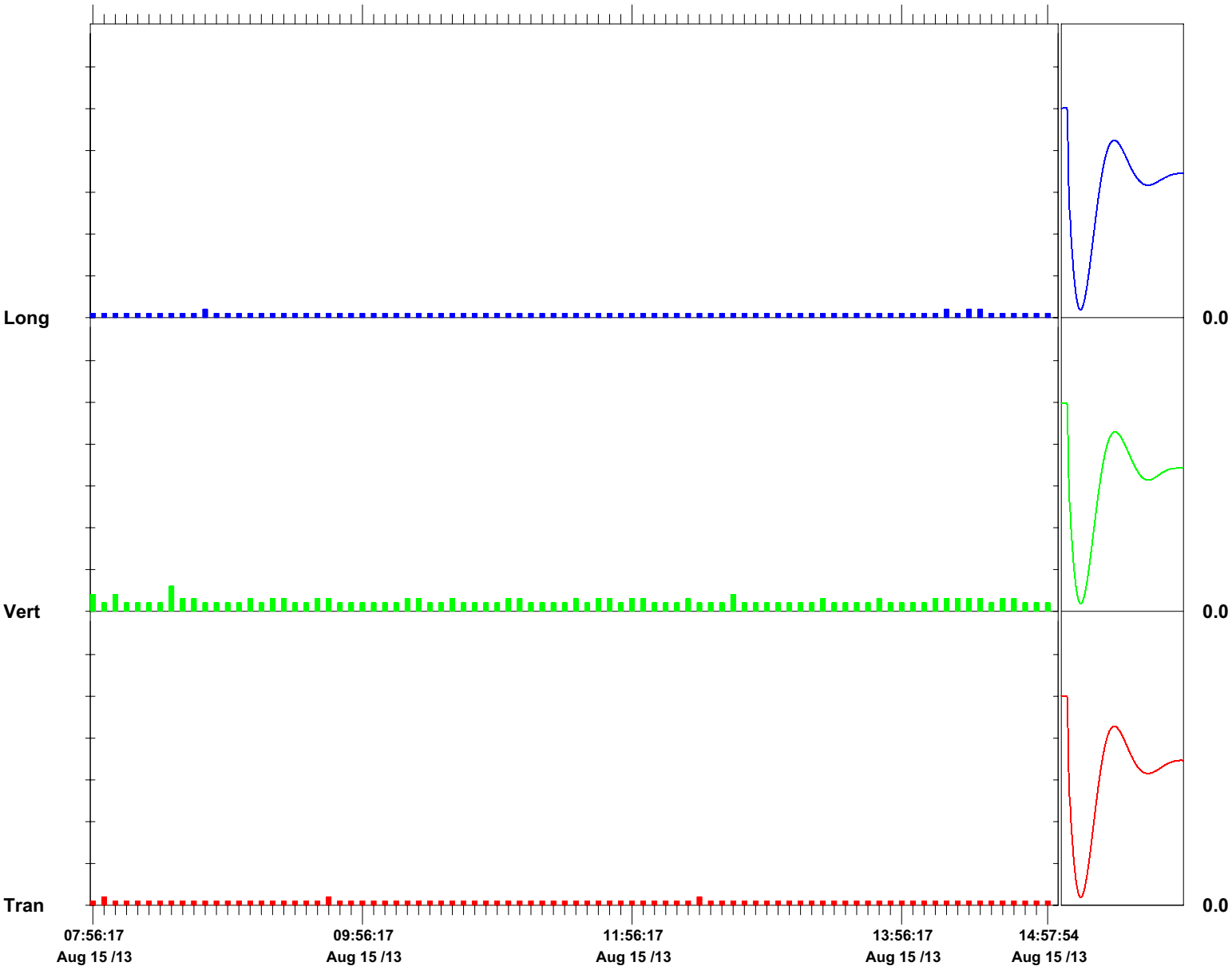
Serial Number BA14150 V 8.12-8.0 BlastMate III
Battery Level 6.7 Volts
Unit Calibration July 17, 2008 by Instantel Inc.
File Name P150EXQ0.HH0

Post Event Notes
Jersey city diner Route 440
Data from 8-15-2013,
Location, Northern side of diners basement
PPV during Vbration period = 0.01in/s (Tran, Vert, Long)

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0300	0.01000	in/s
ZC Freq	>100	14	>100	Hz
Date	Aug 15 /13	Aug 15 /13	Aug 15 /13	
Time	08:01:05	08:29:41	08:42:19	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.6	3.6	3.8	

Peak Vector Sum 0.0304 in/s on August 15, 2013 at 08:29:41



Time Scale: 5 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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FFT Report

Date/Time	Long at 13:28:37 August 15, 2013	**Serial Number**	BA15370 V 10.06-8.17 BlastMate III/8
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.3 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	December 4, 2009 by Instantel inc.
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	Q370EXQG.3P0
Operator/Setup:	!#C í¼Ýïïþðþ↕#B!┼!#B┼íÌÍïïï☼☼ò#B"┼"$2┼íÌÎï€?/s/NA		

Notes

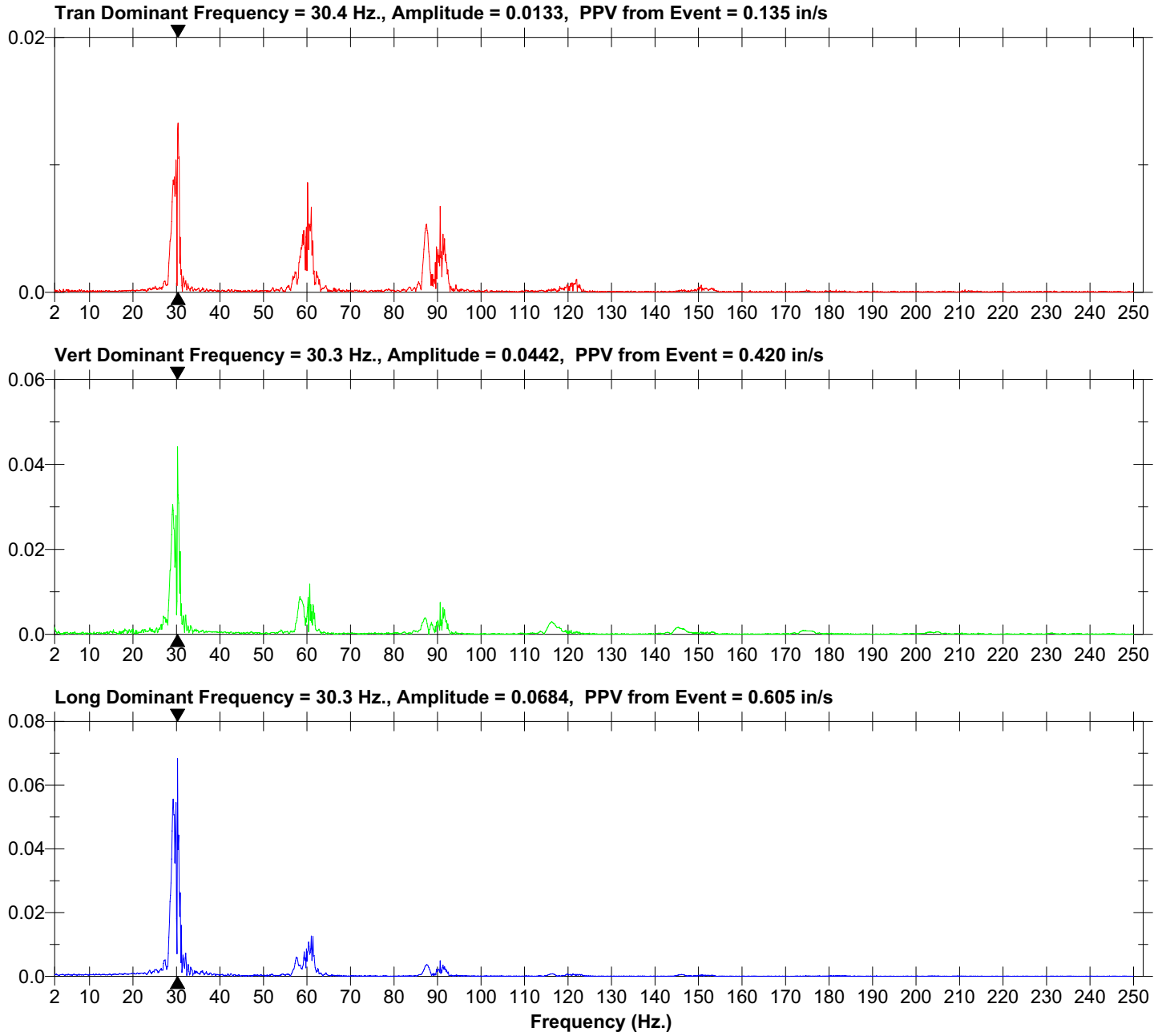
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

Extended Notes

Combo Mode August 15, 2013 12:59:25
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-15-2013
Location 1,
PPV during the vibration period = 0.61 in/s (Verticle) @ 13:29



Format Copyrighted 2004-2005 Instantel Inc.

Event Report

Date/Time	Long at 13:28:37 August 15, 2013
Trigger Source	Geo: 0.375 in/s
Range	Geo : 10.00 in/s
Record Time	7.0 sec at 1024 sps
Job Number:	1
Operator/Setup:	!#C í¼Ýïïþðþ↕#B!┼!#B┼íÌÍïïï☼☼ò#B"┼"$2┼íÌÎï€?/s/NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

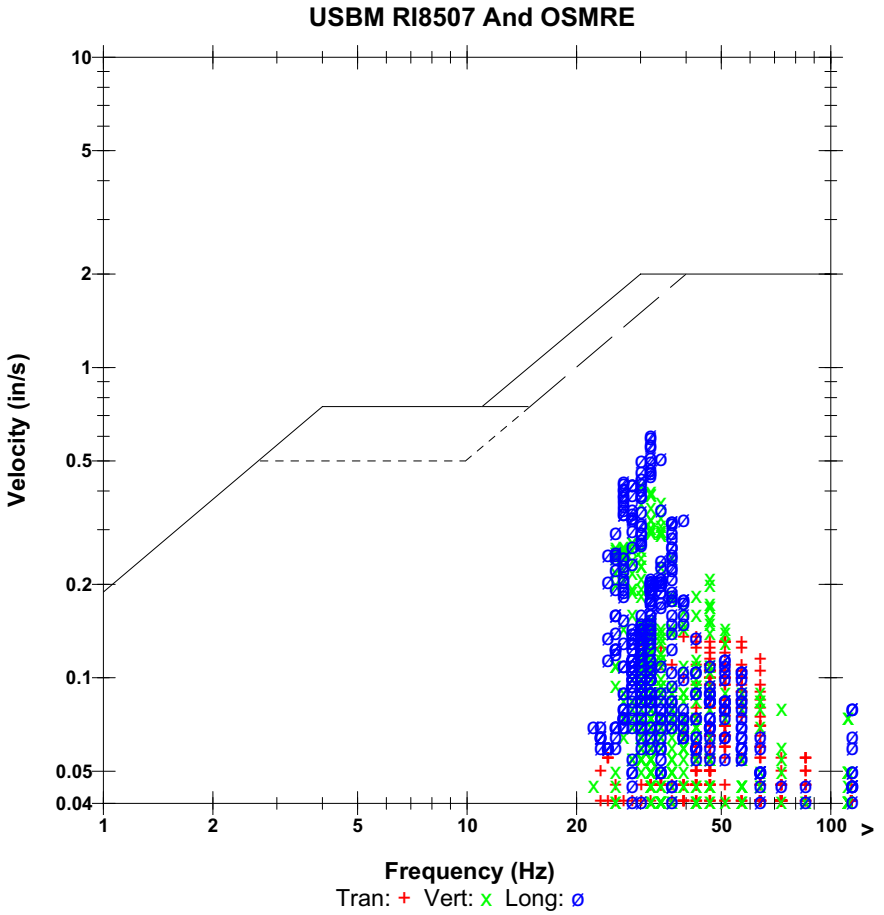
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.3 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXQG.3P0

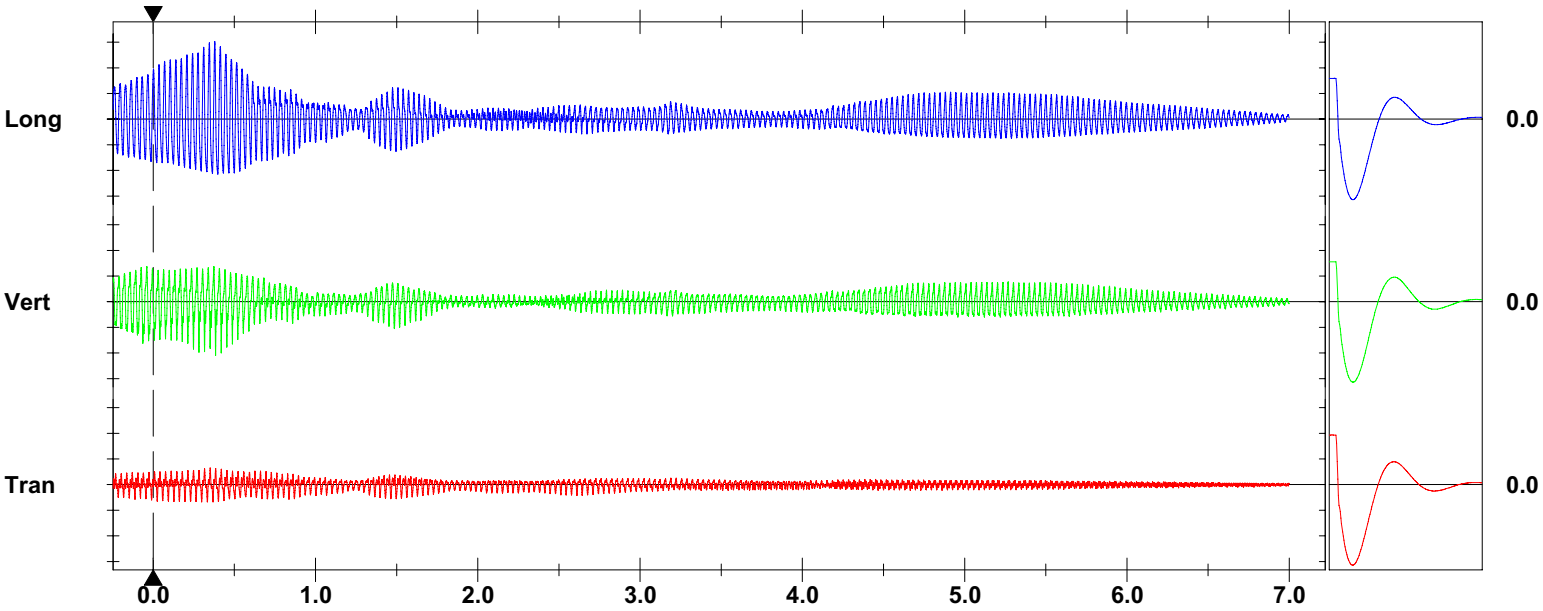
Post Event Notes
Utility line along Route 440 North
Data from 8-15-2013
Location 1,
PPV during the vibration period = 0.61 in/s (Verticle) @ 13:29

Extended Notes
Combo Mode August 15, 2013 12:59:25
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.135	0.420	0.605	in/s
ZC Freq	43	30	32	Hz
Time (Rel. to Trig)	0.299	0.385	0.380	sec
Peak Acceleration	0.119	0.345	0.384	g
Peak Displacement	0.00047	0.00156	0.00287	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.7	7.5	Hz
Overswing Ratio	3.6	3.3	3.7	

Peak Vector Sum 0.605 in/s at 0.380 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check
Trigger =

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Event Report

Histogram Start Time	12:59:26 August 15, 2013
Histogram Finish Time	14:51:41 August 15, 2013
Number of Intervals	112 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

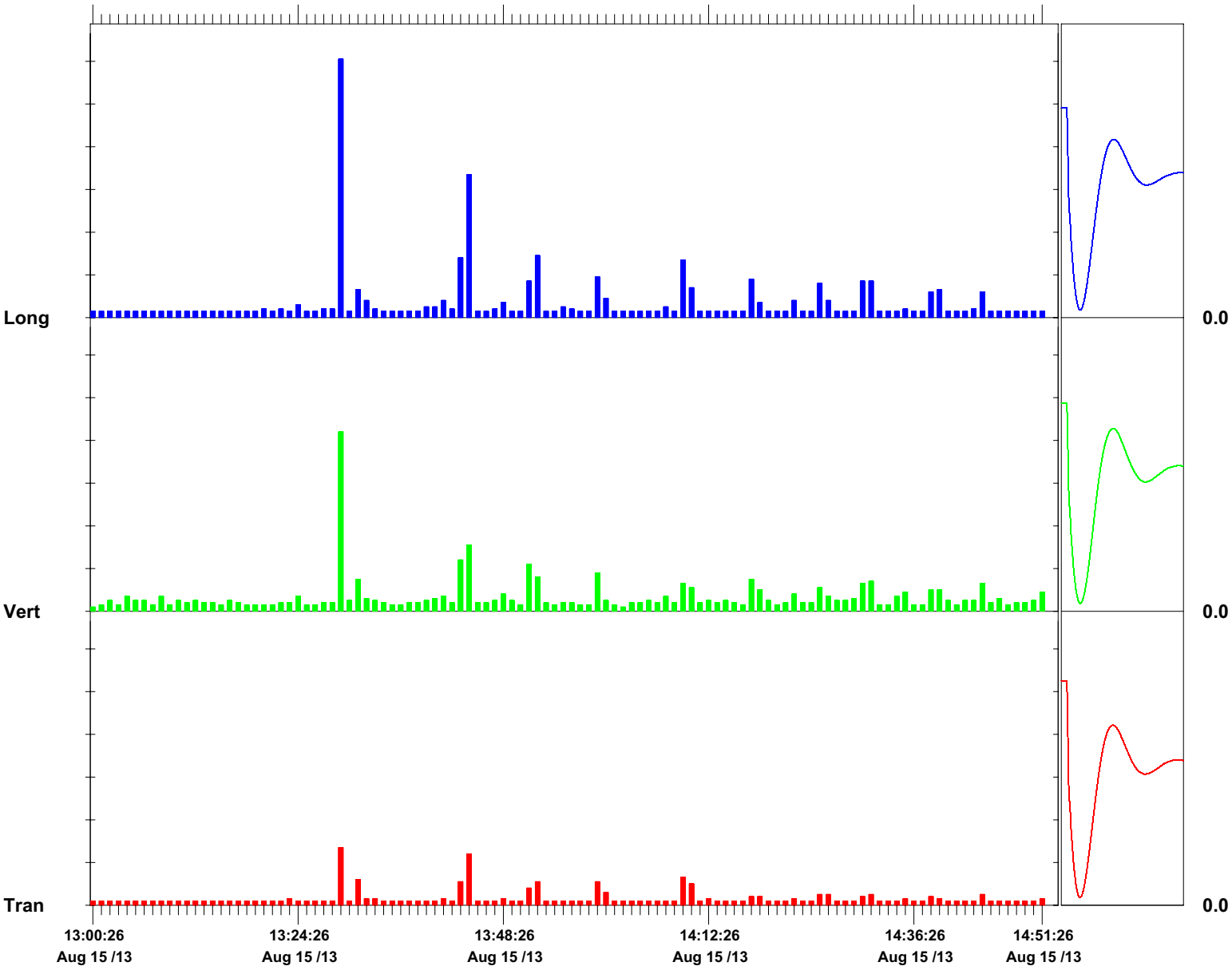
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.3 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
File Name	Q370EXQE.R20

Post Event Notes
Utility line along Route 440 North
Data from 8-15-2013
Location 1,
PPV during the vibration period = 0.61 in/s (Verticle) @ 13:29

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.135	0.420	0.605	in/s
ZC Freq	43	30	32	Hz
Date	Aug 15 /13	Aug 15 /13	Aug 15 /13	
Time	13:29:26	13:29:26	13:29:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.7	7.5	Hz
Overswing Ratio	3.6	3.3	3.7	

Peak Vector Sum 0.605 in/s on August 15, 2013 at 13:29:26



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Vibration Monitoring Plan

Study Area 6 South
Chromium Remedy

Prepared by
Geocomp Engineering
August 16, 2013

Geocomp Engineering
For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

Nine sheets were driven in total for the day. The work commenced at 9:21AM until 10:22AM. The location of the seismograph was "Location 1" along route 440. The sheets completed today were from Sta. 1+94 to Sta. 2+36.

Sheet driving activity moved from East to West. Seismograph was placed at Location 1, which is approximately 54' east of the first sheet installed for the day. Utility line was located at approximately 57' from first sheet. No exceedances were recorded for the duration of the sheet driving activity. .

The exact start & stop time of the vibratory machine are as follows -

Sheet 11: Start time 9:15AM, stop time 9:16AM, (Sta. 1+94)

Sheet 12: Start time 9:21AM, stop time 9:22AM

Sheet 13: Start time 9:29AM, Stop time 9:30AM

Sheet 14: Start time 9:38AM, stop time 9:39AM

Sheet 15: Start time 9:43AM, stop time 9:44AM

Sheet 16: Start time 9:48AM, stop time 9:49AM

Sheet 17: Start time 10:00AM, stop time 10:01AM

Sheet 18: Start time 10:15AM, stop time 10:16AM

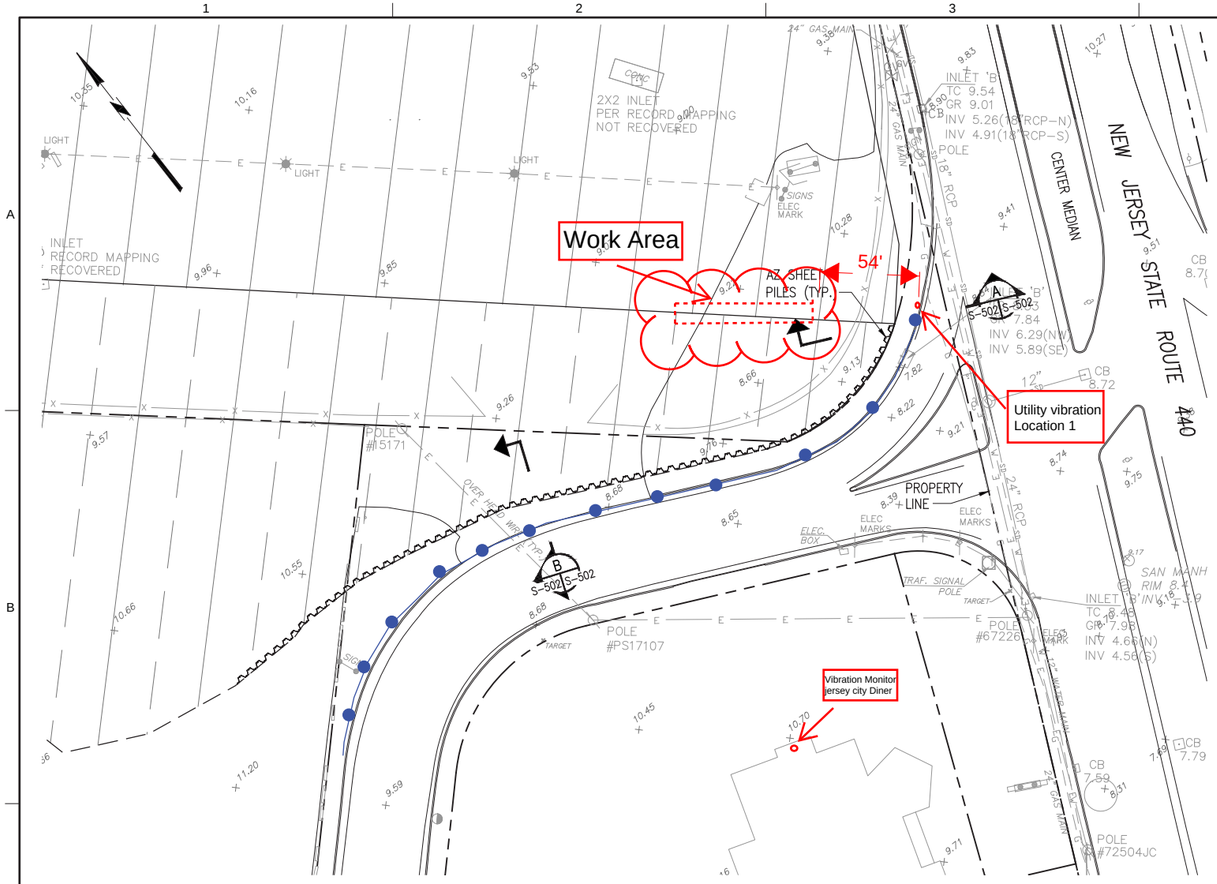
Sheet 19: Start time 10:21AM, stop time 10:22AM, (Sta. 2+36)

Exceedance:

- No exceedances

Crack gauges:

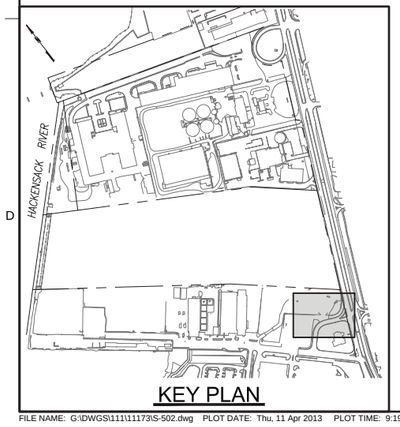
There were no movements in crack gauges.



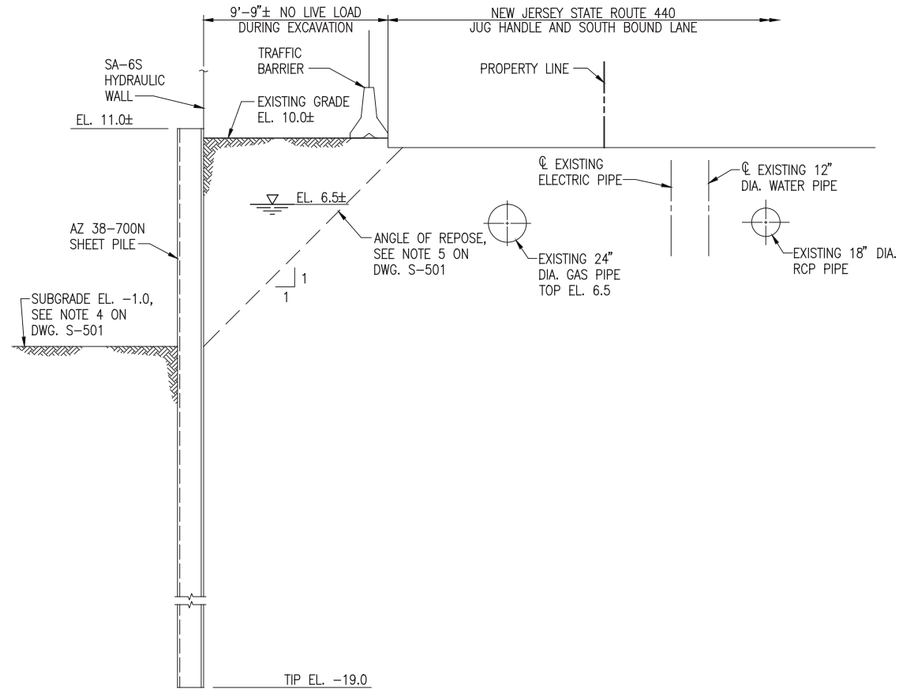
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



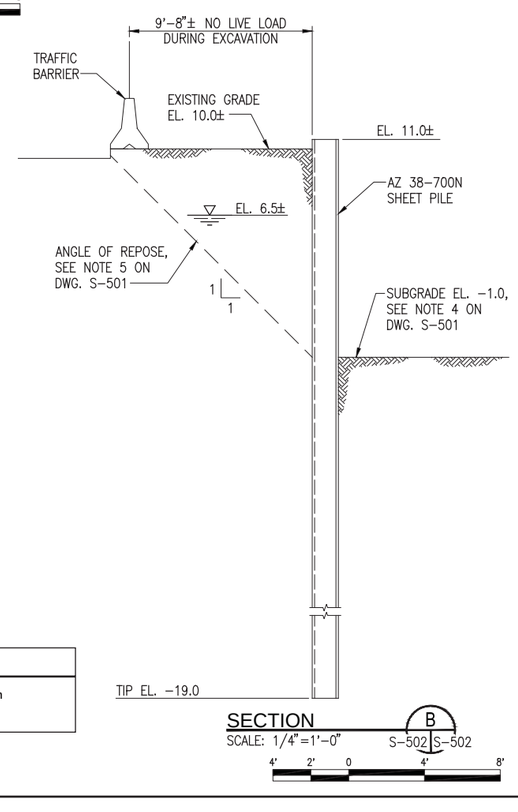
KEY PLAN



SECTION A

SCALE: 1/4"=1'-0" S-502 S-502

4' 2' 0 4' 8'



SECTION B

SCALE: 1/4"=1'-0" S-502 S-502

4' 2' 0 4' 8'

Legend

Center line of Vibration Monitoring Locations

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

NO.	DATE	REVISION	BY	APVD
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	P.W.D.
DSGN	G.S.	DR	CHK	B.B.	APVD	G.P.

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CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

Histogram Start Time 07:40:55 August 16, 2013
Histogram Finish Time 10:32:18 August 16, 2013
Number of Intervals 5141 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

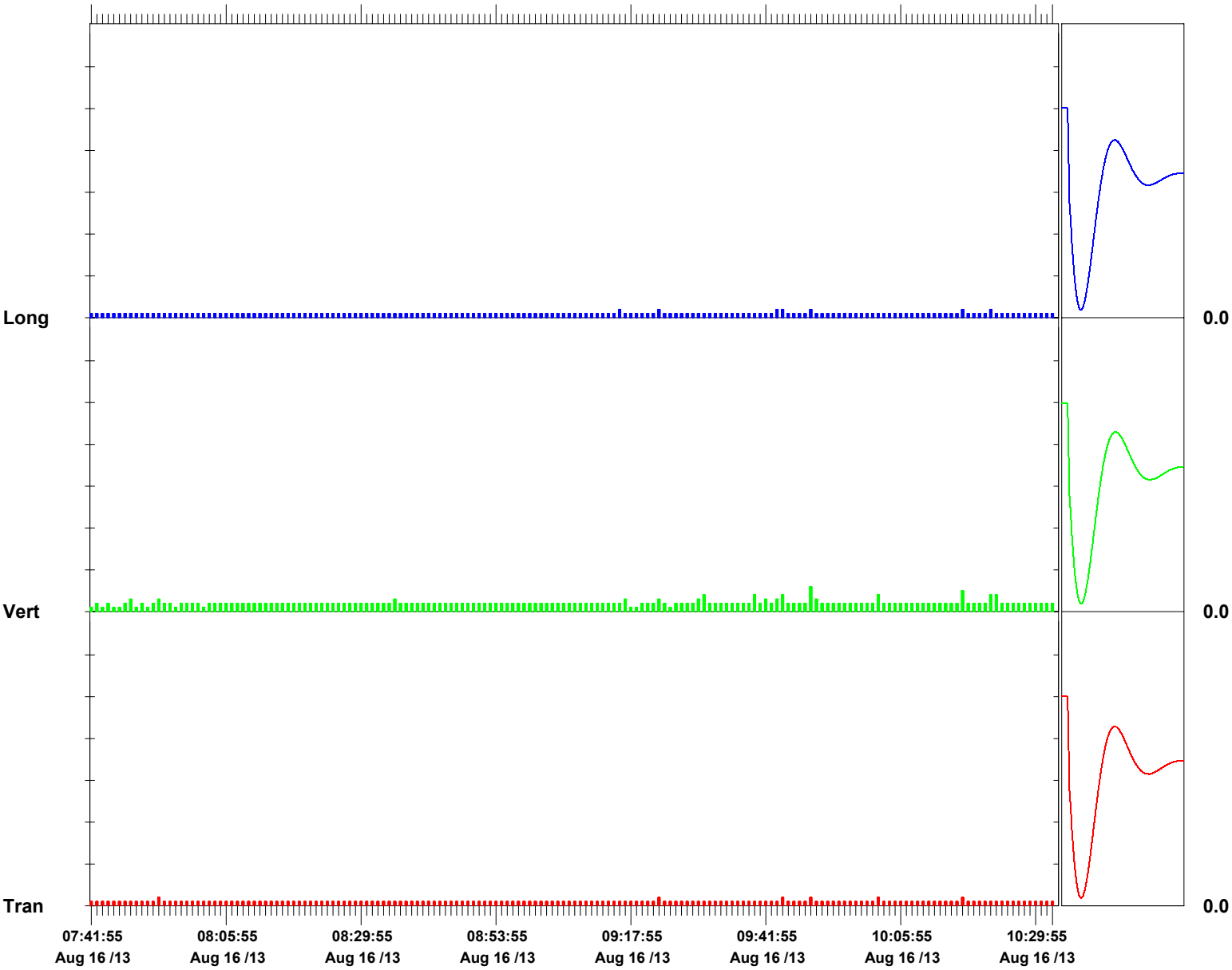
Serial Number BA14150 V 8.12-8.0 BlastMate III
Battery Level 6.6 Volts
Unit Calibration July 17, 2008 by Instantel Inc.
File Name P150EXRU.O70

Post Event Notes
Jersey city diner Route 440
Data from 8-16-2013,
TIme of Vibration is from 9:15AM to 10:22AM (9 sheets)
PPV during vibration time = 0.03 in/s (Vertical) @ 9:49AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0300	0.01000	in/s
ZC Freq	>100	47	>100	Hz
Date	Aug 16 /13	Aug 16 /13	Aug 16 /13	
Time	07:53:01	09:49:45	09:15:45	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.4	7.4	Hz
Overswing Ratio	3.6	3.6	3.8	

Peak Vector Sum 0.0308 in/s on August 16, 2013 at 09:49:45



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:42:12 August 16, 2013
Histogram Finish Time	10:26:46 August 16, 2013
Number of Intervals	104 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	`ãs Ð©s ± /NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

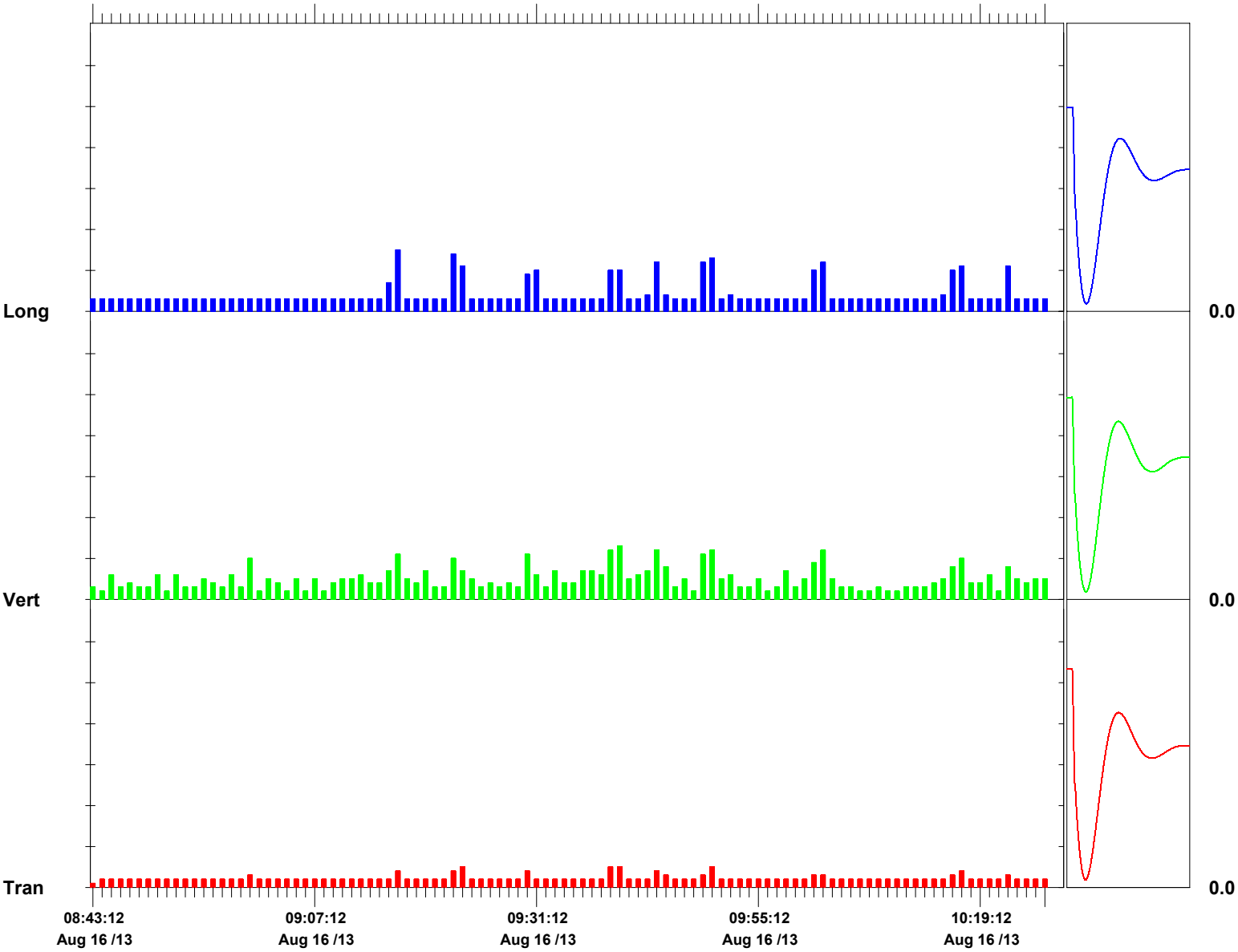
Serial Number	BA15370 V 10.06-8.17 BlastMate III/8
Battery Level	6.2 Volts
Unit Calibration	December 4, 2009 by Instantel inc.
	N/A
File Name	Q370EXRX.IC0

Post Event Notes
Location 1, Utility line Monitoring
Data from 8-16-2013
Vibration time from 9:15AM to 10:22AM
PPV during the vibration period = 0.08 in/s (Long) @ 9:16AM

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0250	0.0650	0.0750	in/s
ZC Freq	73	28	37	Hz
Date	Aug 16 /13	Aug 16 /13	Aug 16 /13	
Time	09:23:12	09:40:12	09:16:12	
Sensor Check	Passed	Passed	Passed	
Frequency	7.7	7.7	7.5	Hz
Overswing Ratio	3.7	3.4	3.9	

Peak Vector Sum 0.0820 in/s on August 16, 2013 at 09:50:12



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering
August 28, 2013

For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

The vibration work commenced at 9:30AM until 11:50AM. The seismograph was placed along the jug handle at 2 locations. Location 1 is approximately 54' west of the utility lines and Location 2 is further west away from utilities. There were 2 exceedances recorded for the duration of the sheet driving activity.

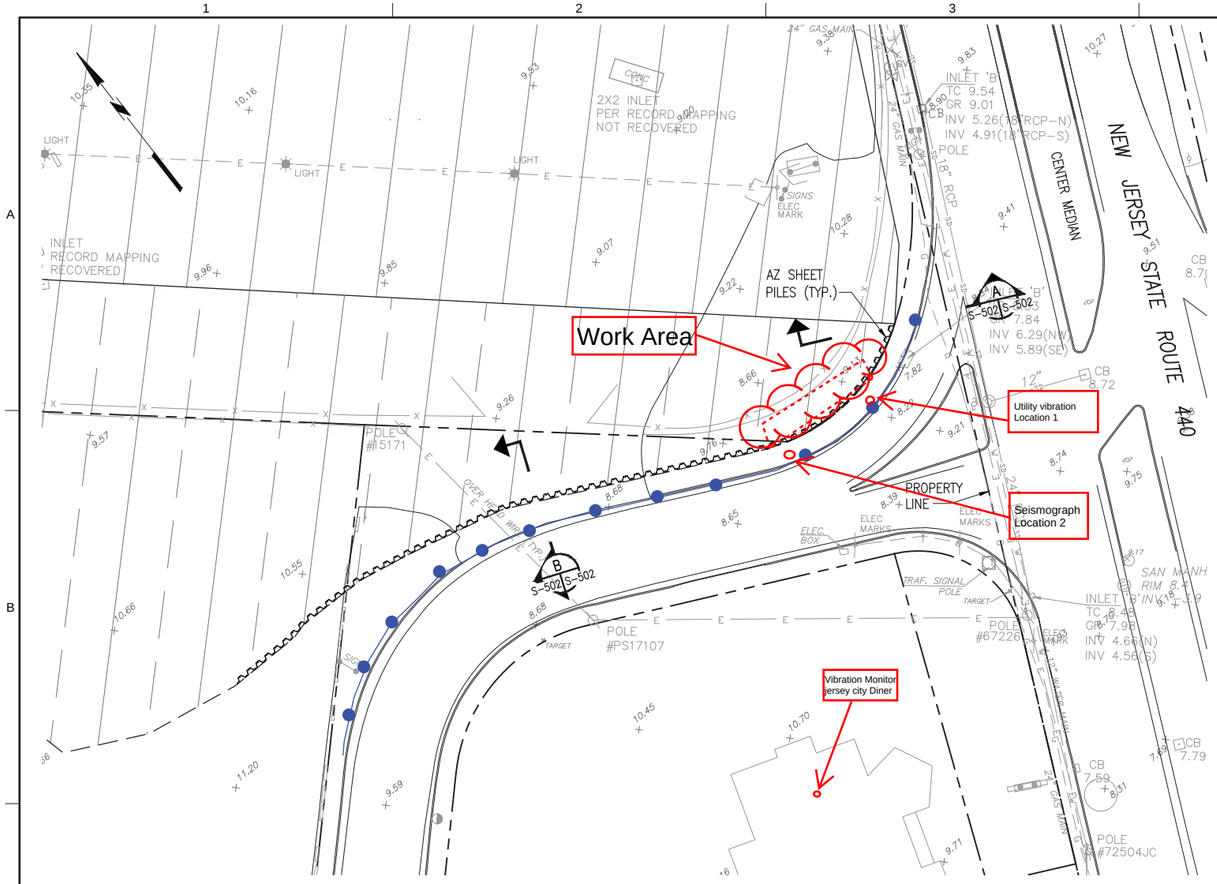
Exceedance:

- Water/Sewer utility Alert limit exceedance of 0.5in/s at 9:34am = 0.920 in/s (Longitude)
  Note: The limit was reach at the beginning phase when sheet was attempting to break through asphalt. Vibration levels were below threshold values after the initial break.

- Water/Sewer utility Alert limit exceedance of 0.5in/s at 10:20am = 0.575 in/s(Longitude)
  Note: Limiting level of vibration was reached as a result of the sheet being pushed down making contact with adjoining sheet, thereby amplifying the vibration levels.

Crack gauges:

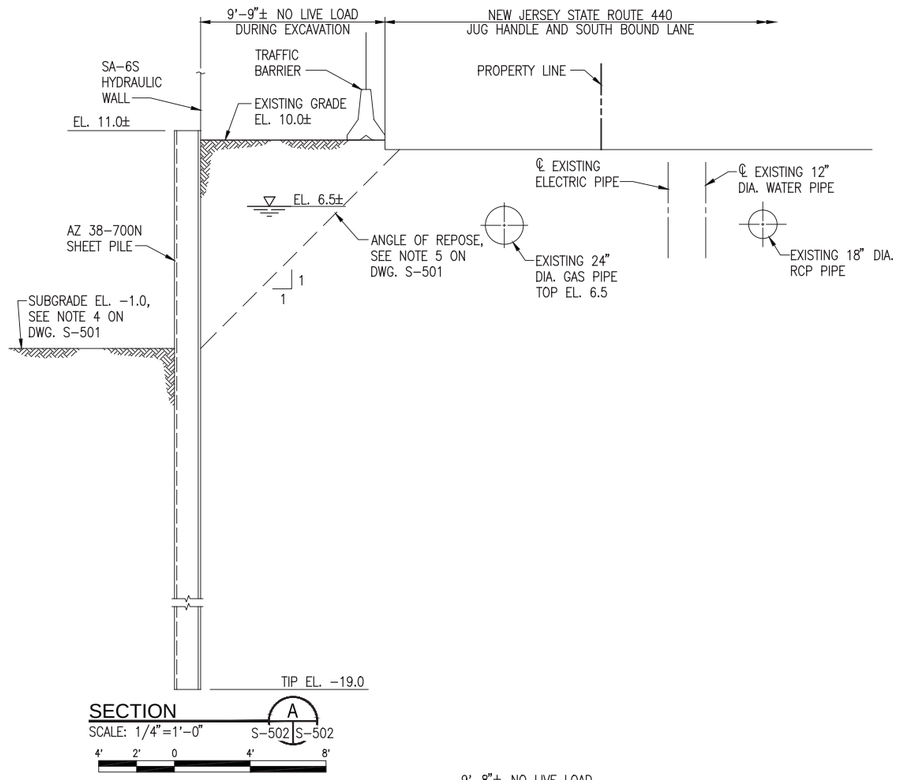
There were no movements in crack gauges.



EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

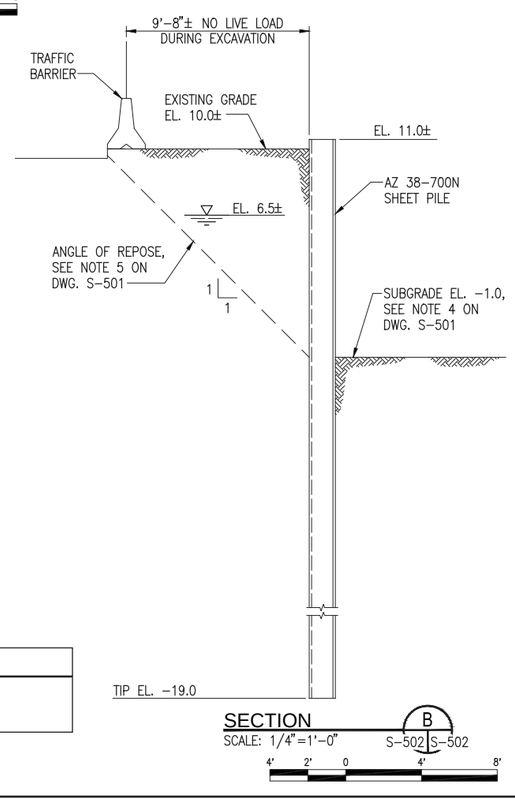
30' 20' 10' 0 30' 60'



SECTION A S-502 S-502

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8'



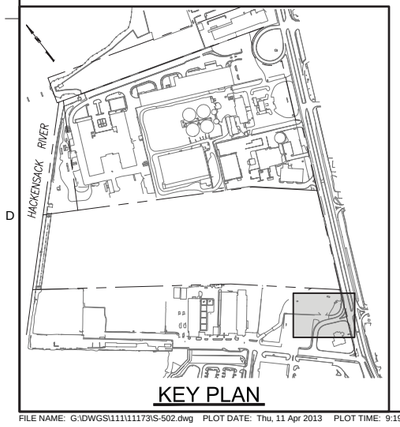
SECTION B S-502 S-502

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8'

Legend

Center line of Vibration Monitoring Locations



KEY PLAN

NO.	DATE	REVISION	BY	APVD
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	P.W.D.
DSGN		DR G.S. CHK B.B.	APVD G.P.	

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-10-0027
DWG S-502
SHEET 60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

Histogram Start Time 09:33:21 August 28, 2013
Histogram Finish Time 09:34:26 August 28, 2013
Number of Intervals 2 at 1 minute
Range Geo :10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

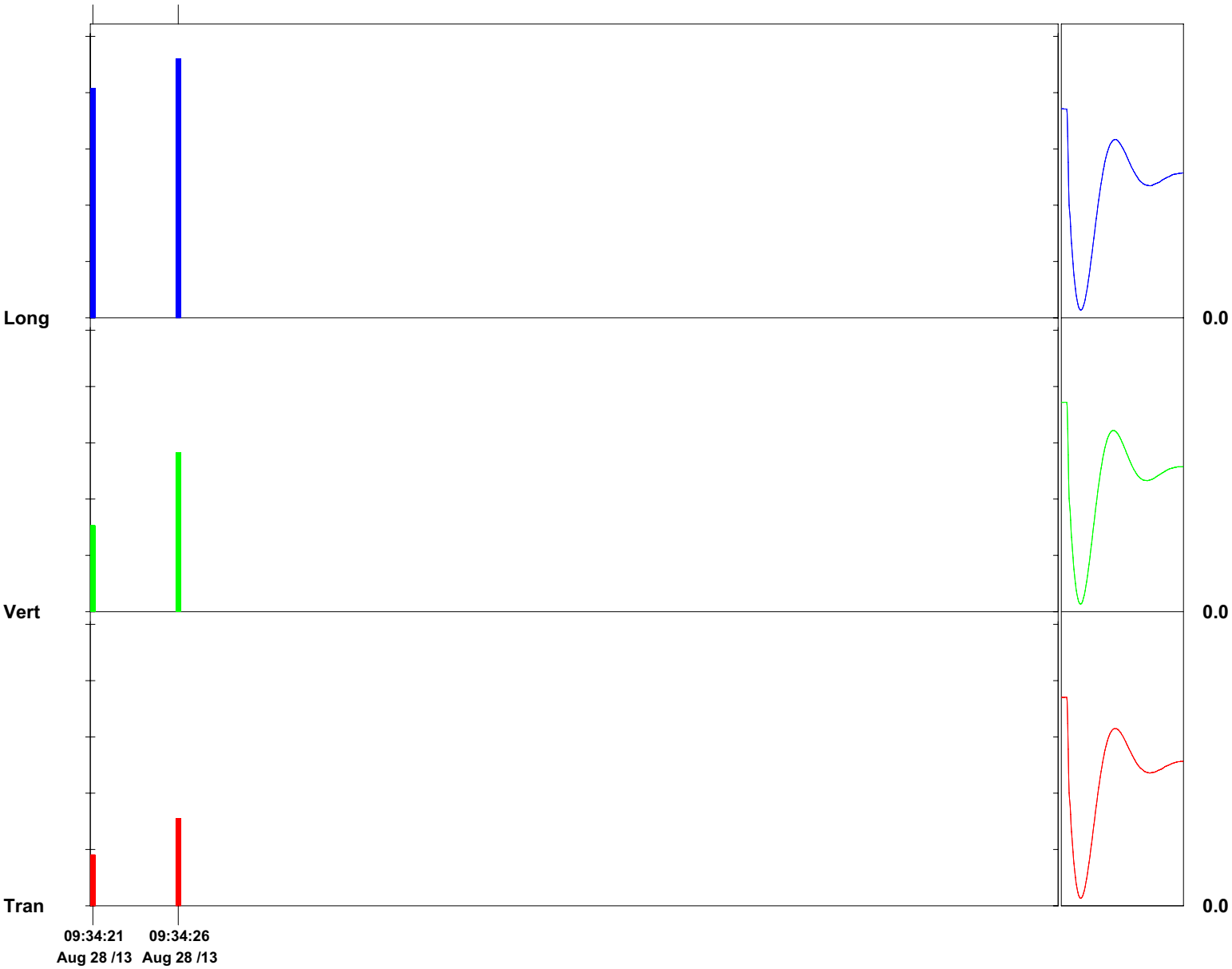
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194EYE7.VL0

Post Event Notes
Utility line along Route 440 North
Data from 8-28-2013
Location 1, Along jug handle approx. 50ft from utility
PPV during the vibration period= 0.92 in/s(Long) at 9:34

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.310	0.565	0.920	in/s
ZC Freq	2.6	47	30	Hz
Date	Aug 28 /13	Aug 28 /13	Aug 28 /13	
Time	09:34:26	09:34:26	09:34:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.8	3.5	3.7	

Peak Vector Sum 0.937 in/s on August 28, 2013 at 09:34:26



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

Date/Time Long at 09:34:18 August 28, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: $VS"53┼ü┘ øöøû┼á◀"┼ÿî/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

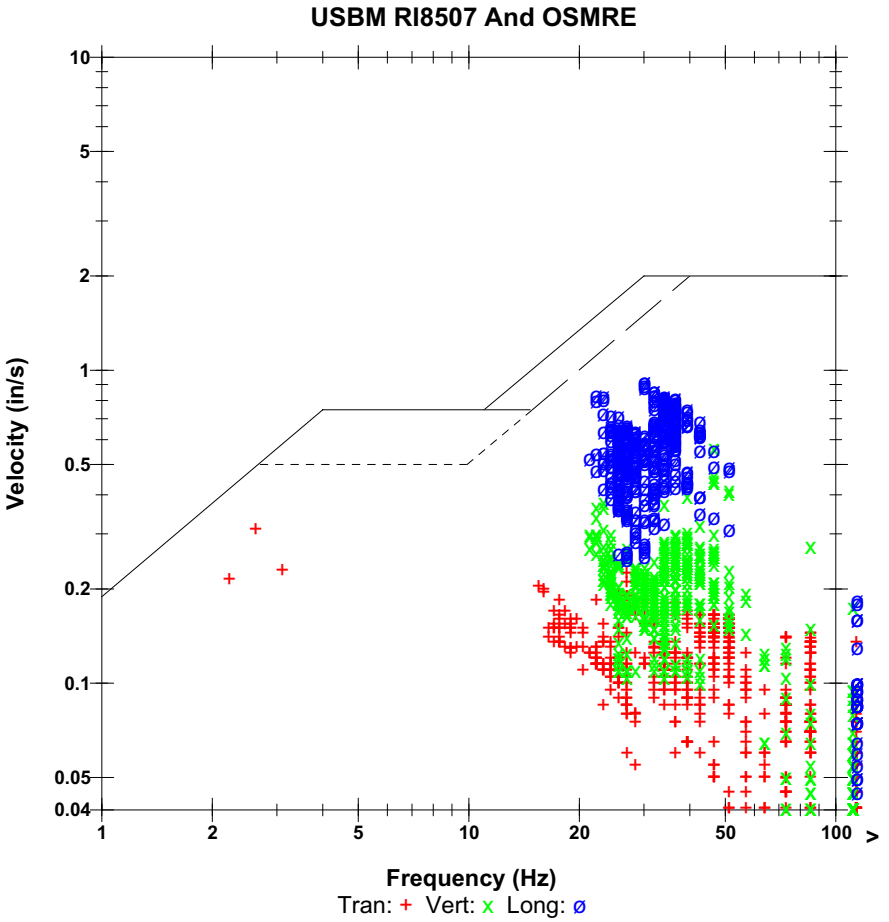
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration October 5, 2012 by Instantel
N/A
File Name N194EYE7.X60

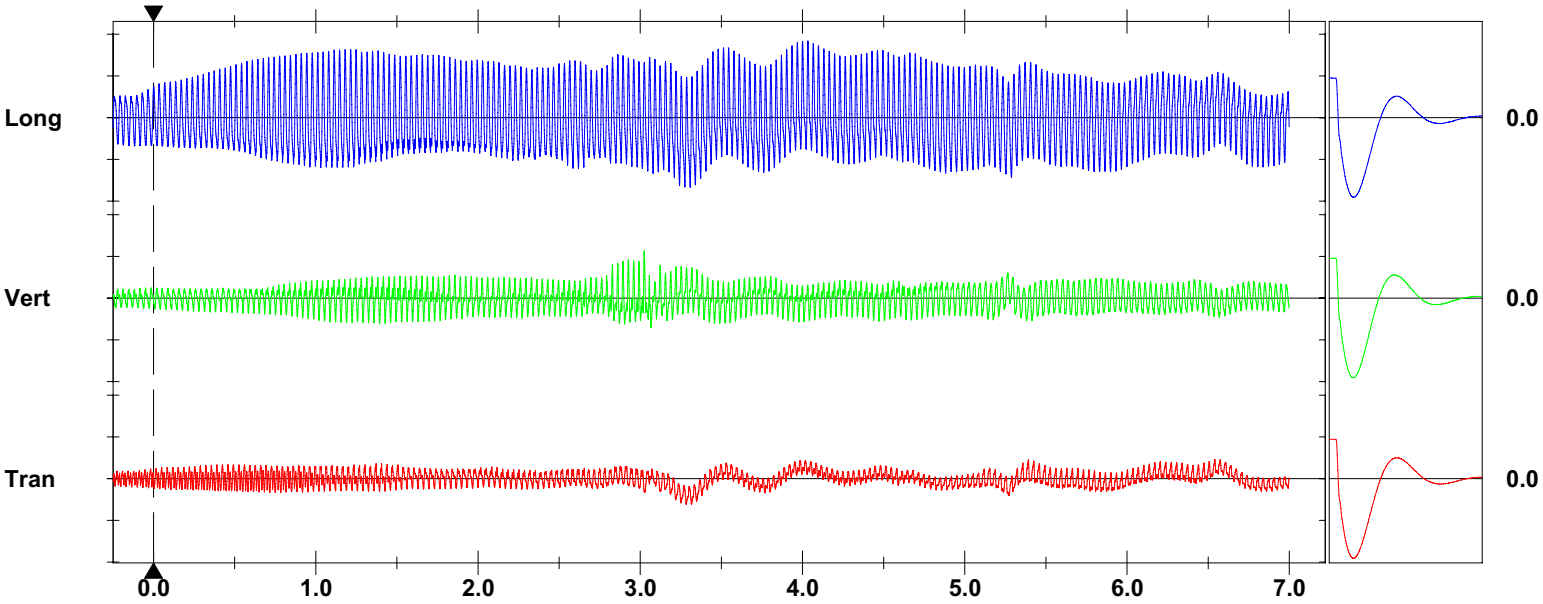
Post Event Notes
Utility line along Route 440 North
Data from 8-28-2013
Location 1, Along jug handle approx. 50ft from utility
PPV during the vibration period= 0.92 in/s(Long) at 9:34

Extended Notes
Combo Mode August 28, 2013 09:33:20
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.310	0.565	0.920	in/s
ZC Freq	2.6	47	30	Hz
Time (Rel. to Trig)	3.315	3.024	4.033	sec
Peak Acceleration	0.292	0.451	0.557	g
Peak Displacement	0.0159	0.00201	0.00552	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.8	3.5	3.7	

Peak Vector Sum 0.937 in/s at 4.033 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.500 in/s/div Sensor Check
Trigger =

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FFT Report

Date/Time	Long at 09:34:18 August 28, 2013	**Serial Number**	BE12194 V 10.30-8.17 MiniMate Plus
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.3 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	October 5, 2012 by Instantel
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	N194EYE7.X60
Operator/Setup:	$VS"53┼ü┘ øöøû┼á◀"┼ÿî/NA		

Notes

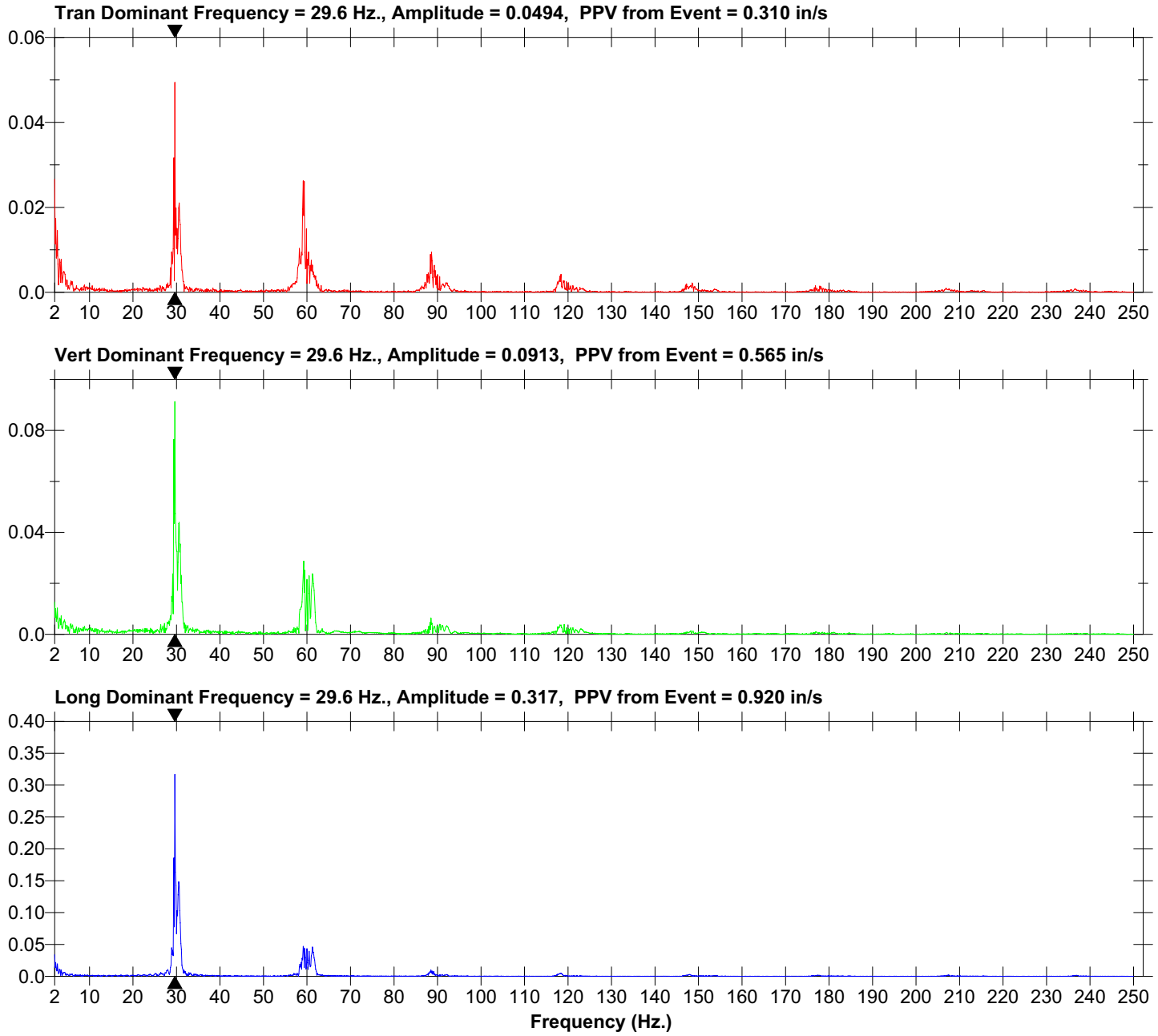
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

Combo Mode August 28, 2013 09:33:20
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-28-2013
Location 1, Along jug handle approx. 50ft from utility
PPV during the vibration period= 0.92 in/s(Long) at 9:34



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Event Report

Histogram Start Time	09:42:35 August 28, 2013
Histogram Finish Time	10:56:54 August 28, 2013
Number of Intervals	74 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194EYE8.AZ0

Post Event Notes

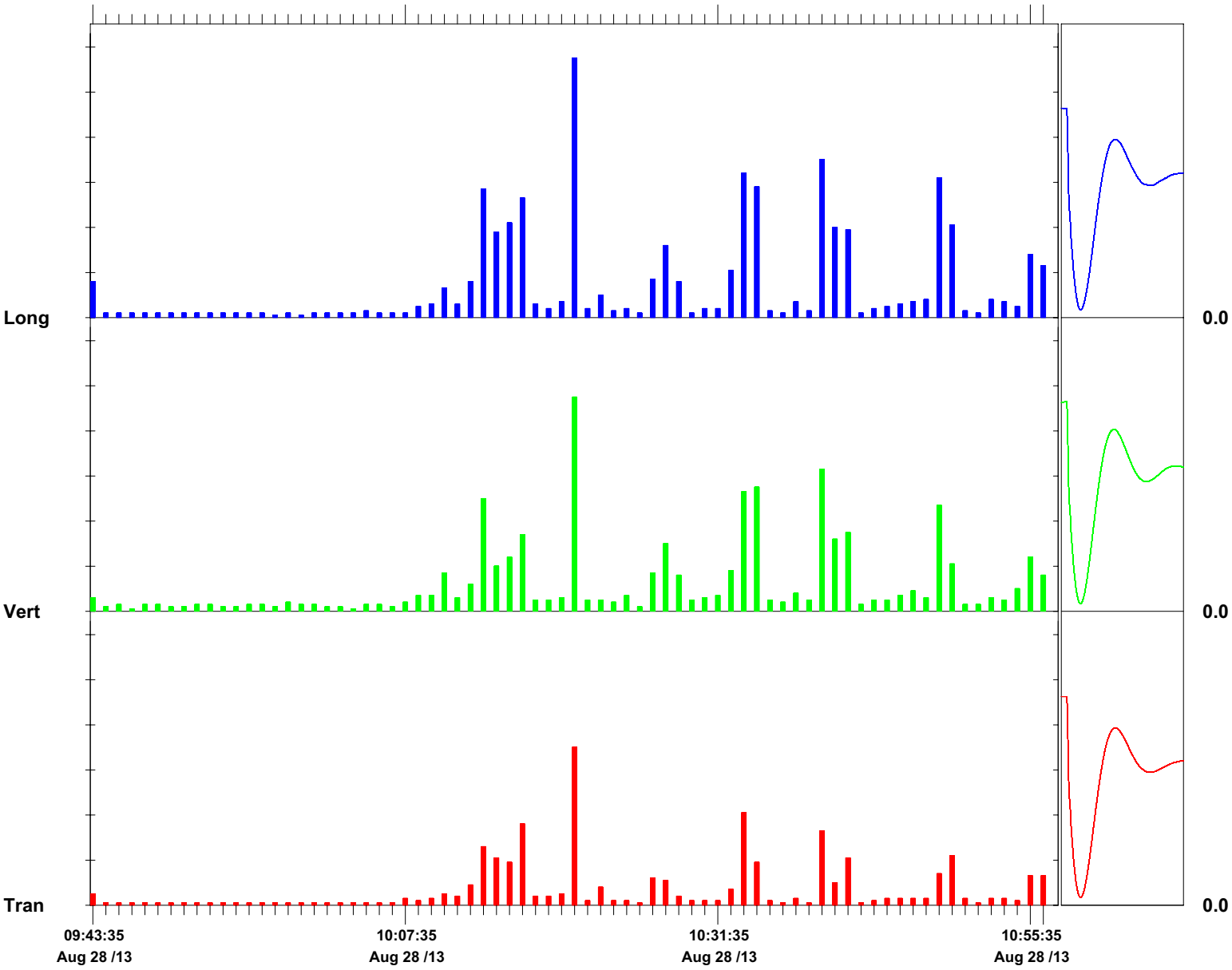
Utility line along Route 440 North
Data from 8-28-2013
Location 1, Along jug handle approx. 50ft from utility
PPV during the vibration period= 0.58 in/s(Long) at 10:20

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.350	0.475	0.575	in/s
ZC Freq	27	30	30	Hz
Date	Aug 28 /13	Aug 28 /13	Aug 28 /13	
Time	10:20:35	10:20:35	10:20:35	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.8	3.4	3.7	

Peak Vector Sum 0.712 in/s on August 28, 2013 at 10:20:35



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

Printed: August 29, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Date/Time Long at 10:19:49 August 28, 2013
Trigger Source Geo: 0.375 in/s
Range Geo : 10.00 in/s
Record Time 7.0 sec at 1024 sps
Job Number: 1
Operator/Setup: þÛªß‼B1"#332ÜÍ◄☼ÿÛªÎ"C"‼#332/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

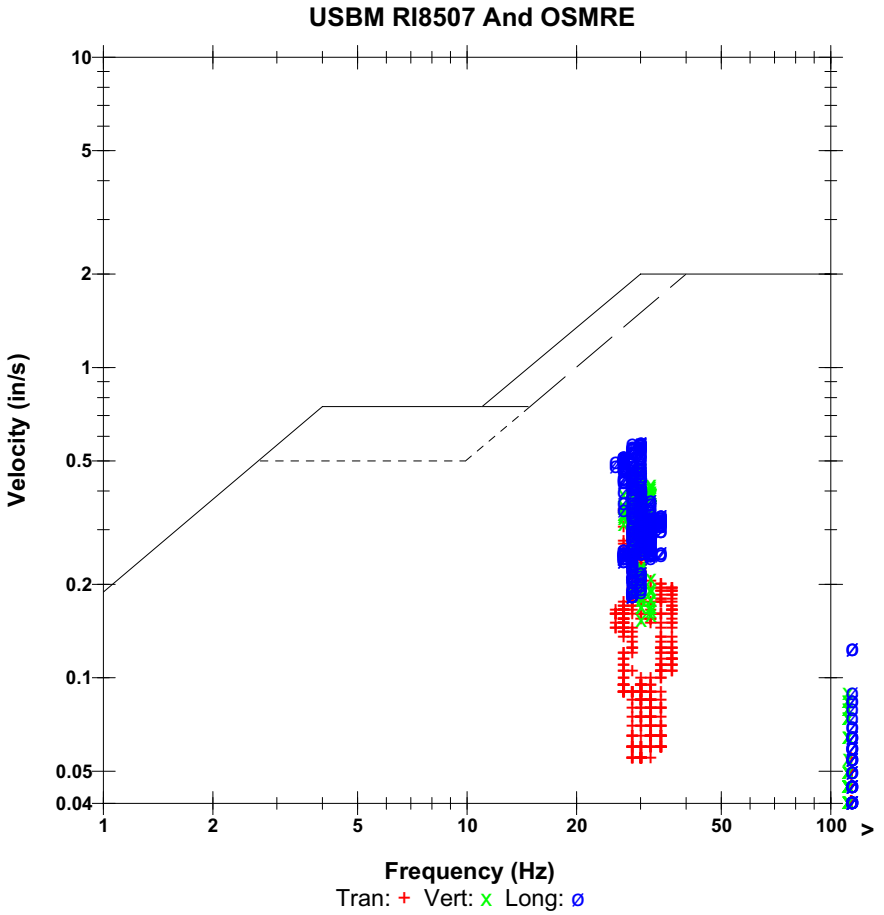
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.3 Volts
Unit Calibration October 5, 2012 by Instantel
N/A
File Name N194EYEA.110

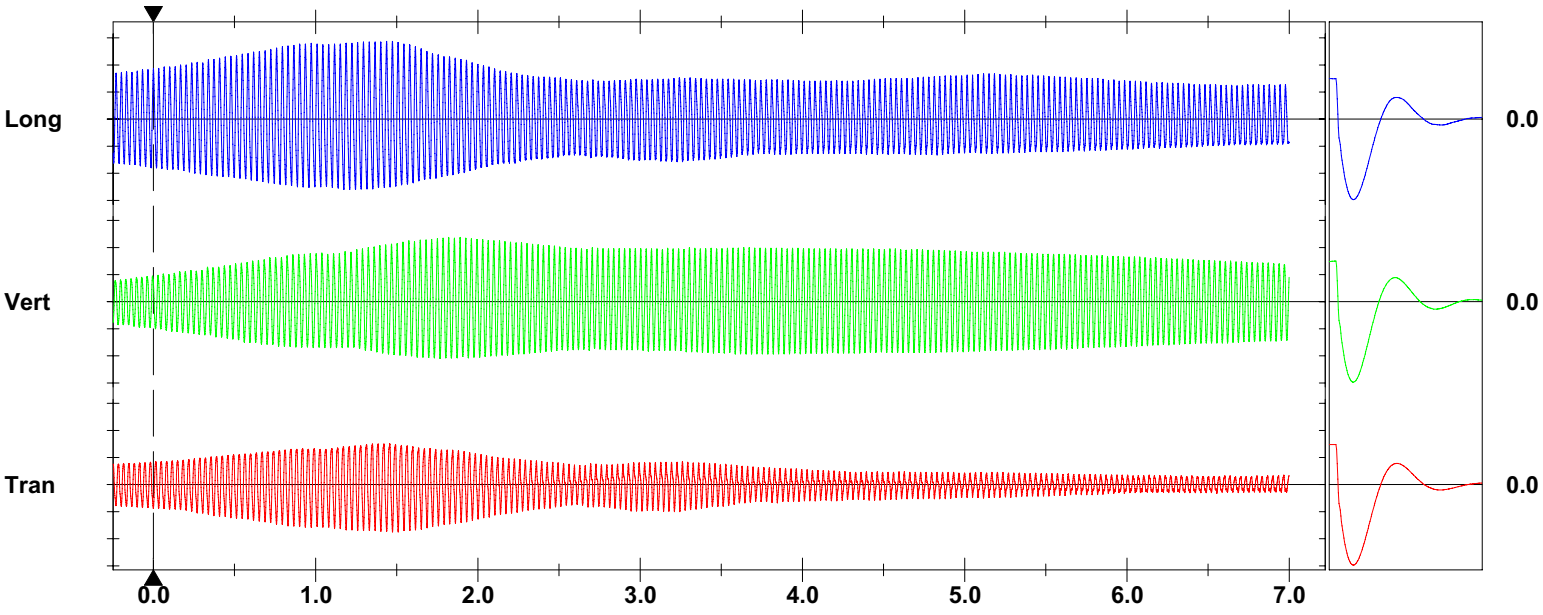
Post Event Notes
Utility line along Route 440 North
Data from 8-28-2013
Location 1, Along jug handle approx. 50ft from utility
PPV during the vibration period= 0.58 in/s(Long) at 10:20

Extended Notes
Combo Mode August 28, 2013 09:42:35
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.350	0.475	0.575	in/s
ZC Freq	27	30	30	Hz
Time (Rel. to Trig)	1.474	1.820	1.438	sec
Peak Acceleration	0.239	0.239	0.384	g
Peak Displacement	0.00187	0.00234	0.00300	in
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.8	3.4	3.7	

Peak Vector Sum 0.712 in/s at 1.473 sec





Time Scale: 0.50 sec/div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check
Trigger =

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FFT Report

Date/Time	Long at 10:19:49 August 28, 2013	**Serial Number**	BE12194 V 10.30-8.17 MiniMate Plus
Trigger Source	Geo: 0.375 in/s	**Battery Level**	6.3 Volts
Range	Geo : 10.00 in/s	**Unit Calibration**	October 5, 2012 by Instantel
Record Time	7.0 sec at 1024 sps		N/A
Job Number:	1	**File Name**	N194EYEA.110
Operator/Setup:	þÛªß‼B1"#332ÜÍ◄☼ÿÛªÎ"C"‼#332/NA		

Notes

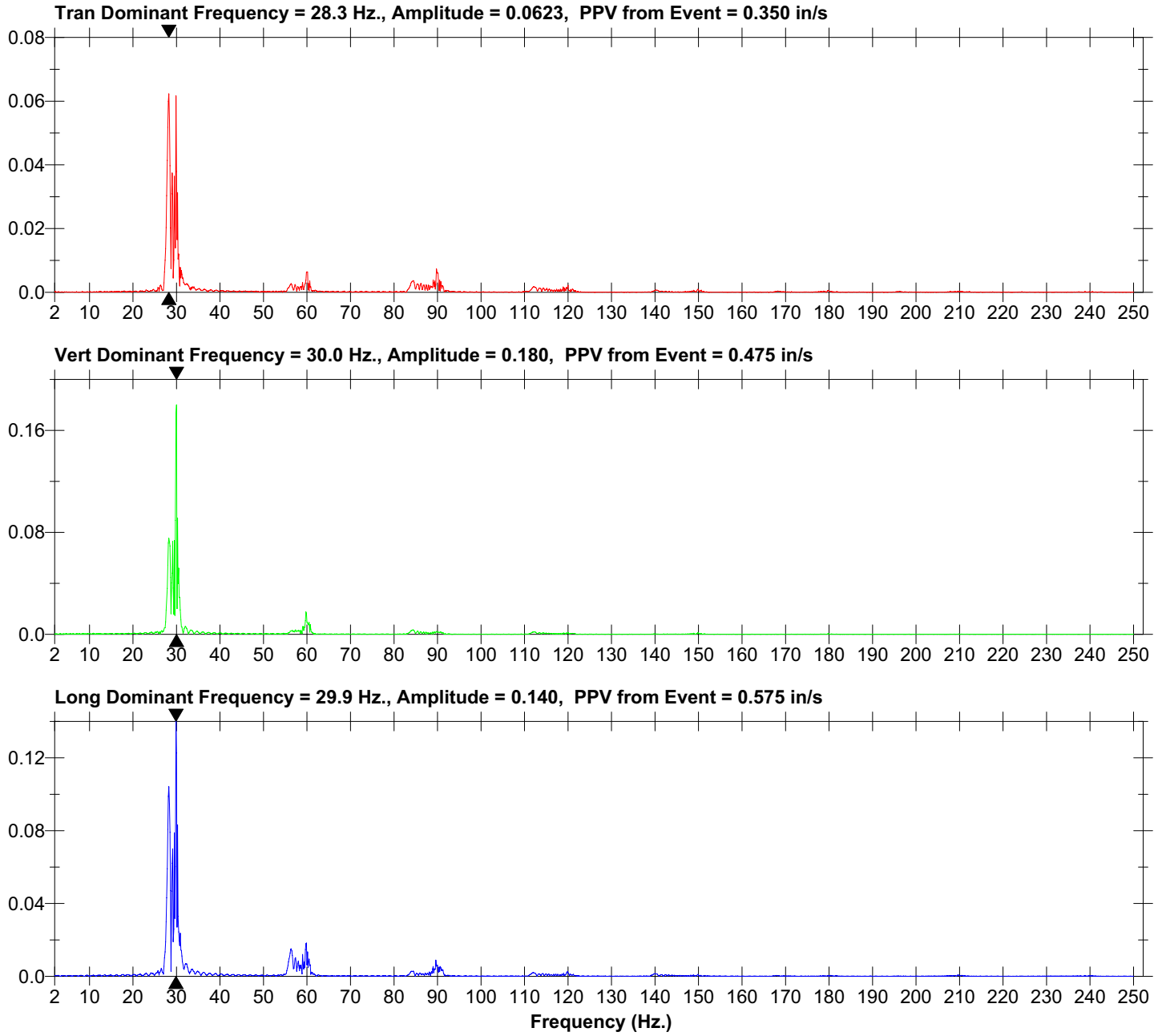
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Extended Notes

Combo Mode August 28, 2013 09:42:35
SA-6 Utility line Vibration monitoring.

Post Event Notes

Utility line along Route 440 North
Data from 8-28-2013
Location 1, Along jug handle approx. 50ft from utility
PPV during the vibration period= 0.58 in/s(Long) at 10:20



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Event Report

Histogram Start Time 07:33:10 August 28, 2013
Histogram Finish Time 12:00:00 August 28, 2013
Number of Intervals 8005 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

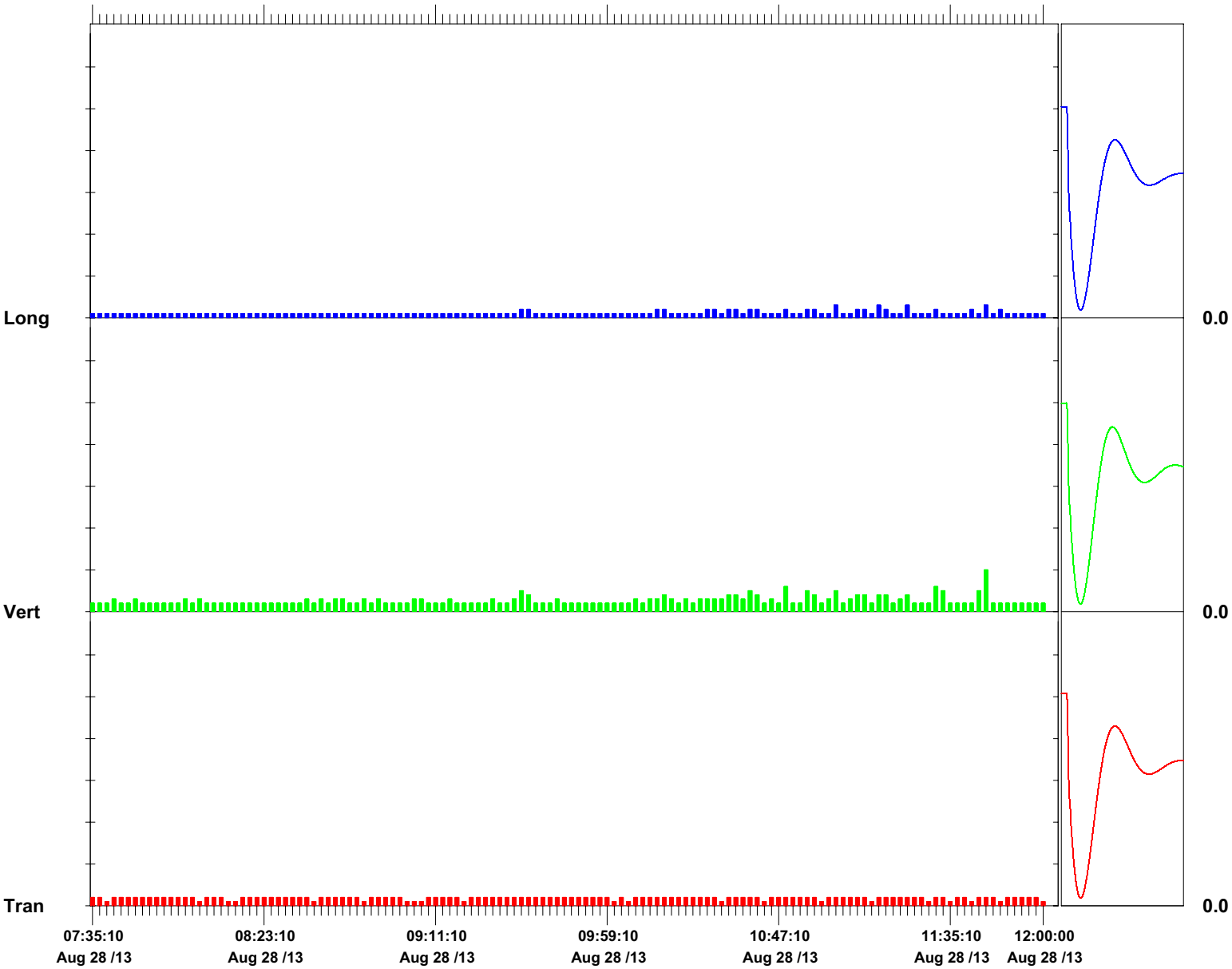
Serial Number BE12235 V 10.40-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration February 4, 2013 by Instantel
File Name N235EYE2.BA0

Post Event Notes
Jersey city diner Route 440
Data from 8-28-2013,
TIme of Vibration is from 9:30AM to 11:50AM
PPV during vibration time = 0.05 in/s(Vert) @ 11:43AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0500	0.0150	in/s
ZC Freq	>100	37	57	Hz
Date	Aug 28 /13	Aug 28 /13	Aug 28 /13	
Time	07:33:34	11:43:50	11:01:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.8	7.3	Hz
Overswing Ratio	3.6	3.2	3.8	

Peak Vector Sum 0.0512 in/s on August 28, 2013 at 11:43:50



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering
August 29, 2013

For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

The vibration work commenced at 7:30AM until 11:35AM and 12:50PM until 6:30PM. The seismograph was placed along the jug handle at total of 4 difference locations. The relocation times were at 9:22AM, 10:26AM and 11:35AM. There were a total of 2 exceedances recorded for the duration of the sheet driving activity.

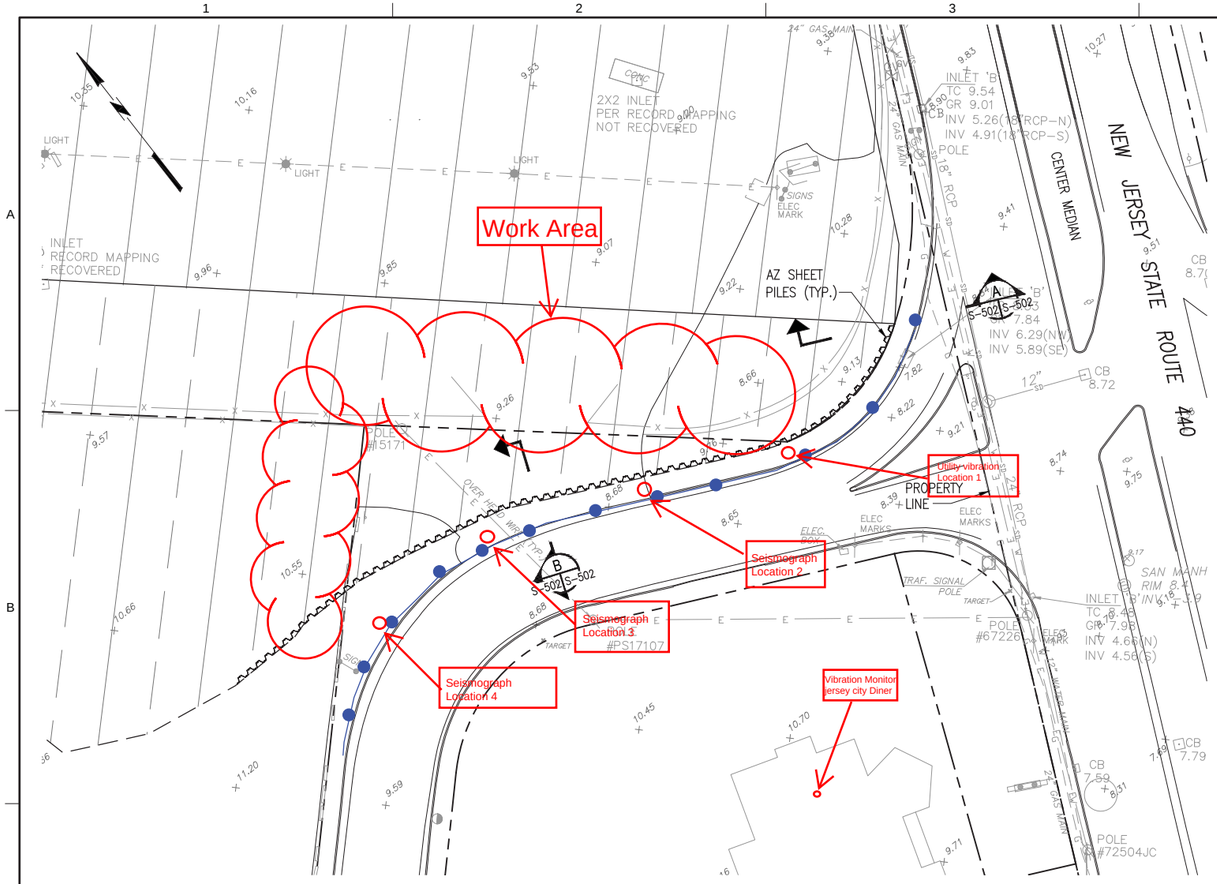
Exceedance:

- Water/Sewer utility Alert limit exceedance at 12:51PM of 0.55 in/s (Longitude)

- Water/Sewer utility threshold limit exceedance of 13:14am of 0.42 in/s(Longitude)

Crack gauges:

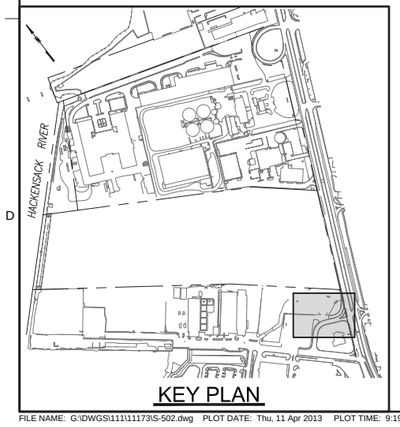
There were no movements in crack gauges.



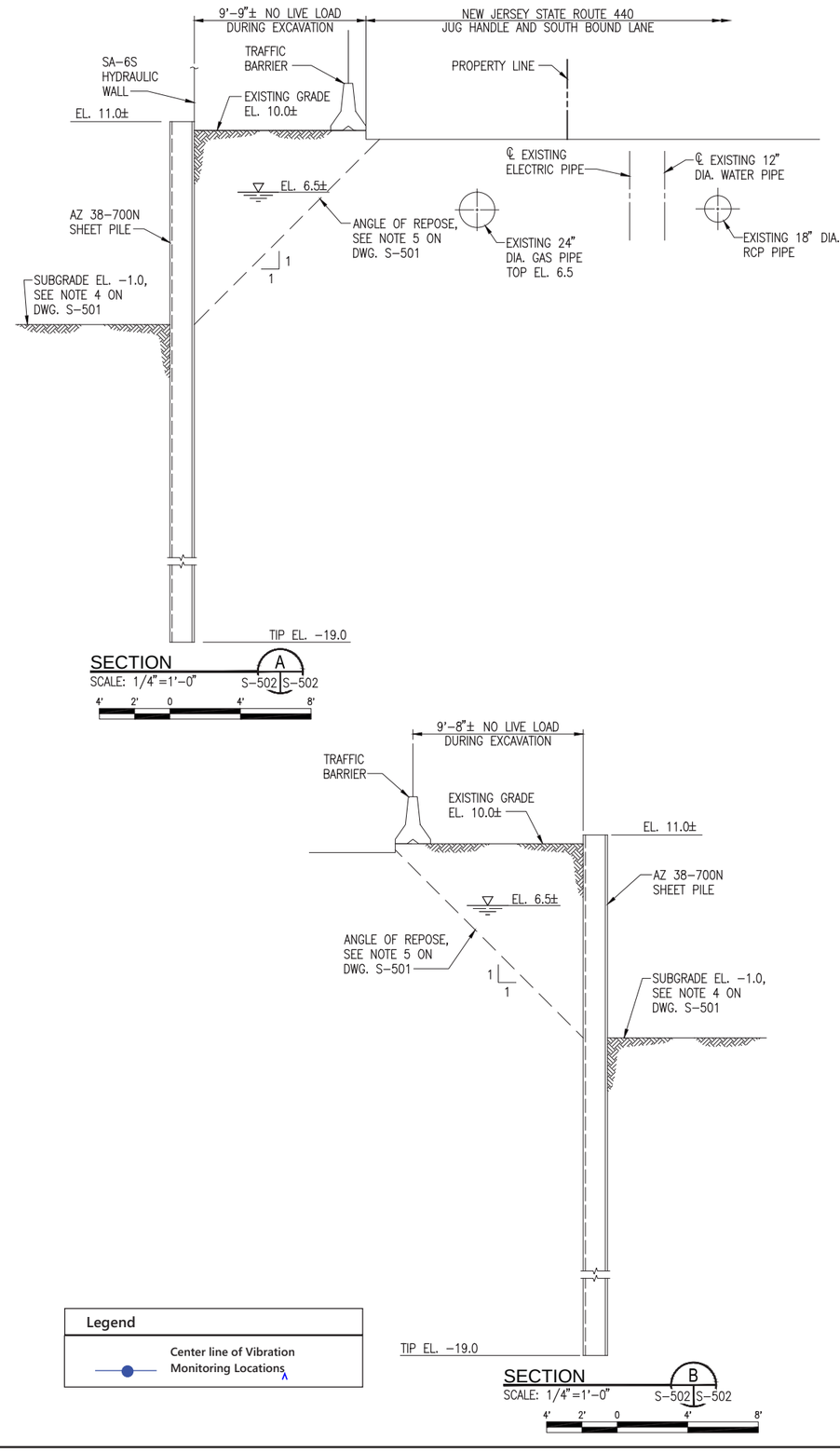
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



KEY PLAN



SECTION A

SCALE: 1/4"=1'-0" S-502 S-502

4' 2' 0 4' 8'

SECTION B

SCALE: 1/4"=1'-0" S-502 S-502

4' 2' 0 4' 8'

Legend

Center line of Vibration Monitoring Locations

NO.	DATE	REVISION	BY	APVD
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	P.W.D.
DSGN	DR	CHK	APVD	
G.S.	B.B.		G.P.	

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

Histogram Start Time	07:29:08 August 29, 2013
Histogram Finish Time	09:21:31 August 29, 2013
Number of Intervals	112 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	K/NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	October 5, 2012 by Instantel
	N/A
File Name	N194EYFW.SK0

Post Event Notes

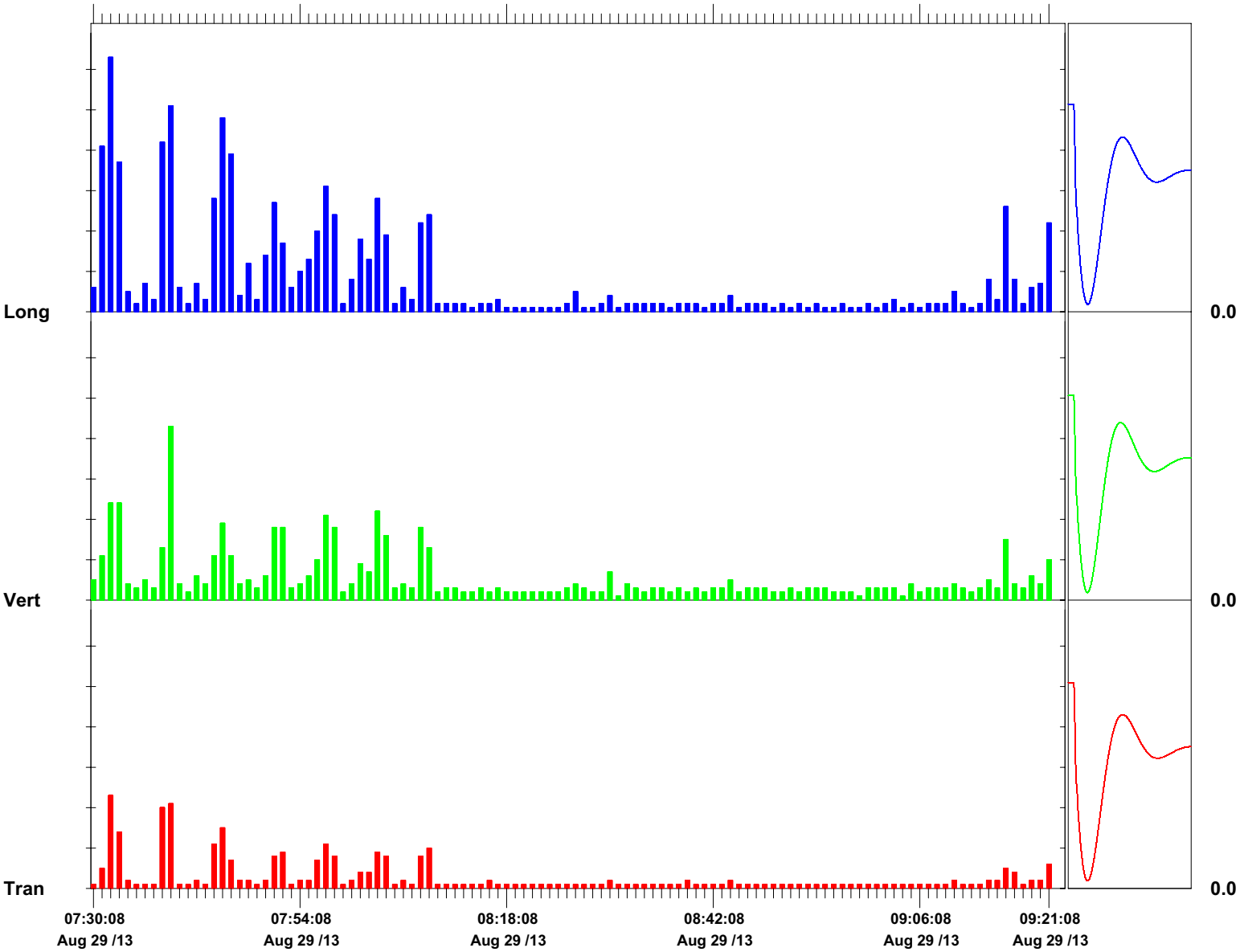
Monitoring location was along jug handle
Data from 8-29-2013, Location 1
Vibration time from 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during recording period = 0.32 in/s (long) at 7:32AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.115	0.215	0.315	in/s
ZC Freq	34	37	32	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	07:32:08	07:39:08	07:32:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.8	3.5	3.7	

Peak Vector Sum 0.340 in/s on August 29, 2013 at 07:32:08



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Printed: August 29, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Histogram Start Time	09:23:19 August 29, 2013
Histogram Finish Time	10:24:55 August 29, 2013
Number of Intervals	61 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	K/NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	October 5, 2012 by Instantel
	N/A
File Name	N194EYG2.2V0

Post Event Notes

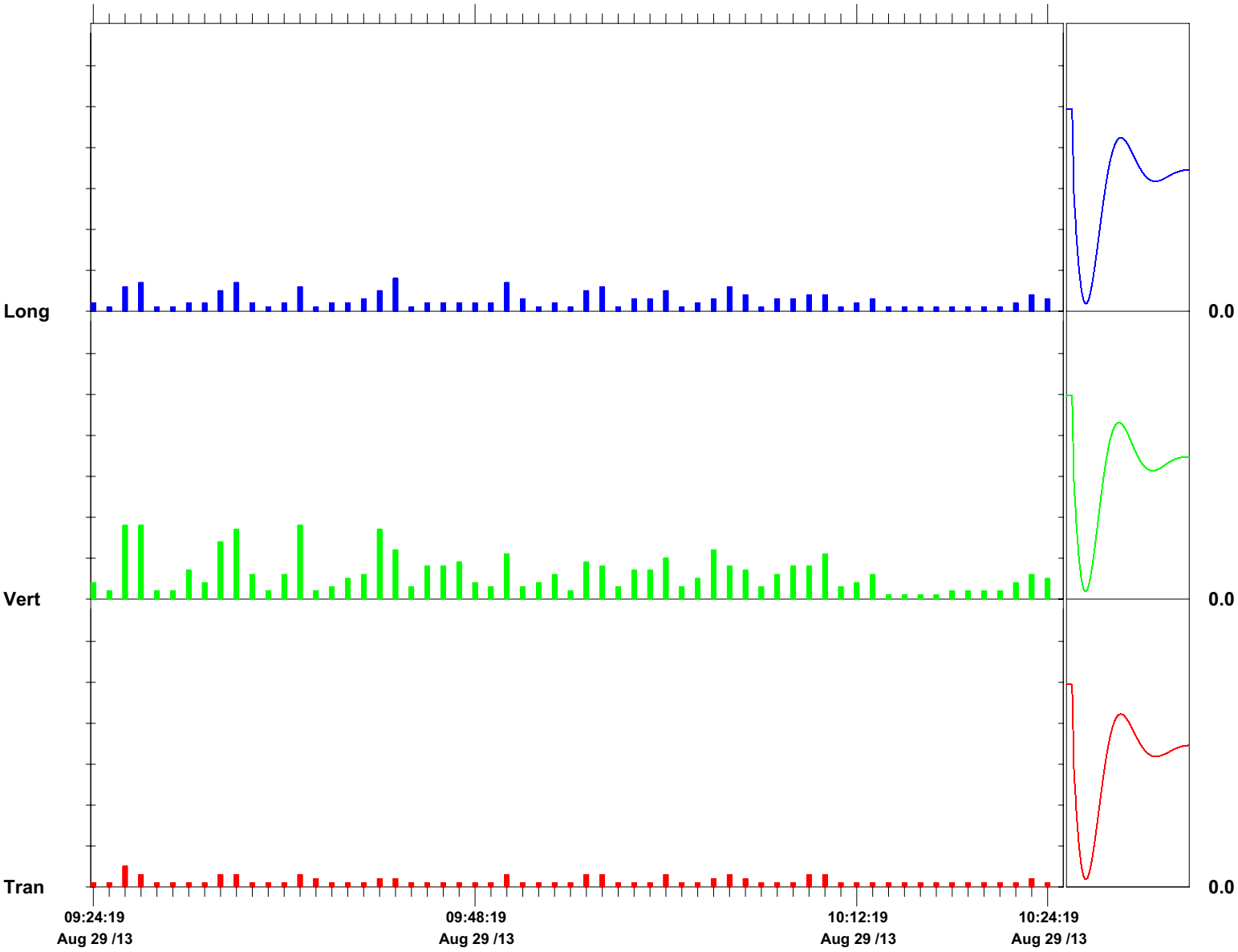
Monitoring location was along jug handle
Data from 8-29-2013, Location 2
Vibration time from 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during recording period = 0.09 in/s (Vertical) at 9:26AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0250	0.0900	0.0400	in/s
ZC Freq	37	37	43	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	09:26:19	09:26:19	09:43:19	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.2	Hz
Overswing Ratio	3.9	3.5	3.9	

Peak Vector Sum 0.0971 in/s on August 29, 2013 at 09:27:19



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:26:48 August 29, 2013
Histogram Finish Time	11:28:27 August 29, 2013
Number of Intervals	61 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194EYG5.0O0

Post Event Notes

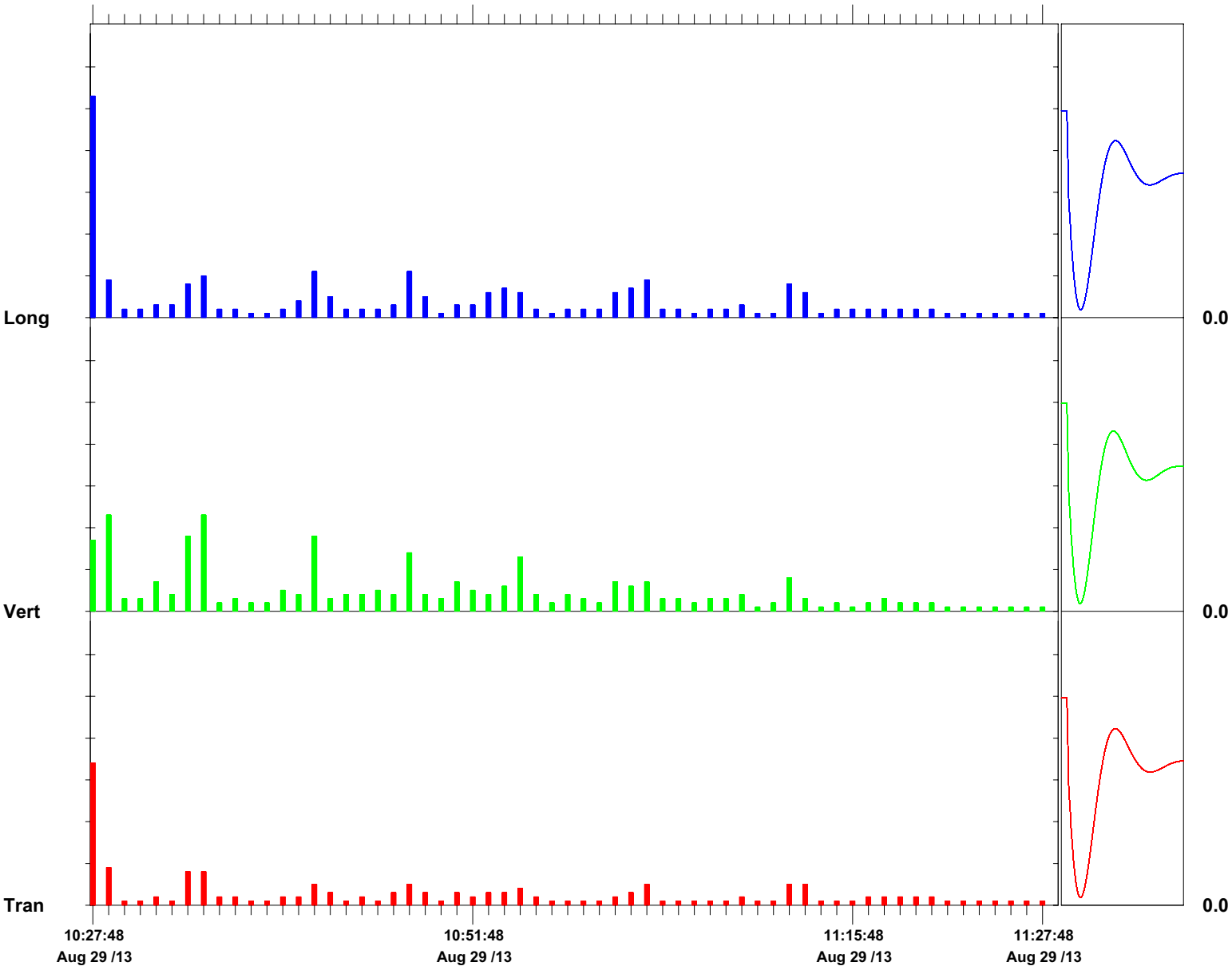
Monitoring location was along jug handle
Data from 8-29-2013, Location 3
Vibration time from 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during recording period = 0.27 in/s (Longitude) at 10:27AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.170	0.115	0.265	in/s
ZC Freq	15	30	13	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	10:27:48	10:28:48	10:27:48	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.2	Hz
Overswing Ratio	3.9	3.5	3.9	

Peak Vector Sum 0.315 in/s on August 29, 2013 at 10:27:48



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Printed: August 29, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Histogram Start Time	12:44:49 August 29, 2013
Histogram Finish Time	18:30:20 August 29, 2013
Number of Intervals	345 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194EYGB.EP0

Post Event Notes

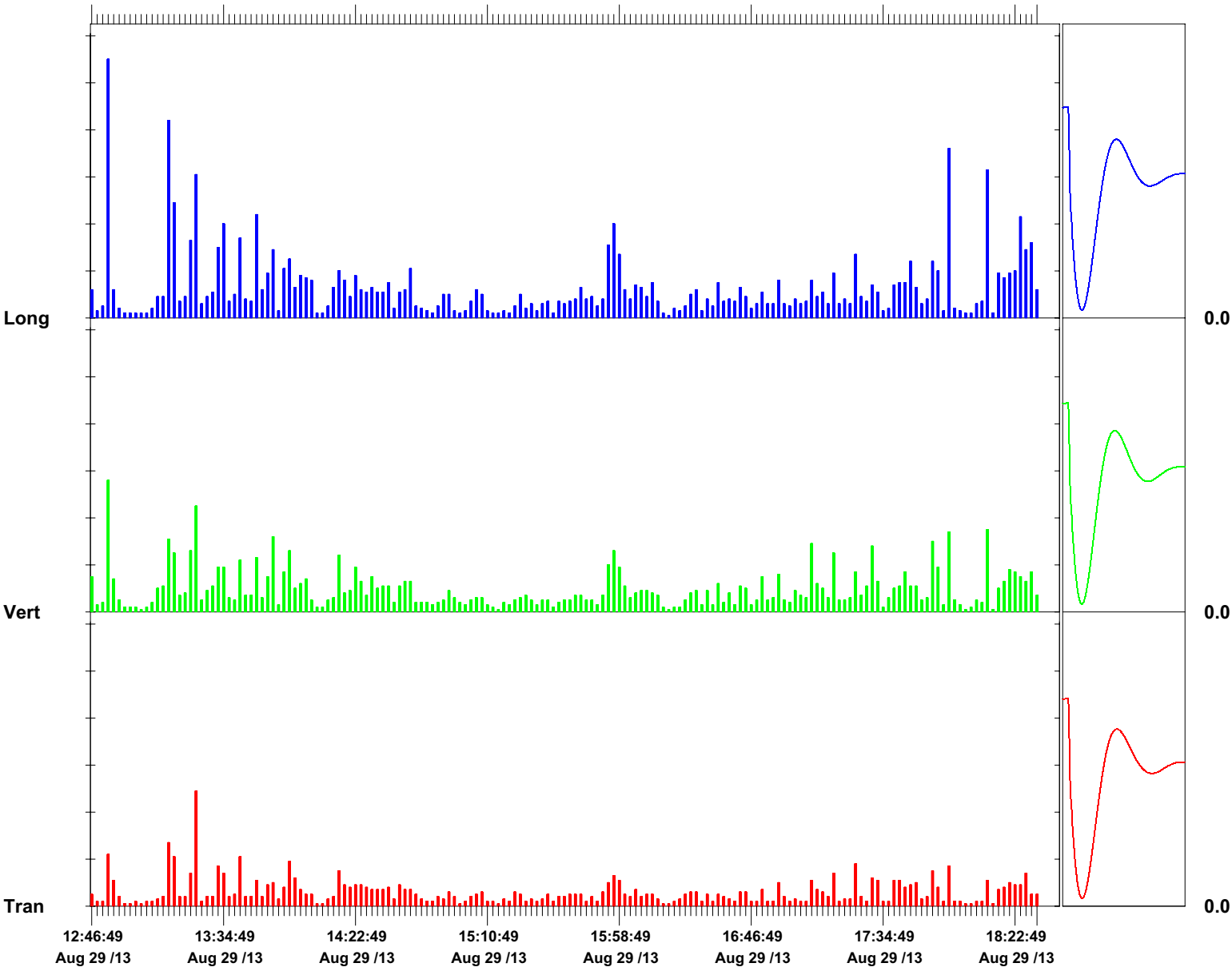
Monitoring location was along jug handle
Data from 8-29-2013, Location 4
Vibration time from 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during recording period = 0.55 in/s (long) at 12:51PM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.245	0.280	0.550	in/s
ZC Freq	39	30	32	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	13:23:49	12:51:49	12:51:49	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.9	3.5	3.7	

Peak Vector Sum 0.591 in/s on August 29, 2013 at 12:51:49



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

Printed: August 29, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Histogram Start Time 07:23:48 August 29, 2013
Histogram Finish Time 12:00:00 August 29, 2013
Number of Intervals 8286 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

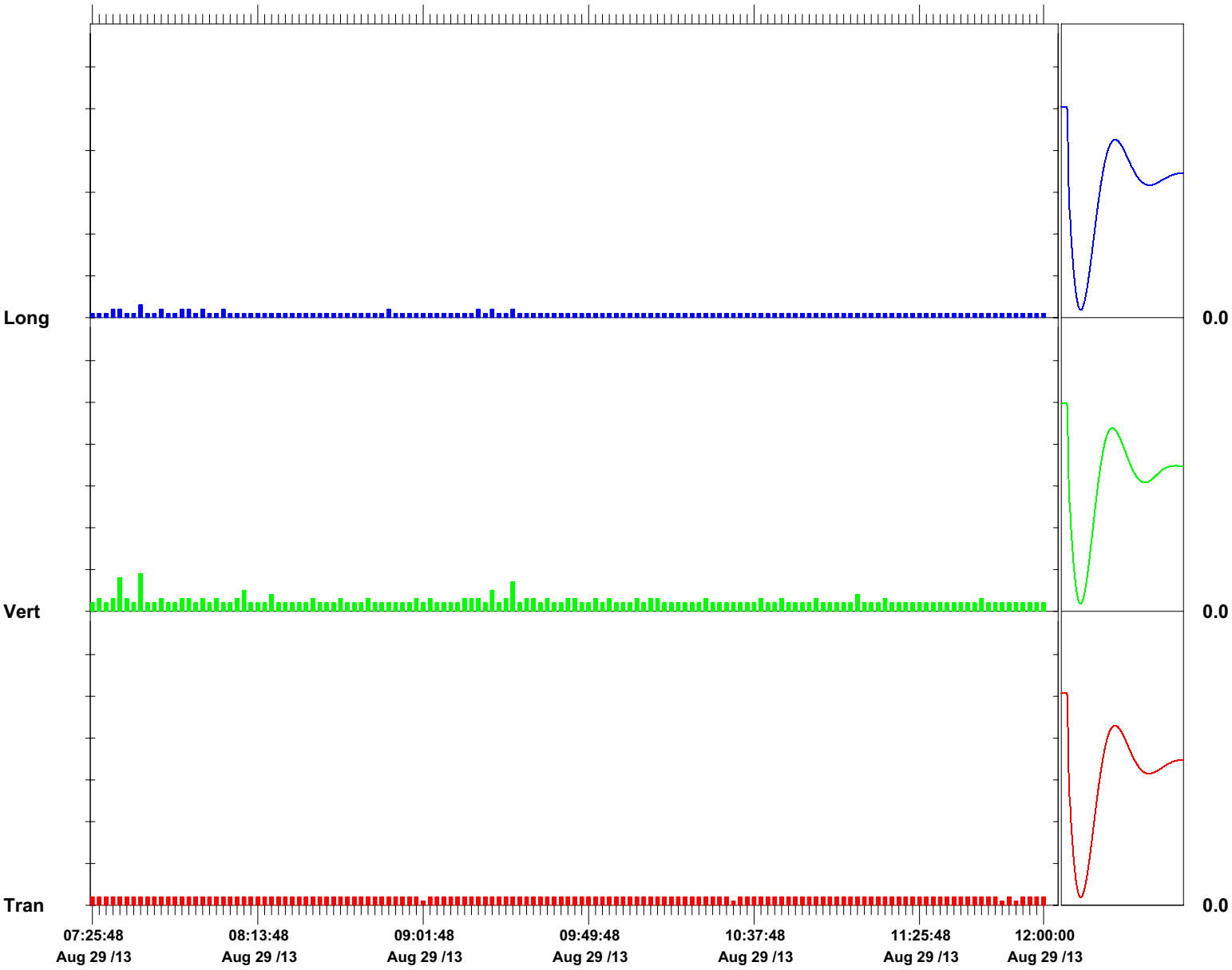
Serial Number BE12235 V 10.40-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration February 4, 2013 by Instantel
File Name N235EYFW.JO0

Post Event Notes
Jersey city diner Route 440
Data from 8-29-2013,
TIme of Vibration was 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during vibration time = 0.05 in/s (Vertical) @ 7:38AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0450	0.0150	in/s
ZC Freq	>100	37	47	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	07:24:02	07:38:42	07:38:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.8	7.3	Hz
Overswing Ratio	3.6	3.3	3.7	

Peak Vector Sum 0.0461 in/s on August 29, 2013 at 07:38:42



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 12:05:14 August 29, 2013
Histogram Finish Time 18:00:00 August 29, 2013
Number of Intervals 10643 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

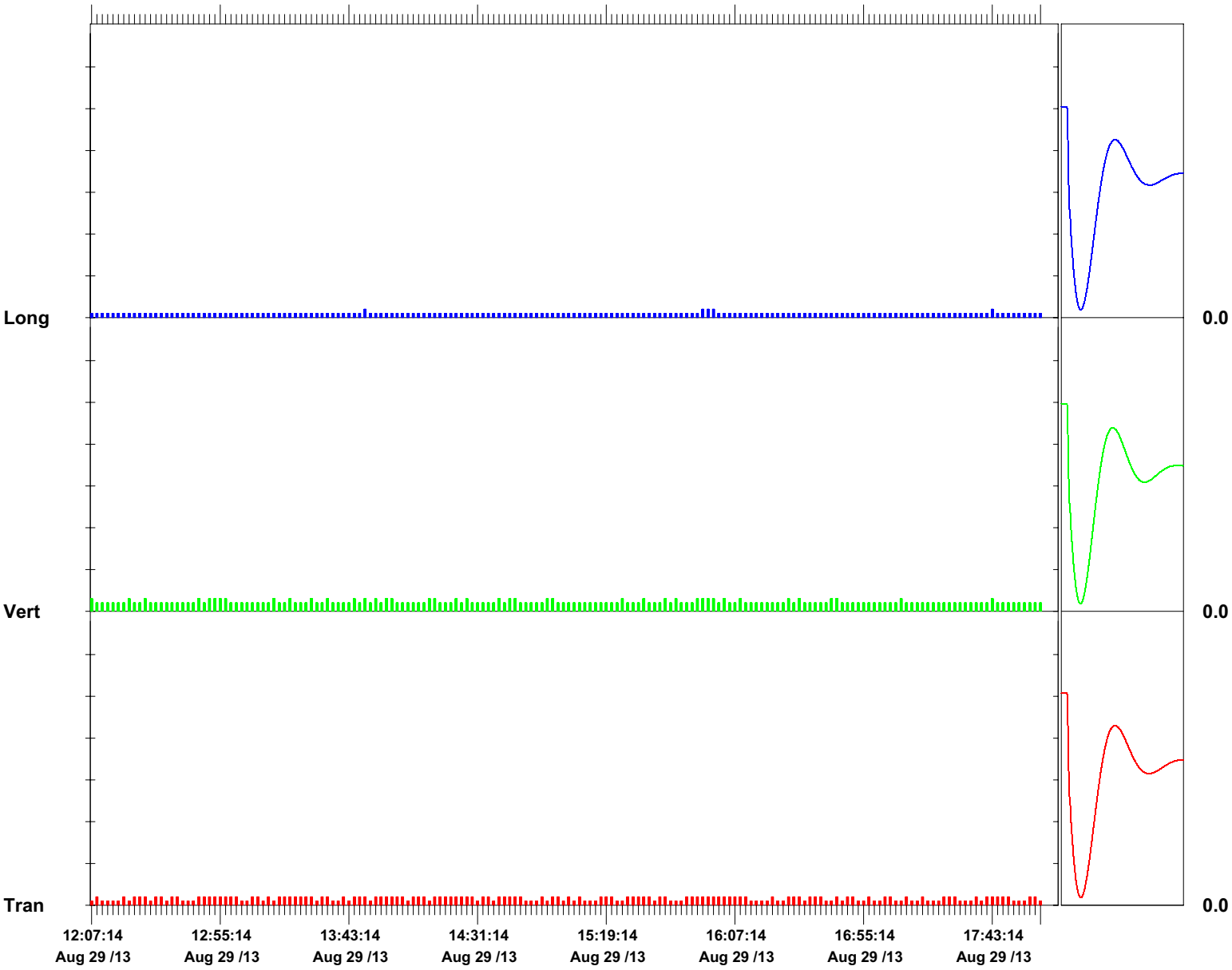
Serial Number BE12235 V 10.40-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration February 4, 2013 by Instantel
File Name N235EYG9.KQ0

Post Event Notes
Jersey city diner Route 440
Data from 8-29-2013,
TIme of Vibration was 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during vibration time = 0.01 in/s (Longitude) @ 13:48AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0150	0.01000	in/s
ZC Freq	>100	21	>100	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	12:08:32	12:07:08	13:48:54	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.3	Hz
Overswing Ratio	3.6	3.2	3.8	

Peak Vector Sum 0.0180 in/s on August 29, 2013 at 15:55:06



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 18:05:14 August 29, 2013
Histogram Finish Time 18:36:59 August 29, 2013
Number of Intervals 952 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Operator/Setup: xáe/NA
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

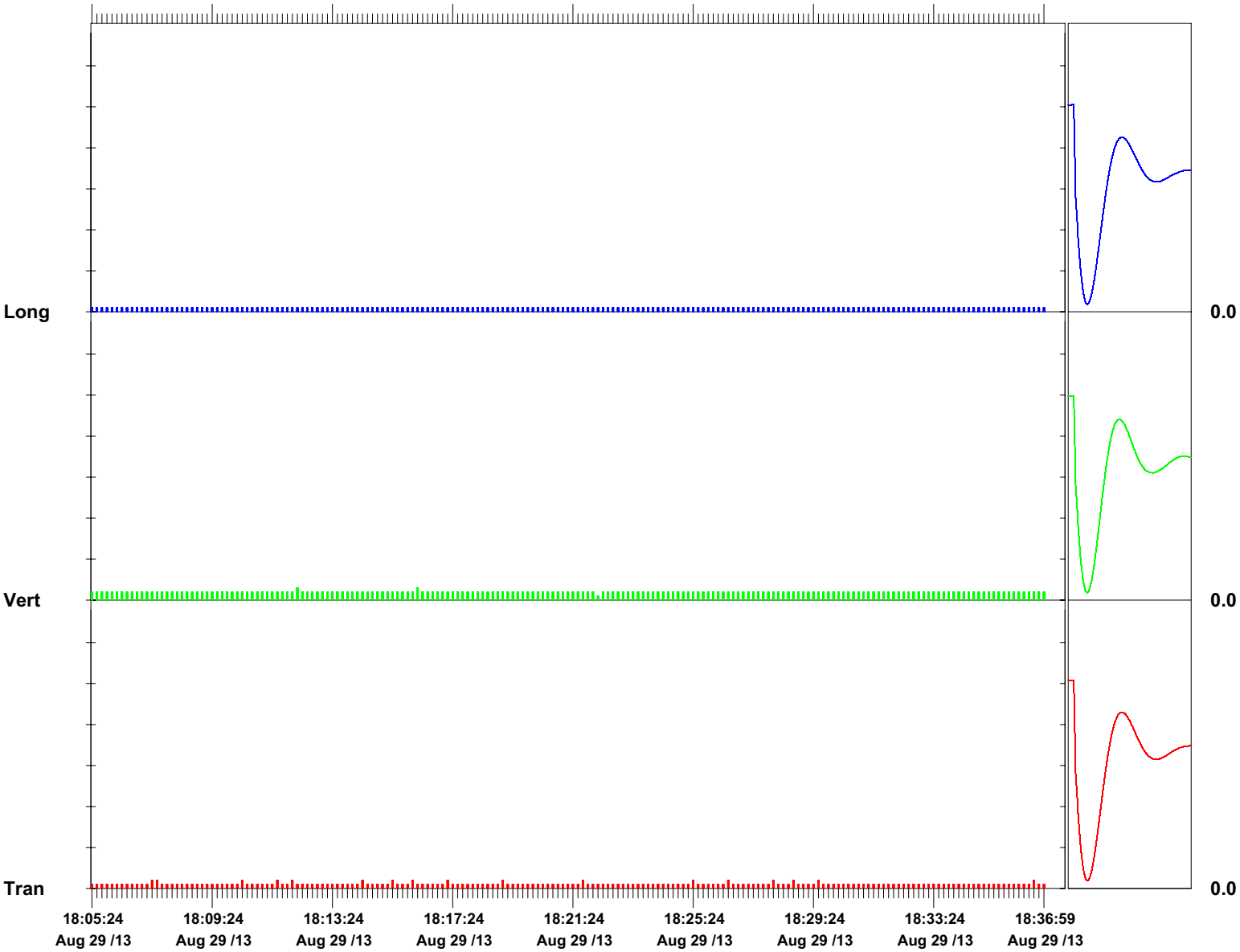
Serial Number BE12235 V 10.40-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration February 4, 2013 by Instantel
N/A
File Name N235EYGQ.8Q0

Post Event Notes
Jersey city diner Route 440
Data from 8-29-2013,
TIme of Vibration was 7:30AM to 11:35AM & 12:50PM to 6:30PM
PPV during vibration time = 0.02 in/s (Vertical) @ 18:12AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0150	0.00500	in/s
ZC Freq	>100	85	>100	Hz
Date	Aug 29 /13	Aug 29 /13	Aug 29 /13	
Time	18:07:18	18:12:06	18:05:16	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.8	7.4	Hz
Overswing Ratio	3.6	3.2	3.8	

Peak Vector Sum 0.0166 in/s on August 29, 2013 at 18:16:06



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering
August 30, 2013

For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

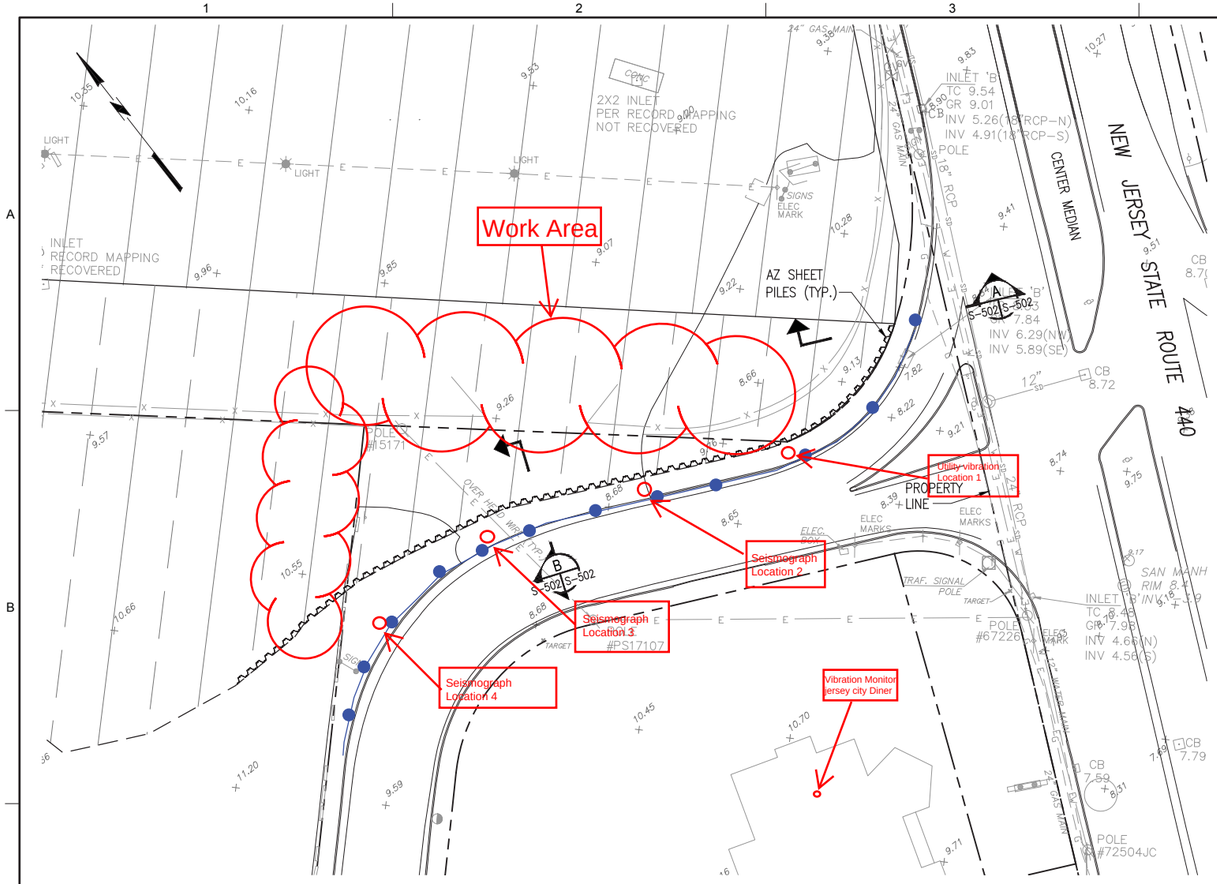
The vibration work commenced at 7:46AM until 10:30AM. The activities for the day were sheets driving down to required grade. The seismograph was placed along the jug handle at total of 4 difference locations. The relocation times were at 9:12AM, 9:43AM and 10:16AM. There were no exceedances recorded for the duration of the sheet driving activity.

Exceedance:

None

Crack gauges:

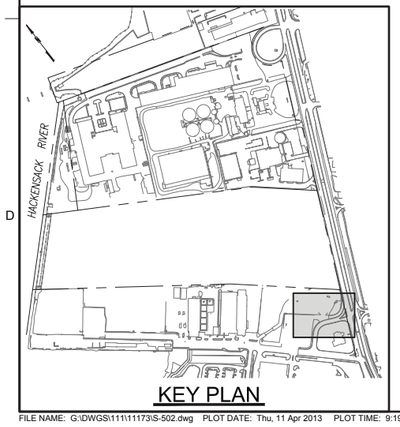
There were no movements in crack gauges.



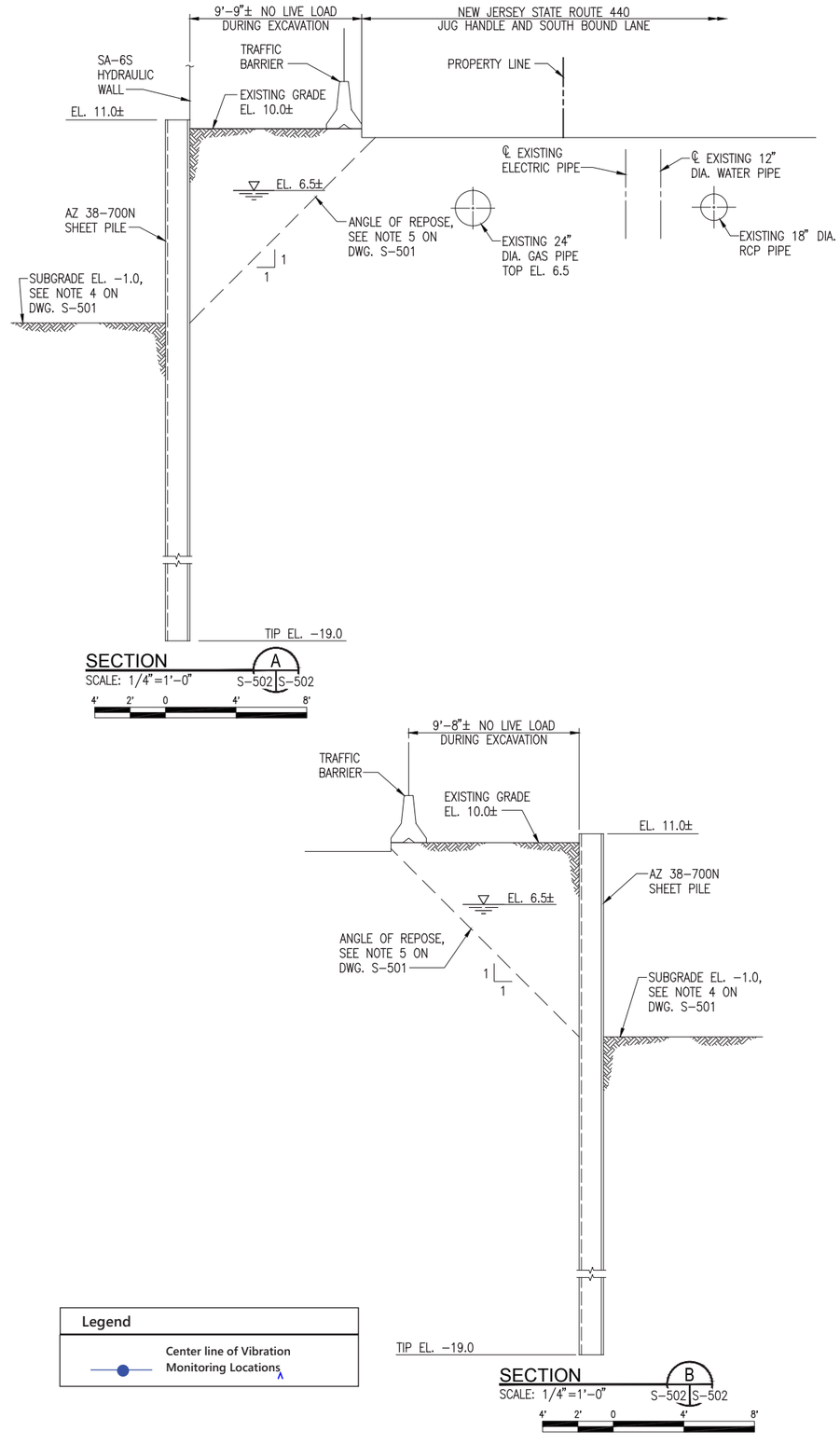
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



KEY PLAN



SECTION A

SCALE: 1/4"=1'-0"

S-502 S-502

4' 2' 0 4' 8'

SECTION B

SCALE: 1/4"=1'-0"

S-502 S-502

4' 2' 0 4' 8'

Legend

Center line of Vibration Monitoring Locations

PETER W. DEMING

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

NO.	DATE	REVISION	CHK	APVD	BY	APVD
DSGN		DR				P.W.D.
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	B.B.	G.P.	PWD	
		G.S.				

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

Histogram Start Time 07:39:01 August 30, 2013
Histogram Finish Time 10:44:03 August 30, 2013
Number of Intervals 5550 at 2 seconds
Range Geo :10.00 in/s
Sample Rate 1024sps
Operator/Setup: ┘/NA
Notes
Location: Jersey City Diner
Cleint: ENTACT
User Name: Geocomp
General: SA-6 Vibration Monitoring

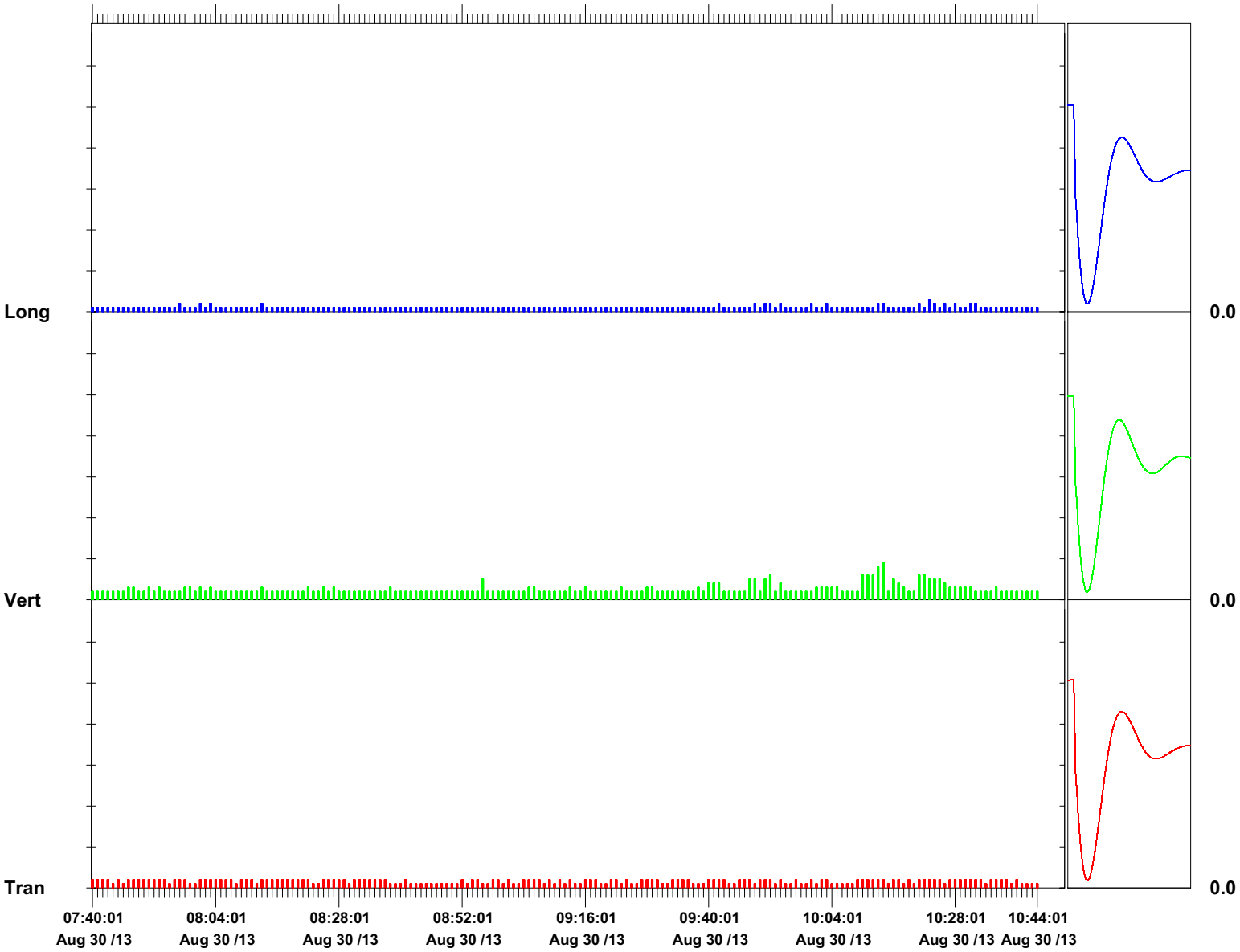
Serial Number BE12235 V 10.40-8.17 MiniMate Plus
Battery Level 6.4 Volts
Unit Calibration February 4, 2013 by Instantel
N/A
File Name N235EYHR.X10

Post Event Notes
Jersey city diner Route 440, Data from 8-30-2013,
Activity was driving sheets down to grade
Time of Vibration from 7:46AM to 10:36AM
PPV during vibration time = 0.045 in/s(Vertical) @ 10:13AM

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0450	0.0150	in/s
ZC Freq	>100	37	47	Hz
Date	Aug 30 /13	Aug 30 /13	Aug 30 /13	
Time	07:39:45	10:13:37	10:22:17	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.8	7.3	Hz
Overswing Ratio	3.6	3.3	3.8	

Peak Vector Sum 0.0461 in/s on August 30, 2013 at 10:13:39



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	07:43:37 August 30, 2013
Histogram Finish Time	09:12:16 August 30, 2013
Number of Intervals	88 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194EYHS.4P0

Post Event Notes

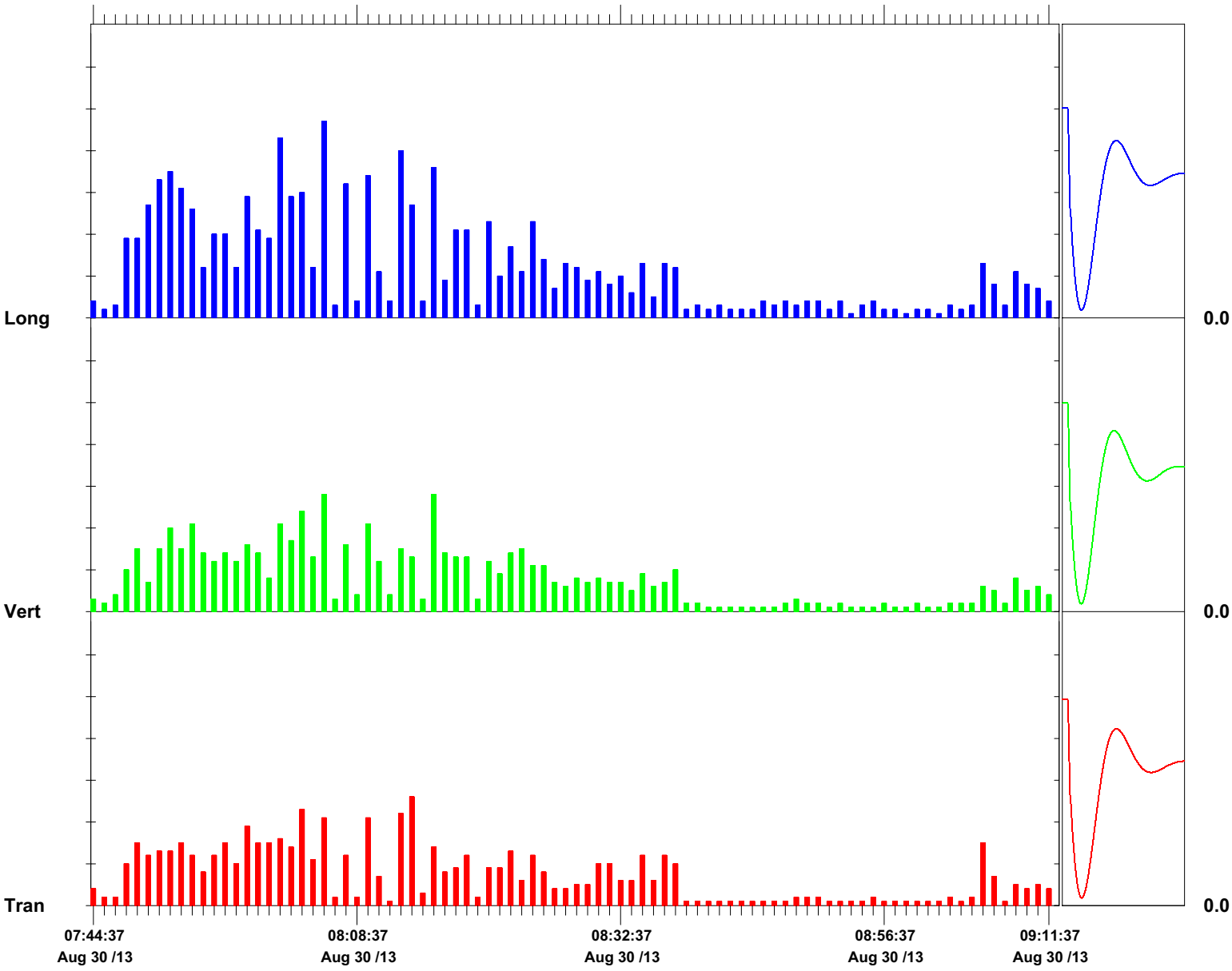
Monitoring location along Jug handle, Location 1
Activity was driving sheets to grade, 8-30-2013
Vibration time from 7:46AM to 10:30AM
PPV during monitoring period = 0.235 in/s(Long) @ 8:05AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.130	0.140	0.235	in/s
ZC Freq	30	30	28	Hz
Date	Aug 30 /13	Aug 30 /13	Aug 30 /13	
Time	08:13:37	08:05:37	08:05:37	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.7	7.3	Hz
Overswing Ratio	3.9	3.5	3.8	

Peak Vector Sum 0.236 in/s on August 30, 2013 at 08:05:37



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:13:52 August 30, 2013
Histogram Finish Time	09:43:19 August 30, 2013
Number of Intervals	29 at 1 minute
Range	Geo :10.00 in/s
Sample Rate	1024sps
Job Number:	1
Operator/Setup:	a┐/NA

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	October 5, 2012 by Instantel
	N/A
File Name	N194EYHW.B40

Post Event Notes

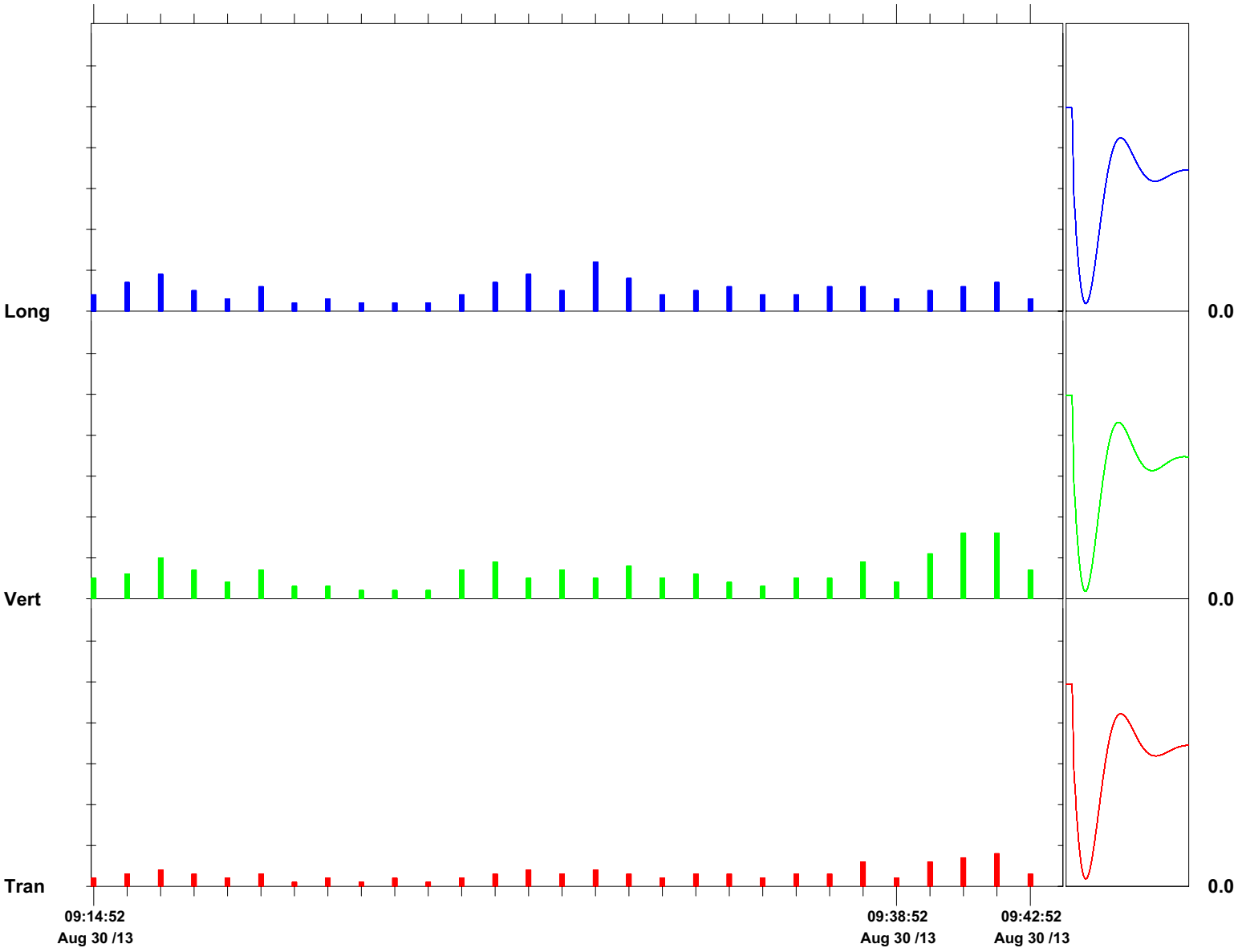
Monitoring location along Jug handle, Location 2
Activity was driving sheets to grade, 8-30-2013
Vibration time from 7:46AM to 10:30AM
PPV during monitoring period = 0.08 in/s(Vert) @ 9:40AM

Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0400	0.0800	0.0600	in/s
ZC Freq	37	28	32	Hz
Date	Aug 30 /13	Aug 30 /13	Aug 30 /13	
Time	09:41:52	09:40:52	09:29:52	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	3.9	3.5	3.8	

Peak Vector Sum 0.0826 in/s on August 30, 2013 at 09:41:52



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 09:45:02 August 30, 2013
Histogram Finish Time 10:16:06 August 30, 2013
Number of Intervals 31 at 1 minute
Range Geo :10.00 in/s
Sample Rate 1024sps
Job Number: 1
Operator/Setup: 123456/NA
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

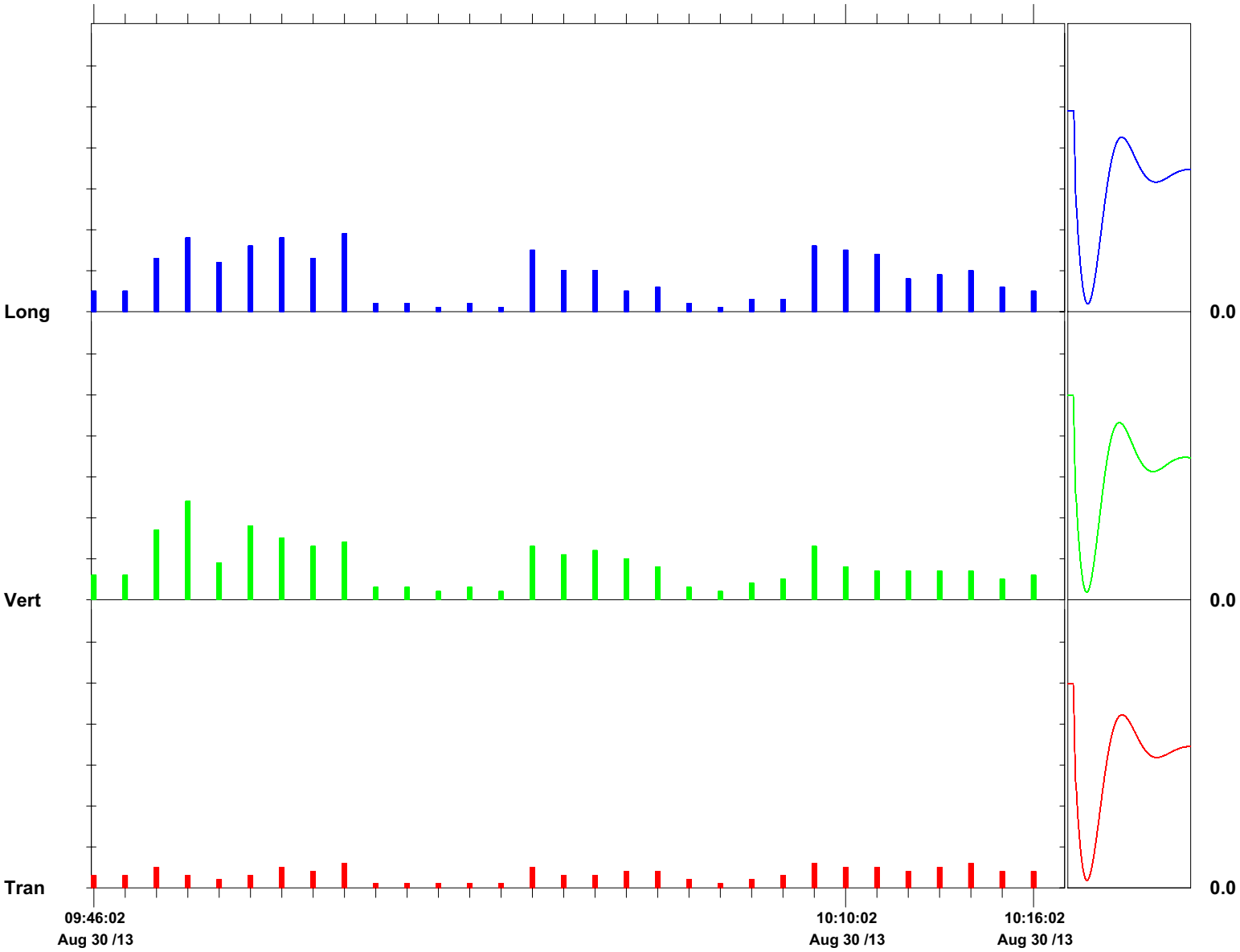
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.2 Volts
Unit Calibration October 5, 2012 by Instantel
N/A
File Name N194EYHX.R20

Post Event Notes
Monitoring location along Jug handle, Location 3
Activity was driving sheets to grade, 8-30-2013
Vibration time from 7:46AM to 10:30AM
PPV during monitoring period = 0.12 in/s(Vert) @ 9:49AM

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0300	0.120	0.0950	in/s
ZC Freq	32	28	30	Hz
Date	Aug 30 /13	Aug 30 /13	Aug 30 /13	
Time	09:54:02	09:49:02	09:54:02	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.3	Hz
Overswing Ratio	3.9	3.5	3.7	

Peak Vector Sum 0.150 in/s on August 30, 2013 at 09:49:02



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Printed: August 30, 2013 (V 10.02 - 10.02) **Format Copyrighted 2006-2008 Instantel, a division of Xmark Corporation**

Event Report

Histogram Start Time 10:17:23 August 30, 2013
Histogram Finish Time 10:37:50 August 30, 2013
Number of Intervals 20 at 1 minute
Range Geo :10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

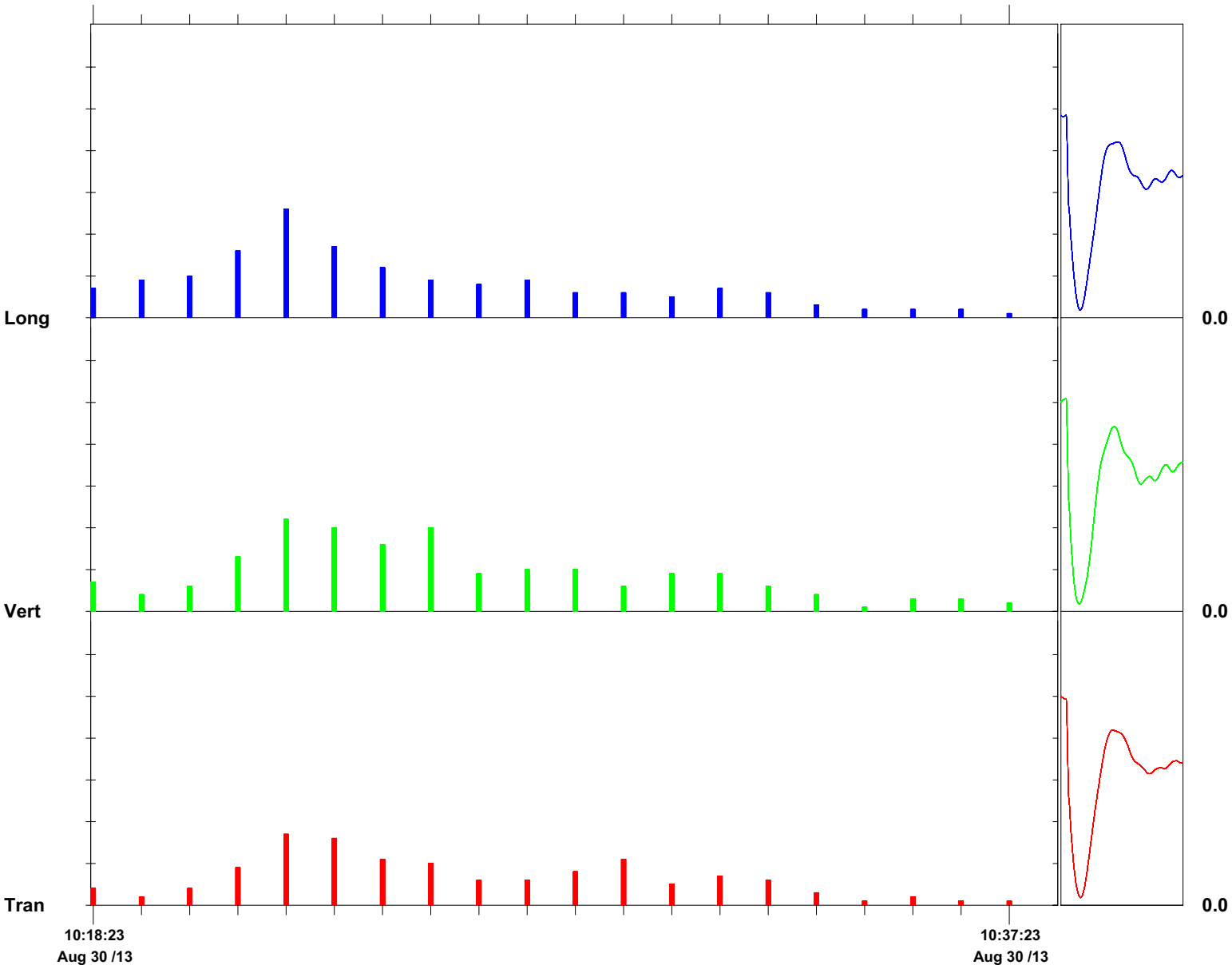
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.2 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194EYHZ.8Z0

Post Event Notes
Monitoring location along Jug handle, Location 4
Activity was driving sheets to grade, 8-30-2013
Vibration time from 7:46AM to 10:30AM
PPV during monitoring period = 0.13 in/s(Long) @ 10:22AM

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0850	0.110	0.130	in/s
ZC Freq	28	30	32	Hz
Date	Aug 30 /13	Aug 30 /13	Aug 30 /13	
Time	10:22:23	10:22:23	10:22:23	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.7	7.4	Hz
Overswing Ratio	4.1	3.1	4.0	

Peak Vector Sum 0.164 in/s on August 30, 2013 at 10:22:23



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

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San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering
October 3, 2013

For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
The vibration work commenced at 8:05 AM until 6:20 PM. The seismograph was placed along the jug handle at 7 locations. Location 1 and 2 were on top of the gas pipeline parallel to Rte. 440 along the sidewalk, and locations 3-7 were along the jug handle: see the site plan.

Exceedance (PPV >.5 in/s):

Force Main Alerts (in/s):

(Location 1)

8:16 AM: 0.59
9:09 AM: 1.25
9:39 AM: 0.81
9:43 AM: 1.01
9:52 AM: 1.30
9:55 AM: 1.39
10:09 AM: 0.82

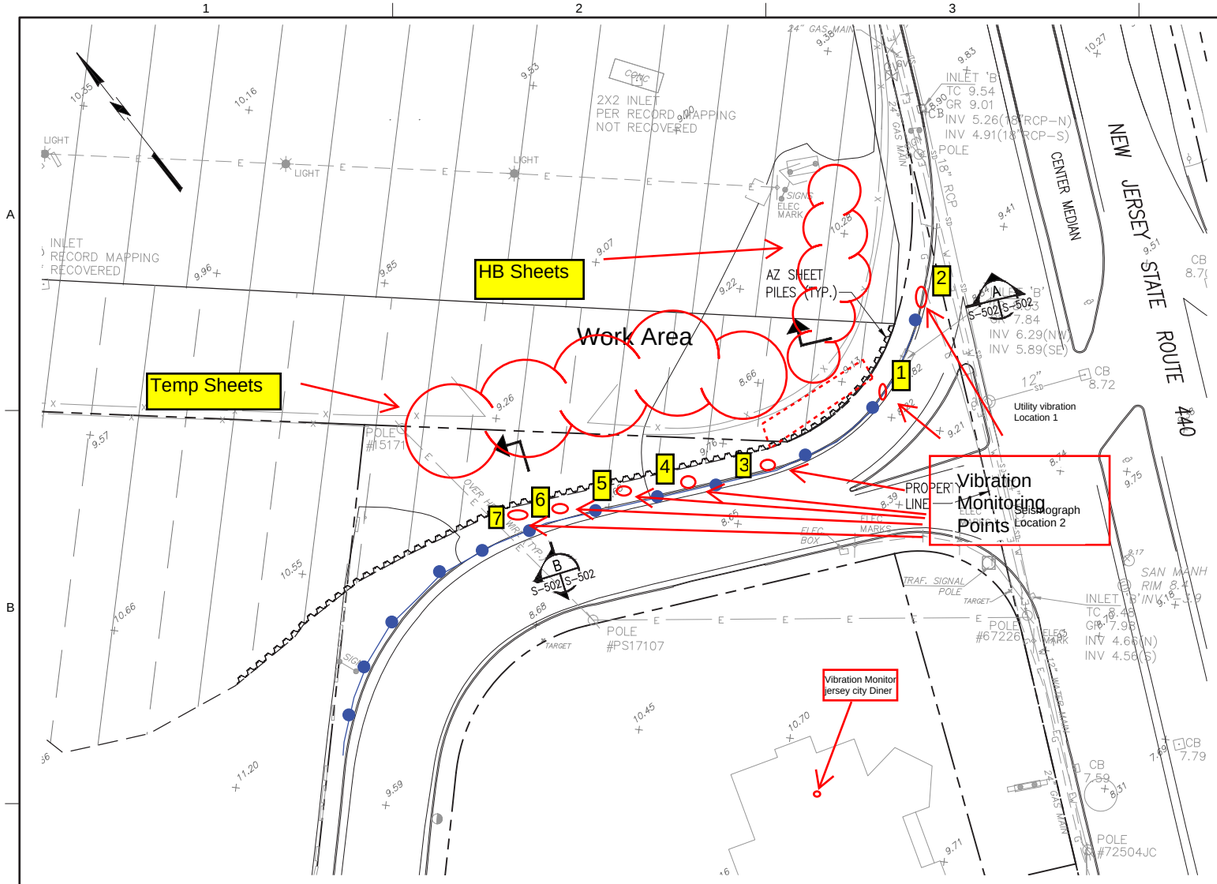
(Location 2)

10:52 AM: 0.51
10:56 AM: 0.79
11:06 AM: 0.96
11:17 AM: 1.13
11:24 AM: 0.63

Locations 3-7 had no limits due to not being in the proximity of the gas or force main line, but were monitored at the contractors request as work continued nearby. See attached Blastware reports for PPV's at these locations.

Crack gauges:

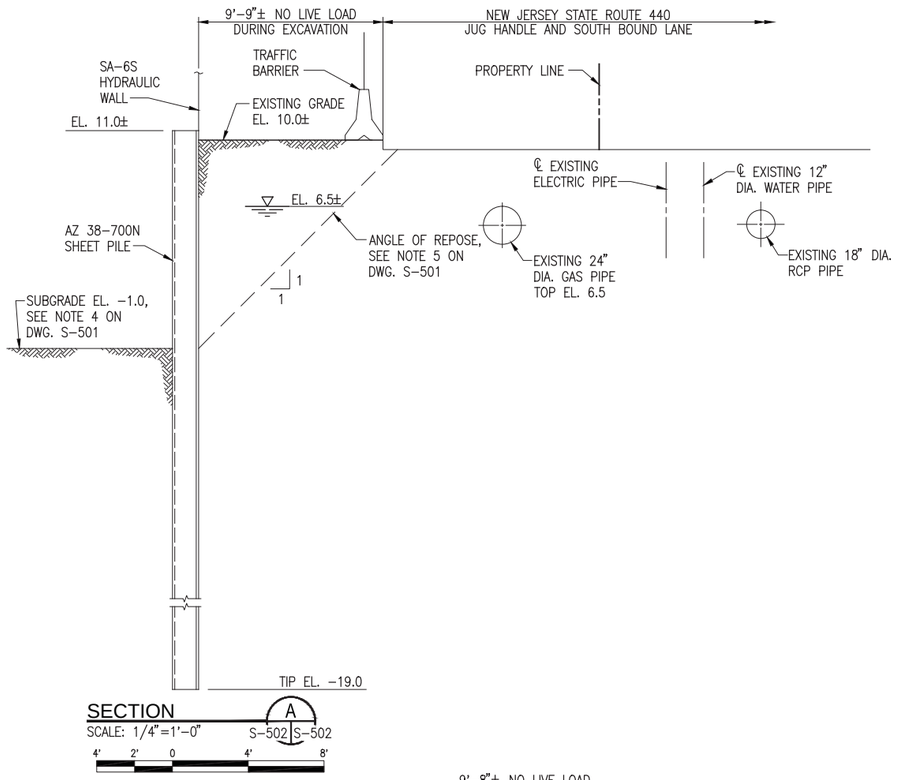
There were no movements in crack gauges.



EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

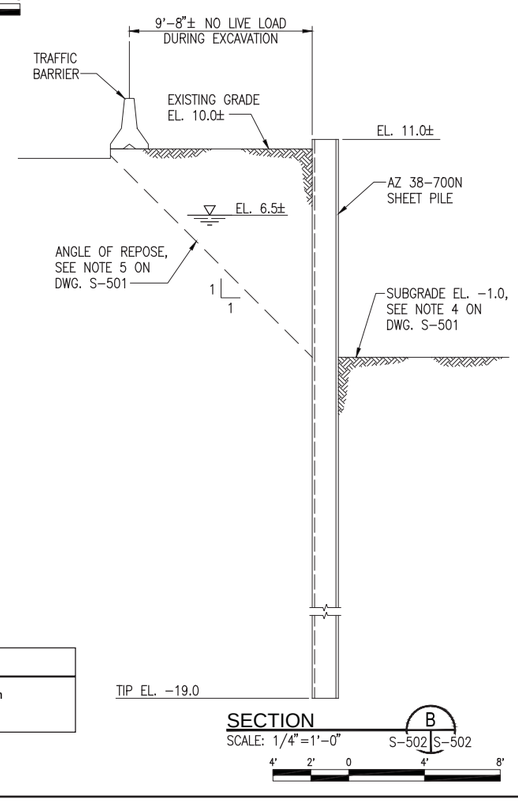
30' 20' 10' 0 30' 60'



SECTION A S-502 S-502

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8'



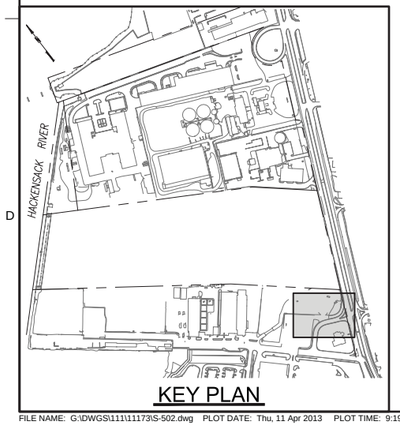
SECTION B S-502 S-502

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8'

Legend

Center line of Vibration Monitoring Locations



KEY PLAN

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
P.W.D. LICENSE NUMBER 46522

NO.	DATE	DSGN	REVISION	BY	APVD
A	04/15/13	G.S.	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	
		DR			APVD
		CHK		B.B.	G.P.

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Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

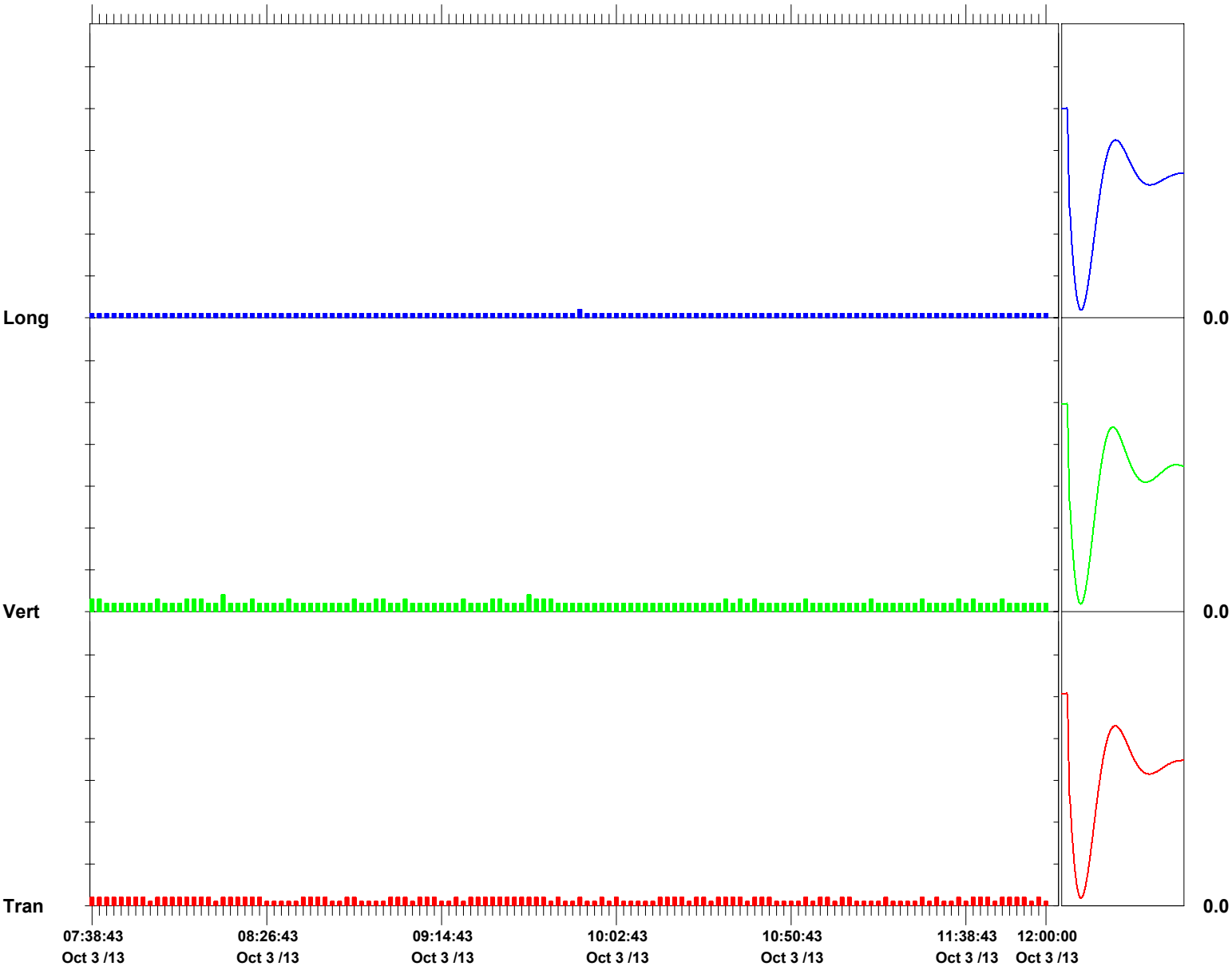
Histogram Start Time	07:36:43 October 3, 2013
Histogram Finish Time	12:00:00 October 3, 2013
Number of Intervals	7899.00 at 2 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

Serial Number	BE12235 V 10.40-8.17 MiniMate Plus
Battery Level	6.7 Volts
Unit Calibration	February 4, 2013 by Instantel
File Name	N235F08Q.H70

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0200	0.01000	in/s
ZC Freq	>100	15	>100	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	07:36:47	08:13:17	09:52:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.8	7.3	Hz
Overswing Ratio	3.6	3.2	3.8	

Peak Vector Sum 0.0206 in/s on October 3, 2013 at 08:13:17



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

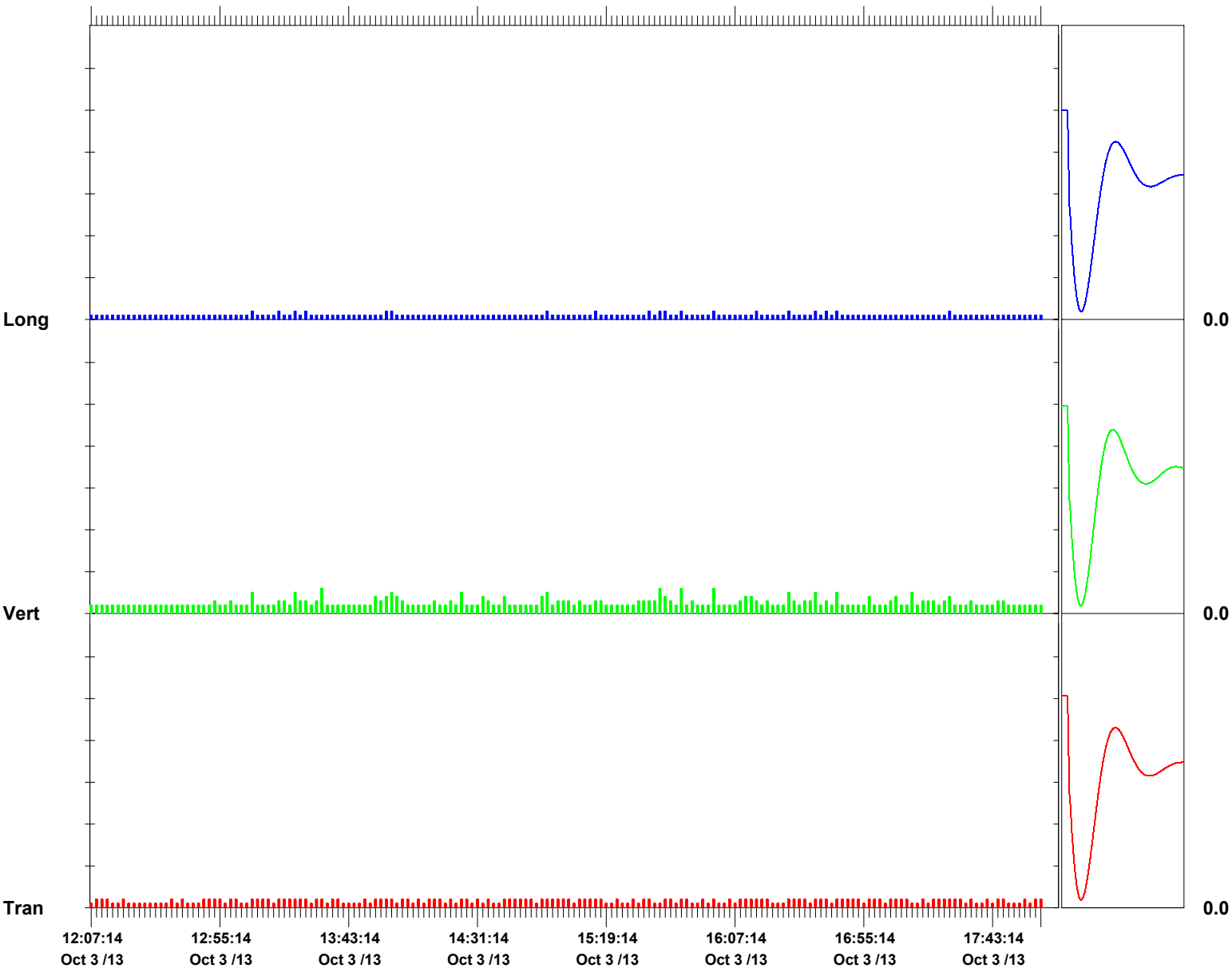
Histogram Start Time	12:05:14 October 3, 2013
Histogram Finish Time	18:00:00 October 3, 2013
Number of Intervals	10643.00 at 2 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

Serial Number	BE12235 V 10.40-8.17 MiniMate Plus
Battery Level	6.7 Volts
Unit Calibration	February 4, 2013 by Instantel
File Name	N235F092.WQ0

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0300	0.01000	in/s
ZC Freq	>100	32	>100	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	12:09:00	13:31:58	13:06:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.8	7.3	Hz
Overswing Ratio	3.6	3.2	3.8	

Peak Vector Sum 0.0308 in/s on October 3, 2013 at 15:39:10



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:00:26 October 3, 2013
Histogram Finish Time	08:16:45 October 3, 2013
Number of Intervals	16.00 at 1 minute
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

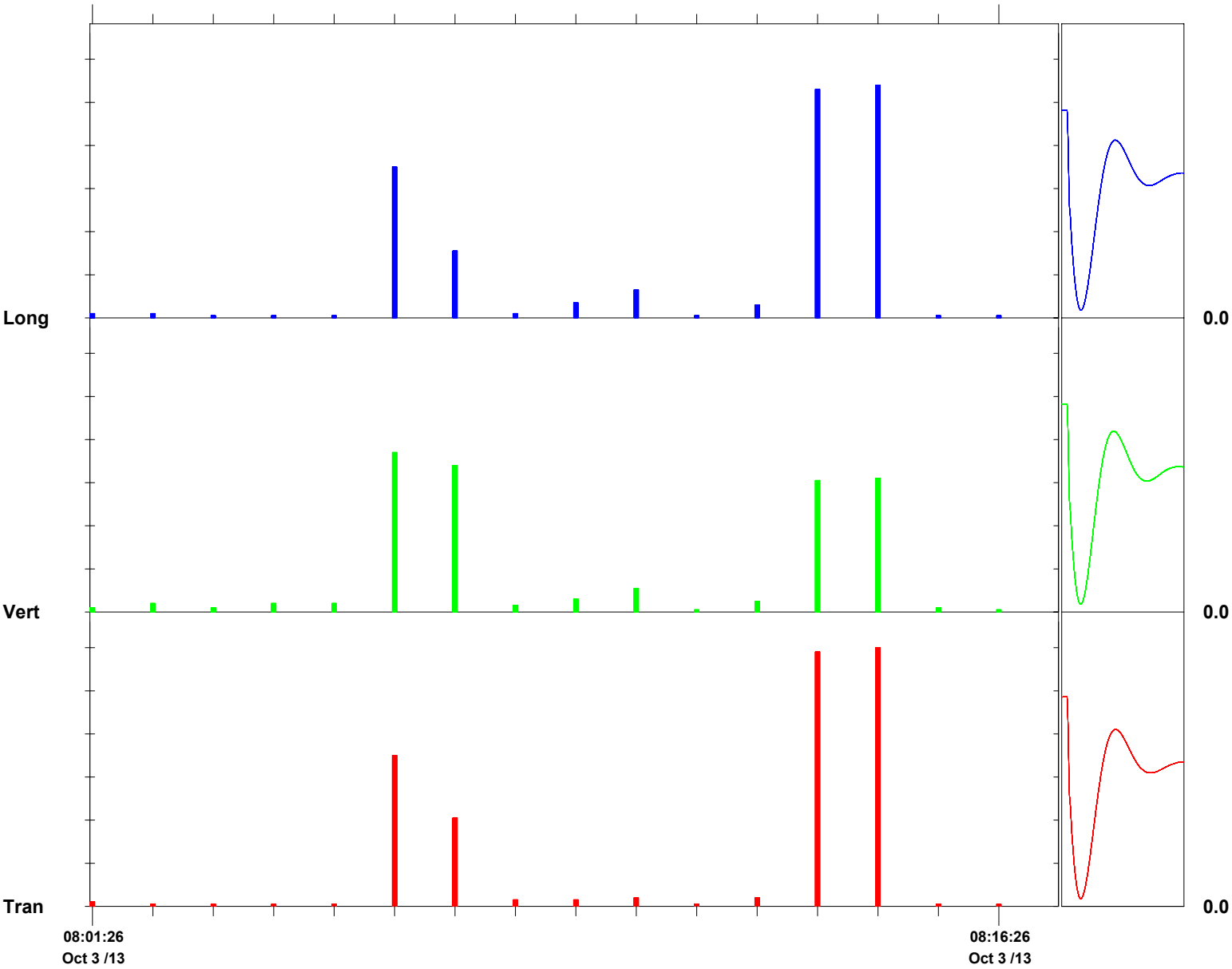
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.0 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F08R.KQ0

Post Event Notes
Location 1

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.600	0.370	0.540	in/s
ZC Freq	37	32	24	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	08:14:26	08:06:26	08:14:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.9	3.5	3.8	

Peak Vector Sum 0.824 in/s on October 3, 2013 at 08:14:26



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:29:52 October 3, 2013
Histogram Finish Time	08:54:26 October 3, 2013
Number of Intervals	294.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

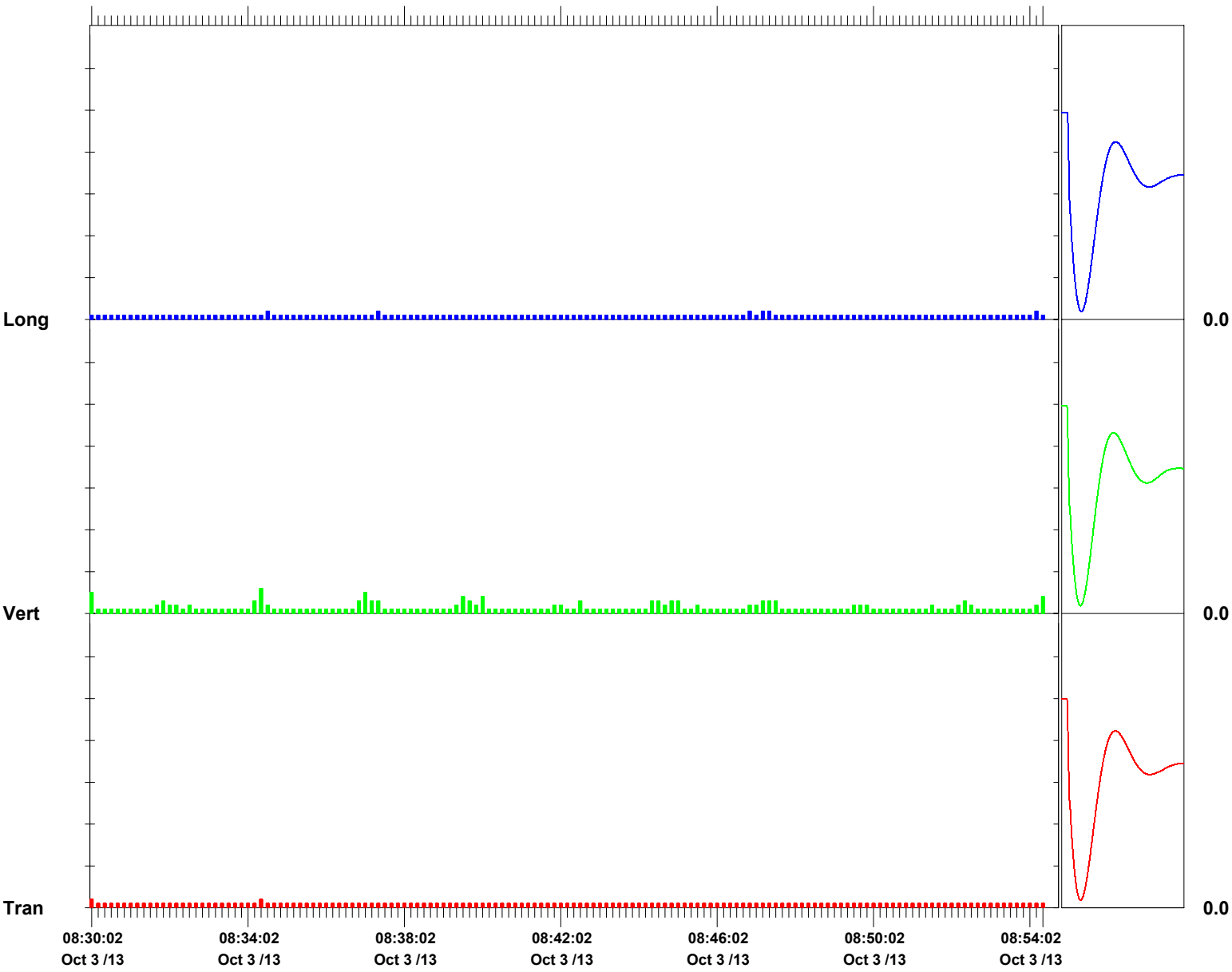
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	5.9 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F08S.XS0

Post Event Notes
Location 1

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.01000	0.0300	0.01000	in/s
ZC Freq	>100	15	>100	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	08:30:02	08:34:22	08:34:32	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.7	7.4	Hz
Overswing Ratio	3.9	3.5	3.8	

Peak Vector Sum 0.0308 in/s on October 3, 2013 at 08:34:22



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time	10:25:36 October 3, 2013
Histogram Finish Time	11:25:56 October 3, 2013
Number of Intervals	724.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.0 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F08Y.AO0

Post Event Notes

Location 2

The PPV listed is not a true reading as the bag was kicked. Actual PPV for this time period was 1.13 in/s.

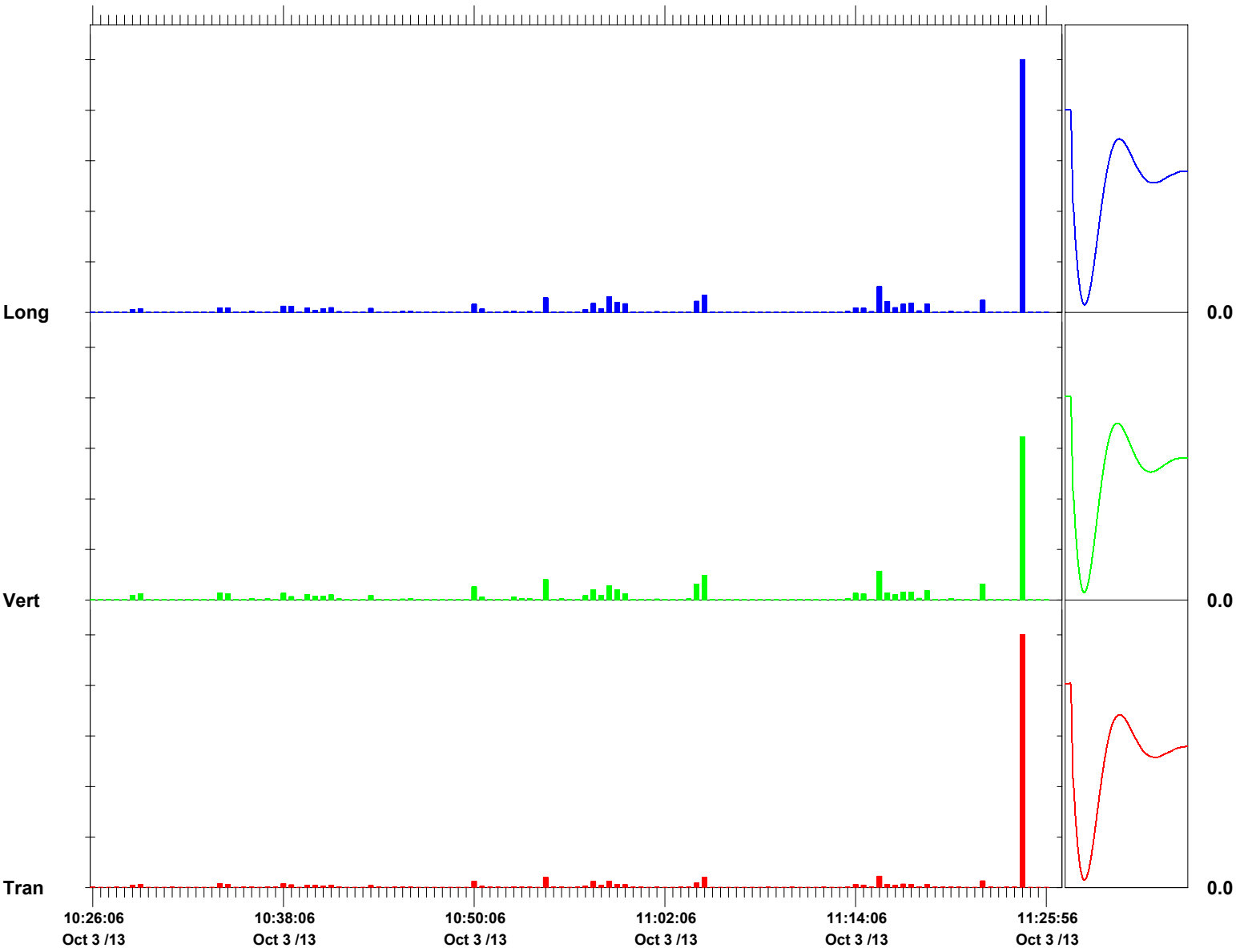
Extended Notes

SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	***	6.44	***	in/s
ZC Freq	39	>100	2.9	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	11:24:26	11:24:26	11:24:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.9	3.5	3.8	

Peak Vector Sum *** in/s on October 3, 2013 at 11:24:26

*** **: Out of Range**



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 2.00 in/s/div Sensor Check

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Event Report

Histogram Start Time	11:38:41 October 3, 2013
Histogram Finish Time	11:55:54 October 3, 2013
Number of Intervals	206.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

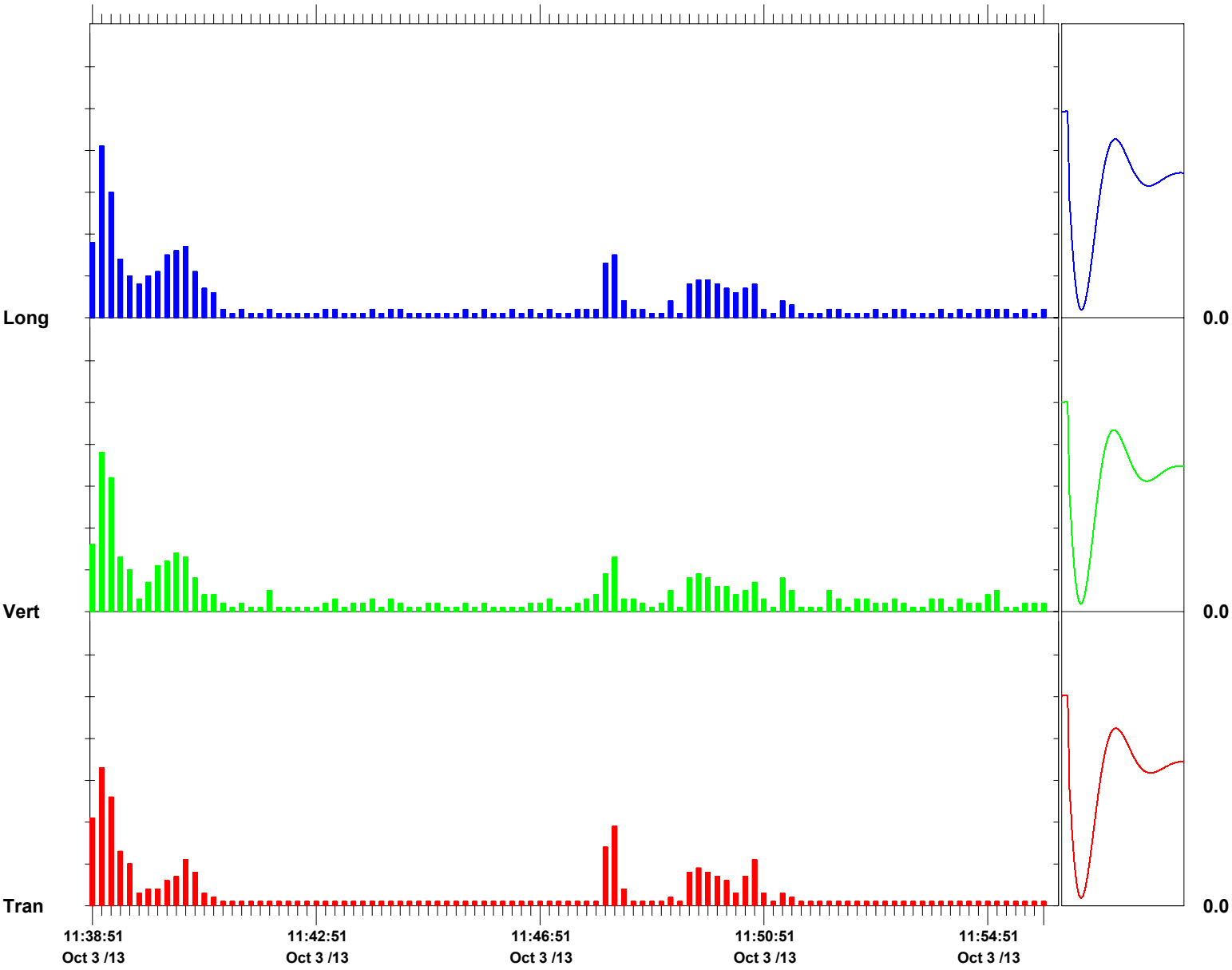
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	5.9 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F091.OH0

Post Event Notes
Location 3

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.165	0.190	0.205	in/s
ZC Freq	30	28	30	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	11:39:01	11:39:01	11:38:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	3.8	3.4	3.7	

Peak Vector Sum 0.291 in/s on October 3, 2013 at 11:38:56



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

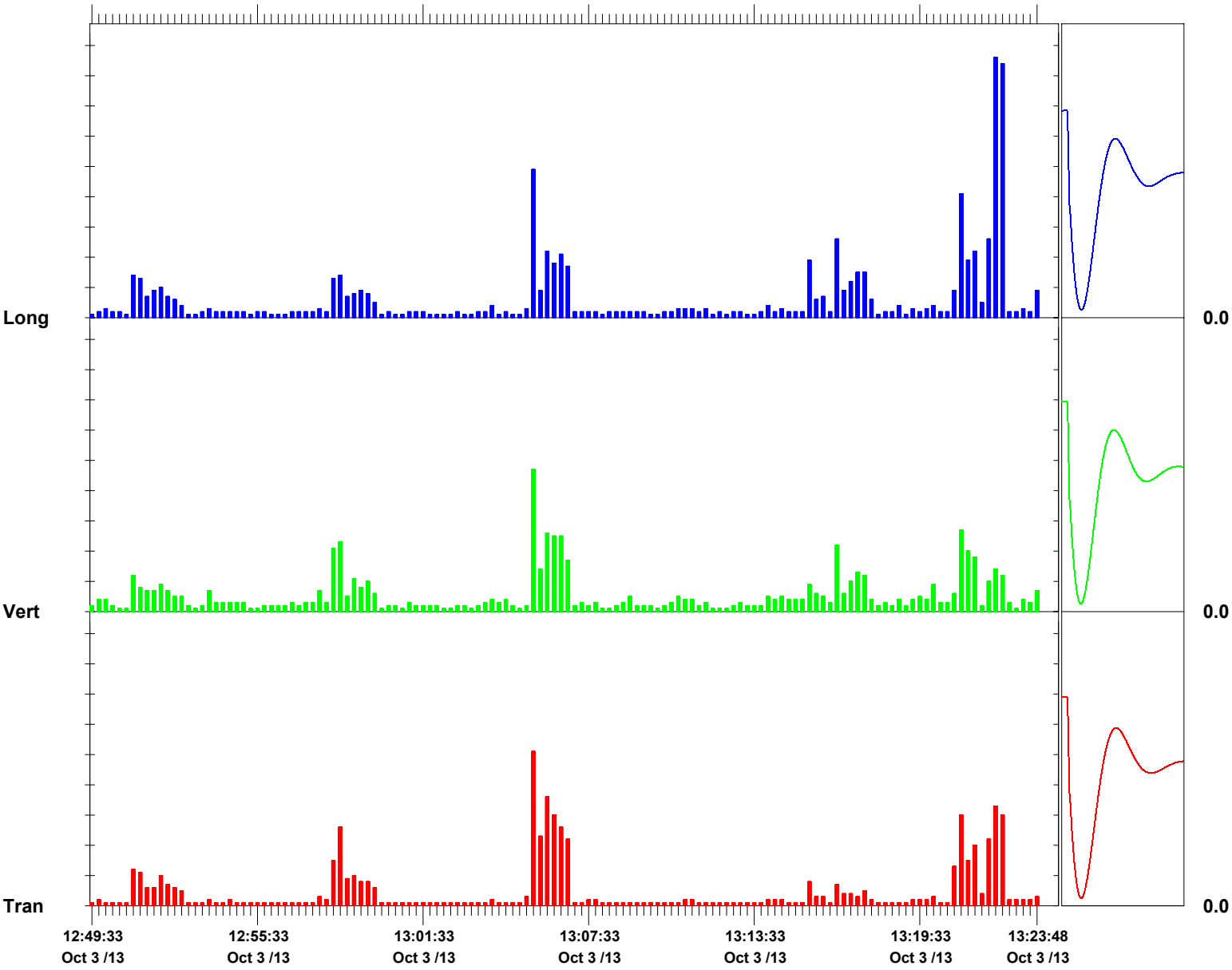
Histogram Start Time	12:49:18 October 3, 2013
Histogram Finish Time	13:23:52 October 3, 2013
Number of Intervals	414.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.0 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F094.Y60

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.255	0.235	0.430	in/s
ZC Freq	39	30	32	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	13:05:28	13:05:28	13:22:18	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	3.8	3.4	3.6	

Peak Vector Sum 0.432 in/s on October 3, 2013 at 13:22:18



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:25:25 October 3, 2013
Histogram Finish Time	13:35:35 October 3, 2013
Number of Intervals	122.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

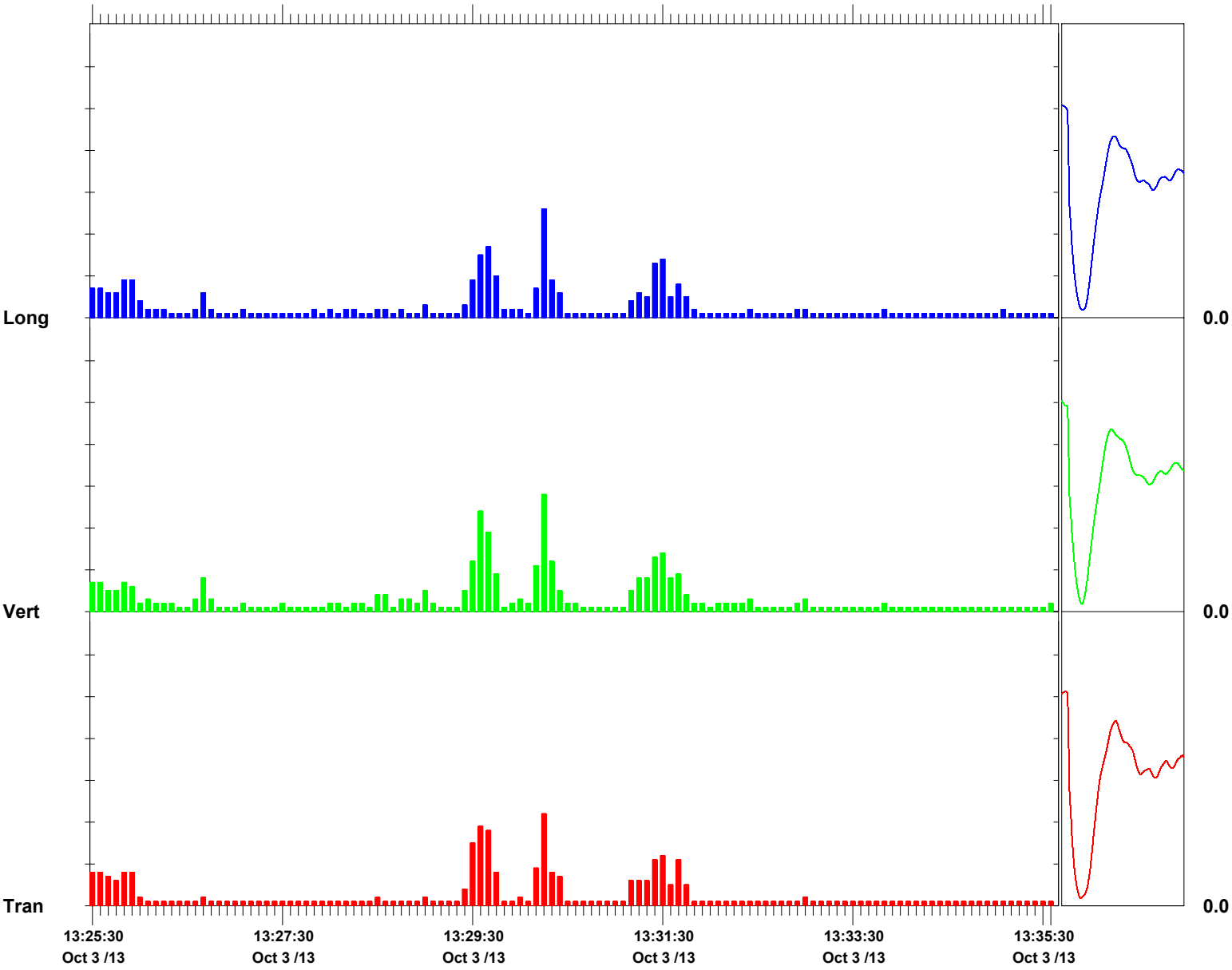
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.0 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F096.MD0

Post Event Notes
Location 4

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.110	0.140	0.130	in/s
ZC Freq	32	34	32	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	13:30:15	13:30:15	13:30:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.5	7.1	Hz
Overswing Ratio	3.1	3.4	3.4	

Peak Vector Sum 0.177 in/s on October 3, 2013 at 13:30:15



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:35:55 October 3, 2013
Histogram Finish Time	14:54:04 October 3, 2013
Number of Intervals	937.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

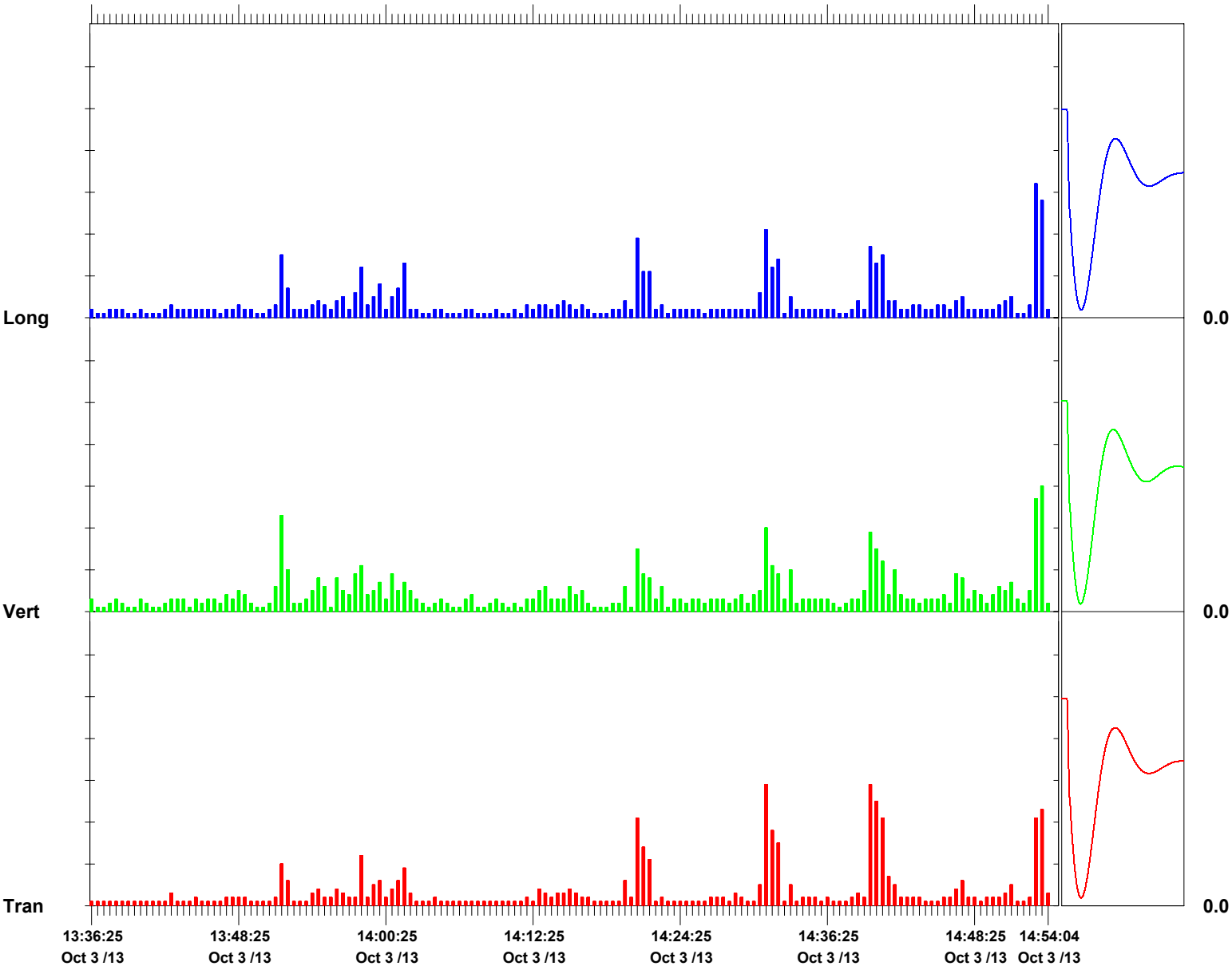
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	5.9 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F097.3V0

Post Event Notes
Location 4

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.145	0.150	0.160	in/s
ZC Freq	30	32	14	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	14:31:15	14:53:45	14:53:25	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.7	7.3	Hz
Overswing Ratio	3.8	3.4	3.6	

Peak Vector Sum 0.200 in/s on October 3, 2013 at 14:53:45



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	14:56:10 October 3, 2013
Histogram Finish Time	16:28:32 October 3, 2013
Number of Intervals	1108.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

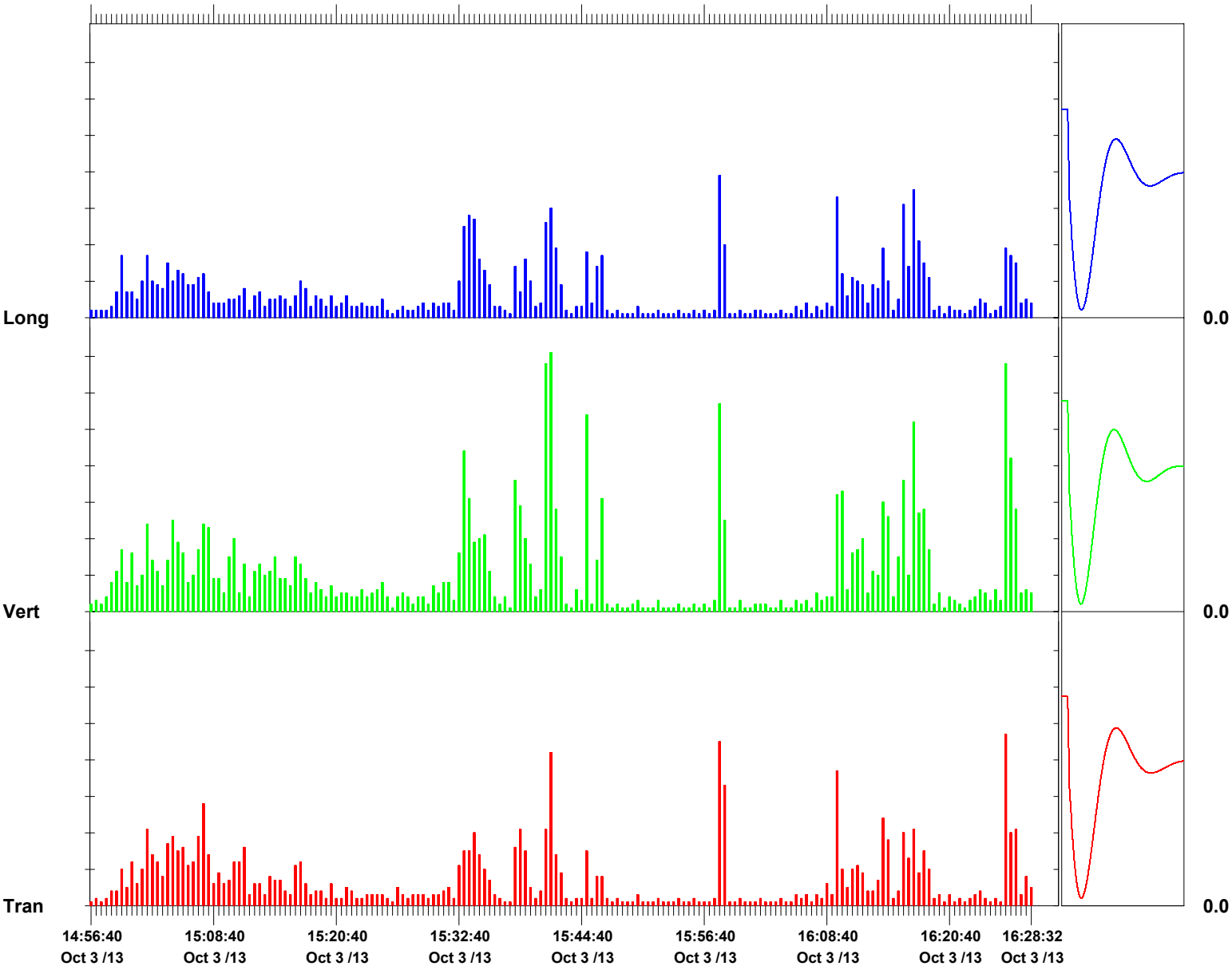
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	5.9 Volts (Battery Low)
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F09A.TM0

Post Event Notes
Location 5

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.235	0.355	0.195	in/s
ZC Freq	30	57	23	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	16:26:10	15:41:15	15:57:55	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	3.8	3.4	3.7	

Peak Vector Sum 0.363 in/s on October 3, 2013 at 15:41:15



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 16:30:25 October 3, 2013
Histogram Finish Time 17:46:13 October 3, 2013
Number of Intervals 909.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

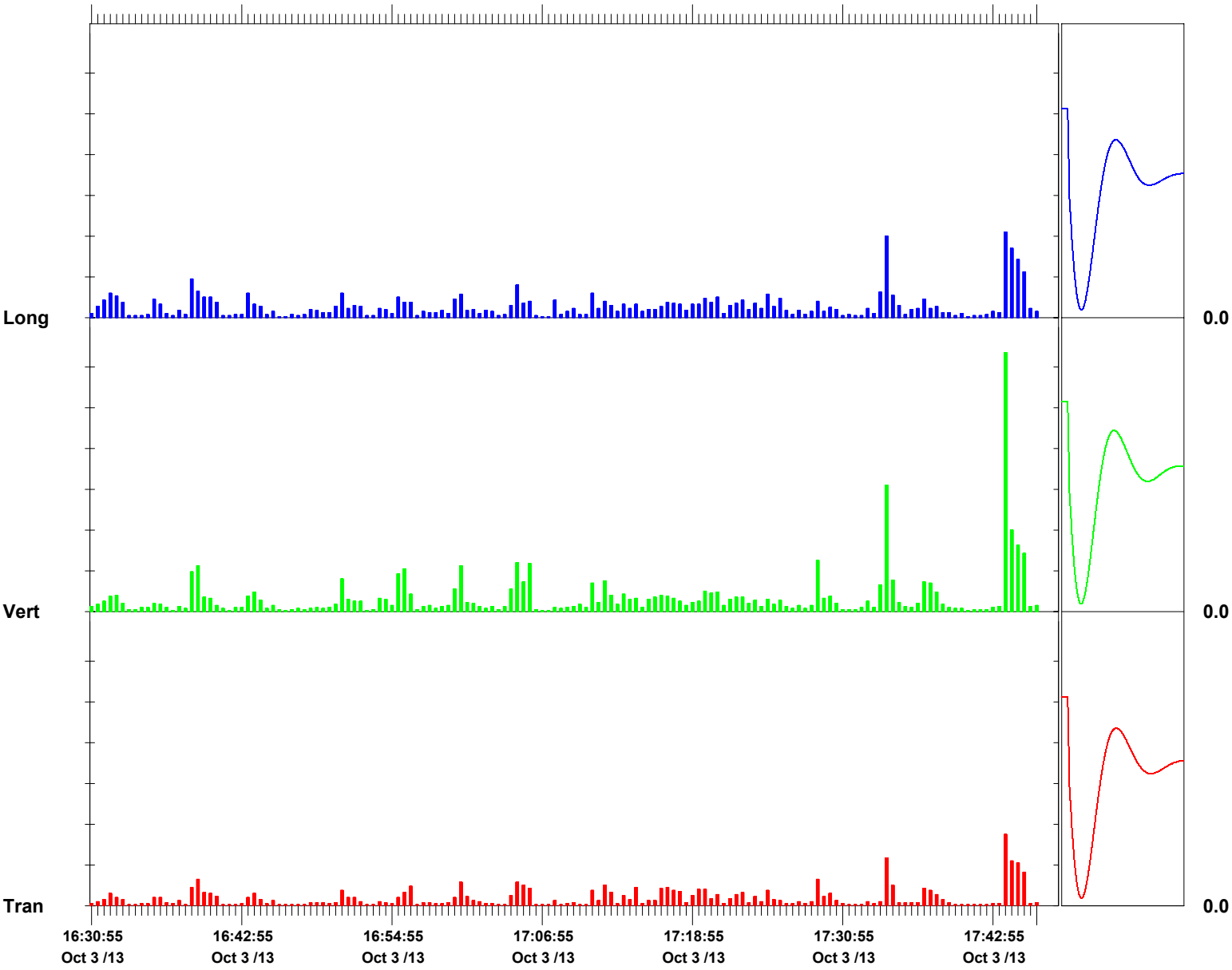
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 5.9 Volts (Battery Low)
Unit Calibration October 5, 2012 by Instantel
File Name N194F09F.6P0

Post Event Notes
Location 6

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.350	1.27	0.420	in/s
ZC Freq	32	30	30	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	17:43:40	17:43:40	17:43:45	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.3	Hz
Overswing Ratio	3.8	3.5	3.8	

Peak Vector Sum 1.29 in/s on October 3, 2013 at 17:43:40



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

Histogram Start Time	17:58:02 October 3, 2013
Histogram Finish Time	18:21:38 October 3, 2013
Number of Intervals	283.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

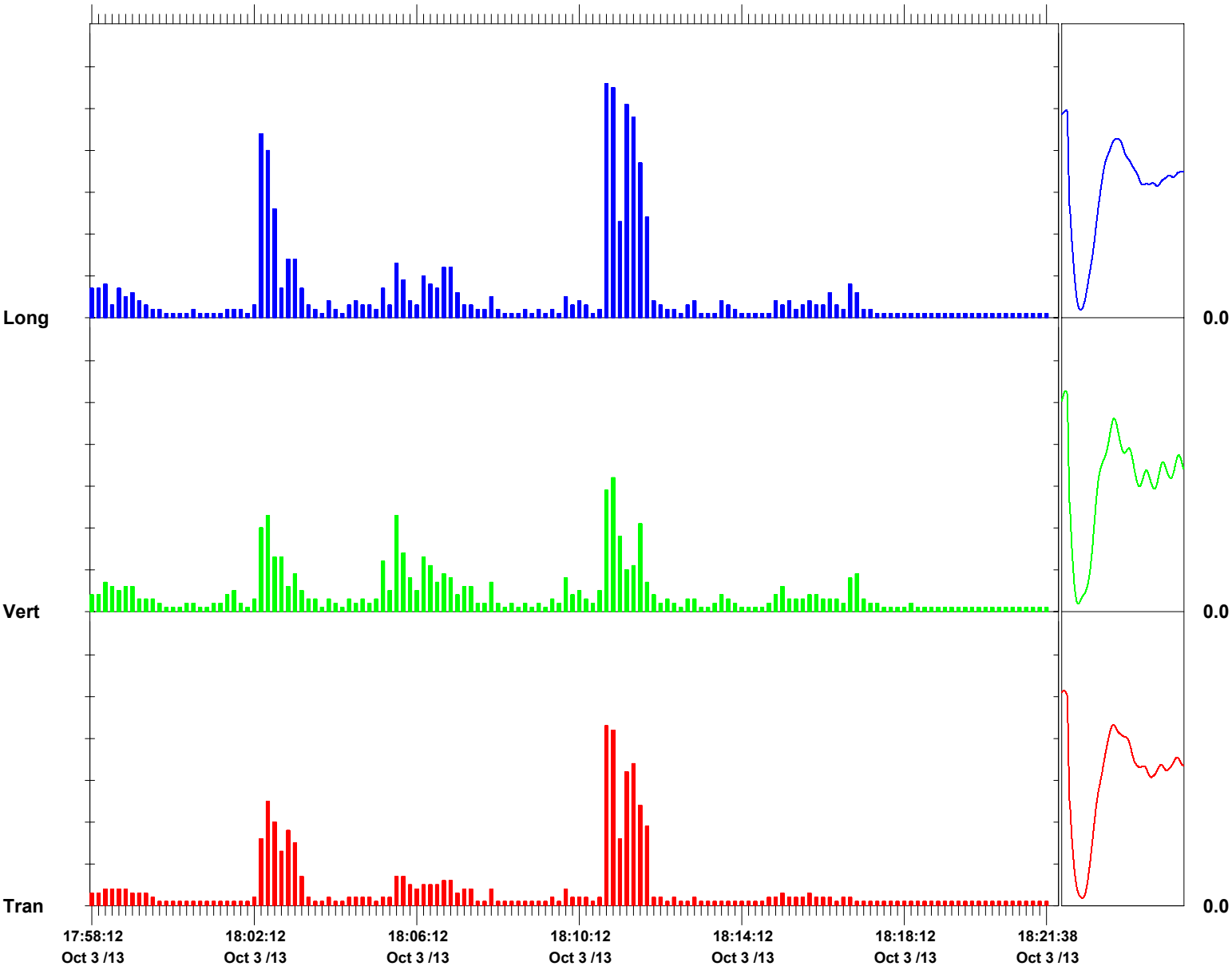
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	5.9 Volts (Battery Low)
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F09J.8Q0

Post Event Notes
Location 7

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.215	0.160	0.280	in/s
ZC Freq	32	30	30	Hz
Date	Oct 3 /13	Oct 3 /13	Oct 3 /13	
Time	18:10:52	18:10:57	18:10:52	
Sensor Check	Passed	Passed	Passed	
Frequency	7.1	7.8	7.3	Hz
Overswing Ratio	3.5	2.6	3.7	

Peak Vector Sum 0.315 in/s on October 3, 2013 at 18:10:57



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering
October 4, 2013

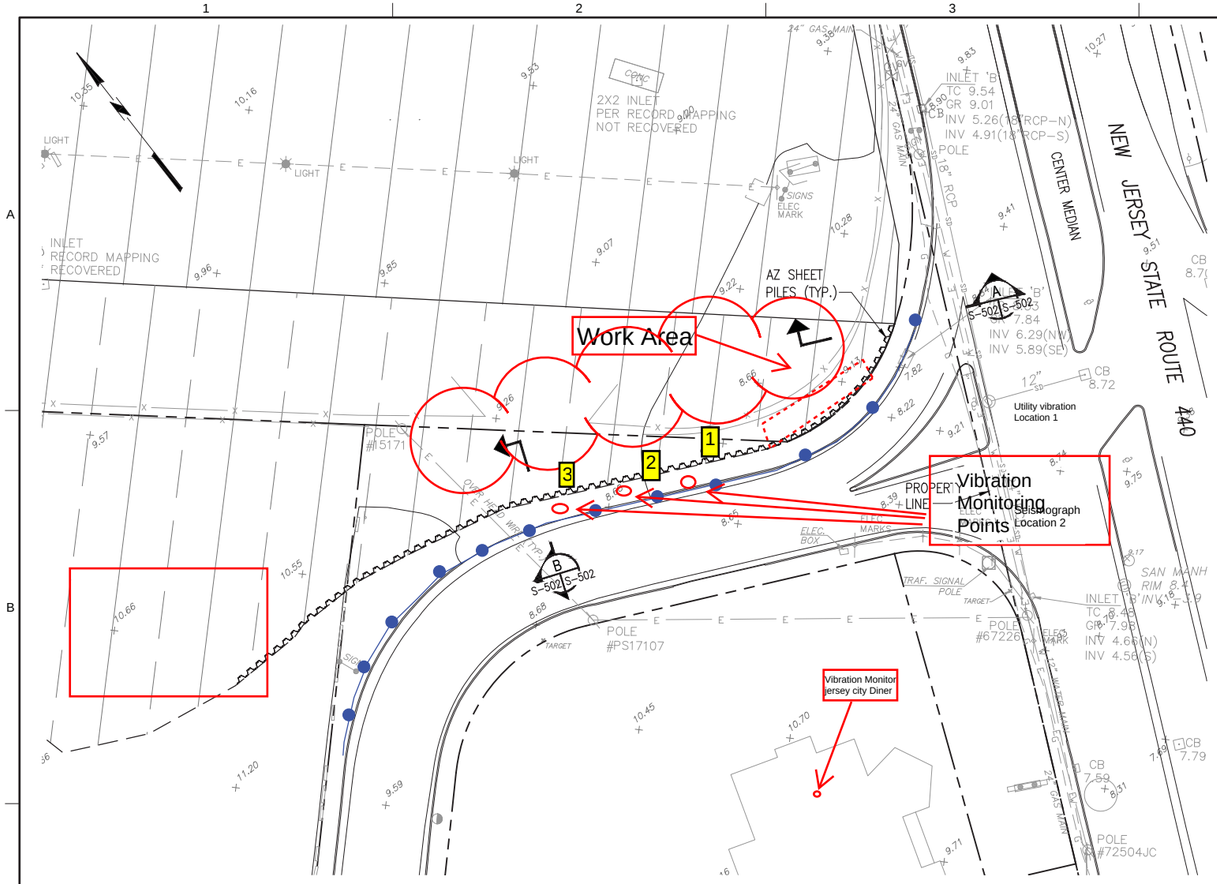
For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:
The vibration work commenced at 7:45 AM until 5:00 PM. The seismograph was placed along the jug handle at 3 locations following the piledriving at the contractor's request, although there were no utilities in that area. See attached Blastware reports for PPV's at these locations.

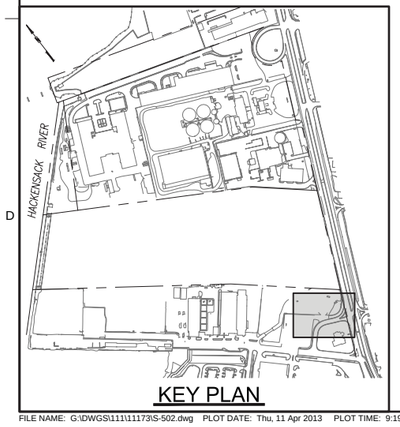
Crack gauges:
There was no movement in the crack gauges.



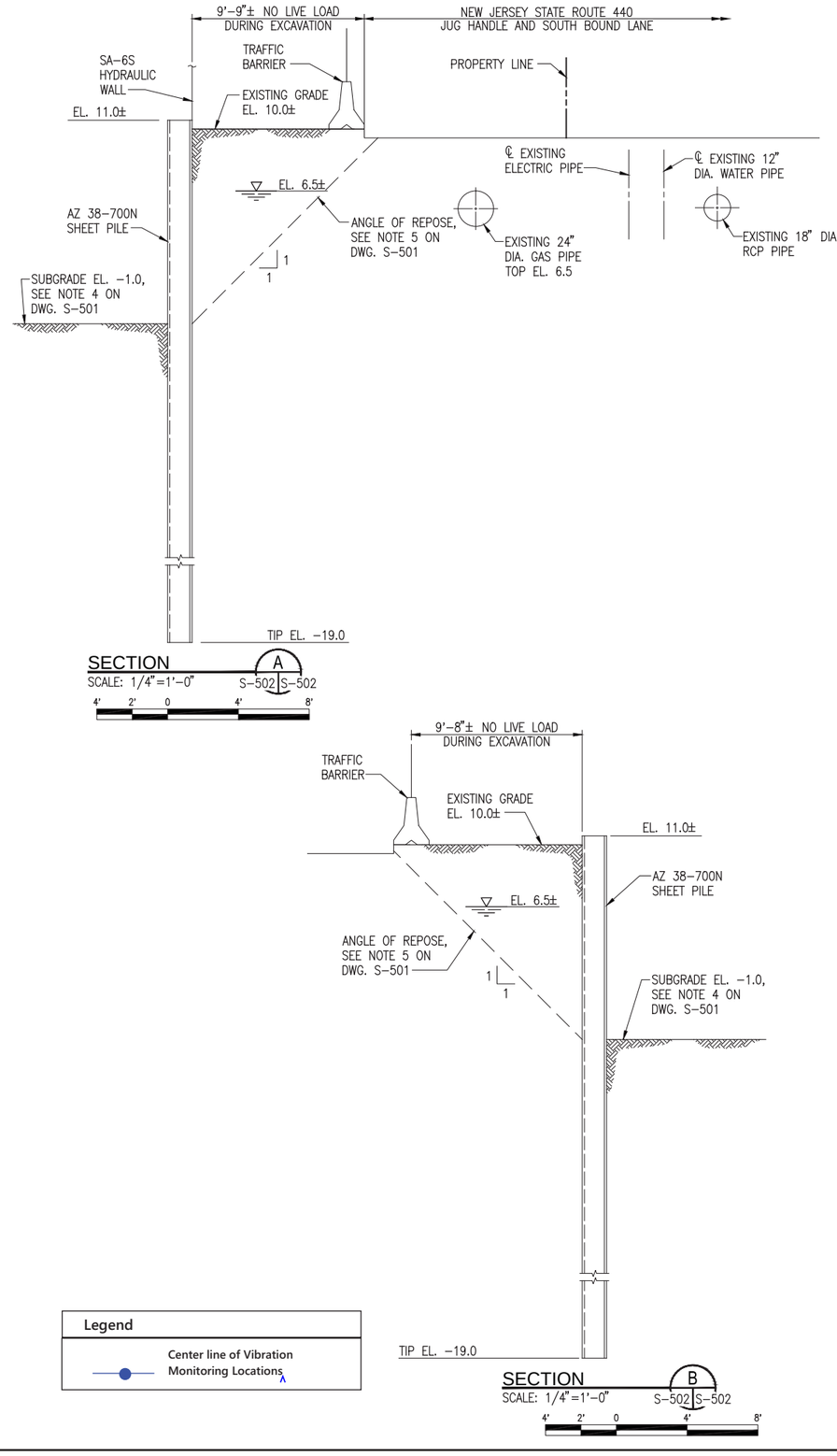
EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



KEY PLAN



Legend

Center line of Vibration Monitoring Locations

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

NO.	DATE	DSGN	BY	CHK	APVD
A	04/15/13	G.S.	DR	B.B.	G.P.

ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW | PWD | APVD
REVISION
P.W.D.

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Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-502
SHEET	60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

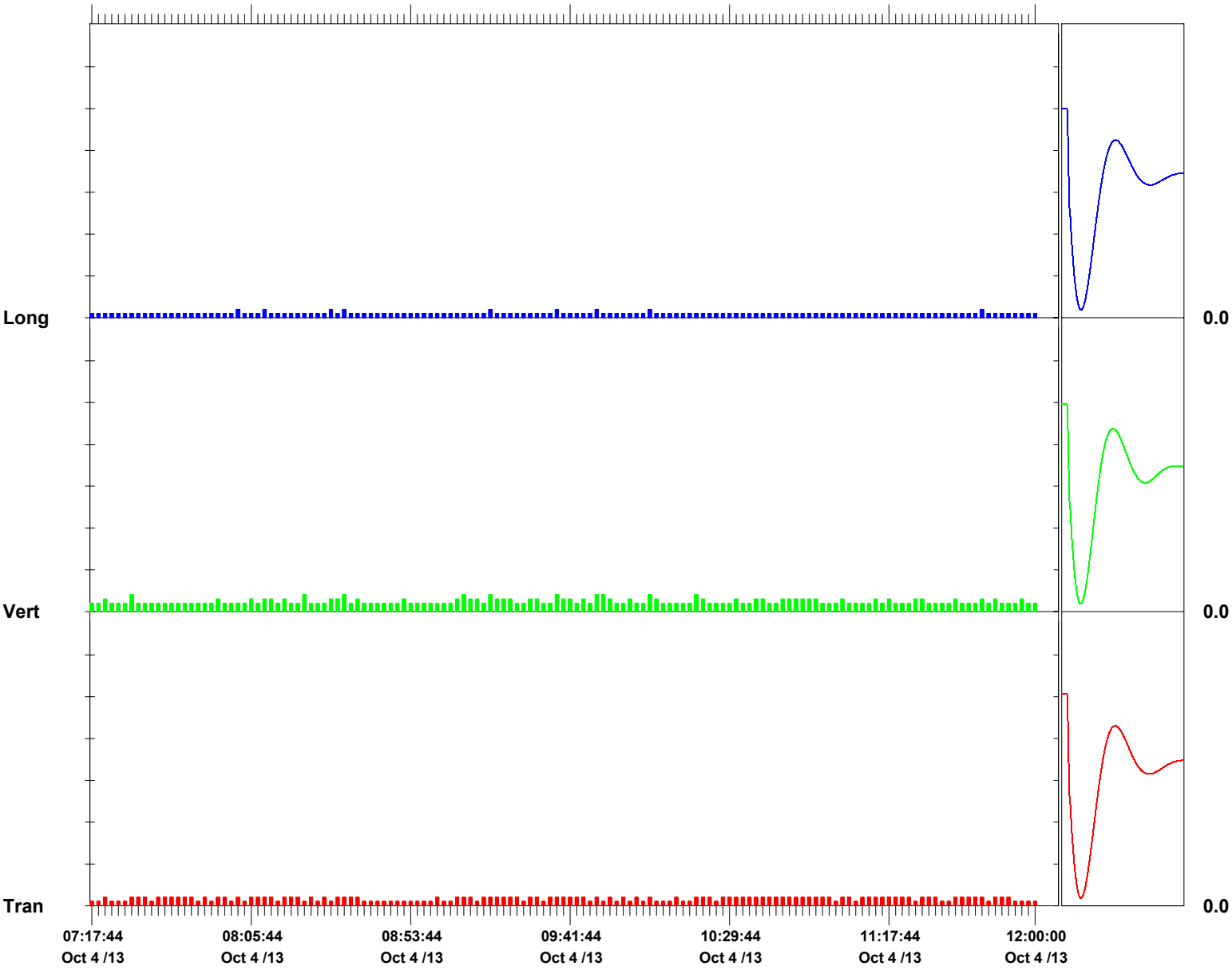
Histogram Start Time	07:15:44 October 4, 2013
Histogram Finish Time	12:00:00 October 4, 2013
Number of Intervals	8528.00 at 2 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

Serial Number	BE12235 V 10.40-8.17 MiniMate Plus
Battery Level	6.7 Volts
Unit Calibration	February 4, 2013 by Instantel
File Name	N235F0AK.680

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0200	0.01000	in/s
ZC Freq	>100	26	>100	Hz
Date	Oct 4 /13	Oct 4 /13	Oct 4 /13	
Time	07:20:26	07:28:52	08:00:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.8	7.3	Hz
Overswing Ratio	3.6	3.3	3.8	

Peak Vector Sum 0.0212 in/s on October 4, 2013 at 08:31:50



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

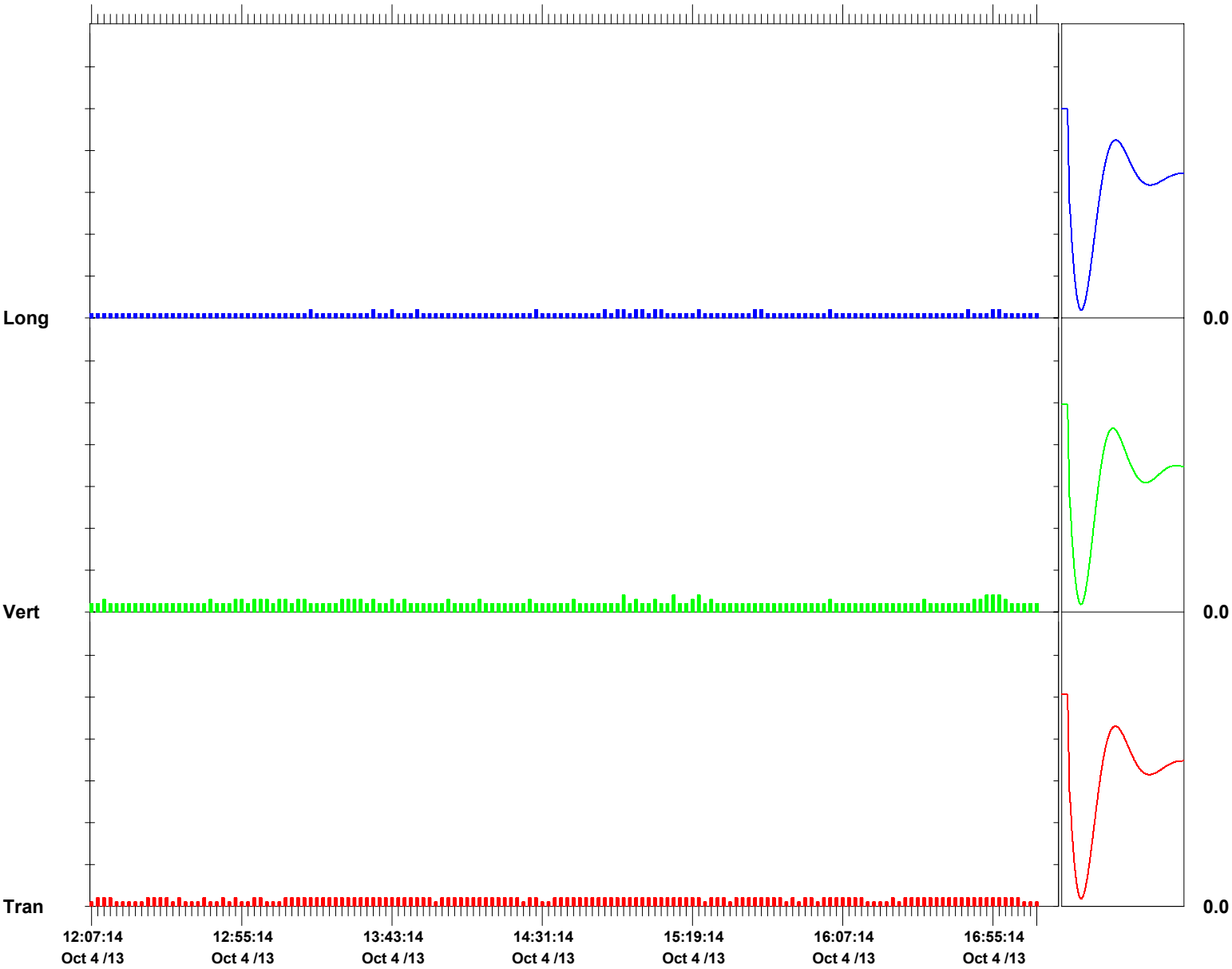
Histogram Start Time	12:05:14 October 4, 2013
Histogram Finish Time	17:07:39 October 4, 2013
Number of Intervals	9072.00 at 2 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

Serial Number	BE12235 V 10.40-8.17 MiniMate Plus
Battery Level	6.6 Volts
Unit Calibration	February 4, 2013 by Instantel
File Name	N235F0AX.KQ0

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0200	0.01000	in/s
ZC Freq	>100	51	>100	Hz
Date	Oct 4 /13	Oct 4 /13	Oct 4 /13	
Time	12:07:28	14:56:12	13:16:48	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.8	7.3	Hz
Overswing Ratio	3.6	3.2	3.8	

Peak Vector Sum 0.0224 in/s on October 4, 2013 at 16:56:22



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	07:26:46 October 4, 2013
Histogram Finish Time	11:00:29 October 4, 2013
Number of Intervals	2564.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

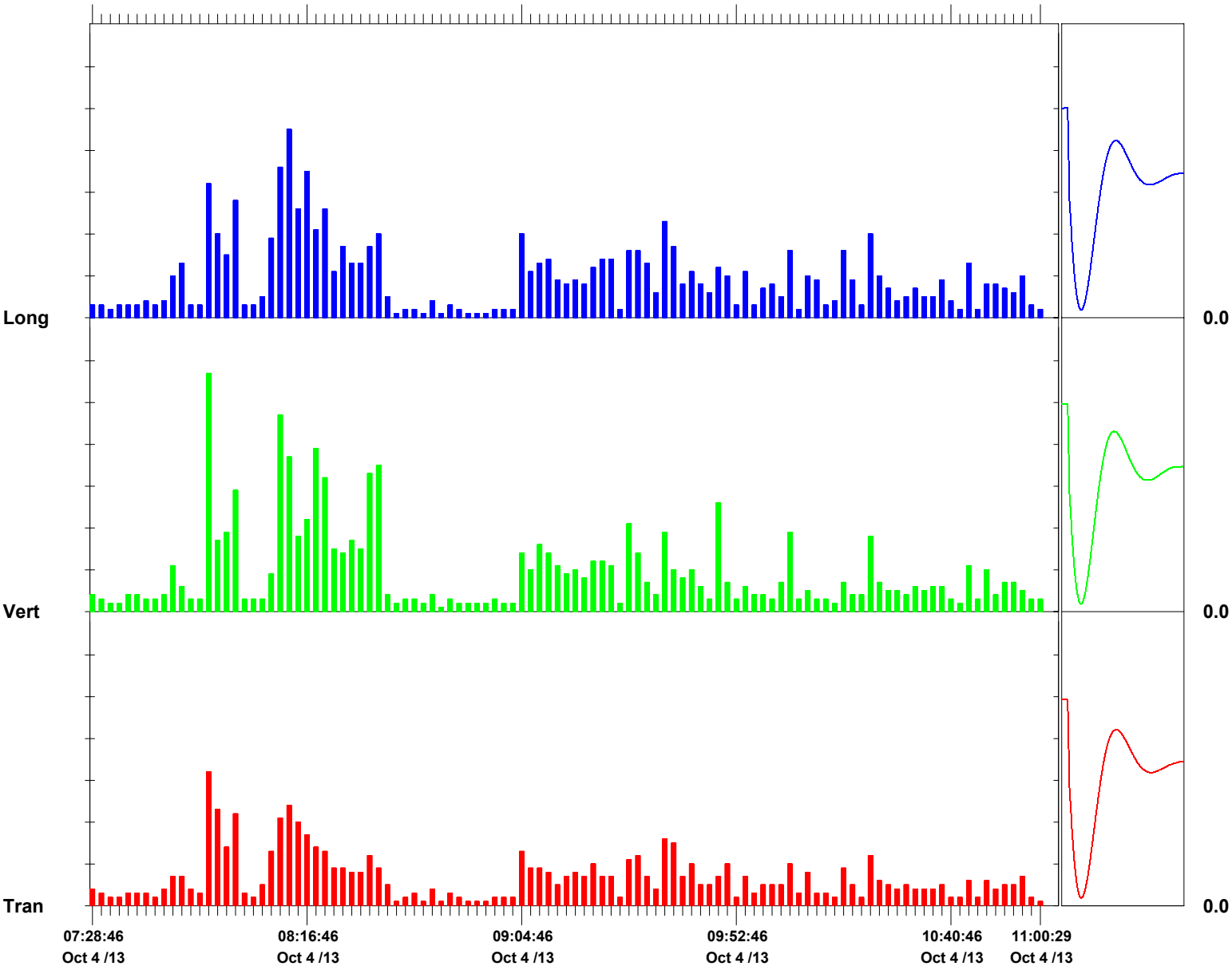
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F0AK.OM0

Post Event Notes
Location 1.

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.160	0.285	0.225	in/s
ZC Freq	32	30	22	Hz
Date	Oct 4 /13	Oct 4 /13	Oct 4 /13	
Time	07:54:06	07:53:56	08:10:51	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.303 in/s on October 4, 2013 at 07:53:56



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 11:02:47 October 4, 2013
Histogram Finish Time 11:53:37 October 4, 2013
Number of Intervals 610.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

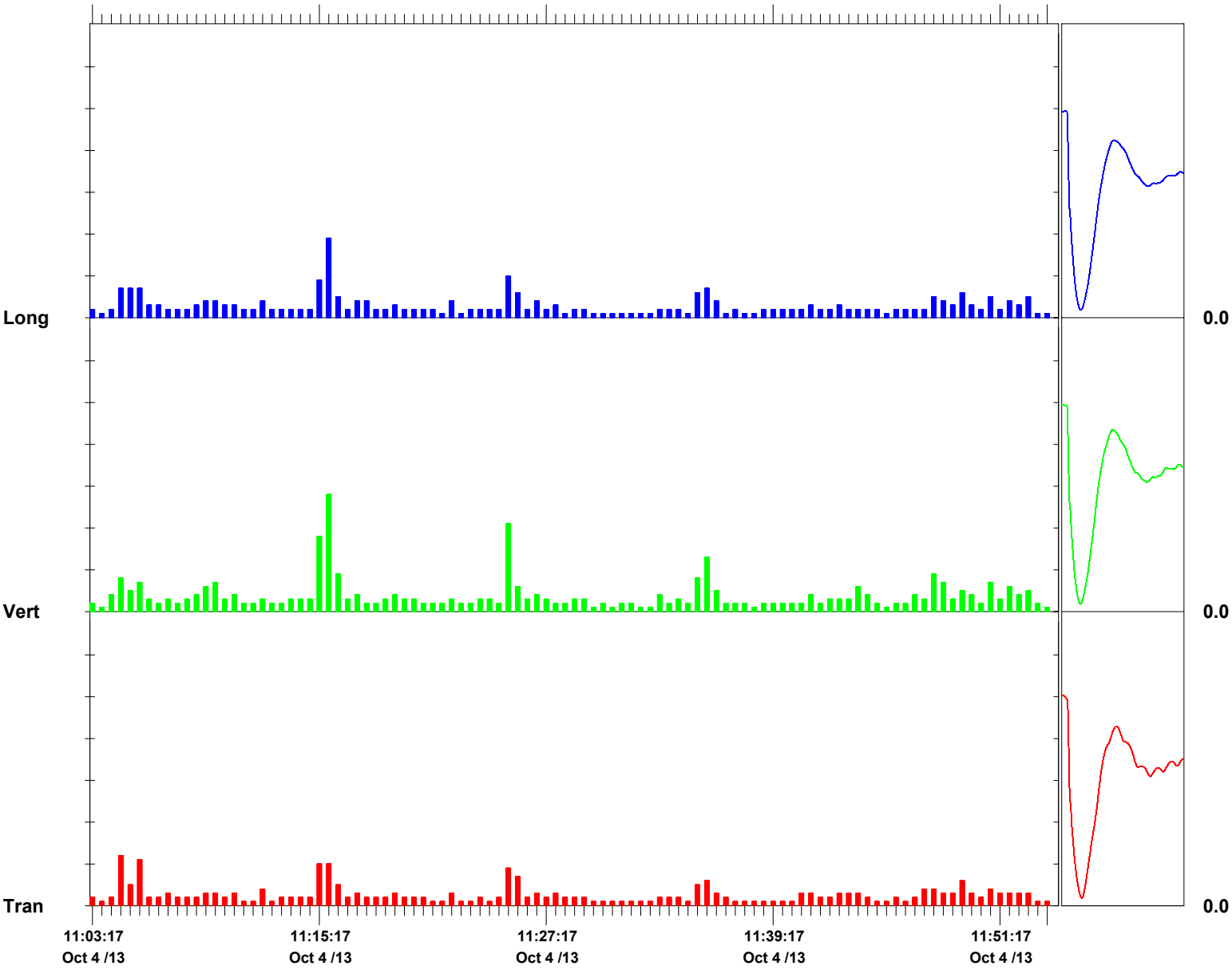
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.2 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194F0AU.ON0

Post Event Notes
Location 2.

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0600	0.140	0.0950	in/s
ZC Freq	28	30	30	Hz
Date	Oct 4 /13	Oct 4 /13	Oct 4 /13	
Time	11:04:22	11:15:27	11:15:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.7	7.3	Hz
Overswing Ratio	3.6	3.4	3.8	

Peak Vector Sum 0.148 in/s on October 4, 2013 at 11:15:27



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	12:53:05 October 4, 2013
Histogram Finish Time	13:20:28 October 4, 2013
Number of Intervals	328.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

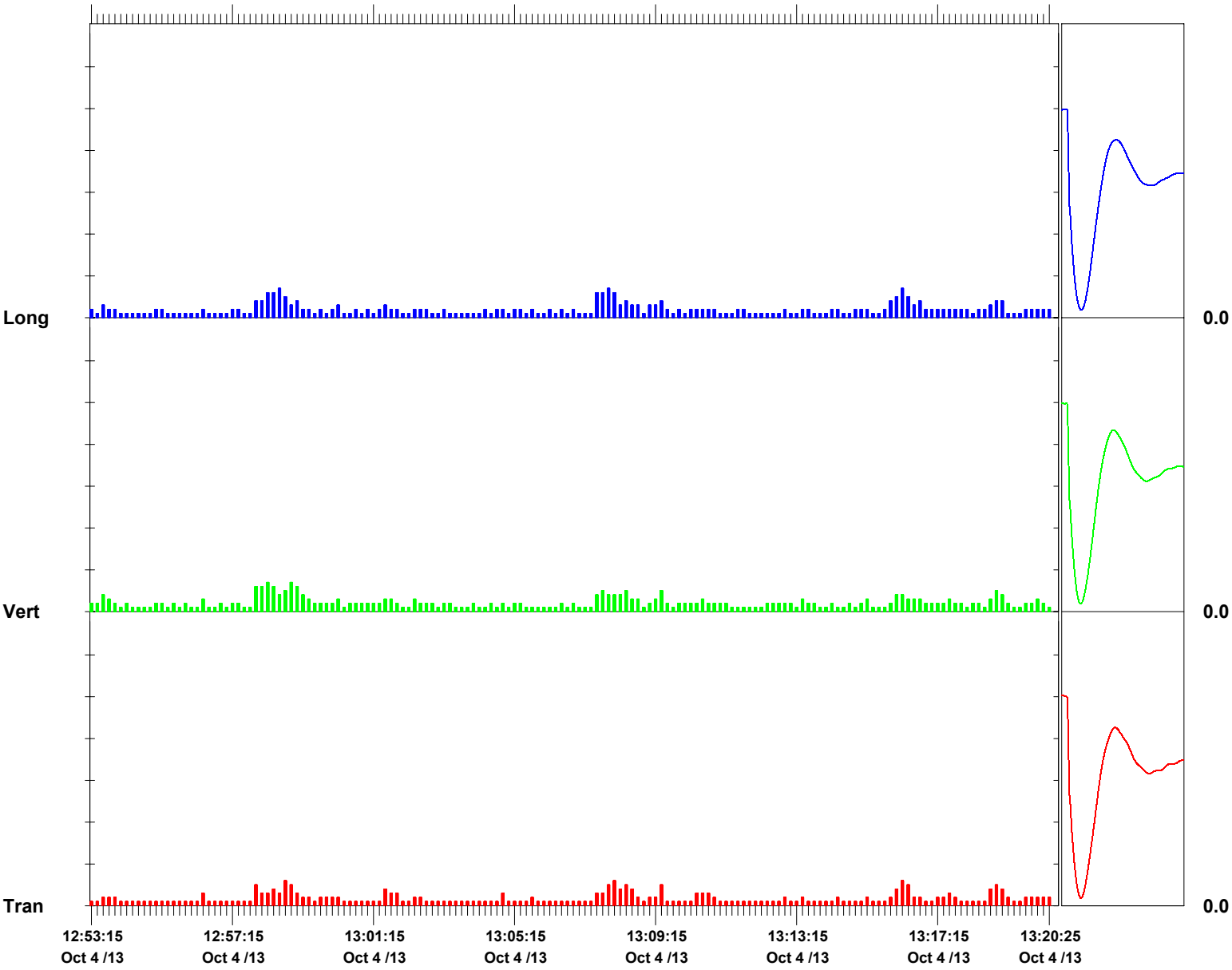
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.3 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F0AZ.SH0

Post Event Notes
Location 2.

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0300	0.0350	0.0350	in/s
ZC Freq	34	27	32	Hz
Date	Oct 4 /13	Oct 4 /13	Oct 4 /13	
Time	12:58:45	12:58:10	12:58:30	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.6	7.3	Hz
Overswing Ratio	3.7	3.4	3.8	

Peak Vector Sum 0.0391 in/s on October 4, 2013 at 13:07:50



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:22:28 October 4, 2013
Histogram Finish Time	17:03:56 October 4, 2013
Number of Intervals	2657.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

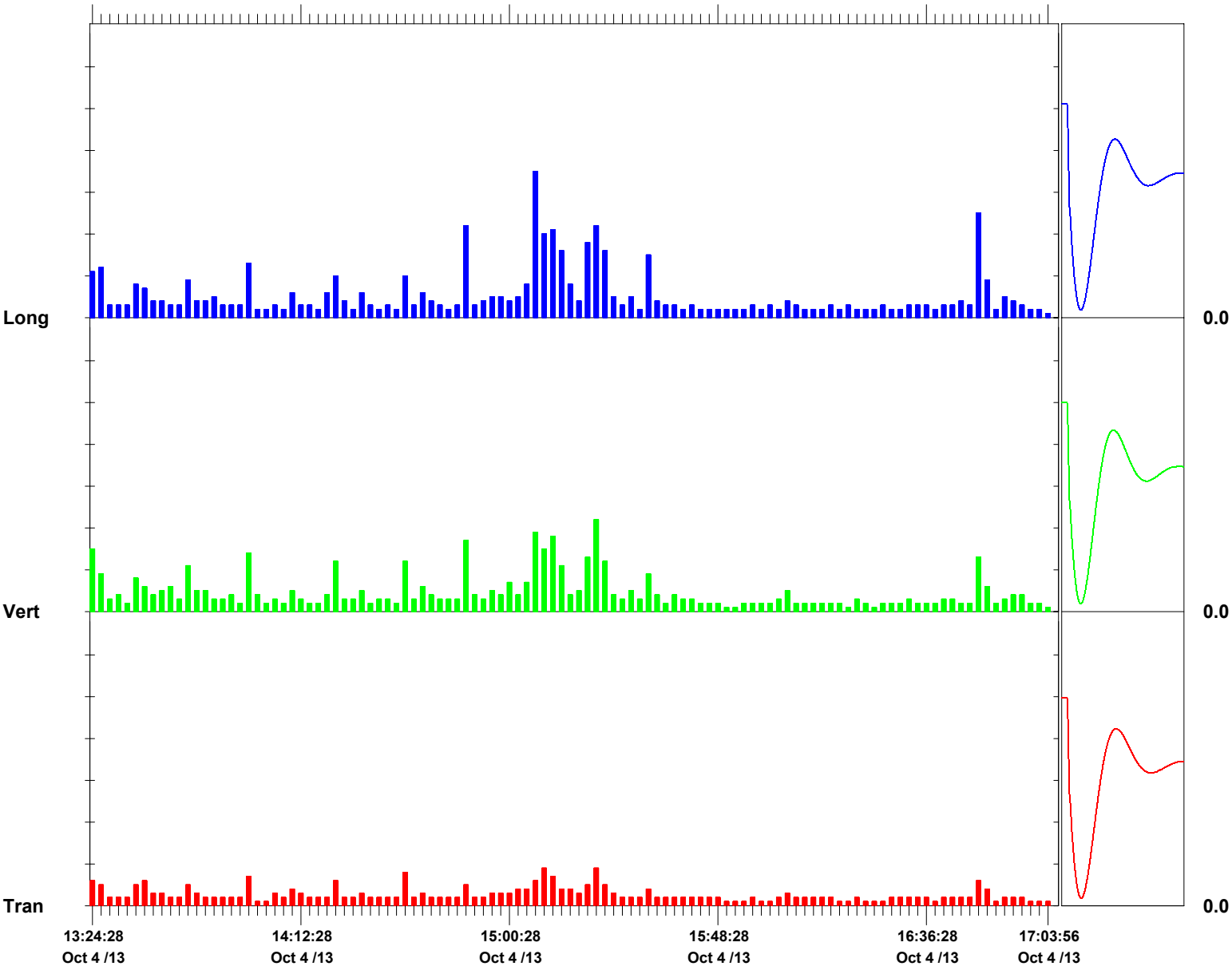
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.2 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F0B1.5G0

Post Event Notes
Location 3.

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.0450	0.110	0.175	in/s
ZC Freq	11	10	13	Hz
Date	Oct 4 /13	Oct 4 /13	Oct 4 /13	
Time	15:07:38	15:20:28	15:06:18	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.7	7.4	Hz
Overswing Ratio	3.9	3.4	3.7	

Peak Vector Sum 0.189 in/s on October 4, 2013 at 15:06:18



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Geocomp
ENGINEERING, INC.
Technologies to manage risk for infrastructure

Atlanta
Boston
Chicago
New York
San Francisco

www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering
October 18, 2013

For ENTACT, LLC

139 Fulton St., Suite 917 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

NOTES:

Summary of Work:

The vibration work, driving HB sheets, commenced at 8:30 AM and ran until 12:00 PM. The seismograph was placed along Route 440 at 8 locations. These ran parallel to the gas and water lines and were approximately 15-20 feet from where the work occurred. See below for exceedances.

Exceedance (PPV >.5 in/s):

Water line exceedances (in/s):

(Location 1)

9:19 AM: 0.53

(Location 2)

9:30 AM: 0.83
9:32 AM: 0.58

(Location 3)

9:48 AM: 1.16

(Location 5)

9:56 AM: 0.64

(Location 6)

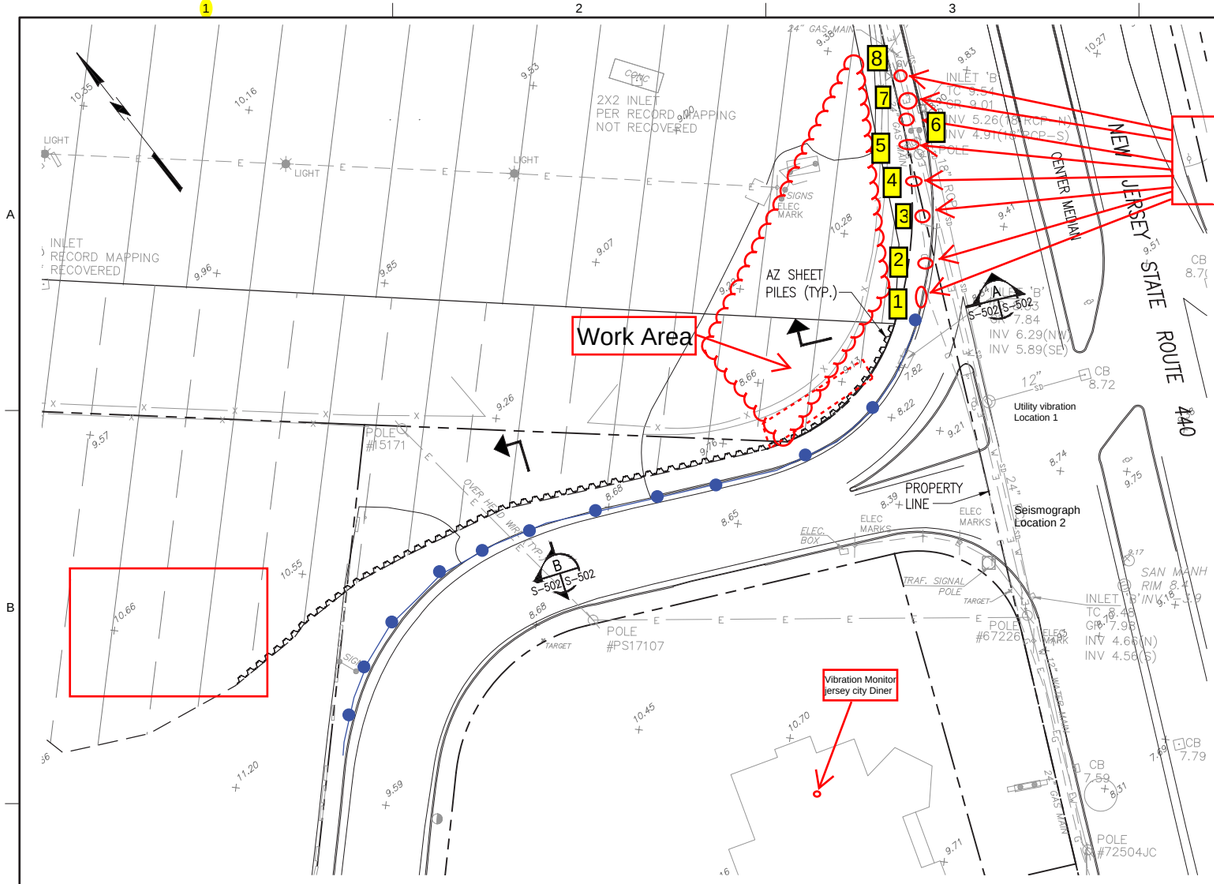
10:04 AM: 0.66

(Location 1)

11:40 AM: 0.51
11:41 AM: 1.25

Crack gauges:

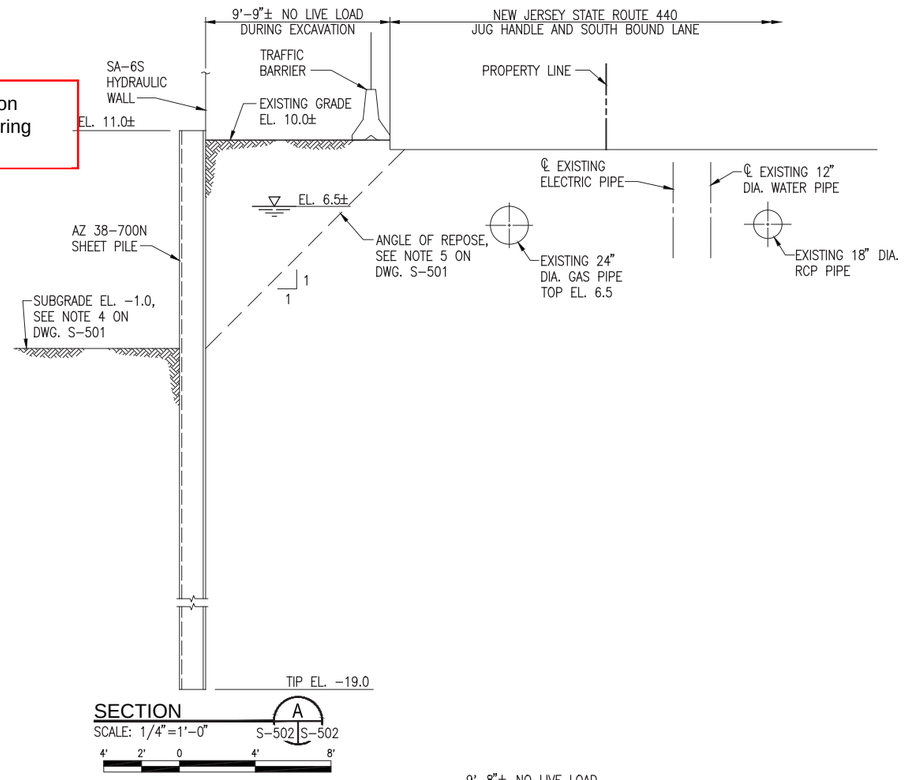
There were no movements in crack gauges.



EXCAVATION AREA PARTIAL PLAN AT ROUTE 440 AND JUG HANDLE

SCALE: 1"=30'-0"

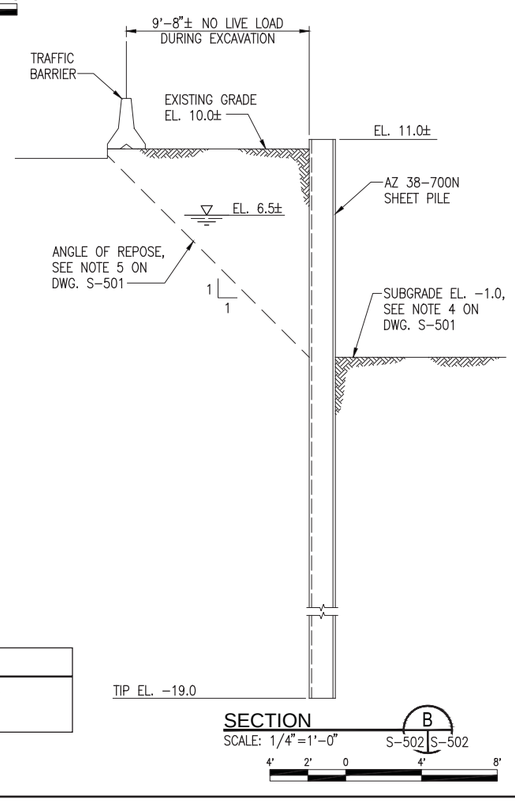
30' 20' 10' 0 30' 60'



SECTION A S-502 S-502

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8'



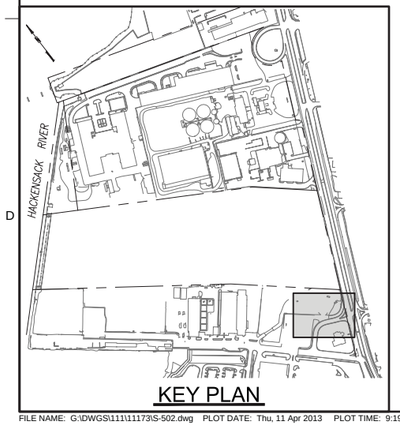
SECTION B S-502 S-502

SCALE: 1/4"=1'-0"

4' 2' 0 4' 8'

Legend

Center line of Vibration Monitoring Locations



KEY PLAN

NO.	DATE	REVISION	BY	APVD
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	P.W.D.
DSGN	G.S.	DR	CHK	B.B.	APVD	G.P.

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 46522

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTIONS

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-10-0027
DWG S-502
SHEET 60 OF 66

FILE NAME: G:\DWGS\111\11173\S-502.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

Event Report

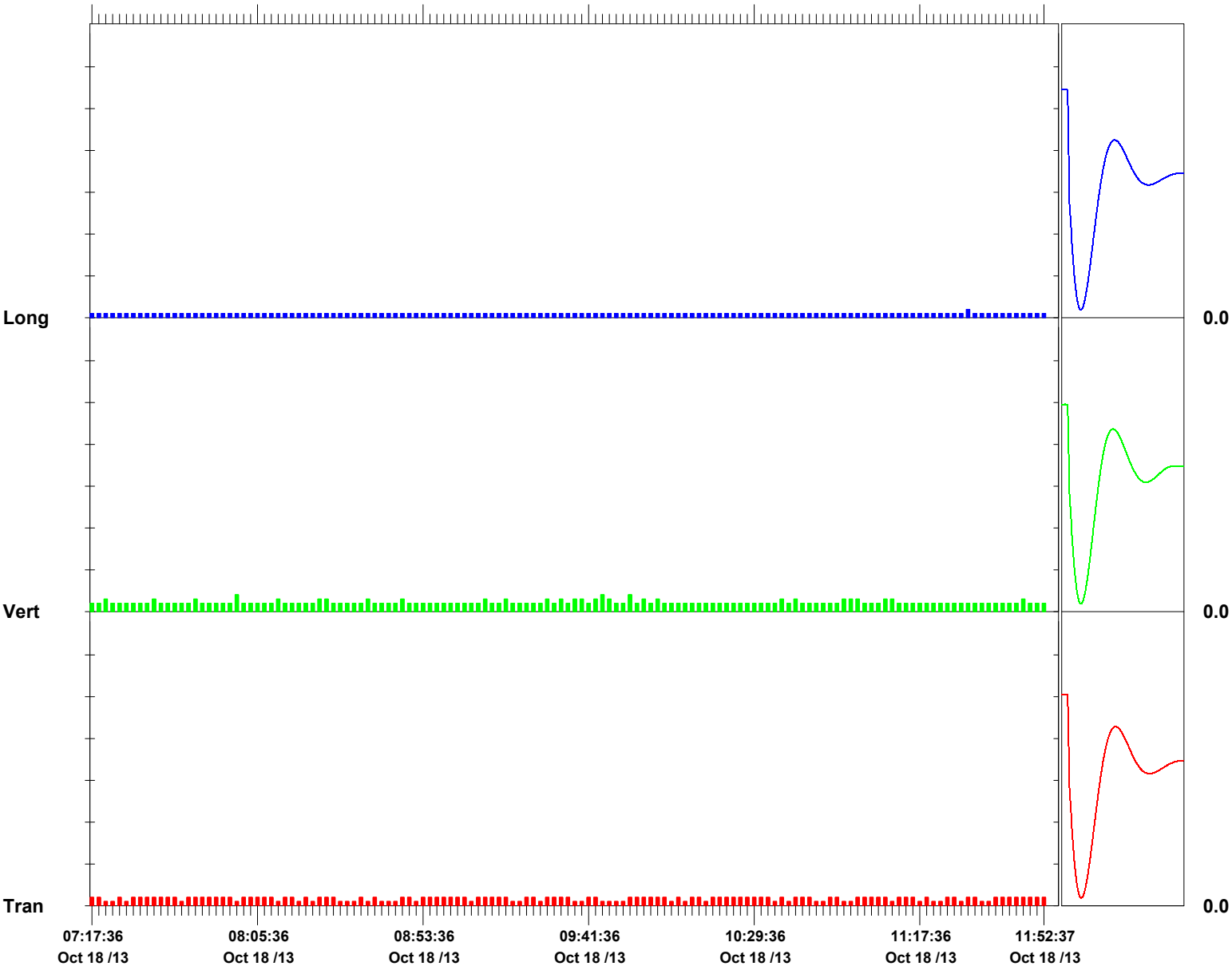
Histogram Start Time	07:15:36 October 18, 2013
Histogram Finish Time	11:52:37 October 18, 2013
Number of Intervals	8310.00 at 2 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Notes	
Location:	Jersey City Diner
Cleint:	ENTACT
User Name:	Geocomp
General:	SA-6 Vibration Monitoring

Serial Number	BE12235 V 10.40-8.17 MiniMate Plus
Battery Level	6.7 Volts
Unit Calibration	February 4, 2013 by Instantel
File Name	N235F10H.I00

Extended Notes
SA-6 vibration monitoring. Jersey CIty Diner Route 440.
Job #P8138

	Tran	Vert	Long	
PPV	0.01000	0.0200	0.01000	in/s
ZC Freq	>100	18	>100	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	07:16:38	07:58:58	11:29:38	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.5	Hz
Overswing Ratio	3.6	3.3	3.8	

Peak Vector Sum 0.0212 in/s on October 18, 2013 at 07:58:58



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:20:32 October 18, 2013
Histogram Finish Time	09:23:12 October 18, 2013
Number of Intervals	751.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

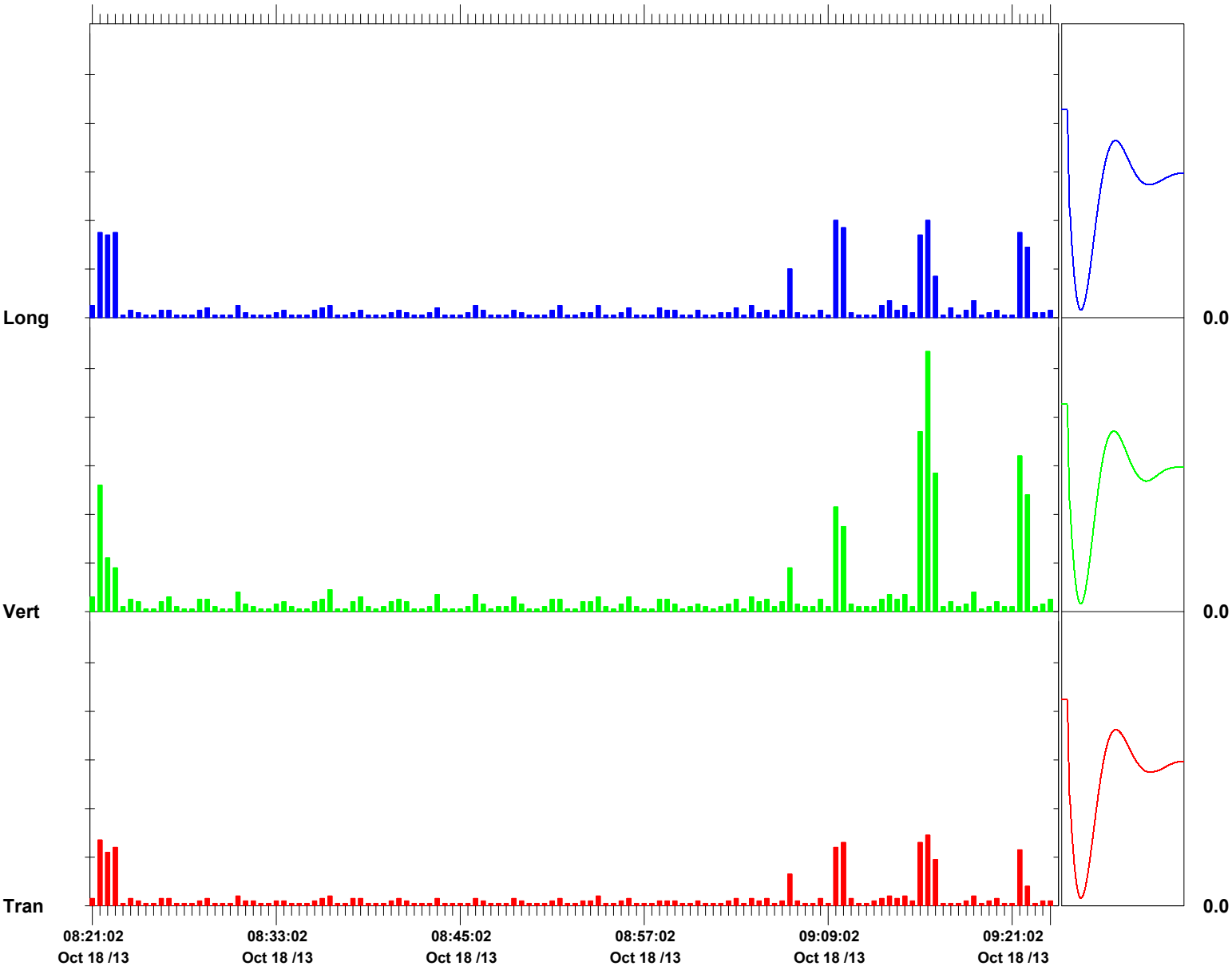
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F10K.I80

Post Event Notes
Location 1

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.145	0.535	0.200	in/s
ZC Freq	28	32	30	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	09:15:32	09:15:32	09:09:32	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.7	7.3	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.572 in/s on October 18, 2013 at 09:15:32



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:24:52 October 18, 2013
Histogram Finish Time	09:34:25 October 18, 2013
Number of Intervals	114.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

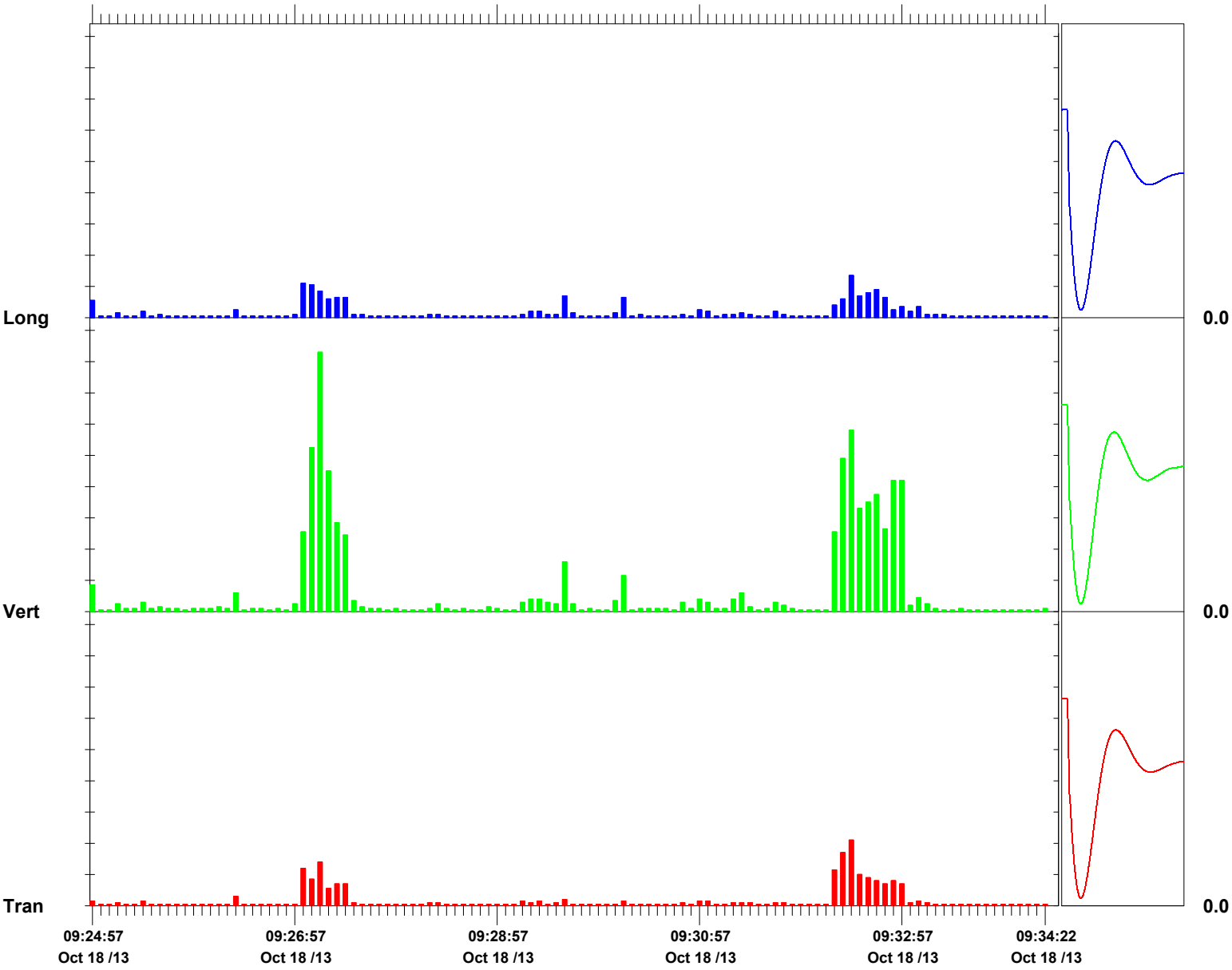
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F10N.HG0

Post Event Notes
Location 2

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.210	0.830	0.135	in/s
ZC Freq	30	30	30	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	09:32:27	09:27:12	09:32:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	4.0	3.6	3.9	

Peak Vector Sum 0.840 in/s on October 18, 2013 at 09:27:12



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time 09:35:47 October 18, 2013
Histogram Finish Time 09:48:59 October 18, 2013
Number of Intervals 158.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

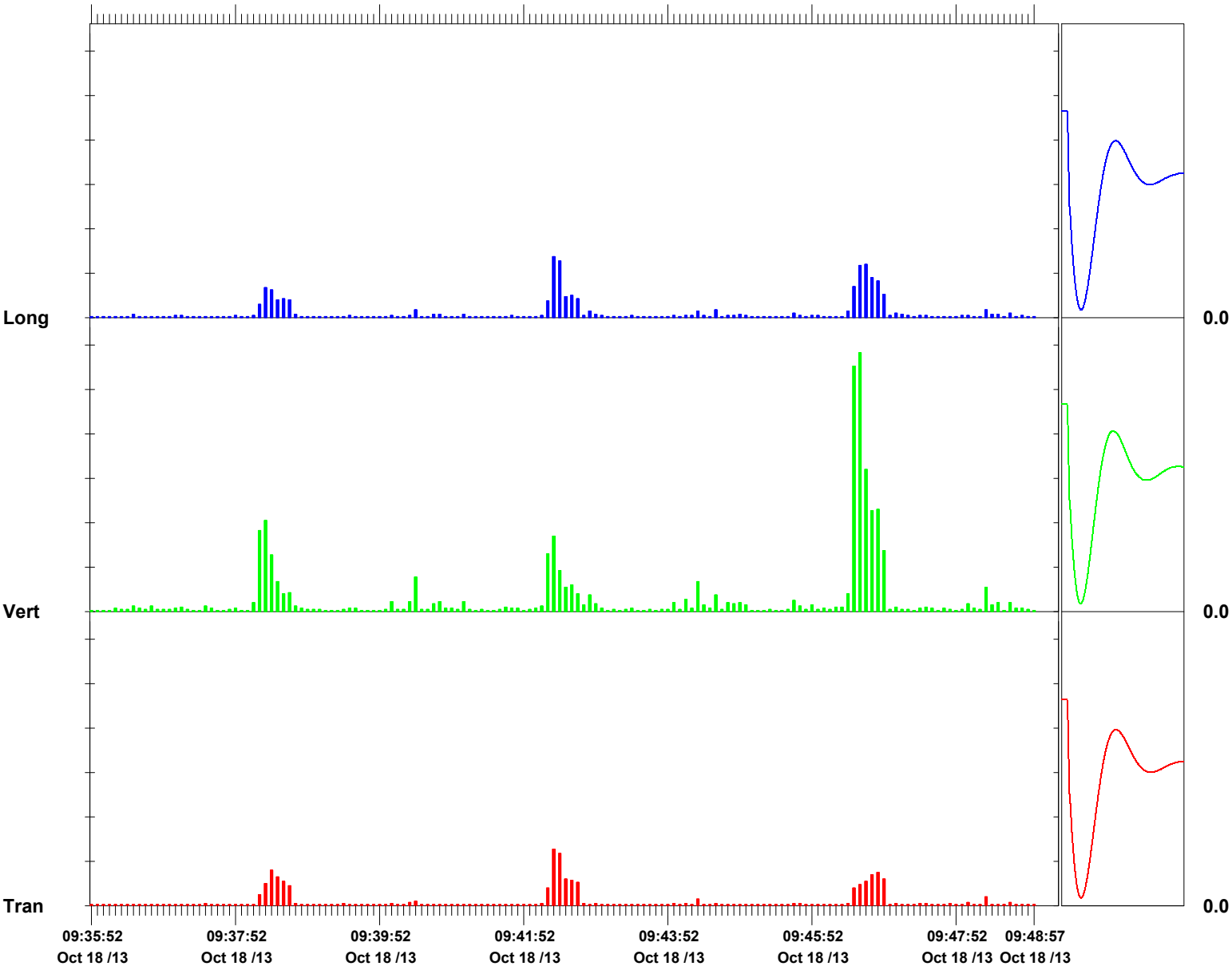
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.1 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194F10N.ZN0

Post Event Notes
Location 3

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.255	1.16	0.275	in/s
ZC Freq	43	28	47	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	09:42:17	09:46:32	09:42:17	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.7	7.3	Hz
Overswing Ratio	4.0	3.5	3.9	

Peak Vector Sum 1.17 in/s on October 18, 2013 at 09:46:32



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

Histogram Start Time 09:50:37 October 18, 2013
Histogram Finish Time 09:53:00 October 18, 2013
Number of Intervals 28.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

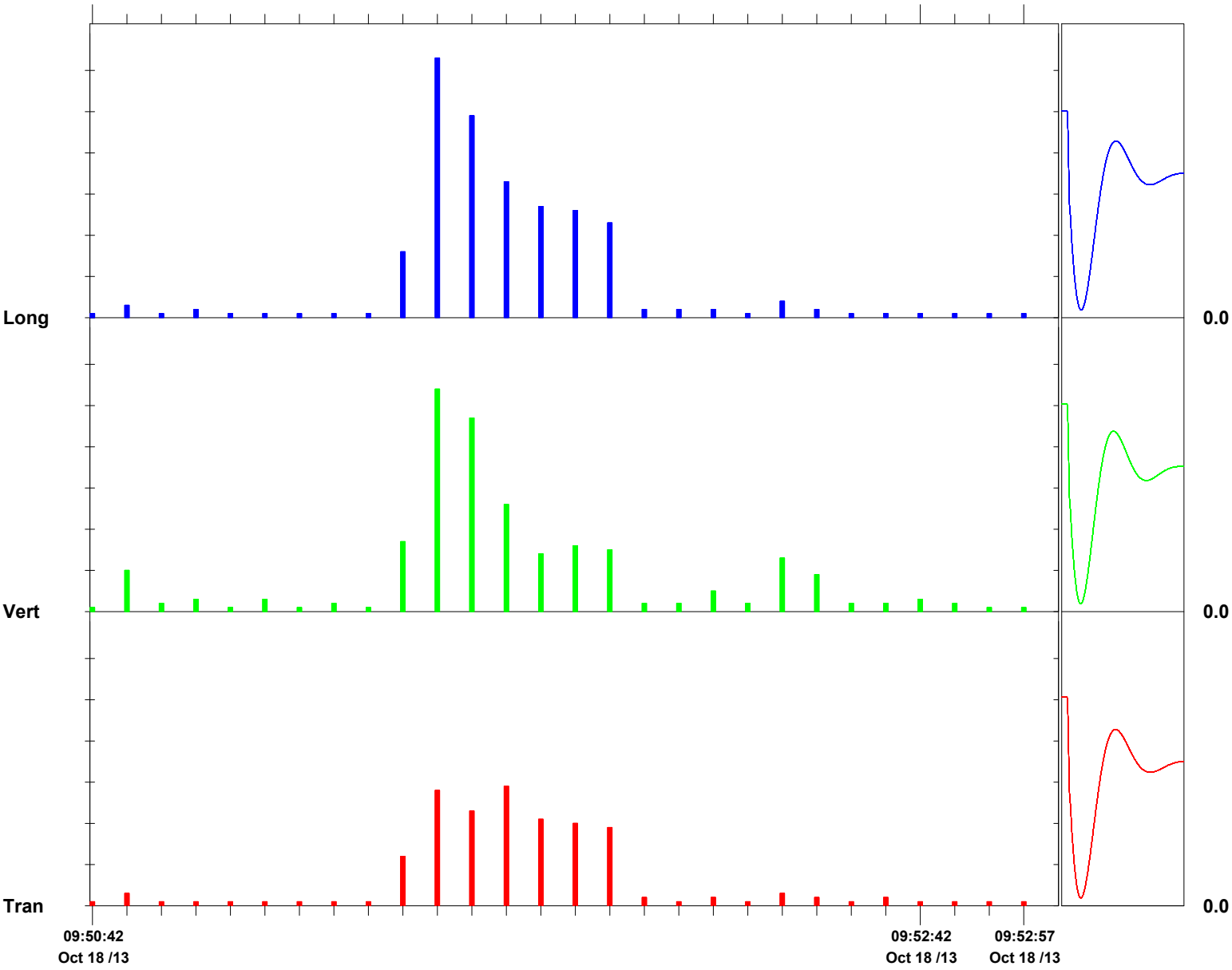
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.1 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194F10O.OD0

Post Event Notes
Location 4

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.145	0.270	0.315	in/s
ZC Freq	39	43	37	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	09:51:42	09:51:32	09:51:32	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.2	Hz
Overswing Ratio	3.9	3.5	3.9	

Peak Vector Sum 0.386 in/s on October 18, 2013 at 09:51:32



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:54:51 October 18, 2013
Histogram Finish Time	09:59:06 October 18, 2013
Number of Intervals	50.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

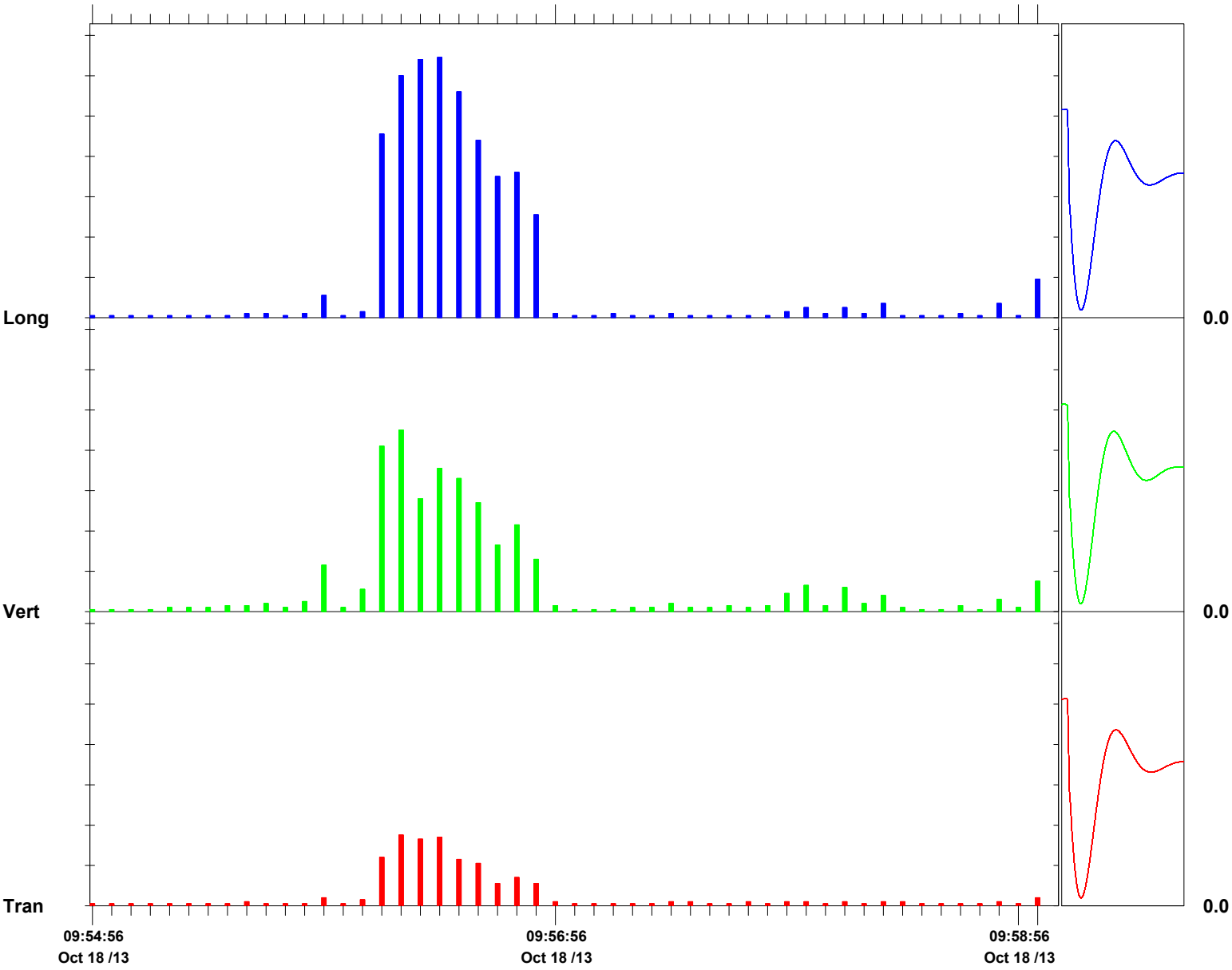
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F10O.VF0

Post Event Notes
Location 5

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.175	0.450	0.645	in/s
ZC Freq	30	28	39	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	09:56:16	09:56:16	09:56:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.3	Hz
Overswing Ratio	4.0	3.5	3.9	

Peak Vector Sum 0.690 in/s on October 18, 2013 at 09:56:16



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:00:48 October 18, 2013
Histogram Finish Time	10:06:43 October 18, 2013
Number of Intervals	71.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

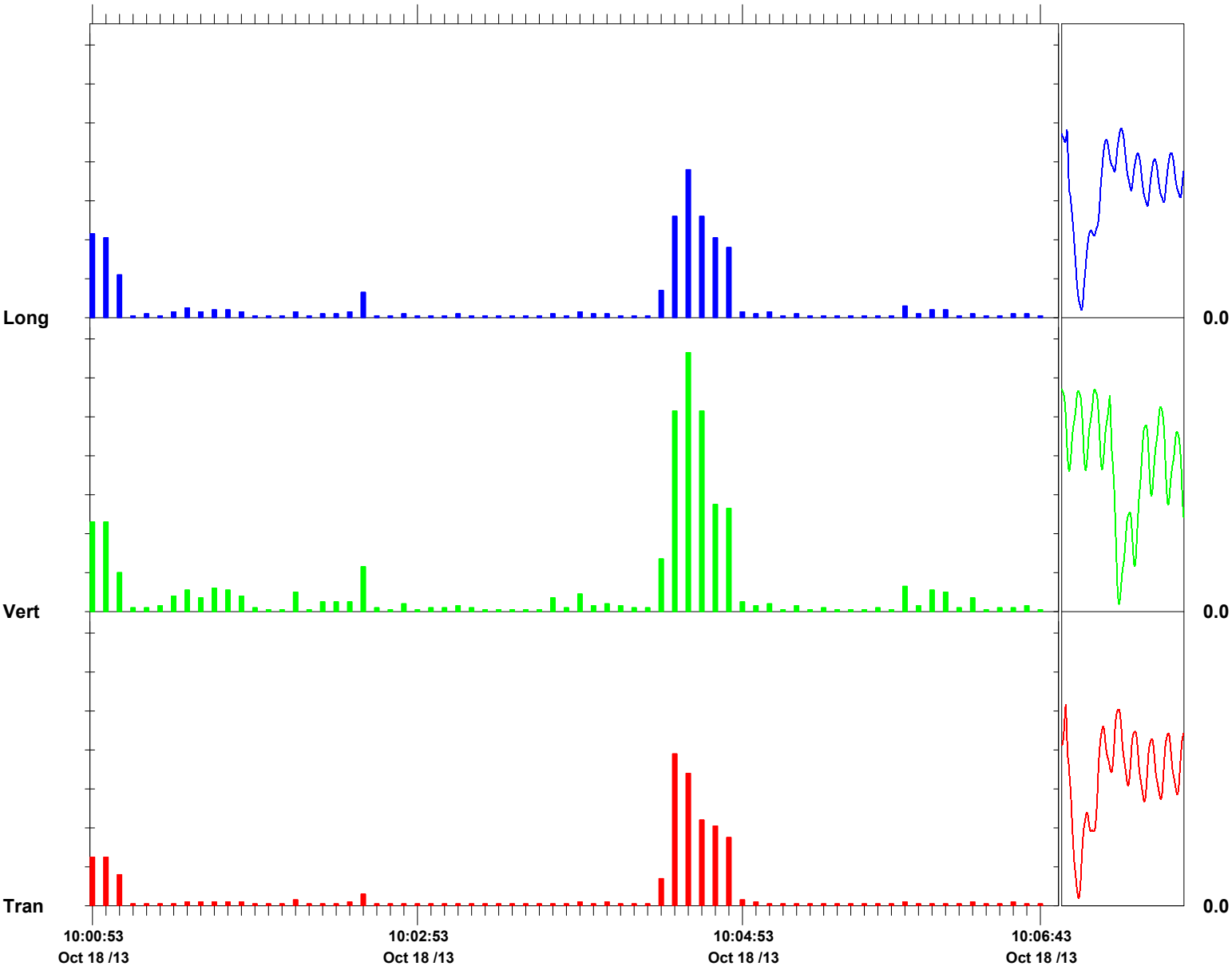
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F10P.5C0

Post Event Notes
Location 6

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.390	0.665	0.380	in/s
ZC Freq	32	34	30	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	10:04:28	10:04:33	10:04:33	
Sensor Check	Passed	Check	Passed	
Frequency	8.2	15.8	7.5	Hz
Overswing Ratio	3.6	1.0	2.9	

Peak Vector Sum 0.685 in/s on October 18, 2013 at 10:04:33



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:07:42 October 18, 2013
Histogram Finish Time	10:30:51 October 18, 2013
Number of Intervals	277.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location	Kellogg street & Route 440 North
Client:	ENTACT
User Name:	Geocomp
General:	SA-6

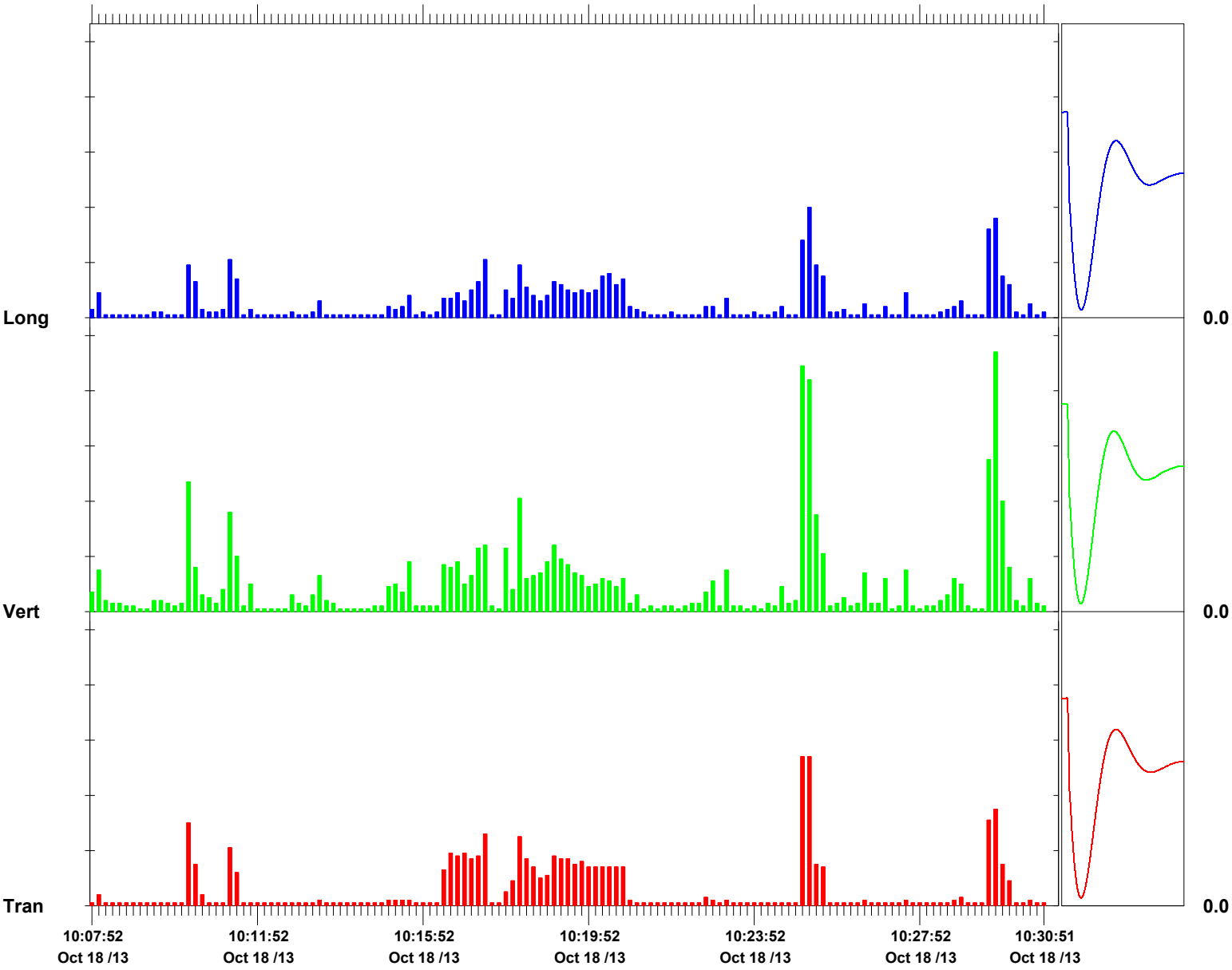
Serial Number	BE12194 V 10.30-8.17 MiniMate Plus
Battery Level	6.1 Volts
Unit Calibration	October 5, 2012 by Instantel
File Name	N194F10P.GU0

Post Event Notes
Location 7

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.270	0.470	0.200	in/s
ZC Freq	30	28	30	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	10:25:02	10:29:42	10:25:07	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	3.9	3.5	3.9	

Peak Vector Sum 0.510 in/s on October 18, 2013 at 10:25:02



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time 10:32:20 October 18, 2013
Histogram Finish Time 11:36:10 October 18, 2013
Number of Intervals 765.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

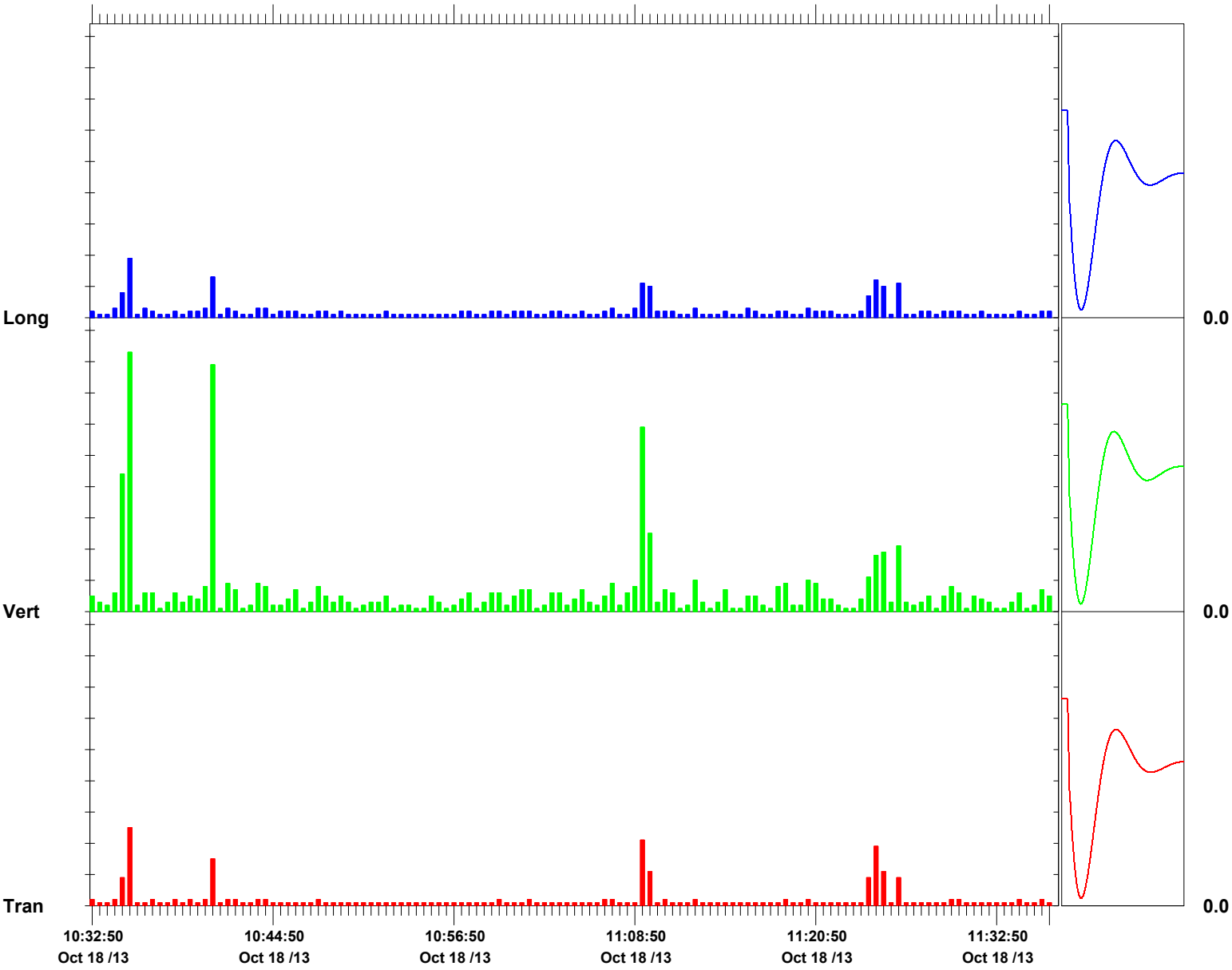
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.1 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194F10Q.LW0

Post Event Notes
Location 8

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.125	0.415	0.0950	in/s
ZC Freq	30	30	34	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	10:35:00	10:35:00	10:35:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.6	7.2	Hz
Overswing Ratio	3.9	3.5	3.9	

Peak Vector Sum 0.435 in/s on October 18, 2013 at 10:35:00



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time 11:39:48 October 18, 2013
Histogram Finish Time 11:47:01 October 18, 2013
Number of Intervals 86.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location Kellogg street & Route 440 North
Client: ENTACT
User Name: Geocomp
General: SA-6

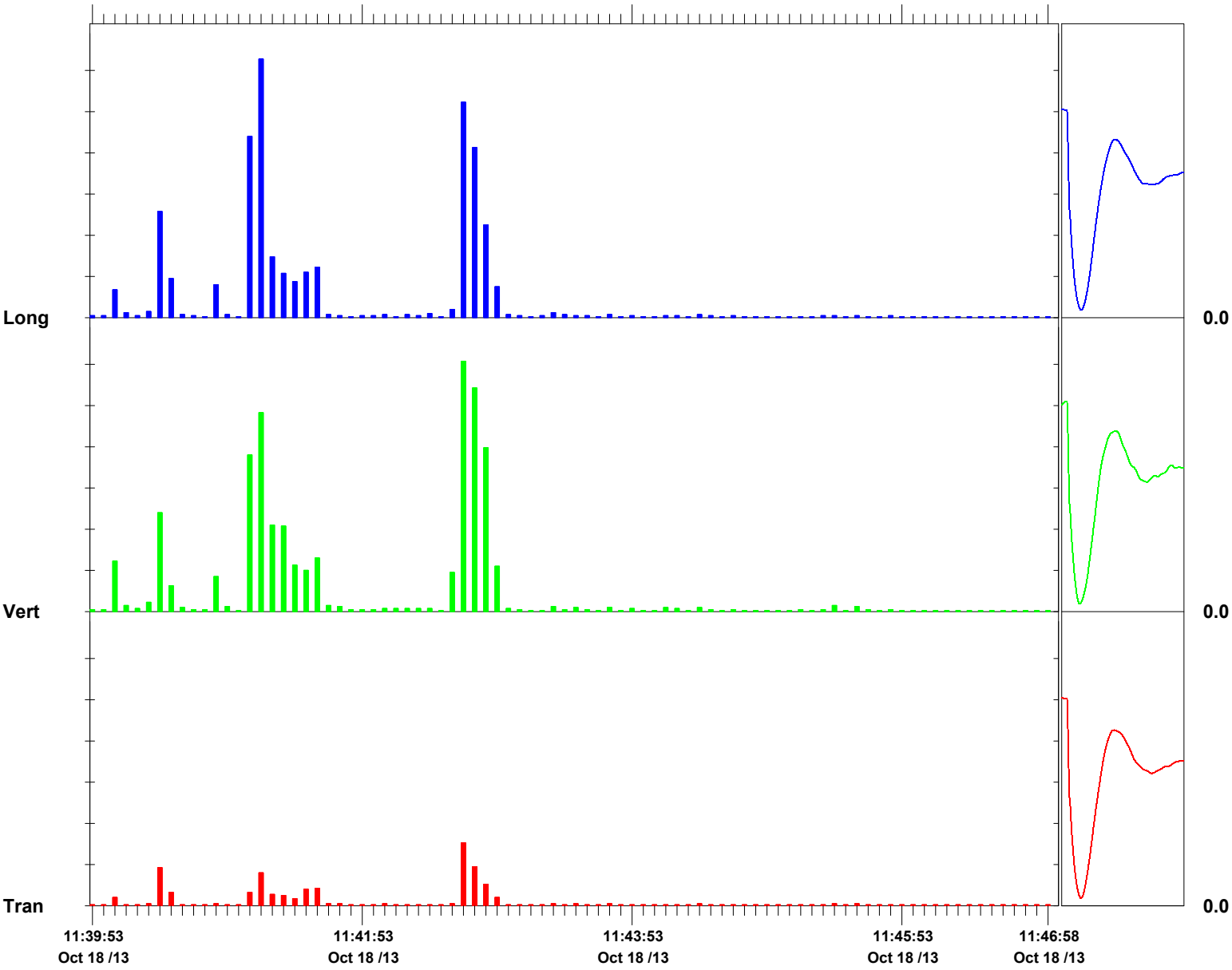
Serial Number BE12194 V 10.30-8.17 MiniMate Plus
Battery Level 6.1 Volts
Unit Calibration October 5, 2012 by Instantel
File Name N194F10T.QC0

Post Event Notes
Location 1

Extended Notes
SA-6 Utility line Vibration monitoring.

	Tran	Vert	Long	
PPV	0.305	1.21	1.25	in/s
ZC Freq	28	28	28	Hz
Date	Oct 18 /13	Oct 18 /13	Oct 18 /13	
Time	11:42:38	11:42:38	11:41:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.7	7.2	Hz
Overswing Ratio	4.0	3.5	3.7	

Peak Vector Sum 1.56 in/s on October 18, 2013 at 11:41:08



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Geocomp
Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering

August 4th, 2014
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

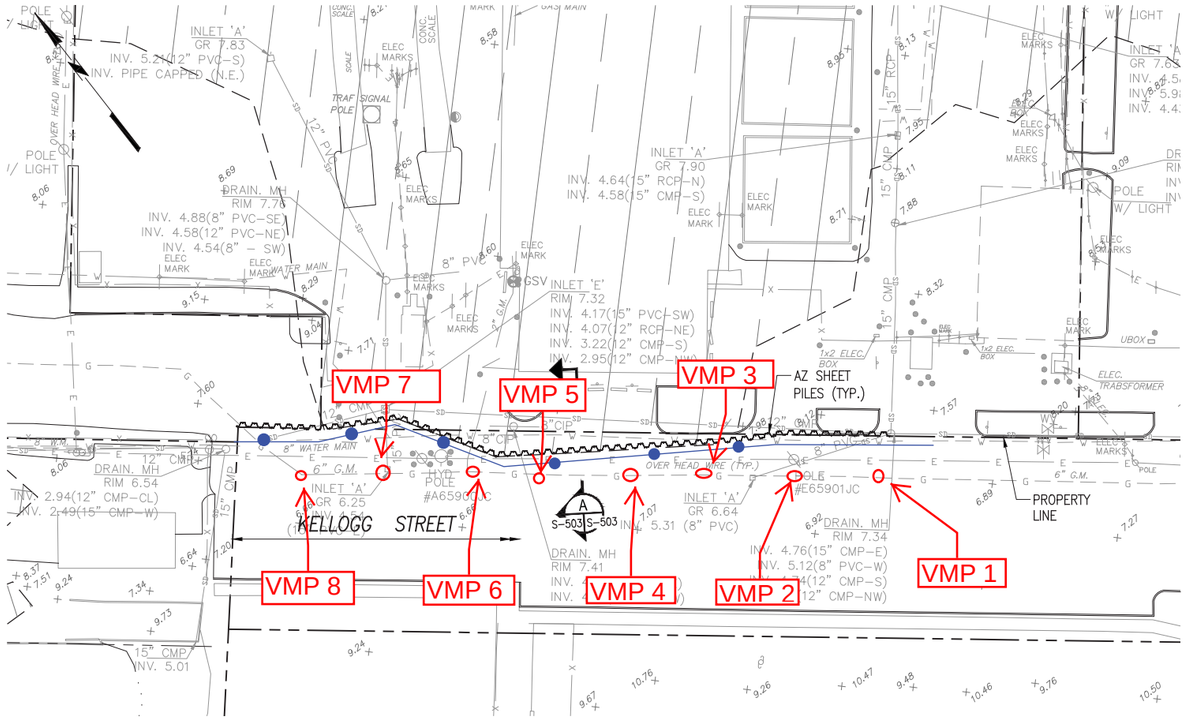
NOTES:

Summary of Work:
Sheet pile driving commenced at 8:10 AM and ended at 5:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 6 inch gas main, and an Instantel Minimate was used to record vibrations at 60 Kellogg Street in the part of the building closest to where work was being done. .

40 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismographs. See attached Blastware reports for PPV at these locations.

6 Inch Gas Main:
Trigger Level: 1.0 in/sec
Alert Level: 2.0 in/sec

60 Kellogg Street:
Trigger Level: N/A
Alert Level: N/A

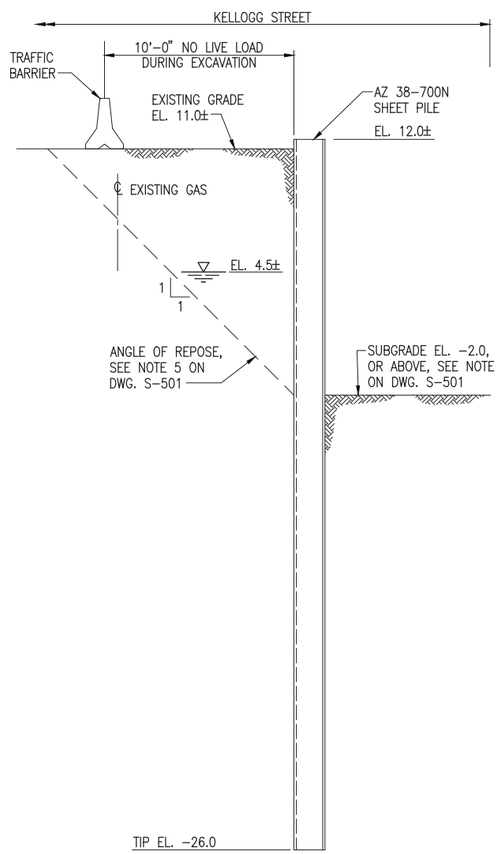


EXCAVATION AREA PARTIAL PLAN
AT KELLOGG STREET

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'

60 Kellogg Street

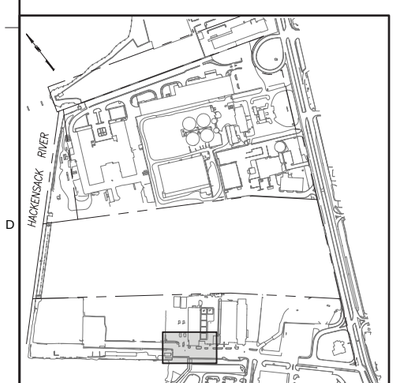


SECTION A
SCALE: 1/4"=1'-0" S-503 S-503

4' 2' 0 4' 8'

Legend

Center line of proposed Vibration Monitoring Locations (proposed by ENTACT)



KEY PLAN

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
P.W.D. LICENSE NUMBER 46522

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
A	04/15/13	G.S.	B.B.	G.P.		PWD	

ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW
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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTION

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2283
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-503
SHEET	61 OF 66

FILE NAME: G:\DWGS\111\11173\S-503.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

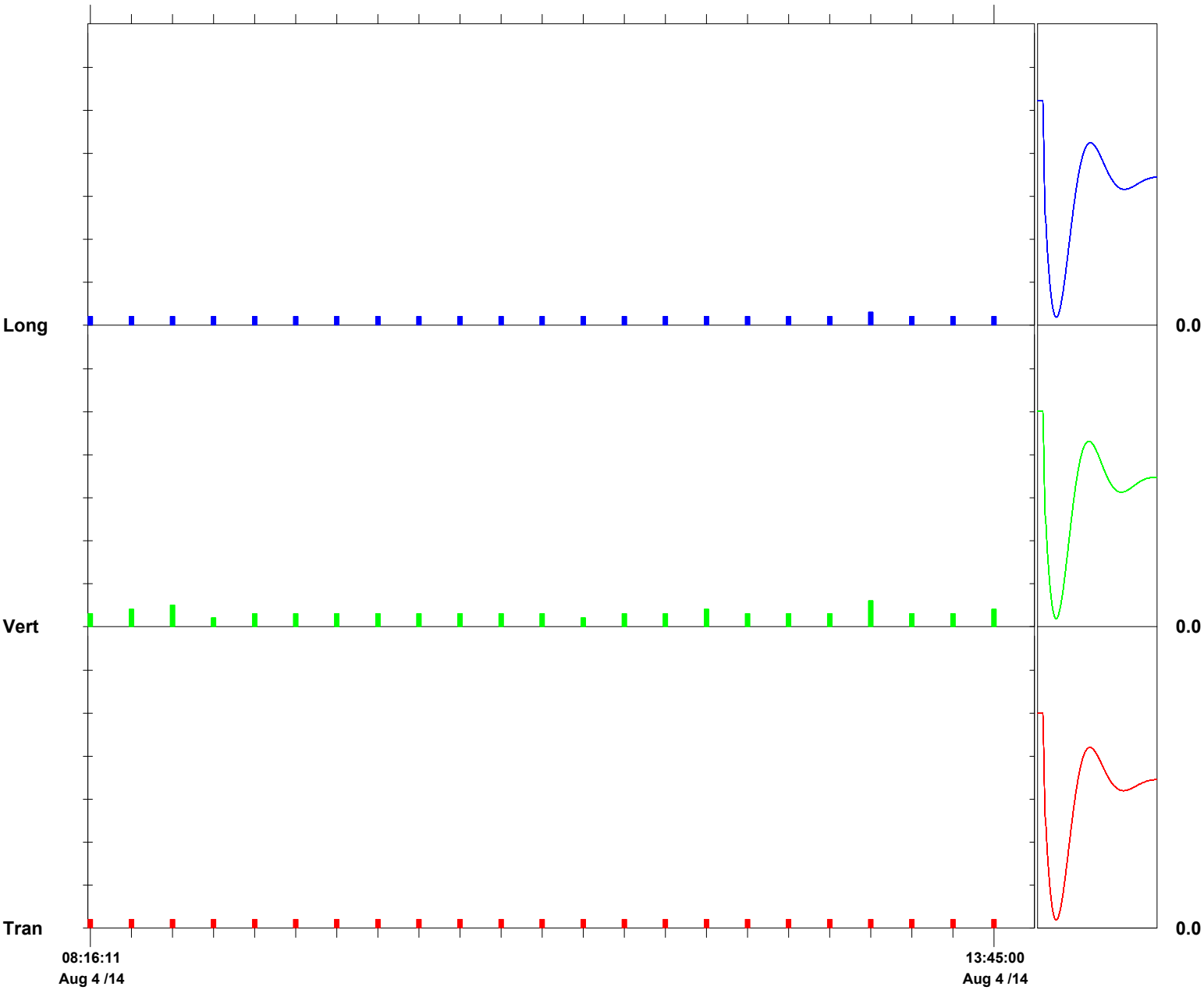
Event Report

Histogram Start Time	08:01:11 August 4, 2014
Histogram Finish Time	13:45:00 August 4, 2014
Number of Intervals	23.00 at 15 minutes
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	60 Kellogg Street
Client:	Entact
User Name:	Geocomp Engineering
General:	Kellogg Street

Serial Number	BE16697 V 10.60-8.17 MiniMate Plus
Battery Level	6.6 Volts
Unit Calibration	January 28, 2014 by Instantel
File Name	R697FFXK.XZ0

	Tran	Vert	Long	
PPV	0.01000	0.0300	0.0150	in/s
ZC Freq	>100	9.5	32	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	08:16:11	13:01:11	13:01:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.3	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.0304 in/s on August 4, 2014 at 13:01:11



Time Scale: 15 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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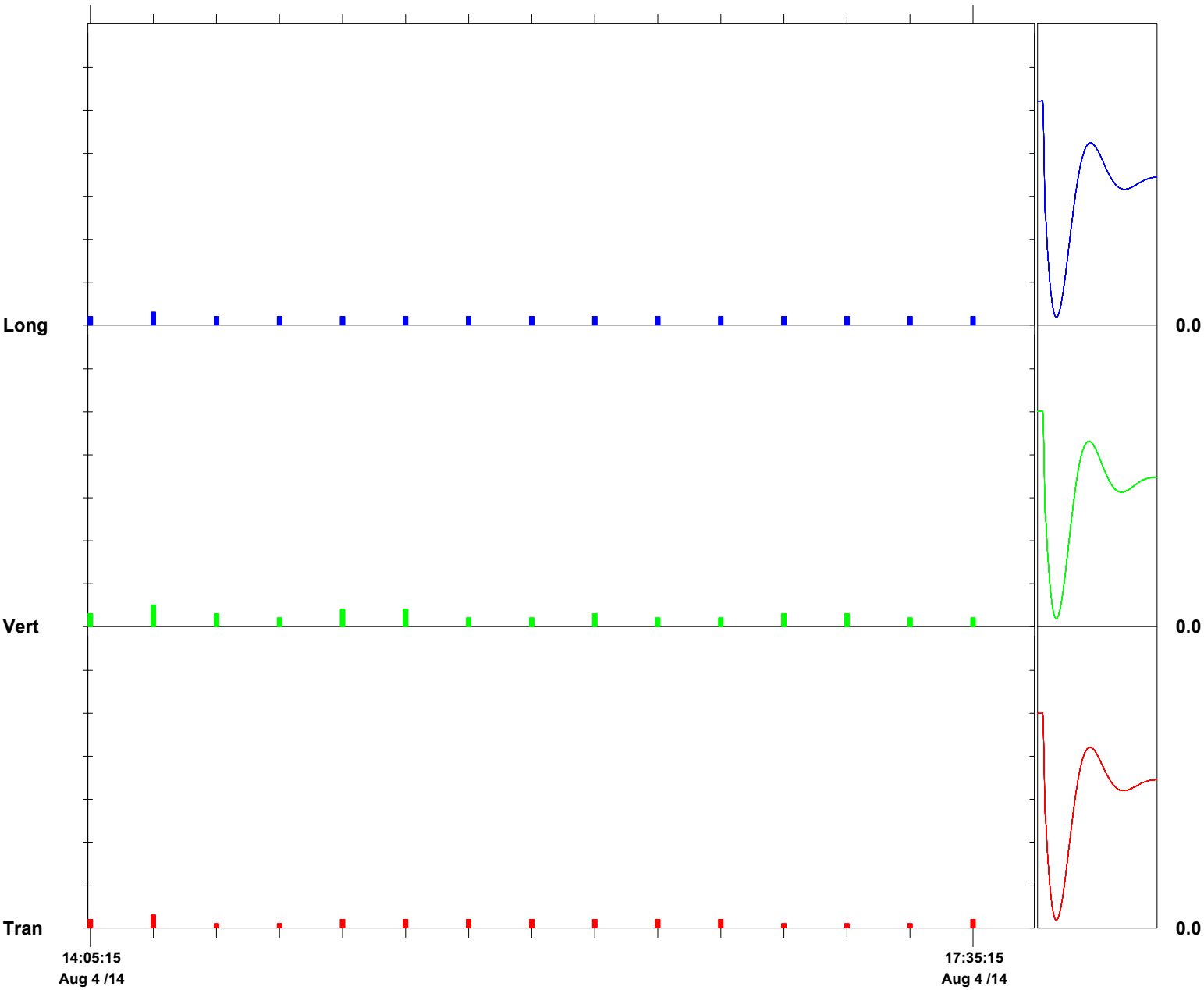
Event Report

Histogram Start Time	13:50:15 August 4, 2014
Histogram Finish Time	17:49:04 August 4, 2014
Number of Intervals	15.00 at 15 minutes
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	60 Kellogg Street
Client:	Entact
User Name:	Geocomp Engineering
General:	Kellogg Street

Serial Number	BE16697 V 10.60-8.17 MiniMate Plus
Battery Level	6.7 Volts
Unit Calibration	January 28, 2014 by Instantel
File Name	R697FFY1.3R0

	Tran	Vert	Long	
PPV	0.0150	0.0250	0.0150	in/s
ZC Freq	>100	6.6	>100	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	14:20:15	14:20:15	14:20:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.3	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.0260 in/s on August 4, 2014 at 14:20:15



Time Scale: 15 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 08:11:00 August 4, 2014
Histogram Finish Time 08:39:52 August 4, 2014
Number of Intervals 346.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 South 6" gas line
Client: Entact
User Name: Geocomp
General: Kellogg Street

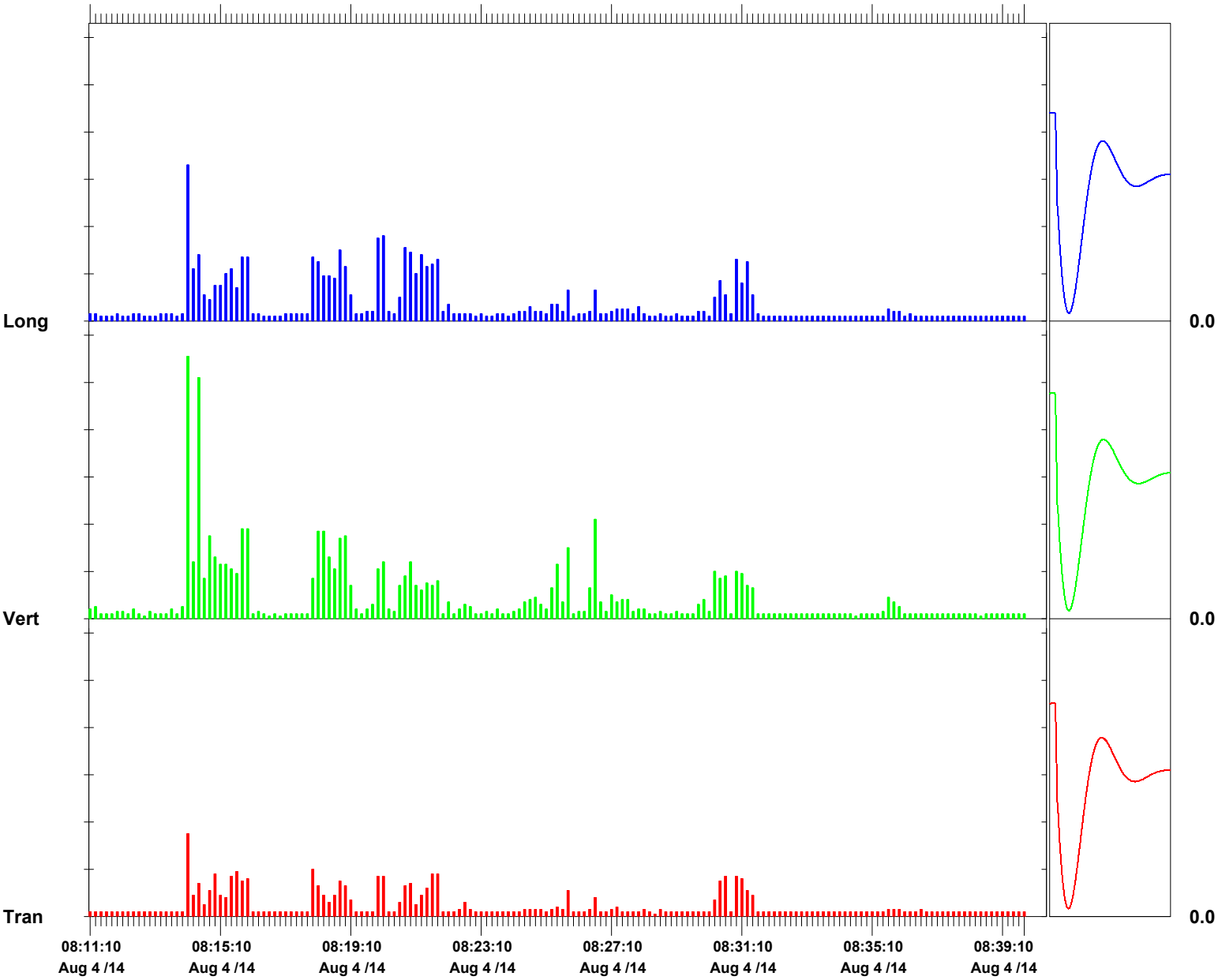
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.7 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371FFXL.EC0

Post Event Notes
VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.175	0.555	0.330	in/s
ZC Freq	19	10	16	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	08:14:10	08:14:10	08:14:10	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.0	3.9	3.8	

Peak Vector Sum 0.576 in/s on August 4, 2014 at 08:14:10



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	08:42:30 August 4, 2014
Histogram Finish Time	09:48:39 August 4, 2014
Number of Intervals	793.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFXM.UU0

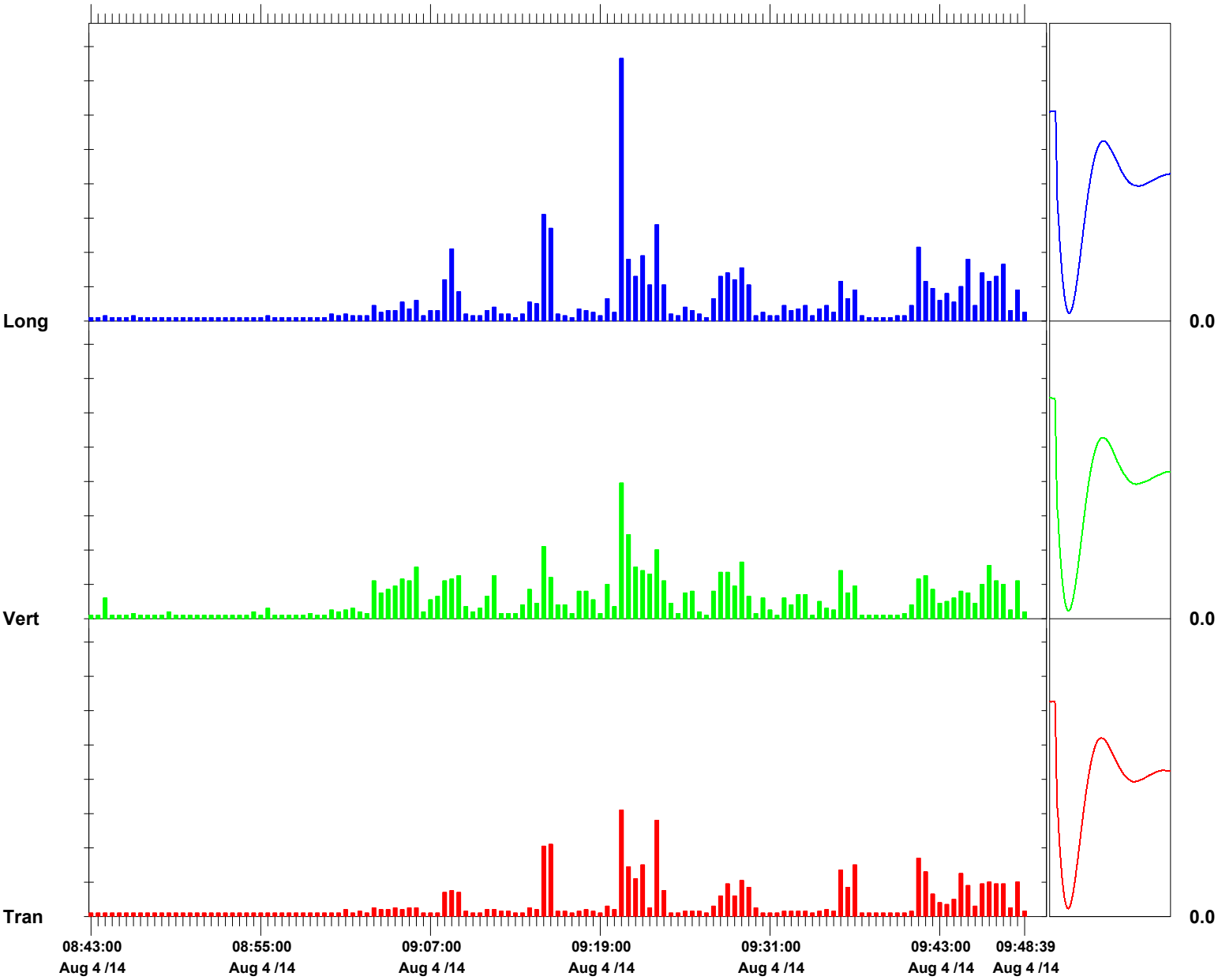
Post Event Notes

VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.310	0.395	0.765	in/s
ZC Freq	43	26	30	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	09:20:10	09:20:05	09:20:10	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.7	3.8	

Peak Vector Sum 0.828 in/s on August 4, 2014 at 09:20:10



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	09:51:09 August 4, 2014
Histogram Finish Time	10:39:07 August 4, 2014
Number of Intervals	575.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

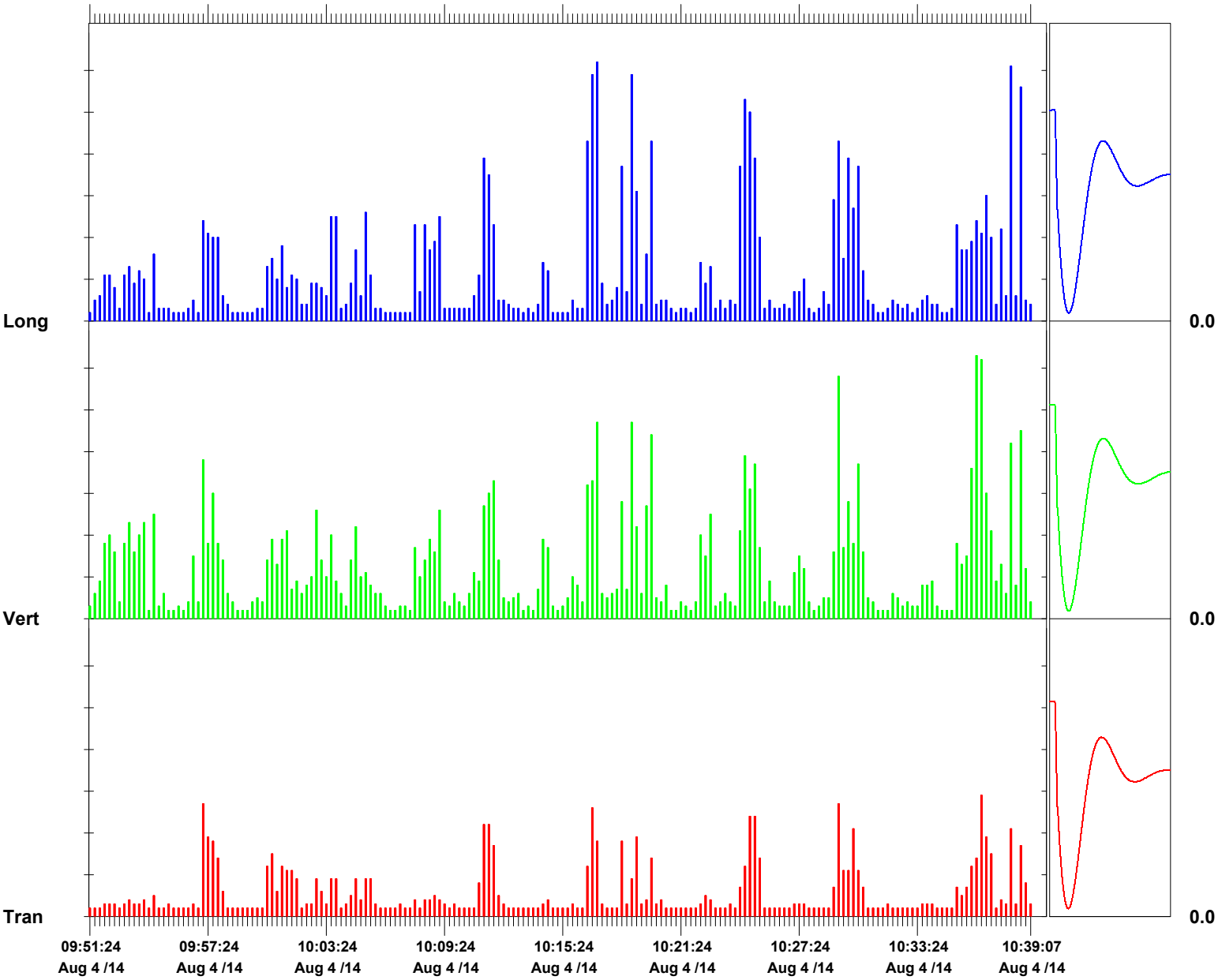
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFXQ.190

Post Event Notes
VMP 3

Extended Notes

	Tran	Vert	Long	
PPV	0.145	0.315	0.310	in/s
ZC Freq	34	28	32	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	10:36:34	10:36:24	10:16:59	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	3.9	3.8	3.8	

Peak Vector Sum 0.330 in/s on August 4, 2014 at 10:17:04



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:41:48 August 4, 2014
Histogram Finish Time	11:38:04 August 4, 2014
Number of Intervals	675.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

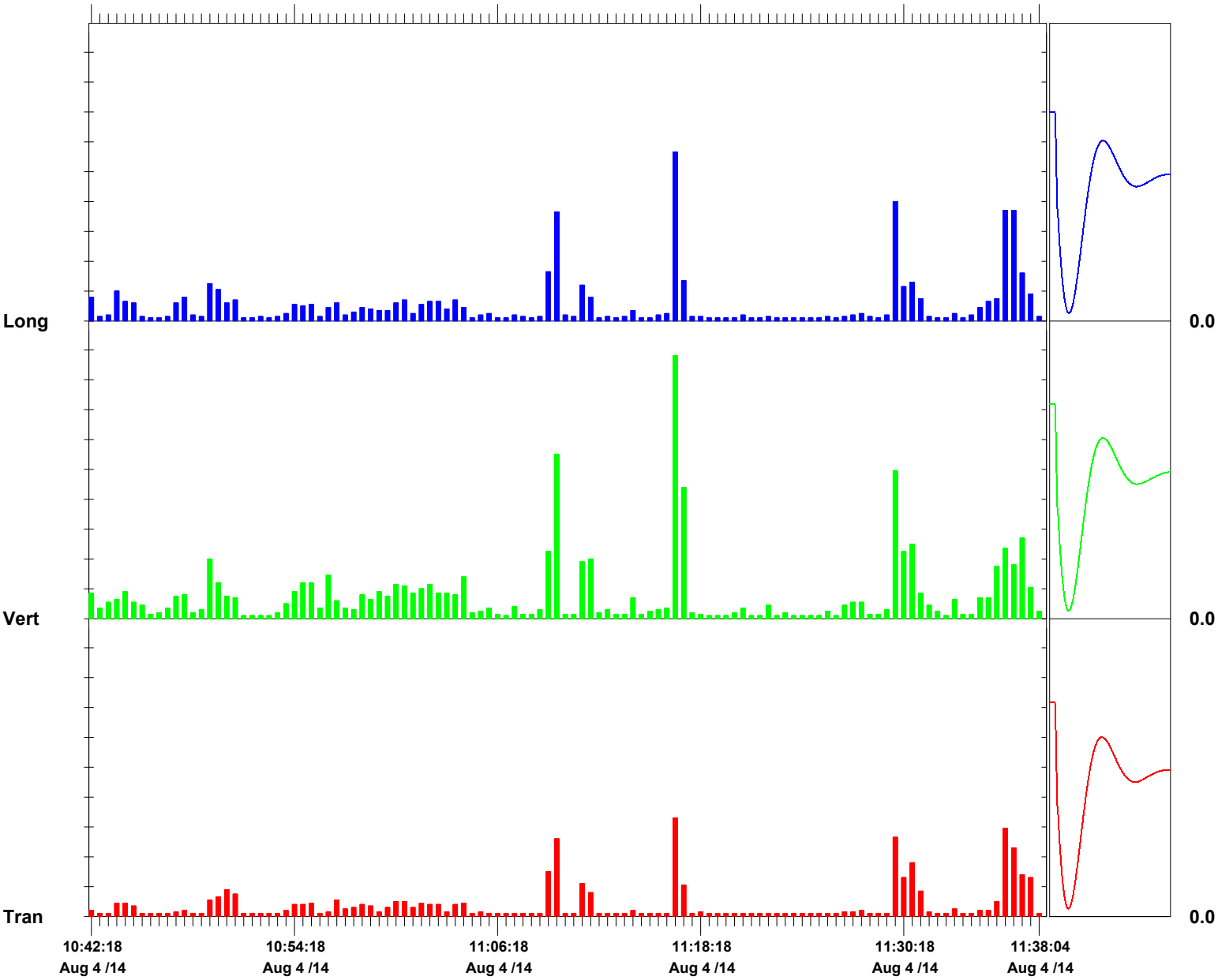
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFXS.DO0

Post Event Notes
VMP 4

Extended Notes

	Tran	Vert	Long	
PPV	0.330	0.880	0.565	in/s
ZC Freq	39	30	34	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	11:16:33	11:16:33	11:16:33	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	3.9	3.7	3.8	

Peak Vector Sum 0.966 in/s on August 4, 2014 at 11:16:33



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time	11:40:07 August 4, 2014
Histogram Finish Time	11:53:46 August 4, 2014
Number of Intervals	163.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

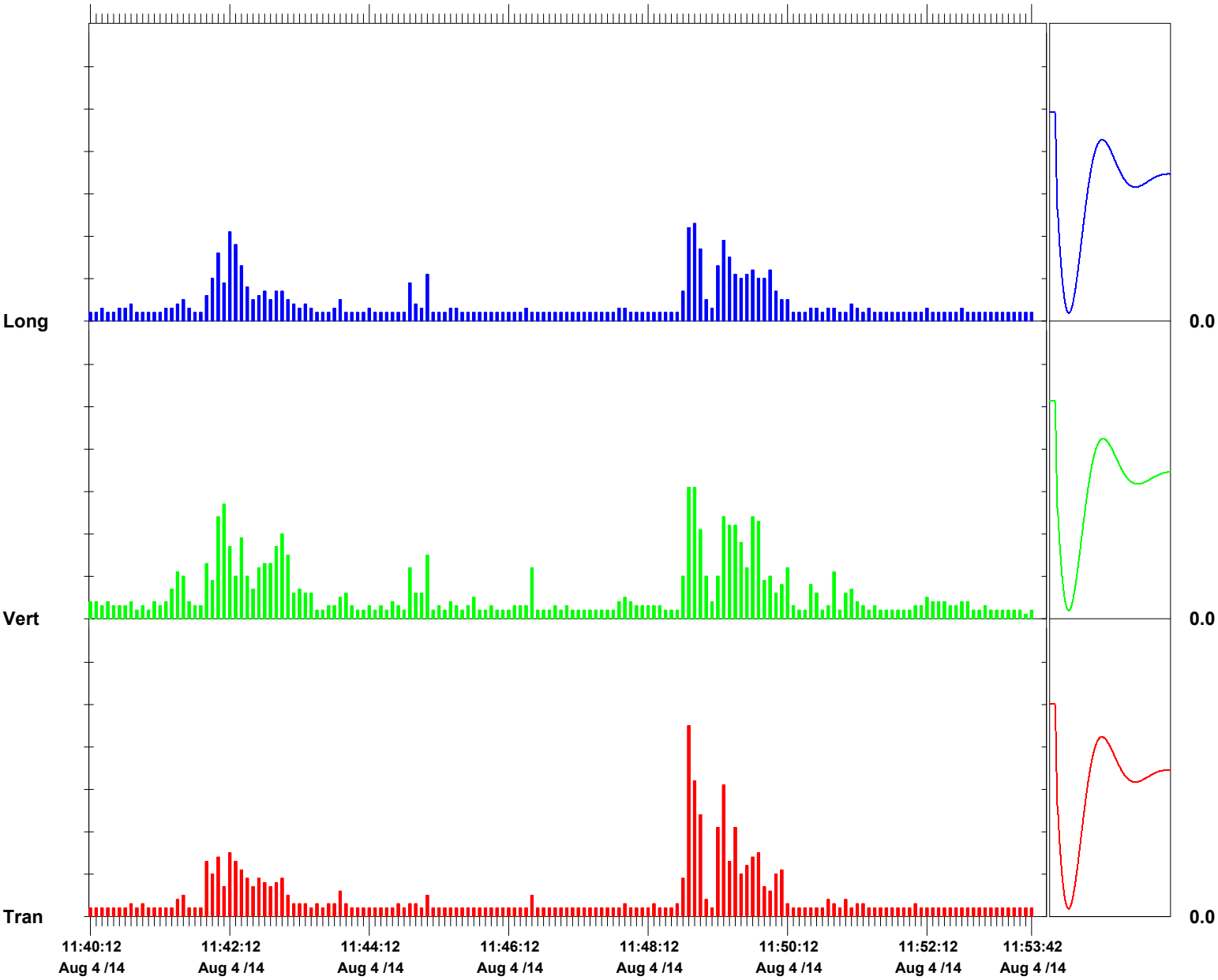
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFXV.2V0

Post Event Notes
VMP 5

Extended Notes

	Tran	Vert	Long	
PPV	0.225	0.155	0.115	in/s
ZC Freq	30	37	30	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	11:48:47	11:48:47	11:48:52	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.4	Hz
Overswing Ratio	3.9	3.8	3.7	

Peak Vector Sum 0.249 in/s on August 4, 2014 at 11:48:47



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	12:41:48 August 4, 2014
Histogram Finish Time	13:56:33 August 4, 2014
Number of Intervals	897.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFXX.XO0

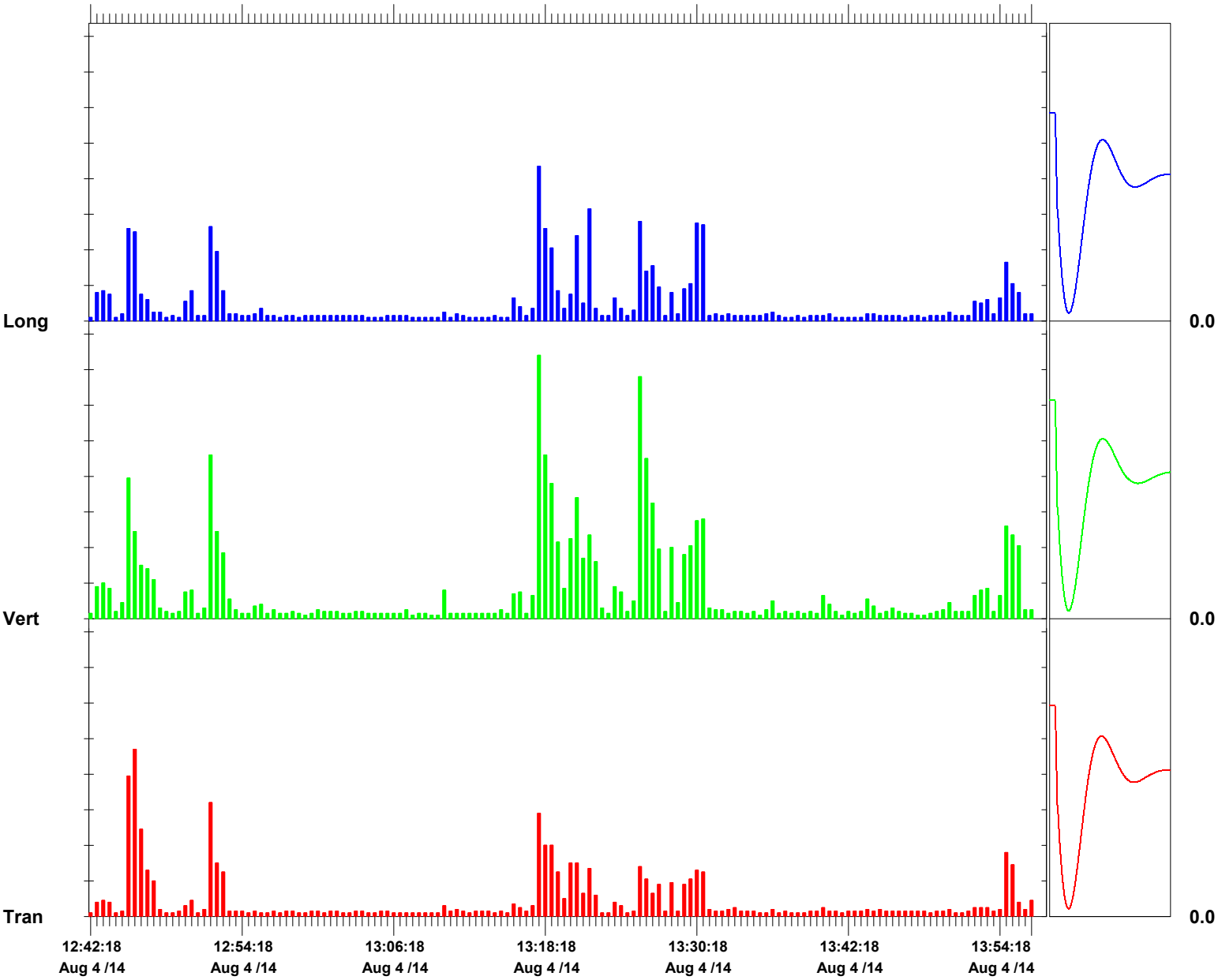
Post Event Notes

VMP 5

Extended Notes

	Tran	Vert	Long	
PPV	0.470	0.740	0.435	in/s
ZC Freq	34	30	32	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	12:45:28	13:17:43	13:17:48	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	3.8	3.8	3.7	

Peak Vector Sum 0.852 in/s on August 4, 2014 at 13:17:43



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Event Report

Histogram Start Time 13:58:19 August 4, 2014
Histogram Finish Time 15:28:47 August 4, 2014
Number of Intervals 1085.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 South 6" gas line
Client: Entact
User Name: Geocomp
General: Kellogg Street

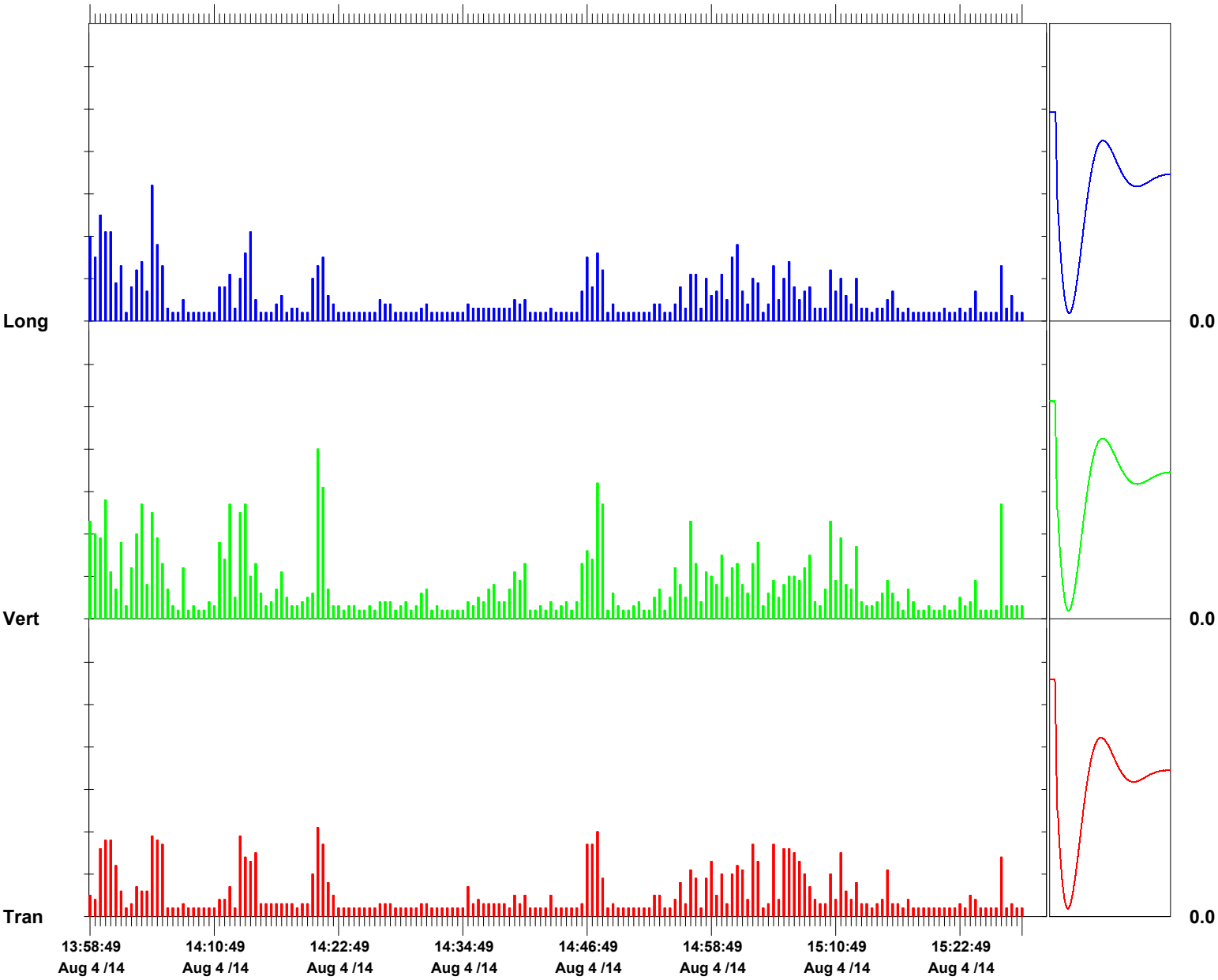
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.6 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371FFY1.H70

Post Event Notes
VMP 6

Extended Notes

	Tran	Vert	Long	
PPV	0.105	0.200	0.160	in/s
ZC Freq	32	32	30	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	14:20:29	14:20:29	14:04:39	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.4	7.3	Hz
Overswing Ratio	3.9	3.8	3.8	

Peak Vector Sum 0.224 in/s on August 4, 2014 at 14:20:29



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	15:31:00 August 4, 2014
Histogram Finish Time	16:39:24 August 4, 2014
Number of Intervals	820.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

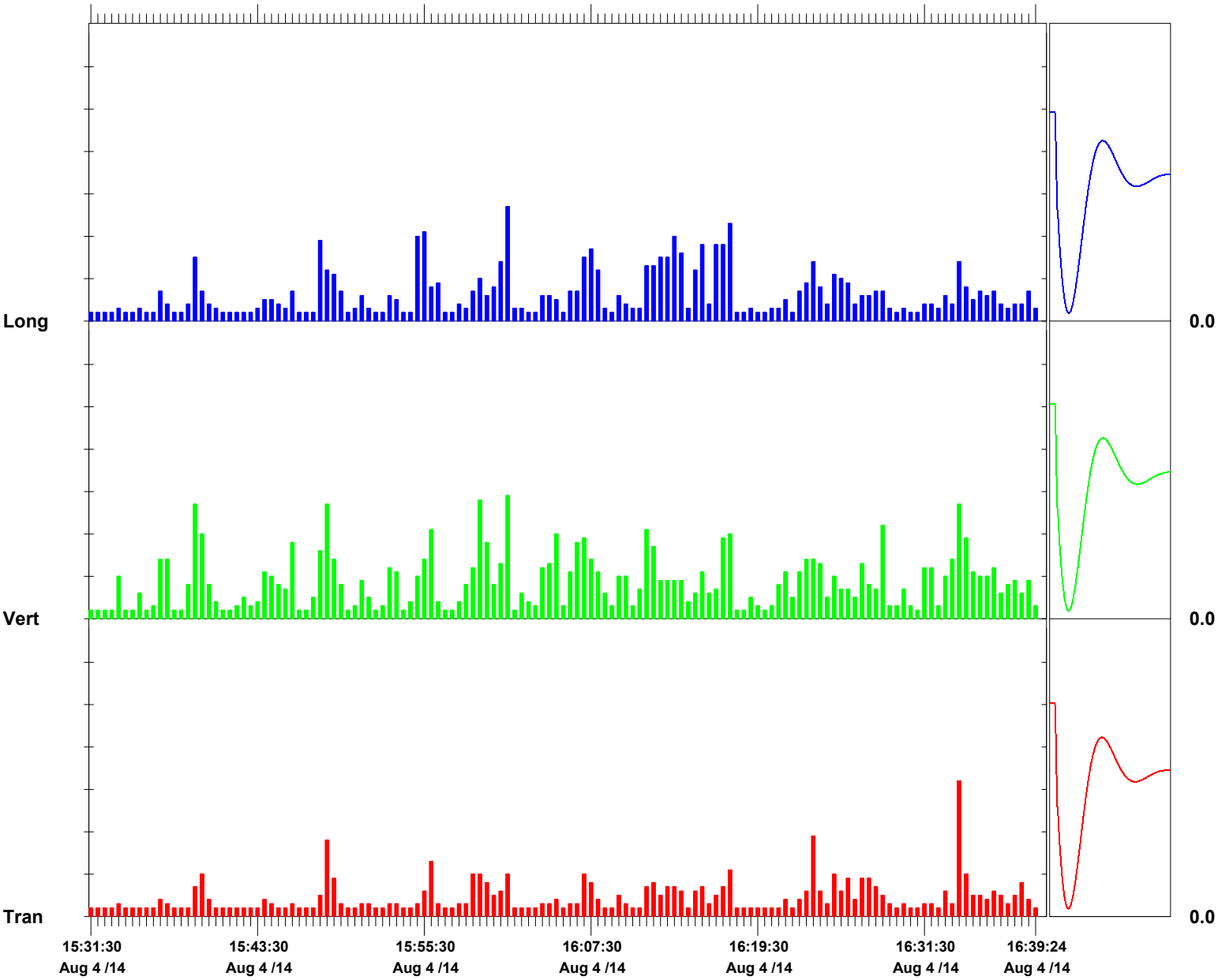
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFY5.RO0

Post Event Notes
VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.160	0.145	0.135	in/s
ZC Freq	30	32	27	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	16:33:50	16:01:05	16:01:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.3	Hz
Overswing Ratio	3.9	3.7	3.8	

Peak Vector Sum 0.174 in/s on August 4, 2014 at 16:33:50



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	16:41:30 August 4, 2014
Histogram Finish Time	17:32:56 August 4, 2014
Number of Intervals	617.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1

Notes

Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.7 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFY9.160

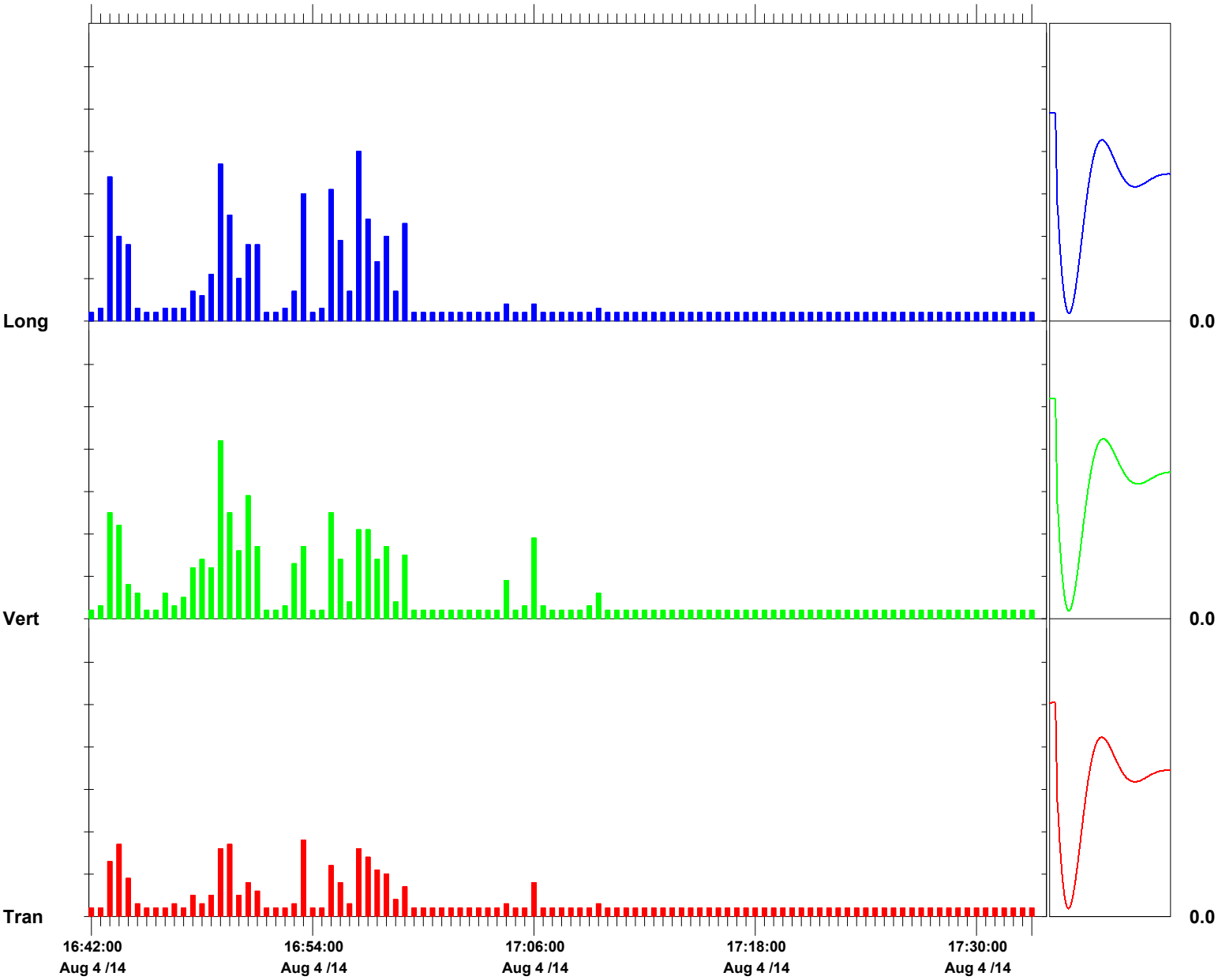
Post Event Notes

VMP 8

Extended Notes

	Tran	Vert	Long	
PPV	0.0900	0.210	0.200	in/s
ZC Freq	34	30	30	Hz
Date	Aug 4 /14	Aug 4 /14	Aug 4 /14	
Time	16:53:10	16:48:55	16:56:20	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.4	Hz
Overswing Ratio	3.9	3.8	3.7	

Peak Vector Sum 0.244 in/s on August 4, 2014 at 16:48:55



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Geocomp
Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
Los Angeles
New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering

August 5th, 2014
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

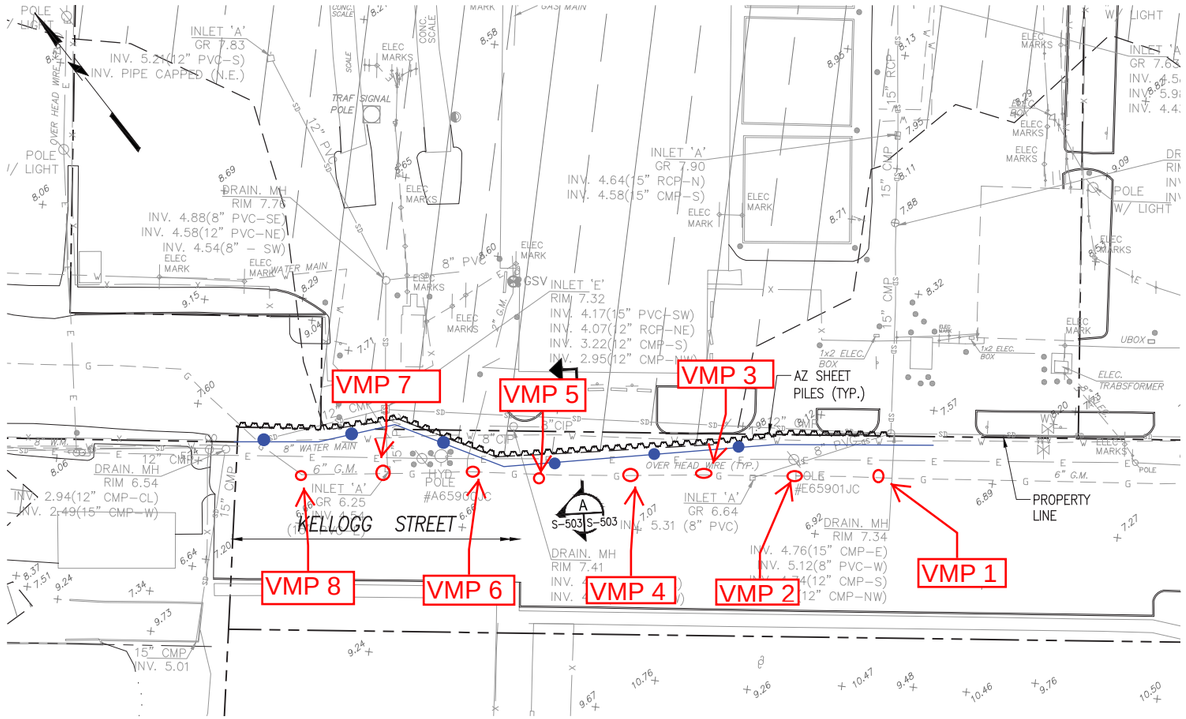
NOTES:

Summary of Work:
Sheet pile driving commenced at 11:20 AM and ended at 2:00 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 6 inch gas main, and an Instantel Minimate was used to record vibrations at 60 Kellogg Street in the part of the building closest to where work was being done. .

4 sheets were driven, then all 44 sheets were brought to grade, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at these locations.

6 Inch Gas Main:
Trigger Level: 1.0 in/sec
Alert Level: 2.0 in/sec

60 Kellogg Street:
Trigger Level: N/A
Alert Level: N/A

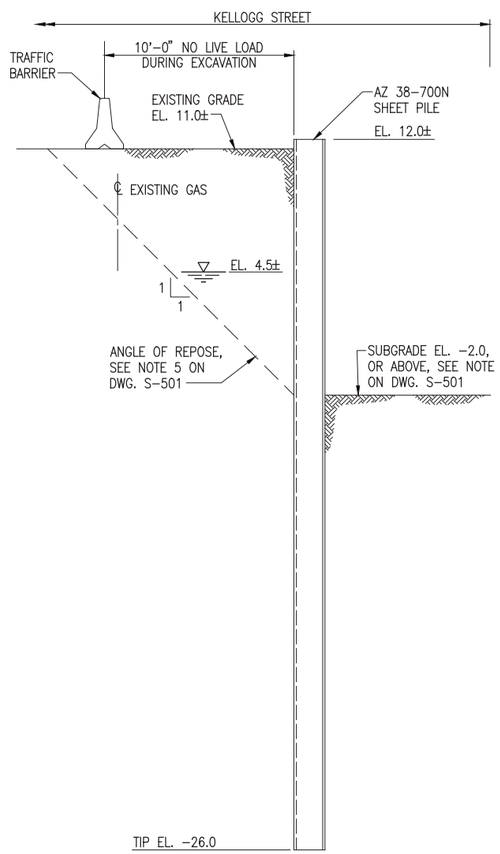


EXCAVATION AREA PARTIAL PLAN
AT KELLOGG STREET

SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'

60 Kellogg Street

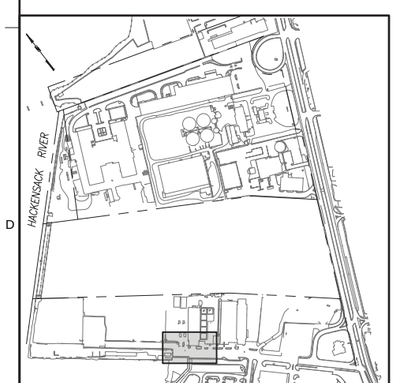


SECTION A
SCALE: 1/4"=1'-0" S-503 S-503

4' 2' 0 4' 8'

Legend

Center line of proposed Vibration Monitoring Locations (proposed by ENTACT)



KEY PLAN

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
P.W.D. LICENSE NUMBER 46522

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
A	04/15/13	G.S.	B.B.	G.P.		PWD	

ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW
REVISION

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101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTION

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2283
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-10-0027
DWG	S-503
SHEET	61 OF 66

FILE NAME: G:\DWGS\111\11173\S-503.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

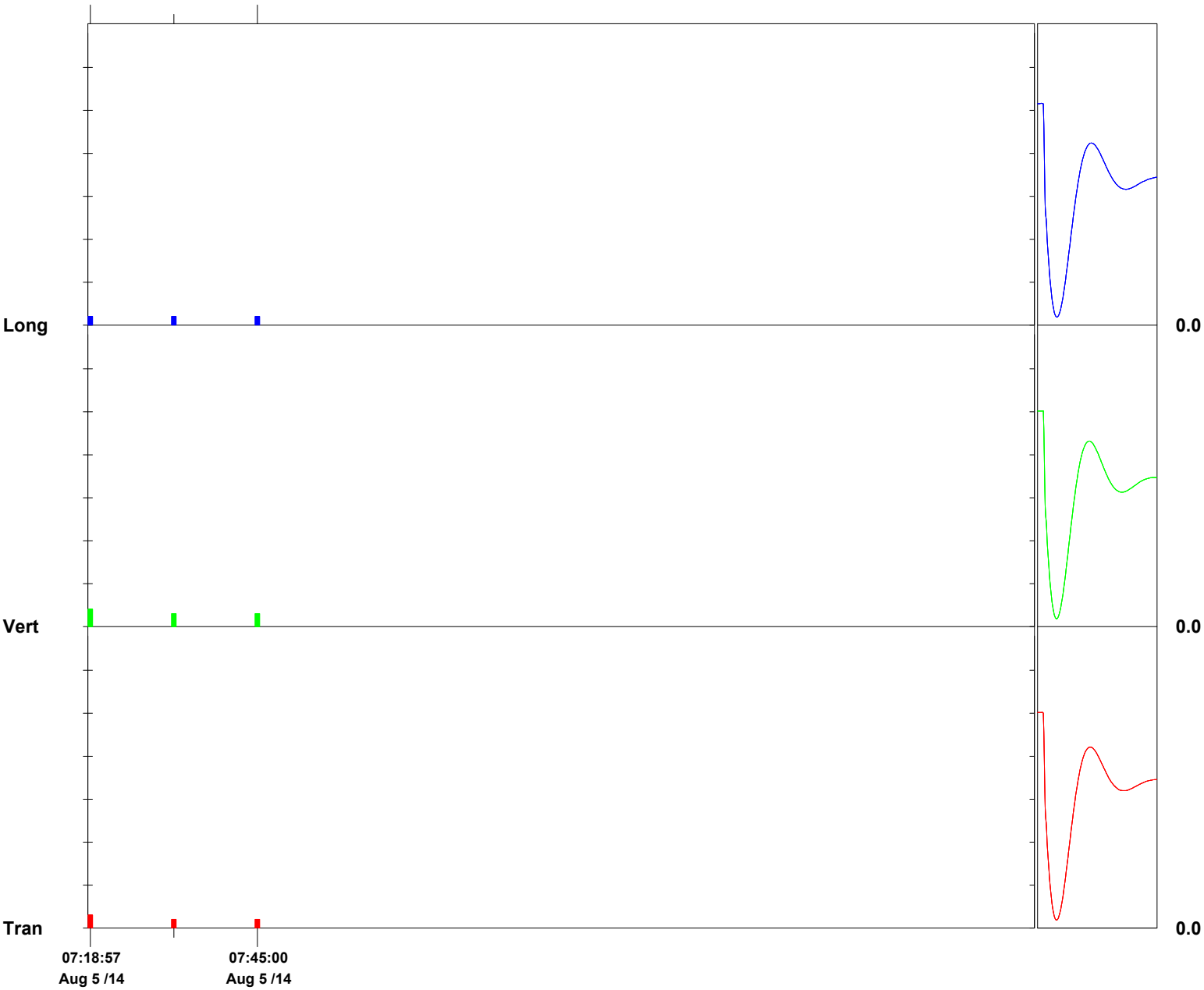
Event Report

Histogram Start Time 07:03:57 August 5, 2014
Histogram Finish Time 07:45:00 August 5, 2014
Number of Intervals 3.00 at 15 minutes
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: 60 Kellogg Street
Client: Entact
User Name: Geocomp Engineering
General: Kellogg Street

Serial Number BE16697 V 10.60-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration January 28, 2014 by Instantel
File Name R697FFZC.YL0

	Tran	Vert	Long	
PPV	0.0150	0.0200	0.01000	in/s
ZC Freq	18	9.0	>100	Hz
Date	Aug 5 /14	Aug 5 /14	Aug 5 /14	
Time	07:18:57	07:18:57	07:18:57	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.1	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.0206 in/s on August 5, 2014 at 07:18:57



Time Scale: 15 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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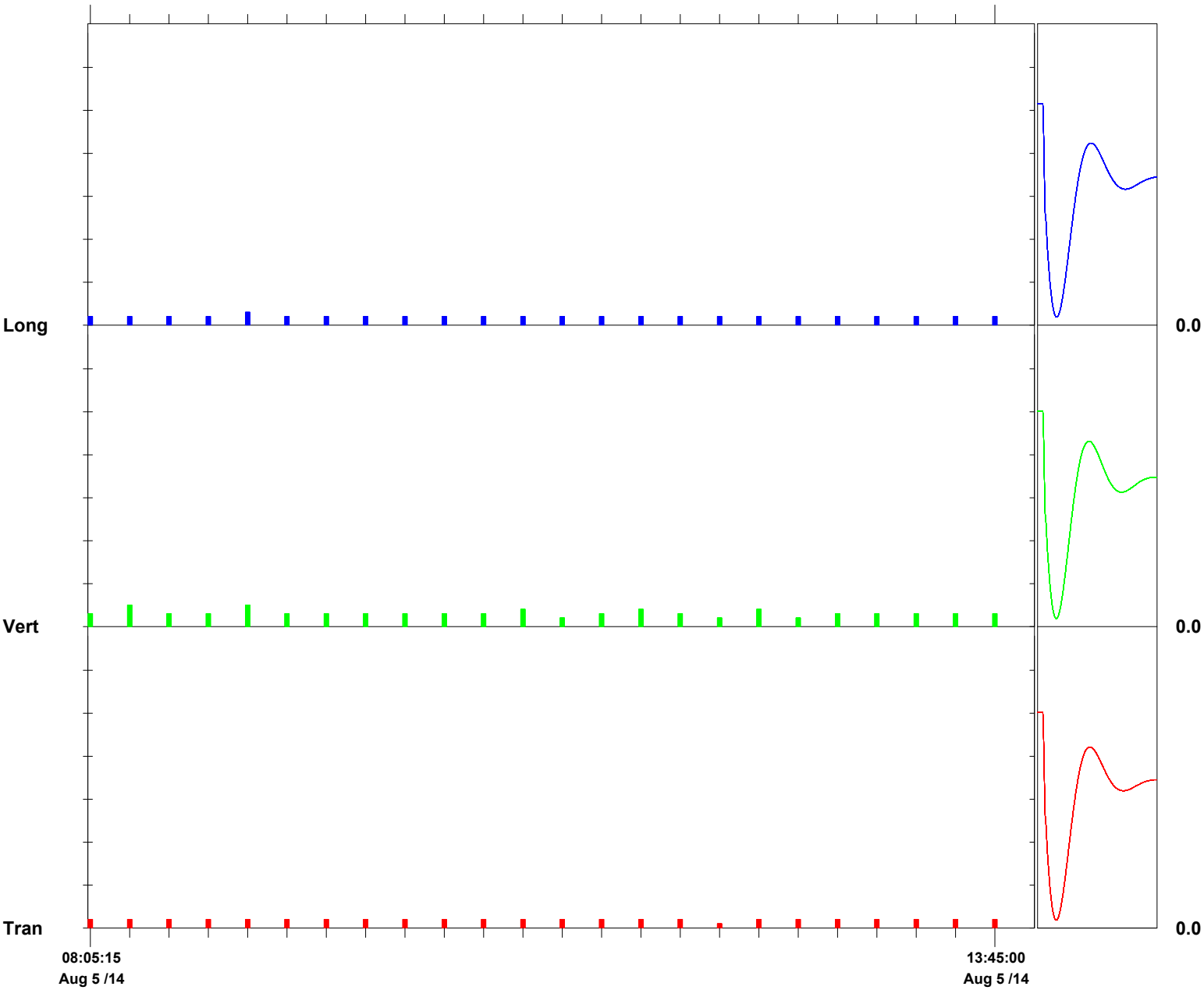
Event Report

Histogram Start Time 07:50:15 August 5, 2014
Histogram Finish Time 13:45:00 August 5, 2014
Number of Intervals 24.00 at 15 minutes
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: 60 Kellogg Street
Client: Entact
User Name: Geocomp Engineering
General: Kellogg Street

Serial Number BE16697 V 10.60-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration January 28, 2014 by Instantel
File Name R697FFZF.3R0

	Tran	Vert	Long	
PPV	0.01000	0.0250	0.0150	in/s
ZC Freq	>100	6.9	16	Hz
Date	Aug 5 /14	Aug 5 /14	Aug 5 /14	
Time	08:05:15	08:20:15	09:05:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.5	7.2	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.0255 in/s on August 5, 2014 at 08:20:15



Time Scale: 15 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	10:35:54 August 5, 2014
Histogram Finish Time	11:55:37 August 5, 2014
Number of Intervals	956.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

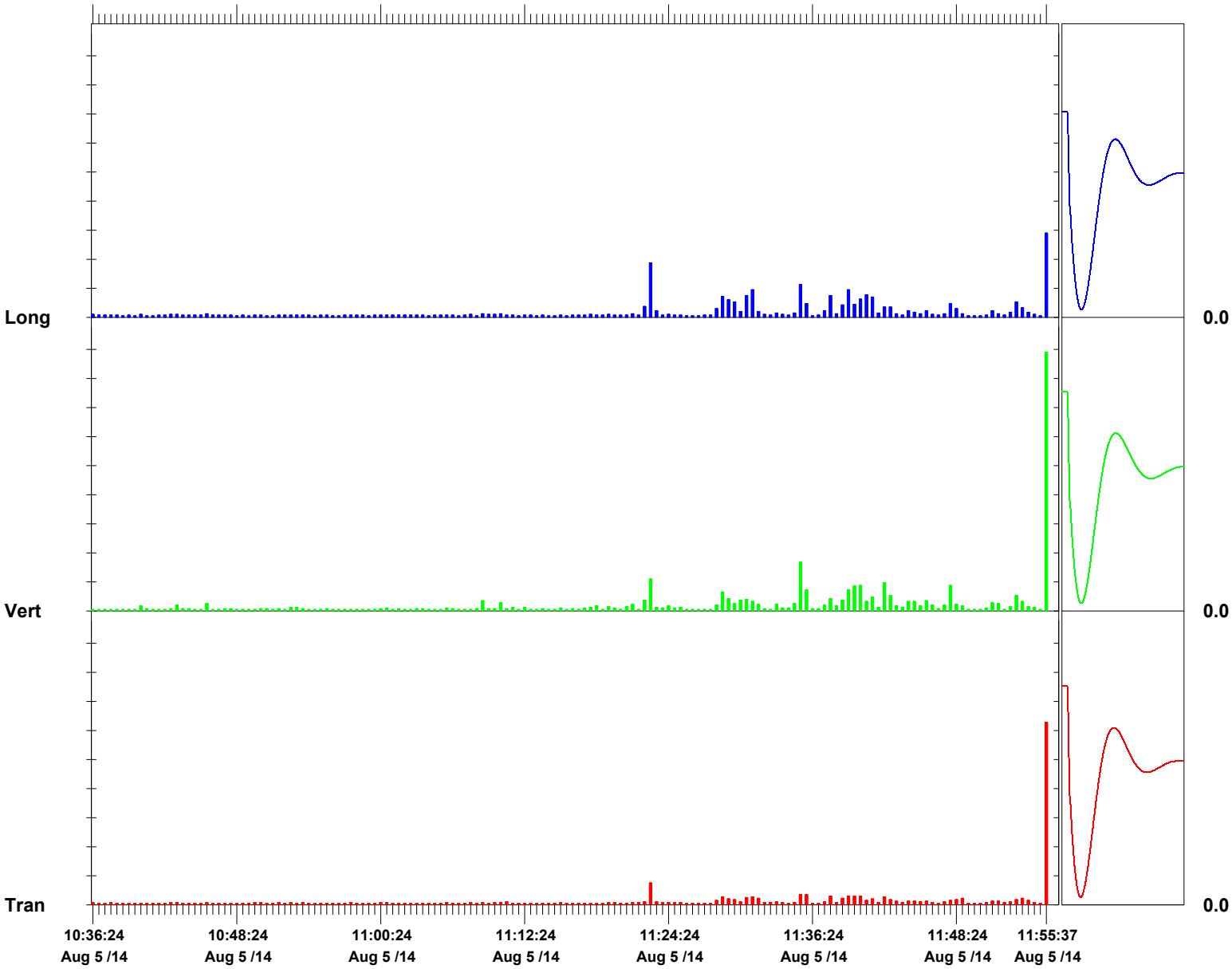
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFZM.RU0

Post Event Notes
VMP 8
Please note that the PPV's listed on this report were not the result of any sheet driving, but the bag holding the geophone was disturbed.

Extended Notes

	Tran	Vert	Long	
PPV	1.25	1.78	0.580	in/s
ZC Freq	N/A	N/A	N/A	Hz
Date	Aug 5 /14	Aug 5 /14	Aug 5 /14	
Time	11:55:34	11:55:34	11:55:34	
Sensor Check	Passed	Passed	Passed	
Frequency	7.6	7.3	7.3	Hz
Overswing Ratio	3.9	3.8	3.7	

Peak Vector Sum 1.80 in/s on August 5, 2014 at 11:55:34
N/A: Not Applicable



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.200 in/s/div Sensor Check

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Event Report

Histogram Start Time	12:55:03 August 5, 2014
Histogram Finish Time	13:30:32 August 5, 2014
Number of Intervals	425.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

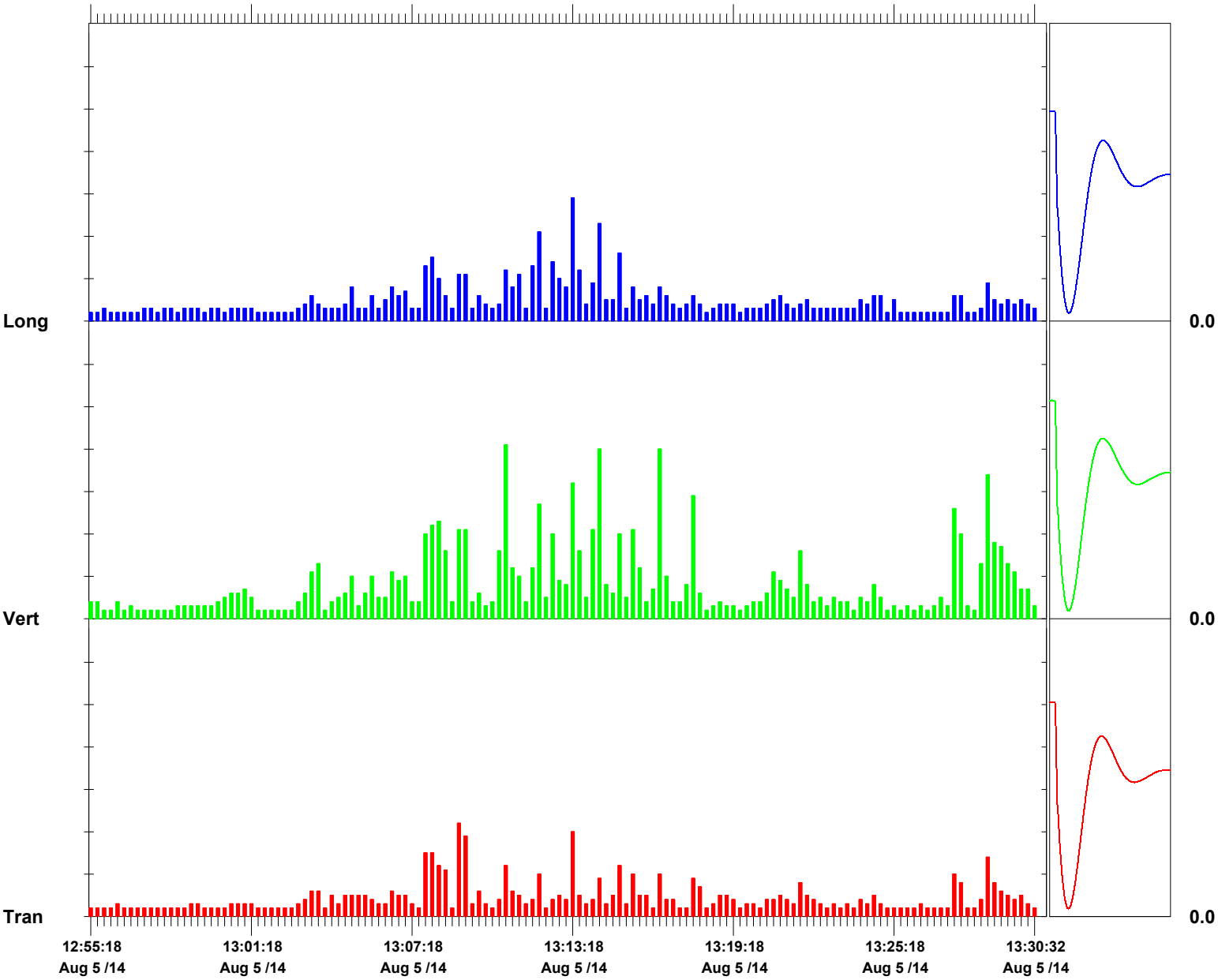
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFZT.7R0

Post Event Notes
VMP 6

Extended Notes

	Tran	Vert	Long	
PPV	0.110	0.205	0.145	in/s
ZC Freq	30	28	26	Hz
Date	Aug 5 /14	Aug 5 /14	Aug 5 /14	
Time	13:09:03	13:10:38	13:13:18	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	3.8	3.8	3.8	

Peak Vector Sum 0.227 in/s on August 5, 2014 at 13:14:08



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:32:58 August 5, 2014
Histogram Finish Time	13:51:18 August 5, 2014
Number of Intervals	219.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

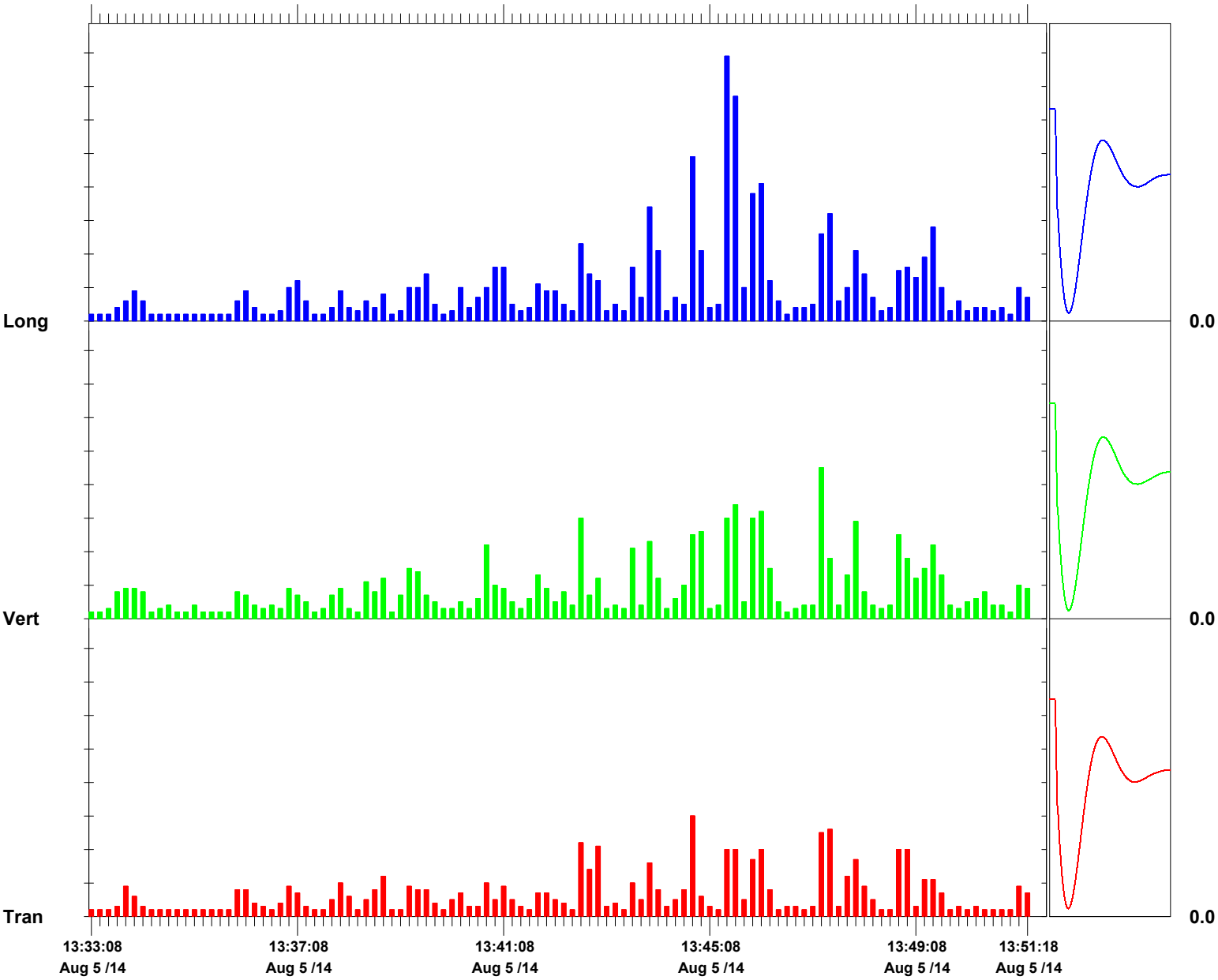
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFZU.YY0

Post Event Notes
VMP 4

Extended Notes

	Tran	Vert	Long	
PPV	0.150	0.225	0.395	in/s
ZC Freq	30	27	30	Hz
Date	Aug 5 /14	Aug 5 /14	Aug 5 /14	
Time	13:44:48	13:47:18	13:45:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	3.8	3.7	3.7	

Peak Vector Sum 0.417 in/s on August 5, 2014 at 13:45:28



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time	13:52:53 August 5, 2014
Histogram Finish Time	14:07:44 August 5, 2014
Number of Intervals	178.00 at 5 seconds
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	SA 6 South 6" gas line
Client:	Entact
User Name:	Geocomp
General:	Kellogg Street

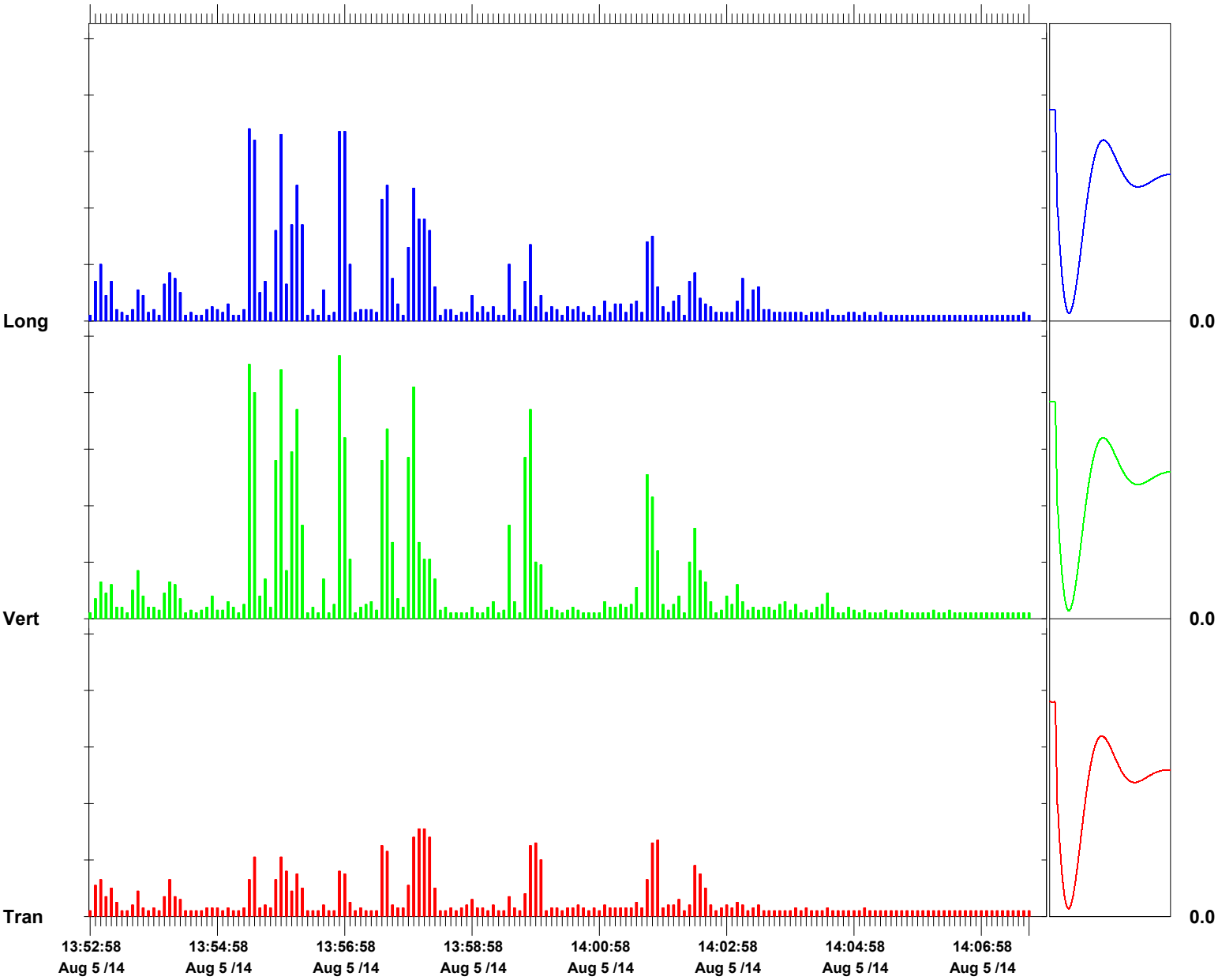
Serial Number	BA15371 V 10.60-8.17 BlastMate III/8
Battery Level	6.6 Volts
Unit Calibration	January 29, 2014 by Instantel
File Name	Q371FFZV.W50

Post Event Notes
VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.155	0.465	0.340	in/s
ZC Freq	39	28	28	Hz
Date	Aug 5 /14	Aug 5 /14	Aug 5 /14	
Time	13:58:08	13:56:53	13:55:28	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	3.8	3.7	3.7	

Peak Vector Sum 0.495 in/s on August 5, 2014 at 13:55:58



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.100 in/s/div Sensor Check

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Geocomp

Technologies to manage risk for infrastructure

Boston
Atlanta
Chicago
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New York
www.geocomp.com

Vibration Monitoring Report

Study Area 6 South

Prepared by
Geocomp Engineering

August 22nd, 2014
For ENTACT, LLC

111 John Street, Suite 650 | New York, NY 10038 | Tel 212 566 6630 | Fax 212 566 6631

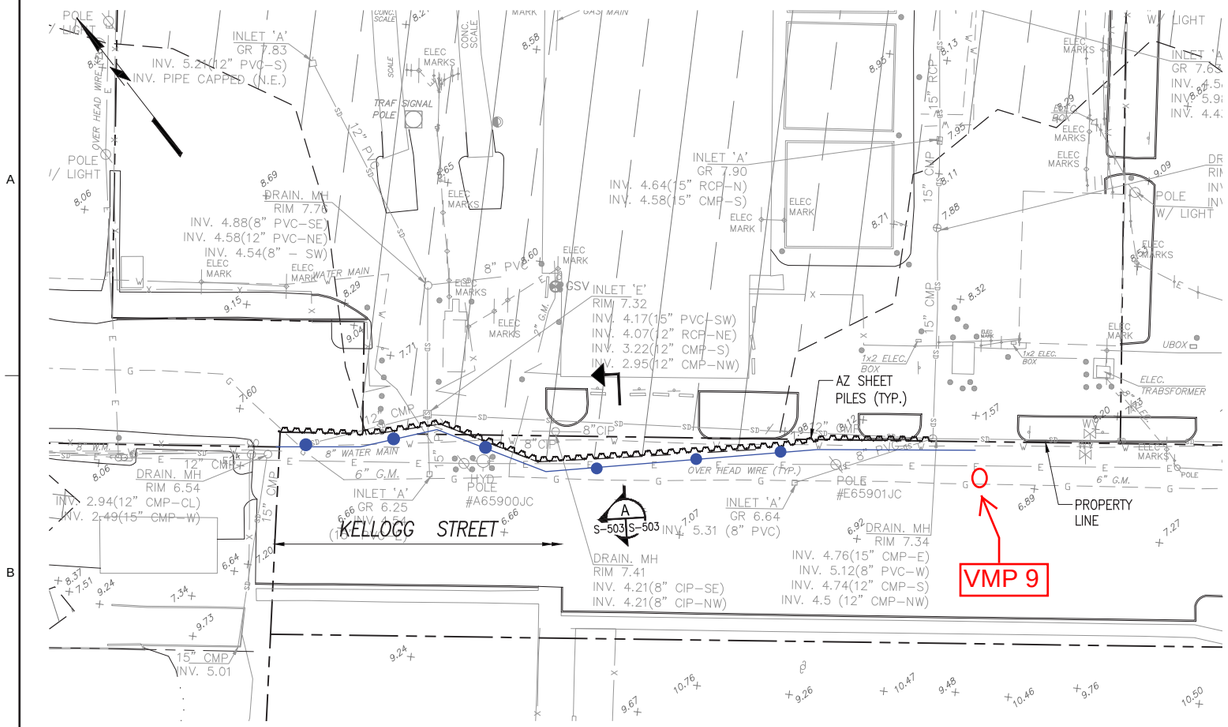
NOTES:

Summary of Work:
Sheet pile driving commenced at 7:40 AM and ended at 9:50 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 6 inch gas main, and an Instantel Minimate was used to record vibrations at 60 Kellogg Street in the part of the building closest to where work was being done.

8 sheets were driven, then all 8 sheets were brought to grade, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at these locations.

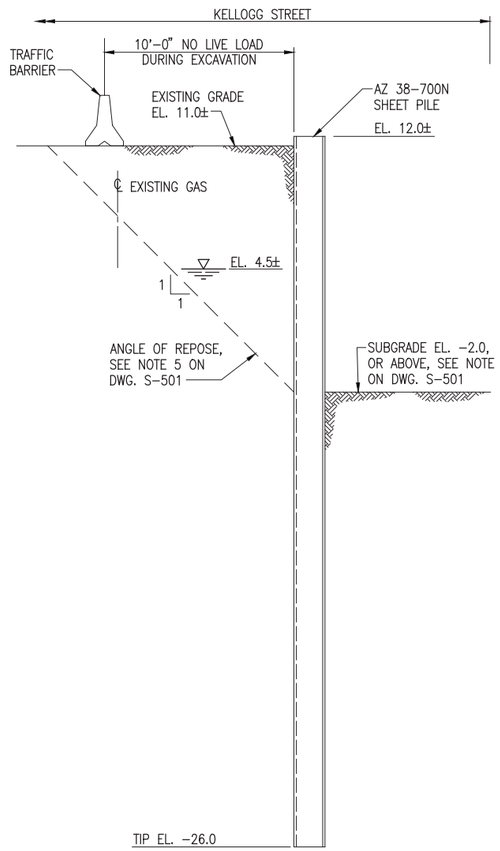
6 Inch Gas Main:
Trigger Level: 1.0 in/sec
Alert Level: 2.0 in/sec

60 Kellogg Street:
Trigger Level: N/A
Alert Level: N/A



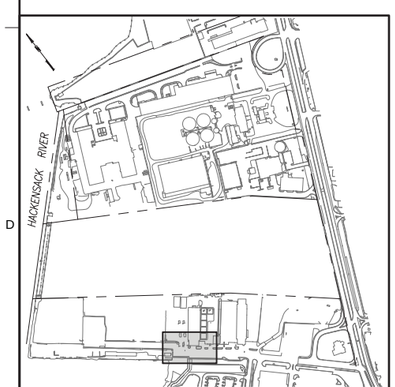
EXCAVATION AREA PARTIAL PLAN
AT KELLOGG STREET
SCALE: 1"=30'-0"

30' 20' 10' 0 30' 60'



SECTION A
SCALE: 1/4"=1'-0"
S-503 S-503

4' 2' 0 4' 8'



KEY PLAN

Legend

Center line of proposed Vibration Monitoring Locations (proposed by ENTACT)

PETER W. DEMING
NJ PROFESSIONAL ENGINEER
P.W.D. LICENSE NUMBER 46522

NO.	DATE	DR	CHK	APVD
DSGN		G.S.	B.B.	G.P.
A	04/15/13	ISSUED FOR CONSTRUCTION SPECIAL MASTER REVIEW	PWD	APVD
		REVISION	BY	P.W.D.

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
TEMPORARY
SUPPORT OF EXCAVATION
PARTIAL PLAN AND SECTION

FILE NUMBER 11173

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34TH STREET, NEW YORK, NY 10122

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2283
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-10-0027
DWG S-503
SHEET 61 OF 66

FILE NAME: G:\DWGS\111\11173\S-503.dwg PLOT DATE: Thu, 11 Apr 2013 PLOT TIME: 9:19 AM

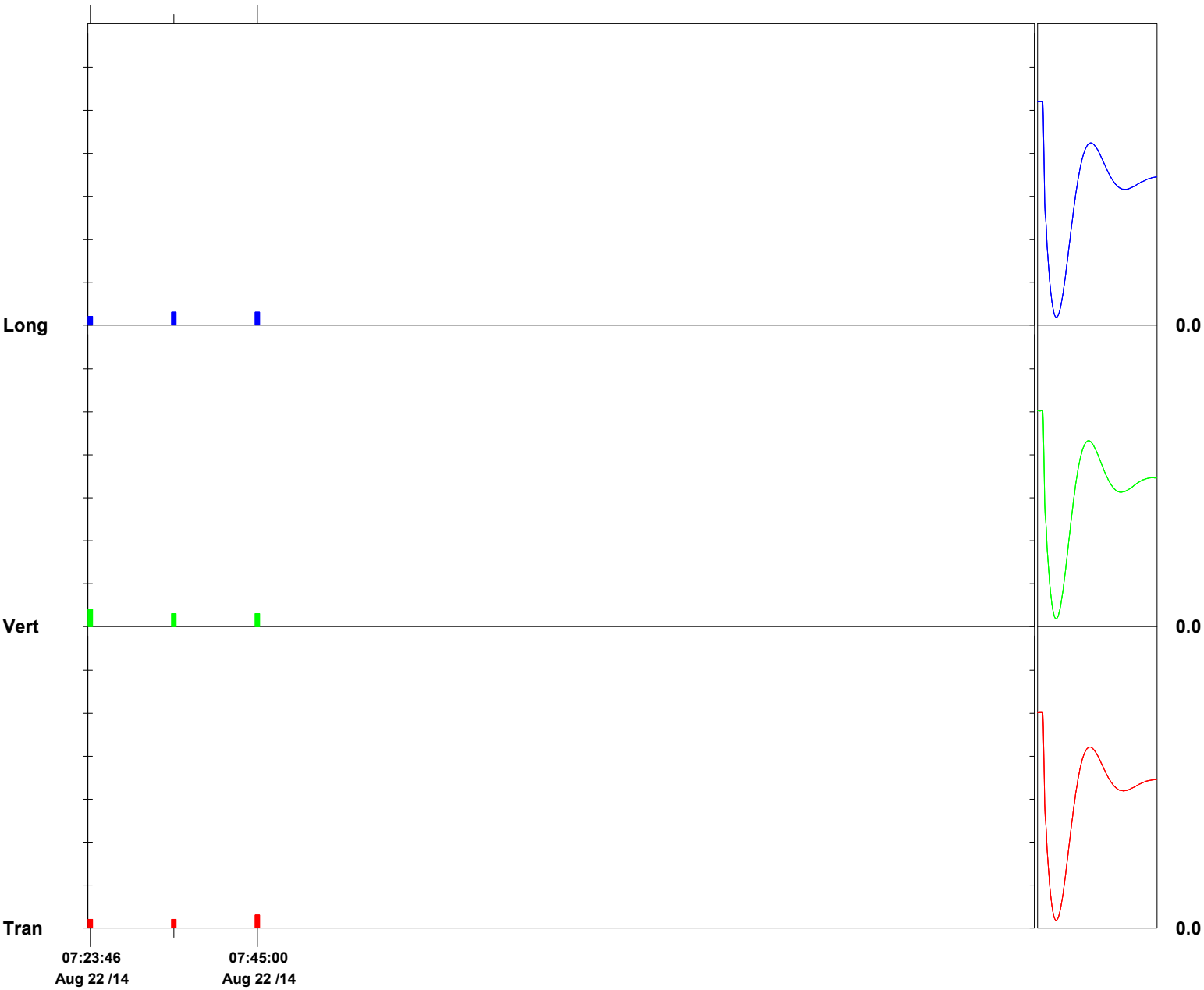
Event Report

Histogram Start Time	07:08:46 August 22, 2014
Histogram Finish Time	07:45:00 August 22, 2014
Number of Intervals	3.00 at 15 minutes
Range	Geo:10.00 in/s
Sample Rate	1024sps
Job Number:	1
Notes	
Location:	60 Kellogg Street
Client:	Entact
User Name:	Geocomp Engineering
General:	Kellogg Street

Serial Number	BE16697 V 10.60-8.17 MiniMate Plus
Battery Level	6.7 Volts
Unit Calibration	January 28, 2014 by Instantel
File Name	R697FGUU.IM0

	Tran	Vert	Long	
PPV	0.0150	0.0200	0.0150	in/s
ZC Freq	19	8.5	7.1	Hz
Date	Aug 22 /14	Aug 22 /14	Aug 22 /14	
Time	07:45:00	07:23:46	07:38:46	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.2	Hz
Overswing Ratio	4.0	3.5	3.8	

Peak Vector Sum 0.0212 in/s on August 22, 2014 at 07:23:46



Time Scale: 15 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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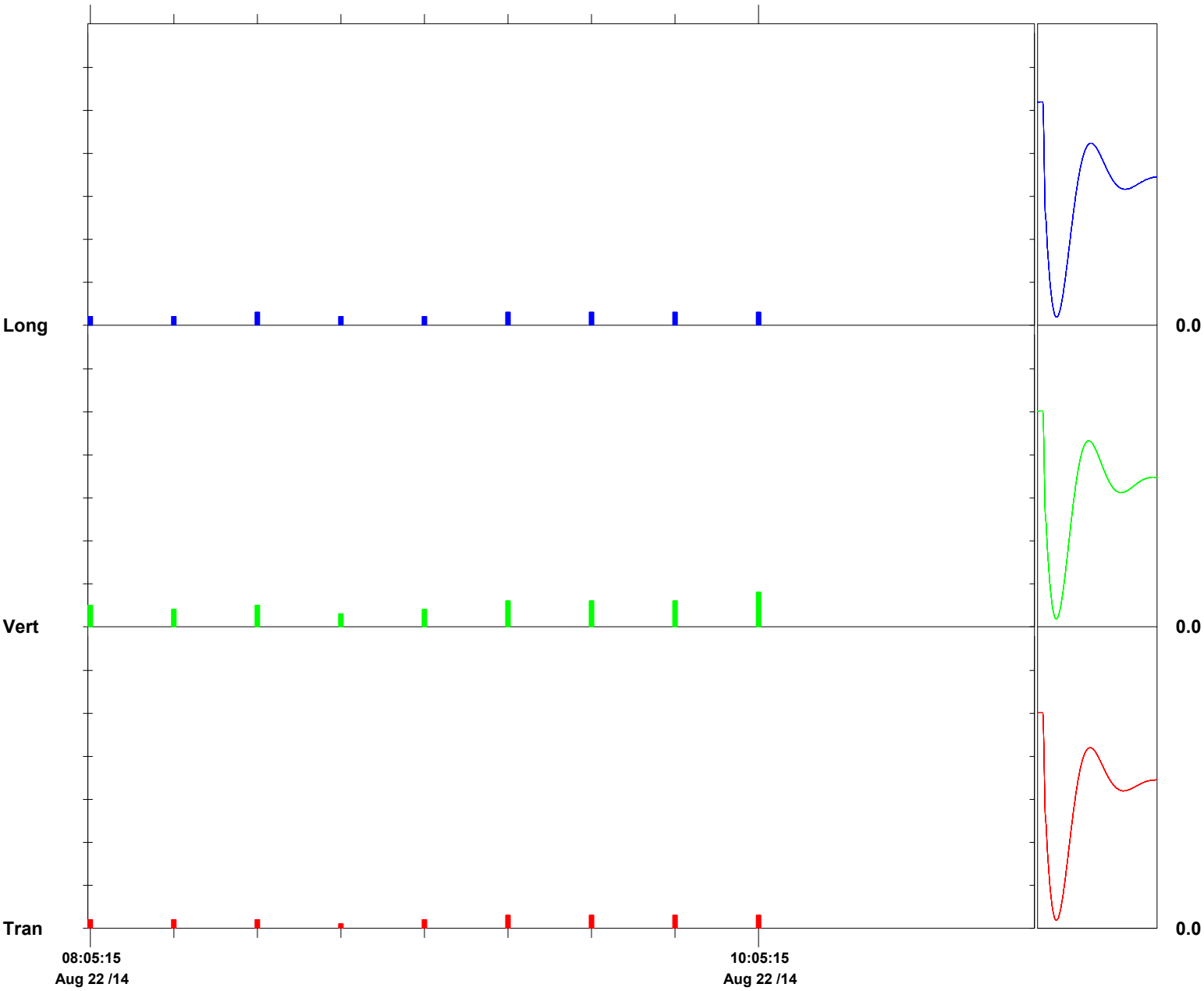
Event Report

Histogram Start Time 07:50:15 August 22, 2014
Histogram Finish Time 10:06:13 August 22, 2014
Number of Intervals 9.00 at 15 minutes
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: 60 Kellogg Street
Client: Entact
User Name: Geocomp Engineering
General: Kellogg Street

Serial Number BE16697 V 10.60-8.17 MiniMate Plus
Battery Level 6.7 Volts
Unit Calibration January 28, 2014 by Instantel
File Name R697FGUW.FR0

	Tran	Vert	Long	
PPV	0.0150	0.0400	0.0150	in/s
ZC Freq	17	6.2	>100	Hz
Date	Aug 22 /14	Aug 22 /14	Aug 22 /14	
Time	09:20:15	10:05:15	08:35:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.3	7.6	7.2	Hz
Overswing Ratio	4.0	3.5	3.9	

Peak Vector Sum 0.0412 in/s on August 22, 2014 at 10:05:15



Time Scale: 15 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 07:17:38 August 22, 2014
Histogram Finish Time 09:57:15 August 22, 2014
Number of Intervals 1915.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 South 6" gas line
Client: Entact
User Name: Geocomp
General: Kellogg Street

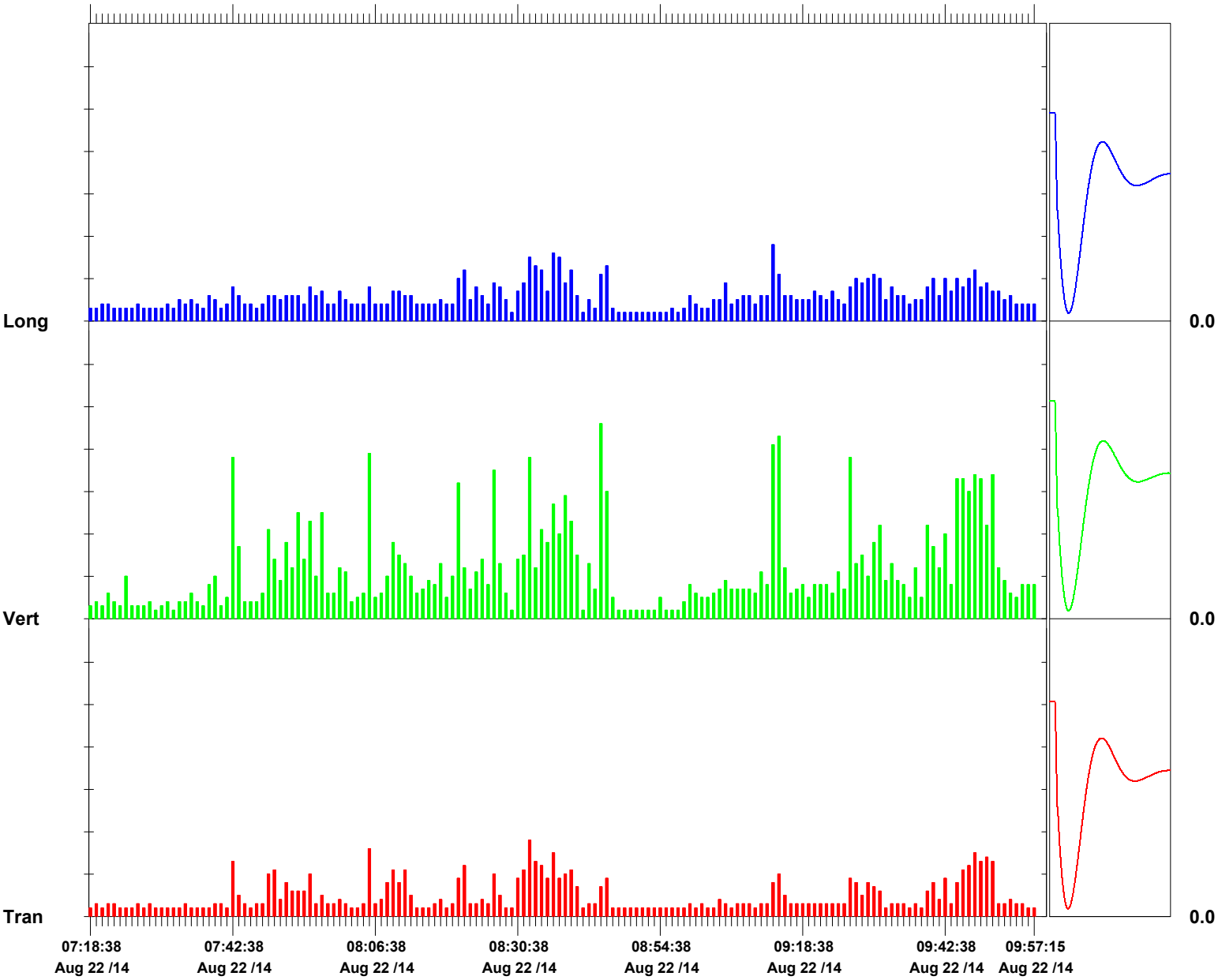
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.7 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371FGUU.XE0

Post Event Notes
VMP 9

Extended Notes

	Tran	Vert	Long	
PPV	0.0900	0.230	0.0900	in/s
ZC Freq	34	30	21	Hz
Date	Aug 22 /14	Aug 22 /14	Aug 22 /14	
Time	08:32:38	08:44:38	09:13:33	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.4	Hz
Overswing Ratio	4.0	4.0	3.9	

Peak Vector Sum 0.236 in/s on August 22, 2014 at 08:44:38



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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APPENDIX P

SURCHARGE REPORT
(CD ONLY)

STUDY AREA 6 NORTH
&
STUDY AREA 6 SOUTH

SURCHARGE MONITORING PLAN
MONTHLY REPORT NO. 16
MARCH 2016 REPORTING PERIOD

JERSEY CITY, NEW JERSEY

Prepared for

Honeywell

115 Tabor Road
Morris Plains, New Jersey 07950

Prepared by

Amec Foster Wheeler Environment & Infrastructure, Inc.
200 American Metro Boulevard, Suite 113
Hamilton, New Jersey 08619

APRIL 2016

INTRODUCTION

The surcharge monthly reports are generated to indicate the status of progress and/or indicate corrective actions needed as provided for in Appendix N (Surcharge Monitoring Plan, Section 5.0 Reporting). Report No. 13 July 2015 indicated completion of Area 1N, Area 2N, Area 1S, Area 2S and Area 3S.

Surcharge Instrumentation was installed in Area 3N and Area 4N subsequent to March 2015 in preparation for surcharge placement in those areas. Surcharge placement in Area 3N was complete on January 18, 2016. Surcharge placement in Area 4N was complete on January 29, 2016. This report is the third report for Area 3N and Area 4N. MRCE's March 29, 2016 letter confirms completion of Area 3N and Area 4N. This marks the formal end of the Surcharge Monitoring Program for the SA-6S and SA-6N project.

Report No. 16 will be the final report for the Surcharge Program.

The goal of the program was to "remove 100% of the Primary Consolidation that will result from the future development grading prior to cap installation". The reports have documented the successful attainment of that goal for each of the 7 designated areas. In general the magnitude of settlement and time for consolidation were consistent with the predicted settlements.

This report has been prepared consistent with the format and content of the prior reports with two notable exceptions.

1. Over the course of the program Installation Logs and instrument data plots were incorporated in one monthly report then incorporated by reference in subsequent reports. In this report a summary table is provided at the end of the Table of Contents that provides a matrix showing the report location for both monitoring data and installation logs by Area and Report Number.
2. All the MRCE approval letters have been included in the final report.

REPORT CONTENTS

SURCHARGE AREA	INCLUDED HEREIN	REPORT SECTION NO.
AREA 1N	**YES****	**1.0**
AREA 2N	**YES****	**2.0**
AREA 3N	**YES****	**3.0**
AREA 4N	**YES****	**4.0**
AREA 1S	**YES****	**5.0**
AREA 2S	**YES****	**6.0**
AREA 3S	**YES****	**7.0**

* Surcharge placement has not commenced.

** Surcharge is complete.

*** Surcharge Instrumentation Installed.

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7.1 Surcharge Monitoring Data Trends/Anomalies/ Modifications 14
7.2 Surcharge Progress 14
7.3 Proposed Modifications 14

Boring Logs, Instrument Installation Diagrams and Monitoring Data Report Location Matrix

Attachment	Surcharge Area	Submitted	
		Reporting Period	Report Number
Boring Logs & Instrument Installation Diagrams	1N	June 2014	03
	2N	July 2014	04
	3N	June 2015	13
	4N	June 2015	13
	1S	June 2014	03
	2S	July 2014	04
	3S	February 2014	01
Monitoring Data	1N	July 2014	04
	2N	October 2014	07
	3N	March 2016	16
	4N	March 2016	16
	1S	October 2014	07
	2S	January 2015	10
	3S	March 2015	12

SURCHARGE AREA 1N: FIGURES/ ATTACHMENTS

Figure 1N-1: Instrumentation Location Plan.

Attachment 1N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 1N-2: August 8, 2014 Mueser Rutledge Correspondence re: SA-6 North Surcharge Monitoring, Jersey City, NJ (Previously Submitted Report No. 4).

SURCHARGE AREA 2N: FIGURES/ ATTACHMENTS

Figure 2N-1: Instrumentation Location Plan.

Attachment 2N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 2N-2: November 21, 2014 Mueser Rutledge Correspondence re: SA-6 North Surcharge Monitoring, Jersey City, NJ (Previously Submitted Report No. 8).

SURCHARGE AREA 3N: FIGURES/ ATTACHMENTS

Figure 3N-1: Instrumentation Location Plan.

Attachment 3N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 3N-2: Surcharge Monitoring Data.

N_FS-08
N_FS-09
N_FS-10
N_FS-11
N_HS-10
N_HS-11
N_HS-12
N_RP-06
N_RP-07
N_SP-15
N_SP-21
N_SP-14
N_HS-13

Attachment 3N-3: March 29, 2016 Mueser Rutledge Correspondence re: Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ.

SURCHARGE AREA 4N: FIGURES/ ATTACHMENTS

Figure 4N-1: Instrumentation Location Plan.

Attachment 4N-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 4N-2: Surcharge Monitoring Data.
N_FS-12
N_FS-13
N_SP-22
N_SP-23
N_SP-24
N_SP-25

Attachment 4N-3: March 29, 2016 Mueser Rutledge Correspondence re: Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ.

SURCHARGE AREA 1S: FIGURES/ ATTACHMENTS

Figure 1S-1: Instrumentation Location Plan.

Attachment 1S-1: Baseline Surcharge Analysis for Monitoring Points

Attachment 1S-2: October 27, 2014 Mueser Rutledge Correspondence re: SA-6 South Surcharge Monitoring, Jersey City, NJ (Previously Submitted Report No. 7) .

SURCHARGE AREA 2S: FIGURES/ ATTACHMENTS

Figure 2S-1: Instrumentation Location Plan.

Attachment 2S-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 2S-2 February 6, 2015 Mueser Rutledge Correspondence re: SA-6 South Surcharge Monitoring, Jersey City, NJ. (Previously submitted Report No. 10).

SURCHARGE AREA 3S: FIGURES/ ATTACHMENTS

Figure 3S-1: Instrumentation Location Plan.

Attachment 3S-1: Baseline Surcharge Analysis for Monitoring Points.

Attachment 3S-2 April 24, 2015 Mueser Rutledge Correspondence re: SA-6 South Surcharge Monitoring, Jersey City, NJ.

1.0 AREA 1N SUMMARY

Surcharging was initiated in Area 1N on April 8, 2014. Final surcharge placement was completed on July 31, 2014.

1.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Table 1N-1 below summarizes the status of the surcharge. Surcharging is complete at all 11 monitoring stations.

1.2 SURCHARGE PROGRESS

As noted in Section 1.1 and as summarized in **Table 1N-1** the surcharge objective has been met in the Stratum D at all 11 monitoring locations. Surcharge removal was initiated adjacent to the 72 in. force main on August 29, 2014 and continued through October.

Tasks requiring acoustical monitoring (Barrier Wall installation and Surcharge placement and removal) were completed by the end of October. Acoustical monitoring has been discontinued by PVSC.

TABLE 1N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-01	2308	2605	**113%**	Data as of August 2014
N_FS-02	2414	3186	**132%**	Data as of August 2014
N_FS-03	2529	2810	**111%**	Data as of August 2014
N_FS-04	2764	3076	**111%**	Data as of August 2014
N_HS-01	2287	2772	**121%**	Data as of August 2014
N_HS-02	2324	2824	**122%**	Data as of August 2014
N_HS-03	2427	3161	**130%**	Data as of August 2014
N_HS-04	2303	2522	**109%**	Data as of August 2014
N_HS-05	2562	3911	**153%**	Data as of August 2014
N_HS-07	2668	3577	**134%**	Data as of August 2014
N_HS-09	2748	3521	**128%**	Data as of August 2014

2.0 AREA 2N SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 2N consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 2N-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 2N were previously provided in Report No. 4.

The Baseline Surcharge Settlement Analysis for 2N is shown in **Attachment 2N-1.**

Surcharge placement continued in Area 2N throughout October. The surcharge Placement was completed on November 3, 2014.

2.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Monitoring is no longer being performed.

2.2 SURCHARGE PROGRESS

As of October 28, 2014 Amec Foster Wheeler Environment and Infrastructure's (Amec Foster Wheeler's) evaluation concluded that the surcharge objective has been met at all three locations. **Table 2N-1** below summarizes the status of the surcharge.

TABLE 2N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-05	2766	2970	**107%**	Data as of November 2014; Pore pressure elevated 9.2 ft. (Stratum D).
N_FS-06	2833	3497	**123%**	Data as of November 2014
N_FS-07	2588	3389	**131%**	Data as of November 2014

3.0 AREA 3N SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 3N consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 3N-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 3N were previously provided in Report No. 13.

The Baseline Surcharge Settlement Analysis for 3N is shown in **Attachment 3N-1.**

Surcharge placement commenced in November 2015 in Area 3N and was completed on January 18, 2016.

3.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Copies of the data plots are provided in **Attachment 3N-2.** Final Surcharge Grades in Area 3N were 1-2 ft. above the Design Surcharge Grades. All instruments performed as expected. Pumping of the contingent groundwater collection system has allowed for the desired pore pressure dissipation to take place at all monitoring locations.

3.2 SURCHARGE PROGRESS

All eight monitoring stations have met the 100% primary consolidation goal and the areas where fill was last placed have also met the required surcharge completion criteria. The surcharge completion summary for Area 3N is included in **Table 3N-1**.

TABLE 3N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-08	2401	2832	**118%**	SP and VWP data through 3/9/16.
N_FS-09	2218	2909	**131%**	SP and VWP data through 3/9/16.
N_FS-10	2619	2964	**113%**	SP data through 3/9/16. VWP data through 3/15/16.
N_FS-11	1920	2273	**118%**	SP and VWP data through 3/9/16.
N_HS-10	2216	2313	**104%**	SP and VWP data through 3/9/16.
N_HS-11	2280	2335	**102%**	SP data through 3/9/16. VWP data through 3/24/16.
N_HS-12	1932	2198	**114%**	SP and VWP data through 3/9/16.
N_HS-13	2050	2214	**108%**	SP and VWP data through 3/9/16.

4.0 AREA 4N SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 4N consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 4N-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 4N were previously provided in Report No. 13.

The Baseline Surcharge Settlement Analysis for 4N is shown in **Attachment 4N-1.**

Surcharge placement was completed in Area 4N on January 29, 2016.

4.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Data plots for Area 4N are included in **Attachment 4N-2.** All instrumentation performed as intended.

4.2 SURCHARGE PROGRESS

There are only two Full Stations in Area 4N. Both locations now have met the surcharge goal and are therefore considered complete. The areas that were loaded last have also been loaded for an adequate duration. The surcharge completion summary for Area 4N is included in **Table 4N-1**.

TABLE 4N-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
N_FS-12	1869	1897	**101%**	SP data through 3/9/16. VWP data through 3/24/16.
N_FS-13	2064	2433	**118%**	SP and VWP data through 3/9/16.

5.0 AREA 1S SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 1S consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 1S-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 1S were included in Attachment 1S-3 Report No. 3.

The Baseline Surcharge Settlement Analysis for 1S is shown in **Attachment 1S-1.**

Surcharging was initiated in Area 1S on June 16, 2014 and continued through the week of September 26, 2014. Surcharging was noted as complete in Report No. 6, September 2014.

5.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Monitoring is no longer being performed.

5.2 SURCHARGE PROGRESS

The Surcharge was considered complete (see **Table 1S-1**) at all locations as indicated in Report No. 6.

5.3 PROPOSED MODIFICATIONS

The grading of the surcharge pile has been modified at the Hackensack River to reduce load on the bulkhead and minimize the amount of rework in the deferred area. This information was issued in a Design Change Bulletin. The change moves the crest of the surcharge back approximately 16 ft. to the east.

TABLE 1S-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D	
			Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-01	2616	3236	**124%**	Data as of November 2014. Pore pressure elevated 5 ft. in Stratum D and 3 ft. in Stratum RC.
S_FS-02	2627	3201	**122%**	Data as of November 2014. Pore pressure elevated 4.5 ft. in Stratum D.
S_HS-01	3064	3292	**107%**	Data as of November 2014.
S_HS-02	2571	2962	**115%**	Data as of November 2014. Pore pressure elevated 3 ft. in Stratum D.
S_HS-03	2400	2541	**106%**	Data as of November 2014. Pore pressure elevated 11 ft. in Stratum D and 5.5 ft. in Stratum RC.
S_HS-04	2548	3053	**120%**	Data as of November 2014. Pore pressure elevated 5 ft. in Stratum D.
S_HS-05	2583	2919	**113%**	Data as of November 2014.
S_HS-06	2881	3205	**111%**	Data as of November 2014. Pore pressure elevated 1.5 ft. in Stratum D and 7 ft. in Stratum RC.

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D	
			Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_HS-07	2494	3130	**126%**	Data as of November 2014.
S_HS-08	2595	2880	**111%**	Data as of November 2014. Pore pressure elevated 5 ft. in Stratum D.

6.0 AREA 2S SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 2S consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 2S-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 2S were previously provided in Attachment 2S-2 of Report No. 4.

The Baseline Surcharge Settlement Analysis for 2S is shown in **Attachment 2S-1.**

Surcharging was initiated in Area 2S in July 2014 as subgrade fill placement progressing from Area 1S into Area 2S. Placement of subgrade fill was completed during the December reporting period. The placement of "Celgene and Novartis" imported fill was completed in the January reporting period.

Surcharging for Area 2S was noted as complete in Report No. 10.

6.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Surcharge monitoring is no longer being conducted in Area 2S.

6.2 SURCHARGE PROGRESS

As of January 26, 2015 the reduced data at all 10 monitoring stations indicated that the completion criteria has been met. **Table 2S-1** below summarizes the status of the surcharge at each monitoring stations at the end of the January monitoring period.

6.3 PROPOSED MODIFICATIONS

There have been no modifications to the Surcharge Plan in Area 2S.

TABLE 2S-1
SURCHARGE COMPLETION EVALUATION
AMEC CORRECTED RESULTS JANUARY 2015

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-03	2343	2984	**127%**	VWP data through 1/12/15; SP data through 1/30/15.
S_FS-04	2359	2909	**123%**	VWP data through 1/18/15; SP data through 1/30/15.
S_FS-05	1839	1833	**100%**	VWP data through 1/29/15; SP data through 1/30/15.
S_HS-09	2232	3194	**143%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-10	2479	2777	**112%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-11	2342	2656	**113%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-12	2482	2877	**116%**	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-13	2100	2412	**115%**	VWP data as of 1/29/15; SP data through 1/30/15.
S_HS-14	2138	2839	**133%**	VWP data as of 1/12/15; SP data through 1/30/15.
S_HS-15	2637	3234	**123%**	VWP data as of 1/12/15; SP data through 1/30/15.

7.0 AREA 3S SUMMARY

Geotechnical instrumentation has been installed in Surcharge Area 3S consistent with the Surcharge Monitoring Plan (Amec, 2013) and Design Change Bulletin dated April 30, 2014. The installed instrument locations are depicted on **Figure 3S-1** (attached). Geotechnical Boring Records and Instrument Construction Diagrams for Area 3S were previously provided in Attachment 3S-1 of Report No. 1.

The Baseline Surcharge Settlement Analysis for 3S is shown in **Attachment 3S-1.**

Surcharging was initiated in Area 3S in November 2014 as subgrade fill placement progressing from West to East. Completion of surcharge fill placement finished in the first week of March with the placement of a small volume of gravel surface at the east end of Area 3S.

7.1 SURCHARGE MONITORING DATA TRENDS/ANOMALIES/ MODIFICATIONS

Surcharge monitoring is no longer being conducted.

7.2 SURCHARGE PROGRESS

As of the close of the March, 2015 reporting period Amec Foster Wheeler's evaluation concludes that the surcharge objective has been met at all nine locations. **Table 3S-1,** below, summarizes the status of the surcharge.

MRCE have completed their peer review of the results. MRCE's letter dated April 24, 2015 (Attachment 3S-4 to Report No. 10) indicates that based on their analysis all stations met the surcharge program completion goal as of the end of the March 2015 reporting period.

7.3 PROPOSED MODIFICATIONS

The 0-12 ft. wide Deferred Area strip along Route 440 will not be surcharged. The surcharge design grades have been carried to the point of forming a stable slope at the Barrier Wall at elevation 11. A Design Change Bulletin has been filed documenting this Field Change. The development grades are similar to the existing grades along the "Deferred Area" (i.e. approximately + 0.5 ft.). The surcharge height

in this area was an artifact resulting from generating a simple surcharge pile geometry with a uniform slope. Therefore elimination of surcharge from this strip will have no impact on the Chromium Remedy.

The intent of SP-08 was to monitor settlement impacts on the perimeter pool. The original Settlement Platform SP-08 was located just south of the SA-7 barrier wall and not north of the wall over the perimeter pool. The platform was relocated mid-January 2015 to be over the perimeter pool. The platform was renamed SP-08 (2). Both plots are included in this report.

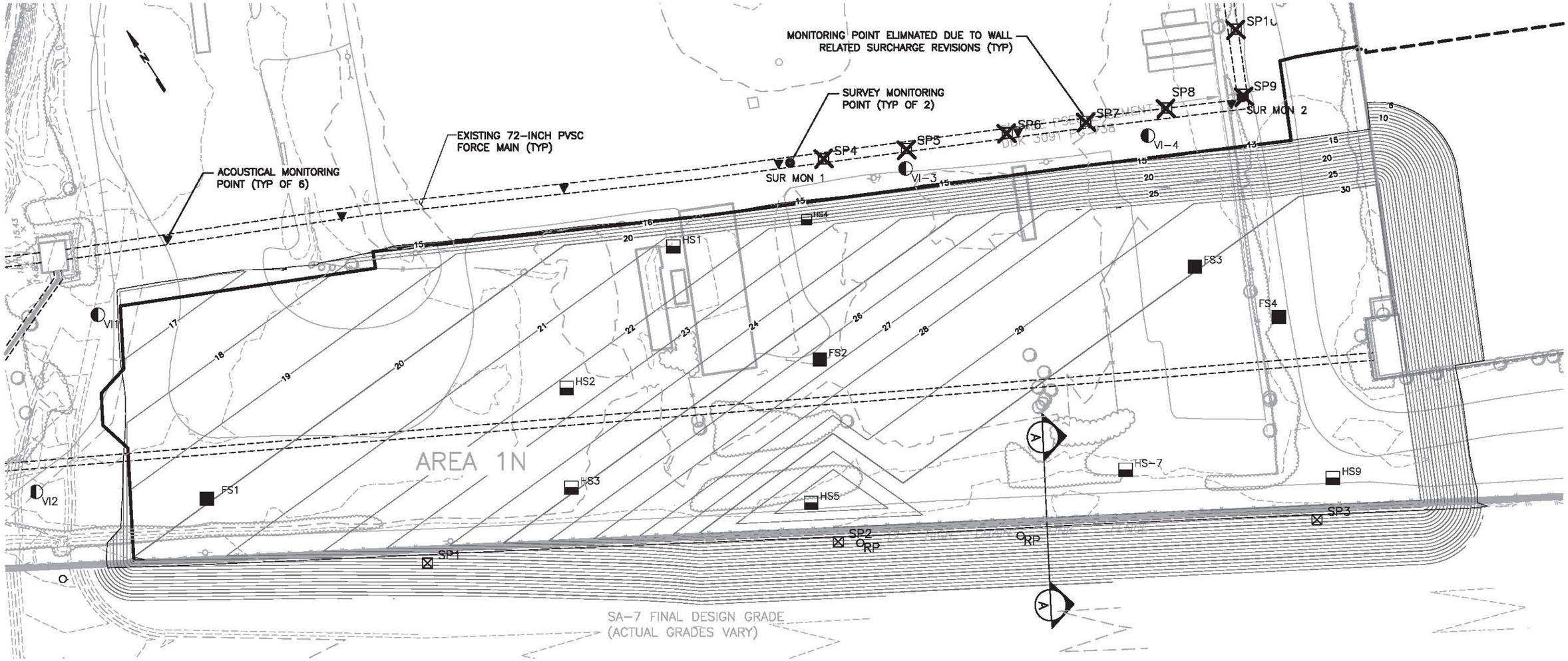
TABLE 3S-1
SURCHARGE COMPLETION EVALUATION

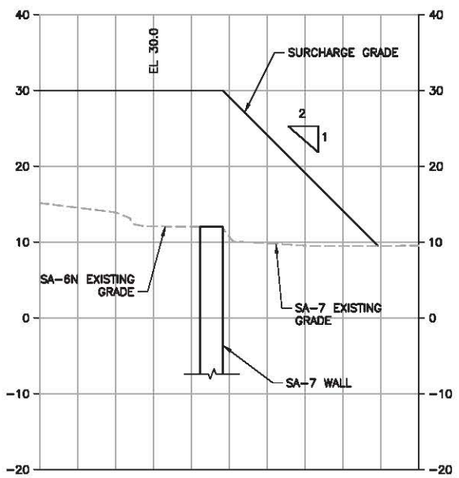
SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-06	2099	2664	**127%**	Data through March 2015
S_FS-07	2376	2691	**113%**	Data through March 2015
S_HS-16	2522	2619	**104%**	Data through March 2015
S_HS-17	1751	2046	**117%**	Data through March 2015
S_HS-18	970	1458	**150%**	Data through March 2015
S_HS-19	845	1206	**143%**	Data through March 2015
S_HS-20	2484	2499	**101%**	Data through March 2015
S_HS-21	1504	1978	**132%**	Data through March 2015
S_HS-22	966	1198	**124%**	Data through March 2015

SURCHARGE AREA 1N
FIGURES & ATTACHMENTS

Figure 1N-1

Instrumentation Location Plan





SECTION A-A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI-1	686110	602120
VI-2	686042	602032
VI-3	685922	602571
VI-4	685860	602703
FS1	685983	602116
FS2	685854	602467
FS3	685779	602684
FS4	685727	602709
HS1	685958	602431
HS2	685922	602330
HS3	685871	602301
HS4	685928	602505
HS5	685786	602416
~~HS6~~	~~685784.69~~	~~602649.85~~
HS7	685700.10	602583.29
~~HS8~~	~~685826.15~~	~~602798.09~~
HS9	685629	602684

SP1	685880	602205
SP2	685757	602417
SP3	685613	602663
~~SP4~~	~~685953.03~~	~~602533.39~~
~~SP5~~	~~685931.28~~	~~602578.16~~
~~SP6~~	~~685906.49~~	~~602633.51~~
~~SP7~~	~~685886.78~~	~~602676.31~~
~~SP8~~	~~685867.20~~	~~602721.11~~
~~SP9~~	~~685849.22~~	~~602763.68~~
~~SP10~~	~~685883.92~~	~~602781.17~~
SUR MON 1	685952	602515
SUR MON 2	685848	602762

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL - SETUP
HS-1	SETTLEMENT MONITORING POINT HALF - SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE
	72-INCH FM ACOUSTICAL MONITORING POINT
SUR MON 1	72-INCH FM SURVEY MONITORING POINT
	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 08/13/14
Checked/Date: SGS 08/13/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	INSTRUMENTATION LOCATION PLAN AREA 1N Project 3480-09-0006 Figure B1

Z:\Projects\HONEYWELL_MTR021 CITY\Dwg Design-Site-Civil\CAD\SAMR\100 Percent\Figure 1 Surcharge Settling Monitoring Plan - Area 1.dwg Thu, 14 Aug 2014 - 12:59pm mgm-fuller

Attachment 1N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 1N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-01	087-SB-407	16.3	17.0	20.0	0.3	0.1	0.0	0.4	0.0	0.1	1.0	**20.0**	**3.8**	**3.0**	**22%**	**0.3**	0.2	2.4	**2.6**
N_FS-02	087-SB-411; 115-SB-214	14.8	19.5	26.5	1.5	1.1	0.0	2.6	0.0	0.6	5.8	**26.5**	**11.8**	**7.0**	**48%**	**1.5**	0.4	2.1	**2.5**
N_FS-03	087-SB-409; 087-CPT-006; 087-CPT-012	14.3	21.0	30.0	1.9	1.1	0.0	2.9	0.0	0.3	6.2	**30.0**	**15.8**	**9.0**	**52%**	**1.0**	0.3	1.6	**1.9**
N_FS-04	087-CPT-012	13.3	23.0	30.0	2.1	3.6	0.0	3.9	0.0	0.2	9.8	**30.0**	**16.8**	**7.0**	**68%**	**2.4**	0.7	1.5	**2.2**
N_HS-01	087-CPT-016; 087-SB-403	15.5	17.8	21.0	0.8	0.5	0.0	1.4	0.0	0.1	2.9	**21.0**	**5.5**	**3.3**	**45%**	**1.7**	0.4	2.5	**2.9**
N_HS-02	087-SB-408; 087-SB-411	14.3	18.0	22.5	1.3	0.8	0.0	2.2	0.0	0.5	4.8	**22.5**	**8.3**	**4.5**	**51%**	**1.8**	0.4	2.3	**2.7**
N_HS-03	087-SB-411; 115-SB-214	14.8	19.3	25.0	1.4	1.3	0.0	2.9	0.0	0.6	6.2	**25.0**	**10.3**	**5.8**	**50%**	**2.4**	0.5	2.5	**3.1**
N_HS-04	087-SB-411; 087-SB-403; 087-CPT-016	15.0	18.5	21.0	1.2	0.8	0.0	1.8	0.0	0.1	4.0	**21.0**	**6.0**	**2.5**	**62%**	**2.3**	0.4	2.0	**2.4**
N_HS-05	087-SB-411; 115-SB-214	13.3	20.0	32.0	2.0	1.8	0.0	4.6	0.0	0.2	8.6	**32.0**	**18.8**	**12.0**	**46%**	**2.1**	0.5	2.6	**3.1**
N_HS-07	087-SB-409; 115-SB-213; 087-CPT-012	12.5	22.0	30.0	2.3	2.3	0.0	4.3	0.0	0.3	9.1	**30.0**	**17.5**	**8.0**	**65%**	**1.9**	0.4	1.7	**2.1**
N_HS-09	115-SB-213; 087-CPT-012; 087-CPT-013	13.8	22.5	30.0	2.2	2.0	0.0	4.5	0.0	0.4	9.1	**30.0**	**16.3**	**7.5**	**63%**	**2.5**	0.4	2.1	**2.5**

Prepared By/Date: NDL/4-2-14
Checked By/Date: TCC/5-8-14

Attachment 1N-2
August 8, 2014 Mueser Rutledge Correspondence re:
SA-6 North Surcharge Monitoring, Jersey City, NJ
(Previously Submitted Report No. 4)

Mueser Rutledge
Consulting Engineers
14 Penn Plaza · 225 West 34th Street · New York, NY 10122
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Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

August 8, 2014

Geoff Shallard
AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Re: SA-6 North Surcharge Monitoring
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

Mueser Rutledge Consulting Engineers (MRCE) reviewed the settlement and piezometer monitoring data related to Area 1N provided by AMEC, on July 18th 2014. MRCE's review of the available data is summarized below:

1. AMEC indicated boring sampling performed was to define the compressible layer stratification and the Vibrating Wire Piezometers (VWP) were set at the center of the layers. Center of the layer provide the most conservative pore water pressure reading for the effective stress evaluation. MRCE effective stress calculations were made at the center of the layers.

2. MRCE obtained the 06/16/14 measured fill thickness from the "Settlement Platform – Data Report". MRCE calculated the total stress as of 06/16/14 based on the 06/16/14 fill thickness and the "Historic Pre-Construction Conditions" total stresses provided by AMEC. MRCE calculated the pore water pressures based from 06/16/14 piezometer readings on "Vibrating Wire Piezometer – Data Report" and calculated the 06/16/14 effective stresses, as presented in Table 1.

3. MRCE compared calculated 06/16/14 effective stresses with the effective stresses provided by AMEC for "Final Post-Development Conditions". The defined goal of surcharge program was to achieve an equal or greater effective stress than the "Final Post-Development Conditions" effective stress. Accordingly, MRCE evaluated 06/16/14 percentage completion, shown as "MRCE % Completion (06/16/14)" in Table 1. Table 1 also presents 06/30/14 percent completion evaluation of AMEC, "AMEC % Completion (06/30/14)", for comparison.

4. Two settlement monitoring locations, N_FS-04 and N_HS-04 (highlighted in Table 1), had percentage completion less than 100%. These monitoring points did not meet the defined goal of the surcharge program as of 06/16/14.

5. AMEC provided updated settlement and piezometer monitoring data on August 6th 2014. MRCE calculated effective stresses and the percent completion for N_FS-04 and N_HS-04 based on the updated monitoring data, as shown in Table 2.

6. MRCE agrees that the defined goal of the surcharge program of achieving an equal or greater effective stress than the "Final Post-Development Conditions" effective stress is met in all settlement monitoring locations.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\SA-6 Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review (06/16/14)

Source:		AMEC			Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Historic Pre-Construction Conditions Total Stress (psf)	Final Post-Development Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion 06/16/14	% Completion 06/30/14
N_FS-01	Center D	-10.8	3073	2308	2.6	6.1	3393	1058	2335	101%	103%
N_FS-02	Center O	-4.6	2262	2279	11.2	11.6	4048	1242	2418	106%	-
N_FS-02	Center D	-8.3	2647	2414	11.2	15.4	3663	1245	2807	116%	117%
N_FS-03	Center O	-2.9	2118	2431	9.8	9.9	3628	1065	2443	100%	-
N_FS-03	Center D	-7.2	2400	2529	9.8	11.5	3346	904	2563	101%	105%
N_FS-04	Center O	-2.2	1830	2598	10.9	12.9	3624	1206	2417	**93%**	-
N_FS-04	Center D	-6.5	2266	2764	10.9	10.1	3189	771	2418	**87%**	92%
N_FS-04	RC	-43.2	6777	4984	10.9	2.7	8135	2866	5269	106%	-
N_HS-01	Center D	-9.6	2886	2287	5.3	5.8	3552	959	2593	113%	110%
N_HS-02	Center D	-9.2	2723	2324	8.7	9.0	3813	1133	2680	115%	115%
N_HS-03	Center D	-8.7	2700	2427	10.9	5.6	4065	894	3171	131%	130%
N_HS-04	Center D	-8.6	2702	2303	3.7	5.7	3163	892	2271	**99%**	96%
N_HS-05	Center D	-9.9	2654	2562	16.7	7.8	4746	1109	3637	142%	145%
N_HS-05	RC	-54.7	7323	4843	16.7	-0.9	9415	3354	6061	125%	-
N_HS-07	Center D	-7.6	2214	2668	12.0	12.0	4374	1224	3149	118%	121%
N_HS-09	Center D	-7.3	2428	2748	12.5	12.5	4429	1235	3194	116%	119%

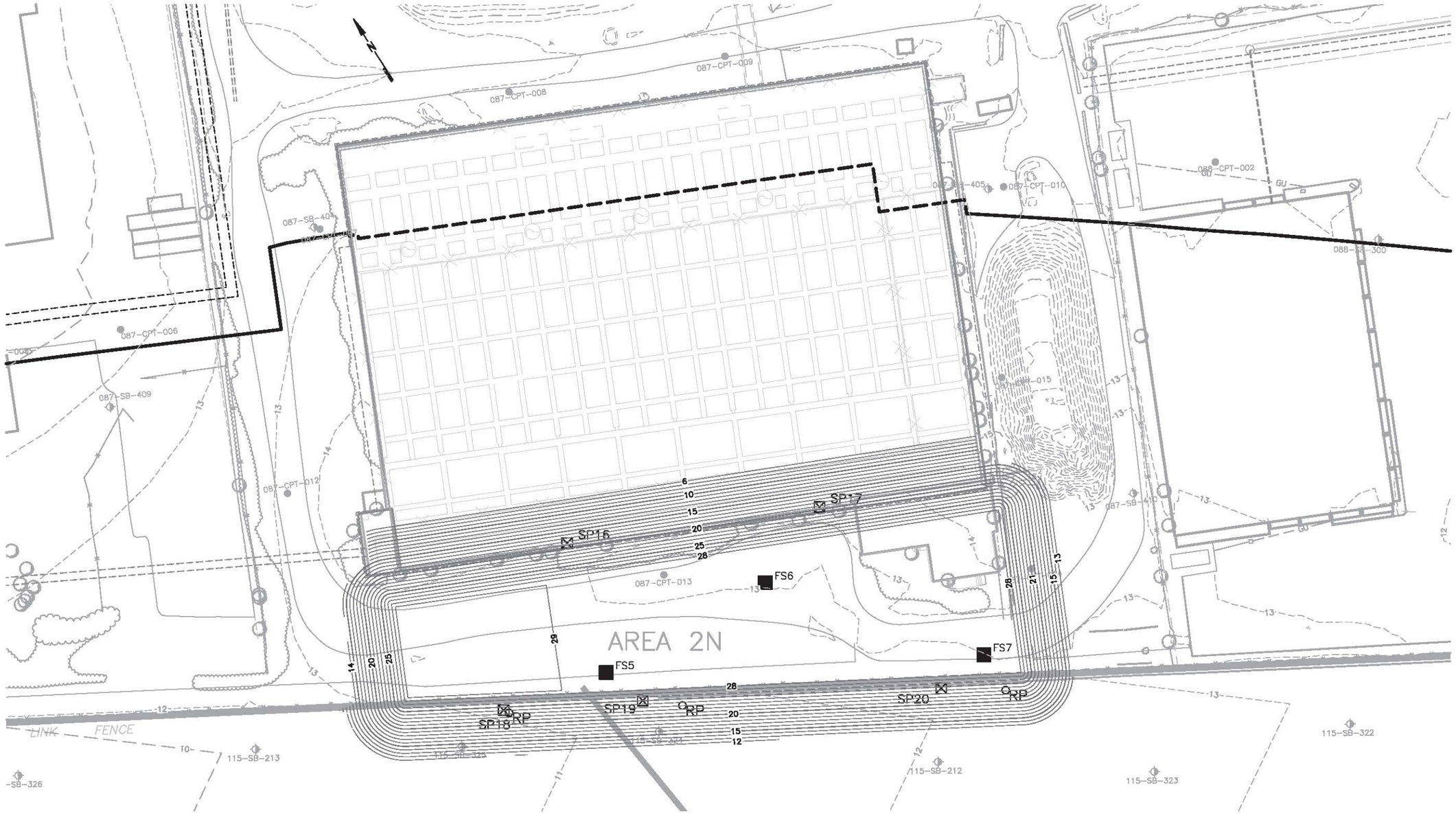
Table 2. MRCE Surcharge Monitoring Review (August 2014)

Source:		Settlement Monitoring Data	VWP Monitoring Data	MRCE				AMEC
Settlement Monitoring Point	Layer	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 06/16/14 (psf)	Pore Water Pressure 06/16/14 (psf)	Effective Stress 06/16/14 (psf)	% Completion August 14	% Completion August 14
N_FS-04	Center O	16.3	9.6	3867	738	3130	**120%**	-
N_FS-04	Center D	16.3	9.6	4303	1003	3300	**119%**	118%
N_HS-04	Center D	9.4	5.0	3877	847	3030	**132%**	99%

SURCHARGE AREA 2N
FIGURES & ATTACHMENTS

Figure 2N-1

Instrumentation Location Plan



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685543	602822
FS6	685536	602927
FS7	685433	603010
SP15	685618	602844
SP17	685556	602977
SP18	685557	602761
SP19	685518	602831
SP20	685430	602979

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

Φ_{M-2}	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

Revised/Date: TDD 08/13/14
Checked/Date: SGS 08/13/14

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 2N
Project 3480-09-0006
Figure C1

J:\Projects\CHROMIUM\JERSEY CITY\Dwg Design-SGS-CDR\GA\SA6N\100 Percent\Figure 2 Surcharge Settling Monitoring Plan - Area 2.dwg Wed, 13 Aug 2014 - 10:58am mgoh-chuter

Attachment 2N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 2N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-05	087-CPT-013; N_FS-06	13.1	22.5	28.5	2.2	3.9	0.0	1.4	0.0	0.3	7.8	**28.5**	**15.4**	**6.0**	**70%**	**1.0**	0.8	0.6	**1.4**
N_FS-06	087-CPT-013; N_FS-05; N_FS-07	12.7	22.8	28.5	2.3	3.3	0.0	3.1	0.0	0.1	8.8	**28.5**	**15.8**	**5.8**	**72%**	**1.9**	0.6	1.2	**1.8**
N_FS-07	087-CPT-013; N_FS-06; 087-CPT-014	13.0	20.8	28.0	2.2	1.0	0.0	1.5	0.0	0.1	4.7	**28.0**	**15.0**	**7.3**	**61%**	**0.4**	0.2	0.7	**1.0**

Prepared By/Date: NDL/8-14-14
Checked By/Date:

Attachment 2N-2

November 21, 2014 Mueser Rutledge Correspondence re:
SA-6 North Surcharge Monitoring, Jersey City, NJ
(Previously Submitted Report No. 8).

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Martha J. Huguet
Director of Marketing

November 21, 2014

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of November 17, 2014 AMEC settlement and piezometer monitoring data for Area 2N is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used measured fill thickness dated 10/28/14 from "Settlement Platform – Data Report" to calculate the total stress. Pore water was taken from the 10/28/14 "Vibrating Wire Piezometer – Data Report." Effective stress computed for 10/28/14, is presented in Table 1. MRCE compared the 10/28/14 calculated effective stress with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2N monitoring locations have met the surcharge program goal as of 10/28/14.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 2N_Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review- Area 2N.112114.docx

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2N (10/28/14)

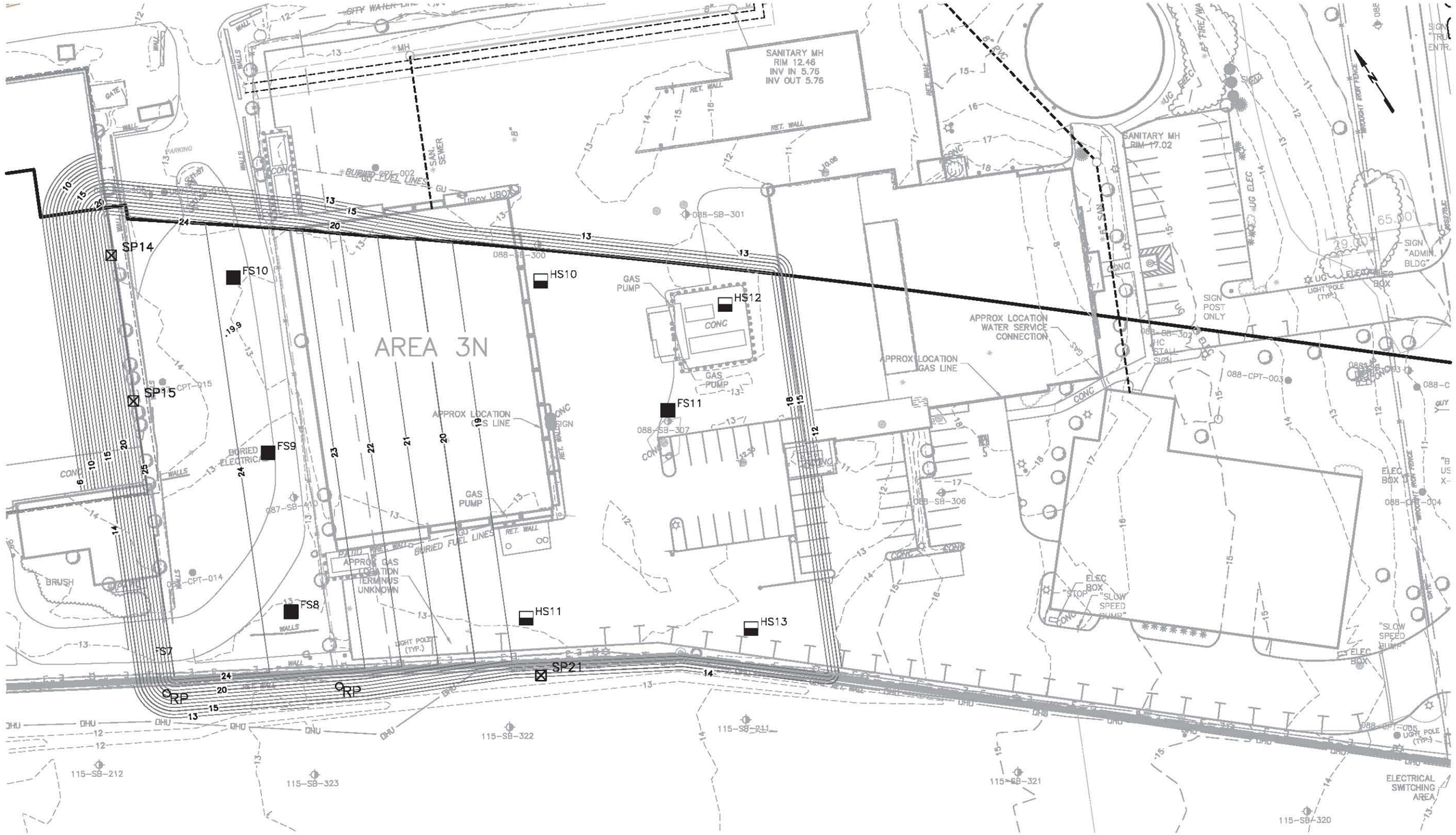
Source:		AMEC				Settlement Monitoring Data	VWP Monitoring Data	MRCE			MRCE	AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress (psf)	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 10/28/14 (psf)	Pore Water Pressure 10/28/14 (psf)	Effective Stress 10/28/14 (psf)	% Completion 10/28/14	% Completion 10/28/14
N_FS-05	Center O			2603.1		14.29	7.12	3750.0	812.4	2937.6	113%	-
N_FS-05	Center D	-7.3	2360.6	2765.9	3343.5	14.29	5.41	4146.9	799.3	3347.5	121%	121%
N_FS-06	Center O			2685.9		15.06	6.47	3837.5	640.8	3196.7	119%	-
N_FS-06	Center D	-7.6	2360.6	2833.1	3387.6	15.06	5.96	4218.8	827.4	3391.3	120%	120%
N_FS-06	RC			6075.3		15.06	2.94	10752.5	3135.0	7617.5	125%	-
N_FS-07	Center O			2523.5		10.69	6.61	3486.3	674.5	2811.7	111%	-
N_FS-07	Center D	-6.7	2360.6	2588.0	2972.4	10.69	4.87	3660.0	740.7	2919.3	113%	115%

Notes:
1. % Completion is the ratio of measured effective stress under surcharge with respect to final effective stress in development condition.

SURCHARGE AREA 3N
FIGURES & ATTACHMENTS

Figure 3N-1

Instrumentation Location Plan



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685409	603096
FS9	685493	603135
FS10	685590	603173
FS11	685388	603343
HS10	685491	603322
HS11	685332	603208
HS12	685421	603404
HS13	685256	603314
SP14	685639	603121
SP15	685561	603086
SP21	685299	603197

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

Φ_{I-2}	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL - SET UP
HS-1	SETTLEMENT MONITORING POINT HALF - SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 09/30/15
Checked/Date: NDL 09/30/15

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 3N
Project 3480-13-0377
Figure D1

J:\Projects\HONEYWELL\JERSEY CITY\Site Drawings\3480-4250\GA\GA3N\3N1.DGN Pennant\Figure 3 Surcharge Settling Monitoring Plan - Area 3.dwg Thu, 30 Jun 2015 - 3:39pm terry.donovan

Attachment 3N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 3N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-08	087-SB-410; 087-CPT-014	12.8	19.8	23.7	1.8	2.0	0.0	2.4	0.0	0.1	6.3	**23.7**	**10.9**	**3.9**	**71%**	**1.5**	0.5	1.2	**1.7**
N_FS-09	087-SB-410; 087-CPT-014; 087-CPT-015	13.2	18.3	23.7	1.3	2.1	0.0	1.8	0.0	0.1	5.3	**23.7**	**10.6**	**5.4**	**56%**	**1.2**	0.7	1.2	**1.9**
N_FS-10	087-CPT-015; 087-SB-405; 087-CPT-010; 088-CPT003	13.3	20.7	23.8	1.8	1.2	0.0	2.7	0.0	0.2	6.0	**23.8**	**10.6**	**3.1**	**76%**	**1.9**	0.3	1.4	**1.7**
N_FS-11	088-SB-307	12.4	15.5	18.4	0.9	1.3	0.0	0.5	0.0	0.1	2.7	**18.4**	**6.0**	**2.9**	**56%**	**0.4**	0.6	0.5	**1.1**
N_HS-10	088-SB-300; 088-SB-301; 088-SB-307	12.3	17.0	18.7	1.3	0.7	0.0	1.0	0.0	0.0	2.9	**18.7**	**6.4**	**1.7**	**77%**	**0.6**	0.2	0.7	**1.0**
N_HS-11	088-SB-307; 087-CPT-014; 115-SB-211	12.8	18.7	18.9	1.7	0.9	0.0	2.5	0.0	0.0	5.0	**18.9**	**6.1**	**0.2**	**97%**	**4.9**	0.2	1.4	**1.7**
N_HS-12	088-SB-307; 088-SB-301	13.1	14.5	18.3	0.4	0.4	0.0	0.2	0.0	0.1	1.0	**18.3**	**5.2**	**3.8**	**30%**	**0.1**	0.5	0.5	**1.0**
N_HS-13	115-SB-211; 088-SB-307; 088-SB-306	13.0	16.8	18.3	1.1	0.0	0.0	2.5	0.0	0.0	3.6	**18.3**	**5.3**	**1.5**	**75%**	**2.7**	0.0	2.2	**2.2**

Prepared By/Date: NDL/6-26-15
Checked By/Date:

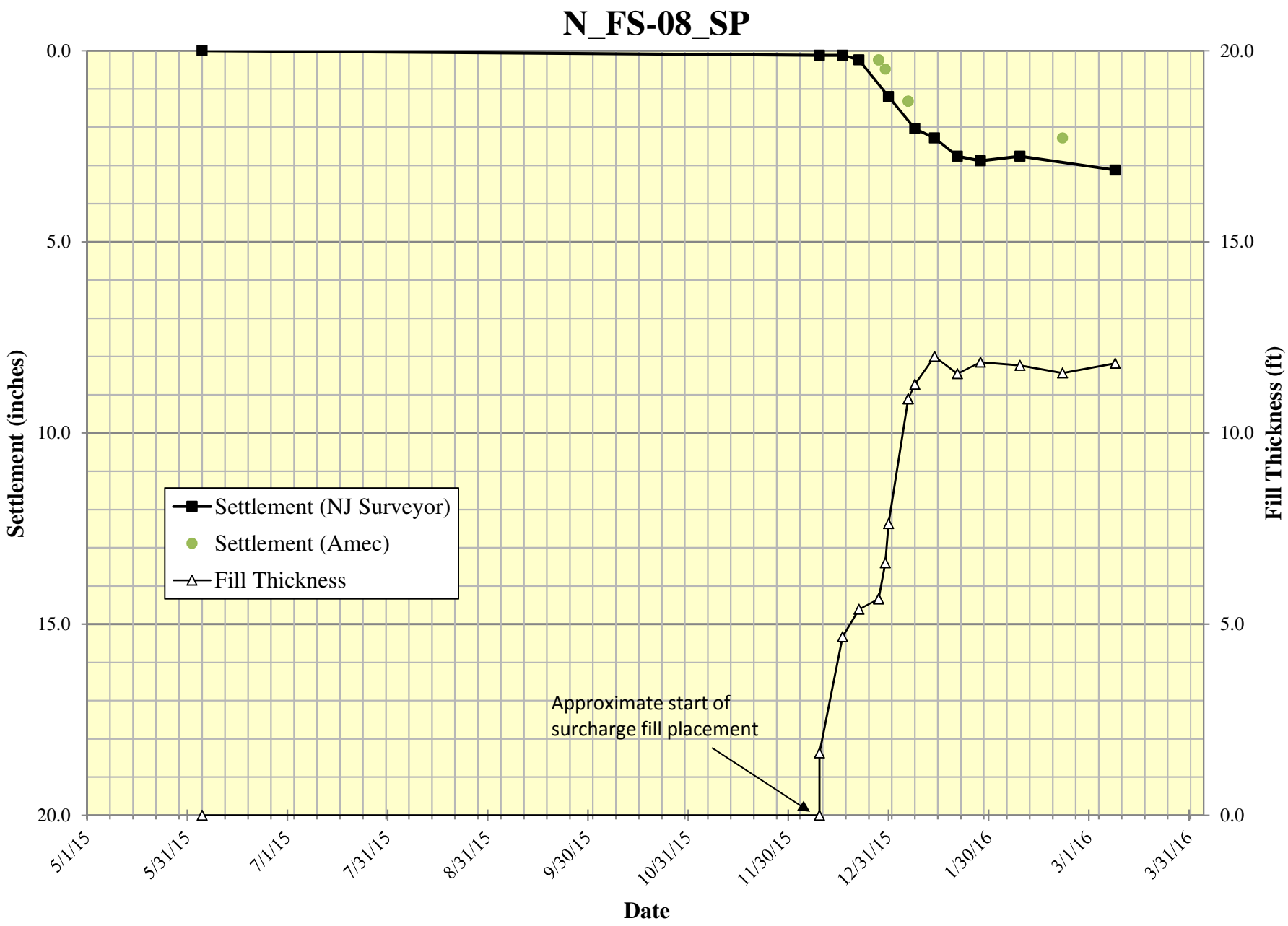
Attachment 3N-2

Surcharge Monitoring Data

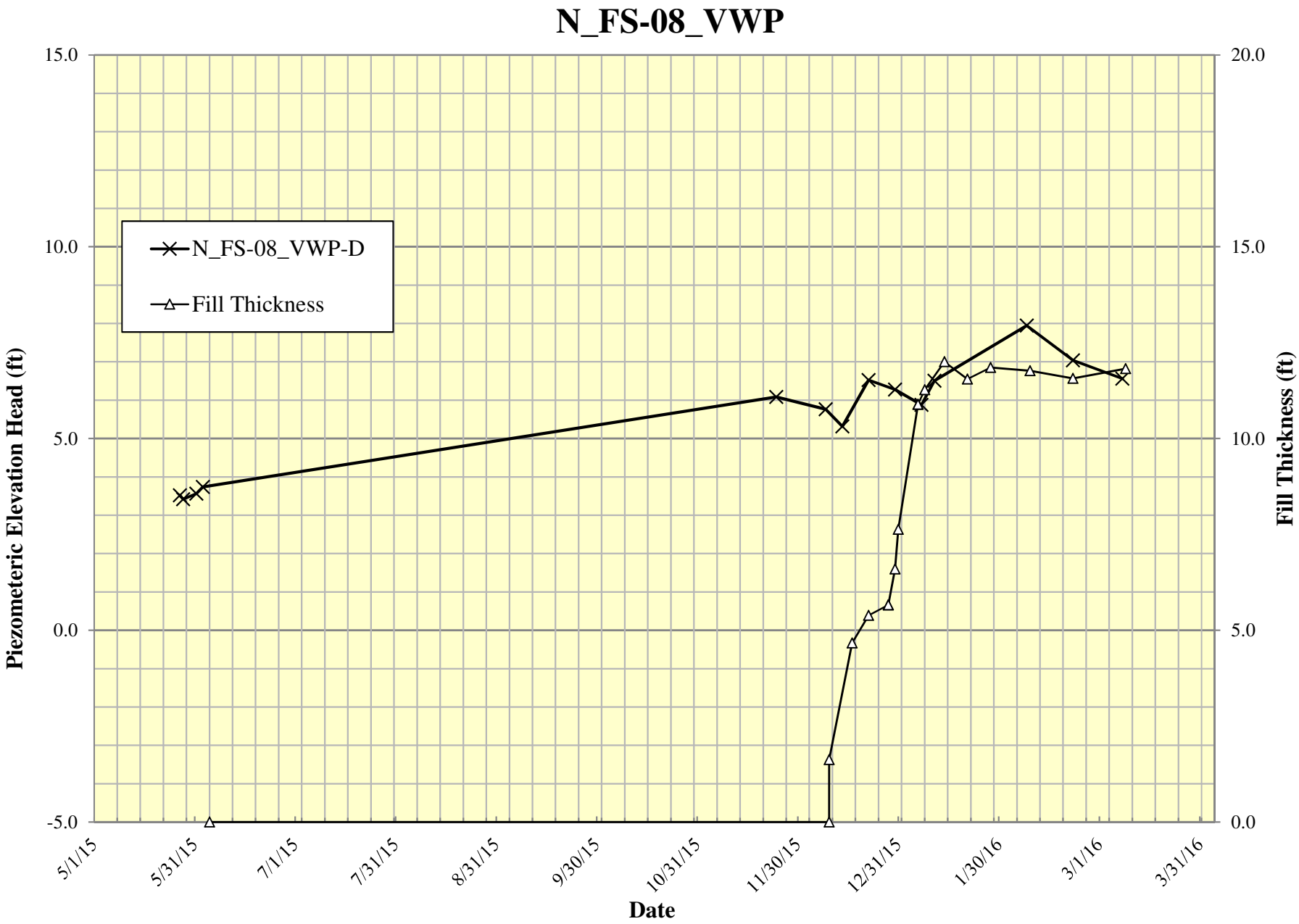
Surcharge Monitoring Data

N_FS-08

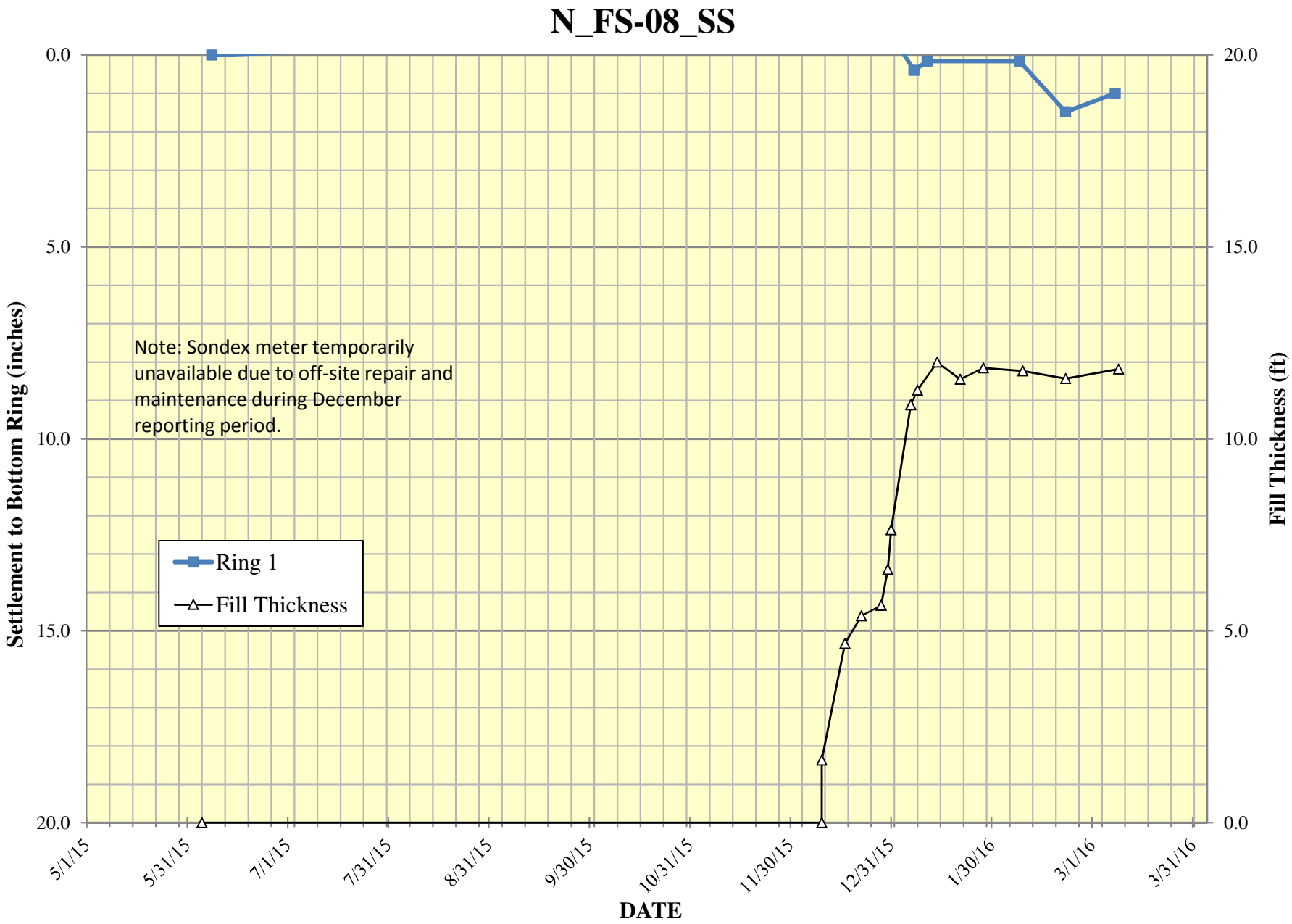
Settlement Platform Data Summary



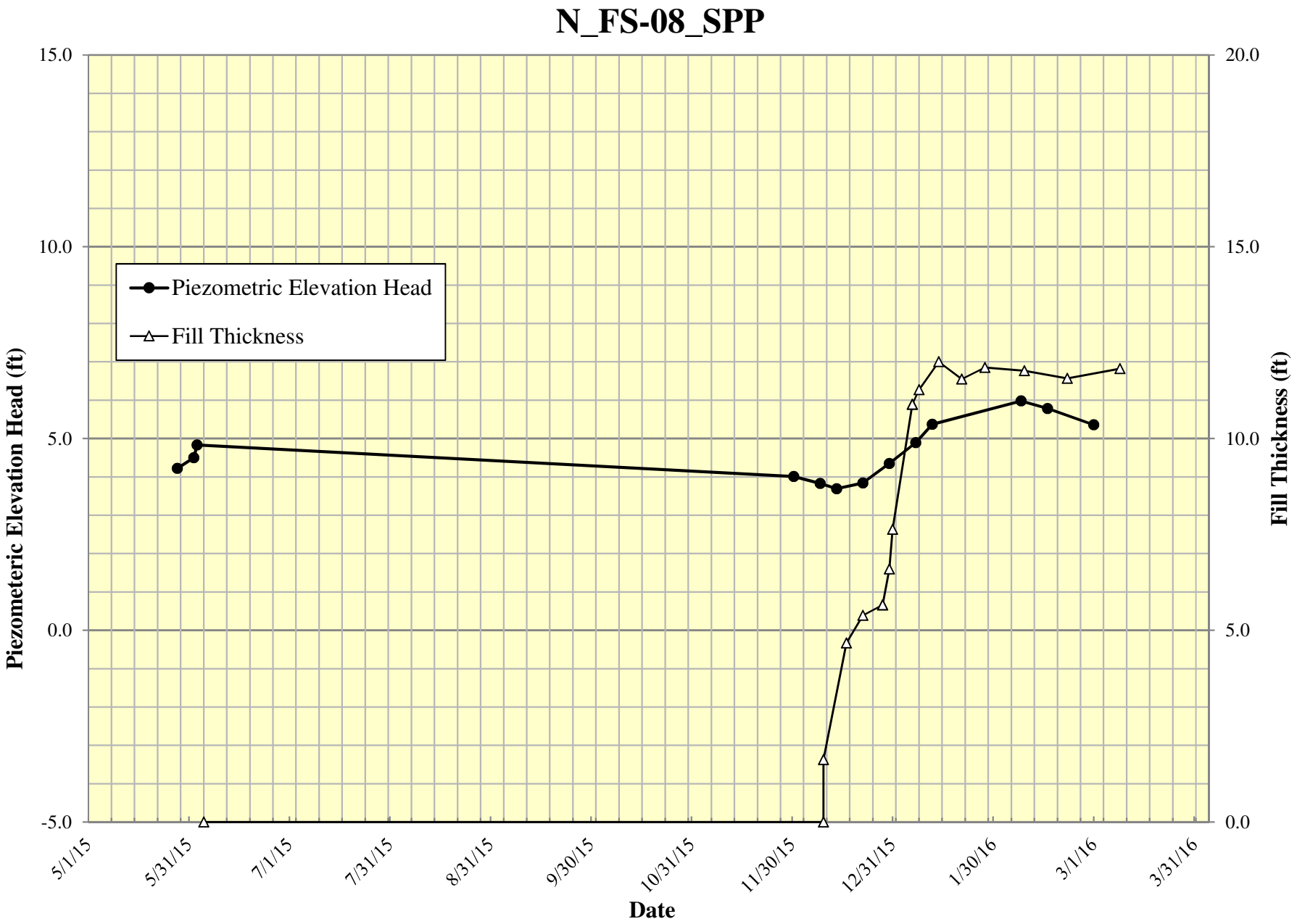
Vibrating Wire Piezometer Data Summary



Sondex System Data Summary



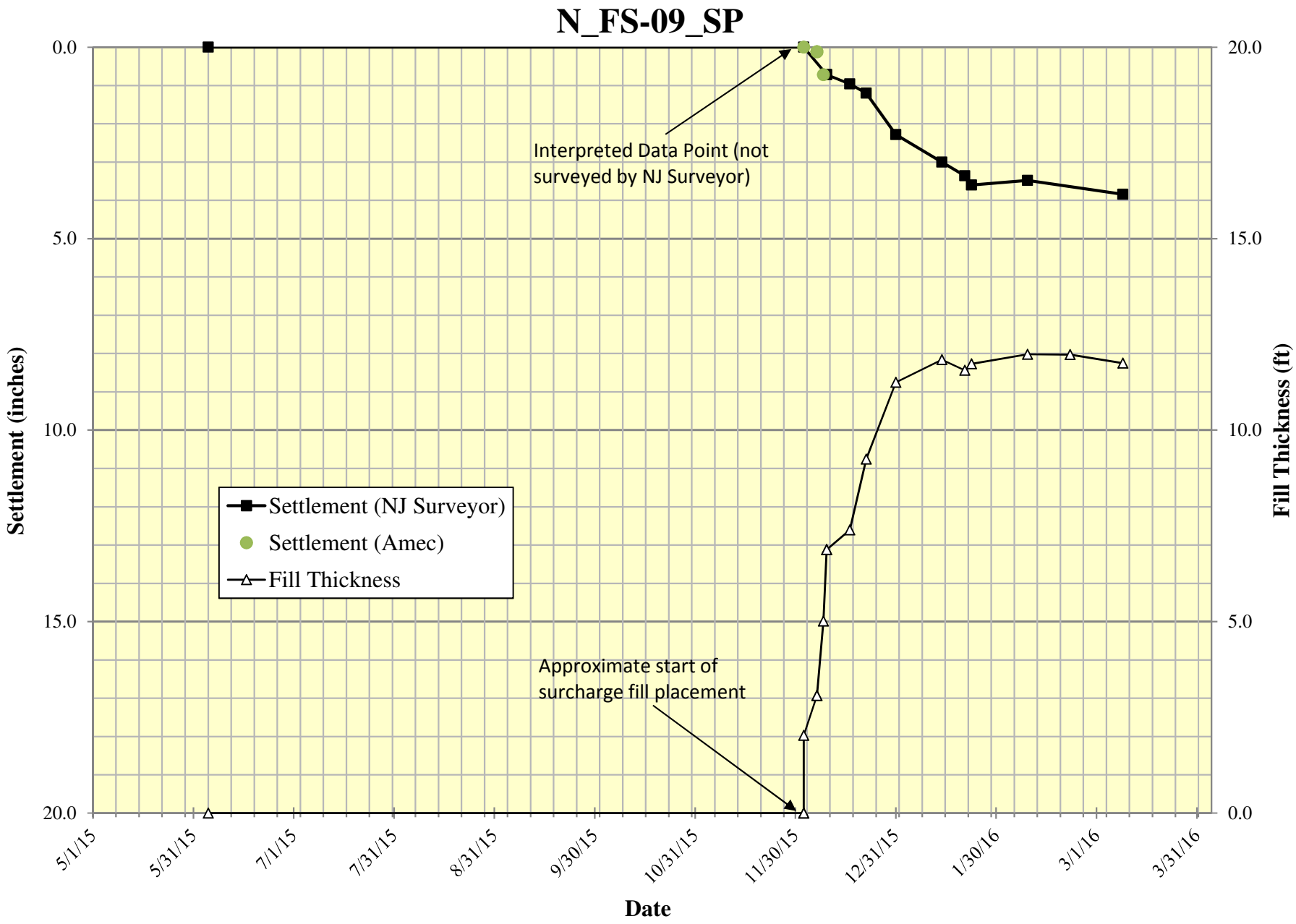
Standpipe Piezometer Data Summary



Surcharge Monitoring Data

N_FS-09

Settlement Platform Data Summary



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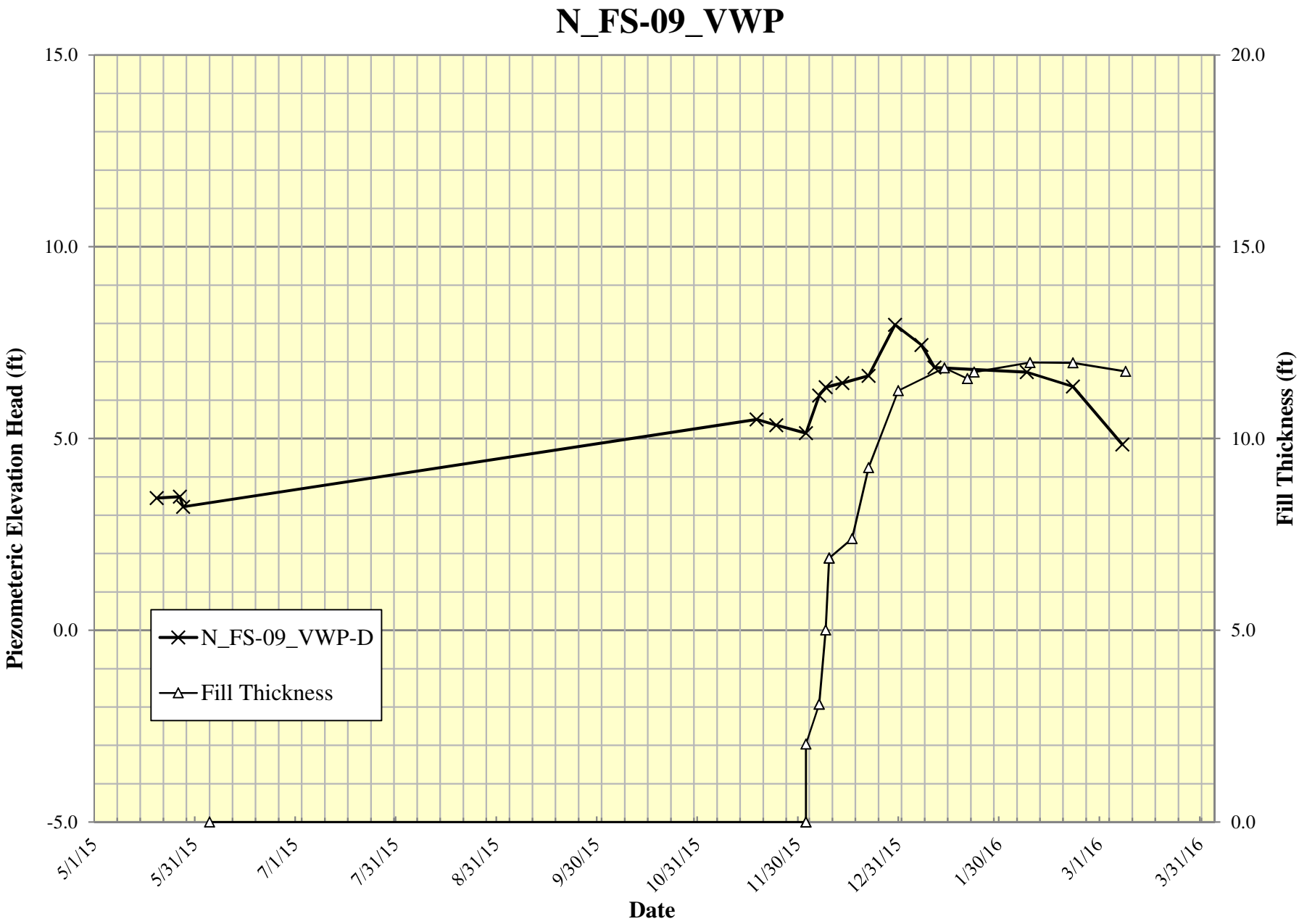

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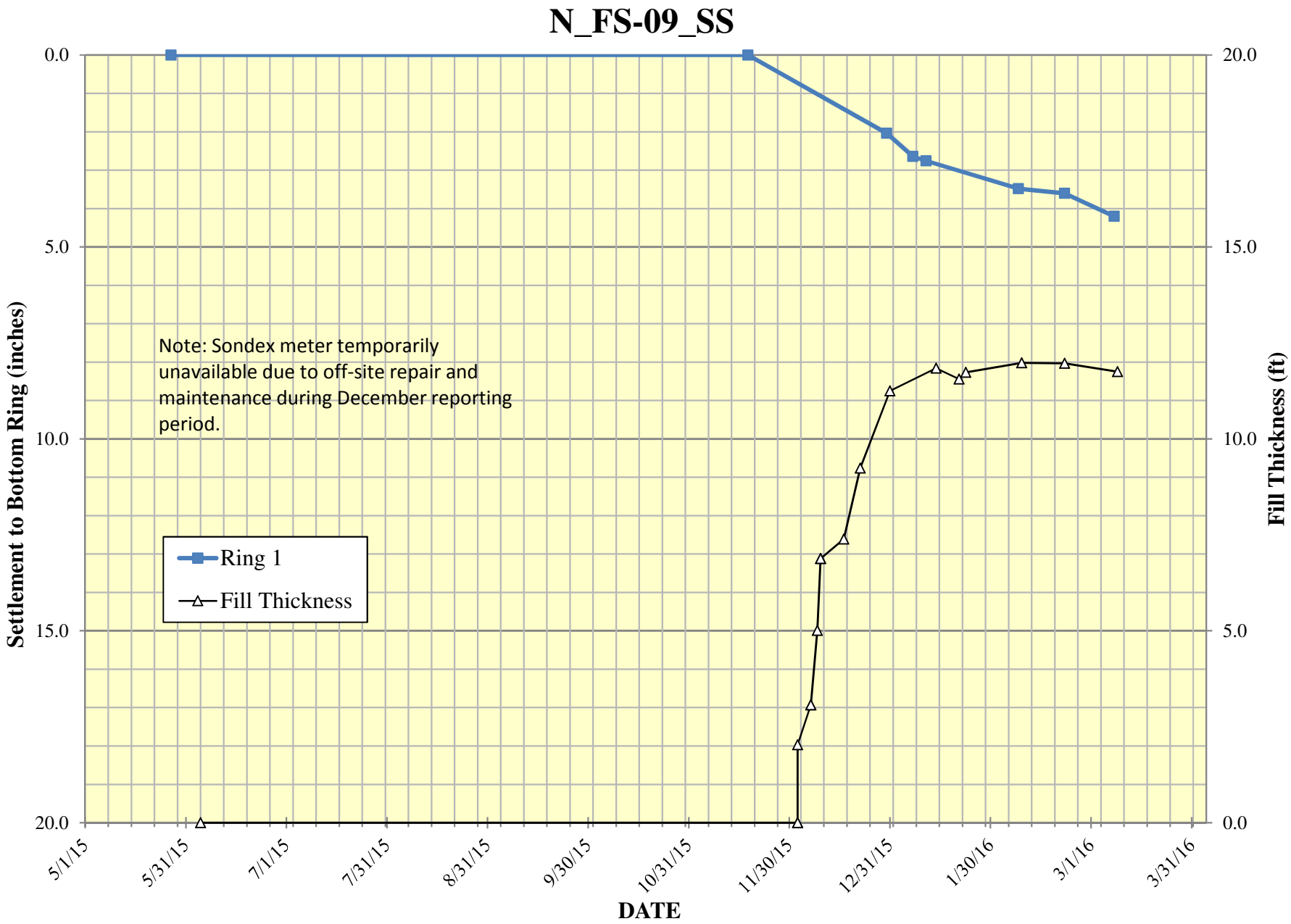
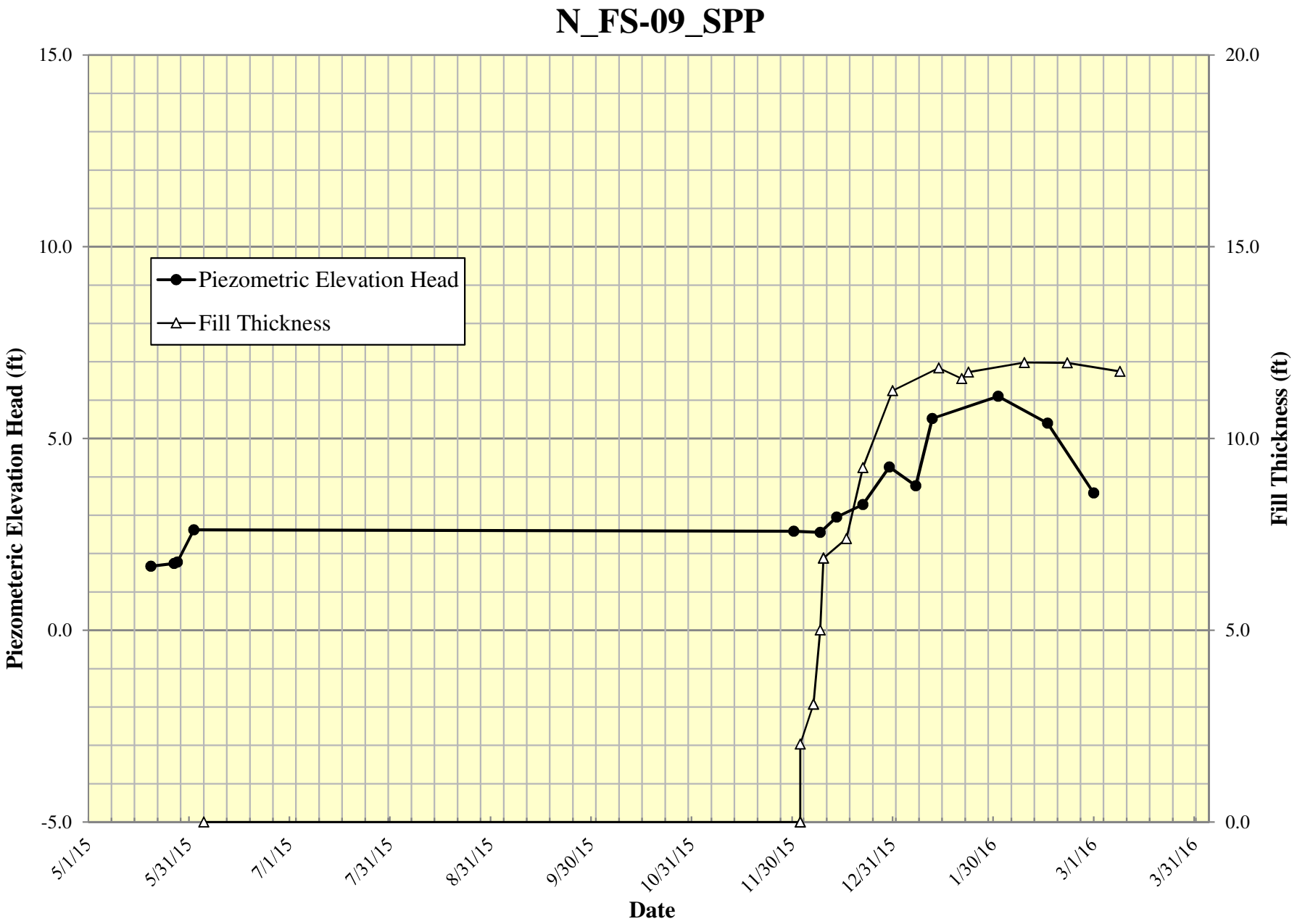


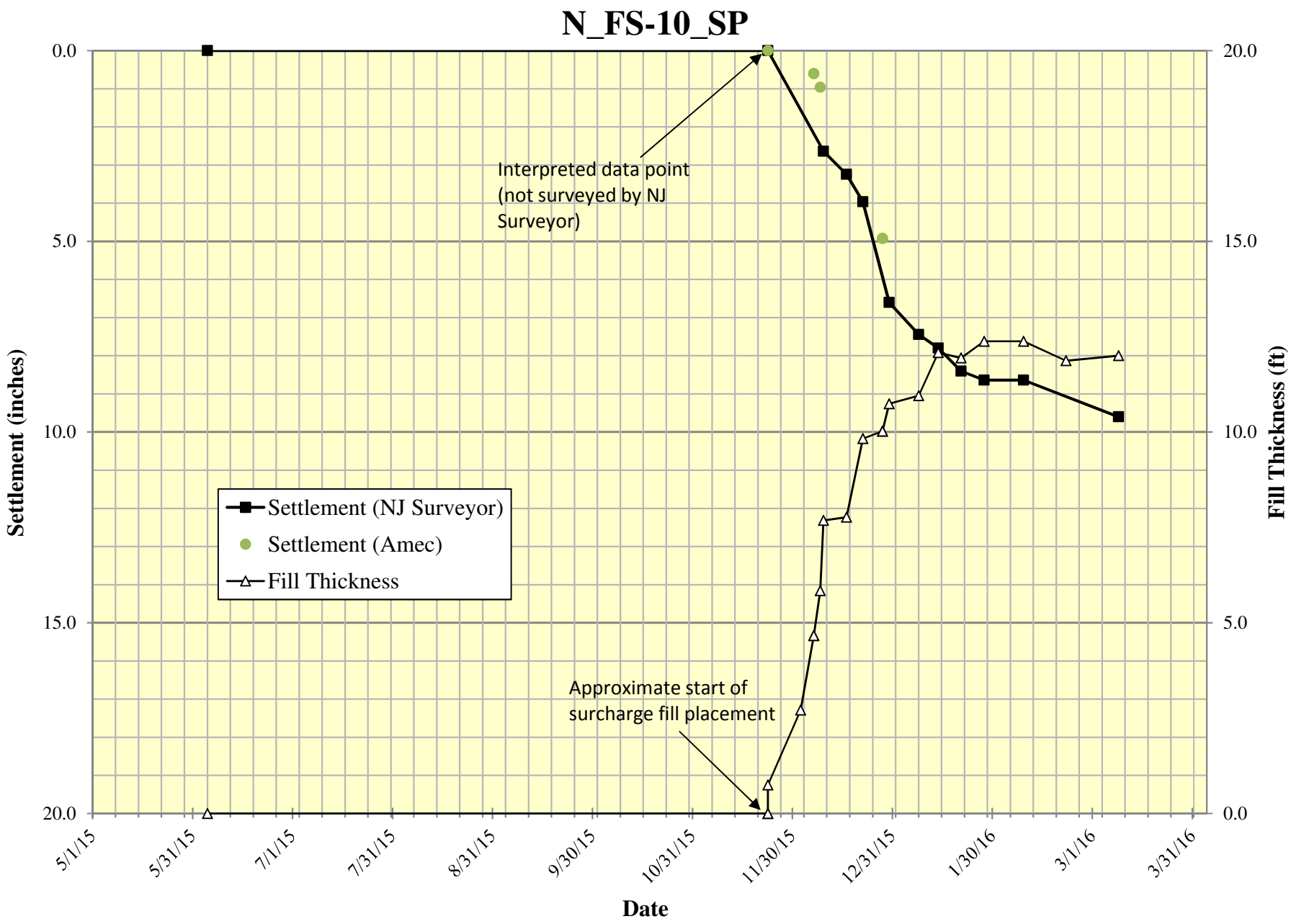
Standpipe Piezometer Data Summary



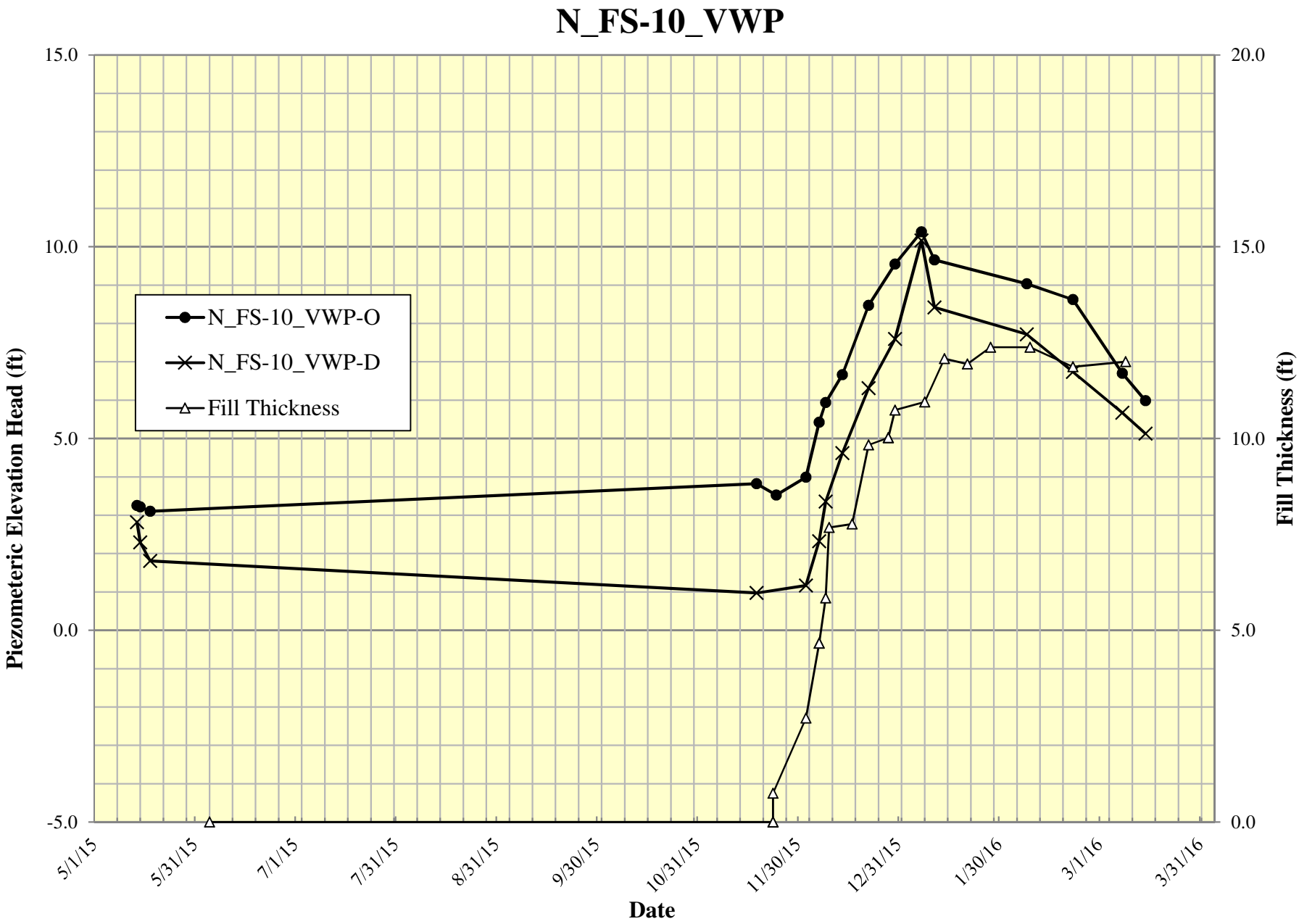
Surcharge Monitoring Data

N_FS-10

Settlement Platform Data Summary



Vibrating Wire Piezometer Data Summary



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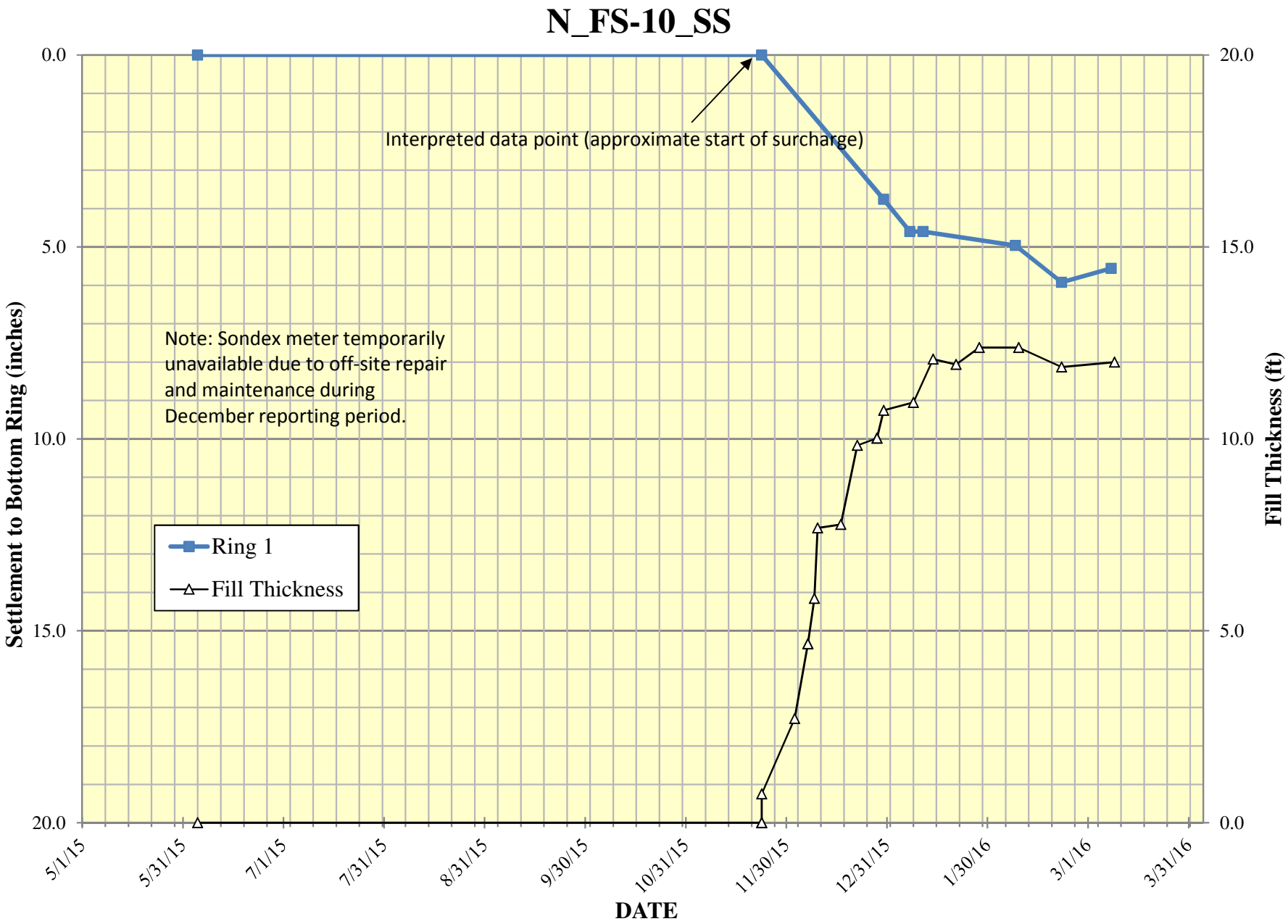
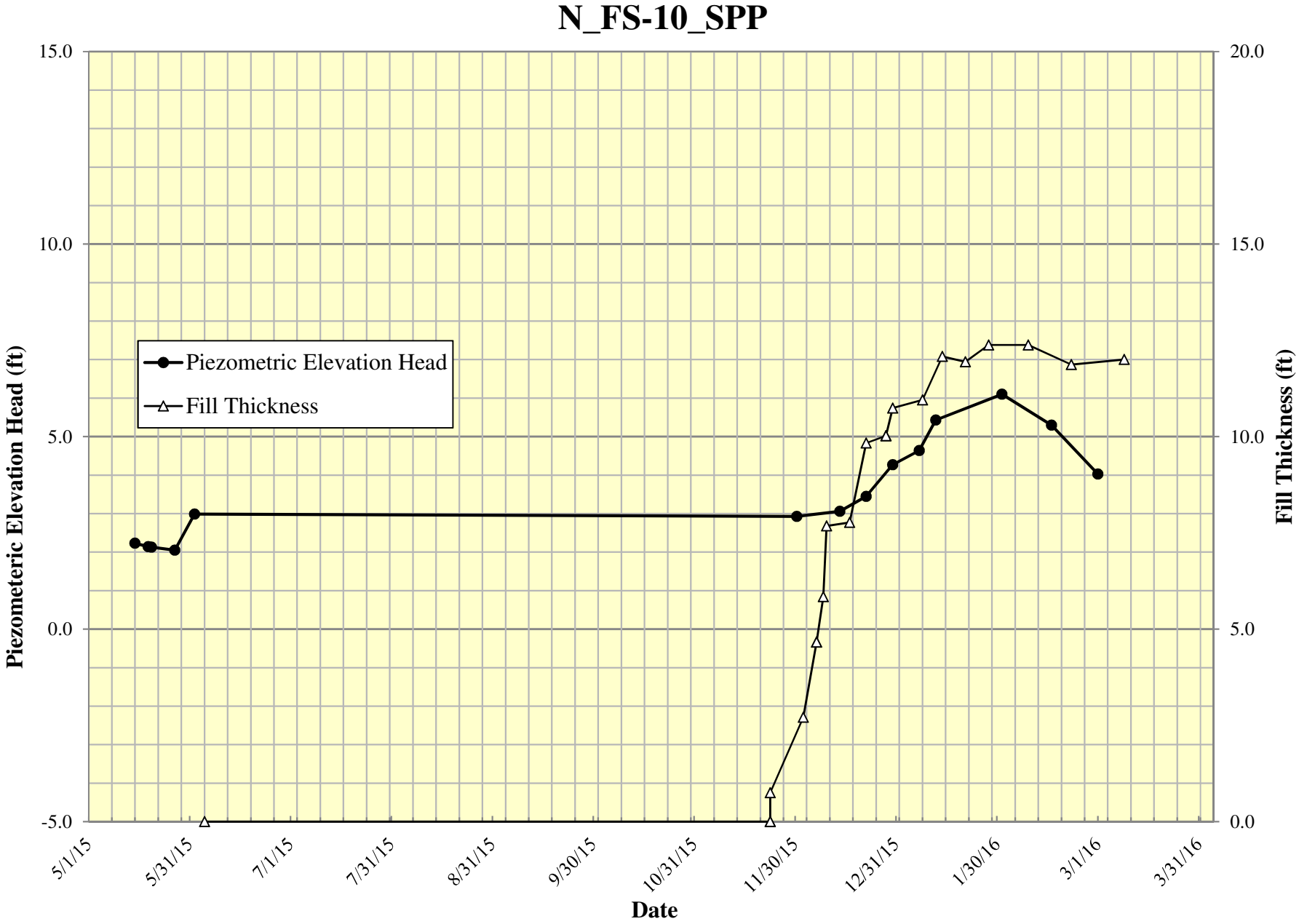


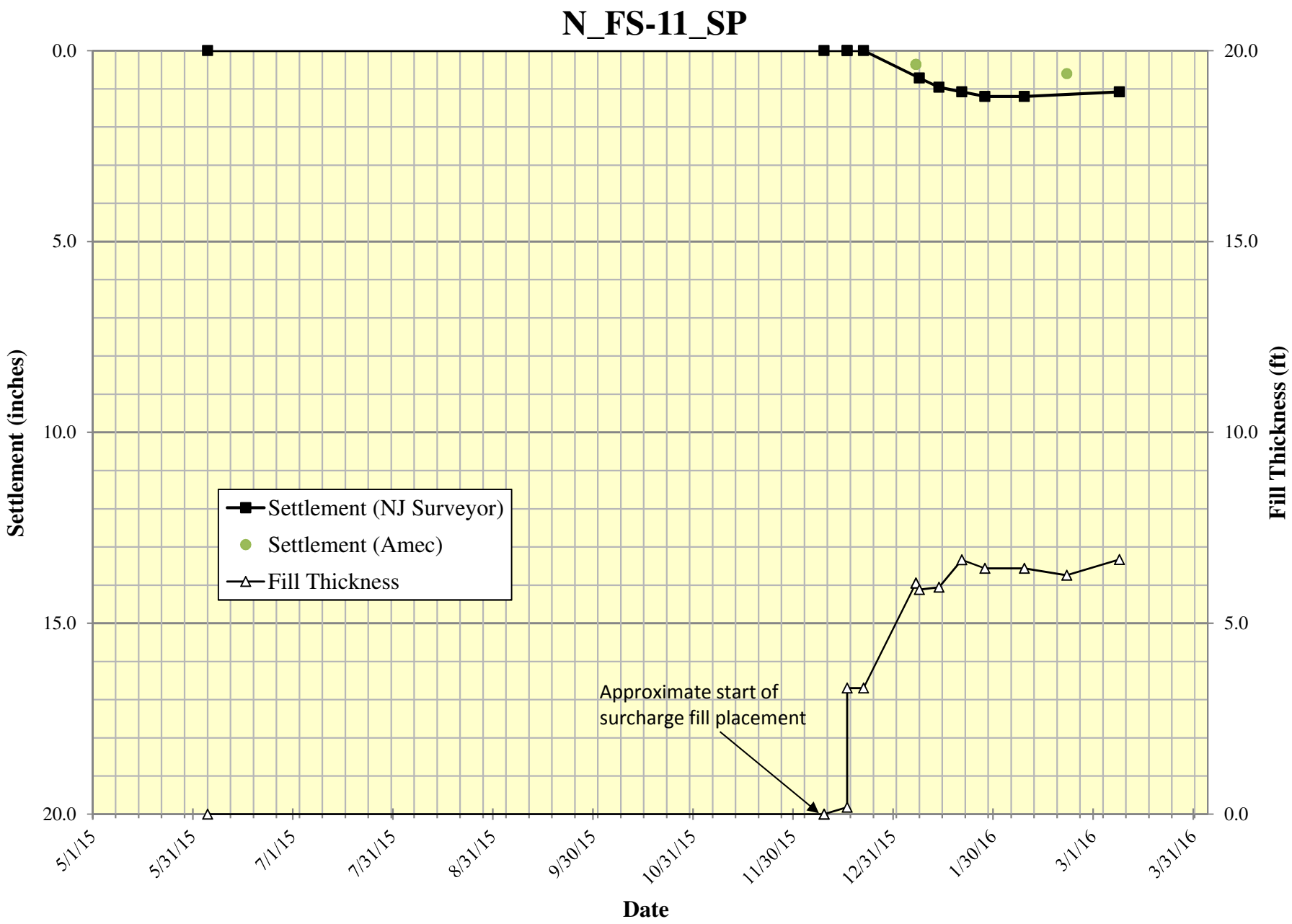
Standpipe Piezometer Data Summary



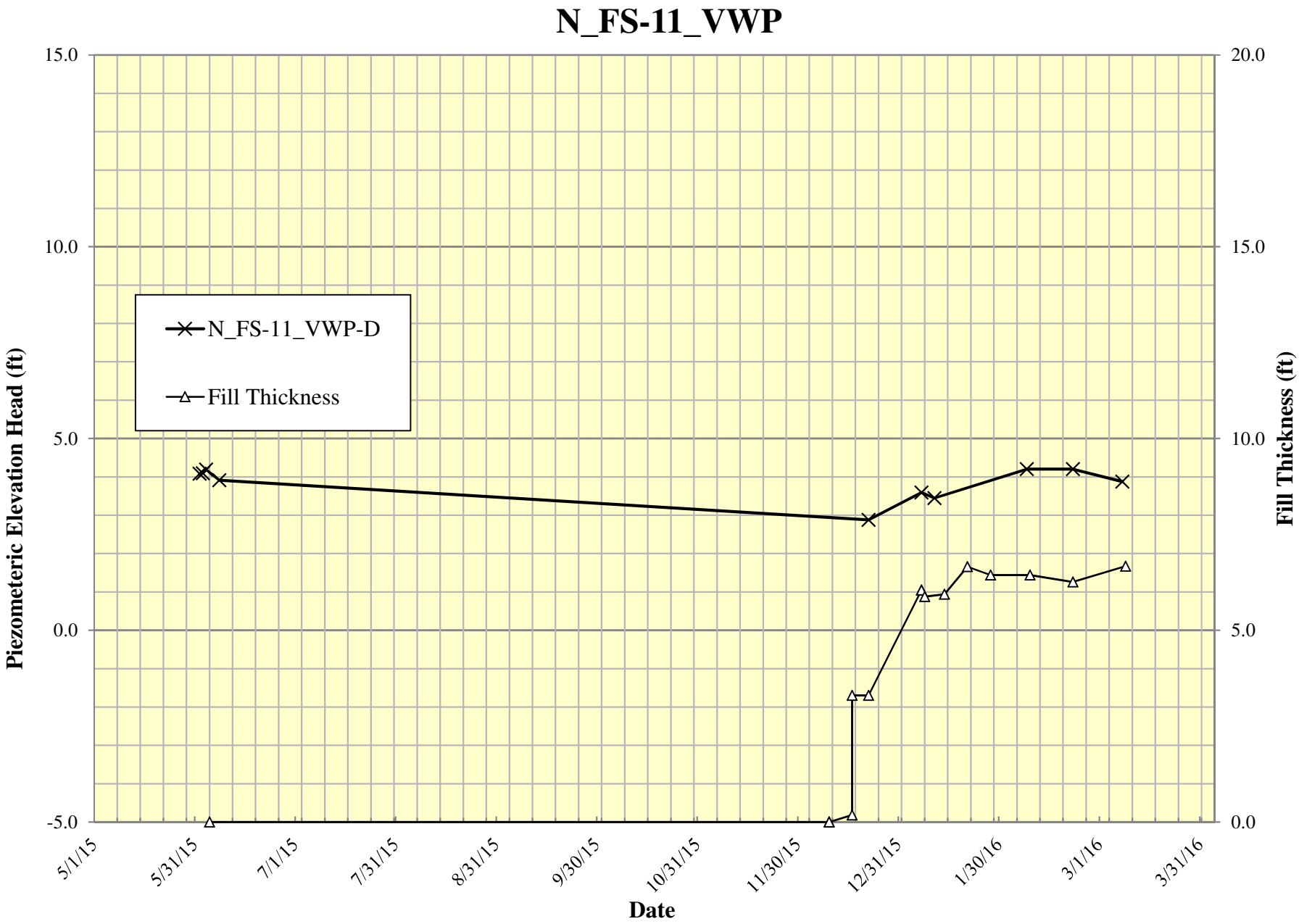
Surcharge Monitoring Data

N_FS-11

Settlement Platform Data Summary



Vibrating Wire Piezometer Data Summary



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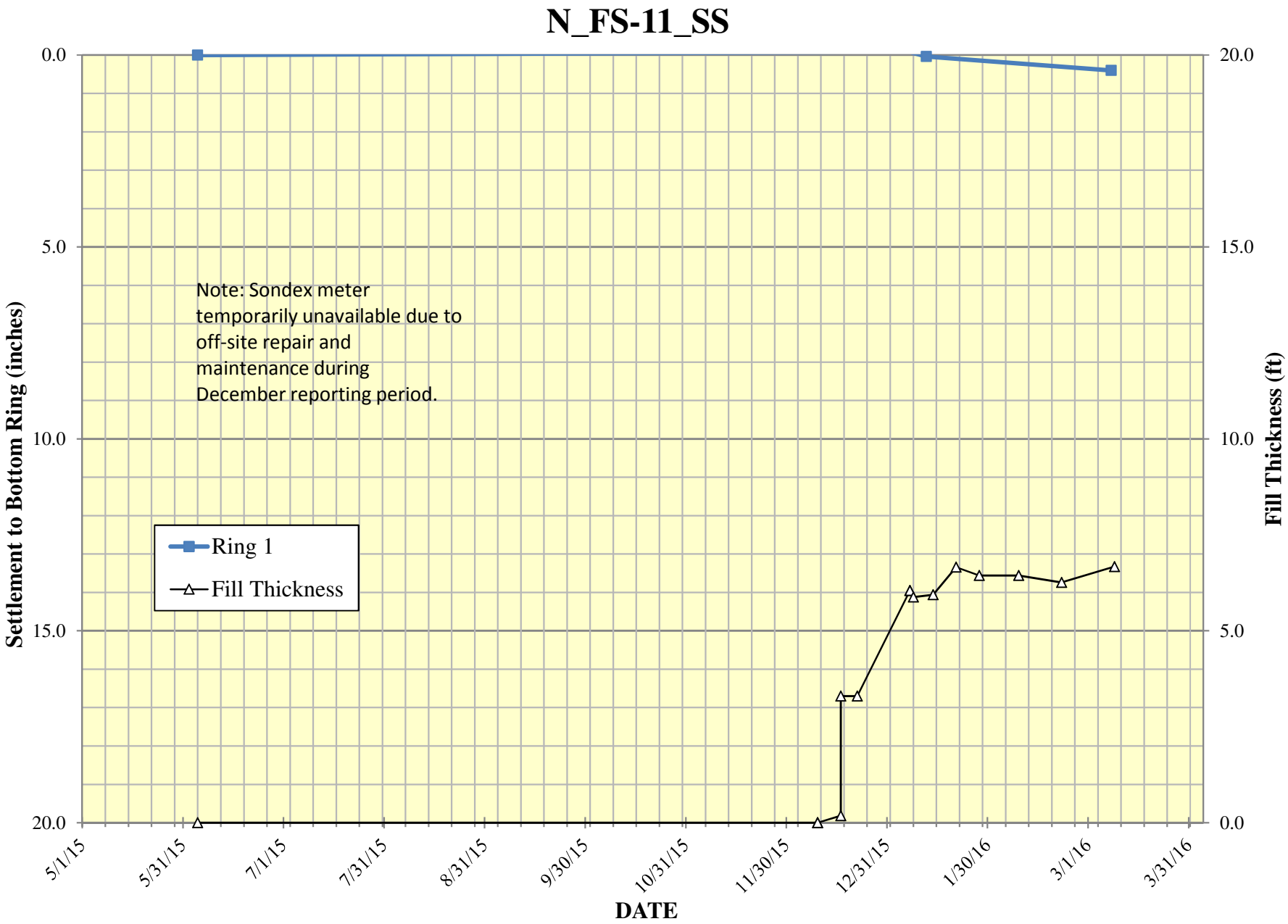
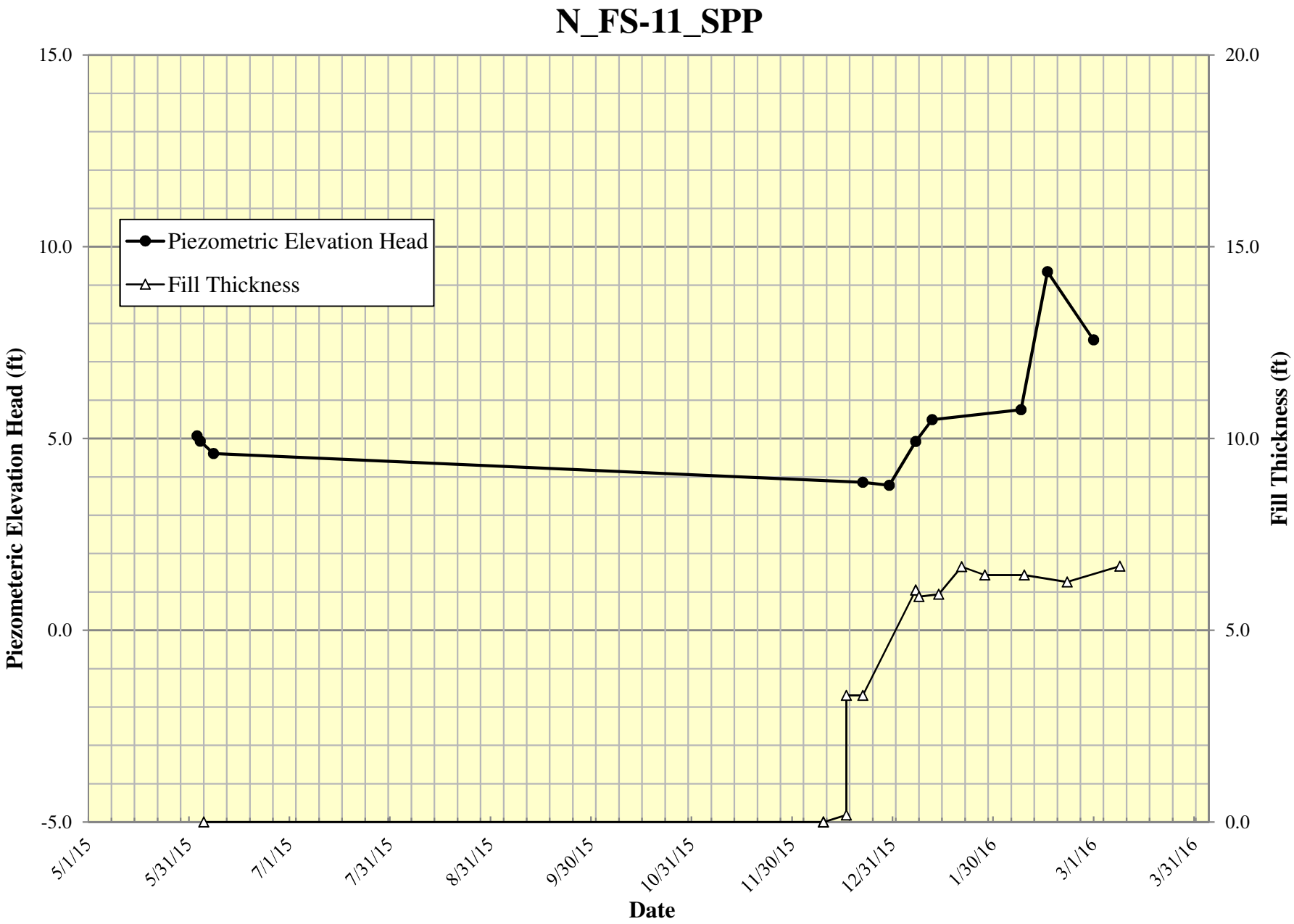


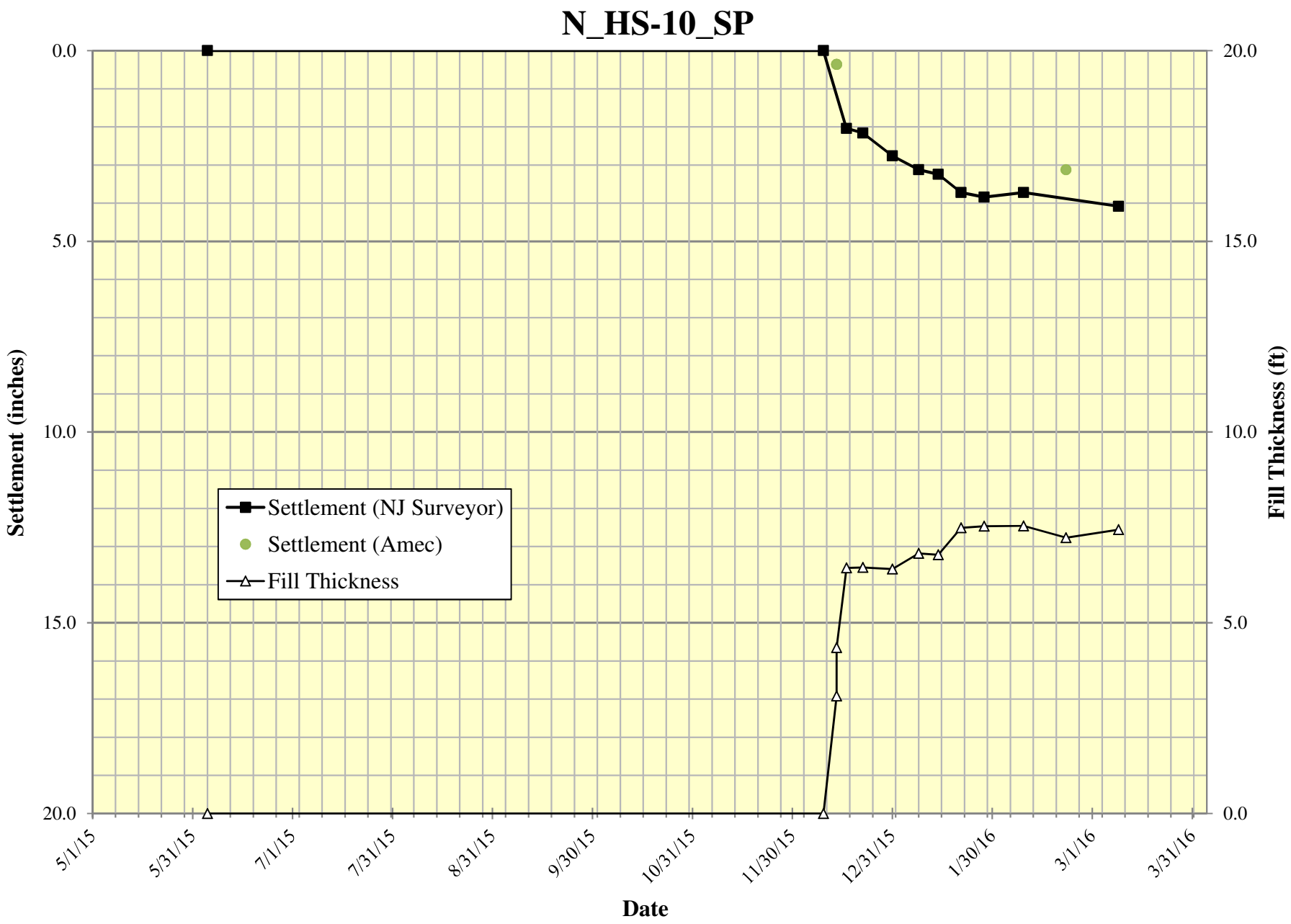
Standpipe Piezometer Data Summary



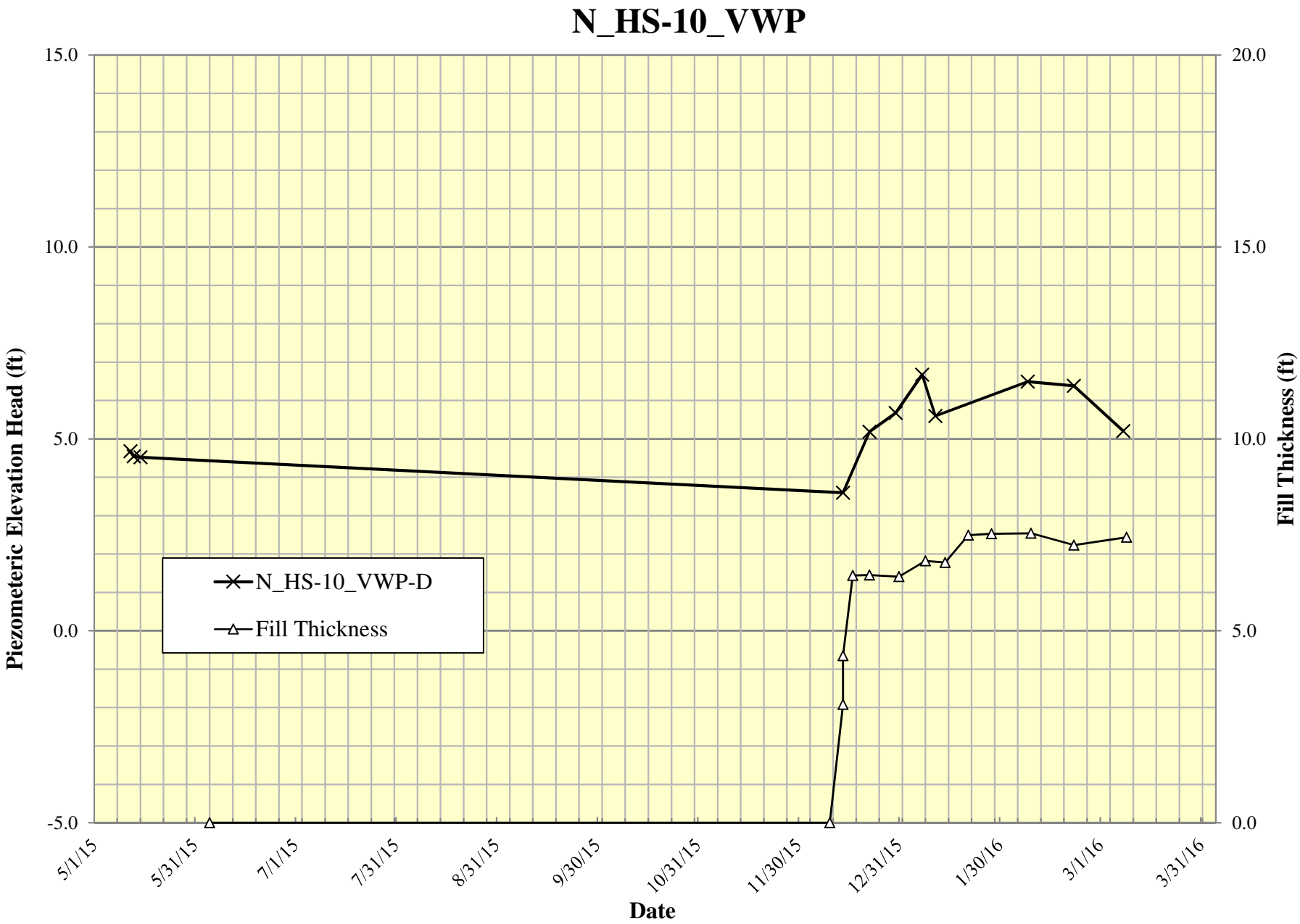
Surcharge Monitoring Data

N_HS-10

Settlement Platform Data Summary



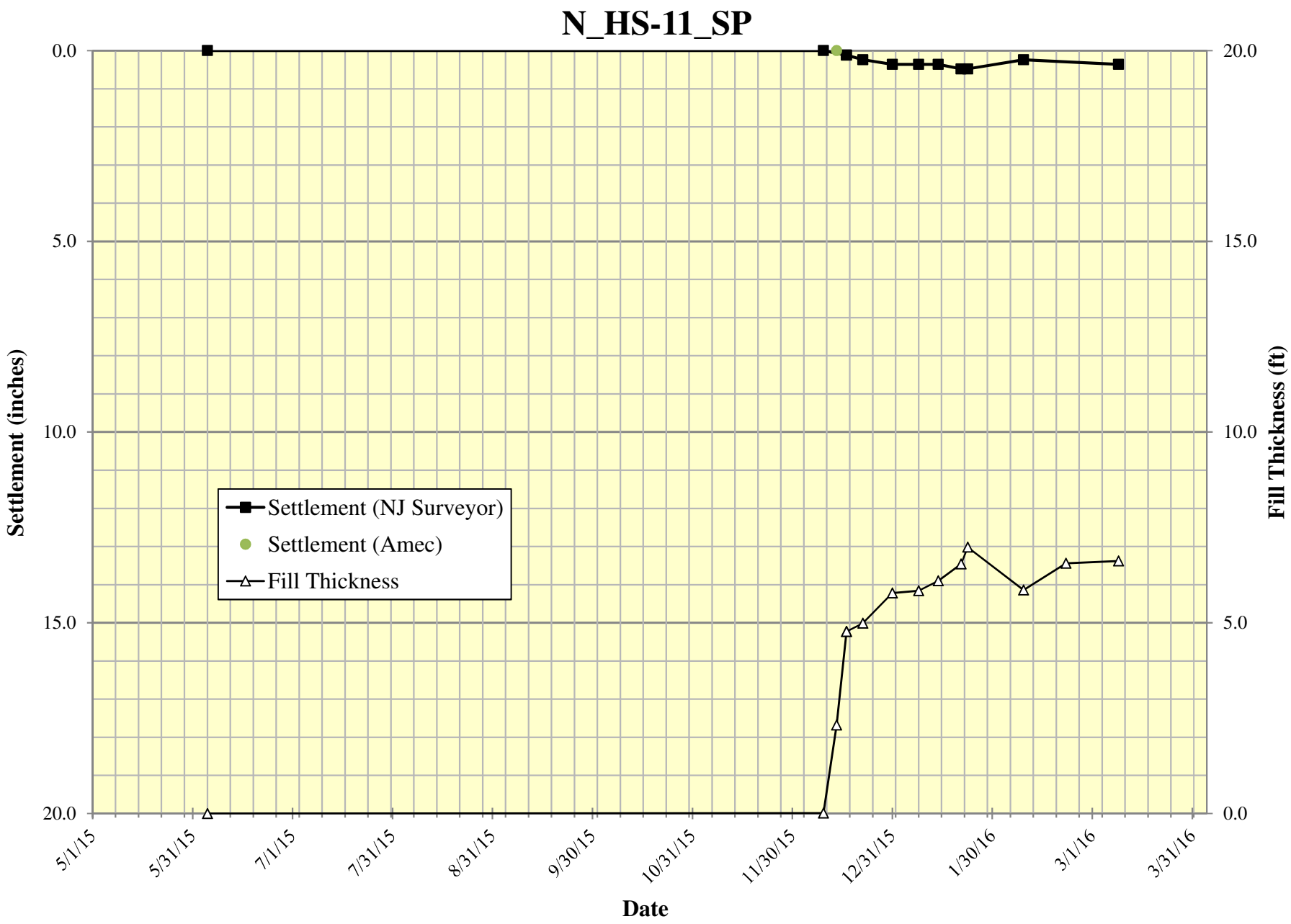
Vibrating Wire Piezometer Data Summary



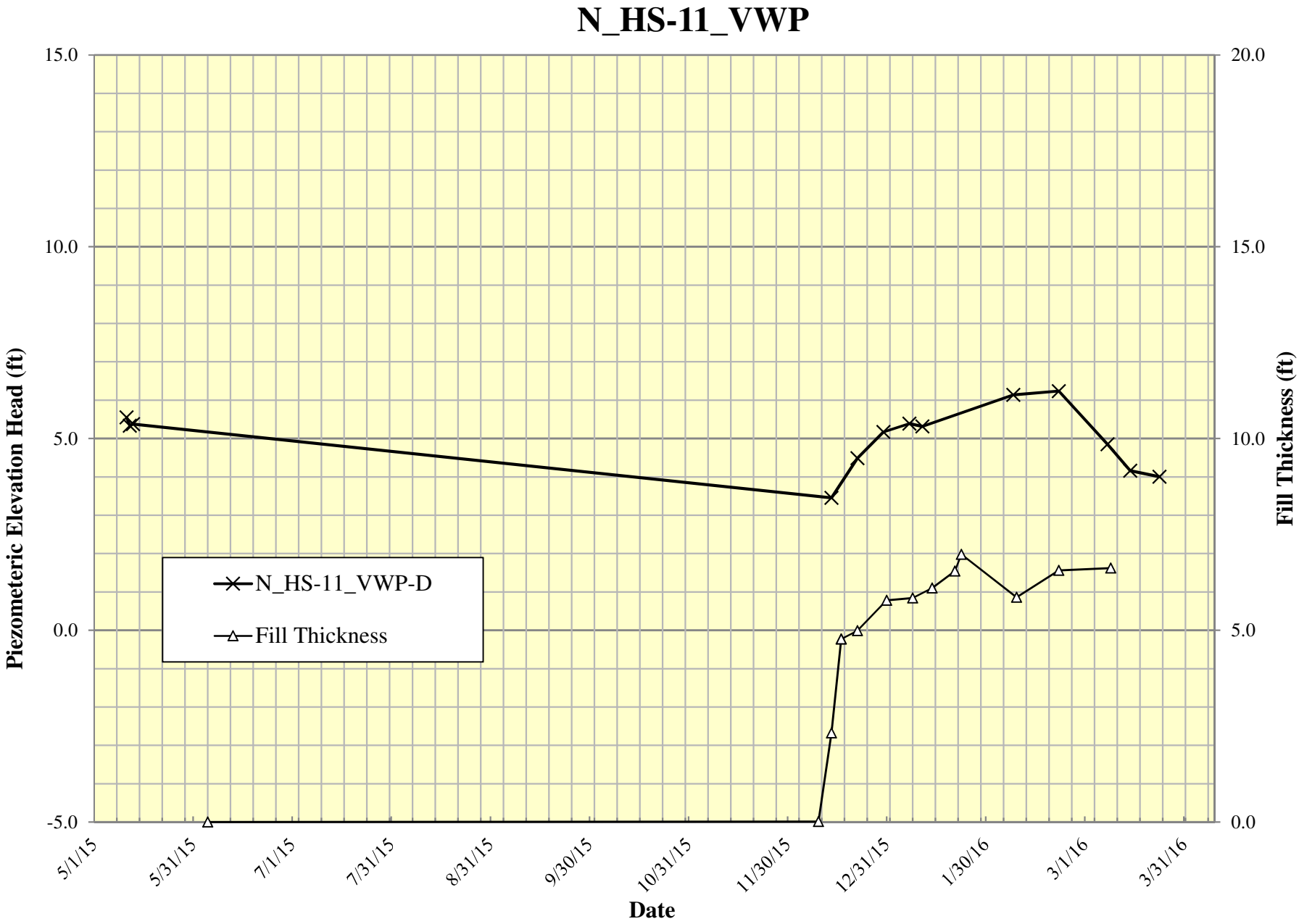
Surcharge Monitoring Data

N_HS-11

Settlement Platform Data Summary



Vibrating Wire Piezometer Data Summary



Surcharge Monitoring Data

N_HS-12

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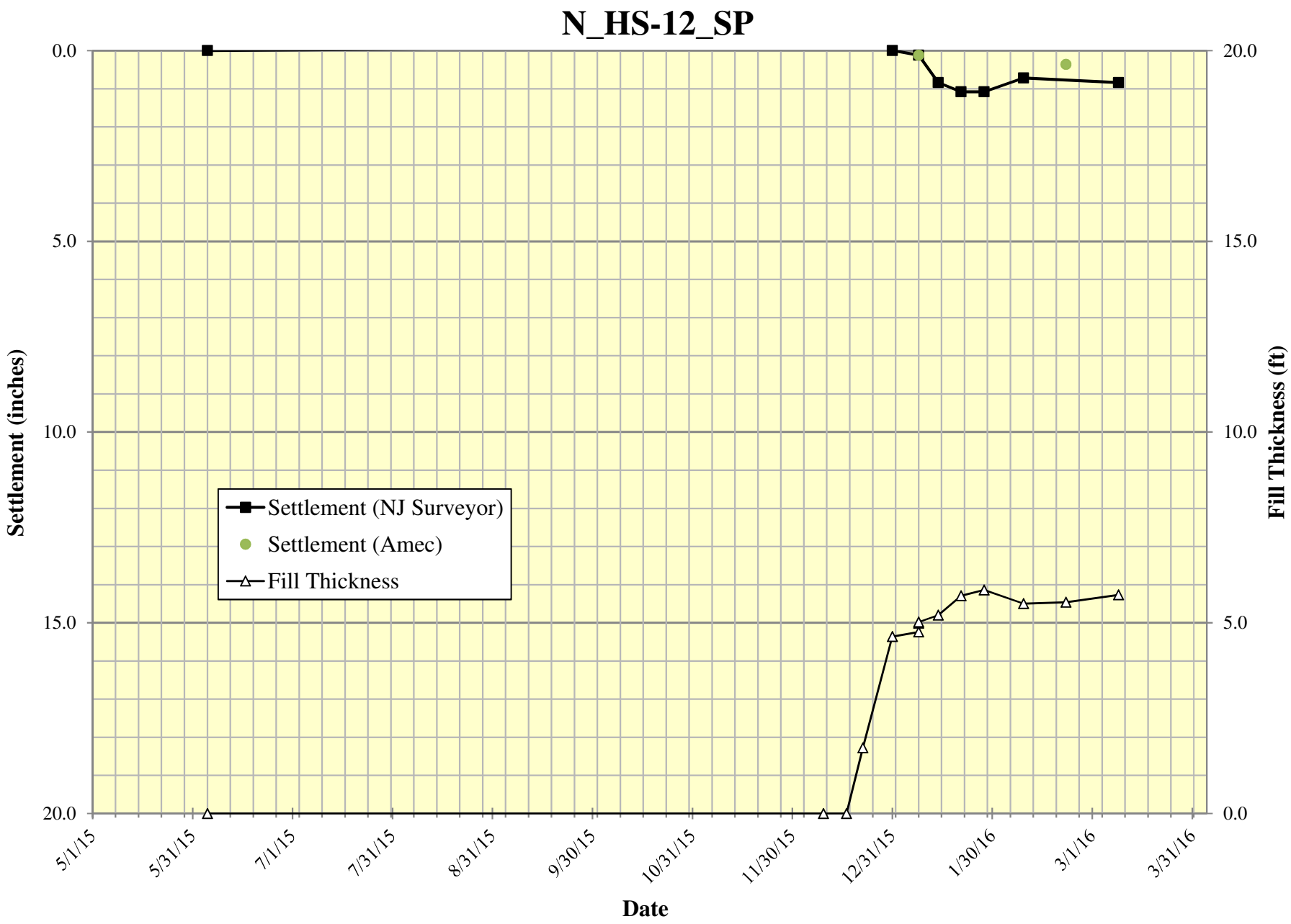
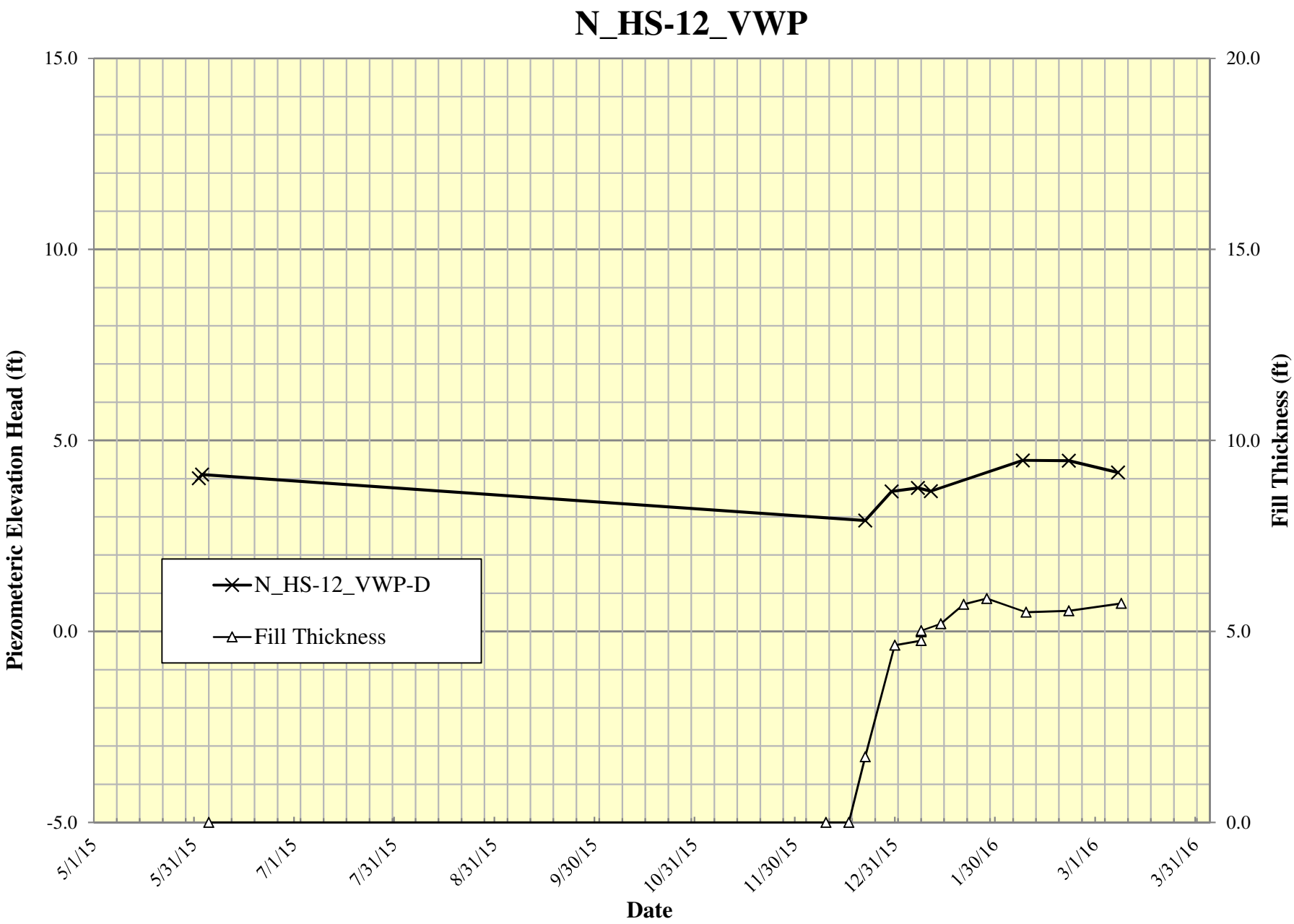


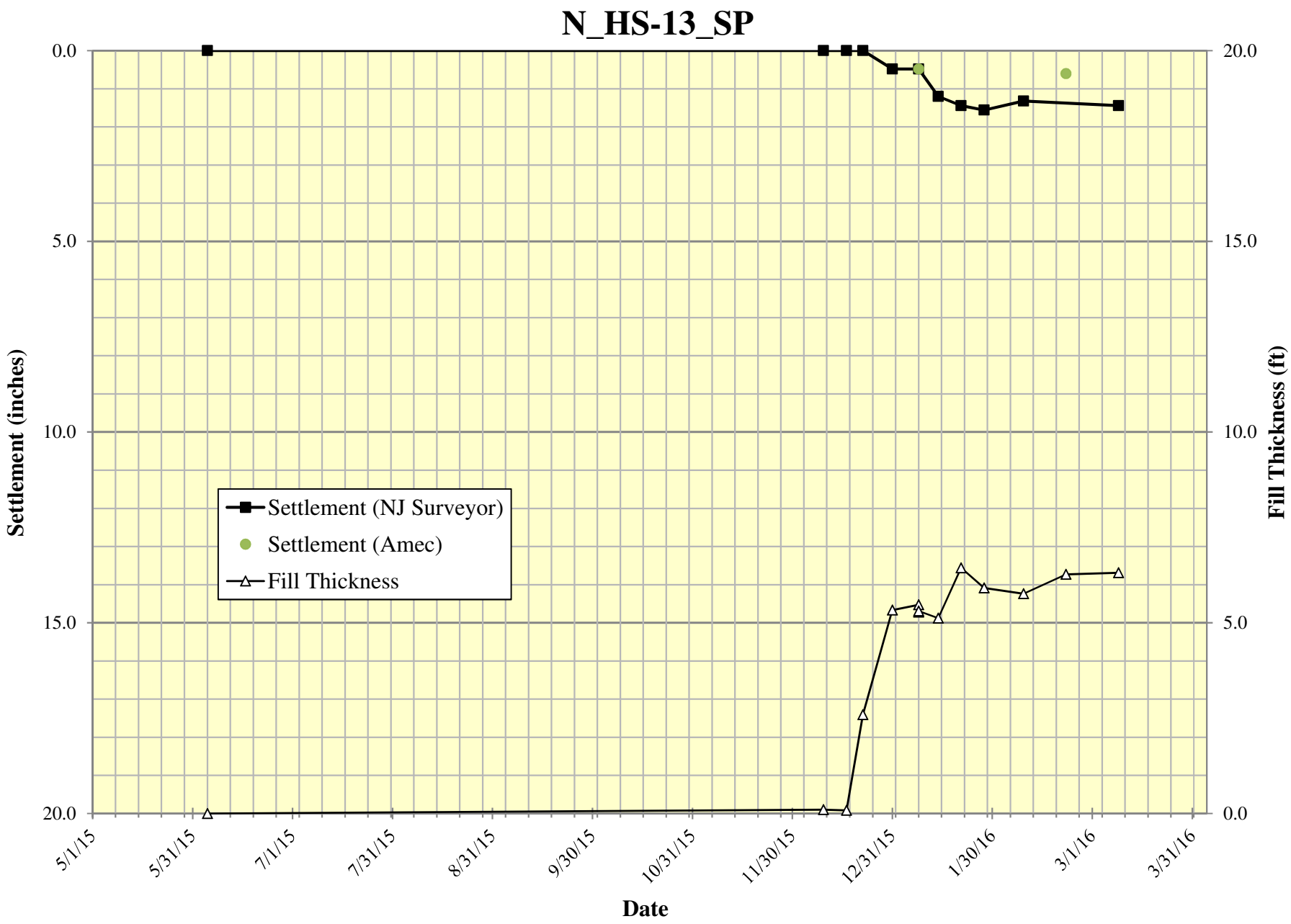
Vibrating Wire Piezometer Data Summary



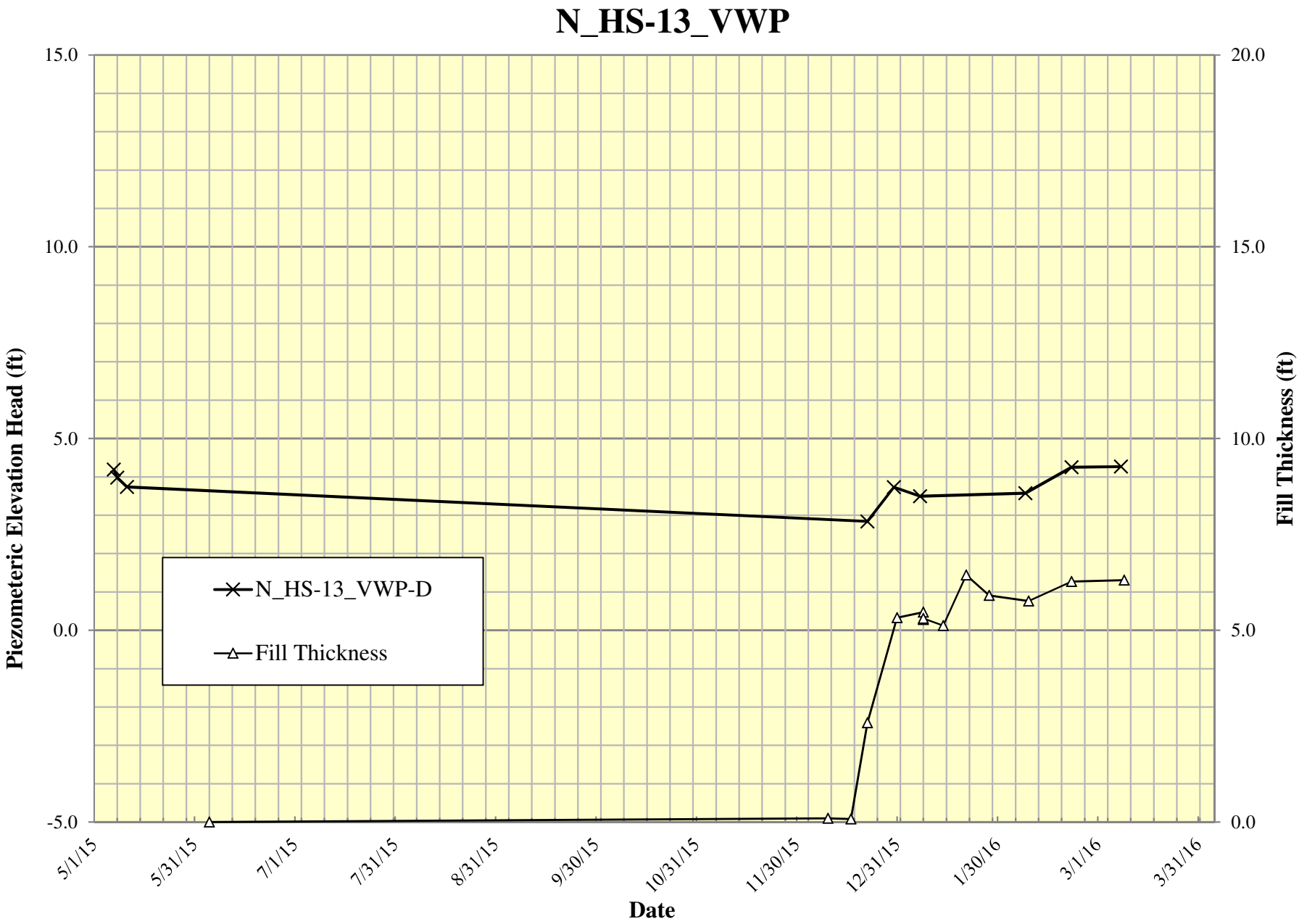
Surcharge Monitoring Data

N_HS-13

Settlement Platform Data Summary



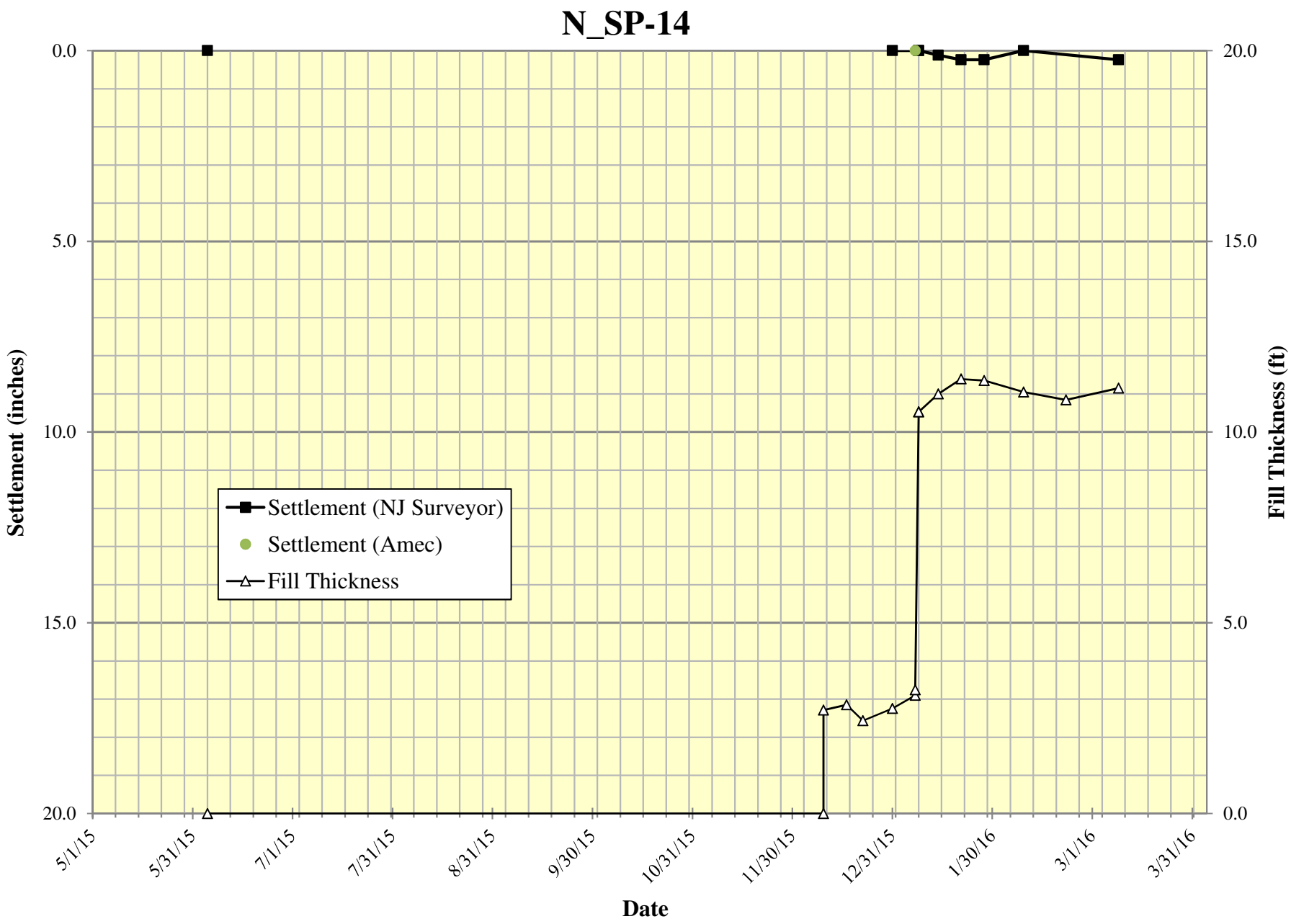
Vibrating Wire Piezometer Data Summary



Surcharge Monitoring Data

N_SP-14

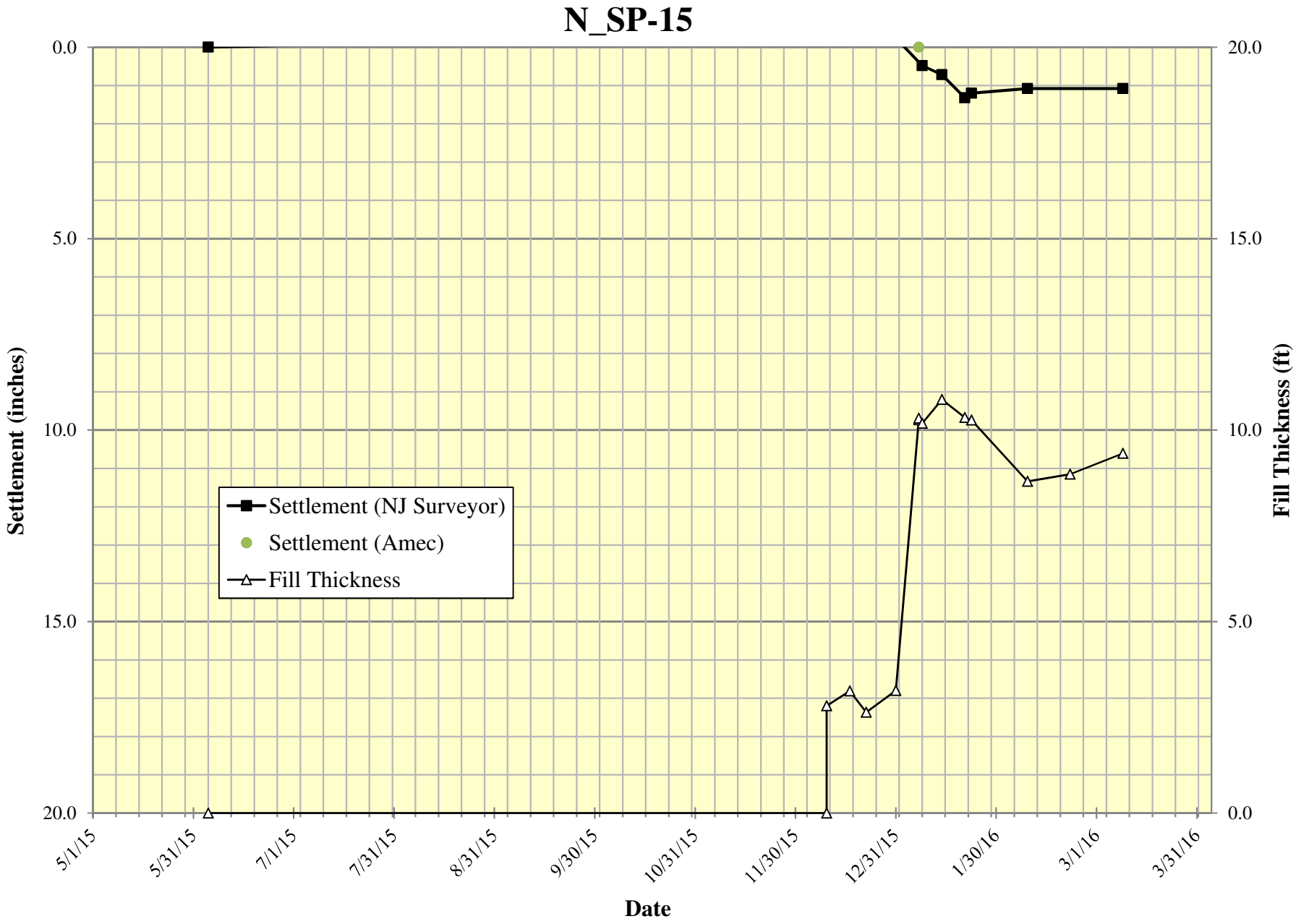
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-15

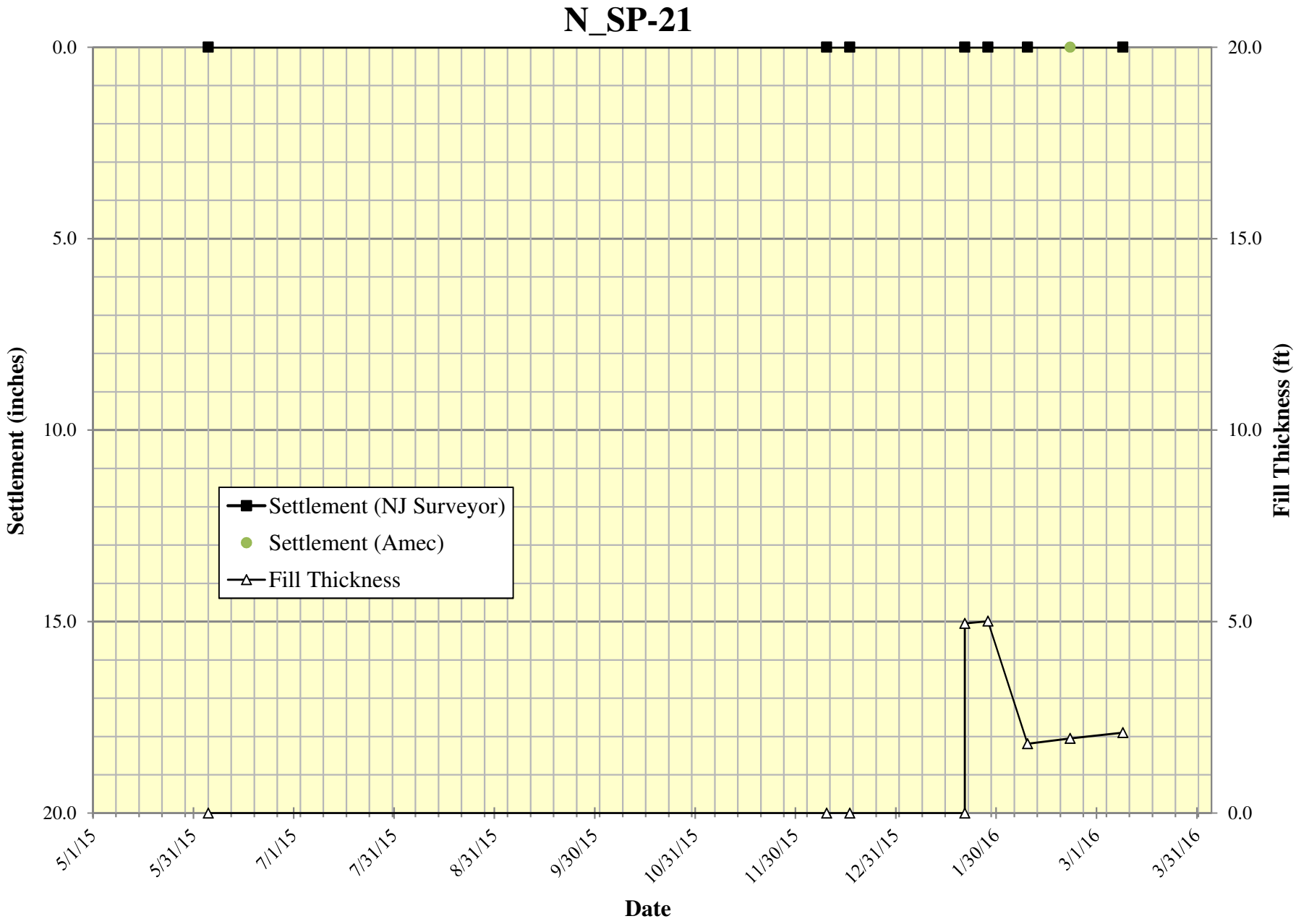
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-21

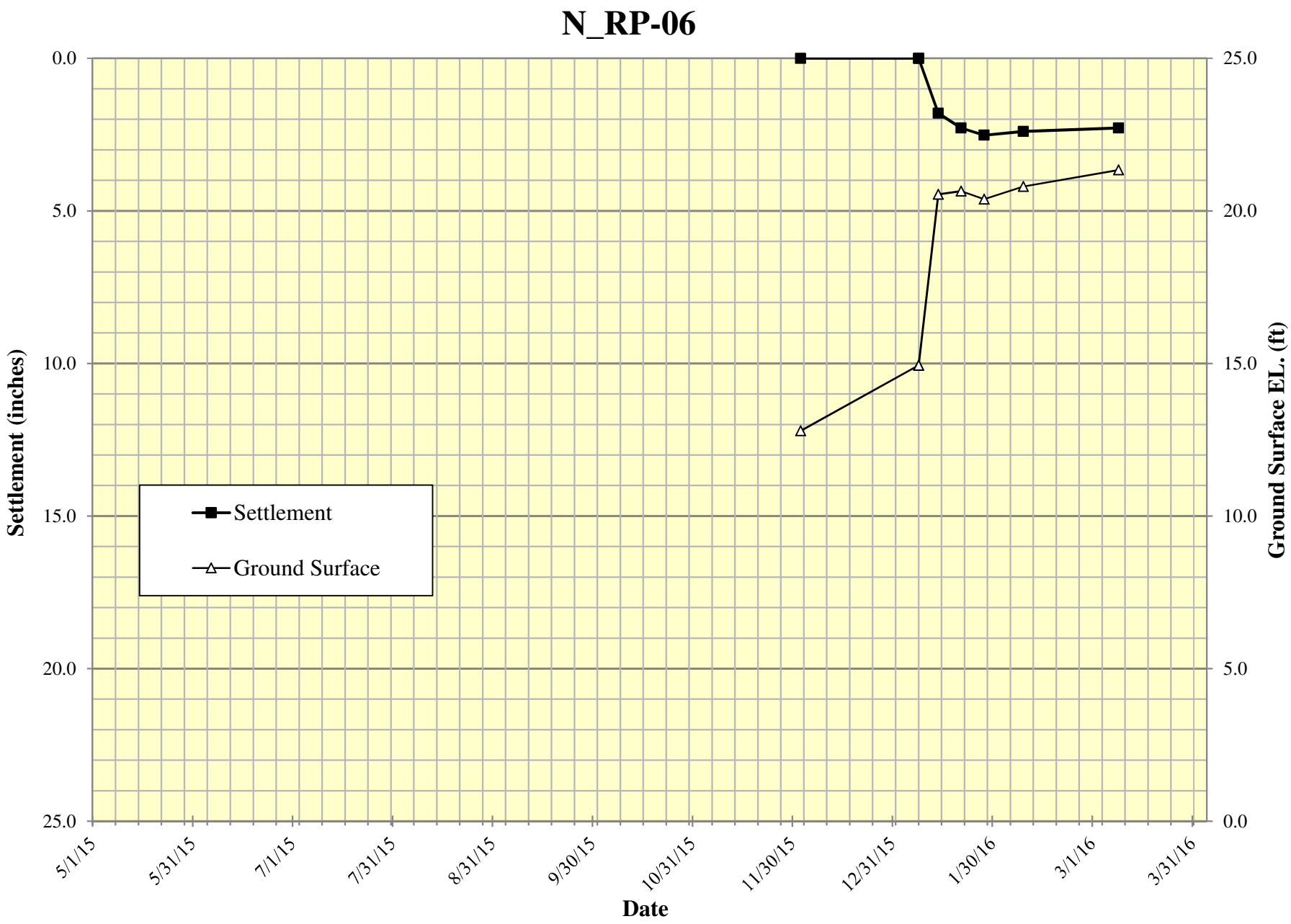
Settlement Platform Data Summary



Surcharge Monitoring Data

N_RP-06

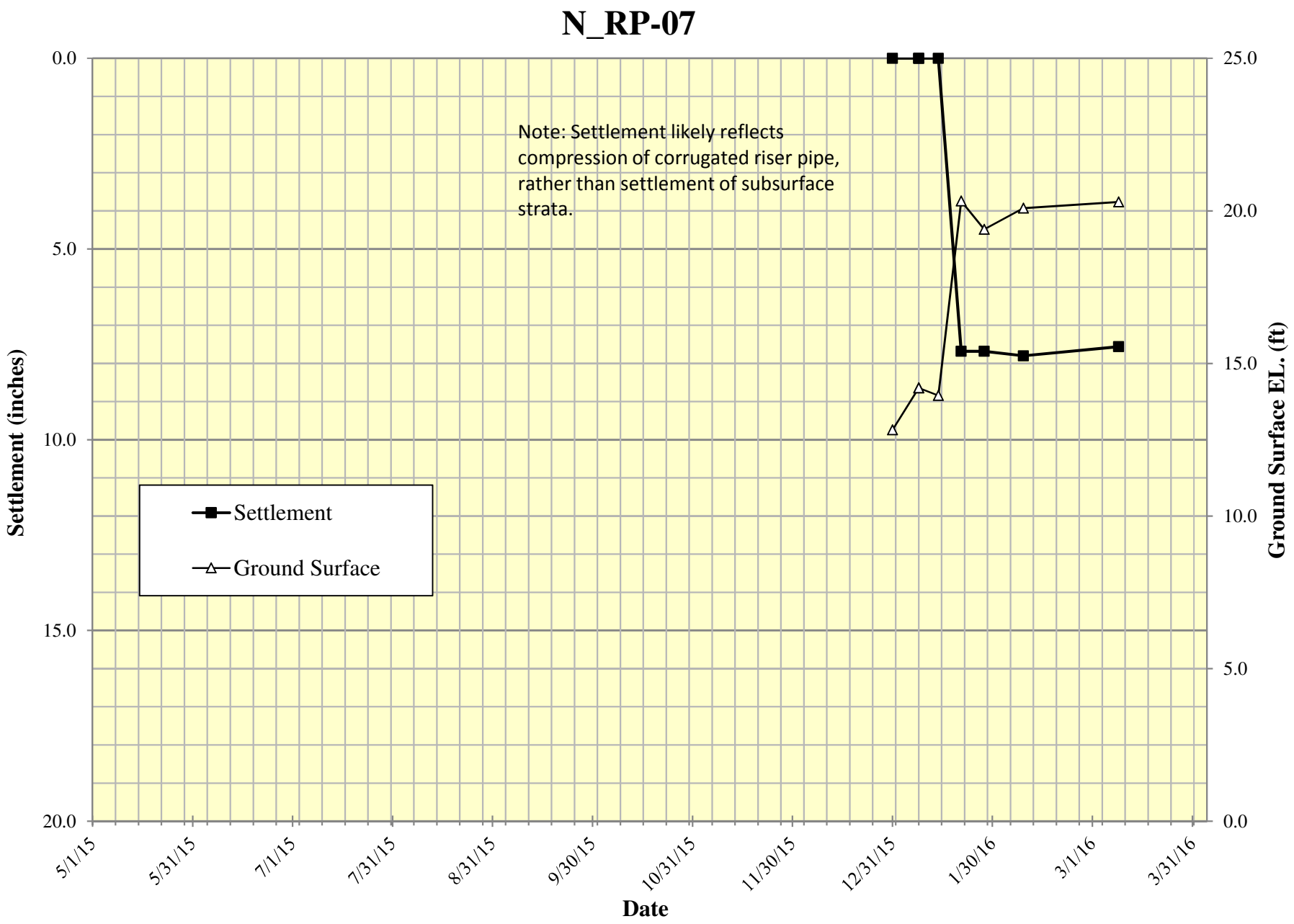
Riser Pipe Data Summary



Surcharge Monitoring Data

N_RP-07

Riser Pipe Data Summary



Attachment 3N-3

March 29, 2016 Mueser Rutledge Correspondence re:
Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ

Mueser Rutledge Consulting Engineers

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March 29, 2016

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attn: Mr. Geoff Shallard

Re: Updated Area 3N and 4N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 15th, 2016 AMEC settlement and piezometer monitoring data for Area 3N and 4N is summarized below:

AMEC indicated boring sampling was performed to define the soil profile and the Vibrating Wire Piezometer (VWP) was set at the center of the compressible layer, so that the pore water pressure reading is the most conservative for effective stress evaluation. All the effective stress calculations were made at the center of the layers.

MRCE used the latest measured elevation head dated March 15th, 2016 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated using fill thickness measurements from the "Settlement Platform – Data Report" taken on March 9th, 2016. Calculated post-surcharge effective stresses are presented in Table 1 and Table 2. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of the surcharge program was to achieve an effective stress greater than "Final Post-Development Conditions."

This review finds that with the March 15, 2016 readings all settlement monitoring locations, including the two settlement locations, N_HS-11 in Area 3N (Table 1) and N_FS-12 in Area 4N (Table 2), have met the surcharge program goal. This finding is in agreement with the AMEC data review and interpretation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

F:\111\11173\2015 Surcharge Removal Review\MRCE Peer Review Area 3N and 4N final.pdf

FOR: SA-6 North Surcharge Monitoring Review

Table 1. Area 3N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
N_FS-08	Center D	-7.0	2226.3	2400.5	2/9/2016	2/22/2016	11.8	7.0	3697.5	876.1	2821.4	**118%**	**114%**
N_FS-09	Center D	-4.9	2151.3	2217.8	2/9/2016	2/22/2016	12.0	6.4	3648.8	699.4	2949.4	**133%**	**127%**
N_FS-10	Center O	-3.5	1937.5	2525.6	2/9/2016	2/22/2016	12.4	8.6	3485.0	756.7	2728.3	**108%**	**109%**
	Center D	-6.0	2202.5	2619.0	2/9/2016	2/22/2016	12.4	6.7	3750.0	794.8	2955.2	**113%**	
N_FS-11	Center D	-5.1	2032.5	1919.6	2/9/2016	2/22/2016	6.4	4.2	2837.5	579.8	2257.7	**118%**	**118%**
N_HS-10	Center D	-5.2	2083.8	2216.4	2/9/2016	2/22/2016	7.5	6.4	3026.3	721.5	2304.7	**104%**	**101%**
N_HS-11	Center D	-5.7	2147.5	2280.4	3/9/2016	3/15/2016	6.6	4.2	2975.0	617.3	2357.7	**103%**	**102%**
N_HS-12	Center D	-4.4	2042.5	1931.7	2/9/2016	2/22/2016	5.5	4.5	2730.0	551.0	2179.0	**113%**	**111%**
N_HS-13	Center D	-4.4	1991.3	2050.1	2/9/2016	2/22/2016	5.8	4.3	2711.3	539.3	2172.0	**106%**	**107%**

FOR: SA-6 North Surcharge Monitoring Review

Table 2. Area 4N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-12	Center D	-4.1	1927.5	1869.2	3/9/2016	3/15/2016	3.4	3.5	2348.8	473.9	1874.9	**100%**	**101%**
N_FS-13	Center D	-4.6	2248.8	2063.8	1/28/2016	2/22/2016	3.1	-0.9	2640.0	232.2	2407.8	**117%**	**119%**

SURCHARGE AREA 4N
FIGURES & ATTACHMENTS

Figure 4N-1

Instrumentation Location Plan



SETTELMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS12	685304	603416
FS13	685208	603374
SP22	685182	603355
SP23	685359	603466
SP24	685359	603491
SP25	685072	603483

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2	INCLINOMETER LOCATION
FS12	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 08/30/15
Checked/Date: NDL 08/30/15

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 4N
Project 3480-13-0377
Figure E1

Z:\Projects\HONEYWELL\JERSEY CITY\Site Data\p--3480-4250\GIS\MXD\Fig4 Surcharge Pile\Monitoring Plan - Area 4.dwg Thu, 30 Jun 2015 - 2:39pm kenji.ahnnen

Attachment 4N-1

Baseline Surcharge Analysis for Monitoring Points

AREA 4N
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	SF/O	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
N_FS-12	088-SB-307; 088-SB-306	12.9	14.4	16.5	0.5	0.0	0.0	0.7	0.0	0.0	1.2	**16.5**	**3.6**	**2.1**	**45%**	**0.4**	0.0	1.4	**1.4**
N_FS-13	088-SB-306; 115-SB-211	15.0	16.6	18.0	0.6	0.0	0.0	0.8	0.0	0.0	1.3	**18.0**	**3.0**	**1.4**	**56%**	**0.8**	0.0	1.7	**1.7**

Prepared By/Date: NDL/6-26-15
Checked By/Date:

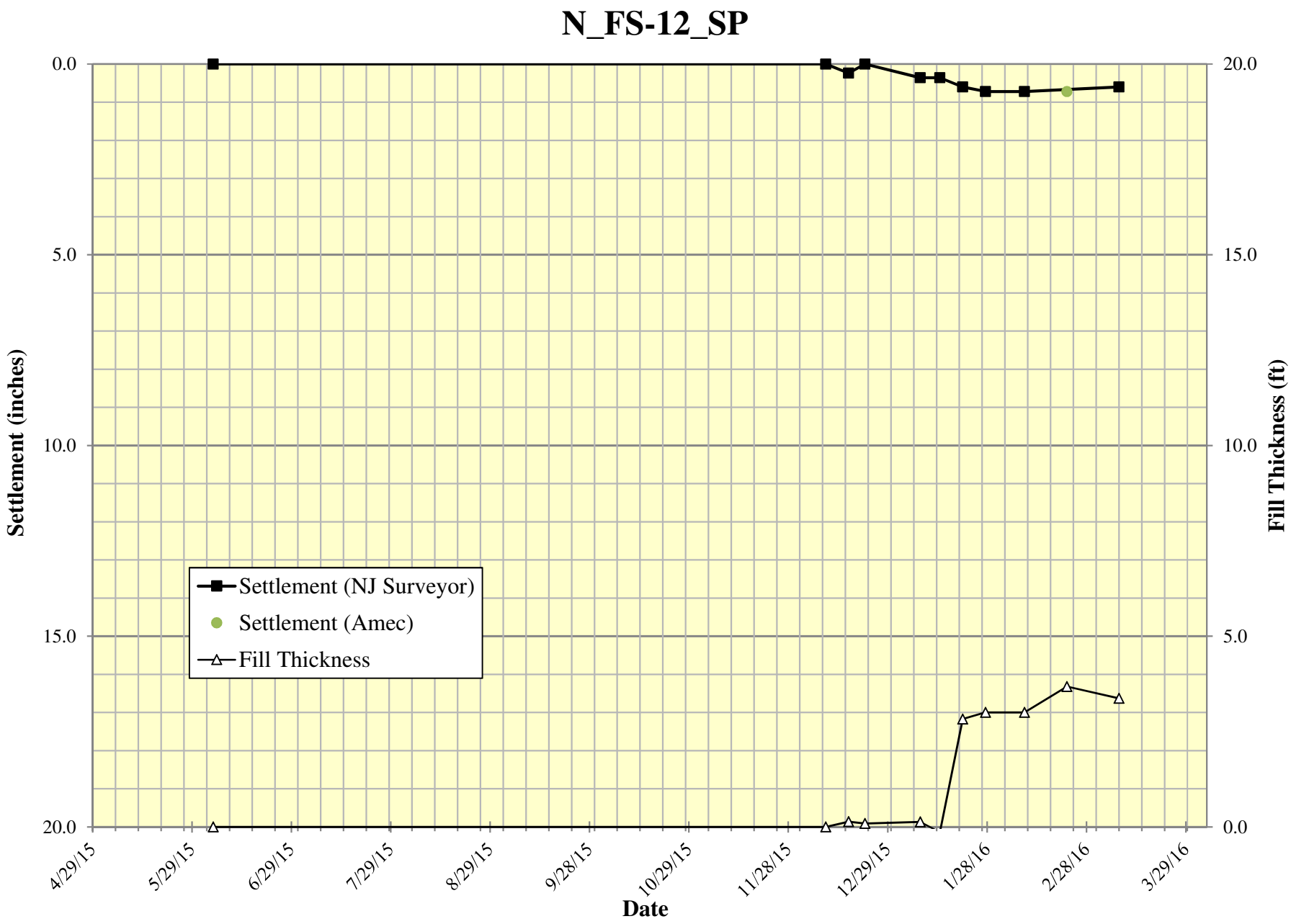
Attachment 4N-2

Surcharge Monitoring Data

Surcharge Monitoring Data

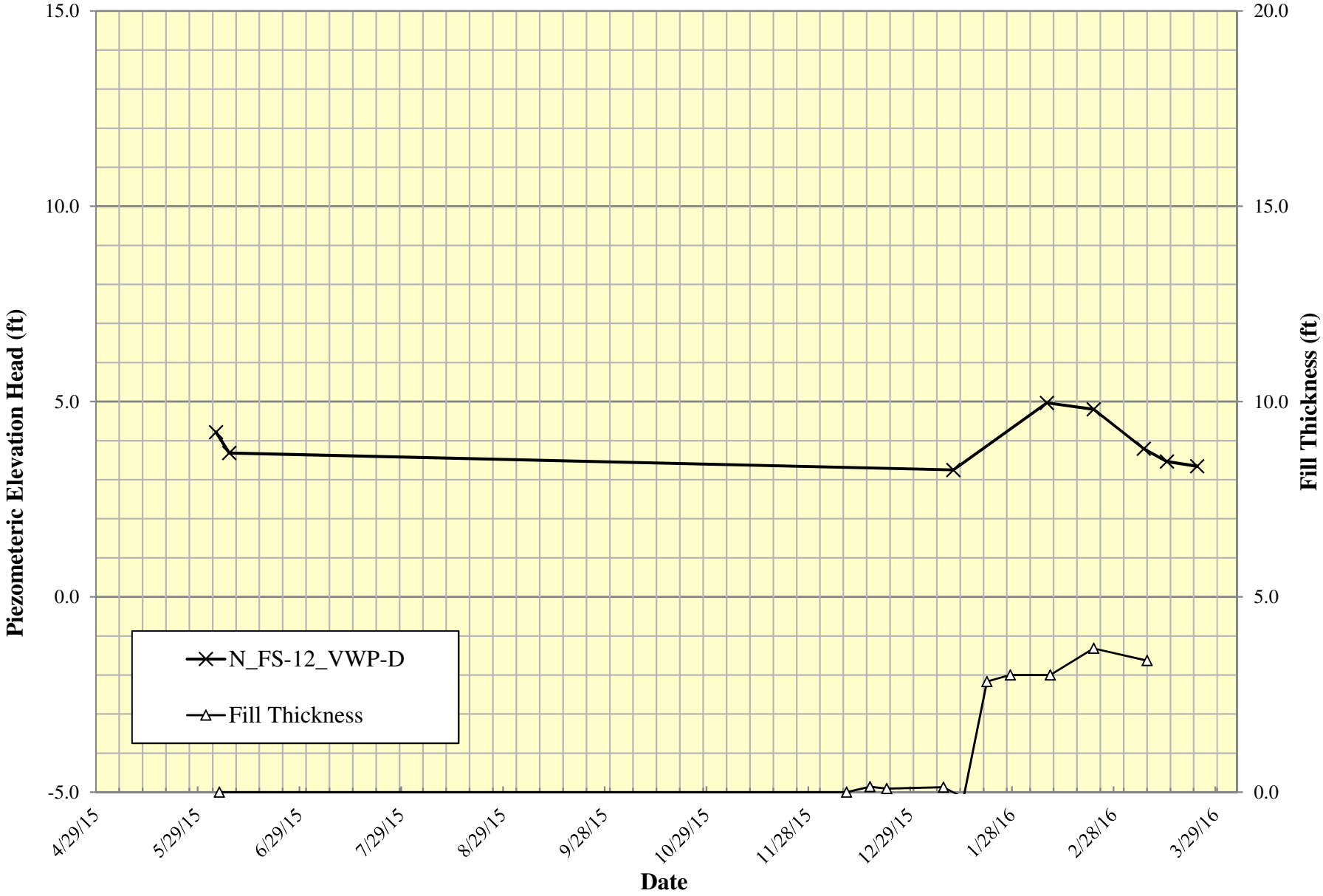
N_FS-12

Settlement Platform Data Summary

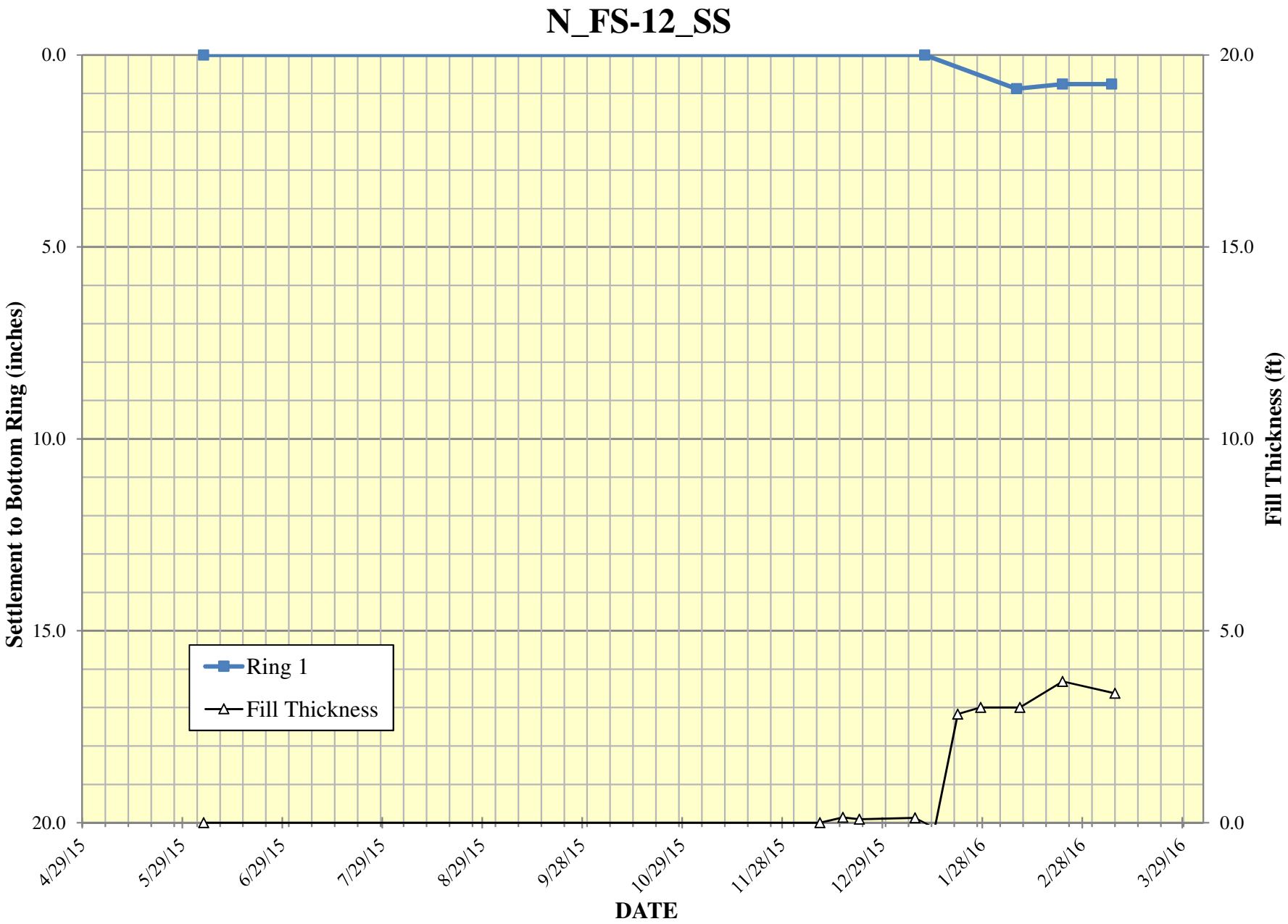


Vibrating Wire Piezometer Data Summary

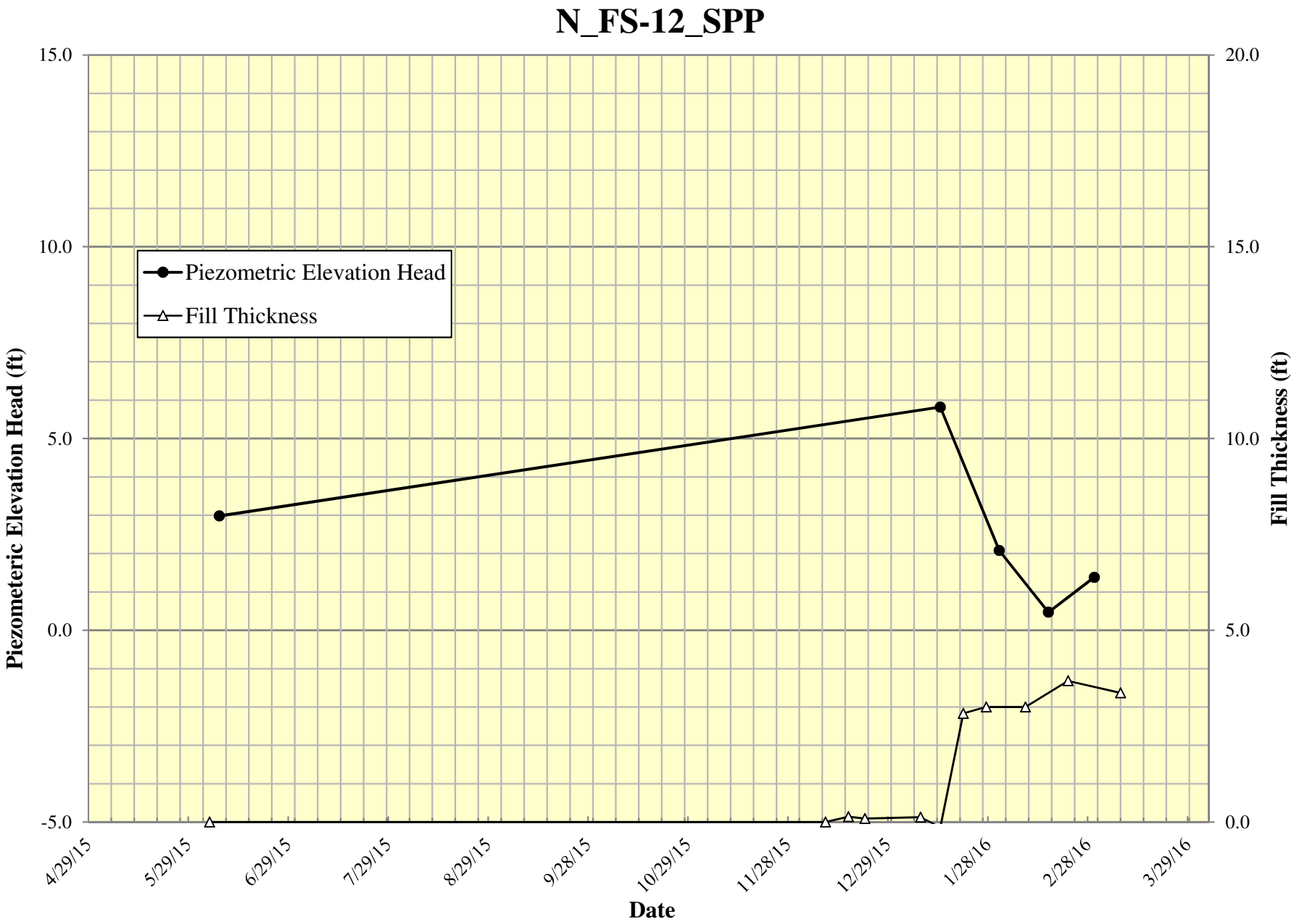
N_FS-12_VWP



Sondex System Data Summary



Standpipe Piezometer Data Summary

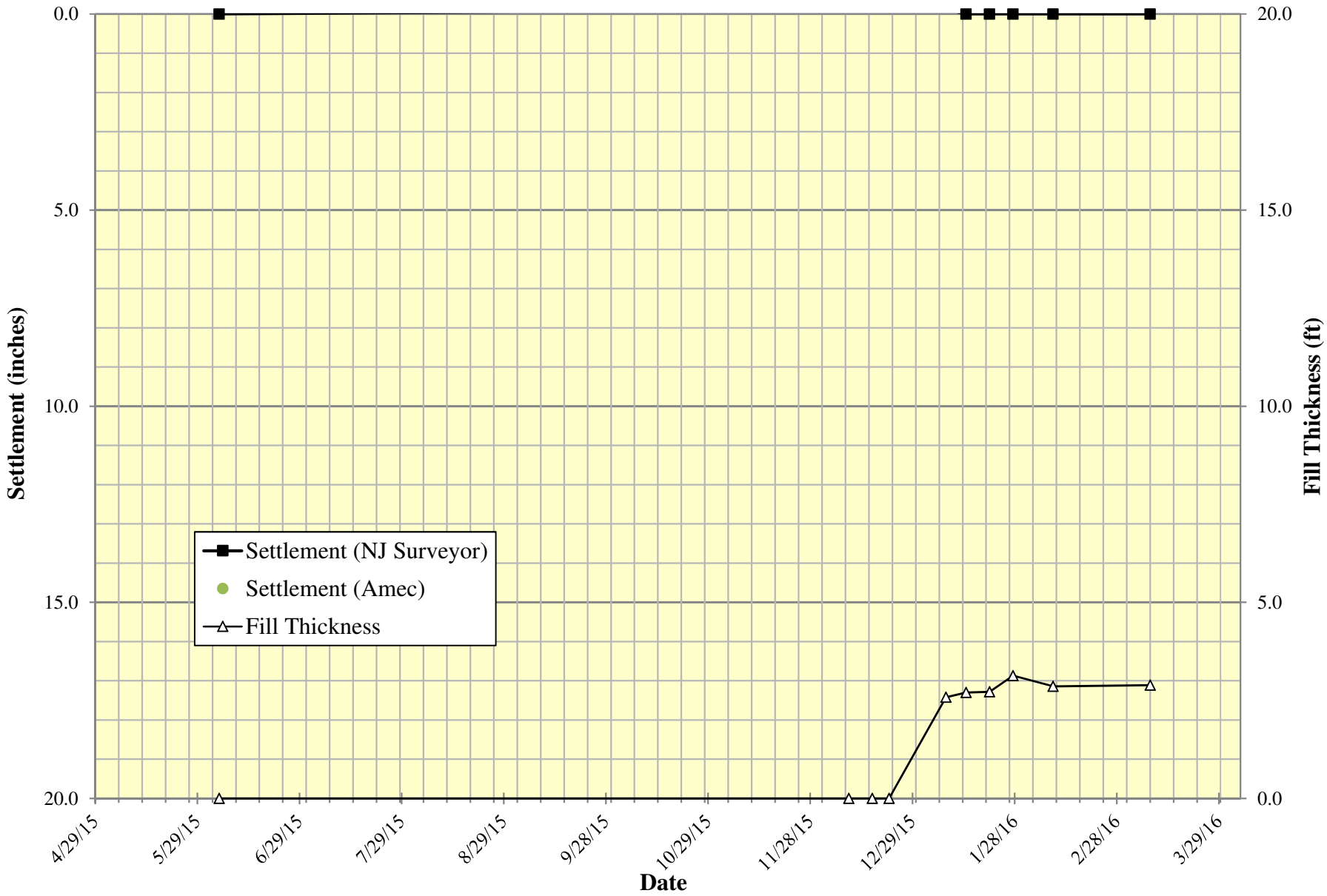


Surcharge Monitoring Data

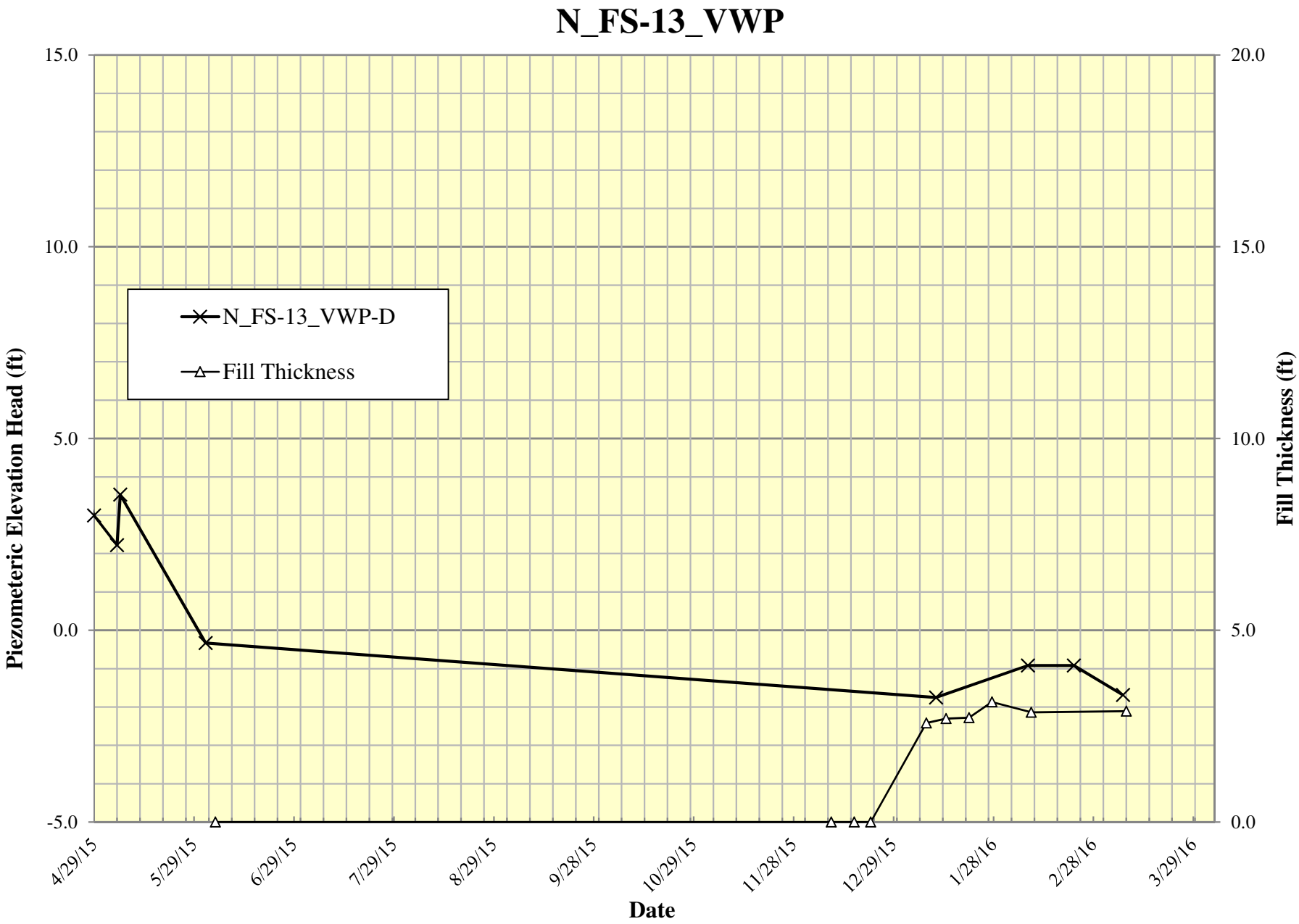
N_FS-13

Settlement Platform Data Summary

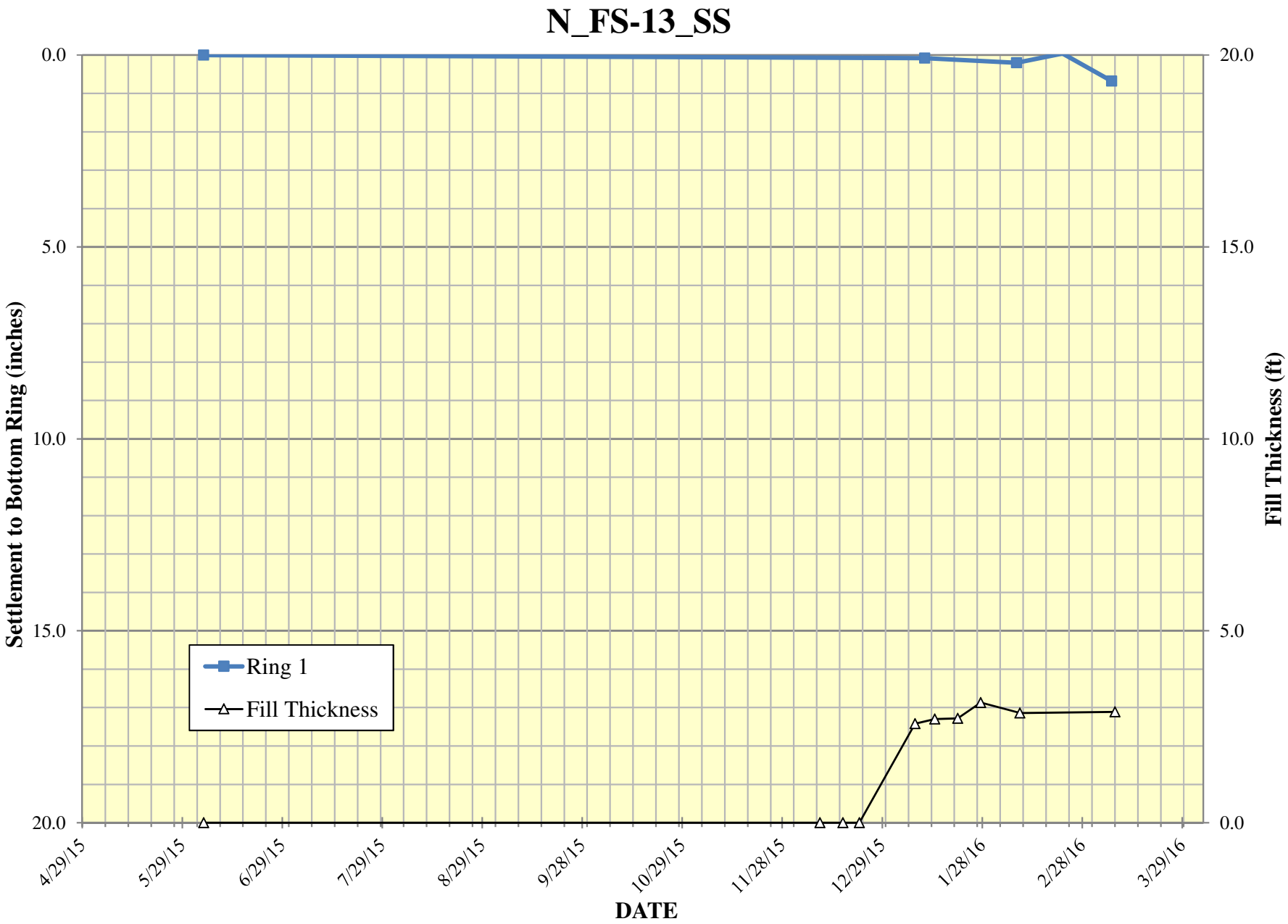
N_FS-13_SP



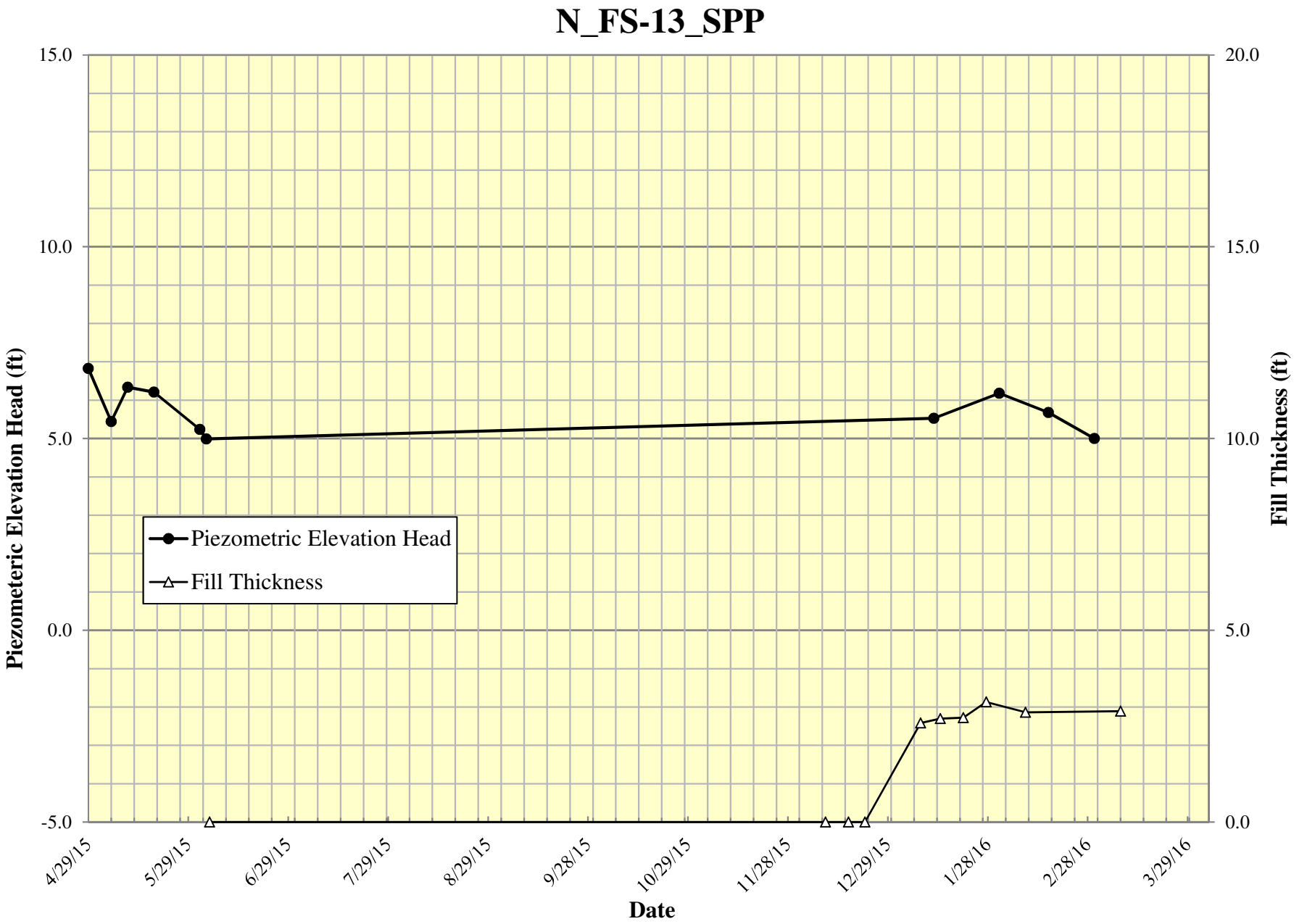
Vibrating Wire Piezometer Data Summary



Sondex System Data Summary



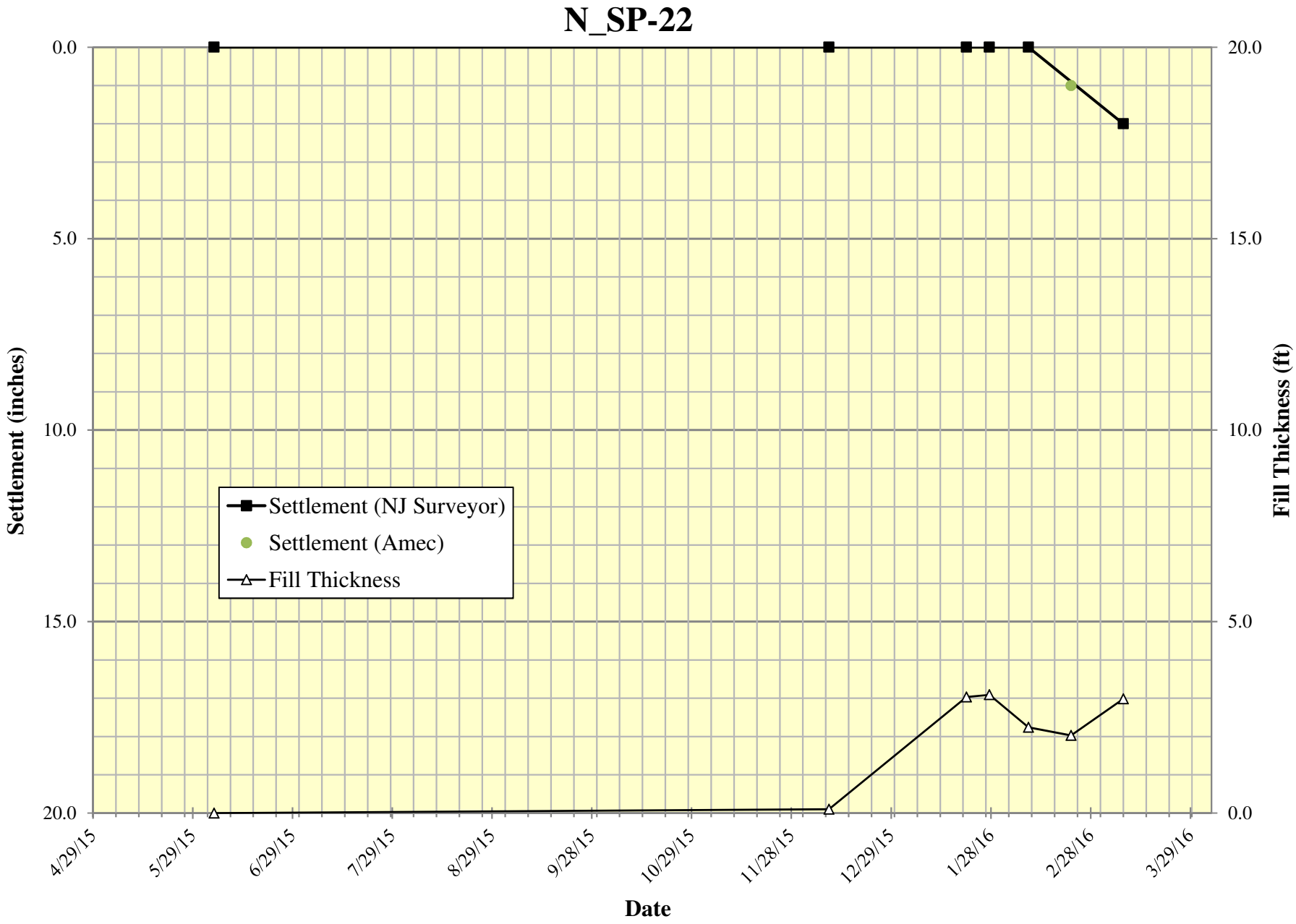
Standpipe Piezometer Data Summary



Surcharge Monitoring Data

N_SP-22

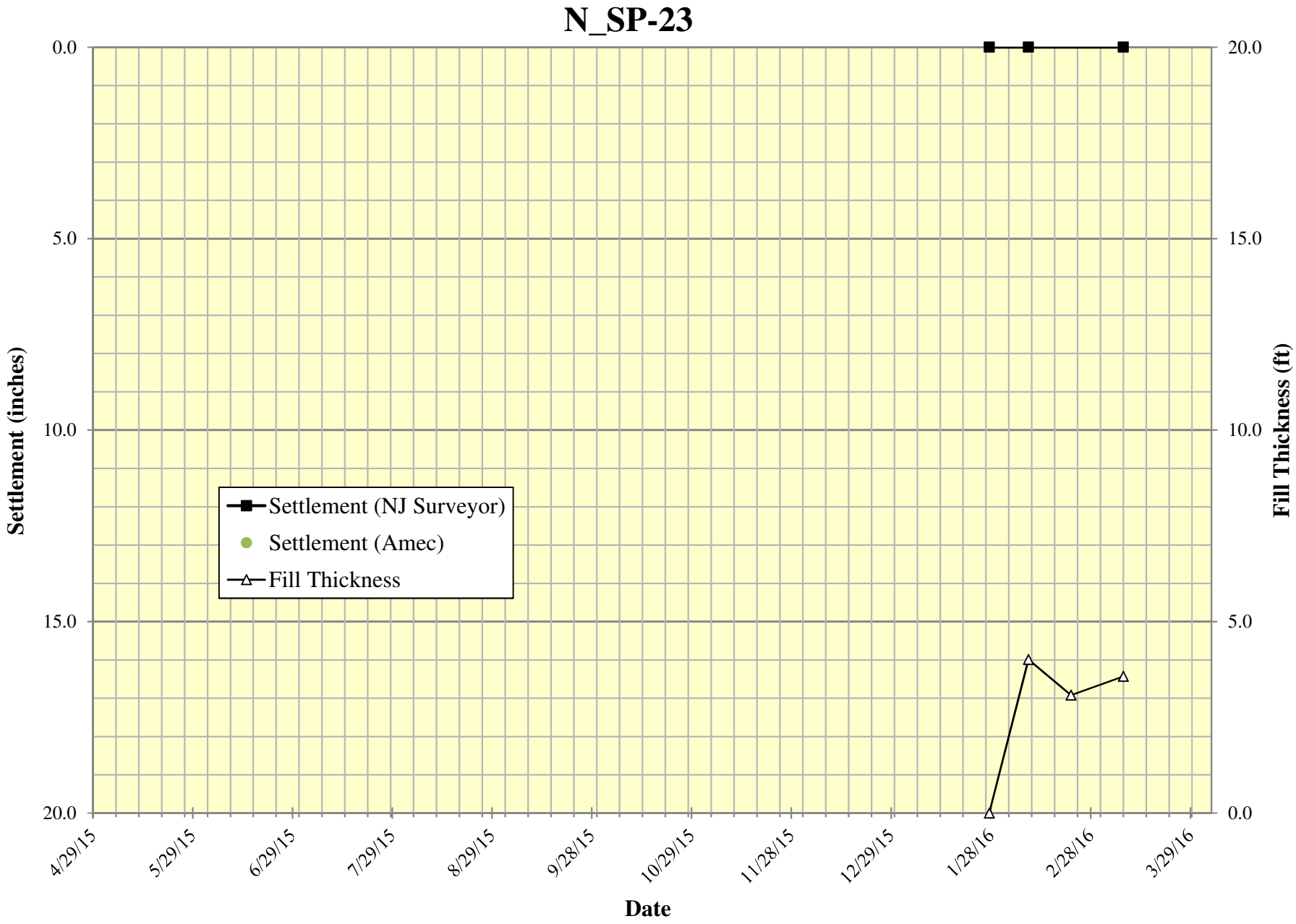
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-23

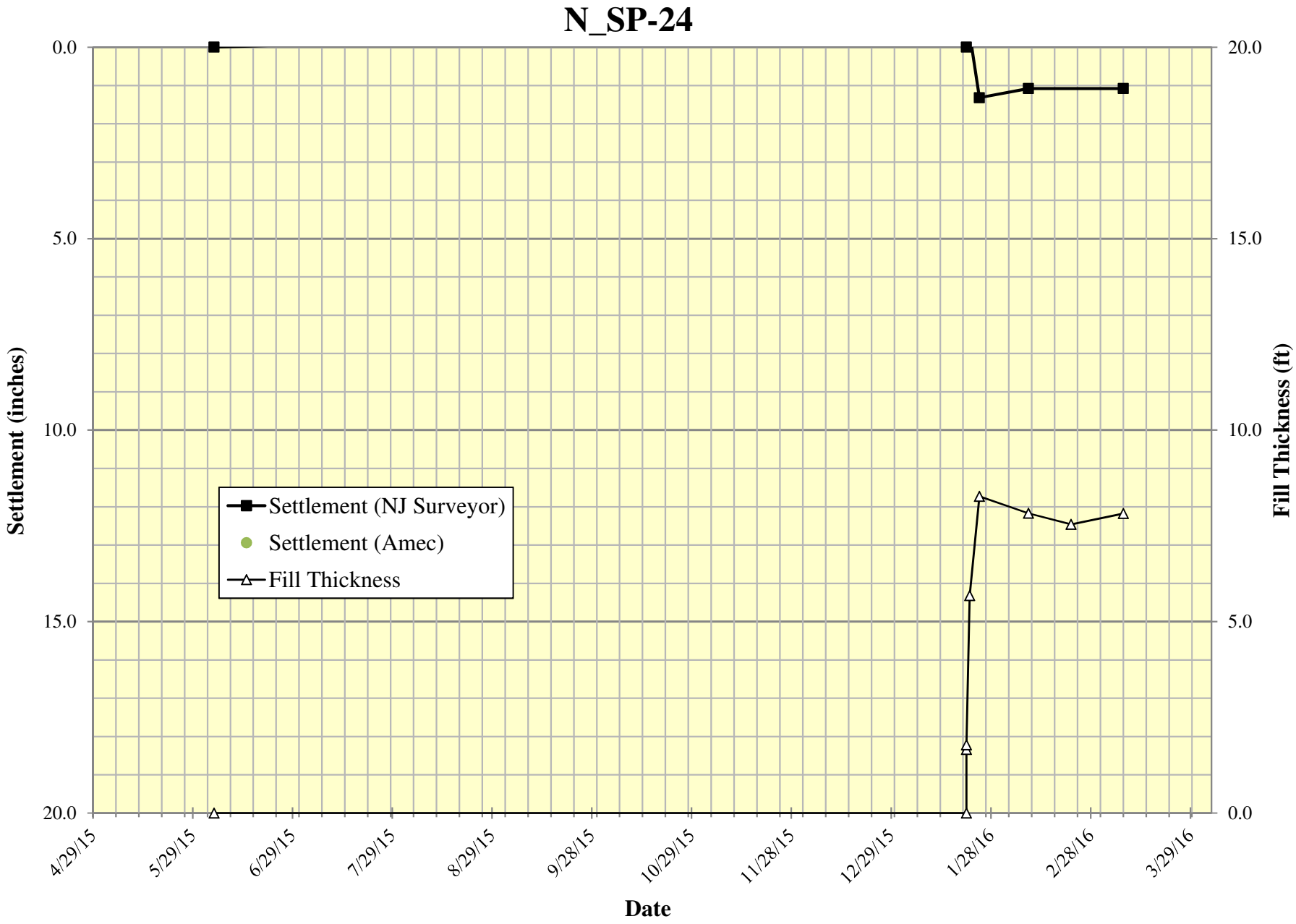
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-24

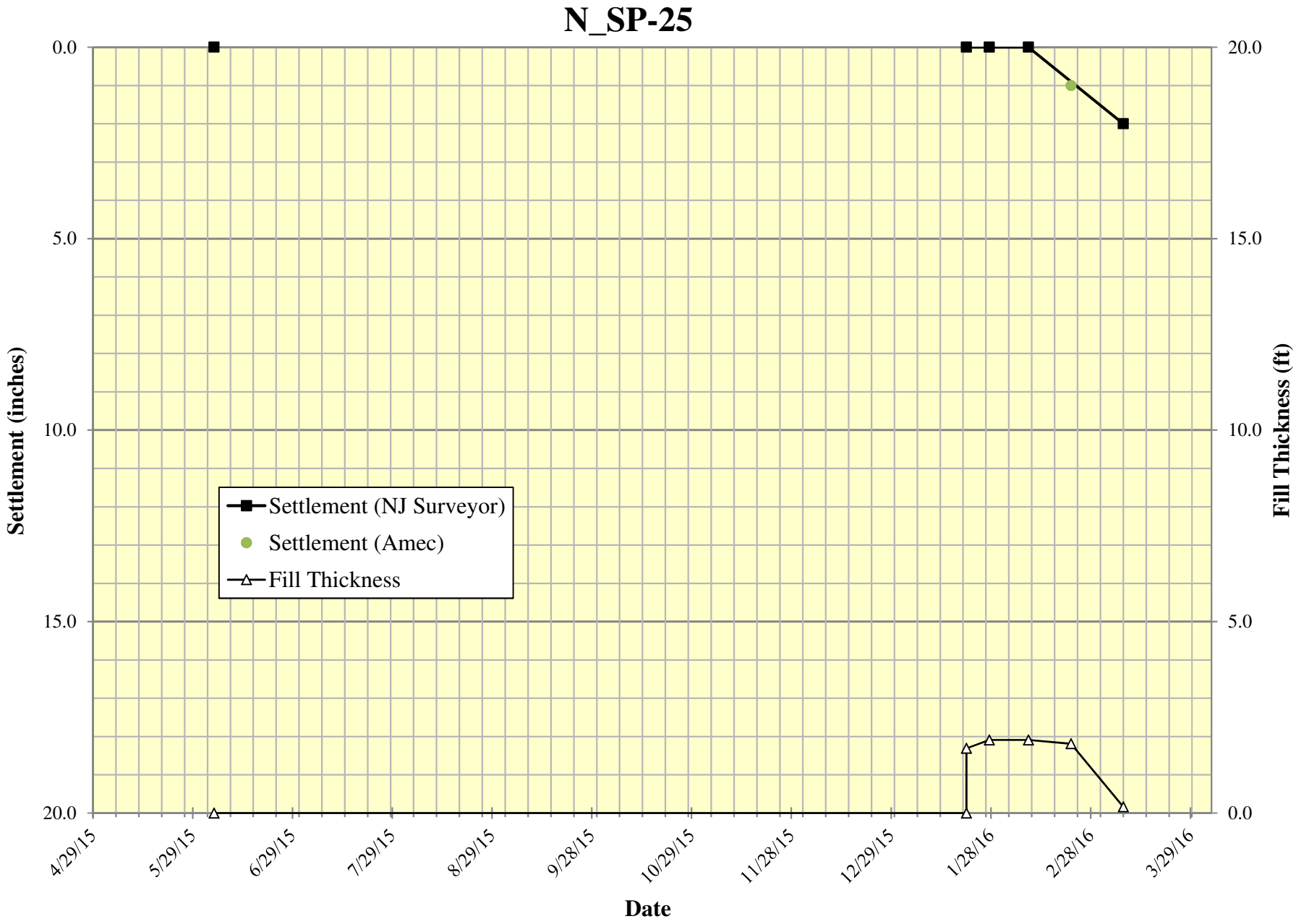
Settlement Platform Data Summary



Surcharge Monitoring Data

N_SP-25

Settlement Platform Data Summary



Attachment 4N-3

March 29, 2016 Mueser Rutledge Correspondence re:
Updated Area 3N and 4N Surcharge Review, SA-6 North, Jersey City, NJ

Mueser Rutledge Consulting Engineers

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Director of Marketing

March 29, 2016

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attn: Mr. Geoff Shallard

Re: Updated Area 3N and 4N Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 15th, 2016 AMEC settlement and piezometer monitoring data for Area 3N and 4N is summarized below:

AMEC indicated boring sampling was performed to define the soil profile and the Vibrating Wire Piezometer (VWP) was set at the center of the compressible layer, so that the pore water pressure reading is the most conservative for effective stress evaluation. All the effective stress calculations were made at the center of the layers.

MRCE used the latest measured elevation head dated March 15th, 2016 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated using fill thickness measurements from the "Settlement Platform – Data Report" taken on March 9th, 2016. Calculated post-surcharge effective stresses are presented in Table 1 and Table 2. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of the surcharge program was to achieve an effective stress greater than "Final Post-Development Conditions."

This review finds that with the March 15, 2016 readings all settlement monitoring locations, including the two settlement locations, N_HS-11 in Area 3N (Table 1) and N_FS-12 in Area 4N (Table 2), have met the surcharge program goal. This finding is in agreement with the AMEC data review and interpretation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

F:\111\11173\2015 Surcharge Removal Review\MRCE Peer Review Area 3N and 4N final.pdf

FOR: SA-6 North Surcharge Monitoring Review

Table 1. Area 3N Surcharge Review

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
N_FS-08	Center D	-7.0	2226.3	2400.5	2/9/2016	2/22/2016	11.8	7.0	3697.5	876.1	2821.4	**118%**	**114%**
N_FS-09	Center D	-4.9	2151.3	2217.8	2/9/2016	2/22/2016	12.0	6.4	3648.8	699.4	2949.4	**133%**	**127%**
N_FS-10	Center O	-3.5	1937.5	2525.6	2/9/2016	2/22/2016	12.4	8.6	3485.0	756.7	2728.3	**108%**	**109%**
	Center D	-6.0	2202.5	2619.0	2/9/2016	2/22/2016	12.4	6.7	3750.0	794.8	2955.2	**113%**	
N_FS-11	Center D	-5.1	2032.5	1919.6	2/9/2016	2/22/2016	6.4	4.2	2837.5	579.8	2257.7	**118%**	**118%**
N_HS-10	Center D	-5.2	2083.8	2216.4	2/9/2016	2/22/2016	7.5	6.4	3026.3	721.5	2304.7	**104%**	**101%**
N_HS-11	Center D	-5.7	2147.5	2280.4	3/9/2016	3/15/2016	6.6	4.2	2975.0	617.3	2357.7	**103%**	**102%**
N_HS-12	Center D	-4.4	2042.5	1931.7	2/9/2016	2/22/2016	5.5	4.5	2730.0	551.0	2179.0	**113%**	**111%**
N_HS-13	Center D	-4.4	1991.3	2050.1	2/9/2016	2/22/2016	5.8	4.3	2711.3	539.3	2172.0	**106%**	**107%**

FOR: SA-6 North Surcharge Monitoring Review

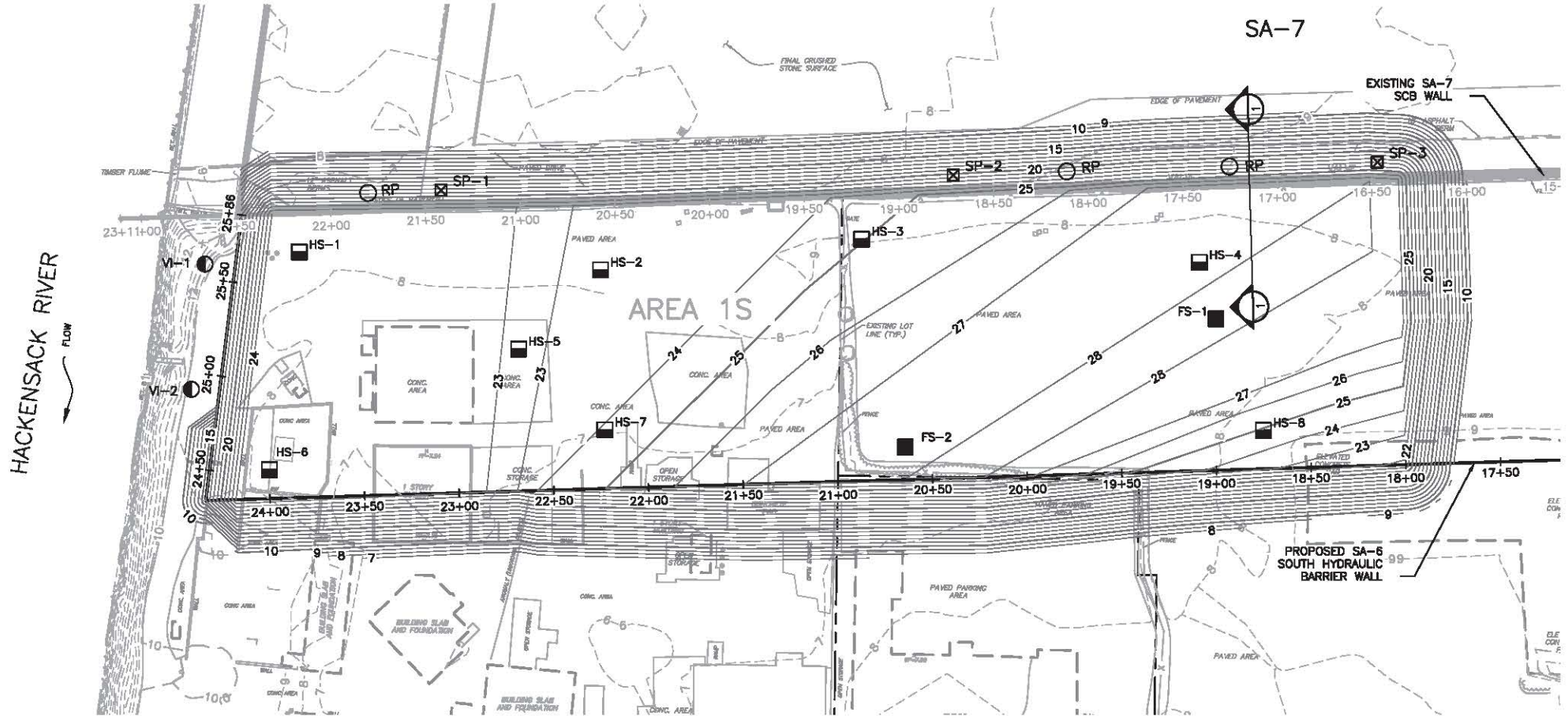
Table 2. Area 4N Surcharge Review

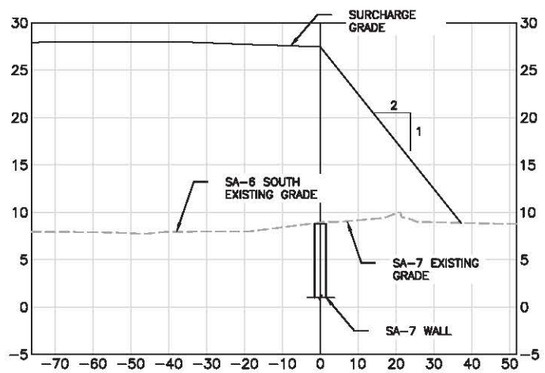
Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			**MRCE**	**AMEC**
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	**% Completion**	**% Completion**
N_FS-12	Center D	-4.1	1927.5	1869.2	3/9/2016	3/15/2016	3.4	3.5	2348.8	473.9	1874.9	**100%**	**101%**
N_FS-13	Center D	-4.6	2248.8	2063.8	1/28/2016	2/22/2016	3.1	-0.9	2640.0	232.2	2407.8	**117%**	**119%**

SURCHARGE AREA 1S
FIGURES & ATTACHMENTS

Figure 1S-1

Instrumentation Location Plan





SECTION 1-1

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-1	685274	601922
FS-2	685321	601752
HS-1	685597	601567
HS-2	685494	601682
HS-3	685422	601801
HS-4	685302	601934
HS-5	685488	601622
HS-6	685519	601480
HS-7	685413	601624
HS-8	685212	601906
VI-1	685825	601520
VI-2	685577	601473
SP-1	685579	601642
SP-2	685419	601860
SP-3	685286	602040

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

- VI-2 — INCLINOMETER LOCATION
- FS-1 — SETTLEMENT MONITORING POINT FULL - SET UP
- HS-1 — SETTLEMENT MONITORING POINT HALF - SET UP
- SP12 — SETTLEMENT MONITORING PLATFORM
- RP — APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 10/17/14
Checked/Date: SGS 10/17/14

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 1S
Project 3480-12-0317
Figure F1

Z:\Projects\HONEYWELL\JERSEY CITY\Cdp Design-SA6-7\SA7\SA7MXD\Figure - Surcharge Area1 Instrumentation Plan.dwg Fri, 17 Oct 2014 - 11:08am roger.rueter

Attachment 1S-1

Baseline Surcharge Analysis for Monitoring Points

AREA 1S
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING STATION NO.	NEARBY EXPLORATION NO(s).	ELEVATION DATA (At Surcharge Monitoring Station)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADES (Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	F-COPR	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
S_FS-01	134-SB-503	7.9	20.5	28.0	2.5	3.2	0.0	9.6	1.6	0.9	17.8	**28.0**	**20.1**	**7.5**	**75%**	**5.3**	0.5	2.4	**2.9**
S_FS-02	073-SB-501	7.0	18.5	27.5	2.6	3.0	0.0	5.8	1.5	0.3	13.2	**27.5**	**20.5**	**9.0**	**69%**	**2.7**	0.5	1.7	**2.2**
S_HS-01	073-SB-005; 115-SB-202	8.3	22.0	24.0	3.0	3.1	0.0	3.4	1.4	1.4	12.3	**24.0**	**15.7**	**2.0**	**91%**	**3.1**	0.5	1.0	**1.5**
S_HS-02	073-PZ-001; 073-PZ-002; 115-SB-305; 115-SB-203	8.7	18.8	23.5	2.5	1.4	0.0	4.9	1.1	1.0	10.9	**23.5**	**14.9**	**4.8**	**76%**	**2.6**	0.3	1.7	**2.0**
S_HS-03	073-SB-501; 115-SB-306; 134-SB-503	8.1	18.3	25.0	1.8	4.8	0.0	7.8	1.3	0.3	16.1	**25.0**	**16.9**	**6.8**	**71%**	**6.4**	0.8	2.4	**3.2**
S_HS-04	134-SB-503; 115-SB-307	8.0	20.3	28.0	2.7	2.3	0.0	8.6	2.0	2.1	17.7	**28.0**	**20.0**	**7.8**	**74%**	**3.9**	0.4	2.2	**2.5**
S_HS-05	073-PZ-002; 073-CPT-003	9.2	19.0	23.0	2.0	3.0	0.0	3.3	1.0	1.4	10.8	**23.0**	**13.8**	**4.0**	**78%**	**2.8**	0.7	1.2	**1.9**
S_HS-06	073-SB-500; 073-CPT-001; 073-CPT-005	7.9	20.3	24.0	2.9	1.3	0.0	4.0	1.4	0.7	10.4	**24.0**	**16.2**	**3.8**	**84%**	**1.8**	0.2	1.2	**1.4**
S_HS-07	073-CPT-003	7.0	18.0	24.0	2.1	4.2	0.0	5.0	1.3	1.6	14.2	**24.0**	**17.0**	**6.0**	**75%**	**3.4**	0.7	1.4	**2.2**
S_HS-08	134-SB-500; 134-CPT-002	8.3	20.8	24.5	2.2	3.6	0.0	9.5	2.1	2.0	19.5	**24.5**	**16.2**	**3.8**	**85%**	**7.9**	0.5	2.4	**2.9**

Prepared By/Date: NDL/8-14-14

Checked By/Date:

Attachment 1S-2

October 27, 2014 Mueser Rutledge Correspondence re:
SA-6 South Surcharge Monitoring, Jersey City, NJ
(Previously Submitted Report No. 7)

Mueser Rutledge Consulting Engineers

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Andrew Pontecorvo
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Associates

Joseph N. Courtade
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Martha J. Huguet
Director of Marketing

October 27, 2014

Geoff Shallard
AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Re: SA-6 ~~North~~ Surcharge Monitoring
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

Mueser Rutledge Consulting Engineers (MRCE) reviewed the settlement and piezometer monitoring data related to Area 1S provided by AMEC, on October 17th 2014. MRCE's review of the available data is summarized below:

1. AMEC indicated boring sampling were performed and the Vibrating Wire Piezometer (VWP) was set at the center of the layer. Center of the layer provide the most conservative pore water pressure reading for the effective stress evaluation. All the effective stress calculations were made at the center of the layers.

2. MRCE used measured fill thickness dated 09/22/14 from provided "Settlement Platform – Data Report" and calculated the total stress as of 09/22/14 based on the fill thickness recorded on 09/22/14 and the "Historic Pre-Construction Conditions" total stresses provided by AMEC. MRCE evaluated the pore water pressures based on the piezometer reading on 09/23/14 from "Vibrating Wire Piezometer – Data Report" and calculated the effective stresses as of 09/23/14, as presented in Table 1.

3. MRCE compared calculated effective stresses of 09/23/14 with the effective stresses provided by AMEC for "Final Post-Development Conditions". The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions" effective stress. Percent completion computed by MRCE ("MRCE % Completion (09/23/14)" in Table 1) indicates effective stress compared to "Final Post-Development Conditions" effective stress; percent completion greater than 100 % indicates overconsolidation compared to "Final Post-Development Conditions" effective stress. Table 1 also presents percent completion evaluation of AMEC as of 09/26/14, "AMEC % Completion (09/26/14)" for comparison.

4. Settlement monitoring location S_FS-02 (highlighted in attached Table 1) has not yet met the surcharge program goal as of 09/23/14.

5. MRCE suggests leaving the surcharge on at S_FS-02 location until the pore water pressure dissipate such that the pore pressure head measured in the middle of Stratum D drops an additional 1.5 ft, or raising grade to increase the total stress to accelerate consolidation.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:H:\111\11173\2014 Surcharge Removal Review\SA 6_Area 1S_Surcharge Removal Review\MRCE SA-6 Surcharge Monitoring Review- Area 1S.docx

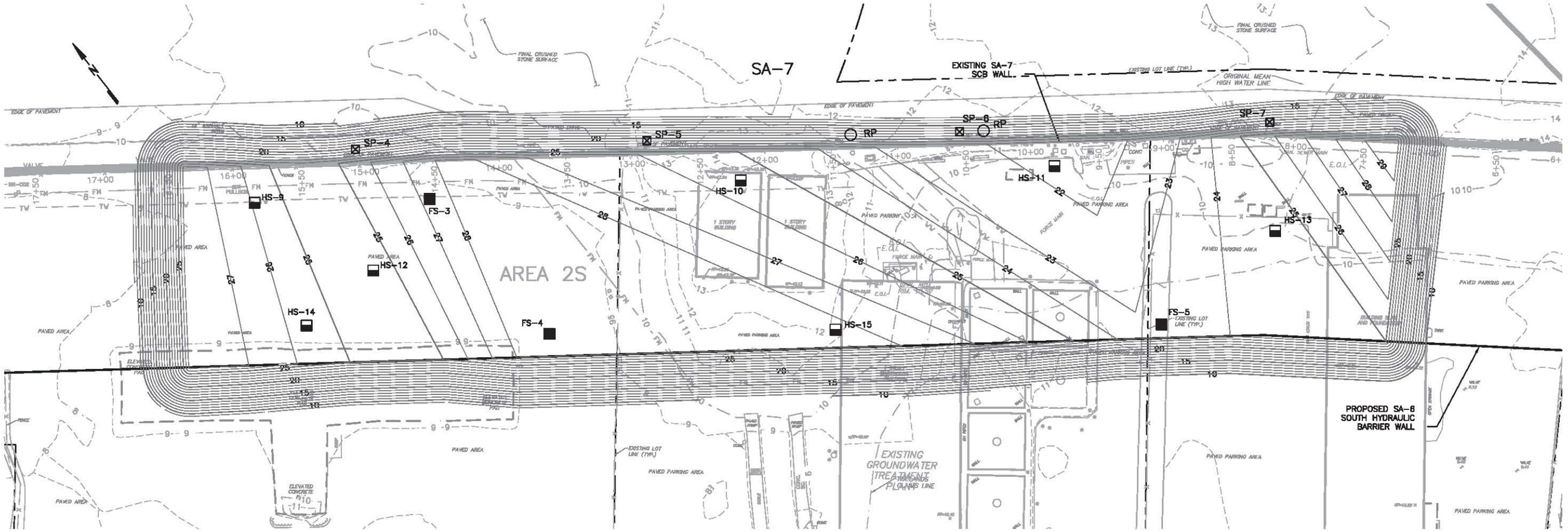
Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 1S (09/23/14)

Source:		AMEC				Settlement Monitoring Data	VWP Monitoring Data	MRCE			MRCE	AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress	Fill Thickness (ft)	Elevation Head (ft)	Total Stress 09/22/14 (psf)	Pore Water Pressure 09/23/14 (psf)	Effective Stress 09/23/14 (psf)	% Completion 09/23/14	% Completion 09/26/14
S_FS-01	Center D	-8.6	1852.5	2616.3	2451.0	17.15	-8.6	3996.3	1274.8	2721.4	104%	94%
S_FS-02	Center D	-11.16	2083.8	2627.1	2428.0	16.31	-11.16	4122.6	1509.5	2613.1	99%	92%
S_HS-01	Center D	-11.2	2260.0	3064.0	3196.0	15.31	-11.2	4173.8	891.7	3282.1	107%	104%
S_HS-02	Center D	-9.6	2103.8	2570.7	2774.0	15.22	-9.6	4006.3	1042.7	2963.6	115%	108%
S_HS-03	Center D	-9.4	1942.5	2400.1	2440.0	15.9	-9.4	3930.0	1347.2	2582.8	108%	102%
S_HS-04	Center D	-8.3	1841.3	2548.2	2595.0	15.54	-9	3783.8	1148.2	2635.6	103%	102%
S_HS-05	Center D	-8.5	2031.3	2583.0	2703.0	13.89	-9.3	3767.6	970.3	2797.2	108%	105%
S_HS-06	Center D	-10.4	2126.3	2880.7	3214.0	16.24	-11.15	4156.3	867.4	3288.9	114%	112%
S_HS-07	Center D	-9.5	1867.5	2493.7	2894.0	17.84	-9.5	4097.5	1007.8	3089.7	124%	116%
S_HS-08	Center D	-7.7	1787.5	2595.0	2707.0	16.29	-7.7	3823.8	963.5	2860.3	110%	104%

SURCHARGE AREA 2S
FIGURES & ATTACHMENTS

Figure 2S-1

Instrumentation Location Plan



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-3	685140	602174
FS-4	685005	602182
FS-5	684727	602549
HS-9	685219	602088
HS-10	685007	602367
HS-11	684870	602559
HS-12	685124	602107
HS-13	684730	602660
HS-14	685122	602042
HS-15	684875	602354
SP-4	685204	602153
SP-5	685074	602329
SP-6	684935	602519
SP-7	684797	602707

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP-12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 08/13/14
Checked/Date: TDD 08/13/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	INSTRUMENTATION LOCATION PLAN AREA 2S Project 3480-12-0317 Figure G1

Z:\Projects\HONEYWELL\479021 CITY\Dwg - Site-wide\DWG\MXD\Figure - Surcharge Area2 Instrumentation Plan.dwg Thu, 14 Aug 2014 - 12:48pm ingar.rhyder

Attachment 2S-1

Baseline Surcharge Analysis for Monitoring Point

AREA 2S
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING STATION NO.	NEARBY EXPLORATION NO(s).	ELEVATION DATA (At Surcharge Monitoring Station)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADES (Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	F-COPR	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
S_FS-03	115-SB-308; 115-SB-309; 134-PZ-003; 134-PZ-004	8.3	19.5	27.5	2.3	2.8	0.0	8.6	1.9	1.4	17.0	**27.5**	**19.3**	**8.0**	**72%**	**3.9**	0.4	2.2	**2.6**
S_FS-04	134-SB-501; 140-CPT-001	8.5	20.0	28.0	2.2	2.2	0.0	12.3	1.7	1.0	19.4	**28.0**	**19.5**	**8.0**	**73%**	**6.3**	0.3	3.0	**3.3**
S_FS-05	140-SB-501; 140-CPT-003; 125-SB-501; S_HS-11	9.4	16.8	23.5	1.7	1.8	0.0	9.1	1.1	0.5	14.2	**23.5**	**14.1**	**6.8**	**65%**	**5.0**	0.4	3.0	**3.4**
S_HS-09	115-SB-204; 134-SB-503	8.0	18.8	26.0	2.2	2.8	0.0	8.6	1.8	1.9	17.3	**26.0**	**18.0**	**7.3**	**73%**	**4.0**	0.4	2.2	**2.6**
S_HS-10	115-SB-309; 140-CPT-001	13.4	22.0	25.5	2.2	1.3	0.0	3.0	0.6	1.0	8.0	**25.5**	**12.1**	**3.5**	**78%**	**1.7**	0.3	1.2	**1.5**
S_HS-11	115-SB-310; 115-SB-311; 140--CPT-003; 140-SB-501	9.8	19.5	22.0	2.4	2.5	0.0	3.8	0.6	0.6	9.9	**22.0**	**12.2**	**2.5**	**85%**	**2.9**	0.5	1.2	**1.7**
S_HS-12	134-SB-501; 134-CPT-003; 115-SB-308	8.6	19.8	25.0	2.4	2.1	0.0	9.1	1.3	1.2	16.2	**25.0**	**16.4**	**5.3**	**78%**	**5.8**	0.4	2.5	**2.9**
S_HS-13	125-SB-501; 125-CPT-001; 140-SB-501	9.8	19.0	24.5	2.0	2.3	0.0	8.6	1.0	0.7	14.5	**24.5**	**14.7**	**5.5**	**74%**	**5.0**	0.4	2.5	**2.9**
S_HS-14	134-CPT-003; S_HS-12; 134-SB-500; 134-SB-501	8.7	18.0	25.5	2.1	2.0	0.0	6.2	1.6	0.8	12.7	**25.5**	**16.8**	**7.5**	**68%**	**2.4**	0.4	1.8	**2.2**
S_HS-15	140-SB-500; 140-CPT-002	11.5	22.0	28.0	2.6	1.8	0.0	2.5	0.8	1.0	8.7	**28.0**	**16.5**	**6.0**	**73%**	**1.0**	0.4	0.8	**1.2**

Prepared By/Date: NDL/8-14-14

Checked By/Date:

Attachment 2S-2

February 6, 2015 Mueser Rutledge Correspondence re:
SA-6 South Surcharge Monitoring, Jersey City, NJ
(Previously submitted Report No. 10)

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February 06, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2S Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of February 06, 2015 AMEC settlement and piezometer monitoring data for Area 2S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between January 12-29, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken at corresponding dates, between January 14-30, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2S monitoring locations have met the surcharge program goal as of 01/30/2015.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2S

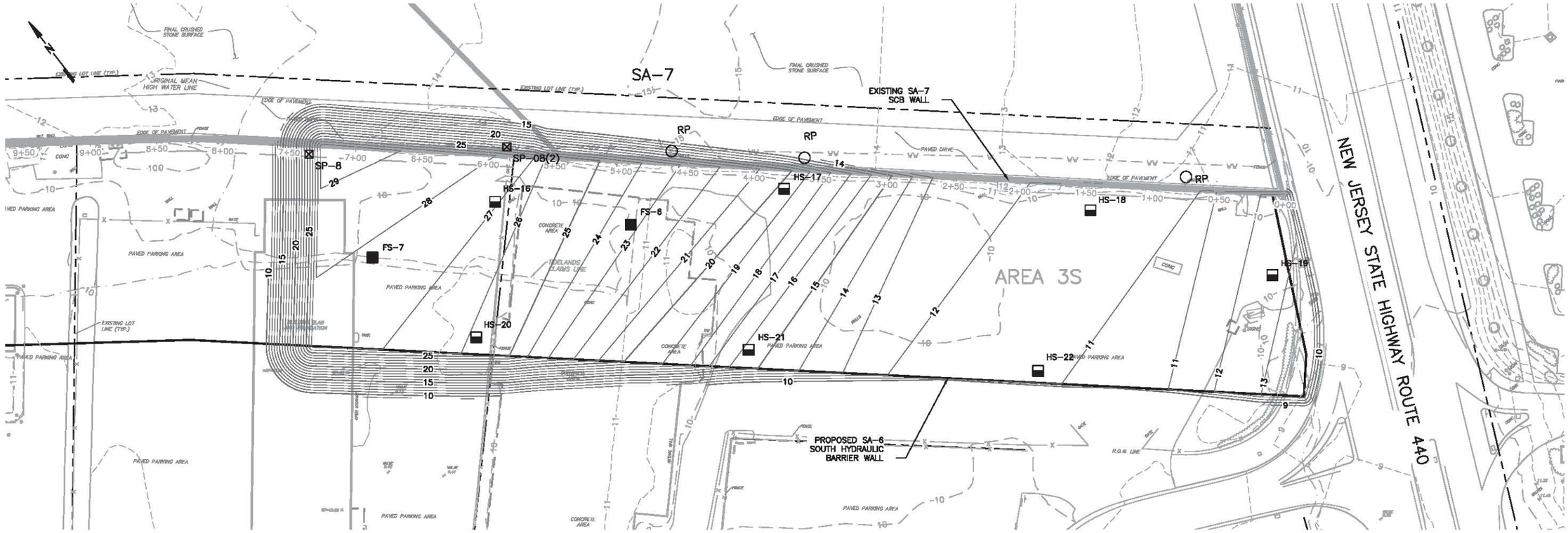
Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-03	Center O	-3.3	1332.5	2208.4	1/14/2015	1/12/2015	19.7	9.9	3798.8	823.7	2975.1	135%	-
	Top D	-5.8	1525.0	2291.7			19.7	13.0	3991.3	1172.5	2818.8	123%	-
	Center D	-7.0	1716.3	2342.5			19.7	13.4	4182.6	1273.6	2909.0	124%	145%
	Bottom D	-8.3	1907.5	2393.4			19.7	6.5	4373.8	926.0	3447.7	144%	-
S_FS-04	Center O	-1.5	1204.5	2223.3	1/23/2015	1/18/2015	19.8	7.6	3683.3	566.0	3117.3	140%	-
	Top D	-4.5	1353.0	2287.6			19.8	12.4	3831.8	1050.2	2781.6	122%	-
	Center D	-6.2	1620.8	2358.7			19.8	13.0	4099.6	1196.8	2902.7	123%	134%
	Bottom D	-7.7	1888.5	2429.9			19.8	10.6	4367.3	1143.8	3223.5	133%	-
	RC	-46.5	6613.5	4771.3			19.8	3.9	9092.3	3147.5	5944.8	125%	-
S_FS-05	Center O	-0.6	1185.0	1696.9	1/30/2015	1/29/2015	14.5	5.9	2992.5	406.8	2585.7	152%	-
	Top D	-3.6	1350.0	1768.3			14.5	8.1	3157.5	730.1	2427.4	137%	-
	Center D	-5.1	1617.8	1839.5			14.5	20.3	3425.3	1583.1	1842.2	100%	115%
	Bottom D	-6.6	1885.5	1910.7			14.5	9.8	3693.0	1022.7	2670.3	140%	-
S_HS-09	Center O	-4.0	1272.5	2097.7	1/14/2015	1/12/2015	18.2	9.1	3547.5	818.7	2728.8	130%	-
	Center D	-8.0	1656.3	2231.9			18.2	6.4	3931.3	896.7	3034.6	136%	156%
S_HS-10	Center O	-2.1	1831.3	2384.9	1/14/2015	1/12/2015	12.6	6.6	3406.3	545.4	2860.9	120%	-
	Center D	-4.4	2088.8	2478.6			12.6	10.2	3663.8	912.3	2751.5	111%	131%
S_HS-11	Center O	-5.2	1660.0	2218.6	1/14/2015	1/12/2015	12.8	9.0	3253.8	887.3	2366.4	107%	-
	Center D	-7.5	1986.3	2342.0			12.8	7.4	3580.1	927.9	2652.2	113%	132%
	RC	-50.2	7257.5	4930.1			12.8	3.8	8851.3	3372.7	5478.5	111%	-
S_HS-12	Center O	-3.9	1485.0	2350.9	1/14/2015	1/12/2015	15.9	10.1	3477.5	871.7	2605.8	111%	-
	Center D	-7.9	1875.3	2482.1			15.9	9.4	3867.8	1076.4	2791.4	112%	130%
	RC	-52.4	7238.0	5077.5			15.9	1.8	9230.5	3382.1	5848.4	115%	-
S_HS-13	Center O	-2.0	1261.5	1962.8	1/30/2015	1/292015	16.0	17.0	3255.3	1183.7	2071.5	106%	-
	Center D	-5.2	1664.0	2100.1			16.0	14.9	3657.8	1253.6	2404.1	114%	129%
S_HS-14	Center O	-2.0	1365.0	2023.3	1/14/2015	1/12/2015	17.6	10.6	3563.8	783.7	2780.0	137%	-
	Center D	-6.3	1691.5	2137.6			17.6	10.4	3890.3	1039.6	2850.7	133%	148%
S_HS-15	Center O	-2.8	1858.8	2539.5	1/14/2015	1/12/2015	16.6	11.5	3928.8	889.8	3039.0	120%	-
	Center D	-6.8	2111.9	2636.6			4181.9	964.7	3217.2	122%	3217.2	122%	140%

"Note that the Amec calculations referenced by MRCE were subsequently updated. Please refer to Table 2S-1 for the final values used. The correction does not impact the conclusion."

SURCHARGE AREA 3S
FIGURES & ATTACHMENTS

Figure 3S-1

Instrumentation Location Plan



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-6	684538	602919
FS-7	684638	602751
HS-16	684614	602849
HS-17	684488	603027
HS-18	684333	603198
HS-19	684211	603277
HS-20	684543	602776
HS-21	684409	602931
HS-22	684263	603093
~~SP-8~~	~~684726~~	~~602761~~
SP-08(2)	684642	602882

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP-12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 03/17/15
Checked/Date: TDD 03/17/15

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 3S
Project 3480-12-0317
Figure H1

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Attachment 3S-1

Baseline Surcharge Analysis for Monitoring Point

AREA 3S
BASELINE SURCHARGE ANALYSIS FOR MONITORING POINTS

SUMMARY OF EXISTING & PROPOSED GRADING, ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE, DESIGN SURCHARGE, and ESTIMATED SECONDARY COMPRESSION

SURCHARGE MONITORING POINT	REFERENCE/NEARBY GEOTECHNICAL EXPLORATIONS	EXISTING & PROPOSED GRADING (At Surcharge Monitoring Point)			ESTIMATED SETTLEMENT DUE TO PROPOSED GRADE (100% Primary Consolidation)							SURCHARGE ANALYSIS (Targeting Removal of 100% Primary Consolidation Due to Proposed Grades)					ESTIMATED SECONDARY COMPRESSION		
					Soil Stratum						Total	Design			Analysis Results		Soil Stratum		Total
		Existing Grade	Proposed Grade	Top of Surcharge Grade	F	O	F-COPR	D	S1	RC		Top of Surcharge Grade	Surcharge Height Above Existing Grade	Surcharge Height Above Proposed Grade	Estimated Surcharge Consolidation to Achieve 100% of Primary Consolidation Due to Proposed Grade	Estimated Time to Achieve 100% of Primary Consolidation Due to Proposed Grade	O	D	
		(feet)	(feet)	(feet)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(inches)	(feet)	(feet)	(feet)	(%)	(months)	(inches)	(inches)	(inches)
S_FS-06	115-SB-313; 124-SB-503; 125-SB-500; 125-CPT-002	9.9	18.5	23.5	1.9	0.9	0.0	9.1	0.7	0.6	13.3	**23.5**	**13.7**	**5.0**	**74%**	**5.3**	0.2	2.9	**3.1**
S_FS-07	125-SB-500; 125-CPT-002; 115-SB-312	9.8	21.3	27.5	2.2	2.2	0.0	9.1	1.0	0.7	15.1	**27.5**	**17.8**	**6.3**	**77%**	**4.4**	0.3	2.3	**2.6**
S_HS-16	125-SB-500; 125-CPT-002; 115-SB-312; 115-SB-313	9.7	22.3	27.0	2.3	1.2	0.0	11.8	1.4	0.8	17.5	**27.0**	**17.3**	**4.8**	**82%**	**6.7**	0.2	2.8	**3.0**
S_HS-17	124-SB-503; 115-SB-207	9.2	15.8	19.5	1.4	1.6	0.0	5.3	0.4	0.2	9.0	**19.5**	**10.3**	**3.8**	**73%**	**3.1**	0.4	1.9	**2.3**
S_HS-18	124-SB-503; 115-SB-315; 115-SB-208	9.7	10.0	11.5	0.1	0.0	0.0	0.3	0.0	0.0	0.5	**11.5**	**1.8**	**1.5**	**17%**	**0.1**	0.0	1.9	**1.9**
S_HS-19	124-CPT-003; 124-SB-502; 124-SB-501	9.4	10.3	12.5	0.4	0.0	0.0	0.8	0.1	0.0	1.3	**12.5**	**3.1**	**2.3**	**32%**	**0.2**	0.0	1.4	**1.4**
S_HS-20	125-SB-500; 125-CPT-002	8.8	21.8	25.5	2.4	1.5	0.0	9.8	1.6	0.8	16.1	**25.5**	**16.7**	**3.8**	**86%**	**5.0**	0.2	2.2	**2.4**
S_HS-21	124-SB-500; 124-SB-503; 124-CPT-001	9.7	13.8	16.0	1.3	0.4	0.0	3.6	0.4	0.3	6.0	**16.0**	**6.3**	**2.3**	**71%**	**2.4**	0.2	2.0	**2.2**
S_HS-22	124-SB-501; 124-CPT-002; 124-CPT-001; 124-SB-500	9.9	10.0	11.5	0.1	0.0	0.0	0.1	0.0	0.0	0.2	**11.5**	**1.6**	**1.5**	**9%**	**0.0**	0.1	1.7	**1.8**

Prepared By/Date: NDL/03-18-14

Checked By/Date: TCC/03-20-14

Attachment 3S-2

April 24, 2015 Mueser Rutledge Correspondence re:
SA-6 South Surcharge Monitoring, Jersey City, NJ

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Domenic D'Argenzio
Robert K. Radske
Ketan H. Trivedi
Hiren J. Shah
Alice Arana
Joel L. Volterra
Sissy Nikolaou
Anthony DeVito
Frederick C. Rhyner
Senior Associates

Douglas W. Christie
Gregg V. Piazza
Pablo V. Lopez
Steven R. Lowe
James M. Tantalla
Andrew R. Tognon
T. C. Michael Law
Andrew Pontecorvo
Renzo D. Verastegui
Alex Krutovskiy
Srinivas Yenamandra
Associates

Joseph N. Courtade
Director of Finance and Administration

Martha J. Huguet
Director of Marketing

April 24, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 3S Surcharge Review
SA-6 South
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 30, 2015 AMEC settlement and piezometer monitoring data for Area 3S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between March 24-13, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken on March 19, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 3S monitoring locations have met the surcharge program goal as of 03/30/2015.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 3S\MRCE Review-Area 3S-April15.docx

Table 1. MRCE SA-6 South Surcharge Monitoring Review for Area 3S (April 2015)

Settlement Monitoring Point	Layer	Existing EL. (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-06	Top D	-2.7	1365.0	2031.3	3/19/2015	3/24/2015	14.3	6.6	3148.8	574.1	2574.7	127%	-
	Center D	-3.9	1620.0	2099.1			14.3	7.2	3403.8	693.3	2710.5	129%	127%
	Bottom D	-5.2	1875.0	2166.9			14.3	9.6	3658.8	919.8	2739.0	126%	-
S_FS-07	Center O	-0.8	1234.0	2256.5	3/19/2015	3/24/2015	16.9	4.8	3346.5	348.9	2997.6	133%	-
	Top D	-3.0	1388.0	2323.2			16.9	5.2	3500.5	510.7	2989.8	129%	-
	Center D	-4.3	1587.8	2376.3			16.9	11.8	3700.3	999.5	2700.8	114%	113%
	Bottom D	-5.5	1787.5	2429.4			16.9	6.9	3900.0	775.1	3124.9	129%	-
	RC	-34.3	5220.0	4145.9			16.9	3.4	7332.5	2352.4	4980.1	120%	-
S_HS-16	Center O	-0.6	1222.5	2420.6	3/19/2015	3/24/2015	18.0	5.3	3472.5	368.2	3104.3	128%	-
	Center D	-4.1	1551.5	2521.8			18.0	14.7	3801.5	1173.1	2628.4	104%	104%
S_HS-17	Center D	-3.8	1460.0	1750.9	3/19/2015	3/24/2015	10.3	7.4	2743.8	697.6	2046.1	117%	117%
S_HS-18	Center D	-2.5	1406.0	969.9	3/19/2015	3/24/2015	3.5	3.6	1841.0	382.5	1458.5	150%	150%
S_HS-19	Center D	-0.6	1207.5	844.5	3/19/2015	3/24/2015	3.0	4.9	1578.8	345.1	1233.7	146%	143%
S_HS-20	Center O	-1.2	1209.5	2392.7	3/19/2015	3/24/2015	15.1	5.3	3093.3	403.7	2689.5	112%	-
	Center D	-4.4	1494.3	2484.0		3/13/2015	15.1	9.7	3378.0	878.6	2499.4	101%	101%
S_HS-21	Center D	-4.3	1581.5	1503.7	3/19/2015	3/24/2015	6.1	1.6	2339.0	367.5	1971.5	131%	132%
S_HS-22	Center D	-2.6	1436.8	966.3	3/19/2015	3/24/2015	1.7	4.6	1651.8	450.5	1201.2	124%	124%

B&B Drilling. Inc.

PO Box 8
Netcong, New Jersey 07857

PH 973 347-2250
FX 973 347-3864
www.hrsdrilling.com

April 26, 2016

Amec Foster Wheeler E&I, Inc.
200 American Metro Boulevard
Hamilton, New Jersey 08619

Attention: Eric Christodoulatos

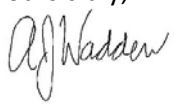
Reference: Settlement Platform Decommissioning
Honeywell Site, Jersey City, New Jersey

Dear Eric,

B&B Drilling, Inc. (B&B) decommissioned settlement platforms at the north and south surcharge areas. Although settlement platforms were not NJDEP-permitted wells they were decommissioned in accordance with the NJDEP regulations for well abandonment (N.J.A.C. 7:9D-3.1). The only difference is that no formal decommissioning report submission to NJDEP was required.

Settlement platforms were constructed with a 1-inch galvanized steel casing inside a 4-inch PVC casing. A portion of the annular space between the 1 and 4-inch pipes was filled with bentonite when originally constructed. The decommissioning consisted of pressure tremie grouting both the 1-inch inner casing and the remaining open annular space in the 4-inch casings at each settlement platform.

Yours truly,



Andrew Wadden
Operations Manager

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316729

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 200 KELLOGG ST

Address: 200 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601515 Northing (Y): 685624
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VI-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s):

Diameter (in.): 3.34

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 45

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
LATION
DETAIL 11-
11- 2013.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316729

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316730

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 200 KELLOGG ST

Address: 200 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601462 Northing (Y): 685580
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VI-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: INCLINOMETER

Other Use(s):

Diameter (in.): 3.34

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 45

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
LATION
DETAIL 11-
11- 2013.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316730

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316729

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 200 KELLOGG ST

Address: 200 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601515 Northing (Y): 685624
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 15, 2013

DATE WELL COMPLETED: April 16, 2013

WELL USE: INCLINOMETER

Other Use(s):

Local ID: VI-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 40 Finished Well Depth (ft.): 40 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	40	6		
Casing	0	40	3.34	PVC	Inclinometer Casing
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	30	6	3.34	18	82	18
Grout	30	40	6	3.34	8	140	8
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: m-scope/measured in adjacent well
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
12 - 16: BRN SM - Silty sands, sand-silt mixtures
16 - 20: BRN-BLK PT - Peat, muck, and other highly organic soils
20 - 28.5: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
28.5 - 40: RED - BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands

ADDITIONAL INFORMATION: Well installed in compliance with approved NJDEP Deviations.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316730

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 200 KELLOGG ST

Address: 200 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 1 Block: 24601

Easting (X): 601462 Northing (Y): 685580
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: April 18, 2014

DATE WELL COMPLETED: April 22, 2014

WELL USE: INCLINOMETER

Other Use(s):

Local ID: VI-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 65 Finished Well Depth (ft.): 65 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	65	6		
Casing	0	65	3.34	PVC	Inclinometer Casing
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	55	6	3.34	42	135	30
Grout	55	65	6	3.34	8	142	8
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-Scope
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid: Bentonite
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
12 - 17: BRN SM - Silty sands, sand-silt mixtures
17 - 20: BLK-BRN PT - Peat, muck, and other highly organic soils
20 - 29: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
29 - 46: RED-BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
46 - 55: RED-BRN CL - Inorganic clays of low to medium plasticity, gravelly/sandy/silty/lean clays
55 - 65: RED BRN CH - Inorganic clays or high plasticity, fat clays

ADDITIONAL INFORMATION: Well installed in compliance with approved NJDEP Deviations.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314998

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Sudy Area 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602920 Northing (Y): 684544
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 3, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-6

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 27

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	27	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	3	0	0	110	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314999

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Sudy Area 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602756 Northing (Y): 684631
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 3, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-7

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 27

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	27	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	3	0	0	110	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316716

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602166 Northing (Y): 685148
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 3, 2016

WELL USE: EXTENSOMETER REPLACEMENT

Other Use(s):

Local ID: SD-3

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 27

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	27	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	3	0	0	110	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316717

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602186 Northing (Y): 685010
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 3, 2016

WELL USE: EXTENSOMETER REPLACEMENT

Other Use(s):

Local ID: SD-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 28

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	28	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	28	3	0	0	112	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316718

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 80 KELLOGG ST

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602554 Northing (Y): 684734
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 3, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 27

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	27	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	3	0	0	110	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316722

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601916 Northing (Y): 685280
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 2, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-1

Reason for Decommissioning: New Well Drilled/Replaced

Finished Well Depth (ft.): 27

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	27	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	3	0	0	110	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316723

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601757 Northing (Y): 685325
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 3, 2016

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 27

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	27	3	PVC	sondex casing
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	3	0	0	110	6
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314998

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Sudy Area 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602942 Northing (Y): 684556
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-6

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 3

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 35

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: October 17, 2013
Expiration Date: October 17, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314998

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attachments.
Unusual Conditions:	Please see attachments.
Reason for Deviation:	Please see attachments.
Proposed Well Construction	Please see attachments.

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314999

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348
Permit Issued to: B & B DRILLING INC
Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC
Organization: BAYFRONT REDEVELOPMENT, LLC
Address: 101 COLUMBIA ROAD
City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Sudy Area 6 South
Address: 427 Route 440
County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 603933 Northing (Y): 684562
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-7

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER
Other Use(s):
Diameter (in.): 3
Regulatory Program Requiring Wells/Borings:
Depth (ft.): 35
Case ID Number:
Pump Capacity (gpm): 0
Deviation Requested: Y
Drilling Method: Mud Rotary
Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: October 17, 2013
Expiration Date: October 17, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314999

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see Attachments.
Unusual Conditions:	Please see Attachments.
Reason for Deviation:	Please see Attachments.
Proposed Well Construction	Please see Attachments.

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316716

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602186 Northing (Y): 685147
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER REPLACEMENT

Other Use(s):

Diameter (in.): 3

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 35

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 14, 2013
Expiration Date: November 14, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316716

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316717

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602180 Northing (Y): 685000
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-4

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER REPLACEMENT

Other Use(s):

Diameter (in.): 3

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 35

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
Sondex
Figure A2.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316717

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316718

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 80 KELLOGG ST

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602531 Northing (Y): 684747
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 3

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 35

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex
settlement
system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316718

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
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This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316722

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601927 Northing (Y): 685276
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 3

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 35

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 14, 2013
Expiration Date: November 14, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316722

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

GENERAL CONDITIONS/REQUIREMENTS
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New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316723

WELL PERMIT

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Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601749 Northing (Y): 685324
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: SD-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: EXTENSOMETER

Other Use(s):

Diameter (in.): 3

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 35

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
sondex settlement system.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 14, 2013
Expiration Date: November 14, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316723

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	PLEASE SEE ATTACHED
Unusual Conditions:	PLEASE SEE ATTACHED
Reason for Deviation:	PLEASE SEE ATTACHED
Proposed Well Construction	PLEASE SEE ATTACHED

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This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314998

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Sudy Area 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602920 Northing (Y): 684544
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 6, 2013

DATE WELL COMPLETED: November 7, 2013

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-6

WELL CONSTRUCTION

Total Depth Drilled (ft.): 27 Finished Well Depth (ft.): 27 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	27	4.5		
Casing	0	27	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	4.5	3	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE/IN ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10.5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
10.5 - 17.5: DRK BRN PT - Peat, muck, and other highly organic soils
17.5 - 18: GRAY SM - Silty sands, sand-silt mixtures
18 - 22: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
22 - 27: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with an approved NJDEP Deviation.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314999

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Sudy Area 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602756 Northing (Y): 684631
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 4, 2013

DATE WELL COMPLETED: November 5, 2013

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-7

WELL CONSTRUCTION

Total Depth Drilled (ft.): 27 Finished Well Depth (ft.): 27 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	27	4.5		
Casing	0	27	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	4.5	3	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE/ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 10: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
10 - 17: BRN-BLK PT - Peat, muck, and other highly organic soils
17 - 22: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
22 - 27: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well was constructed in compliance with an approved NJDEP Deviation.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316716

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602166 Northing (Y): 685148
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 27, 2013

DATE WELL COMPLETED: December 2, 2013

WELL USE: EXTENSOMETER REPLACEMENT

Other Use(s):

Local ID: SD-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 27 Finished Well Depth (ft.): 27 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	27	4.5		
Casing	0	27	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	4.5	3	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 13 ft. below land surface
Water Level Measure Tool: M-SCOPE/ADJACENT WELL
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 6: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
6 - 8.5: DRK GRAY SP - Poorly graded sands and gravelly sands, little or no fines FILL
8.5 - 13: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
13 - 17.5: GRAY-BLK PT - Peat, muck, and other highly organic soils
175 - 27: BRN SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Well was constructed in compliance with an approved NJDEP Deviation.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316717

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602186 Northing (Y): 685010
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 22, 2013

DATE WELL COMPLETED: November 22, 2013

WELL USE: EXTENSOMETER REPLACEMENT

Other Use(s):

Local ID: SD-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 28 Finished Well Depth (ft.): 28 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	28	4.5		
Casing	0	28	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	28	4.5	3	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-Scope/Adjacent Piezometer
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Gus Pech
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 6: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
6 - 18: GRAY SM - Silty sands, sand-silt mixtures
18 - 19: BLK PT - Peat, muck, and other highly organic soils
19 - 28: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Please see Permit for Deviations.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316718

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 80 KELLOGG ST

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602554 Northing (Y): 684734
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 15, 2013

DATE WELL COMPLETED: November 15, 2013

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 27 Finished Well Depth (ft.): 27 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	27	4.5		
Casing	0	27	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	4.5	3	7.75	150	8
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE I ADJACENT PIEZOMETER
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:

Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 6: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
6 - 17: GRAY SW - Well-graded sands and gravelly sands, little or no fines
17 - 18: BLK OL - Organic silts and organic silty clays of low plasticity
18 - 27: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Please see Permit for Deviations.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316722

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601916 Northing (Y): 685280
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: December 18, 2013

DATE WELL COMPLETED: December 19, 2013

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 27 Finished Well Depth (ft.): 27 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	27	4.5		
Casing	0	27	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	4.5	3	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: M-Scope/Adfjacwnt Piezometer
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 7.5: BLK GP - Poorly graded gravels and gravel-sand mixtures, little or no fines FILL
7.5 - 8: BRN-PINK MH - Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts COPR
8 - 10: BRN-BLK ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
10 - 11.5: BRN MH - Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts COPR
11.5 - 12: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
12 - 16.5: BRN PT - Peat, muck, and other highly organic soils
16.5 - 18: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
18 - 27: RED-BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: Well constructed in compliance with NJDEP approved Deviations.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316723

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601757 Northing (Y): 685325
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 27, 2013

DATE WELL COMPLETED: November 28, 2013

WELL USE: EXTENSOMETER

Other Use(s):

Local ID: SD-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 27 Finished Well Depth (ft.): 27 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	27	4.5		
Casing	0	27	3	PVC	SONDEX CASING
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	27	4.5	3	8	150	8.5
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: m-scope/ in adjacent piezometer
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: Mobil B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 8: BRN GP - Poorly graded gravels and gravel-sand mixtures, little or no fines FILL
8 - 12: BRN-GRAY SP - Poorly graded sands and gravelly sands, little or no fines
12 - 15.5: BRN ML - Inorganic silts, very fine sands, rock four, silty or clayey fine sands
15.5 - 20: BRN PT - Peat, muck, and other highly organic soils
20 - 27: GRAY SP - Poorly graded sands and gravelly sands, little or no fines

ADDITIONAL INFORMATION: Well was constructed in compliance with an approved NJDEP Deviation.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315003

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Sudy Area - 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 10 Block: 24601

Easting (X): 602944 Northing (Y): 685544
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 2, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-6

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6	1	PVC	sch 40
Screen	6	11	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11	1	0	0	5	0.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315004

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Study Area - 6 South

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602745 Northing (Y): 684633
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 2, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-7

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 11.5

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	6.5	1	PVC	sch 40
Screen	6.5	11.5	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	11.5	1	0	0	5	0.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316719

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602172 Northing (Y): 685138
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 2, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-3

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 12

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	7	1	PVC	sch 40
Screen	7	12	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	12	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316720

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602174 Northing (Y): 685007
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 2, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-4

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 10

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	5	1	PVC	sch 40
Screen	5	10	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	10	1	0	0	4.5	0.25
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316721

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 80 LELLOGG ST

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602560 Northing (Y): 684733
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 2, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-5

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 6

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	3	1	PVC	sch 40
Screen	3	6	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6	1	0	0	3	0.15
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316724

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601916 Northing (Y): 685280
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 1, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	1	PVC	sch 40
Screen	8	13	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316725

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601752 Northing (Y): 685330
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 1, 2016

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-2

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 13

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	8	1	PVC	sch 40
Screen	8	13	1	PVC	0.010"

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	13	1	0	0	6	0.33
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315003

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Sudy Area - 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602942 Northing (Y): 684551
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-6

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: October 16, 2013
Expiration Date: October 16, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315003

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315004

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Study Area - 6 South

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602754 Northing (Y): 684635
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-7

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: October 22, 2013
Expiration Date: October 22, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315004

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316719

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602188 Northing (Y): 685147
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-3

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316719

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316720

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602180 Northing (Y): 685000
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-4

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316720

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316721

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 80 LELLOGG ST

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602531 Northing (Y): 684747
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-5

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316721

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316724

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601927 Northing (Y): 685276
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316724

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316725

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601749 Northing (Y): 685324
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: STP-2

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: PIEZOMETER

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 20

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: N

Drilling Method: Hollow Stem Augers

Attachments:

SPECIFIC CONDITIONS/REQUIREMENTS

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

Approval Date: November 12, 2013
Expiration Date: November 12, 2014

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316725

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	
Unusual Conditions:	
Reason for Deviation:	
Proposed Well Construction	

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315003

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Sudy Area - 6 South

Address: 427 Route 440

County: Hudson Municipality: Jersey City Lot: 8 Block: 24601

Easting (X): 602944 Northing (Y): 685544
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: October 31, 2013

DATE WELL COMPLETED: October 31, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-6

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11 Finished Well Depth (ft.): 11 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11	6		
Casing	0	6	1	PVC	SH40
Screen	6	11	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5	6	1	0	94	5.4
Gravel Pack	5	11	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 9 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 11: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: H. Robert Seybold, JOURNEYMAN LICENSE # 0001348 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201315004

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Study Area - 6 South

Address: 60 Kellogg St

County: Hudson Municipality: Jersey City Lot: 7 Block: 24601

Easting (X): 602745 Northing (Y): 684633
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: October 31, 2013

DATE WELL COMPLETED: October 31, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-7

WELL CONSTRUCTION

Total Depth Drilled (ft.): 11.5 Finished Well Depth (ft.): 11.5 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	11.5	6		
Casing	0	6.5	1	PVC	SH40
Screen	6.5	11.5	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	5.5	6	1	0	94	5.4
Gravel Pack	5.5	11.5	6	1	MORIE#1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 9 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 11.5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316719

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602172 Northing (Y): 685138
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 27, 2013

DATE WELL COMPLETED: November 27, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-3

WELL CONSTRUCTION

Total Depth Drilled (ft.): 12 Finished Well Depth (ft.): 12 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	12	6		
Casing	0	7	1	PVC	SH40
Screen	7	12	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	6	6	1	0	94	5.4
Gravel Pack	6	12	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 8 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 12: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316720

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 100 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 5 Block: 24601

Easting (X): 602174 Northing (Y): 685007
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 22, 2013

DATE WELL COMPLETED: November 22, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-4

WELL CONSTRUCTION

Total Depth Drilled (ft.): 10 Finished Well Depth (ft.): 10 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	10	6		
Casing	0	5	1	PVC	SH40
Screen	5	10	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	4	6	1	0	62	3.5
Gravel Pack	4	10	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: GUS PECH
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 5: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
5 - 10: GRAY SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316721

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 80 LELLOGG ST

Address: 80 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 6 Block: 24601

Easting (X): 602560 Northing (Y): 684733
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 18, 2013

DATE WELL COMPLETED: November 18, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-5

WELL CONSTRUCTION

Total Depth Drilled (ft.): 6 Finished Well Depth (ft.): 6 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	6	6		
Casing	0	3	1	PVC	SH40
Screen	3	6	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	3	6	1	0	40	2
Gravel Pack	3	6	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 5 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 6: GRAY SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316724

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601916 Northing (Y): 685280
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: December 19, 2013

DATE WELL COMPLETED: December 19, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	8	1	PVC	SH40
Screen	8	13	1	PVC	0.010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	1	0	94	5.6
Gravel Pack	7	13	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 13: BRN-BLK SM - Silty sands, sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201316725

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: 100 KELLOGG ST

Address: 130 KELLOGG ST

County: Hudson Municipality: Jersey City Lot: 3 Block: 24601

Easting (X): 601752 Northing (Y): 685330
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: November 28, 2013

DATE WELL COMPLETED: November 28, 2013

WELL USE: PIEZOMETER

Other Use(s):

Local ID: STP-2

WELL CONSTRUCTION

Total Depth Drilled (ft.): 13 Finished Well Depth (ft.): 13 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	13	6		
Casing	0	8	1	PVC	SH40
Screen	8	13	1	PVC	0010"

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	7	6	1	0	94	5.6
Gravel Pack	7	13	6	1	MORIE #1		

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Hollow Stem Augers

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 7 ft. below land surface
Water Level Measure Tool: M-SCOPE
Well Development Period: 1 hrs.
Method of Development: AIR LIFT
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG

0 - 13: BNR-BLK GM - Silty gravels, gravel-sand-silt mixtures FILL

ADDITIONAL INFORMATION:

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314518

WELL DECOMMISSIONING REPORT

PROPERTY OWNER: BAYFRONT REDEVELOPMENT C/O THOMPSON REU

Company/Organization: Bayfront Redevelopment

Address: PO Box 4900 Dept 356 Scotsdale, Arizona 85261

WELL LOCATION: Study Area 6 South

Address: Kekkogg Street & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 1 through 8 Block: 24601

Easting (X): 601600 Northing (Y): 685400
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL DECOMMISSIONED: March 1, 2016

WELL USE: VIBRATING WIRE PIEZOMETER/SITEWIDE

Other Use(s):

Local ID: VWP - 1

Reason for Decommissioning: No longer in use

Finished Well Depth (ft.): 80

Was a New Well Drilled? N

Formation Type: Unconsolidated

New Well Permit Number:

WELL DECOMMISSIONING INFORMATION

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole					
Casing	0	0	0	Other	none installed
Screen					

MATERIALS USED

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	0	0	0	0	0	0
Sand/Gravel							

ADDITIONAL INFORMATION

Obstructions: No

Authorization Official:

Obstruction Type:

Authorization Number:

Alternative Decomm. Method? No

Authorization Date:

Method Used

ATTACHMENTS:

Warren Blewett
JOURNEYMAN
Sealing Driller: LICENSE # 0014578

B & B DRILLING INC
BOX 8 RT 206
Company: Netcong (Morris), NJ 07857

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-03 PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314518

WELL PERMIT

The New Jersey Department of Environmental Protection grants this permit in accordance with your application, attachments accompanying same application, and applicable laws and regulations. This permit is also subject to further conditions and stipulations enumerated in the supporting documents which are agreed to by the permittee upon acceptance of the permit

Certifying Driller: H. ROBERT SEYBOLD, JOURNEYMAN LICENSE # 0001348

Permit Issued to: B & B DRILLING INC

Company Address: BOX 8 RT 206 NETCONG, NJ 07857

PROPERTY OWNER

Name: BAYFRONT REDEVELOPMENT, LLC

Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD

City: Morristown State: New Jersey Zip Code: 07962

PROPOSED WELL LOCATION

Facility Name: Study Area 6 South

Address: Kekkogg Street & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 1 through 8 Block: 24601

Easting (X): 602400 Northing (Y): 684750
Coordinate System: NJ State Plane (NAD83) - USFEET

Local ID: VWP - 1

SITE CHARACTERISTICS

PROPOSED CONSTRUCTION

WELL USE: VIBRATING WIRE PIEZOMETER/SITEWIDE

Other Use(s):

Diameter (in.): 1

Regulatory Program Requiring Wells/Borings:

Depth (ft.): 50

Case ID Number:

Pump Capacity (gpm): 0

Deviation Requested: Y

Drilling Method: Mud Rotary

Attachments: DEVIATION REQUEST 10-10-13.pdf
llation Detail 08-27-2011.pdf

SPECIFIC CONDITIONS/REQUIREMENTS

Well must be built in accordance with submitted deviation [N.J.A.C. 7.9D-2.8]

Approval Date: October 10, 2013
Expiration Date: October 10, 2014

Approved by the authority of:
Bob Martin
Commissioner

Terry D. Pilawski

Terry Pilawski, Chief
Bureau of Water Allocation and Well Permitting

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Wells
PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314518

WELL PERMIT

DEVIATION INFORMATION	
Purpose:	Please see attached Engineer's Design Documentation.
Unusual Conditions:	Please see attached Engineer's Design Documentation.
Reason for Deviation:	Please see attached Engineer's Design Documentation.
Proposed Well Construction	Please see attached Engineer's Design Documentation.

GENERAL CONDITIONS/REQUIREMENTS
A copy of this permit shall be kept at the worksite / on the property and shall be exhibited upon request. [N.J.A.C. 7:9D-1]
A well record must be submitted by the well driller to the Bureau of Water Systems and Well Permitting. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the well record shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Record: within ninety (90) days after the well is completed.[N.J.A.C. 7:9D-1]
All well drilling/pump installation activities shall comply with N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
For this permit to remain valid, the well approved in this permit shall be constructed within one year of the effective date of the permit. [N.J.A.C. 7:9D-1]
If the pump capacity applied for is less than 70 gpm, no subsequent increase to 70 gpm or more shall be made without prior approval of the Bureau of Water Systems and Well Permitting. [N.J.A.C. 7:9D-1]
If the use of the well is to be changed a well permit for the proposed use of the well shall be submitted for review and approval. [N.J.A.C. 7:9D-1]
If you or a future property owner intend to redesignate this well as a Category 1 well (domestic, non-public, community water supply or public non-community water supply wells), the well must be constructed as a Category 1 well per the Well Construction and Abandonment Regulations at N.J.A.C. 7:0D-1.1 et seq. In addition, if the current or future property owner intends to have this well redesignated as a community water supply well, the well must be constructed by a Master well driller, which would include having a Master well driller on-site at all times during construction of the well, as specified in the Well Construction and Abandonment Regulations. Otherwise, the New Jersey Department of Environmental Protection will not allow the well to be redesignated, and a new well would have to be installed. [N.J.A.C. 7:9D-1.7((a))1i]
In accepting this permit the Property Owner and Driller agree to abide by the following terms and conditions [N.J.A.C. 7:9D-1]
In the event that this well is not constructed the well driller shall notify the Bureau of Water Systems and Well Permitting of the permit cancellation. Unless prior written approval is obtained from the Bureau of Water Systems and Well Permitting the Cancellation notification shall be submitted electronically through the New Jersey Department of Environmental Protection's Regulatory Services Portal Submit Well Permit Cancellation : by the expiration date of this permit.[N.J.A.C. 7:9D-1]
In the event this well is abandoned, the Owner or Well driller shall assume full responsibility for having the well decommissioned in a manner satisfactory to the New Jersey Department of Environmental Protection in accordance with the provisions of N.J.A.C. 7:9D-1 et seq. [N.J.A.C. 7:9D-1]
The granting of this permit shall not be construed in any way to affect the title or ownership of property, and shall not make the New Jersey Department of Environmental Protection or the State a party in any suit or question of ownership of property. [N.J.A.C. 7:9D-1]
The issuance of this permit shall not be deemed to affect in any way action by the New Jersey Department of Environmental Protection on any future application. [N.J.A.C. 7:9D-1]
This permit conveys no rights, either expressed, or implied to divert water. [N.J.A.C. 7:9D-1]
This permit does not waive the obtaining of Federal or other State or local Government consent when necessary. This permit is not valid and no work shall be undertaken until such time as all other required approvals and permits have been obtained. [N.J.A.C. 7:9D-1]
This permit is NONTRANSFERABLE [N.J.A.C. 7:9D]
This well shall not be used for the supply of potable / drinking water. [N.J.A.C. 7:9D-1]

New Jersey State Department of Environmental Protection
Bureau of Water Allocation and Well Permitting
Mail Code 401-04Q PO BOX 420 Trenton, NJ 08625-0420 Tel: 609-984-6831

Well Permit Number
E201314518

MONITORING WELL RECORD

PROPERTY OWNER: BAYFRONT REDEVELOPMENT, LLC

Company/Organization: BAYFRONT REDEVELOPMENT, LLC

Address: 101 COLUMBIA ROAD Morristown, New Jersey 07962

WELL LOCATION: Study Area 6 South

Address: Kekkogg Street & St. Hwy 440

County: Hudson Municipality: Jersey City Lot: 1 through 8 Block: 24601

Easting (X): 601600 Northing (Y): 685400
Coordinate System: NJ State Plane (NAD83) - USFEET

DATE WELL STARTED: October 31, 2013

DATE WELL COMPLETED: June 12, 2014

WELL USE: VIBRATING WIRE PIEZOMETER/SITEWIDE

Other Use(s):

Local ID: VWP - 1

WELL CONSTRUCTION

Total Depth Drilled (ft.): 80 Finished Well Depth (ft.): 80 Well Surface: Above Grade

	Depth to Top (ft.)	Depth to Bottom (ft.)	Diameter (inches)	Material	Wgt/Rating/Screen # Used (lbs/ch no.)
Borehole	0	80	4		
Casing	0	0	0	Other	none installed
Screen					

	Depth to Top (ft.)	Depth to Bottom (ft.)	Outer Diameter (in.)	Inner Diameter (in)	Material		
					Bentonite (lbs.)	Neat Cement (lbs.)	Water (gal.)
Grout	0	80	4	0	0	570	32
Gravel Pack							

Grouting Method: Pressure method (Tremie Pipe) Drilling Method: Mud Rotary

ADDITIONAL INFORMATION

Protective Casing: Yes
Static Water Level: 10 ft. below land surface
Water Level Measure Tool: Transducers
Well Development Period: 0 hrs.
Method of Development: NA
Pump Type:

Pump Capacity: _ gpm
Total Design Head: _ ft.
Drilling Fluid:
Drill Rig: MOBIL B-61
Health and Safety Plan Submitted? Yes

ATTACHMENTS:

GEOLOGIC LOG
0 - 15: BRN GM - Silty gravels, gravel-sand-silt mixtures FILL
15 - 20: DRK BRN PT - Peat, muck, and other highly organic soils
20 - 45: GRAY SP - Poorly graded sands and gravelly sands, little or no fines
45 - 80: RED BRN SM - Silty sands, sand-silt mixtures

ADDITIONAL INFORMATION: SITE WIDE PERMIT - Wells were constructed in compliance with an approved NJDEP Deviation. Well depths varied between 20' & 80' with each containing a poor pressure transducer in targeted zones.

Driller of Record: Warren Blewett, JOURNEYMAN LICENSE # 0014578 Company: B & B DRILLING INC

APPENDIX Q

CAP GEOSYNTHETIC QUALITY ASSURANCE REPORT
(CD ONLY)

LANGAN

ENGINEERING & ENVIRONMENTAL SERVICES

Technical Excellence
Practical Experience
Client Responsiveness

Cap Geosynthetic Quality Assurance (QA) Report

Honeywell SA-6 South

SA-6 South
Jersey City, New Jersey
Project Number: 100530001

April 2016

Honeywell





Cap Geosynthetic Quality Assurance (QA) Report (SA-6 South)

for

SA-6 South
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
115 Tabor Road
Morris Plains, New Jersey 07950

Prepared By:

Langan Engineering and Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054

April 2016
Langan Project No. 100530001

LANGAN

CAP GEOSYNTHETIC QUALITY ASSURANCE (QA) REPORT

Prepared By:
Langan Engineering & Environmental Services, Inc.
300 Kimball Drive
Parsippany, NJ 07054

Dan Bosworth
Senior Staff Engineer

Jeffrey Stoicescu, P.E.
Associate
New Jersey Professional Engineer License No. 24GE04504400

LANGAN

ENGINEER'S CONSTRUCTION CERTIFICATION

I certify that the placement of the SA-6 South geosynthetics was implemented in substantial compliance with the design documents, and that the activities were witnessed by myself, and/or a person under my direct supervision.

Print Name: Jeffrey Stoicescu, P.E. Title: Senior Associate

Signature:  Date: 4/28/16

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Appendix O	Penetration & Pipe Boot Logs
Appendix P	Summary of Non-Compliance & Corrective Action Sheets

LIST OF ACRONYMS

AO – Add-On
AOC – Area of Concern
BO – Burnout
CF – Custom Fit Repairs
CQA – Construction Quality Assurance
DCB – Design Change Bulletin
DO – Damage By Others
DS – Destruct Sample (Fusion)
DSX – Destruct Sample (Extrusion)
EOR – Engineer of Record
FS – Failed Seam
GCL – Geosynthetic Clay Liner
GDL – Geocomposite Drainage Layer
GVL – Geocomposite Venting Layer
HB – Hydraulic Barrier
IFC – Issued for Construction
LF – Linear Feet
LLDPE – Linear Low-Density Polyethylene
PB – Pipe Boot
PSI – Pounds per Square Inch
RCRA – Resource Conservation & Recovery Act
RFI – Request for Information
RAR – Remedial Action Report
RIR – Receiving Inspection Report
RP - Repair
RW – Roller Wrinkle
SA-6 – Study Area 6
SCB – Soil Cement Bentonite
SI – Subgrade Irregularity
SJ – Seam Joint
QA - Quality Assurance
QA Report – Cap Geosynthetic Quality Assurance Report
QC – Quality Control
WR - Wrinkle

1.0 INTRODUCTION

The purpose of this Cap Geosynthetic Quality Assurance Report (QA Report) is to present the observations made, and data collected during the construction of an engineered cap placed within the Study Area 6 (SA-6) South Open Space Area of Concern (AOC) located in Jersey City, New Jersey (Site). The capping activities at SA-6 South included the preparation of the soil subgrade, placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), linear low-density polyethylene (LLDPE) geomembrane, and a geocomposite drainage layer (GDL). Langan Engineering & Environmental Services, Inc. (Langan) was contracted by Honeywell International, Inc. (Honeywell) to provide independent Quality Assurance (QA) for the installation of the geosynthetic components of the cap.

The Chromium Remedy *100% Design* Issued for Construction dated June 2013, (*100% Design*) was prepared by AMEC Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) on behalf of Honeywell, to address chromium contamination at SA-6 South. The *100% Design* required installation of a Resource Conservation and Recovery Act (RCRA) – equivalent geosynthetic cap system, including a venting layer for naturally occurring methane, covering approximately eight acres of the designated Open Space AOC. As part of this QA Report, the Record Drawings, which outline the placement and construction of the various geosynthetic components of the cap, have been provided as *Appendix A*. Other design details discussed herein, including the Issued for Construction (IFC) drawings, geosynthetics specifications, and geosynthetic products approved for this site are incorporated by reference only. Refer to Amec Foster Wheeler documents titled "*100% Design*," dated June 2013, and "*Remedial Action Report (RAR) for Chromium*" for these details.

This QA Report documents the results of the QA Geosynthetic activities conducted during the construction of the cap at SA-6 South by both Langan and Amec Foster Wheeler field personnel. Refer to the Construction Quality Assurance (CQA) Plan prepared by Langan in June 2015 (attached as *Appendix B*) for a description of the scope conducted by Langan, as well as the roles and responsibilities of the owner, Engineer of Record (EOR), earthwork contractor, and liner contractor. Design Change Bulletins (DCBs) and Requests for Information (RFIs) which were generated subsequent to the *100% Design*, and relevant to the QA scope were reviewed and approved by the EOR, and are further summarized in the EOR Closure Report.

This QA Report specifically includes the following documentation of the cap construction activities:

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

- Photographs depicting daily work activities and the various phases of the capping activities; and
- Independent QA's certification that the placement of the SA-6 South geosynthetics was implemented in general compliance with the design documents.

This QA Report addresses the cap construction of SA-6 South only. The cap construction at SA-6 North is proposed to commence in the spring of 2016 and will be addressed in a separate QA Report (to be provided upon completion of the SA-6 North cap).

2.0 SA-6 SOUTH CAP CONSTRUCTION AND DOCUMENTATION

2.1 General

This Section describes the construction methods used and the Quality Control (QC) and QA documentation completed as part of the construction of SA-6 South. This Section also provides the results of the QC and QA testing that was performed during field activities by Langan (QA Engineer), Environmental Specialties International (ESI) as the Geosynthetic Installer, and Entact, LLC (Entact) as the Construction Contractor and QC.

QA activities commenced on July 7, 2015, with Langan conducting observation of the soil subgrade preparation for the western end of SA-6 South (near the Hackensack River). Geocomposite / geotextile placement began on July 20, 2015 and continued until capping activities were completed by November 4, 2015. Relevant observations and QA/QC testing during this timeframe are defined further in this section. A project Certificate of Completion (completed and verified by Entact) certifying that the SA-6 South cap has been constructed and completed in compliance with the project drawings and technical specifications is attached as *Appendix C*.

2.2 Survey Control / Subgrade Elevations

Entact subcontracted Maser Consulting, P.A. (Maser), a licensed New Jersey land surveyor, who provided surveying services during the construction of the cap. Maser completed surveying of the cap from the initial subgrade preparation phases to the placement of the geomembrane. Maser surveyed the subgrade elevations of the cap prior to material placement and tabulated the survey results as compared to the design elevations on the construction control grid. These survey activities included:

1. Measurement of elevations of the subgrade surface in accordance with a pre-determined Construction Control Grid. Conformance to the design lines and grades was verified by Amec Foster Wheeler and Entact by comparing the actual elevations with the design elevations on the Construction Control Grid. The accepted subgrade elevations, and corresponding Construction Control Grid for SA-6 South are provided within *Appendix D1* and *Appendix D2*, respectively.
2. Measurement of the as-built conditions including the perimeter or termination of the geomembrane and geotextile over the hydraulic barrier (HB), and Soil Cement Bentonite

(SCB) wall, as well as, the location of the geomembrane repairs, boots / penetrations, and other pertinent information related to the construction of the cap.

3. The subgrade surface was observed to verify uniformity of grade between the construction control grid points.

This survey information is shown on the final Record Drawings attached in *Appendix A.* Amec Foster Wheeler provided QA review and verification of the Maser survey data.

2.3 Soil Subgrade Preparation

Soil subgrade preparation was required prior to the placement of the geotextile and the geomembrane in the areas to be capped. Soil subgrade preparation for the cap was completed by Entact using the following procedures:

- Step 1: Entact conducted rough grading of the subgrade surfaces with the use of track-mounted dozers to prepare the appropriate grades and to clear the surface of large objects (i.e. rocks, metals, debris, etc.);
- Step 2: The subgrade surface was fine-graded and compacted in accordance with the project specifications presented in the *100% Design* package. Subgrade sections not meeting survey or compaction requirements were re-worked by Entact until specified conditions were achieved. At the conclusion of this step, Entact provided a certification that the surface met the grading and compaction requirements. The certifications included the Construction Control Grid tabulation prepared by Maser (as defined in *Section 2.2*) and issuance of a Certificate of Subgrade Surface Acceptance as defined in further detail below;
- Step 3: When precipitation was forecast, the prepared subgrade surface was temporarily covered with a polyethylene plastic sheet to protect the soil from overnight precipitation; and
- Step 4: The subgrade surface would be uncovered in approximate 100 ft. sections (moving from west to east across SA-6), followed by extra fine grading conducted by laborers who cleared the surface of extraneous materials greater than ½-inch in diameter, followed by repair and re-compaction of any areas that became inadvertently wetted.

Entact and ESI also conducted their own observation of the subgrade surface to confirm if the surface was acceptable for the placement of the geosynthetic material. Upon notification by Entact that the grading was acceptable, Langan conducted an independent observation to identify that the subgrade was prepared in general accordance with the *100% Design*.

If the soil subgrade surface was deemed acceptable with no additional re-work required, the Langan QA and Entact QC representative signed and submitted an acceptance form for the approved subgrade. The daily QA subgrade approval forms are provided in *Appendix E*, with the ESI Certificate of Subgrade Surface Acceptance forms provided in *Appendix E1*, and the Langan Certificate of Soil Surface provided in *Appendix E2.* In the event the subgrade surface was not

deemed acceptable, Steps 2, 3, and 4 outlined above were repeated until an acceptable subgrade surface was achieved (based on conditions outlined in the Langan Certificate of Soil Surface forms) and confirmed by Langan and Entact.

Figure 1 below shows a typical section of subgrade approved for geomembrane placement. Additional photos and summaries of the subgrade preparation activities conducted each day are presented in the Daily Reports and Daily Photo Logs provided in *Appendix F.*

Figure 1 – Typical Soil Subgrade Approved for Geomembrane Placement



2.4 SA-6 South Cap Components

2.4.1 Geotextiles

After approval of various sections of the subgrade surface, a 16 oz. geotextile layer was placed over the HB and SCB barrier walls around the perimeter of the capped area. According to the *100% Design* package, this geotextile layer was designed to protect the 60-mil LLDPE geomembrane from potential puncture damage from the perimeter barriers / walls. The approved 16 oz. non-woven geotextile fabric layer (i.e., defined as SKAPS GE-116 in Amec Foster Wheeler's *EOR Closure Report*) was delivered to the project site, offloaded, and staged onsite by Entact. For each delivery, Amec Foster Wheeler prepared a Receiving Inspection Report (RIR) to document receipt of acceptable materials. The RIRs outlining the date, material, quantity, and other pertinent details of the geotextile rolls delivered to the Site are provided in *Appendix G*.

The 16 oz. geotextile was installed by ESI at locations shown on the Record Drawings. Geotextile was placed along the boundaries of SA-6 South over the HB and SCB wall located along the western, northern, southern, and eastern boundaries of the cap. The 15 ft. wide geotextile panels were placed with approximately 13 ft. inbound of the perimeter of the HB and SCB walls, along with 2 ft. of geotextile extending outbound of the perimeter containment walls.

Geotextile panels were overlapped at least 12-inches and seamed using a dual hot wedge welder that melted the two surfaces together to form a bond (also referred to as leistering). The 16 oz. geotextile was placed along the boundary areas of SA-6 at locations above the Site water table (i.e. locations where geosynthetic clay liner was not required). The geotextile (on the interior of the Cap) overlapped the geocomposite venting layer and was leistered in place following the procedure outlined above. *Figure 2* below shows the 16 oz. geotextile being placed over the HB wall (southern end of SA-6 South cap), and *Figure 3* shows the geotextile overlapping the GVL Note, the GVL roll was placed in a general north to south direction across SA-6, while the 16 oz. geotextile roll was placed in a general east to west direction.

Figure 2 – 16 oz. Geotextile Placed Over HB Wall (southern end of SA-6 South)



Figure 3 – 16 oz. Geotextile / GVL Over SCB Wall (northern end of SA-6 South)



2.4.2 Geocomposite Venting Layer (GVL)

Prior to placement of the 60-mil LLDPE geomembrane, GVL was placed over the soil subgrade at locations above the water table to serve as a venting layer for naturally occurring methane that may emanate from below the cap.

The approved GVL (i.e., defined as SKAPS TN-220-2-6 in *EOR Closure Report*) consisted of an extruded polyethylene drainage net structure (or geonet) sandwiched between two non-woven geotextile layers. The GVL was delivered to the Site, offloaded, and staged onsite by Entact. The RIRs for the GVL delivered to the Site are provided in *Appendix G*.

The GVL was placed by ESI, over the approved soil subgrade for areas above the Site water table at locations shown on the Record Drawings (*Appendix A1*).

The GVL rolls were typically oriented in a north to south direction. The leading edge of the GVL panels was held in place by sand bags until the subsequent panels could be placed and seamed. The placement strategy for this material was to limit the amount of GVL to be placed in a day, to an area that could also be covered by the LLDPE geomembrane that day. This strategy was used to minimize the risk of the GVL and underlying subgrade from becoming wet during overnight rain events. GVL panels were not placed during precipitation events, in the presence of excessive moisture, or during high winds.

GVL panels were placed according to Section 02380 – Gas Venting System as defined in *100% Design* package. GVL was generally placed with the predominant flow direction towards the edge of the cap with the GVL running parallel to any slopes or elevation changes (i.e. running up/down the slope and not across the slope). For adjacent GVL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GVL were placed so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped to ensure that no areas of the soil subgrade were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam to connect adjacent pieces of GVL. Additional fasteners were requested by the QA team when the seams extended down slopes or at significant subgrade elevation changes. *Figure 4* below shows placement of the white plastic fasteners; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GVL was continuously sewn as shown in *Figure 5* below.

Figure 4 – Typical Placement of GVL & Joining of the Net with Plastic Fasteners



Figure 5 – Typical Sewing of GVL (for top layer of geotextile)



During placement of the GVL, butt seams, rips, tears, or other damaged areas of the GVL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of geotextile which was leistered in-place. Additional details of the GVL placement are further described in the Langan Daily Reports and Photo Logs provided in *Appendix F*.

2.4.3 Geosynthetic Clay Liner (GCL)

The approved GCL consisted of granular sodium bentonite clay sandwiched between, supported, and encapsulated by two geotextiles, and held together by needled punching. The approved GCL (i.e., Cetco Bentomat DN) was delivered to the Site, offloaded, and staged onsite by Entact. The RIRs for the GCL rolls delivered to the Site are provided within *Appendix G*.

The approved GCL was deployed by ESI in accordance with Section 02375 – Geosynthetic Clay Liner as defined in the *100% Design* package. GCL was placed directly over the approved soil subgrade, at locations situated below (to 1 ft. above) the Site water table. These areas generally consisted of: the bottom of utility corridors, the bottom of drainage swales and Site elevation changes, and the eastern end of SA-6 South (where the subgrade is depressed to allow the surface grading to tie in with Route 440). These locations are shown on the Record Drawings.

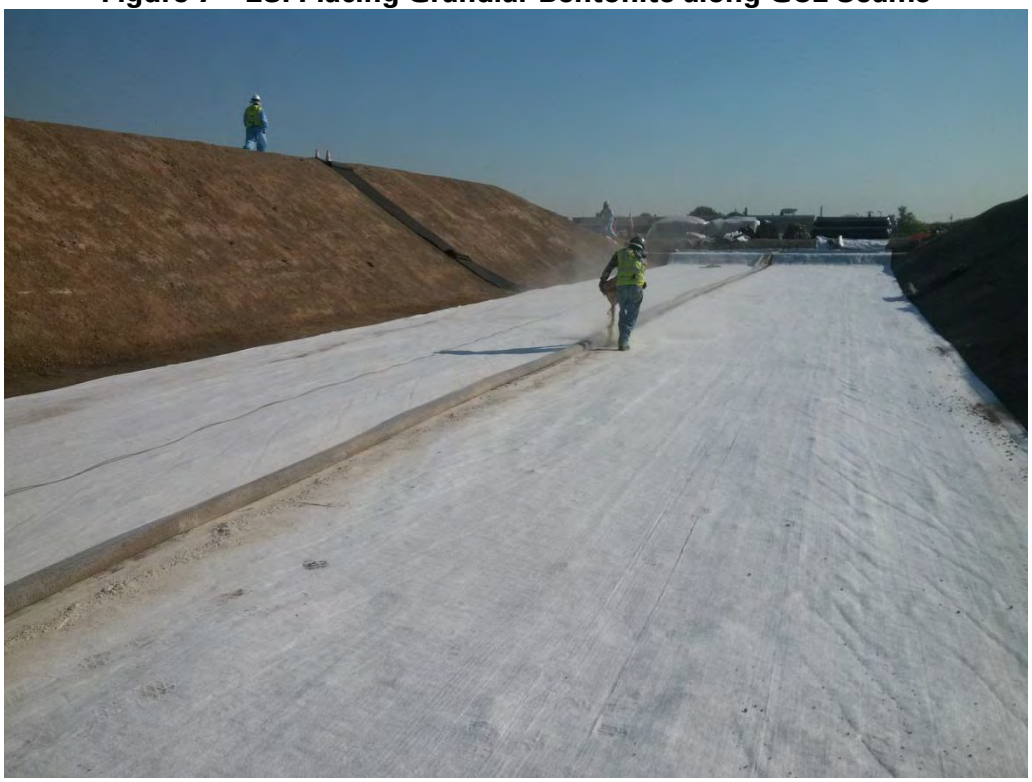
For areas where the edges of the GCL terminated on a slope, staples were used to secure the GCL in place as shown below in *Figure 6*. The staples were placed along the top 6-inches of the GCL edge and were placed through the GCL and secured into the underlying soil subgrade. The GVL overlapped the edge of the GCL a minimum of 12-inches and was then leistered to the GCL. When staples were used, the GVL was placed over the staples (at least of 1 ft. of overlap), to mitigate the potential of the staples coming in contact with the geomembrane.

Figure 6 – ESI Securing GCL with Staples



During placement of the GCL, granular bentonite was placed along the GCL seams as outlined in the project specifications and shown on *Figure 7* below. No GCL was placed during precipitation, in the presence of excessive moisture, or during high winds.

Figure 7 – ESI Placing Granular Bentonite along GCL Seams



Additional details on the placement of the GCL are further described in the Langan Daily Reports and supporting photo logs provided in *Appendix F*.

2.4.3.1 Bentonite Sand Plug

As outlined in specification Section 02375 – Geosynthetic Clay Liner of the *100% Design* package, a sand bentonite plug was constructed on the inboard side of the HB wall for the low-lying areas (below the Site groundwater table) along the edges of SA-6 South. This bentonite sand plug was constructed in the field by Entact by mixing clean sand with sodium montmorillonite at a 90% sand to 10% bentonite ratio.

The plug was constructed to a depth of approximately 18-inches below the HB wall elevation, and was approximately 2 ft. thick. Additional details on the edge connection details are provided below in *Section 2.4.3.2*. *Figure 8* below also shows the typical construction of the bentonite sand plug along the HB wall.

Figure 8 – Typical Construction of Bentonite Sand Plug along HB Wall



2.4.3.2 GCL to Barrier Wall Connection Details

GCL to Barrier Wall Logs are provided within *Appendix H*. As per the approved Langan CQA Plan, Amec Foster Wheeler completed a GCL to Barrier Wall (HB Wall & SCB) Connection Detail form for the low-lying areas of SA-6 South (below the Site water table). This form documented that the bentonite sand plug was appropriately constructed, that the barrier wall was clean and exposed, and that the appropriate GCL overlap (1 ft. minimum) was maintained.

2.4.4 60-mil Low Linear Density Polyethylene (LLDPE) Geomembrane

A textured LLDPE geomembrane manufactured to a nominal 60-mil thickness was placed over the GVL and GCL layers at the Site to mitigate groundwater infiltration through the cap. The rolls of the approved 60-mil LLDPE geomembrane were delivered to the Site, offloaded, and staged onsite by Entact. The RIRs for the LLDPE geomembrane are provided in *Appendix G*.

The 60-mil LLDPE geomembrane was placed directly over the GVL and GCL geotextiles. The 60-mil geomembrane was placed in accordance with specification Section 02372 – Cap Geomembrane Liner as defined in the *100% Design* Package. The location and placement of the LLDPE panels is documented on the ESI Panel Placement Logs provided in *Appendix I*.

ESI deployed the geomembrane rolls in a general north to south orientation. Hand clamps were used on the edge of the panels to aid in the final positioning, as required. The leading edge of the LLDPE geomembrane panels were held in place by sand bags until the subsequent panels

could be placed and seamed via fusion welding methodology. The number of panels deployed in a single day was limited to the amount that could be field seamed that day. No panels were placed during precipitation, in the presence of excessive moisture, or during high winds. The minimum temperature for seaming was specified as 32°F, with a maximum temperature of 104°F. No cold or hot weather seaming was conducted as temperatures did not reach below 32°F, or above 104°F during geomembrane installation.

Each individual LLDPE panel was observed for damage by ESI, Entact, and Langan during the installation process. Prior to seaming, the approved geomembrane was observed by Langan to ensure that the material was free of defects or damage prior to seaming. Areas observed to be damaged / defective, or areas where the geomembrane had to be custom cut to conform to the subgrade contours, were marked for repair. Repairs were completed in the field by ESI via patching and welding the geomembrane as further described below. All repairs were documented and recorded on the Record Drawings (*Appendix A2*). Additional details on the repair methodology and types of repairs are further described in *Section 2.4.4.4*.

The LLDPE geomembrane was seamed in the field by two welding methods: extrusion and double-fusion. Extrusion welding was used for repairs, short seams, and areas where the double fusion could not operate. Extrusion welding was performed with a hand held extrusion welding gun. The double-fusion seaming (fusion welding) was performed using a self-propelled "wedge welder" which formed an air channel between the two seams. Fusion welding was performed with a minimum of 4-inches overlap as per the project specifications.

The integrity of the welds was monitored by both destructive and non-destructive test methods. The destructive testing consisted of collecting samples from the completed seams at a minimum frequency of one sample per 500 ft. of weld (for both fusion and extrusion welds). A representative of Langan was onsite to confirm the locations of the destructive samples along with a representative of ESI.

The destructive samples were analyzed by Geotechnics, Inc. (Geotechnics) the Contractor's Material Quality Control Laboratory. Langan also collected additional QA samples (approximate 15% of total samples collected) and submitted samples to TRI Environmental, Inc. (TRI) for independent QA testing. Destructive sample locations were repaired in the field and tested with a vacuum box. All destructive sample locations have been recorded and are shown on the Record Drawings (*Appendix A2*). The laboratory results of the destruct samples are discussed further in *Section 2.4.4.3* below.

In addition to the destructive testing, non-destructive testing was completed by ESI during cap construction. Two types of non-destructive tests were used at the Site: air channel tests (pressure tests) and vacuum box tests as defined further below:

1. Pressure Testing - The pressure tests were conducted on 100% of all the double fusion welded seams where both ends of the seam were clamped and sealed and a pressure needle was inserted into the air channel. The air channel was then pressurized to thirty pounds per square inch (psi) and the pressure was maintained for a minimum of five minutes. If the pressure did not stabilize, or a pressure drop greater than four psi was noted over a five minute span, then the seam was deemed unacceptable and the faulty

area was isolated and repaired. Results of the non-destructive testing are discussed further in *Section 2.4.4.2* below.

2. Vacuum Box Testing - For patch / repair work and other areas where extrusion welding was required, the extrusion welds were vacuum box tested by ESI. A soapy solution was applied to the weld area, and a vacuum box was placed over the weld for a minimum of ten seconds and observed for the appearance of soap bubbles. Any areas where these bubbles appeared were marked, repaired, and retested. Any areas that failed the vacuum box test were identified as a non-compliance issue and are discussed further in *Section 2.4.6* below.

At seams or locations where vacuum box or pressure testing could not be conducted (i.e. boot penetrations), the extrusion welds were visually inspected by observing the welding process and checking the weld for uniformity and completeness. Individual forms were generated to document the installation of each boot / penetration. Additional details on the pipes / penetrations encountered on the cap are further described in *Section 2.4.4.5*.

For additional details on the geomembrane placement, destructive and non-destructive testing, patch / repair work, and other geomembrane related construction activities, refer to the Langan Daily Reports and Photo Logs provided in *Appendix F*.

2.4.4.1 Trial Weld Logs

Prior to any seaming of the geomembrane each day, the fusion and/or extrusion welding equipment was used to conduct trial welds (or test strips) to confirm that the material and equipment met the specification requirements. Test strips were collected (using the same 60 mil LLDPE geomembrane placed across the cap) by completing a sample fusion or extrusion weld. This activity included producing several types of seams to qualify that a specific seamer and apparatus would yield the desired specified performance requirements. These seam types included: smooth-to-smooth, smooth-to-textured, and textured-to-textured. It should be noted that the 60 mil geomembrane installed across the cap was textured (60-mil Microspike); however, the manufacturer's product has a smooth edge for welding.

The trial welds were cut and tested on a portable tensiometer by ESI. Langan and Entact observed the trial weld tests to confirm that the minimum peel and shear values were obtained (as per specification Section 02372 – Cap Geomembrane Liner defined in the *100% Design* package). These trial welds were completed prior to commencement of seaming at the start of each day, and once every four hours. The results of daily trial weld logs are provided in *Appendix J*.

2.4.4.2 Non-Destructive Testing Results

Non-Destructive Pressure Testing was conducted along the geomembrane panels, and the repaired / patched areas (i.e., using vacuum box testing) by ESI, as per the project specifications. The results of the non-destructive testing for each of the panel seams were provided in the Seam Control Logs shown in *Appendix K*. Additionally, the associated repairs

and the corresponding vacuum box testing results are presented in the ESI Repair Report attached in *Appendix L*.

During the construction of the cap at SA-6 South, there were two non-destructive tests (one pressure test and one vacuum box test) that failed during the field testing which consisted of the following:

1. Failed non-destructive (pressure) test for geomembrane panel seams Panel #7 / Panel #8 and identified as Repair (RP)-13 (as shown on the Record Drawings); and
2. Failed non-destructive test (vacuum box test) for repair RP-215 (Panel #50).

Both of these failures were subsequently repaired by ESI in general accordance with specification Section 02372 – Cap Geomembrane Liner and were documented as non-compliance issues which are further described in *Section 2.4.6* below.

2.4.4.3 Destructive Testing Results

Destructive testing was conducted for the fusion and extrusion welding that was completed along the edge of the geomembrane panels. Destruct samples were collected at a minimum sampling interval of 500 linear feet (LF) of seaming length for the initial twenty-five (25) samples. The locations of the destruct samples were identified in the field by the Independent QA Monitor (Langan) and are shown on the Record Drawings (*Appendix A2*). Once the destruct sample locations were determined, ESI cut and tested the destruct samples (as per the project specifications).

Six 1-inch wide specimens were cut from the destruct sample for field testing. These samples were then tested by a tensiometer equipped with a drive/pull apparatus rate of 20-inches per minute. Three of the specimens were tested for peel strength, and the remaining three for shear strength. The samples were tested to confirm that the geomembrane met the specified peel and shear strength values outlined in *Table 1* below. Additional details on the test results are provided on the Destructive Sample Information Logs attached as *Appendix M.*

Table 1 – LLDPE Geomembrane Seam Property Requirements

Property	Test Method	60-mil LLDPE Value
Shear Strength (min. avg.)	ASTM D 6392	90 lb/in
Peel Strength – Extrusion (min. avg.)	ASTM D 6392	66 lb/in
Peel Strength – Fusion (min. avg.)	ASTM D 6392	75 lb/in

In addition to the field testing completed by ESI, a total of twenty-nine (29) fusion weld destruct samples, and fifteen (15) extrusion weld samples were sent to Geotechnics for lab verification.

A total of twenty-nine (29) fusion weld destruct samples (DS-1 through DS-29) were collected during the capping of SA-6. For the first 25 QA samples collected, all samples met the specified destructive testing requirements outlined in *Table 1*. As per the specification, the frequency of fusion weld destruct sampling was reduced from every 500 LF of welded seam to every 1,500 LF of welded seam. A summary of the peel and shear QA testing conducted for the 29 fusion weld samples collected is summarized in *Appendix N*.

A total of fifteen (15) extrusion destruct samples were collected throughout the capping of SA-6 South. *Table 2* below summarizes the results of the extrusion weld destruct samples collected as well as the corresponding laboratory data, peel and shear averages, and compliance with specification Section 02372 – Cap Geomembrane Liner outlined in the *100% Design* package.

Table 2 – Summary of ESI / Langan QA Testing - Extrusion Welds

Honeywell SA-6 Capping										
Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds										
Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
EXT-DS-1	Extrusion	Langan	Peel	97	97	127	130	128	**116**	**Yes**
DSX-1		Entact	Peel	109.3	107.5	109.8	120.5	110	**111.4**	**Yes**
EXT-DS-1		Langan	Shear	133	172	148	181	146	**156**	**Yes**
DSX-1		Entact	Shear	115.7	119.8	118.1	117.5	116.2	**117.5**	**Yes**
DSX-2	Extrusion	Entact	Peel	133.5	118.8	126.4	120.1	115.4	**122.8**	**Yes**
			Shear	132.7	150.3	145.5	135.4	130.3	**138.8**	**Yes**
DSX-3	Extrusion	Entact	Peel	123.7	117.2	117.9	119.1	120.2	**119.6**	**Yes**
			Shear	126	128.6	125.1	124.5	125.1	**125.9**	**Yes**
DSX-4	Extrusion	Entact	Peel	128.4	132.1	133.5	134.4	139.5	**133.6**	**Yes**
			Shear	144.7	143.7	141.8	150.7	145.7	**145.3**	**Yes**
DSX-5	Extrusion	Entact	Peel	107.5	115.8	111.6	113.9	119.3	**113.6**	**Yes**
			Shear	131.7	136.9	151.8	137	149.5	**141.4**	**Yes**
DSX-6	Extrusion	Entact	Peel	151.4	144.8	130.9	139.9	150.1	**143.4**	**Yes**
			Shear	164.9	162.3	151.5	155.6	159.7	**158.8**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.7	126.8	128.7	122.2	120.7	**124.4**	**Yes**
			Shear	134.6	133.7	134.8	136.2	135.5	**135.0**	**Yes**
DSX-8	Extrusion	Entact	Peel	129.6	119.5	124.3	130.9	120	**124.9**	**Yes**
			Shear	131.6	130.7	129.7	134.4	127.8	**130.8**	**Yes**
DSX-9	Extrusion	Entact	Peel	108.7	124.4	120.8	112	111.6	**115.5**	**Yes**
			Shear	132.8	126.8	133.9	116.1	122.8	**126.5**	**Yes**
DSX-10	Extrusion	Entact	Peel	118.7	122.1	118.1	120.8	136.1	**123.2**	**Yes**
			Shear	123	145.2	149.5	130.7	145.6	**138.8**	**Yes**
DSX-11	Extrusion	Langan	Peel	125	134	123	121	124	**125**	**Yes**
		Entact	Peel	125.1	118.2	125.9	123.3	120.6	**122.6**	**Yes**
		Langan	Shear	164	157	141	137	142	**148**	**Yes**
		Entact	Shear	122.6	124.6	126.1	127.9	128.2	**125.9**	**Yes**
DSX-12	Extrusion	Entact	Peel	130.4	121.3	148.4	118.2	138.9	**131.4**	**Yes**
			Shear	126.2	123.7	125	124.2	122.7	**124.4**	**Yes**
DSX-13	Extrusion	Entact	Peel	117	97.9	123.5	66	55.6	**92.0**	**No**
			Shear	131.2	129	133	132.9	124.6	**130.1**	**Yes**
DSX-14	Extrusion	Entact	Peel	119	119.7	118.8	123.3	122.6	**120.7**	**Yes**
			Shear	120.9	121.4	121.7	129.5	127.4	**124.2**	**Yes**
DSX-15	Extrusion	Entact	Peel	119.5	114.1	123.8	111.4	106.8	**115.1**	**Yes**
			Shear	132.1	135.2	138.5	137.4	141.7	**137.0**	**Yes**

As highlighted above on *Table 2*, one destruct sample DSX-13 failed to meet the peel strength criteria for one of the five specimens tested. While the average of the five specimens tested for this specimen did comply with the project specifications, the extrusion weld in this area was designated as non-compliant. As such, the weld was subsequently patched, repaired, and re-tested and documented as Repair RP-487 in *Appendix L*. An additional extrusion weld destruct sample was collected and labeled as DSX-15. Additional details on this non-compliance issue are described in further detail in *Section 2.4.6*.

In addition, Langan collected a total of six QA samples (4 fusion weld samples and 2 extrusion weld samples) to verify the results of the Geosynthetic Installer's laboratory data. Langan's QA

samples were submitted to Texas Research Institute Environmental, Inc. (TRI). The results of the ESI and Langan destruct samples indicated that the peel and shear strength values met the requirements outlined in the project specifications. Furthermore, the additional QA samples collected by Langan yielded values that were in close proximity to the values obtained by ESI (which were generally lower than the values obtained by Langan's QA laboratory). The Laboratory Destruct Test Results are provided in *Appendix N*.

2.4.4.4 Repair Reports

The ESI Repair Report is provided in *Appendix L*. Several different types of repairs were observed and recorded during field activities by ESI. These corresponding repairs are shown on the Record Drawings (*Appendix A2*), and consisted of the following types:

- Custom Fit Repairs (CF) – Custom Fit Repairs consisted of areas of the geomembrane cap where the geomembrane was cut (and subsequently repaired) to allow the geomembrane to conform to the cap contours. These areas were typically located where there were abrupt elevation changes, such as drainage and utility swales, utility corridors, and planting areas;
- Wrinkles (WR) – Wrinkles consisted of areas where excess geomembrane was observed. Where the size of the wrinkle was determined to be detrimental to the geomembrane (i.e. wrinkles with the potential for folding), the wrinkle was cut, and the excess geomembrane was overlapped and sealed with an extrusion weld in accordance with the project specifications;
- Roller Wrinkles (RW) & Burnouts (BO) – Roller wrinkles can occur when slight differences in length between the two geomembrane edges being welded resulted in formation of a wrinkle along the geomembrane seam. Wedge burnouts occurred where the wedge became jammed thus causing the welder to burn / melt through the geomembrane seam. These areas were subsequently patched and repaired according to the project specifications;
- Destruct Samples (DS) – These areas consisted of the geomembrane destruct samples that were cut for laboratory testing. The removal of the sample creates a hole in the seam, thus these areas were subsequently patched according to the project specifications;
- Pipe Boots (PB) – Pipe boots were installed where penetrations of the geomembrane occurred such as at wells, piezometers, gas vents, and access manholes. Additional details are provided in *Section 2.4.4.5;*
- Add On (AO) – AO areas consisted of sections of SA-6 where an additional piece of geomembrane was required to finish a geomembrane run across the cap (from north to south);
- Seam Joints (SJ) – Seam joints consisted of the areas where non-destructive testing (pressure testing) was conducted along a "T" section of the geomembrane;
- Subgrade Irregularities (SI) – Subgrade Irregularities consisted of areas along the geomembrane cap where a rock or object larger than ½-inch in diameter was encountered underneath the geomembrane after the material had been placed. These

areas were subsequently cut, the rock/debris removed, and the area patched / repaired according to the project specifications. These SIs were identified as non-compliance issues and are discussed in further detail in *Section 2.4.6* below;

- Damage By Others (DO) – DO consisted of damage / punctures to the geomembrane cap caused by equipment or personnel during grading of the protective cover soil. These DO instances were identified as non-compliance issues and are discussed in further detail in *Section 2.4.6* below.
- Failed Seam (FS) – Failed seams consisted of fusion / extrusion weld samples that were collected, and failed to meet the strength criteria of the material as outlined in Section 02372 – Cap Geomembrane Liner presented in the *100% Design* Package (and summarized in *Table 1*). These FS instances were identified as non-compliance issues and are further described in *Section 2.4.6* below.

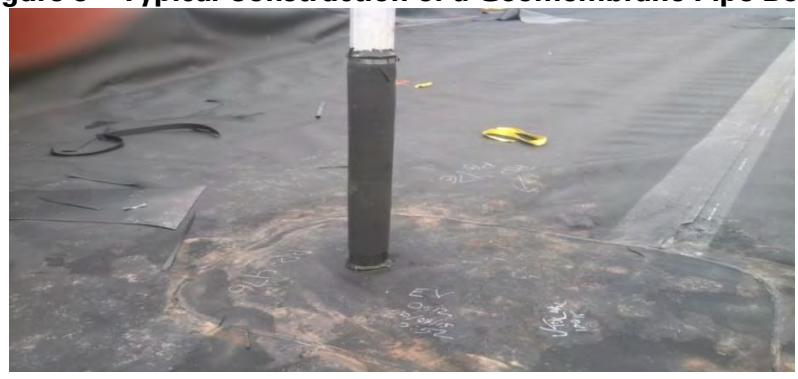
For additional details on the geomembrane repairs and non-compliance issues observed during field activities refer to the *Appendices L and P,* respectively.

2.4.4.5 Geomembrane Penetrations & Pipe Boot Installation

The geomembrane penetration and pipe boot logs are provided in *Appendix O*. The pipe boots were field fabricated by ESI, and the boots were installed at monitoring wells, gas vents, piezometers, and access manhole penetrations across the cap.

The geomembrane boots consisted of a vertical (minimum of 2 ft.) section of LLDPE being wrapped around the penetration (i.e. well, gas vent, etc.) from the base to the top of the penetration. The geomebrane wrap was then heat sealed and an extrusion weld was placed with a vertical seam connecting the two pieces of geomembrane. The end of the boot terminated in a skirt section which was placed over the boot. The skirt and the geomembrane overlapped a minimum of 18-inches and the skirt was welded to the geomembrane. A neoprene rubber gasket was used between the boot and the penetration and secured with a 1-inch wide stainless steel clamp (or two ½-inch clamps). An LLDPE sacrificial sheet was then placed between the boot and the clamp for protection and a butyl sealant was applied along the top of the boot. *Figure 9* below shows the typical construction of a geomembrane pipe boot in the field by ESI. The welding of each boot was observed by Langan, and each boot fabrication was documented on an individual boot fabrication form provided in *Appendix O*. The four typical types of penetrations present on the SA-6 South cap are defined below.

Figure 9 – Typical Construction of a Geomembrane Pipe Boot



2.4.4.5.1 Monitoring Wells

A total of four (4) monitoring wells were located within the SA-6 South cap. The monitoring wells were constructed with PVC and were encased in a 4-inch metal casing. Refer to *Appendix O* for the penetration and boot logs for monitoring wells: 073-MW-1BR, 115-E1A-SO, 115-W3-SO, and 115-W5-SO.

2.4.4.5.2 Gas Vents

A total of eight (8) gas vents were constructed through the cap. Gas vents were completed in accordance with Section 02380 – Gas Venting System of the *100% Design* Package to allow any naturally occurring methane to vent to the atmosphere. Refer to *Appendix O* for the penetration and boot logs for gas vents GV-0 through GV-7, with the corresponding locations shown on the Record Drawings (*Appendix A2*).

2.4.4.5.3 Piezometers

A total of five (5) piezometers were installed through the cap to allow the project team to compare the groundwater within capped area to the groundwater immediately outside of the cap. Piezometers were encased within a 4-inch steel casing. Refer to *Appendix O* for the penetration and boots logs for piezometers PZ-12, PZ-14, PZ-16, PZ-18, and PZ-20, and to the Record Drawings (*Appendix A2*) for the corresponding piezometer locations.

2.4.4.5.4 Pump Station and Access Manholes

A total of one pump station and three (3) access manholes were completed with field fabricated geomembrane boots. Refer to *Appendix O* for the penetration and boot logs for Access Manhole #1, Access Manhole #2, Access Manhole #3, and Access Manhole #4, with the corresponding locations shown on the Record Drawings (*Appendix A2).*

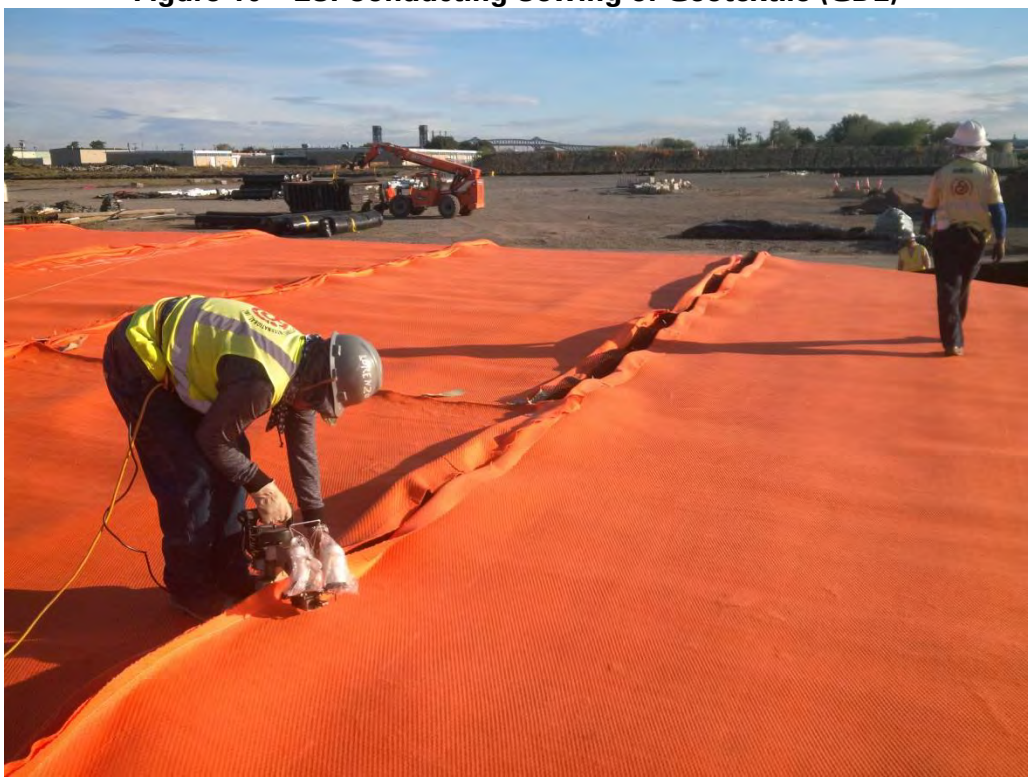
2.4.5 Geocomposite Drainage Layer (GDL)

To facilitate drainage and transport of infiltrated surface water off the cap, a geocomposite drainage layer (GDL) consisting of a geonet with a non-woven geotextile bonded to both sides (i.e., defined as SKAPS TN 330-2-6) was delivered to the Site, offloaded, and staged onsite by Entact in accordance with the project specifications. The RIRs for the delivered GDL rolls are provided in *Appendix G*. The GDL was placed at the Site by ESI and was placed directly over the geomembrane cap as shown on the Record Drawings (*Appendix A3*).

GDL panels were placed according to the specification Section 02374 – Geocomposite Drainage Layer as defined in the *100% Design* package. For adjacent GDL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GDL were overlapped so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped so that no areas of the underlying geomembrane were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam. Additional fasteners were requested by the QA team when the seams extended down the slopes or elevation changes were noted; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GDL was continuously sewn as shown in *Figure 10* below.

Figure 10 – ESI Conducting Sewing of Geotextile (GDL)



During placement of the GDL, butt seams, rips, tears, or other damaged areas of the GDL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of orange geotextile (same as the GDL geotextile) which was heat sealed in place.

Once the GDL was placed, Entact placed protective cover soil (i.e., 1 ft. layer of material) directly over the GDL. In addition, yellow caution tape was placed every 55-inches over the GDL prior to protective cover soil placement. The caution type had bold type which indicated "Danger Do Not Dig – Peligro No Excavar" in English and Spanish. Additional details on the GDL placement are provided in the Langan Daily Reports and Photo Logs provided in *Appendix F*.

2.4.6 Non-Compliance Issues

The Summary of Non-Compliance & Corrective Action Sheets are provided in *Appendix P*. During the SA-6 capping activities, any QA field tests, observations, or failed samples that did not comply with the project specifications were documented and recorded as a non-compliance issue. A total of twelve (12) non-compliance issues were identified throughout the capping of SA-6 South and are summarized below:

1. Subgrade Irregularities – Refer to Sheet Numbers 1, 2, 4, 6, and 8 of the Non-Compliance & Corrective Action Sheets (*Appendix P*). In general, the subgrade irregularities consisted of stones or other material greater than ½-inch in size that was encountered below the geomembrane cap after the material had been placed and

secured. These objects were removed by cutting the geomembrane, removing the object, and patching the geomembrane in accordance with the project specifications. The subgrade showed no indication of these items at the time of subgrade approval, and it is postulated that these items were dislodged from the subgrade as the GVL was drawn across the subgrade surface;

2. Subgrade Irregularity (Hydrated GCL) – Refer to Sheet Numbers 7, 9, and 10 (*Appendix P*). In general, the Hydrated GCL Subgrade Irregularities consisted of areas where the underlying GCL layer had become saturated following heavy rain events. The saturation of the GCL was due to the unfinished grading of the SA-6 cap, as well as equipment failures, which resulted in water ponding along the edges of the cap during high intensity rain events. This ponding caused the water to move laterally across limited portions of the cap thus wetting the GCL layer prior to cover soil placement. For these areas, the geomembrane was cut to expose the GCL followed by replacement of the wetted GCL. Visual observation of the underlying subgrade soils exhibited no damage or washout of the subgrade. Repair activities were conducted so that the resulting materials were placed in accordance with the project specifications;
3. Failed Vacuum Box Test – Refer to Sheet Number 5 (*Appendix P*). During vacuum box testing of repair RP-215, a failed extrusion weld was identified. As such, a new geomembrane patch (RP-222) was placed over the failed extrusion weld, and subsequently tested using the vacuum box to verify the integrity of the new weld;
4. Failed Non-Destruct Test – Refer to Sheet Number 3 (*Appendix P*). A failed non-destruct test (pressure test) was encountered along Panel Seams #7/8. Based on the length of the failed seam (approximately 6 ft. along the southern end of SA-6), the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). Vacuum box testing was then conducted to confirm the integrity of the new extrusion welds;
5. Failed Destruct Sample – Refer to Sheet Number 11 (*Appendix P*). Extrusion weld destruct sample DSX-13, which was collected from repair RP-477, failed one of the five test specimens for peel strength testing (Note: averages of the five specimens conformed to the project specifications). A new patch was placed over RP-477, and was identified as a Failed Seam (FS). It should be noted that the new patch was identified as repair RP-486. Once completed, an additional extrusion weld destruct sample (DSX-15) was collected to confirm the new patch met the specification requirements. Subsequent laboratory testing confirmed that the DSX-15 destruct sample complied with the project specification strength requirements; and
6. Geomembrane Puncture (Equipment) – Refer to Sheet Number 12 (*Appendix P*). During final grading of the protective cover soil by Entact, an excavator bucket punctured the geomembrane liner along the northern end of SA-6 South (along the SCB Wall). This puncture was subsequently repaired / patched, welded, and vacuum box tested by ESI, according to the project specifications. The repair associated with the puncture was identified as repair RP-488, and was listed as Damage by Others (DO).

Additional details on the non-compliance issues encountered, as well as the subsequent repair activities, are further described in the Langan Daily Reports and Photo Logs provided in *Appendix F*.

3.0 DECLARATIONS

3.1 General

Langan personnel have monitored the construction and field activities completed for the capping of SA-6 South specific to the subgrade preparation and placement of the geotextile and geocomposite materials as defined herein. Based on the field observations made by Langan along with the field and laboratory test data collected by the Contractor and Subcontractors, it is our professional opinion that the construction observed at SA-6 South complied with the approved *100% Design* package. Additional details on the work and approval of materials is outlined in the *EOR Closure Report*.

3.2 Limitations

This Cap Geosynthetic Quality Assurance Report (QA Report) was prepared by Langan (in conjunction with Amec Foster Wheeler) for the exclusive use of Honeywell. This QA Report applies specifically to the subgrade preparation and construction of the geosynthetics components of the SA-6 South cap only.

The construction observations and monitoring were conducted under the conditions stated. Conclusions made in this report were based on these observations and data obtained from field and laboratory tests conducted on the QA samples collected.

The topographic survey measurements were completed by Entact and their licensed surveyor Maser and subject to review and approval by Amec Foster Wheeler. Langan did not independently verify the accuracy of this data.

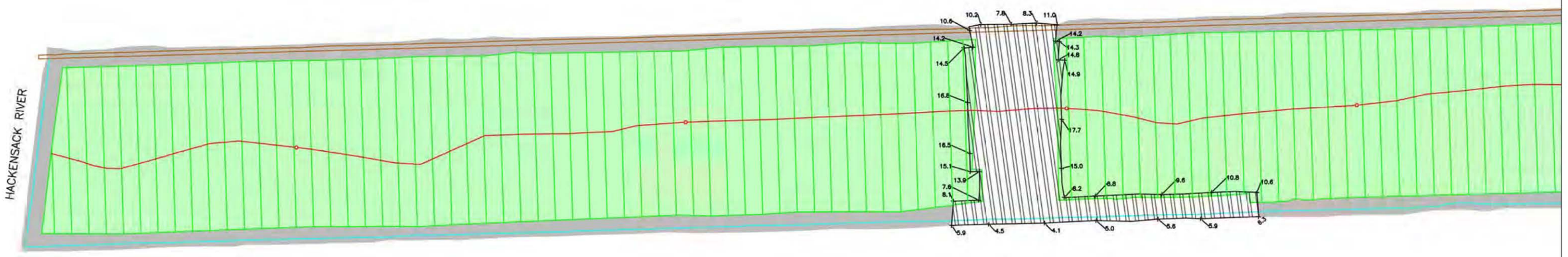
Acceptance of the geosynthetic materials used for the SA-6 South cap construction was completed by Amec Foster Wheeler. Furthermore, the QC laboratory testing was completed by Geotechnics (under the direction of Entact) and QA laboratory testing was completed by TRI (under the direction of Langan).

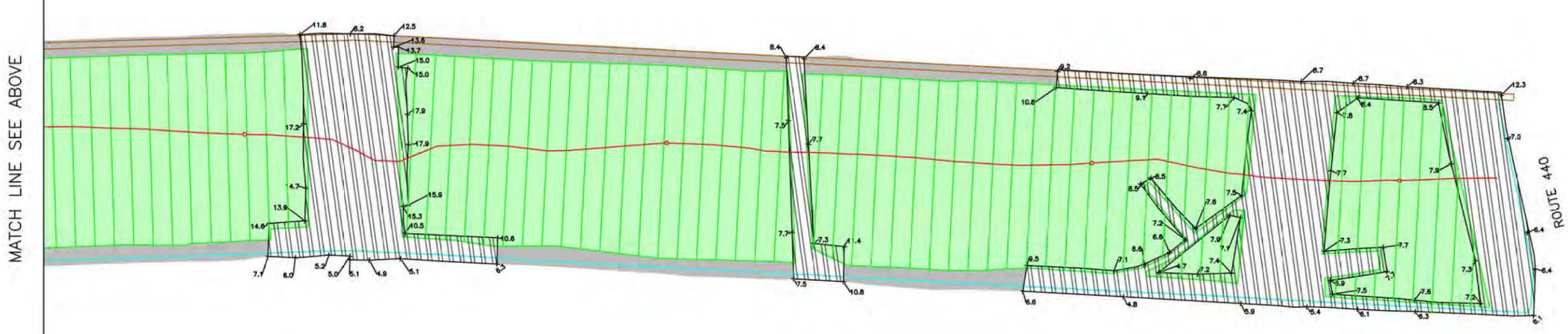
The approval of all materials used for this project was completed by Amec Foster Wheeler in the *EOR Closure Report*. The geosynthetic production quality testing was completed by AGRU America, Inc. and their subcontracted companies working on their behalf. Langan did not independently verify the accuracy of the conformance test data.

Appendix A : Record Drawings

A1. GVL / GCL Record Drawing
A2. LLDPE Geomembrane Record Drawing
A3. GDL Record Drawing

A1. GVL / GCL Record Drawing





0 80 160
Feet

LEGEND

- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)
- SPOT ELEVATION (ft) (X 0.0)

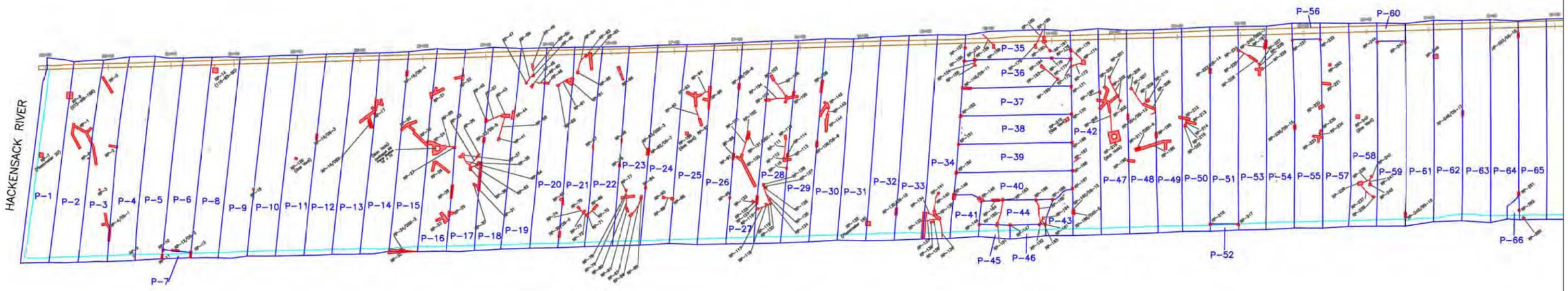
J.H. 01/28/2016

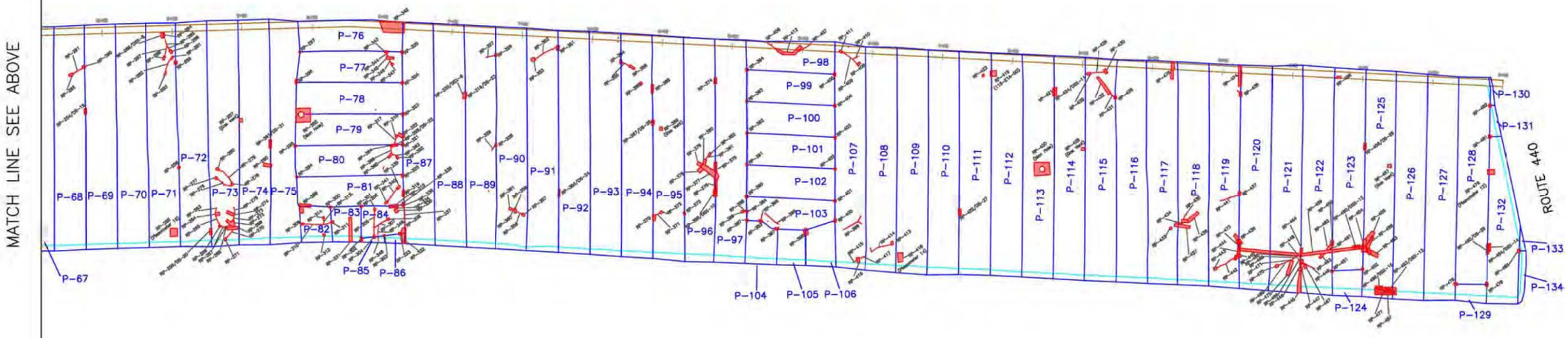
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosythetic Clay Liner
01/28/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A2. LLDPE Geomembrane Record Drawing





LEGEND

RP-1 (Repair Number)

LINER SEAM/EDGE

SCB WALL

HB WALL (Inner Edge)

RP: Repair

DSX: Destructive Extrusion Weld Test

DS: Destructive Fusion Weld Test

P: Panel

\- Bead

NOTE: Refer to ESI Repair Report for repair details

0 80 160 Feet

J.H. 01/28/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

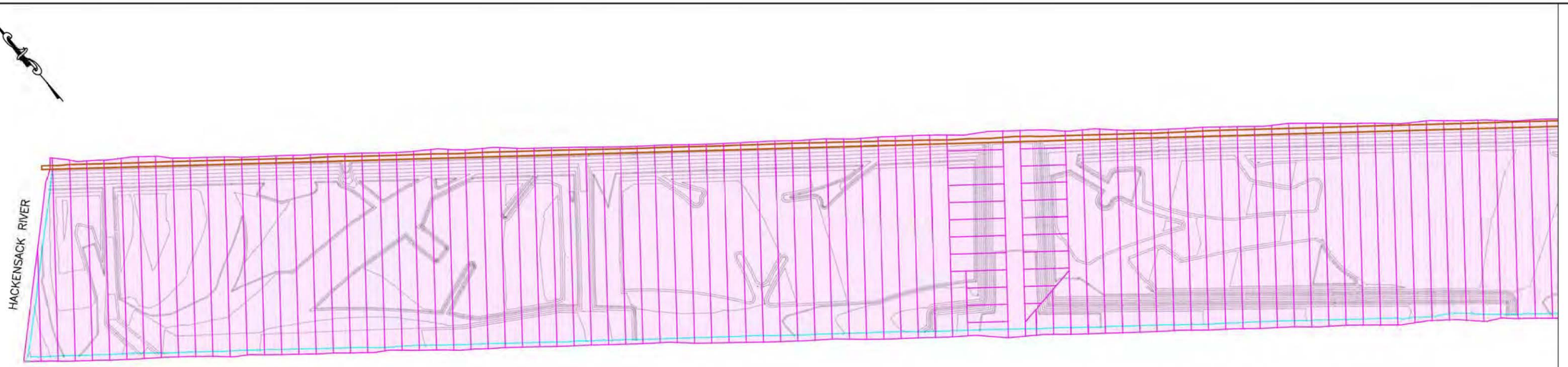
DRAWING NAME

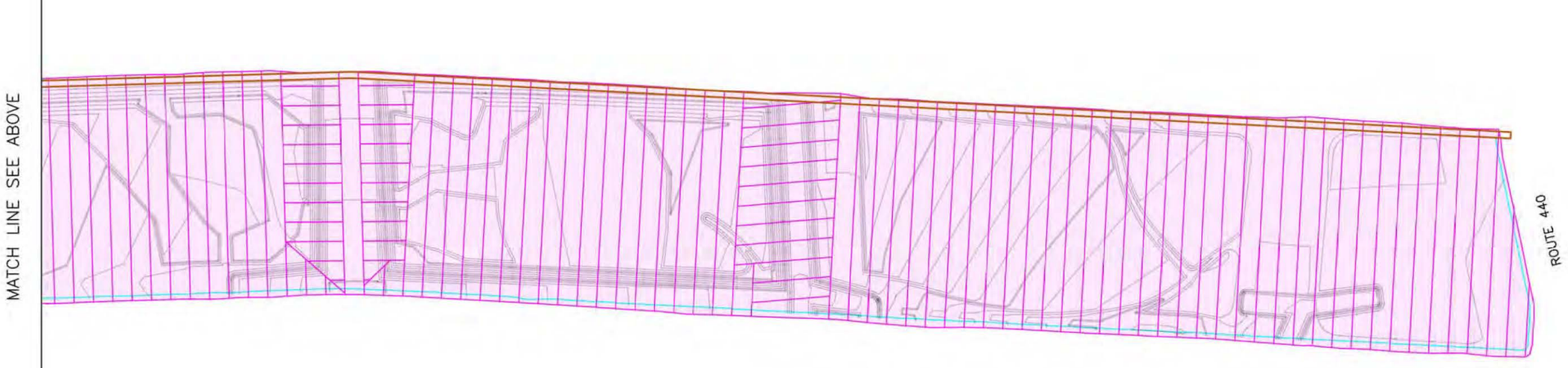
SA6 SOUTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
01/28/16

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A3. GDL Record Drawing





LEGEND

GEOCOMPOSITE DRAINAGE LAYER (GDL)

SCB WALL

HB WALL (Inner Edge)

0 80 160 Feet

J.H. 01/27/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

SA6 SOUTH CAP GDL LAYOUT
GEOCOMPOSITE DRAINAGE LAYER 01/27/16

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Appendix B
Langan CQA Plan

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

for

Geosynthetic Cap Installation
Study Area 6
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
101 Columbia Rd.
Box 2105
Morristown, NJ 07962

Prepared By:

Langan Engineering and Environmental Services, Inc.
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407

July 2015

Langan Project No. 10053001

LANGAN

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

Prepared By:
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LANGAN

LANGAN

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- A3 – Individual Photographic Log
- A4 – Geosynthetics Inventory and Certification Log
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- A6 – Trial Weld Log
- A7 – Panel Placement Log
- A8 – Seam Testing Chain of Custody Form
- A9 – Seam Control and Non-Destructive Test Log
- A10 – Repair Log
- A11 – Conformance Test Chain of Custody Form
- A12 – Destructive Seam Field Test
- A13 – Destructive Sample Tracking Summary
- A14 – Penetration Sealing Observation / Cap to Barrier Installation Observation
- A15 – Geosynthetic Daily Inspection Report
- A16 – Notice of Non-Compliance and Corrective Action Form

1.0 INTRODUCTION

Honeywell International Inc. (Honeywell) is currently remediating Study Area 6 (SA-6), located in Jersey City, New Jersey (Site). SA-6 encompasses work in two areas: SA-6 North and SA-6 South, which are separated by Study Area 7 (SA-7). The Open Space areas at SA-6 North and SA-6 South will be covered with an engineered cap that includes a linear low-density polyethylene (LLDPE) geomembrane cover, a gas venting layer, a geocomposite drainage layer (GDL), a geosynthetic clay liner (GCL), and other related geosynthetic cap components. Technical specifications and design drawings for the engineered cap may be found in the document titled "100% Specification and Design Drawings."

Honeywell retained Langan Engineering and Environmental Services, Inc. (Langan) as the Independent Quality Assurance (QA) Engineer for the cap geosynthetics installation. This Construction Quality Assurance (CQA) Plan has been prepared in support of this site remediation project with pertinent supporting details outlined herein.

1.1 Purpose

The purpose of this CQA Plan is to describe the quality assurance and control procedures required for the construction of the geosynthetic components of the capping system for the Study Area 6 site, encompassing SA-6 North and SA-6 South.

The ultimate goal of this CQA program is to ensure that proper construction techniques and procedures are implemented throughout the course of this phase of the SA-6 project in accordance with the project specifications. Upon completion of the construction activities, a Cap Geosynthetics QA Report will be prepared.

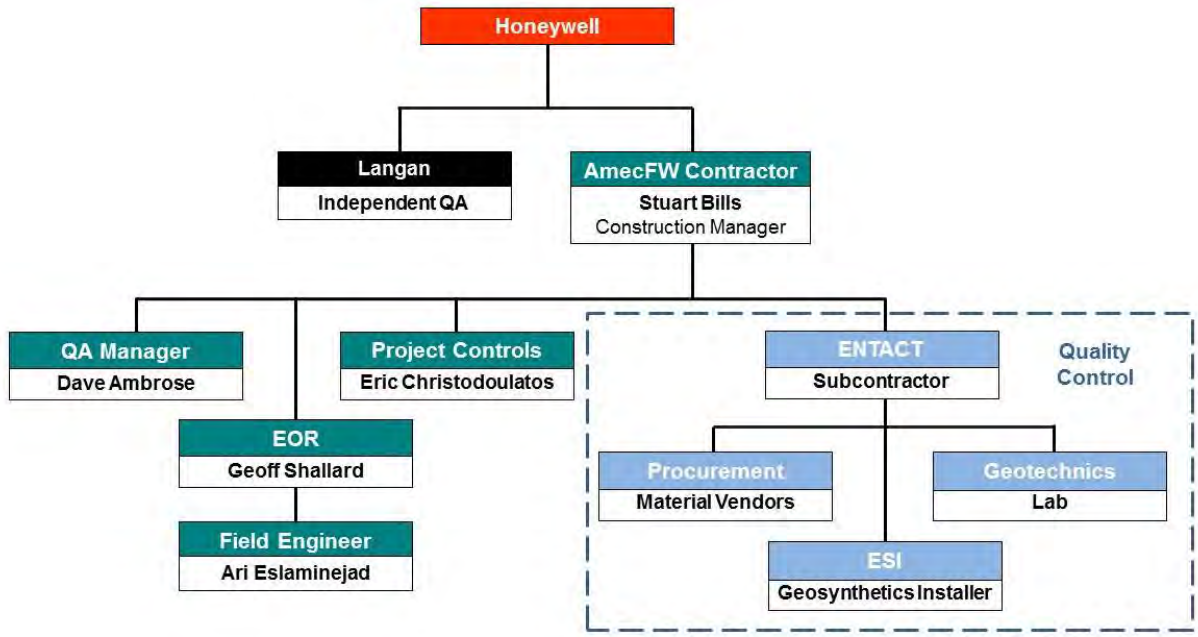
All of the involved parties will receive a copy of this CQA Plan including the Owner, Construction Contractor, Capping System Subcontractor, Geosynthetic Installer, and the Independent Quality Assurance Engineer. The roles and responsibilities of these parties are outlined further in Section 2.0.

2.0 PERSONNEL RESPONSBILITIES, AUTHORITY, AND QUALIFICATIONS

2.1 General

The principal parties involved in the permitting, design, and construction of the final capping system for the SA-6 site include the Owner, Design Engineer, Construction Contractor, and the Independent Quality Assurance Engineer. Additional entities include the Geosynthetic Installer and Material Quality Control Laboratory. The project organization chart is shown on Figure 1. Descriptions of the individual parties are provided in the sections below.

Figure 1 – SA-6 Liner Installation Organization Chart



2.2 Owner

Honeywell, as Owner, is ultimately responsible for the construction of the capping of SA-6. The Owner has retained the Design Engineer, Construction Contractor, and the Independent Quality Assurance Engineer.

2.3 Design Engineer

Amec Foster Wheeler Environment & Infrastructure, Inc. (AmecFW), as the Design Engineer, was responsible for preparing the final design of the capping system, as well as plans and specifications for the construction work. The final design includes relevant aspects of the capping system, including details of the subgrade preparation, gas venting system, utility trenches, geosynthetic placement details, soil cover requirements, and other relevant design considerations. Samuel G. Shallard is the Engineer of Record (EOR) for AmecFW.

Technical specifications and design can be found in the document titled "100% Specifications and Design Drawings."

Personnel involved with the design engineering portions of the project are outlined herein:

- **Engineer-of-Record**
  Mr. Samuel Shallard shall serve as the Engineer of Record (EOR) and technical lead. Mr. Shallard will also be the lead engineer in resolving technical questions that arise during project execution.

- **Quality Assurance Manager**
  Mr. David Ambrose shall serve as the Quality Assurance (QA) Manager. He shall be directly responsible for subcontractor conformance to the technical specifications and project requirements.

- **Field Engineering**
  Ms. Ari Eslaminejad will serve as the EOR site representative.

2.4 Construction Contractor

AmecFW shall also serve as Construction Contractor (Contractor), and is responsible for constructing the soil capping system in accordance with the design criteria, plans, and specifications while using the necessary construction procedures and techniques. The Contractor has engaged ENTACT (Subcontractor) to support AmecFW with these activities.

A New Jersey licensed land surveyor will be contracted to conduct the licensed surveying tasks required in the contract documents and in this CQA Plan as well as to prepare the required record documents.

The Contractor shall provide sufficient project management and project supervision staff to ensure the submission and approval of materials, and that the execution of the work is completed in a timely manner and in accordance with the plans and specifications. Work shall be completed to the standards defined by this CQA plan and the plans and specifications. The Construction Manager, or a designated representative, shall be present during construction activities to oversee work by contractor personnel and/or subcontractor personnel. The Construction Manager or designated representative will coordinate activities directly with the Owner's representative and representatives of the Independent Quality Assurance (QA) Engineer. The Contractor shall be responsible for the repair or replacement of any items or work found defective. The Construction Manager will be supported by the AmecFW Quality Assurance Manager.

For the SA-6 capping project, AmecFW has provided a list of the capping construction team including subcontractors and corresponding responsibilities. A summary of these team members is provided below and presented on the organization chart shown on Figure 1.

- **Construction Manager**
  Mr. Stuart Bills shall serve as the AmecFW Construction Manager and Site Health & Safety Officer with the responsibility for the day-to-day Site activities. He shall report directly to the Honeywell Manager of Construction and the Honeywell Remediation Manager. Mr. Bills shall be responsible for the project implementation schedule, budget, and subcontractor oversight.

- **Project Controls**
  Mr. Eric Christodoulatos shall be responsible for coordinating and tracking submittal approvals and Request for Information (RFI) responses with the EOR. He will also be responsible for project financial cost and schedule tracking and projections.

- **Capping System Subcontractor – ENTACT**
  ENTACT is contracted to AmecFW to perform the cap construction. ENTACT will be responsible for installing the SA-6 capping system in accordance with "100% Specifications and Design Drawings." ENTACT will also be responsible for coordinating scheduling, project deviations, work plans, and any other pertinent construction details directly with the project team. ENTACT will report directly to AmecFW, and will provide the final construction details, including as-built drawings, upon project completion.

- **Geosynthetic Installer – ESI**
  ESI (Installer) is subcontracted to ENTACT. ESI will be responsible for installing the SA-6 geosynthetic materials in accordance with the project plans and specifications, and will work directly with ENTACT. ESI will also be responsible for coordinating scheduling, project deviations, work plans, and any other pertinent construction details directly with the project team.

- **Material Quality Control Laboratory – Geotechnics**
  Geotechnics is subcontracted to ENTACT. Geotechnics will be responsible for supplying laboratory testing results required as part of the capping project, such as destructive seam testing.

2.5 Cap Geosynthetics Quality Assurance Engineer

Langan has been retained by Honeywell to provide Independent Quality Assurance for the SA-6 Cap Geosynthetics installation. The Quality Assurance (QA) Engineer will perform the activities specified in this CQA Plan (i.e. monitoring, field oversight, and documentation) and provide a Cap Geoynthetics QA report at the conclusion of the project for the work observed. At a minimum, the Independent QA engineering staff will include a Geosynthetic QA Manager, QA Engineer, and on-site Field Technician, as outlined herein.

Geosynthetic QA Manager – Mr. Jeffrey Stoicescu, P.E.

Duties:

- Review design criteria, plans, and specifications for clarity and completeness so that the CQA Plan can be implemented.
- Advise the Lead Quality Assurance Engineer and On-Site Field Technician on CQA requirements and procedures. For similar projects, the project manager will support the EOR and field team members on a variety of Requests for Information and Submittals that will vary either the construction sequence or materials.
- Schedule and coordinate CQA inspection activities.
- Routinely update the Owner and Design Engineer on cap geosynthetic status throughout the duration of the geosynthetic portion of the project.
- Attend conference calls as required to provide potential solutions to requests when requested by the EOR.

Authority:

The Geosynthetic QA manager has the authority to determine whether or not materials, procedures, and/or installed materials meet the minimum project requirements, and to reject any materials, procedures, and/or installed work that fails to meet the project requirements. The project manager will advise the EOR, Contractor, and Owner of the rejection of materials, procedures, or installed work.

Lead Quality Assurance Engineer – Mr. Dan Bosworth

Duties:

- Direct and support the CQA personnel in performing observations and material tests;
- Confirm that the testing data is accurately recorded and maintained;
- Verify that the raw data is properly recorded, validated, reduced, summarized, and interpreted;
- Review and interpretation of data sheets and reports;
- Notify the Geosynthetic QA Manager of potential conflicts with the design drawings;
- Coordinate with the EOR to reject defective work and verify that corrective measures are implemented;
- Identify work that should be accepted, rejected, or uncovered for observation, or that may require special testing, inspection or approval.

Authority:

The Lead QA Engineer shall have the authority to observe and test any material and/or work, and render a decision as to whether the work is acceptable (based on the testing), and ensure that any work that does fail is removed and replaced with acceptable materials and/or workmanship.

On-site Field Technician – Mr. Dan Bosworth and/or Mr. Connor Shields

Duties:

- Perform site monitoring of the work in progress to assess compliance with the design criteria, plans, and specifications;
- Observe deliveries received on site as required on the Receiving Inspection Report provided as Appendix A2;
- Verify that the tests are conducted according to this CQA Plan;
- Report to the Lead QA Engineer results of inspections, including work that is not of acceptable quality or that fails to meet the specified design; and
- Complete inspection and testing forms as necessary.

Authority:

The on-site technician will have the authority to observe and test material and render a decision of whether the work is acceptable based on observation of testing and help ensure that work that does not conform to the approved plans and specifications is removed and replaced with acceptable materials and/or workmanship.

3.0 QUALITY CONTROL MEETINGS

3.1 Daily Tailgate Safety Meeting

A daily tailgate meeting will be held prior to commencement of any work activities for the day at approximately 6 A.M or time designated by the Construction Manager. The Contractor, Subcontractor, Geosynthetic Installer, and on-site quality assurance personnel involved in the field work procedures for that specific day shall be present at this meeting. The Daily Meeting shall include relevant aspects of the work for the day and its potential relationship to relevant health and safety (H&S) aspects outlined in their respective H&S plans. Individuals who arrive after the tailgate meeting has been conducted shall convene with the Construction Manager or other designate for the H&S briefing prior to starting work.

3.2 QA/QC Coordination Meeting

A QA/QC coordination meeting will be held prior to the construction of the capping system. Representatives of Honeywell, the EOR, the Construction Contractor, and the Independent QA Engineer will be present. The agenda for this meeting may include, but not be limited to:

- Familiarize each involved party with the CQA Plan and its role relative to the design criteria, site construction and closure plans, specifications, and construction documentation;
- Review the responsibilities of each involved party;
- Review the Contractor's projected work schedule and methodology;
- Determine any changes, if necessary, to the CQA Plan that are needed to ensure that the capping system will be constructed to meet the specific design;
- Review lines of authority and communication for each organization;
- Discuss the established procedures or protocol for observations and tests including sampling strategies;
- Discuss the established procedures or protocol for handling design change bulletins, construction deficiencies, repairs, and retesting;
- Review methods for documenting and reporting inspection data;
- Review methods for distributing and storing documents and reports;
- Review work area security and safety protocol;
- Review procedures for the location and protection of construction materials and for the prevention of damage to the materials from inclement weather or other adverse events;
- Conduct a site walk-around to review construction materials where available and to inspect equipment storage locations; and
- Minutes of the preconstruction meeting will be prepared by the Quality Assurance On-site field technician and will be distributed to all parties.

3.3 Progress Meeting

Progress meetings will be held once a week on Tuesdays at 8:30 A.M or at an alternate time designated by the Construction Manager. These meetings shall be scheduled between the primary parties involved with this project. At a minimum, a Representative of Honeywell, the Contractor's Construction Manager, the EOR, and a representative of the Independent QA team shall be present. At times, a subcontractor may be requested to attend as well.

3.4 Geosynthetic Pre-Installation Meeting

A progress meeting will be held prior to commencing installation of the geomembrane and/or geosynthetic materials. At a minimum the attendees shall be the Contractor's Construction Manager, the Lead Quality Assurance Engineer and On-Site Field Technician, as well as representatives from ENTACT and ESI. The agenda for this meeting will include but is not limited to the following:

- Discussion of CQA procedures and requirements;
- Review Panel Layouts;
- Review of Repair tracking methods and drawings;
- Discussion of procedures or protocol for observations and tests including sampling strategies;
- Installation sequence and methods;
- Projected work schedule; and
- Minutes of the geosynthetic pre-installation meeting will be prepared by the Project Controls representative and will be distributed to all parties.

3.5 Observation and Testing Records

There will be observation and testing records that will be utilized in conjunction with the construction oversight performed by the Quality Assurance (QA) Field Technician. The observation logs listed below contain the data to be recorded by the Quality Control Representative and can be found in Appendix A. The QA on-site field Technician will complete the following observation and testing records:

- Geomembrane Observation Records – The geomembrane inspection records forms consisting of:
    - Material delivery checklist (see Appendix A4)
    - Subgrade surface acceptance records (see Appendix A5)
    - Trial weld logs (see Appendix A6)
    - Panel placement record (see Appendices A7)
    - Panel seaming log (see Appendix A8)
    - Non-destructive testing log (see Appendix A9)
    - Repair log (see Appendix A10)
    - Conformance Test Chain of Custody Form (A11)
    - Destructive testing log (see Appendices A12 and A13)
    - Penetration Sealing Observation / Cap to Barrier Installation Observation (see Appendix A14)
    - Daily inspection report for the geomembrane liner (see Appendix A15)
- Other related forms including certification of completion (see Appendix A1), receiving inspection report table (see Appendix A2), and notice of non-compliance and corrective action form (see Appendix A16).

The QA on-site field technician overseeing geomembrane installation will independently document related data contained within the records listed above to provide the information to review the Contractor's geomembrane capping system subcontractor documentation prior to acceptance of the installed geomembrane cap. The Contractor shall provide access to the work

site and shall provide the QA on-site field technician access to all field data and records, as built drawings, and shall collect duplicate samples as required for testing by the QA on-site field technician laboratory subcontractor as required.

In addition, the on-site field technician will maintain a field notebook onsite to document observations, test results, weather conditions, work defects, etc. that occur during observation of construction activities.

4.0 CONSTRUCTION QUALITY ASSURANCE

4.1 General

The final capping system consists of the following layers, from bottom to top:

- A gas venting system (geocomposite drainage layer and vents);
- A 60-mil geomembrane LLDPE layer;
- A geocomposite drainage layer with warning layer;
- 12-inch thick geocomposite drainage layer cover soil;
- 16 oz woven geotextile root barrier; and
- Soil layers consisting of structural fills, planting soils, and capped with a 6-inch minimum topsoil layer.

The layers of the capping system are described in the sections below.

4.2 Subgrade Preparation

The subgrade layer of the capping system is shown on construction drawing C-301, provided in "100% Specifications and Design Drawings." The soil surface for the capping system (subgrade) is currently under construction to prepare the surface in accordance with the subgrade specification. These subgrade surface conditions will require review and approval by the Independent QA Engineer and Capping System Contractor and geosynthetics installer prior to placement of the geosynthetic materials as defined below.

4.2.1 Quality Assurance

The subgrade observation and approval QA/QC forms have been provided in Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance to Section 02372 found in "100% Specifications and Design Drawings" and note deviations from the technical specifications;
- Observe subgrade preparation; and
- Review documentation to verify compliance.

Testing and installation documentation referenced above that is developed by the Subcontractor will be submitted to the QA Engineer for review. Copies of this documentation will be included as

part of the Cap Geosynthetics QA Report prepared by the Independent QA Engineer. The Cap Geosynthetics QA Report for the subgrade preparation shall, at a minimum, include the following:

- Documentation of qualifications of all contractors and CQA personnel.
- Daily reports prepared by the QA Engineer;
- Subgrade acceptance certificates for each area to be covered by the cap system, signed by the Geosynthetics Installer, the Subcontractor, and QA Engineer;
- Daily construction progress reports clearly showing subgrade preparation; and
- Quality control documentation, as detailed in this CQA Plan.

4.3 Gas Venting System

The gas vent layer shall be comprised of a layer of geocomposite drainage material and a gooseneck-shaped vent to facilitate communication between soil gas under the cap and the atmosphere. This gas venting system is shown on drawings C-121 and C-301 in "100% Specifications and Design Drawings."

Section 02374 from "100% Specifications and Design Drawings" is summarized on Table 1 and indicates the requirements for the geocomposite gas venting layer. Requirements include, but are not limited to:

- Packaging, shipment, and storage of material;
- Handling and placement requirements;
- Seaming procedures; and
- Material repairs.

The specification requirements for the goose-neck shaped vent, which have been provided in Section 02380 in "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Gas vent pipe materials; and
- Installation of the pipes via pipe laying, jointing, and pipe cutting.

4.3.1.1 Quality Assurance

The GDL and gas vent QA/QC forms have been provided as Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Sections 02372 and 02380, provided in "100% Specifications and Design Drawings," and note deviations from technical specifications;
- Observe subgrade preparation;
- Overlapping of geocomposite and connection procedures;
- Material repairs;
- Observe pipe materials handling and storage;
- Observe installation of gas vent system; and
- Review of QC Documents to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Contractor will be submitted to the QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the QA Engineer. The Cap Geosynthetics QA Report for the geocomposite layer shall, at a minimum, include the following:

- Documentation of qualifications of all installers and CQA personnel;
- Daily reports prepared by the QA Engineer; and
- Daily construction progress reports clearly showing geocomposite and piping materials placed by date.

4.4 Geomembrane Layer

The geomembrane selected for use in the cover system is a 60-mil (0.060 inch) thick LLDPE. A microspike double-sided textured geomembrane has been approved for use on this project. Work shall consist of installing the LLDPE geomembrane and the overlying geocomposite in the areas as shown on the construction drawing C-301 provided in "100% Specifications and Design Drawings."

The specification requirements for the geomembrane layer, which have been provided in Section 02372 of "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Packaging, shipment, and storage of material;
- Handling and placement requirements;
- Non-destructive and destructive seam testing procedures; and
- Material repairs.

4.4.1 Quality Assurance

Prior to the start of capping activities the geosynthetic installer shall provide the Design and Independent QA Engineers with a panel layout drawing.

The Subcontractor's installer shall furnish the certified test results for all geomembrane to be used to the EOR, or EOR representative, for review as part of the required shop submittals prior to shipment to the site. The EOR, or EOR representative, will review the test results for conformance with the criteria included in the contract specifications.

The geomembrane layer QA/QC forms have been provided as Appendix A. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Section 02372 provided in "100% Specifications and Design Drawings" and note deviations from technical specifications;
- Review subgrade preparation and approval to place geomembrane materials;
- Observe effect of weather conditions on geomembrane installation;
- Seam preparation;
- Seaming equipment and procedures;
- Overlapping and temporary bonding;
- Test seams;
- Non-destructive and destructive seam testing;

- Penetration sealing observations for gas vents, piezometers, and groundwater collection system manhole to the LLDPE.
    - Note cap to barrier exterior detail will be observed and documented by AmecFW field engineering representative.
- Repair procedures and testing ;
    - Defective areas may include:
        - Large holes, tears, cold bends, cracks, etc.:
        - Other localized flaws;
        - Small to large tears and large lengths of failed seams;
        - Areas of inadequate seams; and
- Documentation to demonstrate compliance.

Testing and installation documentation referenced above that is developed by the Capping System Subcontractor will be submitted to the QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the Independent QA Engineer. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The Cap Geosynthetics QA Report for the geomembrane layer shall, at a minimum, include the following:

- Summary of required submittals, documentation, and QC testing results outlined in Contractor's Construction Quality Assurance Plan (CQA)
- Daily reports prepared by the Quality Assurance Engineer.
- Record drawing(s) (panel layout with all associated data) received and approved by the QA Engineer.
- Subgrade acceptance certificates for each area to be covered by the cap system, signed by the Contractor's Installer and the Contractor.
- Relevant completed QA data sheets from Appendix A.

4.5 Geocomposite Drainage Layer 2 (Surface water infiltration drainage)

The cap cross-section will utilize two layers of drainage net. The geocomposite drainage layers (GDLs) will be both directly above and below the 60-mil geomembrane layer as shown on drawing C-301 in "100% Specifications and Design Drawings." The GDL above the membrane is allow for drainage and transport of infiltrated surface water, and the GDL below the membrane is for gas venting. This section focuses on the installation of the GDL above the membrane.

The specification requirements for the geomembrane layer, which have been provided in Section 02374 in "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Packaging, shipment, and storage of material;
- Handling and placement requirements;
- Seaming procedures;
- Material repairs; and
- Cover soil placement for the GDL above the geomembrane.

4.5.1 Quality Assurance

The geocomposite manufacturer shall provide certified copies of laboratory test results on the following specifications listed in Appendix A.

The Construction Contractor will furnish the certified test results for all geocomposite placed to the QA Engineer for review as part of the required shop submittals. The EOR, or EOR representative, will review the test results for conformance with the criteria included in the contract specifications.

The GDL QA/QC forms have been provided as Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Section 02372 of "100% Specifications and Design Drawings" and note deviations from technical specifications;
- Observe subgrade preparation;
- Overlapping and connection procedures;
- Material repairs; and
- Documentation to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Capping System Subcontractor will be submitted to the Independent QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the Independent QA Engineer. The report sections outlining the geocomposite layer shall, at a minimum, include the following:

- Daily reports prepared by the Independent QA Engineer; and
- Daily construction progress reports clearly showing geocomposite placed by date.

4.6 Root Barrier

The capping system shall contain a woven geotextile root barrier layer. This barrier layer is located directly above the GDL cover soil layer, as indicated in drawing C-301 in "100% Specifications and Design Drawings."

The specification requirements for the geotextile layer, which have been provided in Section 02373 of "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Product materials;
- Application of geotextile; and
- Installation of geotextile fabrics.

4.6.1 Quality Assurance

The QA/QC forms have been provided as Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Section 02373 of "100% Specifications and Design Drawings" and note deviations from technical specifications;
- Observe geotextile installation;
- Overlapping;
- Material repairs; and
- Documentation to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Contractor will be submitted to the QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the QA Engineer. The relevant sections of report outlining the geotextile layer shall, at a minimum, include the following:

- Daily reports prepared by the QA Engineer; and
- Daily construction progress reports clearly showing geotextiles placed by date.

4.7 Geosynthetic Clay Liner

The geosynthetic clay liner (GCL) shall be used as a secondary hydraulic barrier in locations where the cap may be submerged below the groundwater table, as indicated on drawing C-309 provided in "100% Specifications and Design Drawings."

The specification requirements for the clay liner, which have been provided in Section 02375 in "100% Specifications and Design Drawings" as well as summarized on Table 1, includes, but are not limited to:

- Material delivery, handling, and storage;
- GCL placement;
- Seaming; and
- Damage repairs.

4.7.1 Quality Assurance

The various technical specifications pertaining to the GCL are outlined within the QA/QC forms contained within Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, but are not limited to:

- Confirm work has been completed in accordance with Specification Section 02375 and note deviations from technical specifications;
- Observe geotextile installation;
- Observe overlapping and seaming of GCL;
- Material repairs;

- Observe GCL hydration; and
- Documentation to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Contractor will be submitted to the Independent QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the QA Engineer. The certification report for the GCL shall, at a minimum, include the following:

- Daily reports prepared by the QA Engineer; and
- Daily construction progress reports clearly showing GCL placed by date.

4.8 Earthwork

As shown on drawing C-301 in "100% Specifications and Design Drawings," the soil materials used in the construction of this capping system consist of the following layers:

- Geocomposite drainage soil;
- Planting soil layers consisting of topsoil underlain by soil layers capable of support tree and shrub growth;
- Structural fill to be placed under roadways;
- Common borrow placed in select areas under roadways or to raise the subgrade to appropriate elevations.

The relevant quality control/quality assurance observations and specifications governing placement and testing of each layer are summarized in a separate Construction Quality Control Plan prepared by AmecFW.

5.0 CAP GEOSYNTHETICS QA REPORT

The QA Engineer in conjunction with the EOR and Contractor shall prepare a Cap Geosynthetic QA Report documenting work completed in this CQA Plan. This report shall contain at a minimum:

- As-built drawings from the Contractor;
- Conformed technical specifications from the EOR;
- Summary of DCB, submittals, and RFIs by the EOR;
- Reference to the QC data reported by the Contractor;
- Summary of QA/QC forms outlined in Appendix A prepared by the Independent QA Engineer and Contractor; and
- Photographic logs and QA/QC forms by the Independent QA Engineer.

Tables

Table 1 – Geosynthetic Material Testing Methods & Frequency

ENTACT

TABLE 1: GEOSYNTHETIC MATERIAL TESTING METHODS & FREQUENCY
Honeywell SA6 South
Jersey City, New Jersey

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
60 mil LLDPE MicroSpike Double Sided Geomembrane	Manufacturer - AgruAmerica	*Conformance Testing:*									***394,910 Square Feet***
		Thickness	ASTM D5994	1/roll	57 MARV	02372-2.02 and Table 02372-1		34	0	0	***34 rolls***
		Density	ASTM D1505/D792	1/200,00 lbs	0.939 g/cc		Density value change approved per Submittal 091	1	0	0	***129,200 lbs***
		Tensile Properties	ASTM D6693	1/20,000 lbs	90 lbs/in (strength)/250% elongation			7	0	0	
		Tear Resistance	ASTM D1004	1/45,000 lbs	33 lbs			3	0	0	
		Puncture Resistance	ASTM D4833	1/45,000 lbs	66 lbs			3	0	0	
		Carbon Black Content	ASTM D1603	1/20,000 lbs	2%-3%			7	0	0	
		Carbon Black Dispersion	ASTM D5596	1/45,000 lbs	9 in Cat 1 or 2 and 1 in Cat 3			3	0	0	
		Asperity Height	ASTM D7466	1/Second roll	10 mils (min)		Asperity Test Method change approved per Submittal 091	17	0	0	
		Oxidative Induction Time	ASTM D3895	1/100,000 lbs	100 minutes			4	0	0	
	QC Laboratory - Geotechnics	*3rd Party Laboratory Testing*									
		Thickness	ASTM D5994	1/100,000 square feet	57 MARV	02372-2.02 and Table 02372-1		4	0	0	
		Density	ASTM D1505/D792	1/100,000 square feet	0.939 g/cc		Density value change approved per Submittal 091	4	0	0	
		Tensile Properties	ASTM D6693	1/100,000 square feet	90 lbs/in (strength)/250% elongation			4	0	0	
		Tear Resistance	ASTM D1004	1/100,000 square feet	33 lbs			4	0	0	
		Puncture Resistance	ASTM D4833	1/100,000 square feet	66 lbs			4	0	0	
		Carbon Black Content	ASTM D1603	1/100,000 square feet	2%-3%			4	0	0	
		Carbon Black Dispersion	ASTM D5596	1/100,000 square feet	9 in Cat 1 or 2 and 1 in Cat 3			4	0	0	
		Asperity Height	ASTM D7466	1/100,000 square feet	10 mils (min)		Asperity Test Method change approved per Submittal 091	4	0	0	
		Interface Strength	ASTM D5321	1/100,000 square feet	Peak = 26 degrees; Residual = 22.5 degrees			4	0	0	
		Field Quality Control Testing:									
		Start-Up Testing Peel (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Start-Up Testing Shear (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	90 lb/in	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Vacuum Testing	Full seam length (extrusion weld)	No bubbles in viewing window for 10 seconds	02372-3.06.B.2		100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Air Pressure Testing	Full seam length (fusion weld)	<4 psi pressure loss over 5 min @ 25-30 psi pressure	02372-3.06.B.3		100%	0	0	
		Destructive Testing Shear (Tensiometer)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
		Destructive Testing Peel (Tensiometer)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
	Lab QC-Geotechnics	Destructive Testing Shear (Laboratory)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
		Destructive Testing Peel (Laboratory)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
Transnet 33-2-6 Geocomposite w/Warning Layer (Drainage Layer)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***394,800 Square Feet***
		Resin									***141 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD			
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD			
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			8	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			8	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	8	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			1	0	0	
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Normal compressive load load should be 750 psf at gradient of 0.316	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply AdhesionTest Method change approved per Submittal 081	4	0	0	
	QC Laboratory - Geotechnics	*Testing with Site Specific Soils*									
		Interface - GDL/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GDL/Cover Soil (Celgene)	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Transmissivity	ASTM D4716	1/100,000 sf	8.0x10-4		Normal compressive load load should be 750 psf at gradient of 0.316	4	0	0	

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
Transnet 22-2-6 Geocomposite (Gas Vent System)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***311,750 Square Feet***
		Resin									***86 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD	0	0	
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD	0	0	
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			7	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			7	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	7	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			TBD			
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Transmissivity requirement for gas vent system deleted per Addendum #5; Clarification #3	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply Adhesion Test Method change approved per Submittal 081	4	0	0	
	QC Laboratory - Geotechnics	*Testing with Site Specific Soils*									
		Interface - GVS/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GVS/Subgrade Soil	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
Bentomat DN Geosynthetic Clay Liner	Manufacturer - CETCO	*Manufacturer Certification:*									***69,600***
		Geotextile				02375 - Tables 1 & 2					***32 Rolls***
		Mass/Unit Cap, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	***83,200 lbs***
		Mass/Unit Carrier, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	
		Bentonite									
		Swell Index	ASTM D5890	1/100,000 lb	24 ml min			1	0	0	
		Moisture Content	ASTM D4643	1/100,000 lb	35% max			1	0	0	
		Fluid Loss	ASTM D5891	1/100,000 lb	18 ml max			1	0	0	
		Finished GCL									
		Mass/Unit Area Bentonite	ASTM D5993	1/40,000 sf	0.75 lb/sf MARV			2	0	0	
		Tensile Strength, MD	ASTM D6768	1/40,000 sf	50 lb/in MARV		Testing frequency change approved per Submittal 092	2	0	0	
		Peel Strength	ASTM D6496	1/40,000 sf	12 lb/in MARV			2	0	0	
			ASTM D4632	1/40,000 sf	60 lb MARV			2	0	0	
		Hydraulic Conductivity	ASTM D5887	1/Week	5×10^{-11} m/sec			TBD			
		Index Flux	ASTM D5887	1/Week	1×10^{-8} m^3/m^2/sec			TBD			
		Internal Shear Strength	ASTM D6243	Periodically	150 psf Typical (non-slope areas); 500 psf Typical			1			

Appendix A

QA/QC Forms

A1 – Certification of Completion
A2 – Receiving Inspection Report Table
A3 – Individual Photographic Log
A4 – Geosynthetics Inventory and Certification Log
A5 – Subgrade Surface Checklist
A6 – Trial Weld Log
A7 – Panel Placement Log
A8 – Seam Testing Chain of Custody Form
A9 – Seam Control and Non-Destructive Test Log
A10 – Repair Log
A11 – Conformance Test Chain of Custody Form
A12 – Destructive Seam Field Test
A13 – Destructive Sample Tracking Summary
A14 – Penetration Sealing Observation / Cap to Barrier Installation Observation
A15 – Geosynthetic Daily Inspection
A16 – Notice of Non-Compliance and Corrective Action Form

Appendix A1

Certification of Completion

LANGAN

Certificate of Completion

Sheet # _____

Project Name		Material Desc.			
Project No.		Layer	Primary	Secondary	Tertiary
Owner/ Contr.		Type	Partial	Substantial	Final
QA Monitor		Date			

Description and Area of Work Being Certified:

I hereby certify that the above identified work has been inspected and it has been properly installed. I further certify all required testing has been completed and the results are acceptable to the CQA Officer. The liner system is suitable for its intended use.

Independent CQA Monitor	
Name:	
Date:	
Title	
Representing:	
Signature:	

Geosynthetic Installer Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	

Owner Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	

Notes, Observations, Comments:

PROJECT COMPLETION REPORT

Project Name: _____ Project Manager: _____

Job Number: _____ Superintendent: _____

Date Completed: _____

Item Number	Item Description	Completed Quantity
	Total Linear Feet of Anchor Trench	
	Vertical Feet of Liner in Trench (per Detail)	

Item Number	Item Description	Completed Quantity
	Total Linear Feet of Tie in to Existing	
	Total Linear Feet of Tie in Slope to Floor	

The Quantities Listed Above Are Based On The Following :

- ☐ Field measurements
- ☐ Quantities are agreed to at this time
- ☐ Quantities listed include geosynthetics in anchor trench
- ☐ Job 100% complete
- ☐ Field change orders were Issued How Many? _____

Check All Applicable Boxes Below:

- ☐ Quantities listed include tie in / run out details
- ☐ Quantities to be verified by survey
- ☐ Quantities listed are per completed survey
- ☐ Job is partially complete.
- ☐ Anticipated remob date is: _____

☐ The project has been left, by ESI, in a clean and orderly fashion acceptable to customer.

_____
Initial by Customer / Rep

☐ All work has been found satisfactorily completed and the work satisfies the Project plans and specifications

_____
Initial by Customer / Rep

ESI Owned Materials Left On Site

Material Description	Roll Count	Total Square Feet	Notes

_____
ESI Superintendent Signature

_____
Print Name

_____
Date

_____
Authorized Signature

_____
Print Name

_____
Title / Company

_____
Date

Rev 2-10-10

Appendix A2

Receiving Inspection Report Table

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location:									Contract Number:
Received From:									Receiving Report Number:
Address:									Date:
QC Inspection by:		QC Date:		Inv. Or Packing Slip No.:		Inv. Or Packing Slip Date:			PO Number:
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Reels	Total Packages	Received By:
									Received At:

Line	Quantity	Unit	Description	Over	Short
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via:		Car #	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:	Freight Bill (Pro) No.:	Weight:	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

Appendix A3

Individual Photographic Log

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.**
Date:		
Direction Taken:		
Description:		

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.**
Date:		
Direction Taken:		
Description:		

Appendix A4

Geosynthetics Inventory and Certification Log

LANGAN

Geosynthetics Inventory and Certification Log

Sheet # _____

Project Name		Material Desc.						
Project No.		Layer	Primary		Secondary			Tertiary
Owner/ Contr.		Material Type:	HDPE	GN	GT	GC	GCL	OTHER
QA Monitor		Texture: Smooth			Thickness:		Width:	

Roll Number	Lot/Batch Number	Roll Length	Roll Area	Date Roll Received	Date Cert.'s Received	Date Roll Approved
Total		-	-			
Running Total			-			
Notes, Observations, Comments:						

Geosynthetic Installer Representative _____ Date _____

Independent CQA Monitor _____ Date _____

Appendix A5

Subgrade Surface Checklist & Data Sheet

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: _____ PROJECT NO: _____

LOCATION: _____

AREA ACCEPTED: _____

PANEL NUMBERS: _____

GRADE ACCEPTANCE: INSPECTOR: _____

GENERAL CONTRACTOR: _____

OWNER: _____

AUTHORIZED REPRESENTATIVE: _____

The undersigned, _____,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on _____ and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

_____	_____	_____
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

_____	_____	_____
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

Appendix A6

Trial Weld Log

Environmental Specialties International, Inc.
Preweld Test Report

Page _____ of _____

Project Name: _____ **Job #** _____ **Superintendent:** _____

Material Type: _____

Job Description: _____

Reported By _____ **Other** _____

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Pond ☐ **Cell** ☐ **Cap** ☐

Peel Test Extrusion Minimum _____ PPI

Peel Test Fusion Minimum _____ PPI

Shear Test Minimum _____ PPI

Weld Date / Liner Type	Time am | pm	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A | B	Coupon 2 A | B	Coupon 3 A | B	Coupon 4 A | B	Coupon 5 A | B	Test Results
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
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TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						

Appendix A7

Panel Placement Log

Daily Panel Placement

Page ____

Project Name: Honeywell Job # 12-11-1399 Deployment Date ____

Superintendent: Fortino Ayala Material Type: LLPE 60 MIL

[ ] Primary Secondary [ ] Cell [ ] Pond [ ] Cap [X] Other: ____

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 22.5

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
	Final Length Avg.		LF
	Final Width Avg.		LF
	Initial Length Avg.		LF
	Initial Width Avg.		LF
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	-	SF
Total Pay Area This Page	-	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	-	SF
Total Pay Area To Date Including Anchor Trench	-	
Initial Quantity Previous	-	SF
Initial Quantity This Page	-	SF
Initial Quantity To Date	-	SF

Appendix A8

Seam Testing Chain of Custody Form

SEAM TESTING
CHAIN OF CUSTODY FORM

SEND YOUR SEAMS TO

PROJECT NAME / PROJECT NUMBER: _____
PROJECT LOCATION: _____

No.	Seam ID (Include Seam ID, Panel ID, welder, etc.)	MATERIAL DESCRIPTION	FUSION	EXTRUSION	Solvent Weld
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

TEST METHOD
(Please check which test method is applicable)

O SHEAR – ASTM 04437
PEEL – ASTM 04437

O SHEAR – ASTM 06214
PEEL – ASTM 06214

O SHEAR – ASTM 04437 NSF Modified
Crosshead Speed = 2"/min
PEEL – ASTM 04437 NSF Modified
Crosshead Speed = 2"/min

O SHEAR – ASTM 04437 NSF Modified
Crosshead Speed = 20"/min
PEEL – ASTM 04437 NSF Modified
Crosshead Speed 20"/min

O SHEAR – ASTM 06392
PEEL – ASTM 06392
HDPE

O SHEAR – ASTM 03083
Crosshead Speed = 20"/min
PEEL – ASTM 0413
Crosshead Speed = 2"/min

O SHEAR – ASTM 06392
PEEL – ASTM 06392
LLDPE/PVC

O SHEAR – ASTM 0751
PEEL – ASTM 0413
Crosshead Speed = 2"/min

SPECIFICATIONS/NOTES:
OPEN on SATURDAYS for SEAM TESTING.
To ensure that your package is delivered/received on Saturdays; please fax, e-mail or call to let us know the AIRBILL # of your package. This helps us track for SATURDAY DELIVERY.

Thickness required? O Yes O NO
SOLVENT WELD
Curing Time: _____ Curing Temp:_____

REPORT TO:
Name: _____
Company: _____
Address: _____
_____
Tel No.: _____
Fax No.: _____
E-mail: _____

FIELD CONTACT:
Name: _____
Pager: _____
Mobil: _____
Phone: _____
Fax: _____
E-mail: _____

RELEASED BY:
Name: _____
Company: _____
Date/Time: _____

RECEIVED BY:
Name: _____
Precision Geosynthetic Labs
Date/Time: _____

Shipped Via
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Hand Carry
O Others

Appendix A9

Seam Control and Non-Destructive Test Log

Environmental Specialties International, Inc.

Seam Control Form

Page _____ of _____

Project Name: _____ **Job #** _____ **Superintendent:** _____

Material Type: _____ **Cell** ☐ **Air Pressure Test** _____ **PSI**

Job Description: _____ **Pond** ☐ **Air Pressure Hold Time** _____ **Minutes**

Reported By _____ **Other** _____ **Cap** ☐ **Allowable Air Pressure Loss** _____ **PSI**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														

Appendix A10

Repair Log

Environmental Specialties International, Inc.
Repair Report

Page _____ of _____

Reported By: _____ **Superintendent:** _____ **Job # :** _____

Project Name: _____ **Cell** ☐ **Cap** ☐

Material Type: _____ **Pond** ☐ **Other** _____

Job Description: _____

Damage Codes				**SF Patch Material**	**Test Type**	**Abbrv.**	**Repair Types**
CR –Crease	BO –Burn Out	PB –Pipe Boot	CF –Custom Fit		Vacuum	*S=South	C--Cap Strip
DS –Destruct Sample	FS --Failed Seam	MatD –Material Defect	LL –Lost Lap		Air Pressure	*N=North	P--Patch
SI –Subgrade Irregularity	WR –Wrinkle	WS –Welder Restart	MD –Mechanical Damage	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ –Seam Joint	AV –Airvent	RW –Roller Wrinkle	DO –Damage By Others		Air Lance	*E=East	
	AO –Add On	FM –Fishmouth	AT –Air test				

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)	Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							

Appendix A11

Conformance Test Chain of Custody Form

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Page _____ of _____

PROJECT NAME / PROJECT NUMBER: _____

PROJECT LOCATION: _____

GEOMEMBRANE TESTING

Sample ID	Thickness ASTM D5199 or D5994	Density ASTM D1505 Or D792	Carbon Black Content ASTM D1603	Carbon Dispersion D3015 / D5596	Tensile ASTM D638 GM13 / NSF54	Tear Resistance ASTM D1004 (Die C)	Puncture D4833 /101CM2065	Melt Flow Index ASTM D1238, cond. E	Dimensional Stability ASTM D1204	Low Temp. Brittleness D746 / D1790	NCTL ASTM D5397 Hours _____	Other ASTM _____

NONWOVEN OR WOVEN GEOTXTILE TESTING

Sample ID	Thickness ASTM D5199 Or D1777	Mass Per Area ASTM D5261 or D3776	Grab Tensile ASTM D4632	Trapezoid Tear ASTM D4533	Puncture Resistance ASTM D4833	Mullen Burst ASTM D3776	Permittivity ASTM D4491	AOS ASTM D4751	Wide Width Tensile ASTM D4595	UV (hrs _____) ASTM D4355	Other ASTM _____	Other ASTM _____

GEOCOMPOSITE / GEONET / GEOGRID TESTING

Sample ID	Thickness ASTM D5199 or D1777	Density ASTM1505 or D792	Carbon Black Content ASTM D1603	Mass Per Area ASRM D5261 or D3776	Melt Flow Index ASTM D1238, cond. E	Peel ASTM D413 F904 or GRI-GC7	Transmissivity* ASTM D4716	Compression ASTM D1621	Tensile Strength ASTM D1682 or D5035	Wide Width Tensile ASTM D4595	Rib Tensile Strength GRI-GG1	Junction Strength GRI-GG2

* Transmissivity Test Parameters: Normal Load: _____, Gradient: _____, Seating Time: _____, Boundary Condition: _____

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Page _____ of _____

REPORT TO:	**FIELD CONTACT:**	**Released by:**	**Shipped Via:**
Name: _____	Name: _____	Name: _____	O Fedex
Company: _____	Pager: _____	Date/Time: _____	O UPS
Address: _____	Mobil: _____	**Received by:**	O Airborne
_____	Phone: _____	Name: _____	O DHL
Tel No.: _____	Fax: _____	PGL	O US Mail
Fax No.: _____	E-mail: _____	Date/Time: _____	O Others
E-mail: _____			

Appendix A12

Destructive Seam Field Test

Environmental Specialties International, Inc.
Destructive Sample Information

Page _____ of _____

Project Name: _____ **Job #** _____ **Superintendent:** _____

Material Type: _____

Job Description: _____

Reported By _____ **Other** _____

Cell ☐ **Pond** ☐ **Cap** ☐

Peel Test Extrusion Minimum _____ PPI

Peel Test Fusion Minimum _____ PPI

Shear Test Minimum _____ PPI

D.S No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											
								Peel											
	DS Location and Notes							Shear											

Rev 2-26-10

Appendix A13

Destructive Sample Tracking Summary

LANGAN

Geosynthetic Installer
Destructive Sample Tracking Summary

Sheet #_____

Project Name		Material Desc.				Notes, Observations, Comments:
Project No.		Layer	Primary	Secondary	Tertiary	
Owner/Contr.						
QA Monitor						

DS No.	Seam No.	Machine/ Operator	Date Welded	Roll No.	Lot No.	QA Monitor	Average Test Results				Overall (P/F)	Comments and Subsequent Tracking No.'s
							Lab (P/F)		Field (P/F)			
							Peel	Shear	Peel	Shear		

LANGAN

Independent CQA Monitor
Destructive Sample Tracking Summary

Sheet #_____

Project Name		Material Desc.				Notes, Observations, Comments:
Project No.		Layer	Primary	Secondary	Tertiary	
Owner/Contr.						
QA Monitor						

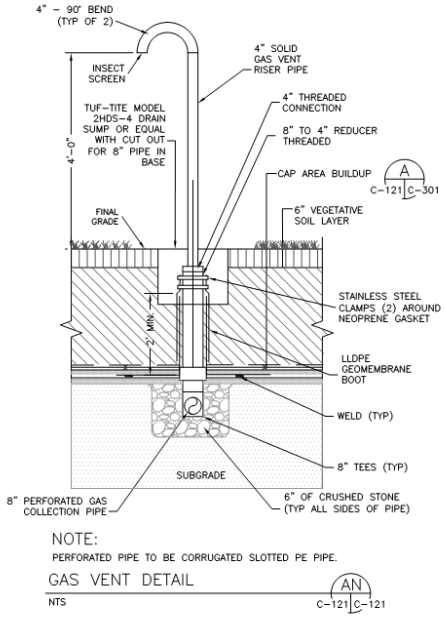
DS No.	Seam No.	Machine/ Operator	Date Welded	Roll No.	Lot No.	QA Monitor	Average Test Results				Overall (P/F)	Comments and Subsequent Tracking No.'s
							Lab (P/F)		Field (P/F)			
							Peel	Shear	Peel	Shear		

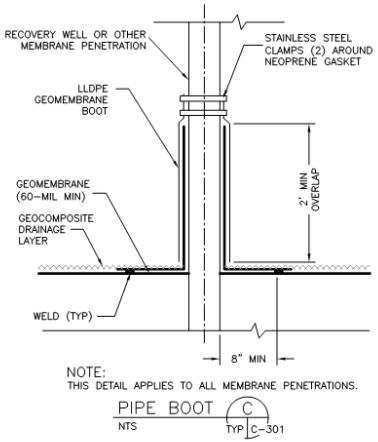
Appendix A14

Penetration Sealing Observations / Cap to Barrier Installation Observation

Project: Study Area 6 South	**Date:** _____

QA – Gas Vent and Piezometer Penetrations



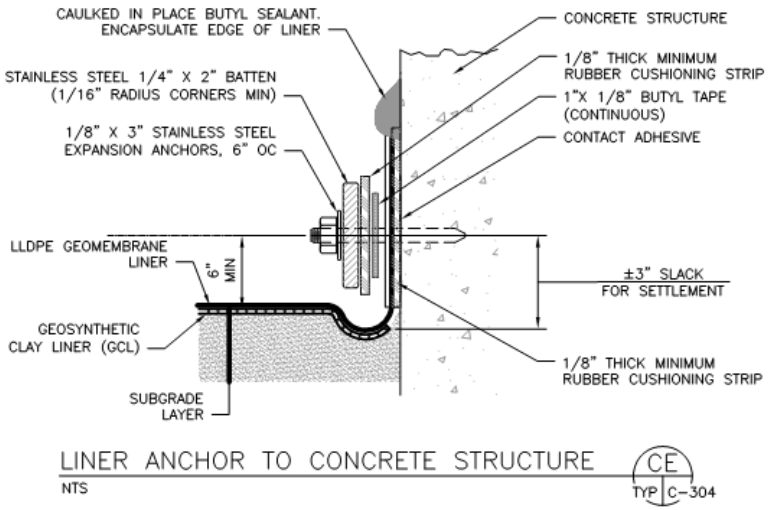


***Check applicable Detail:** ☐ Prefabricated material design dimensions ☐ 18-in. overlap between boot and geomembrane ☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure ☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection ☐ If penetration is greater than 4-in. in diameter, a second clamp shall be used. ☐ Boot connection field tested to ensure seal (ex. vacuum box testing)	**Location:** **Independent CQA Monitor Signature:** _____

Comments:

Project: Study Area 6 South	**Date:** _____

QA – Groundwater Collection Manhole Penetration



Note - GCL only required if the boot is located in an area where the LLDPE is below the water table

***Check applicable Detail:** ☐ Note any dimension changes in comments section ☐ 18-in. overlap between boot and geomembrane ☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure ☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection ☐ If penetration is greater than 4-in. in diameter, a second clamp shall be used ☐ Boot connection field tested to ensure seal (ex. vacuum box testing)	**Location:** **Independent CQA Monitor Signature:** _____

Comments:

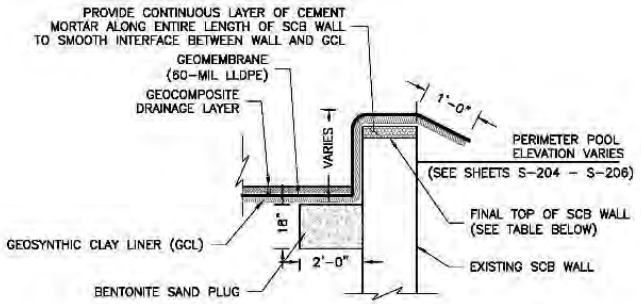
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** _____

QA - GCL to Barrier Wall Connection Detail



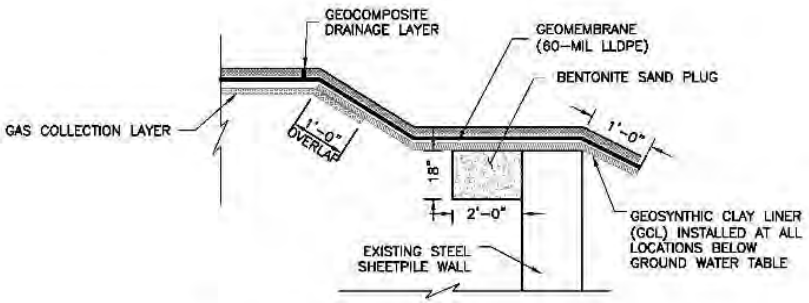
BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) C-121 C-309

NTS

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) C-309

NTS

***Check applicable Detail:** ☐ Box Cut Dimension ☐ Barrier wall clean/exposed ☐ Sand Bentonite Mix	**Location:**
Comments:	**AmecFW QA Signature:** _____

Appendix A15

Geosynthetic Daily Inspection Report

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.: **PROJECT:** **LOCATION:**	**CLIENT:** **TASK.:**	**DATE:** **WEATHER:** **TIME:**

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day**

Site Activities

Non-Conformance Item / Corrective Actions

Action Items Pending

Action Items – Weekly Completions

Near Misses / Incidents

Future Activities Scheduled

Photograph Log

Cc

By:

PROJECT No.: **PROJECT:** **LOCATION:**	**CLIENT:** **TASK.:**	**DATE:** **WEATHER:** **TIME:**

Daily QA Documents Completed					
	Sheet #'s	Comment		Sheet #'s	Comment
A2 – Receiving and Inspection			A11 – Conformance Test Chain of Custody		
A3 – Photo Log			A12 – Destructive Seam Field Test		
A4 – Geosynthetic Inventory Log			A13 – Destructive Lab Sample Tracking Summary		
A5 -Subgrade Surface			A14 – Penetration and Edge Detail Observations		
A6 – Trial Weld Log			A16 – Notice Non-Compliance / Corrective Action		
A7 – Panel Placement Log			*List Others:*		
A8 – Seam Testing Chain of Custody					
A9 – Seam / Non-Destructive Test Log					
A10 – Repair Log					

Appendix A16

Notice of Non-Compliance and Corrective Action Form

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # _____

General Project Information	
Project Name Project No. Owner/Contr. QA Monitor	Date Contractor in NC Non-Compliance No. Notes:
Reference	
Item Specification Sec. No.	Drawing No. Other:
Description of Non-Compliance	
Cross Reference (QA Inspection Form & Sheet No.):	
Contractor's Response	
Follow Up Action Required	
Follow Up Action Taken	
Cross Reference (QA Inspection Form & Sheet No.):	

Geosynthetic Installer Representative _____ Date _____

Independent CQA Monitor _____ Date _____

Appendix C
SA-6 South Certificate of Completion

LANGAN

Certificate of Completion

Sheet # 1

Project Name	Honeywell SA-6 South	Material Desc.	LLDPE Geomembrane Cap		
Project No.	100530001	Layer	**Primary**	Secondary	Tertiary
Owner/ Contr.	Honeywell / AmecFW	Type	Partial	Substantial	**Final**
QA Monitor	Langan	Date	12/01/2015		

Description and Area of Work Being Certified: Completion of capping of SA-6 South which included: placement of GVL/GCL, placement of LLDPE geomembrane, and placement of GDL. Material was placed in accordance with the Record Drawings and project specifications. To date, the geosynthetic components of SA-6 South are complete and summarized in the *QA Completion Report*.

I hereby certify that the above identified work has been inspected and it has been properly installed. I further certify all required testing has been completed and the results are acceptable to the CQA Officer. The liner system is suitable for its intended use.

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	3/30/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Fortino Ayala
Date:	3/30/16
Title	Superintendent
Representing:	Environmental Specialties International Inc.
Signature:	

Appendix D: Survey Construction Details

D1. Final Maser Subgrade Tables
D2. Subgrade Construction Control Grid

D1. Final Maser Subgrade Tables

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Cap Subgrade: Grid Points (Table 1.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2	685518.44	601481.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
3	685543.44	601481.51	15.3	GRID	7/2/2015	15.3	0.0	Point surveyed within Tolerance
4	685493.44	601506.51	14.2	GRID	7/2/2015	14.2	0.0	Point surveyed within Tolerance
6	685543.44	601506.51	16.6	GRID	7/2/2015	16.6	0.0	Point surveyed within Tolerance
7	685568.44	601506.51	17.0	GRID	7/2/2015	16.9	-0.1	Point surveyed within Tolerance
8	685468.44	601531.51	13.1	GRID	7/2/2015	13.1	0.0	Point surveyed within Tolerance
9	685493.44	601531.51	13.7	GRID	7/2/2015	13.8	0.1	Point surveyed within Tolerance
10	685543.44	601531.51	14.8	GRID	7/2/2015	14.8	0.0	Point surveyed within Tolerance
11	685568.44	601531.51	15.0	GRID	7/2/2015	15.1	0.1	Point surveyed within Tolerance
12	685593.44	601531.51	18.1	GRID	7/2/2015	18.0	-0.1	Point surveyed within Tolerance
14	685468.44	601556.51	13.9	GRID	7/2/2015	13.9	0.0	Point surveyed within Tolerance
15	685493.44	601556.51	15.9	GRID	7/2/2015	15.8	-0.1	Point surveyed within Tolerance
16	685518.44	601556.51	16.7	GRID	7/2/2015	16.8	0.1	Point surveyed within Tolerance
17	685543.44	601556.51	17.0	GRID	7/2/2015	17.0	0.0	Point surveyed within Tolerance
18	685568.44	601556.51	14.1	GRID	7/2/2015	14.2	0.1	Point surveyed within Tolerance
19	685593.44	601556.51	17.4	GRID	7/2/2015	17.5	0.1	Point surveyed within Tolerance
20	685443.44	601581.51	13.3	GRID	7/2/2015	13.3	0.0	Point surveyed within Tolerance
21	685468.44	601581.51	14.4	GRID	7/2/2015	14.4	0.0	Point surveyed within Tolerance
22	685493.44	601581.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
23	685518.44	601581.51	16.6	GRID	7/2/2015	16.6	0.0	Point surveyed within Tolerance
24	685543.44	601581.51	17.5	GRID	7/2/2015	17.5	0.0	Point surveyed within Tolerance
25	685568.44	601581.51	17.0	GRID	7/2/2015	17.1	0.1	Point surveyed within Tolerance
26	685418.44	601606.51	11.9	GRID	7/2/2015	12.0	0.1	Point surveyed within Tolerance
27	685443.44	601606.51	13.8	GRID	7/2/2015	13.8	0.0	Point surveyed within Tolerance
29	685493.44	601606.51	15.3	GRID	7/2/2015	15.3	0.0	Point surveyed within Tolerance
30	685518.44	601606.51	16.2	GRID	7/2/2015	16.2	0.0	Point surveyed within Tolerance
31	685543.44	601606.51	16.7	GRID	7/2/2015	16.8	0.1	Point surveyed within Tolerance
32	685393.44	601631.51	11.4	GRID	7/2/2015	11.5	0.1	Point surveyed within Tolerance
33	685418.44	601631.51	13.2	GRID	7/2/2015	13.3	0.1	Point surveyed within Tolerance
34	685443.44	601631.51	13.8	GRID	7/2/2015	13.8	0.0	Point surveyed within Tolerance
35	685468.44	601631.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
36	685493.44	601631.51	14.8	GRID	7/2/2015	14.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
37	685518.44	601631.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
38	685543.44	601631.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
39	685393.44	601656.51	12.6	GRID	7/2/2015	12.7	0.1	Point surveyed within Tolerance
40	685443.44	601656.51	13.7	GRID	7/2/2015	13.7	0.0	Point surveyed within Tolerance
41	685468.44	601656.51	15.6	GRID	7/2/2015	15.7	0.1	Point surveyed within Tolerance
42	685493.44	601656.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
43	685518.44	601656.51	16.6	GRID	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
44	685368.44	601681.51	11.6	GRID	7/2/2015	11.6	0.0	Point surveyed within Tolerance
45	685393.44	601681.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
46	685443.44	601681.51	13.7	GRID	7/2/2015	13.6	-0.1	Point surveyed within Tolerance
47	685468.44	601681.51	15.5	GRID	7/2/2015	15.5	0.0	Point surveyed within Tolerance
48	685493.44	601681.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
49	685343.44	601706.51	11.0	GRID	7/2/2015	10.9	-0.1	Point surveyed within Tolerance
50	685393.44	601706.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
51	685443.44	601706.51	13.6	GRID	7/2/2015	13.5	-0.1	Point surveyed within Tolerance
52	685468.44	601706.51	15.4	GRID	7/2/2015	15.4	0.0	Point surveyed within Tolerance
53	685493.44	601706.51	14.3	GRID	7/2/2015	14.3	0.0	Point surveyed within Tolerance
54	685318.44	601731.51	10.7	GRID	7/2/2015	10.6	-0.1	Point surveyed within Tolerance
55	685368.44	601731.51	16.2	GRID	7/2/2015	16.1	-0.1	Point surveyed within Tolerance
56	685393.44	601731.51	16.3	GRID	7/2/2015	16.2	-0.1	Point surveyed within Tolerance
57	685443.44	601731.51	13.5	GRID	7/2/2015	13.5	0.0	Point surveyed within Tolerance
58	685343.44	601756.51	16.6	GRID	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
59	685368.44	601756.51	16.3	GRID	7/2/2015	16.4	0.1	Point surveyed within Tolerance
61	685443.44	601756.51	13.5	GRID	7/2/2015	13.6	0.1	Point surveyed within Tolerance
62	685293.44	601781.51	10.5	GRID	7/2/2015	10.4	-0.1	Point surveyed within Tolerance
63	685318.44	601781.51	17.4	GRID	7/2/2015	17.4	0.0	Point surveyed within Tolerance
64	685343.44	601781.51	16.9	GRID	7/2/2015	16.9	0.0	Point surveyed within Tolerance
65	685368.44	601781.51	16.5	GRID	7/2/2015	16.5	0.0	Point surveyed within Tolerance
66	685393.44	601781.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
67	685418.44	601781.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
69	685268.44	601806.51	11.0	GRID	7/2/2015	11.0	0.0	Point surveyed within Tolerance
70	685318.44	601806.51	18.1	GRID	7/2/2015	18.1	0.0	Point surveyed within Tolerance
71	685343.44	601806.51	17.7	GRID	7/2/2015	17.6	-0.1	Point surveyed within Tolerance
72	685368.44	601806.51	17.1	GRID	7/2/2015	17.1	0.0	Point surveyed within Tolerance
73	685393.44	601806.51	16.7	GRID	7/2/2015	16.6	-0.1	Point surveyed within Tolerance
74	685418.44	601806.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
75	685243.44	601831.51	12.7	GRID	7/2/2015	12.6	-0.1	Point surveyed within Tolerance
77	685318.44	601831.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
78	685343.44	601831.51	18.3	GRID	7/2/2015	18.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
79	685368.44	601831.51	17.7	GRID	7/2/2015	17.7	0.0	Point surveyed within Tolerance
80	685393.44	601831.51	17.2	GRID	7/2/2015	17.3	0.1	Point surveyed within Tolerance
81	685243.44	601856.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
82	685268.44	601856.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
83	685293.44	601856.51	15.7	GRID	7/2/2015	15.8	0.1	Point surveyed within Tolerance
85	685368.44	601856.51	18.0	GRID	7/2/2015	18.0	0.0	Point surveyed within Tolerance
86	685218.44	601881.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
87	685243.44	601881.51	16.4	GRID	7/2/2015	16.4	0.0	Point surveyed within Tolerance
88	685268.44	601881.51	18.7	GRID	7/2/2015	18.7	0.0	Point surveyed within Tolerance
89	685293.44	601881.51	18.6	GRID	7/2/2015	18.5	-0.1	Point surveyed within Tolerance
90	685343.44	601881.51	15.2	GRID	7/2/2015	15.2	0.0	Point surveyed within Tolerance
91	685368.44	601881.51	11.8	GRID	7/2/2015	11.8	0.0	Point surveyed within Tolerance
92	685193.44	601906.51	15.5	GRID	7/2/2015	15.5	0.0	Point surveyed within Tolerance
93	685218.44	601906.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
94	685243.44	601906.51	18.7	GRID	7/2/2015	18.7	0.0	Point surveyed within Tolerance
95	685268.44	601906.51	18.6	GRID	7/2/2015	18.6	0.0	Point surveyed within Tolerance
96	685293.44	601906.51	18.5	GRID	7/2/2015	18.4	-0.1	Point surveyed within Tolerance
97	685318.44	601906.51	18.3	GRID	7/2/2015	18.3	0.0	Point surveyed within Tolerance
99	685193.44	601931.51	15.7	GRID	7/2/2015	15.8	0.1	Point surveyed within Tolerance
101	685243.44	601931.51	18.6	GRID	7/2/2015	18.5	-0.1	Point surveyed within Tolerance
102	685268.44	601931.51	18.5	GRID	7/2/2015	18.4	-0.1	Point surveyed within Tolerance
103	685293.44	601931.51	18.4	GRID	7/2/2015	18.4	0.0	Point surveyed within Tolerance
104	685168.44	601956.51	14.6	GRID	7/2/2015	14.6	0.0	Point surveyed within Tolerance
105	685193.44	601956.51	18.0	GRID	7/14/2015	18.1	0.1	Point surveyed within Tolerance
107	685243.44	601956.51	18.3	GRID	7/14/2015	18.4	0.1	Point surveyed within Tolerance
108	685268.44	601956.51	18.3	GRID	7/14/2015	18.4	0.1	Point surveyed within Tolerance
109	685293.44	601956.51	18.2	GRID	7/14/2015	18.3	0.1	Point surveyed within Tolerance
110	685143.44	601981.51	13.6	GRID	7/14/2015	13.7	0.1	Point surveyed within Tolerance
111	685168.44	601981.51	17.2	GRID	7/14/2015	17.3	0.1	Point surveyed within Tolerance
112	685193.44	601981.51	17.4	GRID	7/14/2015	17.5	0.1	Point surveyed within Tolerance
113	685218.44	601981.51	17.7	GRID	7/14/2015	17.8	0.1	Point surveyed within Tolerance
114	685243.44	601981.51	17.8	GRID	7/14/2015	17.9	0.1	Point surveyed within Tolerance
115	685268.44	601981.51	17.9	GRID	7/14/2015	18.0	0.1	Point surveyed within Tolerance
116	685118.44	602006.51	13.0	GRID	7/14/2015	13.1	0.1	Point surveyed within Tolerance
117	685168.44	602006.51	16.6	GRID	7/14/2015	16.7	0.1	Point surveyed within Tolerance
118	685193.44	602006.51	16.8	GRID	7/14/2015	16.9	0.1	Point surveyed within Tolerance
119	685218.44	602006.51	17.1	GRID	7/14/2015	17.2	0.1	Point surveyed within Tolerance
121	685268.44	602006.51	17.5	GRID	7/14/2015	17.6	0.1	Point surveyed within Tolerance
122	685118.44	602031.51	13.0	GRID	7/14/2015	13.1	0.1	Point surveyed within Tolerance
123	685143.44	602031.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
124	685168.44	602031.51	16.2	GRID	7/14/2015	16.3	0.1	Point surveyed within Tolerance
125	685193.44	602031.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
126	685218.44	602031.51	16.5	GRID	7/14/2015	16.6	0.1	Point surveyed within Tolerance
127	685118.44	602056.51	14.0	GRID	7/14/2015	13.9	-0.1	Point surveyed within Tolerance
128	685143.44	602056.51	16.2	GRID	7/14/2015	16.2	0.0	Point surveyed within Tolerance
129	685168.44	602056.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
130	685193.44	602056.51	16.2	GRID	7/14/2015	16.3	0.1	Point surveyed within Tolerance
131	685218.44	602056.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
132	685068.44	602081.51	4.4	GRID	7/14/2015	4.5	0.1	Point surveyed within Tolerance
134	685143.44	602081.51	16.5	GRID	7/14/2015	16.6	0.1	Point surveyed within Tolerance
135	685168.44	602081.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
136	685193.44	602081.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
137	685218.44	602081.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
140	685093.44	602106.51	4.8	GRID	7/14/2015	4.9	0.1	Point surveyed within Tolerance
141	685118.44	602106.51	5.0	GRID	7/14/2015	5.1	0.1	Point surveyed within Tolerance
142	685168.44	602106.51	16.6	GRID	7/14/2015	16.7	0.1	Point surveyed within Tolerance
143	685193.44	602106.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
146	685143.44	602131.51	5.4	GRID	7/14/2015	5.5	0.1	Point surveyed within Tolerance
138	685043.44	602106.51	4.6	GRID	7/24/2015	4.5	-0.1	Point surveyed within Tolerance
144	685068.44	602131.51	15.0	GRID	7/24/2015	15.0	0.0	Point surveyed within Tolerance
145	685118.44	602131.51	5.2	GRID	7/24/2015	5.1	-0.1	Point surveyed within Tolerance
147	685043.44	602156.51	15.1	GRID	7/24/2015	15.1	0.0	Point surveyed within Tolerance
148	685093.44	602156.51	17.9	GRID	7/24/2015	17.8	-0.1	Point surveyed within Tolerance
149	685143.44	602156.51	5.6	GRID	7/24/2015	5.6	0.0	Point surveyed within Tolerance
150	685168.44	602156.51	5.8	GRID	7/24/2015	5.9	0.1	Point surveyed within Tolerance
151	684993.44	602181.51	5.6	GRID	7/24/2015	5.6	0.0	Point surveyed within Tolerance
152	685018.44	602181.51	15.7	GRID	7/24/2015	15.8	0.1	Point surveyed within Tolerance
153	685043.44	602181.51	15.2	GRID	7/24/2015	15.3	0.1	Point surveyed within Tolerance
154	685068.44	602181.51	17.5	GRID	7/24/2015	17.6	0.1	Point surveyed within Tolerance
155	685093.44	602181.51	17.5	GRID	7/24/2015	17.6	0.1	Point surveyed within Tolerance
156	685118.44	602181.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
157	685143.44	602181.51	14.7	GRID	7/24/2015	14.7	0.0	Point surveyed within Tolerance
159	684968.44	602206.51	6.1	GRID	7/24/2015	6.1	0.0	Point surveyed within Tolerance
160	685018.44	602206.51	18.3	GRID	7/24/2015	18.3	0.0	Point surveyed within Tolerance
161	685068.44	602206.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
162	684993.44	602231.51	18.8	GRID	7/24/2015	18.8	0.0	Point surveyed within Tolerance
163	685018.44	602231.51	16.0	GRID	7/24/2015	15.9	-0.1	Point surveyed within Tolerance
164	685068.44	602231.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
165	685093.44	602231.51	15.0	GRID	7/24/2015	15.1	0.1	Point surveyed within Tolerance
166	684968.44	602256.51	19.4	GRID	7/24/2015	19.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
167	684993.44	602256.51	19.1	GRID	7/24/2015	19.1	0.0	Point surveyed within Tolerance
168	685018.44	602256.51	16.3	GRID	7/24/2015	16.3	0.0	Point surveyed within Tolerance
169	685043.44	602256.51	18.4	GRID	7/24/2015	18.4	0.0	Point surveyed within Tolerance
170	685068.44	602256.51	18.1	GRID	7/24/2015	18.1	0.0	Point surveyed within Tolerance
171	684918.44	602281.51	7.1	GRID	7/24/2015	7.2	0.1	Point surveyed within Tolerance
172	684968.44	602281.51	19.6	GRID	7/24/2015	19.6	0.0	Point surveyed within Tolerance
173	684993.44	602281.51	16.8	GRID	7/24/2015	16.8	0.0	Point surveyed within Tolerance
174	685018.44	602281.51	19.0	GRID	7/24/2015	19.0	0.0	Point surveyed within Tolerance
175	685043.44	602281.51	18.7	GRID	7/24/2015	18.7	0.0	Point surveyed within Tolerance
176	685068.44	602281.51	18.4	GRID	7/24/2015	18.4	0.0	Point surveyed within Tolerance
178	684943.44	602306.51	20.2	GRID	7/24/2015	20.2	0.0	Point surveyed within Tolerance
179	684968.44	602306.51	19.9	GRID	7/24/2015	19.9	0.0	Point surveyed within Tolerance
180	684993.44	602306.51	17.1	GRID	7/24/2015	17.1	0.0	Point surveyed within Tolerance
181	685018.44	602306.51	19.3	GRID	7/24/2015	19.3	0.0	Point surveyed within Tolerance
182	685043.44	602306.51	16.4	GRID	7/24/2015	16.4	0.0	Point surveyed within Tolerance
183	684918.44	602331.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
184	684943.44	602331.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
185	684968.44	602331.51	17.6	GRID	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
186	684993.44	602331.51	19.8	GRID	7/24/2015	19.8	0.0	Point surveyed within Tolerance
187	685018.44	602331.51	17.0	GRID	7/24/2015	16.9	-0.1	Point surveyed within Tolerance
188	684893.44	602356.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
189	684918.44	602356.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
190	684943.44	602356.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
191	684968.44	602356.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
192	684993.44	602356.51	17.5	GRID	7/24/2015	17.5	0.0	Point surveyed within Tolerance
193	684843.44	602381.51	8.7	GRID	7/24/2015	8.7	0.0	Point surveyed within Tolerance
194	684868.44	602381.51	17.4	GRID	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
195	684893.44	602381.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
196	684918.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
197	684943.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
198	684968.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
199	684993.44	602381.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
200	684868.44	602406.51	17.0	GRID	7/24/2015	17.0	0.0	Point surveyed within Tolerance
201	684893.44	602406.51	17.3	GRID	7/24/2015	17.3	0.0	Point surveyed within Tolerance
202	684918.44	602406.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
203	684943.44	602406.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
204	684968.44	602406.51	17.8	GRID	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
206	684843.44	602431.51	16.1	GRID	7/24/2015	16.1	0.0	Point surveyed within Tolerance
207	684868.44	602431.51	16.6	GRID	7/24/2015	16.6	0.0	Point surveyed within Tolerance
208	684893.44	602431.51	17.0	GRID	7/24/2015	16.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
209	684918.44	602431.51	17.4	GRID	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
210	684943.44	602431.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
214	684868.44	602456.51	16.3	GRID	7/24/2015	16.3	0.0	Point surveyed within Tolerance
215	684893.44	602456.51	16.7	GRID	7/24/2015	16.7	0.0	Point surveyed within Tolerance
216	684918.44	602456.51	17.1	GRID	7/24/2015	17.1	0.0	Point surveyed within Tolerance
222	684893.44	602481.51	16.4	GRID	7/24/2015	16.4	0.0	Point surveyed within Tolerance
223	684918.44	602481.51	16.9	GRID	7/24/2015	16.8	-0.1	Point surveyed within Tolerance
205	684818.44	602431.51	15.0	GRID	8/10/2015	15.1	0.1	Point surveyed within Tolerance
211	684793.44	602456.51	14.0	GRID	8/10/2015	14.0	0.0	Point surveyed within Tolerance
212	684818.44	602456.51	15.2	GRID	8/10/2015	15.2	0.0	Point surveyed within Tolerance
213	684843.44	602456.51	15.7	GRID	8/10/2015	15.7	0.0	Point surveyed within Tolerance
218	684793.44	602481.51	14.3	GRID	8/10/2015	14.2	-0.1	Point surveyed within Tolerance
219	684818.44	602481.51	14.9	GRID	8/10/2015	14.9	0.0	Point surveyed within Tolerance
220	684843.44	602481.51	15.4	GRID	8/10/2015	15.4	0.0	Point surveyed within Tolerance
221	684868.44	602481.51	15.9	GRID	8/10/2015	15.9	0.0	Point surveyed within Tolerance
224	684768.44	602506.51	13.3	GRID	8/10/2015	13.3	0.0	Point surveyed within Tolerance
225	684793.44	602506.51	14.0	GRID	8/10/2015	14.0	0.0	Point surveyed within Tolerance
226	684818.44	602506.51	14.6	GRID	8/10/2015	14.5	-0.1	Point surveyed within Tolerance
227	684843.44	602506.51	15.1	GRID	8/10/2015	15.0	-0.1	Point surveyed within Tolerance
228	684868.44	602506.51	15.6	GRID	8/10/2015	15.6	0.0	Point surveyed within Tolerance
229	684893.44	602506.51	16.1	GRID	8/10/2015	16.2	0.1	Point surveyed within Tolerance
232	684793.44	602531.51	16.3	GRID	8/10/2015	16.2	-0.1	Point surveyed within Tolerance
233	684818.44	602531.51	16.8	GRID	8/10/2015	16.7	-0.1	Point surveyed within Tolerance
234	684843.44	602531.51	17.3	GRID	8/10/2015	17.3	0.0	Point surveyed within Tolerance
235	684868.44	602531.51	17.9	GRID	8/10/2015	17.9	0.0	Point surveyed within Tolerance
239	684843.44	602556.51	17.1	GRID	8/10/2015	17.1	0.0	Point surveyed within Tolerance
240	684868.44	602556.51	17.6	GRID	8/10/2015	17.6	0.0	Point surveyed within Tolerance
217	684768.44	602481.51	13.2	GRID	8/12/2015	13.2	0.0	Point surveyed within Tolerance
230	684743.44	602531.51	12.6	GRID	8/12/2015	12.6	0.0	Point surveyed within Tolerance
231	684768.44	602531.51	15.8	GRID	8/12/2015	15.8	0.0	Point surveyed within Tolerance
245	684793.44	602581.51	14.1	GRID	8/12/2015	14.1	0.0	Point surveyed within Tolerance
246	684818.44	602581.51	14.1	GRID	8/12/2015	14.1	0.0	Point surveyed within Tolerance
247	684843.44	602581.51	14.3	GRID	8/12/2015	14.4	0.1	Point surveyed within Tolerance
252	684818.44	602606.51	14.3	GRID	8/12/2015	14.3	0.0	Point surveyed within Tolerance
236	684718.44	602556.51	7.5	GRID	8/13/2015	7.4	-0.1	Point surveyed within Tolerance
237	684743.44	602556.51	15.6	GRID	8/13/2015	15.7	0.1	Point surveyed within Tolerance
241	684693.44	602581.51	5.8	GRID	8/13/2015	5.8	0.0	Point surveyed within Tolerance
242	684718.44	602581.51	13.2	GRID	8/13/2015	13.3	0.1	Point surveyed within Tolerance
243	684743.44	602581.51	15.7	GRID	8/13/2015	15.7	0.0	Point surveyed within Tolerance
244	684768.44	602581.51	13.9	GRID	8/13/2015	13.8	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
249	684743.44	602606.51	16.5	GRID	8/13/2015	16.5	0.0	Point surveyed within Tolerance
250	684768.44	602606.51	16.0	GRID	8/13/2015	16.0	0.0	Point surveyed within Tolerance
251	684793.44	602606.51	14.5	GRID	8/13/2015	14.4	-0.1	Point surveyed within Tolerance
255	684768.44	602631.51	17.0	GRID	8/13/2015	17.1	0.1	Point surveyed within Tolerance
256	684793.44	602631.51	16.3	GRID	8/13/2015	16.4	0.1	Point surveyed within Tolerance
257	684818.44	602631.51	16.2	GRID	8/13/2015	16.2	0.0	Point surveyed within Tolerance
261	684793.44	602656.51	14.5	GRID	8/13/2015	14.6	0.1	Point surveyed within Tolerance
248	684693.44	602606.51	5.2	GRID	9/4/2015	5.3	0.1	Point surveyed within Tolerance
253	684693.44	602631.51	5.5	GRID	9/4/2015	5.5	0.0	Point surveyed within Tolerance
254	684718.44	602631.51	5.8	GRID	9/4/2015	5.9	0.1	Point surveyed within Tolerance
259	684718.44	602656.51	6.1	GRID	9/4/2015	6.0	-0.1	Point surveyed within Tolerance
260	684743.44	602656.51	6.4	GRID	9/4/2015	6.4	0.0	Point surveyed within Tolerance
263	684743.44	602681.51	6.7	GRID	9/4/2015	6.7	0.0	Point surveyed within Tolerance
264	684768.44	602681.51	7.0	GRID	9/4/2015	7.0	0.0	Point surveyed within Tolerance
265	684793.44	602681.51	7.4	GRID	9/4/2015	7.3	-0.1	Point surveyed within Tolerance
2069	684743.44	602706.51	17.8	GRID	9/4/2015	17.8	0.0	Point surveyed within Tolerance
2070	684743.44	602731.51	15.4	GRID	9/4/2015	15.4	0.0	Point surveyed within Tolerance
2071	684718.44	602756.51	15.8	GRID	9/4/2015	15.8	0.0	Point surveyed within Tolerance
2072	684718.44	602706.51	18.0	GRID	9/4/2015	18.0	0.0	Point surveyed within Tolerance
2073	684693.44	602706.51	15.4	GRID	9/4/2015	15.3	-0.1	Point surveyed within Tolerance
2074	684693.44	602731.51	18.4	GRID	9/4/2015	18.5	0.1	Point surveyed within Tolerance
2075	684693.44	602756.51	18.8	GRID	9/4/2015	18.8	0.0	Point surveyed within Tolerance
2076	684693.44	602781.51	19.2	GRID	9/4/2015	19.3	0.1	Point surveyed within Tolerance
2079	684668.44	602756.51	16.4	GRID	9/4/2015	16.4	0.0	Point surveyed within Tolerance
2080	684668.44	602731.51	16.0	GRID	9/4/2015	15.9	-0.1	Point surveyed within Tolerance
2081	684668.44	602706.51	18.3	GRID	9/4/2015	18.3	0.0	Point surveyed within Tolerance
2082	684668.44	602681.51	17.9	GRID	9/4/2015	17.8	-0.1	Point surveyed within Tolerance
2083	684668.44	602656.51	14.9	GRID	9/4/2015	14.9	0.0	Point surveyed within Tolerance
2084	684643.44	602706.51	18.6	GRID	9/4/2015	18.6	0.0	Point surveyed within Tolerance
2085	684643.44	602731.51	16.3	GRID	9/4/2015	16.2	-0.1	Point surveyed within Tolerance
2086	684643.44	602756.51	16.8	GRID	9/4/2015	16.8	0.0	Point surveyed within Tolerance
2090	684618.44	602731.51	16.6	GRID	9/4/2015	16.6	0.0	Point surveyed within Tolerance
2101	684593.44	602706.51	6.8	GRID	9/4/2015	6.8	0.0	Point surveyed within Tolerance
2077	684668.44	602806.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2078	684668.44	602781.51	17.1	GRID	9/9/2015	17.1	0.0	Point surveyed within Tolerance
2087	684643.44	602781.51	17.3	GRID	9/9/2015	17.2	-0.1	Point surveyed within Tolerance
2088	684643.44	602806.51	17.6	GRID	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2089	684643.44	602831.51	17.7	GRID	9/9/2015	17.7	0.0	Point surveyed within Tolerance
2091	684618.44	602756.51	17.1	GRID	9/9/2015	17.1	0.0	Point surveyed within Tolerance
2092	684618.44	602781.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.7)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2093	684618.44	602806.51	17.6	GRID	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2094	684618.44	602831.51	17.7	GRID	9/9/2015	17.6	-0.1	Point surveyed within Tolerance
2095	684618.44	602856.51	20.3	GRID	9/9/2015	20.3	0.0	Point surveyed within Tolerance
2096	684593.44	602881.51	19.6	GRID	9/9/2015	19.5	-0.1	Point surveyed within Tolerance
2097	684593.44	602856.51	19.9	GRID	9/9/2015	19.9	0.0	Point surveyed within Tolerance
2098	684593.44	602806.51	17.6	GRID	9/9/2015	17.5	-0.1	Point surveyed within Tolerance
2099	684593.44	602781.51	17.5	GRID	9/9/2015	17.5	0.0	Point surveyed within Tolerance
2100	684593.44	602756.51	17.2	GRID	9/9/2015	17.2	0.0	Point surveyed within Tolerance
2102	684568.44	602731.51	7.4	GRID	9/9/2015	7.5	0.1	Point surveyed within Tolerance
2103	684568.44	602781.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2104	684568.44	602831.51	19.9	GRID	9/9/2015	19.9	0.0	Point surveyed within Tolerance
2105	684568.44	602856.51	19.4	GRID	9/9/2015	19.4	0.0	Point surveyed within Tolerance
2106	684568.44	602881.51	18.8	GRID	9/9/2015	18.8	0.0	Point surveyed within Tolerance
2111	684543.44	602856.51	18.7	GRID	9/9/2015	18.8	0.1	Point surveyed within Tolerance
2112	684543.44	602831.51	19.5	GRID	9/9/2015	19.5	0.0	Point surveyed within Tolerance
2113	684543.44	602806.51	19.6	GRID	9/9/2015	19.6	0.0	Point surveyed within Tolerance
2114	684518.44	602831.51	18.6	GRID	9/9/2015	18.6	0.0	Point surveyed within Tolerance
2115	684518.44	602856.51	18.1	GRID	9/9/2015	18.2	0.1	Point surveyed within Tolerance
2126	684493.44	602831.51	9.6	GRID	9/9/2015	9.6	0.0	Point surveyed within Tolerance
2109	684543.44	602931.51	13.9	GRID	9/16/2015	14.0	0.1	Point surveyed within Tolerance
2110	684543.44	602906.51	6.4	GRID	9/16/2015	6.5	0.1	Point surveyed within Tolerance
2116	684518.44	602906.51	12.9	GRID	9/16/2015	13.0	0.1	Point surveyed within Tolerance
2132	684468.44	602856.51	5.9	GRID	9/16/2015	6.0	0.1	Point surveyed within Tolerance
2108	684543.44	602956.51	14.3	GRID	9/18/2015	14.3	0.0	Point surveyed within Tolerance
2117	684518.44	602931.51	13.7	GRID	9/18/2015	13.8	0.1	Point surveyed within Tolerance
2118	684518.44	602956.51	16.8	GRID	9/18/2015	16.8	0.0	Point surveyed within Tolerance
2119	684518.44	602981.51	15.9	GRID	9/18/2015	15.9	0.0	Point surveyed within Tolerance
2121	684493.44	603006.51	14.5	GRID	9/18/2015	14.4	-0.1	Point surveyed within Tolerance
2122	684493.44	602981.51	14.9	GRID	9/18/2015	14.9	0.0	Point surveyed within Tolerance
2123	684493.44	602956.51	15.5	GRID	9/18/2015	15.5	0.0	Point surveyed within Tolerance
2124	684493.44	602931.51	16.6	GRID	9/18/2015	16.7	0.1	Point surveyed within Tolerance
2125	684493.44	602906.51	13.4	GRID	9/18/2015	13.4	0.0	Point surveyed within Tolerance
2127	684468.44	603031.51	13.1	GRID	9/18/2015	13.1	0.0	Point surveyed within Tolerance
2128	684468.44	603006.51	13.5	GRID	9/18/2015	13.5	0.0	Point surveyed within Tolerance
2129	684468.44	602981.51	13.9	GRID	9/18/2015	13.9	0.0	Point surveyed within Tolerance
2130	684468.44	602956.51	14.4	GRID	9/18/2015	14.5	0.1	Point surveyed within Tolerance
2131	684468.44	602931.51	15.0	GRID	9/18/2015	15.1	0.1	Point surveyed within Tolerance
2133	684443.44	602881.51	7.9	GRID	9/18/2015	7.9	0.0	Point surveyed within Tolerance
2134	684443.44	602906.51	12.1	GRID	9/18/2015	12.1	0.0	Point surveyed within Tolerance
2135	684443.44	602931.51	13.8	GRID	9/18/2015	13.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.8)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2136	684443.44	602956.51	13.3	GRID	9/18/2015	13.3	0.0	Point surveyed within Tolerance
2137	684443.44	602981.51	12.8	GRID	9/18/2015	12.9	0.1	Point surveyed within Tolerance
2138	684443.44	603006.51	12.4	GRID	9/18/2015	12.5	0.1	Point surveyed within Tolerance
2139	684443.44	603031.51	12.0	GRID	9/18/2015	12.0	0.0	Point surveyed within Tolerance
2146	684418.44	603006.51	11.3	GRID	9/18/2015	11.4	0.1	Point surveyed within Tolerance
2147	684418.44	602981.51	11.7	GRID	9/18/2015	11.7	0.0	Point surveyed within Tolerance
2148	684418.44	602956.51	12.1	GRID	9/18/2015	12.1	0.0	Point surveyed within Tolerance
2149	684418.44	602906.51	9.8	GRID	9/21/2015	9.8	0.0	Point surveyed within Tolerance
2150	684393.44	602931.51	8.6	GRID	9/18/2015	8.6	0.0	Point surveyed within Tolerance
2151	684393.44	602956.51	11.0	GRID	9/18/2015	10.9	-0.1	Point surveyed within Tolerance
2152	684393.44	602981.51	10.5	GRID	9/18/2015	10.6	0.1	Point surveyed within Tolerance
2140	684443.44	603056.51	11.7	GRID	9/22/2015	11.6	-0.1	Point surveyed within Tolerance
2141	684443.44	603081.51	11.4	GRID	9/22/2015	11.4	0.0	Point surveyed within Tolerance
2142	684418.44	603106.51	10.2	GRID	9/22/2015	10.2	0.0	Point surveyed within Tolerance
2143	684418.44	603081.51	10.4	GRID	9/22/2015	10.5	0.1	Point surveyed within Tolerance
2144	684418.44	603056.51	10.7	GRID	9/22/2015	10.6	-0.1	Point surveyed within Tolerance
2145	684418.44	603031.51	10.9	GRID	9/22/2015	10.8	-0.1	Point surveyed within Tolerance
2153	684393.44	603006.51	10.1	GRID	9/22/2015	10.1	0.0	Point surveyed within Tolerance
2154	684393.44	603031.51	9.9	GRID	9/22/2015	9.9	0.0	Point surveyed within Tolerance
2155	684393.44	603056.51	9.7	GRID	9/22/2015	9.6	-0.1	Point surveyed within Tolerance
2156	684393.44	603106.51	9.4	GRID	9/23/2015	9.3	-0.1	Point surveyed within Tolerance
2157	684393.44	603131.51	9.3	GRID	9/23/2015	9.2	-0.1	Point surveyed within Tolerance
2161	684368.44	603131.51	8.6	GRID	9/23/2015	8.6	0.0	Point surveyed within Tolerance
2162	684368.44	603106.51	8.8	GRID	9/23/2015	8.7	-0.1	Point surveyed within Tolerance
2163	684368.44	603056.51	8.8	GRID	9/22/2015	8.8	0.0	Point surveyed within Tolerance
2164	684368.44	603031.51	9.0	GRID	9/22/2015	9.0	0.0	Point surveyed within Tolerance
2165	684368.44	603006.51	9.2	GRID	9/22/2015	9.1	-0.1	Point surveyed within Tolerance
2166	684368.44	602981.51	9.4	GRID	9/22/2015	9.3	-0.1	Point surveyed within Tolerance
2167	684343.44	603006.51	8.3	GRID	9/22/2015	8.2	-0.1	Point surveyed within Tolerance
2168	684343.44	603031.51	8.1	GRID	9/22/2015	8.1	0.0	Point surveyed within Tolerance
2169	684343.44	603056.51	8.2	GRID	9/23/2015	8.2	0.0	Point surveyed within Tolerance
2170	684343.44	603106.51	8.4	GRID	9/23/2015	8.4	0.0	Point surveyed within Tolerance
2178	684318.44	603031.51	4.7	GRID	9/23/2015	4.8	0.1	Point surveyed within Tolerance
2179	684293.44	603056.51	4.3	GRID	9/23/2015	4.3	0.0	Point surveyed within Tolerance
2304	684318.44	603081.51	5.4	GRID	9/23/2015	5.3	-0.1	Point surveyed within Tolerance
2160	684368.44	603156.51	8.6	GRID	9/23/2015	8.5	-0.1	Point surveyed within Tolerance
2171	684343.44	603131.51	8.4	GRID	9/23/2015	8.4	0.0	Point surveyed within Tolerance
2180	684293.44	603081.51	7.4	GRID	9/23/2015	7.3	-0.1	Point surveyed within Tolerance
2195	684268.44	603081.51	5.8	GRID	9/23/2015	5.9	0.1	Point surveyed within Tolerance
2303	684293.44	603106.51	7.1	GRID	9/23/2015	7.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.9)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2159	684368.44	603181.51	6.4	GRID	9/24/2015	6.4	0.0	Point surveyed within Tolerance
2172	684343.44	603181.51	6.5	GRID	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2173	684343.44	603206.51	6.8	GRID	9/24/2015	6.7	-0.1	Point surveyed within Tolerance
2174	684318.44	603231.51	8.8	GRID	9/28/2015	8.7	-0.1	Point surveyed within Tolerance
2175	684318.44	603206.51	6.8	GRID	9/24/2015	6.9	0.1	Point surveyed within Tolerance
2176	684318.44	603181.51	6.5	GRID	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2177	684318.44	603156.51	6.2	GRID	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2181	684293.44	603131.51	5.9	GRID	9/24/2015	5.9	0.0	Point surveyed within Tolerance
2182	684293.44	603156.51	6.3	GRID	9/24/2015	6.3	0.0	Point surveyed within Tolerance
2183	684293.44	603181.51	6.5	GRID	9/24/2015	6.6	0.1	Point surveyed within Tolerance
2184	684293.44	603206.51	8.0	GRID	9/28/2015	8.0	0.0	Point surveyed within Tolerance
2185	684293.44	603231.51	8.3	GRID	9/28/2015	8.2	-0.1	Point surveyed within Tolerance
2190	684268.44	603206.51	7.4	GRID	9/28/2015	7.5	0.1	Point surveyed within Tolerance
2191	684268.44	603181.51	7.5	GRID	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2192	684268.44	603156.51	6.2	GRID	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2193	684268.44	603131.51	5.9	GRID	9/24/2015	5.9	0.0	Point surveyed within Tolerance
2194	684268.44	603106.51	3.1	GRID	9/24/2015	3.1	0.0	Point surveyed within Tolerance
2196	684243.44	603131.51	3.0	GRID	9/24/2015	3.0	0.0	Point surveyed within Tolerance
2197	684243.44	603181.51	7.6	GRID	9/28/2015	7.5	-0.1	Point surveyed within Tolerance
2198	684243.44	603206.51	7.3	GRID	9/28/2015	7.3	0.0	Point surveyed within Tolerance
2206	684218.44	603156.51	7.7	GRID	9/28/2015	7.7	0.0	Point surveyed within Tolerance
2186	684293.44	603256.51	8.5	GRID	9/28/2015	8.5	0.0	Point surveyed within Tolerance
2188	684268.44	603256.51	8.2	GRID	9/28/2015	8.1	-0.1	Point surveyed within Tolerance
2189	684268.44	603231.51	7.8	GRID	9/28/2015	7.8	0.0	Point surveyed within Tolerance
2199	684243.44	603231.51	7.5	GRID	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2205	684218.44	603206.51	7.3	GRID	9/28/2015	7.2	-0.1	Point surveyed within Tolerance
2208	684193.44	603181.51	7.5	GRID	9/28/2015	7.4	-0.1	Point surveyed within Tolerance
2187	684268.44	603281.51	7.1	GRID	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2200	684243.44	603256.51	7.8	GRID	10/7/2015	7.8	0.0	Point surveyed within Tolerance
2201	684243.44	603281.51	7.3	GRID	10/7/2015	7.2	-0.1	Point surveyed within Tolerance
2202	684218.44	603281.51	6.9	GRID	10/7/2015	6.9	0.0	Point surveyed within Tolerance
2203	684218.44	603256.51	7.1	GRID	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2204	684218.44	603231.51	7.4	GRID	10/7/2015	7.4	0.0	Point surveyed within Tolerance
2209	684193.44	603206.51	7.3	GRID	10/7/2015	7.3	0.0	Point surveyed within Tolerance
2210	684193.44	603231.51	7.3	GRID	10/7/2015	7.3	0.0	Point surveyed within Tolerance
2211	684193.44	603256.51	6.7	GRID	10/7/2015	6.8	0.1	Point surveyed within Tolerance
2212	684168.44	603256.51	6.5	GRID	10/7/2015	6.5	0.0	Point surveyed within Tolerance
2213	684168.44	603231.51	6.4	GRID	10/7/2015	6.5	0.1	Point surveyed within Tolerance
2214	684168.44	603206.51	7.6	GRID	10/7/2015	7.6	0.0	Point surveyed within Tolerance
2215	684143.44	603231.51	6.4	GRID	10/7/2015	6.5	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
548	685583.37	601539.44	15.1	BRK	7/2/2015	15.2	0.1	Point surveyed within Tolerance
549	685595.90	601578.00	14.2	BRK	7/2/2015	14.3	0.1	Point surveyed within Tolerance
550	685562.63	601543.70	17.5	BRK	7/2/2015	17.5	0.0	Point surveyed within Tolerance
551	685559.49	601547.97	13.9	BRK	7/2/2015	14.0	0.1	Point surveyed within Tolerance
552	685555.56	601552.54	13.9	BRK	7/2/2015	14.0	0.1	Point surveyed within Tolerance
553	685552.50	601556.70	17.4	BRK	7/2/2015	17.3	-0.1	Point surveyed within Tolerance
554	685602.63	601551.44	17.7	BRK	7/2/2015	17.6	-0.1	Point surveyed within Tolerance
555	685524.90	601529.98	13.1	BRK	7/2/2015	13.2	0.1	Point surveyed within Tolerance
556	685521.85	601534.13	16.6	BRK	7/2/2015	16.4	-0.2	Point surveyed within Tolerance
557	685518.43	601506.14	15.5	BRK	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
559	685566.10	601602.95	17.4	BRK	7/2/2015	17.3	-0.1	Point surveyed within Tolerance
560	685557.11	601621.51	16.2	BRK	7/2/2015	16.1	-0.1	Point surveyed within Tolerance
583	685469.10	601609.94	16.0	BRK	7/2/2015	15.9	-0.1	Point surveyed within Tolerance
584	685468.06	601601.70	14.5	BRK	7/2/2015	14.6	0.1	Point surveyed within Tolerance
585	685534.63	601655.70	15.5	BRK	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
586	685515.15	601685.29	14.8	BRK	7/2/2015	14.6	-0.2	Point surveyed within Tolerance
587	685503.84	601702.15	14.5	BRK	7/2/2015	14.4	-0.1	Point surveyed within Tolerance
588	685484.63	601722.61	15.5	BRK	7/8/2015	15.5	0.0	Point surveyed within Tolerance
589	685482.47	601731.53	11.1	BRK	7/2/2015	11.1	0.0	Point surveyed within Tolerance
590	685467.89	601733.01	13.1	BRK	7/2/2015	13.2	0.1	Point surveyed within Tolerance
591	685467.14	601729.90	15.3	BRK	7/2/2015	15.2	-0.1	Point surveyed within Tolerance
592	685465.84	601749.83	15.2	BRK	7/2/2015	15.1	-0.1	Point surveyed within Tolerance
593	685444.26	601779.76	13.6	BRK	7/2/2015	13.7	0.1	Point surveyed within Tolerance
594	685429.29	601800.21	15.1	BRK	7/2/2015	15.0	-0.1	Point surveyed within Tolerance
595	685453.48	601767.05	15.1	BRK	7/2/2015	15.0	-0.1	Point surveyed within Tolerance
603	685418.25	601641.07	13.5	BRK	7/2/2015	13.4	-0.1	Point surveyed within Tolerance
604	685415.60	601650.93	15.9	BRK	7/2/2015	15.6	-0.3	Point surveyed within Tolerance
605	685417.81	601680.87	15.9	BRK	7/2/2015	15.8	-0.1	Point surveyed within Tolerance
606	685421.62	601680.64	13.4	BRK	7/2/2015	13.4	0.0	Point surveyed within Tolerance
607	685417.84	601705.42	16.1	BRK	7/2/2015	15.9	-0.2	Point surveyed within Tolerance
608	685421.83	601705.56	13.4	BRK	7/2/2015	13.4	0.0	Point surveyed within Tolerance
609	685420.68	601733.21	13.5	BRK	7/2/2015	13.5	0.0	Point surveyed within Tolerance
610	685416.60	601732.96	16.2	BRK	7/2/2015	16.2	0.0	Point surveyed within Tolerance
611	685420.69	601759.40	13.5	BRK	7/2/2015	13.6	0.1	Point surveyed within Tolerance
612	685417.42	601761.34	16.1	BRK	7/2/2015	16.1	0.0	Point surveyed within Tolerance
613	685367.91	601704.46	13.3	BRK	7/2/2015	13.4	0.1	Point surveyed within Tolerance
614	685370.79	601706.98	15.9	BRK	7/2/2015	15.7	-0.2	Point surveyed within Tolerance
615	685343.44	601731.17	13.7	BRK	7/2/2015	13.7	0.0	Point surveyed within Tolerance
616	685345.91	601734.17	16.3	BRK	7/2/2015	16.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
617	685303.14	601806.86	18.3	BRK	7/2/2015	18.3	0.0	Point surveyed within Tolerance
618	685298.77	601809.67	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
619	685294.54	601809.78	15.4	BRK	7/2/2015	15.4	0.0	Point surveyed within Tolerance
620	685288.92	601805.68	10.7	BRK	7/2/2015	10.7	0.0	Point surveyed within Tolerance
621	685298.85	601821.38	15.8	BRK	7/2/2015	15.7	-0.1	Point surveyed within Tolerance
622	685295.94	601825.31	12.5	BRK	7/2/2015	12.6	0.1	Point surveyed within Tolerance
623	685294.65	601831.82	12.5	BRK	7/2/2015	12.6	0.1	Point surveyed within Tolerance
624	685291.75	601835.75	15.8	BRK	7/2/2015	15.5	-0.3	Point surveyed within Tolerance
625	685324.58	601840.13	15.9	BRK	7/2/2015	15.7	-0.2	Point surveyed within Tolerance
626	685321.52	601844.26	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
627	685322.67	601852.58	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
628	685319.64	601856.68	15.8	BRK	7/2/2015	15.7	-0.1	Point surveyed within Tolerance
629	685341.40	601852.72	15.7	BRK	7/2/2015	15.4	-0.3	Point surveyed within Tolerance
630	685338.40	601856.76	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
631	685345.65	601844.39	15.9	BRK	7/2/2015	15.9	0.0	Point surveyed within Tolerance
632	685347.89	601841.36	18.4	BRK	7/8/2015	18.3	-0.1	Point surveyed within Tolerance
633	685372.85	601864.55	15.3	BRK	7/2/2015	15.4	0.1	Point surveyed within Tolerance
634	685364.47	601869.99	15.2	BRK	7/8/2015	15.1	-0.1	Point surveyed within Tolerance
635	685361.56	601873.92	12.0	BRK	7/2/2015	12.1	0.1	Point surveyed within Tolerance
636	685354.92	601876.46	12.0	BRK	7/2/2015	12.1	0.1	Point surveyed within Tolerance
637	685350.44	601879.24	15.3	BRK	7/2/2015	15.2	-0.1	Point surveyed within Tolerance
639	685353.62	601747.98	16.4	BRK	7/8/2015	16.3	-0.1	Point surveyed within Tolerance
640	685357.16	601746.52	13.8	BRK	7/2/2015	13.8	0.0	Point surveyed within Tolerance
641	685361.58	601753.32	13.9	BRK	7/2/2015	13.9	0.0	Point surveyed within Tolerance
642	685364.98	601751.93	16.3	BRK	7/2/2015	16.2	-0.1	Point surveyed within Tolerance
645	685381.55	601830.67	17.5	BRK	7/8/2015	17.4	-0.1	Point surveyed within Tolerance
646	685385.39	601829.73	14.8	BRK	7/2/2015	14.8	0.0	Point surveyed within Tolerance
647	685383.26	601850.36	17.6	BRK	7/8/2015	17.5	-0.1	Point surveyed within Tolerance
648	685408.65	601820.74	16.6	BRK	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
672	685359.01	601899.40	14.5	BRK	7/2/2015	14.4	-0.1	Point surveyed within Tolerance
673	685328.78	601922.42	18.1	BRK	7/2/2015	18.2	0.1	Point surveyed within Tolerance
674	685299.89	601934.58	18.3	BRK	7/2/2015	18.4	0.1	Point surveyed within Tolerance
675	685300.62	601938.23	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
676	685305.79	601944.00	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
677	685308.02	601946.97	18.2	BRK	7/2/2015	18.1	-0.1	Point surveyed within Tolerance
679	685305.33	601869.91	16.0	BRK	7/2/2015	16.1	0.1	Point surveyed within Tolerance
680	685303.05	601872.98	18.5	BRK	7/2/2015	18.1	-0.4	Point surveyed within Tolerance
681	685268.99	601832.99	12.1	BRK	7/2/2015	12.2	0.1	Point surveyed within Tolerance
682	685272.64	601835.66	15.1	BRK	7/2/2015	14.7	-0.4	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
683	685218.81	601931.92	18.6	BRK	7/2/2015	18.2	-0.4	Point surveyed within Tolerance
684	685217.81	601935.62	16.0	BRK	7/2/2015	16.1	0.1	Point surveyed within Tolerance
979	685388.74	601749.07	13.5	BRK	7/2/2015	13.4	-0.1	Point surveyed within Tolerance
980	685384.77	601750.03	16.2	BRK	7/2/2015	16.3	0.1	Point surveyed within Tolerance
678	685292.65	601972.35	18.1	BRK	7/14/2015	18.1	0.0	Point surveyed within Tolerance
685	685217.77	601956.54	18.2	BRK	7/14/2015	18.1	-0.1	Point surveyed within Tolerance
686	685214.25	601958.05	15.7	BRK	7/14/2015	15.7	0.0	Point surveyed within Tolerance
688	685246.08	602006.05	17.3	BRK	7/14/2015	17.4	0.1	Point surveyed within Tolerance
689	685249.42	602007.82	14.8	BRK	7/14/2015	14.9	0.1	Point surveyed within Tolerance
690	685250.13	602009.68	14.8	BRK	7/14/2015	14.8	0.0	Point surveyed within Tolerance
691	685253.44	602011.40	17.3	BRK	7/14/2015	17.3	0.0	Point surveyed within Tolerance
692	685256.80	602026.88	16.9	BRK	7/14/2015	17.0	0.1	Point surveyed within Tolerance
822	685209.17	602098.14	16.1	BRK	7/14/2015	16.2	0.1	Point surveyed within Tolerance
823	685187.68	602127.24	16.4	BRK	7/14/2015	16.5	0.1	Point surveyed within Tolerance
824	685169.69	602121.14	16.9	BRK	7/14/2015	17.0	0.1	Point surveyed within Tolerance
825	685159.60	602134.77	5.6	BRK	7/14/2015	5.7	0.1	Point surveyed within Tolerance
826	685142.99	602100.91	16.8	BRK	7/14/2015	16.7	-0.1	Point surveyed within Tolerance
827	685132.68	602114.85	5.2	BRK	7/14/2015	5.3	0.1	Point surveyed within Tolerance
828	685117.94	602082.20	16.5	BRK	7/14/2015	16.5	0.0	Point surveyed within Tolerance
829	685108.04	602096.62	4.9	BRK	7/14/2015	4.9	0.0	Point surveyed within Tolerance
830	685097.56	602070.88	13.7	BRK	7/14/2015	13.8	0.1	Point surveyed within Tolerance
831	685091.62	602084.47	4.6	BRK	7/14/2015	4.7	0.1	Point surveyed within Tolerance
832	685079.08	602074.23	4.4	BRK	7/14/2015	4.5	0.1	Point surveyed within Tolerance
833	685087.23	602063.24	5.1	BRK	7/14/2015	5.2	0.1	Point surveyed within Tolerance
834	685228.90	602033.89	16.5	BRK	7/14/2015	16.5	0.0	Point surveyed within Tolerance
835	685232.50	602033.47	14.1	BRK	7/14/2015	14.2	0.1	Point surveyed within Tolerance
836	685239.46	602034.31	14.1	BRK	7/14/2015	14.2	0.1	Point surveyed within Tolerance
837	685243.00	602035.55	16.6	BRK	7/14/2015	16.5	-0.1	Point surveyed within Tolerance
838	685241.70	602050.98	16.3	BRK	7/14/2015	16.3	0.0	Point surveyed within Tolerance
839	685057.33	602100.46	4.4	BRK	7/24/2015	4.5	0.1	Point surveyed within Tolerance
840	685060.41	602121.19	14.5	BRK	7/24/2015	14.5	0.0	Point surveyed within Tolerance
841	685068.93	602108.10	4.6	BRK	7/24/2015	4.7	0.1	Point surveyed within Tolerance
842	685048.44	602112.41	4.6	BRK	7/24/2015	4.6	0.0	Point surveyed within Tolerance
843	685096.92	602128.82	5.0	BRK	7/24/2015	5.0	0.0	Point surveyed within Tolerance
844	685091.28	602143.63	15.2	BRK	7/24/2015	15.3	0.1	Point surveyed within Tolerance
845	685121.55	602147.05	5.3	BRK	7/24/2015	5.4	0.1	Point surveyed within Tolerance
846	685109.62	602161.54	17.8	BRK	7/24/2015	17.8	0.0	Point surveyed within Tolerance
847	685117.56	602193.69	17.4	BRK	7/24/2015	17.4	0.0	Point surveyed within Tolerance
848	685118.92	602197.25	14.9	BRK	7/24/2015	15.0	0.1	Point surveyed within Tolerance
849	685119.73	602203.55	14.8	BRK	7/24/2015	14.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
850	685121.10	602206.98	17.3	BRK	7/24/2015	17.3	0.0	Point surveyed within Tolerance
851	685114.98	602226.59	17.2	BRK	7/24/2015	17.1	-0.1	Point surveyed within Tolerance
852	685105.19	602198.82	17.4	BRK	7/24/2015	17.4	0.0	Point surveyed within Tolerance
853	685103.22	602203.76	14.8	BRK	7/24/2015	14.8	0.0	Point surveyed within Tolerance
854	685088.02	602208.76	17.4	BRK	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
855	685089.52	602212.18	14.9	BRK	7/24/2015	15.0	0.1	Point surveyed within Tolerance
856	685085.84	602227.09	15.1	BRK	7/24/2015	15.2	0.1	Point surveyed within Tolerance
857	685083.49	602230.12	17.6	BRK	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
858	685094.99	602252.22	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
859	685081.79	602269.14	18.1	BRK	7/24/2015	18.1	0.0	Point surveyed within Tolerance
860	685047.09	602237.51	15.7	BRK	7/24/2015	15.7	0.0	Point surveyed within Tolerance
861	685043.77	602234.95	18.2	BRK	7/24/2015	18.1	-0.1	Point surveyed within Tolerance
862	685039.91	602232.72	15.7	BRK	7/24/2015	15.7	0.0	Point surveyed within Tolerance
863	685042.37	602238.43	15.7	BRK	7/24/2015	15.8	0.1	Point surveyed within Tolerance
864	685066.11	602161.84	17.8	BRK	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
865	685062.13	602161.07	15.3	BRK	7/24/2015	15.4	0.1	Point surveyed within Tolerance
866	685052.96	602208.15	17.8	BRK	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
867	685049.31	602206.51	15.4	BRK	7/24/2015	15.4	0.0	Point surveyed within Tolerance
868	685045.11	602202.48	15.6	BRK	7/24/2015	15.6	0.0	Point surveyed within Tolerance
869	685042.10	602200.70	17.9	BRK	7/24/2015	17.8	-0.1	Point surveyed within Tolerance
870	685022.96	602172.09	15.4	BRK	7/24/2015	15.3	-0.1	Point surveyed within Tolerance
871	685044.91	602142.21	14.8	BRK	7/24/2015	14.8	0.0	Point surveyed within Tolerance
872	684994.42	602217.26	18.7	BRK	7/24/2015	18.7	0.0	Point surveyed within Tolerance
873	684975.68	602242.79	19.1	BRK	7/24/2015	19.1	0.0	Point surveyed within Tolerance
874	685005.71	602243.75	18.8	BRK	7/24/2015	18.7	-0.1	Point surveyed within Tolerance
875	685009.09	602245.47	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
876	685025.00	602263.80	16.2	BRK	7/24/2015	16.3	0.1	Point surveyed within Tolerance
877	685027.83	602266.24	18.7	BRK	7/24/2015	18.6	-0.1	Point surveyed within Tolerance
878	685053.73	602299.58	18.7	BRK	7/24/2015	18.7	0.0	Point surveyed within Tolerance
879	685053.33	602303.33	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
880	685060.48	602307.84	16.2	BRK	7/24/2015	16.1	-0.1	Point surveyed within Tolerance
881	685039.62	602323.93	18.6	BRK	7/24/2015	18.5	-0.1	Point surveyed within Tolerance
882	685021.34	602349.28	18.4	BRK	7/24/2015	18.3	-0.1	Point surveyed within Tolerance
883	685006.56	602373.52	17.5	BRK	7/24/2015	17.5	0.0	Point surveyed within Tolerance
884	684985.52	602400.52	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
885	684968.75	602423.06	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
886	684958.59	602266.06	19.6	BRK	7/24/2015	19.5	-0.1	Point surveyed within Tolerance
887	684944.51	602285.23	19.9	BRK	7/24/2015	20.0	0.1	Point surveyed within Tolerance
888	684924.17	602312.77	20.4	BRK	7/24/2015	20.3	-0.1	Point surveyed within Tolerance
889	684896.37	602343.10	18.0	BRK	7/24/2015	17.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
890	684880.77	602362.80	17.8	BRK	7/24/2015	17.8	0.0	Point surveyed within Tolerance
891	684869.32	602354.21	8.2	BRK	7/24/2015	8.3	0.1	Point surveyed within Tolerance
892	684884.22	602334.10	7.9	BRK	7/24/2015	8.0	0.1	Point surveyed within Tolerance
893	684908.58	602301.22	7.4	BRK	7/24/2015	7.5	0.1	Point surveyed within Tolerance
894	684928.96	602273.71	7.0	BRK	7/24/2015	7.0	0.0	Point surveyed within Tolerance
895	684943.18	602254.50	6.7	BRK	7/24/2015	6.7	0.0	Point surveyed within Tolerance
896	684960.30	602231.40	6.4	BRK	7/24/2015	6.4	0.0	Point surveyed within Tolerance
897	684979.15	602205.95	6.0	BRK	7/24/2015	6.0	0.0	Point surveyed within Tolerance
898	685010.86	602163.13	5.3	BRK	7/24/2015	5.4	0.1	Point surveyed within Tolerance
899	685032.93	602133.34	4.9	BRK	7/24/2015	4.9	0.0	Point surveyed within Tolerance
900	684953.81	602443.85	17.6	BRK	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
901	684933.84	602472.48	17.2	BRK	7/24/2015	17.2	0.0	Point surveyed within Tolerance
919	684835.00	602400.55	9.0	BRK	7/24/2015	9.0	0.0	Point surveyed within Tolerance
920	684843.87	602407.12	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
902	684913.09	602504.45	16.5	BRK	8/10/2015	16.6	0.1	Point surveyed within Tolerance
910	684887.04	602531.88	18.2	BRK	8/10/2015	18.2	0.0	Point surveyed within Tolerance
909	684858.28	602571.33	14.7	BRK	8/12/2015	14.8	0.1	Point surveyed within Tolerance
913	684795.24	602555.71	13.7	BRK	8/12/2015	13.8	0.1	Point surveyed within Tolerance
914	684795.33	602552.00	16.1	BRK	8/12/2015	16.2	0.1	Point surveyed within Tolerance
915	684770.38	602552.44	15.8	BRK	8/12/2015	15.7	-0.1	Point surveyed within Tolerance
916	684771.04	602556.03	13.3	BRK	8/12/2015	13.4	0.1	Point surveyed within Tolerance
917	684841.91	602602.61	16.6	BRK	8/12/2015	16.5	-0.1	Point surveyed within Tolerance
911	684720.03	602604.99	14.7	BRK	8/13/2015	14.6	-0.1	Point surveyed within Tolerance
921	684754.50	602627.17	17.2	BRK	8/13/2015	17.1	-0.1	Point surveyed within Tolerance
923	684774.69	602642.80	17.3	BRK	8/13/2015	17.2	-0.1	Point surveyed within Tolerance
925	684807.26	602664.88	13.8	BRK	8/13/2015	13.7	-0.1	Point surveyed within Tolerance
912	684710.93	602615.25	5.5	BRK	9/4/2015	5.6	0.1	Point surveyed within Tolerance
922	684744.74	602640.33	6.3	BRK	9/4/2015	6.3	0.0	Point surveyed within Tolerance
924	684765.25	602655.54	6.7	BRK	9/4/2015	6.8	0.1	Point surveyed within Tolerance
927	684774.96	602705.07	7.4	BRK	9/4/2015	7.4	0.0	Point surveyed within Tolerance
929	684725.10	602668.09	6.3	BRK	9/4/2015	6.3	0.0	Point surveyed within Tolerance
933	684699.13	602648.83	5.7	BRK	9/4/2015	5.8	0.1	Point surveyed within Tolerance
934	684677.32	602632.66	5.2	BRK	9/4/2015	5.3	0.1	Point surveyed within Tolerance
936	684665.76	602624.13	5.0	BRK	9/4/2015	5.0	0.0	Point surveyed within Tolerance
2216	684768.70	602713.78	14.5	BRK	9/4/2015	14.5	0.0	Point surveyed within Tolerance
2217	684755.49	602705.02	14.8	BRK	9/4/2015	14.9	0.1	Point surveyed within Tolerance
2218	684750.54	602706.29	17.4	BRK	9/4/2015	17.3	-0.1	Point surveyed within Tolerance
2219	684719.51	602728.09	18.1	BRK	9/4/2015	18.0	-0.1	Point surveyed within Tolerance
2220	684721.25	602731.77	15.4	BRK	9/4/2015	15.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2223	684714.82	602681.95	17.8	BRK	9/4/2015	17.7	-0.1	Point surveyed within Tolerance
2224	684695.23	602678.31	15.2	BRK	9/4/2015	15.3	0.1	Point surveyed within Tolerance
2225	684691.16	602677.76	17.9	BRK	9/4/2015	17.9	0.0	Point surveyed within Tolerance
2226	684679.26	602656.42	17.5	BRK	9/4/2015	17.4	-0.1	Point surveyed within Tolerance
2227	684678.94	602651.43	14.9	BRK	9/4/2015	14.8	-0.1	Point surveyed within Tolerance
2228	684668.13	602643.12	14.5	BRK	9/4/2015	14.5	0.0	Point surveyed within Tolerance
2229	684657.26	602634.26	5.1	BRK	9/4/2015	5.2	0.1	Point surveyed within Tolerance
2230	684652.03	602663.18	15.1	BRK	9/4/2015	15.1	0.0	Point surveyed within Tolerance
2231	684641.00	602654.19	5.6	BRK	9/4/2015	5.6	0.0	Point surveyed within Tolerance
2232	684642.38	602682.88	18.2	BRK	9/4/2015	18.2	0.0	Point surveyed within Tolerance
2233	684640.23	602679.29	15.5	BRK	9/4/2015	15.5	0.0	Point surveyed within Tolerance
2234	684618.68	602681.55	6.2	BRK	9/4/2015	6.3	0.1	Point surveyed within Tolerance
2235	684632.71	602692.99	18.3	BRK	9/4/2015	18.2	-0.1	Point surveyed within Tolerance
2236	684620.10	602708.58	18.7	BRK	9/4/2015	18.6	-0.1	Point surveyed within Tolerance
2239	684603.43	602700.25	6.6	BRK	9/4/2015	6.7	0.1	Point surveyed within Tolerance
2312	684688.25	602662.99	17.6	BRK	9/4/2015	17.7	0.1	Point surveyed within Tolerance
2222	684686.52	602801.63	17.2	BRK	9/9/2015	17.2	0.0	Point surveyed within Tolerance
2240	684580.79	602728.00	7.2	BRK	9/9/2015	7.3	0.1	Point surveyed within Tolerance
2241	684592.09	602737.22	17.0	BRK	9/9/2015	17.0	0.0	Point surveyed within Tolerance
2245	684652.97	602837.52	18.0	BRK	9/9/2015	17.9	-0.1	Point surveyed within Tolerance
2248	684632.99	602849.23	20.5	BRK	9/9/2015	20.5	0.0	Point surveyed within Tolerance
2249	684573.19	602760.13	17.4	BRK	9/9/2015	17.3	-0.1	Point surveyed within Tolerance
2250	684562.02	602751.01	7.8	BRK	9/9/2015	7.9	0.1	Point surveyed within Tolerance
2251	684549.64	602787.35	17.3	BRK	9/9/2015	17.3	0.0	Point surveyed within Tolerance
2252	684539.27	602778.90	8.4	BRK	9/9/2015	8.4	0.0	Point surveyed within Tolerance
2253	684568.32	602806.28	17.4	BRK	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2254	684565.58	602809.03	20.0	BRK	9/9/2015	19.9	-0.1	Point surveyed within Tolerance
2255	684590.81	602830.43	20.3	BRK	9/9/2015	20.3	0.0	Point surveyed within Tolerance
2256	684593.43	602827.27	17.6	BRK	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2257	684611.57	602875.64	20.3	BRK	9/9/2015	20.2	-0.1	Point surveyed within Tolerance
2261	684576.88	602901.09	18.3	BRK	9/9/2015	18.3	0.0	Point surveyed within Tolerance
2266	684529.13	602867.21	18.0	BRK	9/9/2015	18.0	0.0	Point surveyed within Tolerance
2269	684529.62	602815.05	19.2	BRK	9/9/2015	19.2	0.0	Point surveyed within Tolerance
2270	684517.71	602805.33	9.0	BRK	9/9/2015	9.0	0.0	Point surveyed within Tolerance
2313	684666.34	602822.94	17.7	BRK	9/9/2015	17.6	-0.1	Point surveyed within Tolerance
2259	684588.87	602908.31	19.0	BRK	9/16/2015	19.1	0.1	Point surveyed within Tolerance
2262	684562.28	602912.39	6.5	BRK	9/16/2015	6.6	0.1	Point surveyed within Tolerance
2263	684546.99	602879.91	18.1	BRK	9/16/2015	18.0	-0.1	Point surveyed within Tolerance
2264	684536.89	602894.42	6.3	BRK	9/16/2015	6.4	0.1	Point surveyed within Tolerance
2265	684518.89	602881.69	6.2	BRK	9/16/2015	6.3	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2267	684498.05	602850.83	14.8	BRK	9/16/2015	14.8	0.0	Point surveyed within Tolerance
2268	684490.45	602861.57	6.0	BRK	9/16/2015	6.1	0.1	Point surveyed within Tolerance
2275	684469.16	602880.75	13.2	BRK	9/16/2015	13.2	0.0	Point surveyed within Tolerance
2278	684497.26	602878.64	6.1	BRK	9/16/2015	6.1	0.0	Point surveyed within Tolerance
2279	684491.48	602886.80	12.8	BRK	9/16/2015	12.7	-0.1	Point surveyed within Tolerance
2282	684569.90	602930.04	6.6	BRK	9/16/2015	6.6	0.0	Point surveyed within Tolerance
2283	684564.16	602938.23	13.2	BRK	9/16/2015	13.3	0.1	Point surveyed within Tolerance
2284	684462.82	602873.57	6.8	BRK	9/16/2015	6.9	0.1	Point surveyed within Tolerance
2271	684492.19	603028.63	14.1	BRK	9/18/2015	14.2	0.1	Point surveyed within Tolerance
2272	684495.31	603031.35	11.3	BRK	9/18/2015	11.4	0.1	Point surveyed within Tolerance
2276	684420.78	602931.95	12.7	BRK	9/18/2015	12.7	0.0	Point surveyed within Tolerance
2277	684418.27	602928.58	9.9	BRK	9/18/2015	9.9	0.0	Point surveyed within Tolerance
2280	684466.73	602909.21	16.2	BRK	9/18/2015	16.2	0.0	Point surveyed within Tolerance
2281	684469.26	602906.05	13.5	BRK	9/18/2015	13.5	0.0	Point surveyed within Tolerance
2308	684541.16	602978.86	13.9	BRK	9/18/2015	13.8	-0.1	Point surveyed within Tolerance
2309	684537.93	602976.16	16.7	BRK	9/18/2015	16.7	0.0	Point surveyed within Tolerance
2310	684519.64	603003.49	12.7	BRK	9/18/2015	12.6	-0.1	Point surveyed within Tolerance
2311	684516.52	603000.77	15.4	BRK	9/18/2015	15.5	0.1	Point surveyed within Tolerance
2273	684467.44	603056.98	12.7	BRK	9/22/2015	12.6	-0.1	Point surveyed within Tolerance
2274	684470.54	603059.69	10.0	BRK	9/22/2015	10.0	0.0	Point surveyed within Tolerance
2285	684396.21	603081.17	9.6	BRK	9/22/2015	9.5	-0.1	Point surveyed within Tolerance
2286	684394.95	603084.82	7.0	BRK	9/22/2015	6.9	-0.1	Point surveyed within Tolerance
2287	684370.17	603081.08	6.5	BRK	9/22/2015	6.5	0.0	Point surveyed within Tolerance
2288	684369.73	603084.51	8.8	BRK	9/22/2015	8.8	0.0	Point surveyed within Tolerance
2291	684343.83	603080.68	5.9	BRK	9/23/2015	5.9	0.0	Point surveyed within Tolerance
2292	684344.02	603084.27	8.3	BRK	9/23/2015	8.2	-0.1	Point surveyed within Tolerance
2293	684318.43	603058.47	7.6	BRK	9/23/2015	7.5	-0.1	Point surveyed within Tolerance
2294	684314.63	603057.98	5.0	BRK	9/23/2015	5.1	0.1	Point surveyed within Tolerance
2306	684383.22	603153.36	9.0	BRK	9/23/2015	8.9	-0.1	Point surveyed within Tolerance
2307	684386.53	603155.86	6.6	BRK	9/23/2015	6.5	-0.1	Point surveyed within Tolerance
2289	684346.82	603155.61	8.4	BRK	9/24/2015	8.3	-0.1	Point surveyed within Tolerance
2290	684344.28	603158.02	7.0	BRK	9/24/2015	7.0	0.0	Point surveyed within Tolerance
2296	684244.61	603103.27	6.2	BRK	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2297	684317.01	603131.31	6.5	BRK	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2298	684318.88	603129.97	8.1	BRK	9/24/2015	8.1	0.0	Point surveyed within Tolerance
2299	684244.49	603157.76	7.5	BRK	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2300	684238.78	603154.40	3.1	BRK	9/28/2015	3.1	0.0	Point surveyed within Tolerance
2301	684221.74	603183.65	7.8	BRK	9/28/2015	7.7	-0.1	Point surveyed within Tolerance
2302	684225.10	603177.88	3.3	BRK	9/28/2015	3.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

Points in 0.1 - 0.5 ft. tolerance are due to a slight overcut in the top of slopes where it wouldn't be suitable for backfill due to compaction difficulties.

SA-6 South Cap Subgrade: Boundary Points (Table 3.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
545	685526.43	601442.32	12.9	BNDY	7/2/2015	13.0	0.1	Point surveyed within Tolerance
546	685543.45	601459.45	13.4	BNDY	7/2/2015	13.4	0.0	Point surveyed within Tolerance
547	685561.91	601478.03	14.2	BNDY	7/2/2015	14.2	0.0	Point surveyed within Tolerance
558	685516.84	601455.37	13.7	BNDY	7/2/2015	13.7	0.0	Point surveyed within Tolerance
561	685572.96	601633.24	10.0	BNDY	7/2/2015	10.0	0.0	Point surveyed within Tolerance
562	685589.38	601610.88	10.2	BNDY	7/2/2015	10.1	-0.1	Point surveyed within Tolerance
563	685606.33	601587.78	9.9	BNDY	7/2/2015	10.0	0.1	Point surveyed within Tolerance
564	685633.80	601550.37	9.8	BNDY	7/2/2015	9.8	0.0	Point surveyed within Tolerance
565	685622.62	601565.61	10.0	BNDY	7/2/2015	10.0	0.0	Point surveyed within Tolerance
566	685614.41	601530.85	15.7	BNDY	7/2/2015	15.8	0.1	Point surveyed within Tolerance
567	685591.47	601507.77	15.0	BNDY	7/2/2015	15.1	0.1	Point surveyed within Tolerance
568	685577.88	601494.10	14.6	BNDY	7/2/2015	14.6	0.0	Point surveyed within Tolerance
569	685488.06	601495.42	14.3	BNDY	7/2/2015	14.3	0.0	Point surveyed within Tolerance
570	685501.08	601477.69	14.9	BNDY	7/2/2015	15.0	0.1	Point surveyed within Tolerance
571	685474.31	601513.30	13.6	BNDY	7/2/2015	13.6	0.0	Point surveyed within Tolerance
572	685459.92	601533.74	12.8	BNDY	7/2/2015	12.8	0.0	Point surveyed within Tolerance
573	685442.87	601556.12	12.4	BNDY	7/2/2015	12.4	0.0	Point surveyed within Tolerance
574	685428.08	601576.27	12.2	BNDY	7/2/2015	12.2	0.0	Point surveyed within Tolerance
575	685413.27	601596.44	11.9	BNDY	7/2/2015	12.0	0.1	Point surveyed within Tolerance
576	685398.47	601616.59	11.4	BNDY	7/2/2015	11.4	0.0	Point surveyed within Tolerance
577	685383.68	601636.74	11.3	BNDY	7/2/2015	11.3	0.0	Point surveyed within Tolerance
578	685368.88	601656.89	11.3	BNDY	7/2/2015	11.2	-0.1	Point surveyed within Tolerance
579	685558.28	601653.23	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
581	685543.38	601673.52	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
582	685528.60	601693.65	9.8	BNDY	7/2/2015	9.8	0.0	Point surveyed within Tolerance
596	685514.37	601713.04	9.8	BNDY	7/2/2015	9.7	-0.1	Point surveyed within Tolerance
597	685499.50	601733.28	9.7	BNDY	7/2/2015	9.8	0.1	Point surveyed within Tolerance
598	685485.10	601752.90	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
599	685469.40	601774.28	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
600	685454.74	601794.25	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
601	685439.85	601814.53	9.7	BNDY	7/2/2015	9.6	-0.1	Point surveyed within Tolerance
602	685425.01	601834.73	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
638	685354.08	601677.04	11.3	BNDY	7/2/2015	11.1	-0.2	Point surveyed within Tolerance
643	685324.49	601717.35	10.8	BNDY	7/2/2015	10.6	-0.2	Point surveyed within Tolerance
644	685339.29	601697.19	11.0	BNDY	7/2/2015	10.6	-0.4	Point surveyed within Tolerance
649	685309.86	601737.62	10.6	BNDY	7/2/2015	10.6	0.0	Point surveyed within Tolerance
650	685295.20	601757.86	10.5	BNDY	7/2/2015	10.6	0.1	Point surveyed within Tolerance
651	685280.51	601778.09	10.4	BNDY	7/2/2015	10.3	-0.1	Point surveyed within Tolerance
652	685265.70	601798.24	10.7	BNDY	7/2/2015	10.8	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
653	685250.90	601818.38	11.9	BNDY	7/2/2015	11.9	0.0	Point surveyed within Tolerance
654	685236.09	601838.53	15.1	BNDY	7/2/2015	15.1	0.0	Point surveyed within Tolerance
655	685221.28	601858.68	15.6	BNDY	7/2/2015	15.6	0.0	Point surveyed within Tolerance
656	685206.48	601878.81	15.5	BNDY	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
657	685191.67	601898.96	15.5	BNDY	7/2/2015	15.5	0.0	Point surveyed within Tolerance
658	685176.87	601919.10	15.4	BNDY	7/2/2015	15.4	0.0	Point surveyed within Tolerance
659	685410.29	601854.79	9.6	BNDY	7/2/2015	9.6	0.0	Point surveyed within Tolerance
660	685395.44	601875.02	9.6	BNDY	7/2/2015	9.6	0.0	Point surveyed within Tolerance
661	685380.66	601895.14	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
662	685365.91	601915.23	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
663	685351.03	601935.49	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
664	685336.28	601955.58	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
687	685162.06	601939.25	14.9	BNDY	7/2/2015	14.9	0.0	Point surveyed within Tolerance
665	685321.52	601975.69	10.0	BNDY	7/14/2015	9.9	-0.1	Point surveyed within Tolerance
666	685306.70	601995.87	10.0	BNDY	7/14/2015	9.9	-0.1	Point surveyed within Tolerance
667	685292.04	602015.84	10.0	BNDY	7/14/2015	10.0	0.0	Point surveyed within Tolerance
668	685277.22	602036.03	10.0	BNDY	7/14/2015	10.0	0.0	Point surveyed within Tolerance
669	685262.73	602055.75	9.9	BNDY	7/14/2015	9.9	0.0	Point surveyed within Tolerance
670	685247.66	602076.28	10.0	BNDY	7/14/2015	10.1	0.1	Point surveyed within Tolerance
671	685232.64	602096.74	10.2	BNDY	7/14/2015	10.1	-0.1	Point surveyed within Tolerance
693	685147.26	601959.39	14.3	BNDY	7/14/2015	14.4	0.1	Point surveyed within Tolerance
694	685132.45	601979.53	13.7	BNDY	7/14/2015	13.8	0.1	Point surveyed within Tolerance
695	685117.65	601999.68	13.2	BNDY	7/14/2015	13.2	0.0	Point surveyed within Tolerance
696	685102.93	602019.90	10.3	BNDY	7/14/2015	10.4	0.1	Point surveyed within Tolerance
697	685088.04	602039.97	6.1	BNDY	7/14/2015	6.1	0.0	Point surveyed within Tolerance
698	685073.23	602060.11	4.7	BNDY	7/14/2015	4.8	0.1	Point surveyed within Tolerance
699	685058.42	602080.25	4.3	BNDY	7/14/2015	4.4	0.1	Point surveyed within Tolerance
705	685217.90	602116.82	10.4	BNDY	7/14/2015	10.3	-0.1	Point surveyed within Tolerance
706	685203.10	602136.97	10.5	BNDY	7/14/2015	10.6	0.1	Point surveyed within Tolerance
700	685043.62	602100.40	4.5	BNDY	7/24/2015	4.4	-0.1	Point surveyed within Tolerance
701	685028.81	602120.54	4.8	BNDY	7/24/2015	4.9	0.1	Point surveyed within Tolerance
702	685014.01	602140.69	5.1	BNDY	7/24/2015	5.2	0.1	Point surveyed within Tolerance
703	684999.20	602160.83	5.4	BNDY	7/24/2015	5.4	0.0	Point surveyed within Tolerance
704	684984.40	602180.97	5.7	BNDY	7/24/2015	5.7	0.0	Point surveyed within Tolerance
707	685188.31	602157.12	6.0	BNDY	7/24/2015	6.1	0.1	Point surveyed within Tolerance
708	685173.51	602177.27	6.0	BNDY	7/24/2015	6.0	0.0	Point surveyed within Tolerance
709	685143.92	602217.57	11.2	BNDY	7/24/2015	11.2	0.0	Point surveyed within Tolerance
710	685158.71	602197.42	11.1	BNDY	7/24/2015	11.0	-0.1	Point surveyed within Tolerance
711	685129.12	602237.73	11.4	BNDY	7/24/2015	11.4	0.0	Point surveyed within Tolerance
712	685114.32	602257.88	11.6	BNDY	7/24/2015	11.6	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
713	685099.53	602278.03	11.8	BNDY	7/24/2015	11.7	-0.1	Point surveyed within Tolerance
714	685084.73	602298.18	12.0	BNDY	7/24/2015	12.0	0.0	Point surveyed within Tolerance
715	685069.94	602318.33	12.0	BNDY	7/24/2015	12.0	0.0	Point surveyed within Tolerance
716	685055.15	602338.47	11.9	BNDY	7/24/2015	11.9	0.0	Point surveyed within Tolerance
717	685040.35	602358.63	11.9	BNDY	7/24/2015	11.9	0.0	Point surveyed within Tolerance
718	685025.55	602378.78	11.8	BNDY	7/24/2015	11.9	0.1	Point surveyed within Tolerance
719	685010.76	602398.93	11.8	BNDY	7/24/2015	11.9	0.1	Point surveyed within Tolerance
720	684995.96	602419.08	11.8	BNDY	7/24/2015	11.7	-0.1	Point surveyed within Tolerance
721	684981.17	602439.24	11.7	BNDY	7/24/2015	11.7	0.0	Point surveyed within Tolerance
722	684966.37	602459.39	11.6	BNDY	7/24/2015	11.6	0.0	Point surveyed within Tolerance
723	684951.57	602479.54	11.5	BNDY	7/24/2015	11.5	0.0	Point surveyed within Tolerance
724	684936.78	602499.69	11.5	BNDY	7/24/2015	11.6	0.1	Point surveyed within Tolerance
731	684969.59	602201.11	6.0	BNDY	7/24/2015	6.0	0.0	Point surveyed within Tolerance
732	684954.79	602221.26	6.3	BNDY	7/24/2015	6.4	0.1	Point surveyed within Tolerance
733	684939.98	602241.40	6.6	BNDY	7/24/2015	6.6	0.0	Point surveyed within Tolerance
734	684925.18	602261.55	6.9	BNDY	7/24/2015	6.8	-0.1	Point surveyed within Tolerance
735	684910.37	602281.69	7.1	BNDY	7/24/2015	7.2	0.1	Point surveyed within Tolerance
736	684895.57	602301.83	7.4	BNDY	7/24/2015	7.4	0.0	Point surveyed within Tolerance
737	684880.76	602321.98	7.8	BNDY	7/24/2015	7.8	0.0	Point surveyed within Tolerance
738	684865.95	602342.12	8.2	BNDY	7/24/2015	8.2	0.0	Point surveyed within Tolerance
739	684851.15	602362.27	8.5	BNDY	7/24/2015	8.5	0.0	Point surveyed within Tolerance
740	684827.24	602394.80	9.0	BNDY	7/24/2015	8.9	-0.1	Point surveyed within Tolerance
741	684821.28	602402.91	15.7	BNDY	7/24/2015	15.7	0.0	Point surveyed within Tolerance
725	684921.98	602519.84	11.6	BNDY	8/10/2015	11.5	-0.1	Point surveyed within Tolerance
726	684907.19	602539.99	11.6	BNDY	8/10/2015	11.6	0.0	Point surveyed within Tolerance
727	684892.39	602560.14	11.6	BNDY	8/10/2015	11.7	0.1	Point surveyed within Tolerance
728	684877.59	602580.30	11.6	BNDY	8/10/2015	11.6	0.0	Point surveyed within Tolerance
742	684806.74	602422.70	15.0	BNDY	8/10/2015	15.0	0.0	Point surveyed within Tolerance
743	684792.02	602442.92	14.4	BNDY	8/10/2015	14.4	0.0	Point surveyed within Tolerance
729	684862.80	602600.45	11.7	BNDY	8/12/2015	11.7	0.0	Point surveyed within Tolerance
730	684848.00	602620.60	11.7	BNDY	8/12/2015	11.8	0.1	Point surveyed within Tolerance
761	684777.12	602462.99	13.8	BNDY	8/12/2015	13.8	0.0	Point surveyed within Tolerance
762	684762.31	602483.14	13.2	BNDY	8/12/2015	13.1	-0.1	Point surveyed within Tolerance
763	684747.51	602503.28	12.8	BNDY	8/12/2015	12.7	-0.1	Point surveyed within Tolerance
744	684833.20	602640.76	11.7	BNDY	8/13/2015	11.8	0.1	Point surveyed within Tolerance
745	684818.41	602660.91	11.7	BNDY	8/13/2015	11.8	0.1	Point surveyed within Tolerance
764	684732.70	602523.42	12.5	BNDY	8/13/2015	12.4	-0.1	Point surveyed within Tolerance
765	684717.90	602543.56	7.9	BNDY	8/13/2015	7.9	0.0	Point surveyed within Tolerance
766	684703.09	602563.72	6.7	BNDY	8/13/2015	6.8	0.1	Point surveyed within Tolerance
767	684687.11	602585.46	5.5	BNDY	8/13/2015	5.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
746	684803.61	602681.06	9.1	BNDY	9/4/2015	9.1	0.0	Point surveyed within Tolerance
747	684790.60	602698.78	7.5	BNDY	9/4/2015	7.6	0.1	Point surveyed within Tolerance
768	684672.87	602604.82	4.9	BNDY	9/4/2015	5.0	0.1	Point surveyed within Tolerance
769	684656.51	602623.72	5.0	BNDY	9/4/2015	5.0	0.0	Point surveyed within Tolerance
2000	684774.23	602717.67	12.4	BNDY	9/4/2015	12.5	0.1	Point surveyed within Tolerance
2001	684757.86	602736.57	12.9	BNDY	9/4/2015	12.8	-0.1	Point surveyed within Tolerance
2002	684741.50	602755.47	13.2	BNDY	9/4/2015	13.1	-0.1	Point surveyed within Tolerance
2003	684725.13	602774.36	13.5	BNDY	9/4/2015	13.4	-0.1	Point surveyed within Tolerance
2004	684708.76	602793.26	13.8	BNDY	9/4/2015	13.7	-0.1	Point surveyed within Tolerance
2065	684591.05	602699.29	6.7	BNDY	9/4/2015	6.7	0.0	Point surveyed within Tolerance
2066	684607.42	602680.39	6.3	BNDY	9/4/2015	6.3	0.0	Point surveyed within Tolerance
2067	684623.78	602661.50	5.9	BNDY	9/4/2015	5.8	-0.1	Point surveyed within Tolerance
2068	684640.15	602642.60	5.4	BNDY	9/4/2015	5.4	0.0	Point surveyed within Tolerance
2005	684692.39	602812.16	14.0	BNDY	9/9/2015	13.9	-0.1	Point surveyed within Tolerance
2006	684676.02	602831.05	13.6	BNDY	9/9/2015	13.7	0.1	Point surveyed within Tolerance
2007	684659.66	602849.95	13.7	BNDY	9/9/2015	13.7	0.0	Point surveyed within Tolerance
2008	684643.29	602868.85	13.8	BNDY	9/9/2015	13.8	0.0	Point surveyed within Tolerance
2009	684626.92	602887.74	13.9	BNDY	9/9/2015	13.9	0.0	Point surveyed within Tolerance
2010	684610.55	602906.64	14.0	BNDY	9/9/2015	14.1	0.1	Point surveyed within Tolerance
2058	684476.47	602831.57	9.8	BNDY	9/9/2015	9.8	0.0	Point surveyed within Tolerance
2059	684492.84	602812.67	9.3	BNDY	9/9/2015	9.4	0.1	Point surveyed within Tolerance
2060	684509.31	602793.66	8.9	BNDY	9/9/2015	9.0	0.1	Point surveyed within Tolerance
2061	684525.58	602774.88	8.5	BNDY	9/9/2015	8.4	-0.1	Point surveyed within Tolerance
2062	684541.94	602755.98	8.0	BNDY	9/9/2015	8.1	0.1	Point surveyed within Tolerance
2063	684558.31	602737.08	7.6	BNDY	9/9/2015	7.6	0.0	Point surveyed within Tolerance
2064	684574.68	602718.19	7.2	BNDY	9/9/2015	7.1	-0.1	Point surveyed within Tolerance
2011	684589.12	602931.38	6.6	BNDY	9/16/2015	6.7	0.1	Point surveyed within Tolerance
2012	684575.96	602946.57	13.3	BNDY	9/16/2015	13.3	0.0	Point surveyed within Tolerance
2057	684459.70	602850.93	5.9	BNDY	9/16/2015	5.9	0.0	Point surveyed within Tolerance
2013	684545.08	602982.23	13.8	BNDY	9/18/2015	13.8	0.0	Point surveyed within Tolerance
2014	684561.45	602963.33	14.7	BNDY	9/18/2015	14.8	0.1	Point surveyed within Tolerance
2015	684528.71	603001.12	12.8	BNDY	9/18/2015	12.8	0.0	Point surveyed within Tolerance
2016	684512.34	603020.02	11.9	BNDY	9/18/2015	12.0	0.1	Point surveyed within Tolerance
2017	684495.97	603038.92	11.0	BNDY	9/18/2015	11.1	0.1	Point surveyed within Tolerance
2051	684361.89	602963.84	6.7	BNDY	9/18/2015	6.8	0.1	Point surveyed within Tolerance
2052	684378.26	602944.95	7.7	BNDY	9/18/2015	7.8	0.1	Point surveyed within Tolerance
2053	684394.63	602926.05	8.9	BNDY	9/18/2015	9.0	0.1	Point surveyed within Tolerance
2054	684411.00	602907.15	10.1	BNDY	9/18/2015	10.0	-0.1	Point surveyed within Tolerance
2055	684427.94	602887.59	8.4	BNDY	9/18/2015	8.5	0.1	Point surveyed within Tolerance
2056	684443.73	602869.36	10.4	BNDY	9/18/2015	10.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2018	684479.61	603057.81	10.1	BNDY	9/23/2015	10.1	0.0	Point surveyed within Tolerance
2019	684463.24	603076.71	9.2	BNDY	9/22/2015	9.1	-0.1	Point surveyed within Tolerance
2020	684446.87	603095.61	8.3	BNDY	9/22/2015	8.3	0.0	Point surveyed within Tolerance
2021	684430.50	603114.50	7.5	BNDY	9/22/2015	7.5	0.0	Point surveyed within Tolerance
2022	684414.13	603133.40	6.8	BNDY	9/23/2015	6.9	0.1	Point surveyed within Tolerance
2023	684397.77	603152.30	6.3	BNDY	9/23/2015	6.4	0.1	Point surveyed within Tolerance
2046	684280.05	603058.33	4.2	BNDY	9/23/2015	4.2	0.0	Point surveyed within Tolerance
2047	684296.42	603039.43	4.3	BNDY	9/23/2015	4.3	0.0	Point surveyed within Tolerance
2048	684312.79	603020.53	4.6	BNDY	9/23/2015	4.6	0.0	Point surveyed within Tolerance
2049	684329.16	603001.64	5.1	BNDY	9/22/2015	5.1	0.0	Point surveyed within Tolerance
2050	684345.53	602982.74	5.8	BNDY	9/22/2015	5.8	0.0	Point surveyed within Tolerance
2024	684381.40	603171.20	6.5	BNDY	9/23/2015	6.5	0.0	Point surveyed within Tolerance
2045	684263.69	603077.22	5.9	BNDY	9/23/2015	5.9	0.0	Point surveyed within Tolerance
2025	684365.03	603190.09	6.6	BNDY	9/24/2015	6.5	-0.1	Point surveyed within Tolerance
2026	684348.66	603208.99	6.8	BNDY	9/24/2015	6.8	0.0	Point surveyed within Tolerance
2027	684332.29	603227.89	6.8	BNDY	9/28/2015	6.8	0.0	Point surveyed within Tolerance
2028	684315.93	603246.78	7.7	BNDY	9/28/2015	7.8	0.1	Point surveyed within Tolerance
2041	684198.59	603153.14	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2042	684214.58	603133.91	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2043	684230.98	603114.98	4.6	BNDY	9/24/2015	4.6	0.0	Point surveyed within Tolerance
2044	684247.32	603096.12	6.2	BNDY	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2029	684299.56	603265.68	7.9	BNDY	9/28/2015	7.9	0.0	Point surveyed within Tolerance
2040	684182.05	603171.63	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2030	684283.19	603284.58	8.1	BNDY	10/7/2015	8.1	0.0	Point surveyed within Tolerance
2031	684258.41	603313.18	8.2	BNDY	10/7/2015	8.1	-0.1	Point surveyed within Tolerance
2032	684238.18	603303.29	7.1	BNDY	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2033	684215.72	603292.32	6.8	BNDY	10/7/2015	6.9	0.1	Point surveyed within Tolerance
2034	684193.26	603281.34	6.5	BNDY	10/7/2015	6.5	0.0	Point surveyed within Tolerance
2035	684170.80	603270.36	6.4	BNDY	10/7/2015	6.4	0.0	Point surveyed within Tolerance
2036	684148.33	603259.38	6.3	BNDY	10/7/2015	6.4	0.1	Point surveyed within Tolerance
2037	684124.13	603238.34	6.1	BNDY	10/7/2015	6.2	0.1	Point surveyed within Tolerance
2038	684149.11	603209.50	6.1	BNDY	10/7/2015	6.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2039	684165.48	603190.60	6.1	BNDY	10/7/2015	6.2	0.1	Point surveyed within Tolerance
2305	684268.00	603302.11	8.1	BNDY	10/7/2015	8.2	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

Per SPECIFICATION 01460 SURVEY. SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5'). Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in Section 1.05 F.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Grid Points depicted in Table 1, Break Points in Table 2, Boundary Points in Table 3, and topographic spot elevations are correct, and representative of the as-built cap subgrade throughout the SA6 South cap.

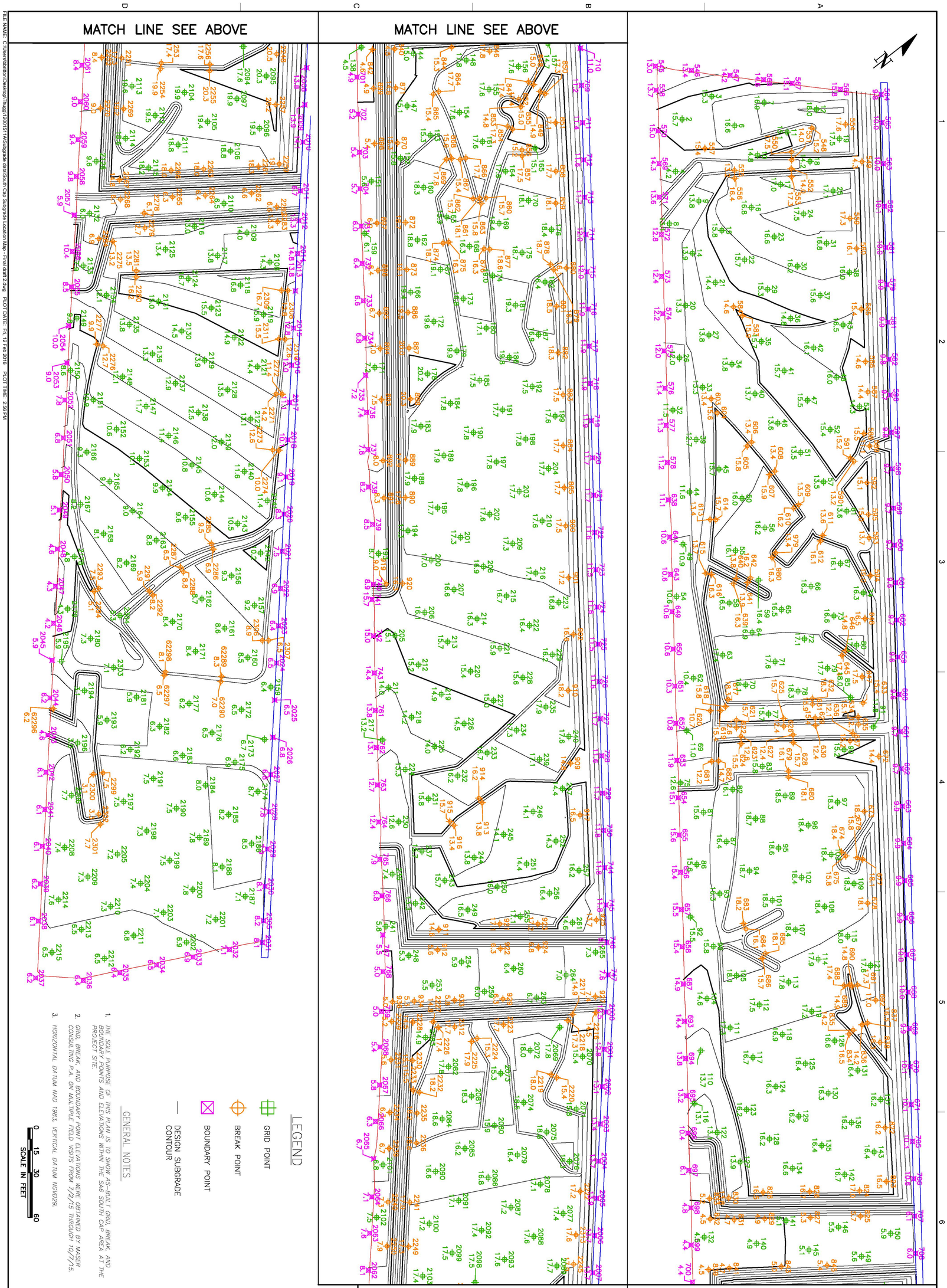
R. Thomas Hugg 2/12/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

D2. Subgrade Construction Control Grid



FILE NAME: C:\Users\bbrittton\Desktop\Thugg\12001511A\Subgrade data\South Cap Subgrade Location Map - Final draft 2.dwg PLOT DATE: Fri, 12 Feb 2016 PLOT TIME: 2:56 PM

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001151A

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
CONSTRUCTION CONTROL GRID
CAP SUBGRADE SURVEY

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
1	2/12/16	ISSUED FOR CLIENT REVIEW		

DSGN | DR | CHK | APVD

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE 2/12/16
PROJ 3480-10-0027
DWG
SHEET 1 OF 1

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Appendix E: Soil Subgrade Approval

E1. ESI Certificate of Subgrade Surface Acceptance

E2. Langan Certificate of Soil Surface

E1. ESI Certificate of Subgrade Surface Acceptance

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Approx. 14,703 sf.

PANEL NUMBERS: 1 TO 4

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR: ENTACT

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/20/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	Project Superintendent	7/20/15

	INDEPENDENT CQA MONITOR	7/20/15

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Manager	7/20/15

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,680 SF.

PANEL NUMBERS: 5 TO 9 over composite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/21/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/21/15
Signature	*Title*	*DATE*

	INDEPENDENT EQA MONITOR	7/21/15

OWNER REPRESENTATIVE

	QC Manager	7-21-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,726 SF

PANEL NUMBERS: 10 TO 13 over Geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/22/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/22/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7-22-15

OWNER REPRESENTATIVE

Carolyn Parnell	QC Manager	7-22-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 18,495 SF

PANEL NUMBERS: 14 TO 18 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

NOTE: SUBGRADE APPROVED BUT NOT COVERED AREA, 11,300 SF.

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/23/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/23/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7-23-15

OWNER REPRESENTATIVE

Carolyn Parnes	QC Manager Entact	7-23-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 22,140 SF

PANEL NUMBERS: 19 to 24 Over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/24/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/24/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7/24/15

OWNER REPRESENTATIVE

Carolyn Vorres	QC Manager - Entact	7-24-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 22,005 S.F.

PANEL NUMBERS: 25 to 30 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/28/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	7/28/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7/28/15

OWNER REPRESENTATIVE

	QC Manager - Entact	7/28/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,693 SF

PANEL NUMBERS: 31 to 34 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/29/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	7/29/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7/29/15
OWNER REPRESENTATIVE		
Carolyn Parnell	QC Manager - Entact	7/29/15
Signature	*Title*	*DATE*

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 20,226 sf

PANEL NUMBERS: 35 to 46 most over GCL

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/3/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/3/15
Signature	*Title*	*DATE*
	Independent CQA Monitor	8/3/15

OWNER REPRESENTATIVE

	QC Manager-Engr	8-3-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 11003 SF

PANEL NUMBERS: 47 to 49 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/5/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/05/15
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	8/5/15

OWNER REPRESENTATIVE

Carmine Marino	QC Manager / Entact	8/5/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 15,120 sf

PANEL NUMBERS: 90 to 94 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/6/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/6/15
Signature	*Title*	*DATE*
	INDEPENDENT QA MONITOR	8/6/15

OWNER REPRESENTATIVE

	QC Manager Entact	8/6/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 13,230 sf

PANEL NUMBERS: 55 to 60 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/7/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/7/15
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

	INDEPENDENT CQA MONITOR	8/7/15
Signature	*Title*	*DATE*

Carolyn Ramos	QC Manager - Entact	8-7-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 18,347 SF

PANEL NUMBERS: 61 to 65 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/10/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	8/10/15
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	8/10/15

OWNER REPRESENTATIVE

Carolina Parnes	QC Manager Entact	8/10/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 18,225 SF

PANEL NUMBERS: 66 to 71 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/13/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/13/15
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

	INDEPENDENT CQA MONITOR	8/13/15
Signature	*Title*	*DATE*

Carolina Parra	QC Manager Entact	8/13/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,705 SF

PANEL NUMBERS: P- 72 to 75 Over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 14-Aug and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	14-Aug
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	8/14/15

OWNER REPRESENTATIVE

	QC Manager - Entact	8-14-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER ENVIRONMENTAL SPECIALTIES INTERNATIONAL INC

PROJECT NAME Honeywell Chromium Area PROJECT NO 12-11-1399

LOCATION Jersey City, NJ

AREA ACCEPTED Aprox 14 705 SF

PANEL NUMBERS P- 76 to 86 over GCL

GRADE ACCEPTANCE INSPECTOR AMEC

GENERAL CONTRACTOR ENTACT

OWNER Honeywell

AUTHORIZED REPRESENTATIVE

The undersigned Fortino Ayala certifies that he/she is a representative of Environmental Specialties International Inc authorized to execute this certificate that he/she has visually inspected the subgrade surface described above on 9-Sep and found the surface to be acceptable for installation of the geomembrane

This certification is based on observation of the surface of the subgrade only No subsurface inspections or test have been performed and Environmental Specialties International Inc makes no representations or warranties regarding conditions which may exist below the surface of the subgrade

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	9-Sep
Signature	*Title*	*DATE*

	INDEPENDENT CQA MONITOR	9/9/15

OWNER REPRESENTATIVE

Carolyn Ramos	QC Mgr - Entact	9-9-15
Signature	*Title*	*DATE*

7941 PECUE LANE SUITE A - BATON ROUGE, LA 70809 - PHONE 225 291 2700 - FAX 225-291 2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 15,075 SF

PANEL NUMBERS: P- 87 to 90 Over subgrade.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 15-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	15-Sep
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	9/15/15

OWNER REPRESENTATIVE

[signature]	QC Manager - Entact	9-15-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,963 SF

PANEL NUMBERS: P- 91 to 94 Over subgrade.

GRADE ACCEPTANCE: INSPECTOR. AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 16-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	16-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/16/15

OWNER REPRESENTATIVE

	QC Manager-Gator	9-16-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 11,205 SF

PANEL NUMBERS: P- 95 to 97 Over subgrade.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 17-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	17-Sep
Signature	*Title*	*DATE*

INDEPENDENT CQP MONITOR 9/17/15

OWNER REPRESENTATIVE

Caroline Slamin	QC Manager	9-17-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 11,070 SF

PANEL NUMBERS: P- 98 to 106 Over subgrade and some over GCL

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 18-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	18-Sep
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	9/18/15

OWNER REPRESENTATIVE

Caroline Parrino	QC Manager	9-18-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,625 SF

PANEL NUMBERS: P- 107 to 110 Over subgrade

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 22-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	22-Sep
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	9/22/15

OWNER REPRESENTATIVE

[signature]	QC Manager	9-22-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,569 SF

PANEL NUMBERS: P- 111 to 114 Over subgrade

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 23-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	23-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/23/15

OWNER REPRESENTATIVE

	QC Manager - Entact	9-23-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,681 SF

PANEL NUMBERS: P- 115 to 118 Over subgrade

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 24-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	24-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/24/15

OWNER REPRESENTATIVE

Carolyn Lanier	QC Manager Entact	9-24-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 7,425 SF

PANEL NUMBERS: P- 119 to 120 Over subgrade, some liner over GCL at ditch design.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 25-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	25-Sep
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	9/25/15

OWNER REPRESENTATIVE

[signature]	QC Manager Entact	9-25-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,895 SF

PANEL NUMBERS: P- 121 to 125 Over subgrade, some liner over GCL at ditch and perim.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 29-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	29-Sep
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	9/29/15
OWNER REPRESENTATIVE		
Carolin Panico	QC Manager - Entact	9-29-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 15,205 SF

PANEL NUMBERS: P- 126 to 134 Over subgrade, some liner over GCL At cap design .

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8-Oct and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8-Oct
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	10/8/15

OWNER REPRESENTATIVE

Caroline Parnell	QC Mgr - Entact	10/8/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

E2. Langan Certificate of Soil Surface

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 24+35 TO STA 23+35 (WEST END)		
QA Monitor	LANGAN	Date	7/20/2015		

Description of Soil Surface to be lined: WEST END OF SA-6 SOUTH (~STA. 24+35) TO APPROX. 100 FT. EAST (STA. 23+35) - RUNNING NORTH TO SOUTH THROUGH APPROX. GRID POINT ~~8~~ 13.09. SOIL APPEARS TO BE GRADED, COMPACTED AND FREE OF DEBRIS (> ½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/20/15
Title	~~SENIOR STAFF~~ LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-20-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

Photographs	Number	Location	Orientation	Notes
	1	WEST END	N-S	REFER TO PHOTOGRAPH LOG (11/20/15)
	2	WEST END	N-S	PHOTOS 2, 3, 4 W/ DESCRIPTIONS
1. REFER TO PHOTO LOG (11/20/15) PHOTOS 2, 3, 4 FOR CORRESPONDING PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 2

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.		General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 23+35 to ~Sta. 22+35		
QA Monitor	Langan	Date	7/21/2015		

Description of Soil Surface to be lined: Area immediately East from subgrade approval on 7/20/15. Located from approx. Sta. 23+35 to Sta. 22+35 (100 ft. East from installed GCL on 7/20/15. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/21/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-22-15
Title	Install QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
GEOMEMBRANE CAP PANELS 5-9 PLACED OVER AREA.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	STA. 23+35	LOOKING EAST	REFER TO PHOTO LOG (7/21/15), PHOTO #9
	2 PHOTO #10	STA 23+35	EAST/SOUTHEAST	REFER TO PHOTO LOG (7/21/15), PHOTO #10

1. REFER TO PHOTO LOG (7/21/15) PHOTOS 9,10 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 3

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530601	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 22+35 TO STA. 21+40		
QA Monitor	LANGAN	Date	7/22/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/21/15. LOCATED FROM APPROX. STA. 22+35 TO STA. 21+40 (APPROX. 95 FT EAST OF GEOMEMBRANE INSTALLED ON 7/21/15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/22/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Enhul
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (7 ½")
As outlined in Section 02372-8

Geomembrane Cap Panels 10-13 Placed over Area

Photographs	Number	Location	Orientation	Notes
	1 Photo # 2		Looking East	Refer to Photo Log (7/22/15) Photo # 2
	2 Photo # 3		Looking NE	Refer to Photo Log (7/22/15) Photo # 3

1. Refer to Photo Log (7/22/15)
Photos 2, 3 for Supporting Subgrade Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / ANECFW	Cell No.	~STA. 21+40 TO STA. 19+90		
QA Monitor	LANGAN	Date	7/23/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/22/15. LOCATED FROM APPROXIMATE STATION STA. 21+40 (~P-13') TO STA. 19+90 (APPROX 150 FT. EAST OF GEOMEMBRANE INSTALLED ON 7/22/15). SOIL APPEARS TO BE GRADED, COMPACTED + FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/23/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (≥ 1/2") AS OUTLINED IN SECTION 023.72-8.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	STA 21.40	LOOKING EAST	REFER TO PHOTO LOG (7/23/15) PHOTO #3
	2 PHOTO #5	STA 21+00	LOOKING NE	REFER TO PHOTO LOG (7/23/15) PHOTO #5

1. REFER TO PHOTO LOG (7/23/15) PHOTOS 3.5 FOR SUPPORTING SUBGRADE PHOTOS

ADDITIONAL SUBGRADE DETAILS ALSO SHOWN ON PHOTOS 4+6

2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / ARMEC FW	Cell No.	± STA. 19+90 TO STA. 19+00		
QA Monitor	LANGAN	Date	7/24/15		

Description of Soil Surface to be lined: ADDITIONAL ± 90 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/23/15 (P-18). SUBGRADE APPROVED FROM ± STA. 19+90 TO STA. 19+00 (SUBGRADE PREVIOUSLY APPROVED TO STA. 19+90) / GEOMEMBRANE INSTALLED TO ± STA. 20+25 ON 7/23/15). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (> ½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/24/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-24-15
Title	QC Manager Entact
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	STA 20+25	LOOKING EAST	REFER TO PHOTO LOG (11/24/15) PHOTO #8
	2 PHOTO #9	STA. 19+80	LOOKING SOUTH	REFER TO PHOTO LOG (11/24/15) PHOTO #9

1. REFER TO PHOTO LOG (11/24/15) PHOTOS 8,9 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 19+00 TO STA. 18+20		
QA Monitor	LANGAN	Date	7/28/15		

Description of Soil Surface to be lined: ADDITIONAL ~80 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/24/15 (P-24). NO SUBGRADE APPROVED ON 7/27/15. SUBGRADE APPROVED FROM ~STA. 19+00 TO STA. 18+20. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Ponce
Date:	7-28-15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8
- ADDITIONAL ~40 FT. OF SOIL APPROVED AT END OF DAY TO ALLOW ESI TO INSTALL EXTRA 2 PANELS OF GEOMEMBRANE SOIL APPROVED TO APPROX. STA 17+80.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~BD 675-1584	LOOKING NW	REFER TO PHOTO LOG (7/28/15) PHOTO #3
	2 PHOTO #4	~19.00	LOOKING EAST	REFER TO PHOTO LOG (7/28/15) PHOTO #4

1. REFER TO PHOTO LOG (7/28/15) PHOTOS 3, 4, 5 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 117+80 to Sta. 117+00		
QA Monitor	Langan	Date	7/29/15		

Description of Soil Surface to be lined: ~80 ft. Section of Soil Approved East of Geomembrane Panels Installed on 7/28/15 (P-30). Subgrade Approved From Approx. Sta. 117+80 to Sta. 117+00, Soil Appears to Be Graded, Compacted, And Free of Debris (>½"), and in Conformance With Project Specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/29/30
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/29/30
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED UP TO 1ST UTILITY CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	STA. 17+80	LOOKING N	REFER TO 7/29/15 PHOTO LOG PHOTO #5
	2 PHOTO #8	SEND CAP	LOOKING E	REFER TO 7/29/15 PHOTO LOG PHOTO #8

1. REFER TO PHOTO LOG (7/29/15)
PHOTOS 5, 8 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 17+00 to Sta. 15+80		
QA Monitor	Langan	Date	8/3/15		

Description of Soil Surface to be lined: ~120 ft. Section of Soil Approved East of Geomembrane Panels Installed on 7/29/15 (P-34). Subgrade Approved From Approx. Sta. 17+00 to Sta. 15+80 (to East Side of 1st Utility Corridor) Through 1st Utility Corridor. Soil Appears to Be Graded, Compacted, And Free of Debris (>½") And in Conformance w/ Project Specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/3/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	Cathleen Parrino - Entrust QC Manager

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT WITHIN UTILITY CORRIDOR + GEOMEMBRANE / GVL PLACEMENT OUTSIDE OF CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	CORRIDOR	LOOKING N	REFER TO 8/3/15 PHOTO LOG PHOTO #1
	2 PHOTO #3	CORRIDOR	LOOKING S	REFER TO 8/3/15 PHOTO LOG PHOTO #3

1. REFER TO PHOTO LOG (8/3/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 15+80 TO ~STA. 15+10		
QA Monitor	LANGAN	Date	8/5/15		

Description of Soil Surface to be lined: ~170 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/3/15 (P-42). SUBGRADE APPROVED FROM ~STA. 15+80 TO ~STA. 15+10. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-5-15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7 ½")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT ABOVE) GROUNDWATER ELEVATION

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	GP 165-15.4	LOOKING W	REFER TO 8/5/15 PHOTO LOG PHOTO #5
	2 PHOTO #6	STA. 15+80	LOOKING S	REFER TO 8/5/15 PHOTO LOG PHOTO #6
1. REFER TO PHOTO LOG (8/5/15) PHOTOS 5, 6 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 10

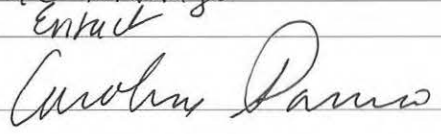
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 15+10 to ~Sta 14+00		
QA Monitor	Langan	Date	8/6/15		

Description of Soil Surface to be lined: ~110 ft. Section of soil subgrade approved East of Geomembrane Panels installed on 8/5/15 (P-49). Subgrade Approved From ~Sta. 15+10 to ~Sta. 14+00. Soil Appears to Be Graded, Compacted, And Free of Debris (7½") And In Conformance With Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/6/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-6-15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	± STA. 15+10	LOOKING E	REFER TO 8/6/15 PHOTO LOG (PHOTO #17)
	2 PHOTO #9	± STA. 15+10	LOOKING S	REFER TO 8/6/15 PHOTO LOG (PHOTO #9)
1. REFER TO PHOTO LOG (8/6/15) PHOTOS 17, 8, AND 9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 14+00 to ~Sta. 13+00		
QA Monitor	Langan	Date	8/7/15		

Description of Soil Surface to be lined: ~100 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 8/6/15 (P-54). Subgrade Approved From ~Sta. 14+00 to ~Sta. 13+00. Soil Appears to Be Graded, Compacted, And Free of Debris (7½") And in Conformance With Project Specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/7/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/7/15
Title	QC Manager
Representing:	Entech
Signature:	

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (> 1/2")
As outlined in Section 02317Z-8.
- No GCL Placed As Area Was Above Water Table (~1 ft.)

Photographs	Number	Location	Orientation	Notes
	1 Photo #6	Sta. 14+00	Looking E	Refer to 8/17/15 Photo Log (Photo #6)
	2			

1. Refer to Photo Log (8/17/15) Photo 6 For Supporting Subgrade Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 13+00 to ~Sta. 12+00		
QA Monitor	Langan	Date	8/10/15		

Description of Soil Surface to be lined: ~100 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 8/7/15 (P-60). Subgrade Approved From ~Sta. 13+00 to ~Sta. 12+00 Soil Appears to be Graded, Compacted, and Free of Debris (> ½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/10/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Parnio
Date:	8/10/15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (> 1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	2 STA. 13+00	LOOKING N	REFER TO 8/10/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	2 STA. 13+00	LOOKING E	REFER TO 8/10/15 PHOTO LOG (PHOTO #6)

1. REFER TO PHOTO LOG (8/10/15) PHOTOS #5, 6 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 12+00 TO ~STA. 11+00		
QA Monitor	LANGAN	Date	8/13/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/10/15 (P-65). SUBGRADE APPROVED FROM ~STA. 12+00 TO ~STA. 11+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	N/A
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/13/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-13-15
Title	QC Manager
Representing:	Entrac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (>1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	@ STA 11+50	LOOKING SW	REFER TO 8/13/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	@ STA 11+50	LOOKING SE	REFER TO 8/13/15 PHOTO LOG (PHOTO #2)

1. REFER TO PHOTO LOG (8/13/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 14

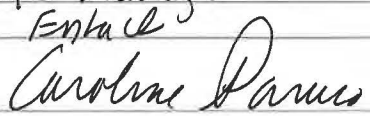
Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 11+00 TO ~STA. 10+20		
QA Monitor	LANGAN	Date	8/14/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/13/15 (P-171). SUBGRADE APPROVED FROM STA. 11+00 TO ~STA. 10+20. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/14/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-14-15
Title	QC Manager
Representing:	Entrada
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	Honeywell / AmecFW	Cell No.	~Sta. 10+20 to ~Sta. 9+50
QA Monitor	Langan	Date	9/9/15

Description of Soil Surface to be lined: ~770 ft. section of soil subgrade approved east of geomembrane panels installed on 8/14/15 (p.175). Subgrade approved through 2nd utility corridor from approx. Sta. 10+20 to Sta. 9+50. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/9/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/9/15
Title	QC Manager
Representing:	ENTACT
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 023172-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG EASTERN + WESTERN SLOPES OF UTILITY CORRIDOR + SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN END OF SA-6 AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA 10+00	LOOKING SW	REFER TO 9/9/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA. 10+00	LOOKING NE	REFER TO 9/9/15 PHOTO LOG (PHOTO #3)

1. REFER TO PHOTO LOG (9/9/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL
Project No.	100530001	General Desc.	(Subgrade) Operations LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 9+50 TO ~STA. 8+50
QA Monitor	LANGAN	Date	9/15/15

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/9/15 (P-86). SUBGRADE APPROVED EAST OF 2ND UTILITY CORRIDOR FROM APPROX. STA. 9+50 TO ~STA. 8+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/15/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-15-15
Title	Entact QC Manager
Representing:	ENTACT
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

~~THE~~ GCL PLACED ALONG SOUTHERN SLOPE OF SA-6 SOUTH (LOWER BENCH) AT AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 9+50	LOOKING S	REFER TO 9/15/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 9+50	LOOKING E	REFER TO 9/15/15 PHOTO LOG
1. REFER TO PHOTO LOG (9/15/15) PHOTOS 1,2 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 8+50 TO ~STA. 7+70		
QA Monitor	LANGAN	Date	9/16/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/15/15 (P-90). SUBGRADE APPROVED FROM APPROXIMATE STA. 8+50 (P-90) TO APPROX STA. 7+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/16/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/16/15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8

NO GCL PLACED ALONG SA-6 AS AREAS OUTSIDE OF GROUNDWATER ZONE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	~STA 8+80	LOOKING N/NE	REFER TO 9/16/15 PHOTO LOG (PHOTO #17)
	2			

1. REFER TO PHOTO LOG (9/16/15) PHOTO #17 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	Honeywell 5A-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Arlec FW	Cell No.	~Sta. 7+70 to ~Sta. 7+00		
QA Monitor	Langan	Date	9/17/15		

Description of Soil Surface to be lined: ~70 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/16/15 (P-94). Subgrade Approved From Approximate Sta. 7+70 (P-94) to Approximate Sta. 7+00 (western slope of 3rd utility corridor). Soil Appears to be Graded, compacted, and Free of Debris (>1½") and in conformance with Project Specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/17/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/17/15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (1 1/2") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED ALONG SA-6 AS NO AREAS BELOW (TO 1 FT. ABOVE) GROUNDWATER

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 7+00 TO ~STA. 6+40		
QA Monitor	LANGAN	Date	9/18/15		

Description of Soil Surface to be lined: ~60 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/17/15 (P-97). SUBGRADE APPROVED THROUGH 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 7+00 TO ~STA. 6+40 (EASTERN SIDE OF 3RD UTILITY CORRIDOR). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/18/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/18/15
Title:	QC Manager
Representing:	Entek
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 023172-8.

- GCL PLACED ALONG BOTTOM AND SIDE SLOPES (APPROX 2 FT. TO 3FT. EACH BOTTOM) OF 3RD UTILITY CORRIDOR (LOCATED AT APPROX. STA. 6+80). GCL ALSO PLACED ALONG SOUTHERN END OF CORRIDOR (LOWER BENCH) BELOW TO 1 FT. ABOVE WATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 6+80	LOOKING S	REFER TO 9/18/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 6+86	LOOKING N	REFER TO 9/18/15 PHOTO LOG (PHOTO #2)
1 REFER TO PHOTO LOG (9/18/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

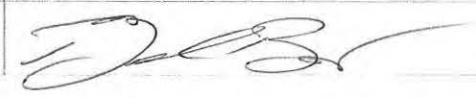
Sheet # 20

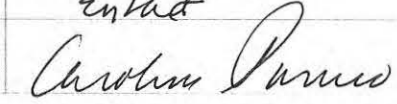
Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 6+40 TO ~STA. 5+30		
QA Monitor	LANGAN	Date	9/22/15		

Description of Soil Surface to be lined: ~110 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/18/15 (P-98-103 / EAST-WEST ORIENTATION). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 6+40 TO ~STA. 5+30. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/22/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-22-15
Title:	QC manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS APPROVED SUBGRADE OUTSIDE OF WATER TABLE INFLUENCE. ONLY GVL REQUIRED

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	25TH. 6+40	LOOKING N	REFER TO 9/22/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	25TH 5+90	LOOKING S	REFER TO 9/22/15 PHOTO LOG (PHOTO #3)
1 REFER TO PHOTO LOG (9/22/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 5+30 TO ~STA. 4+50		
QA Monitor	LANGAN	Date	9/23/15		

Description of Soil Surface to be lined: ~480 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEO-MEMBRANE PANELS INSTALLED ON 9/22/15 (PANEL #110). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 5+30 TO APPROX. STA. 4+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BUSWORTH
Date:	9/23/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9-23-15
Title:	QC Manager
Representing:	Caroline Panico
Signature:	ENTACT

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN AND SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 4+90	LOOKING S	REFER TO 9/23/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 4+70	LOOKING W	REFER TO 9/23/15 PHOTO LOG (PHOTO #2)

1 REFER TO PHOTO LOG (9/23/15) PHOTOS 1, 2 FOR SUPPORTING SUBSURFACE PHOTOS

2

LANGAN

Certificate of Soil Surface

Sheet # 22

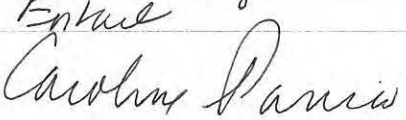
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / AMEC FW	Cell No.	~Sta. 4+50 to ~Sta. 3+80		
QA Monitor	Langan	Date	9/24/15		

Description of Soil Surface to be lined: ~480 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/23/15 (Panel N114). Subgrade Approved for Area East of 3rd Utility Corridor From Approximate Sta. 4+50 to Approx. Sta. 3+80. Soil Appears to Be Graded, Compacted, and Free of Debris (>½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/24/15
Title:	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-24-15
Title:	QC Manager
Representing:	Entrie
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG BOTTOM + SLOPES OF UTILITY/DRAINAGE DITCHES RUNNING N-S THROUGH SA-6, AND AS SHOWN ON THE PROJECT DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 4+50	LOOKING S	REFER TO 9/24/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 4+50	LOOKING E	REFER TO 9/24/15 PHOTO LOG (PHOTO #4)

1 REFER TO PHOTO LOG (9/24/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL

2

LANGAN

Certificate of Soil Surface

Sheet # 23

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 3+80 to ~Sta. 3+30		
QA Monitor	Langan	Date	9/25/15		

Description of Soil Surface to be lined: ~ 50 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/24/15 (Panel #118). Subgrade Approved for Area East of 3rd Utility Corridor From Approximate Sta. 3+80 to Approx. Sta. 3+30. Soil Appears to Be Graded, Compacted, and Free of Debris (>½") and In Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/25/15
Title:	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-25-15
Title:	QC Manager
Representing:	Entuck
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AND AT AREAS BELOW (TO 1 FT. ABOVE) THE GROUNDWATER TABLE, AS DEFINED ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 3+50	LOOKING E	REFER TO 9/25/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	~STA. 3+40	LOOKING N	REFER TO 9/25/15 PHOTO LOG (PHOTO #6)
1 REFER TO PHOTO LOG (9/25/15) PHOTOS 5,6 FOR SUPPORTING SUBGRADE PHOTOS (WITH GCL)				2

LANGAN

Certificate of Soil Surface

Sheet # 24

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 3+30 TO ~STA. 2+50
QA Monitor	LANGAN	Date	9/29/15

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/25/15 (PANEL #120). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 3+30 TO APPROX. STA. 2+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ¼, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified	N - NO CHANGES

Independent CQA Monitor	
Name	DANIEL BOSWORTH
Date	9/29/15
Title	LEAD QA ENGINEER
Representing	LANGAN
Signature	

Geosynthetic Installer Representative	
Name	Carolina Panico
Date	9-29-15
Title	QC Manager
Representing	Entact
Signature	Carolina Panico

LANGAN

Observations/Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN & SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW, (TO 1 FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	STA. 3+30	LOOKING S	REFER TO 9/29/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	STA. 2+90	LOOKING E	REFER TO 9/29/15 PHOTO LOG (PHOTO #3)

1 REFER TO PHOTO LOG (9/29/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL.

2

LANGAN

Certificate of Soil Surface

Sheet # 25

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 2+50 TO ~STA 1+50		
QA Monitor	LANGAN	Date	10/8/2015		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/29/15 (PANEL # 125). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 2+50 TO APPROX. STA. 1+50 (EASTERN END OF SA-6, ROUTE 440). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE W/ SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	10/8/2015
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	[signature]

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	10/9/15
Title	QC Manager
Representing:	ENTACT
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO LFT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 1+70	LOOKING N/NW	REFER TO 10/8/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 2+00	LOOKING S	REFER TO 10/8/15 PHOTO LOG (PHOTO #4)
1 REFER TO PHOTO LOG (10/8/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR SUPPORTING PHOTOS OF GVL + GCL				2

Appendix F
Langan Daily Reports & Supporting Photo Logs

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/7/2015
PROJECT:	SA-6 Capping		**WEATHER:**	75/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Inspection	**TIME:**	0600 – 1400

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #1**
Thatcher Foundations *Equipment:* Dozer, Steel Drum Roller, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse

Site Activities

- Langan onsite to conduct soil subgrade inspection. Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area.
- Langan and ENTACT (two laborers) conducted visual inspection of the prepared soil subgrade. This area included the furthest western part of the cap (Sta. 24+00) to just east of Sta. 18+50.
- In general, the following soil subgrade properties were observed:
  - Some debris (wood fragments),small rocks, etc. were observed along the slopes and elevation changes from Sta. 24+00 to Sta. 18+50. It is recommended during the pull back and removal of the plastic tarp (in preparation for installation of liner), ENTACT should provide laborers with a wheelbarrow and equipment to collect various debris as it is encountered.
  - Along the slopes of the smaller swales, utility corridors, street channels, etc. some soft and loose material was noted. As recommended above, as the plastic is removed for liner installation activities, Entact should provide laborers to dress the slopes (i.e. remove any loose debris and conduct compaction (as required) with a hand tamper), as necessary.
- In addition to the general soil subgrade properties outlined above, some soft / wet areas (some with free standing water) were encountered. The location of these wet areas was in the general vicinity of the collection manhole (Sta. 21+00), where the soil subgrade was very soft (able to sink into the soil while walking). Langan conducted a site walk with AmecFW to collect GPS locations of these soft, underlying areas. The attached figure provides the swales, corridors, and trenches within vicinity of the collection manhole that do not meet the soil subgrade requirements. Additional grading / compaction activities will be required prior to liner installation within these areas.
  - Note: The locations on the attached figure do not represent every area that needs additional preparation activities. The general soil subgrade properties outlined above could represent varying locations as the entire soil area could not be observed due to the plastic being placed over the cap area. The locations outlined on the attached figure are meant to provide “critical” areas that may require more substantial work activities in order to have the subgrade properly prepared to the specifications.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade inspection, the soil has not been approved for liner installation activities based on the wet / soft spots encountered (as outlined within this report). It is also recommended that laborers are provided when the plastic sheeting is removed so that the loose debris can be collected, and additional grading / compacting activities can be conducted (as required) along the slopes and contours.

Action Items Pending

- QA Engineer - Review SA-6 capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned for the week of 7/13).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Cap Installation Kickoff meeting scheduled for Thursday (7/9/15). At this time an additional soil subgrade inspection should be conducted with ESI representatives.

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log



Photo 1: Completed soil subgrade with plastic sheeting cover (looking west toward Sta. 24+00).



Photo 2: Entact conducting grading and compacting activities to the area east of Sta. 19+00.

Photograph Log (continued)



Photo 3: Graded and compacted soil subgrade near Sta. 24+00 (acceptable subgrade).



Photo 4: Miscellaenouos debris (wood, rocks, etc.) encountered. Debris removed from subgrade, however, while plastic sheeting is removed in prep for installation, additional observations shall be conducted to ensure all debris is removed prior to liner installation.

Photograph Log (continued)



Photo 5: Loose material and debris encountered along swale slope.



Photo 6: Standing water encountered along northern drainage swale / tree bulb.

Photograph Log (continued)

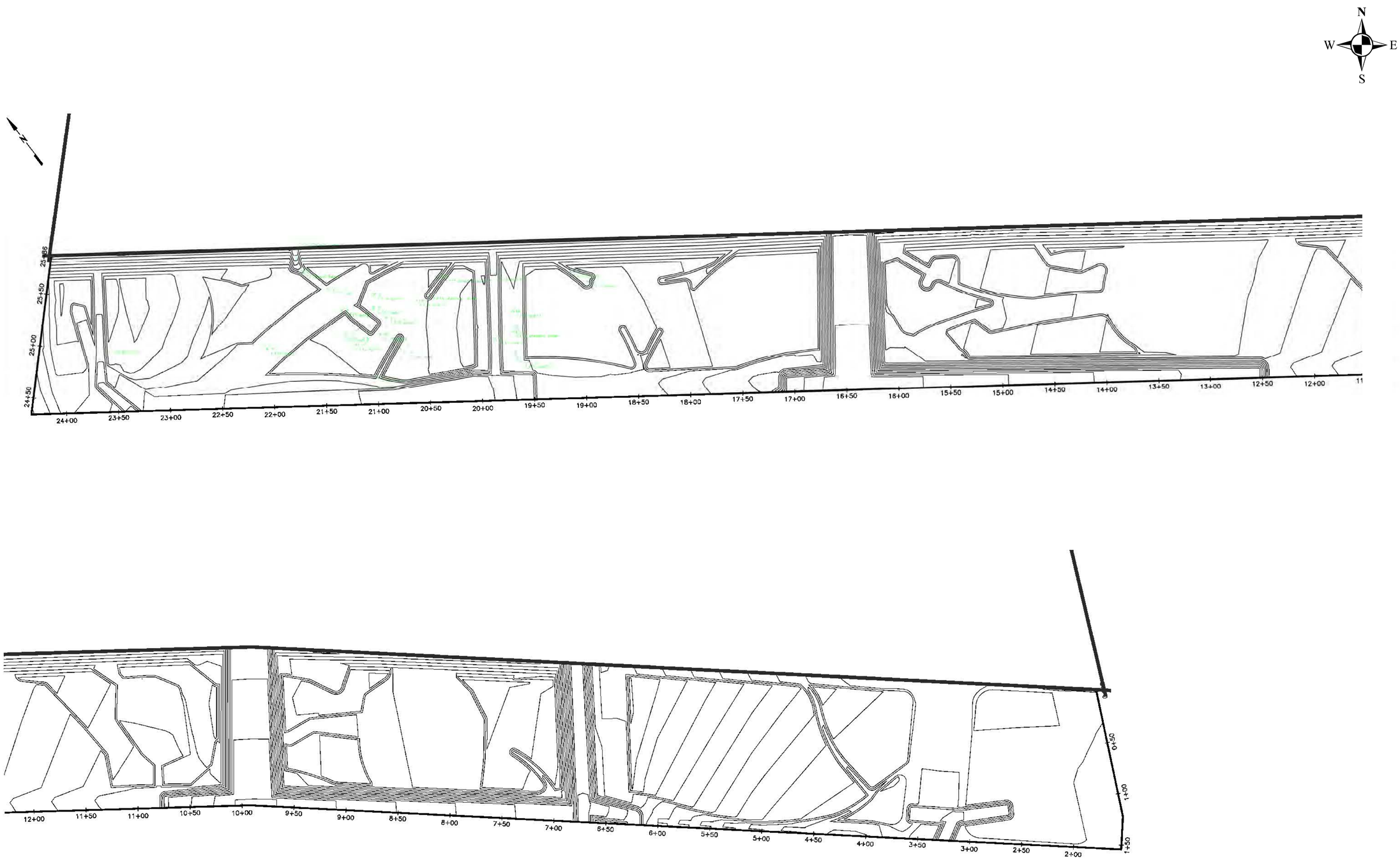


Photo 7: Standing water / soft area in vicinity of collection manhole (Sta. 21+00).



Photo 8: Soft / wet soil in vicinity of manhole. Indentations / footprints visible.

LANGAN



Notes:
1. Locations GPS surveyed by Langan and AMEC for soil subgrade areas requiring additional preparation activities prior to liner placement.
2. This Figure represents critical locations that were observed by the project team and does not include every area that may require additional preparation work. As the plastic sheeting is removed from the cap, ENTACT should provide sufficient manpower to remove potential miscellaneous debris, and re-grade / compact slopes, as required.
3. Subgrade observations collected on 7/7/15 and 7/13/15 by Langan field personnel and represent the areas between the western most boundary (Sta 24+00), and east of Sta17+50. The area to the east of Sta. 17+50 has not yet been observed.

LANGAN
River Drive Center 1, 619 River Drive, Elmwood Park, NJ 07407-1338
T: 201.794.6900 F: 201.794.0366 www.langan.com
NEW JERSEY NEW YORK VIRGINIA CALIFORNIA
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DUBAI ISTANBUL
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan

Project
Honeywell
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY
HUDSON COUNTY NEW JERSEY

Drawing Title
SA-6 SOUTH CAP SUBGRADE INSPECTIONS

Project No. 100530001	Figure 7
Date 8/20/2015	
Scale N.T.S.	
Drawn By ATR	
Last Revised 8/20/2015	

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Path: \\langan.com\data\EP\data0\100530001\ArcGIS\ArcMap_Documents\SA-6 South Cap Subgrade Inspections.mxd

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/13/2015
PROJECT:	SA-6 Capping		**WEATHER:**	80/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Inspection	**TIME:**	0600 – 1100

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #2**
Thatcher Foundations *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**AmecFW**:Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT**: Keith Goisse

Site Activities

- Langan onsite to conduct soil subgrade inspection, and to observe placement of first layer of geocomposite (gas venting layer) for SA-6 south capping. Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area.
- Based on subsequent conversations with the project team, no material was to be placed during the day (GDL or LLDPE) as the geomembrane was undergoing final conformance testing requirements and had not yet been delivered to the Site. As such, Langan and AmecFW conducted a visual inspection of the prepared soil subgrade. These areas included the locations previously identified during the Day #1 soil subgrade inspection, as well as additional areas completed since that date from Sta. 18+50 to Sta. 17+50, as shown in the attached Figure (Sheet 7).
- In general, the following soil subgrade properties were observed:
  - ENTACT had opened and dried the areas immediately west of the collection manhole. Additionally, ENTACT provided laborers to dress and repair the slopes, as required. Refer to Sheet 3 for example of slope that would require dressing. The additional areas east of the collection manhole will also be opened and dried, with additional preparation being completed, as required. Refer to Sheet 7 for areas that ENTACT has repaired soil to appropriate subgrade.
  - The slopes of the smaller swales, utility corridors, street channels, etc. some soft and loose material was noted. As the plastic is removed for liner installation activities, ENTACT should provide laborers to dress the slopes (i.e. remove any loose debris and conduct compaction (as required) with a hand tamper), as necessary.
- In addition to the general soil subgrade properties outlined above, some soft / wet areas (some with free standing water) were encountered east of the previously inspected areas. The coordinates of these locations were collected and are shown on Sheet 7. Additional grading / compaction activities will be required prior to liner installation within these areas.
  - Note: The locations on the attached figure do not represent every area that needs additional preparation activities. The general soil subgrade properties outlined above could represent varying locations as the entire soil area could not be observed due to the plastic being placed over the cap area.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

The locations outlined on the attached figure are meant to provide "critical" areas that may require more substantial work activities in order to have the subgrade properly prepared to the specifications.

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade inspection conducted to date, it appears that the soil west of the collection manhole is acceptable to commence with installation activities. However, ENTACT shall provide laborers as the plastic is removed to conduct slope dressing and re-compaction (as required), as well as, to remove any unacceptable debris (i.e. rocks, misc. debris, etc.) from the subgrade. If further soil deterioration is encountered prior to the placement of the GDL and liner material, additional re-grading and re-compaction of the soil subgrade may be required. As such, the final soil subgrade inspection form will not be completed until immediately prior to GDL and liner placement.
- Based on the wet / soft spots encountered (as outlined within this report) east of the collection manhole, it appears that this soil subgrade is not suitable for liner installation activities. Additional preparation work (i.e. drying, re-compaction, etc.) is required prior to liner placement. It is also recommended that laborers are provided when the plastic sheeting is removed so that any loose debris can be collected, and additional grading / compacting activities can be conducted (as required) along the slopes and contours.

Action Items Pending

- QA Engineer - Review SA-6 capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned to commence on 7/15).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work will be conducted tomorrow (7/14) by ENTACT.
- Preparation and coordination to ensure that liner placement can begin on Wednesday (7/15).

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log



Photo 1: Example of washed slope that would require regarding and re-compaction activities.



Photo 2: Swale / root bulb with standing water and soft / wet bottom. Additional prep work required.

Photograph Log (continued)



Photo 3: ENTACT dressing slopes west of collection manhole.



Photo 4: Area west of collection manhole. Opened and dried. ENTACT dressing slopes (as required).

Photograph Log (continued)



Photo 5: Wet area located east of collection manhole on top deck (still requires drying and re-compaction).



Photo 6: Dry area re-compacted west of collection manhole.

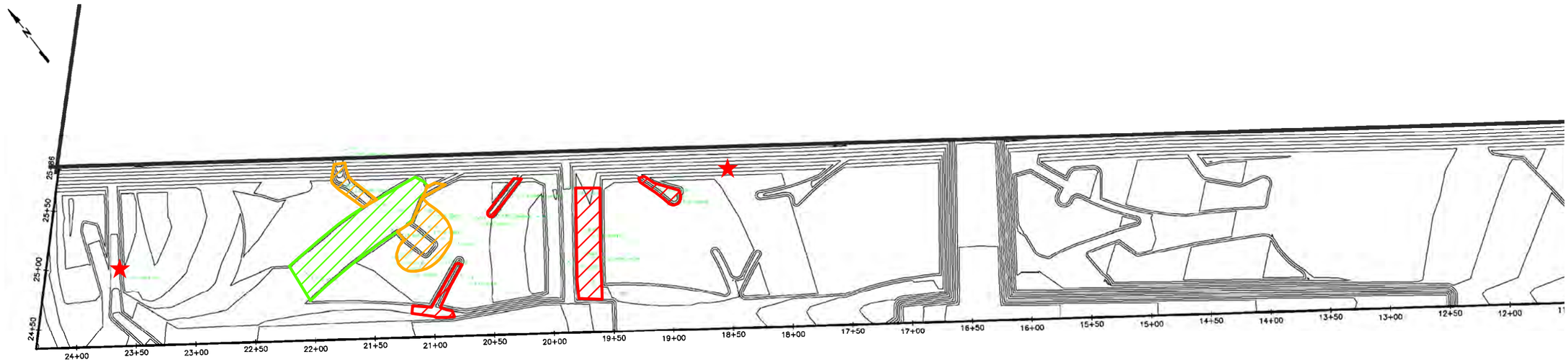
Photograph Log (continued)

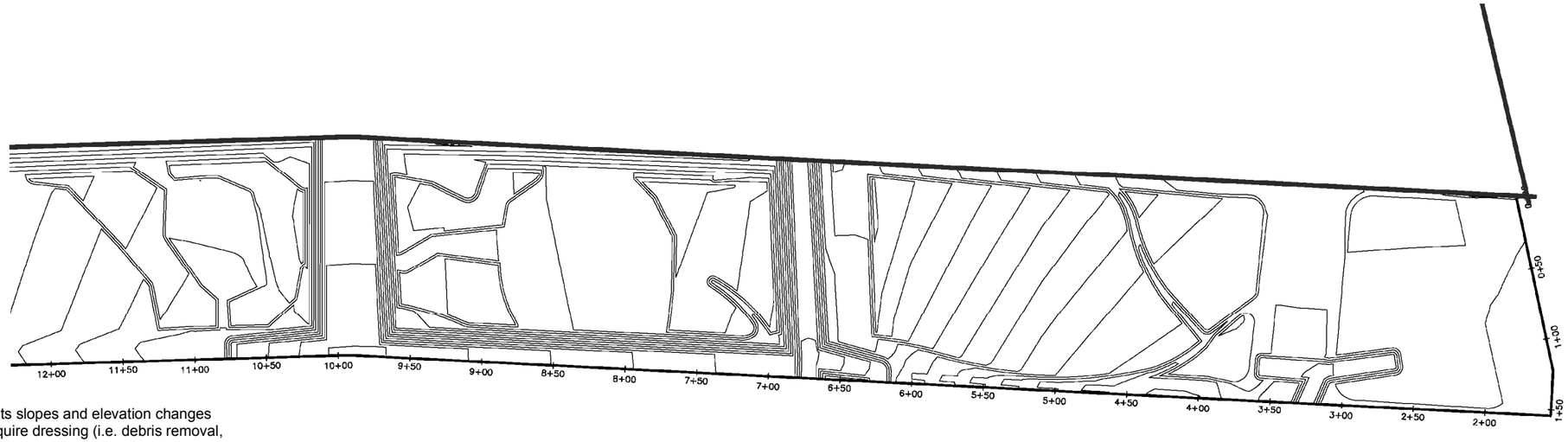


Photo 7: ENTACT filling and re-compacting depressions / voids in subgrade along southern edge of SA-6.



Photo 8: Grading and compacting soil east of collection manhole near Sta. 17+50.





Legend

★ Respresents slopes and elevation changes that will require dressing (i.e. debris removal, re-compaction, etc.)

Status

Represents areas that have been dried, regraded, and re-compacted. Soil appears acceptable for liner placement

Represents areas where ENTACT is presently drying and conducting regrading and re-compaction as required.

Represents areas that exhibit soft / wet subgrade. Soil not acceptable for liner placement.

Notes:
1. This Figure represents critical locations that were observed by the project team and does not include every area that may require additional preparation work. As the plastic sheeting is removed from the cap, ENTACT should provide sufficient manpower to remove potential miscellaneous debris, and re-grade / compact slopes, as required.
2. Subgrade observations collected on 7/7/15 and 7/13/15 by Langan field personnel and represent the areas between the western most boundary (Sta 24+00), and east of Sta17+50. The area to the east of Sta. 17+50 has not yet been observed.

LANGAN
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T: 201.794.6900 F: 201.794.0366 www.langan.com
Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan
NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
Honeywell
CHROMIUM REMEDY STUDY AREA 6 SOUTH
JERSEY CITY
HUDSON COUNTY NEW JERSEY

Drawing Title
SA-6 SOUTH CAP SUBGRADE LANGAN FIELD OBSERVATIONS

Project No.	100530001
Date	7/13/2015
Scale	N.T.S.
Drawn By	ATR
Last Revised	7/14/2015
SHEET	7

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Path: \\langan.com\data\EP\data0\100530001\ArcGIS\ArcMap_Documents\SA-6 South Cap Subgrade Langan Field Observations.mxd

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/20/2015
PROJECT:	SA-6 Capping		**WEATHER:**	80/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1900

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #3** **AmecFW**:Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) starting at the west end of the SA-6 south. Material to be placed from the western end (west of Sta. 24+00, located at approximate Sta. 24+35) of SA-6 for approximately 100 ft. east to approximate Sta. 23+35.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area).
- Prior to placement of GVL or Cap, the plastic sheeting protecting the soil subgrade from the work area was removed. Final soil subgrade inspection was conducted for the area outlined above. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3, 4, and 5 of the daily photo log for 7/20/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the area of approximate Sta. 24+35 to Sta. 23+35 as outlined above.
- Upon soil subgrade approval, and prior to placement of the GVL and Liner, it was determined that an onsite meeting to discuss the revised panel layout and placement would be conducted between AmecFW, Langan, and ENTACT. During this meeting, the revised panel layout, seaming, soil subgrade approval, and other pertinent issues were discussed. Upon review of these topics, it was determined that ESI could begin with placement of GVL and Liner.
- ESI began by placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed on the western end of the Site (Sta. 24+35) moving east. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 7/20/15 Photo Log for supporting photographs.
- After installation of GVL, geomembrane liner was installed beginning at the western end of the Site and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from Sta. 24+35 to approximate Sta. 23+35. A total of four panels were installed (P-1, P-2,

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P-3, and P-4), with seams overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing. The results of the pre-trial weld are provided in the associated QA form submitted for today (7/20), *Trial Weld Log.*

- Upon installation and welding of the geomembrane panels, based on required working permit hours, it was determined that non-destructive testing, and liner repair work would be conducted on 7/21/15. A destructive sample (DS-1) was collected, however, this sample was not shipped on 7/20/15 due to the extended working hours. Sample to be recorded on the *Destruct Log* and shipped on 7/21/15.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log. Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, etc.)
- Review laboratory results for destruct sample DS-1.

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 23+35 to Sta. 22+35).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		
A2 – Receiving and Inspection	Sheet 1 (7/20)	RIR for 12 rolls of LLDPE delivered on 7/20/15 (Report Number 47)
A3 – Photo Log	Pages 1 - 8	Total of 16 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date with LLDPE included until 7/20/15
A5 – Subgrade Approval	Sheets 1 & ESI Form 7/20	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan.
A7 – Panel Placement Log	Sheet 1	One panel placement log provided by ESI and confirmed by Langan
A8 – Seam Testing COC		N / A for 7/20/15
A9 – Seam/Non-Destruct. Test Log		N / A for 7/20/15
A10 – Repair Log		N / A no patch / repair work completed on 7/20
A11 – Conformance COC		N / A for 7/20/15
A12 – Destructive Seam Field Test		N / A DS-1 collected, however this repair and paperwork will be completed on 7/21
A13 – Destruct. Sample Summary		N / A to be updated on 7/21
A14 – Penetration & Edge Form		N / A penetrations for wells to be booted and completed at a later date
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted

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PHOTOGRAPHIC LOG
Photo #1 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking south away from SA-6

Description:

Entact / ESI offloading rolls of 60-mil geomembrane liner according to project specifications.



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PHOTOGRAPHIC LOG
Photo #2 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking west toward Sta. 24+00

Description:

Entact removing plastic sheeting to uncover and expose soil subgrade between Sta. 24+35 and Sta. 23+35.



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PHOTOGRAPHIC LOG
Photo #3(07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking north toward Grid Point 11
15.00

Description:

Prepared soil subgrade approved for liner placement. Slopes compacted and free of loose debris > ½ inch.



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PHOTOGRAPHIC LOG
Photo #4 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking north along Sta. 23+50 corridor

Description:

Prepared soil subgrade approved for liner placement Soil compacted and free of loose debris (> ½ inch), based on visual observations.



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PHOTOGRAPHIC LOG
Photo #5 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking north along Sta. 24+00

Description:

Prepared soil subgrade approved for liner placement. Based on visual observations, soil is graded, compacted, and free of loose debris, as defined by the project specs.



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PHOTOGRAPHIC LOG
Photo #6 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking south / southeast along southern wall of SA-6 cap.

Description:

16 oz. geotextile installed along sheet pile wall according to specifications.



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PHOTOGRAPHIC LOG
Photo #7 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking north / northwest near Sta. 24+00.

Description:

ESI placing GVL along western end of SA-6 cap.



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PHOTOGRAPHIC LOG
Photo #8 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking north near Sta. 24+00

Description:

White plastic fasteners placed at minimum 5 ft. intervals along GVL geonet as outlined in specifications.



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PHOTOGRAPHIC LOG
Photo #9 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking north near Sta. 24+00.

Description:

ESI sewing geotextile seams along installed GVL panels.



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PHOTOGRAPHIC LOG
Photo #10 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking east near Grid Point 11
15.0

Description:

ESI cutting GVL to allow proper conforming within swale / tree bulb contour. Cut patched with GVL and



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PHOTOGRAPHIC LOG
Photo #11 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking south away from SA-6 cap.

Description:

ESI conducting trial weld for LLDPE (geomembrane) seaming as per project specifications.



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PHOTOGRAPHIC LOG
Photo #12 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking south along western end of SA-6 cap.

Description:

Placement of LLDPE (geomembrane) along western end of cap (Sta. 24+35). Panel #1 (P-1) from approved geomembrane roll (Roll #283031).



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PHOTOGRAPHIC LOG
Photo #13 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking south away from SA-6 cap.

Description:

Placement of Panel #2 (P-2) east of P-1.



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PHOTOGRAPHIC LOG
Photo #14 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking south along western end of SA-6 cap.

Description:

Fusion welding conducted between Panel #1 (P-1) and Panel #2 (P-2).



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PHOTOGRAPHIC LOG
Photo #15 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking northwest along western end of SA-6 south cap.

Description:

Installed LLDPE geomembrane panels (P-1, P-2).



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PHOTOGRAPHIC LOG
Photo #16 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking northeast from western end of SA-6 South cap.

Description:

Installed LLDPE geomembrane panels (P-3 ,P-4)



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/21/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	83/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #4**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #4 (P-4) installed on 7/20/15 (located at approximate Sta. 23+25) running approximately 100 ft. east (Sta. 22+35).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting non-destructive testing and patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/20/15 (Panels 1-4). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed with the project specifications (refer to *Preweld Test Report* for 7/21/15 for results).
- A total of eight repairs (RP-1 through RP-8) were observed and fixed (according to the project specifications) from Panel #1 through Panel #4. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted, as outlined in the project specifications.
- Some non-conformance issues were observed, outside of the "custom fit" repairs noted above (refer to *Notice of Non-Compliance and Corrective Action* forms), and were documented on Sheet #1 and Sheet #2 as non-compliance. These issues were also recorded within the *Repair Log* as a subgrade irregularity and are identified as RP-3 and RP-8. The non-compliance issues encountered were identified based on debris / rocks that were observed underneath the geomembrane cap. The rocks were removed from these areas and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #1* and *Sheet #2* for 7/21/15.
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/20/15, Entact removed the plastic sheeting protecting the soil subgrade for the next 100 ft. section of work area (approximate Sta. 23+35 to Sta. 22+35). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/21/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed.

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Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to *Photos #9 & 10* of the daily photo log for 7/21/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 23+35 to Sta. 22+35 as outlined above.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 23+35 (east of P-4) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *7/21/15 Photo Log* for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #4 (located at approximate Sta. 23+35) on 7/20/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 23+35 to Sta. 22+35. A total of four panel lengths were installed (P-5, P-6, P-7, P-8, P-9) by ESI. Note: Encountered the end of the geomembrane roll while placing Panel #6 (P-6). Butt seam required between P-6 and P-7. A destructive test sample (DS-2) was also collected from this seam (one sample for ESI, and one sample for Langan). The results of trial welding test for the destructive sample are outlined in the *Preweld Test Report* for 7/21/15. A total of ten 1-inch specimens were collected for peel and shear strength testing (5 tests for each).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/20), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted patch / repair work and non-destructive testing on Panels 5-9 (as outlined in the project specifications). During the non-destructive testing conducted between Panel 7 (P-7) and Panel 8 (P-8), the non-destruct test failed and a non-compliance issue was noted. Since P-7 only extended approximately 6 ft. (north to south), the entire seam would be patched and repaired (according to the project specifications) on 7/22/15.
- It should also be noted that pipe booting activities were conducted on piezometer PZ20 and well 073-MW-1BR as outlined in the project specifications. These two penetrations were sealed with geomembrane according to the project specifications. However, the final clamps with gasket have not yet been installed. The *Gas Vent and Piezometer Penetrations* Form will be filled and out and confirmed by Langan and ESI once these activities are completed.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 1 (Sheet #1) – Subgrade irregularity identified as RP-3 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #2). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 1 Notice of Non-Compliance*
- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as RP-8 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #2). Stone was subsequently removed and hole was patched/repaired following project specs and further defined in *Sheet 2 Notice of Non-Compliance.*

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- Non-Conformance No. 3 (Proposed Sheet #3) – Failed seam
    - During non-destruct testing of P-7 and P-8 (6 ft. run north to south), the test failed as pressure could not be held within 4 psi (as outlined in project specifications). ESI will patch and repair the entire 6 ft. seam length (according to project specs) and this non-compliance issue will be documented on 7/22/15 and issued a repair number.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/21/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.)
- Review laboratory results for destruct sample DS-2. Note: QA destruct sample also collected (DS-2) by Langan.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Reviewed laboratory destruct sample results for samples DS-1. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 22+35 to Sta. 21+35).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/21/15
A3 – Photo Log	Pages 1 – 9	Total of 18 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date
A5 – Subgrade Approval	Sheet 2 & ESI (7/21/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.

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Daily QA Documents Completed (continued)

A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/21/15.
A7 – Panel Placement Log	Page 2	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/21/15
A8 – Destruct Seam Testing COC	Sheet 1	One Destruct Seam Testing COC for samples collected to date.
A9 – Seam/Non-Destruct. Test Log	Page 1	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/21/15.
A10 – Repair Log	Page 1	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/21/15
A11 – Conformance COC		N / A for 7/21/15
A12 – Destructive Seam Field Test	Page 1	Destructive Seam Field Test log completed by ESI and confirmed by Langan for samples on 7/21/15
A13 – Destruct. Sample Summary	Sheet 1	Destructive Sample Summary completed by ESI and confirmed by Langan on 7/21/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance	Sheets 1 & 2	Notice of Non-Compliance forms completed by Langan and confirmed by ESI/Entact for 7/21/15.

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PHOTOGRAPHIC LOG
Photo #1 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking north to the east of P-4

Description:

Entact preparing soil subgrade for liner placement between Sta. 23+35 and Sta. 22+35.



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PHOTOGRAPHIC LOG
Photo #2 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking down at installed geomembrane cap (near Break Point 548
15.12)

Description:

ESI conducting capping repair work around Break Point 548-15.12). Cap patched and sealed with extrusion welds (documented in Repair Log as RP-1).



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PHOTOGRAPHIC LOG
Photo #3(07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east toward installed Panel #4 (P-4). Placed on 7/20/15

Description:

Non-destructive weld test performed by ESI between Panel #3 and Panel #4. Non-destruct conducted according to project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking north along approximate Sta. 24+00

Description:

ESI patching / repairing area along swale / contour to allow for geomembrane to conform to grade. Patching recorded in Repair Log as RP-1.



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PHOTOGRAPHIC LOG
Photo #5 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking west toward RP-3

Description:

ESI conducting extrusion welding on RP-3. RP-3 identified as non-conformance repair. Rock observed underneath geomembrane.



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PHOTOGRAPHIC LOG
Photo #6 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

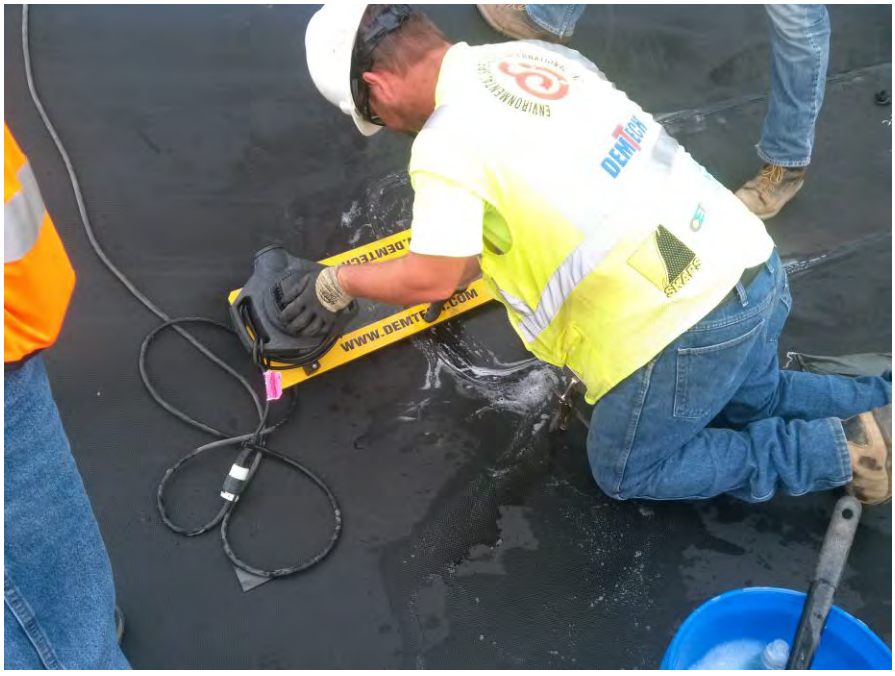
Date:
7/21/15

Direction Taken:

Looking east down along geomembrane liner near Sta. 24+00.

Description:

ESI conducting vacuum box testing on extrusion welds as per project specifications. Vacuum box test being conducted on RP-1.



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PHOTOGRAPHIC LOG
Photo #7 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

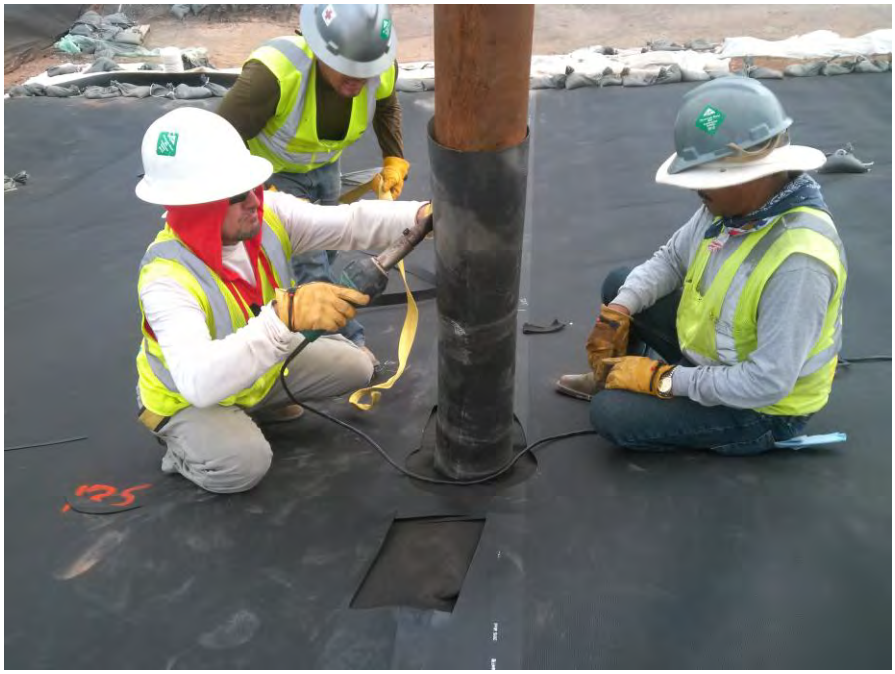
Date:
7/21/15

Direction Taken:

Looking north toward well

Description:

ESI installing geomembrane boot around well 073-MW-1BR according to project specifications.



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PHOTOGRAPHIC LOG
Photo #8 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking west along western end of cap at well piezometer PZ20

Description:

ESI installing geomembrane boot around piezometer PZ20 as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #9 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east beyond Sta. 23+35 (east of P-4)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #10 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east along southern section of SA-6 (from approximate Sta. 23+35)

Description:

Prepared soil subgrade as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #11 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking northeast along northern end of SA-6

Description:

ESI placing 16 oz. geotextile around northern soil cement bentonite (SCB) wall.



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PHOTOGRAPHIC LOG
Photo #12 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking south near Sta. 23+35

Description:

ESI placing GVL (N-S orientation) to the east of installed geomembrane liner. GVL placed from approximate Sta. 23+35 to Sta. 22+35.



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PHOTOGRAPHIC LOG
Photo #13 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking south along SA-6

Description:

Plastic fasteners placed at maximum of 5 ft. spacing for tying adjacent panels of GVL (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #13 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking north near Sta. 23+35

Description:

ESI sewing top of geotextile seem on GVL as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #14 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

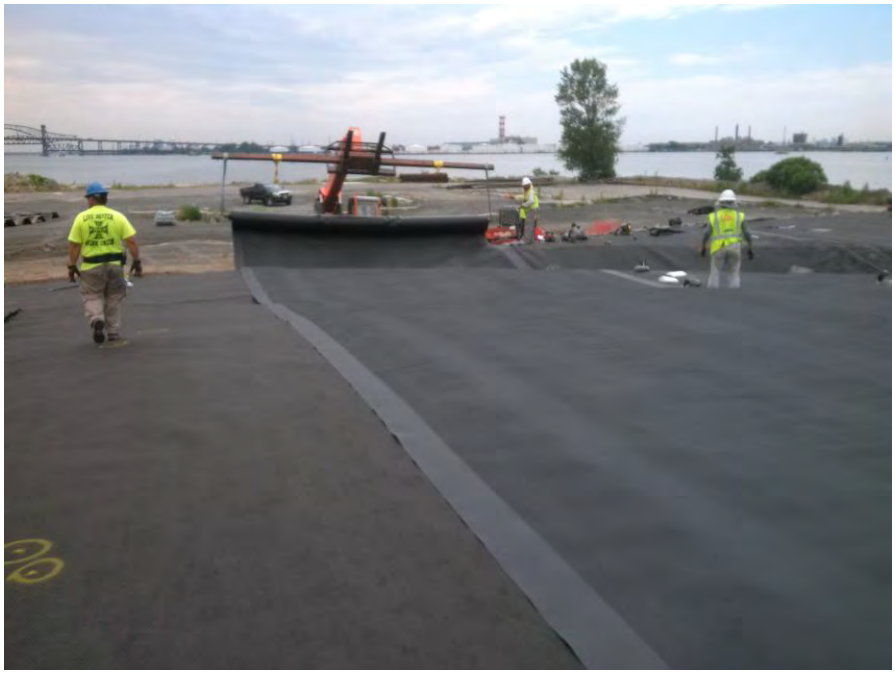
Date:
7/21/15

Direction Taken:

Looking south near Sta. 23+00

Description:

ESI placing 60-mil geomembrane cap, Panel #5 (P-5).



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PHOTOGRAPHIC LOG
Photo #15 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking north along northern slope of SA-6

Description:

ESI conducting fusion welding between geomembrane P-4 and P-5 panel seams (as per project specifications.



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PHOTOGRAPHIC LOG
Photo #17 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking south along geomembrane Panel #6 (P-6).

Description:

Installed geomembrane Panel #6 (P-6).



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PHOTOGRAPHIC LOG
Photo #18 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking north along SA-6 cap.

Description:

Installed geomembrane panels to approximate Sta. 22+35.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/22/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/82° F, Clear, Sunny, Wind (15 mph)
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #5**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #9 (P-9) installed on 7/21/15 (located at approximate Sta. 22+35) running approximately 95 ft. east to Sta. 21+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting non-destructive testing and patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/21/15 (Panels 5-9). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed with the project specifications (refer to *Preweld Test Report* for 7/22/15 for results. Extrusion testing identified with as EXT on form).
- A total of six repairs (RP-9 through RP-14) were observed and fixed (according to the project specifications) from Panel #5 through Panel #9. The majority of these repairs were associated with piezometer pipe boots and repairs for the destructive samples collected. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-conformance issue was observed, outside of the repairs noted above (refer to *Notice of Non-Compliance and Corrective Action* forms), and was documented on Sheet #3 as non-compliance. This issue was also recorded within the Repair Log as a failed seam test (non-destruct test) and identified as RP-13.
- The non-compliance issue encountered was a failed non-destructive seam test conducted between Panels 7/8. The failed seam was along the southern end of SA-6 and was only 6 ft. in total length (butt end of seam as outlined in the 7/21/15 report). As such, the seam was patched according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – Sheet #3 for 7/21/15.

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By: Dan Bosworth

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- Upon completion of the cap detailing, ESI began to install GDL panels beginning at the western end of the Site (Sta. 24+35) and moving east. The GDL panels were installed over the geomembrane cap previously placed on 7/20/15, and were installed to just before the first destructive sample collected (DS-1) along Panels 3/4.
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/21/15 and installing GDL, Entact removed the plastic sheeting protecting the soil subgrade for the next 95 ft. section of work area (approximate Sta. 22+35 to Sta. 21+40). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/22/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 & 3 of the daily photo log for 7/22/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 22+35 to Sta. 21+40 as outlined above.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 22+35 (east of P-9) moving east (for approximately 95 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 7/22/15 Photo Log for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #9 (located at approximate Sta. 22+35) on 7/21/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 22+35 to Sta. 21+40. A total of four panel lengths were installed (P-10, P-11, P-12, and P-13) by ESI.
- A destructive test sample (DS-3) was collected from the Panel 10/11 seam, within the 500 ft. linear foot requirement outlined in the project specifications. The results of trial welding test for the destructive sample are outlined in the *Preweld Test Report* for 7/22/15. A total of ten 1-inch specimens were collected for peel and shear strength testing (5 tests for each).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/22), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted patch / repair work and non-destructive testing on Panels 10-13 (as outlined in the project specifications). The patches associated with Panels 10-13 will be completed with extrusion welds on 7/23/15.
- It should also be noted that pipe booting activities were conducted well 115-W3-SO (located on Panel #8, northern slope) as outlined in the project specifications. The penetration was sealed with geomembrane according to the project specifications. However, the final clamps with gasket have not yet been installed. The *Gas Vent and Piezometer Penetrations* Form will be filled and out and confirmed by Langan and ESI once these activities are completed. Additionally, a gas vent pipe (GV-7) was covered with geomembrane, and will be cut, sealed, and booted according to the specifications at a future date.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 3 (Sheet #3) – Failed seam, identified as RP-13 on *Repair Log*
    - During non-destruct testing of P-7 and P-8 (6 ft. run north to south), the test failed as pressure could not be held within 4 psi (as outlined in project specifications). This area was patched and repaired along the entire 6 ft. seam length (according to project specs) as outlined on *Sheet #3*

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By: Dan Bosworth

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Notice of Non-Compliance.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/22/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/21/15.
- Review laboratory results for Destruct Sample (DS-3)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/21/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Destructive Sample Summary,* and *Certificate of Subgrade Acceptance* forms. Additional review of Preweld Test Report, Seam Control Form, and Repair Report required prior to acceptance.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-2, as well as Langan QA sample (DS-2). Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 21+40 to Sta. 20+40).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/22/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions

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Daily QA Documents Completed (continued)

A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date
A5 – Subgrade Approval	Sheet 3 & ESI (7/22/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/22/15.
A7 – Panel Placement Log	Page 3	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/22/15
A8 – Destruct Seam Testing COC	Sheet 1	One Destruct Seam Testing COC for samples collected to date.
A9 – Seam/Non-Destruct. Test Log	Page 2	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/22/15.
A10 – Repair Log	Page 1	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/22/15
A11 – Conformance COC		N / A for 7/22/15
A12 – Destructive Seam Field Test	Sheet 1	Destructive Seam Field Test log completed by ESI and confirmed by Langan for samples on 7/22/15
A13 – Destruct. Sample Summary	Page 1	Destructive Sample Summary completed by ESI and confirmed by Langan on 7/22/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance	Sheet 3	Notice of Non-Compliance forms completed by Langan and confirmed by ESI/Entact for 7/22/15.

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PHOTOGRAPHIC LOG
Photo #1 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking northwest toward western end of SA-6 South.

Description:

ESI installing GDL along western end of SA-6, from Sta. 24+35 moving east (area previously covered with geomembrane liner on 7/20/15.



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PHOTOGRAPHIC LOG
Photo #2 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking east along southern end of SA-6

Description:

Prepared soil subgrade for geomembrane placement. Approximate 95 ft. section east of geomembrane installed on 7/21/15, approved. Approximate location of Sta. 22+35 to Sta. 21+40.



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PHOTOGRAPHIC LOG
Photo #3(07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking northeast through approximate Sta. 22+00 corridor.

Description:

Soil subgrade approved for geomembrane placement for 7/22/15. Soil graded, compacted, and free of debris (>1/2 inch) as outlined in the project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2215

Direction Taken:

Looking east along southern end of SA-6

Description:

16 oz. geotextile placed by ESI along southern wall of SA-6 with 2 ft. of overlap (outside of sheet pile wall) and one roll width inside.



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PHOTOGRAPHIC LOG
Photo #5 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking south along approx. Sta. 22+35.

Description:

ESI placing GVL along approved soil subgrade.



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PHOTOGRAPHIC LOG
Photo #6 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

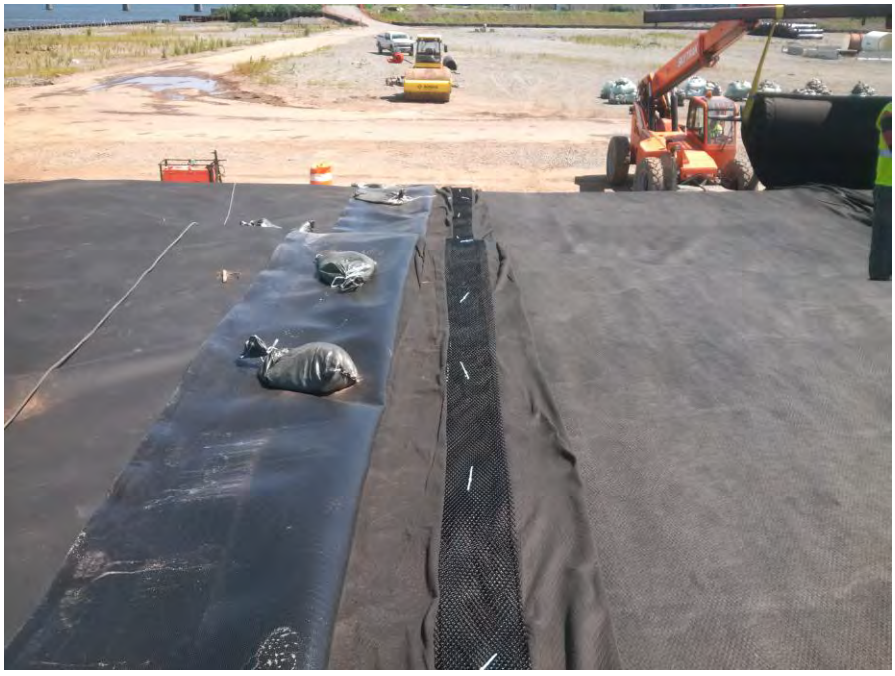
Date:
7/22/15

Direction Taken:

Looking north along Sta. 22+35

Description:

White plastic fasteners placed at a maximum of 5 ft. intervals for tying adjacent panels (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #7 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking north along Sta. 22+35

Description:

ESI sewing geotextile along adjacent GVL panels (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #8 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking south along installed geomembrane panels.

Description:

ESI deploying geomembrane panels (P-10 through P-14).



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PHOTOGRAPHIC LOG
Photo #9 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking north along panel P-10

Description:

Installed Panel #10 (P-10) labeled with roll number (282018).



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PHOTOGRAPHIC LOG
Photo #10 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking along geomembrane cap panels P-9 and P-10.

Description:

ESI conducting fusion welding between geomembrane P-9 and P-10 panel seams (as per project specifications).



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PHOTOGRAPHIC LOG
Photo #11 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking along geomembrane panels

Description:

ESI conducting non-destructive testing as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #12 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking northeast along installed geomembrane cap for 7/21/15

Description:

Installed geomembrane cap weighted at end of day with sand bags.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/23/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/82° F, Clear, Sunny, Wind
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #6**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #13 (P-13) installed on 7/22/15 (located at approximate Sta. 21+40) running approximately 150 ft. east to Sta. 19+90.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying GDL along the western end of the cap. Based on the minor repairs required from the geomembrane placement on 7/22/15, it was determined that extrusion weld repairs would be conducted tomorrow (7/24/15).
- A total of 11 rolls (7 north to south runs over SA-6; approximately 165 ft.) of GDL were deployed along the western end of SA-6. GDL was installed to cover the geomembrane panels placed on 7/20/15 and 7/21/15 (GLD installed up to P-9). Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and geotextile seams sewn along the geotextile for adjacent panels.
- While ESI was and installing GDL along the western end of SA-6, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 150 ft. section of work area (approximate Sta. 21+40 to Sta. 19+90). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/23/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3,4,5, and 6 of the daily photo log for 7/23/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 21+40 to Sta. 19+90 as outlined above.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped

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By: Dan Bosworth

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approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After geotextile was placed, GVL was installed from approximate Sta. 21+40 (east of P-13) moving east (for approximately 150 ft.) to Sta. 19+90. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/23/15 Photo Log for supporting photographs.

- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #13 (located at approximate Sta. 21+40) on 7/22/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 21+40 to Sta. 19+90. A total of five panel lengths were installed (P-14, P-15, P-16, P-17 and P-18) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/23), *Trial Weld Log.*
- As outlined above, no extrusion welding and detailing activities were conducted by ESI. These activities are scheduled to be completed tomorrow (7/24) for the repairs associated with geomembrane capping from 7/22/15 and 7/23/15. It should also be noted that two destructive fusion weld samples will be collected on 7/24/15 from Panels 14-18. An extrusion weld sample will also be required once detailing activities commence in the morning.

Non-Conformance Items / Corrective Actions

- No non-conformance items to be recorded from 7/23/15 as no repair work was completed.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/21/15 and 7/22/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- ESI – complete repair / patch work and collect appropriate destruct samples for fusion and extrusion welding (as outlined in project specifications.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, as well as reviewed and approved ESI submitted forms.
- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/21/15 and 7/22/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Destructive Sample Summary,* and *Certificate of Subgrade Acceptance* forms. Additional review of Preweld Test Report, Seam Control Form, and Repair Report required prior to acceptance.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-3. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 19+90 to Sta. 19+00).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/23/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/23/15
A5 – Subgrade Approval	Sheet 4 & ESI (7/23/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/23/15.
A7 – Panel Placement Log	Page 4	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/23/15
A8 – Destruct Seam Testing COC		No destruct samples collected on 7/23/15. No updates
A9 – Seam/Non-Destruct. Test Log	Pages 3-4	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/23/15.
A10 – Repair Log		N / A no repairs conducted on 7/23/15
A11 – Conformance COC		N / A for 7/23/15
A12 – Destructive Seam Field Test		N / A no destructive tests conducted on 7/23/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 7/23/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A16 – Notice of Non-Compliance		N / A no repairs completed on 7/23/15.

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PHOTOGRAPHIC LOG
Photo #1 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

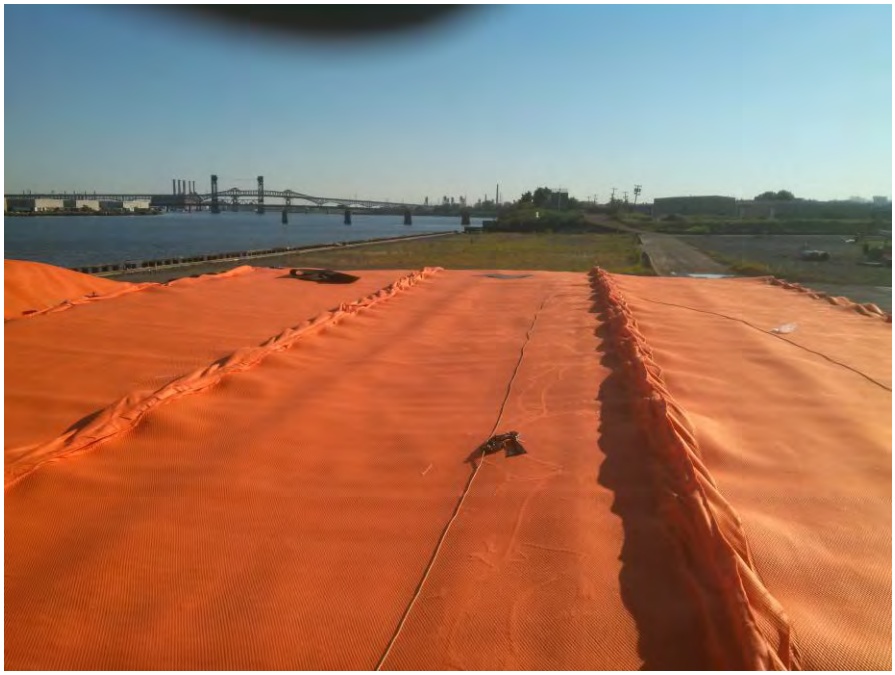
Date:
7/23/15

Direction Taken:

Looking north along western end of SA-6

Description:

GDL installed along western end of cap over geomembrane placed on 7/20/15 and 7/21/15.



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PHOTOGRAPHIC LOG
Photo #2 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking south along western end of SA-6

Description:

ESI placing GDL. Plastic fasteners spaced at maximum of 5 ft. and geotextile sewed along adjacent panels.



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PHOTOGRAPHIC LOG
Photo #3(07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking east along southern boundary wall (sheet piling) of SA-6 from approximate Sta. 21+40

Description:

Soil subgrade approved for geomembrane placement for 7/23/15. Soil graded, compacted, and free of debris (>1/2 inch) as outlined in the project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2315

Direction Taken:

Looking north along SA-6 at approximate Sta. 21+40

Description:

Approved soil subgrade for geomembrane placement. Subgrade prepared in accordance with project specifications.



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PHOTOGRAPHIC LOG
Photo #5 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking northeast toward Sta. 21+00 (collection manhole)

Description:

Approved soil subgrade for geomembrane placement. Soil prepared in accordance with project specifications.



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PHOTOGRAPHIC LOG
Photo #6 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking at prepared soil subgrade around collection manhole. Located by approximate break point 979-13.50

Description:

Soil subgrade prepared around collection manhole.



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PHOTOGRAPHIC LOG
Photo #7 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

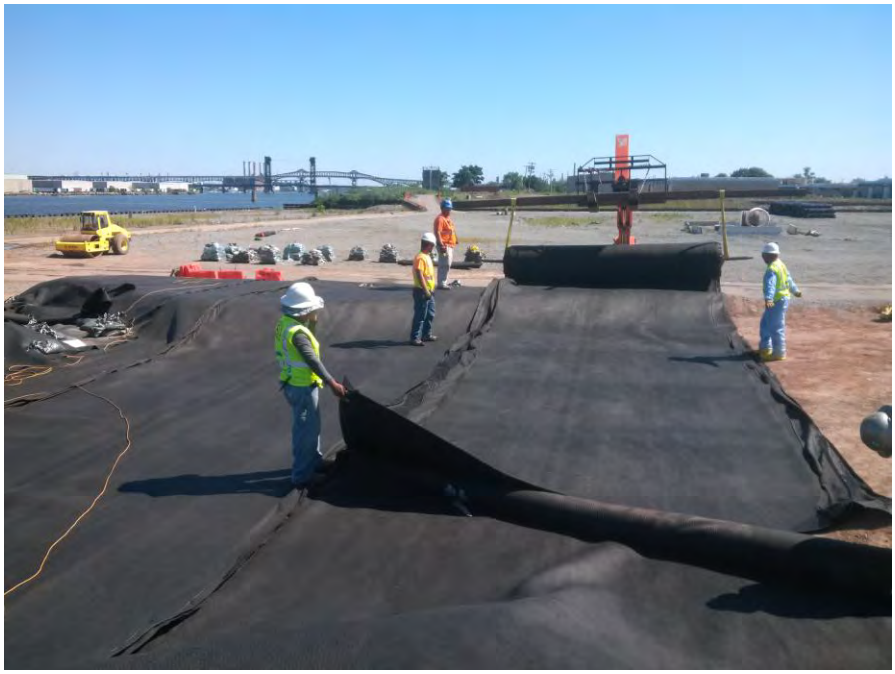
Date:
7/23/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 21+20.

Description:

ESI placing GVL according to project specifications.



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PHOTOGRAPHIC LOG
Photo #8 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking north along SA-6

Description:

GVL panels installed according to project specifications. Plastic fasteners placed at maximum of 5 ft. spacing and geotextile sewed along adjacent panels.



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PHOTOGRAPHIC LOG
Photo #9 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

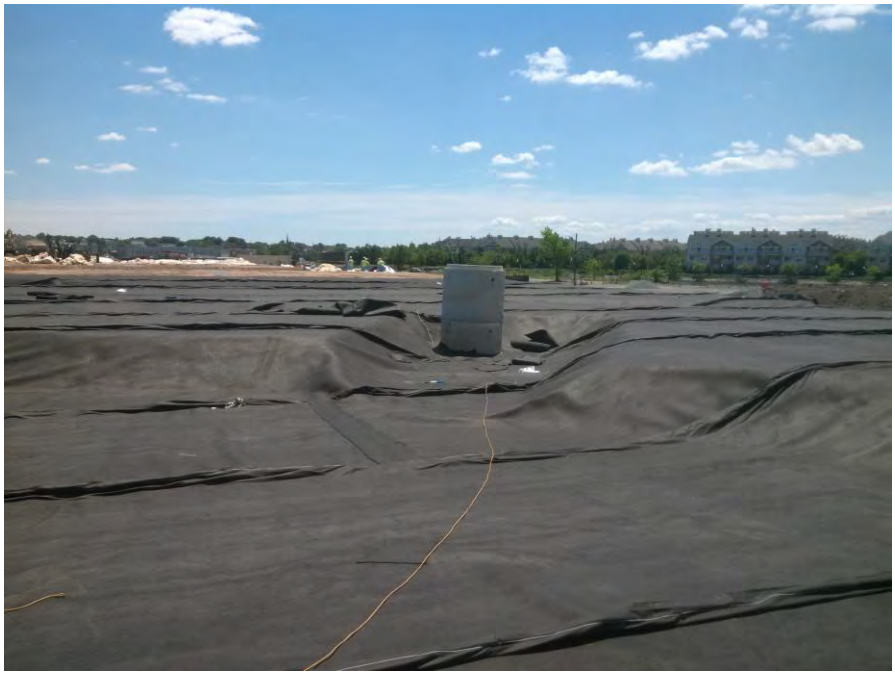
Date:
7/23/15

Direction Taken:

Looking east through Sta. 21+00

Description:

Installed GVL to approximate Sta. 20+30.



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PHOTOGRAPHIC LOG
Photo #10 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking northeast at approximate Sta. 21+20

Description:

ESI placing geomembrane cap (Panels 14 & 15) on top of GVL.



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PHOTOGRAPHIC LOG
Photo #11 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

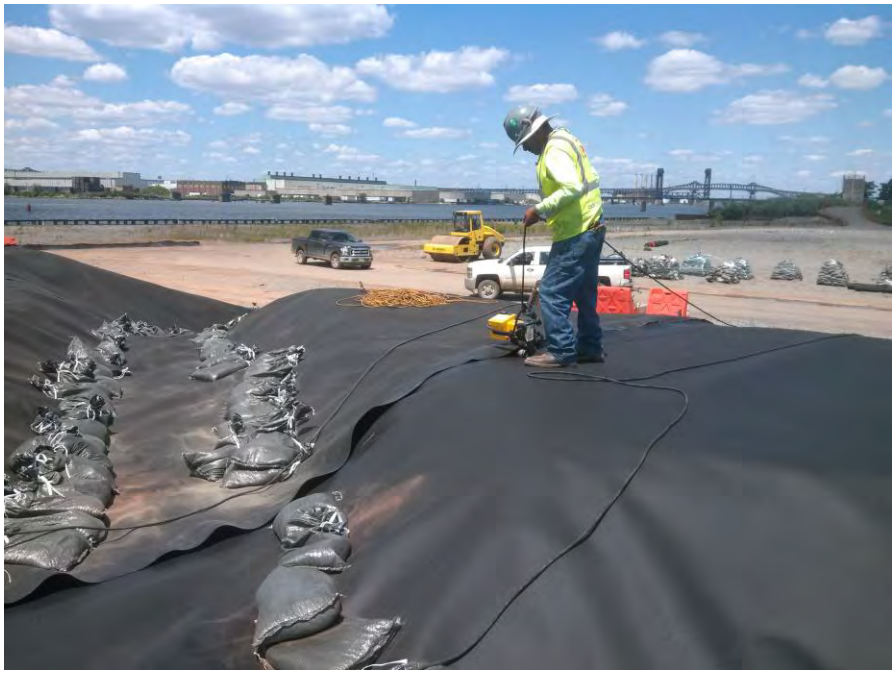
Date:
7/23/15

Direction Taken:

Looking northwestern by northern slope of SA-6

Description:

ESI conducting fusion welding between Panels 13/14



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PHOTOGRAPHIC LOG
Photo #12 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/23/15

Direction Taken:

Looking south at southern end of SA-6

Description:

Installed geomembrane panel #14 (P-14) labeled with corresponding geomembrane roll number.



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PHOTOGRAPHIC LOG
Photo #13 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking north at approximate Sta. 20+90

Description:

ESI placing geomembrane panels. Material placed around collection manhole (Sta. 21+00).



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PHOTOGRAPHIC LOG
Photo #14 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Installed geomembrane cap with GDL visible at far western end.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/24/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	75/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #7**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #18 (P-18) installed on 7/23/15 (located at approximate Sta. 20+25) running approximately 90 ft. east to Sta. 19+00. Note: Soil subgrade approved to approximate Sta. 19+90 on 7/23/15. Geomembrane cap only installed to approximate Sta. 20+25 by ESI (additional 35 ft. of approved subgrade in addition to 90 ft. approved on 7/24/15).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/23/15 (Panels 14-18). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/24/15 for results (extrusion testing identified as EXT. on form).
- A total of seventeen repairs (RP-15 through RP-31) were observed and fixed (according to the project specifications) from Panel #9 through Panel #18 (repair / detailing work conducted on panels installed from 7/22/15 and 7/23/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Some additional repairs (including “custom fit” cuts to conform the geomembrane) required, however, these repairs will be completed on Monday (7/27) to allow ESI to continue to place geomembrane to the east.
- One extrusion weld destruct sample (DSX-1) was collected from Panel #13 (located on RP-17). Extrusion weld destruct samples collected every 500 lf. of welding (as outlined in project specs).
- One non-conformance issue was observed, outside of the repairs noted above (refer to *Notice of Non-Compliance and Corrective Action* forms), and was documented on Sheet #4 as non-compliance. This issue was also recorded within the Repair Log as a subgrade irregularity and was noted and repaired (RP-30) following the project specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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- While ESI was conducting cap detailing for the geomembrane cap placed on 7/22/15 and 7/23/15, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 90 ft. section of work area (approximate Sta. 19+90 to Sta. 19+00). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/24/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #8 & 9 of the daily photo log for 7/24/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 19+90 to Sta. 19+00 as outlined above.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 20+25 (east of P-18) moving east (for approximately 135 ft. total [35 ft. remaining from 7/23/15 + 90 ft. approved on 7/24]). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Along the slopes and elevation changes, additional fasteners were placed along the geonet to provide additional support within these sloped areas. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 7/24/15 Photo Log for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #18 (located at approximate Sta. 20+25) on 7/23/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 20+25 to Sta. 19+00. A total of six panel lengths were installed (P-19, P-20, P-21, P-22, P-23, P-24) by ESI.
- Two destructive test samples (DS-4 & DS-5) were collected from the Panel 14/15 and 17/18 seam, within the 500 ft. linear foot requirement outlined in the project specifications. The results of the trial welding tests for the destructive samples are outlined in the *Preweld Test Report* for 7/24/15. A total of ten 1-inch specimens were collected for peel and shear strength testing (5 tests for each) for each sample.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/24), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted non-destructive testing on Panels 19-24 (as outlined in the project specifications). No patch / repair work on the installed panels was conducted. Patches associated with Panels 19-24 will be completed with extrusion welds and vacuum box testing on Monday (7/27/15). Additionally, some additional patchwork for the panels installed on 7/23/15 will also be completed, as outlined above.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 4 (Sheet #4) – Subgrade irregularity identified as RP-30 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #17). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 4 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/24/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/23/15 forms.

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- Review laboratory test results for destruct samples DS-4 and DS-5 (fusion) and DSX-1 (extrusion). Note: QA sample (DSX-1) also collected by Langan.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/23/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Destructive Sample Summary,* and *Certificate of Subgrade Acceptance* forms. Submittal of additional forms from 7/23/15 and review of Seam Control Form, required prior to acceptance.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-3. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 19+00 to Sta. 18+00).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/24/15
A3 – Photo Log	Pages 1 – 9	Total of 18 photos outlining pertinent daily observations and descriptions for 7/24/15
A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date
A5 – Subgrade Approval	Sheet 5 & ESI (7/24/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/24/15.
A7 – Panel Placement Log	Page 5	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/24/15

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

A8 – Destruct Seam Testing COC	Sheet 1	One Destruct Seam Testing COC for samples collected to date.
A9 – Seam/Non-Destruct. Test Log	Pages 4-5	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/24/15.
A10 – Repair Log	Pages 1-2	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/24/15
A11 – Conformance COC		N / A for 7/24/15
A12 – Destructive Seam Field Test	Sheet 1	Destructive Seam Field Test log completed by ESI and confirmed by Langan for samples on 7/24/15
A13 – Destruct. Sample Summary	Page 1	Destructive Sample Summary completed by ESI and confirmed by Langan on 7/24/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance	Sheet 4	Notice of Non-Compliance forms completed by Langan and confirmed by ESI/Entact for 7/24/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

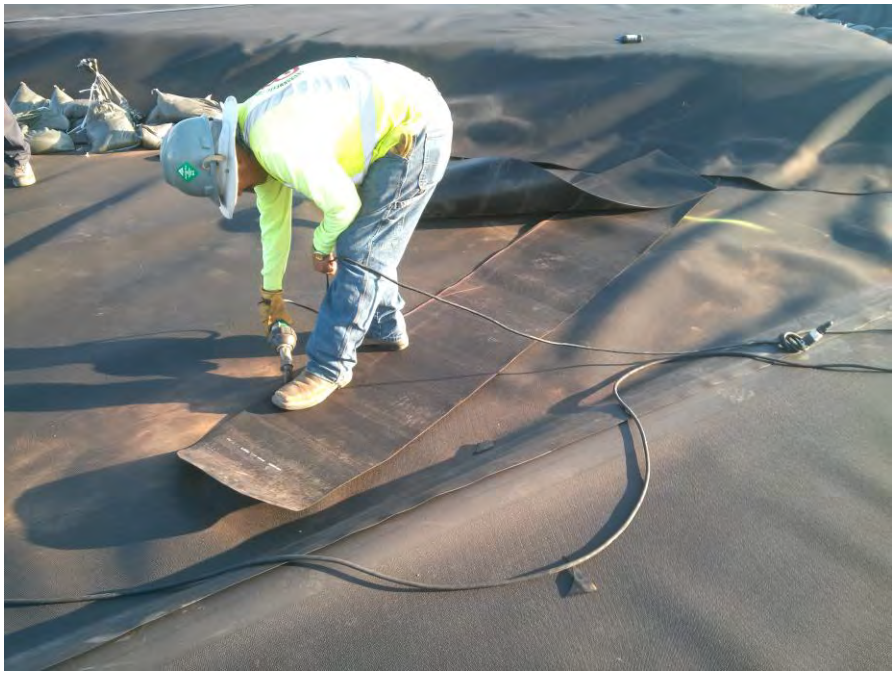
Date:
7/24/15

Direction Taken:

Looking north/northwest at RP-17

Description:

ESI conducting patch / repair work to geomembrane. Areas of cap cut to allow geomembrane "custom fit" around slopes and contours.



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PHOTOGRAPHIC LOG
Photo #2 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking along geomembrane cap and extrusion welding RP-15.

Description:

ESI conducting extrusion welding on patches and repairs. Extrusion weld areas to be tested with vacuum box (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #3(07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking along geomembrane cap at DS-3 area

Description:

ESI preparing to conduct extrusion welding on geomembrane patch repair. Repair placed along seam where destruct sample DS-3 was collected.



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PHOTOGRAPHIC LOG
Photo #4 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2415

Direction Taken:

Looking along geomembrane liner

Description:

ESI conducting vacuum box testing (as outlined in project specs)



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PHOTOGRAPHIC LOG
Photo #5 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

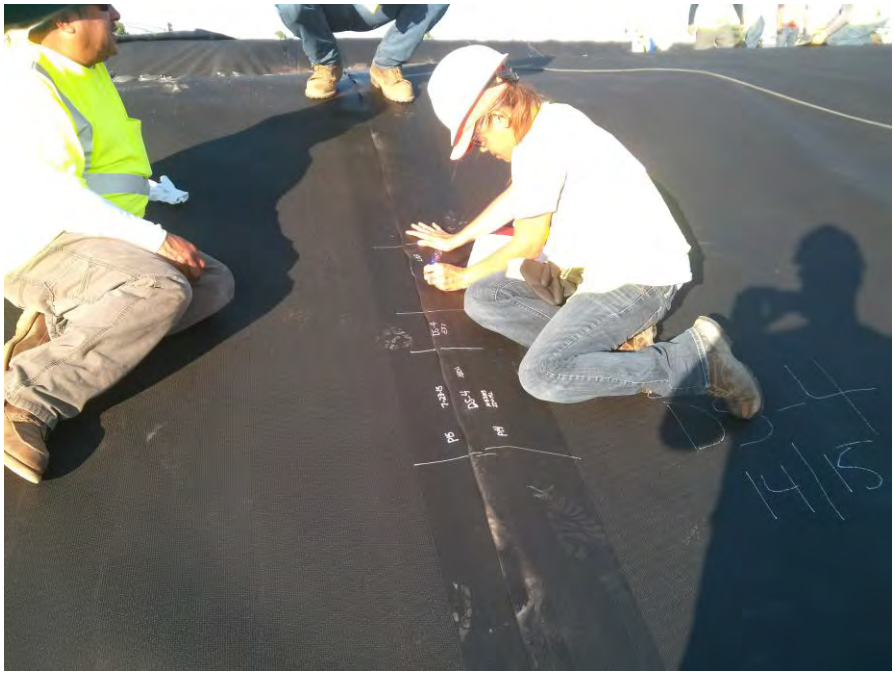
Date:
7/24/15

Direction Taken:

Looking south along geomembrane cap at DS-4 location.

Description:

ESI collecting destruct sample (DS-4) on northern slope of SA-6 as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #6 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

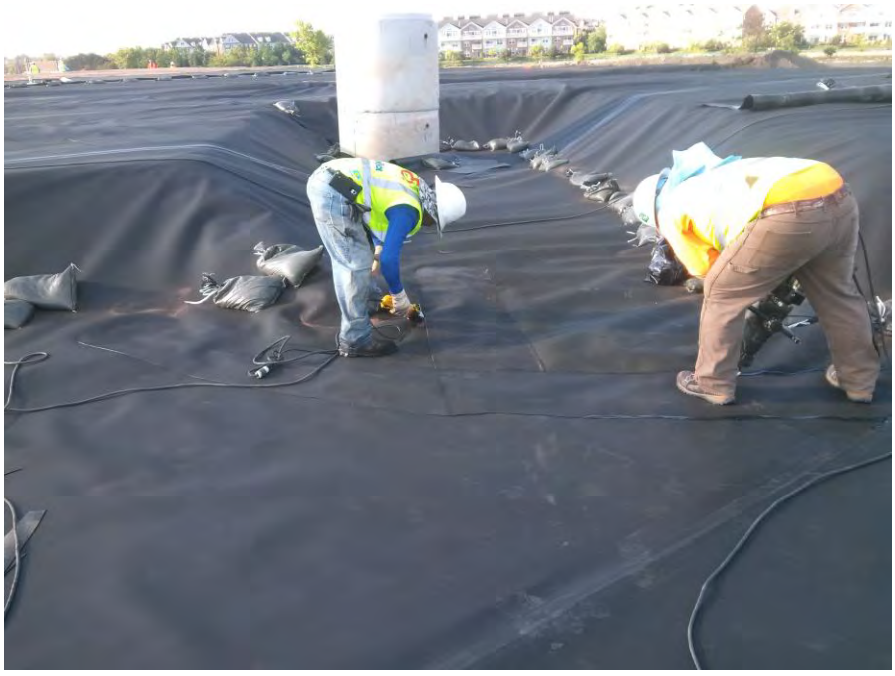
Date:
7/24/15

Direction Taken:

Looking south/southeast along collection manhole (approx. Sta. 21+00)

Description:

ESI conducting grinding and extrusion welding around patches /repairs to “custom fit” geomembrane cap around contours.



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PHOTOGRAPHIC LOG
Photo #7 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Inside ESI work trailer

Description:

Tensiometer (machine number: 2003) used to conduct destruct / trial weld sampling for fusion and extrusion welds (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Prepared soil subgrade from approximate Sta. 19+90 to Sta. 19+00. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #9 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking south at approximate Sta. 19+80

Description:

Soil subgrade prepared for soil placement (approved from approximate Sta. 19+90 to Sta. 19+00) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #10 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking west along geomembrane cap at Sta. 21+00

Description:

ESI conducting geomembrane repair work around collection manhole (following project specs). Temporary boot installed around collection manhole to seal cap for weekend. Permanent / final boot to be installed at a later date.



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PHOTOGRAPHIC LOG
Photo #11 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking east / southeast along southern end of SA-6

Description:

ESI placing 16 oz. geotextile along southern boundary of SA-6 (over sheet pile wall) with 2 ft. of overlap outside (width of roll overlapped onto SA-6), as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #12 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking north along SA-6 at approximate Sta. 20+25.

Description:

ESI placing rolls of GVL along approved soil subgrade.



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PHOTOGRAPHIC LOG
Photo #13 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

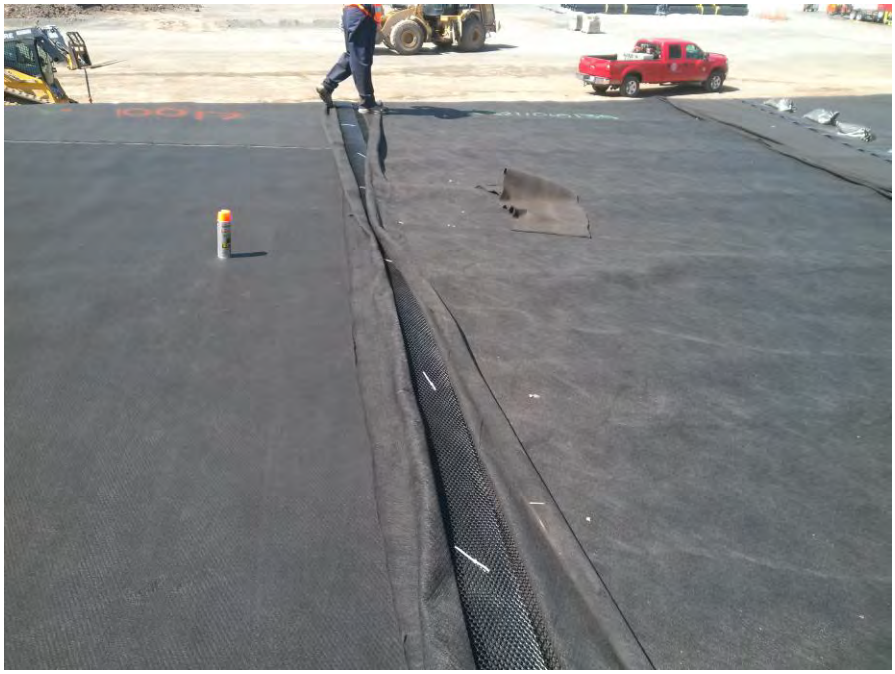
Date:
7/24/15

Direction Taken:

Looking south along SA-6 cap (approximate Sta. 20+25)

Description:

ESI placing white plastic fasteners (maximum of 5 ft. spacing) along geonet for adjacent GVL panels.



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PHOTOGRAPHIC LOG
Photo #14 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking south along SA-6

Description:

Additional plastic fasteners installed along slopes for GVL.



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PHOTOGRAPHIC LOG
Photo #14 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking south along SA-6 (installed Panel #19)

Description:

ESI placing 60-mil geomembrane cap, Panel #19 (P-19) placed and labeled with corresponding roll number.



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PHOTOGRAPHIC LOG
Photo #15 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

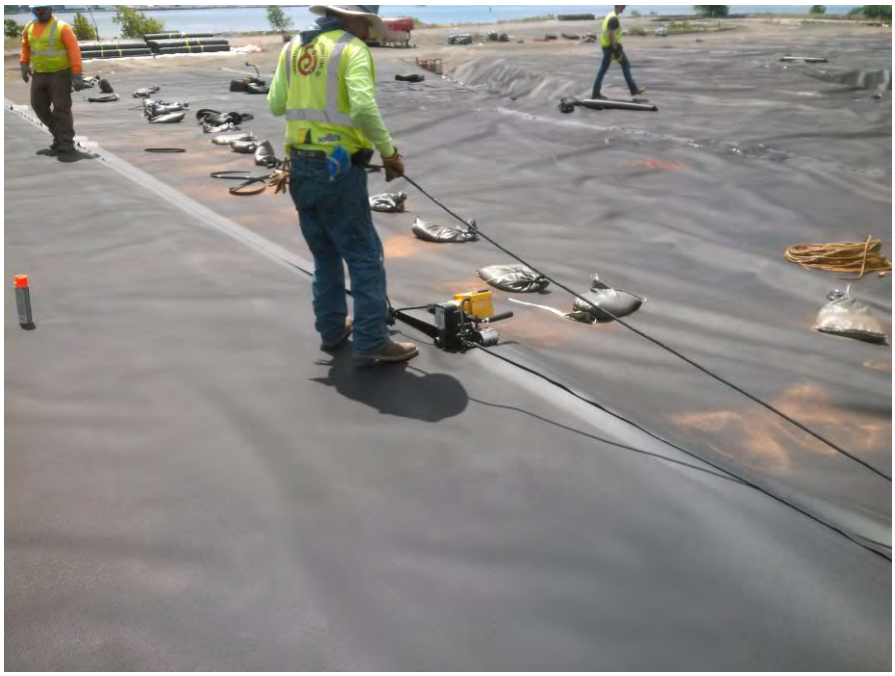
Date:
7/24/15

Direction Taken:

Looking south / southwest along SA-6 cap

Description:

ESI conducting fusion welding between geomembrane P-19 and P-20 as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #17 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking north along installed geomembrane cap

Description:

Sand bags used to weight down geomembrane cap. Additional sandbags placed along slopes and elevation changes.



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PHOTOGRAPHIC LOG
Photo #18 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking east along SA-6 for installed geomembrane cap (to approx. Sta. 19+00)

Description:

Installed geomembrane panels to approximate Sta. 19+00.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/27/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	80/90° F, Hazy, Light Rain
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #8**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #24 (P-24) installed on 7/24/15 (located at approximate Sta. 19+00) running approximately 100 ft. east to Sta. 18+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying GDL along the western end of the cap. GDL was placed to approximate Sta. 21+00 (near collection manhole) which included the placement of 9 rolls (14 different panels) of GDL from P-9 (geomembrane installed on 7/21/15) to P-14 (geomembrane installed up to 7/23/15). Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and sewing of the geotextile completed for adjacent geocomposite panels.
- While ESI was and installing GDL along the western end of SA-6, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 80 ft. section of work area (approximate Sta. 19+00 to Sta. 18+20). Based on visual inspection of the soil, two areas were identified that did not meet the subgrade requirements.
    - The drainage swale located along Sta. 19+00 at Break Point 675-18.54 collected rainwater from storms on 7/26/15. As such the area was soft / wet and did not meet the subgrade requirements. The installed geomembrane and GVL (from 7/24/15) was pulled back and this area was left open to dry. Refer to Photo #2 of 7/27/15 Photo Log.
    - An additional location was identified to the southern end of the SA-6 cap near approximate Bound Point 655-15.58. The 16 oz. geotextile was pulled back from this area and the soil subgrade was allowed to dry. Refer to Photo 3 of 7/27/15 Photo Log.
- Based on the information outlined above, no soil subgrade was approved for GVL and geocomposite placement, as the soil did not conform with the project specifications. As such, no soil subgrade approval forms were completed for 7/27/15.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- With no subgrade approval for additional panel placement (no panel layout forms completed for 7/27/15), ESI conducted patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/23/15 and 7/24/15 (Panels 19-24). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/27/15 for results (extrusion testing identified as EXT. on form).
- A total of twenty-one repairs (RP-31 through RP-51) were observed and fixed (according to the project specifications) from Panels #18 through Panel #24 (repair / detailing work conducted on panels installed from 7/23/15 and 7/24/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: No non-compliance issues were observed as patch / repair work conducted consisted primarily of custom fit repairs to allow geomembrane to conform to SA-6 contours.
- A total of three non-destructive samples were collected for lab testing (as outlined in the project specs). Two fusion weld samples DS-6 (panel seams 20/21) and DS-7 (Panel seams 23/24), along with one extrusion weld sample DSX-2 (south end of SA-6 on P-15) were collected within the 500 linear foot specification requirements.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the repairs associated with 7/27/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/21/15 and 7/22/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Review laboratory test results for destruct samples DS-6 and DS-7 (fusion) and sample DSX-2 (extrusion).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-5 (fusion) and destruct sample DSX-1 (extrusion). Note: QA sample (DSX-1) also reviewed and in compliance with project specs. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 19+00 to Sta. 18+00) to ensure soil subgrade complies with project specs.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/27/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/27/15
A5 – Subgrade Approval		N / A – no subgrade approval for 7/27/15
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for pre and destruct welds completed up to 7/27/15.
A7 – Panel Placement Log		N / A no panels placed on 7/27/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with samples from 7/27/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 7/27/15
A10 – Repair Log	Pages 2-3	One repair report provided by ESI and confirmed by Langan for repairs conducted on 7/27/15.
A11 – Conformance COC		N / A for 7/27/15
A12 – Destructive Seam Field Test	Page 1	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 7/27/15.
A13 – Destruct. Sample Summary	Sheet 1	Updated with sample information from 7/27/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance		No non-compliance issues identified as no new panels were installed

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

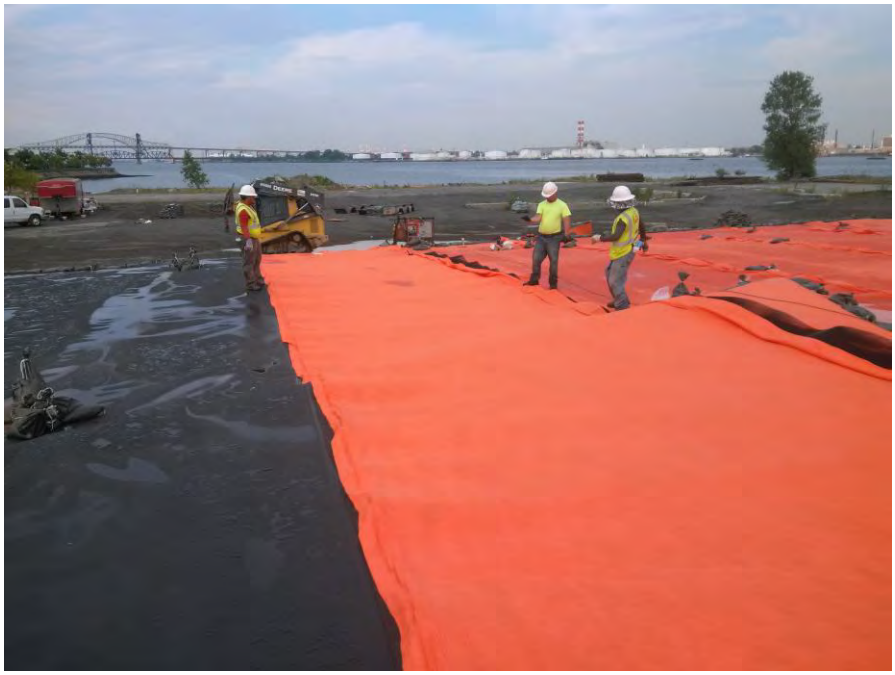
Date:
7/27/15

Direction Taken:

Looking south along SA-6 near Sta. 21+25.

Description:

ESI placing GDL along panels previously installed on 7/22/15 & 7/23/15 (GDL placed up to Panel #14).



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PHOTOGRAPHIC LOG
Photo #2 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking northwest along Break Point 675-15.84.

Description:

GVL & Geomembrane cap pulled back to expose wet / soft area encountered from rain on 7/26/15. Area opened to dry prior to placing GVL and Geomembrane.



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PHOTOGRAPHIC LOG
Photo #3(07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Additional wet / soft area identified along southern end of SA-6 (approximate Bound Point 655-15.58) Geotextile & GVL pulled back to allow area to dry prior to placing additional material.



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PHOTOGRAPHIC LOG
Photo #4 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/2715

Direction Taken:

Looking north / northeast along SA-6 (by geomembrane P-14).

Description:

ESI deploying GDL up to Panel #14 (P-14).



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PHOTOGRAPHIC LOG
Photo #5 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking northwest – collection manhole in background (Sta.21+00)

Description:

ESI conducting vacuum box testing on RP-31 after completion of extrusion welding.



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PHOTOGRAPHIC LOG
Photo #6 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking along SA-6 cap at RP-26

Description:

ESI conducting vacuum box testing on RP-26 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESi cutting destructive test DSX-2 for extrusion weld completed alongRP-32 (identified as RP-34 and located along southern edge of SA-6 cap).



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PHOTOGRAPHIC LOG
Photo #8 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking south along SA-6

Description:

Patch / repair work conducted on southern slope of SA-6. Repairs extrusion welded and vacuum box tested (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #9 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking west along SA-6 (panel 20/21 seam)

Description:

ESI collecting destruct sample along Panel 20/21 seam (DS-6).



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PHOTOGRAPHIC LOG
Photo #10 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking west along SA-6 cap

Description:

ESI collecting destruct along Panel 23/24 seam (DS-7).



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PHOTOGRAPHIC LOG
Photo #11 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking east along SA-6 cap (panel 23/24 seam)

Description:

ESI patching area for DS-7.DS-7 was patched, welded, and vacuum box tested (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #12 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking southwest along SA-6 cap

Description:

ESI completing the day with patch / repair work on “custom fit” patches around xx.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/28/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	78/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #9**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #24 (P-24) installed on 7/24/15 (located at approximate Sta. 19+00) running approximately 80 ft. east to Sta. 18+20. Note: No geomembrane placed on 7/27/15, as soil subgrade was not approved for two wet / soft areas identified at approx. Sta. 19+00 (further described in 7/27/15 report).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI finishing patch / repair work (cap detailing) and vacuum box testing for the geomembrane cap that was installed on 7/24/15 (Panels 19-24). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/28/15 for results (extrusion testing identified as EXT. on form).
- A total of thirty-six repairs (RP-52 through RP-87) were observed and fixed (according to the project specifications) from Panel #19 through Panel #24 (repair / detailing work conducted on panels installed on 7/24/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/24/15, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 100 ft. section of work area (approximate Sta. 19+00 to Sta. 18+00). The previously identified wet / soft areas along Sta. 19+00 were dried, graded, and compacted according to the project specs. Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/28/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3,4,5 of the daily photo log for 7/28/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

The soil subgrade inspection sheet was submitted for the approximate area of Sta. 19+00 to Sta. 17+80 (west of utility corridor).

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 19+00 (east of P-24) moving east (for approximately 80 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *7/28/15 Photo Log* for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #24 (located at approximate Sta. 19+00) on 7/24/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 19+00 to Sta. 18+20. An additional approximately 40 ft. section of subgrade was approved from approximate Sta. 18+20 to Sta. 17+80 to allow ESI to place an additional two panels to the east. A total of six panel lengths were installed (P-25, P-26, P-27, P-28, P-29, P-30) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/28), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted non-destructive testing on Panels 25-30 (as outlined in the project specifications). Additionally, one extrusion weld sample (DSX-3) was collected (as per project specifications) from RP-82 and sent to the approved laboratory for analysis. No patch / repair work on the installed panels was conducted. Patches associated with Panels 25-30 will be completed with extrusion welds and vacuum box testing on Wednesday (7/29/15). Additionally, two destruct samples for the fusion welding will be collected (as required by the project specs) on 7/29/15.

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 7/28/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/28/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Repair Report identified on 7/27/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Review laboratory test results for destruct sample DSX-3 (extrusion).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15, 7/24/15, and 7/27/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-7 (fusion) and destruct sample DSX-1 through DSX-2 (extrusion). Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 17+80 to Sta. 17+00) through utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/24/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/28/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/28/15
A5 – Subgrade Approval	Sheet 6 & ESI (7/28/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheets 1, 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/28/15.
A7 – Panel Placement Log	Page 6	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/28/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 7/28
A9 – Seam/Non-Destruct. Test Log	Sheets 5,6,7	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/28/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A10 – Repair Log	Sheets 2,3,4,5	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/28/15
A11 – Conformance COC		N / A for 7/28/15
A12 – Destructive Seam Field Test	Sheet 1	Updated with information from destruct sample on 7/28
A13 – Destruct. Sample Summary	Sheet 1	Destruct Sample Summary provided by ESI and confirmed by Langan for sample DSX-3
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted as repair / patching in compliance with project specs.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along Panel #19 (P-19)

Description:

Completed repair / patch work (from7/27) along P-19. Repairs RP-46, RP-47, RP-48, and RP-49.



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PHOTOGRAPHIC LOG
Photo #2 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along Panel Seam 17/18

Description:

Completed repair / patch work along Panel 17/18 seam. Repair RP-31 shown.



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PHOTOGRAPHIC LOG
Photo #3(07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking northwest along drainage swale near Break Point 675-15.84

Description:

Soil subgrade around drainage swale dried, graded, and compacted (according to specs). Area previously identified as soft/wet on 7/27/15. Based on visual observation area approved for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #4 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2815

Direction Taken:

Looking east along southern end of SA-6 cap.

Description:

Soil subgrade approved from approximate Sta. 19+00 to Sta.18+20.Area graded, compacted, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #5 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along Y-channel located at approximate Break Point 684-16.04

Description:

Soil subgrade approved for geomembrane placement. Soil graded, compacted, and free of debris (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #6 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along approx. Sta. 19+00

Description:

ESI placing geocomposite. White plastic fasteners placed at a maximum of 5ft., and geotextile sewn (according to project specs).



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PHOTOGRAPHIC LOG
Photo #7 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

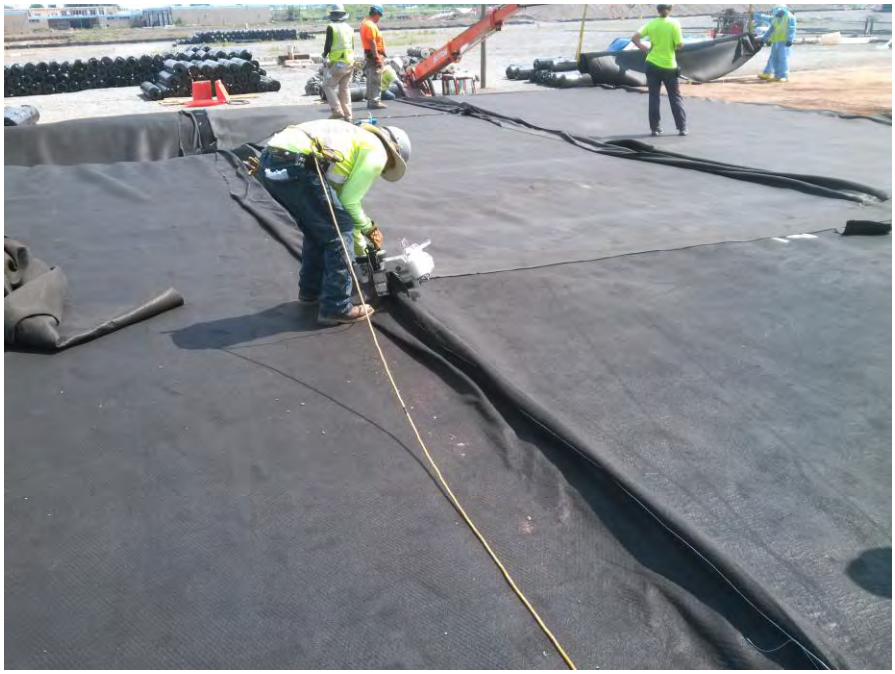
Date:
7/28/15

Direction Taken:

Looking north at approximate Sta. 19+00

Description:

ESi sewing GVL geotextile for adjacent geocompoiste panels.



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PHOTOGRAPHIC LOG
Photo #8 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking south at approximate Sta. 19+00

Description:

ESI deploying geomembrane cap over GVL. Panel #25 (P-25) being placed.



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PHOTOGRAPHIC LOG
Photo #9 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking south along Panel 24/25 seam (approximate Sta. 19+00)

Description:

ESI conducting fusion welding along Panel 24 (installed on 7/24) and Panel 25 (installed on 7/28).



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PHOTOGRAPHIC LOG
Photo #10 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking south along Panel #25 (P-25)

Description:

Panel #25 (P-25) placed and labeled with corresponding roll number shown.



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PHOTOGRAPHIC LOG
Photo #11 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking south at approximate Sta. 18+00

Description:

GVL installed to approximate Sta. 17+80



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PHOTOGRAPHIC LOG
Photo #12 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking northeast along SA-6 cap

Description:

Installed geomembrane cap to approx. 17+80



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	7/29/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	77/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0600 – 1715

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #10**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #30 (P-30) installed on 7/28/15 (located at approximate Sta. 17+80) running approximately 80 ft. east to Sta. 17+00 (up to 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI finishing patch / repair work (cap detailing) and vacuum box testing for the geomembrane cap that was installed on 7/28/15 (Panels 25-30). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/29/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-two repairs (RP-88 through RP-129) were observed and fixed (according to the project specifications) from Panel #25 through Panel #30 (repair / detailing work conducted on panels installed on 7/28/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Additionally, pipe boots were completed (with seals and clamps) for PZ-20, 073-MW-1BR, 115-W3-SO, and GV-7, however, the final butyl seal around the top of the boot is required prior to completion of the *Pipe Boot and Penetration Logs.*
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/28/15, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 80 ft. section of work area (approximate Sta. 17+80 to Sta. 17+00). Prior to soil approval, the area was spot checked for survey elevations and was approved as acceptable and within the grading requirements. Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/29/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Refer to Photos #5 and 8 of the daily photo log for 7/29/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+80 to Sta. 17+00 (up to 1st utility corridor).

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 17+80 (east of P-30) moving east (for approximately 80 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *7/29/15 Photo Log* for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #30 (located at approximate Sta. 17+80) on 7/28/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 17+80 to Sta. 17+00. A total of four panel lengths were installed (P-31, P-32, P-33, P-34) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/29), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted non-destructive testing on Panels 31-34 (as outlined in the project specifications). Additionally, three non-destruct samples were collected (DS-8, DS-9, and DSX-4). DS-8 was collected from Panel 26/27, DS-9 from Panel 29/30, and DSX-4 (extrusion weld) was collected from Panel #27 (RP-102).

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 7/29/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/29/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Repair Report and Seam Control identified on 7/28/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Review laboratory test results for destruct sample DS-8 and DS-9 (fusion), along with DSX-4 (extrusion).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15, 7/24/15, and 7/27/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Completed Langan Daily Report, Photo Log, and Soil Subgrade Approval Form for 7/28/15. Revisions for Repair Report and Seam Control Form required prior to sign-off.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-7 (fusion) and destruct sample DSX-1 through DSX-3 (extrusion). Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 17+80 to Sta. 17+00) through utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/29/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/29/15
A5 – Subgrade Approval	Sheet 7 & ESI (7/29/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/29/15.
A7 – Panel Placement Log	Page 7	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/29/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 7/28
A9 – Seam/Non-Destruct. Test Log	Sheets 5,6,7	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/28/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A10 – Repair Log	Sheets 5,6,7	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/29/15
A11 – Conformance COC		N / A for 7/28/15
A12 – Destructive Seam Field Test	Sheet 1, 2	Updated with information from destruct sample on 7/28
A13 – Destruct. Sample Summary	Sheet 1	Destruct Sample Summary provided by ESI and updated for sample DSX-3
A14 – Penetration & Edge Form		N / A additional review of QA form required prior to completion
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 7/29

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking north along Panel 20/21 seam

Description:

Completed patch / repair work (from 7/28). RP-71 and RP-73



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PHOTOGRAPHIC LOG
Photo #2 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

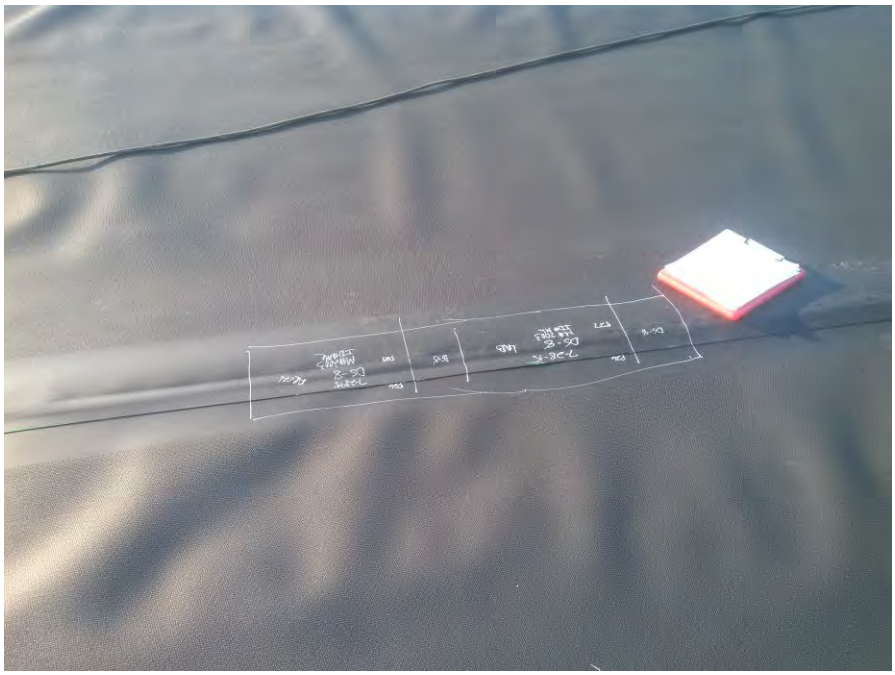
Date:
7/29/15

Direction Taken:

Looking at geomembrane at Panel 26/27

Description:

ESI collecting destruct sample (DS-8) along Panel 26/27 seam, located at northern slope of SA-6.



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PHOTOGRAPHIC LOG
Photo #3(07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along western end of SA-6

Description:

Final boot installed along well 073-MW-1BR, with supporting gasket and double clamps.



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PHOTOGRAPHIC LOG
Photo #4 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along western end of cap (PZ-20)

Description:

Geomembrane boot installed around PZ-20. Secured with gasket and double clamps.



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PHOTOGRAPHIC LOG
Photo #5 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking north along SA-6 (previously installed liner)

Description:

Prepared soil subgrade approved for liner placement. Based on visual observations, soil is graded, compacted, and free of loose debris, as defined by the project specs.



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PHOTOGRAPHIC LOG
Photo #6 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along SA-6 cap (eastern end of Panel 27)

Description:

ESI conducting vacuum box test on repair / patch extrusion weld (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (07/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/29/15

Direction Taken:

Looking north along SA-6 at approximate Sta. 17+80

Description:

ESI deploying GVL along approximate Sta. 17+80.



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PHOTOGRAPHIC LOG
Photo #8 (07/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/29/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Entact placing sand / bentonite plug at southern end of utility corridor (approximate Sta. 16+20).



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PHOTOGRAPHIC LOG
Photo #9 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking south along approximate Sta. 17+80

Description:

ESI deploying geomembrane at approximate Sta. 17+80.



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PHOTOGRAPHIC LOG
Photo #10 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along SA-6 cap (from Panel #31).

Description:

ESI conducting fusion welding along Panel 30/31 seam as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #11 (07/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/29/15

Direction Taken:

Looking south / southeast along southern end of SA-6 cap (P-32)

Description:

PZ-18 stickup located on southern and western end of SA-6 (on Panel #32). PZ-18 to be booted and sealed (as outlined in project specs) on 7/30/15.



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PHOTOGRAPHIC LOG
Photo #12 (07/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/29/15

Direction Taken:

Looking northeast along SA-6 cap

Description:

Installed geomembrane panels (P-31 & P-32). ESI conducting fusion welding (as outlined in project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/30/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	76/85° F, Overcast, PM T-Storms
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1500

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #11**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL), and geocomposite clay liner (GVL), continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) through 1st utility corridor located at approximate Sta. 16+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/29/15 (Panels 31-34). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/30/15 for results (extrusion testing identified as EXT. on form).
- A total of fifteen repairs (RP-130 through RP-144) were observed and fixed (according to the project specifications) from Panels #31 through Panel #34 (repair / detailing work conducted on panels installed from 7/29/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), and also to remove wrinkles observed around changes in elevation. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As outlined above, no non-conformance issues were observed during repair/patch work conducted on 7/30/15, as repairs were associated with conforming the geomembrane to the SA-6 contours.
- Based on the expected weather forecast of early afternoon thunderstorms, it was determined that no GCL would be placed within the utility corridor. As such, no soil subgrade was approved for GCL placement and no panel placement forms were completed.
- ESI instead deployed GDL along the western end of the cap. GDL was placed to approximate Sta. 20+00 which included the placement of 12 rolls (rolls from north to south of SA-6; 17 different panel numbers with butt seams) of GDL from P-14 to P-21. GDL Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and sewing of the geotextile completed for adjacent geocomposite panels (with orange fabric obtained from extra roll of GDL).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- In addition to GDL placement, Entact began to build an access ramp toward the western end of the SA-6 cap to bring in protective cover soil for placement over GDL. Prior to ramp construction, approved caution tape (as outlined in the project specs was placed at a maximum 55-inch distance on top of the GDL prior to protective cover soil being spread.
- A total of one non-destructive sample (DS-10) was collected for lab testing (as outlined in the project specs). DS-10 was comprised of a fusion weld sample from Panels 32/33.

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 7/30/15 consisted of custom fit design or wrinkle removal to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/30/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 1 gas vent).
- Review laboratory destruct samples (peel and shear) for DS-10 and DSX-4

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-9, and DSX-1 through DSX-3. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 17+00 to Sta. 16+00) through the 1st utility corridor.
- Begin placement of GCL along 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/30/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/30/15
A5 – Subgrade Approval		N / A – no subgrade approval for 7/30/15
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for pre and destruct welds completed up to 7/30/15.
A7 – Panel Placement Log		N / A no panels placed on 7/30/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample from 7/30/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 7/30/15
A10 – Repair Log	Page 7	One repair report provided by ESI and confirmed by Langan for repairs conducted on 7/30/15.
A11 – Conformance COC		N / A for 7/30/15
A12 – Destructive Seam Field Test	Page 2	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 7/30/15.
A13 – Destruct. Sample Summary	Sheet 1	Updated with sample information from 7/30/15
A14 – Penetration & Edge Form		N / A to be completed for PZ-18 once final clamps and gaskets are installed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed on 7/30/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/30/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/30/15

Direction Taken:

Looking southeast along southern end of cap

Description:

ESI conducting booting activities for PZ-18 (located on P-32).



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PHOTOGRAPHIC LOG
Photo #2 (07/30/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/30/15

Direction Taken:

Looking west along installed geomembrane cap (taken from approx. Sta. 17+50)

Description:

Installed geomembrane cap to date.



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PHOTOGRAPHIC LOG
Photo #3(07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

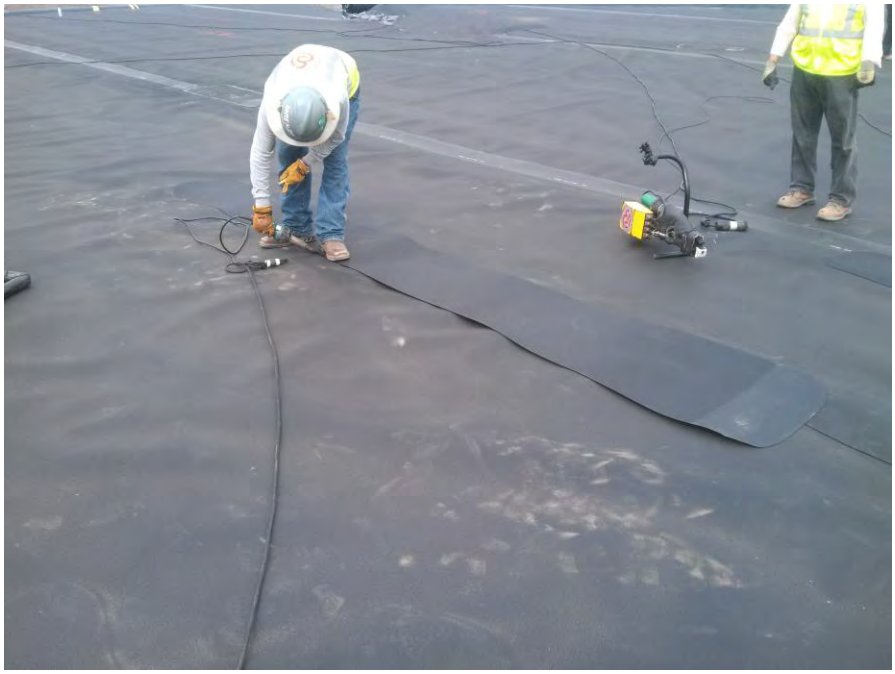
Date:
7/30/15

Direction Taken:

Looking southwest along geomembrane cap

Description:

ESI conducting patch / repair work for panels installed on 7/29/15 (Panels 31-34).



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PHOTOGRAPHIC LOG
Photo #4 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

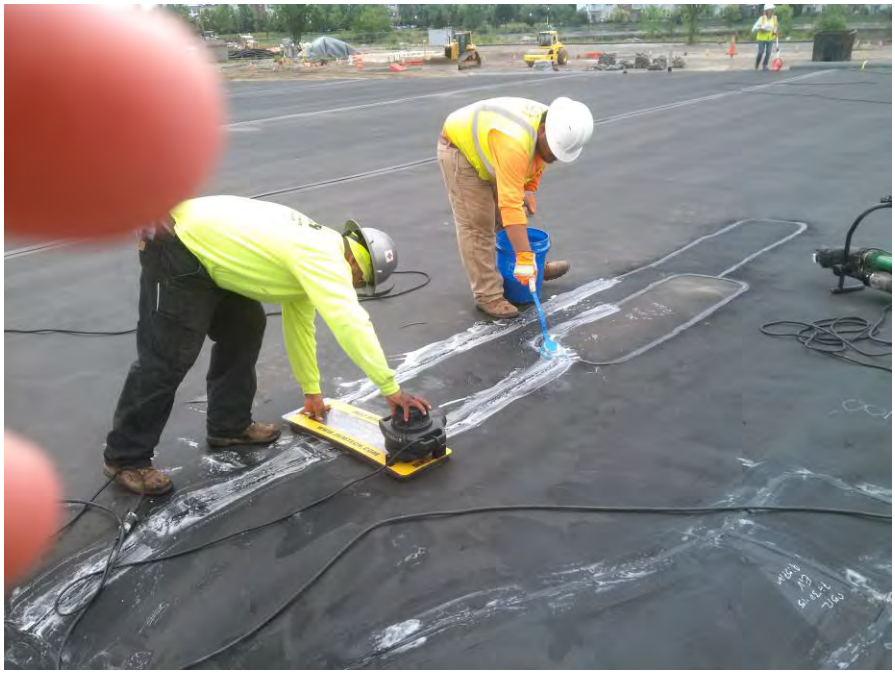
Date:
7/30/15

Direction Taken:

Looking southeast along SA=6 cap.

Description:

ESI conducting vacuum box testing (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/30/15

Direction Taken:

Looking north along SA-6

Description:

ESi deploying GDL over previously installed geomembrane cap.



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PHOTOGRAPHIC LOG
Photo #6 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/30/15

Direction Taken:

Looking west along SA-6 cap from approx. Sta. 17+50

Description:

Installed GDL up to approx. Sta. 21+00 (collection manhole).



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PHOTOGRAPHIC LOG
Photo #7 (07/30/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/30/15

Direction Taken:

Looking west along northern slope of SA-6

Description:

Entact beginning to build ramp and access-way for soil placement over GDL. Warning tape placed at approx. 55-inch intervals over GDL.



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PHOTOGRAPHIC LOG
Photo #8 (07/30/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/30/15

Direction Taken:

Looking west along SA-6 cap

Description:

Ramp built up to SA-6 for placement of cover soil over installed GDL.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/31/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #12**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from Panel #21 (P-21) to approximate Panel #33 (P-33). Based on the PM thunderstorms from 7/30/15, soil subgrade through the utility corridor could not be approved due to soft / wet areas identified. As such, ESI prepped to deploy GDL over the installed geomembrane areas.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI filling sand bags for GVL / geomembrane placement.
- While ESI was filling sandbags, Langan, AmecFW, and Entact conducted a review of the as-built panel layout to confirm repairs and associated panel locations. Once this information was confirmed, ESI began to deploy GDL over the installed geomembrane.
- ESI deployed GDL along the western end of the cap. GDL was placed from approximate Sta. 20+00 (approx. P-21 location) to approx. Sta. 17+00 (approx. P-33 location) which included the placement of 21 rolls (rolls from north to south of SA-6; 28 different panel numbers with butt seams) of GDL from P-21 to P-33. GDL Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and sewing of the geotextile completed for adjacent geocomposite panels (with orange fabric obtained from extra roll of GDL).
- No geomembrane patch / repair work was conducted as part of the 7/31/15 daily activities. Similarly, no new panels were installed as soil subgrade was not approved.

Non-Conformance Items / Corrective Actions

- No non-conformance items observed for work activities completed on 7/31/15. No geomembrane panels installed, and no patch / repair work or sampling was conducted.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/31/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 1 gas vent).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 100 ft. run east (approximately from Sta. 17+00 to Sta. 16+00) through the 1st utility corridor.
- Begin placement of GCL along 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/31/15
A3 – Photo Log	Pages 1 – 2	Total of 4 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/31/15
A5 – Subgrade Approval		N / A – no subgrade approval for 7/31/15
A6 – Trial Weld Log		N / A – no trial welds conducted for 7/31/15 activities
A7 – Panel Placement Log		N / A no panels placed on 7/30/15
A8 – Destruct Seam Testing COC		N / A no non-destruct samples collected on 7/31/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 7/31/15
A10 – Repair Log		N / A no repair report for 7/31/15 activities
A11 – Conformance COC		N / A for 7/31/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 7/31/15
A13 – Destruct. Sample Summary		N / A no updates from 7/31/15
A14 – Penetration & Edge Form		N / A to be completed for PZ-18 once final clamps and gaskets are installed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed on 7/31/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/31/15

Direction Taken:

Looking north along 1st utility corridor (located at approx. Sta. 16+50

Description:

Utility corridor with wet / soft areas identified due to heavy rains. Soil subgrade not approved for GCL placement.



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PHOTOGRAPHIC LOG
Photo #2 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

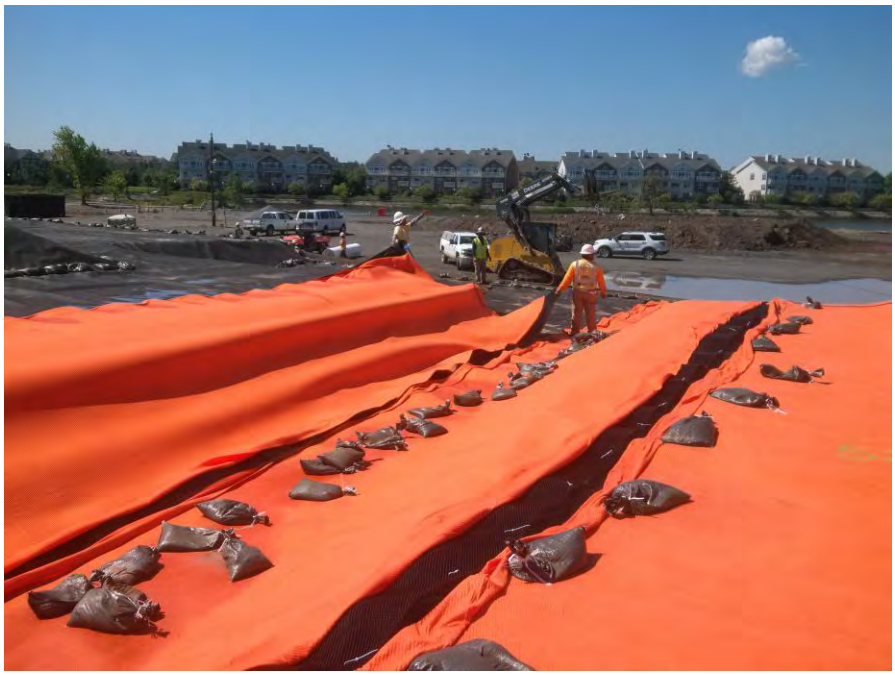
Date:
7/31/15

Direction Taken:

Looking south along geomembrane cap (near approx. Sta. 19+90)

Description:

ESI deploying GCL over previously installed geomembrane panels near Sta. 19+90 (over Panels 21 & 22).



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PHOTOGRAPHIC LOG
Photo #3(07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/31/15

Direction Taken:

Looking west along SA-6 (installed GDL)from approximate Sta. 17+20

Description:

Installed GDL up to approximate Sta. 17+20 along SA-6 (from western end).



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PHOTOGRAPHIC LOG
Photo #4 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/31/15

Direction Taken:

Looking west along northern end of SA-6 (at approx.. Sta. 18+00.

Description:

Installed GDL to date



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/3/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1945

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #13**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) running through first utility corridor approximately 120 ft. east to Sta. 15+80 (to eastern end of 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing an additional two panels of GDL (moving east from Panel #33) to cover up to geomembrane Panel #34 (P-34). While GDL was being placed, Langan and Entact conducted soil subgrade approval from approximate Sta. 17+00 to Sta. 15+80 (through 1st utility corridor). Refer to *Soil Subgrade Approval* forms from 8/3/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1,2, and 3 of the daily photo log for 8/3/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+00 to Sta. 15+80 (to eastern side of 1st utility corridor).
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the bottom and slopes of the utility corridor (shown in the *8/3/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. Note: Prior to GCL placement, a soil transition slope (approx. 2 ft. by 2 ft. was constructed along the northern slope of the utility corridor to allow the GCL to transition over the slope without having to conform to the 90 deg. turns of the SCB wall). This soil slope modification was approved prior to construction.
- In addition to the GCL (placed within the utility corridor), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/3/15 Photo Log* for supporting photographs.

- After installation of GCL and GVL through the utility corridor, geomembrane cap was installed continuing east of previously installed Panel #34 (located at approximate Sta. 17+00) on 7/29/15. Panels were oriented from east to west through the utility corridor (as proposed in the approved Panel Layout) and were installed through the utility corridor (located at approx. Sta. 16+50) running from the top of the western slope to the top of the eastern slope. Additional panels were installed outside of the utility corridor and were T (butt seamed) into the east-west panels from inside the utility corridor (the panels outside of the utility corridor reverted back to the north-south orientation as indicated on the approved panel layout). A total of twelve panel lengths (different dimensions and sizes) were installed (P-35, P-36, P-37, P-38, P-39, P-40, P-41, P-42, P-43, P-44, P-45, and P-46) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/3), *Trial Weld Log.*
- Installation and welding of the geomembrane panels was conducted until approximately 8 pm to ensure that the utility corridor was properly covered and sealed due to expected overnight storms. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/4/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no patch / repair work was conducted on geomembrane cap.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+80 to Sta. 14+80) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/3/15
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/15
A5 – Subgrade Approval	Sheet 8 & ESI (8/3/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/15.
A7 – Panel Placement Log	Pages 8 & 9	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/3/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/3/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/3/15
A10 – Repair Log		N / A no repairs conducted on 8/3/15
A11 – Conformance COC		N / A for 8/3/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/3/15
A13 – Destruct. Sample Summary		N / A no updates to form (no samples collected on 8/3)
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/3/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking north along 1st utility corridor (located at approx. Sta. 16+50

Description:

Utility corridor subgrade dried, graded, and compacted after storm. Area approved for geomembrane placement (as per project specifications).



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PHOTOGRAPHIC LOG
Photo #2 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking west along northern end of SA-6

Description:

ESI constructing approx. 2 ft. by 2 ft. soil slope up to SCB wall. Approved change from having GCL and geomembrane with 90 deg. bends along SCB wall.



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PHOTOGRAPHIC LOG
Photo #3(08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south along 1st utility corridor (approx. Sta. 16+50)

Description:

Approved soil subgrade for cap placement. Soil graded, compacted, and free of debris (>1/2"), as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south / southwest along utility corridor (approx. Sta. 16+50)

Description:

ESI installing GCL along bottom of utility corridor (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/3/15

Direction Taken:

Looking south along bottom of utility corridor

Description:

ESi overlapping GCL panels (minimum of 1 ft.) as outlined in project specs. Bentonite used to seal seams.



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PHOTOGRAPHIC LOG
Photo #6 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/3/15

Direction Taken:

Looking north along bottom of utility corridor

Description:

ESI placing granular bentonite along GCL seams.



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PHOTOGRAPHIC LOG
Photo #7 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking west along utility corridor (approx. Sta. 16+50)

Description:

ESI installing GCL along slopes of corridor to minimum elevation (approx. El. 14) as outlined in the project specifications. GCL overlapped a minimum of 1 ft. along seams.



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PHOTOGRAPHIC LOG
Photo #8 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking southwest along utility corridor.

Description:

GCL installed along base and western wall of utility corridor.



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PHOTOGRAPHIC LOG
Photo #9 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south along western slope of utility corridor

Description:

GCL overlapped a minimum of 2 ft. over the top of the corridor slope. GCL secured with 6-inch staples along top of panel.



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PHOTOGRAPHIC LOG
Photo #10 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south along eastern end of utility corridor.

Description:

GVL panel installed over top of GCL (minimum of 1 ft. overlap) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #11 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south down along utility corridor

Description:

GCL installed throughout utility corridor. ESI prepping to cover GCL with geomembrane cap.



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PHOTOGRAPHIC LOG
Photo #12 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

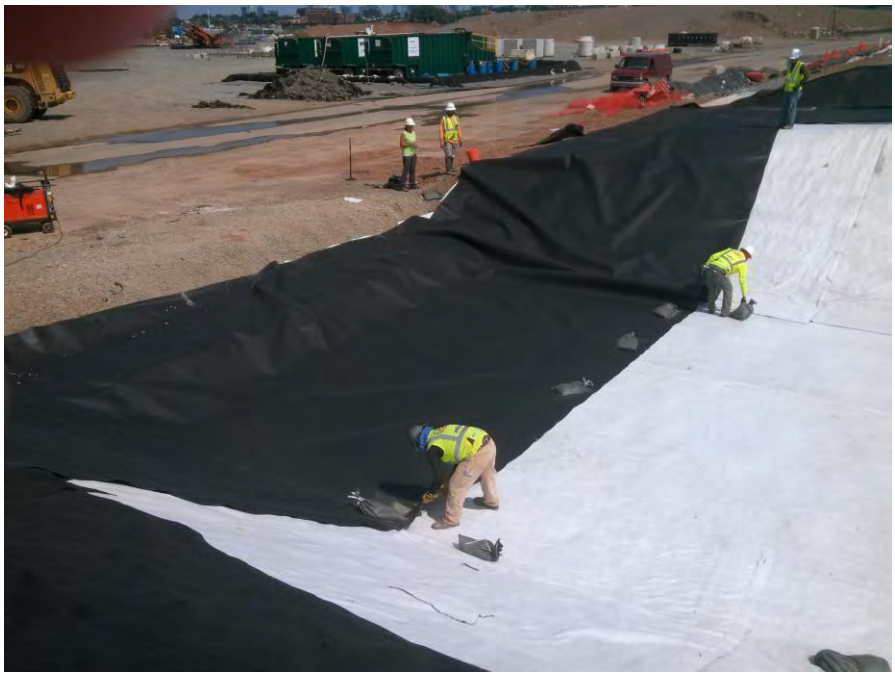
Date:
8/3/15

Direction Taken:

Looking east along southern end of SA-6 cap (at utility corridor)

Description:

ESI placing geomembrane panels along southern end of utility corridor. Panels oriented in east to west direction (perpendicular to slope), as outlined in approved panel layout.



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PHOTOGRAPHIC LOG
Photo #13 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

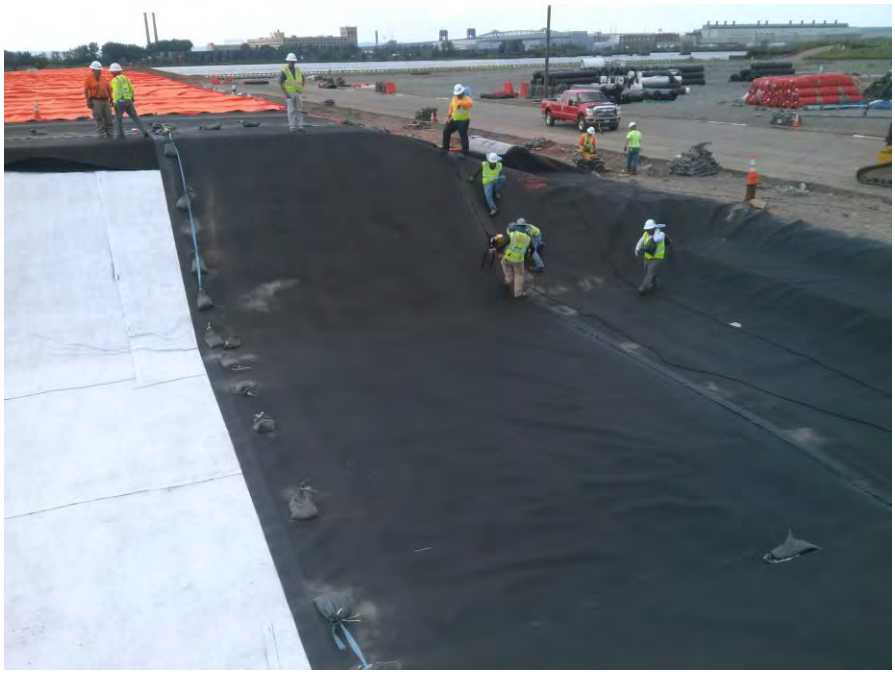
Date:
8/3/15

Direction Taken:

Looking west / northwest at northern end of utility corridor.

Description:

ESI conducting fusion welding of Panels 35/36 located at northern end of utility corridor (oriented east to west).



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PHOTOGRAPHIC LOG
Photo #14 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking north along 1st utility corridor (located at approx. Sta. 16+50)

Description:

Geomembrane panels placed over GCL along utility corridor. Panels oriented perpendicular to slope (east to west).



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PHOTOGRAPHIC LOG
Photo #15 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking east along northern end of SA-6

Description:

ESI placing geomembrane panel along southern end of GCL.



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PHOTOGRAPHIC LOG
Photo #16 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

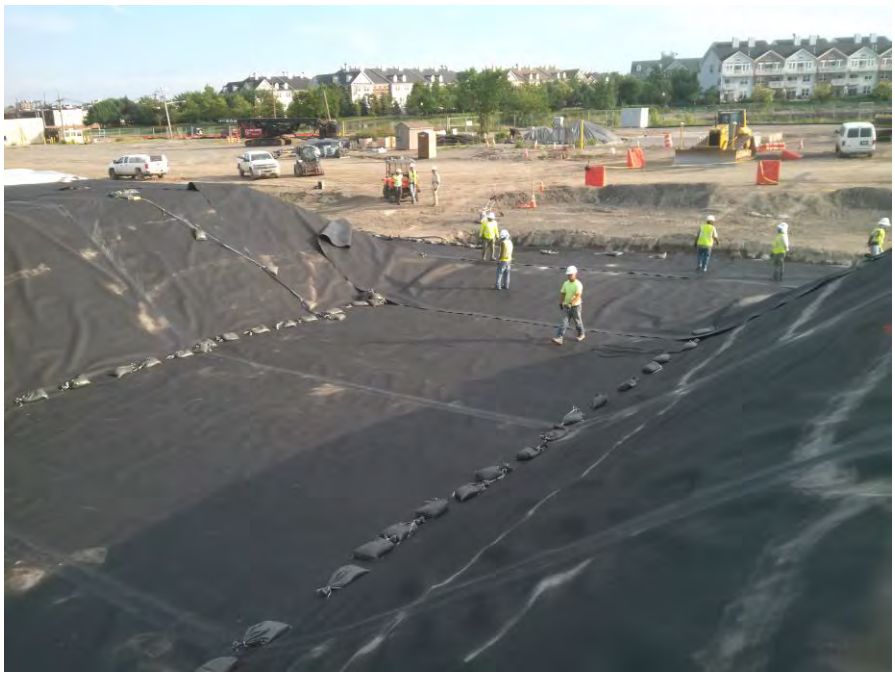
Date:
8/3/15

Direction Taken:

Looking south along utility corridor

Description:

Geomembrane panels installed along utility corridor.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/4/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/85° F, AM Rain, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from east of Panel #42 installed on 8/3/15 (located at approx. Sta. 15+80) moving east approximately 100 ft. to approximate Sta. 14+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Based on the AM storms / rain, ESI could not conduct patch / repair work (i.e. extrusion welding) on the geomembrane panels installed on 8/3/15 due to the inclement weather. Observation of the next section of soil subgrade (approx. Sta. 15+80 to 14+80) was conducted and soft / wet areas were identified with ponding water (due to the storms). As such, soil subgrade was not approved for additional panel placement. Refer to *8/4/15 Photo Log* for subgrade photos. ESI offsite until 12 PM for weather to clear.
- Entact removed the protective plastic layer covering the soil subgrade and conducted drying activities, re-grading, and re-compaction of the soil (as required).
- ESI back onsite at approximately 12 PM to conduct patch / repair work for the panels installed on 8/3/15 (Panels 35-46). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/4/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-one repairs (RP-145 through RP-185) were observed and fixed (according to the project specifications) from Panel #35 through Panel #46 (repair / detailing work conducted on panels installed on 8/3/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- No non-conformance issues were noted as repairs consisted of custom fit design or routine patch / repair work to allow geomembrane to conform to SA-6 contours.

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- A total of two destruct samples, DS-11 and DS-12 (fusion weld samples) were collected for laboratory analysis. DS-11 was collected from panel seam 36/37 and DS-12 was collected from panel seam 42/43

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/4/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory results for DS-11 and DS-12

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 80 ft. run east (approximately from Sta. 15+80 to Sta. 15+00) of 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/4/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 8/4/15
A5 – Subgrade Approval		N / A – no subgrade approval for 8/4/15
A6 – Trial Weld Log	Page 2	Preweld test form for 8/4/15 provided by ESI and confirmed by Langan for prewelds up to 8/4/15
A7 – Panel Placement Log		N / A no panels placed on 8/4/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 8/4/15
A9 – Seam/Non-Destruct. Test Log	Pages 7,8,9,10,11	Seam Control Form for 8/4/15 provided by ESI and confirmed by Langan for non-destruct tests completed up to 8/4/15
A10 – Repair Log	Pages 7,8,9	Repair Log for 8/4/15 provided by ESI and confirmed by Langan for repairs completed up to 8/4/15
A11 – Conformance COC		N / A for 8/4/15
A12 – Destructive Seam Field Test	Sheet 2	Destruct Sample Information provided by ESI and confirmed by Langan for destruct samples collected on 8/4/15 (DS-11 and DS-12)
A13 – Destruct. Sample Summary	Sheet 2	Updated with destruct sample information from 8/4/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed

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PHOTOGRAPHIC LOG
Photo #1 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking south along SA-6 (at approx. Sta. 15+80)

Description:

Soil subgrade immediately east of previously installed panels (from 8/3) at approx. Sta. 15+80. Wet / soft areas identified and area not suitable for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #2 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking west along SA-6 (at approx. Sta. 15+80) at drainage swale / corridor located at Grid Point 165-15.01

Description:

Water ponding from rain storm from 8/3. Soil subgrade not acceptable for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #3(08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking down along SA-6 utility corridor (southwestern slope) near Break Point 832-4.44

Description:

ESI conducting patch repair work along installed panels from 8/3 (Panels 35-46)



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PHOTOGRAPHIC LOG
Photo #4 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking east along SA-6 cap

Description:

ESI conducting vacuum box testing along patch / repair work from Panels 35-46.



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PHOTOGRAPHIC LOG
Photo #5 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking along the northwestern slope of utility corridor (looking at approximate Break Point 823-16.40)

Description:

Patch / repair work along northwestern slope of utility corridor (RP-151 & RP-157).



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PHOTOGRAPHIC LOG
Photo #6 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking north / northwest along utility corridor (looking at northwest slope).

Description:

ESI conducting patch / repair work along utility corridor. Also conducting extrusion welding and vacuum box testing (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking west along southern slope of SA-6 (near Break Point 842-4.57)

Description:

ESI collecting destruct sample (DS-12) along Panel 42/43 seam.



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PHOTOGRAPHIC LOG
Photo #8 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking west / northwest along SA=6 cap.

Description:

ESI labeling and marking repairs upon completion of vacuum box testing.



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PHOTOGRAPHIC LOG
Photo #9 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking east along SA-6 cap

Description:

ESI conducting extrusion weld along patches / repairs (as outlined in project specs).



SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/5/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #42 (P-42) installed on 8/3/15 (located at approximate Sta. 15+80) running approximately 70 ft. east to Sta. 15+10.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for three wrinkles (refer to *Repair Log* 8/5/15) that were identified along Panels 35-46 which were placed on 8/3/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/5/15).
- A total of nine repairs (RP-186 through RP-194) were observed and fixed (according to the project specifications) from Panel #35 and Panel #36. As outlined above, these repairs were associated with removing geomembrane wrinkles to allow the cap to conform to the contours of SA-6 South grade. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Note: no repairs of the geomembrane from 8/5/15 were identified as non-compliance issues.
- Additionally, while the geomembrane was being patched / repaired, ESI also installed the penetration boots for the wells, piezometers, and gas vents protruding through the cap (Note: Penetration logs will be completed once final sealant is placed around top of boot). Orange composite (GDL) was also placed over butt seams of the geocomposite and leistered in place. These patching activities were completed (as needed) to allow Entact to continue placing protective cover soil over the installed GDL along the western end of SA6. The final GDL layer was inspected by Entact and Langan to ensure that all repairs / patches were completed prior to soil placement.
- While patch / repair work was being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+80 to Sta. 15+10. Refer to *Soil Subgrade Approval* forms from 8/5/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so

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that the surface was free of any loose material. Refer to Photos #5,6 of the daily photo log for 8/5/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+80 to Sta. 15+10.

- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/5/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/5/15 Photo Log* for supporting photographs.
- After installation of GCL and GVL along the SA-6 boundaries, geomembrane cap was installed continuing east of previously installed Panel #42 (located at approximate Sta. 15+80) on 8/3/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GCL layers. A total of three panel lengths were installed (P-47, P-48, P-49) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/5), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/6/15). Note: An extrusion weld sample (DSX-5) was collected from the patch / repair work previously completed on 8/4/15.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as repair work was conducted to remove wrinkles from the cap to allow the geomembrane to properly conform to the contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory data for extrusion destruct sample DSX-5

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, and 8/4/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+10 to Sta. 14+10) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/5/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/5/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/15
A5 – Subgrade Approval	Sheet 9 & ESI (8/5/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/15.
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/5/15
A8 – Destruct Seam Testing COC	Page 1	Updated with information from destruct sample (DSX-5) collected on 8/5/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/5/15
A10 – Repair Log	Pages 9-10	One Repair Log provided by ESI and confirmed by Langan for 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/5/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/5/15
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/5/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

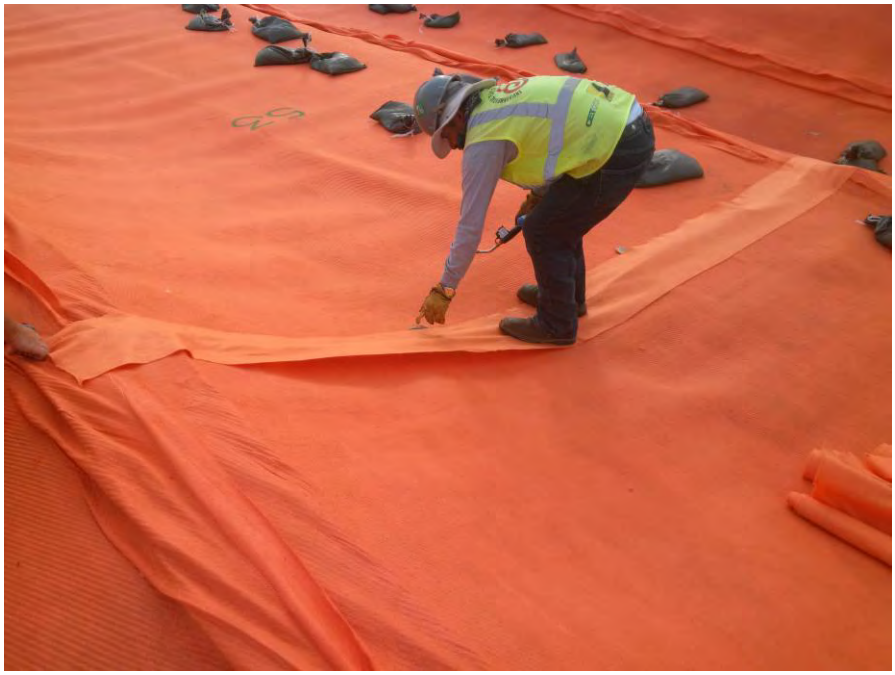
Date:
8/5/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI finalizing GDL cap by covering and patching butt seams and associated repairs (as required).



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PHOTOGRAPHIC LOG
Photo #2 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking southwest along SA-6 cap (at GV-6 location)

Description:

ESI constructing boot and placing sacrificial sheet around GV-6 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3(08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking north at northeastern slope of utility corridor (located at approx. Grid Point 149-5.59

Description:

ESI conducting patch repair work for wrinkles identified from geomembrane panel placement (from 8/3/15).



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PHOTOGRAPHIC LOG
Photo #4 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south along southern edge of SA-6 cap (located at PZ-18)

Description:

Installed geomembrane boot around PZ-18 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking west (from approx. Sta. 15+80) at approximate Grid Point 165-15.01

Description:

Soil subgrade at approximate Grid Point 165-15.01. Soil has been dried, re-graded, and re-compacted for panel placement. Soil subgrade prepared in accordance with project specs.



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PHOTOGRAPHIC LOG
Photo #6 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south at southern end of SA-6 cap (taken from approximate Sta. 15+80)

Description:

Previously identified soft / wet area from 8/4/15. Soil allowed to dry and was re-compacted (as required). Soil acceptable for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #7 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking west along SA-6 cap

Description:

Entact spreading protective cover soil along previously installed GDL (located at western end of cap).



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PHOTOGRAPHIC LOG
Photo #8 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south along southern end of SA-6 (approximate Sta. 15+80)

Description:

ESI placing GCL along lower elevations (to 1 ft. above the groundwater table). Panels placed moving east from Sta. 15+80.



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PHOTOGRAPHIC LOG
Photo #9 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking north at tops of installed GCL panels

Description:

Support staples (with rounded heads) placed along the top of the GCL panels for support (as outlined in project specs). Staples to be overlapped with 1 ft. minimum of GVL.



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PHOTOGRAPHIC LOG
Photo #10 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking north along SA-6 (immediately east of approx. Sta. 15+80).

Description:

ESI deploying GVL immediately east of approx. Sta. 15+80.



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PHOTOGRAPHIC LOG
Photo #11 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking north along SA-6 at Collection Manhole #2

Description:

ESI deploying geomembrane panels over installed GVL east of Sta. 15+80.



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PHOTOGRAPHIC LOG
Photo #12 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south along Panel #47 (P-47)

Description:

ESI conducting fusion welding along Panel seam 42/47 (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/6/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #16**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #49 (P-49) installed on 8/5/15 (located at approximate Sta. 15+10) running approximately 110 ft. east to Sta. 14+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL over the previously installed geomembrane panels from 8/3/15. A total of 10 panel lengths of GDL were placed along the west side of the utility corridor and along the western slope of the utility corridor with end points of the GDL terminating along the approximate center of the utility corridor (east to west orientation). The GDL was placed north to south outside of the corridor and east to west within the corridor and secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile was sewn (according to the project specs).
- While GDL was being placed over the previously installed geomembrane, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+10 to Sta. 14+00. Refer to *Soil Subgrade Approval* forms from 8/6/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #7,8, and 9 of the daily photo log for 8/6/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+10 to Sta. 14+00.
- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/6/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with granular bentonite.
- Prior to deploying any geomembrane panels over the GCL, it was confirmed that the GCL maintained intimate contact between the material and the HB wall (southern boundary wall). Soil was removed from the top of the sheet piles (as required) by Entact. Refer to Photo #14 of the *Photo Log 8/6/15*.

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By: Dan Bosworth

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- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/6/15 Photo Log* for supporting photographs.
- After installation of GCL, 16 oz. geotextile (along SA-6 boundaries) and GVL, geomembrane cap was installed continuing east of previously installed Panel #49 (located at approximate Sta. 15+10) on 8/5/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of four panel lengths (lengths defined as running the approximate 165 ft. north to south distance of the cap) were installed (P-50, P-51, P-52, P-53, P-54) by ESI. Note: P-51 terminated approximately 6 ft. short of the southern boundary of the SA-6 cap. As such, the remaining section was taken from an additional roll (G15C277060) and labeled as Panel #52 (P-52).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/6), *Trial Weld Log.*
- Upon panel installation and fusion welding, ESI conducted non-destructive seam testing in accordance with the project specs. No patch / repair work was completed, and no destructive samples were collected as work activities were completed after non-destruct testing was completed. These additional activities will be completed tomorrow (8/7/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as non-destruct testing was in conformance with the project specs and no patch / repair work, or vacuum box testing was conducted on 8/6/15.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/6/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, and 8/5/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 14+00 to Sta. 13+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/6/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/6/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/6/15
A5 – Subgrade Approval	Sheet 10 & ESI (8/6/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/6/15.
A7 – Panel Placement Log	Page 11	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/6/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/6/15
A9 – Seam/Non-Destruct. Test Log	Pages 11-12	Seam Control Form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/6/15
A10 – Repair Log		N / A no repairs completed on 8/6/15
A11 – Conformance COC		N / A for 8/6/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/6/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/6/15

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PHOTOGRAPHIC LOG
Photo #1 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

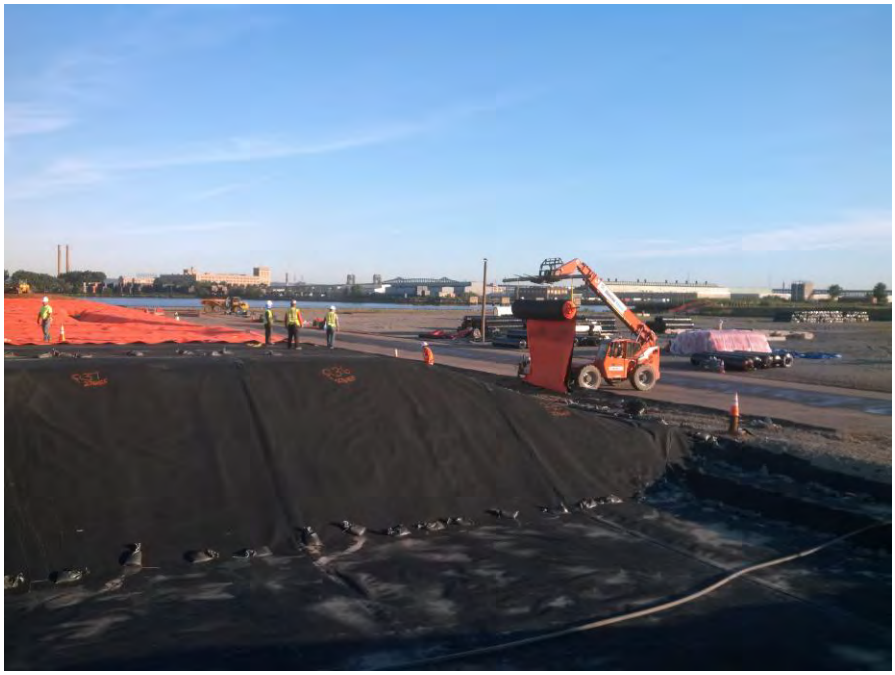
Date:
8/6/15

Direction Taken:

Looking north through utility corridor (at western slope of utility corridor)

Description:

ESI preparing to deploy GDL along utility corridor (over previously installed panels 35-46)



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PHOTOGRAPHIC LOG
Photo #2 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

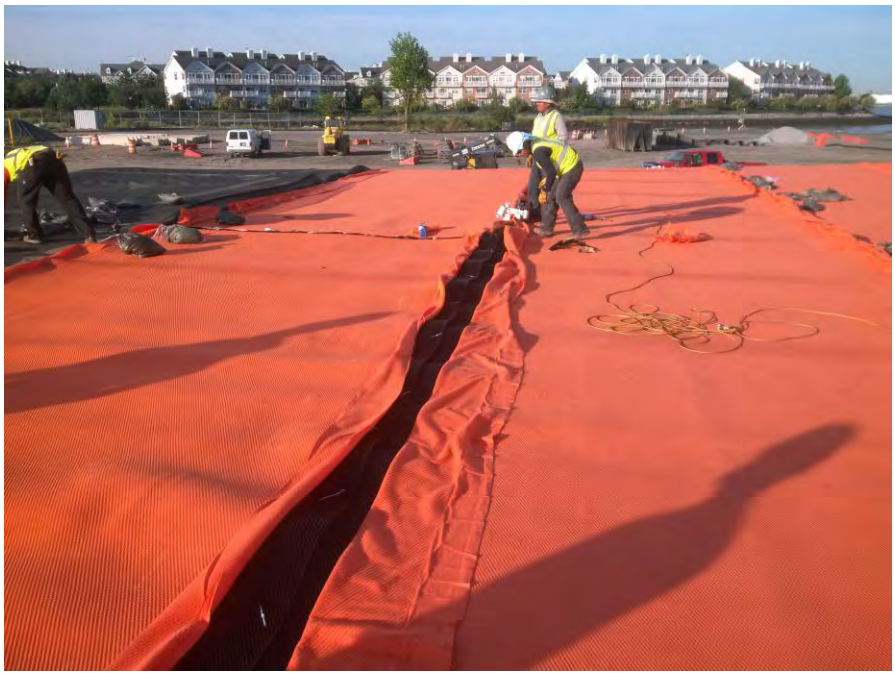
Date:
8/6/15

Direction Taken:

Looking south along SA-6 (approximate Sta. 17+00)

Description:

ESI placing GDL over installed geomembrane panels (P-34 & P-35). White plastic fasteners spaced at maximum of 5 ft. intervals and geotextile seam sewn (according to project specs).



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PHOTOGRAPHIC LOG
Photo #3(08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/6/15

Direction Taken:

Looking south / southeast at bottom of southeast utility corridor slope (located at approx. Break Point 831-4.62

Description:

ESI placing GDL along southeastern slope of utility corridor. Panels oriented east to west to run parallel with slope (as outlined in the approved panel layout).



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PHOTOGRAPHIC LOG
Photo #4 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

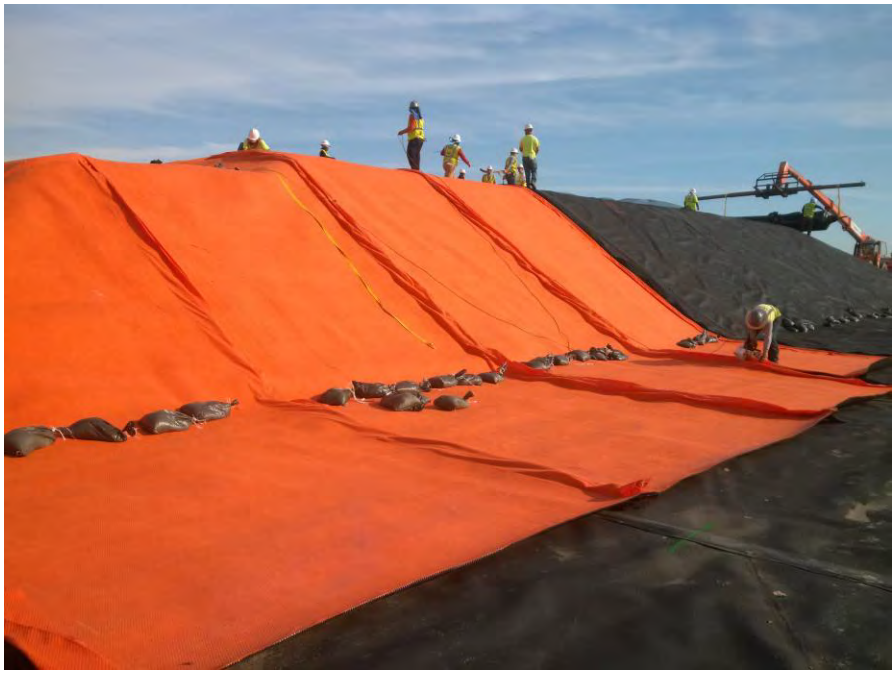
Date:
8/6/15

Direction Taken:

Looking northwest along western slope of utility corridor (approx. Sta. 16+50).

Description:

Installed GDL along utility corridor (western slope).



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PHOTOGRAPHIC LOG
Photo #5 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking north along southern slope of SA-6 (southern edge of SA-6).

Description:

ESI placing GCL along southern edge of SA-6 slope (east of Sta. 15+10). Pins / staples placed along top 6-inches of GCL to anchor into subgrade slope.



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PHOTOGRAPHIC LOG
Photo #6 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking south / southwest along southern slope of SA-6 (approximate Sta. 14+70).

Description:

ESI placing GCL along southern slope (lower bench) of SA-6. GCL placed at areas below (up to 1 ft. above) the Site water table.



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PHOTOGRAPHIC LOG
Photo #7 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking east along SA-6 (from approx. Sta. 15+10).

Description:

Soil subgrade along the southern end of SA-6 approved for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #8 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

Approved soil subgrade for geomembrane placement. Soil prepared as per project specifications.



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PHOTOGRAPHIC LOG
Photo #9 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/6/15

Direction Taken:

Looking south / southwest along SA-6 (at approximate Sta. 15+10)

Description:

Prepared soil subgrade according to project specs.



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PHOTOGRAPHIC LOG
Photo #10 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

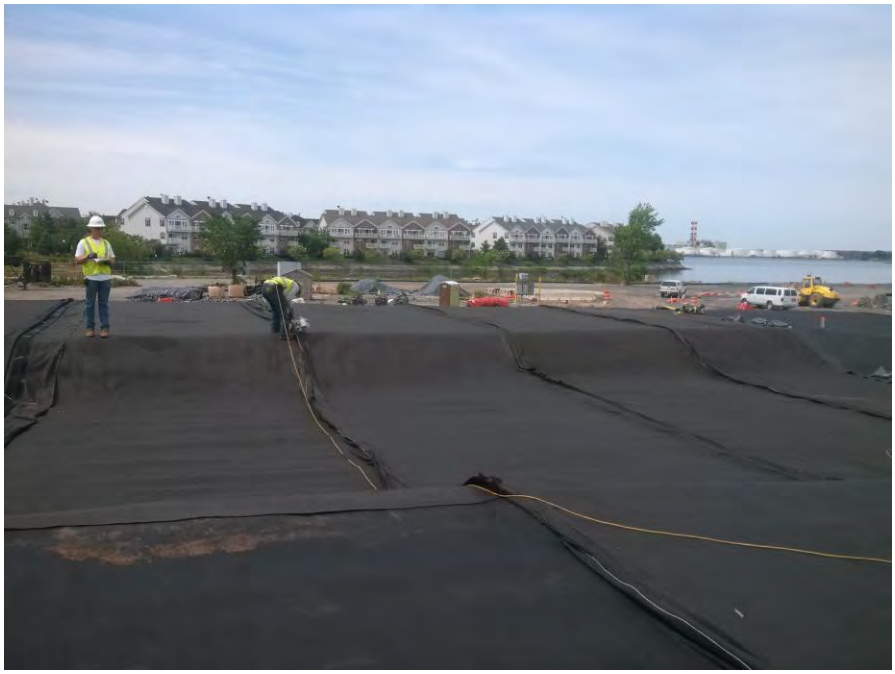
Date:
8/6/15

Direction Taken:

Looking north along SA-6 (east of approx. Sta. 15+10).

Description:

ESI deploying GVL. White plastic fasteners spaced at a minimum of 5 ft., and the top layer of geotextile sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #11 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking north along western end of SA-6 cap

Description:

Entact covering GDL along western end of cap with protective cover soil. Caution tape spaced at a maximum of 55-inches over GDL.



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PHOTOGRAPHIC LOG
Photo #12 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking northwest along SA-6 cap (from approx. Sta. 14+00)

Description:

ESI placing geomembrane over GVL layer from approx. Sta. 15+10 to approx. Sta. 14+00



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PHOTOGRAPHIC LOG
Photo #13 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking northwest along SA-6 cap (from approx. Sta. 14+30)

Description:

ESI conducting fusion welding along installed panel seams (Panels 50-54)



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PHOTOGRAPHIC LOG
Photo #14 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking east along southern wall of SA-6 cap (approx. Sta. 14+70)

Description:

Entact pulling back GCL to ensure that HB wall (southern boundary wall) maintains intimate contact with GCL.



SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/7/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	68/82° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #54 (P-54) installed on 8/6/15 (located at approximate Sta. 14+00) running approximately 100 ft. east to Sta. 13+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 50-54 which were placed on 8/6/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/7/15).
- A total of twenty-three repairs (RP-195 through RP-217) were observed and fixed (according to the project specifications) from Panels #50 through Panel #54 (repair / detailing work conducted on panels installed on 8/6/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-conformance issue was observed for a failed vacuum box test during testing of RP-215. The failed weld was patched and re-welded as outlined on Sheet #5.
- A total of three destruct samples were collected (DS-13, DS-14, and DSX-6). DS-13 and DS-14 (fusion) were collected from Panels 47/48 and 50/51, respectively. DSX-6 (extrusion) was collected from Panel #48 on RP-198.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for Collection Manhole #2. Note: The penetration log for Collection Manhole #2 will be completed once the boot has been sealed and covered according to the project specifications (to be completed on 8/10/15), and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 14+00 to Sta. 13+00 while

patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/7/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.Refer to Photo #6 of the daily photo log for 8/7/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 14+00 to Sta. 13+00.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 14+00 (east of P-54) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/7/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #54 (located at approximate Sta. 14+00) on 8/6/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-55, P-56, P-57, P-58, P-59, P-60) by ESI. Note:, during placement of Panel #55 and #59, the roll of geomembrane was completed, thus, Panel #56 was placed for the last 11 ft. (from roll G15C283029) to complete the southern end and Panel #60 (P-60) was placed for the last 15 ft. (from roll G15C276053) to complete the northern end of SA-6.
- During installation of the Cap, geomembrane seams were overlapped a minimum of 4-inches for fusion welding (according to project specs). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specs. A total of six 1-inch specimens were collected for peel and shear testing (3 samples/each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/7), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/7/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed. These activities will be completed on Monday (8/10/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 5 (Sheet #5) – Failed vacuum box test of RP-215 on *Repair Log*
    - Failed vacuum box test of RP-215 (Panel #50). Failed weld was covered with a new patch and welded (RP-222) as per project specs and further defined in *Sheet 5 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 14+35).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-13, DS-14 and DSX-6

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, and 8/6/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 13+00 to Sta. 12+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/7/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/7/15
A5 – Subgrade Approval	Sheet 11 & ESI (8/7/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/7/15.
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/7/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/7/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/7/15
A10 – Repair Log	Pages 10-11	One Repair Log provided by ESI and confirmed by Langan for 8/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/7/15
A12 – Destructive Seam Field Test	Page 2	Provided for destruct samples DS-13, DS-14, and DSX-6 collected for 8/7/15
A13 – Destruct. Sample Summary	Sheet 2	Updated with destruct samples collected on 8/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 5	One Notice of Non-Compliance form created by Langan (Sheet #5) for failed vacuum box test

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/7/15

Direction Taken:

Looking south along SA-6 cap (RP-216)

Description:

ESI conducting vacuum box testing (according to project specs) on seam joint located on southern edge of SA-6 (Panels 50,51,52)



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PHOTOGRAPHIC LOG
Photo #2 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/7/15

Direction Taken:

Looking south along SA-6 at Panels 50/51

Description:

ESI collecting destruct sample (DS-14) along fusion welded seam (Panels 50/51). Sample collected near northern edge of SA-6



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PHOTOGRAPHIC LOG
Photo #3(08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking south near approx. Sta. 15+70 (at Access Manhole #2)

Description:

ESI placing LLDPE boot (RP-218) around Access Manhole #2 (located at approximate Sta. 15+70).



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PHOTOGRAPHIC LOG
Photo #4 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking north along SA-6 cap (western end)

Description:

Entact spreading protective cover soil along western end of SA-6. Yellow caution tape placed at maximum of 55-inch spacing (as outlined in project specs)



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PHOTOGRAPHIC LOG
Photo #5 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking at geomembrane cap (RP-215) located at Panel #50

Description:

Failed vacuum box test at RP-215. Leak detected during vacuum box testing of extrusion weld. Failed weld to be patched / repaired as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #6 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking east along SA-6 (from approximate Sta. 14+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking south along SA-6 (approx. Sta. 13+70)

Description:

ESI deploying GVL (approx. Sta. 13+70). White plastic fasteners spaced at maximum of 5 ft. (as outlined in project specs) and top geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #8 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 13+75)

Description:

ESI deploying geomembrane over GVL. (at approx. Sta. 13+75)



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PHOTOGRAPHIC LOG
Photo #9 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/7/15

Direction Taken:

Looking southeast along SA-6 (Panels 57/58)

Description:

ESI conducting fusion welding along Panel 57/58 seam (welding conducted according to project specs)



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PHOTOGRAPHIC LOG
Photo #10 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/7/15

Direction Taken:

Looking west along southern end of SA-6 (approximate Sta. 13+20)

Description:

ESI conducting fusion welding along Panels 58/59,down southern slope of SA-6



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/10/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/78° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #60 (P-60) installed on 8/7/15 (located at approximate Sta. 13+00) running approximately 100 ft. east to Sta. 12+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 55-60 which were placed on 8/7/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/10/15).
- A total of thirty-one repairs (RP-218 through RP-248) were observed and fixed (according to the project specifications) from Panels #55 through Panel #60 (repair / detailing work conducted on panels installed on 8/7/15). Refer to 8/10/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-W5-SO, and completed placing the geomembrane patch around Access Manhole #2. Note: The penetration log for well 115-W5-SO will be completed once the boot has been sealed and covered according to the project specifications and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 13+00 to Sta. 12+00 while patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/10/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 8/10/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 13+00 to Sta. 12+00.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 13+00 (east of P-60) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/10/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #60 (located at approximate Sta. 13+00) on 8/7/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-61, P-62, P-63, P-64, and P-65) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/10), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/10/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed.
- A total of three destructive samples were collected (two fusion and one extrusion weld). Fusion weld destruct samples (DS-15, DS-16) were collected from Panel Seams 54/55 and 59/61 respectively. DSX-7 was collected along Panel 53/54 seam. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-15, DS-16, DS-17, and DSX-7

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, and 8/7/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-14, and DSX-1 through DSX-6. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/10/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/15
A5 – Subgrade Approval	Sheet 12 & ESI (8/10/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/15.
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/10/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct samples collected on 8/10/15
A9 – Seam/Non-Destruct. Test Log	Page 14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/10/15
A10 – Repair Log	Pages 11-12	One Repair Log provided by ESI and confirmed by Langan for 8/10/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/10/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for 8/10/15
A13 – Destruct. Sample Summary	Sheet 2	Updated with destruct sample information from 8/10/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted on 8/10/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking south / southwest along geomembrane cap at Access Manhole #2 (approx. Sta. 15+70)

Description:

ESI installing geomembrane boot and patching cap around Access Manhole #2 (according to project specs).



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PHOTOGRAPHIC LOG
Photo #2 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI conducting patch / repair work for "custom fit" patches around slopes & contours. Patch work conducted as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #3(08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/10/15

Direction Taken:

Looking west along SA-6 cap (at RP-215)

Description:

ESI conducting vacuum box testing (as outlined in project specs) on patch (RP-222) placed over RP-215 to repair failed extrusion weld.



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PHOTOGRAPHIC LOG
Photo #4 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/10/15

Direction Taken:

Looking north / northeast SA-6 (at RP-223)

Description:

ESI conducting extrusion welding along northern end of SA-6 at RP-223 (where DS-14 collected)



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PHOTOGRAPHIC LOG
Photo #5 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #6 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking east along southern end of SA-6 cap (from approx. Sta. 13+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking west along SA-6 cap (at RP-215)

Description:

Failed vacuum box test (RP-215), patched and repaired (RP-222) according to project specs.



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PHOTOGRAPHIC LOG
Photo #8 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking west along southern end of SA-6 cap (from approx. Sta. 13+00)

Description:

ESI deploying 16 oz. geotextile along southern boundary of SA-6. Textile overlapping HB wall by 2 ft. with remaining roll width inside SA-6.



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PHOTOGRAPHIC LOG
Photo #9 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

ESI deploying GVL along approved soil subgrade.



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PHOTOGRAPHIC LOG
Photo #10 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking south along SA-6 (from approx. Sta. 12+50)

Description:

White plastic fasteners spaced at a maximum of 5 ft. along geonet with top layer of geotextile sewn (according to project specs).



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PHOTOGRAPHIC LOG
Photo #11 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

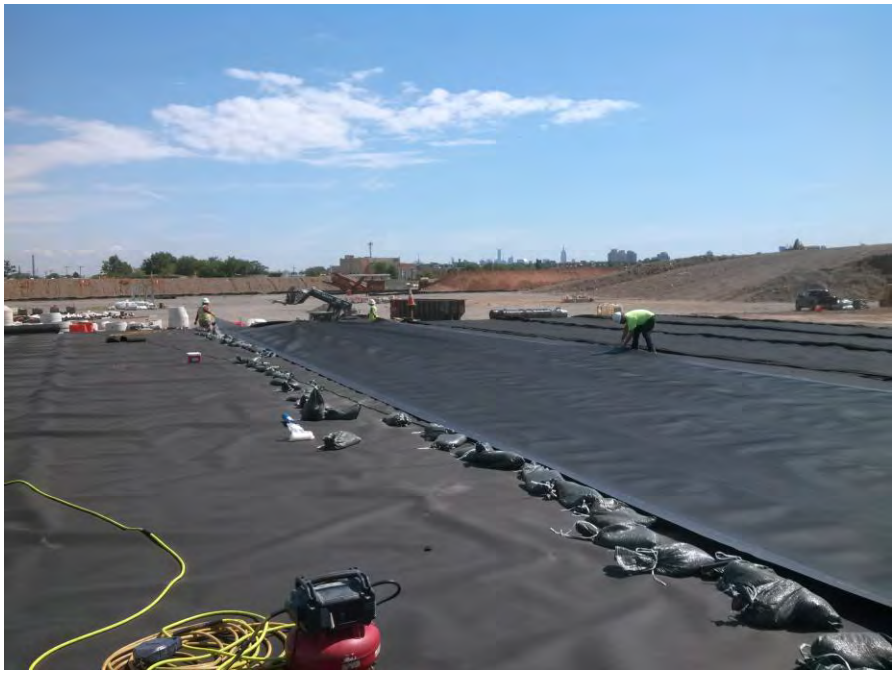
Date:
8/10/15

Direction Taken:

Looking north / northeast along SA-6 (at approximate Sta. 13+00)

Description:

ESi deploying geomembrane over GVL.



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PHOTOGRAPHIC LOG
Photo #12 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/10/15

Direction Taken:

Looking west along geomembrane (at Panels 60/61)

Description:

ESI conducting fusion welding along Panel Seam 60/61.



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PHOTOGRAPHIC LOG
Photo #13 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/10/15

Direction Taken:

Looking north along geomembrane cap (at Panels 62/63)

Description:

Patch / repair placed over destruct sample (DS-17) located at approximate center of SA-6 on Panels 62/63 seam.



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PHOTOGRAPHIC LOG
Photo #14 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

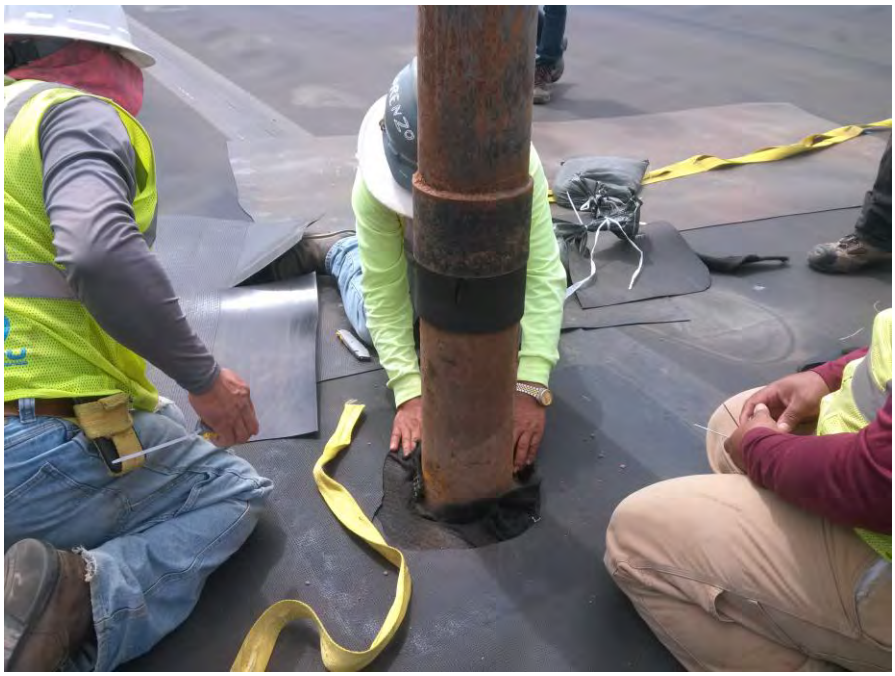
Date:
8/10/15

Direction Taken:

Looking south along geomembrane cap (at well 115-W5-S0)

Description:

ESI placing gasket and sealing GVL for placement of geomembrane boot around well 115-W5-SO.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/12/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	71/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #19**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 61-66 which were placed on 8/10/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/12/15).
- A total of four repairs (RP-249 through RP-252) were observed and fixed (according to the project specifications) from Panels #64 through Panel #66 (repair / detailing work conducted on panels installed on 8/10/15). Refer to 8/12/15 *Repair Report* for supporting information. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed / construction penetration boots for well 115-W5-SO and gas vent #5 (GV-5). Note: These penetration logs will be completed once the final clamps and seal (butyl seal) have been completed according to the project specifications and the final sealant is placed around top of boot.
- While ESI was conducting repair / patch work, Langan and Entact conducted soil subgrade observation from approximate Sta. 12+00 to Sta. 11+00. Based on visual inspection, the soil subgrade appeared to contain areas of soft / wet subgrade due to rainstorms from 8/11/15. Based on these soft areas, soil subgrade was not approved for geomembrane placement. Entact conducted additional preparation work (i.e. drying the soil and re-grading and re-compacting) as required, to conform the subgrade to the project specifications (refer to Photo #7 of the daily photo log for 8/12/15)

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- After completing patch / repair work from the panels installed on 8/10/15, ESI began to place GDL continuing east along the utility corridor. GDL was placed along the eastern slope of the utility corridor (located at approximate Sta. 16+50). Panels were oriented east to west within the utility corridor, and reverted back to the north and south orientation outside of the corridor (refer to the *8/12/15 Photo Log* for supporting photos)
- GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/12/15 Photo Log* for supporting photographs.
- No new geomembrane panels were placed as the soil subgrade for the next 100 ft. section was not approved. No destruct samples were collected, as DS-17 was collected on 8/10/15 during panel placement.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 5 ft. spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the patch / repair work conducted on geomembrane cap was in compliance with the project specifications.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, and 8/10/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/12/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/15
A5 – Subgrade Approval		N / A no subgrade approved due to soft / wet conditions observed from storms on 8/11/15
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/15.
A7 – Panel Placement Log		N / A no panels placed on 8/12/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/12/15
A9 – Seam/Non-Destruct. Test Log	Page 14-15	Updated with vacuum box test conducted from 8/12/15 on Panels 64/66
A10 – Repair Log	Page 12	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/12/15
A11 – Conformance COC		N / A for 8/12/15
A12 – Destructive Seam Field Test		N / A no destructive samples collected on 8/12/15
A13 – Destruct. Sample Summary		N / A no destructive samples collected on 8/12/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/12/15

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PHOTOGRAPHIC LOG
Photo #1 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking west along SA-6 cap (from approximate Sta. 19+00)

Description:

Entact spreading protective cover soil along western end of SA-6 (over previously installed geomembrane and GDL panels). Caution tape placed on top of GDL at maximum of 55-inch intervals.



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PHOTOGRAPHIC LOG
Photo #2 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap (at well 115-W5-SO)

Description:

ESI constructing geomembrane boot around monitoring well 115-W5-SO



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PHOTOGRAPHIC LOG
Photo #3(08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking east along northern end of SA-6 cap

Description:

ESI conducting extrusion welding (as per project specifications) along geomembrane boot (RP-246)



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PHOTOGRAPHIC LOG
Photo #4 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

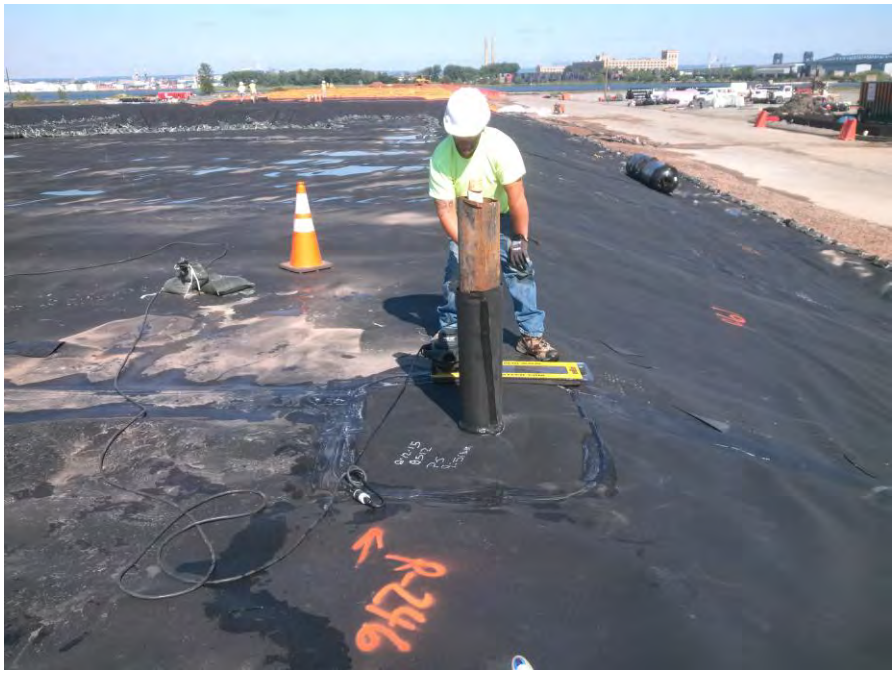
Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

ESI conducting vacuum box testing along monitoring well boot (extrusion weld) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking north / northwest along SA-6 cap (at approximate Sta. 16+00)

Description:

ESi welding geomembrane boot over gas vent (GV-5) as outlined in project specs (located at approx. Sta. 16+00).



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PHOTOGRAPHIC LOG
Photo #6 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking north along SA-6 cap (at approx. Sta. 16+00)

Description:

ESi conducting vacuum box testing along extrusion welds for geomembrane boot GV-5.



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PHOTOGRAPHIC LOG
Photo #7 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (at approximate Sta. 12+00)

Description:

Entact conducting soil preparation activities for geomembrane placement on 8/13/15. Subgrade exhibitied soft / wet areas in the morning from rain storms on 8/11/15. Soil allowed to dry and re-graded and re-compacted (as required).



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PHOTOGRAPHIC LOG
Photo #8 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

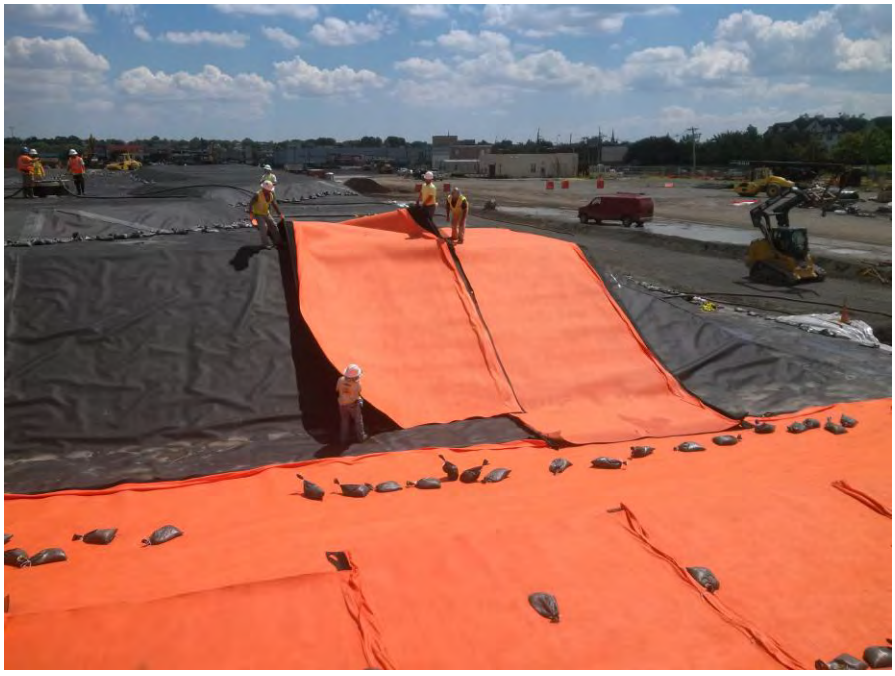
Date:
8/12/15

Direction Taken:

Looking east along southern end of SA-6 through 1st utility corridor (approximate Sta. 16+50)

Description:

ESI deploying GDL along eastern end of 1st utility corridor (at approx. Sta. 16+50)



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PHOTOGRAPHIC LOG
Photo #9 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (through 1st utility corridor)

Description:

ESI deploying GDL along eastern slope of utility corridor (approximate Sta. 16+50) working from the south end to the north end of the corridor.



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PHOTOGRAPHIC LOG
Photo #10 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking west along SA-6 cap (at approximate Sta. 16+00)

Description:

ESI placing clamps over geomembrane boot for SV-5 (sacrificial sheet placed prior to clamping as outlined in project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/13/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #20** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 12+00 to Sta. 11+00. Refer to *Soil Subgrade Approval* forms from 8/13/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 8/13/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 12+00 to Sta. 11+00. Note: The soft / wet areas identified on 8/12/15 were allowed to dry and were repaired for geomembrane placement.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 12+00 (east of P-65) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #65 (located at approximate Sta. 12+00) on 8/10/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were

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installed (P-67, P-68, P-69, P-70, and P-71) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/13), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 11+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/13/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, no patch / repair work was conducted, and any associated repairs will be completed on 8/14/15.
- After completing non-destructive testing along the panels installed today (8/13/15), ESI began to place GDL continuing east from the 1st utility corridor (located at approx. Sta. 16+50). Panels were oriented from north to south (as outlined in the proposed GDL layout). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-18, DS-19) were collected from Panel Seams 64/65 and 68/69, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, and DS-19 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, and 8/12/15 as well as reviewed and approved daily ESI form submittals.

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- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 11+00 to Sta. 10+20) to Access Manhole #3 (ESI demobilization point).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/13/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 13 & ESI (8/13/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/15.
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/13/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/13/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log		N / A no repairs completed on 8/13/15
A11 – Conformance COC		N / A for 8/13/15

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/13/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/13/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

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PHOTOGRAPHIC LOG
Photo #1 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking south / southwest along SA-6 (from approximate Sta. 11+50)

Description:

Prepared soil subgrade for next approximate 100 ft. of geomembrane (from approximate Sta. 12+00 to Sta. 11+00). Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking south / southeast along SA-6 (at approximate Sta. 11+50)

Description:

Soil subgrade prepped for geomembrane placement. Soil graded, compacted, and free of loose debris (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 12+00)

Description:

ESI placing GVL along approved soil subgrade. White plastic fasteners spaced at maximum of 5 ft. intervals and top geotextile sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

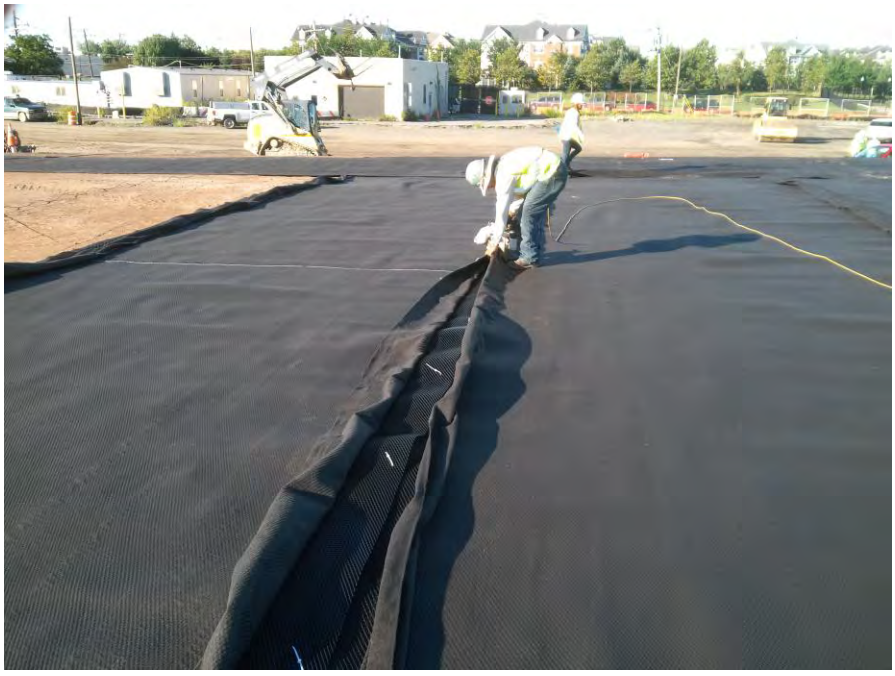
Date:
8/13/15

Direction Taken:

Looking south along SA-6 cap (approximate Sta. 12+00)

Description:

ESI sewing top layer of geotextile along GVL (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/13/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/13/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 12+00)

Description:

ESi placing geomembrane cap over GVL (at approx. Sta. 12+00)



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PHOTOGRAPHIC LOG
Photo #6 (08/13/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/13/15

Direction Taken:

Looking northwest along SA-6 cap (Panels 65/67)

Description:

ESi conducting fusion welding along Panel 65/67 seam.



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PHOTOGRAPHIC LOG
Photo #7 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking west along geomembrane cap at DS-19 (RP-254)

Description:

Geomembrane patch leistered over DS-19 (RP-254). Patch to be completed on 8/14/15 with extrusion weld and vacuum box testing (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking northwest along SA-6 cap

Description:

ESI deploying GDL along western end of cap (located at approximate Sta. 15+00).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/14/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1430

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #21**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-71) installed on 8/13/15 (located at approximate Sta. 11+00) running approximately 80 ft. east to Sta. 10+20 (western slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 11+00 to Sta. 10+20. Refer to *Soil Subgrade Approval* forms from 8/14/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 11+00 to Sta. 10+20.
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope below the groundwater table), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 11+00 (east of P-71) moving east (for approximately 80 ft.) to Sta. 10+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/14/15 Photo Log* for supporting photographs.

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- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #71 (located at approximate Sta. 11+00) on 8/13/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-72, P-73, P-74, and P-75) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/14), *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 10+20, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/14/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. ESI conducted patch / repair work for the panels installed on 8/13/15 (Panels 66-71) and 8/14/15 (Panels 72-75). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/14/15 for results (extrusion testing identified as EXT. on form).
- A total of ten repairs (RP-253 through RP-262) were observed and fixed (according to the project specifications) from Panel #71 through Panel #75 (repair / detailing work conducted on panels installed on 8/13/15 & 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Upon completion of patch / repair activities, ESI began to pack and load equipment for their 2-week demob from the Site.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-20, DS-21) were collected from Panel Seams 70/71 and 74/75, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).

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- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, DS-19, DS-20, and DS-21 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, and 8/13/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South after 2-week demobilization is complete.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/14/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/14/15
A5 – Subgrade Approval	Sheet 14 & ESI (8/14/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/14/15.
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/14/15

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By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/14/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71 and 8/14/15 on Panels 71 through 75
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/14/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/14/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/14/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/14/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking west along southern end of SA-6 (from approximate Sta. 11+00)

Description:

ESI placing GCL along southern slope of SA-6 (soil below to 1 ft. above the water table). Stakes / staples placed on top of slope (top 6-inches of GCL to hold GCL in-place).



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PHOTOGRAPHIC LOG
Photo #2 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Installed GCL panels along southern slope with anchor supports (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking north along SA-6 (from approximate Sta. 10+50)

Description:

GVL placed be ESI according to project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking north along SA-6 cap (from approximate Sta. 10+80

Description:

Geomembrane panels placed over GDL and fusion welded (as per project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap

Description:

ESi conducting fusion welding for Panels 71/72 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #6 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap (at Panel 74/75 seam)

Description:

ESi collecting destruct sample (DS-21) at Panel 74/75 seam (fusion weld).



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PHOTOGRAPHIC LOG
Photo #7 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking south along southern end of SA-6 cap (along lower bench)

Description:

Geomembrane panels 74 and 75 installed and labeled along southern end of cap.



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PHOTOGRAPHIC LOG
Photo #8 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking along SA-6 camp (Panel 74/75) seam at DS-21

Description:

Destruct sample (DS-21) patched and extrusion welded as per project specs. Noted as Repair RP-261 on Repair Log.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/9/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	75/86° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #22**
AmecFW: Stu Bills, Dave Ambrose, Ari Eslaminejad, Brian Shea
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #75 (P-75) installed on 8/14/15 (located at approximate Sta. 10+20 – western slope of utility corridor) running approximately 70 ft. east through 2nd utility corridor to approximate Sta. 9+50 (eastern slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 10+20 to Sta. 9+50. Refer to *Soil Subgrade Approval* forms from 9/9/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 10+20 to Sta. 9+50.
- While subgrade approval was being conducted, ESI completed patch / repair work for cap wrinkles that were observed from panel placement on 8/14/15. A total of thirty repairs (RP-263 through RP-292) were observed and fixed (according to the project specifications) from Panel #71 and Panel #73 (repair / detailing work conducted on panels installed on 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), where wrinkles were observed. These areas were subsequently patched and sealed with extrusion welds. No vacuum box testing was conducted on these repairs, and will be completed tomorrow (9/10).
- No non-conformance issues were recorded as patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- GCL and Cap placement began with ESI placing the GCL along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #75 (located at approximate Sta. 10+20) on 8/14/15 and through the 2nd utility corridor. Panels were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GCL layer. A total of eleven panel lengths (panel lengths identified as the approximate 80 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-76, P-77, P-78, P-79, P-80, P-81, P-82, P-83, P-84, P-85, and P-86) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/9), *Trial Weld Log.*
- No non-destructive testing or patch / repair work was conducted upon completion of geomembrane panel placement to approximate Sta. 9+50, as panel placement and fusion welded activities concluded the work day.
- One destructive sample was collected – DSX-8 (extrusion weld). Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact completed Site preparation activities for expectation of rainstorms tomorrow (9/10).

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DSX-8 (once received).

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/9/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/9/15
A5 – Subgrade Approval	Sheet 15 & ESI (9/9/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/9/15.
A7 – Panel Placement Log	Pages 16-17	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 9/9/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 9/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no vacuum box testing conducted on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 13-14	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 9/9/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 9/9/15
A13 – Destruct. Sample Summary	Page 3	Updated with 9/9/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north / northwest along edge of GDL placed up to Panel #56 (approximate Sta. 14+20)

Description:

Protective cover soil placed from west end of SA-6 to approximate Sta. 14+20. Yellow caution tape spaced at maximum 55-inch intervals as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking southwest along 2nd utility corridor (located at approximate Sta. 10+00).

Description:

Prepared soil subgrade through 2nd utility corridor (approximate Sta. 10+00). Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north / northeast along 2nd utility corridor (approximate Sta. 10+00)

Description:

Prepared soil subgrade through 2nd utility corridor. Soil graded, compacted, and free of debris as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along SA-6

Description:

ESI conducting patch / repair work along Panels 73/74. Wrinkles cut and geomembrane patched and repaired with extrusion weld as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approx. Sta. 10+00)

Description:

ESi deploying GCL along 2nd utility corridor. GCL placed north to south (along bottom of corridor) and east to west (along slopes of corridor).



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PHOTOGRAPHIC LOG
Photo #6 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along 2nd utility corridor

Description:

ESi placing granular bentonite along GCL seams (overlapped a minimum of 1 ft.) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/9/15

Direction Taken:

Looking east along southern end of SA-6 cap through 2nd utility corridor

Description:

GCL panels (oriented east to west) placed along eastern slope and southern end of utility corridor. Overlapped a minimum of 1 ft. (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/9/15

Direction Taken:

Looking east along northern end of SA-6 cap

Description:

ESI completing GCL placement along eastern slope of 2nd utility corridor (approximate Sta. 10+00)



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PHOTOGRAPHIC LOG
Photo #9 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approximate Sta. 10+00)

Description:

GCL deployed along 2nd utility corridor, as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #10 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor

Description:

ESI placing geomembrane cap over GCL. Panels oriented from east to west through utility corridor as outlined in the approved panel layout.



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PHOTOGRAPHIC LOG
Photo #11 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along southern end of SA-6 (through 2nd utility corridor)

Description:

ESi placing geomembrane cap over GCL along southern end of corridor.



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PHOTOGRAPHIC LOG
Photo #12 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

ESI conducting fusion welding along Panel Seams 81/84



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PHOTOGRAPHIC LOG
Photo #13 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approximate Sta. 10+00)

Description:

Geomembrane cap placed through 2nd utility corridor and seams fusion welded according to project specs.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/11/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/77° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #23** **AmecFW**: Dave Ambrose **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #56 (located at approximate Sta. 14+20 – location where GDL had previously been placed to along with protective cover soil) running approximately 220 ft. east to Panel #68 (approximate Sta. 12+00)..
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing for the repairs completed on 9/11/15 (as outlined in projecte specs). One vacuum box testing was complete, ESI began placing GDL from approximate Sta. 14+20 (Panel #56) to approximate Sta. 12+00 (Panel #68). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were cut with the first wrap of geocomposite removed prior to use
    - Roll 64021010124 – 10 ft. removed
    - Roll 64021010133 – 8 ft. removed
    - Roll 64021010126 – 10 ft. removed
    - Roll 64021010116- 5 ft. removed
    - Roll 64021010112 – 10 ft. removed
        - Note: this roll was not identified during the GDL inspection, however based on damage to the protective plastic liner observed in the field, the outside layer of GDL was removed.
    - Roll 64021010119 – 10 ft. removed
- Due to the inclement weather from 9/10/15 and potential storms over the weekend, the protective plastic covering the soil subgrade to the east was not removed. As such, no soil subgrade approval was conducted and no additional geomembrane panels were placed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- One non-conformance issues was observed during placement of GDL. A rock was encountered underneath geomembrane panel #57. This non-conformance issue was recorded as RP-293 and will be patched and repaired on Monday (9/14).
- Upon completion of GDL placement to the approved panel location, a visual observation of the top of the western slope of the 2nd utility corridor was conducted by Langan and Entact. The geomembrane panels were pulled back to expose the GCL. Visual observation confirmed that the GCL was dry and no water had drained underneath the panels. The top of the slope was then sealed with a fusion weld "T-seams" along Panel #75 (oriented north to south) and Panel #76 through Panel #81 (oriented east to west).
- Geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/11), *Trial Weld Log.* Note: non-destructive testing was completed on the welded seams (to be completed Monday – 9/14/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #57). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 6 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/11/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 4 gas vents).
- Review laboratory results for DSX-8 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/11/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/11/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/11/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/11/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/11/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/11/15
A10 – Repair Log	Pages 13-14	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 9/11/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/11/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/11/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet #6	One non-compliance issue identified on 9/11/15 and recorded on Sheet #6

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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PHOTOGRAPHIC LOG
Photo #1 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI conducting vacuum box testing for extrusion welds for cap repairs (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #2 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 14+00)

Description:

ESI deploying GDL along SA-6 cap. GDL secured with white plastic fasteners (spaced at 5 ft. maximum intervals) and sewn along the top layer of geotextile (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 13+80).

Description:

ESI securing GDL with white plastic fasteners spaced at maximum of 5 ft. intervals.



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PHOTOGRAPHIC LOG
Photo #4 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking west along SA-6

Description:

GDL placed to approximate Sta. 12+00



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PHOTOGRAPHIC LOG
Photo #5 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI placed patch over subgrade irregularity (RP-293). Details of patch are outlined in non-conformance Sheet #6.



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PHOTOGRAPHIC LOG
Photo #6 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking east along SA-6 cap (top western slope of 2nd utility corridor).

Description:

ESi conducting fusion welding between Panels 75 / 80 (top western slope of 2nd utility corridor) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/11/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/11/15

Direction Taken:

Looking north along SA-6 cap (at GV-

Description:

ESI constructing geomembrane boot around gas vent: GV-4 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (09/11/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/11/15

Direction Taken:

Looking east along SA-6 (at approximate Sta.

Description:

ESI completing geomembrane boot around GV-4.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/14/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/74° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #24**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #68 (located at approximate Sta. 12+00 – location where GDL had previously been placed to - based on approved as-built drawings) running approximately 170 ft. east to Panel #74 located at top of western slope of 2nd utility corridor (approximate Sta. 10+30).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 12+00 (Panel #68) to approximate Sta. 10+30 (Panel #75). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- While GDL was being placed, ESI conducted non-destructive testing (air pressure testing) of the geomembrane panel seams installed on 9/9/15 in accordance with the project specifications. Refer to *Seam Control Form* (9/14/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI completed patch / repair along the panels previously installed, Panels 76-86 which were placed on 9/9/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/14/15).
- A total of twenty-three repairs (RP-293 through RP-315) were observed and fixed (according to the project specifications) from Panels #76 through Panel #86 (repair / detailing work conducted on panels installed on 9/11/15). Refer to 9/14/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-3, and completed placing the geomembrane patch around Access Manhole #3. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- One destructive sample (DS-22) was collected (fusion) from Panel Seams 79/80. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/14/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-22 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, and 9/11/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/14/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/14/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/14/15
A8 – Destruct Seam Testing COC		Updated with destruct sample information collected on 9/14/15
A9 – Seam/Non-Destruct. Test Log	Pages 16-18	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/14/15
A10 – Repair Log	Pages 14-16	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/14/15
A11 – Conformance COC		N / A for 9/14/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/14/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/14/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/14/15

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PHOTOGRAPHIC LOG
Photo #1 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

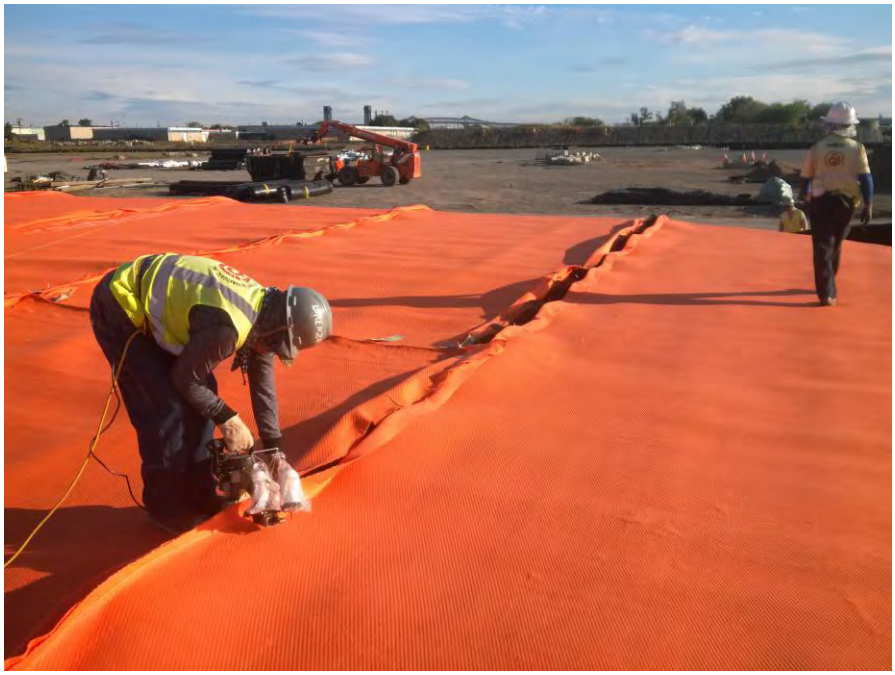
Date:
9/14/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 11+80)

Description:

ESI sewing seams of GDL as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

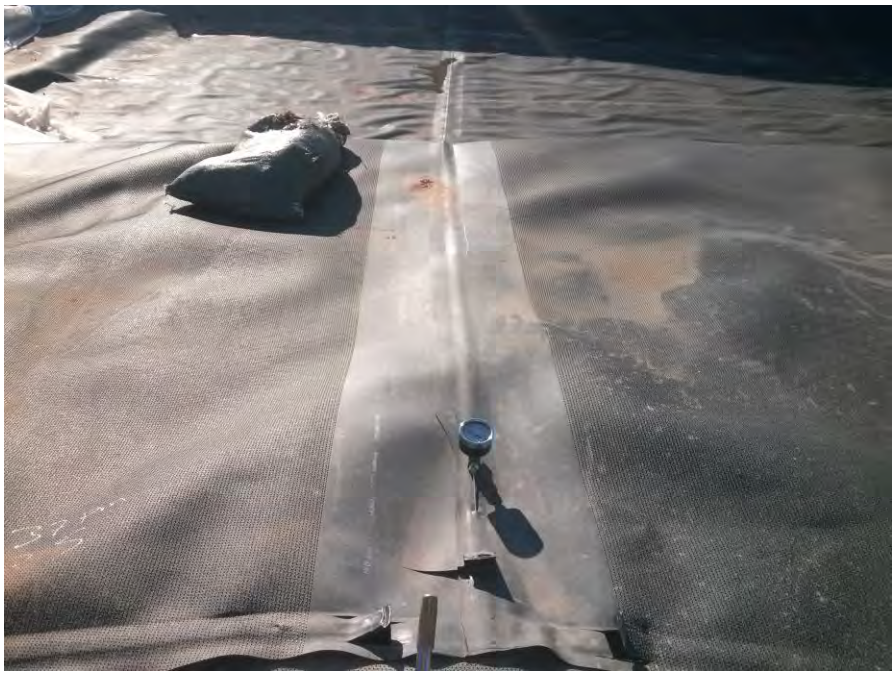
Date:
9/14/15

Direction Taken:

Looking east along SA-6 cap (through 2nd utility corridor)

Description:

ESI conducting non-destructive testing as outlined in project specs. Pressure testing conducted between Panel Seams 76 / 77.



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PHOTOGRAPHIC LOG
Photo #3 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 11+20).

Description:

ESI securing GDL with white plastic fasteners spaced at maximum of 5 ft. intervals.



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PHOTOGRAPHIC LOG
Photo #4 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap (approximate Sta. 10+40).

Description:

ESI constructing geomembrane boot around gas vent GV-3.



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PHOTOGRAPHIC LOG
Photo #5 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap (western slope of 2nd utility corridor).

Description:

ESI completed patch / repair over seam joint for non-destruct testing. Patch overlapped, sealed, and extrusion welded as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #6 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

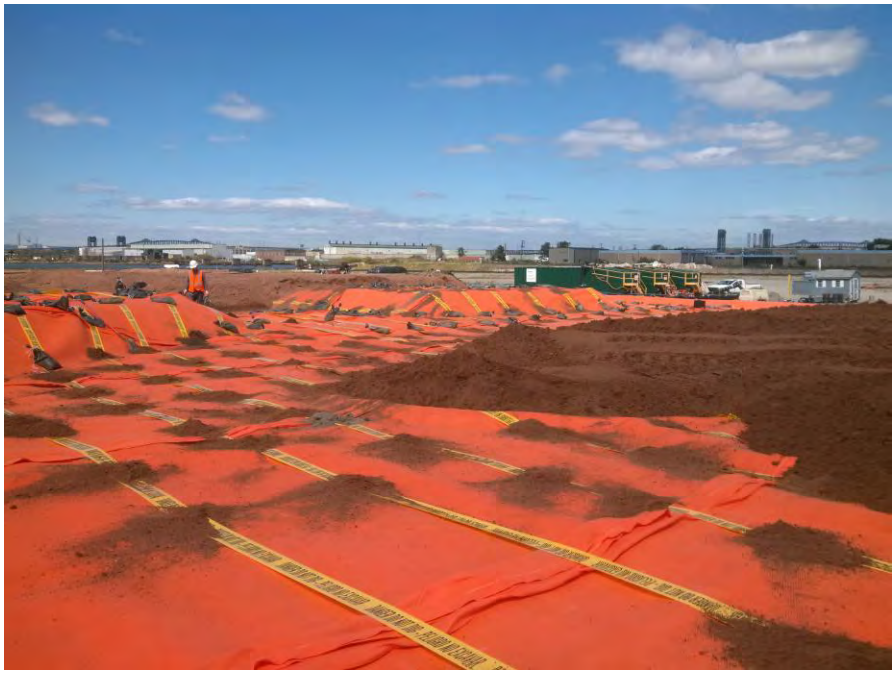
Date:
9/14/15

Direction Taken:

Looking west along SA-6 cap

Description:

Entact spreading protective cover soil over placed GDL. Warning caution tape spaced at maximum 55-inch intervals, as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Seam joint patches placed over non-destruct test seams and patched and repaired according to project specs.



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PHOTOGRAPHIC LOG
Photo #8 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking southeast along SA-6 cap (at approximate Sta. 10+20).

Description:

ESI installing geomembrane boot around Access Manhole #3 located along western slope of 2nd utility corridor.



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PHOTOGRAPHIC LOG
Photo #9 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap

Description:

Completed geomembrane boot with extrusion welds and vacuum box testing completed.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/15/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #25** **AmecFW**: Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panels #76, 77, 78, 79, 80, 81, and 86 (panels running east to west through utility corridor) installed on 9/9/15 (located at approximate Sta. 9+50) running approximately 100 ft. east to Sta. 8+50. Panels installed today (9/15) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 9+50 (eastern end of 2nd utility corridor) to Sta. 8+50. Refer to *Soil Subgrade Approval* forms from 9/15/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/15/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 9+50 to Sta. 8+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 9+50 (east of 2nd utility corridor) moving east (for approximately 100 ft.) to approximate Sta. 8+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/15/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #76-81, and #86 (running east-west through 2nd utility corridor) on 9/9/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL

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layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-87, P-88, P-89, and P-90) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/15), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 8+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/15/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/16/15.
- One destructive sample (DS-23) was collected (fusion) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- ESI pulled back the installed geomembrane panels along the northern and southern ends of the 2nd utility corridor to expose the underlying GCL. The GCL appeared to be hydrated (approximate 10 ft. wide section along southern end of corridor and approximate 4 ft. wide section along northern end of corridor) from rainwater infiltration that washed back underneath the cap due to the soil subgrade outside of the cap which was not yet completed to grade. These sections of GCL were cut and removed and the area was left open to dry overnight. New GCL pieces will be placed (according to the project specs) on 9/16/15.
- With cap activities complete, ESI filled sandbags for the remainder of the work day.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-23 (once received).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, and 9/14/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-22, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/15/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/15/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/15/15
A5 – Subgrade Approval	Sheet 16 & ESI (9/15/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/15/15.
A7 – Panel Placement Log	Page 18	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/15/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/15/15
A9 – Seam/Non-Destruct. Test Log	Pages 19-20	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/15/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A no repairs completed for 9/15/15
A11 – Conformance COC		N / A for 9/15/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/15/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/15/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/15/15

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PHOTOGRAPHIC LOG
Photo #1 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/15/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 9+50)

Description:

Soil subgrade approved for GVL and geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/15/15

Direction Taken:

Looking east along northern end of SA-6 cap (from approximate Sta. 9+50)

Description:

Soil subgrade prepared for GVL and geomembrane placement as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking east along southern end of SA-6 cap (from approximate Sta. 9+50 to Sta. 8+50)

Description:

ESI placing GCL along lower bench of southern slope of SA-6 cap (areas below to 1 ft. above the water table) as outlined in the project specs. GCL overlapped a minimum of 1 ft. and sealed with bentonite along the seams.



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PHOTOGRAPHIC LOG
Photo #4 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking north along southern slope of SA-6

Description:

Stakes / staples placed along top 6-inches of GCL to secure material.



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PHOTOGRAPHIC LOG
Photo #5 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking north along SA-6 cap (eastern top of 2nd utility corridor)

Description:

ESI deploying GVL as per project specifications.



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PHOTOGRAPHIC LOG
Photo #6 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking north along SA-6 cap

Description:

GVL placed from approximate Sta. 9+50 to approximate Sta. 8+50.



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PHOTOGRAPHIC LOG
Photo #7 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/15/15

Direction Taken:

Looking southwest along SA-6 cap (at approximate Sta. 9+20).

Description:

ESI conducting fusion welding along geomembrane seams (P-87 & P-88) as per project specifications



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PHOTOGRAPHIC LOG
Photo #8 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/15/15

Direction Taken:

Looking east along southern slope of SA-6

Description:

Geomembrane panels pulled back to remove approximate 10’ wide piece of GCL along southern end of 2nd utility corridor. GCL removed was wet / hydrated from rainwater during storms. GCL cut and removed – to be replaced and sealed on 9/16/15.



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PHOTOGRAPHIC LOG
Photo #9 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 8+50).

Description:

GVL and geomembrane panels placed to approximate Sta. 8+50. Panels welded with non-destructive testing conducted (as outlined in project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/16/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	63/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #26**
AmecFW: Geoff Shallard, Dave Ambrose, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #90 (P-90) installed on 9/15/15 and located at approximate Sta. 8+50 running approximately 80 ft. east to Sta. 7+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing on the repairs completed from 9/14/15 (through 2nd utility corridor). ESI also conducted patch / repair work for the panels installed on 9/15/15 (Panels 87-90). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/16/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-four repairs (RP-316 through RP-349) were observed and fixed (according to the project specifications) from Panel #87 through Panel #90 (repair / detailing work conducted on panels installed on 9/15/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Along with the repair work, ESI also placed the new pieces of GCL (refer to Photo Log) for the northern and southern areas along the 2nd utility corridor where the GCL was hydrated. One area along the southern section required the liner to be cut to pull back and expose the GCL. As such, this repair (RP-331) was identified as a non-conformance issue (subgrade irregularity) and is further defined below.
- While patch / repair work was being completed, Langan and Entact conducting soil subgrade approval from approximate Sta. 8+50 (moving east from P-90) to Sta. 7+70. Refer to *Soil Subgrade Approval* forms from 9/16/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed.

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Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photo #6 of the daily photo log for 9/16/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 8+50 to Sta. 7+70.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 8+50 (moving east of P-90) moving east (for approximately 80 ft.) to approximate Sta. 7+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/16/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, the following rolls of GVL were cut with the first wrap of geocomposite removed prior to use
    - Roll 65211010130 – 8 ft. removed
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #90 on 9/15/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-91, P-92, P-93, and P-94) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/16), *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 7+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/16/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/17/15.
- One destructive sample (DSX-9) was collected (extrusion weld) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - GCL underneath geomembrane liner along southern end of utility corridor hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. This patch was noted as a subgrade irregularity and was patched/repaired following project specs and is further defined on *Sheet 7 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/16/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DSX-9 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, and 9/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/16/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/16/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/16/15
A5 – Subgrade Approval	Sheet 17 & ESI (9/16/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/16/15.
A7 – Panel Placement Log	Page 19	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/16/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/16/15
A9 – Seam/Non-Destruct. Test Log	Pages 20-21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/16/15
A10 – Repair Log	Pages 15-17	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15
A11 – Conformance COC		N / A for 9/16/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/16/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/16/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issues identified and further defined on Sheet 7 for 9/16/15

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PHOTOGRAPHIC LOG
Photo #1 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking south along western slope of 2nd utility corridor

Description:

ESI conducting vacuum box testing (as per project specs) for geomembrane boot around Access Manhole #3 (RP-262).



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PHOTOGRAPHIC LOG
Photo #2 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking west along southern end of SA-6 cap (southern section of 2nd utility corridor)

Description:

ESI placing new panels of GCL for hydrated areas that were previously removed on 9/15/15. New pieces overlapped a minimum of 1 ft. and sealed with granular bentonite along the seams.



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PHOTOGRAPHIC LOG
Photo #3 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking along southern end of SA-6 cap (along GCL)

Description:

ESI spreading granular bentonite along GCL seams (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking south along SA-6 cap (top southwest corner of 2nd utility corridor)

Description:

Vacuum box testing being conducted on RP-299 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking east along northern end of SA-6 cap (northern end of 2nd utility corridor)

Description:

New panel of GCL placed along SCB wall (northeast corner of 2nd utility corridor). GCL removed as area was hydrated from previous storms.



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PHOTOGRAPHIC LOG
Photo #6 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking west along southern end of SA-6 cap (southern end of 2nd utility corridor)

Description:

Geomembrane panels patched and repaired after exposing and replacing pieces of GCL



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PHOTOGRAPHIC LOG
Photo #7 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/16/15

Direction Taken:

Looking north / northeast along SA-6 Cap (from approximate Sta. 8+50).

Description:

ESI deploying GVL. Approved soil subgrade to the east. Soil compacted, graded, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #8 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

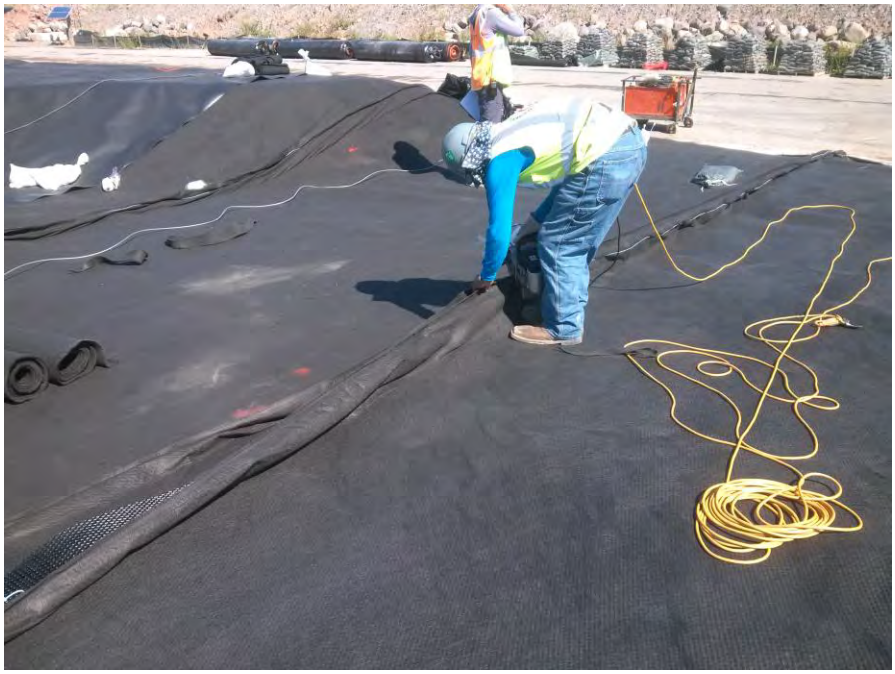
Date:
9/16/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 8+50).

Description:

ESi conducting sewing along the top layer of GVL as outlined in the project specs. White plastic fasteners spaced at a maximum of 5 ft. along the geonet also placed prior to sewing.



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PHOTOGRAPHIC LOG
Photo #9 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 8+10).

Description:

White plastic fasteners spaced at a maximum of 5 ft. along GVL



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PHOTOGRAPHIC LOG
Photo #10 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 8+20)

Description:

ESI deploying geomembrane panels over placed GVL (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #11 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking along SA-6 cap (Panels 90/91)

Description:

ESI conducting fusion welding along Panel Seams 90 / 91 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #12 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking along southern end of SA-6 cap

Description:

ESI conducting non-destructive testing (pressure testing) along Panel Seam 90 / 91 as outlined in project specs.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/17/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	65/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #27** **AmecFW**: Stu, Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #94 (P-94) installed on 9/16/15 and located at approximate Sta. 7+70 running approximately 70 ft. east to Sta. 7+00 (top western slope of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for the panels installed on 9/16/15 (Panels 91-94). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/17/15 for results (extrusion testing identified as EXT. on form).
- A total of seventeen repairs (RP-350 through RP-366) were observed and fixed (according to the project specifications) from Panel #91 through Panel #94 (repair / detailing work conducted on panels installed on 9/16/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Additionally, custom fit repairs were conducted along the top eastern slope of the 2nd utility corridor (Panel #80) to remove observed wrinkles in the geomembrane panels. Vacuum box testing was then completed on the repairs (as per the project specifications) to confirm the integrity of the extrusion welds.
- Once the patch / repair work was completed ESI began placing GDL from approximate Sta. 10+30 (Panel #75) to approximate Sta. 9+60 (Panel #87). GDL was placed through the 2nd utility corridor with the panels oriented east to west, and was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.

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- While GDL placement was being conducted, Langan and Entact completed soil subgrade approval from approximate Sta. 7+70 (moving east from P-94) to Sta. 7+00 (top western slope of 3rd utility corridor). Refer to *Soil Subgrade Approval* forms from 9/17/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+70 to Sta. 7+00.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 7+70 (moving east of P-94) moving east (for approximately 70 ft.) to approximate Sta. 7+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/17/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove first wrap of geocomposite prior to use
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #94 on 9/16/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of three panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-95, P-96, and P-97) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/17), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 7+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/17/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/18/15.
- One destructive sample (DS-24) was collected (fusion weld) from Panel Seams 91/92. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/17/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

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- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-24 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, and 9/16/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/17/15
A3 – Photo Log	Pages 1 – 3	Total of 6 photos outlining pertinent daily observations and descriptions for 9/17/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/17/15
A5 – Subgrade Approval	Sheet 18 & ESI (9/17/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/17/15.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 20	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/17/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/17/15
A9 – Seam/Non-Destruct. Test Log	Pages 21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/17/15
A10 – Repair Log	Pages 15-18	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15 and 9/17/15
A11 – Conformance COC		N / A for 9/17/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/17/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/17/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/17/15

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PHOTOGRAPHIC LOG
Photo #1 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/17/15

Direction Taken:

Looking west along SA-6 cap (at destruct sample location DS-24)

Description:

ESI completing patch / repair work for destruct sample DS-24 collected along Panel 91 / 92 seam.



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PHOTOGRAPHIC LOG
Photo #2 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/17/15

Direction Taken:

Looking north along SA-6 through 2nd utility corridor (approximate Sta. 10+00)

Description:

ESI placing GDL along 2nd utility corridor over placed geomembrane panels. One panel ran north-south through bottom of utility corridor. Remaining panels oriented east-west along slopes of corridor.



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PHOTOGRAPHIC LOG
Photo #3 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

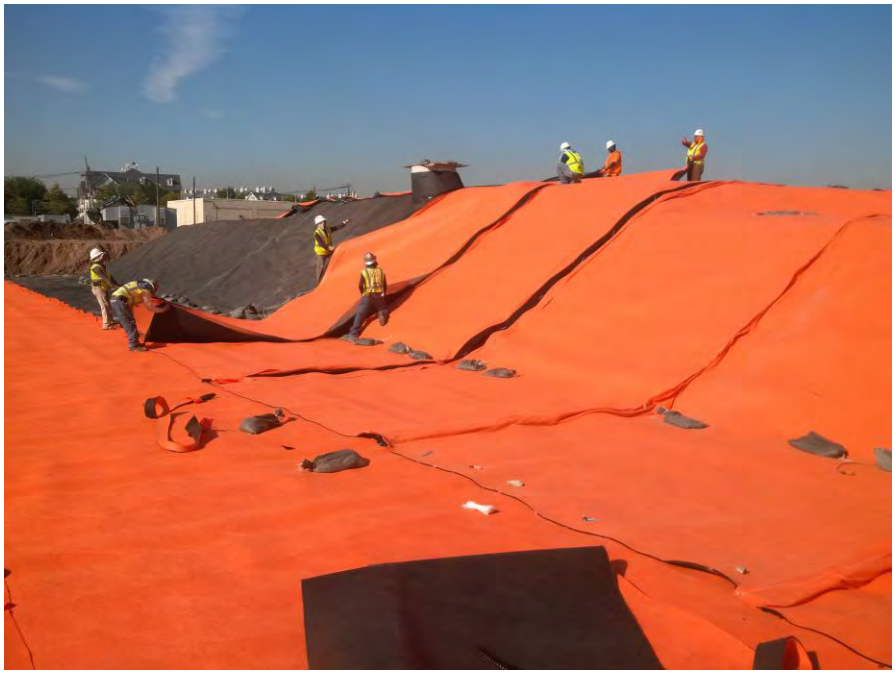
Date:
9/17/15

Direction Taken:

Looking south along SA-6 (through 2nd utility corridor)

Description:

ESI placing GDL panels along western slope of 2nd utility corridor. Panels oriented east to west and secured with white plastic fasteners and sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

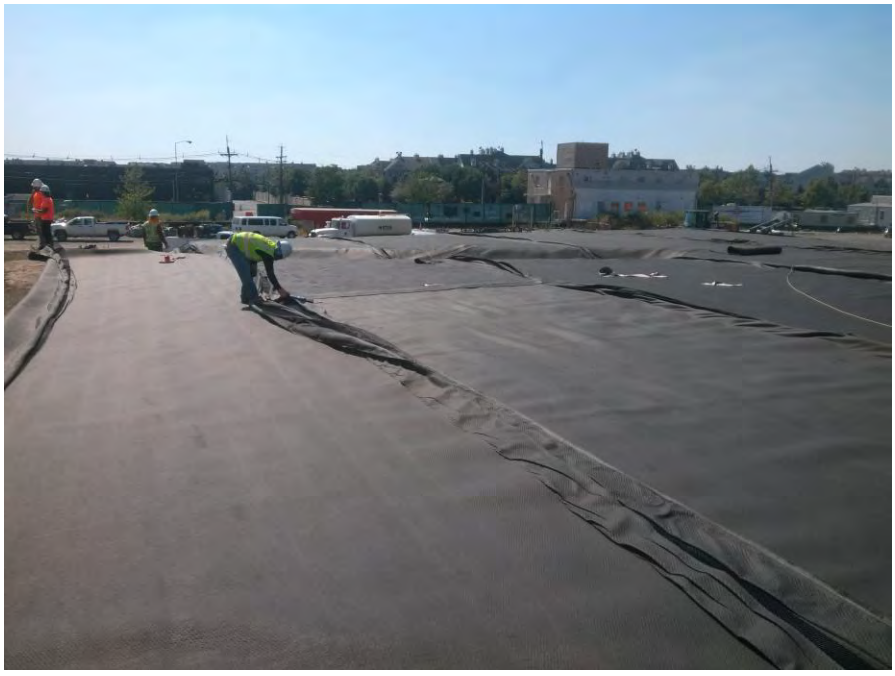
Date:
9/17/15

Direction Taken:

Looking south along SA-6 cap (approximate Sta. 7+50).

Description:

ESI deploying GVL with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/17/15

Direction Taken:

Looking north along SA-6 cap (approximate Sta. 7+40).

Description:

ESI deploying geomembrane panels over GVL.



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PHOTOGRAPHIC LOG
Photo #6 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/17/15

Direction Taken:

Looking south along SA-6 cap

Description:

Geomembrane panels placed and fusion welded (according to project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/18/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #28**
AmecFW: Stu, Bills, Geoff Shallard, Dave Ambrose, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), through 3rd utility corridor (located at approximate Sta. 6+80). Material to be placed from Panel #97 (P-97) installed on 9/17/15 and located at approximate Sta. 7+00 running approximately 60 ft. east through 3rd utility corridor to Sta. 6+40 (top eastern side of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 7+00 (P-97 installed on 9/17/15) through the 3rd utility corridor to Sta. 6+40. Refer to *Soil Subgrade Approval* forms from 9/18/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+00 to Sta. 6+40.
- GCL and Cap placement began with ESI placing GVL along the eastern and western slopes of the 3rd utility corridor. GVL was placed at the areas above the groundwater table down the slopes of the corridor (GCL areas comprised the bottom of the utility corridor to approximately 2 ft. to 3 ft. up the side slopes). GVL was secured with white plastic fasteners spaced at a maximum of 5 ft. and was sewn along the top layer of geotextile (as outlined in the project specs).
- GCL was then placed along the bottom of the 3rd utility corridor, and along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. The GVL overlapped the GCL a minimum of 1 ft. along the bottom slopes of the corridor, and the GCL was secured into the side slopes via soil stakes / staples.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #97 (located at approximate Sta. 7+-00) on 9/17/15 and through the 3rd utility corridor. Panels

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were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers.

- A total of nine panel lengths (panel lengths identified as the approximate 68 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-98, P-99, P-100, P-101, P-102, P-103, P-104, P-105, and P-106) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/18), *Trial Weld Log.*
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- Upon completion of geomembrane panel placement to approximate Sta. 6+40, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/18/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/21/15.
- Two destructive samples (DS-25 and DS-26) were collected (fusion welds) from Panel Seams 94/95 and 97/97, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/18/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory results for DS-25 and DS-26 (once received).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, and 9/17/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-24, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/18/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/18/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/18/15
A5 – Subgrade Approval	Sheet 19 & ESI (9/18/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/18/15.
A7 – Panel Placement Log	Page 21 & 22	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/18/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/18/15
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/18/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A repairs patched and leistered, however, no welding or vacuum box testing completed
A11 – Conformance COC		N / A for 9/18/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/18/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/18/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/18/15

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south through 3rd utility corridor (located at approximate Sta. 6+80).

Description:

Soil subgrade graded, compacted, and free of debris (>1/2") as outlined in the project specs. Subgrade approved through 3rd utility corridor (approximate Sta. 7+00 to Sta. 6+40).



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PHOTOGRAPHIC LOG
Photo #2 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

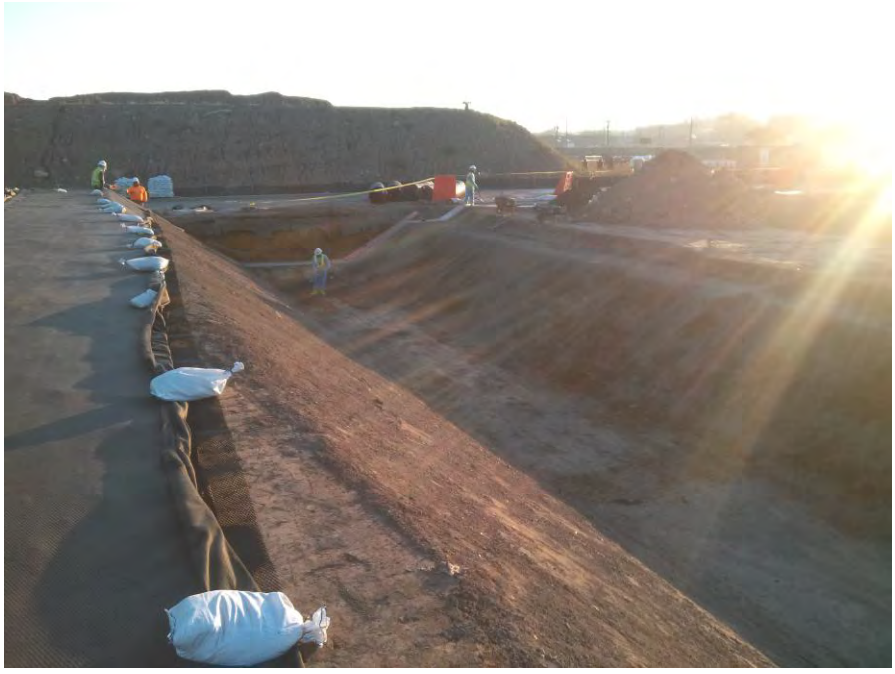
Date:
9/18/15

Direction Taken:

Looking north through 3rd utility corridor

Description:

Soil subgrade approved for panel placement through 3rd utility corridor. Subgrade prepared according to project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south along 3rd utility corridor (western slope).

Description:

ESI placing GVL along eastern and western slopes of 3rd utility corridor. GVL placed to approximate 2 ft. to 3 ft. from bottom of corridor (GCL proposed along bottom of corridor and up bottom slopes). GVL to overlap GCL a minimum of 1 ft. (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south through 3rd utility corridor

Description:

GVL deployed along western slope of 3rd utility (according to project specs).



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PHOTOGRAPHIC LOG
Photo #5 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking north through 3rd utility corridor

Description:

GVL placed along eastern and western slopes of 3rd utility corridor (placed according to project specs).



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PHOTOGRAPHIC LOG
Photo #6 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south from within 3rd utility corridor

Description:

ESI placing GCL along bottom of 3rd utility corridor. GCL placed according to project specs (at areas below to 1 ft. above the water table). GVL overlapped a minimum of 1 ft. over GCL, and GCL anchored into slope with soil stakes / staples.



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PHOTOGRAPHIC LOG
Photo #7 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south through 3rd utility corridor

Description:

GCL and GVL placed along bottom and slopes of 3rd utility corridor (according to project specs).



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PHOTOGRAPHIC LOG
Photo #8 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

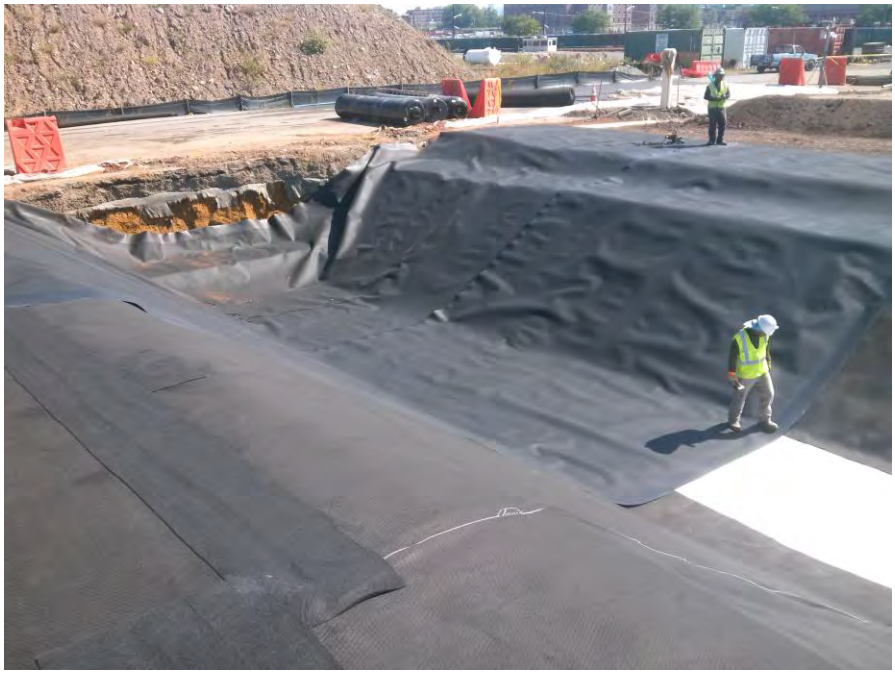
Date:
9/18/15

Direction Taken:

Looking north / northeast at northern end of 3rd utility corridor

Description:

ESi deploying geomembrane panels over GVL and GCL as per project specs.



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PHOTOGRAPHIC LOG
Photo #9 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking along SA-6 cap

Description:

ESI conducting fusion welding along panel seams 97 /100 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #10 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking north along top western slope of 3rd utility corridor

Description:

Geomembrane panels placed and welded (according to project specs). Panels oriented from east to west running through 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #11 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

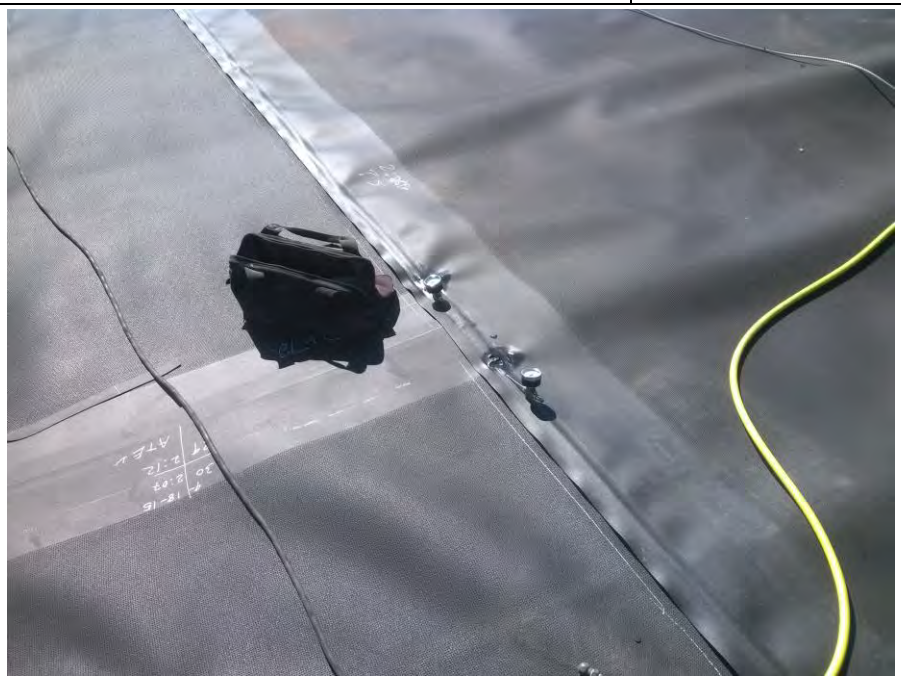
Date:
9/18/15

Direction Taken:

Looking along SA-6 cap (Panels 1000/101)

Description:

ESI conducting non-destructive testing (air pressure tests) for Panel Seams 100 / 101 as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #12 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking north along 3rd utility corridor

Description:

Geomembrane panels placed and welded (according to project specs) through 3rd utility corridor.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/21/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1500

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #29**
AmecFW: Dave Ambrose, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing through 2nd utility corridor (located at approximate Sta. 10+00).. Material to be placed from eastern slope of 2nd utility corridor (Panels 76-81; running east to west) located at approximate Sta. 10+30) running approximately 250 ft. east to Panel #93 (located at approximate Sta. 7+80).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 10+30 (eastern slope of 2nd utility corridor) to approximate Sta. 7+80 (Panel #93). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- Once GDL was completed to the (based on the approved as-builts) , ESI completed patch / repair along the panels previously installed, Panels 95-106 which were placed on 9/17/15 and 9/18/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/21/15).
- A total of thirty-two repairs (RP-367 through RP-398) were observed and fixed (according to the project specifications) from Panels #95 through Panel #106 (repair / detailing work conducted on panels installed on 9/17/15 and 9/18/15). Refer to 9/21/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-2. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.

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By: Dan Bosworth

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- One destructive sample (DSX-10) was collected (extrusion) from RP-376. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/21/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory data for destruct sample DSX-10 (extrusion) once received

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, and 9/18/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/21/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/21/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/21/15
A5 – Subgrade Approval		N / A no subgrade approval completed for 9/21/15.
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/21/15.
A7 – Panel Placement Log		N / A no panels placed on 9/21/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/21/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/21/15
A10 – Repair Log	Pages 18-19	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/21/15
A11 – Conformance COC		N / A for 9/21/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/21/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/21/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/21/15

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PHOTOGRAPHIC LOG
Photo #1 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

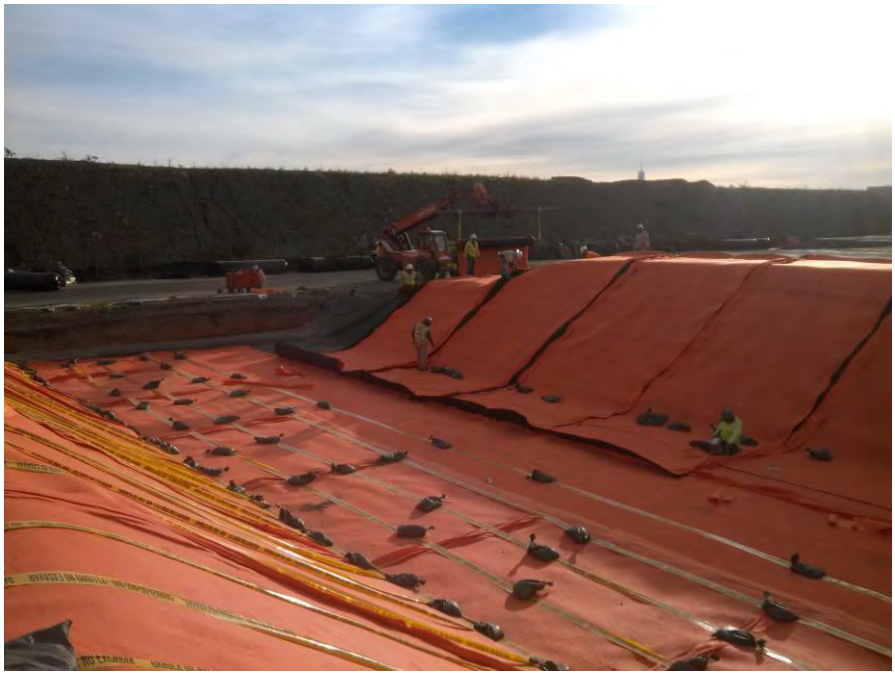
Date:
9/21/15

Direction Taken:

Looking north / northeast along 2nd utility corridor (located at approximate Sta. 10+00).

Description:

ESI deploying GDL along eastern slope, northern end of 2nd utility corridor. GDL placed according to project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/21/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 9+00).

Description:

GDL deployed moving east from 2nd utility corridor. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. intervals, and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #3 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at gas vent GV-2)

Description:

ESI constructing geomembrane boot around gas vent GV-2



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PHOTOGRAPHIC LOG
Photo #4 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/21/15

Direction Taken:

Looking east along southern end of SA-6 cap (at RP-370).

Description:

ESI conducting patch / repair work and extrusion welds (according to project specs) for repairs from 9/17/15 and 9/18/15.



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PHOTOGRAPHIC LOG
Photo #5 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at GV-2)

Description:

ESI completing geomembrane boot around gas vent GV-2. Geomembrane skirt to be placed over penetration and extrusion welded with 18-inches of overlap (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #6 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at RP-367)

Description:

ESI conducting vacuum box testing on extrusion weld repairs (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at GV-2)

Description:

Final boot, skirt, and welds completed for GV-2 as per project specs.



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PHOTOGRAPHIC LOG
Photo #8 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking east along southern end of SA-6 cap (at DSX-10)

Description:

Patch / repair work completed for destruct sample DSX-10 (extrusion weld) collected from RP-376.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/22/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #30**
AmecFW: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #98, 99, 100, 101, 102, 103, and 106 (panels running east to west through 3rd utility corridor) installed on 9/18/15 (located at approximate Sta. 6+40) running approximately 110 ft. east to Sta. 5+30. Panels installed today (9/22) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 6+40 (eastern end of 3rd utility corridor) to Sta. 5+30. Refer to *Soil Subgrade Approval* forms from 9/22/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/22/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 6+40 to Sta. 5+30.
- While subgrade inspection was being conducted, ESI conducted vacuum box testing for the repairs completed on 9/21/15, and also installed the remaining panels of GDL from geomembrane Panel #93 to Panel #96.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, one roll of GDL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #64021010086 (8 ft. cut).
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 6+40 (east of 3rd utility corridor) moving east (for approximately 110 ft.) to approximate Sta. 5+30. GVL was placed according to

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By: Dan Bosworth

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the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/22/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, one roll of GVL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #65211010113 (8 ft. cut)
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #98-103, and #106 (running east-west through 3rd utility corridor) on 9/18/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-107, P-108, P-109, and P-110) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/22), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 5+30, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/22/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI conducted patch / repair along the panels installed, Panels 107-110. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/22/15).
- A total of nineteen repairs (RP-399 through RP-417) were observed and fixed (according to the project specifications) from Panels #107 through Panel #110 (repair / detailing work conducted on panels installed on 9/22/15). Refer to 9/22/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for piezometer PZ-14. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- No destructive samples were collected, as an RFI was submitted to AmecFW, and based on the results of the first 26 destruct samples – the sampling frequency was decreased from 500 LF to 1500 LF as samples yielded zero failures with all 26 exhibited shear and peel results greater than the minimum requirements (as per the project specs).
- During cap placement activities, Entact spread protective cover soil for the area immediately west of the 2nd utility corridor (approximate Sta. 10+20). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

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By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 5 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, and 9/21/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/22/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/22/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/22/15
A5 – Subgrade Approval	Sheet 20 & ESI (9/22/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/22/15.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 23	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/22/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/22/15
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/22/15
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 9/22/15
A11 – Conformance COC		N / A for 9/22/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/22/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/22/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/22/15

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PHOTOGRAPHIC LOG
Photo #1 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking east past 3rd utility corridor (past Sta. 6+40).

Description:

Soil subgrade approved for the area east of the 3rd utility corridor. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 6+40)

Description:

Soil subgrade approved for geomembrane placement (looking north along end of geomembrane previously installed on 9/18). Subgrade prepared according to project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking south along subgrade (east of 3rd utility corridor) at approximate Sta. 5+90

Description:

Soil subgrade prepared for geomembrane placement according to project specs.



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PHOTOGRAPHIC LOG
Photo #4 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

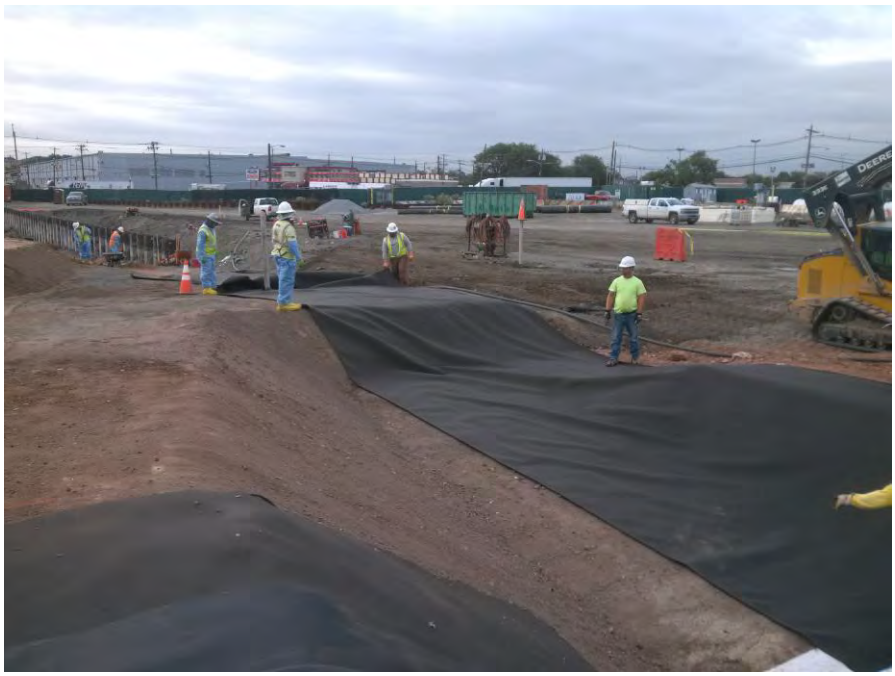
Date:
9/22/15

Direction Taken:

Looking east along southern end of SA-6

Description:

ESI placing 16 oz. geotextile along southern boundary of SA-6 (sheet pile wall). Geotextile overlapped 2 ft. to the outside with remaining roll width inside as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 6+20)

Description:

ESI deploying GVL panels along approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum 5 ft. intervals with top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #6 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 6+00)

Description:

GVL panels placed along soil subgrade. White plastic fasteners spaced at maximum 5 ft. intervals.



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PHOTOGRAPHIC LOG
Photo #7 (09/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/22/15

Direction Taken:

Looking south / southeast along SA-6 cap (at approximate Sta. 5+80)

Description:

ESI deploying geomembrane panels over GVL.



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PHOTOGRAPHIC LOG
Photo #8 (09/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/22/15

Direction Taken:

Looking down along SA-6 cap (top eastern slope of 3rd utility corridor)

Description:

ESI conducting fusion welding between Panel Seams 101 / 107 as per project specifications.



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PHOTOGRAPHIC LOG
Photo #9 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along Panel #107 (east of 3rd utility corridor)

Description:

Panel #107 (running north to south) past top of eastern slope of 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #10 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking down at SA-6 cap (top eastern slope of 3rd utility corridor)

Description:

Non-destructive testing at Seam Joint 102/103/107. Testing conducted according to project specs.



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PHOTOGRAPHIC LOG
Photo #11 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

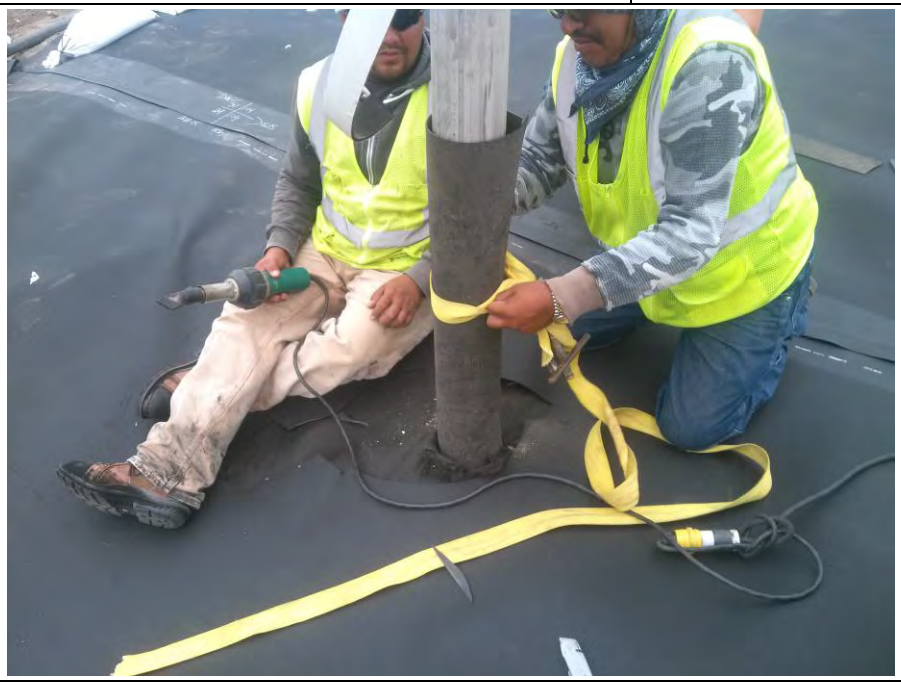
Date:
9/22/15

Direction Taken:

Looking along SA-6 cap (at piezometer PZ-14)

Description:

ESI placing geomembrane boot around piezometer PZ-14 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #12 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

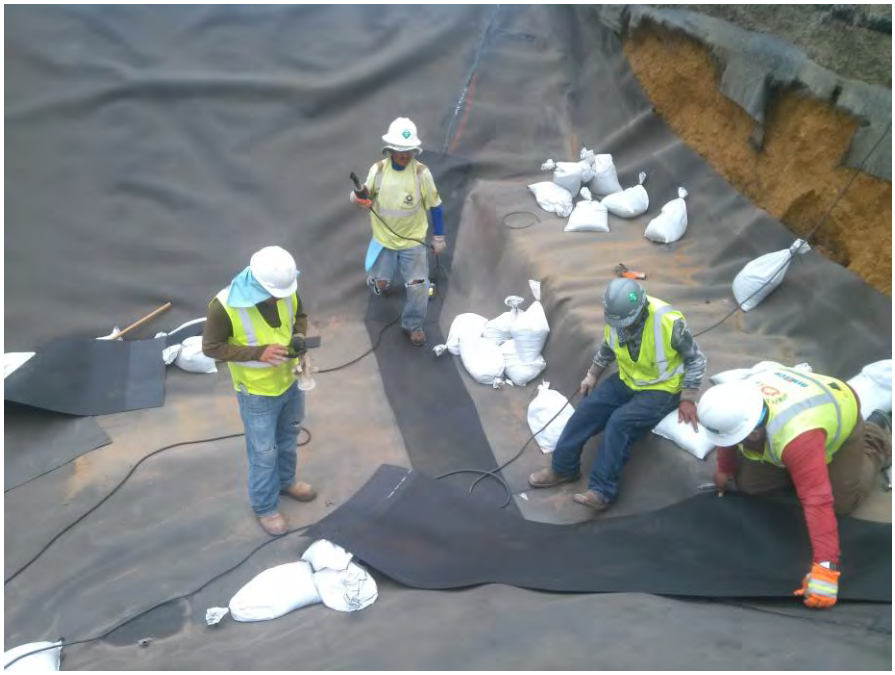
Date:
9/22/15

Direction Taken:

Looking west at northern end of 2nd utility corridor

Description:

ESI conducting patch / repair work (custom fit repair) along northern end of 2nd utility corridor (RP-412).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/23/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	58/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #31** **AmecFW**: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #110 installed on 9/22/15 (located at approximate Sta. 5+30) running approximately 80 ft. east to Sta. 4+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #96/97 (approximate Sta. 7+00) through 3rd utility corridor to approximate Sta. 5+30 (Panel #110 placed on 9/22/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL was required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010103 - 5 ft. cut and removed
    - Roll #64021010105 – 8 ft. cut and removed
- Langan and Entact conducting soil subgrade approval from east of Panel #110 (located at approximate Sta. 5+30) to approximate Sta. 4+50. Refer to *Soil Subgrade Approval* forms from 9/23/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/23/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 5+30 to Sta. 4+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 5+30 (east of 3rd utility

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corridor) moving east (for approximately 80 ft.) to approximate Sta. 4+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/23/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- In addition to the GVL, GCL was placed along the northern and southern edges of SA-6 at areas below (to 1 ft. above) the groundwater table (as shown on the drawings and outlined in the project specs). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #110 on 9/22/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-111, P-112, P-113, and P-114) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, a trial weld (smooth to smooth) was conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/23), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/23/15) for non-destructive testing details.
- One patch / repair (RP-418) was completed as a pipe boot for well 115-E1A-SO located at Panel #109. The boot was constructed according to the project specs (final butyl seal still to be applied). No destruct samples were collected from 9/23/15.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and no patch / repair work was conducted.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, and 9/22/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/23/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/23/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/23/15
A5 – Subgrade Approval	Sheet 21 & ESI (9/23/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/23/15.
A7 – Panel Placement Log	Page 24	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/23/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/23/15
A9 – Seam/Non-Destruct. Test Log	Pages 25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/23/15
A10 – Repair Log	Page 20	One repair log provided by ESI and confirmed by Langan for repairs completed for 9/23/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		N / A for 9/23/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/23/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/23/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/23/15

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PHOTOGRAPHIC LOG
Photo #1 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 4+90)

Description:

Soil subgrade approved for the area east of Panel #110 (P-110) installed on 9/22/15. Subgrade graded, compacted, and free of debris (>1/2").



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PHOTOGRAPHIC LOG
Photo #2 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking west / northwest along SA-6 cap (looking toward place panels from 9/22/15)

Description:

Soil subgrade approved for geomembrane placement from approximate Sta. 5+30 to approximate Sta. 4+50.



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PHOTOGRAPHIC LOG
Photo #3 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

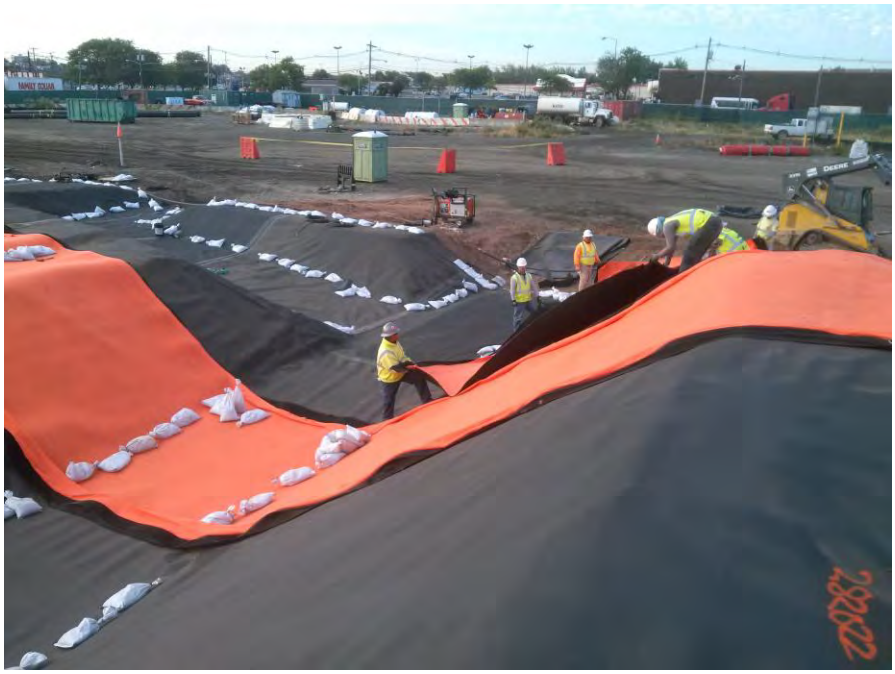
Date:
9/23/15

Direction Taken:

Looking south along 3rd utility corridor (approximate Sta. 6+80)

Description:

ESI deploying GDL panels (oriented from east to west) through 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #4 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking north along 3rd utility corridor (approximate Sta. 6+80)

Description:

ESI placing GDL panels (oriented from east to west) moving north along 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #5 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

ESI placing 16 oz. geotextile along southern boundary of SA-6. GCL also placed at marked areas below (to 1 ft. above the groundwater table) as per project specs.



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PHOTOGRAPHIC LOG
Photo #6 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 5+00)

Description:

GVL panels placed along soil subgrade. White plastic fasteners spaced at maximum 5 ft. intervals as per project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 5+10)

Description:

ESI deploying geomembrane panels over GVL.



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PHOTOGRAPHIC LOG
Photo #8 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking down along SA-6 cap (Panels 110 / 111 seam)

Description:

ESI conducting fusion welding between Panel Seams 110 / 111 as per project specifications.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/24/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	59/80° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #32**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap), continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #114 installed on 9/23/15 (located at approximate Sta. 4+50) running approximately 70 ft. east to Sta. 3+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair along the panels previously installed, Panels 111-114 which were placed on 9/23/15. Prior to repair work, a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/24/15).
- A total of seven repairs (RP-419 through RP-424) were observed and fixed (according to the project specifications) from Panels #111 through Panel #114 (repair / detailing work conducted on panels installed on 9/23/15). Refer to 9/24/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-compliance issue was observed and was noted on *Sheet #8 Notice of Non-Compliance and Corrective Action Form.* This non-compliance was also noted on the Repair Log as a subgrade irregularity and was identified as RP-423. This non-compliance issue was identified based on a rock that was observed underneath the geomembrane cap. The rock was removed from underneath the liner and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #8* for 9/24/15.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-E1A-SO and Access Manhole #4. Note: The penetration logs for all boots to date will be completed once the boots have been sealed with butyl sealant (not yet completed).

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- While ESI was completing patch / repair work, Langan and Entact conducted soil subgrade approval from east of Panel #114 (located at approximate Sta. 4+50) to approximate Sta. 3+80. Refer to *Soil Subgrade Approval* forms from 9/24/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 9/24/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 4+50 to Sta. 3+80.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the areas within the SA-6 cap along the bottom and side slopes of the drainage/utility ditches located from approximate Sta. 4+50 to Sta. 3+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After the GCL was placed, GVL was installed from approximate Sta. 4+50 (Panel #114) moving east (for approximately 70 ft.) to approximate Sta. 3+80. GVL was placed along the areas outside of the water GCL (outside of the water table influence) and according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/24/15 Photo Log* for supporting photographs. Note: The GVL was cut along the drainage / utility to expose the GCL as a minimum of 1 ft. of overlap was required along the ditches where the GVL and GCL intersected.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #114 on 9/23/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-115, P-116, P-117, and P-118) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, two trial welds (smooth to smooth and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/24), *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/24/15) for non-destructive testing details.
- No patch / repair work was conducted on Panels #115 through #118 as part of the activities on 9/24/15.
- Two destructive samples were collected for laboratory testing. DS-27 (fusion) was collected from Panel Seam 110/111 and is noted as RP-422 on the *Repair Log*. Fusion weld destruct samples collected at 1500 LF intervals (as per the approved RFI to reduce the sampling frequency from 500 LF to 1500 LF). One extrusion weld sample (DSX-11) was also collected from RP-421 and is noted as RP-424 on the *Repair Log*. Extrusion weld samples collected at 500 LF intervals as per the project specs.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as RP-423 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #111). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 8 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/24/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory destruct data for destruct samples DS-27 and DSX-11.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, and 9/23/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/24/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/24/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/24/15
A5 – Subgrade Approval	Sheet 22 & ESI (9/24/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/24/15.
A7 – Panel Placement Log	Page 25	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/24/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information from 9/24/15
A9 – Seam/Non-Destruct. Test Log	Pages 25-26	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/24/15
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/24/15
A11 – Conformance COC		N / A for 9/24/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct sample information from 9/24/15
A13 – Destruct. Sample Summary	Sheet 3	One destruct sample summary form provided by ESI and confirmed by Langan for 9/24/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 8	One non-compliance issue identified on 9/24/15 and identified on Sheet #8 and the Repair Log as a subgrade irregularity.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/24/15

Direction Taken:

Looking west along SA-6 cap (Panel #110 / #111 seam)

Description:

Patch / repair work completed for destruct sample DS-27 collected at Panel #110/111 seam (as per project specs).



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PHOTOGRAPHIC LOG
Photo #2 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

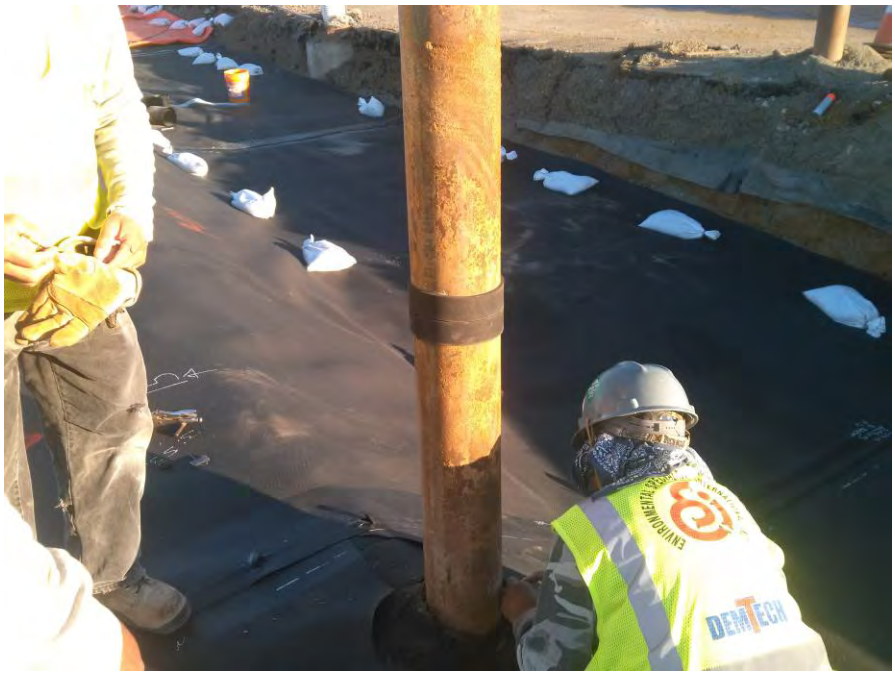
Date:
9/24/15

Direction Taken:

Looking north along SA-6 cap (at well 115-E1A-SO)

Description:

ESI placing gaskets and seals and prepping well 115-E1A-SO for geomembrane boot.



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PHOTOGRAPHIC LOG
Photo #3 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 4+50)

Description:

Soil subgrade for next area graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking east / northeast along soil subgrade (from approximate Sta. 4+50)

Description:

Subgrade prepared according to project specs and approved for panel placement.



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PHOTOGRAPHIC LOG
Photo #5 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking south along SA-6 cap (at access manhole #4)

Description:

ESI constructing geomembrane boot and skirt for access manhole #4 (according to project specs).



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PHOTOGRAPHIC LOG
Photo #6 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking east along northern end of SA-6

Description:

ESI placing GCL along northern SCB wall for areas below (to 1 ft. above) the groundwater table (as per project drawings and specifications).



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PHOTOGRAPHIC LOG
Photo #7 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

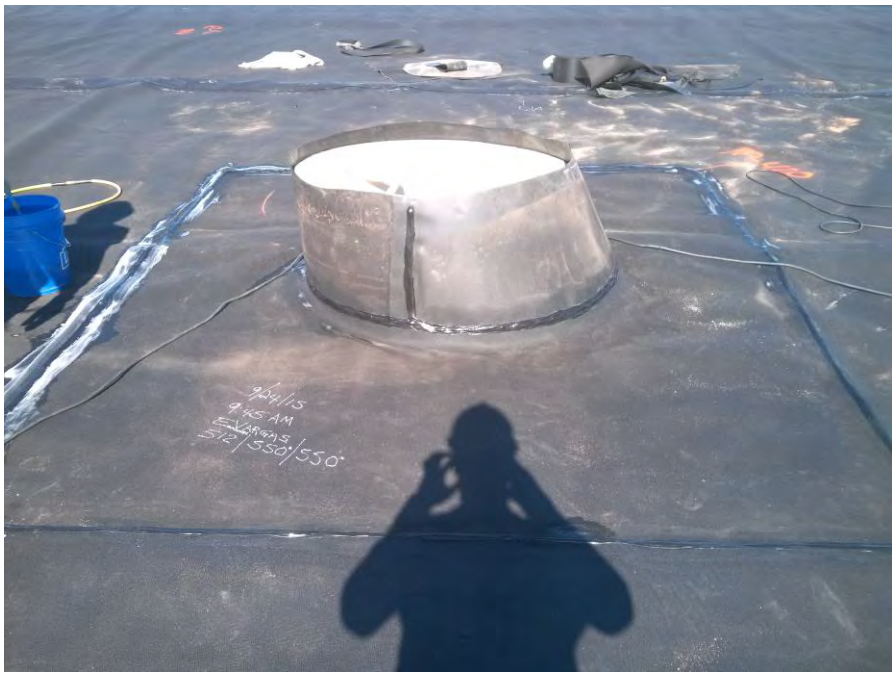
Date:
9/24/15

Direction Taken:

Looking west along SA-6 cap

Description:

Completed geomembrane boot around Access Manhole #4. Patch placed per project specs and extrusion welded with vacuum box testing being completed.



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PHOTOGRAPHIC LOG
Photo #8 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/24/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

GCL placed along SCB wall as per project drawings. GCL anchored into slope of subgrade with soil stakes / staples. Seams overlapped a minimum of 1 ft. and sealed with granular bentonite.



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PHOTOGRAPHIC LOG
Photo #9 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 4+20)

Description:

ESI placing GCL along drainage/utility ditches/swales for areas below (to 1 ft. above the groundwater table). GCL placed according to the project specs and at the locations shown on the project drawings.



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PHOTOGRAPHIC LOG
Photo #10 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 4+10)

Description:

ESI placing GVL as per project specs with white plastic fasteners spaced at maximum of 5 ft. and the top layer of geotextile sewn



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PHOTOGRAPHIC LOG
Photo #11 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking east along SA-6 cap

Description:

GVL cut along bottom of utility/drainage ditches to expose GCL. Minimum of 1 ft. of overlap along GVL and GCL edges.



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PHOTOGRAPHIC LOG
Photo #12 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+50)

Description:

ESI deploying geomembrane panels



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PHOTOGRAPHIC LOG
Photo #13 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

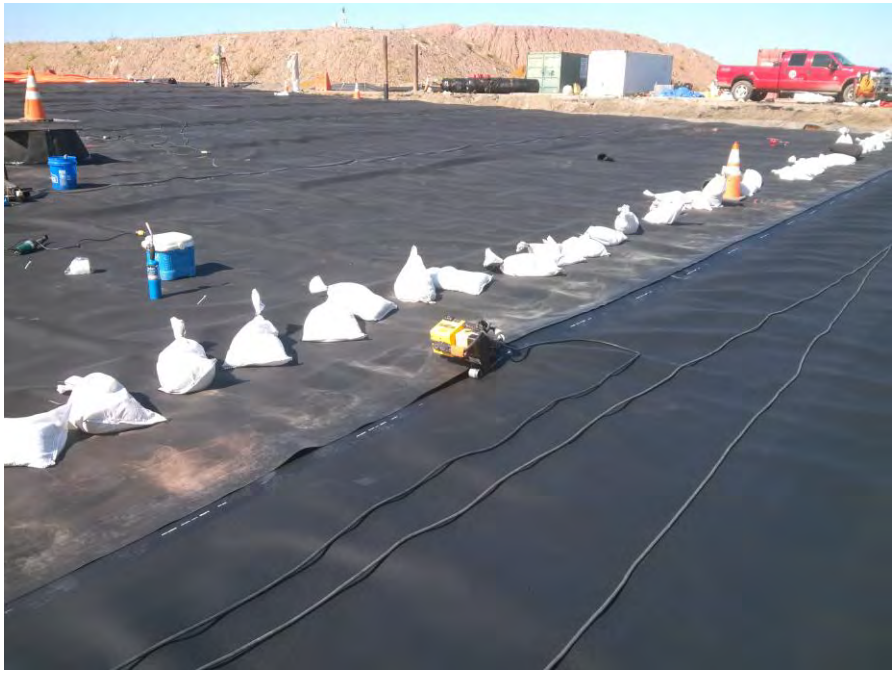
Date:
9/24/15

Direction Taken:

Looking north along SA-6 (at panel seams 114/115)

Description:

ESI conducting fusion welding (as per project specifications) along Panel Seams 114 / 115.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/25/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	63/73° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #33**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #118 installed on 9/24/15 (located at approximate Sta. 3+80) running approximately 50 ft. east to Sta. 3+30.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair along the panels previously installed, Panels 114-118 which were placed on 9/24/15. Prior to repair work, a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/25/15).
- A total of twenty repairs (RP-425 through RP-444) were observed and fixed (according to the project specifications) from Panels #114 through Panel #118 (repair / detailing work conducted on panels installed on 9/24/15). Refer to 9/25/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. No non-compliance issues were identified as patch / repair work completed was custom fit repairs to allow geomembrane to conform to SA-6 contours. Note: RP-425 has been marked in the field by the project team, however, the repair (pipe boot for GV-2) has not yet been completed.
- Site activities commenced with ESI deploying rolls of GDL from Panel #110 (approximate Sta. 5+30) to approximate Sta. 4+50 (Panel #114 placed on 9/23/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #118 (located at approximate Sta. 3+80) to approximate Sta. 3+30. Refer to *Soil Subgrade Approval* forms from 9/25/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 9/25/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 3+80 to Sta. 3+30.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 3+80 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs). Note: no GVL was placed as the subgrade required GCL placement for the entire area (below the water table elevation).
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #118 on 9/24/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL layer. A total of two panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-119 and P-120) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, two trial welds (smooth to smooth and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/25), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 3+30, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/25/15) for non-destructive testing details.
- ESI completed patch / repair work for the minor repairs associated with the placement of Panels 119 & 120 (RP-437 through RP-444) as identified previously in this report and reflected on the *Repair Log* from 9/25/15.
- No destructive samples were collected from 9/25/15
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of custom fit repairs to allow the geomembrane to conform to the SA-6 contours.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/25/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, and 9/24/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/25/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/25/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/25/15
A5 – Subgrade Approval	Sheet 23 & ESI (9/25/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/25/15.
A7 – Panel Placement Log	Page 26	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/25/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected for 9/25/15
A9 – Seam/Non-Destruct. Test Log	Pages 26-27	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/25/15
A10 – Repair Log	Pages 21-22	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/25/15
A11 – Conformance COC		N / A for 9/25/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected from 9/25/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected from 9/25/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered from 9/25/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/25/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/25/15

Direction Taken:

Looking along SA-6 cap (at Access Manhole #4)

Description:

Completed geomembrane boot placed around Access Manhole #4. Boot constructed according to project specs with geomembrane skirt and extrusion welds.



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PHOTOGRAPHIC LOG
Photo #2 (09/25/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/25/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 4+60

Description:

ESI placing conducting patch / repair work (custom fit repairs) for panels placed on 9/24/15 as per project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/25/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

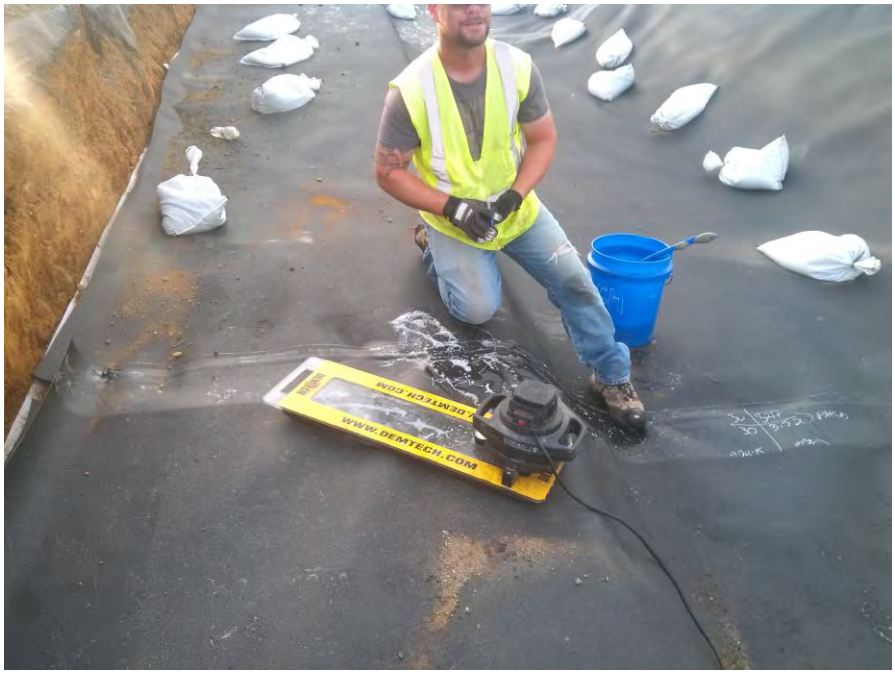
Date:
9/25/15

Direction Taken:

Looking east along northern end of SA-6 cap

Description:

ESI conducting vacuum box testing for extrusion weld repairs (as per project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/25/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/25/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+60)

Description:

ESI deploying GDL over geomembrane panels. GDL placed according to project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking east along SA-6 (at approximate Sta. 3+80)

Description:

ESI placing GCL over soil subgrade. GCL placed at locations shown on the project drawings and according to project specs.



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PHOTOGRAPHIC LOG
Photo #6 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 3+40)

Description:

ESI placing GCL as per project drawings. GCL placed according to project specs with minimum of 1 ft. overlap and sealed with granular bentonite.



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PHOTOGRAPHIC LOG
Photo #7 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 3+80)

Description:

ESI deploying geomembrane panels over GCL



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PHOTOGRAPHIC LOG
Photo #8 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking east along southern end of SA-6 cap (at RP-439)

Description:

ESI conducting patch / repair work (custom fit repairs) for panels P-119 and P-120.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/29/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	69/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #34**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #120 installed on 9/25/15 (located at approximate Sta. 3+30) running approximately 80 ft. east to Sta. 2+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #114 (approximate Sta. 4+50) to approximate Sta. 3+80 (Panel #118 placed on 9/24/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010072 – Approximately 8 ft. removed
    - Roll #64021010064 – Roll not on inspection list. Approximately 30 ft. removed due to damage observed from forklift
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #120 (located at approximate Sta. 3+30) to approximate Sta. 2+50. Refer to *Soil Subgrade Approval* forms from 9/29/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/29/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 3+30 to Sta. 2+50.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 3+30 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.
- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #120 on 9/25/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-120, P-121, P-122, P-123, P-124, and P-125) by ESI. Note: During placement of geomembrane panel P-123, the roll of geomembrane terminated within the SA-6 approximately 20 ft. from the southern end of the cap. Thus an additional panel (P-124) was required to complete the geomembrane run from north to south.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/29), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 2+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/29/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted patch/ repair work for the panels installed.
- A total of eleven repairs (RP-445 through RP-455) were observed and fixed (according to the project specifications) from Panels #121 through Panel #125 (repair / detailing work conducted on panels installed on 9/24/15). Refer to 9/29/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. No non-compliance issues were identified as patch / repair work completed was custom fit repairs to allow geomembrane to conform to SA-6 contours.
- No destructive samples were collected from 9/29/15
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of custom fit repairs to allow the geomembrane to conform to the SA-6 contours.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/29/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, and 9/25/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/29/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 9/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/29/15
A5 – Subgrade Approval	Sheet 24 & ESI (9/29/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/29/15.
A7 – Panel Placement Log	Page 27	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/29/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected for 9/29/15
A9 – Seam/Non-Destruct. Test Log	Pages 27-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/29/15
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/29/15
A11 – Conformance COC		N / A for 9/29/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected from 9/29/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected from 9/29/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered from 9/29/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

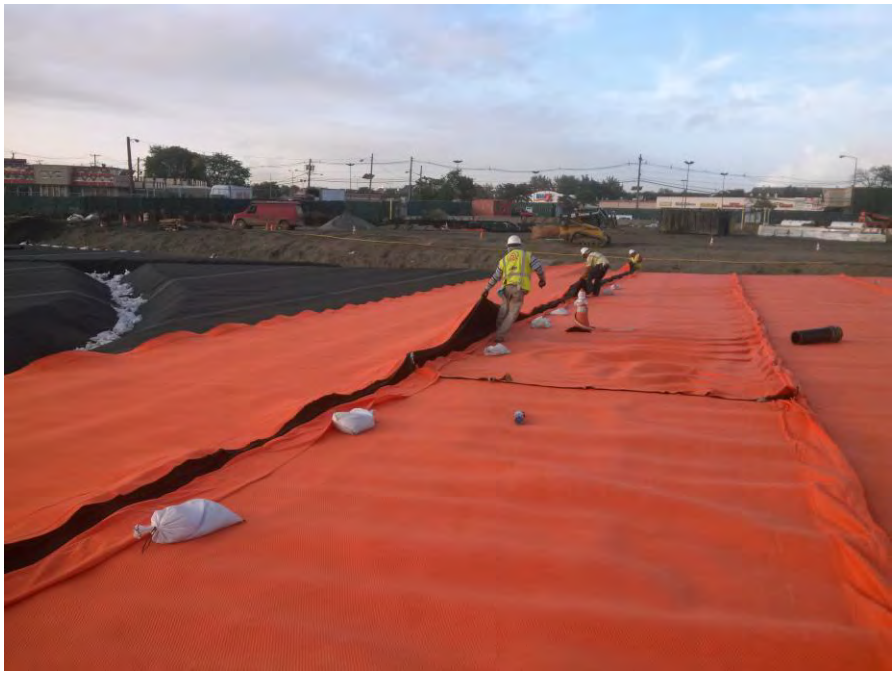
Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+00)

Description:

ESI deploying GDL over installed geomembrane panels. GDL placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #2 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta.3+30)

Description:

Soil subgrade east of Panel #120 prepared for panel placement. Subgrade prepared according to project specs (graded, compacted, and free of debris >1/2").



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PHOTOGRAPHIC LOG
Photo #3 (09/25/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/25/15

Direction Taken:

Looking east along SA-6 (toward approximate Sta. 2+90)

Description:

Soil subgrade prepared for panel placement from approximate Sta. 3+30 to approximate Sta. 2+50.



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PHOTOGRAPHIC LOG
Photo #4 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 3+30)

Description:

ESI deploying GCL over approved soil subgrade. GCL placed at areas below (to 1 ft. above) the groundwater table as shown on the project drawings.



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PHOTOGRAPHIC LOG
Photo #5 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (along approximate Sta. 3+00)

Description:

ESI placing GCL over soil subgrade. GCL placed at locations shown on the project drawings and according to project specs. GCL overlapped a minimum of 1 ft. and sealed with granular bentonite.



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PHOTOGRAPHIC LOG
Photo #6 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 2+90)

Description:

GVL and GCL placed over approved subgrade prior to placement of geomembrane panels. GCL placed at areas below (to 1 ft. above) the groundwater table (as shown on project drawings) with GVL placed on the upper bench above water table areas.



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PHOTOGRAPHIC LOG
Photo #7 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 3+00)

Description:

ESI deploying geomembrane panels over GCL and GVL.



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PHOTOGRAPHIC LOG
Photo #8 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

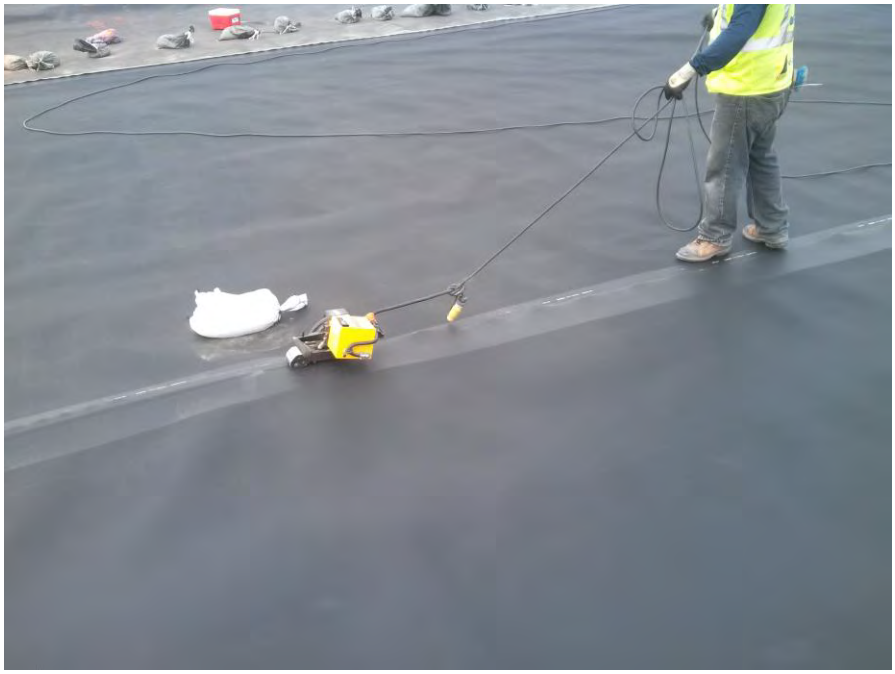
Date:
9/29/15

Direction Taken:

Looking west along SA-6 cap (at Panel Seams 121/122)

Description:

ESI conducting fusion welding (as per project specifications) along Panel Seams 121 / 122.



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PHOTOGRAPHIC LOG
Photo #9 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (along Panel 123 / 124)

Description:

Geomembrane panels placed on 9/29/15, welded, and tested according to project specs.



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PHOTOGRAPHIC LOG
Photo #10 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking south along southern end of SA-6 (at RP-447 through RP-449)

Description:

ESI completing patch / repair work for custom fit repairs along Panels 122 and 124. Patch / repair work completed according to project specs with extrusion welded and vacuum box testing completed.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	10/07/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	60/72° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #35**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and patch / repair work associated with panels placed from 9/29/15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for minor wrinkles from panels previously placed on 9/29/15 (Panels 121 – 125). During the patch / repair work it was observed that the GCL underlying the geomembrane panels was hydrated with standing water present at two areas:
    - Area 1 was comprised of the drainage / utility swale located along the southern end of SA-6 (approximate Sta. 3+50 to Sta. 2+60). At this area, a sump pump pit was located immediately outside of SA-6 cap to the south. During the storm events over the weekend, this pump at one point shut down thus causing a build-up (ponding) of water that extended laterally into the swale and hydrating the GCL.
    - Area 2 was located along the northern end of the cap (approximate Sta. 4+00 to Sta. 3+40) along the SCB wall. During the storm events water from the adjacent roadway (higher elevation than the SA-6 cap as final grading has not yet been completed) ran along the edges of SA-6 causing some soil washout, which allowed the water to infiltrate laterally over the SCB wall and onto the lower portion of SA-6.
- For both of these areas, the geomembrane cap was pulled back to expose the hydrated GCL. The GCL was then cut and removed to expose the underlying soil subgrade. Visual observation of the subgrade showed that the soil was in good condition (firm and unyielding) with no wet or wash out areas observed. New GCL was then placed in these areas with minimum of 1 ft. of overlap and granular bentonite placed along the seams as per project specifications. Refer to *10/7/15 Photograph Log* for supporting Site photos.
- Once the new GCL was placed, the geomembrane panels were patch / repaired (as required) over these areas.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- A total of twenty repairs (RP-456 through RP-475) were observed and fixed (according to the project specifications) from Panels #119 through Panel #122 (repair / detailing work for replaced GCL on panels installed from 9/29/15). Refer to 10/7/15 *Repair Report.* The majority of these repairs were patch / repairs associated with the removal and replacing of the hydrated GCL. These repairs were identified as subgrade irregularities on the *Repair Report,* and were identified as non-compliance issues on *Sheet #9* and *Sheet #10 Notice of Non-Compliance* forms, respectively. Note: RP-457 which consisted of a pipe boot for GV-0 was marked in the field and noted on the Repair Report (as RP-457), however the boot and repair itself has not yet been completed.
- Two destructive samples were collected from 10/7/15. Destruct sample DS-28 (fusion) was collected from Panel #123/125, and sample DSX-12 was collected from RP-459 (Panel #123).
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Subgrade irregularity (hydrated GCL) identified as repairs RP-458 through RP-473 on *Repair Log*
    - GCL underneath geomembrane liner along southern end SA-6 (swale) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final) and failure of sump pump in area during storm. Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were completed following project specs and are further defined on *Sheet 9 Notice of Non-Compliance*
- Non-Conformance No. 10 (Sheet #10) – Subgrade irregularity (hydrated GCL) identified as RP-474 and RP-475 on *Repair Log*
    - GCL underneath geomembrane liner along northern end of SA-6 cap (along SCB wall) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were patched/repaired following project specs as further defined on *Sheet 10 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 7 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-28 and DSX-12.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, and 9/29/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/7/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 10/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/7/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/7/15
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/7/15.
A7 – Panel Placement Log		N / A no panels placed on 10/7/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected form 10/7/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 10/7/15
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/7/15
A11 – Conformance COC		N / A for 10/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/7/15
A13 – Destruct. Sample Summary	Sheet 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance	Sheet #9 and Sheet #10	Two non-compliance forms completed (Sheet #9 and Sheet #10) for cutting and removal of hydrated GCL

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/7/15

Direction Taken:

Looking east along SA-6 cap (Panel 123 / 125 seam)

Description:

ESI collecting destruct sample DS-28 (fusion) along Panel 123 / 125 seam as per project specs.



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PHOTOGRAPHIC LOG
Photo #2 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

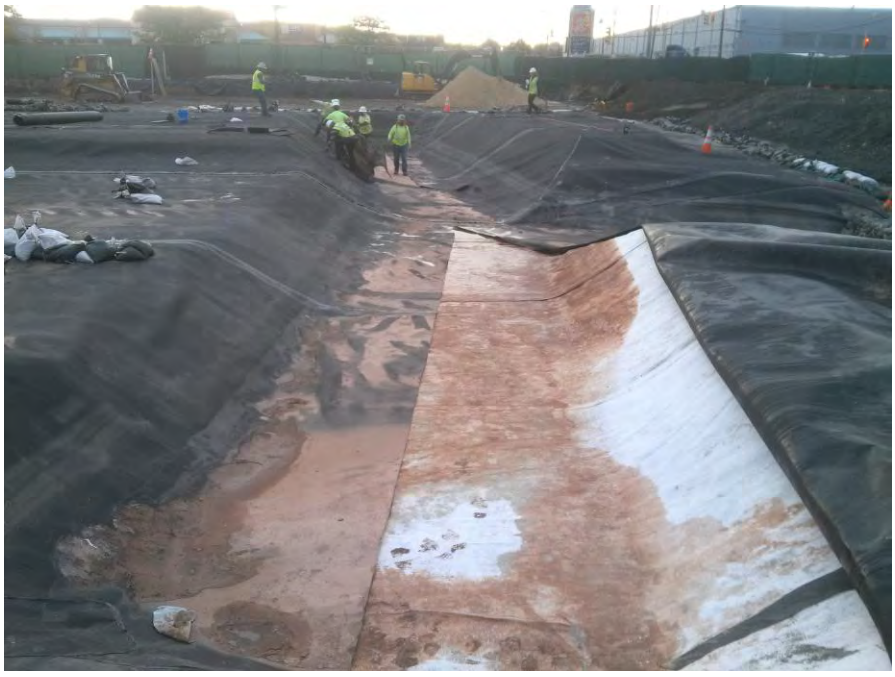
Date:
10/7/15

Direction Taken:

Looking east along southern end of SA-6 cap (swale at approximate Sta.

Description:

GCL hydrated / silted from stormwater during weekend rain events. Sump pump area located immediately outside of the cap failed, thus causing a water build-up and ponding that moved laterally into the swale and hydrating the GCL.



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PHOTOGRAPHIC LOG
Photo #3 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

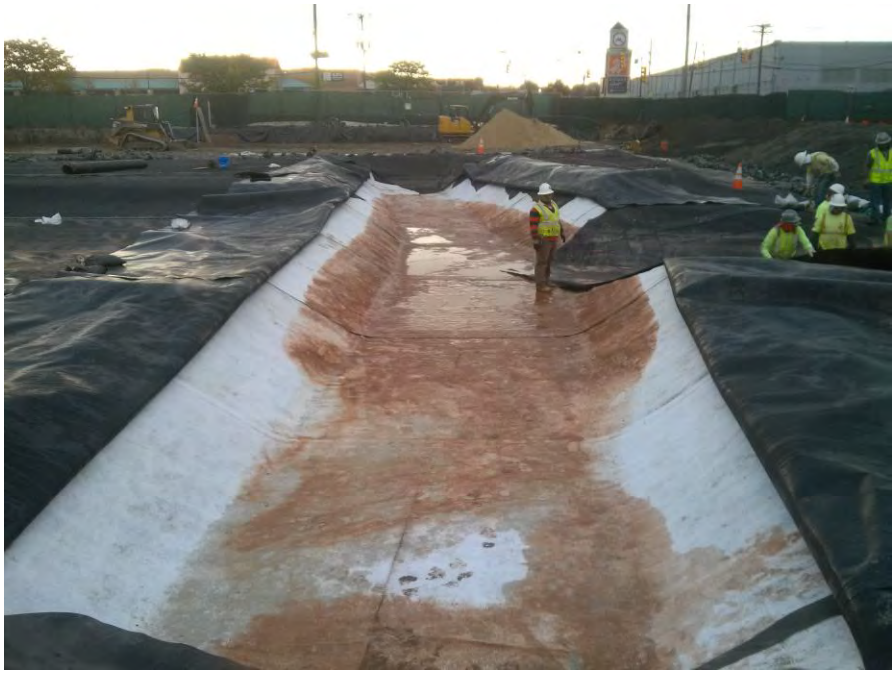
Date:
9/25/15

Direction Taken:

Looking east along southern end of SA-6 cap (approximate Sta. 3+00)

Description:

Geomembrane cap pulled back to expose hydrated GCL.



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PHOTOGRAPHIC LOG
Photo #4 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/7/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Hydrated GCL removed and soil subgrade exposed. Subgrade in good condition with no wet, or washed out areas observed.



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PHOTOGRAPHIC LOG
Photo #5 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/7/15

Direction Taken:

Looking west along southern end of SA-6 cap

Description:

ESI placing new GCL over soil subgrade. GCL overlapped a minimum of 1 ft. and sealed with granular bentonite as per project specs.



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PHOTOGRAPHIC LOG
Photo #6 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

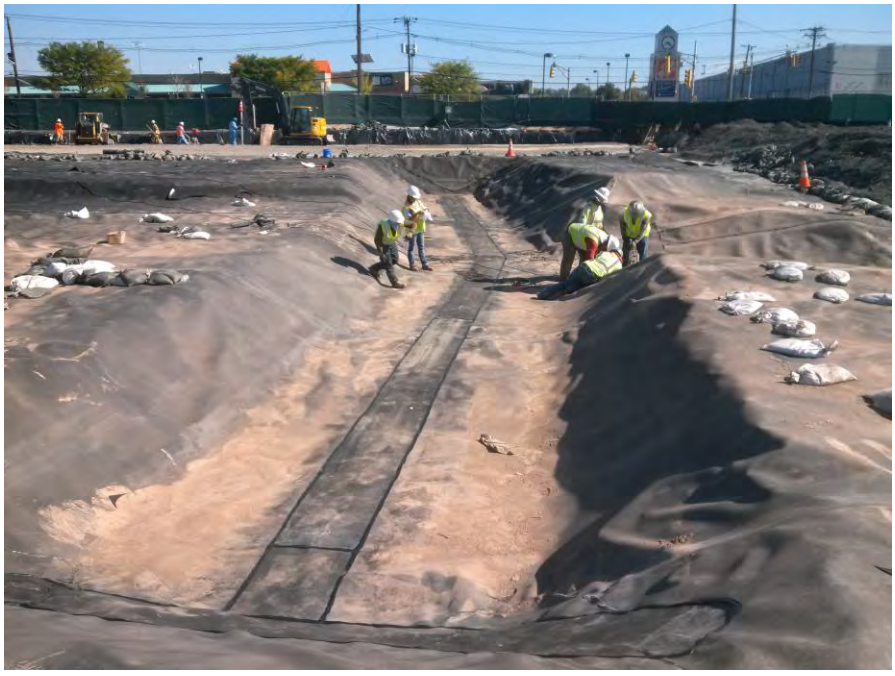
Date:
10/7/15

Direction Taken:

Looking east along approximate Sta. 3+00

Description:

ESI conducting patch / repair work to the geomembrane cap after placing new GCL



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PHOTOGRAPHIC LOG
Photo #7 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

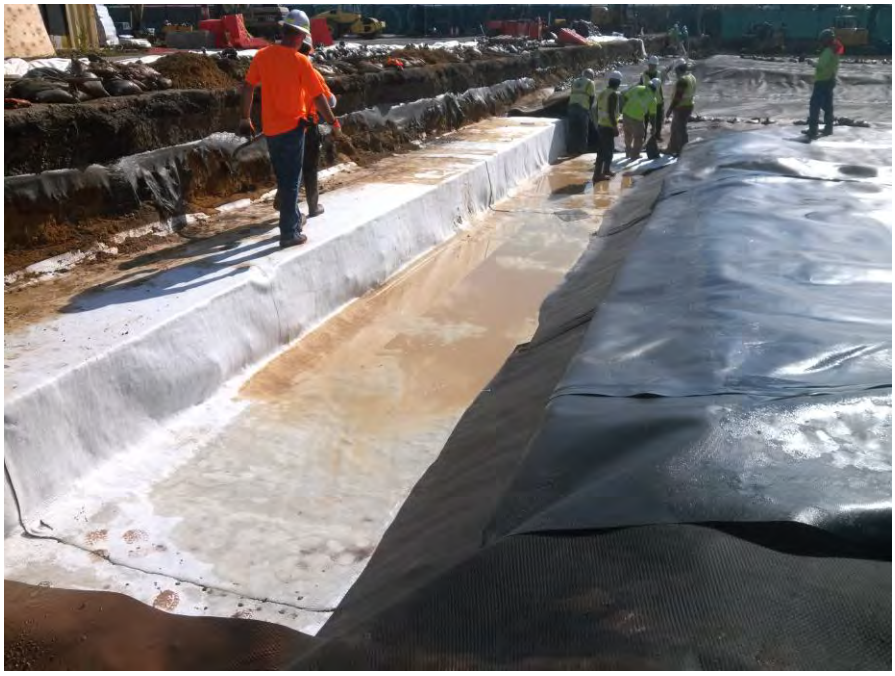
Date:
10/7/15

Direction Taken:

Looking east along northern end of SA-6 cap (along SCB wall)

Description:

Geomembrane cap pulled back to expose hydrated / wet GCL located along northern end of SA-6. GCL hydrated from water infiltrating from storm runoff and washout from the road (cap at lower elevation that roadway – final grading not completed outside of cap).



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PHOTOGRAPHIC LOG
Photo #8 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/7/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

Hydrated GCL along SCB wall (lower elevation than roadway outside of SA-6 cap).



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PHOTOGRAPHIC LOG
Photo #9 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/7/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

New GCL placed along northern end of SA-6.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/08/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	62/77° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #36**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #125 installed on 9/29/15 (located at approximate Sta. 2+50) running approximately 100 ft. east to Sta. 1+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #118 (approximate Sta. 3+80) to approximate Sta. 2+50 (Panel #125). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #125 (located at approximate Sta. 2+50) to approximate Sta. 1+50. Refer to *Soil Subgrade Approval* forms from 10/08/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 10/08/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 2+50 to Sta. 1+50.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 2+50 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project

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specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.

- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #125 on 9/29/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of ten varying panel lengths were placed by ESI (Panels #126-134). Note: the dimensions of these panel lengths varied as the geomembrane panels were conformed to fit along the eastern end of the SA-6 cap.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (10/8), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 1+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (10/08/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted minor patch/ repair work for the panels installed (pipe boots PZ-12).
- A total of one repair (RP-476) was completed (according to the project specifications) for Panel #132 (pipe boot PZ-12). Refer to 10/8/15 *Repair Report* for additional details on the pipe boot. Note: no non-compliance issues were observed during the geomembrane placement and testing conducted on 10/8/15.
- One destructive sample was collected from 10/8/15. Destruct sample DS-29 (fusion) was collected from Panel #128/132 seam.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of pipe boot installations around PZ-12.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/8/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-29.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, and 10/07/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-28, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/8/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/8/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval	Sheet 25 & ESI (10/8/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/8/15.
A7 – Panel Placement Log	Pages 28-29	One panel placement log provided by ESI and confirmed by Langan for prewelds completed on 10/8/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/8/15
A9 – Seam/Non-Destruct. Test Log	Pages 28-30	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 10/8/15
A10 – Repair Log	Page 23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/8/15

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 10/8/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/8/15
A13 – Destruct. Sample Summary	Sheet 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/8/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

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PHOTOGRAPHIC LOG
Photo #1 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

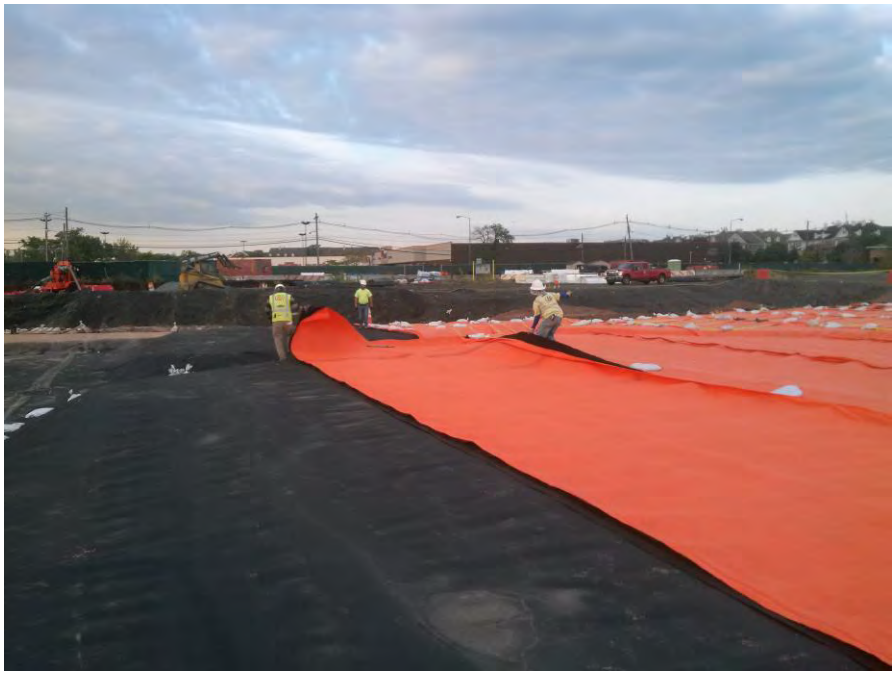
Date:
10/8/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 3+80)

Description:

ESI deploying GDL over geomembrane panels (as per project specs).



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PHOTOGRAPHIC LOG
Photo #2 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

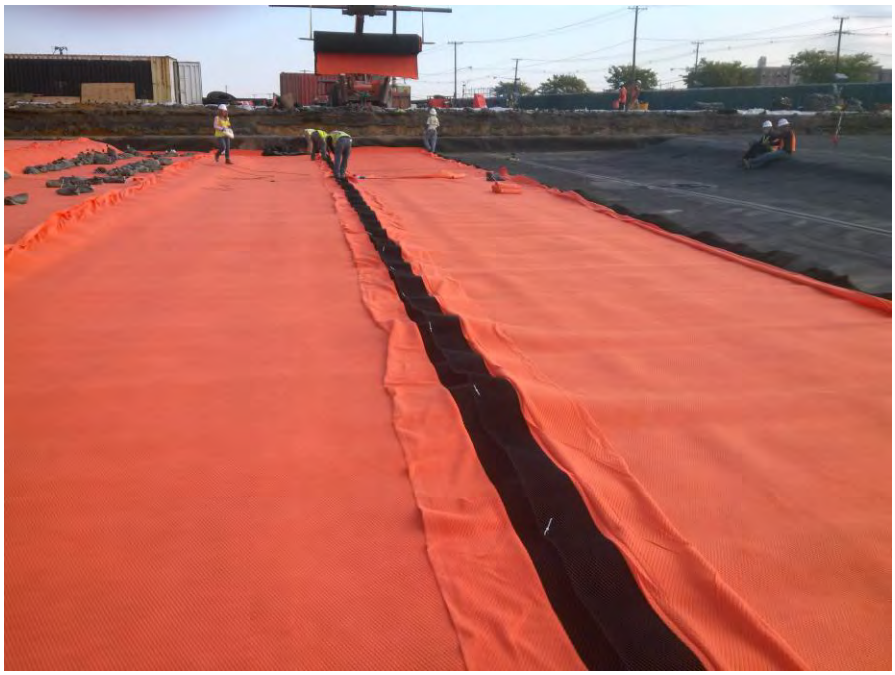
Date:
10/8/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 3+20)

Description:

ESI deploying GDL over geomembrane panels.



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PHOTOGRAPHIC LOG
Photo #3 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking north / northwest along SA-6 (at approximate Sta. 1+70)

Description:

Approved soil subgrade for GCL and GVL placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking south along eastern end of SA-6 cap (at approximate Sta. 2+00).

Description:

ESI placing GCL along eastern end of SA-6 cap (as shown in project drawings) as per project specs.



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PHOTOGRAPHIC LOG
Photo #5 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/8/15

Direction Taken:

Looking northeast toward eastern end of SA-6

Description:

GVL and GCL placed over soil subgrade. GCL overlapped a minimum of 1 ft. with granular bentonite placed along seams (as per project specs).



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PHOTOGRAPHIC LOG
Photo #6 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/8/15

Direction Taken:

Looking northeast toward eastern end of SA-6

Description:

ESI deploying geomembrane panels over GVL and GCL (as per project specs).



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PHOTOGRAPHIC LOG
Photo #7 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/8/15

Direction Taken:

Looking northeast along SA-6

Description:

ESI deploying geomembrane over eastern section of SA-6 (adjacent to Route 440)



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PHOTOGRAPHIC LOG
Photo #8 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

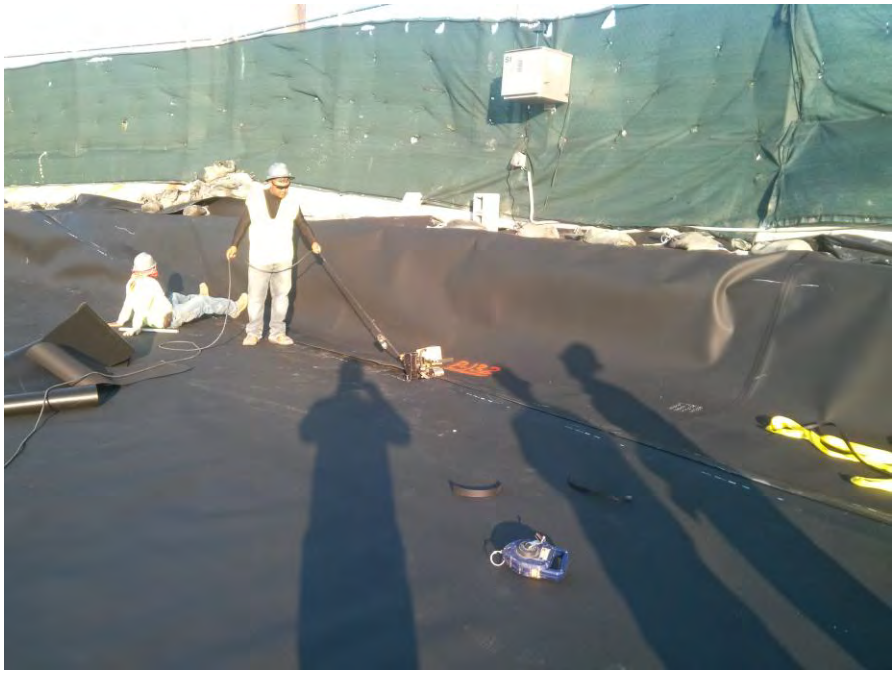
Date:
10/8/15

Direction Taken:

Looking east at eastern end of SA-6 (along Route 440).

Description:

ESI conducting fusion welding along Panel Seams 132/133 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #9 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking northwest along SA-6 cap (at pipe boot for piezometer PZ-12).

Description:

Pipe boot and skirt patch / repair completed for piezometer PZ-12.



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PHOTOGRAPHIC LOG
Photo #10 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking northeast along SA-6

Description:

Pipe boot PZ-12 completed with extrusion welds and vacuum box tested to confirm integrity (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	10/09/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/75° F, Clear, Overcast, PM T'Storm
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1730

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #37**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and to eastern end of SA-6, and patch / repair work associated with panels placed from 10/8/15 (Panels #126-134).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for panels previously placed on 10/8/15 (Panels #126-134). A total of nine repairs (RP-477 through RP-485) were observed and fixed (according to the project specifications) from Panels #126 through Panel #134. Refer to 10/9/15 *Repair Report* for additional details. The majority of these repairs were custom fit details (allow the geomembrane to conform to the SA-6 contours) or seam joint repairs (joints where non-destructive testing was completed). Repairs were patched, sealed with an extrusion weld, and vacuum box tested (according to project specs).
- Two destructive samples were collected from 10/9/15. Destruct sample DSX-13 (extrusion) was collected from RP-477 (Panel #125) and DSX-14 (extrusion) was collected from RP-480 (Panel #132).
- Upon completion of the patch / repair work, ESI completed the final monitoring well, piezometer, and gas vent boots by placing the final butyl sealant around the top of the boot. Additionally, 1-inch pipe bands were placed around the conical Access Manholes (as per project specs).
- With the pipe boots completed, ESI deployed GDL from Panel #125 to Panel #134 (panels placed on 10/9/15). GDL was placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.
- Note: As per the AmecFW GDL Cover Soil Siltation Evaluation and Mitigation Measures Memo (Memo) submitted October 26, 2015, three areas in the field were identified where GDL was exposed and silts were deposited directly onto the GDL. In response to the protective cover soil siltation, three new pieces of GDL were placed directly over the potentially impacted areas to assist in drainage. Additional details of these areas and mitigation measures are further described in the AmecFW Memo, with supporting photographs provided.

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- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.
- Upon completion of the daily activities, ESI demobilized from the Site, as SA-6 capping activities were completed.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as patch / repair work completed consisted of custom fit repairs and seam joint patches to allow the geomembrane to conform to the SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1, and Manhole #2, Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DSX-13 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, and 10/08/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue with protective cover soil placement along eastern end of SA-6.
- Ensure destruct samples are in compliance with project specs and complete associated paperwork and construction certification report.

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/9/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/9/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/9/15.
A7 – Panel Placement Log		N / A no panels placed on 10/9/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/9/15
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/9/15
A11 – Conformance COC		N / A for 10/9/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/9/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/9/15
A14 – Penetration & Edge Form	Sheets #1-18	Final penetration & edge forms completed for piezometers, wells, gas vents, and access manholes.
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking along SA-6 cap

Description:

ESI preparing geomembrane seam for extrusion weld trial log



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PHOTOGRAPHIC LOG
Photo #2 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking west along southern end of SA-6 cap (Panel #125)

Description:

ESI conducting patch / repair work after collecting destruct sample DSX-13 from RP-477 (Panel #125).



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PHOTOGRAPHIC LOG
Photo #3 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking east along southern end of SA-6 (Panel #125)

Description:

Completed patch / repair for RP-483 with extrusion welds and subsequent vacuum box testing (as per project specs).



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PHOTOGRAPHIC LOG
Photo #4 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6 (at piezometer PZ-12)

Description:

ESI placing final butyl seal around piezometer PZ-12



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PHOTOGRAPHIC LOG
Photo #5 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6 (at PZ-12)

Description:

Final geomembrane boot around piezometer PZ-12 completed with butyl seal. Boot and skirt extrusion welded and vacuum box tested (as per project specs).



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PHOTOGRAPHIC LOG
Photo #6 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking east along SA-6

Description:

Final butyl seal placed around top of gas vent GV-1 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #7 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6

Description:

ESI placing final 1-inch band clamp around Manhole #4 with final butyl seal applied (as per project specs).



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PHOTOGRAPHIC LOG
Photo #8 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

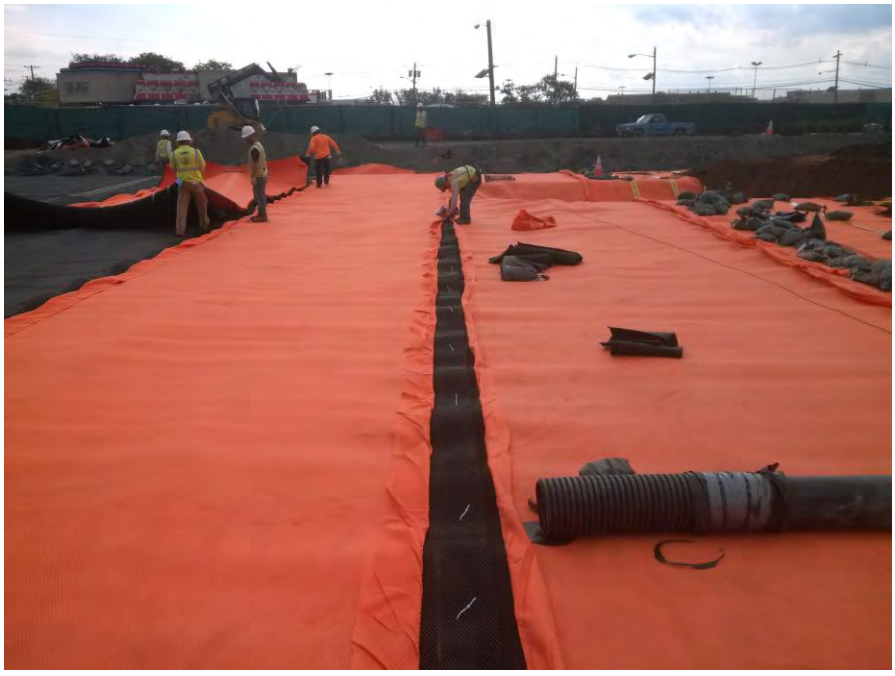
Date:
10/9/15

Direction Taken:

Looking south along SA-6

Description:

ESI deploying GDL over geomembrane panels placed on 10/9/15. GDL placed according to project spec with white plastic fasteners at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #9 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking northwest along SA-6 cap (along SCB wall leading to Lighting Utility Corridor)

Description:

New layer of GDL (approximate 50 ft. by 7.5 ft.) placed along SCB wall over areas where runoff may have caused potential siltation inside GDL. Additional details outlined in the AmecFW Memo.



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PHOTOGRAPHIC LOG
Photo #10 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking northeast along SA-6 (lighting corridor looking north)

Description:

New layer of GDL (approximate 20 ft. by 3.75 ft.) placed along lighting corridor (looking north) and identified as area where potential siltation may have occurred. Additional details are outlined in the AmecFW Memo.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	10/12/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	72° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	1520 – 1720

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #38** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with a failed destruct test (DSX-13) for RP-477 located on Panel #125.
- Based on results of the laboratory destruct testing, 1 of 5 specimens exhibited a peel value less than the 66 lb/in value allotted (as per the project specs) for destruct sample DSX-13. Based on this one failure anomaly, the repair associated with DSX-13 (RP-477) was covered with a new patch, welded, and vacuum box tested (as per project specs). In addition, a new destruct sample DSX-15 was collected to confirm the integrity of the new welds associated with the new patch. Note: the average of the 5 peel specimens complied with the project specs (total of 92 lb/in).
- Site activities commenced with ESI completing patch / repair work for RP-477. A new 5 ft. by 15 ft. patch was placed over the repair, sealed with an extrusion weld, and vacuum box tested as per project specs. Once the new repair (RP-487) was complete, a new destruct sample, DSX-15, was collected to confirm the integrity of the weld.
- One destructive sample was collected from 10/12/15. Destruct sample DSX-15 (extrusion) was collected from RP-487 (placed over RP-477). Subsequent laboratory testing yielded peel and shear values that were in compliance with the project specs.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed destruct sample (DSX-13) collected from RP-477 from Panel #125 (failed one of the five specimens for peel testing)
    - Geomembrane patch was placed over RP-477, welded, and vacuum box tested (as per project specs). Additionally, a new destruct sample (DSX-15) was collected from the new patch (RP-487) to confirm the integrity of the new weld. This repair was noted as a failed destruct sample and was completed following project specs and as further defined on *Sheet 11 Notice of Non-Compliance.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, and 10/09/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-14. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13. Subsequent patch / repair work defined within this report for the failed destruct sample.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Ensure new destruct sample (DSX-15) adheres to project specifications. Subsequent review of the data yielded peel and shear values that were in compliance with the project specs.
- Complete associated paperwork and begin construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/12/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 10/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/12/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/12/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/12/15.
A7 – Panel Placement Log		N / A no panels placed on 10/12/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/12/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/12/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/12/15
A11 – Conformance COC		N / A for 10/12/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/12/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/12/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 10/12/15
A16 – Notice of Non-Compliance	Sheet #11	One non-compliance issue encountered on 10/12/15 and documented on *Sheet #11 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking east along southern end of SA-6 (Panel #125)

Description:

ESI placing new patch over RP-477/RP-483 where destruct specimen (1 of 5) failed to meet project specs (Note: Average of 5 specimens was acceptable).



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PHOTOGRAPHIC LOG
Photo #2 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking south along southern end of SA-6 (Panel #125)

Description:

ESI leistering and grinding RP-487 for extrusion welding and subsequent vacuum box testing (as per project specs).



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PHOTOGRAPHIC LOG
Photo #3 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

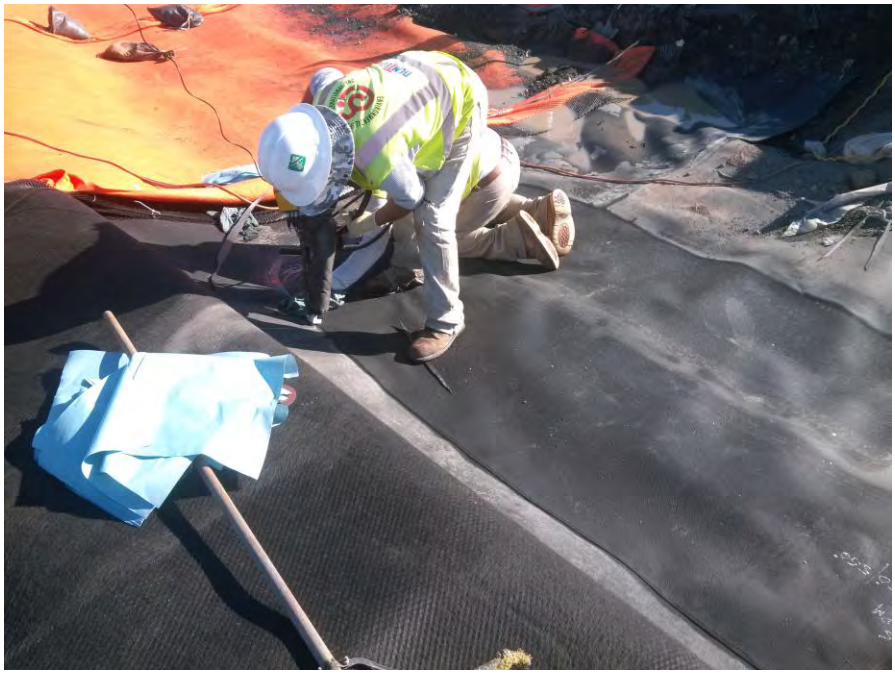
Date:
10/12/15

Direction Taken:

Looking south along SA-6 (at RP-487)

Description:

ESI conducting extrusion welding (as per project specs).



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PHOTOGRAPHIC LOG
Photo #4 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Patch / repair RP-487 completed with extrusion welds (as per project specs).



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PHOTOGRAPHIC LOG
Photo #5 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI conducting vacuum box testing (as per project specs) for RP-487



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PHOTOGRAPHIC LOG
Photo #6 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI cutting destruct sample DSX-15 from RP-487 to confirm integrity of welds.



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PHOTOGRAPHIC LOG
Photo #7 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking east along southern end of SA-6

Description:

ESI conducting patch repair work for destruct sample DSX-15 (noted as RP-486 on Repair Report).



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PHOTOGRAPHIC LOG
Photo #8 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking north / northeast along southern end of SA-6

Description:

Final patch / repair work completed with extrusion welds and vacuum box testing (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	11/04/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	55 / 70° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0845 – 1215

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #39**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with an equipment puncture that was observed along the northern end of SA-6 (at SCB wall) at approximate Sta. 2+95.
- Based on conversations with the project team, it is understood that during final grading of the area, the tooth of an excavator bucket punctured the GDL and underlying geomembrane cap. This error was attributed to malfunctioning GPS equipment, as the SCB wall (outside of the Cap) was not programmed into the GPS.
- Site activities commenced with ESI completing patch / repair work at the puncture location (along edge of SCB wall at approximate Sta. 2+95. A new piece of GCL was initially placed over the puncture area and a 2 ft. by 1.5 ft. geomembrane patch was then placed over the puncture, and sealed with an extrusion weld (as per project specs). Vacuum box testing could not be completed by ESI, as the patch / repair was located right on the edge of the SCB wall (refer to supporting photo log from 11/4/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 12 (Sheet #12) – Equipment puncture through geomembrane cap.
    - Geomembrane patch was placed over equipment puncture along SCB wall (at approximate Sta. 2+95) and extrusion welded (as per project specs). Prior to patch / repair work, a new piece of GCL was placed over the puncture. This repair was noted as an equipment puncture and was completed following the project specs and as further defined on *Sheet 12 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 11/04/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, 10/09/15, and 10/12/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-15. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13 (details previously defined in *10/12/15 Daily Report*).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Complete associated paperwork and begin construction certification report.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 11/04/15
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 11/04/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 11/4/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 11/4/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 11/4/15.
A7 – Panel Placement Log		N / A no panels placed on 11/4/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 11/4/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 11/4/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 11/4/15
A11 – Conformance COC		N / A for 11/4/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 11/4/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A13 – Destruct. Sample Summary		N / A no destruct samples collected on 11/4/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 11/4/15
A16 – Notice of Non-Compliance	Sheet #12	One non-compliance issue encountered on 11/4/15 and documented on *Sheet #12 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking north along northern end of SA-6 cap (SCB wall) at approximate Sta. 2+95

Description:

Minor puncture along SCB wall from excavator bucket. Tooth of bucket penetrated through GDL and into underlying geomembrane layer.



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PHOTOGRAPHIC LOG
Photo #2 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Area around puncture cleared to allow ESI to complete patch / repair work (as per project specs).



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PHOTOGRAPHIC LOG
Photo #3 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking south along SCB wall

Description:

ESI replacing GCL underneath puncture at SCB wall.



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PHOTOGRAPHIC LOG
Photo #4 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall (northern end of SA-6)

Description:

New geomembrane patch leistered over puncture



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PHOTOGRAPHIC LOG
Photo #5 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking east along SA-6 (at SCB wall)

Description:

ESI conducting extrusion welding over new patch / repair (RP-488).



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PHOTOGRAPHIC LOG
Photo #6 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Extrusion welding along patch completed (as per project specs). Vacuum box testing unable to be conducted based on the location of the patch (on edge of SCB wall). Weld visually inspected by Entact / Langan.



Appendix G
Receiving Inspection Reports (RIRs)

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02375
Received From: CETCO									Receiving Report Number: 27
Address: Lovell Plant, 92 HWY 37, Lovell WY 82431									Date: 6/15/15
QC Inspection by: CP		QC Date: 6/15/15		Inv. Or Packing Slip No.:		Inv. Or Packing Slip Date: 6/10/15			PO Number: E8140C-082
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
		5					43	48	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	15	Rolls	Bentomat DN GCL for SA6 North and South Caps (32,625 SF/39,241 lbs) Sammons Truck #2531; Shipper No - 031527601	0	0
2	14	Rolls	Bentomat DN GCL for SA6 North and South Caps (30,450 SF/34,183 lbs) Corcoran Truck #9805; Shipper No - 031527602	0	0
3	14	Rolls	Bentomat DN GCL for SA6 North and South Caps (30,450 SF/39,067 lbs) Adams Trucking Truck #347; Shipper No - 031527603	0	0
4	5	Bags	Granular Bentonite (250 lbs) Sammons Truck #2531; Shipper No - 031527601	0	0
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Trailer Trucks (Sammons, Corcoran, Adams)		Car # See above	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.: BOL and Packing List Attached	Freight Bill (Pro) No.: BOL and Packing List Attached	Weight: 112,741 lbs (total)	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527603 | **Previous Page**

Straight Bill of Lading - Original Loader: JANDER Time In: 6/11/15-15:22:37 Time Out: **6/11/15-16:42:11**

Carrier: ADAMS TRUCKING
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/10/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 347 Trailer #: 395/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
32625.0000 SF	30450.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	39067.3500

Gross: 46000.0000 Tare: 0.0000 **Total**: 46000

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier:

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation.

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527603
ORDER DATE: 5/05/2015
SHIP DATE:. 6/11/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004066	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004068	150.0	14.5	2175.0	3160.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004073	150.0	14.5	2175.0	3225.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004074	150.0	14.5	2175.0	3165.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004075	150.0	14.5	2175.0	3230.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004076	150.0	14.5	2175.0	3205.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004077	150.0	14.5	2175.0	3210.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004078	150.0	14.5	2175.0	3235.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004079	150.0	14.5	2175.0	3260.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004080	150.0	14.5	2175.0	3285.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004081	150.0	14.5	2175.0	3330.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004084	150.0	14.5	2175.0	3290.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004085	150.0	14.5	2175.0	3315.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004090	150.0	14.5	2175.0	3300.0
							30450.0	

ORDER TOTALS..... 45380.0

TOTAL ITEMS..... 14

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527601 | **Previous Page**

Straight Bill of Lading - Original Loader: HMCKI Time In: 6/9/15-17:41:01 Time Out: **6/9/15-19:01:07**

Carrier: SAMMONS
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/10/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 2531 Trailer #: 3232/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
34800.0000 SF	32625.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	39241.7578
5.0000 EACH	5.0000 EACH		COMMODITY GRANULAR-50 (10902/024) CLAY-BENTONITE-GROUND CLASS 50 ITEM 48170 / 3295232 3295232	250.0000

Gross: 47700.0000 Tare: 0.0000 **Total**: 47700

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier: 6-10-15 507599020

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527601
ORDER DATE: 5/05/2015
SHIP DATE:. 6/09/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

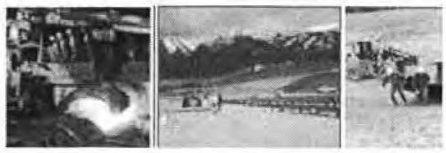
PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004064	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004070	150.0	14.5	2175.0	3200.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004071	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004072	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004082	150.0	14.5	2175.0	3330.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004094	150.0	14.5	2175.0	3235.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004095	150.0	14.5	2175.0	3200.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004101	150.0	14.5	2175.0	3125.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004102	150.0	14.5	2175.0	3090.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004103	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004104	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004107	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004108	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004109	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004110	150.0	14.5	2175.0	3130.0
							32625.0	
LO-CG 50-LT	50B	EA					5.0	250.0
							5.0	

ORDER TOTALS..... 47720.0

TOTAL ITEMS..... 16

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527602 Previous Page

Straight Bill of Lading - Original Loader: DRICH Time In: 6/10/15-11:00:30 Time Out: **6/10/15-12:13:36**

Carrier: CORCORAN
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/10/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 9805 Trailer #: 547/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
34800.0000 SF	30450.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	34183.9313

Gross: 44830.0000 Tare: 0.0000 **Total**: 44830

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier:

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation.

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527602
ORDER DATE: 5/05/2015
SHIP DATE:. 6/10/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004086	150.0	14.5	2175.0	3335.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004087	150.0	14.5	2175.0	3270.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004088	150.0	14.5	2175.0	3305.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004089	150.0	14.5	2175.0	3290.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004091	150.0	14.5	2175.0	3250.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004092	150.0	14.5	2175.0	3190.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004093	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004096	150.0	14.5	2175.0	3210.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004097	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004098	150.0	14.5	2175.0	3125.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004099	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004100	150.0	14.5	2175.0	3120.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004105	150.0	14.5	2175.0	3120.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004106	150.0	14.5	2175.0	3145.0
							========	
							30450.0	
							========	

ORDER TOTALS..... 44830.0

TOTAL ITEMS..... 14

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02380 Gas Venting System
Received From: Advanced Drainage Systems, Inc. (ADS)									Receiving Report Number: 28
Address: Logan Township NJ									Date: 6/15/15
QC Inspection by: CP		QC Date: 6/15/15		Inv. Or Packing Slip No.: BOL #2946738		Inv. Or Packing Slip Date: 6/13/15			PO Number: E8140C-082
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Reels	Total Packages	Received By: ENTACT
4				115				119	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	2,300	LF	8" ADS Single Wall Heavy Duty Perforated Pipe (115 – 20' lengths) for gas venting system	0	0
2	120	EA	8" ADS Internal Couplers	0	0
3	10	EA	8" ADS Injection Molded Tees	0	0
4	40	EA	8" ADS 45 Degree Bends	0	0
5	2	EA	8" ADS Snap End Caps	0	0
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ADS		Car # 25694	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:	Freight Bill (Pro) No.: BOL - 2946738	Weight: 3090 lbs	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02375
Received From: CETCO									Receiving Report Number: 29
Address: Lovell Plant, 92 HWY 37, Lovell WY 82431									Date: 6/18/15
QC Inspection by: CP		QC Date: 6/18/15		Inv. Or Packing Slip No.:		Inv. Or Packing Slip Date: 6/15/15			PO Number: E8140C-082
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
							4	4	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

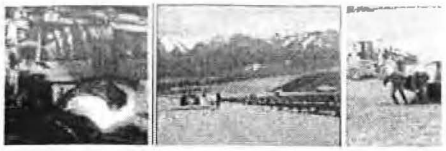
Line	Quantity	Unit	Description	Over	Short
1	4	Rolls	Bentomat DN GCL for SA6 North and South Caps (8,700 SF/11,162 lbs) SA Express Truck #9202; Shippers No 031527604	0	0
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: SA Express		Car # 031527604	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.: BOL and Packing List Attached	Freight Bill (Pro) No.: BOL and Packing List Attached	Weight: 11,162 lbs (total)	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527604 Previous Page

Straight Bill of Lading - Original Loader: JANDER Time In: 6/15/15-15:28:10 Time Out: **6/15/15-16:17:03**

Carrier: SA EXPRESS
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/16/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 9202 Trailer #: 53301/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257
Quote #:

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
8700.0000 SF	8700.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	11162.1000

Gross: 0.0000 Tare: 0.0000 **Total**: 11162

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier:

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation.

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527604
ORDER DATE: 5/05/2015
SHIP DATE:. 6/15/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004065	150.0	14.5	2175.0	3115.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004067	150.0	14.5	2175.0	3155.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004069	150.0	14.5	2175.0	3180.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004083	150.0	14.5	2175.0	3340.0
							8700.0	

ORDER TOTALS..... 12790.0

TOTAL ITEMS..... 4

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 33
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/7/15
QC Inspection by: CP		QC Date: 7/6/15		Inv. Or Packing Slip No.: C00008103		Inv. Or Packing Slip Date: 7/2/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (96,570 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Landstar		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008103	Freight Bill (Pro) No.: Packing List Attached	Weight: 25,658 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008103
Ship Date: 7/2/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010001	3,625.00
2	0065211010002	3,625.00
3	0065211010003	3,625.00
4	0065211010004	3,625.00
5	0065211010005	3,625.00
6	0065211010006	3,625.00
7	0065211010007	3,625.00
8	0065211010008	3,625.00
9	0065211010009	3,625.00
10	0065211010010	3,625.00
11	0065211010011	3,625.00
12	0065211010012	3,625.00
13	0065211010013	3,625.00
14	0065211010014	3,625.00
15	0065211010015	3,625.00
16	0065211010016	3,625.00
17	0065211010017	3,625.00
18	0065211010018	3,625.00
19	0065211010019	3,625.00
20	0065211010020	3,625.00
21	0065211010021	3,625.00
22	0065211010022	3,625.00
23	0065211010023	3,625.00
24	0065211010024	2,320.00
25	0065211010025	3,625.00
26	0065211010026	3,625.00
27	0065211010027	3,625.00

Total Rolls: 27
Total Sq Feet: 96,570.00
Total Weight (lbs): 25,658.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Landstar
Date: 7/2/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5487399

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

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Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02373
Received From: SKAPS Industries									Receiving Report Number: 33
Address: 335 Athena Drive – Warehouse A001, Athens, GA 30601									Date: 6/29/15
QC Inspection by: CP		QC Date: 6/29/15		Inv. Or Packing Slip No.: BOL-48066		Inv. Or Packing Slip Date: 6/26/15			PO Number: 8140C-080 (IWT/Cargo-Guard)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
							25	25	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	25	Rolls	SKAPS GE116 – 180 x 360 (16 oz/sy non- woven geotextile) (15,000 square yards)	0	0
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: SKAPS Industries		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:	Freight Bill (Pro) No.: 48066 Packing List Attached	Weight: 15,292 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

Straight Bill of Lading

Original - Not Negotiable

SKAPS Industries
335 Athena Drive - Warehouse A001
Athens, GA 30601
UNITED STATES

Phone: 706-354-3700
Fax: 706-354-3737

Bill of Lading # DDA:	048066
BOL Date:	6/26/15
Sales Order # ORA:	038335
Customer PO #:	20252

Prepay & Add

Sold To:	**Ship To:**
Iwt/Cargo-Guard P.O. Box 454 Waretown, NJ, 08758 UNITED STATES	**Entact** 60 Kellogg St. Jersey City, NJ 07305 UNITED STATES Attn: Dan Harris Phone: 405-206-4659

Trailer # 6	**Seal #** N/A	**Carrier** Medallion Transport & Logistic

Ln	Product	No. of Rolls	Weight (LBS)	Square Yards
1	GE116-180 x 360	25	15,292	15,000.00
		25	**15,292**	**15,000.00**

Comments:

Any discrepancies must be reported, within 3 days of receipt of goods, to SKAPS Industries

Required delivery dates are subject to change.

Construction job site delivery

Customer has equipment to off-load truck

Received at Athens, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route, to destination and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to either: (a) if the shipper noted herein is SKAPS Industries, as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the contract for truck transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries, then SKAPS Industries is acting solely as the agent for the denoted Shipper and thus every aspect of the service to be performed hereunder between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff, if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper, in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation Carrier, having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries, subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

SHIPPER **SKAPS Industries - Athens, GA 30601**	CARRIER
PER	PER
EMERGENCY RESPONSE TELEPHONE NUMBER **706-354-3700**	DATE

TIME IN: 10:55 am TIME OUT: 11:30 am PRO #:

DRIVER NAME: DRIVER PHONE:

RECEIVED BY: _____ SIGN _____ PHONE# _____

Packing List

BOL NO. 48066

Customer 271
Customer PO 20252
Customer Name Iwt/Cargo-Guard
Ship To Entact
60 Kellogg St.
Jersey City,NJ 07305

Order No ORA-038335
Due Date
Site Location Athens Warehouse 01

Item Number	# OF ROLLS	Product Quantity	Label
1 GE116-180 x 360	25	15,000 Y2	
38335.1	1	600 Y2	0001
38335.2	1	600 Y2	0001
38335.3	1	600 Y2	0001
38335.4	1	600 Y2	0001
38335.5	1	600 Y2	0001
38335.6	1	600 Y2	0001
38335.7	1	600 Y2	0001
38335.8	1	600 Y2	0001
38335.9	1	600 Y2	0001
38335.10	1	600 Y2	0001
38335.11	1	600 Y2	0001
38335.12	1	600 Y2	0001
38335.13	1	600 Y2	0001
38335.14	1	600 Y2	0001
38335.15	1	600 Y2	0001
38335.16	1	600 Y2	0001
38335.17	1	600 Y2	0001
38335.18	1	600 Y2	0001
38335.19	1	600 Y2	0001
38335.20	1	600 Y2	0001
38335.21	1	600 Y2	0001
38335.22	1	600 Y2	0001
38335.23	1	600 Y2	0001
38335.24	1	600 Y2	0001
38335.25	1	600 Y2	0001

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 34
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/7/15
QC Inspection by: CP		QC Date: 7/6/15		Inv. Or Packing Slip No.: C00008112		Inv. Or Packing Slip Date: 7/2/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (98,600 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
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18					
19					
20					

Shipped Via: Landmark		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008112	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,540 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries

571 Industrial Parkway
Commerce, GA 30529
Ph: 706-336-7000 Fax: 706-336-7007

Bill of Lading # : C00008112
Ship Date : 7/2/2015
Sales Order #: C002021
Customer Name : ESI
Cust. P.O. # : 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal # :

SHIP-TO:
Project: Honeywell Chronium Area, NJ
Address: 60 Kellogg St
City, State, Zip : Jersey City, NJ 07605
Contact: Caroline Panico
Phone: 630-669-4257

Product Code: TN

No	Roll#	Sq. Ft.
1	0065211010028	3625
2	0065211010029	3625
3	0065211010030	3625
4	0065211010031	3625
5	0065211010032	3625
6	0065211010033	3625
7	0065211010034	3625
8	0065211010035	3625
9	0065211010036	3625
10	0065211010037	3625
11	0065211010038	3625
12	0065211010039	3625
13	0065211010040	4350
14	0065211010041	3625
15	0065211010042	3625
16	0065211010043	3625
17	0065211010044	3625
18	0065211010045	3625
19	0065211010046	3625
20	0065211010047	3625
21	0065211010048	3625
22	0065211010049	3625
23	0065211010050	3625
24	0065211010051	3625
25	0065211010052	3625
26	0065211010053	3625
27	0065211010054	3625
Total Rolls :		27
Total Sq. Feet:		98,600.00
Total Weight (lbs):		29,540.00

Bags of ties : 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE , GA 30529

ATTN RECEIVER : Please sign below if you have received the above mentioned items and any discrepancies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Received Date	Receiver's Company Name :

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings : _____
Driver's Name : _____
Driver's Sign : _____
Driver's Cell Phone # : _____
Trucking Co. : _____
Trucking Co. Phone # : _____
Broker : Landmark
Date : 7/2/2015
Truck Departure Time : _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5487484

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for Truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be performed hereunder between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this is a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries. Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 35
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/8/15
QC Inspection by: CP		QC Date: 7/8/15		Inv. Or Packing Slip No.: C00008122		Inv. Or Packing Slip Date: 7/6/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Millennium Trucking		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008122	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,628 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008122
Ship Date: 7/6/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: Edwin Diaz

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010055	3,625.00
2	0065211010056	3,625.00
3	0065211010057	3,625.00
4	0065211010058	3,625.00
5	0065211010059	3,625.00
6	0065211010060	3,625.00
7	0065211010061	3,625.00
8	0065211010062	3,625.00
9	0065211010063	3,625.00
10	0065211010064	3,625.00
11	0065211010065	3,625.00
12	0065211010066	3,625.00
13	0065211010067	3,625.00
14	0065211010068	3,625.00
15	0065211010069	3,625.00
16	0065211010070	3,625.00
17	0065211010071	3,625.00
18	0065211010072	3,625.00
19	0065211010073	3,625.00
20	0065211010074	3,625.00
21	0065211010075	3,625.00
22	0065211010076	3,625.00
23	0065211010077	3,625.00
24	0065211010078	3,625.00
25	0065211010079	3,625.00
26	0065211010080	3,625.00
27	0065211010081	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 26,628.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items.
Driver's Sign: Eric Brooks

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: Eric Brooks
Driver's Sign: Eric Brooks
Driver's Cell Phone #: 478-244-8201
Trucking Co.: Millennium Trucking
Trucking Co. Phone #: 770-817-1790
Broker: ATS Logistics
Date: 7/6/15
Truck Departure Time: 3:15 pm

Comments:
Driver please call 24 hours prior to delivery
Freight view shipper # : 5487537

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 36
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/8/15
QC Inspection by: CP		QC Date: 7/8/15		Inv. Or Packing Slip No.: C00008137		Inv. Or Packing Slip Date: 7/7/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Universal truckload, Inc		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008137	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,130 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008137
Ship Date: 7/7/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: Sarey Patty
SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010082	3,625.00
2	0065211010083	3,625.00
3	0065211010084	3,625.00
4	0065211010085	3,625.00
5	0065211010086	3,625.00
6	0065211010087	3,625.00
7	0065211010088	3,625.00
8	0065211010089	3,625.00
9	0065211010090	3,625.00
10	0065211010091	3,625.00
11	0065211010092	3,625.00
12	0065211010093	3,625.00
13	0065211010094	3,625.00
14	0065211010095	3,625.00
15	0065211010096	3,625.00
16	0065211010097	3,625.00
17	0065211010098	3,625.00
18	0065211010099	3,625.00
19	0065211010100	3,625.00
20	0065211010101	3,625.00
21	0065211010102	3,625.00
22	0065211010103	3,625.00
23	0065211010104	3,625.00
24	0065211010105	3,625.00
25	0065211010106	3,625.00
26	0065211010107	3,625.00
27	0065211010108	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 26,130.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: [signature]

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: [signature]
Driver's Sign: [signature]
Driver's Cell Phone #: 254-541-7635
Trucking Co.: Gma Trucking LLC
Trucking Co. Phone #: 254-541-7635
Broker: Universal Truckload, Inc.
Date: 7/7/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5487538

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 37
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/10/15
QC Inspection by: CP		QC Date: 7/10/15		Inv. Or Packing Slip No.: C00008143		Inv. Or Packing Slip Date: 7/7/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Liberty Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008143	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,033 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008143
Ship Date: 7/7/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER:
SHIPPER ADDRESS: 571 INDUSTRIAL PKWY. COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010109	3,625.00
2	0065211010110	3,625.00
3	0065211010111	3,625.00
4	0065211010112	3,625.00
5	0065211010113	3,625.00
6	0065211010114	3,625.00
7	0065211010115	3,625.00
8	0065211010116	3,625.00
9	0065211010117	3,625.00
10	0065211010118	3,625.00
11	0065211010119	3,625.00
12	0065211010120	3,625.00
13	0065211010121	3,625.00
14	0065211010122	3,625.00
15	0065211010123	3,625.00
16	0065211010124	3,625.00
17	0065211010125	3,625.00
18	0065211010126	3,625.00
19	0065211010127	3,625.00
20	0065211010128	3,625.00
21	0065211010129	3,625.00
22	0065211010130	3,625.00
23	0065211010131	3,625.00
24	0065211010132	3,625.00
25	0065211010133	3,625.00
26	0065211010134	3,625.00
27	0065211010135	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 26,033.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :
Driver's Sign:

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries witnin 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:
1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.: LIBERTY LOGISTICS
Trucking Co. Phone #:
Broker: Meranu Leasing Inc. DBA Liberty Logistics
Date: 7/7/15
Truck Departure Time:

Comments:
Driver please call 24 hours prior to delivery
Freight view shipper # : 5487504

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) If the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occuring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 38
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/14/15
QC Inspection by: CP		QC Date: 7/15/15		Inv. Or Packing Slip No.: C00008174		Inv. Or Packing Slip Date: 7/10/15			PO Number: IWT/Cargo-Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,040 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Load Pro		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008174	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,692 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008174
Ship Date: 7/10/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010002	2,800.00
2	0064021010003	2,800.00
3	0064021010004	2,800.00
4	0064021010005	2,800.00
5	0064021010006	2,800.00
6	0064021010007	2,240.00
7	0064021010008	2,800.00
8	0064021010009	2,800.00
9	0064021010010	2,800.00
10	0064021010011	2,800.00
11	0064021010012	2,800.00
12	0064021010013	2,800.00
13	0064021010014	2,800.00
14	0064021010015	2,800.00
15	0064021010016	2,800.00
16	0064021010017	2,800.00
17	0064021010018	2,800.00
18	0064021010019	2,800.00
19	0064021010020	2,240.00
20	0064021010021	3,360.00
21	0064021010022	2,800.00
22	0064021010023	2,800.00
23	0064021010024	2,800.00
24	0064021010025	2,800.00
25	0064021010026	2,800.00
26	0064021010027	2,800.00
27	0064021010028	2,800.00

Total Rolls: 27
Total Sq Feet: 75,040.00
Total Weight (lbs): 28,692.00

Bags of Ties: 2

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Load Pro
Date: 7/10/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5514893

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 39
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/14/15
QC Inspection by: CP		QC Date: 7/15/15		Inv. Or Packing Slip No.: C00008181		Inv. Or Packing Slip Date: 7/13/15			PO Number: IWT/Cargo-Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,390 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: TQL		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008181	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,911 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008181
Ship Date: 7/13/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010029	2,800.00
2	0064021010030	2,800.00
3	0064021010031	2,660.00
4	0064021010032	2,800.00
5	0064021010033	2,800.00
6	0064021010034	2,800.00
7	0064021010035	2,800.00
8	0064021010036	2,800.00
9	0064021010037	2,730.00
10	0064021010038	2,800.00
11	0064021010039	2,800.00
12	0064021010040	2,800.00
13	0064021010041	2,800.00
14	0064021010042	2,800.00
15	0064021010043	2,800.00
16	0064021010044	2,800.00
17	0064021010045	2,800.00
18	0064021010046	2,800.00
19	0064021010047	2,800.00
20	0064021010048	2,800.00
21	0064021010049	2,800.00
22	0064021010050	2,800.00
23	0064021010051	2,800.00
24	0064021010052	2,800.00
25	0064021010053	2,800.00
26	0064021010054	2,800.00
27	0064021010055	2,800.00

Total Rolls: 27
Total Sq Feet: 75,390.00
Total Weight (lbs): 28,911.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: TQL
Date: 7/13/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5521502

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 40
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008185		Inv. Or Packing Slip Date: 7/13/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Landstar		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008185	Freight Bill (Pro) No.: Packing List Attached	Weight: 27,625 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

7/15

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008185
Ship Date: 7/13/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010140	3,625.00
2	0065211010141	3,625.00
3	0065211010142	3,625.00
4	0065211010143	3,625.00
5	0065211010144	3,625.00
6	0065211010145	3,625.00
7	0065211010146	3,625.00
8	0065211010147	3,625.00
9	0065211010148	3,625.00
10	0065211010149	3,625.00
11	0065211010150	3,625.00
12	0065211010151	3,625.00
13	0065211010152	3,625.00
14	0065211010153	3,625.00
15	0065211010154	3,625.00
16	0065211010155	3,625.00
17	0065211010156	3,625.00
18	0065211010157	3,625.00
19	0065211010158	3,625.00
20	0065211010159	3,625.00
21	0065211010160	3,625.00
22	0065211010161	3,625.00
23	0065211010162	3,625.00
24	0065211010163	3,625.00
25	0065211010164	3,625.00
26	0065211010165	3,625.00
27	0065211010166	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 27,625.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name _____ Receiver's Signature _____

Receive Date _____ Receiver's Company Name _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Landstar
Date: 7/13/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery.
Freight view shipper # : 5523988

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 41
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008187		Inv. Or Packing Slip Date: 7/13/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (95,845 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Medallion Transport and Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008187	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,210 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008187
Ship Date: 7/13/15
Sales Order #: C002021
Custorner Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010136	3,625.00
2	0065211010137	3,625.00
3	0065211010138	3,625.00
4	0065211010139	3,625.00
5	0065211010167	3,625.00
6	0065211010168	3,625.00
7	0065211010169	3,625.00
8	0065211010170	3,625.00
9	0065211010171	3,625.00
10	0065211010172	3,625.00
11	0065211010173	3,625.00
12	0065211010174	3,625.00
13	0065211010175	1,595.00
14	0065211010176	3,625.00
15	0065211010177	3,625.00
16	0065211010178	3,625.00
17	0065211010179	3,625.00
18	0065211010180	3,625.00
19	0065211010181	3,625.00
20	0065211010182	3,625.00
21	0065211010183	3,625.00
22	0065211010184	3,625.00
23	0065211010185	3,625.00
24	0065211010186	3,625.00
25	0065211010187	3,625.00
26	0065211010188	3,625.00
27	0065211010189	3,625.00

Total Rolls: 27
Total Sq Feet: 95,845.00
Total Weight (lbs): 26,210.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Medallion Transport & Logistics LLC.
Date: 7/13/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5516945

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 42
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008193		Inv. Or Packing Slip Date: 7/14/15			PO Number: IWT CargoGuard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,530 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Liberty Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008193	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,055 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008193
Ship Date: 7/14/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: Dhiru Patel

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010001	2,800.00
2	0064021010057	2,800.00
3	0064021010058	2,730.00
4	0064021010059	2,800.00
5	0064021010060	2,800.00
6	0064021010061	2,800.00
7	0064021010062	2,800.00
8	0064021010063	2,800.00
9	0064021010064	2,800.00
10	0064021010065	2,800.00
11	0064021010066	2,800.00
12	0064021010067	2,800.00
13	0064021010068	2,800.00
14	0064021010069	2,800.00
15	0064021010070	2,800.00
16	0064021010071	2,800.00
17	0064021010072	2,800.00
18	0064021010073	2,800.00
19	0064021010074	2,800.00
20	0064021010075	2,800.00
21	0064021010076	2,800.00
22	0064021010077	2,800.00
23	0064021010078	2,800.00
24	0064021010079	2,800.00
25	0064021010080	2,800.00
26	0064021010081	2,800.00
27	0064021010082	2,800.00

Total Rolls: 27
Total Sq Feet: 75,530.00
Total Weight (lbs): 29,055.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: Curtis Davis

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: Curtis Davis
Driver's Sign: CURTIS DAVIS
Driver's Cell Phone #: 601 339 4109
Trucking Co.: LIBERTY LOGISTIC
Trucking Co. Phone #: 601 339 4109
Broker: Meranu Leasing Inc. DBA Liberty Logistics
Date: 7/14/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5523946

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 43
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008200		Inv. Or Packing Slip Date: 7/15/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			16	18	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	16	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (75,530 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Coyote		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008200	Freight Bill (Pro) No.: Packing List Attached	Weight: 16,243 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

7/14

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008200
Ship Date: 7/15/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: Julio Rodriguez

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010190	3,480.00
2	0065211010191	3,480.00
3	0065211010192	3,480.00
4	0065211010193	3,480.00
5	0065211010194	3,480.00
6	0065211010195	3,480.00
7	0065211010196	3,625.00
8	0065211010197	3,625.00
9	0065211010198	3,625.00
10	0065211010199	3,625.00
11	0065211010200	3,625.00
12	0065211010201	3,625.00
13	0065211010202	3,625.00
14	0065211010203	3,625.00
15	0065211010204	3,625.00
16	0065211010205	3,625.00

Total Rolls: 16
Total Sq Feet: 57,130.00
Total Weight (lbs): 16,243.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: x

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: FLOYD RISS
Driver's Sign:
Driver's Cell Phone #: 404 980 3304
Trucking Co.: FSK
Trucking Co. Phone #: SAME
Broker: Coyote 3:00 PM
Date: 7/15/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5516953

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 44
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008197		Inv. Or Packing Slip Date: 7/15/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			29	31	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	29	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (78,540 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Freightquote		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008197	Freight Bill (Pro) No.: Packing List Attached	Weight: 30,326 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

7/16

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008197
Ship Date: 7/15/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: Roosh Patel
SHIPPER ADDRESS: 571 INDUSTRIAL PKWY. COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010056	2,240.00
2	0064021010110	2,800.00
3	0064021010111	2,240.00
4	0064021010112	3,150.00
5	0064021010113	2,800.00
6	0064021010114	2,800.00
7	0064021010115	2,800.00
8	0064021010116	2,800.00
9	0064021010117	2,800.00
10	0064021010118	2,800.00
11	0064021010119	2,800.00
12	0064021010120	2,800.00
13	0064021010121	3,430.00
14	0064021010122	2,170.00
15	00640210101221	1,120.00
16	0064021010123	2,800.00
17	0064021010124	2,800.00
18	0064021010125	2,590.00
19	0064021010126	2,870.00
20	0064021010127	3,080.00
21	0064021010128	2,450.00
22	0064021010129	2,800.00
23	0064021010130	2,800.00
24	0064021010131	2,800.00
25	0064021010132	2,800.00
26	0064021010133	2,800.00
27	0064021010134	2,800.00
28	0064021010135	2,800.00
29	0064021010136	2,800.00

Total Rolls: 29
Total Sq Feet: 78,540.00
Total Weight (lbs): 30,326.00

Bags of Ties: 2

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.:
Trucking Co. Phone #:
Broker: Freightquote
Date: 7/15/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5530510

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 45
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008201		Inv. Or Packing Slip Date: 7/15/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,600 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Coyote		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008201	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,088 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

7/16

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008201
Ship Date: 7/15/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: RooshiPatel

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010083	2,800.00
2	0064021010084	2,800.00
3	0064021010085	2,800.00
4	0064021010086	2,800.00
5	0064021010087	2,800.00
6	0064021010088	2,800.00
7	0064021010089	2,800.00
8	0064021010090	2,800.00
9	0064021010091	2,800.00
10	0064021010092	2,800.00
11	0064021010093	2,800.00
12	0064021010094	2,800.00
13	0064021010095	2,800.00
14	0064021010096	2,800.00
15	0064021010097	2,800.00
16	0064021010098	2,800.00
17	0064021010099	2,800.00
18	0064021010100	2,800.00
19	0064021010101	2,800.00
20	0064021010102	2,800.00
21	0064021010103	2,800.00
22	0064021010104	2,800.00
23	0064021010105	2,800.00
24	0064021010106	2,800.00
25	0064021010107	2,800.00
26	0064021010108	2,800.00
27	0064021010109	2,800.00

Total Rolls: 27
Total Sq Feet: 75,600.00
Total Weight (lbs): 29,088.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Coyote
Date: 7/15/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5530505

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02372
Received From: Agru/America Inc.									Receiving Report Number: 46
Address: 500 Garrison Road, Georgetown, SC 29440									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/17/15		Inv. Or Packing Slip No.: 046962		Inv. Or Packing Slip Date: 7/16/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Spools	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				12			12	24	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	12	Rolls	60 mil LLDPE MicroSpike Geomembrane (139,380 square feet)	0	0
2	12	Spools	LLDPE Welding Rod	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: LTL		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:046962	Freight Bill (Pro) No.: Packing List Attached	Weight: 45,500 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. 046962

AME OF CARRIER: BEST WAY FRT LTL | CARRIER'S NO. | DATE: 7/16/2015

CEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,
property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier beir
derstood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver t
other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any
d property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the da
reof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
ipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditior
hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO:
CONSIGNEE: HONEYWELL CHROMIUM AREA
ENVIRONMENTAL SPECIALTIES
STREET: 60 KELLOGG STREET
JERSEY CITY, NJ 07305
DANIEL HARRIS 405-206-4659
DESTINATION
ZIP

ELIVERING ARRIER | ROUTE | VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY
139,380 264		LL DBL MICRO 60MIL 23FT WELD ROD MFG BLACK LDPE 5MM				36.923C 1706

Item Key	Lot Number	Quantity
L-LL-MSDS-60-23	G15C276054	11,615
L-LL-MSDS-60-23	G15C276055	11,615
L-LL-MSDS-60-23	G15C276057	11,615
L-LL-MSDS-60-23	G15C282013	11,615
L-LL-MSDS-60-23	G15C282014	11,615
L-LL-MSDS-60-23	G15C282017	11,615
L-LL-MSDS-60-23	G15C282020	11,615
L-LL-MSDS-60-23	G15C282023	11,615
L-LL-MSDS-60-23	G15C283027	11,615
L-LL-MSDS-60-23	G15C283028	11,615
L-LL-MSDS-60-23	G15C283029	11,615
L-LL-MSDS-60-23	G15C283030	11,615

Total Weight: ~~46,260 LB~~ 45,500 lbs.
Total Packages: ~~139,644~~ 12 Rolls
Order No.: 28919 Order Date: 05/04/15 Request Date: 06/30/15
Location: GTOWN P.O. No.: 21570
12 Spools - Weld Rod

MIT C.O.D. TO:
AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt $

C.O.D. FEE
☑ Prepaid
☐ Collect $

the shipment moves between two ports by a carrier by ter, the law requires that the bill of lading shall state ether it is "carrier's or shipper's weight"

hipper's imprint in lieu of stamp; not a part of bill of lading roved by the Interstate Commerce Commission

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges
(Signature of Consignor)

TOTAL CHARGES $
Freight charges are PREPAID unless marked collect. ☐ Check box if charges are Collect

is is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation

Shipper, Per

Agent, Per

manent post office address of shipper
+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.
hen transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response mmunication Standard (HM-126C). Provide emergency response phone number in case of incident or accident.

1

Shipping Release

1706
369230

OA #	28919	Date	7/16/15

Driver's Name/Truck Company	Customer	Destination			Pictures Taken
George Williams / LTL	Environmental Specialties	City: Jersey City	State: NJ		YES ● NO (GALAX)
Time In: 8:57	**Time Out:** 9:59	Inspector: C.H. / J.S.	Loader: C.H.		

Roll

	G	YEAR		M	WK of YR		DOW	ROLL #			External Visual	Straps OK	Core OK	Weld Rod OK
1	G	1	5	C	2	7	6	0	5	4	Yes ● No	Yes ● No	Yes ● No	Yes ● No
2	G	1	5	|	2	7	6	0	5	5	Yes No	Yes No	Yes No	Yes No
3	G	1	5	|	2	7	6	0	5	7	Yes No	Yes No	Yes No	Yes No
4	G	1	5	|	2	8	2	0	1	3	Yes No	Yes No	Yes No	Yes No
5	G	1	5	|	2	8	2	0	1	4	Yes No	Yes No	Yes No	Yes No
6	G	1	5	|	2	8	2	0	1	7	Yes No	Yes No	Yes No	Yes No
7	G	1	5	|	2	8	2	0	2	0	Yes No	Yes No	Yes No	Yes No
8	G	1	5	|	2	8	2	0	2	3	Yes No	Yes No	Yes No	Yes No
9	G	1	5	|	2	8	3	0	2	7	Yes No	Yes No	Yes No	Yes No
10	G	1	5	|	2	8	3	0	2	8	Yes No	Yes No	Yes No	Yes No
11	G	1	5	|	2	8	3	0	2	9	Yes No	Yes No	Yes No	Yes No
12	G	1	5	|	2	8	3	0	3	0	Yes No	Yes No	Yes No	Yes No
13	G	1	5								Yes No	Yes No	Yes No	Yes No
14	G	1	5								Yes No	Yes No	Yes No	Yes No
15	G	1	5								Yes No	Yes No	Yes No	Yes No
16	G	1	5								Yes No	Yes No	Yes No	Yes No
17	G	1	5								Yes No	Yes No	Yes No	Yes No
18	G	1	5								Yes No	Yes No	Yes No	Yes No
19	G	1	5								Yes No	Yes No	Yes No	Yes No
20	G	1	5								Yes No	Yes No	Yes No	Yes No
21	G	1	5								Yes No	Yes No	Yes No	Yes No
22	G	1	5								Yes No	Yes No	Yes No	Yes No
23	G	1	5								Yes No	Yes No	Yes No	Yes No
24	G	1	5								Yes No	Yes No	Yes No	Yes No
25	G	1	5								Yes No	Yes No	Yes No	Yes No
26	G	1	5								Yes No	Yes No	Yes No	Yes No
27	G	1	5								Yes No	Yes No	Yes No	Yes No

CONTAINER/MISC

CONTAINER#

TIES

WELD ROD

12 spools 5mm LC BIA
CFD810090

BENTONITE BAGS

STRAPS

PALLETS

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

Revised 11/11/14

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02372
Received From: Agru/America Inc.									Receiving Report Number: 47
Address: 500 Garrison Road, Georgetown, SC 29440									Date: 7/20/15
QC Inspection by: CP		QC Date: 7/20/15		Inv. Or Packing Slip No.: 046977		Inv. Or Packing Slip Date: 7/16/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Spools	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				12			12	24	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	12	Rolls	60 mil LLDPE MicroSpike Geomembrane (139,380 square feet)	0	0
2	12	Spools	LLDPE Welding Rod	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Best Way Freight		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:046977	Freight Bill (Pro) No.: Packing List Attached	Weight: 45,500 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. 046977

NAME OF CARRIER	CARRIER'S NO.	DATE
BEST WAY FRT Bishopville Spec.		7/16/2015

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO: CONSIGNEE
HONEYWELL CHROMIUM AREA
ENVIRONMENTAL SPECIALTIES
60 KELLOGG STREET
STREET JERSEY CITY, NJ 07305
DANIEL HARRIS 405-206-4659
DESTINATION ZIP

DELIVERING CARRIER	ROUTE	VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
139,380		LL DBL MICRO 60MIL 23FT				

Item Key	Lot Number	Quantity
L-LL-MSDS-60-23	G15C276052	11,615
L-LL-MSDS-60-23	G15C276053	11,615
L-LL-MSDS-60-23	G15C276056	11,615
L-LL-MSDS-60-23	G15C277061	11,615
L-LL-MSDS-60-23	G15C277062	11,615
L-LL-MSDS-60-23	G15C277064	11,615
L-LL-MSDS-60-23	G15C282011	11,615
L-LL-MSDS-60-23	G15C282012	11,615
L-LL-MSDS-60-23	G15C282016	11,615
L-LL-MSDS-60-23	G15C282021	11,615
L-LL-MSDS-60-23	G15C283031	11,615
L-LL-MSDS-60-23	G15C283033	11,615

Total Weight: ~~45,996 LB~~ 45,500 lbs.
Total Packages: ~~139,380~~ 12 Rolls
Order No.: 28919 Order Date: 05/04/15 Request Date: 06/30/15
Location: GTOWN P.O. No.: 21570

REMIT C.O.D. TO:

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt $

C.O.D. FEE
☑ Prepaid
☐ Collect $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

† Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

TOTAL CHARGES $

Freight charges are PREPAID unless marked collect. ☐ Check box if charges are Collect.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation".

Shipper, Per [signature] + Agent, Per [signature]

Page 1 of 1

Permanent post office address of shipper

+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.

When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response Communication Standard (HM-126C). Provide emergency response phone number in case of incident or accident.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02372
Received From: Agru/America Inc.									Receiving Report Number: 47
Address: 500 Garrison Road, Georgetown, SC 29440									Date: 7/21/15
QC Inspection by: CP		QC Date: 7/21/15		Inv. Or Packing Slip No.: 046973		Inv. Or Packing Slip Date: 7/16/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Spools	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				12			12	24	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	12	Rolls	60 mil LLDPE MicroSpike Geomembrane (139,380 square feet)	0	0
2	12	Spools	LLDPE Welding Rod	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Best Way Freight		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:046973	Freight Bill (Pro) No.: Packing List Attached	Weight: 44,900 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. 046973

NAME OF CARRIER	CARRIER'S NO.	DATE
BEST WAY FRT LTL		7/16/2015

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,
the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM:
SHIPPER
(ORIGIN)

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO:
CONSIGNEE HONEYWELL CHROMIUM AREA
ENVIRONMENTAL SPECIALTIES
STREET 60 KELLOGG STREET
JERSEY CITY, NJ 07305
DESTINATION DANIEL HARRIS 405-206-4659
ZIP

DELIVERING CARRIER	ROUTE	VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
139,380 264		LL DBL MICRO 60MIL 23FT WELD ROD MFG BLACK LDPE 5MM				

Item Key	Lot Number	Quantity
L-LL-MSDS-60-23	G15C276058	11,615
L-LL-MSDS-60-23	G15C277059	11,615
L-LL-MSDS-60-23	G15C277060	11,615
L-LL-MSDS-60-23	G15C277065	11,615
L-LL-MSDS-60-23	G15C282015	11,615
L-LL-MSDS-60-23	G15C282018	11,615
L-LL-MSDS-60-23	G15C282019	11,615
L-LL-MSDS-60-23	G15C282022	11,615
L-LL-MSDS-60-23	G15C283024	11,615
L-LL-MSDS-60-23	G15C283025	11,615
L-LL-MSDS-60-23	G15C283026	11,615
L-LL-MSDS-60-23	G15C283032	11,615

44,900 lbs.
Total Weight: ~~46,260 LB~~
12 Rolls
Total Packages: ~~139,644~~
Order No.: 28919 Order Date: 05/04/15 Request Date: 06/30/15
Location: GTOWN P.O. No.: 21570
12 Spools - Weld Rod

REMIT C.O.D. TO:
AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt $

C.O.D. FEE
☑ Prepaid
☐ Collect $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

† Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of Consignor)

TOTAL CHARGES $
Freight charges are PREPAID unless marked collect. ☐ Check box if charges are Collect.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation".

Shipper, Per X Agent, Per

Page 1 of 1
Permanent post office address of shipper

+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.
When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response Communication Standard (HM-126C). Provide emergency response phone number in case of incident or accident.

1

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 49
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 9/30/15
QC Inspection by: CP		QC Date: 9/30/15		Inv. Or Packing Slip No.: C00008780		Inv. Or Packing Slip Date: 9/29/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,110 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Universal Truckload, Inc		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008780	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,827 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008780
Ship Date: 9/29/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010137	2,800.00
2	0064021010138	2,800.00
3	0064021010139	2,800.00
4	0064021010140	2,800.00
5	0064021010141	2,800.00
6	0064021010142	2,800.00
7	0064021010143	2,800.00
8	0064021010144	2,800.00
9	0064021010145	1,960.00
10	0064021010146	2,800.00
11	0064021010147	2,800.00
12	0064021010148	2,800.00
13	0064021010149	2,800.00
14	0064021010150	2,800.00
15	0064021010151	2,800.00
16	0064021010152	2,800.00
17	0064021010153	2,800.00
18	0064021010154	2,800.00
19	0064021010155	2,800.00
20	0064021010156	2,800.00
21	0064021010157	2,800.00
22	0064021010158	2,800.00
23	0064021010159	2,800.00
24	0064021010160	2,800.00
25	0064021010161	2,800.00
26	0064021010162	2,800.00
27	0064021010163	3,150.00

Total Rolls: 27
Total Sq Feet: 75,110.00
Total Weight (lbs): 28,827.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Carolina Garcia	
Receive Date	Receiver's Company Name
9-30-15	ENTACT

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Universal Truckload, Inc.
Date: 9/29/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5848420

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries. Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 50
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/19/15
QC Inspection by: CP		QC Date: 10/19/15		Inv. Or Packing Slip No.: C00008923		Inv. Or Packing Slip Date: 10/16/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,810 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Medallion Transport & Logistics, LLC		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008923	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,175 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008923
Ship Date: 10/16/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010191	2,800.00
2	0064021010192	3,010.00
3	0064021010193	2,800.00
4	0064021010194	2,800.00
5	0064021010195	2,800.00
6	0064021010196	2,800.00
7	0064021010197	2,800.00
8	0064021010198	2,800.00
9	0064021010199	2,800.00
10	0064021010200	2,800.00
11	0064021010201	2,800.00
12	0064021010202	2,800.00
13	0064021010203	2,800.00
14	0064021010204	2,800.00
15	0064021010205	2,800.00
16	0064021010206	2,800.00
17	0064021010207	2,800.00
18	0064021010208	2,800.00
19	0064021010209	2,800.00
20	0064021010210	2,800.00
21	0064021010211	2,800.00
22	0064021010213	2,800.00
23	0064021010214	2,800.00
24	0064021010215	2,800.00
25	0064021010216	2,800.00
26	0064021010217	2,800.00
27	0064021010218	2,800.00

Total Rolls: 27
Total Sq Feet: 75,810.00
Total Weight (lbs): 29,175.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Medallion Transport & Logistics LLC.
Date: 10/16/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5910099

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 51
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/19/15
QC Inspection by: CP		QC Date: 10/19/15		Inv. Or Packing Slip No.: C00008925		Inv. Or Packing Slip Date: 10/17/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (76,160 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Meranu Leasing Inc., DBA Liberty Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008925	Freight Bill (Pro) No.: Packing List Attached	Weight:	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008925
Ship Date: 10/17/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010219	2,800.00
2	0064021010220	2,940.00
3	0064021010221	2,800.00
4	0064021010222	2,800.00
5	0064021010223	2,800.00
6	0064021010224	2,030.00
7	0064021010225	2,800.00
8	0064021010226	2,800.00
9	0064021010227	2,800.00
10	0064021010228	2,800.00
11	0064021010229	2,800.00
12	0064021010230	2,800.00
13	0064021010231	2,800.00
14	0064021010232	2,800.00
15	0064021010233	2,800.00
16	0064021010234	2,800.00
17	0064021010235	2,800.00
18	0064021010236	2,940.00
19	0064021010237	2,800.00
20	0064021010238	3,010.00
21	0064021010239	2,800.00
22	0064021010240	2,940.00
23	0064021010241	2,800.00
24	0064021010242	3,500.00
25	0064021010243	2,800.00
26	0064021010244	2,800.00
27	0064021010245	2,800.00

Total Rolls: 27
Total Sq Feet: 76,160.00
Total Weight (lbs): 49,561.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.:
Trucking Co. Phone #:
Broker: Meranu Leasing Inc. DBA Liberty Logistics
Date: 10/17/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919359

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries. Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 52
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/21/15
QC Inspection by: CP		QC Date: 10/21/15		Inv. Or Packing Slip No.: C00008954		Inv. Or Packing Slip Date: 10/20/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			29	31	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	29	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,390 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ATS Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008954	Freight Bill (Pro) No.: Packing List Attached	Weight: 30,732 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008954
Ship Date: 10/20/15 10/21/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	00640210101691	1,330.00
2	0064021010212	1,960.00
3	00640210102121	910.00
4	0064021010258	1,960.00
5	0064021010274	2,800.00
6	0064021010275	2,800.00
7	0064021010276	2,940.00
8	0064021010277	2,100.00
9	00640210102771	980.00
10	0064021010278	3,640.00
11	0064021010279	2,800.00
12	0064021010280	2,940.00
13	0064021010281	2,800.00
14	0064021010282	2,800.00
15	0064021010283	3,360.00
16	0064021010284	2,800.00
17	0064021010285	2,800.00
18	0064021010286	2,660.00
19	0064021010288	2,800.00
20	0064021010289	2,800.00
21	0064021010290	2,800.00
22	0064021010291	2,800.00
23	0064021010292	2,800.00
24	0064021010293	2,800.00
25	0064021010294	2,800.00
26	0064021010295	3,010.00
27	0064021010296	2,800.00
28	0064021010297	2,800.00
29	0064021010298	2,800.00

Total Rolls: 29
Total Sq Feet: 75,390.00
Total Weight (lbs): 30,732.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: ROSS
Driver's Sign: _____
Driver's Cell Phone #: 844 2[illegible]
Trucking Co.: [illegible]
Trucking Co. Phone #: _____
Broker: ATS Logistics
Date: 10/20/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919743

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 53
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/21/15
QC Inspection by: CP		QC Date: 10/21/15		Inv. Or Packing Slip No.: C00008937		Inv. Or Packing Slip Date: 10/19/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			31	33	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	31	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (80,640 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Medallion Transport & Logistics LLC		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008937	Freight Bill (Pro) No.: Packing List Attached	Weight: 31,321 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008937
Ship Date: 10/19/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	00640210102241	840.00
2	0064021010246	2,800.00
3	0064021010247	2,800.00
4	0064021010248	2,800.00
5	0064021010249	2,800.00
6	0064021010250	3,150.00
7	0064021010251	2,800.00
8	0064021010252	2,800.00
9	0064021010253	2,800.00
10	0064021010254	2,800.00
11	0064021010255	2,800.00
12	0064021010256	2,800.00
13	0064021010257	2,800.00
14	00640210102581	980.00
15	0064021010259	3,150.00
16	0064021010260	2,520.00
17	0064021010261	2,800.00
18	0064021010262	2,800.00
19	0064021010263	2,800.00
20	0064021010264	2,800.00
21	0064021010265	2,800.00
22	0064021010266	2,800.00
23	0064021010267	2,800.00
24	0064021010268	2,800.00
25	0064021010269	2,800.00
26	0064021010270	2,800.00
27	0064021010271	2,800.00
28	0064021010272	2,800.00
29	0064021010287	1,610.00
30	00640210102871	1,190.00
31	0064021010305	2,800.00

Total Rolls: 31
Total Sq Feet: 80,640.00
Total Weight (lbs): 31,321.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign:

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.:
Trucking Co. Phone #:
Broker: Medallion Transport & Logistics LLC.
Date: 10/19/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919713

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 54
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/22/15
QC Inspection by: CP		QC Date: 10/22/15		Inv. Or Packing Slip No.: C00008956		Inv. Or Packing Slip Date: 10/20/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (70,070 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ATS Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008956	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,718 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008956
Ship Date: 10/20/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010273	1,680.00
2	00640210102731	840.00
3	0064021010299	2,800.00
4	0064021010300	2,800.00
5	0064021010301	3,010.00
6	0064021010302	2,800.00
7	0064021010303	2,800.00
8	0064021010304	2,800.00
9	0064021010306	2,800.00
10	0064021010307	2,800.00
11	0064021010308	2,800.00
12	0064021010309	2,940.00
13	0064021010310	2,800.00
14	0064021010311	1,400.00
15	00640210103111	1,400.00
16	0064021010312	2,800.00
17	0064021010313	2,800.00
18	0064021010314	2,800.00
19	0064021010315	2,800.00
20	0064021010316	2,800.00
21	0064021010317	2,800.00
22	0064021010318	2,800.00
23	0064021010319	2,800.00
24	0064021010320	2,800.00
25	0064021010321	2,800.00
26	0064021010322	2,800.00
27	0064021010324	2,800.00

Total Rolls: 27
Total Sq Feet: 70,070.00
Total Weight (lbs): 28,718.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name _____ Receiver's Signature _____

Receive Date _____ Receiver's Company Name _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: ATS Logistics
Date: 10/20/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919766

Load# 166210

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 54
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/22/15
QC Inspection by: CP		QC Date: 10/22/15		Inv. Or Packing Slip No.: C00008956		Inv. Or Packing Slip Date: 10/20/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (70,070 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ATS Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008956	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,718 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008956
Ship Date: 10/20/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010273	1,680.00
2	00640210102731	840.00
3	0064021010299	2,800.00
4	0064021010300	2,800.00
5	0064021010301	3,010.00
6	0064021010302	2,800.00
7	0064021010303	2,800.00
8	0064021010304	2,800.00
9	0064021010306	2,800.00
10	0064021010307	2,800.00
11	0064021010308	2,800.00
12	0064021010309	2,940.00
13	0064021010310	2,800.00
14	0064021010311	1,400.00
15	00640210103111	1,400.00
16	0064021010312	2,800.00
17	0064021010313	2,800.00
18	0064021010314	2,800.00
19	0064021010315	2,800.00
20	0064021010316	2,800.00
21	0064021010317	2,800.00
22	0064021010318	2,800.00
23	0064021010319	2,800.00
24	0064021010320	2,800.00
25	0064021010321	2,800.00
26	0064021010322	2,800.00
27	0064021010324	2,800.00

Total Rolls: 27
Total Sq Feet: 70,070.00
Total Weight (lbs): 28,718.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name _____ Receiver's Signature _____

Receive Date _____ Receiver's Company Name _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: ATS Logistics
Date: 10/20/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919766

Load# 166210

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Appendix H
GCL to Barrier Wall Connection Logs

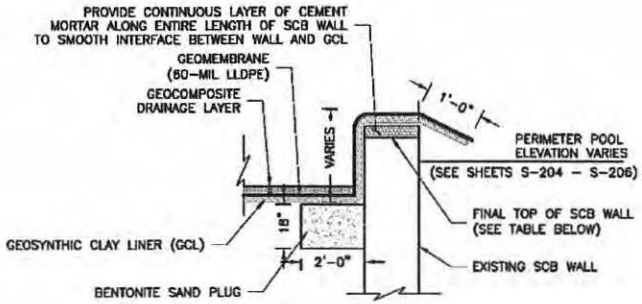
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** 9/16/15

QA - GCL to Barrier Wall Connection Detail



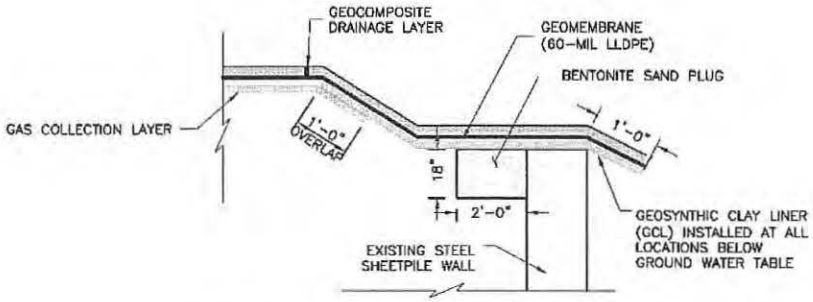
BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) C-121 | C-309

NTS

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) TYP C-309

NTS

***Check applicable Detail:**	**Location:**
☑ Box Cut Dimension ☑ Barrier wall clean/exposed ☑ Sand Bentonite Mix	- **Hydraulic Barrier Wall stations 9+00 to 10+75 (approximately).** - **South side of the C Street corridor.**
Comments: - Roll #4109 was placed down the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/15/15. - All strips on the east side of the corridor were placed on 9/15/15. On 9/15/15, Amec and Langan directed Entact to remove the wet SCB plug, and replace it with new GCL and SCB plug mix. The replacement process was completed on 9/16/15.	**Amec Foster Wheeler QA Signature:** B Shea

Honeywell

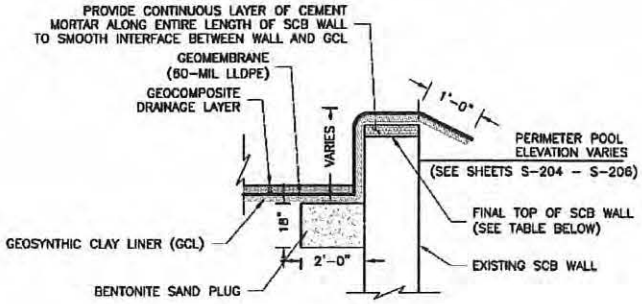
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/18/15

QA - GCL to Barrier Wall Connection Detail

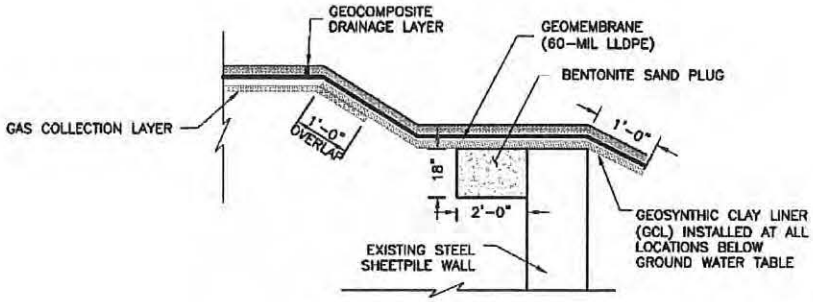


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION
NTS
BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER
NTS
G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall stations 6+50 to 6+75 (approximately).**
- **South side of the D Street corridor.**

Comments:

- Roll #4070 was placed in the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/18/15.

Amec Foster Wheeler QA Signature: B Shea

Honeywell

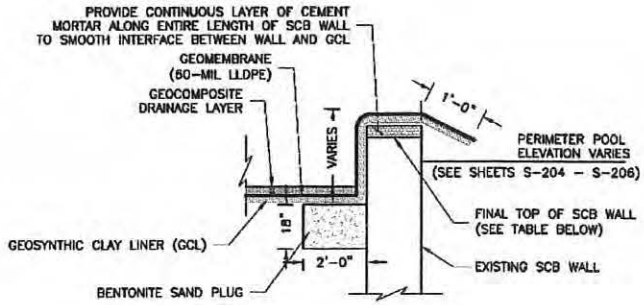
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/24/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

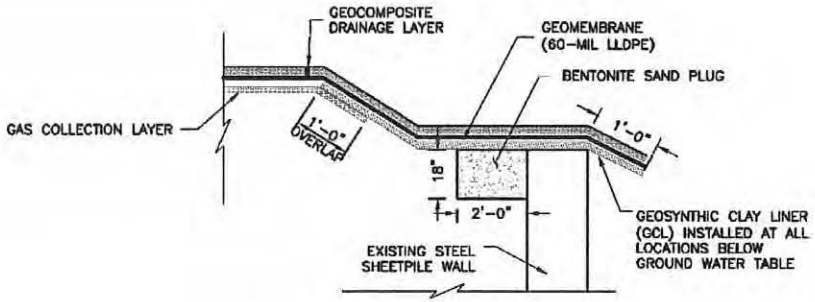
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall stations 4+00 to 5+00 (approximately).**

Comments:

- Roll #4064 was placed.

Amec Foster Wheeler QA Signature: BShea

Honeywell

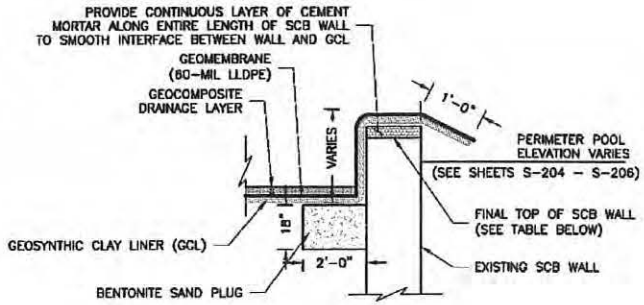
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/24/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

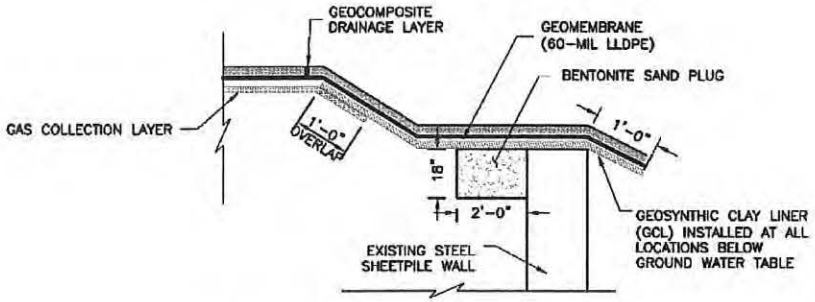
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 3+25 to 4+00 (approximately)**

Comments:

- Rolls #4094 and #4095 were placed.

Amec Foster Wheeler QA Signature: BShea

Honeywell

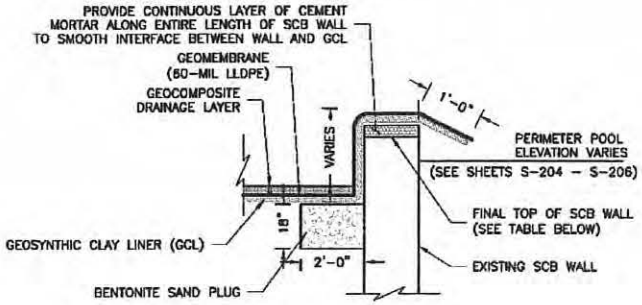
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/25/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

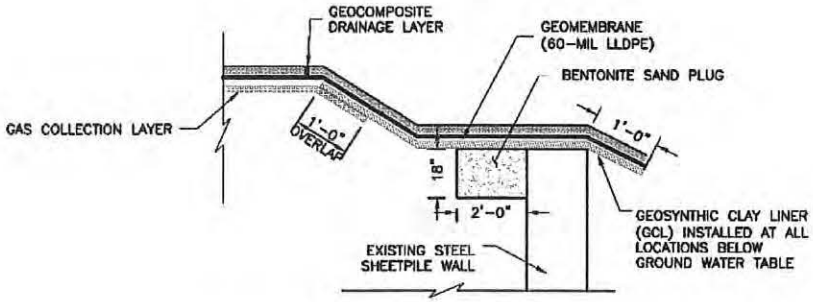
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 3+00 to 3+25 (approximately)**

Comments:

- Rolls #4101 and #4090 were placed.

Amec Foster Wheeler QA Signature: BShea

Honeywell

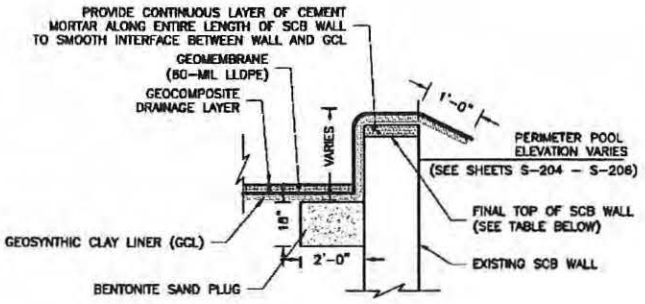
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

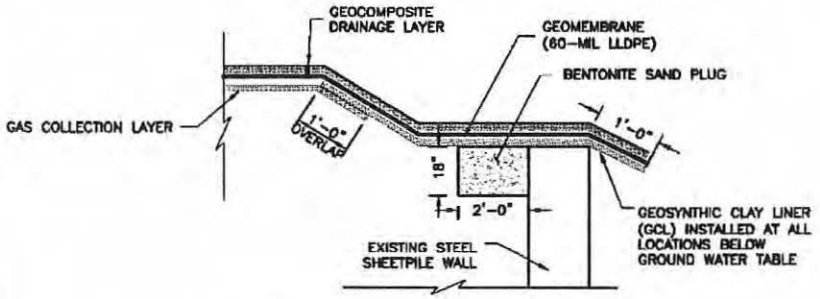
Date: 9/29/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 2+30 to 3+00 (approximately)**

Comments:

- Rolls #4107, #4108, #4072 and #4110 were placed.

Amec Foster Wheeler QA Signature: _____

Honeywell

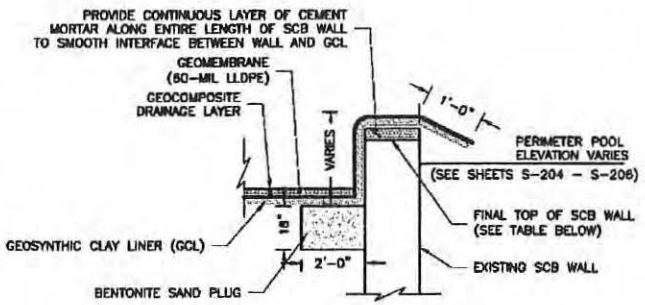
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

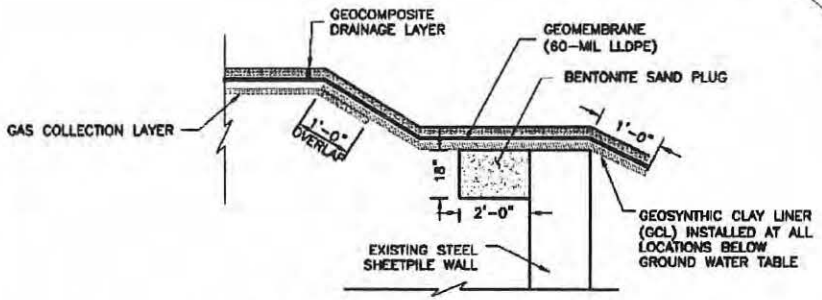
Date: 10/8/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP | C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 0 to 2+30 (approximately)**

Comments:

- Rolls #4086 and # 4102 were placed.

Amec Foster Wheeler QA Signature: _____

Honeywell

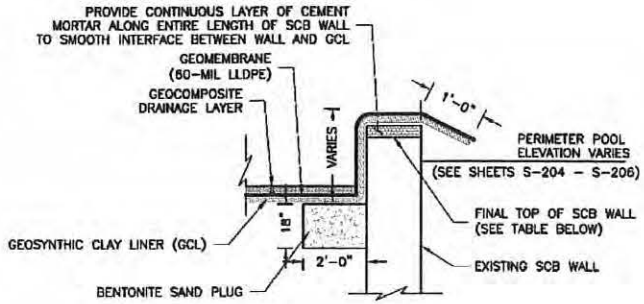
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

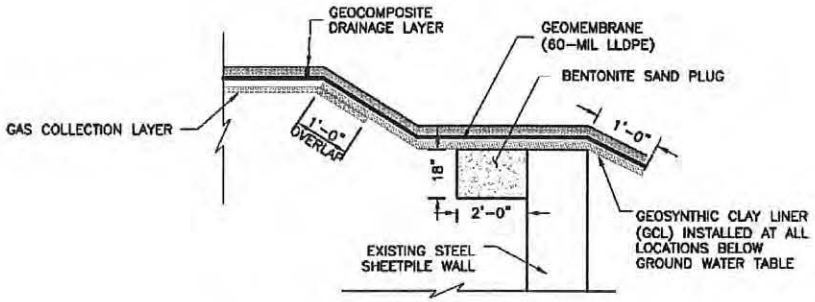
Date: 8/6/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) C-121 | C-309
NTS

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) TYP C-309
NTS

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **South side of the B Street Corridor**
- **Stations 15+00 to 17+00**

Comments:

- Roll #4078 was placed over the sheet pile wall on 8/5/15 and 8/6/15.
- On 8/6/15 Amec Foster Wheeler directed Entact to fold back the GCL in order to ensure clean contact between the GCL and the top of the Hydraulic Barrier Wall.

Amec Foster Wheeler QA Signature: BShea

Honeywell

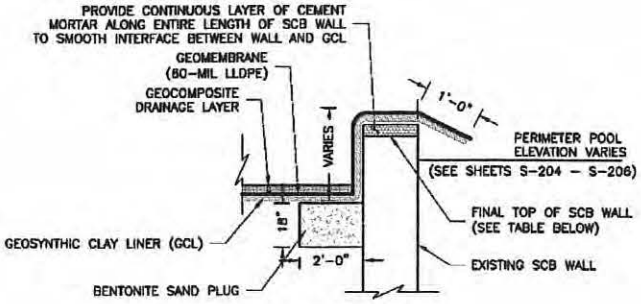
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 8/3/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

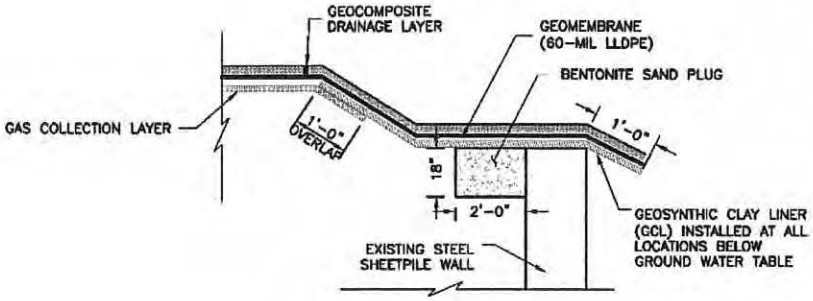
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)

NTS

C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)

NTS

TYP | C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **North side of the B Street Corridor**
- **Stations 14+60 to 15+00**

Comments:

- Roll #4078 was placed over the SCB Wall on 8/3/15.
- Entact installed a 45° "buffer" slope from the bottom of the corridor to the top corner of the SCB wall, in order to avoid forming a 90° angle with the GCL at the bottom corner of the wall. This method was approved by Geoff Shallard prior to installation.

Amec Foster Wheeler QA Signature: B Shea

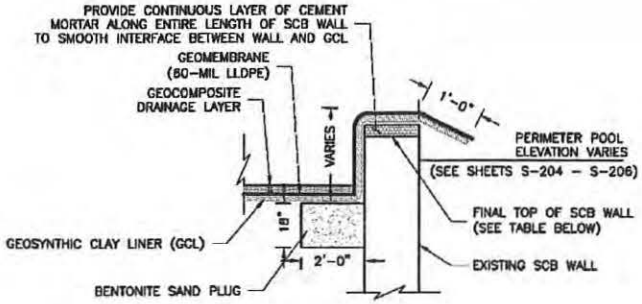
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** 9/9/15

QA - GCL to Barrier Wall Connection Detail

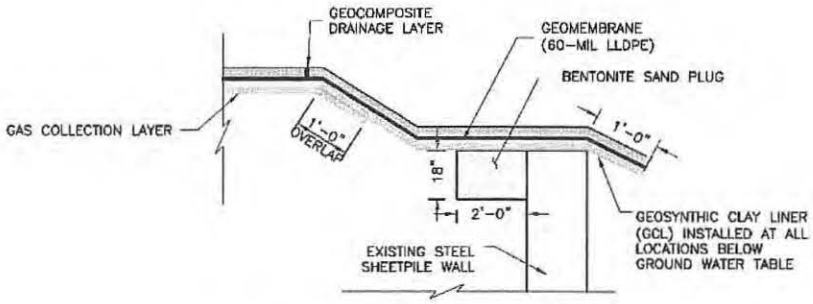


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) NTS TYP C-309

***Check applicable Detail:**	**Location:**
☑ Box Cut Dimension ☑ Barrier wall clean/exposed ☑ Sand Bentonite Mix	- **Soil Cement Bentonite Wall stations 8+00 to 8+50 (approximately).** - **North side of the C Street corridor.**
Comments: - Roll #4109 was placed down the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/9/15. - Roll #4073 was placed on the northwest corner of the corridor slopes, overlapping the SCB Wall on 9/9/15. - Roll #4087 was placed on the northeast corner of the corridor slopes, overlapping the SCB Wall on 9/9/15.	**Amec Foster Wheeler QA Signature:** BShea

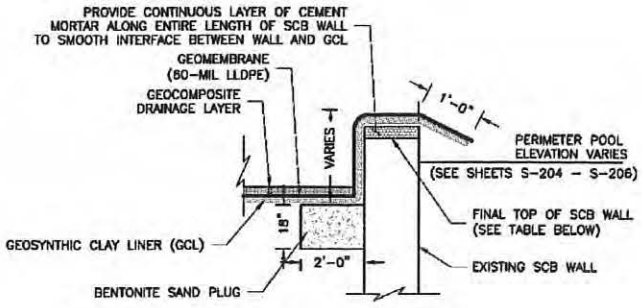
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** 9/18/15

QA - GCL to Barrier Wall Connection Detail

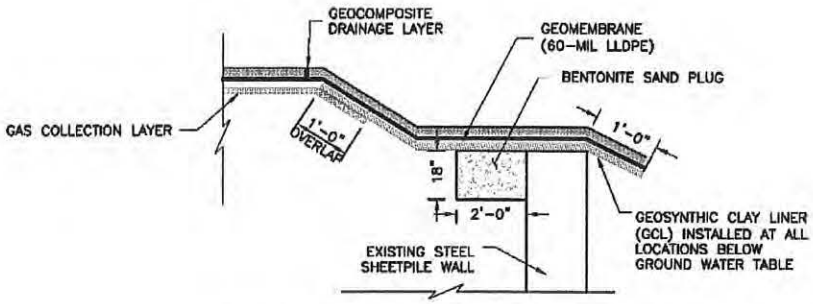


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) NTS TYP C-309

***Check applicable Detail:** ☑ Box Cut Dimension ☑ Barrier wall clean/exposed ☑ Sand Bentonite Mix	**Location:** - **Soil Cement Bentonite Wall stations 5+00 to 5+75 (approximately).** - **North side of the D Street corridor**
Comments: - Roll #4070 was placed in the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/18/15.	**Amec Foster Wheeler QA Signature:** BShea

Honeywell

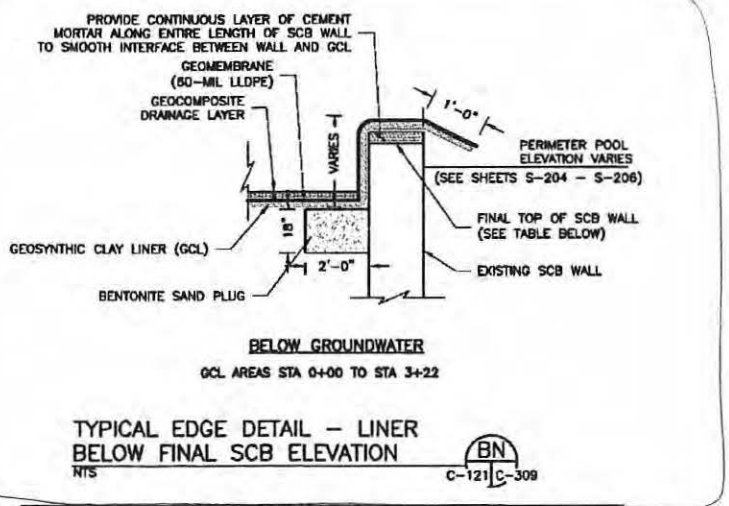
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/24/15

QA - GCL to Barrier Wall Connection Detail

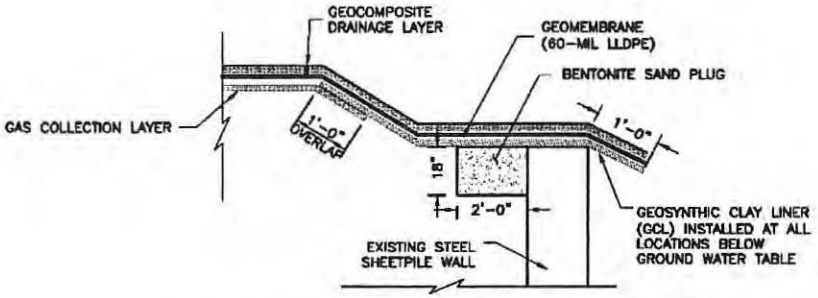


TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)

NTS

C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)

NTS

TYP | C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☐ Sand Bentonite Mix

Location:

- **Soil Cement Bentonite Wall stations 2+50 to 3+00 (approximately).**

Comments:

Amec Foster Wheeler QA Signature: _____

Honeywell

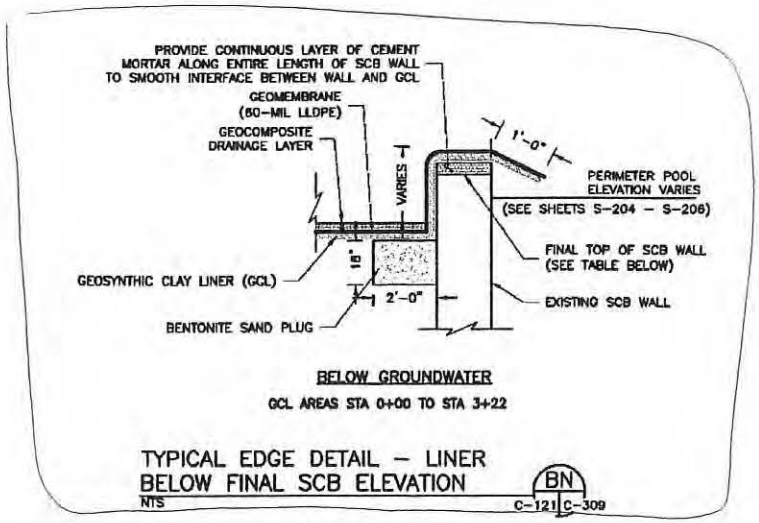
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

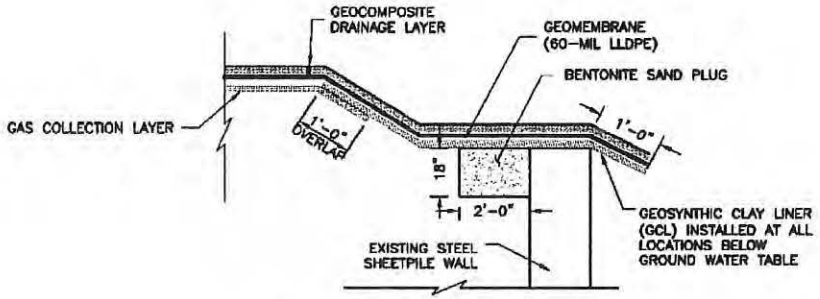
Date: 10/8/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) C-121 | C-309
NTS

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) TYP | C-309
NTS

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Soil Cement Bentonite Wall stations 0+00 to 2+50 (approximately).**

Comments:

- Rolls #4071 and #4102 were placed over the SCB Wall.

Amec Foster Wheeler QA Signature: _____

Appendix I
ESI Panel Placement Logs

INDEPENDENT CQA MONITOR

7/20/15

Daily Panel Placement

Page 1

Project Name: HONEYWELL Job # 12-11-1399 Deployment Date 7-20-15

Superintendent: FORTINO AYALA Material Type: LLDPE 60 MIL

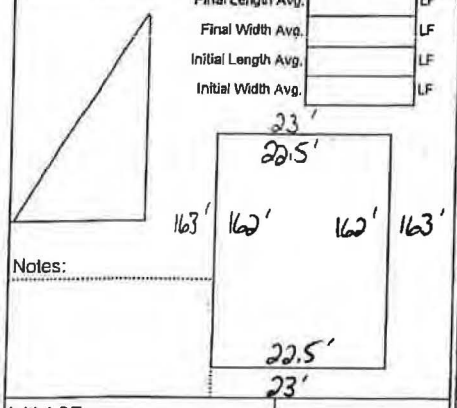
☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other: CAP CONSTRUCTION

Description (i.e. Phase #, Cell #, Pond # etc.)

Roll Stock Width 23

Panel # 1 | Roll # G15C283031

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

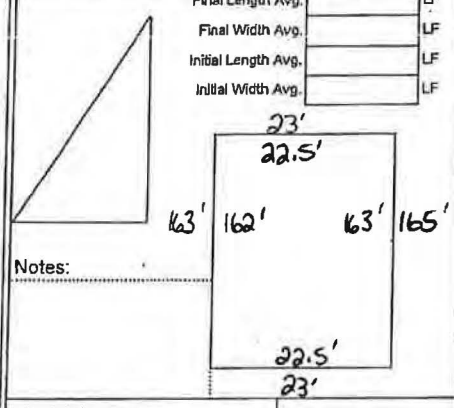


Notes:

Initial SF -
Final SF 3,645 -
Lineal Feet Trench

Panel # 2 | Roll # G15C283031

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

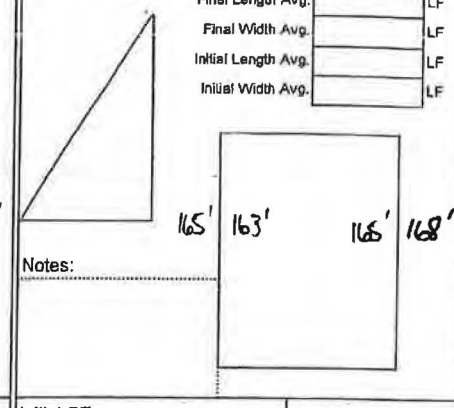


Notes:

Initial SF -
Final SF 3,656.25 -
Lineal Feet Trench

Panel # 3 | Roll # G15C283031

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

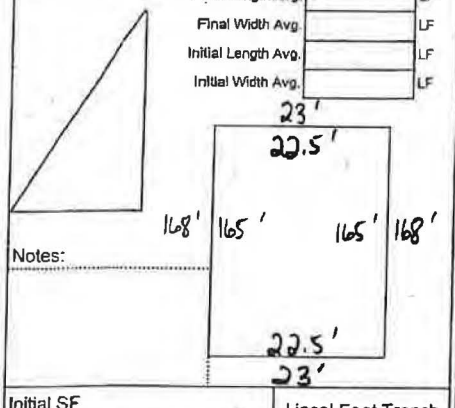


Notes:

Initial SF -
Final SF 3,690 -
Lineal Feet Trench

Panel # 4 | Roll # G15C292021

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF



Notes:

Initial SF -
Final SF 3,712.5 -
Lineal Feet Trench

Panel # | Roll #

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Panel # | Roll #

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Panel # | Roll #

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	-	SF
Total Pay Area This Page	-	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	-	SF
Total Pay Area To Date Including Anchor Trench	-	
Initial Quantity Previous	-	SF
Initial Quantity This Page	-	SF
Initial Quantity To Date	-	SF

14,703.75 ☒

7/21/15

INDEPENDENT CQA MONITOR

Daily Panel Placement Page 2.

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date**

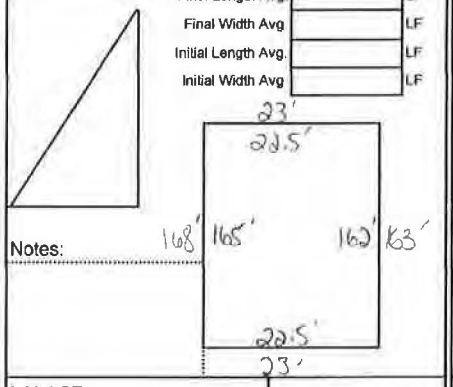
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap [X] **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 22.5

Panel # 5 **Roll #** G15C282021

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

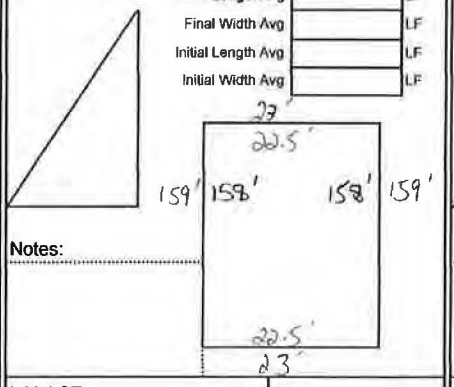


Notes:

Initial SF -
Final SF 3,678.75 -
Lineal Feet Trench

Panel # 6 **Roll #** G15C282021

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

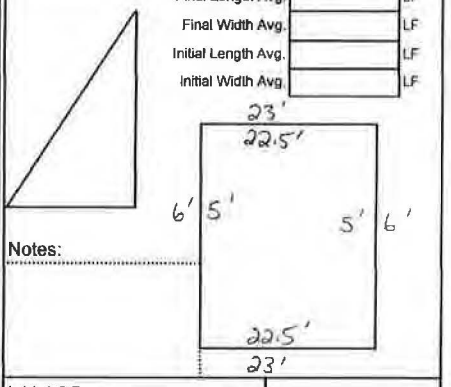


Notes:

Initial SF -
Final SF 3,555 -
Lineal Feet Trench

Panel # 7 **Roll #** G15C277065

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

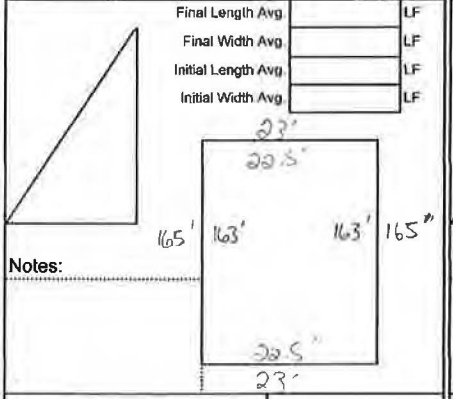


Notes:

Initial SF -
Final SF 112.5 -
Lineal Feet Trench

Panel # 8 **Roll #** G15C277065

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

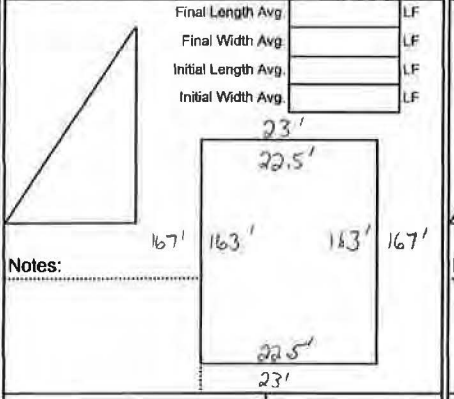


Notes:

Initial SF -
Final SF 3,667.5 -
Lineal Feet Trench

Panel # 9 **Roll #** G15C277065

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

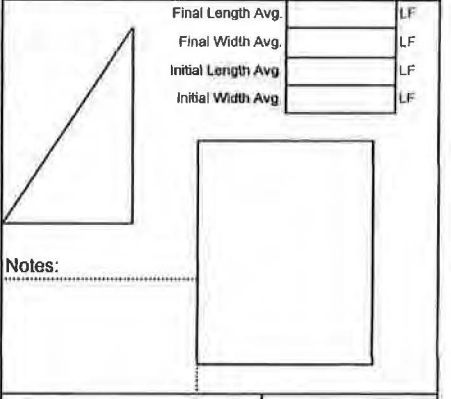


Notes:

Initial SF -
Final SF 3,667.5 -
Lineal Feet Trench

Panel # **Roll #**

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

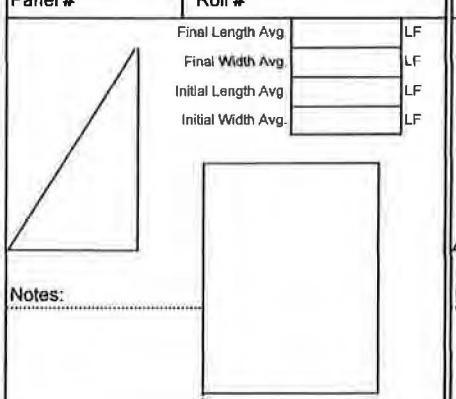


Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Panel # **Roll #**

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

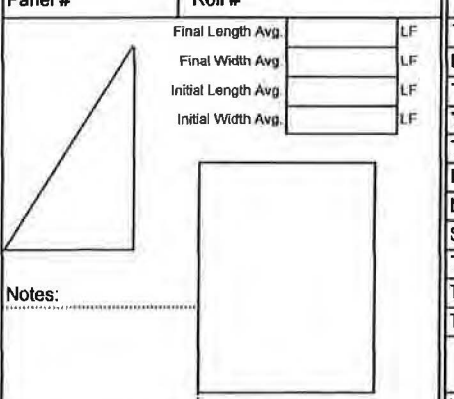


Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Panel # **Roll #**

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF



Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	**SF**
Total Panel SF This Page	-	**SF**
Total Pay Area This Page	-	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	-	SF
Total Pay Area To Date Including Anchor Trench	-	
Initial Quantity Previous	-	SF
Initial Quantity This Page	-	SF
Initial Quantity To Date	-	SF

14,680.5

INDEPENDENT CQA MONITOR 7/22/15

Daily Panel Placement

Page 3

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/22/15

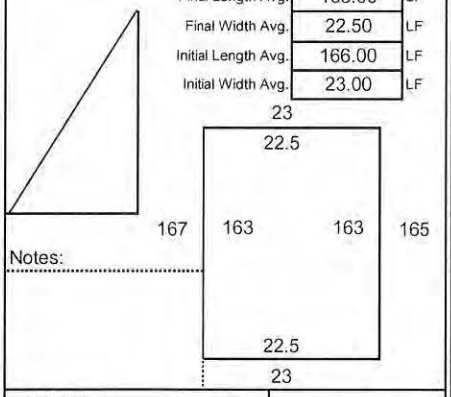
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

Primary Secondary Cell Pond Cap [X] Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 10 | Roll # G15C282018

Final Length Avg.	163.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

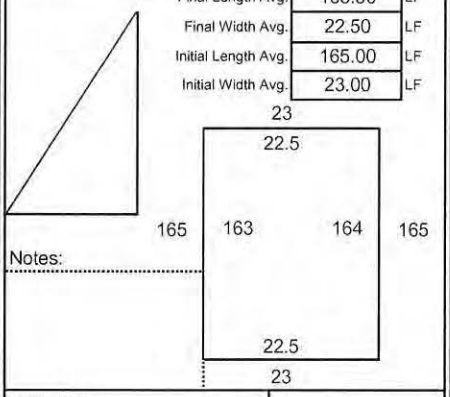


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,668	

Panel # 11 | Roll # G15C282018

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

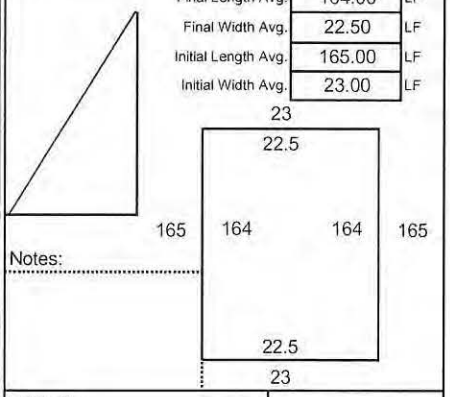


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # 12 | Roll # G15C282018

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

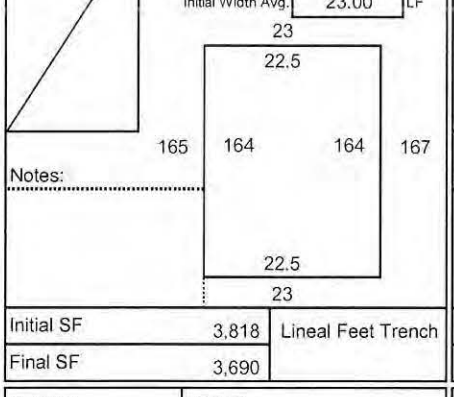


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,690	

Panel # 13 | Roll # G15C276052

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

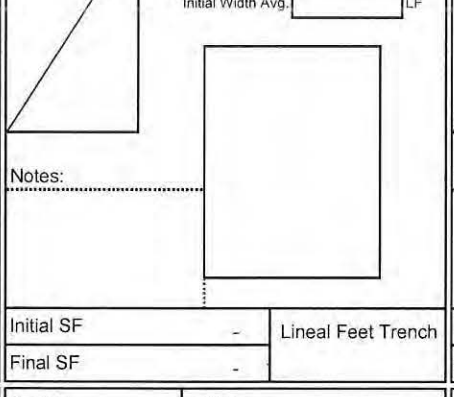


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,690	

Panel # / Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

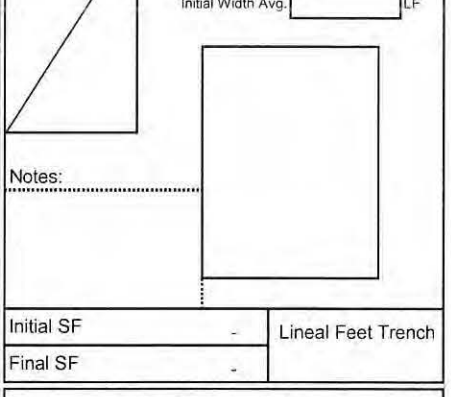


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # / Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

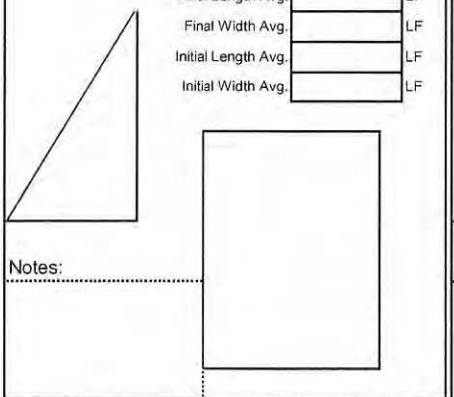


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # / Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

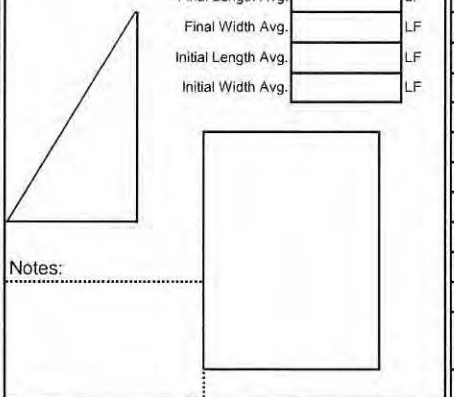


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # / Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**14,726**	**SF**
Total Pay Area This Page	**14,726**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	29,385	SF
Total Panel SF To Date	44,111	SF
Total Pay Area To Date Including Anchor Trench	**44,111**	
Initial Quantity Previous	30,452	SF
Initial Quantity This Page	15,226	SF
Initial Quantity To Date	45,678	SF

INDEPENDENT CQA MONITOR 7-23-15

Daily Panel Placement

Page 4

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/23/15

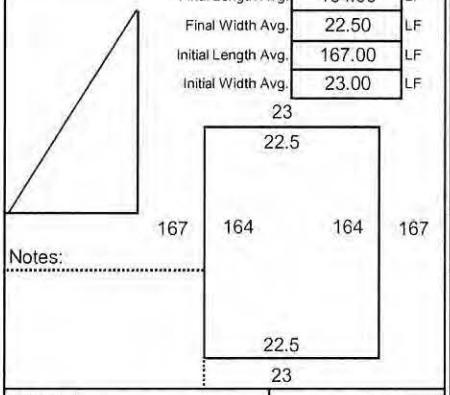
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 14 Roll # G15C282023

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

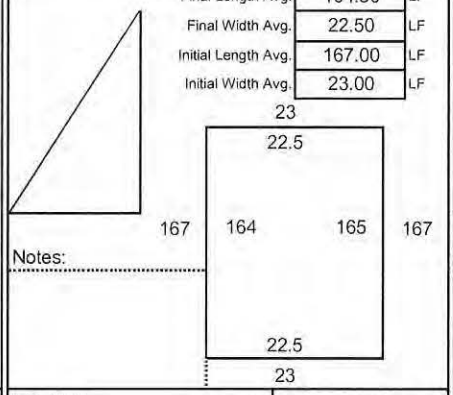


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,690	

Panel # 15 Roll # G15C276052

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

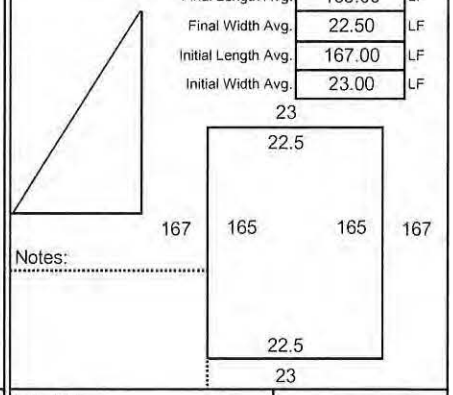


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,701	

Panel # 16 Roll # G15C277064

Final Length Avg.	165.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

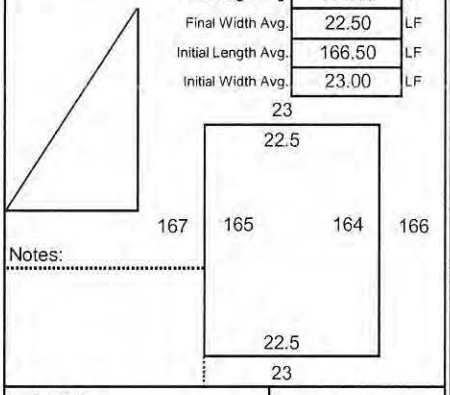


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,713	

Panel # 17 Roll # G15C277064

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.50	LF
Initial Width Avg.	23.00	LF

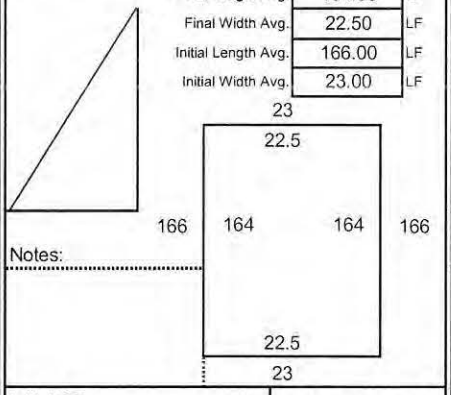


Notes:

Initial SF	3,830	Lineal Feet Trench
Final SF	3,701	

Panel # 18 Roll # G15C277064

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

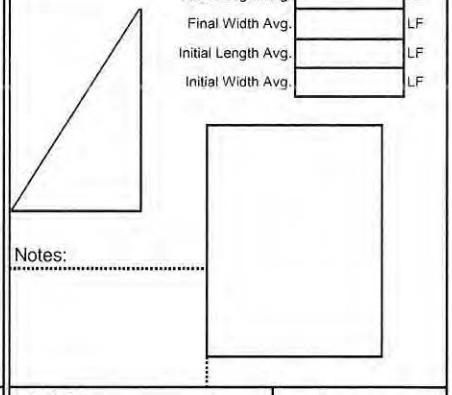


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,690	

Panel # Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

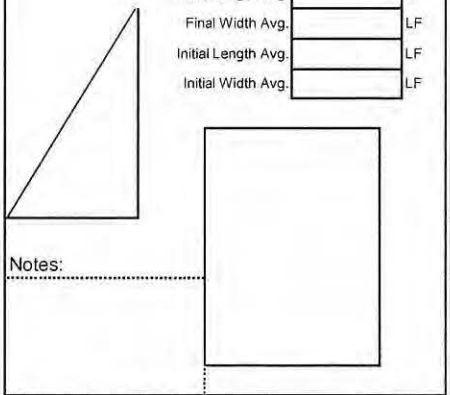


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

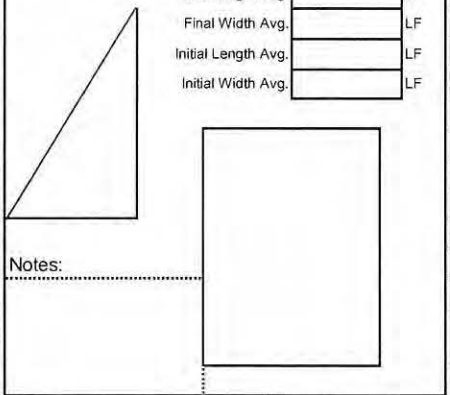


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**18,495**	SF
Total Pay Area This Page	**18,495**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	44,111	SF
Total Panel SF To Date	62,606	SF
Total Pay Area To Date Including Anchor Trench	**62,606**	
Initial Quantity Previous	45,678	SF
Initial Quantity This Page	19,171	SF
Initial Quantity To Date	64,849	SF

7/24/15 INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 5

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/24/15

Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Notes:	Initial SF	Final SF	Lineal Feet Trench
19	G15C276056	164.00 LF	22.50 LF	166.00 LF	23.00 LF	166 / 164 / 164 / 166; 23 / 22.5 / 22.5 / 23	3,818	3,690	
20	G15C276056	164.00 LF	22.50 LF	166.50 LF	23.00 LF	166 / 164 / 164 / 167; 23 / 22.5 / 22.5 / 23	3,830	3,690	
21	G15C276056	164.00 LF	22.50 LF	166.50 LF	23.00 LF	167 / 164 / 164 / 166; 23 / 22.5 / 22.5 / 23	3,830	3,690	
22	G15C277061	164.00 LF	22.50 LF	166.00 LF	23.00 LF	166 / 164 / 164 / 166; 23 / 22.5 / 22.5 / 23	3,818	3,690	
23	G15C277061	164.00 LF	22.50 LF	166.00 LF	23.00 LF	166 / 164 / 164 / 166; 23 / 22.5 / 22.5 / 23	3,818	3,690	
24	G15C277061	164.00 LF	22.50 LF	166.00 LF	23.00 LF	166 / 164 / 164 / 166; 23 / 22.5 / 22.5 / 23	3,818	3,690	
							-	-	
							-	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**22,140**	SF
Total Pay Area This Page	**22,140**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	62,606	SF
Total Panel SF To Date	84,746	SF
Total Pay Area To Date Including Anchor Trench	**84,746**	
Initial Quantity Previous	64,849	SF
Initial Quantity This Page	22,931	SF
Initial Quantity To Date	87,780	SF

7/29/15 INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 6

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/28/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 25	Roll # G15C277059
Final Length Avg.	163.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.50 LF
Initial Width Avg.	23.00 LF
Notes:	
Initial SF	3,807
Final SF	3,679
Lineal Feet Trench	

Panel # 26	Roll # G15C277059
Final Length Avg.	163.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.00 LF
Initial Width Avg.	23.00 LF
Notes:	
Initial SF	3,795
Final SF	3,668
Lineal Feet Trench	

Panel # 27	Roll # G15C277059
Final Length Avg.	163.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.50 LF
Initial Width Avg.	23.00 LF
Notes:	
Initial SF	3,784
Final SF	3,668
Lineal Feet Trench	

Panel # 28	Roll # G15C283028
Final Length Avg.	163.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.50 LF
Initial Width Avg.	23.00 LF
Notes:	
Initial SF	3,784
Final SF	3,679
Lineal Feet Trench	

Panel # 29	Roll # G15C283028
Final Length Avg.	164.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.00 LF
Initial Width Avg.	23.00 LF
Notes:	
Initial SF	3,795
Final SF	3,690
Lineal Feet Trench	

Panel # 30	Roll # G15C283028
Final Length Avg.	164.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.50 LF
Initial Width Avg.	23.00 LF
Notes:	
Initial SF	3,807
Final SF	3,690
Lineal Feet Trench	

Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF
Notes:	
Initial SF	-
Final SF	-
Lineal Feet Trench	

Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF
Notes:	
Initial SF	-
Final SF	-
Lineal Feet Trench	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	22,073	SF
Total Pay Area This Page	22,073	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	84,746	SF
Total Panel SF To Date	106,819	SF
Total Pay Area To Date Including Anchor Trench	**106,819**	
Initial Quantity Previous	87,780	SF
Initial Quantity This Page	22,770	SF
Initial Quantity To Date	110,550	SF

07/30/15

INDEPENDENT QA
MONITOR

Daily Panel Placement

Page 7

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/29/15

Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
31	G15C282015	163.50 LF	22.50 LF	165.00 LF	23.00 LF	3,795	3,679	
32	G15C282015	163.00 LF	22.50 LF	164.50 LF	23.00 LF	3,784	3,668	
33	G15C282015	163.00 LF	22.50 LF	165.00 LF	23.00 LF	3,795	3,668	
34	G15C276055	163.50 LF	22.50 LF	165.50 LF	23.00 LF	3,807	3,679	
		LF	LF	LF	LF	-	-	
		LF	LF	LF	LF	-	-	
		LF	LF	LF	LF	-	-	
		LF	LF	LF	LF	-	-	

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,693**	SF
Total Pay Area This Page	**14,693**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	106,819	SF
Total Panel SF To Date	121,511	SF
Total Pay Area To Date Including Anchor Trench	**121,511**	
Initial Quantity Previous	110,550	SF
Initial Quantity This Page	15,180	SF
Initial Quantity To Date	125,730	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 8

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/03/15

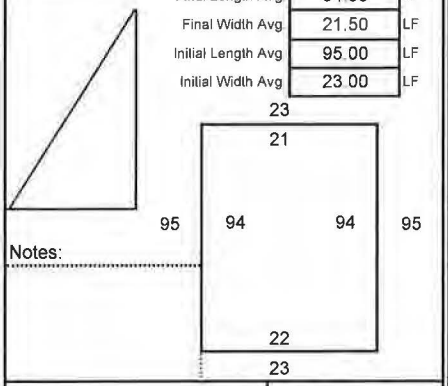
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary **Secondary** ☐ **Cell** ☐ **Pond** ☐ **Cap** ☒ **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 35 — Roll # G15C276055

Final Length Avg.	94.00	LF
Final Width Avg.	21.50	LF
Initial Length Avg.	95.00	LF
Initial Width Avg.	23.00	LF

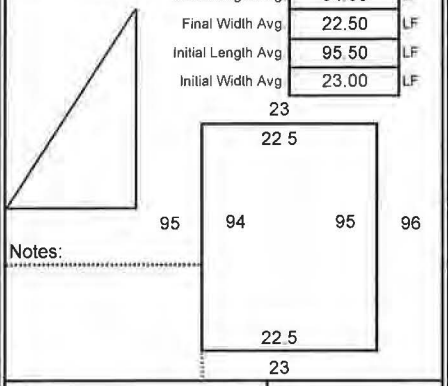


Notes:

Initial SF	2,185	Lineal Feet Trench	
Final SF	2,021		

Panel # 36 — Roll # G15C276055

Final Length Avg.	94.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	95.50	LF
Initial Width Avg.	23.00	LF

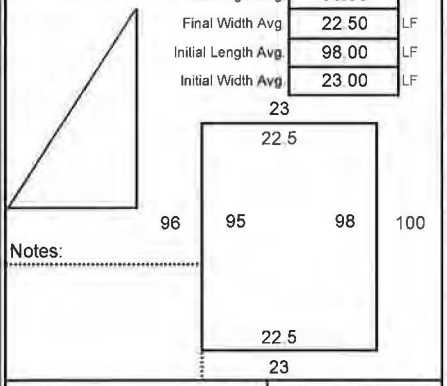


Notes:

Initial SF	2,197	Lineal Feet Trench	
Final SF	2,126		

Panel # 37 — Roll # G15C276055

Final Length Avg.	96.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	98.00	LF
Initial Width Avg.	23.00	LF

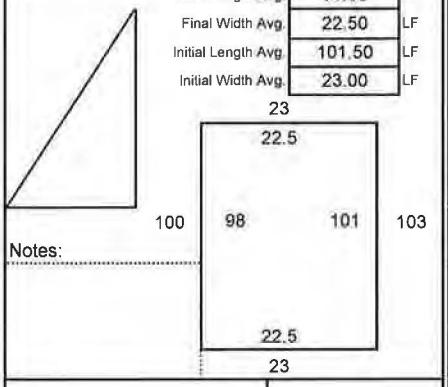


Notes:

Initial SF	2,254	Lineal Feet Trench	
Final SF	2,171		

Panel # 38 — Roll # G15C282017

Final Length Avg.	99.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	101.50	LF
Initial Width Avg.	23.00	LF

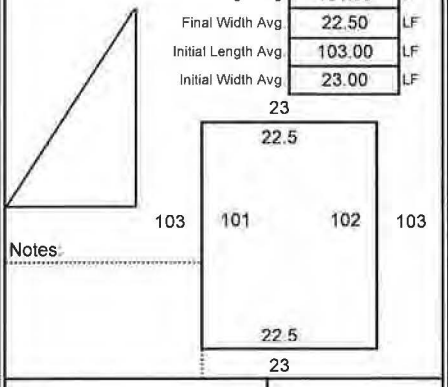


Notes:

Initial SF	2,335	Lineal Feet Trench	
Final SF	2,239		

Panel # 39 — Roll # G15C282017

Final Length Avg.	101.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	103.00	LF
Initial Width Avg.	23.00	LF

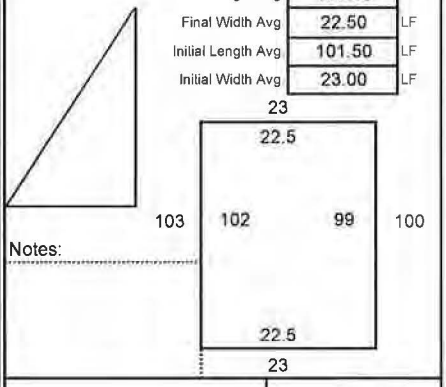


Notes:

Initial SF	2,369	Lineal Feet Trench	
Final SF	2,284		

Panel # 40 — Roll # G15C282017

Final Length Avg.	100.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	101.50	LF
Initial Width Avg.	23.00	LF

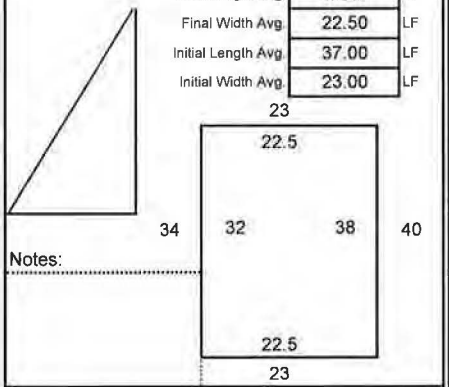


Notes:

Initial SF	2,335	Lineal Feet Trench	
Final SF	2,261		

Panel # 41 — Roll # G15C276055

Final Length Avg.	35.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	37.00	LF
Initial Width Avg.	23.00	LF

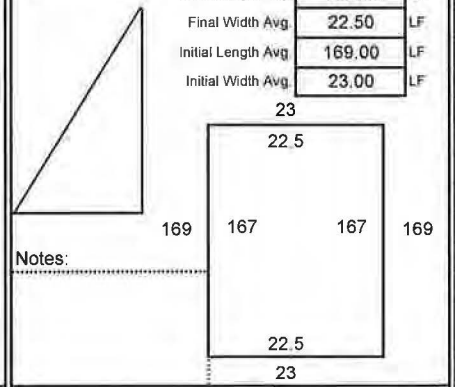


Notes:

Initial SF	851	Lineal Feet Trench	
Final SF	788		

Panel # 42 — Roll # G15C282017

Final Length Avg.	167.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF



Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,758		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**17,647**	SF
Total Pay Area This Page	**17,647**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	121,511	SF
Total Panel SF To Date	139,159	SF
Total Pay Area To Date Including Anchor Trench	**139,159**	
Initial Quantity Previous	125,730	SF
Initial Quantity This Page	18,412	SF
Initial Quantity To Date	144,141	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 9

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/03/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 43	Roll # G15C276053		
Final Length Avg.	35.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	36.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	840	Lineal Feet Trench	
Final SF	799		

Notes:

Panel # 44	Roll # G15C276053		
Final Length Avg.	56.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	57.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,323	Lineal Feet Trench	
Final SF	1,260		

Notes:

Panel # 45	Roll # G15C276053		
Final Length Avg.	25.00	LF	
Final Width Avg.	10.00	LF	
Initial Length Avg.	28.00	LF	
Initial Width Avg.	11.00	LF	
Initial SF	308	Lineal Feet Trench	
Final SF	250		

Notes:

Panel # 46	Roll # G15C276053		
Final Length Avg.	27.00	LF	
Final Width Avg.	10.00	LF	
Initial Length Avg.	28.00	LF	
Initial Width Avg.	11.50	LF	
Initial SF	322	Lineal Feet Trench	
Final SF	270		

Notes:
TRIM OFF P-45

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Notes:

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Notes:

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**2,579**	SF
Total Pay Area This Page	**2,579**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	139,159	SF
Total Panel SF To Date	141,737	SF
Total Pay Area To Date Including Anchor Trench	**141,737**	
Initial Quantity Previous	144,141	SF
Initial Quantity This Page	2,792	SF
Initial Quantity To Date	146,933	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 10

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/05/15

Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF
47	G15C276053	167.00 LF	22.50 LF	168.50 LF	23.00 LF	3,876	3,758
48	G15C276053	167.00 LF	22.50 LF	168.00 LF	23.00 LF	3,864	3,758
49	G15C283033	167.00 LF	22.50 LF	168.00 LF	23.00 LF	3,864	3,758

Panel 47 Notes: 23 / 22.5 / 169 167 167 168 / 22.5 / 23

Panel 48 Notes: 23 / 22.5 / 168 167 167 168 / 22.5 / 23

Panel 49 Notes: 23 / 22.5 / 168 167 167 168 / 22.5 / 23

Lineal Feet Trench

Panel #	Roll #	Initial SF	Final SF
		-	-
		-	-
		-	-

Notes:

Lineal Feet Trench

Panel #	Roll #	Initial SF	Final SF
		-	-
		-	-

Notes:

Lineal Feet Trench

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**11,273**	SF
Total Pay Area This Page	**11,273**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	141,737	SF
Total Panel SF To Date	153,010	SF
Total Pay Area To Date Including Anchor Trench	**153,010**	
Initial Quantity Previous	146,933	SF
Initial Quantity This Page	11,604	SF
Initial Quantity To Date	158,537	SF

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Daily Panel Placement

Page 11

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/06/15

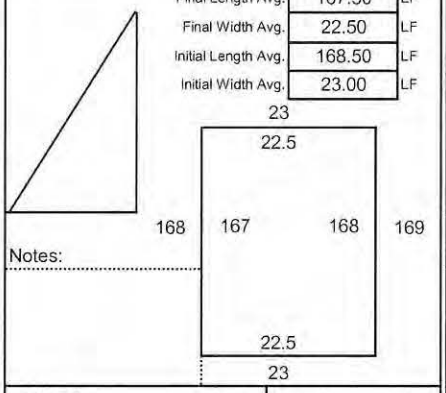
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 50 | **Roll #** G15C283033

Final Length Avg.	167.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.50	LF
Initial Width Avg.	23.00	LF

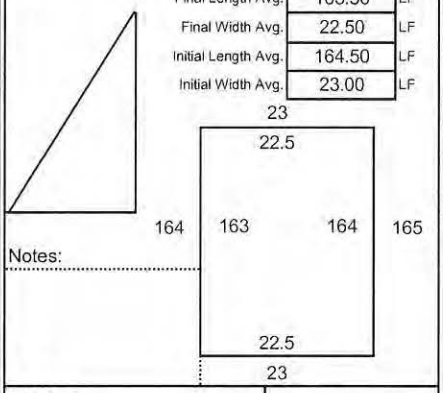


Notes:

Initial SF	3,876	Lineal Feet Trench
Final SF	3,769	

Panel # 51 | **Roll #** G15C283033

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.50	LF
Initial Width Avg.	23.00	LF

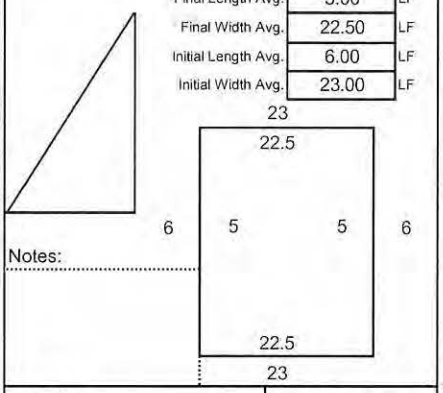


Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,679	

Panel # 52 | **Roll #** G15C277060

Final Length Avg.	5.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	6.00	LF
Initial Width Avg.	23.00	LF

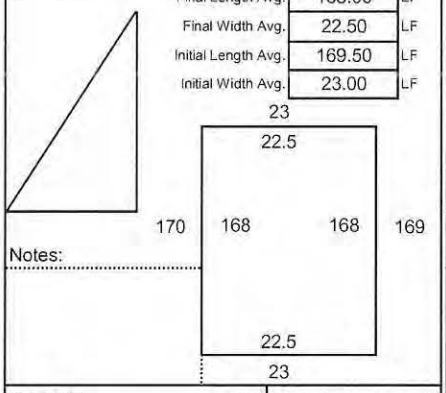


Notes:

Initial SF	138	Lineal Feet Trench
Final SF	113	

Panel # 53 | **Roll #** G15C277060

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.50	LF
Initial Width Avg.	23.00	LF

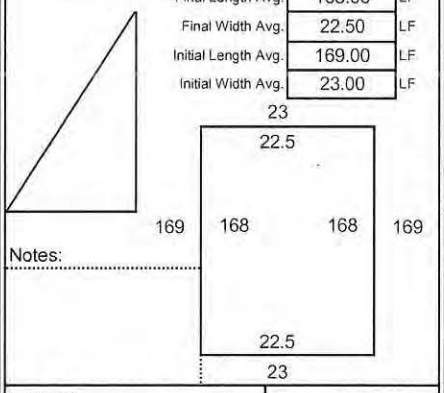


Notes:

Initial SF	3,899	Lineal Feet Trench
Final SF	3,780	

Panel # 54 | **Roll #** G15C277060

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

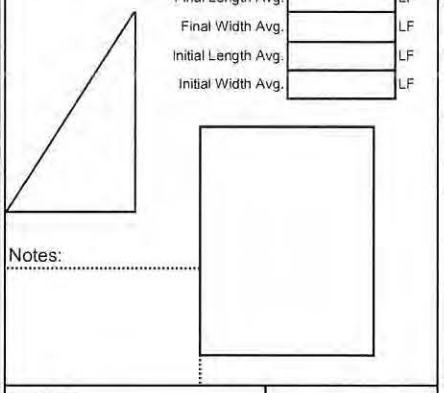


Notes:

Initial SF	3,887	Lineal Feet Trench
Final SF	3,780	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

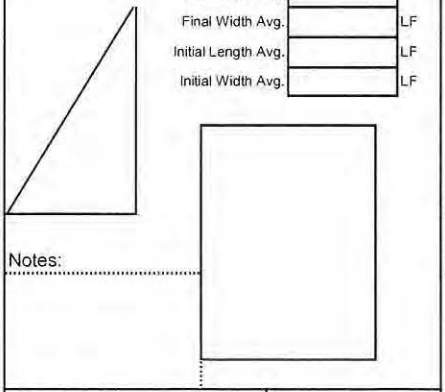


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

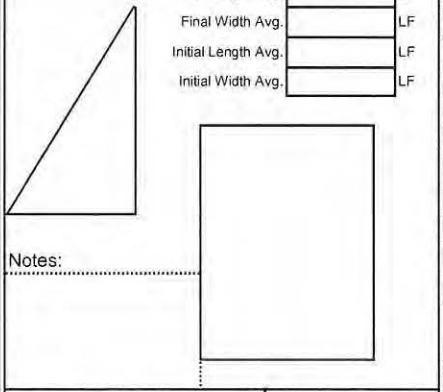


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**15,120**	SF
Total Pay Area This Page	**15,120**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	153,010	SF
Total Panel SF To Date	168,130	SF
Total Pay Area To Date Including Anchor Trench	**168,130**	
Initial Quantity Previous	158,537	SF
Initial Quantity This Page	15,583	SF
Initial Quantity To Date	174,119	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/07/15

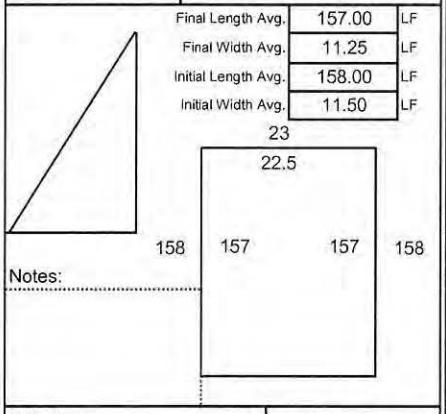
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 55 | **Roll #** G15C277060

Final Length Avg.	157.00	LF
Final Width Avg.	11.25	LF
Initial Length Avg.	158.00	LF
Initial Width Avg.	11.50	LF

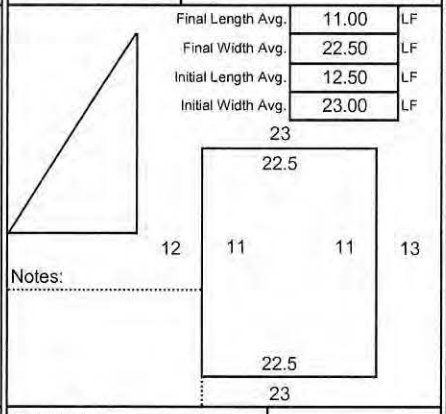


Notes:

Initial SF	1,817	Lineal Feet Trench	
Final SF	1,766		

Panel # 56 | **Roll #** G15C283029

Final Length Avg.	11.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	12.50	LF
Initial Width Avg.	23.00	LF

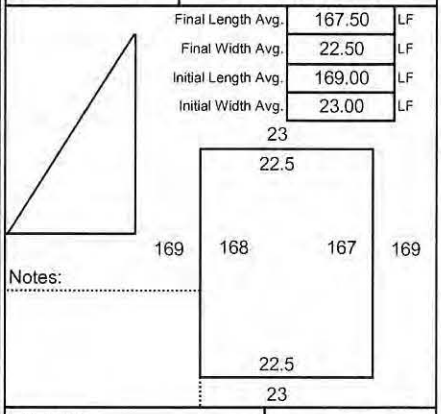


Notes:

Initial SF	288	Lineal Feet Trench	
Final SF	248		

Panel # 57 | **Roll #** G15C283029

Final Length Avg.	167.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

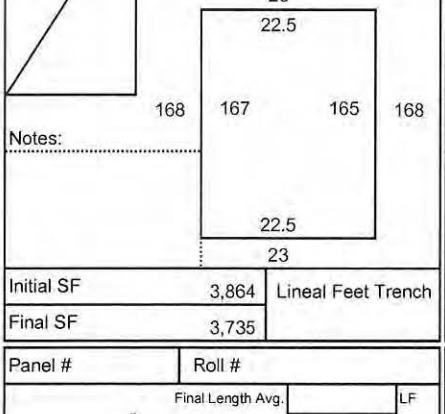


Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,769		

Panel # 58 | **Roll #** G15C283029

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.00	LF
Initial Width Avg.	23.00	LF

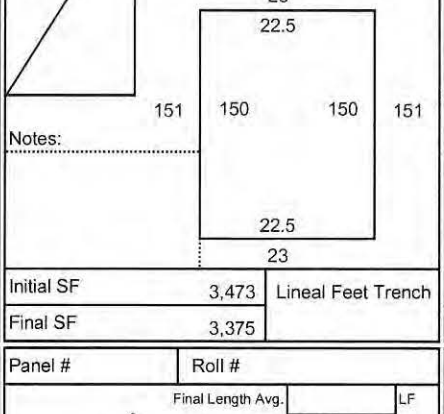


Notes:

Initial SF	3,864	Lineal Feet Trench	
Final SF	3,735		

Panel # 59 | **Roll #** G15C283029

Final Length Avg.	150.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	151.00	LF
Initial Width Avg.	23.00	LF

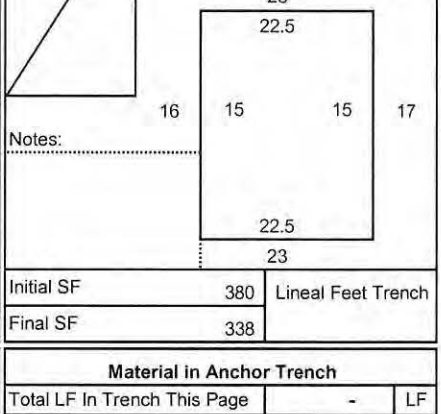


Notes:

Initial SF	3,473	Lineal Feet Trench	
Final SF	3,375		

Panel # 60 | **Roll #** G15C276053

Final Length Avg.	15.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	16.50	LF
Initial Width Avg.	23.00	LF

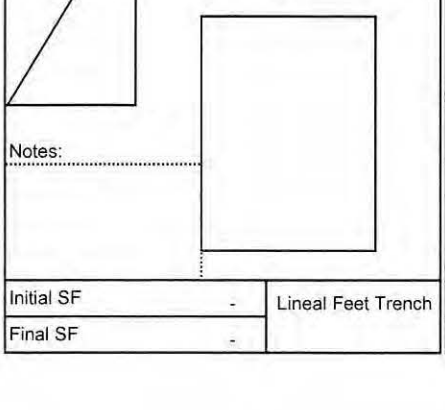


Notes:

Initial SF	380	Lineal Feet Trench	
Final SF	338		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

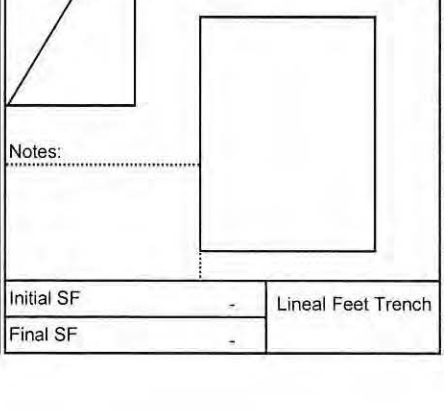


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**13,230**	SF
Total Pay Area This Page	**13,230**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	168,130	SF
Total Panel SF To Date	181,360	SF
Total Pay Area To Date Including Anchor Trench	**181,360**	
Initial Quantity Previous	174,119	SF
Initial Quantity This Page	13,708	SF
Initial Quantity To Date	187,827	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 13

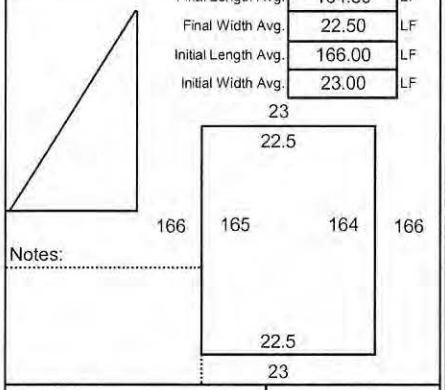
Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/10/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

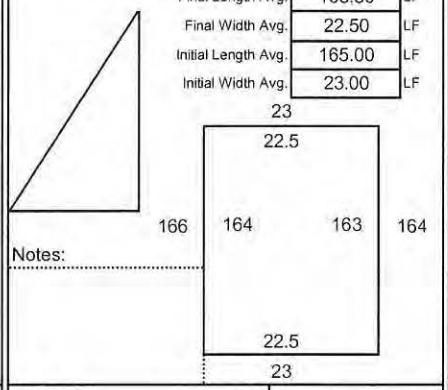
Panel # 61	Roll # G15C282011
Final Length Avg.	164.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	166.00 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,701	

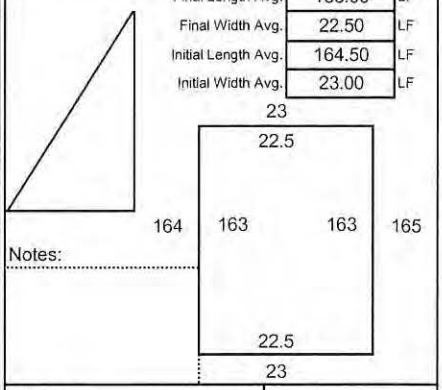
Panel # 62	Roll # G15C282011
Final Length Avg.	163.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.00 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

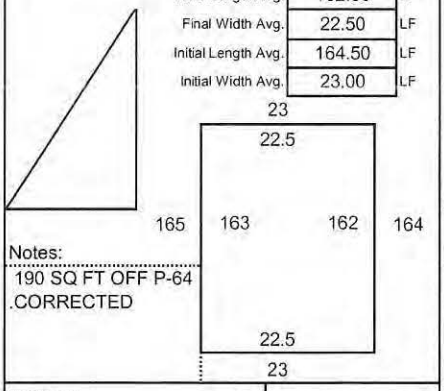
Panel # 63	Roll # G15C282011
Final Length Avg.	163.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.50 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,668	

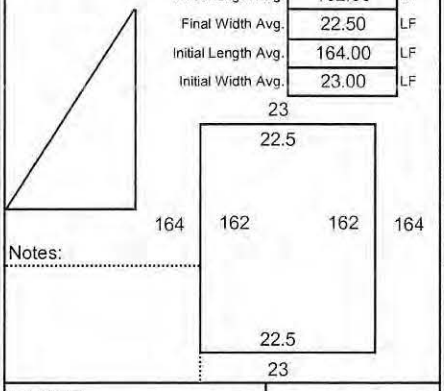
Panel # 64	Roll # G15C282013
Final Length Avg.	162.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.50 LF
Initial Width Avg.	23.00 LF



Notes:
190 SQ FT OFF P-64
.CORRECTED

Initial SF	3,784	Lineal Feet Trench
Final SF	3,467	

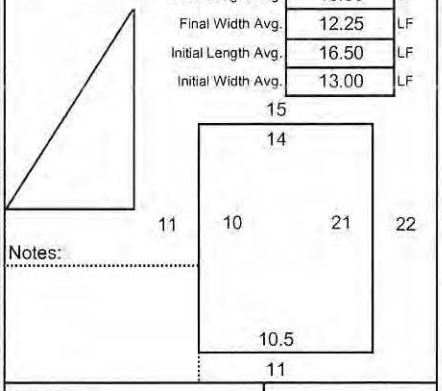
Panel # 65	Roll # G15C282013
Final Length Avg.	162.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.00 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,645	

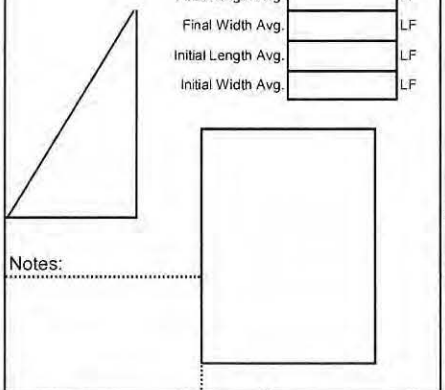
Panel # 66	Roll # G15C282013
Final Length Avg.	15.50 LF
Final Width Avg.	12.25 LF
Initial Length Avg.	16.50 LF
Initial Width Avg.	13.00 LF



Notes:

Initial SF	215	Lineal Feet Trench
Final SF	190	

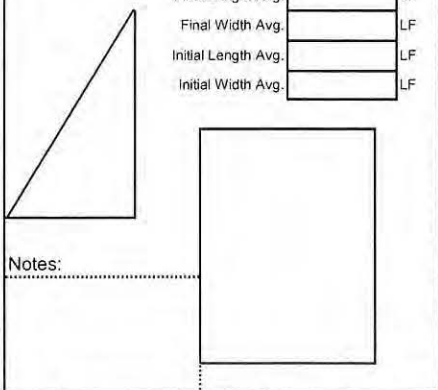
Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**18,349**	SF
Total Pay Area This Page	**18,349**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	181,360	SF
Total Panel SF To Date	199,709	SF
Total Pay Area To Date Including Anchor Trench	**199,709**	
Initial Quantity Previous	187,827	SF
Initial Quantity This Page	19,167	SF
Initial Quantity To Date	206,994	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 14

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/13/15

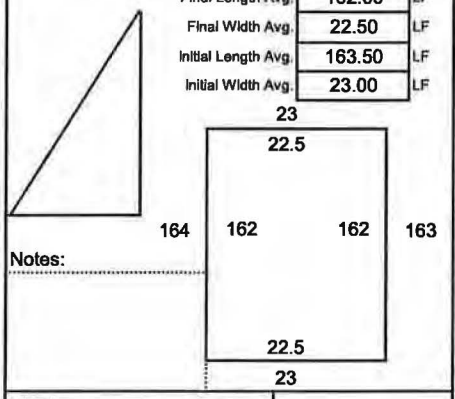
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

[ ] Primary [ ] Secondary [ ] Cell [ ] Pond [X] Cap [ ] Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 67 | **Roll #** G15C282013

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.50	LF
Initial Width Avg.	23.00	LF

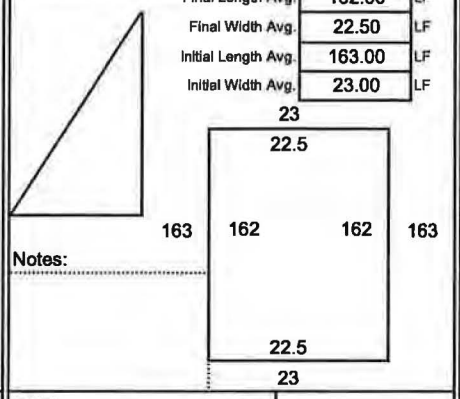


Notes:

Initial SF	3,761	Lineal Feet Trench
Final SF	3,645	

Panel # 68 | **Roll #** G15C282020

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

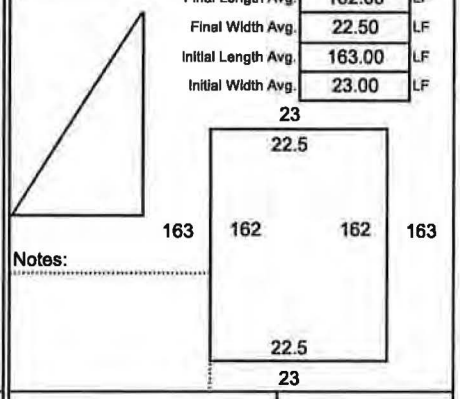


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 69 | **Roll #** G15C282020

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

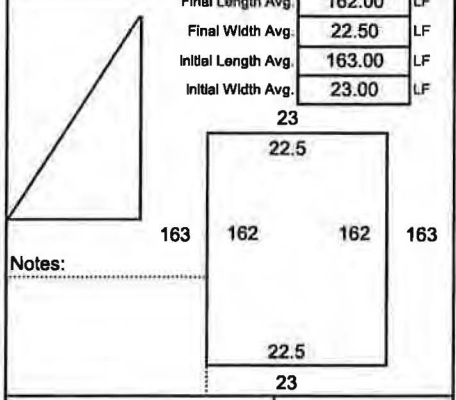


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 70 | **Roll #** G15C282020

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

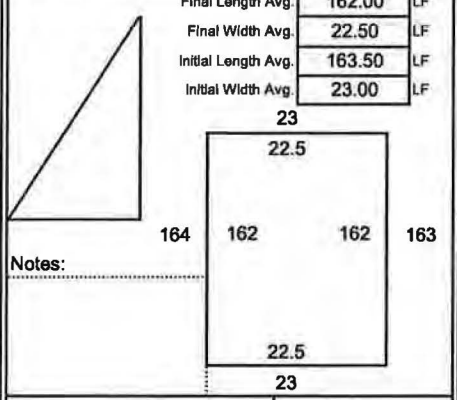


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 71 | **Roll #** G15C277062

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.50	LF
Initial Width Avg.	23.00	LF

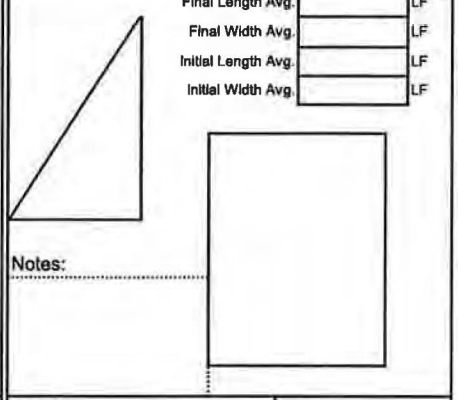


Notes:

Initial SF	3,761	Lineal Feet Trench
Final SF	3,645	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

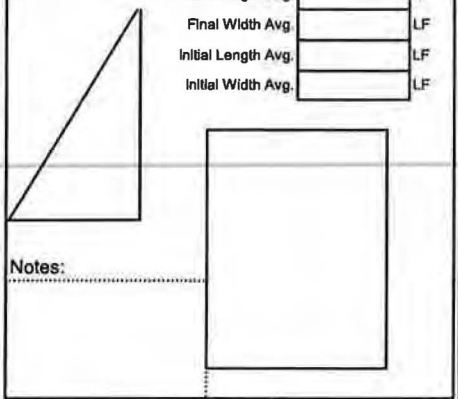


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

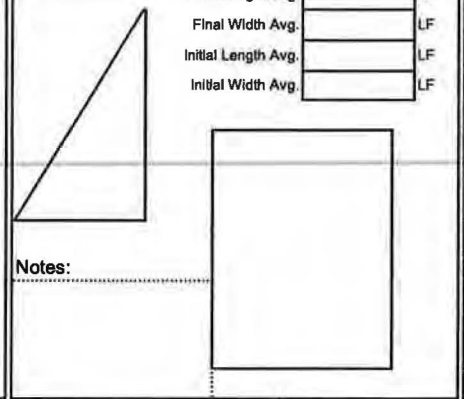


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	18,225	SF
Total Pay Area This Page	18,225	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	199,709	SF
Total Panel SF To Date	217,934	SF
Total Pay Area To Date Including Anchor Trench	**217,934**	
Initial Quantity Previous	206,994	SF
Initial Quantity This Page	18,768	SF
Initial Quantity To Date	225,762	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/14/15

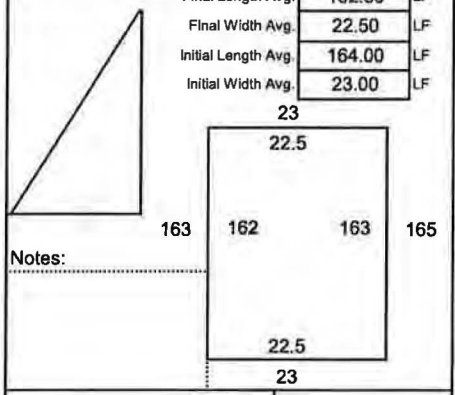
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary **Secondary** ☐ **Cell** ☐ **Pond** ☐ **Cap** ☒ **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 72 | **Roll #** G15C277062

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

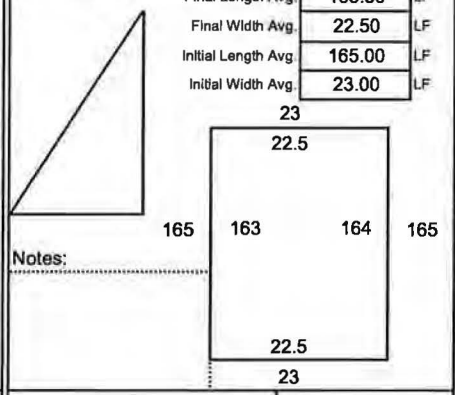


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 73 | **Roll #** G15C277062

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

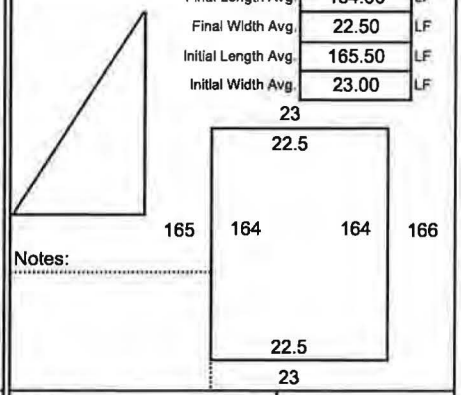


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # 74 | **Roll #** G15C276054

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.50	LF
Initial Width Avg.	23.00	LF

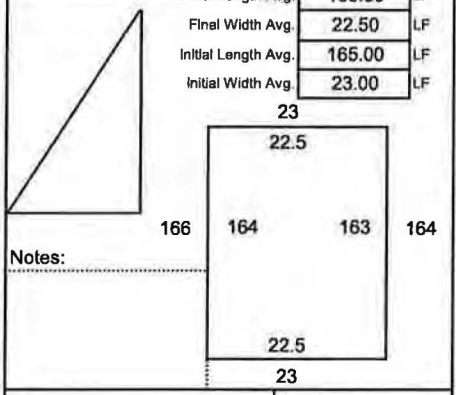


Notes:

Initial SF	3,807	Lineal Feet Trench
Final SF	3,690	

Panel # 75 | **Roll #** G15C276054

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

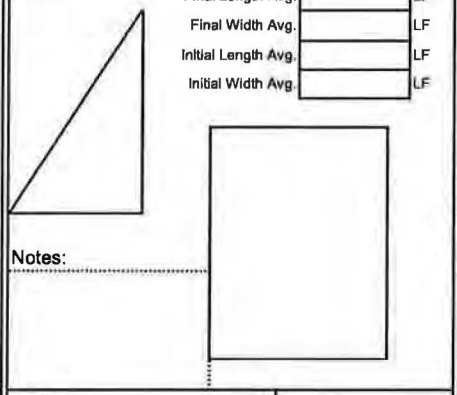


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

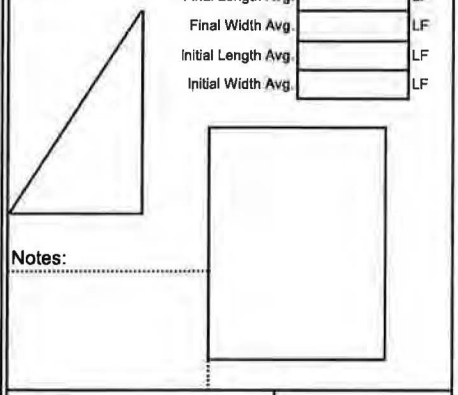


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

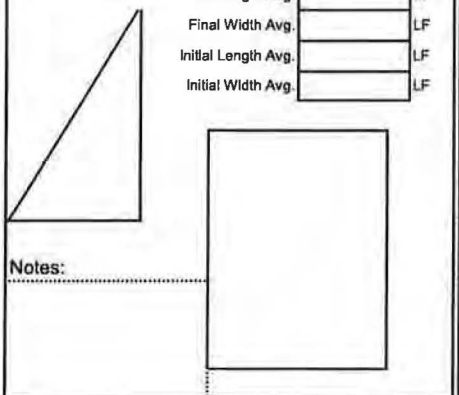


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

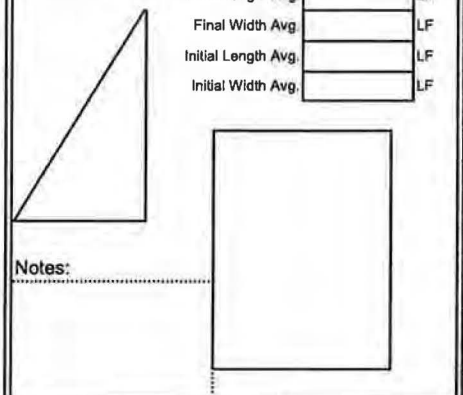


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,704**	SF
Total Pay Area This Page	**14,704**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	217,934	SF
Total Panel SF To Date	232,638	SF
Total Pay Area To Date Including Anchor Trench	**232,638**	
Initial Quantity Previous	225,762	SF
Initial Quantity This Page	15,169	SF
Initial Quantity To Date	240,930	SF

INDEPENDENT CQA MONITOR

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/09/15

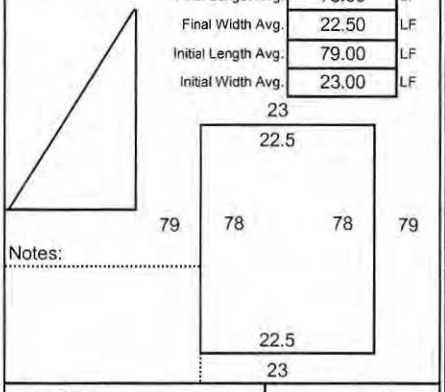
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 76 Roll # G15C282019

Final Length Avg.	78.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	79.00	LF
Initial Width Avg.	23.00	LF

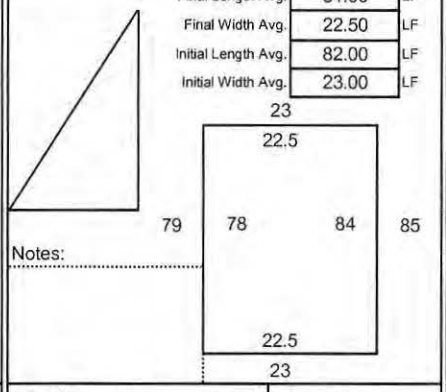


Notes:

Initial SF	1,817	Lineal Feet Trench	
Final SF	1,755		

Panel # 77 Roll # G15C282019

Final Length Avg.	81.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	82.00	LF
Initial Width Avg.	23.00	LF

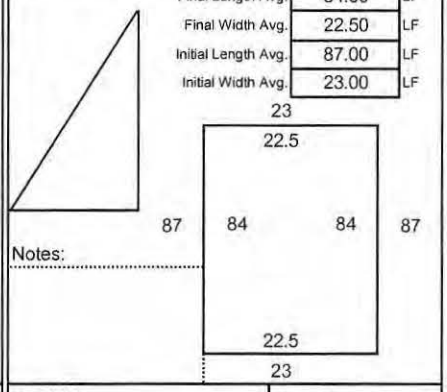


Notes:

Initial SF	1,886	Lineal Feet Trench	
Final SF	1,823		

Panel # 78 Roll # G15C282019

Final Length Avg.	84.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	87.00	LF
Initial Width Avg.	23.00	LF

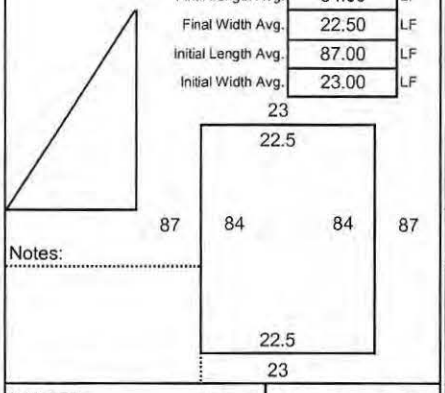


Notes:

Initial SF	2,001	Lineal Feet Trench	
Final SF	1,890		

Panel # 79 Roll # G15C282019

Final Length Avg.	84.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	87.00	LF
Initial Width Avg.	23.00	LF

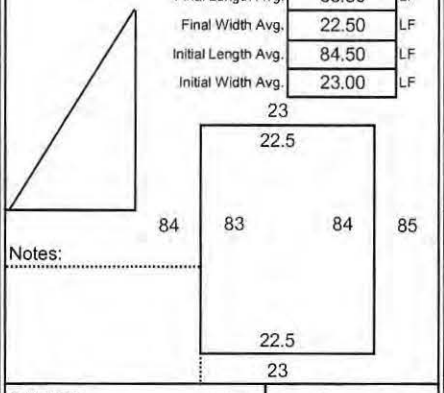


Notes:

Initial SF	2,001	Lineal Feet Trench	
Final SF	1,890		

Panel # 80 Roll # G15C282019

Final Length Avg.	83.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	84.50	LF
Initial Width Avg.	23.00	LF

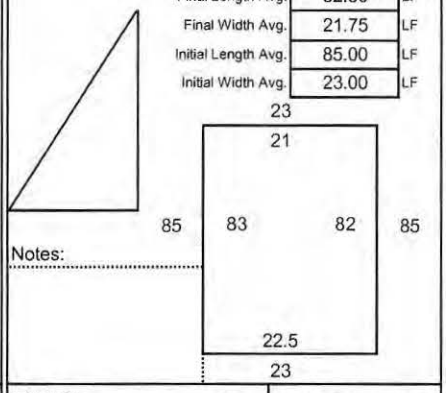


Notes:

Initial SF	1,944	Lineal Feet Trench	
Final SF	1,879		

Panel # 81 Roll # G15C276054

Final Length Avg.	82.50	LF
Final Width Avg.	21.75	LF
Initial Length Avg.	85.00	LF
Initial Width Avg.	23.00	LF

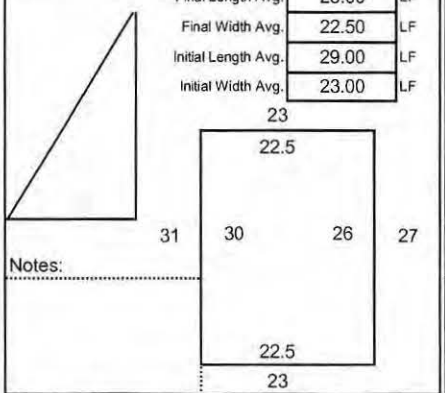


Notes:

Initial SF	1,955	Lineal Feet Trench	
Final SF	1,794		

Panel # 82 Roll # G15C282019

Final Length Avg.	28.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	29.00	LF
Initial Width Avg.	23.00	LF

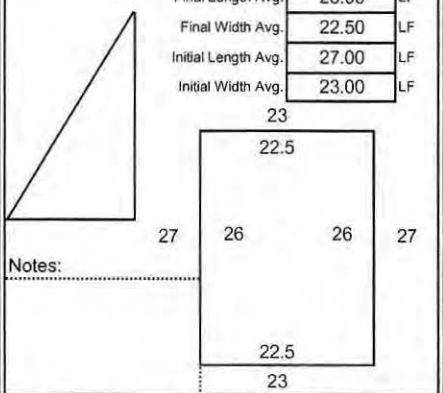


Notes:

Initial SF	667	Lineal Feet Trench	
Final SF	630		

Panel # 83 Roll # G15C282019

Final Length Avg.	26.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	27.00	LF
Initial Width Avg.	23.00	LF



Notes:

Initial SF	621	Lineal Feet Trench	
Final SF	585		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**12,246**	**SF**
Total Pay Area This Page	**12,246**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	232,638	SF
Total Panel SF To Date	244,884	SF
Total Pay Area To Date Including Anchor Trench	**244,884**	
Initial Quantity Previous	240,930	SF
Initial Quantity This Page	12,892	SF
Initial Quantity To Date	253,822	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/09/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Notes:	Initial SF	Final SF	Lineal Feet Trench
84	G15C276054	35.00 LF	22.50 LF	36.00 LF	23.00 LF		828	788	
85	G15C276054	17.00 LF	5.00 LF	18.00 LF	11.50 LF	TRIM FROM P-85	207	85	
86	G15C276054	10.00 LF	5.00 LF	11.00 LF	11.50 LF		127	50	
							-	-	
							-	-	
							-	-	
							-	-	
							-	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**923**	SF
Total Pay Area This Page	**923**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	244,884	SF
Total Panel SF To Date	245,806	SF
Total Pay Area To Date Including Anchor Trench	**245,806**	
Initial Quantity Previous	253,822	SF
Initial Quantity This Page	1,162	SF
Initial Quantity To Date	254,983	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/15/15

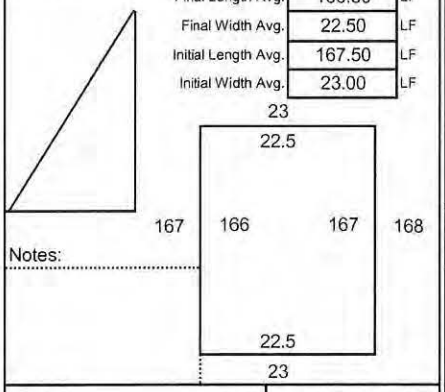
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 87 — Roll # G15C282012

Final Length Avg.	166.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.50	LF
Initial Width Avg.	23.00	LF

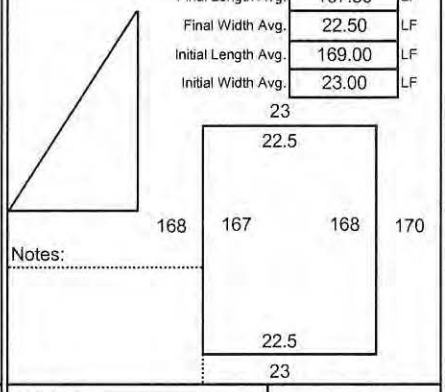


Notes:

Initial SF	3,853	Lineal Feet Trench	
Final SF	3,746		

Panel # 88 — Roll # G15C282012

Final Length Avg.	167.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

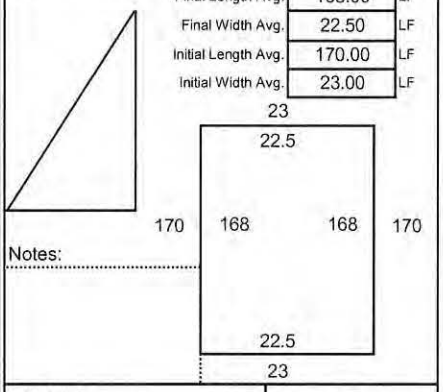


Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,769		

Panel # 89 — Roll # G15C282012

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	170.00	LF
Initial Width Avg.	23.00	LF

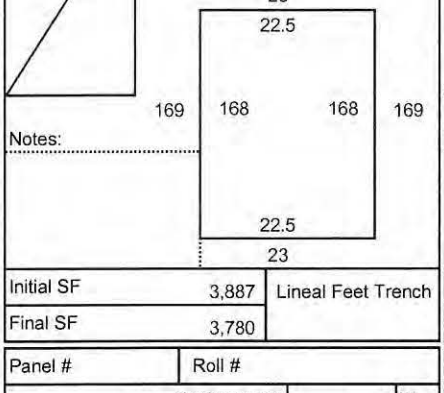


Notes:

Initial SF	3,910	Lineal Feet Trench	
Final SF	3,780		

Panel # 90 — Roll # G15C276058

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

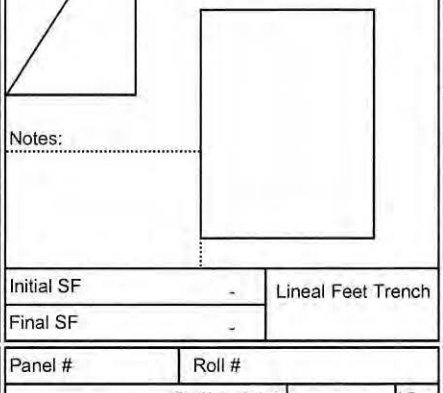


Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,780		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

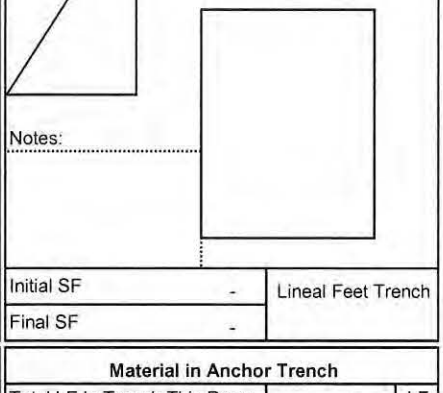


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

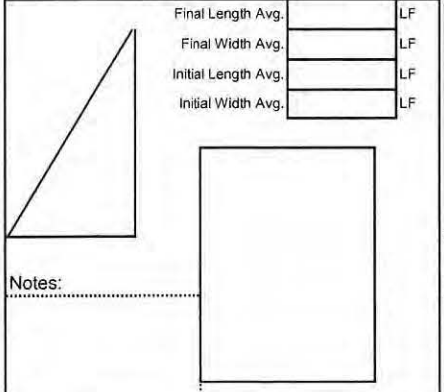


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

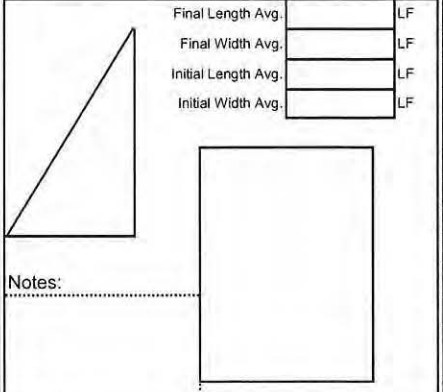


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**15,075**	SF
Total Pay Area This Page	**15,075**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	245,806	SF
Total Panel SF To Date	260,881	SF
Total Pay Area To Date Including Anchor Trench	**260,881**	
Initial Quantity Previous	254,983	SF
Initial Quantity This Page	15,537	SF
Initial Quantity To Date	270,520	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/16/15

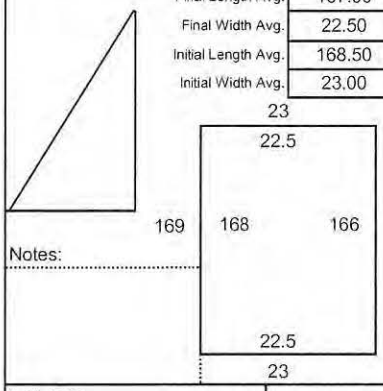
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 91 | Roll # G15C276058

Final Length Avg.	167.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.50	LF
Initial Width Avg.	23.00	LF

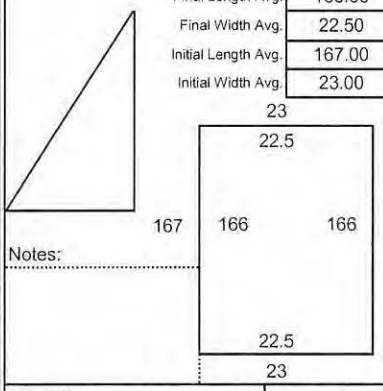


Notes:

Initial SF	3,876	Lineal Feet Trench
Final SF	3,758	

Panel # 92 | Roll # G15C276058

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

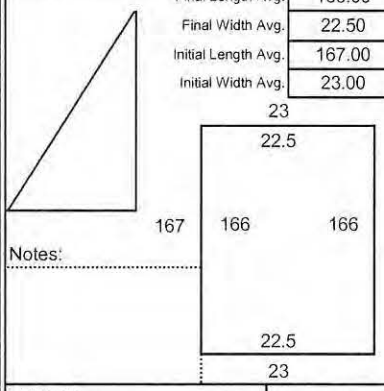


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,735	

Panel # 93 | Roll # G15C283026

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

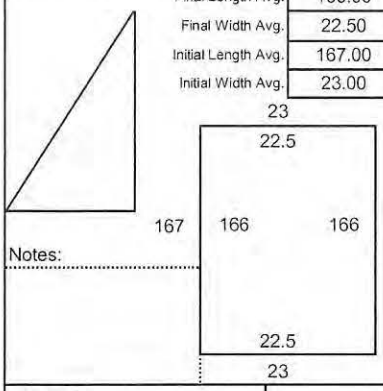


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,735	

Panel # 94 | Roll # G15C283026

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

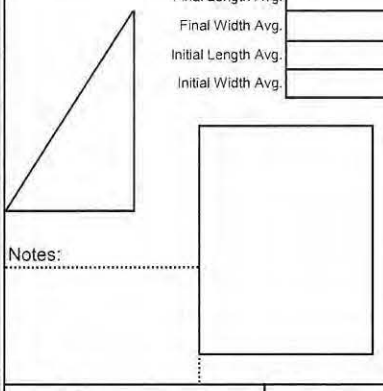


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,735	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

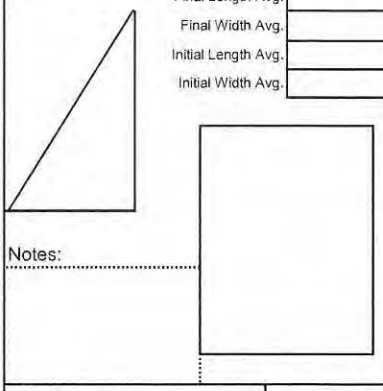


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

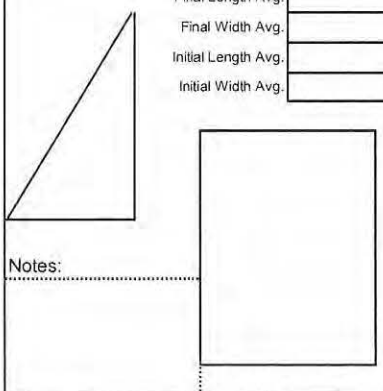


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

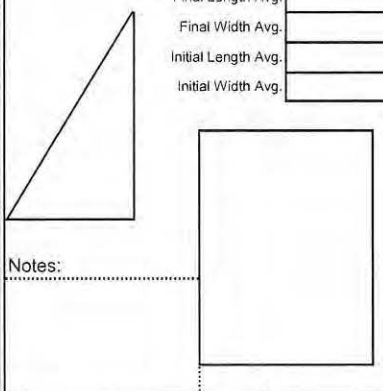


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**14,963**	**SF**
Total Pay Area This Page	**14,963**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	261,032	SF
Total Panel SF To Date	275,995	SF
Total Pay Area To Date Including Anchor Trench	**275,995**	
Initial Quantity Previous	270,559	SF
Initial Quantity This Page	15,399	SF
Initial Quantity To Date	285,958	SF

9/18/15

INDEPENDENT CQA MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/17/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Notes:	Initial SF	Final SF	Lineal Feet Trench
95	G15C283026	166.00 LF	12.50 LF	167.00 LF	23.00 LF	23 / 22.5 / 167 166 166 167 / 2.5 / 23	3,841	2,075	
96	G15C276057	166.00 LF	22.50 LF	168.00 LF	23.00 LF	23 / 22.5 / 168 166 166 168 / 22.5 / 23	3,864	3,735	
97	G15C276057	166.00 LF	22.50 LF	168.00 LF	23.00 LF	23 / 22.5 / 168 166 166 168 / 22.5 / 23	3,864	3,735	
							-	-	
							-	-	
							-	-	
							-	-	
							-	-	
							-	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**9,545**	SF
Total Pay Area This Page	**9,545**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	275,995	SF
Total Panel SF To Date	285,540	SF
Total Pay Area To Date Including Anchor Trench	**285,540**	
Initial Quantity Previous	285,958	SF
Initial Quantity This Page	11,569	SF
Initial Quantity To Date	297,527	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

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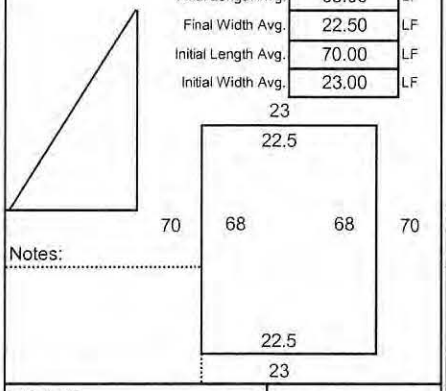
Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/18/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

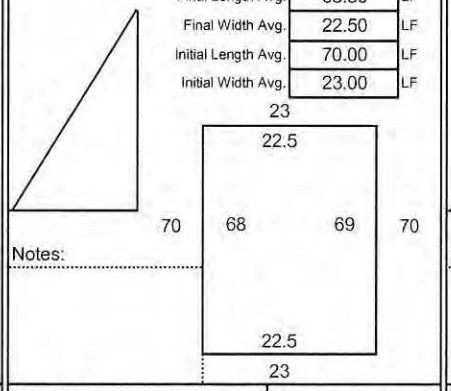
Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 98	Roll # G15C276057		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,530		



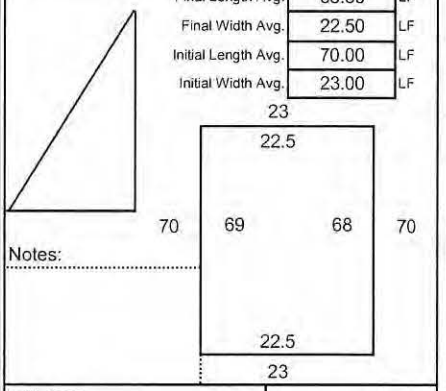
Notes:

Panel # 99	Roll # G15C276057		
Final Length Avg.	68.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,541		



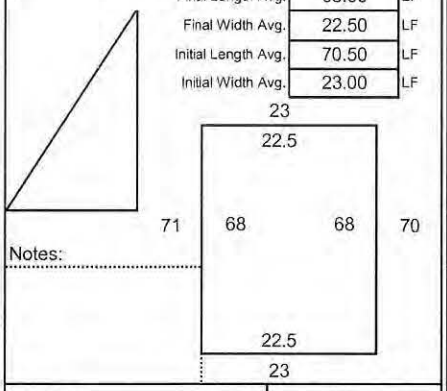
Notes:

Panel # 100	Roll # G15C282022		
Final Length Avg.	68.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,541		



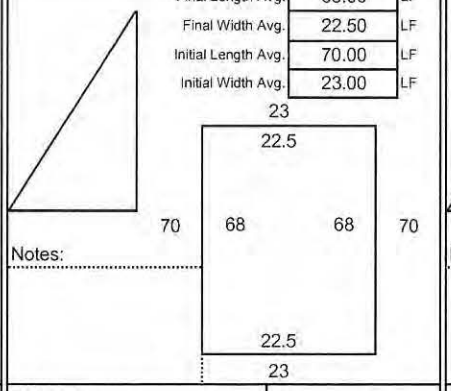
Notes:

Panel # 101	Roll # G15C282022		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,622	Lineal Feet Trench	
Final SF	1,530		



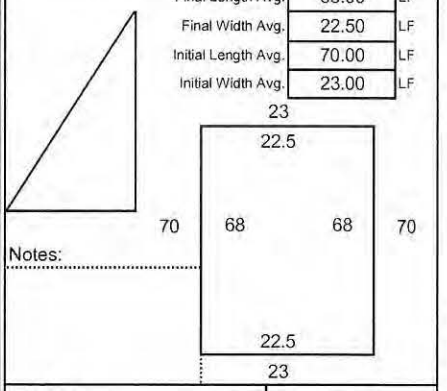
Notes:

Panel # 102	Roll # G15C282022		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,530		



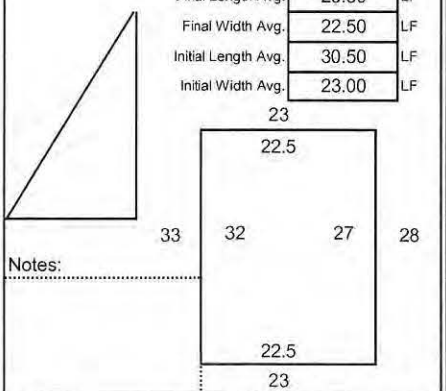
Notes:

Panel # 103	Roll # G15C282022		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,530		



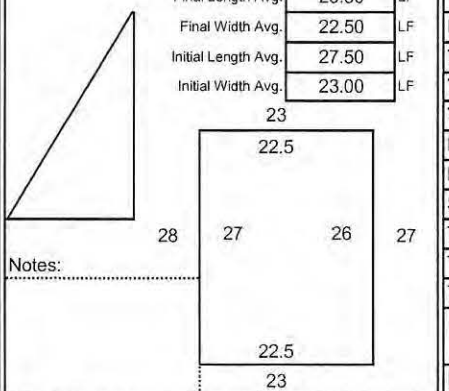
Notes:

Panel # 104	Roll # G15C282022		
Final Length Avg.	29.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	30.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	702	Lineal Feet Trench	
Final SF	664		



Notes:

Panel # 105	Roll # G15C282022		
Final Length Avg.	26.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	27.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	633	Lineal Feet Trench	
Final SF	596		



Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**10,463**	SF
Total Pay Area This Page	**10,463**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	285,540	SF
Total Panel SF To Date	296,002	SF
Total Pay Area To Date Including Anchor Trench	**296,002**	
Initial Quantity Previous	297,527	SF
Initial Quantity This Page	11,006	SF
Initial Quantity To Date	308,532	SF

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Daily Panel Placement

Page 22

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/18/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Notes:	Initial SF	Final SF	Lineal Feet Trench
106	G15C282022	31.00 LF	22.50 LF	32.50 LF	23.00 LF	23 / 22.5 / 27 / 26 / 36 / 38 / 22.5 / 23	748	698	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**698**	SF
Total Pay Area This Page	**698**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	296,002	SF
Total Panel SF To Date	296,700	SF
Total Pay Area To Date Including Anchor Trench	**296,700**	
Initial Quantity Previous	308,532	SF
Initial Quantity This Page	748	SF
Initial Quantity To Date	309,280	SF

9/23/15 INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 23

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/22/15

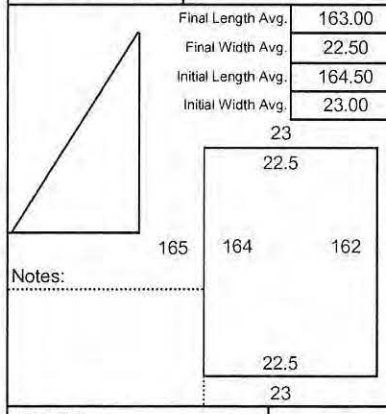
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 107 | Roll # G15C283024

Final Length Avg.	163.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.50	LF
Initial Width Avg.	23.00	LF

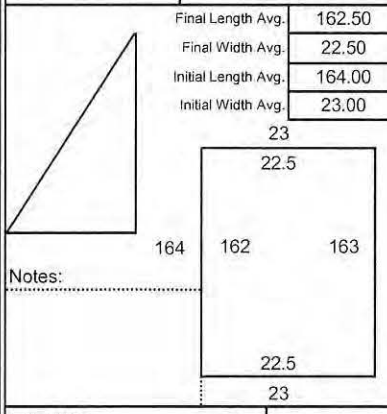


Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,668	

Panel # 108 | Roll # G15C283024

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

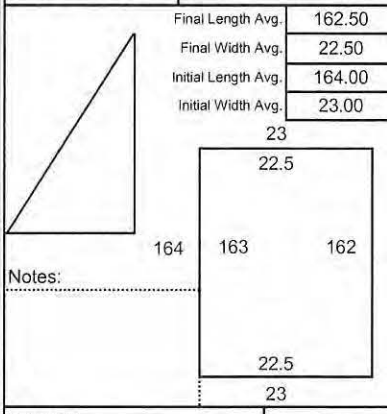


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 109 | Roll # G15C283024

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

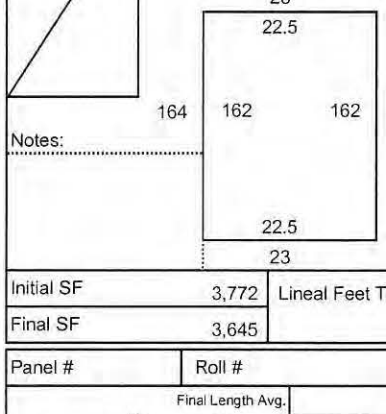


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 110 | Roll # G15C282016

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

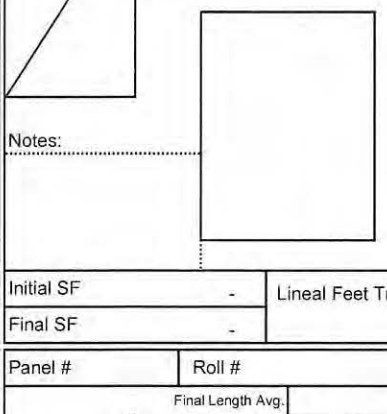


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,645	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

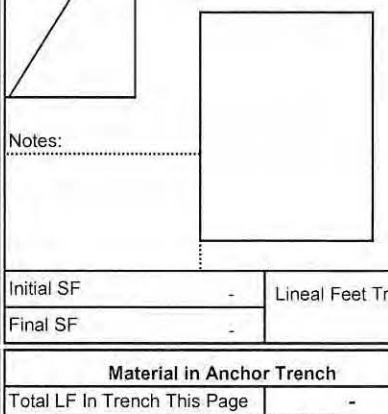


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

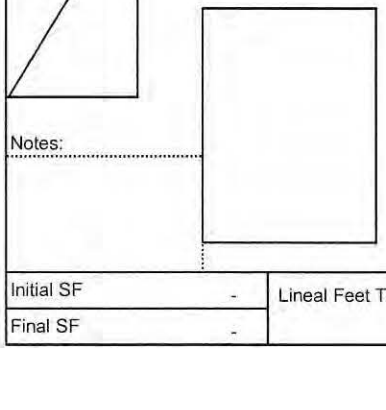


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

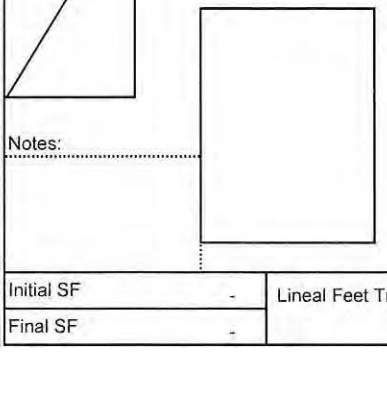


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,625**	SF
Total Pay Area This Page	**14,625**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	298,360	SF
Total Panel SF To Date	312,985	SF
Total Pay Area To Date Including Anchor Trench	**312,985**	
Initial Quantity Previous	309,280	SF
Initial Quantity This Page	15,100	SF
Initial Quantity To Date	324,379	SF

INDEPENDENT CQA MONITOR

9/24/15

Daily Panel Placement

Page 24

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/23/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Notes:	Initial SF	Final SF
111	G15C282016	162.00 LF	22.50 LF	164.00 LF	23.00 LF	164 / 162 / 162 / 164; 22.5 / 23 / 22.5 / 23	3,772	3,645
112	G15C282016	162.00 LF	22.50 LF	163.00 LF	23.00 LF	163 / 162 / 162 / 163; 22.5 / 23 / 22.5 / 23	3,749	3,645
113	G15C283032	162.00 LF	22.50 LF	163.00 LF	23.00 LF	163 / 162 / 162 / 163; 22.5 / 23 / 22.5 / 23	3,749	3,645
114	G15C283032	161.50 LF	22.50 LF	113.00 LF	23.00 LF	163 / 162 / 161 / 63; 22.5 / 23 / 22.5 / 23	2,599	3,634
		LF	LF	LF	LF		-	-
		LF	LF	LF	LF		-	-
		LF	LF	LF	LF		-	-
		LF	LF	LF	LF		-	-

Lineal Feet Trench

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,569**	SF
Total Pay Area This Page	**14,569**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	312,985	SF
Total Panel SF To Date	327,553	SF
Total Pay Area To Date Including Anchor Trench	**327,553**	
Initial Quantity Previous	324,379	SF
Initial Quantity This Page	13,869	SF
Initial Quantity To Date	338,248	SF

9/28/15

INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 25

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/24/15

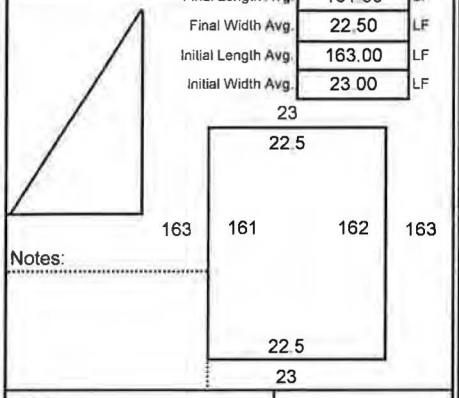
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 115 | **Roll #** G15C282023

Final Length Avg.	161.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

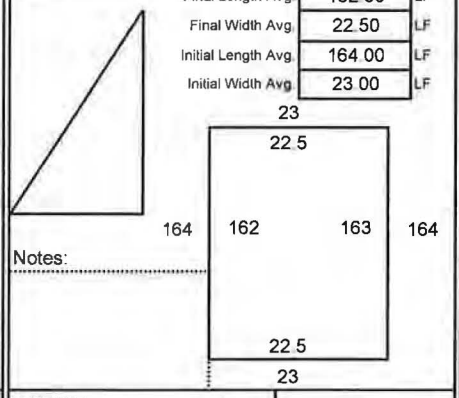


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,634	

Panel # 116 | **Roll #** G15C282023

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

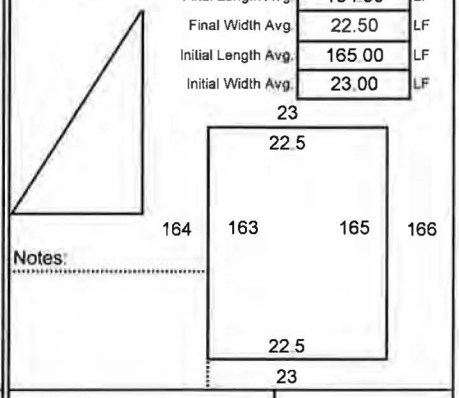


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 117 | **Roll #** G15C282023

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

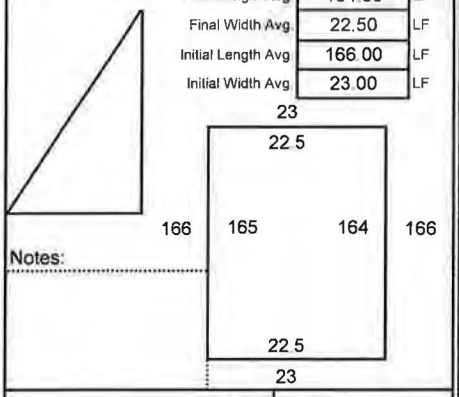


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,690	

Panel # 118 | **Roll #** G15C283025

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

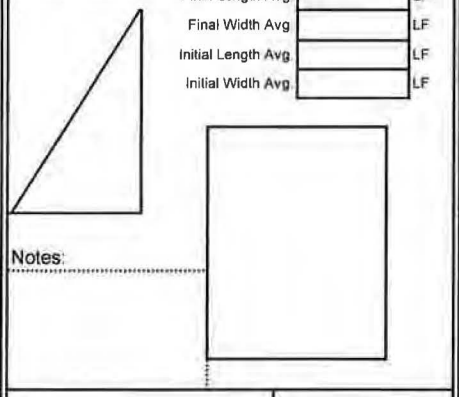


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,701	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

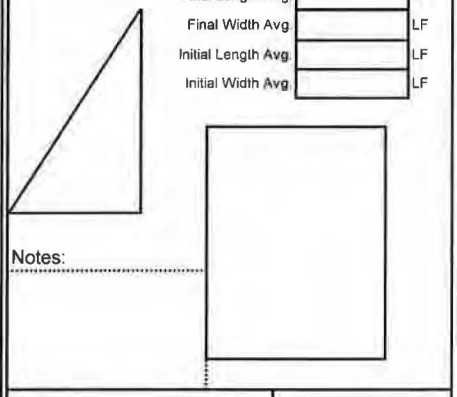


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

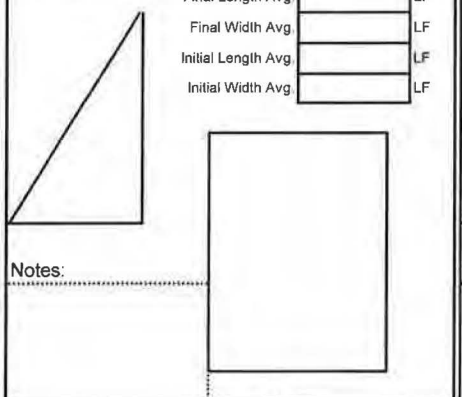


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

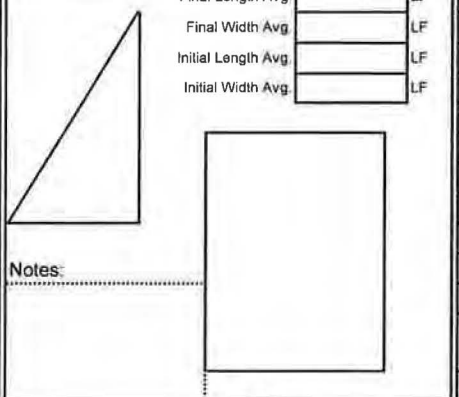


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,681**	SF
Total Pay Area This Page	**14,681**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	327,553	SF
Total Panel SF To Date	342,235	SF
Total Pay Area To Date Including Anchor Trench	**342,235**	
Initial Quantity Previous	338,248	SF
Initial Quantity This Page	15,134	SF
Initial Quantity To Date	353,382	SF

10/6/15

INDEPENDENT C&A MONITOR

Daily Panel Placement

Page 26

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/25/15

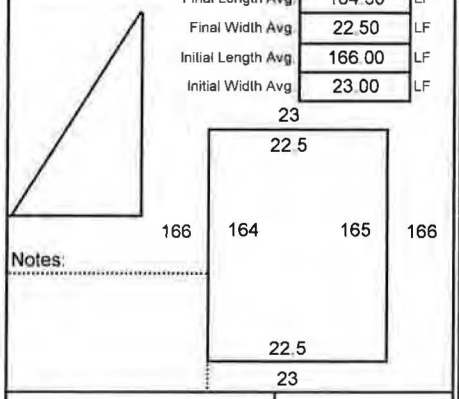
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 119 | **Roll #** G15C283025

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

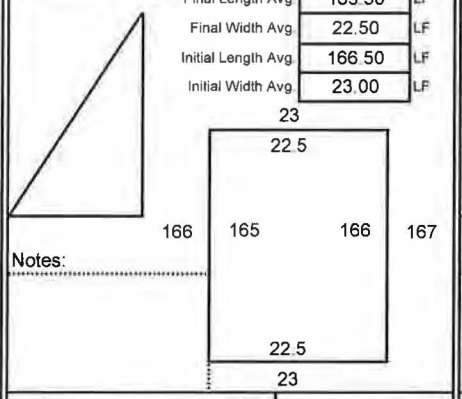


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,701	

Panel # 120 | **Roll #** G15C283025

Final Length Avg.	165.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.50	LF
Initial Width Avg.	23.00	LF



Notes:

Initial SF	3,830	Lineal Feet Trench
Final SF	3,724	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**7,425**	SF
Total Pay Area This Page	**7,425**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	342,235	SF
Total Panel SF To Date	349,660	SF
Total Pay Area To Date Including Anchor Trench	**349,660**	
Initial Quantity Previous	353,382	SF
Initial Quantity This Page	7,648	SF
Initial Quantity To Date	361,030	SF

10/7/15 | INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 27

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/29/15

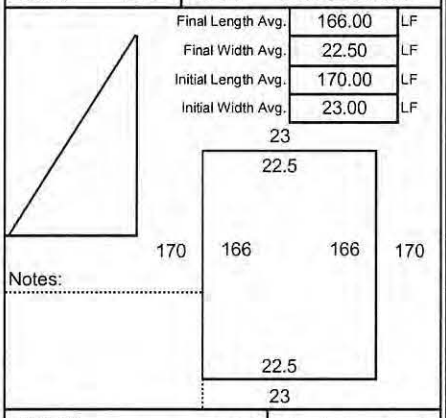
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 121 — Roll # G15C283030

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	170.00	LF
Initial Width Avg.	23.00	LF

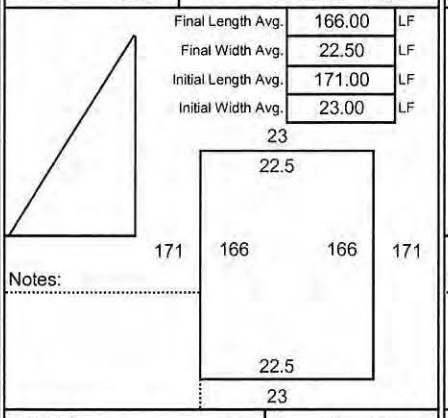


Notes:

Initial SF	3,910	Lineal Feet Trench	
Final SF	3,735		

Panel # 122 — Roll # G15C283030

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	171.00	LF
Initial Width Avg.	23.00	LF

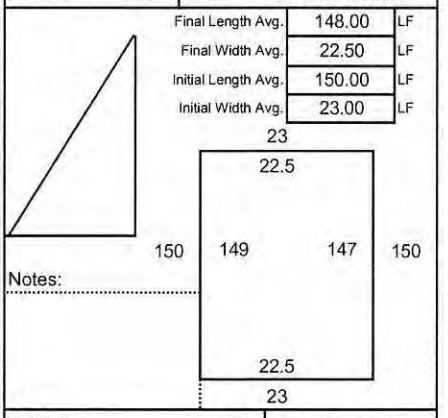


Notes:

Initial SF	3,933	Lineal Feet Trench	
Final SF	3,735		

Panel # 123 — Roll # G15C283030

Final Length Avg.	148.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	150.00	LF
Initial Width Avg.	23.00	LF

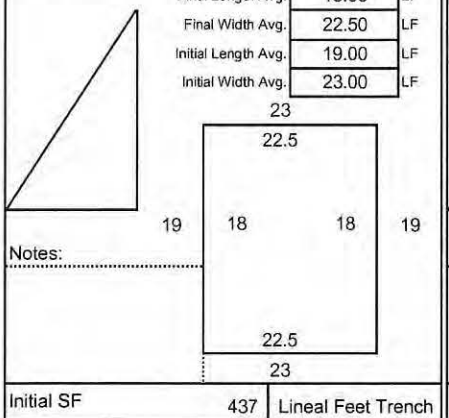


Notes:

Initial SF	3,450	Lineal Feet Trench	
Final SF	3,330		

Panel # 124 — Roll # G15C282014

Final Length Avg.	18.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	19.00	LF
Initial Width Avg.	23.00	LF

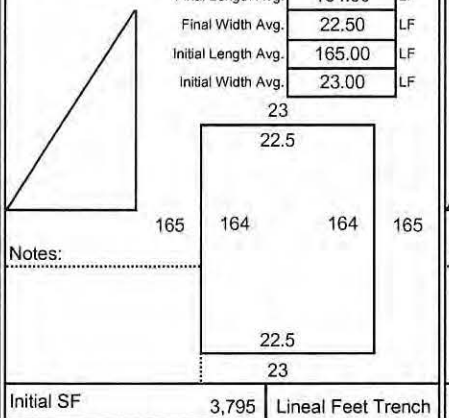


Notes:

Initial SF	437	Lineal Feet Trench	
Final SF	405		

Panel # 125 — Roll # G15C282014

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

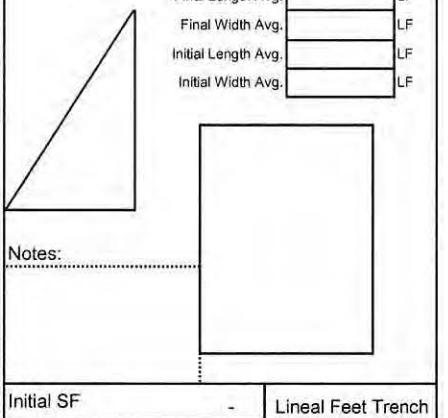


Notes:

Initial SF	3,795	Lineal Feet Trench	
Final SF	3,690		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

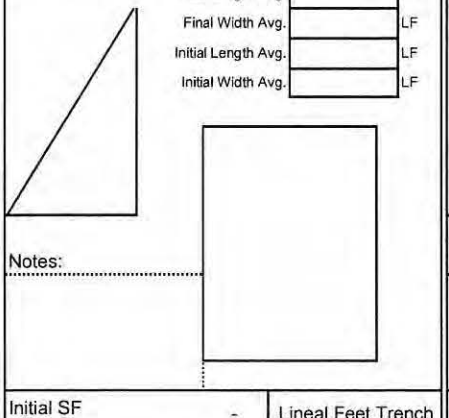


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

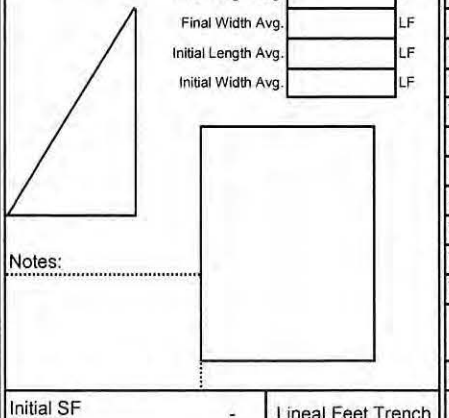


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,895**	SF
Total Pay Area This Page	**14,895**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	349,660	SF
Total Panel SF To Date	364,555	SF
Total Pay Area To Date Including Anchor Trench	**364,555**	
Initial Quantity Previous	361,030	SF
Initial Quantity This Page	15,525	SF
Initial Quantity To Date	376,555	SF

10/12/15

INDEPENDENT CQA MONITOR

Daily Panel Placement Page 28

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 10/08/15

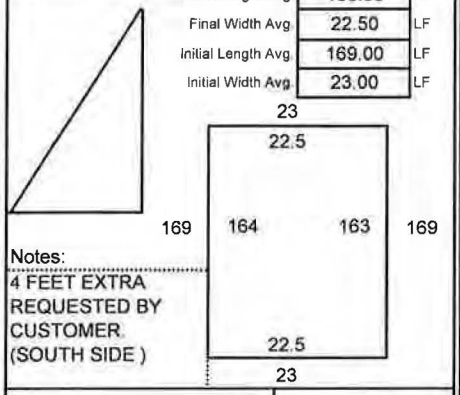
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 126 Roll # G15C283027

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

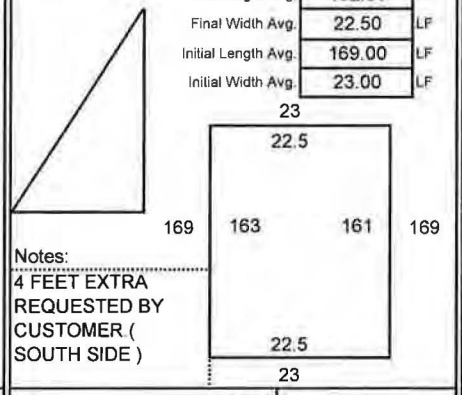


Notes: 4 FEET EXTRA REQUESTED BY CUSTOMER. (SOUTH SIDE)

Initial SF	3,887	Lineal Feet Trench
Final SF	3,679	

Panel # 127 Roll # G152823027

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

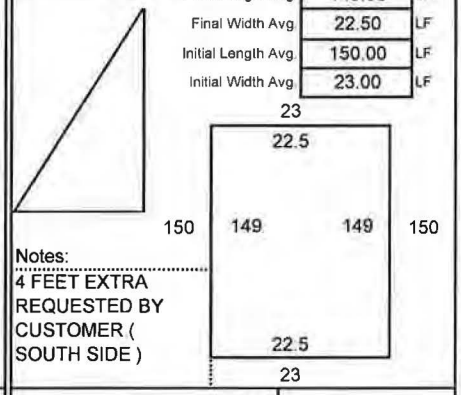


Notes: 4 FEET EXTRA REQUESTED BY CUSTOMER (SOUTH SIDE)

Initial SF	3,887	Lineal Feet Trench
Final SF	3,645	

Panel # 128 Roll # G15C283027

Final Length Avg.	149.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	150.00	LF
Initial Width Avg.	23.00	LF

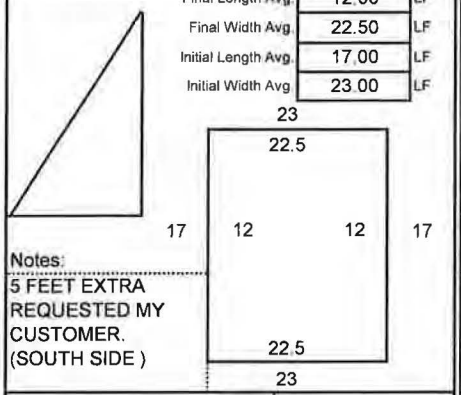


Notes: 4 FEET EXTRA REQUESTED BY CUSTOMER (SOUTH SIDE)

Initial SF	3,450	Lineal Feet Trench
Final SF	3,353	

Panel # 129 Roll # G15C282014

Final Length Avg.	12.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	17.00	LF
Initial Width Avg.	23.00	LF

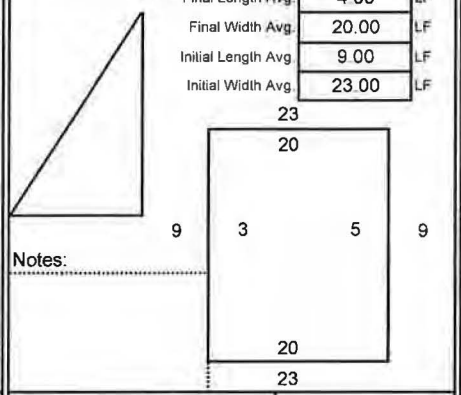


Notes: 5 FEET EXTRA REQUESTED MY CUSTOMER. (SOUTH SIDE)

Initial SF	391	Lineal Feet Trench
Final SF	270	

Panel # 130 Roll # G15C282014

Final Length Avg.	4.00	LF
Final Width Avg.	20.00	LF
Initial Length Avg.	9.00	LF
Initial Width Avg.	23.00	LF

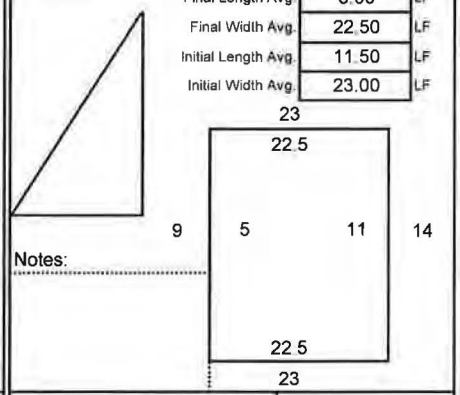


Notes:

Initial SF	207	Lineal Feet Trench
Final SF	80	

Panel # 131 Roll # G15C282014

Final Length Avg.	8.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	11.50	LF
Initial Width Avg.	23.00	LF

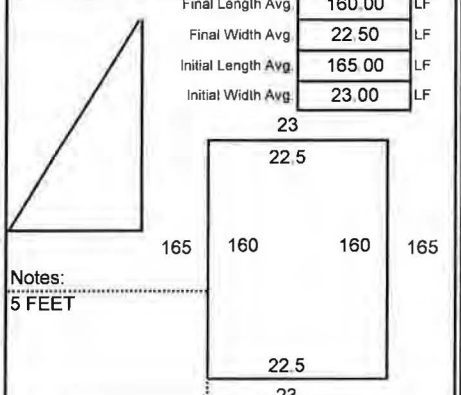


Notes:

Initial SF	265	Lineal Feet Trench
Final SF	180	

Panel # 132 Roll # G15C282014

Final Length Avg.	160.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

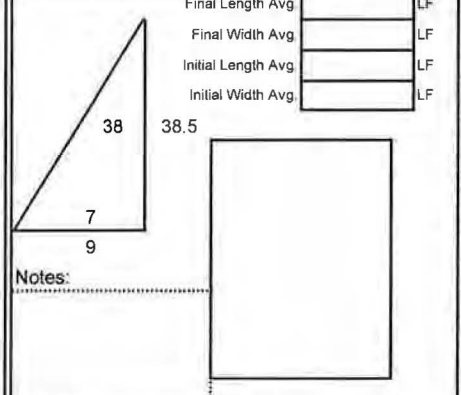


Notes: 5 FEET

Initial SF	3,795	Lineal Feet Trench
Final SF	3,600	

Panel # 133 Roll # G15C282014

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	173	Lineal Feet Trench
Final SF	133	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	14,939	SF
Total Pay Area This Page	14,939	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	364,555	SF
Total Panel SF To Date	379,494	SF
Total Pay Area To Date Including Anchor Trench	**379,494**	
Initial Quantity Previous	376,555	SF
Initial Quantity This Page	16,055	SF
Initial Quantity To Date	392,609	SF

10/12/15 INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 29

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 10/08/15

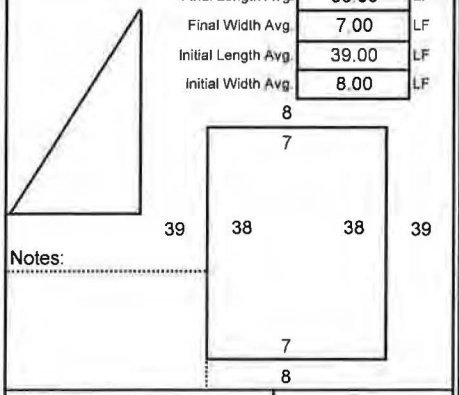
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 134 | **Roll # G15C282014**

Final Length Avg.	38.00	LF
Final Width Avg.	7.00	LF
Initial Length Avg.	39.00	LF
Initial Width Avg.	8.00	LF

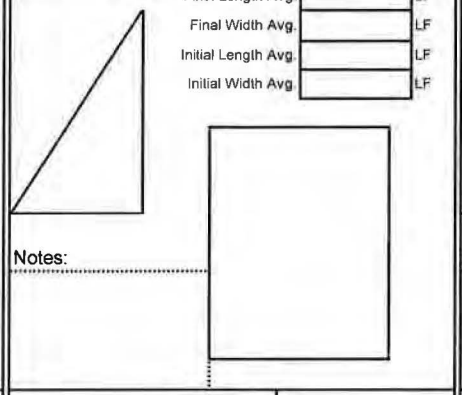


Notes:

Initial SF	312	Lineal Feet Trench
Final SF	266	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

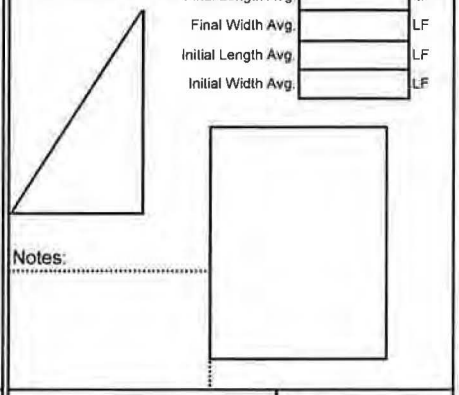


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

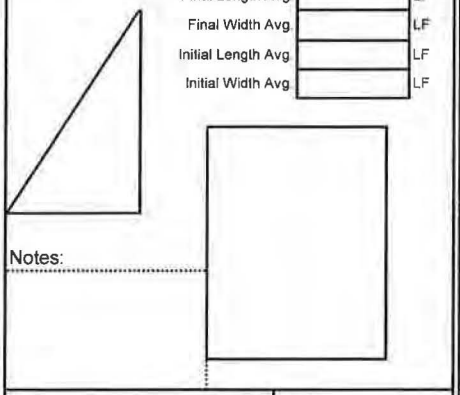


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

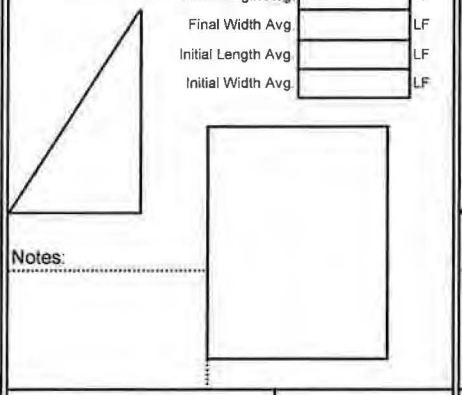


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

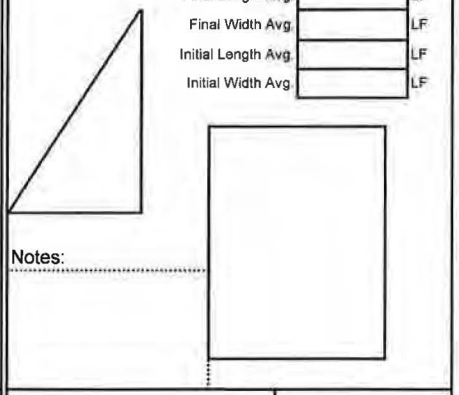


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

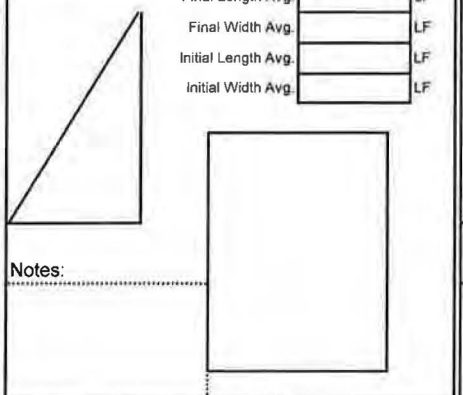


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

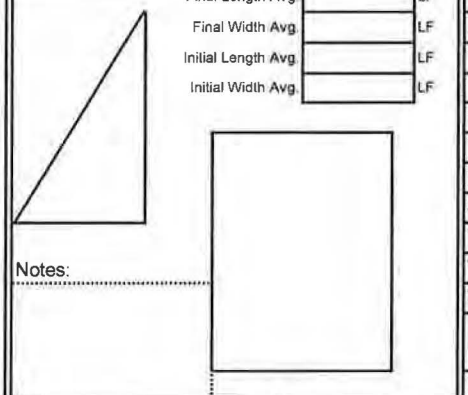


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**266**	SF
Total Pay Area This Page	**266**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	379,494	SF
Total Panel SF To Date	379,760	SF
Total Pay Area To Date Including Anchor Trench	**379,760**	
Initial Quantity Previous	392,609	SF
Initial Quantity This Page	312	SF
Initial Quantity To Date	392,921	SF

Appendix J
ESI Trial Weld Logs

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/20/15	17:03	MODESTO L.	2003	650	860		95	Peel	96	101	95	109	99	99					PASS
S TO S	PM							Shear	102		109		105						
7/21/15	6:50	EMMANUEL V.	EXT 512		530	530	80	Peel	96		94		98						PASS
T TO T	AM							Shear	99		98		98						
7/21/15	13:45	MODESTO L.	2003	650	860		93	Peel	102	97	102	98	100	102					PASS
S TO S	PM							Shear	103		96		105						
7/21/15	14:09	MODESTO L.	2003	500	860		93	Peel	95	99	95	100	98	101					PASS
T TO T	PM							Shear	102		103		92						
7/21/15	15:14	MODESTO L.	2003	550	860		90	Peel	89	92	90	85	89	91					PASS
S TO T	PM							Shear	98		94		98						
7/22/15	6:37	EMMANUEL V.	EXT 512		500	490	70	Peel	98		94		93						PASS
T TO T	AM							Shear	117		117		118						
7/22/15	13:14	MODESTO L.	2003	650	860		83	Peel	100	99	107	95	102	104					PASS
S TO S	PM							Shear	117		115		116						
7/22/15	14:58	MODESTO L.	2003	550	860		84	Peel	92	98	97	98	90	103					PASS
S TO T	PM							Shear	125		121		118						
7/23/15	13:19	MODESTO L.	2003	650	860		83	Peel	107	102	107	103	107	98					PASS
S TO S	PM							Shear	116		106		112						
7/23/15	13:25	MODESTO L.	2003	550	860		83	Peel	127	118	123	122	123	116					PASS
S TO T	PM							Shear	130		125		130						
7/24/15	6:50	EMMANUEL V.	EXT 512		500	490	69	Peel	90		112		103						PASS
T TO T	AM							Shear	127		127		128						
7/24/15	13:14	MODESTO L.	2003	650	860		83	Peel	97	101	96	106	103	101					PASS
S TO S	PM							Shear	120		122		119						
7/24/15	13:17	MODESTO L.	2003	500	860		83	Peel	96	101	101	106	96	105					PASS
T TO T	PM							Shear	117		111		118						
7/24/15	13:21	MODESTO L.	2003	550	860		83	Peel	93	102	97	100	105	95					PASS
S TO T	PM							Shear	111		111		110						
7/27/15	13:15	EMMANUEL V.	EXT 512		500	450	85	Peel	122		122		121						PASS
T TO T	PM							Shear	118		125		126						
7/28/15	7:00	EMMANUEL V.	EXT 512		500	450	75	Peel	102		102		107						PASS
T TO T	AM							Shear	137		132		131						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/28/15	13:14	MODESTO L.	2003	650	860		90	Peel	99	101	96	94	97	94					PASS
S TO S	PM							Shear	103		110		111						
7/28/15	13:17	MODESTO L.	2003	550	860		90	Peel	97	100	98	94	98	94					PASS
S TO T	PM							Shear	101		103		104						
7/28/15	13:19	MODESTO L.	2003	500	860		90	Peel	99	102	105	104	100	101					PASS
T TO T	PM							Shear	110		108		107						
7/29/15	6:45	EMMANUEL V.	EXT 512		490	400	75	Peel	98		103		104						PASS
T TO T	AM							Shear	121		118		120						
7/29/15	15:08	MODESTO L.	2003	650	860		94	Peel	101	92	103	92	101	93					PASS
S TO S	PM							Shear	108		110		110						
7/30/15	6:40	EMMANUEL V.	EXT 512		480	400	79	Peel	114		96		110						PASS
T TO T	AM							Shear	113		116		111						
8/3/15	14:53	MODESTO L.	2003	450	860		89	Peel	109	109	110	115	107	111					PASS
T TO T	PM							Shear	113		117		113						
8/3/15	15:12	MODESTO L.	2003	650	860		90	Peel	93	101	94	101	93	94					PASS
S TO S	PM							Shear	122		125		121						
8/3/15	15:15	MODESTO L.	2003	400	860		90	Peel	90	95	91	96	100	107					PASS
S TO T	PM							Shear	128		116		120						
8/3/15	19:14	MODESTO L.	1480	450	860		88	Peel	101	99	98	103	98	100					PASS
T TO T	PM							Shear	111		110		113						
8/3/15	19:15	MODESTO L.	1480	400	860		88	Peel	92	96	94	96	96	95					PASS
S TO T	PM							Shear	108		110		111						
8/4/15	12:37	PEDRO S.	EXT 512		500	500	89	Peel	114		118		119						PASS
T TO T	PM							Shear	128		135		126						
8/5/15	7:05	PEDRO S.	EXT 512		500	500	75	Peel	118		117		118						PASS
T TO T	AM							Shear	124		126		120						
8/5/15	14:50	MODESTO L.	2025	450	860		88	Peel	97	106	100	104	100	106					PASS
S TO T	PM							Shear	113		115		118						
8/5/15	14:55	MODESTO L.	2025	600	860		88	Peel	94	101	104	95	100	101					PASS
S TO S	PM							Shear	118		119		116						
8/6/15	14:03	MODESTO L.	2025	450	860		82	Peel	104	92	94	100	91	100					PASS
S P T	PM							Shear	116		119		119						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/6/15	14:06	MODESTO L.	2025	600	860		82	Peel	92	100	94	100	93	103					PASS
S TO S	PM							Shear	111		113		116						
8/6/15	14:08	MODESTO L.	2025	400	860		82	Peel	112	110	112	112	111	109					PASS
T TO T	PM							Shear	115		111		113						
8/7/15	6:43	PEDRO S.	EXT 512		530	530	69	Peel	123		126		126						PASS
T TO T	AM							Shear	133		134		130						
8/7/15	13:11	MODESTO L.	2025	600	860		84	Peel	99	104	100	100	95	102					PASS
S TO S	PM							Shear	113		112		115						
8/7/15	13:15	MODESTO L.	2025	450	860		84	Peel	100	97	98	103	105	99					PASS
S TO T	PM							Shear	112		114		116						
8/7/15	13:18	MODESTO L.	2025	400	860		84	Peel	114	114	107	107	110	105					PASS
T TO T	PM							Shear	112		115		116						
8/10/15	6:54	PEDRO S.	EXT 512		530	530	70	Peel	127		124		131						PASS
T TO T	AM							Shear	135		138		135						
8/10/15	10:55	MODESTO L.	2025	600	860		80	Peel	97	93	97	91	104	99					PASS
S TO S	AM							Shear	113		117		119						
8/10/15	14:00	PEDRO S.	EXT 512		530	530	81	Peel	120		118		111						PASS
T TO T	PM							Shear	128		123		124						
8/10/15	15:20	MODESTO L.	2025	600	860		81	Peel	104	104	106	101	100	109					PASS
S TO S	PM							Shear	122		121		121						
8/12/15	8:15	PEDRO S.	EXT 512		530	530	72	Peel	119		119		116						PASS
T TO T	AM							Shear	128		127		123						
8/13/15	8:30	MODESTO L.	2025	600	860		72	Peel	104	99	105	101	98	100					PASS
S TO S	AM							Shear	122		121		122						
8/14/15	9:00	MODESTO L.	2025	600	860		77	Peel	93	99	91	97	91	100					PASS
S TO S	AM							Shear	116		118		119						
8/14/15	9:03	MODESTO L.	2025	450	860		77	Peel	99	97	101	99	108	96					PASS
S TO T	AM							Shear	115		118		116						
8/14/15	9:05	MODESTO L.	2025	400	860		77	Peel	112	113	114	113	114	116					PASS
T TO T	AM							Shear	118		119		118						
8/14/15	11:00	EMMANUEL V.	EXT 512		500	500	82	Peel	105		111		106						PASS
T TO T	AM							Shear	113		113		115						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
9/9/15	7:50	PEDRO S.	EXT 512		550	550	76	Peel	104		106		103						PASS
T TO T	AM							Shear	113		114		116						
9/9/15	15:00	PEDRO S.	2025	400	860		90	Peel	95	91	93	95	90	93					PASS
S TO S	PM							Shear	120		117		118						
9/9/15	15:05	PEDRO S.	2025	350	860		90	Peel	92	95	89	91	93	90					PASS
S TO T	PM							Shear	119		121		117						
9/9/15	15:10	PEDRO S.	2025	300	860		90	Peel	106	97	103	98	104	101					PASS
T TO T	PM							Shear	118		119		118						
9/11/15	13:55	PEDRO S.	2025	300	860		79	Peel	100	100	102	101	104	103					PASS
T TO T	PM							Shear	98		101		106						
9/11/15	14:20	EMMANUEL V.	EXT 512		510	510	79	Peel	93		93		97						PASS
T TO T	PM							Shear	107		109		100						
9/14/15	10:57	EMMANUEL V.	EXT 512		550	550	68	Peel	108		106		109						PASS
T TO T	AM							Shear	113		111		110						
9/14/15	13:30	EMMANUEL V.	EXT 512		540	540	74	Peel	111		107		114						PASS
T TO T	PM							Shear	116		119		115						
9/15/15	9:50	PEDRO S.	2025	400	860		70	Peel	105	100	106	103	102	103					PASS
S TO S	AM							Shear	120		122		123						
9/15/15	9:51	PEDRO S.	2025	350	860		70	Peel	103	102	106	108	108	102					PASS
S TO T	AM							Shear	118		118		116						
9/15/15	9:52	PEDRO S.	2025	300	860		70	Peel	102	103	101	102	102	99					PASS
T TO T	AM							Shear	112		110		108						
9/15/15	13:00	PEDRO S.	2025	350	860		81	Peel	100	99	101	98	102	101					PASS
S TO T	PM							Shear	109		106		106						
9/16/15	7:20	EMMANUEL V.	EXT 512		550	550	66	Peel	104		106		109						PASS
T TO T	AM							Shear	108		111		110						
9/16/15	13:00	PEDRO S.	2025	450	860		83	Peel	93	90	93	89	92	95					PASS
S TO S	PM							Shear	108		104		105						
9/16/15	13:01	PEDRO S.	2025	350	860		83	Peel	88	91	83	86	90	90					PASS
S TO T	PM							Shear	103		102		107						
9/16/15	13:02	PEDRO S.	2025	300	860		83	Peel	100	98	101	103	100	103					PASS
T TO T	PM							Shear	106		107		109						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
9/16/15	14:15	EMMANUEL V.	EXT 512		550	550	85	Peel	97		94		96						PASS
T TO T	PM							Shear	98		100		97						
9/17/15	7:20	EMMANUEL V.	EXT 512		550	550	65	Peel	104		99		101						PASS
T TO T	AM							Shear	106		106		103						
9/17/15	14:20	PEDRO S.	2025	450	860		86	Peel	93	95	89	94	95	90					PASS
S TO S	PM							Shear	113		109		111						
9/17/15	14:21	PEDRO S.	2025	350	860		86	Peel	90	90	91	92	89	93					PASS
S TO T	PM							Shear	106		103		102						
9/18/15	11:00	PEDRO S.	2025	450	860		80	Peel	100	100	99	100	98	96					PASS
S TO S	AM							Shear	103		102		106						
9/18/15	11:01	PEDRO S.	2025	350	860		80	Peel	93	96	95	94	95	95					PASS
S TO T	AM							Shear	101		104		102						
9/18/15	13:00	PEDRO S.	2025	450	860		85	Peel	101	98	99	100	96	99					PASS
S TO S	PM							Shear	106		105		103						
9/18/15	13:01	PEDRO S.	2025	350	860		85	Peel	91	94	96	95	93	96					PASS
S TO T	PM							Shear	102		102		103						
9/18/15	13:03	PEDRO S.	2025	300	860		85	Peel	98	101	99	100	96	100					PASS
T TO T	PM							Shear	104		103		102						
9/21/15	11:10	EMMANUEL V.	EXT 512		550	550	68	Peel	91		90		93						PASS
T TO T	PM							Shear	108		103		106						
9/21/15	13:02	EMMANUEL V.	EXT 512		550	550	73	Peel	90		90		93						PASS
T TO T	PM							Shear	102		103		102						
9/22/15	10:20	PEDRO S.	2025	450	860		67	Peel	99	106	102	103	100	105					PASS
S TO S	AM							Shear	110		107		111						
9/22/15	10:21	PEDRO S.	2025	350	860		67	Peel	108	101	108	99	107	102					PASS
S TO T	AM							Shear	116		115		113						
9/22/15	10:23	PEDRO S.	2025	300	860		67	Peel	101	103	100	100	98	102					PASS
T TO T	AM							Shear	106		106		109						
9/22/15	13:05	EMMANUEL V.	EXT 512		550	550	73	Peel	98		99		101						PASS
T TO T	PM							Shear	106		109		107						
9/23/15	7:00	EMMANUEL V.	EXT 512		550	550	62	Peel	93		94		97						PASS
T TO T	AM							Shear	111		109		108						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
9/23/15	15:25	PEDRO S.	2025	450	860		79	Peel	93	92	96	96	92	93					PASS
S TO S	PM							Shear	102		102		102						
9/24/15	7:20	EMMANUEL V.	EXT 512		550	550	62	Peel	118		115		112						PASS
T TO T	AM							Shear	122		119		118						
9/24/15	14:30	PEDRO S.	2025	450	860		80	Peel	89	89	88	89	87	88					PASS
S TO S	PM							Shear	100		102		102						
9/24/15	14:31	PEDRO S.	2025	350	860		80	Peel	85	87	85	91	86	89					PASS
S TO T	PM							Shear	101		100		103						
9/25/15	7:00	PEDRO S.	EXT 512		550	550	65	Peel	106		109		110						PASS
T TO T	AM							Shear	112		116		119						
9/25/15	14:15	PEDRO S.	EXT 512	450	860		74	Peel	89	89	89	90	91	88					PASS
S TO S	PM							Shear	100		101		100						
9/25/15	14:17	PEDRO S.	EXT 512		550	550	73	Peel	99		101		100						PASS
T TO T	PM							Shear	103		105		102						
9/29/15	14:30	EMMANUEL V.	EXT 512		550	550	80	Peel	98		100		99						PASS
T TO T	PM							Shear	106		104		103						
9/29/15	14:30	PEDRO S.	2025	400	860		80	Peel	92	91	94	90	89	87					PASS
S TO S	PM							Shear	103		102		102						
9/29/15	14:31	PEDRO S.	2025	300	860		80	Peel	93	90	89	91	88	90					PASS
T TO T	PM							Shear	103		101		102						
9/29/15	14:32	PEDRO S.	2025	350	860		80	Peel	90	88	89	93	92	90					PASS
S TO T	PM							Shear	104		101		101						
10/7/15	8:00	EMMANUEL V.	EXT 512		550	550	59	Peel	96		96		108						PASS
T TO T	AM							Shear	130		129		127						
10/7/15	13:00	EMMANUEL V.	EXT 512		550	550	73	Peel	93		90		92						PASS
T TO T	PM							Shear	126		127		124						
10/8/15	14:00	PEDRO S.	2025	450	860		73	Peel	103	108	103	107	101	104					PASS
S TO S	PM							Shear	124		126		123						
10/8/15	14:01	PEDRO S.	2025	350	860		73	Peel	109	108	112	108	109	105					PASS
S TO T	PM							Shear	127		125		126						
10/8/15	14:03	PEDRO S.	2025	300	860		73	Peel	119	126	121	121	120	121					PASS
T TO T	PM							Shear	123		124		123						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
10/8/15	17:00	EMMANUEL V.	EXT 512		550	550	68	Peel	119		119		119						PASS
T TO T	PM							Shear	122		123		126						
10/9/15	7:30	PEDRO S.	EXT 512		550	550	61	Peel	116		118		123						PASS
T TO T	AM							Shear	129		131		127						
10/9/15	13:00	PEDRO S.	EXT 512		550	550	70	Peel	110		113		113						PASS
T TO T	PM							Shear	123		124		122						
10/12/15	15:30	EDFY N.	EXT 512		550	550	76	Peel	114		112		117						PASS
T TO T	PM							Shear	125		130		123						
11/4/15	10:40	EDFY N.	EXT 77		550	550	67	Peel	103		94		98						Pass
T TO T	AM							Shear	131		129		125						
	:							Peel											
TO								Shear											
	:							Peel											
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Appendix K
ESI Seam Control (Non-Destructive) Test Logs

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell | **Job #** 12-11-1399 | **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST | **Primary** | **Pond**

Job Description: Cap Single Layer | **Secondary** | **Cell**

Reported By Lyssa Tran | **Cap** x

Other Cap construction

Air Pressure Test	30	PSI
Air Pressure Hold Time	5	Minutes
Allowable Air Pressure Loss	4	PSI

17,515 Total LF of Welding to Date Combined | **Extrusion LF Weld Total To Date** 96 | **Fusion LF Weld Total To Date:** 17,419

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/20/15	1 / 2	135	17:25 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	6:35 / 30	6:40 / 27	3	PASS
Seam Notes									SEOS TO 135'N (COVER BY RP-6)					
7/20/15	1 / 2	28	17:46 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7:00 / 30	7:05 / 29	1	PASS
Seam Notes									135'N (COVER BY RP-6) TO NEOS					
7/20/15	2 / 3	98	17:55 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	6:35 / 30	6:40 / 30	0	PASS
Seam Notes	NEOS TO SEOS								SEOS TO 98'N (RP-1)					
7/20/15	2 / 3	67	18:09 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7:01 / 30	7:06 / 29	1	PASS
Seam Notes									98'N (RP-1) TO NEOS					
7/20/15	3 / 4	94	18:20 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7:12 / 30	7:17 / 27	3	PASS
Seam Notes	SEOS TO NEOS								SEOS TO 94'N (RP-2)					
7/20/15	3 / 4	72	18:34 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7 :12 / 30	7:17 / 30	0	PASS
Seam Notes									94'N (RP-2) TO NEOS					
7/21/15	4 / 5	165	14:14 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	14 46 / 30	14 51 / 27	3	PASS
Seam Notes														
7/21/15	6 / 7	22.5	14:30 PM	MODESTO L.	2003	500	860		7/21/15	Air Pressure	15 03 / 30	15 08 / 28	2	PASS
Seam Notes														
7/21/15	5 / 7	6	14:38 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	14 55 / 30	15 00 / 28	2	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/21/15	5 / 6	157	14:39 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	14 55 / 30	15 00 / 30	0	PASS
Seam Notes														
7/21/15	7 / 8	6	14:47 PM	MODESTO L.	2003	650	860		7/22/15	Vacuum			0	PASS
Seam Notes														
7/21/15	6 / 8	157	14:48 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	15 16 / 30	15 21 / 30	0	PASS
Seam Notes														
7/21/15	8 / 9	163	15:17 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	15 46 / 30	15 51 / 30	0	PASS
Seam Notes														
7/22/15	9 / 10	52	13:30 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 11 / 30	14 16 / 27	3	PASS
Seam Notes	SEOS TO 52'N (RP-15)													
7/22/15	9 / 10	111	13:38 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 11 / 30	14 16 / 30	0	PASS
Seam Notes	52'N (RP-15) TO NEOS													
7/22/15	10 / 11	164	13:50 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 12 / 30	14 17 / 30	0	PASS
Seam Notes														
7/22/15	11 / 12	164	14:10 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 21 / 30	14 26 / 27	3	PASS
Seam Notes														
7/22/15	12 / 13	164	15:00 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	15 17 / 30	15 22 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/23/15	13 / 14	46	13:30 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	16 20 / 30	16 25 / 30	0	PASS
Seam Notes	NEOS TO 46'S (RP-17)													
7/23/15	13 / 14	118	13:37 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	16 26 / 30	16 31 / 27	3	PASS
Seam Notes	46'S (RP-17) TO SEOS													
7/23/15	14 / 15	164	13:52 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 32 / 30	15 37 / 30	0	PASS
Seam Notes														
7/23/15	15 / 16	78	14:15 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	16 07 / 30	16 12 / 28	2	PASS
Seam Notes	NEOS TO 78'S (RP-25)													
7/23/15	15 / 16	87	14:27 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 40 / 30	15 45 / 30	0	PASS
Seam Notes	78'S (RP-25) TO SEOS													
7/23/15	16 / 17	23	14:43 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 09 / 30	15 14 / 30	0	PASS
Seam Notes	NEOS TO 23'S (RP-22)													
7/23/15	16 / 17	57	14:43 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 57 / 30	16 02 / 30	0	PASS
Seam Notes	23'S (RP-22) TO 80'S (RP-27)													
7/23/15	16 / 17	35	14:54 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 51 / 30	15 56 / 30	0	PASS
Seam Notes	80'S (RP-27) TO 115'S (RP-28)													
7/23/15	16 / 17	15	14:59 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 51 / 30	15 56 / 30	0	PASS
Seam Notes	115'S (RP-28) TO 130'S (RP-29)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/23/15	16 / 17	35	15:01 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 42 / 30	15 47 / 28	2	PASS
Seam Notes	130'S (RP-29) TO SEOS													
7/23/15	17 / 18	101	15:07 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 55 / 30	16 00 / 27	3	PASS
Seam Notes	NEOS TO 101'S (RP-31)													
7/23/15	17 / 18	63	15:23 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 47 / 30	15 52 / 30	0	PASS
Seam Notes	101'S (RP-31) TO SEOS													
7/24/15	18 / 19	55	14:25 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 48 / 30	16 53 / 30	0	PASS
Seam Notes	NEOS TO 55'S (RP-44)													
7/24/15	18 / 19	109	14:33 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 02 / 30	16 07 / 28	2	PASS
Seam Notes	55'S (RP-44) TO SEOS													
7/24/15	19 / 20	164	14:50 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 06 / 30	16 12 / 28	2	PASS
Seam Notes														
7/24/15	20 / 21	30	15:10 PM	MODESTO L.	2003	550	860		7/24/15	Air Pressure	16 44 / 30	16 49 / 28	2	PASS
Seam Notes	NEOS TO 30'S (RP-51)													
7/24/15	20 / 21	98	15:14 PM	MODESTO L.	2003	550	860		7/24/15	Air Pressure	16 42 / 30	16 47 / 28	2	PASS
Seam Notes	30'S (RP-51) TO 128'S (RP-40)													
7/24/15	20 / 21	36	15:29 PM	MODESTO L.	2003	550	860		7/24/15	Air Pressure	16 12 / 30	16 17 / 28	2	PASS
Seam Notes	128'S (RP-40) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/24/15	21 / 22	84	15:35 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 36 / 30	16 41 / 30	0	PASS
Seam Notes	NEOS TO 84'S (RP-67)													
7/24/15	21 / 22	80	15:48 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 27 / 30	16 32 / 30	0	PASS
Seam Notes	84'S (RP-67) TO SEOS													
7/24/15	22 / 23	76	15:50 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 35 / 30	16 40 / 27	3	PASS
Seam Notes	NEOS TO 76'S (RP-68)													
7/24/15	22 / 23	21	16:01 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 38 / 30	16 43 / 30	0	PASS
Seam Notes	76'S (RP-68) TO 97'S (RP-76)													
7/24/15	22 / 23	67	16:04 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 24 / 30	16 29 / 30	0	PASS
Seam Notes	97'S (RP-76)TO SEOS													
7/24/15	23 / 24	164	16:15 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 52 / 30	16 57 / 30	0	PASS
Seam Notes														
7/28/15	24 / 25	127	13:25 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 01 / 30	16 06 / 29	1	PASS
Seam Notes	NEOS TO 127'S (RP-88)													
7/28/15	24 / 25	37	13:44 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 00 / 30	16 05 / 30	0	PASS
Seam Notes	127'S (RP-88)TO SEOS													
7/28/15	25 / 26	110	13:52 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 09 / 30	16 14 / 30	0	PASS
Seam Notes	SEOS TO 110'N (RP-95)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/29/15	25 / 26	19	7:45 AM	EMMANUEL V.	EXT 512		490	400	7/29/15	Vacuum			0	PASS
Seam Notes	110'N(RP-95) TO 129'N (RP-95)													
7/28/15	25 / 26	34	14:15 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 13 / 30	16 18 / 30	0	PASS
Seam Notes	129'N (RP-95)TO NEOS													
7/28/15	26 / 27	71	13:53 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 16 / 30	16 21 / 27	3	PASS
Seam Notes	SEOS TO 71'N (RP-97)													
7/28/15	26 / 27	92	14:04 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 17 / 30	16 22 / 30	0	PASS
Seam Notes	71'N (RP-97) TO NEOS													
7/28/15	27 / 28	34	14:22 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 22 / 30	16 27 / 30	0	PASS
Seam Notes	SEOS TO 34'N (RP-121)													
7/28/15	27 / 28	129	14:27 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 22 / 30	16 27 / 30	0	PASS
Seam Notes	34'N (RP-121) TO NEOS													
7/28/15	28 / 29	61	15:52 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 29 / 30	16 34 / 28	2	PASS
Seam Notes	SEOS TO 61'N (RP-115)													
7/29/15	28 / 29	12	10:45 AM	EMMANUEL V.	EXT 512		490	400	7/29/15	Vacuum			0	PASS
Seam Notes	61'N (RP-115)TO 73'N(RP-114)													
7/28/15	28 / 29	47	16:01 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 32 / 30	16 37 / 30	0	PASS
Seam Notes	73'N (RP-114)TO 120'N (RP-105)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/28/15	28 / 29	44	16:09 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 36 / 30	16 41 / 29	1	PASS
Seam Notes	120'N (RP-105)TO NEOS													
7/28/15	29 / 30	125	16:16 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 38 / 30	16 43 / 28	2	PASS
Seam Notes	SEOS TO 125'N (RP-108)													
7/28/15	29 / 30	39	16:26 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 38 / 30	16 43 / 28	2	PASS
Seam Notes	125'N (RP-108) TO NEOS													
7/29/15	30 / 31	163	15:30 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 41 / 30	16 46 / 30	0	PASS
Seam Notes														
7/29/15	31 / 32	163	15:52 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 50 / 30	16 55 / 30	0	PASS
Seam Notes														
7/29/15	32 / 33	163	16:15 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 53 / 30	16 58 / 30	0	PASS
Seam Notes														
7/29/15	33 / 34	25	8:00 AM	EMMANUEL V.	EXT 512		480	400	7/30/15	Vacuum			0	PASS
Seam Notes	SEOS TO 21'N (RP-133)													
7/29/15	33 / 34	139	16:33 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 54 / 30	16 59 / 29	1	PASS
Seam Notes	21'N (RP-133) TO NEOS													
8/3/15	35 / 36	84	15:22 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 45 / 30	14 40 / 29	1	PASS
Seam Notes	EEOS TO 84'W(RP-153)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/3/15	35 / 36	10	15:35 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 38 / 30	13 43 / 30	0	PASS
Seam Notes	84'W (RP-153) TO WEOS													
8/3/15	36 / 37	95	15:43 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 29 / 30	13 34 / 30	0	PASS
Seam Notes														
8/3/15	37 / 38	98	16:01 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 23 / 30	13 28 / 29	1	PASS
Seam Notes														
8/3/15	38 / 39	101	16:28 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 14 / 30	13 19 / 28	2	PASS
Seam Notes														
8/3/15	39 / 40	102	16:52 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 05 / 30	13 10 / 30	0	PASS
Seam Notes														
8/3/15	34 / 35	10	17:26 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 45 / 30	13 50 / 30	0	PASS
Seam Notes	NEOS TO 10'S (RP-157)													
8/3/15	34 / 35	11	17:27 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 38 / 30	13 43 / 30	0	PASS
Seam Notes	10'S (RP-157) TO SEOS													
8/3/15	34 / 36	22.5	17:29 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 31 / 30	13 36 / 30	0	PASS
Seam Notes														
8/3/15	34 / 37	22.5	17:34 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 20 / 30	13 25 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/3/15	34 / 38	22.5	17:39 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 09 / 30	13 14 / 27	3	PASS
Seam Notes														
8/3/15	34 / 39	22.5	17:44 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 05 / 30	13 10 / 30	0	PASS
Seam Notes														
8/3/15	34 / 40	22.5	17:47 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	12 36 / 30	12 41 / 30	0	PASS
Seam Notes														
8/3/15	34 / 41	38	17:50 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	12 30 / 30	13 35 / 30	0	PASS
Seam Notes														
8/3/15	42 / 43	38	18:11 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	14 13 / 30	14 18 / 30	0	PASS
Seam Notes														
8/3/15	40 / 42	22.5	18:13 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 14 / 30	14 19 / 29	1	PASS
Seam Notes														
8/3/15	39 / 42	22.5	18:16 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 07 / 30	14 12 / 30	0	PASS
Seam Notes														
8/3/15	38 / 42	22.5	18:19 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 07 / 30	14 12 / 30	0	PASS
Seam Notes														
8/3/15	37 / 42	22.5	18:21 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/3/15	36 / 42	22.5	18:24 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 53 / 30	13 58 / 30	0	PASS
Seam Notes														
8/3/15	35 / 42	22.5	18:28 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 53 / 30	13 58 / 30	0	PASS
Seam Notes														
8/3/15	45 / 46	10	18:36 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	12 48 / 30	12 53 / 30	0	PASS
Seam Notes														
8/3/15	44 / 46	27	18:39 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	12 48 / 30	12 48 / 30	0	PASS
Seam Notes														
8/3/15	44 / 45	25	18:41 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	12 42 / 30	12 47 / 29	1	PASS
Seam Notes														
8/3/15	43 / 46	10	18:48 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	14 25 / 30	14 30 / 30	0	PASS
Seam Notes														
8/3/15	43 / 44	23	18:49 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	14 19 / 30	14 24 / 30	0	PASS
Seam Notes														
8/3/15	40 / 43	17	18:55 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	14 16 / 30	14 21 / 30	0	PASS
Seam Notes														
8/3/15	40 / 44	48	18:57 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 17 / 30	14 22 / 30	0	PASS
Seam Notes								EEOS TO 48'W (RP-184)						

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/3/15	40 / 44	13	19:17 PM	MODESTO L.	1480	400	860		8/4/15	Air Pressure	13 00 / 30	13 05 / 30	0	PASS
Seam Notes	48'W (RP-184) TO WEOS													
8/3/15	40 / 41	23	19:25 PM	MODESTO L.	1480	450	860		8/4/15	Air Pressure	12 30 / 30	12 35 / 29	1	PASS
Seam Notes														
8/3/15	41 / 44	18	19:28 PM	MODESTO L.	1480	400	860		8/4/15	Air Pressure	12 42 / 30	12 47 / 28	2	PASS
Seam Notes														
8/3/15	41 / 45	10	19:31 PM	MODESTO L.	1480	400	860		8/4/15	Air Pressure	12 42 / 30	12 47 / 30	0	PASS
Seam Notes														
8/5/15	42 / 47	167	16:20 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 26 / 30	15 31 / 28	2	PASS
Seam Notes														
8/5/15	47 / 48	106	16:50 PM	MODESTO L.	2025	450	860		8/6/15	Air Pressure	15 37 / 30	15 42 / 30	0	PASS
Seam Notes	NEOS TO 106'S (RP-195)													
8/5/15	47 / 48	61	17:13 PM	MODESTO L.	2025	450	860		8/6/15	Air Pressure	15 37 / 30	15 42 / 30	0	PASS
Seam Notes	106'S (RP-195) TO SEOS													
8/5/15	48 / 49	86	18:15 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 50 / 30	15 55 / 30	0	PASS
Seam Notes	NEOS TO 86'S (RP-196)													
8/5/15	48 / 49	81	18:29 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 52 / 30	15 57 / 30	0	PASS
Seam Notes	86'S (RP-196) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/6/15	49 / 50	167	14:15 PM	MODESTO L.	2025	450	860		8/6/15	Air Pressure	15 54 / 30	15 59 / 30	0	PASS
Seam Notes														
8/6/15	51 / 52	22.5	14:45 PM	MODESTO L.	2025	400	860		8/6/15	Air Pressure	15 58 / 30	16 03 / 30	0	PASS
Seam Notes														
8/6/15	50 / 51	163	14:50 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 55 / 30	16 00 / 30	0	PASS
Seam Notes														
8/6/15	50 / 52	5	15:05 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 55 / 30	16 00 / 30	0	PASS
Seam Notes														
8/6/15	51 / 53	164	15:10 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 59 / 30	16 04 / 29	1	PASS
Seam Notes														
8/6/15	52 / 53	5	15:24 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	16 00 / 30	16 05 / 30	0	PASS
Seam Notes														
8/6/15	53 / 54	15	15:33 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	16 06 / 30	16 11 / 30	0	PASS
Seam Notes	NEOS TO 15'S (RP-197)													
8/6/15	53 / 54	153	15:35 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	16 04 / 30	16 09 / 29	1	PASS
Seam Notes	15'S (RP-197) TO SEOS													
8/7/15	55 / 56	22.5	13:30 PM	MODESTO L.	2025	400	860		8/7/15	Air Pressure	15 04 / 30	15 09 / 28	2	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/7/15	54 / 55	157	13:34 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 41 / 30	14 46 / 30	0	PASS
Seam Notes														
8/7/15	54 / 56	11	13:50 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 41 / 30	14 46 / 30	0	PASS
Seam Notes														
8/7/15	55 / 57	101	14:00 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 31 / 30	14 36 / 30	0	PASS
Seam Notes	SEOS TO 101'N (RP-220)													
8/7/15	55 / 57	19	14:16 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 31 / 30	14 36 / 30	0	PASS
Seam Notes	101'N (RP-220) TO 120'N (RP-221)													
8/7/15	55 / 57	37	14:19 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 48 / 30	14 53 / 30	0	PASS
Seam Notes	120'N (RP-221) TO NEOS													
8/7/15	56 / 57	11	14:24 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 48 / 30	14 53 / 28	2	PASS
Seam Notes														
8/7/15	59 / 60	22.5	14:26 PM	MODESTO L.	2025	400	860		8/7/15	Air Pressure	15 11 / 30	15 16 / 30	0	PASS
Seam Notes														
8/7/15	57 / 58	167	14:28 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	15 02 / 30	15 07 / 30	0	PASS
Seam Notes														
8/7/15	58 / 59	150	14:57 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	15 30 / 30	15 35 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported By Lyssa Tran **Cap** [x]

Other Cap construction

Air Pressure Test 30 PSI

Air Pressure Hold Time 5 Minutes

Allowable Air Pressure Loss 4 PSI

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/7/15	58 / 60	15	15:25 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	16 01 / 30	16 06 / 30	0	PASS
Seam Notes														
8/10/15	59 / 61	150	11:06 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	11 55 / 30	12 00 / 30	0	PASS
Seam Notes														
8/10/15	60 / 61	15	11:24 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes														
8/10/15	61 / 62	164	11:27 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	11 56 / 30	12 01 / 30	0	PASS
Seam Notes														
8/10/15	62 / 63	163	11:38 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	11 59 / 30	12 04 / 30	0	PASS
Seam Notes														
8/10/15	63 / 64	163	15:50 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 39 / 30	8 44 / 30	0	PASS
Seam Notes														
8/10/15	64 / 66	8	16:20 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 46 / 30	8 51 / 30	0	PASS
Seam Notes								SEOS TO 8'N (RP-252)						
8/10/15	64 / 66	13	16:21 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 48 / 30	8 52 / 30	0	PASS
Seam Notes								8'N (RP-252) TO NEOS						
8/10/15	64 / 65	141	16:25 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 38 / 30	8 43 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/12/15	64 / 66	24	8:30 AM	PEDRO S.	EXT 512		530	530	8/12/15	Vacuum			0	PASS
Seam Notes														
8/13/15	65 / 67	162	8:45 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 53 / 30	10 58 / 29	1	PASS
Seam Notes														
8/13/15	67 / 68	162	9:10 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 30 / 30	10 35 / 28	2	PASS
Seam Notes														
8/13/15	68 / 69	100	9:25 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	11 03 / 30	11 08 / 30	0	PASS
Seam Notes	DS-19 WAS COLLECTED BEFORE NON-DESTRUCTIVE TESTING WAS COMPLETED								SEOS TO 100'N (RP-254/DS-19)					
8/13/15	68 / 69	62	9:32 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	11 00 / 30	11 05 / 30	0	PASS
Seam Notes									100'N (RP-254/DS-19) TO NEOS					
8/13/15	69 / 70	162	9:39 PM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 32 / 30	10 37 / 30	0	PASS
Seam Notes														
8/13/15	70 / 71	162	10:05 PM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 33 / 30	10 38 / 29	1	PASS
Seam Notes														
8/14/15	71 / 72	57	9:45 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11 14 / 30	11 19 / 30	0	PASS
Seam Notes									SEOS TO 57'N (RP-258)					
8/14/15	71 / 72	76	9:51 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11 25 / 30	11 30 / 30	0	PASS
Seam Notes									57'N (RP-258) TO 133'N (RP-259)					

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/14/15	71 / 72	29	10:03 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11:34 / 30	11:39 / 30	0	PASS
Seam Notes	133'N (RP-259) TO NEOS													
8/14/15	72 / 73	163	10:14 AM	MODESTO L.	2025	450	860		8/14/15	Air Pressure	11:15 / 30	11:20 / 30	0	PASS
Seam Notes														
8/14/15	73 / 74	164	10:35 AM	MODESTO L.	2025	450	860		8/14/15	Air Pressure	11:16 / 30	11:21 / 30	0	PASS
Seam Notes														
8/14/15	74 / 75	60	10:54 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11:30 / 30	11:35 / 30	0	PASS
Seam Notes	SEOS TO 60'N (RP-260)													
8/14/15	74 / 75	104	11:03 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11:30 / 30	11:35 / 30	0	PASS
Seam Notes	60'N (RP-260) TO NEOS													
9/9/15	76 / 77	86	15:51 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 30 / 30	8 35 / 30	0	PASS
Seam Notes														
9/9/15	77 / 78	86	16:05 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 31 / 30	8 36 / 27	3	PASS
Seam Notes														
9/9/15	78 / 79	86	16:19 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 49 / 30	8 54 / 30	0	PASS
Seam Notes														
9/9/15	79 / 80	83	16:59 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 32 / 30	8 37 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/9/15	80 / 81	85	17:20 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 02 / 30	9 07 / 27	3	PASS
Seam Notes														
9/9/15	85 / 86	11	17:34 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	9 51 / 30	9 56 / 30	0	PASS
Seam Notes														
9/9/15	84 / 86	13	17:37 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 51 / 30	9 56 / 30	0	PASS
Seam Notes														
9/9/15	84 / 85	17	17:40 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 54 / 30	9 59 / 30	0	PASS
Seam Notes														
9/9/15	83 / 84	23	17:46 PM	PEDRO S.	2025	350	860		9/14/15	Air Pressure	9 30 / 30	9 35 / 29	1	PASS
Seam Notes														
9/9/15	83 / 85	3	17:48 PM	PEDRO S.	2025	350	860		9/16/15	Vacuum			0	PASS
Seam Notes										COVER BY SJ RP-302				
9/9/15	82 / 83	26	17:50 PM	PEDRO S.	2025	350	860		9/14/15	Air Pressure	9 31 / 30	9 36 / 30	0	PASS
Seam Notes														
9/9/15	81 / 82	22.5	17:57 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	9 02 / 30	9 07 / 30	0	PASS
Seam Notes														
9/9/15	81 / 83	22.5	18:03 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	9 30 / 30	9 35 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/9/15	81 / 84	24	18:06 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 51 / 30	9 56 / 30	0	PASS
Seam Notes	WEOS TO 24'E (RP- 315)													
9/9/15	81 / 84	12	18:08 PM	PEDRO S.	2025	400	860		9/16/15	Vacuum			0	PASS
Seam Notes	24'E (RP-315) TO EEOS													
9/9/15	75 / 82	30	18:10 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 31 / 30	9 36 / 30	0	PASS
Seam Notes														
9/11/15	75 / 81	23	14:17 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 35 / 30	7 40 / 30	0	PASS
Seam Notes														
9/9/15	75 / 80	22.5	14:21 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 36 / 30	7 41 / 30	0	PASS
Seam Notes														
9/11/15	75 / 79	23	14:24 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 36 / 30	7 41 / 30	0	PASS
Seam Notes														
9/11/15	75 / 78	22.5	14:28 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 37 / 30	7 42 / 29	1	PASS
Seam Notes														
9/11/15	75 / 77	22.5	14:33 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	8 01 / 30	8 06 / 30	0	PASS
Seam Notes														
9/11/15	75 / 76	22.5	14:37 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	8 01 / 30	8 06 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/15/15	87 / 88	167	10:34 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	11 45 / 30	11 50 / 30	0	PASS
Seam Notes														
9/15/15	88 / 89	168	10:55 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	11 43 / 30	11 48 / 30	0	PASS
Seam Notes														
9/15/15	89 / 90	81	11:17 AM	PEDRO	2025	400	860		9/15/15	Air Pressure	11 45 / 30	11 50 / 30	0	PASS
Seam Notes	SEOS TO 81'N (RP-328)													
9/15/15	89 / 90	64	11:30 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	13 00 / 30	13 05 / 30	0	PASS
Seam Notes	81'N (RP-328) TO 145'N (RP-326)													
9/15/15	89 / 90	23	11:39 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	13 02 / 30	13 07 / 30	0	PASS
Seam Notes	145'N (RP-326) TO NEOS													
9/15/15	81 / 87	8	11:43 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 30 / 30	14 35 / 30	0	PASS
Seam Notes	SEOS TO 8'N (RP-319)													
9/15/15	81 / 87	14.5	11:44 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 25 / 30	14 30 / 30	0	PASS
Seam Notes	8'N (RP-319) TO NEOS													
9/15/15	80 / 87	22.5	11:46 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes														
9/15/15	79 / 87	6	11:50 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes	SEOS TO 6'N (RP-322)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/15/15	79 / 87	12.5	11:51 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 40 / 30	13 45 / 28	2	PASS
Seam Notes	6'N (RP-322) TO NEOS													
9/15/15	78 / 87	22.5	13:05 PM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 23 / 30	13 28 / 30	0	PASS
Seam Notes														
9/15/15	77 / 87	22.5	13:07 PM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 22 / 30	13 27 / 30	0	PASS
Seam Notes														
9/15/15	76 / 87	23	13:10 PM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 22 / 30	13 27 / 30	0	PASS
Seam Notes														
9/16/15	90 / 91	168	13:36 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 35 / 30	14 40 / 29	1	PASS
Seam Notes														
9/16/15	91 / 92	152	13:55 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 40 / 30	14 45 / 28	2	PASS
Seam Notes	SEOS TO 151'N (RP-351)													
9/16/15	91 / 92	15	14:10 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 44 / 30	14 49 / 29	1	PASS
Seam Notes	151'N (RP-351) TO NEOS													
9/16/15	92 / 93	167	14:16 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 40 / 30	14 45 / 29	1	PASS
Seam Notes														
9/16/15	93 / 94	144	14:34 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 50 / 30	14 55 / 30	0	PASS
Seam Notes	SEOS TO 144'N (RP-354)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/16/15	93 / 94	23	14:48 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 51 / 30	15 56 / 30	0	PASS
Seam Notes	144'N (RP-354) TO NEOS													
9/17/15	94 / 95	33	14:31 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 28 / 30	15 33 / 30	0	PASS
Seam Notes	SEOS TO 33'N (RP-370)													
9/17/15	94 / 95	92	14:35 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 15 / 30	15 20 / 30	0	PASS
Seam Notes	33'N(RP-370) TO 125'N (RP-368)													
9/17/15	94 / 95	41	14:44 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 15 / 30	15 20 / 30	0	PASS
Seam Notes	125'N (RP-368) TO NEOS													
9/17/15	95 / 96	128	14:51 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 25 / 30	15 30 / 30	0	PASS
Seam Notes	NEOS TO 128'S (RP-373)													
9/17/15	95 / 96	38	15:06 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 26 / 30	15 31 / 30	0	PASS
Seam Notes	128'S (RP- 373) TO SEOS													
9/17/15	96 / 97	101	15:13 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 30 / 30	15 35 / 28	2	PASS
Seam Notes	NEOS TO 101'S (RP- 377)													
9/17/15	96 / 97	16	13:48 PM	EMMANUEL V.	EXT 512		550	550	9/21/15	Vacuum			0	PASS
Seam Notes	101'S (RP-377) TO 117'S (RP- 376)													
9/17/15	96 / 97	49	15:21 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 36 / 30	15 41 / 29	1	PASS
Seam Notes	117'S (RP-376) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/18/15	98 / 99	70	11:26 AM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 14 / 30	14 19 / 30	0	PASS
Seam Notes														
9/18/15	99 / 100	70	11:41 AM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 08 / 30	14 13 / 30	0	PASS
Seam Notes														
9/18/15	100 / 101	71	11:53 AM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 07 / 30	14 12 / 29	1	PASS
Seam Notes														
9/18/15	101 / 102	70	13:07 PM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 06 / 30	14 11 / 30	0	PASS
Seam Notes														
9/18/15	102 / 103	70	13:22 PM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 05 / 30	14 10 / 28	2	PASS
Seam Notes														
9/18/15	104 / 105	32	13:41 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	15 04 / 30	15 09 / 30	0	PASS
Seam Notes														
9/18/15	105 / 106	27	13:51 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	15 12 / 30	15 17 / 30	0	PASS
Seam Notes														
9/18/15	103 / 106	22.5	14:00 PM	PEDRO S.	2025	300	860		9/18/15	Air Pressure	15 12 / 30	15 17 / 30	0	PASS
Seam Notes														
9/18/15	103 / 105	23	14:06 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	15 04 / 30	15 09 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
9/18/15	103 / 104	16	14:10 PM	PEDRO S.	2025	300	860		9/18/15	Air Pressure	15 04 / 30	15 09 / 30	0	PASS
Seam Notes	EEOS TO 16'W (RP-383)													
9/18/15	103 / 104	10	14:13 PM	PEDRO S.	2025	300	860		9/18/15	Air Pressure	14 55 / 30	15 00 / 30	0	PASS
Seam Notes	16'W (RP-383) TO WEOS													
9/18/15	97 / 98	22.5	14:20 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 38 / 30	14 43 / 28	2	PASS
Seam Notes														
9/18/15	97 / 99	22.5	14:22 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 38 / 30	14 43 / 30	0	PASS
Seam Notes														
9/18/15	97 / 100	22.5	14:25 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 40 / 30	14 45 / 28	2	PASS
Seam Notes														
9/18/15	97 / 101	22.5	14:28 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 40 / 30	14 45 / 29	1	PASS
Seam Notes														
9/18/15	97 / 102	22.5	14:30 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 46 / 30	14 511 / 29	1	PASS
Seam Notes														
9/18/15	97 / 103	12	14:33 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 48 / 30	14 53 / 30	0	PASS
Seam Notes	NEOS TO 12'S (RP-384)													
9/18/15	97 / 103	10.5	14:35 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 55 / 30	15 00 / 30	0	PASS
Seam Notes	12'S (RP-384) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
9/18/15	97 / 104	32	14:37 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 55 / 30	15 00 / 30	0	PASS
Seam Notes														
9/22/15	106 / 107	36	10:41 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	11 37 / 30	11 42 / 30	0	PASS
Seam Notes														
9/22/15	103 / 107	14	10:45 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 38 / 30	11 43 / 30	0	PASS
Seam Notes														
9/22/15	102 / 107	23	10:47 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 38 / 30	11 43 / 30	0	PASS
Seam Notes														
9/22/15	101 / 107	22.5	10:50 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 39 / 30	11 44 / 29	1	PASS
Seam Notes														
9/22/15	100 / 107	22.5	10:53 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 40 / 30	11 45 / 30	0	PASS
Seam Notes														
9/22/15	99 / 107	23	10:56 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 49 / 30	11 54 / 28	2	PASS
Seam Notes														
9/22/15	98 / 107	23	11:00 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 48 / 30	11 53 / 29	1	PASS
Seam Notes														
9/22/15	107 / 108	163	11:06 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	13 13 / 30	13 18 / 29	1	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
9/22/15	108 / 109	164	11:24 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	13 14 / 30	13 19 / 29	1	PASS
Seam Notes														
9/22/15	109 / 110	163	11:42 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	13 15 / 30	13 20 / 30	0	PASS
Seam Notes														
9/23/15	110 / 111	162	15:38 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 50 / 30	16 55 / 30	0	PASS
Seam Notes														
9/23/15	111 / 112	15	15:52 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 48 / 30	16 53 / 30	0	PASS
Seam Notes	NEOS TO 15'S (RP-419)													
9/23/15	111 / 112	147	15:54 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 48 / 30	16 53 / 29	1	PASS
Seam Notes	15'S (RP-419) TO SEOS													
9/23/15	112 / 113	162	16:12 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 51 / 30	16 56 / 30	0	PASS
Seam Notes														
9/23/15	113 / 114	28	16:42 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 53 / 30	16 58 / 29	1	PASS
Seam Notes	NEOS TO 28'S (RP-421)													
9/23/15	113 / 114	138	16:46 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 59 / 30	17 04 / 30	0	PASS
Seam Notes	28'S (RP-421) TO SEOS													
9/24/15	114 / 115	162	14:51 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 46 / 30	15 51 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported By Lyssa Tran **Cap** x

Other Cap construction

Air Pressure Test 30 PSI

Air Pressure Hold Time 5 Minutes

Allowable Air Pressure Loss 4 PSI

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/24/15	115 / 116	28	15:14 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 47 / 30	15 52 / 30	0	PASS
Seam Notes	NEOS TO 28'S (RP-426)													
9/24/15	115 / 116	135	15:17 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 48 / 30	15 53 / 30	0	PASS
Seam Notes	28'S (RP-426) TO SEOS													
9/24/15	116 / 117	164	15:31 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 52 / 30	15 57 / 30	0	PASS
Seam Notes														
9/24/15	117 / 118	121	15:51 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	16 04 / 30	16 09 / 30	0	PASS
Seam Notes	NEOS TO 121'S (RP-427)													
9/24/15	117 / 118	44	16:02 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	16 13 / 30	16 18 / 30	0	PASS
Seam Notes	121'S (RP-427) TO SEOS													
9/25/15	118 / 119	164	14:30 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 17 / 30	15 22 / 30	0	PASS
Seam Notes														
9/25/15	119 / 120	22	14:53 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 22 / 30	15 27 / 30	0	PASS
Seam Notes	NEOS TO 22'S (RP-438)													
9/25/15	119 / 120	72	14:55 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 21 / 30	15 26 / 28	2	PASS
Seam Notes	22'S (RP-438) TO 94'S (RP-437)													
9/25/15	119 / 120	33	15:00 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 21 / 30	15 26 / 30	0	PASS
Seam Notes	94'S (RP-437) TO 127'S (RP-439)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/25/15	119 / 120	12	15:58 PM	PEDRO S.	EXT 512		550	550	9/29/15	Vacuum			0	PASS
Seam Notes	127'S (RP-439) TO 139'S (RP-440)													
9/25/15	119 / 120	26	15:03 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 15 30	15 20 30	0	PASS
Seam Notes	139'S (RP-440) TO SEOS													
9/29/15	120 / 121	166	16:46 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	15 10 30	15 15 30	0	PASS
Seam Notes														
9/29/15	121 / 122	143	15:04 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	15 40 30	15 45 29	1	PASS
Seam Notes														
9/29/15	RP-445 / 122	17	15:30 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 52 30	15 57 30	0	PASS
Seam Notes														
9/29/15	RP-446 / 122	5	15:34 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 51 30	15 56 30	0	PASS
Seam Notes														
9/29/15	RP-445 / 121	17	15:38 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 52 30	15 57 30	0	PASS
Seam Notes														
9/29/15	RP-446 / 121	5	15:41 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 51 30	15 56 30	0	PASS
Seam Notes														
9/29/15	123 / 124	22.5	15:45 PM	PEDRO S.	2025	300	860		9/29/15	Air Pressure	16 12 30	16 17 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/29/15	124 / 125	19	15:52 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	16 12 / 30	16 17 / 30	0	PASS
Seam Notes														
9/29/15	123 / 125	18	15:55 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 12 / 30	16 17 / 30	0	PASS
Seam Notes	SEOS TO 18'N (RP-454)													
9/29/15	123 / 125	129	16:21 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 35 / 30	16 40 / 30	0	PASS
Seam Notes	18'N (RP-454) TO NEOS													
9/29/15	122 / 124	19	15:58 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 10 / 30	16 15 / 30	0	PASS
Seam Notes														
9/29/15	122 / 123	23	16:00 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 10 / 30	16 15 / 30	0	PASS
Seam Notes	SEOS TO 23'N (RP-450)													
9/29/15	122 / 123	126	16:03 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 40 / 30	16 45 / 30	0	PASS
Seam Notes	23'N (RP-450) TO NEOS													
9/29/15	RP-445 / RP-446	2	15:28 PM	PEDRO S.	2025	300	860		9/29/15	Vacuum			0	PASS
Seam Notes	COVER BY RP-447													
10/8/15	125 / 126	159	15:00 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	16 45 / 30	16 50 / 29	1	PASS
Seam Notes	NEOS TO 159'S (RP-477)													
10/8/15	125 / 126	5	15:33 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 15 / 30	17 20 / 30		PASS
Seam Notes	159'N (RP-477) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
10/8/15	126 / 127	163	15:38 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	16 45 / 30	16 50 / 29	1	PASS
Seam Notes														
10/8/15	128 / 129	22.5	16:05 PM	PEDRO S.	2025	300	860		10/8/15	Air Pressure	17 29 / 30	17 34 / 30	0	PASS
Seam Notes														
10/8/15	127 / 129	12	16:12 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 30 / 30	17 35 / 30	0	PASS
Seam Notes														
10/8/15	127 / 128	149	16:13 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	16 45 / 30	16 50 / 28	2	PASS
Seam Notes														
10/8/15	130 / 131	9	16:30 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 40 / 30	17 45 / 30	0	PASS
Seam Notes														
10/8/15	131 / 132	11	16:32 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 39 / 30	17 44 / 30	0	PASS
Seam Notes														
10/8/15	133 / 134	7	16:35 PM	PEDRO S.	2025	300	860		10/8/15	Air Pressure	17 47 / 30	17 52 / 30	0	PASS
Seam Notes														
10/8/15	129 / 132	12	16:43 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 30 / 30	17 35 / 30	0	PASS
Seam Notes														
10/8/15	128 / 132	81	16:44 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 31 / 30	17 36 / 29	1	PASS
Seam Notes														

SEOS TO 81'N (RP-476)

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
10/8/15	128 / 132	25	16:53 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 31 30	17 36 30	0	PASS
Seam Notes	81'N (RP-476) TO NEOS													
10/8/15	128 / 131	22.5	16:55 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 39 30	17 44 30	0	PASS
Seam Notes														
10/8/15	128 / 130	20	16:59 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 40 30	17 45 30	0	PASS
Seam Notes														
10/8/15	132 / 134	38	17:06 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 48 30	17 52 30	0	PASS
Seam Notes														
10/8/15	132 / 133	38	17:11 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 45 30	17 50 30	0	PASS
Seam Notes														
	/		:										0	
Seam Notes														
	/		:										0	
Seam Notes														
	/		:										0	
Seam Notes														
	/		:										0	
Seam Notes														

Appendix L
ESI Repair Report

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-1	CF	2/3		98'N OF SEOS (VALLEY DESIGN)	P	2.5	x	63		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-2	WR	3/4		94'N OF SEOS	P	2	x	12		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-3	SI		3	60'N OF 2/3 & 11'E	P	2	x	2.5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-4	DS-1	3/4		18'N OF SEOS	P	2	X	28		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-5	CF		3	140'N OF 2/3 & 6'E	P	2	x	10		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-6	PB	1/2		135'N OF SEOS (PB 8")	P	5	x	5	52.5	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-7	PB		1	85'N OF 1/2 & 17'W (PB 4")	P	3	x	4	36.58	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-8	SI		2	86'N OF 2/3 & 2'W	P	1.5	x	2		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-9	RW	4/5		SEOS	P	1.5	x	3		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-10	SJ	5/6/7		SJ 5/6/7	P	1.5	X	2		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-11	RW	5/7		SEOS	P	2	x	4		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-12	DS-2	6/7		10'E OF WEOS	P	2	x	5.5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-13	FS	7/8		E.S. & COVER OVER SJ 6/7/8	P	2	x	6		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-14	PB		8	147'N OF 6/8 & 4'E (PB 8")	P	5	x	5	52.5	7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-15	BO	9/10		52'N OF SEOS	P	2	x	3		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-16	DS-3	11/12		100'N OF SEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-17	CF	13/14		46'S OF NEOS (VALLEY DESIGN)	P	2	x	42		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-18	DSX-1		13	ON RP-17	P	2	X	6		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-19	DS-4	14/15		16'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-20	CF	14/15	15	57'S OF NEOS	P	2	x	20		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-21	CF	15/16		37'S OF NEOS	P	2	x	16		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-22	BO	16/17		23'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX		7/30/15
RP-23	DS-5	17/18		75'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-24	PB	16		80'S OF 16/17 & 13'W (MH 48")	P	10	x	10	174.7	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-25	CF	15/16		78'S OF NEOS	P	2	x	15		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-26	CF		16	100'S OF 16/17 & 15'W	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-27	BO	16/17		80'S OF NEOS (PATCH)& 7'W (EXT)	P	2	x	2	84	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-28	BO	16/17		115'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-29	BO	16/17		130'S OF NEOS	P	2	x	8		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-30	SI		17	110'S OF 17/18 & 4'W	P	2	x	2		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-31	BO	17/18		101'S OF NEOS	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-32	AO		15	SEOP (TRIANGLE)	B		x		324	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-33	CF		16	134'S OF 16/17 & 6'W	P	2	x	13		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-34	DSX-2	RP-32/15	15	10'E OF RP-32	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-35	WR		17	94'S OF 16/17 & 3'W	P	2	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-36	WR		17	88'S OF 16/17 & 3'W	P	1.5	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-37	WR		17	88'S OF 16/17 & 15'W	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-38	WR		17	101'S OF 16/17 & 10'W	P	2	x	8		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-39	DS-6	20/21		155'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-40	BO	20/21		128'S OF NEOS	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-41	WR		18	75'S OF 18/19 & 11'W	P	2	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-42	CR	17/18		60'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-43	WR		18	55'S OF 18/19 & 8'W	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-44	BO	18/19		55'S OF NEOS	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-45	WR		19	33'S OF 19/20 & 10'W	P	2	X	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-46	WR	19/20		29'S OF NEOS	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-47	WR		19	33'S OF 19/20 &15'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-48	WR		19	21'S OF 19/20 & 9'W	P	2	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-49	WR		19	14'S OF 19/20 & 11'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-50	WR		20	30'S OF 20/21 & 14'W	P	1.5	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-51	BO	20/21		30'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-52	WR		17	BETWEEN RP-35 & RP-38	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-53	WR		17	BETWEEN RP-36 & RP-38	B		x		108	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-54	WR		17	BETWEEN RP-37 & RP-38	B		x		96	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-55	CF		16	BETWEEN RP-24 & RP-27	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-56	CF		18	BETWEEN RP-41 & RP-43	B		x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-57	CF		18	BETWEEN RP-42 & RP-43	B		x		156	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-58	CF		19	BETWEEN RP-48 & RP-49	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-59	CF		19	BETWEEN RP-47 & RP-48	B		x		72	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-60	CF		19	BETWEEN RP-45,RP-46& RP-48	B		x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-61	CF		20	BETWEEN RP-50 & RP-51	B		x		144	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-62	WR		21	10'S OF 21/22 & 8'W	P	2	x	14		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-63	WR		21	6'S OF 21/22 & 13'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-64	WR		21	BETWEEN RP-63 & RP-65	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-65	WR		21	20'S OF 21/22 & 18'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-66	WR		22	20'S OF 22/23 & 5'W	P	1.5	x	12		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-67	BO	21/22		84'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-68	BO	22/23		76'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-69	WR		22	130'S OF 21/22 & 6'E	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-70	WR		22	BETWEEN RP-69 & RP-71	B		x		60	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-71	CR	21/22		137'S OF NEOS	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-72	WR		21	BETWEEN RP-71 & RP-73	B		x		24	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-73	WR		21	130'S OF 21/22 & 4'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-74	WR		21	BETWEEN RP-73 & RP-75	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-75	WR		21	129'S OF 21/22 & 9'W	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-76	BO	22/23		97'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-77	WR		23	118'S OF 22/23 & 7'E	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-78	WR		23	BETWEEN RP-77 & RP-79	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-79	WR		23	124'S OF 22/23 & 7'E	P	2	x	11		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-80	WR		23	BETWEEN RP-79 & RP-81	B		x		84	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-81	WR		23	134'S 22/23 & 9'E	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-82	DS-7	23/24		87'S OF NEOS	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-83	DSX-3	RP-82/23		ON RP-82/83(87'S OF NEOS)	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-84	CR	23/24		116'S OF NEOS	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-85	CF		23	125'S OF 23/24 & 3'W	P	2	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-86	CF		23	BETWEEN RP-85 & RP-87	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-87	CF		23	140'S OF 23/24 & 10'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-88	BO	24/25		127'S OF NEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-89	WR		24	BETWEEN RP-88 & RP-90	B		x		60	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-90	WR		24	127'S OF 24/25 & 5'W	P	2	x	2.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-91	CF		25	100'N OF 25/26 & 6'W	P	2	x	6		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-92	CF		25	BETWEEN RP-91 & RP-93	B		X		120	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-93	CF		25	121'N OF 25/26 & 12'W (T-SHAPE)	P	2	x	22		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-94	CF		25	BETWEEN RP-93 & RP-95	B		x		84	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-95	CF	25/26		110'N TO 129'N OF SEOS	P	2	x	19		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-96	DS-8	26/27		128'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-97	BO	26/27		71'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-98	CF		27	BETWEEN RP-97 & RP-100	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-99	CR	26/27		38'N OF SEOS	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-100	CF		27	55'N OF 26/27 & 13'E	P	2	x	30		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-101	CF		27	BETWEEN RP-100 & RP-102	B		x		144	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-102	CF		27	87'N OF 26/27 & 7'E	P	2	x	6.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-103	CF	27/28		117'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-104	CF		28	BETWEEN RP-103 & RP-105	B		x		156	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-105	BO	28/29		120'N OF SEOS	P	2	x	15		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-106	CF		28	BETWEEN RP-105 & RP-107	B		x		192	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-107	CF		28	134'N OF 27/28 & 4'E	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-108	BO	29/30		125'N OF SEOS	P	2	x	10		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-109	DS-9	29/30		80'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-110	CF		28	85'N OF 28/29 & 3'W	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-111	CF		28	BETWEEN RP-110 & RP-112	B		x		180	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-112	WR	28/29		68'N OF SEOS	P	2	x	8		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-113	WR		28	BETWEEN RP-112 & RP-114	B		x		36	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-114	WS	28/29		73'N OF SEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-115	BO	28/29		61'N OF SEOS	P	1.5	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-116	WR		28	29'N OF 27/28 & 1'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-117	WR		28	BETWEEN RP-116 & RP-118	B		x		72	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-118	WR		28	29'N OF 27/28 &9'E	P	2	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-119	WR		28	BETWEEN RP-118 & RP-120	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-120	WR		28	29'N OF 27/28 & 13'E	P	1	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-121	BO	27/28		34'N OF SEOS	P	2	x	7		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-122	CF		27	BETWEEN RP-121 & RP-123	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-123	CF		27	34'N OF 27/28 & 5'W	P	1.5	x	1.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-124	CF		28	34'N OF 27/28 & 10'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-125	CF		28	BETWEEN RP-124 & RP-126	B		x		108	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-126	CF		28	45'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
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SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E (PB 8")	P	3	x	3	52.5	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E (PB 4")	P	3	x	4	36.6	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135(N.SIDE)	B		x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP	B		x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135(S.SIDE)	B		x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139	B		x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141	B		x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144	B		x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145	DS-11	36/37		90'W OF EEOS & SJ 34/36/37	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-146	SJ	41/44/45		SJ 41/44/45	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-147	SJ	44/45/46		SJ 44/45/46	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-148	SJ	40/41/44		SJ 40/41/44	P	2	x	5.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-149	SJ	34/40/41		SJ 34/40/41	P	3	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-150	SJ	34/39/40		SJ 34/39/40	P	1.5	x	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-151	SJ	34/38/39		SJ 34/38/39	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-152	SJ	34/37/38		SJ 34/37/38	P	2	x	2.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-153	BO	35/36		84'W OF EEOS	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-154	WR		36	BETWEEN RP-153 & RP-155	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-155	WR		36	84'W OF 35/36 & 5'S	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-156	SJ	34/35/36		SJ 34/35/36	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-157	BO	34/35		10'S OF NEOS	P	1.5	X	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-158	WR		35	65'W OF 35/36 & 11'N	P	1.5	X	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-159	WR		35	FROM RP-158 TO N.END OF P-35	P		x		144	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-160	DS-12	42/43		20'N OF SEOS	P	2	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-161	SJ	43/44/46		SJ 43/44/46	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-162	WR	44/46		5'W OF EEOS	P	1.5	X	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-163	WR		44	BETWEEN RP-162 & RP-164	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-164	WR		44	5'W OF 44/46 & 5'N	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-165	WR		44	BETWEEN RP-162 RP-166	B		x		216	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-166	WR	40/44		16'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-167	SJ	40/42/43		SJ 40/42/43	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-168	SJ	39/40/42		SJ 39/40/42	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-169	SJ	38/39/42		SJ 38/39/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-170	SJ	37/38/42		SJ 37/38/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-171	SJ	36/37/42		SJ 36/37/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-172	WR	36/42		6'S OF NEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-173	WR		42	BETWEEN RP-172 & RP-174	B		x		108	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-174	WR		42	6'S OF 36/42 & 10'E	P	3	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-175	CR	35/42		15'S OF NEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-176	WR		42	BETWEEN RP-174 & RP-175	B		x		132	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-177	SJ	35/36/42		SJ 35/36/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-178	CR	35/36		15'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-179	WR		35	30'W OF 35/36 & 10'N	P	2	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-180	WR		35	FROM RP-179 TO N.END OF P-35	B		x		156	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-181	CR	44/45		11'W OF EEOS	P	1.5	x	2.5		8/4/15	PEDRO S.	EXT 512	VBIOX	P	8/4/15
RP-182	WR		44	BETWEEN RP-181 & RP-183	B		x		204	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-183	CR	40/44		42'W OF EEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-184	BO	40/44		48'W OF EEOS	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-185	SJ	40/43/44		SJ 40/43/44	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-186	DSX-5	RP-160/42		ON RP-160/42	P	2	x	5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-187	WR		42	7'N OF 39/42 &1'E TO 6'E	B		x		78	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-188	PB		25	74'S OF 24/25 & 5'E (PB 8")	P	3	x	3	52.5	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-189	WR		35	15'W OF 35/36 & 16'N	P	2	x	7		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-190	WR		35	BETWEEN RP-189 & RP-191	B		x		84	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-191	WR		35	15'W OF 35/36 & 6'N	P	1.5	x	1.5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-192	WR		36	10'W OF 36/37 & 7'N	P	1.5	x	2		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-193	WR		36	BETWEEN RP-192 & RP-194	B		x		180	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-194	WR		36	10'W OF 36/37 & 24'N	P	2	x	4		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-195	BO	47/48		106'S OF NEOS	P	2	x	6.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-196	BO	48/49		86'S OF NEOS	P	2	x	4		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-197	BO	53/54		15'S OF NEOS	P	2	x	7		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-198	WR	48/49		94'S OF NEOS	P	2	x	28		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-199	CR	42/47		50'S OF NEOS	P	2	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-200	CF		47	56'S OF NEOS(SURFACE DESIGN)	P	2	x	38		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-201	CF		47	38'S OF 42/47 & 8'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-202	CF		47	BETWEEN RP-201 & RP-203	B		x		240	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-203	CF		47	59'S OF 42/47 & 18'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-204	DS-13	47/48		70'S OF NEOS	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-205	CF		47	FROM RP-200 TO MANHOLE	B		x		216	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-206	WR		48	46'S OF 47/48 & 4'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-207	WR		48	BETWEEN RP-206 & RP-208	B		x		180	8/7/15	PEDRO S.	EXT 512	VNOX	P	8/7/15
RP-208	WR		48	64'S OF 48/49 & 6'W	P	2	x	11		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-209	WR		48	BETWEEN RP-208 & RP-210	B		x		36	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-210	WR		48	57'S OF 48/49 & 4'W	P	2.5	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-211	DSX-6	RP-198/48		ON W.END OF RP-198/48	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-212	WR	49/50		72'S OF NEOS	P	2	x	9		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-213	WR		50	75'S OF 49/50 & 8'E	P	2	x	7		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-214	WR		50	BETWEEN RP-213 & RP-215	B		x		24	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-215	WR		50	78'S OF 49/50 & 2'E	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	F	8/10/15
RP-216	SJ	50/51/52		SJ 50/51/52	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-217	SJ	51/52/53		SJ 51/52/53	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-218	PB		47	87'S OF 42/47 & 11'E(MH 48")	P	9.5	x	9.5	175	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-219	PB		38	3'W OF 37/38 & 3'S (PB 8")	P	3.5	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-220	BO	55/57		101'N OF SEOS	P	2	x	2.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-221	BO	55/57		120'N OF SEOS	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-222	WR		50	REPAIR LEAK OVER RP-215	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-223	DS-14	50/51		35'S OF NEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-224	WR	51/53		20'S OF NEOS	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-225	WR		53	BETWEEN RP-224 & RP-226	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-226	WR		53	20'S OF 51/53 & 14'E	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-227	WR		53	30'S OF 53/54 & 5'W	P	1.5	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-228	WR		53	BETWEEN RP-227 & RP-229	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-229	WR		53	35'S OF 51/53 & 5'W	P	2	x	11		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-230	DS-15	54/55		72'S OF NEOS	P	2	x	4.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-231	SJ	54/55/56		SJ 54/55/56	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
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SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-232	SJ	55/56/57		SJ 55/56/57	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-233	CF		55	76'N OF 55/57 & 3'W	P	2	X	13		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-234	CF		55	BETWEEN RP-233 & RP-235	B		x		24	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-235	CF		55	80'N OF 55/57 & 2'W	P	2	x	3.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-236	CF		58	128'S OF 57/58 7'E	P	3	x	4		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-237	CF		58	BETWEEN RP-236 & RP-238	B		x		168	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-238	CF		58	140'S OF 57/58 & 20'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-239	CF		58	BETWEEN RP-236 & RP-240	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-240	CF		58	125'S OF 57/58 & 17'E	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-241	CF		58	BETWEEN RP-239 & RP-242	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-242	CF		58	128'S OF 57/58 & 15'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-243	PB		58	75'S OF 57/58 & 6'E (PB 8")	p	4	x	4	52.5	9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-244	SJ	58/59/60		SJ 58/59/60	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-245	DSX-7	RP-197/53		ON RP-197/53	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-246	PB		62	135'N OF 61/62 & 2'E (PB 8")	P	3	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-247	SJ	59/60/61		SJ 59/60/61	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-248	DS-16	59/61		6'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-249	DS-17	62/63		90'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-250	CR		65	2'N OF 65/66 & 5'E	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-251	SJ	64/65/66		SJ 64/65/66	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-252	BO	65/66		8'N OF SEOS	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W (PB 4")	P	5	x	6	36.6	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")	P	3.5	x	4	52.5	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/14/15
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB	78/79		WEOS (MH 48")	P	10	x	11	175	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-263	CF		73	FROM RP-264 TO 4'N	B		x		48	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-264	CF		73	23'N OF 72/73 & 5'E	P	2.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-265	CF		73	BETWEEN RP-264 & RP-266	B		x		84	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-266	CF		73	14'N OF 72/73 & 7'E	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-267	CF		73	BETWEEN RP-266 & RP-272	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-268	CF		73	FROM RP-269 TO 3'W	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-269	CF		73	14'N OF 72/73 &18'E	P	2	x	9		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-270	CF		73	BETWEEN RP-269 & RP-271	B		x		108	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-271	CF		73	4'N OF 72/73 & 9'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-272	CF		73	15'N OF 72/73 & 15'E	P	2	x	10		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-273	CF		73	BETWEEN RP-272 & RP-274	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-274	CF		73	23'N OF 72/73 & 15'E	P	2	x	6		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-275	CF		73	FROM RP-274 TO 5'N	B		x		60	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-276	CF		73	FROM RP-277 TO 12'E	B		x		144	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-277	CF		73	50'N OF 72/73 & 5'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-278	CF		73	46'N OF 73/74 & 5'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-279	CF		73	BETWEEN RP-278 & RP-280	B		x		156	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-280	CF		73	59'N OF 73/74 & 16'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-281	CF		71	137'N OF 71/72 & 2'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-282	CF		71	BETWEEN RP-281 & RP-283	B		x		120	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-283	CF		71	125'N OF 71/72 & 8'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-284	CF		71	164'N OF 71/72 & 8'W	P	2	x	4		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-285	CF		71	BETWEEN RP-284 & RP-286	B		x		132	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-286	CF		71	142'N OF 71/72 & 3'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-287	CF		71	FROM RP-288 TO 8'N	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-288	CF		71	137'N OF 71/72 & 9.5' W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-289	DSX-8	RP-284/71		ON RP-284/71	P	2	x	5		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-290	WR	68/69		132'N OF SEOS	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-291	WR		68	BETWEEN RP-290 & RP-292	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-292	WR		68	126'N OF 68/69 & 10'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-293	SI		57	136'N OF 56/57 & 7'E	P	2	x	2		9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-294	SJ			SJ 75/80/81	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-295	SJ			SJ 75/79/80	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-296	SJ			SJ 75/77/78	P	2	x	3		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-297	SJ			SJ 75/76/77	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-298	DS-22	79/80		78'E OF WEOS	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-299	SJ			SJ 75/81/82	P	2.5	x	14		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-300	SJ			SJ 81/82/83	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-301	SJ			SJ 81/83/84	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-302	SJ			SJ 83/84/85	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-303	SJ			SJ 84/85/86	P	1	x	1		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-304	WR	84/85		7'W OF EEOS	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-305	WR		84	BETWEEN RP-304 & RP-306	B		x		204	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-306	WR		84	7'W OF 84/85 & 17'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-307	WR		84	FROM RP-308 TO 12'SW	B		x		144	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-308	WR		84	20'E OF 81/84 & 13'S	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-309	WR	75/82		14'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-310	WR		82	BETWEEN RP-309 & RP-311	B		x		240	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-311	WR	82/83		15'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-312	WR		82	6'N OF 82/83 & 6.5' W	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-313	WR		82	BETWEEN RP-312 & RP-314	B		x		132	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-314	WR		82	19'N OF 82/83 & 6'W	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-315	BO	81/84		24'E OF WEOS			x			9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-316	DS-23	88/89		116'N OF SEOS	p	2	x	4.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-317	WR		79	BETWEEN RP-298 & RP-318	B		x		66	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-318	WR		79	78'E OF 79/80 & 7'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-319	BO	81/87		8'N OF SEOS	P	2	x	5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-320	SJ			SJ 80/81/87	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-321	SJ			SJ 79/80/87	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-322	WR	79/87		6'N OF SEOS	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-323	SJ			SJ 78/79/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-324	SJ			SJ 77/78/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-325	SJ			SJ 76/77/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-326	CF	89/90		145'N OF SEOS	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-327	CF		89	145'N OF 89/90 & 6'W	B		x		72	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-328	CF	89/90		81'N OF NEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-329	CF		89	81'N OF 89/90 & 5'W	B		x		60	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-330	DSX-9	RP-316/88		RP-316/88	P	2	x	4.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-331	SI		83	9'S OF 83/84 & 8'W (END OF PANEL)	P	2	x	18		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-332	SJ			SJ 84/86/87	P	3	x	12		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-333	CR		84/86	EEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-334	WR		84	BETWEEN RP-315 & RP-335	B		x		12	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-335	WR		84	7'W OF 81/84 & 3.5'S	P	3	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-336	SJ			SJ 81/84/87	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-337	CF	84/87		BETWEEN RP-332 & RP-336	B		x		216	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-338	WR	81/84		24'E TO EEOS	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-339	WR		81	11'N OF 81/87 & 4'W	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-340	WR		81	BETWEEN RP-339 & RP-341	B		x		138	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-341	WR		81	13'W OF 81/84 & 3'N	P	2	x	3.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-342	AO		76	ADD ON NORTH SIDE OF P-76	P	8	x	16		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-343	CF	76/77		66'E OF WEOS	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-344	CF		77	BETWEEN RP-343 & RP-345	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-345	CF		77	66'E OF 76/77 & 5'S	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-346	CF		77	BETWEEN RP-345 & RP-347	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-347	CF		77	66'E OF 76/77 & 10'S	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-348	WR		85	4'W OF 84/85 & 4'S	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-349	WR		84	4'W OF 84/85 & 8'N	B		x		96	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-350	DS-24	91/92		45'N OF SEOS	P	2	x	5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-351	CF	91/92		151'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-352	CF		91	BETWEEN RP-351 & RP-353	B		x		216	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-353	CF		91	151'N OF 91/92 & 19.5'W	P	3	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-354	CF	93/94		144'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-355	CF		94	BETWEEN RP-354 & RP-356	B		x		72	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-356	CF		94	144'N OF 93/94 & 10'E	P	2	x	4.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-357	CF		90	29'N OF 90/91 & 4'W	P	2	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-358	CF		90	BETWEEN RP-357 & RP-359	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-359	CF		90	31'N OF 90/91 & 9'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-360	CF		90	BETWEEN RP-359 & RP-361	B		x		24	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-361	CF		90	31'N OF 90/91 & 13'W	P	2	x	2.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-362	WR		80	11'S OF 80/87 & 5'W	P	1	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-363	WR		80	BETWEEN RP-362 & RP-365	B		x		54	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-364	WR	79/80		8.5'W OF EEOS	P	2	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-365	WR		8O	5'S OF 80/87 & 10'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-366	WR		80	BETWEEN RP-364 & RP-365	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-367	DS-25	94/95		100'N OF SEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-368	CF	94/95		125'N OF SEOS	P	2	x	6		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-369	PB		95	95'N OF 94/95 & 6'E (PB 8")	P	4	x	4.5	52.5	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-370	CF	94/95		33'N OF SEOS	P	2.5	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-371	CF		95	BETWEEN RP-370 & RP-372	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-372	CF		95	33'N OF 94/95 & 6.5'E	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-373	BO	95/96		128'S OF NEOS	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-374	DS-26	96/97		33'S OF NEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-375	CF	96/97		95'S OF NEOS	P	2	x	8		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-376	CF	96/97		FROM RP-377 TO 117'S	P	2	x	14		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-377	CF		96	101'S OF 96/97 TO 15'W	P	4	x	15		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-378	CF		96	105'S OF OF 96/97 & 13'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-379	CF		96	101'S OF 96/97 & 17'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-380	CF		96	93'S OF 96/97 & 8'W	P	2.5	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-381	CF		96	BETWEEN RP-380 & RP-382	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-382	CF		96	86.5'S OF 96/97 & 4'W	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-383	BO	103/104		16'W OF EEOS	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-384	BO	97/103		12'S OF NEOS			x			9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-385	SI		94	126'N OF 94/95 & 8'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-386	DSX-10	RP-376/96		RP-376/96 (DSX-10)	P	2	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-387	SJ			SJ 97/103/104	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-388	CF		97	BETWEEN RP-384 & RP-389	B		x		24	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-389	CF		97	12'S OF 97/103 & 3.5'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-390	SJ			SJ 97/102/103	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-391	SJ			SJ 97/101/102	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-392	SJ			SJ 97/100/101	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-393	SJ			SJ 97/99/100	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-394	SJ			SJ 97/98/99	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-395	CF		103	FROM RP-383 TO 5'N	B		x		60	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-396	CF		103	4'N FROM RP-397 & 14'NW	B		x		168	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-397	SJ			SJ 103/104/105	P	2	x	3.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-398	SJ			SJ 103/105/106	P	3	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-399	CF		107	122'S OF 107/108 & 4'W	B		x		192	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-400	SJ			SJ 103/106/107	P	2	x	2.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-401	SJ			SJ 102/103/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-402	SJ			SJ 101/102/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-403	SJ			SJ 100/101/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-404	SJ			SJ 99/100/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-405	SJ			SJ 98/99/107	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-406	CF		98	FROM RP-412 TO N.E. CORNER	B		x		144	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-407	CF		98	FROM RP-412 TO N.W. CORNER	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-408	CF		107	13'S OF 107/108 & 4.5'W	P	1.5	x	3		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-409	CF		107	BETWEEN RP-408 & RP-411	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-410	CF		107	6'S OF 107/108 & 5'W	B		x		60	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-411	CF		107	5'S OF 98/107 & 4'E	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-412	CF		98	BETWEEN RP-406 & RP-407	P	2	x	22		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-413	CF		108	143'S OF 108/109 & 3'E	P	1.5	x	1.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-414	CF		108	FROM RP-413 TO 17'S	B		x		204	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-415	CF		107	FROM RP-416 TO 4'W	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-416	CF		107	154'S OF 107/108 & 6'W	P	2	x	4		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-417	CF		107	FROM RP-416 TO 4'E	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-418	PB		109	152'S OF 108/109 & 2.5'E (PB 4")	P	4	x	6	36.6	9/23/15	EMMANUEL V.	EXT 512	VBOX	P	9/23/15
RP-419	PB	111/112		15'S OF NEOS (PB 8")	P	3.5	x	4.5	52.5	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-420	PB		113	82'S OF 112/113 & 14' (MH 48")	P	9	x	11	175	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-421	BO	113/114		28'S OF NEOS	P	2	x	4.5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-422	DS-27	110/111		120'S OF NEOS	P	2	x	5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-423	SI		111	15'S OF 111/112 & 6'E	P	1.5	x	2		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-424	DSX-11	RP-421/114		RP-421/114 (DSX-11)	P	2	x	6		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-425	PB	114/115		68'S OF NEOS (PB 8")	P	3	x	3.5	52.5	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/8/15
RP-426	CF	115/116		28'S OF NEOS	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-427	CF	117/118		121'S OF NEOS	P	2	x	13		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-428	WR		115	12'S OF 114/115 & 3'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-429	WR		115	BETWEEN RP-428 & RP-430	B		x		120	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-430	WR		115	12'S OF 114/115 &15.5'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-431	CF		115	BETWEEN RP-426 & RP-432	B		x		48	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-432	CF		115	FROM RP-431 TO 15'NW	P	2	x	15		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-433	DO		117	123'S OF 117/118 & 6'E	P	1.5	x	1.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-434	CF		118	BETWEEN RP-427 & RP-435	B		x		12	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-435	CF		118	FROM RP-436 TO 5'N	B		x		60	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-436	CF		118	BETWEEN RP-434 & RP-435	P	2	x	14		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-437	CF	119/120		94'S OF NEOS	P	2	x	3		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-438	CF	119/120		22'S OF NEOS	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-439	CF	119/120		127'S OF NEOS	P	2	x	9		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-440	CF	119/120		139'S OF NEOS	P	2.5	x	4		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-441	CF		119	FROM RP-437 TO 14'W	B		x		168	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445	AO	RP-445		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-446	AO	RP-446		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456	DS-28	123/125		90'N OF SEOS	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-457	PB		125	68'S OF P125/126 & 4'W (PB 8")	P	3	x	3.5	52.5	10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-458	SI		125	ON RP-453 & RP-455	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-459	SI	120,121,122,	&123	BETWEEN RP-454 TO RP-473	P	2	x	91		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-460	DSX-12	RP-459/123		N.SIDE OF RP-459 (DSX-12)	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-461	SI		122	BETWEEN RP-450 & RP-459	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-462	SI		122	FROM RP-461 TO 3'NW	B		x		36	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-463	SI		122	FROM RP-459 TO 5'S	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-464	SI			SJ 121/122/RP-459	P	2	x	4		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-465	SI		121	BETWEEN RP-459 & RP-468	B		x		6	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-466	SI	121/122		FROM RP-467 TO RP-465 & RP-468	B		x		108	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-467	SI		121	9'SE OF RP-465 , RP-466 & RP-468	P	2	x	2.5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-468	SI		121	BETWEEN RP-465 & RP-469	B		x		42	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-469	SI		121	BETWEEN RP-468 & RP-470	B		x		132	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-470	SI		121	11'SW OF RP-468	P	2	x	3		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-471	SI		121	BETWEEN RP-468 & RP-472	B		x		12	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-472	SI		121	FROM RP-471 TO SEOP	P	2	x	23		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-473	SI	119/120		BETWEEN RP-439,RP-444& RP-440	P	2	x	17		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-474	SI	119/120		NEOS TO 16'S	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-475	SI		117	NEOP & 5'W OF 117/118	P	2	x	14		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-476	PB	128/132	132	81'N OF SEOS & 3'E (PB 4")	P	3	x	6	36.6	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/9/15
RP-477	SI	125/126	125	159'S OF NEOS & 13' W	P	2	x	13		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-478	SJ			P 127/128/129	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-479	SJ			P 128/129/132	P	2	x	3		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-480	DS-29	128/132		25'N OF SEOS	P	2	x	7		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-481	SJ			P 128/131/132	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-482	SJ			P 128/130/131	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-483	DSX-13	RP-477/125		N.SIDE OF RP-477 (DSX-13)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-484	DSX-14	RP-480/132		E.SIDE OF RP-480 (DSX-14)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-485	SJ			P 132/133/143	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-486	DSX-15	RP-487/125		N.SIDE OF RP-487 (DSX-15)	P	2	x	5		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-487	FS		125	DS-13 FAIL (CAP OVER RP-477/RP-483)	P	5	x	15		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-488	DO		123	6' S OF NEOS ON SCB WALL EDGE	P	3	x	2.5		11/4/15	EDFY E.	EXT 512	NA		
							x								
							x								
							x								
							x								
							x								
							x								
							x								
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							x								
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Appendix M
ESI Destruct Sample Information Logs

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-1	3 / 4	7/20/15	MODESTO L.	2003	650	860		Peel	109	101	107	103	108	105	102	105	104	107	PASS
								Shear	113		113		102		109		112		
	DS Location and Notes	18'N OF SEOS																	
DS-2	6 / 7	7/21/15	MODESTO L.	2003	500	860		Peel	78	99	102	98	112	108	106	103	107	111	PASS
								Shear	115		118		120		113		119		
	DS Location and Notes	10'E OF WEOS																	
DS-3	11 / 12	7/22/15	MODESTO L.	2003	650	860		Peel	106	103	105	105	107	104	103	104	109	97	PASS
								Shear	111		109		108		105		108		
	DS Location and Notes	100'N OF SEOS																	
DS-4	14 / 15	7/23/15	MODESTO L.	2003	650	860		Peel	121	113	115	108	112	117	102	115	118	113	PASS
								Shear	126		128		129		127		125		
	DS Location and Notes	16'S OF NEOS																	
DS-5	17 / 18	7/23/15	MODESTO L.	2003	650	860		Peel	119	114	115	101	113	114	118	102	116	110	PASS
								Shear	121		118		120		123		122		
	DS Location and Notes	75'S OF NEOS																	
DSX-1	RP-17 / 13	7/24/15	EMMANUEL V.	EXT 512		500	490	Peel	102		103		107		98		99		PASS
								Shear	120		121		117		121		120		
	DS Location and Notes	ON RP-17																	
DSX-2	RP-32 / 15	7/27/15	EMMANUEL V.	EXT 512		500	450	Peel	126		120		123		122		108		PASS
								Shear	122		122		120		119		116		
	DS Location and Notes	ON RP-32/15 (10'E OF WEOS)																	
DS-6	20 / 21	7/24/15	MODESTO L.	2003	550	860		Peel	101	101	100	103	104	106	105	106	110	99	PASS
								Shear	114		107		111		110		111		
	DS Location and Notes	155'S OF NEOS																	
DS-7	23 / 24	7/24/15	MODESTO L.	2003	650	860		Peel	106	106	103	105	104	104	100	102	103	102	PASS
								Shear	109		111		107		106		108		
	DS Location and Notes	87'S OF NEOS																	
DSX-3	RP-82 / 23	7/28/15	EMMANUEL V.	EXT 512		500	450	Peel	99		99		104		98		102		PASS
								Shear	109		115		117		112		118		
	DS Location and Notes	RP-82/23 (87'S OF NEOS)																	
DS-8	26 / 27	7/28/15	MODESTO L.	2003	650	860		Peel	103	101	107	104	104	110	100	105	104	99	PASS
								Shear	122		120		117		120		121		
	DS Location and Notes	128'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-9	29 / 30	7/28/15	MODESTO L.	2003	650	860		Peel	111	108	114	107	104	100	111	107	110	110	PASS
								Shear	118		118		117		119		118		
	DS Location and Notes	80'N OF SEOS																	
DS-10	32 / 33	7/29/15	MODESTO L.	2003	650	860		Peel	99	110	114	109	110	116	105	106	100	108	PASS
								Shear	118		118		122		121		119		
	DS Location and Notes	20'N OF SEOS																	
DSX-4	RP-102 / 27	7/29/15	EMMANUEL V.	EXT 512		490	400	Peel	123		125		119		120		122		PASS
								Shear	127		124		130		129		128		
	DS Location and Notes	ON EAST SIDE OF RP-102/27																	
DS-11	36 / 37	8/3/15	MODESTO L.	2003	650	860		Peel	104	99	104	104	98	104	97	106	98	107	PASS
								Shear	113		112		112		115		113		
	DS Location and Notes	90'W OF EEOS																	
DS-12	42 / 43	8/3/15	MODESTO L.	2003	650	860		Peel	101	105	106	103	110	100	109	104	101	103	PASS
								Shear	111		110		115		116		116		
	DS Location and Notes	20'N OF SEOS																	
DSX-5	RP-160 / 42	8/4/15	PEDRO S.	EXT 512		500	500	Peel	91		98		111		109		111		PASS
								Shear	118		119		116		115		110		
	DS Location and Notes	ON RP-160/42																	
DS-13	47 / 48	8/5/15	MODESTO L.	2025	600	860		Peel	118	101	113	103	112	105	110	100	103	116	PASS
								Shear	129		121		123		122		122		
	DS Location and Notes	70'S OF NEOS																	
DS-14	50 / 51	8/6/15	MODESTO L.	2025	600	860		Peel	109	112	117	108	113	110	114	112	112	111	PASS
								Shear	132		130		128		131		132		
	DS Location and Notes	35'S OF NEOS																	
DSX-6	RP-198 / 48	8/6/15	PEDRO S.	EXT 512		530	530	Peel	121		125		122		119		116		PASS
								Shear	118		119		121		118		118		
	DS Location and Notes	ON RP-198/48																	
DS-15	54 / 55	8/7/15	MODESTO L.	2025	600	860		Peel	101	107	105	107	106	103	101	99	100	106	PASS
								Shear	121		119		119		126		120		
	DS Location and Notes	72'S OF NEOS																	
DSX-7	RP-197 / 53	8/10/15	PEDRO S.	EXT 512		530	530	Peel	109		109		110		112		109		PASS
								Shear	119		121		120		123		119		
	DS Location and Notes	ON RP-197/53																	
DS-16	59 / 61	8/10/15	MODESTO L.	2025	600	860		Peel	106	110	100	98	103	100	101	105	100	99	PASS
								Shear	121		123		119		117		124		
	DS Location and Notes	6'N OF SEOS																	
DS-17	62 / 63	8/10/15	MODESTO L.	2025	600	860		Peel	111	112	113	105	113	111	109	111	108	111	PASS
								Shear	124		128		126		120		125		
	DS Location and Notes	90'N OF SEOS																	
DS-18	64 / 65	8/10/15	MODESTO L.	2025	600	860		Peel	111	105	110	113	109	111	108	101	108	109	PASS
								Shear	121		123		124		122		123		
	DS Location and Notes	128'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-19	68 / 69	8/13/15	MODESTO L.	2025	600	860		Peel	101	106	100	103	103	107	104	105	103	106	PASS
								Shear	122		125		121		124		126		
	DS Location and Notes	100'N OF SEOS																	
DS-20	72 / 73	8/14/15	MODESTO L.	2025	450	860		Peel	96	102	98	102	100	106	96	98	99	102	PASS
								Shear	115		115		114		118		115		
	DS Location and Notes	10'N OF SEOS																	
DS-21	74 / 75	8/14/15	MODESTO L.	2025	600	860		Peel	103	103	103	107	106	105	104	105	103	105	PASS
								Shear	119		120		123		116		118		
	DS Location and Notes	75'N OF SEOS																	
DSX-8	RP-284 / 71	9/9/15	PEDRO S.	EXT 512		550	550	Peel	106		100		100		103		101		PASS
								Shear	119		116		117		120		119		
	DS Location and Notes	ON RP-284/71																	
DS-22	79 / 80	9/9/15	PEDRO S.	2025	400	860		Peel	119	115	116	118	114	113	113	113	116	118	PASS
								Shear	117		117		116		113		112		
	DS Location and Notes	78'E OF WEOS																	
DS-23	88 / 89	9/15/15	PEDRO S.	2025	400	860		Peel	97	95	101	102	97	94	96	95	97	96	PASS
								Shear	113		116		117		111		116		
	DS Location and Notes	116'N OF SEOS																	
DSX-9	RP-316 / 88	9/16/15	EMMANUEL V.	EXT 512		550	550	Peel	100		100		99		103		105		PASS
								Shear	119		119		118		116		120		
	DS Location and Notes	RP-316/88																	
DS-24	91 / 92	9/16/15	PEDRO S.	2025	450	860		Peel	109	98	110	96	108	100	105	97	98	108	PASS
								Shear	111		116		112		118		113		
	DS Location and Notes	45'N OF SEOS																	
DS-25	94 / 95	9/17/15	PEDRO S.	2025	450	860		Peel	114	109	114	109	114	110	116	104	113	107	PASS
								Shear	126		127		122		120		126		
	DS Location and Notes	100'N OF SEOS																	
DS-26	96 / 97	9/17/15	PEDRO S.	2025	450	860		Peel	98	85	100	98	100	100	98	92	96	98	PASS
								Shear	104		106		109		109		110		
	DS Location and Notes	33'S OF NEOS																	
DSX-10	RP-376 / 96	9/21/15	EMMANUEL V.	EXT 512		550	550	Peel	95		94		99		98		98		PASS
								Shear	101		101		103		105		101		
	DS Location and Notes	RP-376/96																	
DS-27	110 / 111	9/23/15	PEDRO S.	2025	450	860		Peel	112	116	114	116	105	120	109	114	110	115	PASS
								Shear	127		128		127		125		125		
	DS Location and Notes	120'S OF NEOS																	
DSX-11	RP-421 / 114	9/24/15	EMMANUEL V.	EXT 512		550	550	Peel	117		116		108		108		112		PASS
								Shear	119		112		111		116		114		
	DS Location and Notes	RP-421/114																	
DS-28	123 / 125	9/29/15	PEDRO S.	2025	400	860		Peel	115	127	112	123	119	117	109	113	106	126	PASS
								Shear	141		138		133		136		137		
	DS Location and Notes	90'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DSX-12	RP-459 / 123	10/7/15	EMMANUEL V.	EXT 512		550	550	Peel	106		110		111		105		104		PASS
								Shear	128		129		128		131		127		
	DS Location and Notes	N.SIDE OF RP-459																	
DS-29	128 / 132	10/8/15	PEDRO S.	2025	450	860		Peel	112	116	106	123	116	109	125	113	125	112	PASS
								Shear	133		139		130		136		134		
	DS Location and Notes	25'N OF SEOS																	
DSX-13	RP-477 / 125	10/9/15	PEDRO S.	EXT 512		550	550	Peel	121		118		120		119		121		FAIL
								Shear	136		133		137		136		131		
	DS Location and Notes	N.SIDE OF RP-477 (DSX-13 FAIL AT LAB , TRACK TO DSX-15)																	
DSX-14	RP-480 / 132	10/9/15	PEDRO S.	EXT 512		550	550	Peel	118		117		125		119		120		PASS
								Shear	138		139		138		136		134		
	DS Location and Notes	E.SIDE OF RP-480																	
DSX-15	RP-487 / 125	10/12/15	EDFY N.	EXT 512		550	550	Peel	122		113		114		117		108		PASS
								Shear	133		117		131		128		126		
	DS Location and Notes	N.SIDE OF RP-487/125																	
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
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	DS Location and Notes																		
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								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		

Appendix N
Laboratory Destruct Test Results

Entact / ESI – Fusion Weld Destruct Sample Laboratory Data

Honeywell SA-6 Capping

Comparison of ESI / Langan (QA) Destruct Samples - Fusion Weld

Sample ID	*Weld Type*	*Submitted By:*	*Test*	*Peel Strength (ppi)*					Avg. Strength (ppi)	*Meets Spec Requirement*
DS-1	Fusion	Entact	Side A Peel	126.4	122.5	125.3	125.4	124.7	**124.9**	**Yes**
			Side B Peel	120.8	118.5	118.9	117.8	116.5	**118.5**	**Yes**
			Shear	126.7	137.9	136.1	142.3	138.8	**136.4**	**Yes**
DS-2	Fusion	Langan	Side A Peel	138	142	138	140	134	**138**	**Yes**
		Entact	Side A Peel	126.3	125.8	126.5	128.8	129.3	**127.3**	**Yes**
		Langan	Side B Peel	139	143	140	138	134	**139**	**Yes**
		Entact	Side B Peel	121.8	123.1	124.6	123.1	124.3	**123.4**	**Yes**
		Langan	Shear	139	146	143	147	145	**144**	**Yes**
		Entact	Shear	127.9	133.2	138.3	135	132.4	**133.4**	**Yes**
DS-3	Fusion	Entact	Side A Peel	127.5	120.8	122.1	123.2	123.7	**123.5**	**Yes**
			Side B Peel	124.2	118.4	121.2	119.7	120.1	**120.7**	**Yes**
			Shear	131.3	127.3	127.8	128.8	127.5	**128.5**	**Yes**
DS-4	Fusion	Entact	Side A Peel	108.7	105	107.7	109.8	104.7	**107.2**	**Yes**
			Side B Peel	110.4	109	107.1	107.9	108.3	**108.5**	**Yes**
			Shear	115.3	115.1	117.8	115.6	115.4	**115.8**	**Yes**
DS-5	Fusion	Entact	Side A Peel	112	110.3	114.6	111.8	112.2	**112.2**	**Yes**
			Side B Peel	107.3	101	105.6	105.2	104.2	**104.7**	**Yes**
			Shear	117.7	117.5	121.3	120.2	118.2	**119.0**	**Yes**
DS-6	Fusion	Entact	Side A Peel	115.2	113.8	116.8	99.3	119.9	**113.0**	**Yes**
			Side B Peel	120.3	109.4	115.4	102.9	110.5	**111.7**	**Yes**
			Shear	125.1	123.5	124.6	125.6	122.2	**124.2**	**Yes**
DS-7	Fusion	Entact	Side A Peel	117	115.9	119.8	115.7	116.1	**116.9**	**Yes**
			Side B Peel	113.1	113.6	115.8	110.9	111.7	**113.0**	**Yes**
			Shear	125.6	124.3	124	128.7	125.7	**125.7**	**Yes**
DS-8	Fusion	Entact	Side A Peel	121.5	124.7	123.3	126.9	124.2	**124.1**	**Yes**
			Side B Peel	115.6	116.6	115.5	119.4	116.7	**116.8**	**Yes**
			Shear	135.4	127.5	130.7	127.8	126.1	**129.5**	**Yes**
DS-9	Fusion	Entact	Side A Peel	122.8	123.5	124.5	123.4	128.6	**124.6**	**Yes**
			Side B Peel	120.1	120.1	119.9	121	124.1	**121.0**	**Yes**
			Shear	136.1	131.2	131.9	134.5	130.7	**132.9**	**Yes**
DS-10	Fusion	Langan	Side A Peel	121	121	124	123	122	**122.2**	**Yes**
		Entact	Side A Peel	119.3	119.8	118.3	125.2	119.4	**120.4**	**Yes**
		Langan	Side B Peel	121	118	120	117	125	**120.2**	**Yes**
		Entact	Side B Peel	116.7	118.5	109.6	113.5	113.9	**114.4**	**Yes**
		Langan	Shear	134	133	134	129	130	**132.0**	**Yes**
		Entact	Shear	135.9	132.1	132.1	134.7	134.2	**133.8**	**Yes**
DS-11	Fusion	Entact	Side A Peel	127.4	124.6	126.7	125.4	123.5	**125.5**	**Yes**
			Side B Peel	126.5	120.8	128.3	123.9	123.5	**124.6**	**Yes**
			Shear	134.6	135.4	138.6	136.1	136.6	**136.3**	**Yes**
DS-12	Fusion	Entact	Side A Peel	129.7	131.2	135.1	130.6	134.7	**132.3**	**Yes**
			Side B Peel	118.9	116.7	128.9	115.9	120.3	**120.1**	**Yes**
			Shear	146.2	141.4	143.3	142.2	141.7	**143.0**	**Yes**
DS-13	Fusion	Entact	Side A Peel	121.3	114.1	110.8	123.4	118.8	**117.7**	**Yes**
			Side B Peel	113.9	121.3	116.3	120	119.6	**118.2**	**Yes**
			Shear	137.1	138.9	140.2	130.3	142.7	**137.8**	**Yes**
DS-14	Fusion	Entact	Side A Peel	121.8	120.9	120.2	121.7	127.6	**122.4**	**Yes**
			Side B Peel	123.1	122.6	121.6	126.7	132.6	**125.3**	**Yes**
			Shear	141.2	143.6	142	139.6	140.9	**141.5**	**Yes**

DS-15	Fusion	Entact	Side A Peel	106.6	109.7	106.8	108.7	107.2	**107.8**	**Yes**
			Side B Peel	113.7	108.9	110.1	109.7	107.2	**109.9**	**Yes**
			Shear	132.5	127.1	124.3	127.2	127.3	**127.7**	**Yes**
DS-16	Fusion	Entact	Side A Peel	111.4	114.2	118.3	113.6	108.7	**113.2**	**Yes**
			Side B Peel	114.1	113.2	119.3	114	112.7	**114.7**	**Yes**
			Shear	113.6	133.4	136.1	132.2	135.1	**130.1**	**Yes**
DS-17	Fusion	Entact	Side A Peel	121.1	121.9	122.3	122.4	120.6	**121.7**	**Yes**
			Side B Peel	121.9	116	118.1	123.6	121	**120.1**	**Yes**
			Shear	136.1	136.1	135.6	138.7	136.8	**136.7**	**Yes**
DS-18	Fusion	Entact	Side A Peel	112.6	120.7	118.2	114.7	116.6	**116.6**	**Yes**
			Side B Peel	110.3	109.4	113.4	112	114.1	**111.8**	**Yes**
			Shear	138.8	135.9	133.9	136.1	136.7	**136.3**	**Yes**
DS-19	Fusion	Entact	Side A Peel	114.6	118	113.7	112.8	112.9	**114.4**	**Yes**
			Side B Peel	118.1	121.2	117.2	118.6	119.1	**118.8**	**Yes**
			Shear	138.1	136.2	133.6	133.1	133.9	**135.0**	**Yes**
DS-20	Fusion	Entact	Side A Peel	119.6	118.8	114.7	117.4	116.3	**117.4**	**Yes**
			Side B Peel	112.7	117.6	116.1	114.6	113.8	**115.0**	**Yes**
			Shear	140.9	135.7	140.4	142.7	141.4	**140.2**	**Yes**
DS-21	Fusion	Langan	Side A Peel	113	115	114	116	115	**114.6**	**Yes**
		Entact	Side A Peel	117.8	118.5	113.2	112.4	112.1	**114.8**	**Yes**
		Langan	Side B Peel	120	119	122	130	128	**123.8**	**Yes**
		Entact	Side B Peel	112.3	122.1	120	109.4	112	**115.2**	**Yes**
		Langan	Shear	142	147	145	142	144	**144.0**	**Yes**
		Entact	Shear	145.9	144.4	147.2	143.7	142.9	**144.8**	**Yes**
DS-22	Fusion	Entact	Side A Peel	120	125.9	118.4	117.9	118.2	**120.1**	**Yes**
			Side B Peel	125.9	123.5	118.4	120.4	120.1	**121.7**	**Yes**
			Shear	137.9	131.6	134.7	132.4	133.5	**134.0**	**Yes**
DS-23	Fusion	Entact	Side A Peel	108.9	113.2	109.4	109.7	113.9	**111.0**	**Yes**
			Side B Peel	118.3	114.9	109.3	111.3	122	**115.2**	**Yes**
			Shear	128.5	129.2	129.7	130.9	129.5	**129.6**	**Yes**
DS-24	Fusion	Entact	Side A Peel	120	118.2	118.6	120.2	119.2	**119.2**	**Yes**
			Side B Peel	109.8	112.1	112.9	115.4	114.4	**112.9**	**Yes**
			Shear	128.9	132.4	135.2	135	124.9	**131.3**	**Yes**
DS-25	Fusion	Entact	Side A Peel	117.6	110.4	117.8	116.8	118.4	**116.2**	**Yes**
			Side B Peel	119.6	125	120.3	125.5	126.9	**123.5**	**Yes**
			Shear	129.9	131.1	135.5	135.3	134.2	**133.2**	**Yes**
DS-26	Fusion	Entact	Side A Peel	115.7	115.5	112.9	117.9	117.6	**115.9**	**Yes**
			Side B Peel	98.1	99.5	104.4	101.9	118.5	**104.5**	**Yes**
			Shear	130.9	126.7	133	126.4	130.8	**129.6**	**Yes**
DS-27	Fusion	Entact	Side A Peel	111.1	105.2	109.7	109.1	108.5	**108.7**	**Yes**
			Side B Peel	121.6	114.8	120.1	125	121.6	**120.6**	**Yes**
			Shear	126	125.7	127.8	128.4	132.1	**128.0**	**Yes**
DS-28	Fusion	Entact	Side A Peel	111.1	107.3	111.3	108.5	108.7	**109.4**	**Yes**
			Side B Peel	112.3	107.8	109.9	107.8	123.9	**112.3**	**Yes**
			Shear	132.8	129	129.7	128.6	134.3	**130.9**	**Yes**
DS-29	Fusion	Langan	Side A Peel	111	112	110	112	114	**111.8**	**Yes**
		Entact	Side A Peel	111.4	112.5	115.4	116.7	119.3	**115.1**	**Yes**
		Langan	Side B Peel	113	124	111	121	115	**116.8**	**Yes**
		Entact	Side B Peel	121.1	118.5	115.5	115.6	120.3	**118.2**	**Yes**
		Langan	Shear	138	140	140	138	138	**138.8**	**Yes**
		Entact	Shear	129.5	131.7	131.7	130.7	132.1	**131.1**	**Yes**

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-09
LAB ID NO.: L15084-09-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.4	SE1	<10
2	122.5	SE1	<10
3	125.3	SE1	<10
4	125.4	SE1	<10
5	124.7	SE1	<10
AVERAGE	**124.9**		
STD. DEV.	1.30		
INSIDE TRACK (WELD "B")			
1	120.8	SE1	<10
2	118.5	SE1	<10
3	118.9	SE1	<10
4	117.8	SE1	<10
5	116.5	SE1	<10
AVERAGE	**118.5**		
STD. DEV.	1.41		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.7	SE1
2	137.9	SE1
3	136.1	SE1
4	142.3	SE1
5	138.8	SE1
AVERAGE	**136.4**	
STD. DEV.	5.23	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-09
LAB ID NO.: L15084-09-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.3	SE1	<10
2	125.8	SE1	<10
3	126.5	SE1	<10
4	128.8	SE1	<10
5	129.3	SE1	<10
AVERAGE	**127.3**		
STD. DEV.	1.42		
INSIDE TRACK (WELD "B")			
1	121.8	SE1	<10
2	123.1	SE1	<10
3	124.6	SE1	<10
4	123.1	SE1	<10
5	124.3	SE1	<10
AVERAGE	**123.4**		
STD. DEV.	1.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.9	SE1
2	133.2	SE1
3	138.3	SE1
4	135.0	SE1
5	132.4	SE1
AVERAGE	**133.4**	
STD. DEV.	3.40	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-11
LAB ID NO.: L15084-11-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	127.5	SE1	<10
2	120.8	SE1	<10
3	122.1	SE1	<10
4	123.2	SE1	<10
5	123.7	SE1	<10
AVERAGE	**123.5**		
STD. DEV.	2.25		
INSIDE TRACK (WELD "B")			
1	124.2	SE1	<10
2	118.4	SE1	<10
3	121.2	SE1	<10
4	119.7	SE1	<10
5	120.1	SE1	<10
AVERAGE	**120.7**		
STD. DEV.	1.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.3	SE1
2	127.3	SE1
3	127.8	SE1
4	128.8	SE1
5	127.5	SE1
AVERAGE	**128.5**	
STD. DEV.	1.47	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-12
LAB ID NO.: L15084-12-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	108.7	SE1	<10
2	105.0	SE1	<10
3	107.7	SE1	<10
4	109.8	SE1	<10
5	104.7	SE1	<10
AVERAGE	**107.2**		
STD. DEV.	2.02		
INSIDE TRACK (WELD "B")			
1	110.4	SE1	<10
2	109.0	SE1	<10
3	107.1	SE1	<10
4	107.9	SE1	<10
5	108.3	SE1	<10
AVERAGE	**108.5**		
STD. DEV.	1.11		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.3	SE1
2	115.1	SE1
3	117.8	SE1
4	115.6	SE1
5	115.4	SE1
AVERAGE	**115.8**	
STD. DEV.	0.99	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-12
LAB ID NO.: L15084-12-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.0	SE1	<10
2	110.3	SE1	<10
3	114.6	SE1	<10
4	111.8	SE1	<10
5	112.2	SE1	<10
AVERAGE	**112.2**		
STD. DEV.	1.38		
INSIDE TRACK (WELD "B")			
1	107.3	SE1	<10
2	101.0	SE1	<10
3	105.6	SE1	<10
4	105.2	SE1	<10
5	104.2	SE1	<10
AVERAGE	**104.7**		
STD. DEV.	2.09		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	117.7	SE1
2	117.5	SE1
3	121.3	SE1
4	120.2	SE1
5	118.2	SE1
AVERAGE	**119.0**	
STD. DEV.	1.50	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-13
LAB ID NO.: L15084-13-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.2	SE1	<10
2	113.8	SE1	<10
3	116.8	SE1	<10
4	99.3	SE1	<10
5	119.9	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	7.14		
INSIDE TRACK (WELD "B")			
1	120.3	SE1	<10
2	109.4	SE1	<10
3	115.4	SE1	<10
4	102.9	SE1	<10
5	110.5	SE1	<10
AVERAGE	**111.7**		
STD. DEV.	5.86		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.1	SE1
2	123.5	SE1
3	124.6	SE1
4	125.6	SE1
5	122.2	SE1
AVERAGE	**124.2**	
STD. DEV.	1.22	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-13
LAB ID NO.: L15084-13-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.0	SE1	<10
2	115.9	SE1	<10
3	119.8	SE1	<10
4	115.7	SE1	<10
5	116.1	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	1.52		
INSIDE TRACK (WELD "B")			
1	113.1	SE1	<10
2	113.6	SE1	<10
3	115.8	SE1	<10
4	110.9	SE1	<10
5	111.7	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	1.69		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.6	SE1
2	124.3	SE1
3	124.0	SE1
4	128.7	SE1
5	125.7	SE1
AVERAGE	**125.7**	
STD. DEV.	1.66	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-15
LAB ID NO.: L15084-15-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.5	SE1	<10
2	124.7	SE1	<10
3	123.3	SE1	<10
4	126.9	SE1	<10
5	124.2	SE1	<10
AVERAGE	**124.1**		
STD. DEV.	1.77		
INSIDE TRACK (WELD "B")			
1	115.6	SE1	<10
2	116.6	SE1	<10
3	115.5	SE1	<10
4	119.4	SE1	<10
5	116.7	SE1	<10
AVERAGE	**116.8**		
STD. DEV.	1.41		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.4	SE1
2	127.5	SE1
3	130.7	SE1
4	127.8	SE1
5	126.1	SE1
AVERAGE	**129.5**	
STD. DEV.	3.31	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-15
LAB ID NO.: L15084-15-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.8	SE1	<10
2	123.5	SE1	<10
3	124.5	SE1	<10
4	123.4	SE1	<10
5	128.6	SE1	<10
AVERAGE	**124.6**		
STD. DEV.	2.09		
INSIDE TRACK (WELD "B")			
1	120.1	SE1	<10
2	120.1	SE1	<10
3	119.9	SE1	<10
4	121.0	SE1	<10
5	124.1	SE1	<10
AVERAGE	**121.0**		
STD. DEV.	1.58		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.1	SE1
2	131.2	SE1
3	131.9	SE1
4	134.5	SE1
5	130.7	SE1
AVERAGE	**132.9**	
STD. DEV.	2.07	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-16
LAB ID NO.: L15084-16-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	119.3	SE1	<10
2	119.8	SE1	<10
3	118.3	SE1	<10
4	125.2	SE1	<10
5	119.4	SE1	<10
AVERAGE	**120.4**		
STD. DEV.	2.45		
INSIDE TRACK (WELD "B")			
1	116.7	SE1	<10
2	118.5	SE1	<10
3	109.6	SE1	<10
4	113.5	SE1	<10
5	113.9	SE1	<10
AVERAGE	**114.4**		
STD. DEV.	3.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.9	SE1
2	132.1	SE1
3	132.1	SE1
4	134.7	SE1
5	134.2	SE1
AVERAGE	**133.8**	
STD. DEV.	1.49	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-18
LAB ID NO.: L15084-18-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	127.4	SE1	<10
2	124.6	SE1	<10
3	126.7	SE1	<10
4	125.4	SE1	<10
5	123.5	SE1	<10
AVERAGE	**125.5**		
STD. DEV.	1.40		
INSIDE TRACK (WELD "B")			
1	126.5	SE1	<10
2	120.8	SE1	<10
3	128.3	SE1	<10
4	123.9	SE1	<10
5	123.5	SE1	<10
AVERAGE	**124.6**		
STD. DEV.	2.59		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	134.6	SE1
2	135.4	SE1
3	138.6	SE1
4	136.1	SE1
5	136.6	SE1
AVERAGE	**136.3**	
STD. DEV.	1.35	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-18
LAB ID NO.: L15084-18-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	129.7	SE1	<10
2	131.2	SE1	<10
3	135.1	SE1	<10
4	130.6	SE1	<10
5	134.7	SE1	<10
AVERAGE	**132.3**		
STD. DEV.	2.21		
INSIDE TRACK (WELD "B")			
1	118.9	SE1	<10
2	116.7	SE1	<10
3	128.9	SE1	<10
4	115.9	SE1	<10
5	120.3	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	4.65		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	146.2	SE1
2	141.4	SE1
3	143.3	SE1
4	142.2	SE1
5	141.7	SE1
AVERAGE	**143.0**	
STD. DEV.	1.74	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-20
LAB ID NO.: L15084-20-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.3	SE1	<10
2	114.1	SE1	<10
3	110.8	SE1	<10
4	123.4	SE1	<10
5	118.8	SE1	<10
AVERAGE	**117.7**		
STD. DEV.	4.63		
INSIDE TRACK (WELD "B")			
1	113.9	SE1	<10
2	121.3	SE1	<10
3	116.3	SE1	<10
4	120.0	SE1	<10
5	119.6	SE1	<10
AVERAGE	**118.2**		
STD. DEV.	2.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	137.1	SE1
2	138.9	SE1
3	140.2	SE1
4	130.3	SE1
5	142.7	SE1
AVERAGE	**137.8**	
STD. DEV.	4.19	

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PEEL AND SHEAR TEST RESULTS
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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-20
LAB ID NO.: L15084-20-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.8	SE1	<10
2	120.9	SE1	<10
3	120.2	SE1	<10
4	121.7	SE1	<10
5	127.6	SE1	<10
AVERAGE	**122.4**		
STD. DEV.	2.64		
INSIDE TRACK (WELD "B")			
1	123.1	SE1	<10
2	122.6	SE1	<10
3	121.6	SE1	<10
4	126.7	SE1	<10
5	132.6	SE1	<10
AVERAGE	**125.3**		
STD. DEV.	4.03		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	141.2	SE1
2	143.6	SE1
3	142.0	SE1
4	139.6	SE1
5	140.9	SE1
AVERAGE	**141.5**	
STD. DEV.	1.32	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-21
LAB ID NO.: L15084-21-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	106.6	SE1	<10
2	109.7	SE1	<10
3	106.8	SE1	<10
4	108.7	SE1	<10
5	107.2	SE1	<10
AVERAGE	**107.8**		
STD. DEV.	1.20		
INSIDE TRACK (WELD "B")			
1	113.7	SE1	<10
2	108.9	SE1	<10
3	110.1	SE1	<10
4	109.7	SE1	<10
5	107.2	SE1	<10
AVERAGE	**109.9**		
STD. DEV.	2.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.5	SE1
2	127.1	SE1
3	124.3	SE1
4	127.2	SE1
5	127.3	SE1
AVERAGE	**127.7**	
STD. DEV.	2.66	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-21
LAB ID NO.: L15084-21-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.4	SE1	<10
2	114.2	SE1	<10
3	118.3	SE1	<10
4	113.6	SE1	<10
5	108.7	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	3.18		
INSIDE TRACK (WELD "B")			
1	114.1	SE1	<10
2	113.2	SE1	<10
3	119.3	SE1	<10
4	114.0	SE1	<10
5	112.7	SE1	<10
AVERAGE	**114.7**		
STD. DEV.	2.38		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	113.6	SE1
2	133.4	SE1
3	136.1	SE1
4	132.2	SE1
5	135.1	SE1
AVERAGE	**130.1**	
STD. DEV.	8.35	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-22
LAB ID NO.: L15084-22-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.1	SE1	<10
2	121.9	SE1	<10
3	122.3	SE1	<10
4	122.4	SE1	<10
5	120.6	SE1	<10
AVERAGE	**121.7**		
STD. DEV.	0.70		
INSIDE TRACK (WELD "B")			
1	121.9	SE1	<10
2	116.0	SE1	<10
3	118.1	SE1	<10
4	123.6	SE1	<10
5	121.0	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	2.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.1	SE1
2	136.1	SE1
3	135.6	SE1
4	138.7	SE1
5	136.8	SE1
AVERAGE	**136.7**	
STD. DEV.	1.09	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-22
LAB ID NO.: L15084-22-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-18

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.6	SE1	<10
2	120.7	SE1	<10
3	118.2	SE1	<10
4	114.7	SE1	<10
5	116.6	SE1	<10
AVERAGE	**116.6**		
STD. DEV.	2.79		
INSIDE TRACK (WELD "B")			
1	110.3	SE1	<10
2	109.4	SE1	<10
3	113.4	SE1	<10
4	112.0	SE1	<10
5	114.1	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	1.78		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	138.8	SE1
2	135.9	SE1
3	133.9	SE1
4	136.1	SE1
5	136.7	SE1
AVERAGE	**136.3**	
STD. DEV.	1.57	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-22
LAB ID NO.: L15084-22-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-19

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.6	SE1	<10
2	118.0	SE1	<10
3	113.7	SE1	<10
4	112.8	SE1	<10
5	112.9	SE1	<10
AVERAGE	**114.4**		
STD. DEV.	1.91		
INSIDE TRACK (WELD "B")			
1	118.1	SE1	<10
2	121.2	SE1	<10
3	117.2	SE1	<10
4	118.6	SE1	<10
5	119.1	SE1	<10
AVERAGE	**118.8**		
STD. DEV.	1.34		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	138.1	SE1
2	136.2	SE1
3	133.6	SE1
4	133.1	SE1
5	133.9	SE1
AVERAGE	**135.0**	
STD. DEV.	1.89	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-23
LAB ID NO.: L15084-23-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-20

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	119.6	SE1	<10
2	118.8	SE1	<10
3	114.7	SE1	<10
4	117.4	SE1	<10
5	116.3	SE1	<10
AVERAGE	**117.4**		
STD. DEV.	1.75		
INSIDE TRACK (WELD "B")			
1	112.7	SE1	<10
2	117.6	SE1	<10
3	116.1	SE1	<10
4	114.6	SE1	<10
5	113.8	SE1	<10
AVERAGE	**115.0**		
STD. DEV.	1.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	140.9	SE1
2	135.7	SE1
3	140.4	SE1
4	142.7	SE1
5	141.4	SE1
AVERAGE	**140.2**	
STD. DEV.	2.39	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-23
LAB ID NO.: L15084-23-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-21

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.8	SE1	<10
2	118.5	SE1	<10
3	113.2	SE1	<10
4	112.4	SE1	<10
5	112.1	SE1	<10
AVERAGE	**114.8**		
STD. DEV.	2.77		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	122.1	SE1	<10
3	120.0	SE1	<10
4	109.4	SE1	<10
5	112.0	SE1	<10
AVERAGE	**115.2**		
STD. DEV.	4.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	145.9	SE1
2	144.4	SE1
3	147.2	SE1
4	143.7	SE1
5	142.9	SE1
AVERAGE	**144.8**	
STD. DEV.	1.55	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-25
LAB ID NO.: L15084-25-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-22

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.0	SE1	<10
2	125.9	SE1	<10
3	118.4	SE1	<10
4	117.9	SE1	<10
5	118.2	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	3.00		
INSIDE TRACK (WELD "B")			
1	125.9	SE1	<10
2	123.5	SE1	<10
3	118.4	SE1	<10
4	120.4	SE1	<10
5	120.1	SE1	<10
AVERAGE	**121.7**		
STD. DEV.	2.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	137.9	SE1
2	131.6	SE1
3	134.7	SE1
4	132.4	SE1
5	133.5	SE1
AVERAGE	**134.0**	
STD. DEV.	2.20	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-26
LAB ID NO.: L15084-26-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-23

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	108.9	SE1	<10
2	113.2	SE1	<10
3	109.4	SE1	<10
4	109.7	SE1	<10
5	113.9	SE1	<10
AVERAGE	**111.0**		
STD. DEV.	2.09		
INSIDE TRACK (WELD "B")			
1	118.3	SE1	<10
2	114.9	SE1	<10
3	109.3	SE1	<10
4	111.3	SE1	<10
5	122.0	SE1	<10
AVERAGE	**115.2**		
STD. DEV.	4.60		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.5	SE1
2	129.2	SE1
3	129.7	SE1
4	130.9	SE1
5	129.5	SE1
AVERAGE	**129.6**	
STD. DEV.	0.78	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-28
LAB ID NO.: L15084-28-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-24

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.0	SE1	<10
2	118.2	SE1	<10
3	118.6	SE1	<10
4	120.2	SE1	<10
5	119.2	SE1	<10
AVERAGE	**119.2**		
STD. DEV.	0.77		
INSIDE TRACK (WELD "B")			
1	109.8	SE1	<10
2	112.1	SE1	<10
3	112.9	SE1	<10
4	115.4	SE1	<10
5	114.4	SE1	<10
AVERAGE	**112.9**		
STD. DEV.	1.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.9	SE1
2	132.4	SE1
3	135.2	SE1
4	135.0	SE1
5	124.9	SE1
AVERAGE	**131.3**	
STD. DEV.	3.92	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-29
LAB ID NO.: L15084-29-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-25

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.6	SE1	<10
2	110.4	SE1	<10
3	117.8	SE1	<10
4	116.8	SE1	<10
5	118.4	SE1	<10
AVERAGE	**116.2**		
STD. DEV.	2.94		
INSIDE TRACK (WELD "B")			
1	119.6	SE1	<10
2	125.0	SE1	<10
3	120.3	SE1	<10
4	125.5	SE1	<10
5	126.9	SE1	<10
AVERAGE	**123.5**		
STD. DEV.	2.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.9	SE1
2	131.1	SE1
3	135.5	SE1
4	135.3	SE1
5	134.2	SE1
AVERAGE	**133.2**	
STD. DEV.	2.28	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-29
LAB ID NO.: L15084-29-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.7	SE1	<10
2	115.5	SE1	<10
3	112.9	SE1	<10
4	117.9	SE1	<10
5	117.6	SE1	<10
AVERAGE	**115.9**		
STD. DEV.	1.79		
INSIDE TRACK (WELD "B")			
1	98.1	SE1	<10
2	99.5	SE1	<10
3	104.4	SE1	<10
4	101.9	SE1	<10
5	118.5	SE1	<10
AVERAGE	**104.5**		
STD. DEV.	7.33		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.9	SE1
2	126.7	SE1
3	133.0	SE1
4	126.4	SE1
5	130.8	SE1
AVERAGE	**129.6**	
STD. DEV.	2.58	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-31
LAB ID NO.: L15084-31-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-27

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.1	SE1	<10
2	105.2	SE1	<10
3	109.7	SE1	<10
4	109.1	SE1	<10
5	108.5	SE1	<10
AVERAGE	**108.7**		
STD. DEV.	1.96		
INSIDE TRACK (WELD "B")			
1	121.6	SE1	<10
2	114.8	SE1	<10
3	120.1	SE1	<10
4	125.0	SE1	<10
5	121.6	SE1	<10
AVERAGE	**120.6**		
STD. DEV.	3.32		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	125.7	SE1
3	127.8	SE1
4	128.4	SE1
5	132.1	SE1
AVERAGE	**128.0**	
STD. DEV.	2.29	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-32
LAB ID NO.: L15084-32-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-28

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.1	SE1	<10
2	107.3	SE1	<10
3	111.3	SE1	<10
4	108.5	SE1	<10
5	108.7	SE1	<10
AVERAGE	**109.4**		
STD. DEV.	1.57		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	107.8	SE1	<10
3	109.9	SE1	<10
4	107.8	SE1	<10
5	123.9	SE1	<10
AVERAGE	**112.3**		
STD. DEV.	6.01		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.8	SE1
2	129.0	SE1
3	129.7	SE1
4	128.6	SE1
5	134.3	SE1
AVERAGE	**130.9**	
STD. DEV.	2.26	

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C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-34
LAB ID NO.: L15084-34-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-29

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.4	SE1	<10
2	112.5	SE1	<10
3	115.4	SE1	<10
4	116.7	SE1	<10
5	119.3	SE1	<10
AVERAGE	**115.1**		
STD. DEV.	2.85		
INSIDE TRACK (WELD "B")			
1	121.1	SE1	<10
2	118.5	SE1	<10
3	115.5	SE1	<10
4	115.6	SE1	<10
5	120.3	SE1	<10
AVERAGE	**118.2**		
STD. DEV.	2.32		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.5	SE1
2	131.7	SE1
3	131.7	SE1
4	130.7	SE1
5	132.1	SE1
AVERAGE	**131.1**	
STD. DEV.	0.94	

CHECKED BY: JAM DATE: 10/12/15

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Langan – Fusion Weld Destruct Sample Laboratory Data

Date: 2015-07-23

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

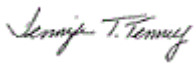
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17032**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17032

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	142	138	140	134	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	139	143	140	138	134	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	139	146	143	147	145	**144**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2015-08-04

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services
100530001

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17198**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Melissa Hunter
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17198

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	121	124	123	122	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	118	120	117	125	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	134	133	134	129	130	**132**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2015-08-27

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

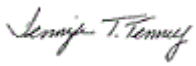
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17632**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17632

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	113	115	114	116	115	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	119	122	130	128	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	142	147	145	142	144	**144**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2015-10-14

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

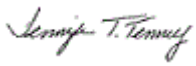
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**18404**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 18404

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	111	112	110	112	114	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	124	111	121	115	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	138	140	140	138	138	**139**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Entact / ESI – Extrusion Weld Destruct Sample Laboratory Data

Honeywell SA-6 Capping

Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds

Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
EXT-DS-1	Extrusion	Langan	Peel	97	97	127	130	128	**116**	**Yes**
DSX-1		Entact	Peel	109.3	107.5	109.8	120.5	110	**111.4**	**Yes**
EXT-DS-1		Langan	Shear	133	172	148	181	146	**156**	**Yes**
DSX-1		Entact	Shear	115.7	119.8	118.1	117.5	116.2	**117.5**	**Yes**
DSX-2	Extrusion	Entact	Peel	133.5	118.8	126.4	120.1	115.4	**122.8**	**Yes**
			Shear	132.7	150.3	145.5	135.4	130.3	**138.8**	**Yes**
DSX-3	Extrusion	Entact	Peel	123.7	117.2	117.9	119.1	120.2	**119.6**	**Yes**
			Shear	126	128.6	125.1	124.5	125.1	**125.9**	**Yes**
DSX-4	Extrusion	Entact	Peel	128.4	132.1	133.5	134.4	139.5	**133.6**	**Yes**
			Shear	144.7	143.7	141.8	150.7	145.7	**145.3**	**Yes**
DSX-5	Extrusion	Entact	Peel	107.5	115.8	111.6	113.9	119.3	**113.6**	**Yes**
			Shear	131.7	136.9	151.8	137	149.5	**141.4**	**Yes**
DSX-6	Extrusion	Entact	Peel	151.4	144.8	130.9	139.9	150.1	**143.4**	**Yes**
			Shear	164.9	162.3	151.5	155.6	159.7	**158.8**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.7	126.8	128.7	122.2	120.7	**124.4**	**Yes**
			Shear	134.6	133.7	134.8	136.2	135.5	**135.0**	**Yes**
DSX-8	Extrusion	Entact	Peel	129.6	119.5	124.3	130.9	120	**124.9**	**Yes**
			Shear	131.6	130.7	129.7	134.4	127.8	**130.8**	**Yes**
DSX-9	Extrusion	Entact	Peel	108.7	124.4	120.8	112	111.6	**115.5**	**Yes**
			Shear	132.8	126.8	133.9	116.1	122.8	**126.5**	**Yes**
DSX-10	Extrusion	Entact	Peel	118.7	122.1	118.1	120.8	136.1	**123.2**	**Yes**
			Shear	123	145.2	149.5	130.7	145.6	**138.8**	**Yes**
DSX-11	Extrusion	Langan	Peel	125	134	123	121	124	**125**	**Yes**
		Entact	Peel	125.1	118.2	125.9	123.3	120.6	**122.6**	**Yes**
		Langan	Shear	164	157	141	137	142	**148**	**Yes**
		Entact	Shear	122.6	124.6	126.1	127.9	128.2	**125.9**	**Yes**
DSX-12	Extrusion	Entact	Peel	130.4	121.3	148.4	118.2	138.9	**131.4**	**Yes**
			Shear	126.2	123.7	125	124.2	122.7	**124.4**	**Yes**
DSX-13	Extrusion	Entact	Peel	117	97.9	123.5	66	55.6	**92.0**	**No**
			Shear	131.2	129	133	132.9	124.6	**130.1**	**Yes**
DSX-14	Extrusion	Entact	Peel	119	119.7	118.8	123.3	122.6	**120.7**	**Yes**
			Shear	120.9	121.4	121.7	129.5	127.4	**124.2**	**Yes**
DSX-15	Extrusion	Entact	Peel	119.5	114.1	123.8	111.4	106.8	**115.1**	**Yes**
			Shear	132.1	135.2	138.5	137.4	141.7	**137.0**	**Yes**

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-12
LAB ID NO.: L15084-12-01
MATERIAL: 60 MIL HDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	109.3	SE3	<10
2	107.5	SE3	<10
3	109.8	SE3	<10
4	120.5	SE3	<10
5	110.0	SE3	<10
AVERAGE	**111.4**		
STD. DEV.	4.62		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.7	SE1
2	119.8	SE1
3	118.1	SE1
4	117.5	SE1
5	116.2	SE1
AVERAGE	**117.5**	
STD. DEV.	1.45	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-13
LAB ID NO.: L15084-13-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	133.5	SE3	<10
2	118.8	SE3	<10
3	126.4	SE3	<10
4	120.1	SE3	<10
5	115.4	SE3	<10
AVERAGE	**122.8**		
STD. DEV.	6.41		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.7	SE2
2	150.3	SE1
3	145.5	SE1
4	135.4	SE1
5	130.3	SE2
AVERAGE	**138.8**	
STD. DEV.	7.72	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-15
LAB ID NO.: L15084-15-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	123.7	SE3	<10
2	117.2	SE3	<10
3	117.9	SE3	<10
4	119.1	SE3	<10
5	120.2	SE3	<10
AVERAGE	**119.6**		
STD. DEV.	2.28		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	128.6	SE1
3	125.1	SE1
4	124.5	SE1
5	125.1	SE1
AVERAGE	**125.9**	
STD. DEV.	1.45	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-16
LAB ID NO.: L15084-16-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	128.4	SE3	<10
2	132.1	SE3	<10
3	133.5	SE3	<10
4	134.4	SE3	<10
5	139.5	SE3	<10
AVERAGE	**133.6**		
STD. DEV.	3.60		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	144.7	SE1
2	143.7	SE1
3	141.8	SE1
4	150.7	SE1
5	145.7	SE1
AVERAGE	**145.3**	
STD. DEV.	2.98	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-19
LAB ID NO.: L15084-19-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	107.5	SE2	<10
2	115.8	SE2	<10
3	111.6	SE2	<10
4	113.9	SE2	<10
5	119.3	SE2	<10
AVERAGE	**113.6**		
STD. DEV.	3.97		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.7	SE1
2	136.9	SE1
3	151.8	SE1
4	137.0	SE1
5	149.5	SE1
AVERAGE	**141.4**	
STD. DEV.	7.84	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-20
LAB ID NO.: L15084-20-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	151.4	SE3	<10
2	144.8	SE3	<10
3	130.9	SE3	<10
4	139.9	SE3	<10
5	150.1	SE3	<10
AVERAGE	**143.4**		
STD. DEV.	7.47		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	164.9	SE1
2	162.3	SE1
3	151.5	SE1
4	155.6	SE1
5	159.7	SE1
AVERAGE	**158.8**	
STD. DEV.	4.77	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-21
LAB ID NO.: L15084-21-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	123.7	SE3	<10
2	126.8	SE3	<10
3	128.7	SE3	<10
4	122.2	SE3	<10
5	120.7	SE3	<10
AVERAGE	**124.4**		
STD. DEV.	2.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	134.6	SE1
2	133.7	SE1
3	134.8	SE1
4	136.2	SE1
5	135.5	SE1
AVERAGE	**135.0**	
STD. DEV.	0.85	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-24
LAB ID NO.: L15084-24-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	129.6	SE3	<10
2	119.5	SE3	<10
3	124.3	SE3	<10
4	130.9	SE3	<10
5	120.0	SE3	<10
AVERAGE	**124.9**		
STD. DEV.	4.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.6	SE1
2	130.7	SE1
3	129.7	SE1
4	134.4	SE1
5	127.8	SE1
AVERAGE	**130.8**	
STD. DEV.	2.18	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-27
LAB ID NO.: L15084-27-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	108.7	SE3	<10
2	124.4	SE3	<10
3	120.8	SE3	<10
4	112.0	SE3	<10
5	111.6	SE3	<10
AVERAGE	**115.5**		
STD. DEV.	6.02		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.8	SE1
2	126.8	SE1
3	133.9	SE1
4	116.1	SE1
5	122.8	SE1
AVERAGE	**126.5**	
STD. DEV.	6.58	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-30
LAB ID NO.: L15084-30-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	118.7	SE3	<10
2	122.1	SE3	<10
3	118.1	SE3	<10
4	120.8	SE3	<10
5	136.1	SE3	<10
AVERAGE	**123.2**		
STD. DEV.	6.63		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.0	SE1
2	145.2	SE1
3	149.5	SE1
4	130.7	SE1
5	145.6	SE1
AVERAGE	**138.8**	
STD. DEV.	10.17	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-31
LAB ID NO.: L15084-31-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	125.1	SE3	<10
2	118.2	SE3	<10
3	125.9	SE3	<10
4	123.3	SE3	<10
5	120.6	SE3	<10
AVERAGE	**122.6**		
STD. DEV.	2.86		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	122.6	SE1
2	124.6	SE1
3	126.1	SE1
4	127.9	SE1
5	128.2	SE1
AVERAGE	**125.9**	
STD. DEV.	2.09	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-32
LAB ID NO.: L15084-32-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	130.4	SE3	<10
2	121.3	SE3	<10
3	148.4	SE3	<10
4	118.2	SE3	<10
5	138.9	SE3	<10
AVERAGE	**131.4**		
STD. DEV.	11.16		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.2	SE1
2	123.7	SE1
3	125.0	SE1
4	124.2	SE1
5	122.7	SE1
AVERAGE	**124.4**	
STD. DEV.	1.18	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-34
LAB ID NO.: L15084-34-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	117.0	SE2	<10
2	97.9	SE2	<10
3	123.5	SE2	<10
4	66.0	AD1	100
5	55.6	AD1	100
AVERAGE	**92.0**		
STD. DEV.	27.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.2	SE1
2	129.0	SE1
3	133.0	SE1
4	132.9	SE1
5	124.6	SE1
AVERAGE	**130.1**	
STD. DEV.	3.13	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-34
LAB ID NO.: L15084-34-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	119.0	SE2	<10
2	119.7	SE2	<10
3	118.8	SE2	<10
4	123.3	SE2	<10
5	122.6	SE2	<10
AVERAGE	**120.7**		
STD. DEV.	1.89		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	120.9	SE1
2	121.4	SE1
3	121.7	SE1
4	129.5	SE1
5	127.4	SE1
AVERAGE	**124.2**	
STD. DEV.	3.56	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-35
LAB ID NO.: L15084-35-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	119.5	SE2	<10
2	114.1	SE2	<10
3	123.8	SE2	<10
4	111.4	SE2	<10
5	106.8	SE2	<10
AVERAGE	**115.1**		
STD. DEV.	5.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.1	SE1
2	135.2	SE1
3	138.5	SE1
4	137.4	SE1
5	141.7	SE1
AVERAGE	**137.0**	
STD. DEV.	3.22	

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Langan – Extrusion Weld Destruct Sample Laboratory Data

Date: 2015-07-28

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services
100530001

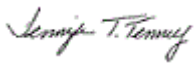
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17111**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17111

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: EXT DS-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	97	97	127	130	128	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	133	172	148	181	146	**156**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2015-10-05

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**18270**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 18270

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-11 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	125	134	123	121	124	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	157	141	137	142	**148**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Appendix O
Penetration & Pipe Boot Logs

Honeywell

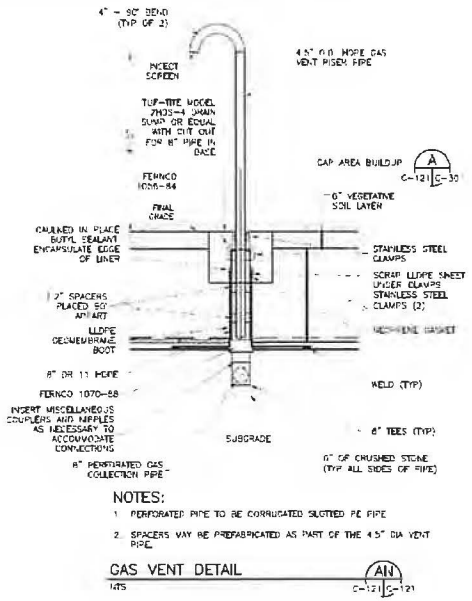
STUDY AREA 6 - CAP INSTALLATION

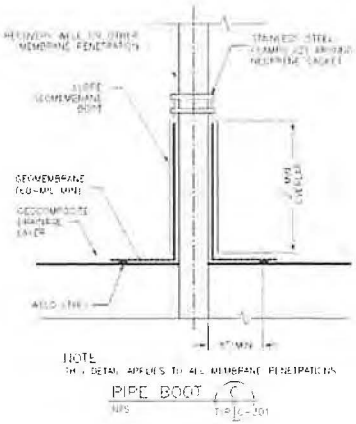
LANGAN

Project: Study Area 6 South

Date: 7/22/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 073-MW-1BR located at western end of SA-6 Cap on Panel 1/2 seam (approx. 135 ft. north of south end of Cap). Identified as RP-6 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/21/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

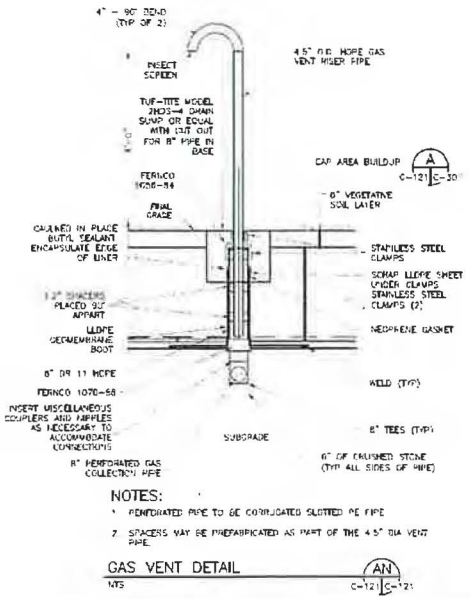
STUDY AREA 6 - CAP INSTALLATION

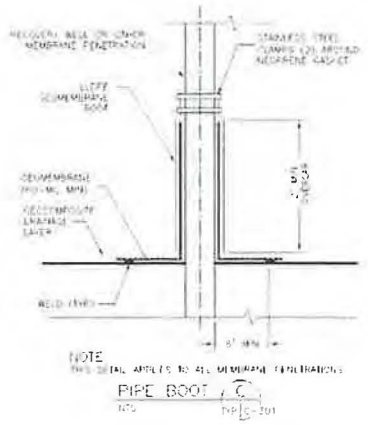
LANGAN

Project: Study Area 6 South

Date: 9/25/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-E1A-SO located in proximity to northern boundary of SA-6 Cap on Panel #111 / 112 (approx. 15 ft. south of north end of Cap). Identified as RP-419 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing conducted on 9/24/15. Final butyl sealant applied at completion of project on 10/9/15.

Honeywell

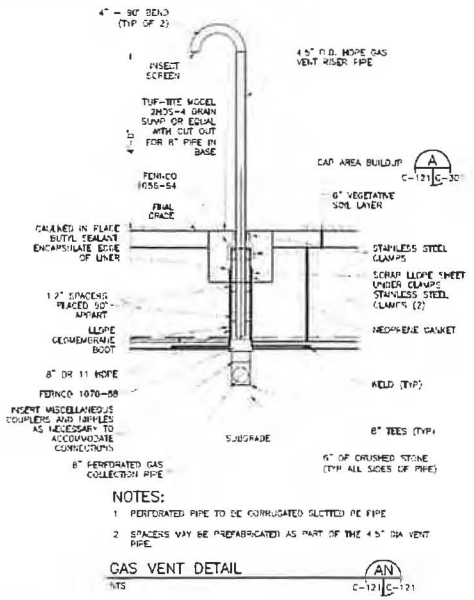
STUDY AREA 6 - CAP INSTALLATION

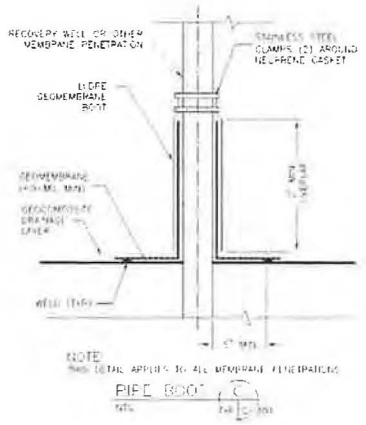
LANGAN

Project: Study Area 6 South

Date: 7/23/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W3-SO located along northern slope of SA-6 Cap on Panel #8 (approx. 147 ft. north of south end of Cap). Identified as RP-14 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/22/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

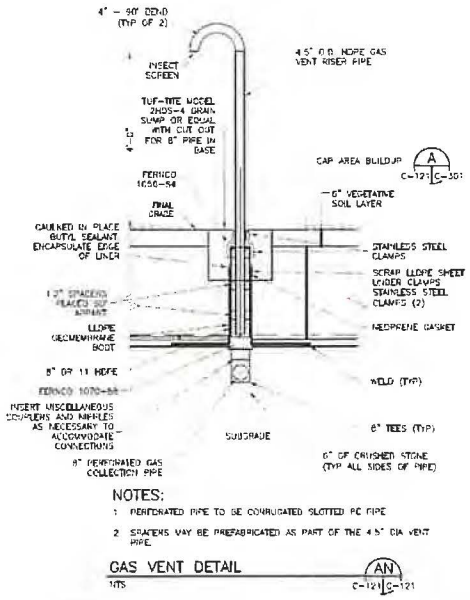
STUDY AREA 6 - CAP INSTALLATION

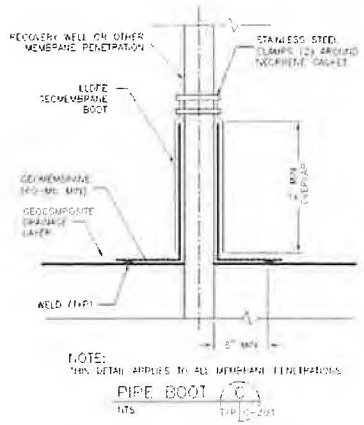
LANGAN

Project: Study Area 6 South

Date: 8/13/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W5-SO located in proximity to northern boundary of SA-6 Cap on Panel #61 62 (approx. 135 ft. north of south end of Cap). Identified as RP-246 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing conducted on 8/12/15. Final butyl sealant applied at completion of project on 10/9/15.

Honeywell

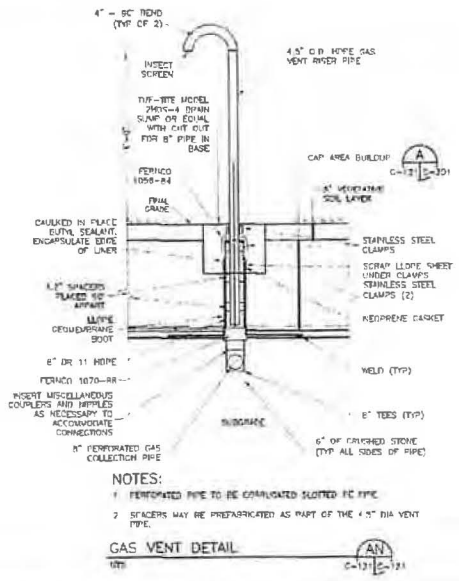
STUDY AREA 6 - CAP INSTALLATION

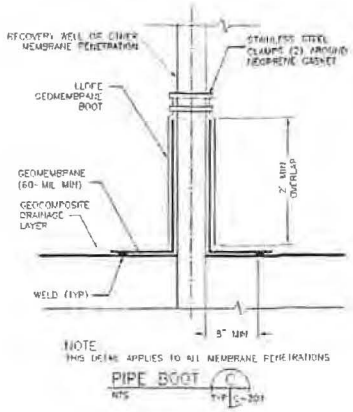
LANGAN

Project: Study Area 6 South

Date: 10/09/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-0 located at approximate center of SA-6 Cap on Panel #125 (approximately 68 ft. south of north end of cap). Identified as RP-457 on *As Built* and *Repair Report*

AmecFW QA Signature: BShea 10/9/15

Independent CQA Monitor Signature: 10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 10/9/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

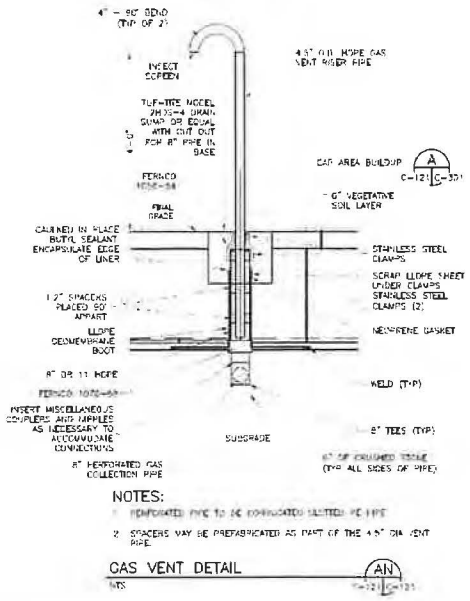
STUDY AREA 6 - CAP INSTALLATION

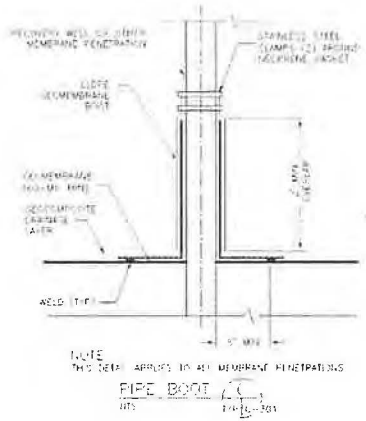
LANGAN

Project: Study Area 6 South

Date: 10/09/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-1 located at approximate center of SA-6 Cap on Panel #114 / 115 seam. Identified as RP-425 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 10/8/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

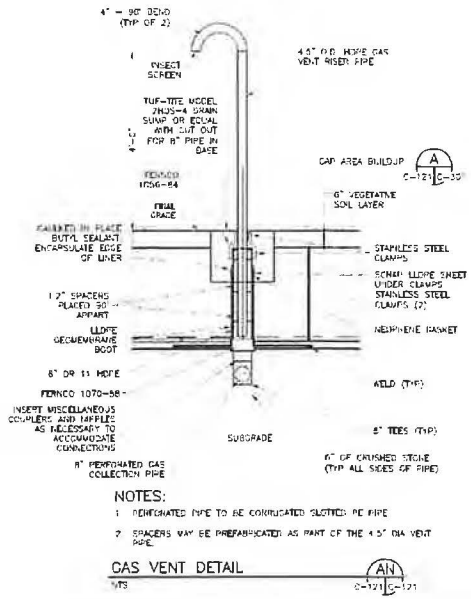
STUDY AREA 6 - CAP INSTALLATION

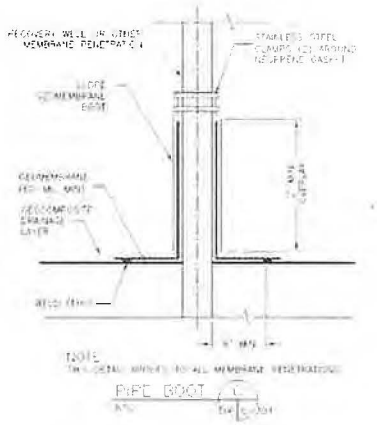
LANGAN

Project: Study Area 6 South

Date: 9/22/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-2 located at approximate center of SA-6 Cap on Panel #95. Identified as RP-369 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/21/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

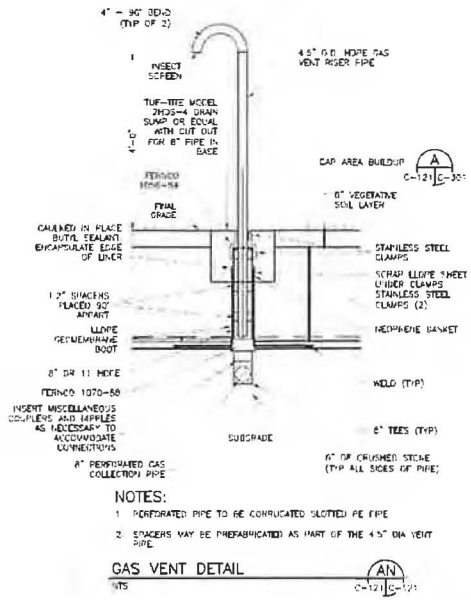
STUDY AREA 6 - CAP INSTALLATION

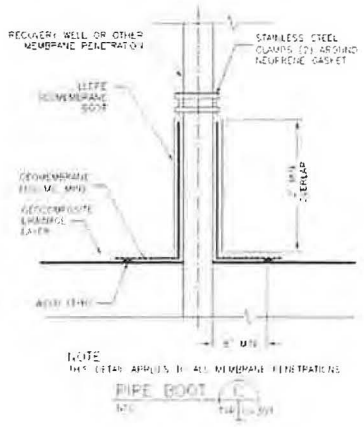
LANGAN

Project: Study Area 6 South

Date: 9/15/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-3 located at approximate center of SA-6 Cap on Panel #74 (along Panel #73/74 seam). Identified as RP-257 on *As Built* and *Repair Report*

AmecFW QA Signature:

RShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/14/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

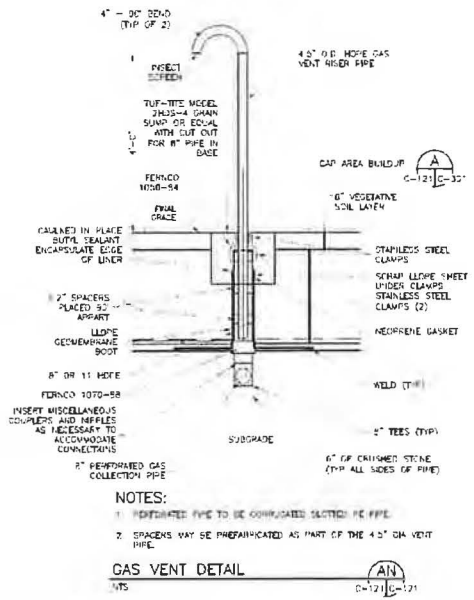
STUDY AREA 6 - CAP INSTALLATION

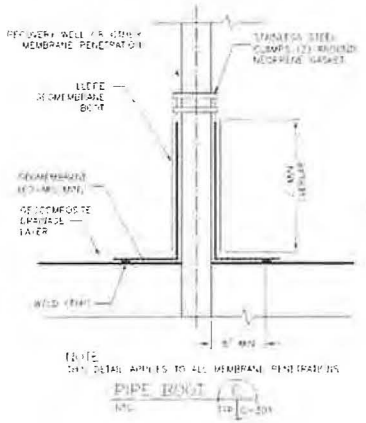
LANGAN

Project: Study Area 6 South

Date: 9/14/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-4 located at approximate center of SA-6 Cap on Panel #58. Identified as RP-243 on *As Built* and *Repair Report*

AmecFW QA Signature:

BSlieg 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/11/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

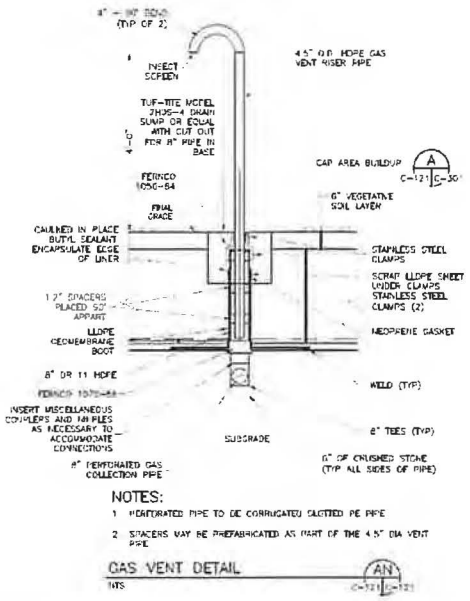
STUDY AREA 6 - CAP INSTALLATION

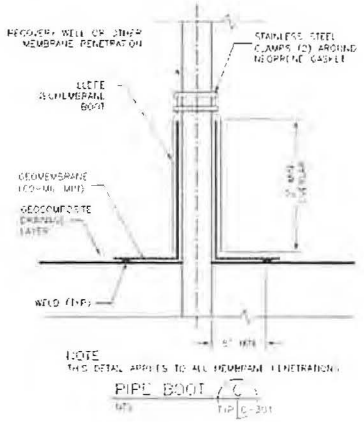
LANGAN

Project: Study Area 6 South

Date: 8/13/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-5 located at approximate center of SA-6 Cap on Panel #38 (approx. 3 ft. west of Panel 37/38/42 joint). Identified as RP-219 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/12/15. Final butyl sealant applied at project completion on 10/9/15.

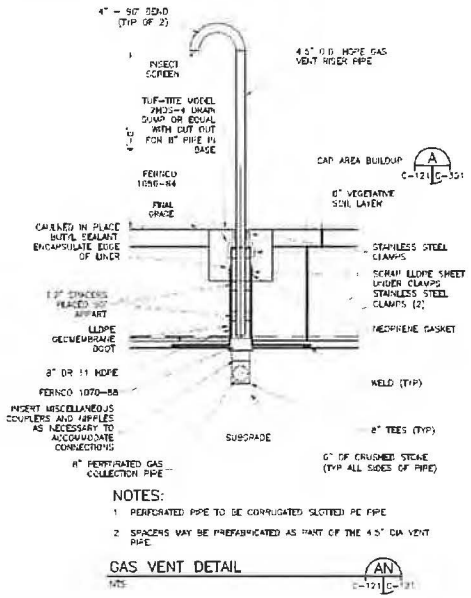
Honeywell

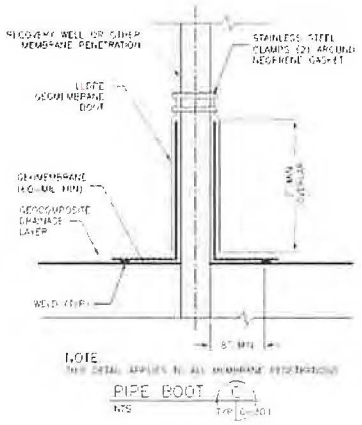
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 South	**Date:** 8/6/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-6 located at approximate center of SA-6 Cap on Panel #25 (approx. 74 ft. south of north end of Cap). Identified as RP-188 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/5/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

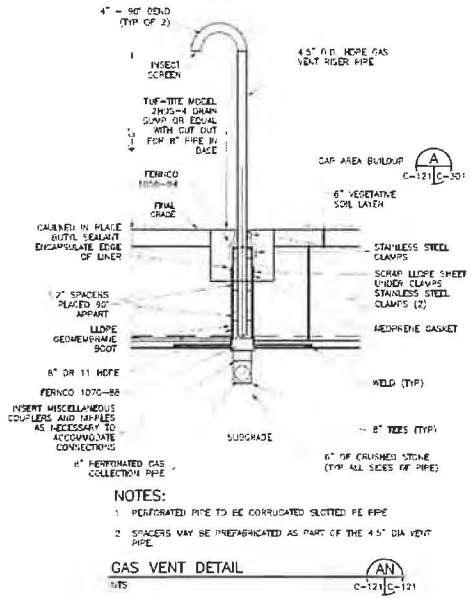
STUDY AREA 6 - CAP INSTALLATION

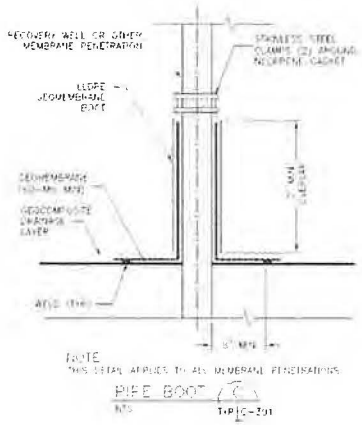
LANGAN

Project: Study Area 6 South

Date: 7/30/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-7 located at approximate center of SA-6 Cap on Panel #11 (approx. 80 ft. north of south end of Cap). Identified as RP-129 on *As Built* and *Repair Report*

AmecFW QA Signature:

B.Shea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/29/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

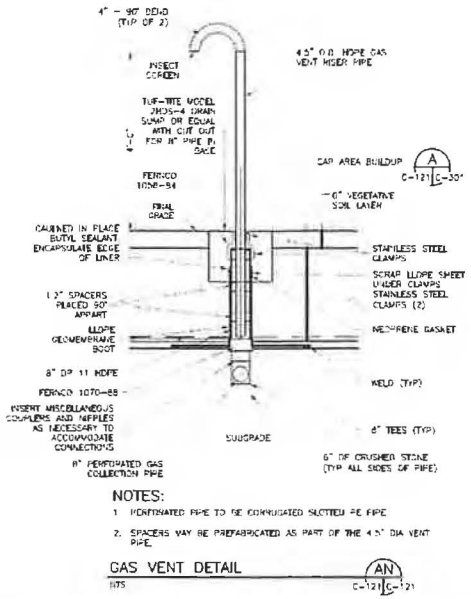
STUDY AREA 6 - CAP INSTALLATION

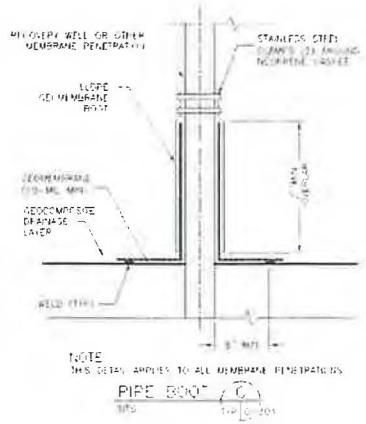
LANGAN

Project: Study Area 6 South

Date: 10/9/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-12 located along eastern end of SA-6 (approx. 81 ft. north of south end of Cap). Identified as RP-476 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 10/8/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

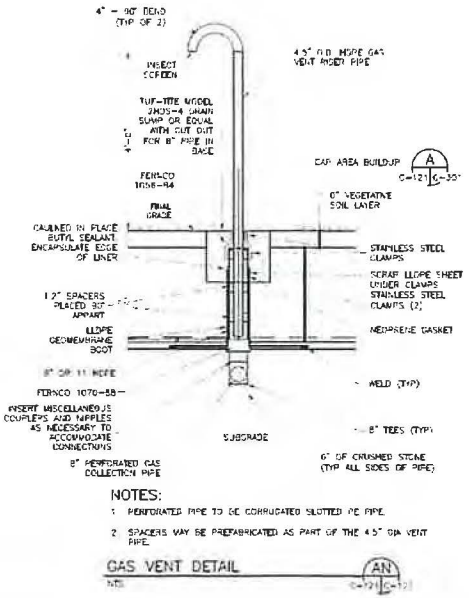
STUDY AREA 6 - CAP INSTALLATION

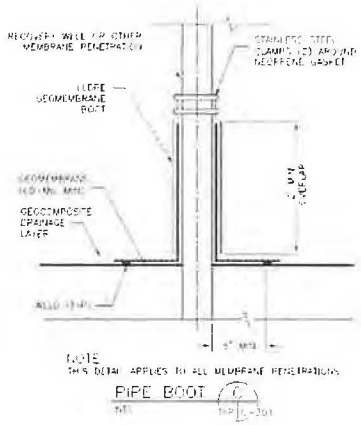
LANGAN

Project: Study Area 6 South

Date: 9/24/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-14 located along southern edge of SA-6 Cap on Panel #109 (approx. 152 ft. south of north end of Cap). Identified as RP-418 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 9/23/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

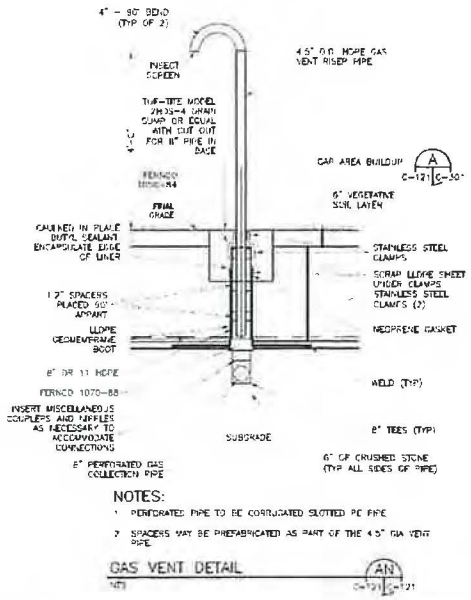
STUDY AREA 6 - CAP INSTALLATION

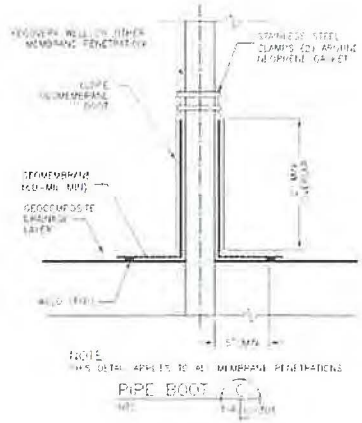
LANGAN

Project: Study Area 6 South

Date: 8/17/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-16 located along southern edge of SA-6 Cap on Panel #71 (approx. 9 ft. north of south end of Cap). Identified as RP-255 on *As Built* and *Repair Report*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/14/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

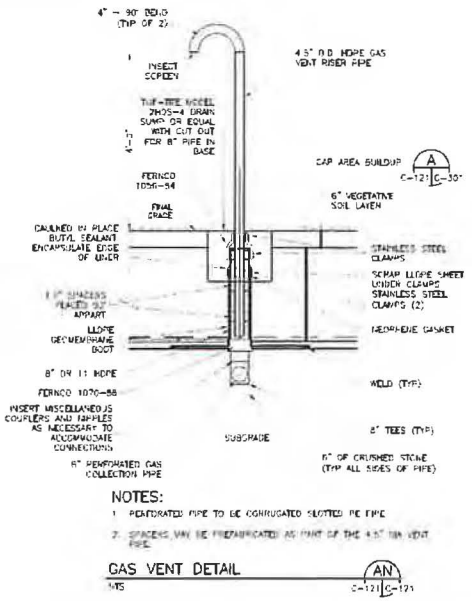
STUDY AREA 6 - CAP INSTALLATION

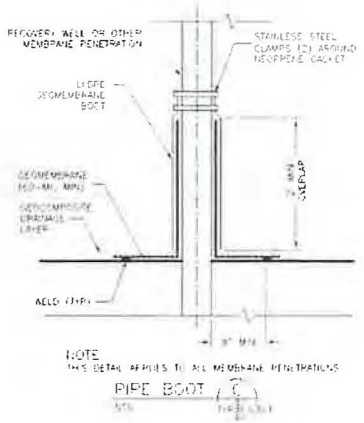
LANGAN

Project: Study Area 6 South

Date: 7/31/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-18 located along southern edge of SA-6 Cap on Panel #31/32 seam (approx. 13 ft. north of south end of Cap). Identified as RP-132 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/30/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

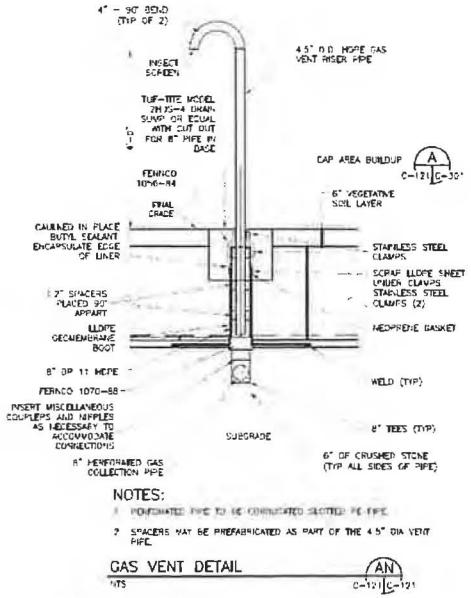
STUDY AREA 6 - CAP INSTALLATION

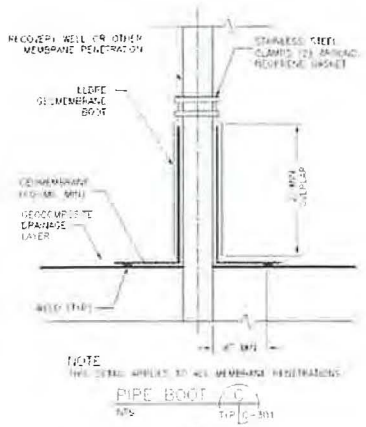
LANGAN

Project: Study Area 6 South

Date: 7/22/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-20 located at western end of SA-6 Cap on Panel 1 seam (approx. 85 ft. north of south end of Cap). Identified as RP-7 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/21/15. Final butyl sealant applied at project completion on 10/9/15.

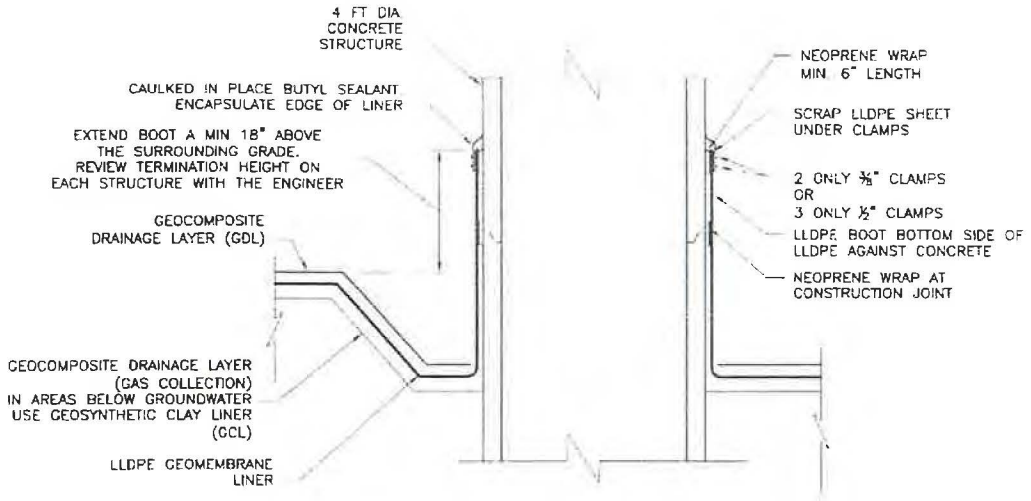
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 7/27/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #1 located on Panel #16 (P-16) at approximate Sta. 19+25 (SCB Wall Sta. Numbering). Identified as RP-24 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/24/15. Final butyl sealant applied at project completion on 10/9/15.

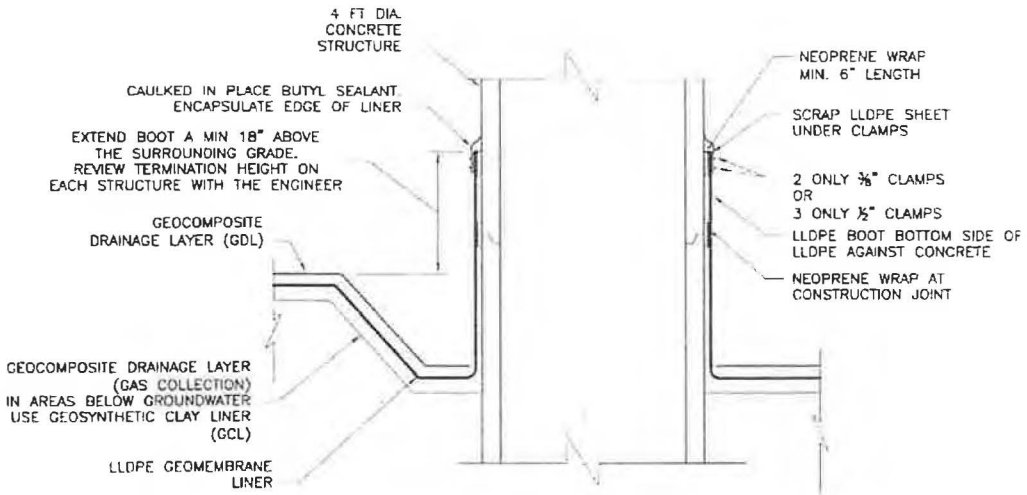
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 8/11/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #2 located on Panel #47 (P-47) at approximate Sta. 14+00 (SCB Wall Sta. Numbering). Identified as RP-218 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/10/15. Final butyl sealant applied at project completion on 10/9/15.

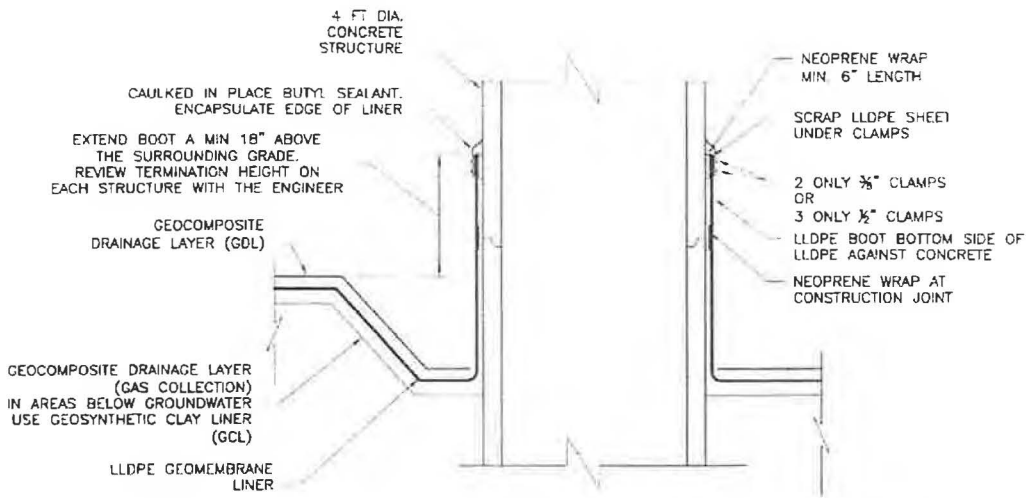
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 9/15/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE
NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #3 located on Panel #75/78/79 seams (western slope of 2nd utility corridor). Identified as RP-262 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/14/15. Final butyl sealant applied at completion of project on 10/9/15.

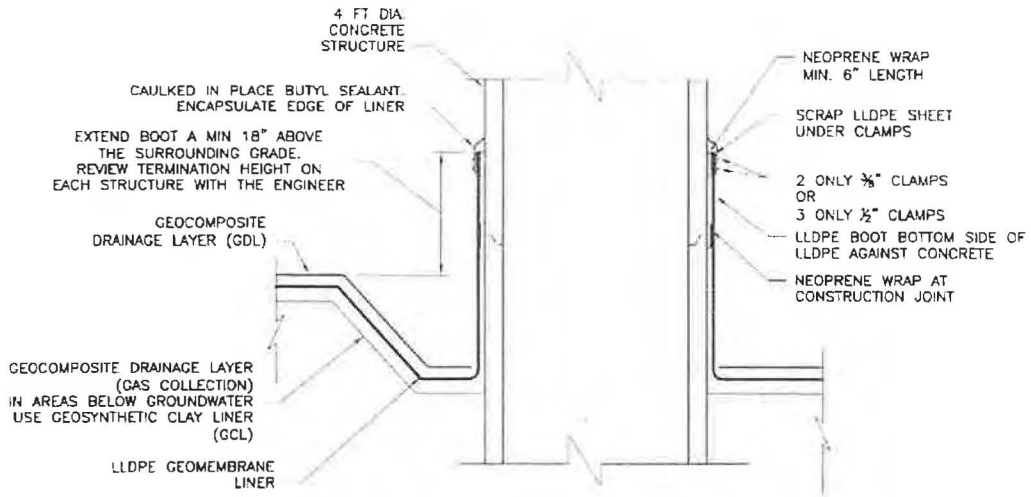
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 9/25/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE
NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #4 located on Panel #113 (approximate center of SA-6), approximately 82 ft. south of north end of Cap. Identified as RP-420 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B.Shea 10/9/15

Independent CQA Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/24/15. Final butyl sealant applied at completion of project on 10/9/15.

Appendix P
Summary of Non-Compliance & Corrective Action Sheets

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 1

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/21/15 Contractor in NC: Entact Non-Compliance No.: 1 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #3 (P-3). This non-compliance issue is also noted on the 7/21/15 Repair Report, and is identified as RP-3. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 2 ft. by 2.5 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photo #5 of 7/21/15 photo log for repair of RP-3.

Geosynthetic Installer Representative Carlos Ramos Date 7-21-15

Independent CQA Monitor [signature] Date 7-21-15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 2

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/21/15 Contractor in NC: Entact Non-Compliance No.: 2 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #2 (P-2). This non-compliance issue is also noted on the 7/21/15 Repair Report, and is identified as RP-8. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 1.5 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Parris Date 7-21-15

Independent CQA Monitor  Date 7-21-15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 3

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/22/15 Contractor in NC: ESI / Entact Non-Compliance No.: 3 Notes: Non-Destructive Test
Reference	
Item: Non-Destructive Test Failure Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Failure of Non-Destructive Test along Panel seams 7/8 (located on southern end of SA-6). This non-compliance issue is also noted on the 7/22/15 Repair Report, and is identified as RP-13. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Failure of panel seam 7/8 during non-destructive testing confirmed. Based on length of failed seam (approximately 6 ft.), the entire seam length will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Based on length of seam to be repaired the area will be patched and sealed with extrusion welds following the project specifications and as outlined in the Contractor's Response above.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Based on length of failed seam (approximately 6 ft.), the entire seam was patched and repaired. This failure was repaired with approximate 2 ft. by 6 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Garcia Date 7-22-15

Independent CQA Monitor [signature] Date 7-22-15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 4

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/24/15 Contractor in NC: Entact Non-Compliance No.: 10 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #17 (P-17). This non-compliance issue is also noted on the 7/24/15 Repair Report, and is identified as RP-30. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Ramos Date 7/27/15

Independent CQA Monitor Date 7/27/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 5

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/7/15 Contractor in NC: Entact Non-Compliance No.: 5 Notes: Vacuum Box Test
Reference	
Item: Vacuum Box Test Failure Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Failed vacuum box test (i.e. leak) detected during vacuum box testing of RP-215 at Panel #50 (P-50). This non-compliance issue is also noted on the 8/7/15 Repair Report, and is identified as a failed test result ("F") for RP-215. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Failed vacuum box test for RP-215 identified and confirmed. Failed weld to be patched and welded according to project specifications, and confirmed via vacuum test.

Follow Up Action Required

Patch / repair failed weld with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (Noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photos 3,7 of the 8/10/15 Photo Log for supporting photographs.

Geosynthetic Installer Representative Carolina Parra Date 8/10/15

Independent CQA Monitor Date 8/10/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 6

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 9/11/15 Contractor in NC: Entact Non-Compliance No.: 6 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #57 (P-57). This non-compliance issue is also noted on the 9/11/15 Repair Report, and is identified as RP-293. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 1.5 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolyn Parnell Date 9/14/15

Independent CQA Monitor Date 9/14/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 7

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 9/16/15 Contractor in NC: Entact Non-Compliance No.: 7 Notes: Subgrade Irregularity
Reference	
Item: Subgrade Irregularity – Hydrated GCL Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane panel cut to expose underlying geosynthetic clay liner (GCL). GCL wet / hydrated from weekend storms. Ground surface elevation outside of the SA-6 cap (along southern end of SA-6) was higher than cap grades which caused surface water to flow towards the cap during a major rain event. Rainwater able to pool / pond and infiltrate underneath geomembrane panels thus hydrating GCL. This non-compliance issue is also noted on the 9/16/15 Repair Report, and is identified as RP-331. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Hydrated GCL confirmed as subgrade irregularity. GCL to be cut (where hydrated), removed, and replaced and the geomembrane will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove hydrated GCL from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane cap was cut and GCL was exposed. Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. The cut in the geomembrane was then repaired with approximate 2 ft. by 18 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photos #2 and #3 of 9/16/15 photo log for placement of new GCL

Geosynthetic Installer Representative Carolina Ramos Date 9/17/15

INDEPENDENT CQA MONITOR [signature] Date 9/17/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 8

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 9/24/15 Contractor in NC: Entact Non-Compliance No.: 8 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #111 (P-111). This non-compliance issue is also noted on the 9/24/15 Repair Report, and is identified as RP-423. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 1.5 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative _____ Date 9/25/15

Independent CQA Monitor _____ Date 9/25/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 9

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 10/7/15 Contractor in NC: Entact Non-Compliance No.: 9 Notes: Subgrade Irregularity
Reference	
Item: Subgrade Irregularity – Hydrated GCL Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane Panels #121-125 (southern end of SA-6 within swale) cut to expose underlying geosynthetic clay liner (GCL). GCL wet / hydrated from weekend storms. Ground surface elevation outside of the SA-6 cap (along southern end of SA-6) was higher than cap grades which caused surface water to flow towards the cap during a major rain event. Rainwater able to pool / pond and infiltrate underneath geomembrane panels from failure of pump during storms thus hydrating GCL along the southern end of SA-6. This non-compliance issue is also noted on the 10/7/15 Repair Report, and is identified as the following repairs (RP-458 through RP-473). The location of these repairs were recorded and logged (via GPS) by the team (southern swale of SA-6).

Contractor's Response

Hydrated GCL confirmed as subgrade irregularity. GCL to be cut (where hydrated), removed, and replaced and the geomembrane will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove hydrated GCL from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane cap was cut and GCL was exposed (southern swale of SA-6). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired. Patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to *10/7/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carolina Ramos Date 10/8/15

Independent CQA Monitor [signature] Date 10/8/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 10

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 10/7/15 Contractor in NC: Entact Non-Compliance No.: 10 Notes: Subgrade Irregularity
Reference	
Item: Subgrade Irregularity – Hydrated GCL Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane Panels #117 and Panel #119/120 (northern end of SA-6 along SCB wall) cut to expose underlying geosynthetic clay liner (GCL). GCL wet / hydrated from weekend storms. Ground surface elevation outside of the SA-6 cap (along northern end of SA-6) was higher than cap grades which caused surface water to flow towards the cap during a major rain event. Rainwater and wash out along adjacent roadway (higher elevation) along northern end of SA-6 (SCB wall) able to infiltrate laterally and hydrate GCL. This non-compliance issue is also noted on the 10/7/15 Repair Report, and is identified as RP-474 and RP-475 (two cuts along geomembrane to fold back geomembrane cap). The location of these repairs were recorded and logged (via GPS) by the team.

Contractor's Response

Hydrated GCL confirmed as subgrade irregularity. GCL to be cut (where hydrated), removed, and replaced and the geomembrane will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove hydrated GCL from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane cap was cut and GCL was exposed (along northern end of SA-6 at SCB wall). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired (RP-474 & RP-475). Patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to *10/7/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carolina Ramos Date 10/8/15

Independent CQA Monitor Date 10/8/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 11

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 10/12/15 Contractor in NC: Entact Non-Compliance No.: 11 Notes: Failed Destruct Sample
Reference	
Item: Failed Destruct Sample Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Destruct sample DSX-13 (RP-483) collected from RP-477 from Panel #125, failed on one of the five specimens for peel testing completed by the Geosynthetic Installer's Laboratory (Note: average of the five specimens was acceptable). Based on this failure, RP-477 (entire patch) was covered with a new patch and sealed with an extrusion weld. This non-compliance issue was also noted on the 10/12/15 Repair Report, and is identified as RP-486. The location of this repair was recorded and logged (via GPS) by the team (southern swale).

Contractor's Response

Destruct sample DSX-13 failure for one of five specimens confirmed. Repair associated with destruct sample (P-125 on southern end of SA-6) to be covered with new patch, sealed, and extrusion welded according to project specifications. Additional destruct sample to be taken from new extrusion weld (from new patch) to confirm repair.

Follow Up Action Required

Place patch over RP-477 and repaired and sealed with extrusion weld, according to project specs.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane patch was placed over RP-477 and was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the patch was properly sealed (as outlined in Section 02372). Additionally, once the new patch (RP-486) was completed, an additional extrusion destruct sample (DSX-15) was collected (referred to as RP-487) to confirm the integrity of the new weld. Refer to *10/12/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carolyn Ramos Date 10/13/15

Independent CQA Monitor Date 10/13/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 12

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 11/04/15 Contractor in NC: Entact Non-Compliance No.: 11 Notes: Equipment Puncture
Reference	
Item: Equipment Puncture through Cap Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Equipment puncture through geomembrance cap observed along SCB wall (northern end of SA-6 cap). Puncture to be patched / repaired according to project specs. Additional details on the patch / repair work completed are described in the *11/4/15 Daily Report* and *11/4/15 Photograph Log*. This non-compliance issue was also noted on the 11/04/15 Repair Report, and is identified as RP-488. The location of this repair was recorded and logged (via GPS) by the team (along SCB wall).

Contractor's Response

Equipment puncture through geomembrane along SCB wall confirmed. Puncture to be covered with new patch, sealed, and extrusion welded according to project specifications.

Follow Up Action Required

Place patch over puncture location and repair and seal with extrusion weld according to project specs.

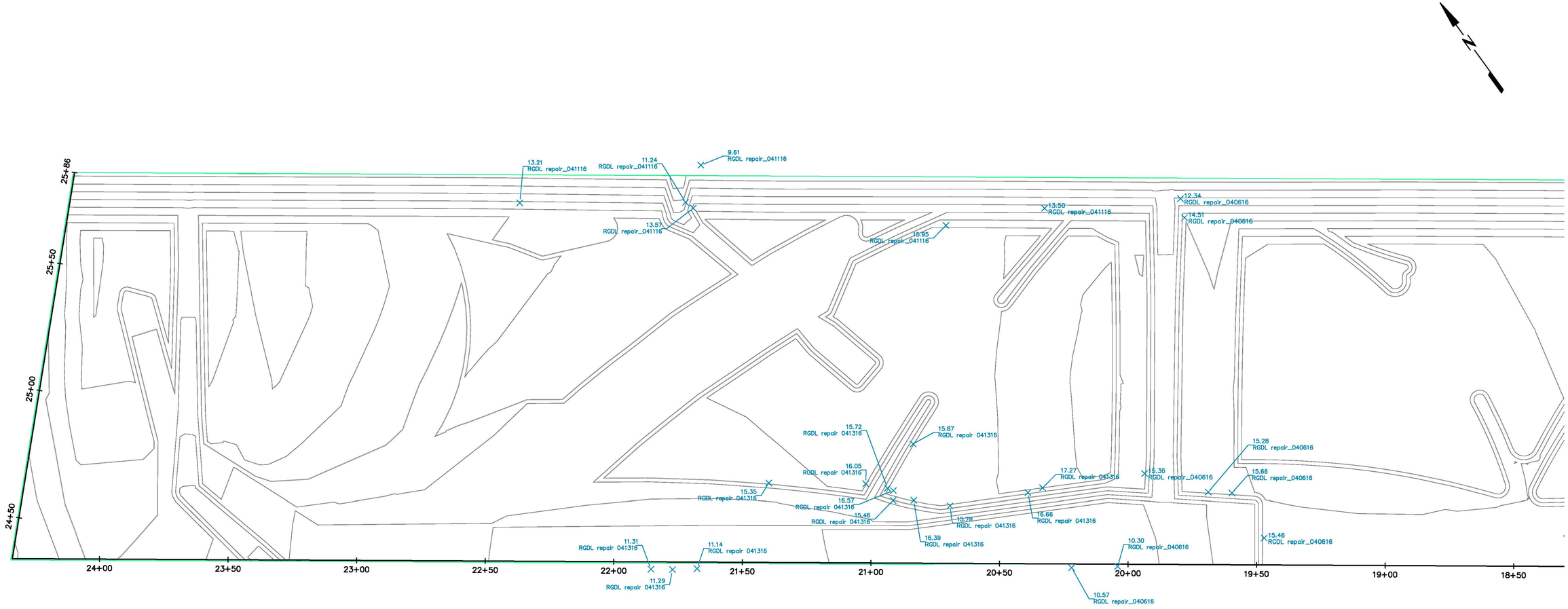
Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane patch was placed over the equipment puncture and was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Prior to welding, a new piece of GCL was placed along the SCB wall over the puncture area. Upon completion of extrusion welding, vacuum box testing could not be completed based on the location of the patch (along edge of SCB wall). The welds were visually inspected by Entact and Langan. Refer to *11/04/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carlos Ramos Date 11/5/15

Independent CQA Monitor Date 11/5/15



- REPAIRS WERE CONDUCTED BETWEEN APRIL 6-13, 2016.
- "X" IDENTIFIES THE GENERAL LOCATION WHERE COVER SOIL HAD BEEN ERODED AND THE GDL EXPOSED FOR MORE THAN 30 DAYS.
- COVER SOIL CLEANED BACK 2 FT. BEYOND THE EXPOSED MARGIN TO PROVIDE WORKING AREA FOR THE REPAIR.
- AN ADDITIONAL LAYER OF SKAPS ORANGE GEOTEXTILE WAS PLACED OVER THE EXPOSED GDL.
- EDGES OF THE NEW GEOTEXTILE WERE "LYSTERED" (HEAT BONDED) TO THE ORIGINAL TOP LAYER OF GEOTEXTILE
- ERODED COVER SOIL WAS DISCARDED AND REPLACED WITH SOIL FROM THE SCREENED COVER SOIL STOCKPILE.

LEGEND

RGDL = REPAIRED GDL

0 15 30 60
SCALE IN FEET

Prepared/Date: RJR 06/07/16
Checked/Date: SGS 06/07/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019300

SA-6 South
Winter 2015-2016 GDL Repairs
Project 3480-13-0377
Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-6230\CAD\SA6S GA-6 South Construction Surveys\Figure - GDL Repair.dwg Wed, 08 Jun 2016 - 3:08pm roger.ripley

APPENDIX R

DRAFT DEED NOTICE DOCUMENATS (CD ONLY)

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED TO CONTAIN CHROMIUM AND HISTORIC FILL CONTAMINATION UNDERLYING THE PROMENADE

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. Owner shall mean Bayfront Redevelopment LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The Property (also referenced herein as the "Restricted Areas") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. Bayfront Redevelopment LLC is the current owner in fee simple of certain real property designated as those portions of ***Block 24601, Lots 1 through 8*** and portions of ***Block 21901 Lot 8 on the tax map of the City of Jersey City, Hudson County*****, New Jersey**[1]; the New Jersey Department of Environmental Protection ("the Department") Program Interest ("PI") Numbers for the contaminated site which includes this property are ***Hudson County Chromate Site***

[1] All references to Block 24601 Lots 1 through 8 and Block 21901 Lot 8 in this Deed Notice shall mean the applicable portions of Block 24601 Lots 1 through 8 and portions of Block 21901 Lot 8 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

No. 073 PI #G00000927, Hudson County Chromate Site No. 124 PI# G000008741, Hudson County Chromate Site No. 125 PI# G000008742, Hudson County Chromate Site No. 134 PI# 033312, Hudson County Chromate Site No. 140 PI# 003846 (NJDEP PI# for non-chromium-related contaminants at the Property is #745719)**,** and known as the Open Space AOC pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The approximate location of the Open Space AOC is also referred to as the Promenade in the Bayfront I Redevelopment Plan adopted by Jersey City on March 12, 2008. The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management (BCM) is the entity within the Department that is responsible for the oversight of the chromium remediation of the Property. The matter was Hudson County Chromate Site No. 073 PI# G000000927, Hudson County Chromate Site No. 124 PI# G000008471, Hudson County Chromate Site No. 125 PI# G000008742, Hudson County Chromate Site No. 134 PI# 033312, and Hudson County Chromate Site No. 140 PI# 003846. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 South to address chromium-related and non-chromium soil and shallow groundwater contamination, except for the Open Space Area Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") for chromium remedial actions was approved by the Department on March 24, 2009 for Hudson County Chromate Site Nos. 073, 124, 125, 134, and 140, which include the Property for chromium. The RAWP for non-chromium remedial actions was approved by the Department on June 28, 2013 for Hudson County Site Nos. 073, 124, 125, 134, and 140. Remedial actions for chromium were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP, soil and groundwater contamination remain in the Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 South was submitted to the Department on February 8, 2017. The Department approved the RAR on March 30, 2017. A Construction Completion Report

("CCR") for SA-6 South to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 South was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property encompasses approximately 8 acres. The horizontal extents of the Property include an existing soil-cement bentonite ("SCB") wall along the northern boundary with SA-7 and the hydraulic barrier walls installed on the other three sides as part of the Chromium Remedy. The engineered barrier in the Property consists of the hydraulic barrier walls and an engineered Resource Conservation and Recovery Act ("RCRA") cap that includes a gas collection system, base protective layer, geomembrane liner, geocomposite drainage layer, filter fabric, warning layer, and cover soils. This Deed Notice includes the hydraulic barrier walls. The Property includes chromium, xylenes, and historic fill. Honeywell will restrict, or will cause Bayfront Redevelopment LLC to restrict, the future use of this area by implementing a conservation restriction, which has been recorded at the Office of the Hudson County Register, and transfer, or cause Bayfront Redevelopment LLC to transfer, title to the City of Jersey City (as called for in Paragraph 61(c)(ii)(3) of the Consent Decree). The provisions of the Long Term Monitoring Plan ("LTMP") and the Open Space Design Standards ("OSDS"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater within the property remains contaminated. Groundwater contaminant concentrations and restrictions for SA-6 South in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater. As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil and groundwater remediation for the Property in perpetuity.

4. CONSIDERATION. In accordance with the Department's approval of the chromium and non-chromium RAWPs for the remediation for the Hudson County Chromate Site Nos. 073, 124, 125, 134, and 140 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of these contaminants, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions

which will be maintained at either the onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single family residence or a child care facility without the Department's prior written approval;

iii. The Consent Decree, paragraph 74, prohibits development in the Property except as allowed by paragraphs 74(j) and (k) of the Consent Decree; and

iv. The Conservation Restriction, recorded with the Hudson County Register of Deeds at Book 8722, page 105, restricts the use and development of the Property.[2]

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has prepared an LTMP which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5E. OPEN SPACE DESIGN STANDARDS. Pursuant to the Consent Decree, Honeywell has prepared the OSDS which set forth the standards that must be met to ensure the protection of the Chromium Remedy during all development and other intrusive work conducted within the Property.

[2] In the future, after the remediation of the area known as the Bulkhead Deferred Area is completed and approved by the Special Master, the boundary of the existing conservation restriction recorded on the Property will be amended to conform to the location of the as-built hydraulic barrier walls.

5F. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and Conservation Restriction, (b) as is consistent with the OSDS, and (c) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(c), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree, the OSDS, and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree, and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of

any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 80 and 83 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that

any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description of Property - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Maps (Exhibits A-3A and A-3B) - Scaled maps of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1 and B-2 (Exhibits B-1A, B-1B, B-2A, B-2B, and B-2C): Restricted Area Maps - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system including trenches and pumps;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-3 (Table B-3): Restricted Area Data Tables - A separate table for each restricted area that includes either (A) or (B) through (F):

(A) Only for historic fill extending over the entire site or a portion of the site and for which analytical data are limited or do not exist, a narrative that states that historic fill is present at the site, a description of the fill material (e.g., ash, cinders, brick, dredge material), and a statement that such material may include, but is not limited to, contaminants such as PAHs and metals;

(B) Sample location designation from Restricted Area map (Exhibit B-1);

(C) Sample elevation based upon mean sea level;

(D) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(E) The restricted and unrestricted use standards for each contaminant in the table; and

(F) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C-1D. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1D: Conservation Restriction as Institutional Control (recorded at Hudson County Register of Deeds as indicated in Paragraph 3): Exhibit C-1 includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;
(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and
(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2A through C-2C. Exhibit C-2A: Engineering Controls: Clean Fill and Soil Capping System; Exhibit C-2B: Engineering Controls: Underground Containment Walls; Exhibit C-2C: Engineering Controls: Shallow Groundwater Collection and Treatment System.

Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:
(1) Description of the engineering control;
(2) The objective of the engineering control; and
(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:
(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;
(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;
(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;
(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;
(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and
(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling.

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;
(2) The engineering control continues to operate as designed; and
(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #1 Property

A-1 Vicinity Map

A-2 Metes and Bounds Description of the Property and Tax Map

A-3 Property Maps portions of Block 24601, Lots 1 through 8 and a portion of Block 21901 Lot 8, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

Exhibit A-2 consists of the metes and bounds and a tax map for the Property.

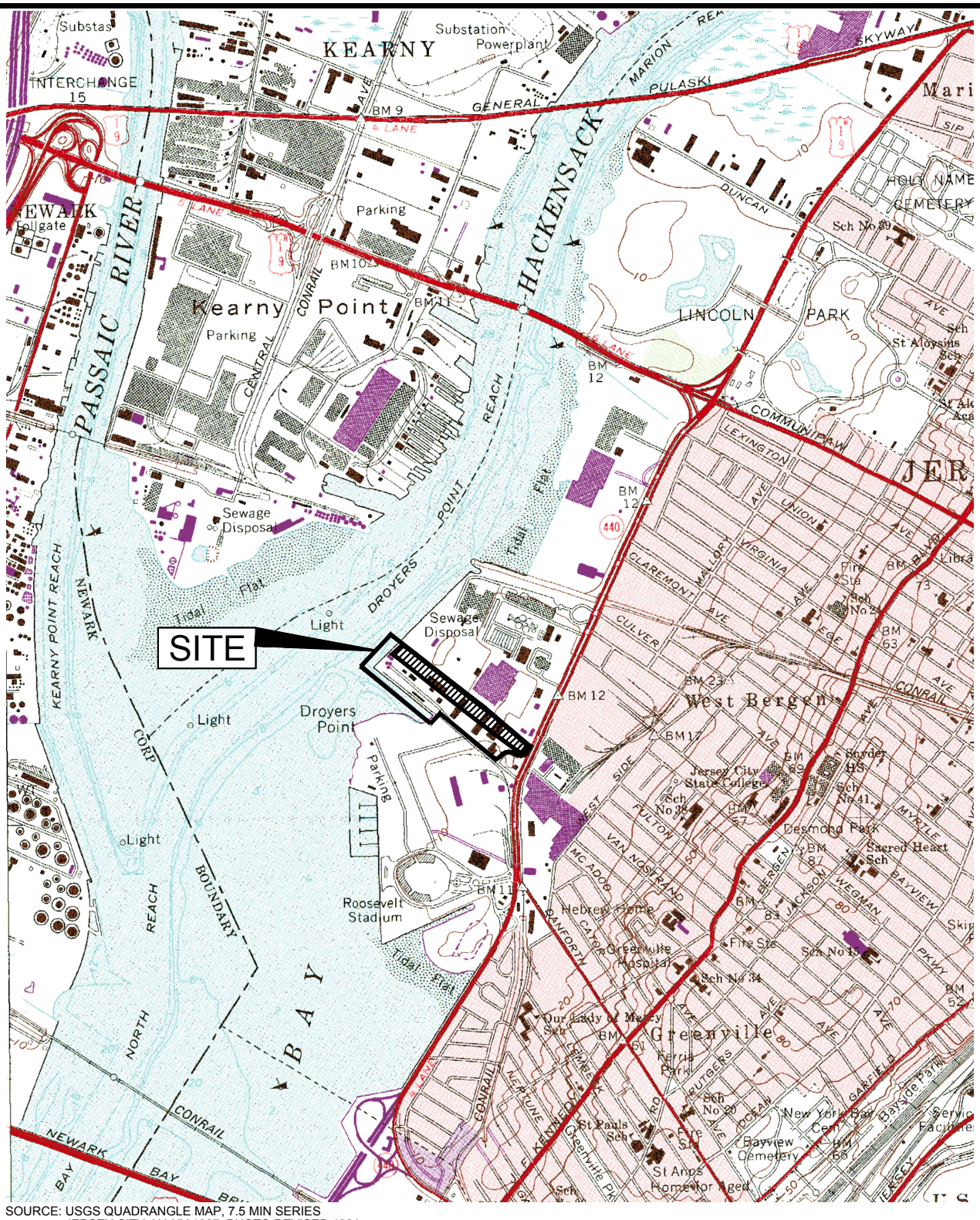
Exhibit A-3A and A-3B Property Maps consist of figures indicating major surface features and engineering control for the Property. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map

EXHIBIT A-1
SITE VICINITY MAP
STUDY AREA 6 SOUTH SITES 073, 124, 125, 134, and 140
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT WAS PREPARED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\5710104\deed notice\deed notice 1\5100\CURRENT DRAWINGS\3480150450-5100-A100-1000.dwg Fri, 10 Mar 2017 - 1:32pm



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

OPEN SPACE AOC
RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 *DRAWING:* 3480150450-5100-A100-1000	
PREPARED/DATE: STR 01/28/16	*CHECKED/DATE:* NW 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-1
VICINITY MAP
BLOCK 24601 LOTS 1-8 &
BLOCK 21901 LOT 8
DEED NOTICE # 1 SA-6 SOUTH
OPEN SPACE AOC PROPERTY
JERSEY CITY, NEW JERSEY

Exhibit A-2
Deed Notice #1 Property
Metes and Bounds Description
and Tax Map

A-2 Metes and Bounds Description of Property **portions of** Block 24601, Lots 1 through 8 and a **portion of** Block 21901 Lot 8 City of Jersey City, New Jersey (see attached).

If there is any discrepancy between the Metes and Bounds and the tax map or any other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as portions of Block 24601, Lots 1 through 8 and a portion of Block 21901 Lot 8 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment LLC. A copy of the current tax map which includes the general location of the Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 ▪ Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292Q

DEED NOTICE AREA 1
SA-6 SOUTH OPEN SPACE AREA
LOTS 1 THROUGH 8, BLOCK 24601
& LOT 8, BLOCK 21901
DECEMBER 4, 2015
REVISED: FEBRUARY 2, 2017

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lots 1 through 8, Block 24601 and a portion of Lot 8 Block 21901, designated as Deed Notice Area 1 as shown on an exhibit entitled, "Deed Notice Area 1, SA6 South, Block 24601, Lots 1-8 & Block 21901, Lot 8, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated April 6, 2016, revised February 2, 2017 and being more particularly bounded and described as follows, to wit:

COMMENCING at the intersection of the westerly line of New Jersey State Highway Route 440, and the division line between Lot 8 Block 21901, and Lot 8 Block 24601; thence-

A. **N 49°06'05" W, 9.97 feet**, along said division line to the intersection of the same with the easterly face of the hydraulic barrier wall, and **True** point of **BEGINNING**, and running; thence-

Running along said easterly hydraulic barrier wall face, the following two (2) courses:

1. **S 26°06'25" W, 122.87 feet,** thence-

2. **S 41°25'15" W, 32.00 feet,** to the southeasterly corner of said hydraulic barrier wall; thence-

Running along the southerly face of said hydraulic barrier wall, the following four (4) courses:

3. **N 49°11'45" W, 460.77 feet,** thence-

4. **N 48°55'10" W, 366.00 feet,** thence -

5. **N 53°42'49" W, 718.00 feet,** thence -

6. **N 53°41'21" W, 737.00 feet,** to the southwesterly corner thereof; thence –

7. **N 45°54'51" E, 157.25 feet,** along the westerly face of said hydraulic barrier wall, to the northwesterly corner thereof; thence-

Running along the northerly face of said hydraulic barrier wall, the following five (5) courses:

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292Q

DEED NOTICE AREA 1
SA-6 SOUTH OPEN SPACE AREA
LOTS 1 THROUGH 8, BLOCK 24601
& LOT 8, BLOCK 21901
DECEMBER 4, 2015
REVISED: FEBRUARY 2, 2017

8. **S 49°21'28" E, 12.20 feet,** thence -

9. **S 53°44'48" E, 647.00 feet,** thence -

10. **S 53°47'16" E, 668.00 feet,** thence –

11. **S 53°59'54" E, 57.20 feet,** thence –

12. **S 51°14'03" E, 54.20 feet,** thence –

13. **S 49°01'05" E, 313.00 feet,** thence-

14. **S 49°10'40" E, 485.50 feet,** to the northeasterly corner thereof; thence-

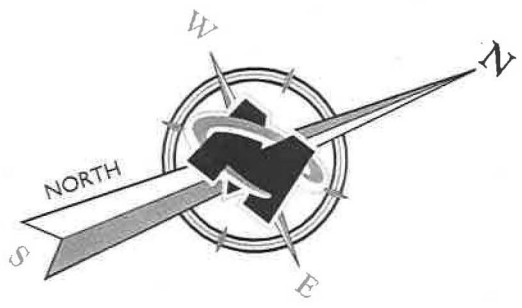
15. **S 44°21'39" W, 3.70 feet,** along the aforesaid easterly wall face, to the point and place of **BEGINNING**.

CONTAINING: 350,023 S.F. of land more or less or 8.035 acres of land more or less.

02/02/17

GLEN J. LLOYD, P.L.S. DATE SIGNED
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

\\HQFAS1\General\Projects\2010\10000292Q\Survey\Description\Metes & Bounds, Deed Notice 1_REV_2-2-17.docx



HACKENSACK RIVER

N 45°34'51" E 157.25'

S 49°21'28" E 12.20'

N 53°41'21" W 737.00'

S 53°44'48" E 647.00'

BLOCK 24601
LOT 1
DB 8442 PG. 1

BLOCK 24601
LOT 2
DB 8902 PG. 221

BLOCK 24601
LOT 3
DB 8231 PG. 60

BLOCK 24601
LOT 4
DB 8231 PG. 60

BLOCK 24601
LOT 11
DB 8711 PG. 802

BLOCK 21901
LOT 8
DB 7452 PG. 62

BLOCK 24601
LOT 5
DB 8231 PG. 60

N 53°42'49" W 718.00'

S 53°47'16" E 668.00'

BLOCK 24601
LOT 6
DB 7345 PG. 1

BLOCK 28102
LOT 21

BLOCK 28102
LOT 1

DEED NOTICE AREA 1
AS-BUILT OPEN SPACE AREA
(HATCH AREA)
AREA=350,023± S.F.
8.035 Ac.

BLOCK 21901
LOT 10
DB 8531 PG. 196

S 53°59'54" E 57.20'

S 51°14'03" E 54.20'

BLOCK 24601
LOT 7
DB 7456 PG. 314

BLOCK 24601
LOT 12

N 45°35'10" W 368.00'

S 49°01'03" E 313.00'

BLOCK 24601
LOT 8
DB 7528 PG. 156

BLOCK 21901
LOTS 5–10 (EXCLUDING BLOCK 6)
& BLOCK 24601
LOTS 1–12

BLOCK 21901
LOT 7
DB 7452 PG. 62

KELLOGG STREET
(80' WIDE R.O.W.)

BLOCK 24601
LOT 10
DB 8637 PG. 640

BLOCK 24601
LOT 9
DB 8637 PG. 640

N 49°11'45" W 480.77'

S 49°10'40" E 485.50'

BLOCK 21901
LOT 5
DB 8642 PG. 118

BLOCK 21901
LOT 6
DB 8642 PG. 118

POINT OF BEGINNING

S 44°21'39" W 3.70'

S 41°25'15" W 32.00'

S 26°06'25" W
122.87'

N 49°08'05" W 8.87'

NEW JERSEY STATE HIGHWAY ROUTE 440
(112' WIDE R.O.W.)

200 160 120 80 40 0 100 200 400

SCALE : 1" = 200'

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REV	DATE	DRAWN BY	DESCRIPTION
1	2/9/16	BSB	REMOVED LOT 7 REFERENCE IN BLOCK 21901
2.	4/8/16	CJK	REVISED BOUNDARY ALONG ROAD FRONTAGE
3	2/2/17	KAN	ADD "DEED NOTICE AREA"
.	.	.	.
.	.	.	.
.	.	.	.

DEED NOTICE AREA 1
SA6 SOUTH

BLOCK 24601,LOTS 1-8 &
BLOCK 21901, LOT 8

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	12/4/15	BSB	GJL
PROJECT NUMBER: 2010\1000		DRAWING NAME: V-EXBT-DN-1	

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

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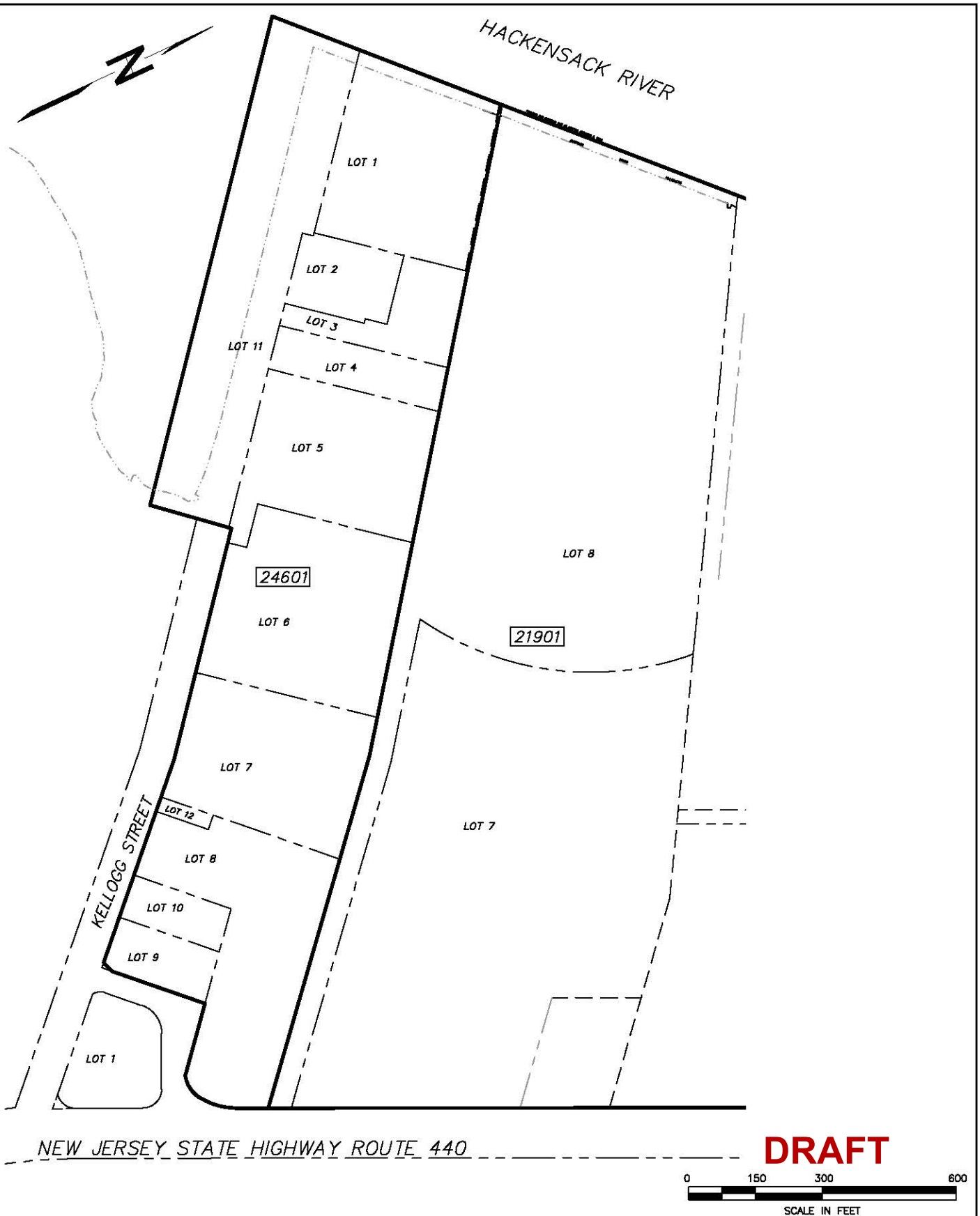
P:\CADD\HOBOKEN\JERSEY CITY\SA 6 SOUTH\3480150485.5710\571004\deed notice\deed notice 1\5100\CURRENT DRAWINGS\3480150450-5100-A200-1000.dwg Fri, 10 Mar 2017 - 1:34pm scott.rudkin



DRAFT

0 150 300 600

SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A200-1000		**EXHIBIT A-2** TAX MAP BLOCK 24601 LOTS 1-8 & BLOCK 21901 LOT 8 DEED NOTICE # 1 SA-6 SOUTH OPEN SPACE AOC PROPERTY JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 01/31/17	

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Exhibit A-3A and A-3B
Property Maps

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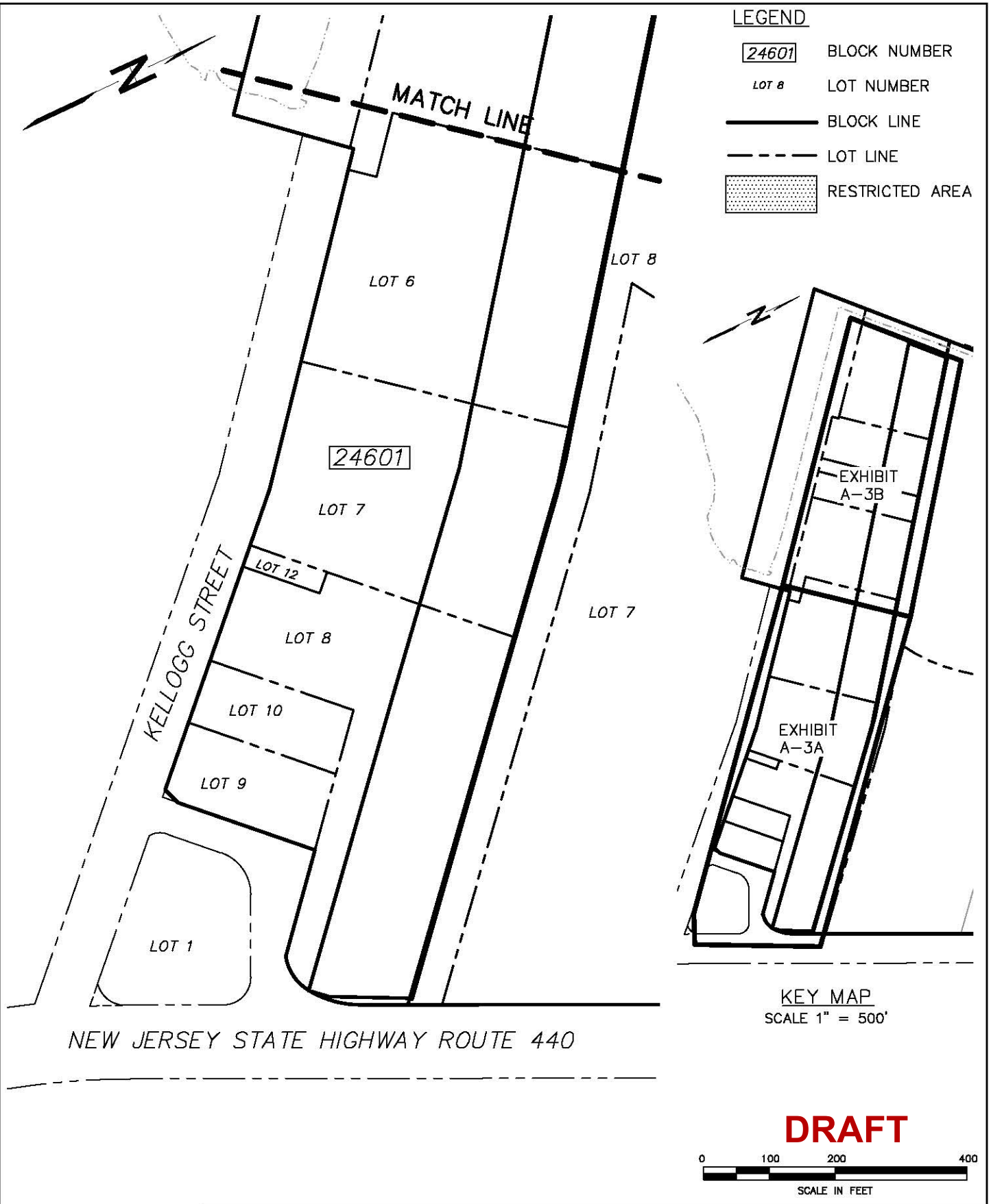
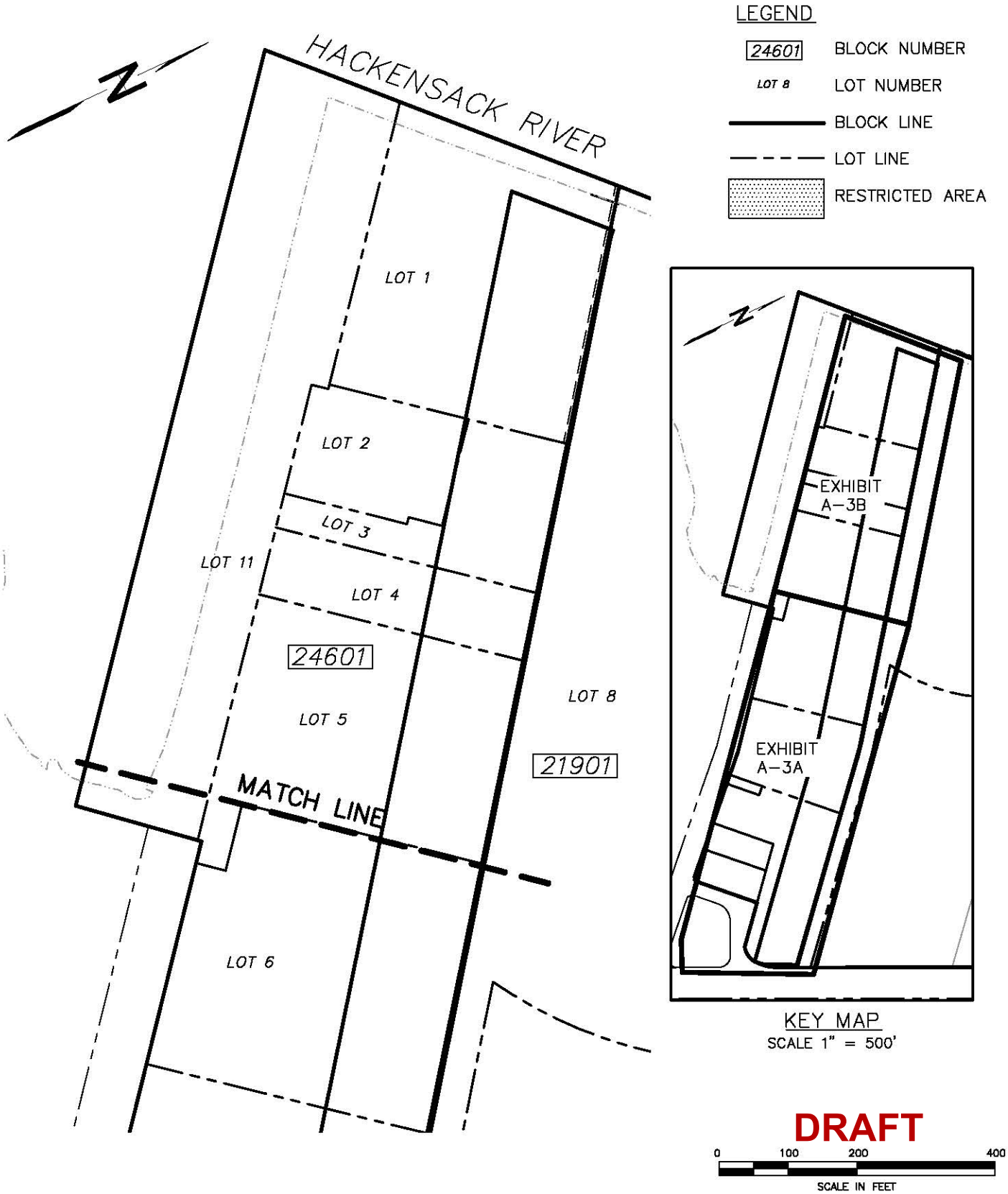


DRAFT

0 100 200 400

SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A300-1000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3A** PROPERTY AREA MAP BLOCK 24601 LOTS 1-8 & BLOCK 21901 LOT 8 DEED NOTICE # 1 SA-6 SOUTH OPEN SPACE AOC PROPERTY JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 CHECKED/DATE: NW 01/31/17		



Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A300-1000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE, Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3B** PROPERTY AREA MAP BLOCK 24601 LOTS 1-8 & BLOCK 21901 LOT 8 DEED NOTICE # 1 SA-6 SOUTH OPEN SPACE AOC PROPERTY JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 CHECKED/DATE: NW 01/31/17		

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EXHIBIT B
Deed Notice #1 Property
B-1A and B-1B Restricted Area Maps
B-2A and B-2B Chromium Remedy Components
B-3 Restricted Area Data Table
Portions of Block 24601, Lots 1 through 8 and a portion of Block 21901 Lot 8
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps includes Exhibit B-1A and Exhibit B-1B (Restricted Area Soil Sample Locations).

Exhibit B-2 Chromium Remedy Components includes Exhibit B-2A (Chromium Remedy Components), Exhibit B-2B (Cap System Detail), and Exhibit B-2C (As-Built Restoration Plan).

Exhibit B-3 is a Restricted Area Data Table indicating soil sample locations with concentrations of contaminants remaining above the level established in the New Jersey Department of Environmental Protection (NJDEP) Chromium Policy and/or other applicable NJDEP Soil Quality Standards as described below.

Restricted Area Map Notes:

Exhibits B-1A and B-1B indicate engineering controls. The engineering controls include (1) underground containment walls, and (2) a capping system consisting of: a warning layer, impervious geo-membrane liner; geo-composite drainage layer; and clean soil cover with minimum 12 inches thickness in areas where pavement is proposed; and an average of 36-inches and a minimum 24-inches thickness in areas where landscaping is proposed.

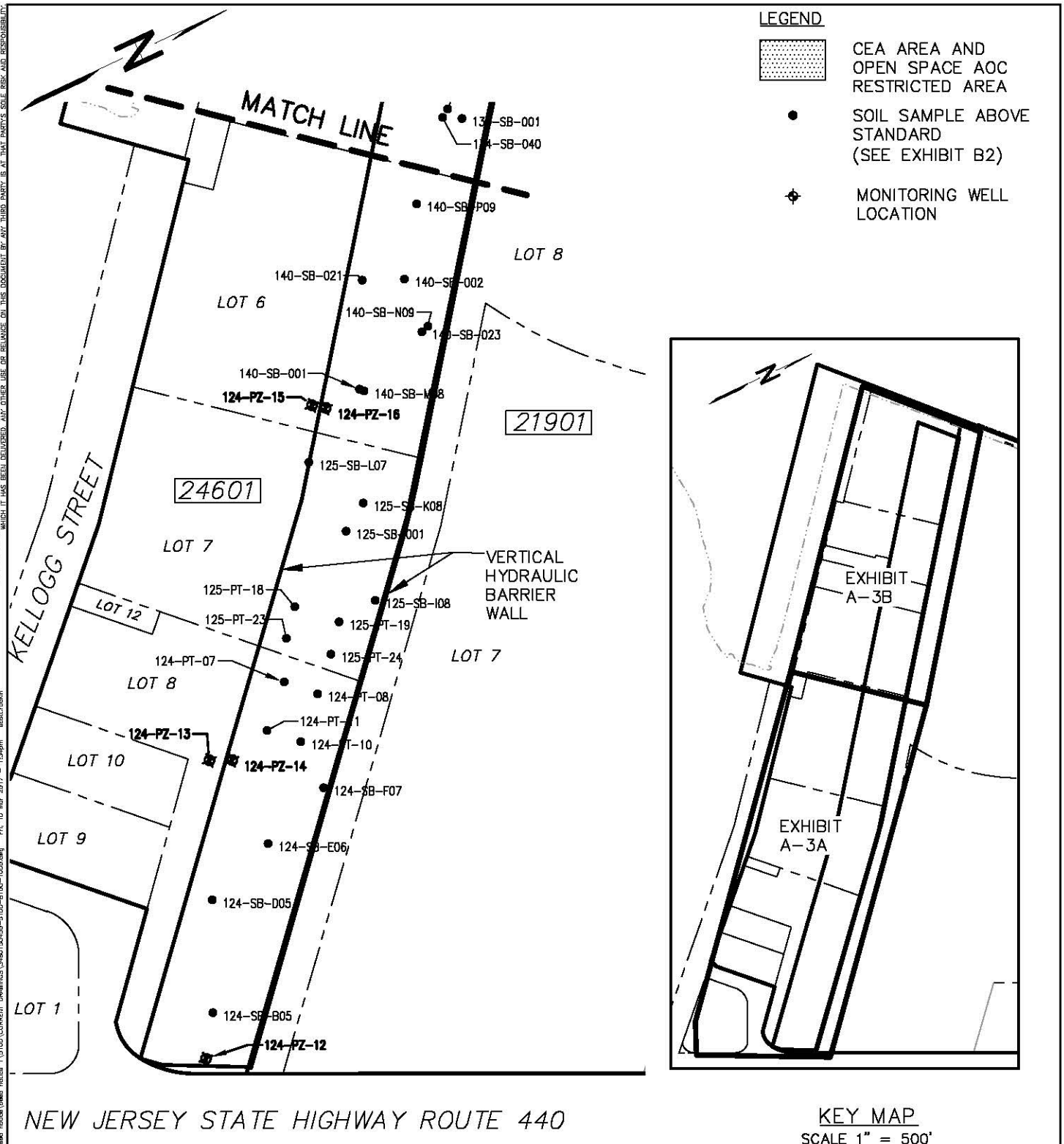
Exhibit B-2B indicates engineering controls cap system detail.

Exhibits B-1A and B-1B indicate the restricted area for soil containing contaminants of concern, including hexavalent chromium above 20 milligrams per kilogram (mg/kg) pursuant to the Chromium Policy, total xylenes above the NJDEP Residential Direct Contact Soil Remediation Standard (RDCSRS) of 12,000 mg/kg, and soils that are consistent with NJDEP's definition of "historic fill material" found at N.J.A.C. 7:26E-1.8, as shown on Exhibit B-3.

Analytical results and soil borings indicate that historic fill is present onsite and extends over the entire Restricted Area. Historic fill onsite typically consists of the following: metals, PAHs, and miscellaneous debris (including but not limited to coal fragments, brick, timber, and other construction materials).

A table summarizing maximum concentrations of typical contaminants found in the historic fill material in the Restricted Area is included as Exhibit B-3.

Exhibit B-1A and B-1B
Restricted Area Maps



KEY MAP
SCALE 1" = 500'

DRAFT

0 100 200 400
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-B100-1000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE, Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1A** RESTRICTED AREA MAP BLOCK 24601 LOTS 1-8 & BLOCK 21901 LOT 8 DEED NOTICE # 1 SA-6 SOUTH OPEN SPACE AOC PROPERTY JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 / CHECKED/DATE: NW 01/31/17		

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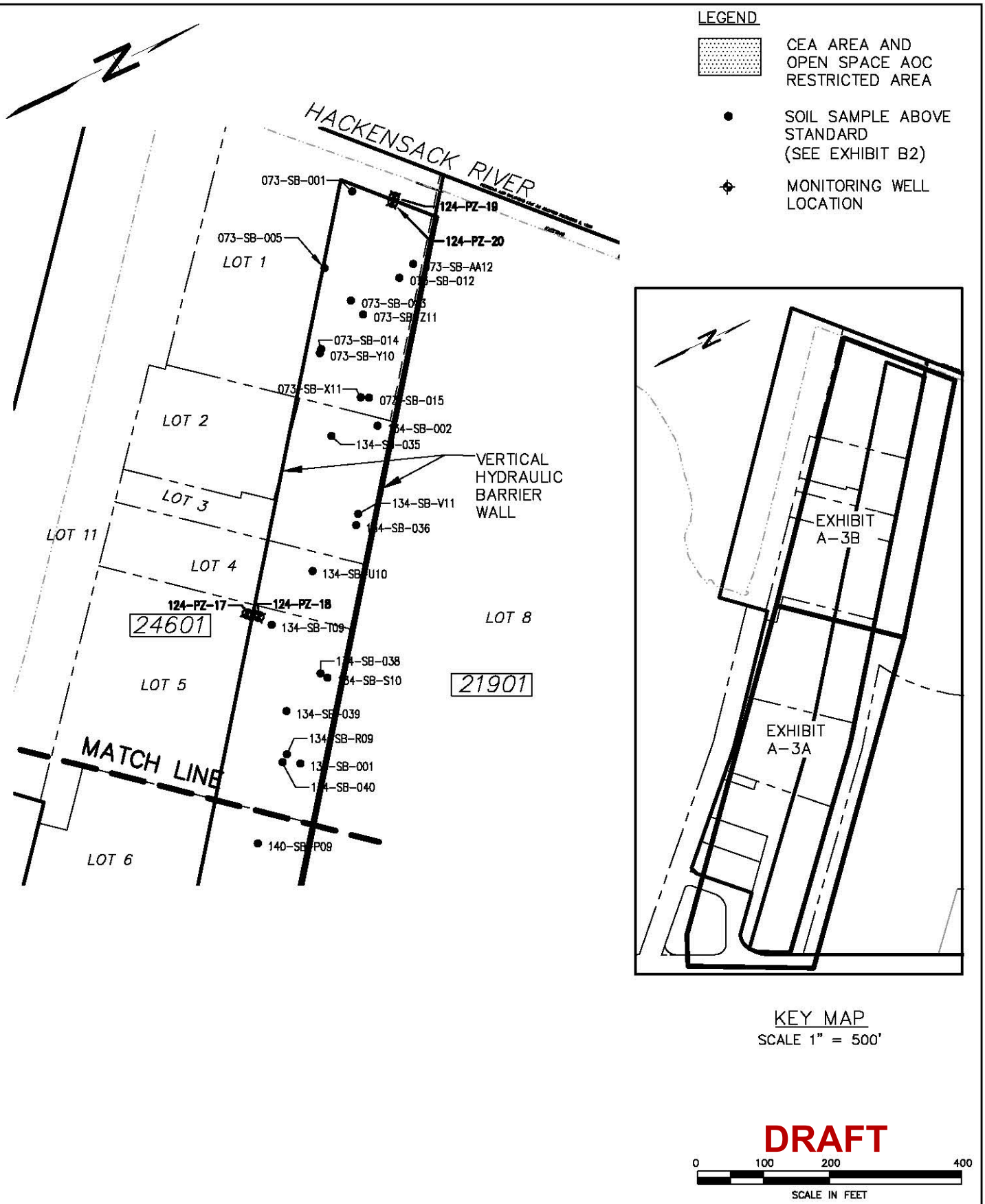

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-B100-1000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** RESTRICTED AREA MAP BLOCK 24601 LOTS 1-8 & BLOCK 21901 LOT 8 DEED NOTICE # 1 SA-6 SOUTH OPEN SPACE AOC PROPERTY JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 CHECKED/DATE: NW 01/31/17		

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P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150450\5710\571004\deed notice\deed notice 1\5100\CURRENT DRAWINGS\3480150450-5100-B100-1000.dwg Fri, 10 Mar 2017 - 1:42pm scott.rudkin

Exhibits B-2A, B-2B and B-2C
Chromium Remedy Components, Cap System Details, and As-Built Restoration Plan

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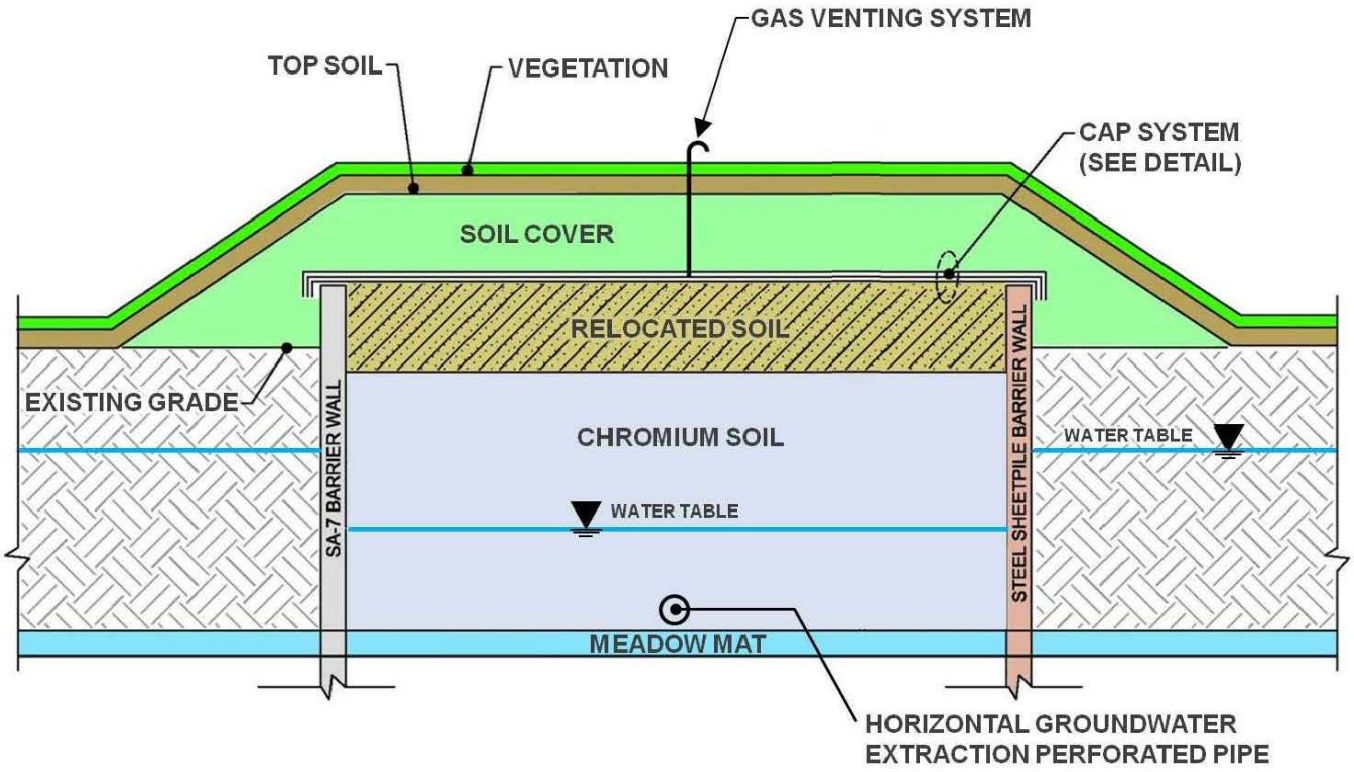
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\dead notice\dead notice 1\5100\CURRENT DRAWINGS\3480150438-5710-CPCS-1000.dwg Fri, 10 Mar 2017 - 1:35pm



CHROMIUM REMEDY COMPONENTS

NTS

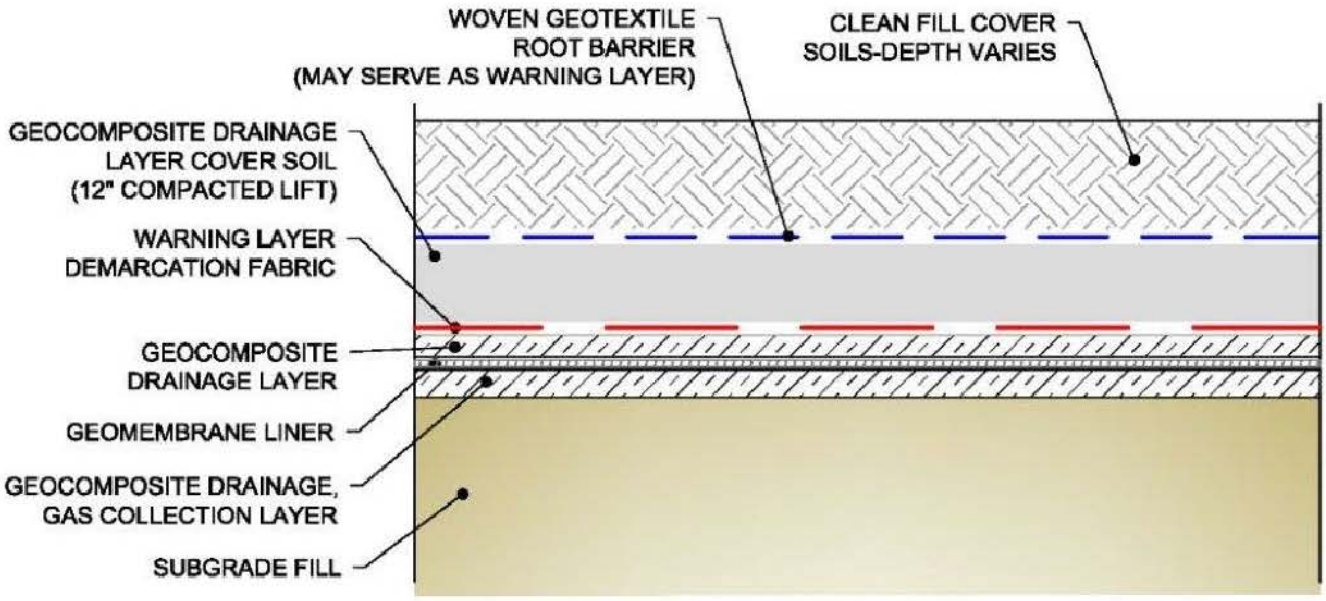
DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150438-5710-CPCS-1000	
PREPARED/DATE: STR 03/10/16	*CHECKED/DATE:* DEN 03/10/16

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT B-2A
CHROMIUM REMEDY COMPONENTS
BLOCK 24601 LOTS 1-8 &
BLOCK 21901 LOT 8
DEED NOTICE #1 SA-6 SOUTH
OPEN SPACE AOC PROPERTY
JERSEY CITY, NEW JERSEY

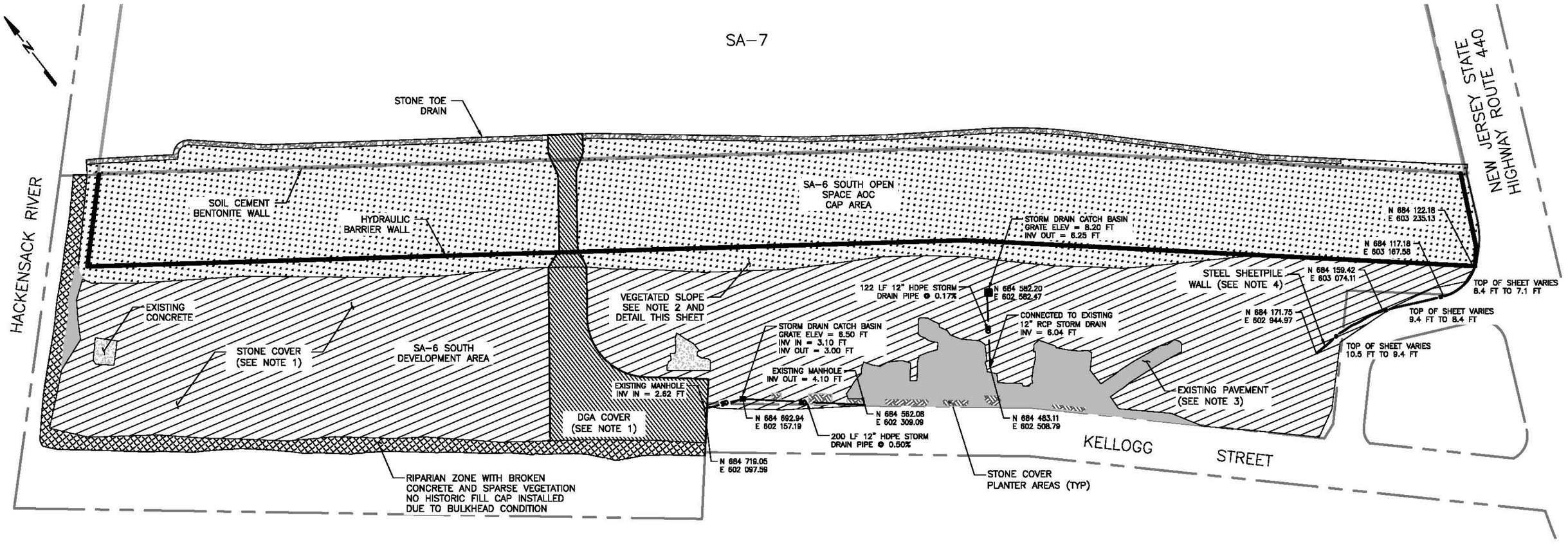


CAP SYSTEM DETAIL

NTS

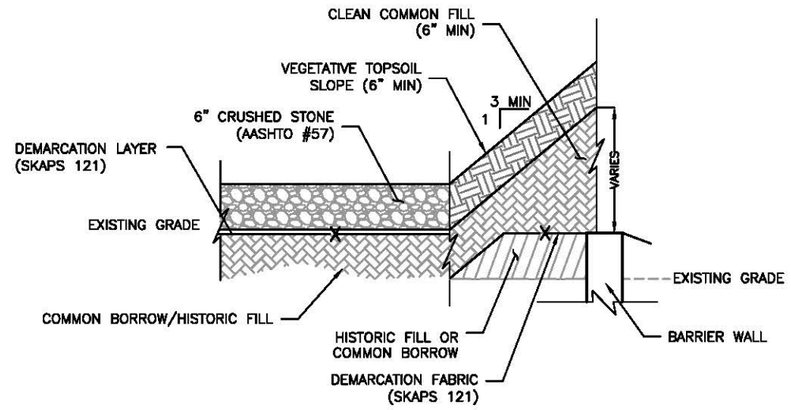
DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING: 3480150438-5710-CSD0-1000*		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE, Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-2B** CAP SYSTEM DETAIL BLOCK 24601 LOTS 1-8 & BLOCK 21901 LOT 8 DEED NOTICE # 1 SA-6 SOUTH OPEN SPACE AOC JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 03/10/16	*CHECKED/DATE:* DEN 01/31/17		



NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA–7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.



NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA–7

TYPICAL VEGETATED SLOPE
NTS

EXHIBIT B-2C

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
STONE COVER IN PLANTER AREAS
RIPARIAN ZONE
DGA COVER
STONE TOE DRAIN
STEEL SHEETPILE WALL
STORM DRAIN PIPE
STORM DRAIN CATCH BASIN

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: AS BUILT RESTORATION PLAN SA–6 SOUTH – SHEET 001 12/12/16

PROJECT NAME & LOCATION: HONEYWELL SA–6 REMEDIATION JERSEY CITY, NJ

Exhibit B-3: Table B-3
Soil Sample Data Table

EXHIBIT B-3

RESTRICTED AREA DATA TABLE

Deed Notice #1 SA-6 South Open Space AOC Property

Portions of Block 24601 Lots 1-8 a portion of Block 21901 Lot 8

Jersey City, New Jersey

Location ID	Sample Date	Start Depth (feet bgs)	End Depth (feet bgs)	Sample Depth (feet bgs)	Sample Elevation (NAVD88)	Northing	Easting	Hexavalent Chromium	Q
073-SB-001	07/14/2008	4.5	5	4.5 - 5	-0.52	685535.00	601464.00	63.7	J
073-SB-001	07/14/2008	9	9.5	9 - 9.5	-5.02	685535.00	601464.00	100	J
073-SB-001	07/14/2008	11.5	12	11.5 - 12	-7.52	685535.00	601464.00	63.3	J
073-SB-001	07/14/2008	13	13.5	13 - 13.5	-9.02	685535.00	601464.00	296	J
073-SB-005	07/31/2008	2.5	3	2.5 - 3	4.36	685448.00	601552.00	26.3	
073-SB-005	07/31/2008	5.5	6	5.5 - 6	1.36	685448.00	601552.00	2190	
073-SB-012	07/31/2008	3	3.5	3 - 3.5	5.15	685545.00	601613.00	420	
073-SB-012	07/31/2008	4	4.5	4 - 4.5	4.15	685545.00	601613.00	6360	
073-SB-013	07/31/2008	4.5	5	4.5 - 5	2.82	685464.00	601613.00	237	
073-SB-014	08/01/2008	0.5	1	0.5 - 1	6.54	685392.00	601661.00	37.2	
073-SB-014	08/01/2008	2	2.5	2 - 2.5	5.04	685392.00	601661.00	201	
073-SB-014	08/01/2008	4.5	5	4.5 - 5	2.54	685392.00	601661.00	54.2	
073-SB-015	08/01/2008	4.5	5	4.5 - 5	4.29	685427.00	601758.00	142	
073-SB-326	04/16/2010	1	1.5	1 - 1.5	5.86	685436.222855	601589.102771	*	
073-SB-AA12	07/28/1997	0	2	0 - 2	8.47	685572.70	601602.30	99.6	J
073-SB-AA12	07/28/1997	4	6	4 - 6	4.47	685572.70	601602.30	1720	J
073-SB-AA12	07/28/1997	6	8	6 - 8	2.47	685572.70	601602.30	8140	J
073-SB-AA12	07/28/1997	8	10	8 - 10	0.47	685572.70	601602.30	5030	J
073-SB-AA12	07/28/1997	10	12	10 - 12	-1.53	685572.70	601602.30	287	J
073-SB-AA12	07/28/1997	12	14	12 - 14	-3.53	685572.70	601602.30	1830	J
073-SB-AA12	07/28/1997	14	16	14 - 16	-5.53	685572.70	601602.30	469	J
073-SB-AA12	07/28/1997	18	20	18 - 20	-9.53	685572.70	601602.30	578	J
073-SB-AA12	07/28/1997	20	22	20 - 22	-11.53	685572.70	601602.30	25.3	J
073-SB-X11	07/28/1997	0	2	0 - 2	8.55	685415.77	601752.10	24.1	J
073-SB-X11	07/28/1997	4	6	4 - 6	4.55	685415.77	601752.10	394	J
073-SB-X11	07/28/1997	6	8	6 - 8	2.55	685415.77	601752.10	8830	J
073-SB-X11	07/28/1997	8	10	8 - 10	0.55	685415.77	601752.10	4580	J
073-SB-X11	07/28/1997	10	12	10 - 12	-1.45	685415.77	601752.10	222	J
073-SB-X11	07/28/1997	20	22	20 - 22	-11.45	685415.77	601752.10	118	J
073-SB-Y10	07/29/1997	0	2	0 - 2	7.03	685387.55	601665.39	21.4	J
073-SB-Y10	07/29/1997	2	4	2 - 4	5.03	685387.55	601665.39	202	J
073-SB-Y10	07/29/1997	4	6	4 - 6	3.03	685387.55	601665.39	371	J
073-SB-Y10	07/29/1997	6	8	6 - 8	1.03	685387.55	601665.39	92.4	J
073-SB-Y10	07/29/1997	8	10	8 - 10	-0.97	685387.55	601665.39	70.6	J
073-SB-Y10	07/29/1997	14	16	14 - 16	-6.97	685387.55	601665.39	89.7	J
073-SB-Z11	07/28/1997	0	2	0 - 2	7.56	685471.66	601639.93	20.3	
073-SB-Z11	07/28/1997	4	6	4 - 6	3.56	685471.66	601639.93	51.1	
073-SB-Z11	07/28/1997	6	8	6 - 8	1.56	685471.66	601639.93	3740	
073-SB-Z11	07/28/1997	8	10	8 - 10	-0.44	685471.66	601639.93	227	
073-SB-Z11	07/28/1997	16	18	16 - 18	-8.44	685471.66	601639.93	156	
124-PT-07	03/12/2008	6	8	6 - 8	4	684534.00	602838.00	2420	
124-PT-07	03/12/2008	8	10	8 - 10	2	684534.00	602838.00	554	J
124-PT-07	03/12/2008	10	12	10 - 12	0	684534.00	602838.00	4740	
124-PT-08	03/13/2008	10	12	10 - 12	0	684570.00	602873.00	2470	
124-PT-10	03/14/2008	10	12	10 - 12	1	684520.00	602925.00	4420	
124-PT-10	03/14/2008	12	14	12 - 14	-1	684520.00	602925.00	3320	
124-PT-11	03/14/2008	8	10	8 - 10	2.99	684483.00	602890.00	7190	
124-PT-11	03/14/2008	10	12	10 - 12	0.99	684483.00	602890.00	103	
124-SB-B05	05/08/1997	0	2	0 - 2	10.63	684244.29	603222.22	3210	J
124-SB-B05	05/08/1997	2	4	2 - 4	8.63	684244.29	603222.22	9970	J
124-SB-B05	05/08/1997	4	6	4 - 6	6.63	684244.29	603222.22	7460	J
124-SB-B05	05/08/1997	6	8	6 - 8	4.63	684244.29	603222.22	6980	J
124-SB-B05	05/08/1997	8	10	8 - 10	2.63	684244.29	603222.22	5160	J
124-SB-B05	05/08/1997	12	14	12 - 14	-1.37	684244.29	603222.22	49	J
124-SB-D05	05/07/1997	0	2	0 - 2	10	684310.89	603076.37	9350	
124-SB-D05	05/07/1997	2	4	2 - 4	8	684310.89	603076.37	7450	
124-SB-D05	05/07/1997	4	6	4 - 6	6	684310.89	603076.37	8430	
124-SB-D05	05/07/1997	6	8	6 - 8	4	684310.89	603076.37	8350	
124-SB-D05	05/07/1997	8	10	8 - 10	2	684310.89	603076.37	9020	
124-SB-D05	05/07/1997	10	12	10 - 12	0	684310.89	603076.37	9560	
124-SB-E06	05/07/1997	0	2	0 - 2	10	684416.69	603037.14	213	
124-SB-E06	11/16/1998	2	4	2 - 4	8	684416.69	603037.14	15300	J
124-SB-E06	05/07/1997	4	6	4 - 6	6	684416.69	603037.14	6870	
124-SB-E06	05/07/1997	6	8	6 - 8	4	684416.69	603037.14	8600	
124-SB-E06	05/07/1997	8	10	8 - 10	2	684416.69	603037.14	7910	
124-SB-E06	05/07/1997	10	12	10 - 12	0	684416.69	603037.14	7780	
124-SB-E06	05/07/1997	16	18	16 - 18	-6	684416.69	603037.14	2660	
124-SB-F07	05/07/1997	0	2	0 - 2	12.39	684521.78	602997.96	68.6	J
124-SB-F07	05/07/1997	2	4	2 - 4	10.39	684521.78	602997.96	6900	J
124-SB-F07	05/07/1997	4	6	4 - 6	8.39	684521.78	602997.96	3120	J
124-SB-F07	05/07/1997	6	8	6 - 8	6.39	684521.78	602997.96	3510	J

EXHIBIT B-3

RESTRICTED AREA DATA TABLE

Deed Notice #1 SA-6 South Open Space AOC Property

Portions of Block 24601 Lots 1-8 a portion of Block 21901 Lot 8

Jersey City, New Jersey

Location ID	Sample Date	Start Depth (feet bgs)	End Depth (feet bgs)	Sample Depth (feet bgs)	Sample Elevation (NAVD88)	Northing	Easting	Hexavalent Chromium	Q
124-SB-F07	05/07/1997	8	10	8 - 10	4.39	684521.78	602997.96	2480	J
124-SB-F07	05/07/1997	10	12	10 - 12	2.39	684521.78	602997.96	1350	
125-PT-18	04/16/2008	6.5	7	6.5 - 7	2.87	684593.00	602747.00	8740	
125-PT-19	04/16/2008	6	6.5	6 - 6.5	3.74	684641.00	602793.00	5270	J
125-PT-19	04/16/2008	8.5	9	8.5 - 9	1.24	684641.00	602793.00	24.1	J
125-PT-19	04/16/2008	10.5	11	10.5 - 11	-0.76	684641.00	602793.00	5190	J
125-PT-23	04/17/2008	6.5	7	6.5 - 7	2.5	684563.00	602783.00	10600	J
125-PT-23	04/17/2008	9	9.5	9 - 9.5	0	684563.00	602783.00	86.6	J
125-PT-23	04/17/2008	11	11.5	11 - 11.5	-2	684563.00	602783.00	2270	J
125-PT-24	04/17/2008	6	6.5	6 - 6.5	3.59	684611.00	602830.00	7260	J
125-PT-24	04/17/2008	10.5	11	10.5 - 11	-0.91	684611.00	602830.00	4530	
125-SB-001	06/16/2005	11.5	12	11.5 - 12	-1.49	684704.00	602680.00	6800	
125-SB-011	07/30/2008	1.5	2	1.5 - 2	8.51	684711.00	602569.00	31.1	
125-SB-011	07/30/2008	3	3.5	3 - 3.5	7.01	684711.00	602569.00	4460	
125-SB-011	07/30/2008	5.5	6	5.5 - 6	4.51	684711.00	602569.00	7860	
125-SB-I08	07/30/1997	0	2	0 - 2	12	684700.57	602787.09	52.1	J
125-SB-I08	07/30/1997	2	4	2 - 4	10	684700.57	602787.09	297	
125-SB-I08	07/30/1997	4	6	4 - 6	8	684700.57	602787.09	7550	
125-SB-I08	07/30/1997	6	8	6 - 8	6	684700.57	602787.09	6760	
125-SB-I08	07/30/1997	10	12	10 - 12	2	684700.57	602787.09	247	
125-SB-K08	07/30/1997	6	8	6 - 8	4	684743.16	602654.14	419	
125-SB-K08	07/30/1997	10	12	10 - 12	0	684743.16	602654.14	8170	J
125-SB-L07	11/16/1998	2	4	2 - 4	7.64	684697.16	602569.04	7140	J
125-SB-L07	07/30/1997	8	10	8 - 10	1.64	684697.16	602569.04	208	
125-SB-L07	07/30/1997	10	12	10 - 12	-0.36	684697.16	602569.04	93.4	
134-SB-001	06/17/2005	15.5	16	15.5 - 16	-5.81	685100.00	602217.00	5490	
134-SB-002	06/17/2005	3.5	4	3.5 - 4	4.58	685421.00	601802.00	9810	
134-SB-002	06/17/2005	6.5	7	6.5 - 7	1.58	685421.00	601802.00	10700	
134-SB-002	06/17/2005	10.5	11	10.5 - 11	-2.42	685421.00	601802.00	23.2	
134-SB-035	06/24/2008	4	4.5	4 - 4.5	3.36	685351.00	601787.00	32.8	
134-SB-036	06/24/2008	2.5	3	2.5 - 3	5.5	685328.00	601925.00	4100	
134-SB-036	06/24/2008	4	4.5	4 - 4.5	4	685328.00	601925.00	10500	
134-SB-038	06/20/2008	2.5	3	2.5 - 3	6.5	685185.00	602106.00	1650	
134-SB-038	06/20/2008	5.5	6	5.5 - 6	3.5	685185.00	602106.00	3090	
134-SB-039	06/24/2008	3	3.5	3 - 3.5	6	685114.00	602136.00	4770	
134-SB-039	06/24/2008	5	5.5	5 - 5.5	4	685114.00	602136.00	6080	
134-SB-040	06/20/2008	1.5	2	1.5 - 2	7.5	685076.00	602204.00	4210	
134-SB-040	06/20/2008	3	3.5	3 - 3.5	6	685076.00	602204.00	8200	
134-SB-R09	11/18/1998	0	2	0 - 2	9	685087.33	602195.84	6970	J
134-SB-R09	05/29/1997	2	4	2 - 4	7	685087.33	602195.84	73.7	J
134-SB-R09	05/29/1997	4	6	4 - 6	5	685087.33	602195.84	289	J
134-SB-R09	05/29/1997	10	12	10 - 12	-1	685087.33	602195.84	247	J
134-SB-S10	05/29/1997	6	8	6 - 8	3	685191.70	602116.15	9540	J
134-SB-S10	05/29/1997	10	12	10 - 12	-1	685191.70	602116.15	425	J
134-SB-T09	05/29/1997	2	4	2 - 4	6.91	685148.41	602008.19	8350	J
134-SB-T09	05/29/1997	4	6	4 - 6	4.91	685148.41	602008.19	547	J
134-SB-T09	05/29/1997	6	8	6 - 8	2.91	685148.41	602008.19	342	J
134-SB-T09	05/29/1997	8	10	8 - 10	0.91	685148.41	602008.19	181	J
134-SB-T09	05/29/1997	10	12	10 - 12	-1.09	685148.41	602008.19	58.9	J
134-SB-T09	05/29/1997	14	16	14 - 16	-5.09	685148.41	602008.19	25.3	J
134-SB-U10	05/29/1997	4	6	4 - 6	4.4	685238.85	601960.33	427	J
134-SB-U10	05/29/1997	6	8	6 - 8	2.4	685238.85	601960.33	3820	J
134-SB-U10	05/29/1997	8	10	8 - 10	0.4	685238.85	601960.33	393	J
134-SB-U10	05/29/1997	10	12	10 - 12	-1.6	685238.85	601960.33	157	J
134-SB-V11	06/03/1997	8	10	8 - 10	0	685338.22	601910.84	856	J
134-SB-V11	06/03/1997	4	6	4 - 6	4	685338.22	601910.84	9770	J
140-SB-001	06/20/2005	18	18.5	18 - 18.5	-9	684806.00	602505.00	81.4	J
140-SB-002	06/20/2005	11.5	12	11.5 - 12	1.28	684930.00	602390.00	9810	J
140-SB-002	06/20/2005	15.5	16	15.5 - 16	-2.72	684930.00	602390.00	248	J
140-SB-021	07/30/2008	5	5.5	5 - 5.5	6.53	684875.00	602366.00	42.6	J
140-SB-023	07/30/2008	1.5	2	1.5 - 2	8.61	684921.00	602468.00	295	J
140-SB-023	07/30/2008	2.5	3	2.5 - 3	7.61	684921.00	602468.00	337	
140-SB-023	07/30/2008	5	5.5	5 - 5.5	5.11	684921.00	602468.00	79.2	J
140-SB-M08	08/22/1997	2	4	2 - 4	7	684811.01	602509.83	40.1	J
140-SB-M08	08/22/1997	4	6	4 - 6	5	684811.01	602509.83	1070	J
140-SB-M08	08/22/1997	6	8	6 - 8	3	684811.01	602509.83	3890	J
140-SB-M08	08/22/1997	8	10	8 - 10	1	684811.01	602509.83	27.7	J
140-SB-M08	08/22/1997	10	12	10 - 12	-1	684811.01	602509.83	382	J
140-SB-M08	08/22/1997	12	14	12 - 14	-3	684811.01	602509.83	1040	J
140-SB-M08	08/22/1997	14	16	14 - 16	-5	684811.01	602509.83	347	J
140-SB-N09	08/21/1997	0	2	0 - 2	10.52	684932.12	602464.54	49.1	

EXHIBIT B-3

RESTRICTED AREA DATA TABLE

Deed Notice #1 SA-6 South Open Space AOC Property

Portions of Block 24601 Lots 1-8 a portion of Block 21901 Lot 8

Jersey City, New Jersey

Location ID	Sample Date	Start Depth (feet bgs)	End Depth (feet bgs)	Sample Depth (feet bgs)	Sample Elevation (NAVD88)	Northing	Easting	Hexavalent Chromium	Q
140-SB-N09	08/21/1997	4	6	4 - 6	6.52	684932.12	602464.54	227	
140-SB-N09	08/21/1997	6	8	6 - 8	4.52	684932.12	602464.54	9930	
140-SB-N09	08/21/1997	10	12	10 - 12	0.52	684932.12	602464.54	7610	
140-SB-N09	08/21/1997	14	16	14 - 16	-3.48	684932.12	602464.54	2920	
140-SB-P09	08/21/1997	10	12	10 - 12	0	684990.54	602300.01	91.9	
140-SB-P09	08/21/1997	14	16	14 - 16	-4	684990.54	602300.01	113	
140-SB-P09	08/21/1997	6	8	6 - 8	4	684990.54	602300.01	6030	

Notes:

Results reported in mg/kg.

* Soil sample 073-SB-326 <20 mg/kg for hexavalent chromium; total xylenes detected at 33,900 mg/kg.

Q -Data Qualifiers:

J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:

Feet bgs - Feet below ground surface

mg/kg - milligrams per kilogram

NAVD88 - North American Vertical Datum of 1988

NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010

NJDEP RDC - New Jersey Department of Environmental Protection Residential Direct Contact Soil Standard, revised 2012

Contaminant	CAS No.	NJDEP RDC (mg/kg)
Hexavalent Chromium	18540-29-9	20
Total Xylenes	1330-20-7	12000

EXHIBIT B-3

RESTRICTED AREA DATA TABLE-HISTORIC FILL

Deed Notice #1 SA-6 South Open Space AOC Property

Portions of Block 24601 Lots 1-8 a portion of Block 21901 Lot 8

Jersey City, New Jersey

Compound>RDC	RDC	# of Samples >RDC	Maximum Conc.
ANTIMONY	**31**	1	32.5
ARSENIC	**19**	1	126
BENZO(A)ANTHRACENE	**5**	12	9.2
BENZO(A)PYRENE	**0.5**	18	7.2
BENZO(B)FLUORANTHENE	**5**	12	7.1
DIBENZO(A,H)ANTHRACENE	**0.5**	8	1.73
LEAD	**400**	2	508
NAPHTHALENE	**6**	5	100
VANADIUM	**78**	15	1120

Notes:

RDC: NJDEP Residential Direct Contact Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].

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

Historic fill is present throughout the Site consisting of PAH and metals.

R or N: Rejected or negated by laboratory or data validator

EXHIBIT C
Deed Notice #1 Property

C-1 Institutional Controls
C-2 Engineering Controls
Portions of Block 24601, Lots 1 through 8 and a Portion of Block 21901 Lot 8 City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning, and Conservation Restriction as Institutional Controls: Exhibit C-1 (A through D) for that portion of Block 24601, Lots 1 through 8 and Block 21901 Lot 8, City of Jersey City, New Jersey known as the Property.

Exhibits C-1A through D. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1D: Conservation Restriction as Institutional Control (recorded at the Office of Hudson County Register as indicated in Paragraph 3): Exhibits C-1A through C-1D include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property encompasses approximately 8 acres. The horizontal extent of the Property includes an existing soil-cement bentonite (SCB) wall along the northern boundary of the Property with SA-7 and the hydraulic barrier walls installed on the other three sides as part of the Chromium Remedy. The engineered barrier covering the contamination in the Property consists of an engineered Resource Conservation and Recovery Act (RCRA) cap that includes a gas collection system, base protective layer, geomembrane liner, geocomposite drainage layer, filter fabric, warning layer, and cover soils. The Property includes chromium, xylenes and historic fill. Honeywell has restricted the future use of this area by implementing a conservation restriction, which has been recorded at the Office of the Hudson County Register, and Honeywell will transfer, or cause Bayfront Redevelopment LLC to transfer, title to Jersey City (as called for in Paragraph 61(c)(ii)(3) of the Consent Decree). The provisions of the LTMP and the OSDS, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes portions of Block 24601, Lots 1 through and 8 and a portion of Block 21901 Lot 8. The estimated size of the Property containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) as identified on Exhibit B-1 is estimated at approximately 8 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, including, but not limited to, Paragraphs 74(j) and 74 (k) of the Consent Decree, the applicable zoning standards, and the Conservation Restriction. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the terms of the Consent Decree and the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B, Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg, soils containing xylenes above the NJDEP RDCSRS of 12,000 mg/kg for xylenes, and soils that are historic fill.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and LTMP established thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

***Same as (B)(1*).**

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the Property.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the OSDS, the applicable zoning standards and the Conservation Restriction; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice, the OSDS, the applicable zoning standards and the Conservation Restriction.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Portion of Block 24601, Lots 1 through 8 and Block 21901 Lot 8
City of Jersey City, New Jersey

Exhibits C-2A through C: Narrative description of the Engineering Controls including (A) the Clean Fill and Soil Capping System; (B) Underground Containment Walls; (C) Shallow Groundwater Collection and Treatment System as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Controls consist of the following: (A) a capping system consisting of: a root barrier, a warning layer, impervious geo-membrane liner; geo-composite drainage layer; and clean soil cover with minimum 12 inches thickness in areas where pavement is proposed; and an average of 36-inches and a minimum 24-inches thickness in areas where landscaping is proposed. For the purposes of this deed notice, the engineering controls exclude cover soils that are within 12 inches of the root barrier. (B) Engineering controls will also include underground containment walls around the perimeter of the Property. The Engineering Controls are more fully set forth in the Consent Decree. (C) Engineering controls will also include a system of wells, sumps, french drains, or other collection trenches and associated piping for the collection and treatment of shallow groundwater from the Property.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg, soils containing xylenes above the NJDEP RDCSRS of 12,000 mg/kg, and soils that are historic fill material, and to contain shallow groundwater above the NJDEP groundwater quality standard for total chromium.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent impacted soils as defined above. The groundwater engineering controls are intended to restrict the flow of shallow groundwater, and to collect and treat contaminated groundwater within the Property. Monitoring requirements for the engineering controls are set forth in the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and the Deed Notice for additional information: subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Should the activities carried out in conformance with the LTMP developed pursuant to the Consent Decree indicate that other activities are necessary, those activities will be listed and executed.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***
- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Docket No. 05-5955(DMC) Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 SOUTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey (hereafter "the Court") issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property then-owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property then-owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with

various properties collectively designated by NJDEP as Study Areas 5, 6 North, which includes the properties formerly owned by JCMUA and JCIA, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* owners of the properties comprising Study Areas 5, 6 South, and 6 North;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the Court (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, Riverkeeper has alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 South property;

Whereas, on April 21, 2008, the Court entered the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North (hereafter "the Study Area 6 North Consent Decree") resolving issues between Honeywell, Riverkeeper, and the Jersey City Entities related to chromium contamination at Study Area 6 North;

Whereas, on April 21, 2008, the district court for the District of New Jersey entered the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with the Study Area 6 North Decree, which resolved claims and cross-claims between Honeywell and the Jersey City Entities;

Whereas, on May 28, 2008, the Court entered the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, on September 3, 2008, the Court entered the Deep Overburden and Bedrock Groundwater Remedies Consent Order (hereafter "the Deep Groundwater Consent Order") resolving all issues related to the remediation of deep overburden and bedrock groundwater in both *ICO v. Honeywell* and the Consolidated Litigation;

Whereas, on May 13, 2011, Plaintiffs sent Honeywell a RCRA citizen action suit notice letter with respect to Site 163, and the Parties agree that the incorporation of Site 163 into this Consent Decree resolves any claims asserted, or that could have been asserted, in the RCRA notice letter or in any RCRA citizen suit with respect to Site 163;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 South that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, Study Area 6 and Study Area 7 consist of parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in

need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 South and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City; and

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Honeywell, the Riverkeeper, and Jersey City as a means to accomplish the aforesaid purposes of this settlement:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **"20 to 1000 Soils"** shall mean those soils containing less than 1000 mg/kg of hexavalent chromium, but greater than 20 mg/kg. **"20 to 240 Soils"** shall mean those soils containing less than 240 mg/kg of hexavalent chromium, but greater than 20 mg/kg.

2. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

3. **COPR** shall mean Chromite Ore Processing Residue.

4. **Chromium Remedy or Chromium Remediation** shall mean the remedy set forth in Article III.

5. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.*, D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator*

Authority v. Honeywell International Inc., D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-022 (DMC).

6. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

7. **Deep Groundwater Consent Order** shall mean the Deep Overburden and Bedrock Groundwater Remedies Consent Order entered by the Court on September 3, 2008, in both *ICO v. Honeywell* and the Consolidated Litigation.

8. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, entered on August 15, 2008, in *ICO v. Honeywell,* and the remedies required under the Deep Groundwater Consent Order.

9. **Development Area of Concern** ("AOC") shall mean those portions of Study Area 6 South in which the hexavalent chromium concentration in the top 20 feet of soil below ground surfaces exceeds a concentration of 20 mg/kg, and for which future uses of the property may include commercial or residential development. The Open Space AOC shall not be part of the Development AOC and vice versa. The Development AOC consists of two parts: the Kellogg Street Development AOC and the Site 163 Development AOC. Collectively, the two parts shall be referred to as the "Development AOC." The approximate boundaries of the Development AOC as a whole and its two parts are shown on Exhibit A, but the boundaries may be further defined in the implementation of the Chromium Remedy. For the Kellogg Street Development AOC, remedial measures shall assume only a residential use. For the Site 163 Development AOC, remedial measures shall be implemented with the goal of unrestricted use, but limitations

on future uses (including prohibiting residential use) in some or all of the Site 163 Development AOC may be part of the remedy as set forth in paragraph 61.

10. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

11. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including 425-445 Route 440 Property LLC, Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

12. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

13. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

14. **Including** shall mean including, but not limited to.

15. **JCIA** shall mean the Jersey City Incinerator Authority.

16. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

17. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

18. **Jersey City/Honeywell Consent Order** shall mean the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. entered in the Consolidated Litigation on April 21, 2008.

19. **"L-Well Groundwater"** shall mean the groundwater found at the depth of the "L" wells on and near the former bowling alley property, NJDEP Site 124, located at 427 Route 440. The L-Well Groundwater is located within what has been referred to as the plume diversion area.

20. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

21. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit B.

22. **Open Space AOC** shall mean the portion of Study Area 6 South that is identified as The Promenade park and Grand Boulevard extending from Route 440 to the Hackensack River on page 39 of the Redevelopment Plan and for which the future uses of the property shall be restricted pursuant to paragraph 74, following remediation pursuant to paragraph 65. The Development AOC shall not be part of the Open Space AOC and vice versa. The approximate boundaries of the Open Space AOC are shown on Exhibit A, and the boundaries may be further defined in the implementation of the Chromium Remedy.

23. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

24. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.*, as amended.

25. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

26. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. § 40A:12A1, *et seq.*, as amended and supplemented.

27. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

28. **Remedial Investigation Work Plan Addendum or RIWP Addendum** shall mean the "Remedial Investigation Work Plan Addendum Study Area 6 South" submitted to NJDEP on June 27, 2008.

29. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

30. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation on May 28, 2008.

31. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

32. **Site** shall mean Study Area 6 South.

33. **Site Preparation Activities** shall mean those activities necessary to begin implementation of the Chromium Remedy in Article III of this Consent Decree, including, if appropriate, the temporary or permanent relocation of current activities and operations conducted on Study Area 6 South.

34. **Soil** shall mean soils, historic fill, and/or COPR.

35. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

36. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

37. **Study Area 5** shall mean that property comprising Sites 79, 90, 117, 153, and 184 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 42 acres and including (a) all such property owned by Bob Ciasulli consisting of Block 1291, Lot 76, and Block 1292, Lots 1F, 47, 48, 53, and 54PL, located at 540 Route 440, Jersey City, New Jersey, (b) all such property owned by Elisabeth and Rafael Rosario consisting of Block 1292, Lot 49, located at 93 Fisk Street, Jersey City, New Jersey, (c) all such property owned by Michael Vo consisting of Block 1292, Lot 50, located at 95 Fisk Street, Jersey City, New Jersey, (d) all such property owned by NJCU consisting of Block 1286, Lots 5 and 6D and Block 1286.5, Lots 1 and 2, Jersey City, New Jersey, (e) all such property owned by Inland Southeast Jersey City LLC consisting of Lot 1, Block 1285.5 located at 440 Route 440, Jersey City, New Jersey, and (f) all such property owned by 425/445 Route 440 Property LLC, consisting of Block 1289.5, Lot E, Jersey City, New Jersey.

38. **Study Area 6 North** shall mean the property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, which is subject to the Study Area 6 North Consent Decree.

39. **Study Area 6 North Consent Decree** shall mean the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North, entered by the Court on April 21, 2008, in the Consolidated Litigation.

40. **Study Area 6 South** shall mean (a) that property currently owned by Bayfront Redevelopment Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Bayfront Redevelopment LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Bayfront Redevelopment LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Bayfront Redevelopment LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Bayfront Redevelopment LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Bayfront Redevelopment LLC located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey; (h) that property currently owned by Bayfront Redevelopment LLC located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey; and (i) that property currently owned by Bayfront Redevelopment LLC, consisting of Site 163, formerly the Colonial Concrete Company, located at 75 Kellogg Street in Jersey City, Hudson County, New Jersey.

41. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

42. **Study Area 7** shall mean (a) that property currently owned by Bayfront Redevelopment LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that

property currently owned by Bayfront Redevelopment LLC located at 465 Route 440, Jersey City, Hudson County, New Jersey.

43. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

44. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

45. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

46. For purposes of this Consent Decree, the Riverkeeper Complaint in the Consolidated Litigation states claims upon which relief may be granted against Honeywell.

47. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 113, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils, shallow groundwater and L-Well groundwater at Study Area 6 South. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 5 or property owned by Regnal Realty consisting of Block 1288.2, lot 1, located at 420 Route 440, Jersey City, New Jersey.

48. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

49. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. General Terms and Requirements

50. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 South at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 South shall be undertaken in accordance with the terms of this Consent Decree.

51. **Designation of Chromium Areas of Concern.** For the purposes of remediation, Study Area 6 South shall consist of two AOC's, designated as the Open Space AOC and the Development AOC as shown approximately on Exhibit A. The exact boundaries of the two AOC's shall be subject to further delineation during the design and implementation of the Chromium Remedy.

52. **Consistency of the Chromium Remedy with NJDEP Guidance and Remedial Action Work Plan.** The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and any Remedial Action Work Plan, including any modifications or addenda approved by NJDEP. Prior to submitting any Remedial Action Work Plan, Honeywell shall take all reasonable steps to ensure that the plan is consistent with the Chromium Remedy. However, this Consent Decree shall have precedence over any Remedial Action Work Plan in the event of any inconsistency. The approved Remedial Action Work Plan is a minimum standard, and the Chromium Remedy may be more protective than the remedy NJDEP approves.

53. **General Scope of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and L-Well groundwater containing total chromium concentrations of 70 µg/l or greater and soil containing hexavalent chromium at concentrations of 20 mg/kg or greater within the top 20 feet of soil below the ground surface, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow and L-Well levels of groundwater (see paragraphs 69 - 72). The deep overburden and bedrock groundwater remediation, including source control, is addressed in the Deep Groundwater Consent Order.

54. **Development of a Schedule for the Chromium Remedy.** The Chromium Remedy shall be carried out diligently, and the development and implementation of any remedy required by NJDEP for non-chromium contamination shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Within 90 days of entry of this Consent Decree, Honeywell shall propose a Master Schedule for the implementation of the Chromium Remedy .

(a) The Master Schedule shall incorporate the following dates:

(i) No later than August 15, 2008, Honeywell shall submit a Chromium Impacted Soils Pilot Test Work Plan to NJDEP and Riverkeeper;

(ii) No later than September 15, 2008, Honeywell shall complete field work in accordance with the RIWP Addendum;

(iii)No later than December 31, 2008, Honeywell shall submit an Initial Treatment Study Report and Remedial Action Work Plan pursuant to paragraph 86(c);

(iv) No later than July 31, 2012, Honeywell shall submit the soil and groundwater data from its 2010 and 2011 supplemental investigation of Site 163, a brief summary report, and

a designation of the boundaries of the Site 163 Development AOC to the Special Master pursuant to paragraph 86(c);

(v) No later than October 1, 2012, Honeywell shall submit an addendum to the Study Area 6 South 100% Design setting forth the 100% Design for the Site 163 Development AOC portion of the Study Area 6 South Chromium Remedy; and

(vi) Honeywell shall undertake, in good faith, to begin implementation of the Chromium Remedy by March 1, 2013.

(b) In addition, the Master Schedule shall propose deadlines for the following milestones:

(i) Submission of all documents subject to submission and review pursuant to paragraph 86(c);

(ii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy;

(iii)Submission, following implementation of the soil components of the Chromium Remedy for the Development AOC, of the groundwater plans and reports required by paragraphs 70 and 72;

(iv)Completion of additional sampling for shallow groundwater delineation pursuant to paragraph 71 and a proposal for a remedy pursuant to paragraph 71, if needed;

(v) The submission of a 50% Design Report for the Chromium Remedy;

(vi) The submission of a 100% Design Report for the Chromium Remedy;

(vii) The date for completion of the installation of the Chromium Remedy;

(viii)Implementation of the long-term protections of the Open Space AOC established pursuant to paragraph 74; and

(ix) Transfer of the Open Space AOC to Jersey City pursuant to paragraph 74(a)(iii).

B. Initial Chromium Remedy Steps: Delineation, Treatment Study, and Remedial Action Work Plan

55. **Delineation of Development AOC.** Honeywell shall conduct further soil sampling on Study Area 6 South in accordance with the RIWP Addendum. In addition to the locations set forth in the RIWP Addendum, Honeywell shall conduct further soil sampling pursuant to the provisions of the RIWP Addendum at the boring locations set forth in Exhibit E. Upon completion of the soil sampling required by this paragraph, Honeywell shall submit a Second Supplemental Remedial Investigation Report that sets forth the results of the sampling and Honeywell's proposal as to the delineation of the Development AOC. In conjunction with its proposal, Honeywell shall set forth its rationale as to whether prior sampling data should be included or excluded in the proposed delineation. The soil sampling and submission of a Second Supplemental Remedial Investigation Report shall be completed in accordance with the Schedule set forth in paragraph 54. Honeywell shall submit the Second Supplemental Remedial Investigation Report pursuant to paragraph 86(c). The Site 163 Development AOC shall be exempt from the requirements of paragraphs 55-58.

56. **Conduct of a Treatment Study in the Development AOC.** Honeywell shall conduct a field study of the efficacy of *in situ* treatment of 20 to 1000 Soils in accordance with the Chromium Impacted Soil Pilot Test Work Plan. The purpose of the pilot test shall be to evaluate whether *in situ* chemical treatment of 20 to 1000 Soils with one or more reductants can result in the permanent establishment of hexavalent chromium concentrations below 20 mg/kg under conditions in those areas of the Development AOC that may be subject to treatment as a remedy. Honeywell shall provide the raw data from the pilot test to NJDEP and Riverkeeper in scientifically useable electronic form as soon as the data become available. Honeywell shall

submit an Initial Treatment Study Report setting forth the initial results of the pilot test pursuant to paragraph 86(c) .

57. **Continued Monitoring of the Treatment Study.** As the result of the need to complete Study Area 7 remediation, to maintain Study Area 7 remediation support operations currently located on Study Area 6 South, and to conduct Site Preparation activities including the relocation of operating businesses on Study Area 6 South in advance of implementation of the Chromium Remedy, the Parties do not anticipate that implementation of field work for the Chromium Remedy will begin until March 1, 2013. Honeywell shall continue to monitor the performance of the pilot test and shall submit a Final Treatment Study Monitoring Report assessing the long term effectiveness of treatment for 20 to 1000 Soils in the Development AOC pursuant to paragraph 86(c) no later than December 31, 2011.

58. **Submission of a Remedial Action Work Plan.** On or before December 31, 2008, Honeywell shall submit a Remedial Action Work Plan for the Chromium Remedy pursuant to paragraph 86(c). The Remedial Action Work Plan shall be consistent with the Chromium Remedy set forth in this Consent Decree.

C. Development AOC Soil Remedy

59. **Remedial Components.** In the Development AOC, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be remediated as follows:

(a) Soils with a concentration greater than 1000 mg/kg shall be:

(i) Excavated and disposed of off-site at a waste disposal facility licensed to accept such waste; or

(ii) Treated *ex situ* and consolidated under the cap in the Open Space AOC provided the requirements of paragraphs 60 and 63 are satisfied and provided that such soils do not

require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a).

(b) 20 to 1000 Soils shall be:

(i) Excavated and consolidated within the Open Space AOC provided that such soils do not require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a); or

(ii) Excavated and disposed of off-site pursuant to the requirements of paragraph 59(a); or

(iii) Remediated pursuant to paragraphs 59(c) or 59(d) provided that such soils are also 20 to 240 soils and meet the requirements of paragraphs 59(c) or 59(d).

(c) 20 to 240 Soils may be remediated by excavation and consolidation within the Study Area 6 North AOC 1 Open Space Area, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy.

(d) 20 to 240 Soils within the Site 163 Development AOC may be remediated by *in situ* treatment, provided the requirements of paragraph 61 are satisfied.

60. **Treatment and Consolidation of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** *Ex situ* treatment and consolidation under the Open Space AOC cap may be used as a remedial component for soils containing greater than 1000 mg/kg hexavalent chromium provided that the requirements of this paragraph are satisfied:

(a) Honeywell demonstrates in the Final Treatment Study Monitoring Report that the proposed treatment will likely result in the reduction of the hexavalent chromium concentration of the treated soils such that the post-treatment total chromium concentration shown by Toxicity

Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C);

(b) Following a review of the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d), NJDEP agrees that Honeywell has made the demonstration required by paragraph 60(a).

(c) Plaintiffs have had an opportunity to review and comment on the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d)and pursuant to the Special Master review process set forth in paragraphs 86(e)-86(f); and

(d) Following review of the demonstration required by paragraph 60(a) pursuant to the Special Master review process set forth in paragraph 86(f), the Special Master issues a recommendation finding that Honeywell has made the demonstration required by paragraph 60(a) or the Court finds that Honeywell has made the demonstration required by paragraph 60(a) in the event that any Party seeks the Court's review of the Special Master's recommendations under this paragraph.

61. **Treatment as a Remedial Component for 20 to 240 Soils.** *In situ* treatment may be used as a remedial component for the 20 to 240 Soils in the Site 163 Development ACO, provided that such soils are 3 feet or more below ground surface and the requirements of this paragraph are satisfied:

(a) If Honeywell elects to treat *in situ* 20 to 240 Soils in the Site 163 Development AOC, Honeywell shall include in the 100% Design Addendum for Site 163 a plan for such treatment. Such treatment plan shall be comparable in detail and approach to the pipeline treatability plan which is Appendix F to the Study Area 6 North 100% Design. The goal of such *in situ* treatment

shall be to reduce hexavalent chromium soil concentrations to less than 20 mg/kg in soils 20 feet or less below ground surface;

(b) Three years after conducting the treatment set forth in subparagraph (a), Honeywell shall collect additional soil samples in the treated areas to evaluate the success of the treatment. These soil samples shall be analyzed for EH, pH, hexavalent chromium (using EPA/NJDEP Methods 3060A/7199), and sulfides (using EPA Method 9030B). Within 60 days of its receipt of the final data from such sampling, Honeywell shall submit a report with such data to the Special Master pursuant to paragraph 86(c);

(c) In the event that the sampling pursuant to subparagraph (b) shows that soils with greater than 20 mg/kg hexavalent chromium remain or that excess treatment reductant remains present, Honeywell may elect to pursue one or more of the following approaches after providing notice to the Special Master, Riverkeeper and the Jersey City Entities;

(i) In the case of excess treatment reductant remaining in the soil, continue to monitor such areas pursuant to subparagraph (b) until the excess reductant is no longer present;

(ii) In the case of soils with greater than 20 mg/kg hexavalent chromium:

(1) Excavate such soils and consolidate them under the cap in the Open Space AOC, consolidate them under the cap in the Study Area 6 North AOC 1 Open Space Area, and/or dispose of them off-site provided that in each instance the applicable requirements of paragraph 59 are satisfied;

(2) Conduct further *in situ* treatment using additional treatment reductant and submit a monitoring plan pursuant to paragraph 64; or

(3) In the event that the soils are within the areas depicted as River Front Park, Riverfront Drive or Kellogg Street on page 39 of the Redevelopment Plan, cover the affected

soils with a road, walkway, and/or other hardscape and restrict the use of that area through each of the following institutional controls:

(a) Issuance and recording of a conservation restriction comparable to that required under paragraphs 74(b) and 74(d);

(b) Transfer of title to that area to Jersey City pursuant to paragraphs 74(a)(iii) through 74(a)(iv)(2); and

(c) Issuance and recording of a deed notice comparable to that required under paragraphs 74(c) and 74(d).

62. **Submissions Related to Site 163.** Pursuant to the Schedule, Honeywell shall prepare and submit the following with regard to Site 163:

(a) A summary report of all chromium soil and groundwater data collected during site investigations in 2010 and 2011; and

(b) An addendum incorporating Site 163 into the 100% Design.

63. **Post-Treatment Analysis of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** In the event that *ex situ* treatment is used as a final remedy for any portion of the soils containing greater than 1000 mg/kg pursuant to paragraph 59(a)(ii), Honeywell shall conduct post-treatment analysis of each treated batch of soil to demonstrate that the treatment has resulted in the reduction of the hexavalent chromium concentration such that the post-treatment total chromium concentration shown by Toxicity Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C). Such monitoring and demonstration shall be made prior to consolidation of the treated soils under the Open Space AOC cap pursuant to paragraph 59(a)(ii). In the event that Honeywell fails to make the demonstration required by this paragraph,

Honeywell shall dispose of the soils off-site at a waste disposal facility licensed to accept such waste.

64. **Post-Treatment Monitoring for 20 to 1000 Soils.** In the event that *in situ* treatment is used as a final remedy for any portion of the 20 to 1000 Soils, Honeywell shall conduct post-treatment monitoring to demonstrate that the treatment has resulted in permanent hexavalent chromium concentrations of less than 20 mg/kg in the treated area. Honeywell shall propose a program of post-treatment monitoring in a document that is submitted pursuant to paragraph 86(c). In the event that Honeywell fails to make the demonstration required by this paragraph, Honeywell shall propose further remedial actions pursuant to paragraph 59 in a document that is submitted pursuant to paragraph 86(c).

D. Open Space AOC Components of the Chromium Remedy

65. **Open Space AOC Soil Remedy.** In the Open Space AOC, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, pursuant to paragraph 59(b)(i), shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of a gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the Open Space AOC. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the Open Space AOC shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the

two feet of clean fill required by paragraph 65(c). Excavated 20 to 1000 Soils from the Development AOC shall be placed and spread in the Open Space AOC under the cap. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

E. Demolition, Grading, and Backfill Requirements

66. **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community from airborne dusts and exposures to contaminated soils.

67. **Backfill Requirements.** Soils excavated from the Development AOC shall be replaced with backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

68. **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

F. Groundwater Components of the Chromium Remedy

69. **Shallow Groundwater Remedy for the Open Space AOC.** The Open Space AOC shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing

above the meadow mat in the Open Space AOC to the extent that such groundwater contains total chromium in concentrations in excess of 70 µg/l. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 South and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the southern, eastern and western sides of the Open Space AOC and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that shall consist of (i) one or more shallow extraction wells, sumps, or french drains within the Open Space AOC; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater within the Open Space AOC;

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP regulations.

70. **The Shallow Groundwater Remedy for the Development AOC.** Following implementation of the Development AOC soil components of the Chromium Remedy, Honeywell shall submit a report to (a) determine whether shallow groundwater remaining in the

Development AOC exceeds 70 µg/l total chromium and, (b) if so, evaluate the need for further remedial measures to address any such shallow groundwater remaining in the Development AOC with total chromium concentrations in excess of 70 µg/l. This evaluation shall be subject to review and comment by the Parties and approval by the Special Master.

(a) In the event that the evaluation demonstrates that further remedial measures are necessary, Honeywell shall propose such measures subject to review and comment by the Parties and approval by the Special Master;

(b) The capture zone of any remedy shall include at least the entire area of contaminated shallow groundwater except for shallow groundwater that is captured and subject to the shallow groundwater remedy for the Open Space AOC pursuant to paragraph 69;

(c) In the event that a pump-and-treat system is selected as a contingency measure for shallow groundwater in the Development AOC, all infrastructure for the pump-and-treat contingency system that is needed to ensure that the contingency system is fully operational, as required by paragraph 70(d), shall be installed prior to or in conjunction to any development of the Site. This includes at least one shallow extraction well, sump, or french drain, and the piping to convey any extracted groundwater to Honeywell's water treatment plant;

(d) If it is determined that the pump-and-treat contingency system must be activated, the pump-and-treat system shall be operational no later than six months after the date of the determination.

71. **Off-Site Shallow Groundwater Remedy.** Honeywell shall propose additional sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site. Honeywell shall submit a report of the results of such sampling and, in the event that contaminated shallow groundwater is found to extend off-site, a proposal for a remedy based on

such results. The report and the proposal for a remedy shall be subject to review and comment by the Parties and approval by the Special Master.

72. **L-Well Groundwater Remedy.** At the time this Decree is entered, the L-Well Groundwater is contained and not contributing to further contamination of surrounding waters and/or soils. However, in order to verify that this status continues following implementation of the Chromium Remedy, including any groundwater remedial measures pursuant to paragraphs 70 and 71, Honeywell shall propose a plan for one round of monitoring designed to evaluate whether the L-Well Groundwater remains contained. The plan shall include monitoring for total and hexavalent chromium and major ion chemistry to determine whether there has been movement in the L-Well Groundwater.

(a) In the event that no substantial change is detected in the major ion chemistry, no further action is required unless paragraph 72(c) is applicable.

(b) In the event that substantial changes are detected in the major ion chemistry, Honeywell shall propose a plan for further monitoring of the L-Well Groundwater. Such a plan shall be subject to review and comment by the Parties and approval by the Special Master.

(c) In the event that the initial monitoring or monitoring conducted pursuant to paragraph 72(b) demonstrates that proximate waters have total chromium concentrations in excess of 70 µg/l, regardless of whether there is a change in the major ion chemistry, Honeywell shall propose a remediation plan for the L-Well Groundwater. Such remediation plan shall be subject to review and comment by the Parties and approval by the Special Master.

G. Permits and Authorizations

73. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article.

H. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

74. **Protection of the Open Space AOC.** Except as provided in paragraphs 74(j) and 74(k), development in the Open Space AOC shall be prohibited. The Open Space AOC shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the Open Space AOC pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54:

(a) **Ownership of and Access to the Open Space AOC.** Ownership of and access to the Open Space AOC shall be in accordance with the following:

(i) Bayfront Redevelopment LLC, as the current owner in fee simple absolute of all property that comprises the Open Space AOC, shall not convey any rights or interests in any parcel that comprises the Open Space AOC property except as provided in this Decree. Within 90 days of entry of this decree, Bayfront Redevelopment LLC shall give Jersey City an option to buy all of the Open Space AOC property prior to the planned transfer pursuant to paragraph 74(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall exercise the option to buy the Open Space AOC in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 98(c) or 98(d) are met;

(ii) Within 90 days of the entry of this Consent Decree, Bayfront Redevelopment LLC shall grant a conservation restriction for the Open Space AOC pursuant to the requirements of paragraph 74(b);

(iii) Upon the final construction of all roads and utility corridors within the Open Space AOC, Bayfront Development LLC shall donate good and marketable title to all the land comprising the Open Space AOC to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 South to create a new parcel(s) comprising the Open Space AOC. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the Open Space AOC by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the Open Space AOC unless and until it shall have complied with the requirements of paragraph 74(a)(iv);

(iv)After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the Open Space AOC to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the Open Space AOC to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the Open Space AOC and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the Open Space AOC pursuant to this paragraph

and routine maintenance of the permissible development in the Open Space AOC pursuant to paragraph 78(d); or

(2) The Open Space AOC has been remediated such that no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** Prior to the grant of the option to buy pursuant to paragraph 74(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the Open Space AOC substantially in the form set forth in Exhibit C. Exhibit C is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 74(j) and 74(k), including the construction and placement of roads and utilities. The Conservation Restriction shall also allow for current uses of the Open Space AOC to continue until such time as construction of the Chromium Remedy begins. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the Open Space AOC as set forth in paragraphs 74(j) and 74(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph 74(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the Open Space AOC shall be subjected to the deed notice substantially in the form set forth in Exhibit D that restricts

future activities on the Open Space AOC. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the Open Space AOC pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 74(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 74(b), and the deed notice imposed pursuant to paragraph 74(c) shall be recorded, pursuant to N.J.S.A. §§ 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the Open Space AOC. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the Open Space AOC in the real estate records related to the Open Space AOC.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the Open Space AOC is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 74(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the Open Space AOC, Jersey City shall add those portions of the Open Space AOC not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. § 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor,

maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 74(j) and 74(k); and (iv) the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the Open Space AOC have been added to its ROSI, such that those portions of the Open Space AOC shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the Open Space AOC is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 74(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the Open Space AOC subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the Open Space AOC under the statute. If the Parties are unable to reach agreement on establishment of an environmental covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the Open Space AOC without

unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the Open Space AOC. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the Open Space AOC if they would provide substantial additional protection for the Open Space AOC without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in Open Space AOC.** Only development satisfying the requirements of this paragraph and paragraph 74(k) shall be permitted in the Open Space AOC. All other development in the Open Space AOC shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the Open Space AOC regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 74(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the Open Space AOC shall be the development undertaken following the completion of the Chromium Remedy in the Open Space AOC. The Initial Development may occur in one or more phases. Honeywell and Bayfront

Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 74(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the Open Space AOC shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 74(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the Open Space AOC, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 74(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 74(b), and the Redevelopment Plan; however, in the

event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the Open Space AOC, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 74(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 86(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 86(e) and 86(f) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the Open Space AOC shall require the preparation and submission of a Development Plan pursuant to

paragraph 74(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 74(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and Jersey City. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and Jersey City for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix)During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 74(j)(v) and 74(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 74(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 74(j)(v); or

(3) The development meets the requirements of paragraphs 74(j)(v) and 74(j)(xi), and Jersey City provides notice of its intention to alter or add to the development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 74(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 74(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holder(s) of the conservation restriction established pursuant to paragraph 74(b) with an annual report that describes any alterations or additions, including those activities under paragraph 74(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the Open Space AOC.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 74(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the Open Space AOC, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 74(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 74(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the Open Space AOC of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

75. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

76. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 65, 69, 68, 69, 72, and 77. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

77. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the Open Space AOC.

78. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 77. Honeywell shall provide Riverkeeper, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the Open Space AOC to ensure that it is not being put to any use that is inconsistent with paragraphs 74(j) and 74(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 74 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the Open Space AOC is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the Open Space AOC grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii)Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the Open Space AOC such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv)A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the Open Space AOC has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 65(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and

the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the Open Space AOC to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii)Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 69(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the Open Space AOC.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed

subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by the Court.

(c) **Contingency Plan**. As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance**. The title owner of the Open Space AOC shall conduct maintenance of the Open Space AOC features or facilities that are permissible under paragraphs 74(j) and 74(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the Open Space AOC or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of Open Space AOC shall annually provide to the other Parties and

the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the Open Space AOC shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the Open Space AOC identified by its workers during routine maintenance.

(e) **Recordkeeping**. Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring Plan. Such logs shall be provided to Riverkeeper on a quarterly basis.

79. **Monitoring and Reporting to Riverkeeper.** Riverkeeper shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 86(c).

80. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the Open Space AOC; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 78 and annual reports on changes to the Initial Development as required by paragraph 74(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The public provision of the maps and documents referred to in paragraph 80(b)(ii) via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

81. **Annual Letter to Riverkeeper on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 80, Honeywell shall provide a letter to the Riverkeeper documenting its compliance with paragraph 80.

82. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

83. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

I. Oversight and Enforcement by the Special Master and NJDEP

84. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.I.

85. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the Open Space AOC. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of any non-chromium related remedy, any site preparation activities, and any site redevelopment activities do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

86. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority**. Nothing in or pursuant to this Consent Decree shall limit NJDEP's full statutory and regulatory authority with respect to the Study Area 6 South site, including (i) permitting authority; (ii) authority to review and approve the Treatment Study reports, the Remedial Action Work Plan, the 100% Design, and final Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities**. The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting bi-monthly progress reports to the Court pursuant to the schedule for the submission of such reports established in *ICO v. Honeywell*;

(vi) Overseeing the financial assurances established pursuant to paragraphs 91 through 100, and, until the expiration of his term pursuant to paragraph 90, overseeing the financial assurances established pursuant to paragraphs 101 through 112;

(vii) Coordinating review of the documents as provided in paragraphs 86(c) through 86(g);

(viii) Overseeing all development undertaken in the Open Space AOC during the Initial Development Period pursuant to paragraph 74(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, Jersey City, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule") consistent with paragraph 54 above;

(ii) A Second Supplemental Remedial Investigation Report reporting the results of the field work conducted pursuant to paragraph 55;

(iii)A Chromium Impacted Soils Pilot Test Work Plan and Analytical Protocol for conduct of the treatment study pursuant to paragraph 56, unless such documents are agreed to by NJDEP and Riverkeeper before the entry of this Consent Decree;

(iv)An Initial Treatment Study Report for the Development AOC;

(v) A Final Treatment Study Monitoring Report;

(vi) The documents for Site 163 submitted pursuant to paragraphs 54(a)(iv), 54(a)(v), 61, and 62;

(vii) A report to evaluate the need for remediation of any potentially remaining contaminated shallow groundwater in the Development AOC after implementation of the Development AOC Soils Remedy and, based on such an evaluation, a proposal;

(viii) A report of the results of the sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site pursuant to paragraph 71 and, based on the results, a proposal for a remedy;

(ix) A plan for one round of monitoring to evaluate whether the L-Well Groundwater remains contained pursuant to paragraph 72;

(x) A proposal for a remedy of the L-Well Groundwater, in the event L-Well Groundwater monitoring indicates the contaminated groundwater is no longer contained, pursuant to paragraph 72;

(xi) A Remedial Action Work Plan;

(xii) A 50% Design Report (which may include the Development AOC Conceptual Design Plan as a component) as well as design drawings and specifications at the 50% level for other components of the Chromium Remedy (hereinafter the 50% Design);

(xiii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(xiv) The data validation plan, including quality control and quality assurance protocols;

(xv) The site-wide master health and safety plan;

(xvi) The Long-Term Monitoring Plan;

(xvii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(xviii) A program for post-treatment monitoring pursuant to paragraph 63, and, depending on such results, a proposal for further remedial actions;

(xix) A report reviewing measured groundwater levels for the groundwater remedy;

(xx) Documents required during the Initial Development Period pursuant to paragraphs 74(j)(vi), 74(j)(vii), and 74(j)(viii); and

(xxi) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Initial Review of Documents by NJDEP.** The Parties and Special Master shall allow the period of time set forth below for NJDEP to conduct its review of a submission (hereinafter "NJDEP Review Period") before the document is subject to the Special Master review and approval process. During the NJDEP Review Period, any Party may submit comments to NJDEP. For the Second Supplemental Remedial Investigation Report, the Remedial Action Work Plan, the Initial Treatment Study, and the Final Treatment Study Monitoring Report, the NJDEP Review Period shall be 90 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. For any other documents identified in paragraph 86(c), the NJDEP Review Period shall be 30 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. The NJDEP review period shall be extended an additional 30 days for any document for which NJDEP provides the Parties and the Special Master with notice that its review will require an additional 30 days. At the conclusion of the NJDEP Review Period, the comment and review process provided for in paragraphs 86(e) and 86(f) shall commence. In the event that any document has been revised during the NJDEP Review Period, Honeywell shall resubmit the applicable document for purposes of the comment and review provided for in paragraphs 86(e) and 86(f).

(e) **Comment on Submitted Documents**. For each of the documents submitted by Honeywell pursuant to paragraph 86(c), and following conclusion of the NJDEP Review Period as described in paragraph 86(d), the Special Master shall establish a schedule for the submission

of comments and responses to comments. For each of the documents submitted, Riverkeeper, Jersey City, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all comments received and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, Jersey City, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 86(f), unless the Parties agree both on the revised document and that further review and approval pursuant to paragraph 86(f) is unnecessary. In that event, the Parties shall inform the Special Master that review under paragraph 82(f) is unnecessary and Honeywell shall proceed to implement the revised document.

(f) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review**. Subject to the limitations in paragraph 82(e), all documents submitted by Honeywell, pursuant to paragraph 86(c) and 86(e), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 86(g). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure**. Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within

the timeframe established by the Special Master in the schedule for comments pursuant to paragraph 86(e). NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review**. If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(g) **Schedule and 100% Design Documents**. As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(h) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The

Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(i) **Changes to the Schedule.** The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54; and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

87. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 89.

88. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Sediment Consent Order. The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

89. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

90. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 74(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 74(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, the Study Area 6 North Consent Decree, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities

shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

J. Initial Financial Assurances

91. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy calculated using factors, including inflation and discount rates, determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process;

(ii) The costs of monitoring and maintenance activities for five years, as required by the Long-Term Monitoring Plan, calculated using factors including inflation and discount rates determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 91(a)(i) and 91(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

92. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than December 31, 2008, Honeywell shall submit to Riverkeeper and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If Riverkeeper does not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

93. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 94, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.J, the Special Master shall direct the cancellation of the prior Chromium Remedy

Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

94. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 91(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.K. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and

in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such terms. If Honeywell is not otherwise in default as provided in Article III.J and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

95. **Bankruptcy Protection**. Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

96. **Exclusive Court Jurisdiction**. The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

97. **Application of New York Law.** The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Chromium Remedy Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

98. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 85, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 93 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from

drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 98(c), and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

99. **Placement of Proceeds in Court Registry Investment System Account**. In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The

Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 103(b)(v).

100. **Termination of Chromium Remedy Letter of Credit**. The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.K.

K. Long-Term Financial Assurances

101. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 102(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

102. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater remedies pursuant to paragraphs 69, 70, and 71;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) The perpetual administration of the trust fund regardless of whether such trust fund is selected by Honeywell pursuant to paragraph 103(a) or is established from the Long-Term Letter of Credit pursuant to paragraphs 103(b)(ii), 103(b)(v), or 109.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 102(a)(i) through 102(a)(v) plus a 25% contingency when the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of the estimated future costs of the activities specified in paragraphs 102(a)(i) through 102(a)(v), plus a 25% contingency on those costs.

103. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution managing the

trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 102(a)(i) through 102(a)(iv).

(b) **Long-Term Letter of Credit**. In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 103(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 106.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of

Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(iii) The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits) as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Long-Term Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 98. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a). After the Special Master's appointment expires pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 103(b)(ii), 103(b)(v), or 109 and Honeywell has also selected a trust fund pursuant to paragraph 103(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(c) **Combination**. Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 103(a) and 103(b).

104. **Procedures for Review of the Proposed Long-Term Financial Assurances**. No later than June 1, 2009, Honeywell shall submit to Riverkeeper and the Special Master, for their review (a) the amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper agrees to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances.

105. **Temporary Maintenance of Chromium Remedy Letter of Credit**. Until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 91 in an amount equal to at least $20,000,000 in 2008 dollars. In the event of any default by Honeywell pursuant to paragraph 98 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 103(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under

paragraph 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), shall apply.

106. **Adjustment of Amount Held in Long-Term Financial Assurances**. Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 103, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to

long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 103(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 103(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 103(b).

107. **Exclusive Court Jurisdiction**. The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 103(a), 103(b)(ii), 103(b)(v), or 109.

108. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 103(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 108(c), if Honeywell fails to provide assurance to Riverkeeper, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

109. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or pursuant to paragraph 108 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be

paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

110. **Use of the Trust Fund in the Event of Honeywell's Default.** In the event of Honeywell's default, as defined in paragraphs 108(a) through 108(d), the money in the trust fund established pursuant to paragraph 103(a) shall be available to meet the obligations of paragraph 102(a), as well as for payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

111. **Use of a Trust Fund Established Pursuant to Paragraph 99, 103(b)(ii), 103(b)(v), or 109.** In the event that a trust fund is established pursuant to paragraph 99, 103(b)(ii), 103(b)(v), or 109, the money in the trust fund shall be available to meet the obligations of paragraph 102(a), as well as for the payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

112. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations under Article III.K shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the Open Space AOC or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive

standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: TERMINATION

113. **Termination of this Consent Decree**. This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 118:

(a) The Court fails to enter this Consent Decree or this Consent Decree is determined to be invalid on appeal; or

(b) NJDEP takes one of the following actions with respect to the Remedial Action Work Plan:

(i) Rejects or fails to approve the Remedial Action Work Plan for the Chromium Remedy within 180 days of submission of the plan;

(ii) Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in more than a 50% increase in the estimated costs of the Chromium Remedy as set forth in Article III; or

(iii)Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in a substantial reduction of the protection of human health and/or the environment.

114. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 113 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 113 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

115. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 113.

116. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 113, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 113, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: TRANSFER OF TITLE TO BAYFRONT REDEVELOPMENT LLC

117. **Transfer of Title of Study Areas 6 South and 7 to and from Bayfront Redevelopment LLC.** The transfer of title of Study Area 6 South and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of

Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 South and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 South or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 South and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 South under this Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell*.

ARTICLE VI: NOTICE

118. **Notice**. Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE VII: RIVERKEEPER'S ATTORNEYS' FEES

119. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $813,000.00 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 South portion of *Riverkeeper v. Honeywell* through August 31, 2008; and

(b) $353,746.67 in out-of-pocket expenses representing a portion of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses paid pursuant to the Sediment Consent Order, the Deep Groundwater Consent Order, and the Study Area 6 North Consent Decree.

(c) Payment of the sum of $813,000.00 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $879,317.92 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

120. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after August 31, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to

Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order. In the event of Honeywell's default, Riverkeeper may seek attorneys' fees from any trust fund or court registry funds established pursuant to the financial assurances provisions of this Consent Decree.

ARTICLE VIII: MISCELLANEOUS PROVISIONS

121. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

122. **Bayfront Redevelopment LLC as a Party.** As a signatory to this Consent Decree, Bayfront Redevelopment LLC subjects itself to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agrees to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against Bayfront Redevelopment LLC.

123. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

124. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

125. **Reservation of Rights and Claims.** Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

126. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

127. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

128. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

129. **Measures to Effectuate This Consent Decree.** Jersey City shall take all appropriate steps to ensure that commitments it has agreed to with regard to the Open Space AOC have been duly considered, ratified, and approved. Such steps include consideration of such commitments and an effectuating ordinance at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the commitments made by Jersey City..

130. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

131. **Severability.** Each of the provisions in paragraph 74 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

132. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Remedial AOC's and Remedial Approach Map

Exhibit B: NJDEP Chromium Policy

Exhibit C: Conservation Restriction

Exhibit D: Deed Notice

Exhibit E: Additional Boring Locations

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. Owner shall mean Bayfront Redevelopment LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The "Property" (also referenced herein as the "Restricted Area(s)" and the "Deferred Area") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached hereto.

1. THE PROPERTY. Bayfront Redevelopment LLC is the current owner in fee simple of certain real property designated as a portion of ***Block 24601, Lot 8 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]; the New Jersey Department of Environmental Protection Program Interest Number for the contaminated site which includes this property is ***Hudson County Chromate Site No. 124 Program Interest ("PI") # G000008741*** (NJDEP PI# for non-chromium-related contaminants at the Property is #745719). Site 124 is part of Study Area 6 South ("SA-6

[1] All references to Block 24601 Lot 8 in this Deed Notice shall mean the applicable portion of Block 24601 Lot 8 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

South"). The Property is located adjacent to and along Route 440 as shown on Exhibit B-1 attached hereto. The Property shall constitute a "Deferred Area" as defined in Paragraph 3 that will be remediated for hexavalent chromium contamination pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management (BCM) is the entity within the Department that is responsible for the oversight of the chromium remediation of SA-6 South and the Property. The matter was Hudson County Chromate Site No. 124 PI# G000008741. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell") to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 South to address chromium-related soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") for chromium remedial actions was approved by the Department on March 24, 2009 for Hudson County Chromate Site Nos. 073, 124, 125, 134, and 140, which includes the Property. Remedial actions were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP, soil contamination remains in the Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 South was submitted to the Department on February 8, 2017. The Department approved the RAR on March 30, 2017. A Construction Completion Report ("CCR") for SA-6 South to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 South was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property, also known as the Deferred Area, is an approximately 15-foot wide by 88-foot long, 1,315 square foot area on SA-6 South between the Route 440 Right of Way ("ROW") and the hydraulic barrier along the eastern edge of the SA-6 South Open Space AOC. Public Service

Electric & Gas ("PSE&G") owns and operates a gas main on the Property, thus, excavation of chromium-impacted soil from the Property was not possible. Excavation of residual chromium contamination proximate to the gas line on the Property will be deferred by Honeywell until the gas line is relocated as part of the Route 440 Road Widening Project. Once the chromium-impacted soils on the Property are removed consistent with Article III of the Consent Decree, this deed notice will be terminated consistent with the requirements of paragraph 13 below. The provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 South in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples for the Property do not indicate shallow groundwater contamination). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity or until remediation is implemented that renders this Deed Notice unnecessary.

4. CONSIDERATION. In accordance with the Department's approval of the chromium RAWP for the remediation for the Hudson County Chromate Site Nos. 073, 124, 125, 134, and 140 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of these contaminants, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained either at onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single family residence or a child care facility without the Department's prior written approval; and

iii. The Consent Decree, paragraph 9, prohibits the unrestricted use of the Property until the Chromium Remedy set forth in Article III of the Consent Decree is implemented.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls on the Property. The engineering controls include clean cover materials to a depth of approximately 6-inches below ground surface A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LMTP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed an LTMP which sets forth requirements for monitoring, maintaining, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5E. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the engineering controls. Workers shall be trained using material developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after

the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Property, of the nature and location of known contamination in the Property, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and (b) without first obtaining Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring

Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree, and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to

the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program

P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 80 and 83 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system;

(B) As-built diagrams of any buildings, roads, parking lots and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - Table for the Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C-1C. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1 includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and
(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling; and

(C) Description of the following items that will be included in the biennial certification:
(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of

the remedial action that includes this Deed Notice and the other Institutional Controls;

(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and

(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: Asphalt Cover; Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:

(1) Description of the engineering control;

(2) The objective of the engineering control; and

(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;

(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering control continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #2 SA-6 South Deferred Area Adjacent to Route 440 ROW

A-1 Vicinity Map

A-2 Metes and Bounds Description and Tax Map

A-3 Property Map Portion of Block 24601, Lot 8, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

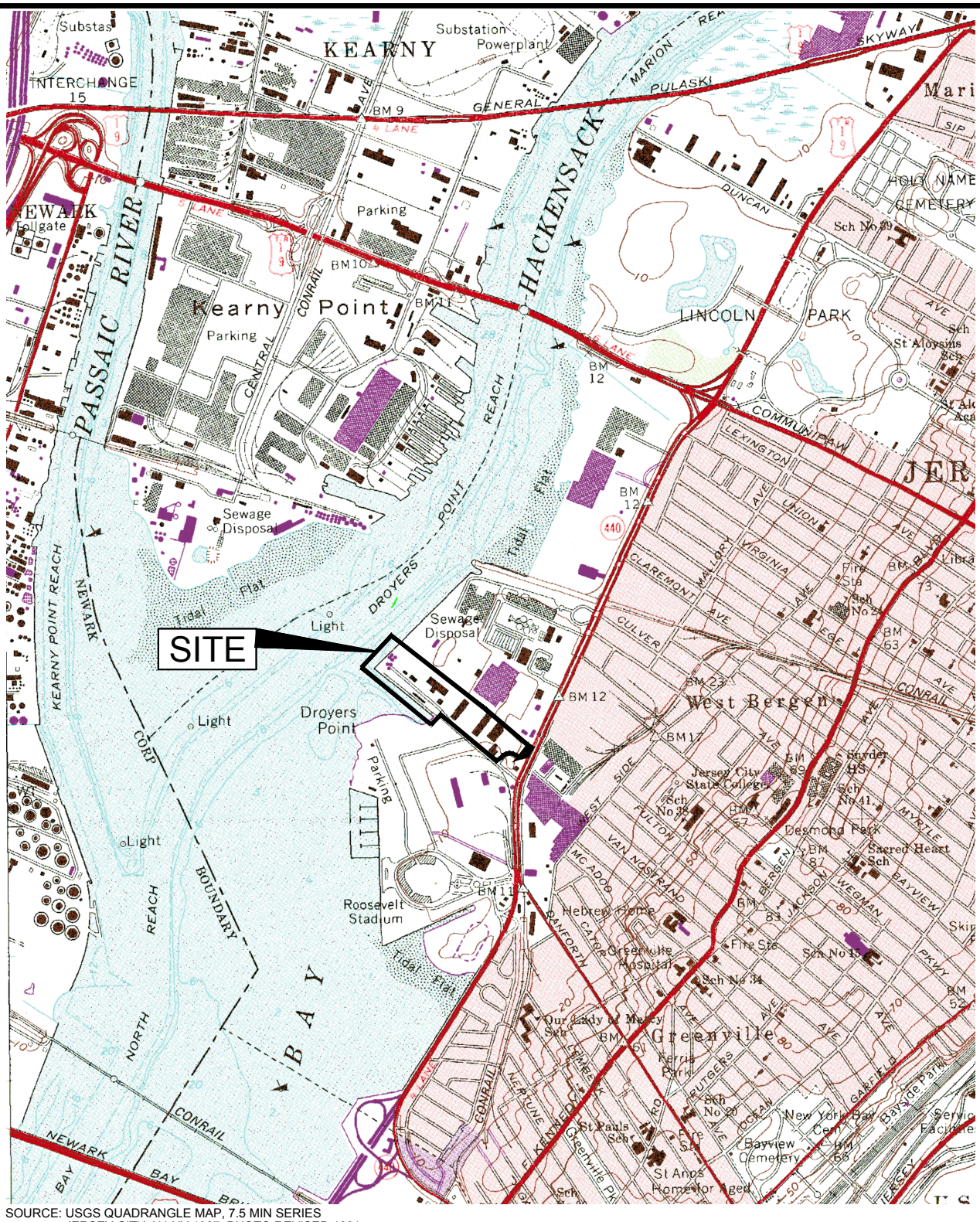
Exhibit A-2 consists of metes and bounds and tax map for the Property.

Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as roads, walkways and other hardscape.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 SOUTH SITE 124
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

SITE 124 ROUTE 440
UTILITY AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 *DRAWING:* 3480150450-5100-A100-2000	
PREPARED/DATE: STR 01/28/16	*CHECKED/DATE:* NW 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-1
VICINITY MAP
BLOCK 24601 LOT 8
DEED NOTICE #2 SA-6 SOUTH
DEFERED AREA ADJACENT TO ROUTE 440 R.O.W.
JERSEY CITY, NEW JERSEY

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Exhibit A-2
Deed Notice #2 SA-6 South Deferred Area Adjacent to Route 440 ROW

Metes and Bounds Description of Property: See Attached
Tax Map: See Attached

A-2 Metes and Bounds Description of Property Portion of Block 24601, Lot 8
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map, or any other maps attached thereto, the Metes and Bounds prevails.

The Property is identified as a portion of Block 24601, Lot 8 on the City of Jersey City tax maps. A copy of the current tax map which includes the SA-6 South Deferred Area Adjacent to Route 440 ROW is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 ▪ Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292Q

DEED NOTICE AREA 2
BLOCK 24601 LOT 8
APRIL 6, 2016

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 8 Block 24601, designated as Deed Notice Area 2 as shown on an exhibit entitled, "Deed Notice Area 2, SA6 South, Block 24601, Lot 8, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated April 6, 2016 and being more particularly bounded and described as follows, to wit:

BEGINNING at the intersection of the westerly line of New Jersey State Highway Route 440 (112 foot wide right of way), and the division line between Lot 8 Block 21901, and Lot 8 Block 24601; thence-

1. **S 24°46'55" W, 72.64 feet,** along the westerly line of New Jersey State Highway route 440 to a point of curvature; thence-

2. **SOUTHWESTWARDLY**, on an arc to the right having a radius of **152.00 feet,** and arc length of **82.00 feet** (central angle of **30°54'31"**), said arc being connected by a chord bearing **S 40° 14'10" W,** a chord distance of **81.01 feet,** along the same, to the intersection of the same with the easterly face of a hydraulic barrier wall; thence-

   Running through said Lot 8 Block 24601, along said easterly wall face the following two (2) courses:

3. **N 41°25'15" E, 32.00 feet,** thence-

4. **N 26°06'25" E, 122.87 feet** to the point and place of **BEGINNING**.

CONTAINING: 1,315 S.F. of land more or less or 0.030 acres of land more or less.

04/06/16

GLEN J. LLOYD, P.L.S.
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

DATE SIGNED

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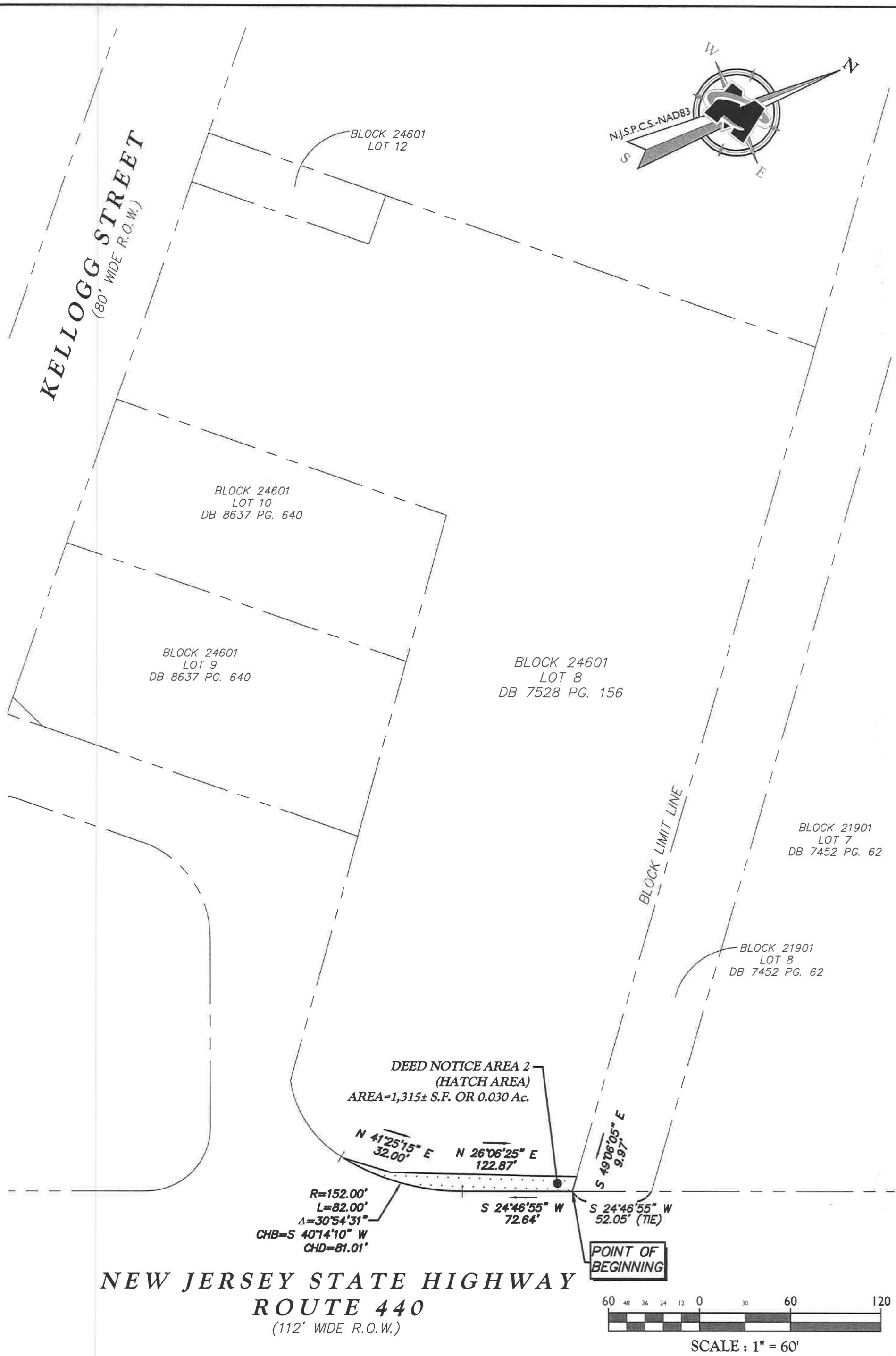

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REV	DATE	DRAWN BY	DESCRIPTION
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DEED NOTICE AREA 2
SA6 SOUTH

BLOCK 24601
LOT 8

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	4/6/2016	HA	GJL
PROJECT NUMBER: 10000292C		DRAWING NAME: V-EXBT-DN-2	

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

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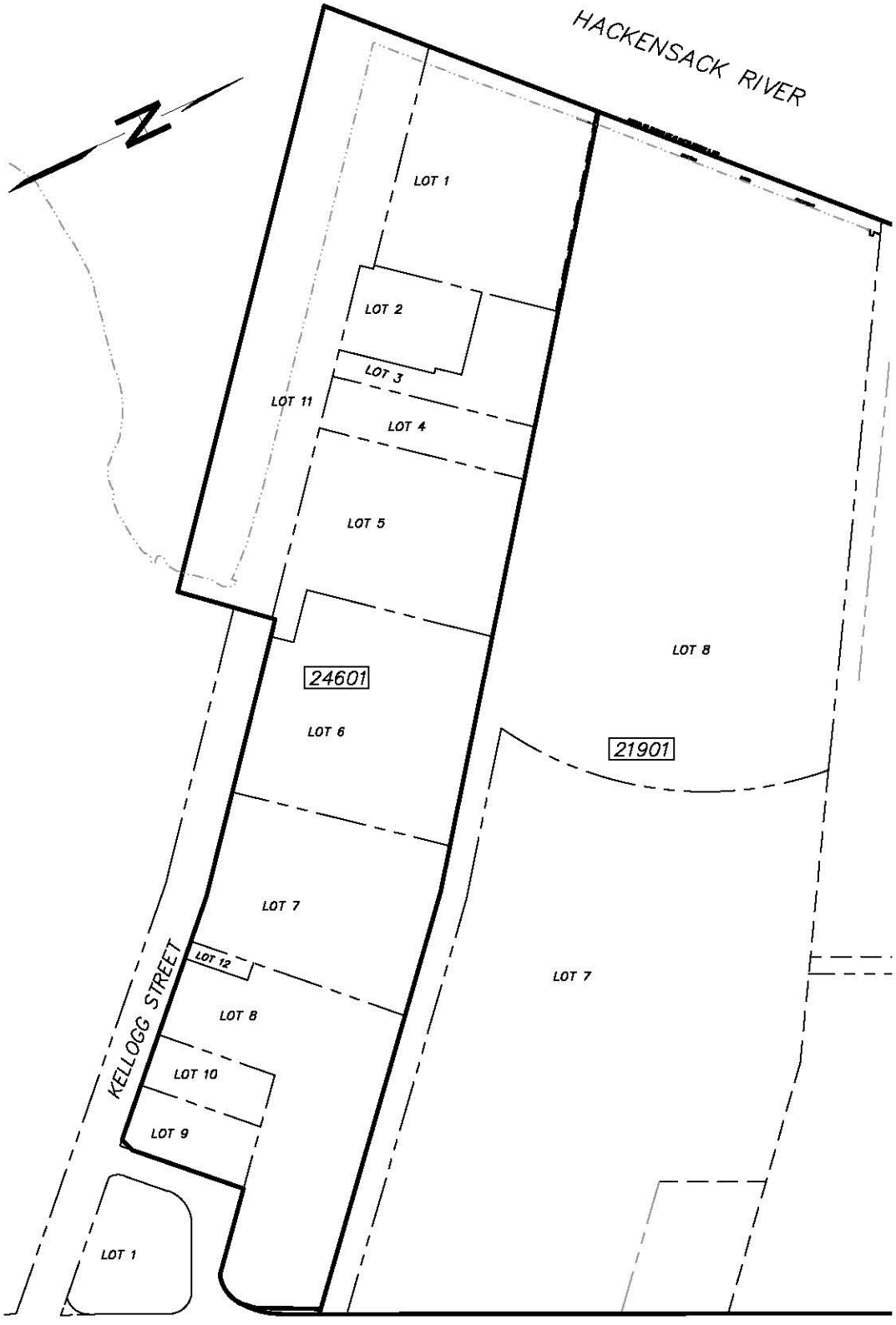

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SCALE IN FEET

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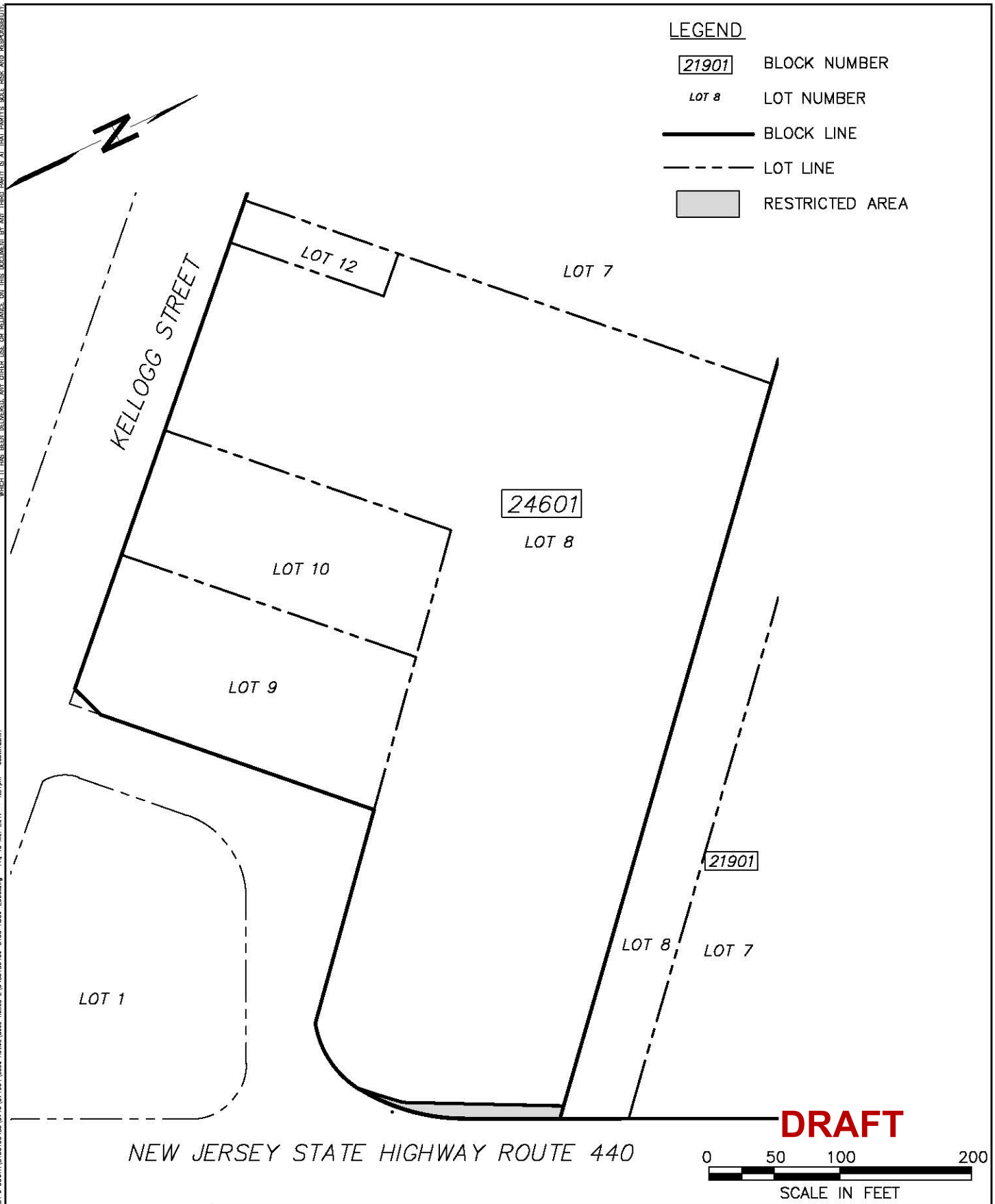
Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A200-2000	
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-2
TAX MAP
BLOCK 24601, LOT 8
DEED NOTICE #2 SA-6 SOUTH
DEFERRED AREA ADJACENT TO ROUTE 440 R.O.W.
JERSEY CITY, NEW JERSEY

Exhibit A-3
Property Map



Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A300-2000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3** PROPERTY AREA MAP BLOCK 24601 LOT 8 DEED NOTICE #2 SA-6 SOUTH DEFERRED AREA ADJACENT TO ROUTE 440 R.O.W. JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 02/01/16		

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EXHIBIT B
Deed Notice #2 SA-6 South Deferred Area Adjacent to Route 440 ROW

B-1 Restricted Area Maps
B-2 Restricted Area Data Table
Portion of Block 24601, Lot 8
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area and Soil Sample Locations), Exhibit B-1B (Cap System Detail), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of hexavalent chromium remaining above the level established in the New Jersey Department of Environmental Protection (NJDEP) Chromium Policy of 20 milligrams per kilogram (mg/kg).

Restricted Area Map Notes:

Exhibit B-1 indicates engineering controls. For soils with hexavalent chromium concentrations above 20 mg/kg, the engineering control includes an asphalt cap.

Exhibit B-1
Restricted Area Maps

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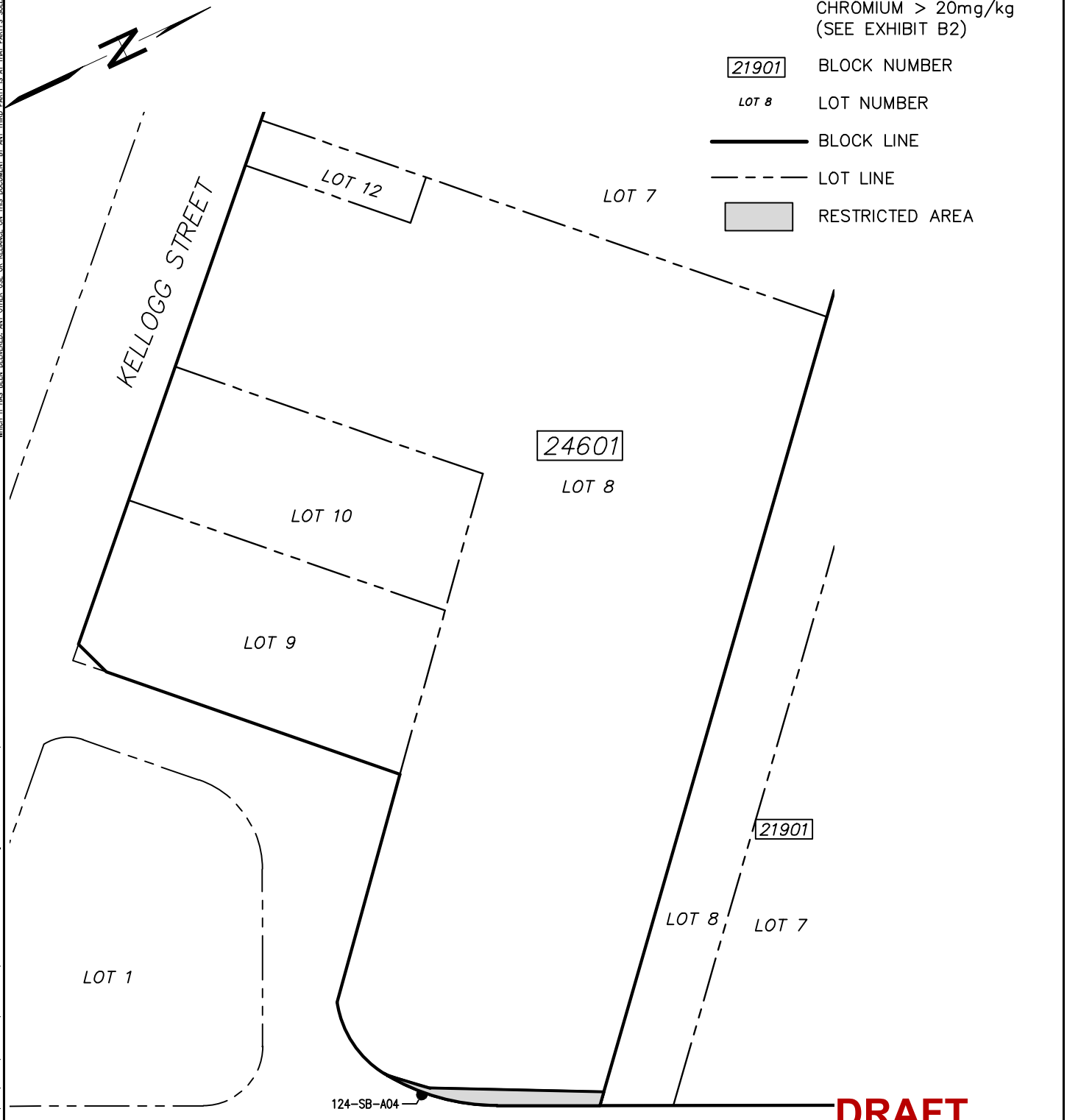
LEGEND

- SOIL SAMPLE LOCATION WHERE HEXAVALENT CHROMIUM > 20mg/kg (SEE EXHIBIT B2)
- 21901 BLOCK NUMBER
- LOT 8 LOT NUMBER
- BLOCK LINE
- LOT LINE
- RESTRICTED AREA



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SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-B100-2000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1A** RESTRICTED AREA MAP BLOCK 24601 LOT 8 DEED NOTICE #2 SA-6 SOUTH DEFERRED AREA ADJACENT TO ROUTE 440 R.O.W. JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 CHECKED/DATE: NW 01/31/17		

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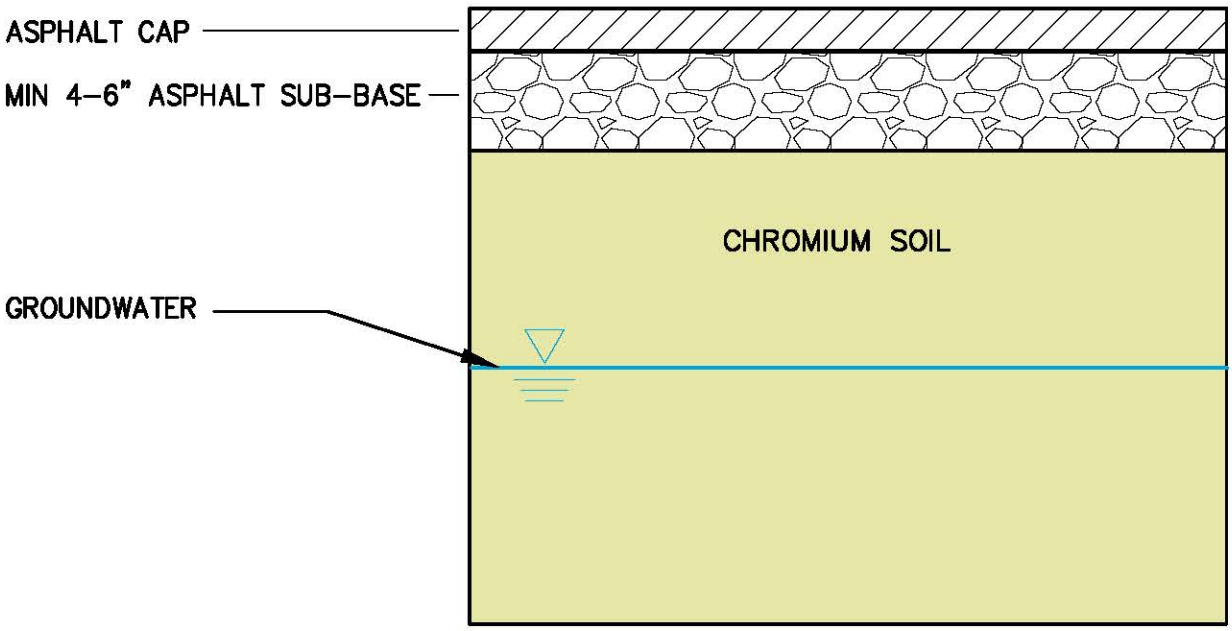
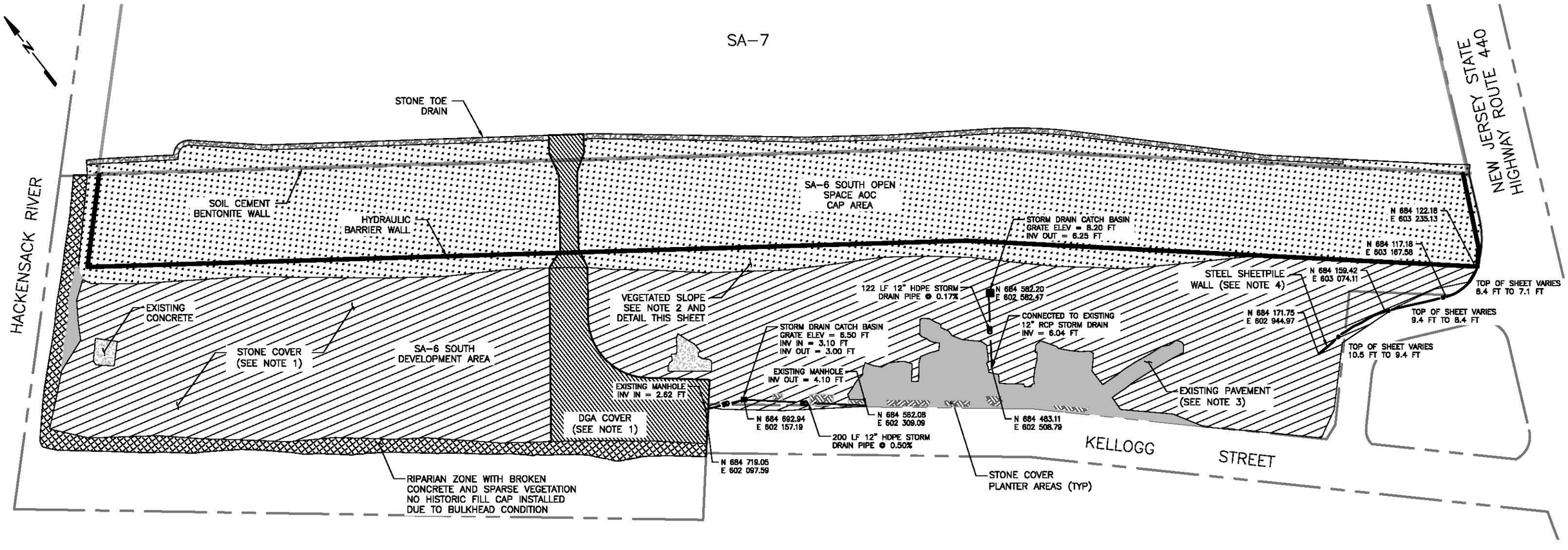
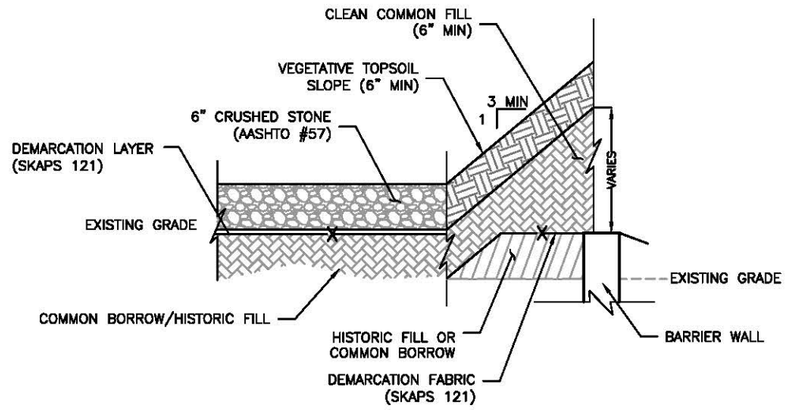


CAP SYSTEM DETAIL
NTS

DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150450-5100-B200-2000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAIL BLOCK 24601 LOT 8 DEED NOTICE #2 SA-6 SOUTH DEFERRED AREA ADJACENT TO ROUTE 440 R.O.W. JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/25/17 | *CHECKED/DATE:* NW 01/31/17		





NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA–7

TYPICAL VEGETATED SLOPE
NTS

NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA–7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
STONE COVER IN PLANTER AREAS
RIPARIAN ZONE
DGA COVER
STONE TOE DRAIN
STEEL SHEETPILE WALL
STORM DRAIN PIPE
STORM DRAIN CATCH BASIN

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: AS BUILT RESTORATION PLAN SA–6 SOUTH – SHEET 001 12/12/16

PROJECT NAME & LOCATION: HONEYWELL SA–6 REMEDIATION JERSEY CITY, NJ

EXHIBIT B-1C

Exhibit B-2: Table B-2
Soil Sample Data Table (Hexavalent Chromium)

EXHIBIT B-2

Restricted Area Data Table

Deed Notice #2 SA-6 South Deferred Area Adjacent to Route 440 ROW

Portion of Block 24601, Lot 8

Jersey City, New Jersey

Location	Top of Sample Depth (feet bgs)	Elevation (feet msl) NAVD88	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	Soil Concentration (mg/kg)
124-SB-A04	0	8	Hexavalent Chromium	18540-29-9	20	**445J**
124-SB-A04	2	6	Hexavalent Chromium	18540-29-9	20	**81.7J**
124-SB-A04	4	4	Hexavalent Chromium	18540-29-9	20	**831J**
124-SB-A04	6	2	Hexavalent Chromium	18540-29-9	20	**8250J**

Notes:

Results reported in mg/kg.

Data Qualifiers:

J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:

Feet bgs - Feet below ground surface

mg/kg - milligrams per kilogram

feet msl = feet mean sea level NAVD88 - North American Vertical Datum of 1988

NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010

EXHIBIT C
Deed Notice #2 SA-6 South Deferred Area Adjacent to Route 440 ROW

C-1 Institutional Controls
C-2 Engineering Controls
Portion of Block 24601, Lot 8
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree (attached), Zoning as Institutional Controls: Exhibit C-1 (A through C) for that portion of Block 24601, Lot 8, City of Jersey City, New Jersey known as the Deferred Area

Exhibits C-1A and C-1B. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control; Exhibits C-1A and C-1B include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property is an approximately 15-foot wide, 1,315 square foot area on SA-6 South between the Route 440 Right of Way ("ROW") and the hydraulic barrier along the eastern edge of the SA-6 South Open Space AOC. Public Service Electric & Gas ("PSE&G") owns and operates a gas main on the Property, thus, excavation of chromium-impacted soil from the Property was not possible. Excavation of residual chromium contamination proximate to the gas line on the Property will be deferred by Honeywell until the gas line is relocated as part of the Route 440 Road Widening Project. Once the chromium-impacted soils on the Property are removed consistent with Article III of the Consent Decree, this deed notice will be terminated with the requirements of paragraph 13 above. The provisions of the LTMP, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes a portion of Block 24601, Lot 8. The estimated size of the Area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) as identified on Exhibit B-1 is estimated at approximately 1315 square feet or approximately 0.03 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, and the applicable zoning standards. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the

terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP developed thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice*, and *the applicable zoning standards.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #2 SA-6 South Deferred Area Adjacent to Route 440 ROW

Portion of Block 24601, Lot 8
City of Jersey City, New Jersey

Exhibits C-2: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Controls consist of an asphalt cap.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above 20 mg/kg within the Property. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***

- ***A report to determine whether or not the engineering controls continue to operate as designed.***
- ***A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.***

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Docket No. 05-5955(DMC) Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 SOUTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey (hereafter "the Court") issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property then-owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property then-owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with

various properties collectively designated by NJDEP as Study Areas 5, 6 North, which includes the properties formerly owned by JCMUA and JCIA, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* owners of the properties comprising Study Areas 5, 6 South, and 6 North;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the Court (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, Riverkeeper has alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 South property;

Whereas, on April 21, 2008, the Court entered the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North (hereafter "the Study Area 6 North Consent Decree") resolving issues between Honeywell, Riverkeeper, and the Jersey City Entities related to chromium contamination at Study Area 6 North;

Whereas, on April 21, 2008, the district court for the District of New Jersey entered the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with the Study Area 6 North Decree, which resolved claims and cross-claims between Honeywell and the Jersey City Entities;

Whereas, on May 28, 2008, the Court entered the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, on September 3, 2008, the Court entered the Deep Overburden and Bedrock Groundwater Remedies Consent Order (hereafter "the Deep Groundwater Consent Order") resolving all issues related to the remediation of deep overburden and bedrock groundwater in both *ICO v. Honeywell* and the Consolidated Litigation;

Whereas, on May 13, 2011, Plaintiffs sent Honeywell a RCRA citizen action suit notice letter with respect to Site 163, and the Parties agree that the incorporation of Site 163 into this Consent Decree resolves any claims asserted, or that could have been asserted, in the RCRA notice letter or in any RCRA citizen suit with respect to Site 163;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 South that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, Study Area 6 and Study Area 7 consist of parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in

need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 South and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City; and

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Honeywell, the Riverkeeper, and Jersey City as a means to accomplish the aforesaid purposes of this settlement:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **"20 to 1000 Soils"** shall mean those soils containing less than 1000 mg/kg of hexavalent chromium, but greater than 20 mg/kg. **"20 to 240 Soils"** shall mean those soils containing less than 240 mg/kg of hexavalent chromium, but greater than 20 mg/kg.

2. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

3. **COPR** shall mean Chromite Ore Processing Residue.

4. **Chromium Remedy or Chromium Remediation** shall mean the remedy set forth in Article III.

5. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.*, D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator*

Authority v. Honeywell International Inc., D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-022 (DMC).

6. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

7. **Deep Groundwater Consent Order** shall mean the Deep Overburden and Bedrock Groundwater Remedies Consent Order entered by the Court on September 3, 2008, in both *ICO v. Honeywell* and the Consolidated Litigation.

8. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, entered on August 15, 2008, in *ICO v. Honeywell,* and the remedies required under the Deep Groundwater Consent Order.

9. **Development Area of Concern** ("AOC") shall mean those portions of Study Area 6 South in which the hexavalent chromium concentration in the top 20 feet of soil below ground surfaces exceeds a concentration of 20 mg/kg, and for which future uses of the property may include commercial or residential development. The Open Space AOC shall not be part of the Development AOC and vice versa. The Development AOC consists of two parts: the Kellogg Street Development AOC and the Site 163 Development AOC. Collectively, the two parts shall be referred to as the "Development AOC." The approximate boundaries of the Development AOC as a whole and its two parts are shown on Exhibit A, but the boundaries may be further defined in the implementation of the Chromium Remedy. For the Kellogg Street Development AOC, remedial measures shall assume only a residential use. For the Site 163 Development AOC, remedial measures shall be implemented with the goal of unrestricted use, but limitations

on future uses (including prohibiting residential use) in some or all of the Site 163 Development AOC may be part of the remedy as set forth in paragraph 61.

10. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

11. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including 425-445 Route 440 Property LLC, Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

12. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

13. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

14. **Including** shall mean including, but not limited to.

15. **JCIA** shall mean the Jersey City Incinerator Authority.

16. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

17. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

18. **Jersey City/Honeywell Consent Order** shall mean the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. entered in the Consolidated Litigation on April 21, 2008.

19. **"L-Well Groundwater"** shall mean the groundwater found at the depth of the "L" wells on and near the former bowling alley property, NJDEP Site 124, located at 427 Route 440. The L-Well Groundwater is located within what has been referred to as the plume diversion area.

20. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

21. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit B.

22. **Open Space AOC** shall mean the portion of Study Area 6 South that is identified as The Promenade park and Grand Boulevard extending from Route 440 to the Hackensack River on page 39 of the Redevelopment Plan and for which the future uses of the property shall be restricted pursuant to paragraph 74, following remediation pursuant to paragraph 65. The Development AOC shall not be part of the Open Space AOC and vice versa. The approximate boundaries of the Open Space AOC are shown on Exhibit A, and the boundaries may be further defined in the implementation of the Chromium Remedy.

23. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

24. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.*, as amended.

25. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

26. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. § 40A:12A1, *et seq.*, as amended and supplemented.

27. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

28. **Remedial Investigation Work Plan Addendum or RIWP Addendum** shall mean the "Remedial Investigation Work Plan Addendum Study Area 6 South" submitted to NJDEP on June 27, 2008.

29. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

30. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation on May 28, 2008.

31. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

32. **Site** shall mean Study Area 6 South.

33. **Site Preparation Activities** shall mean those activities necessary to begin implementation of the Chromium Remedy in Article III of this Consent Decree, including, if appropriate, the temporary or permanent relocation of current activities and operations conducted on Study Area 6 South.

34. **Soil** shall mean soils, historic fill, and/or COPR.

35. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

36. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

37. **Study Area 5** shall mean that property comprising Sites 79, 90, 117, 153, and 184 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 42 acres and including (a) all such property owned by Bob Ciasulli consisting of Block 1291, Lot 76, and Block 1292, Lots 1F, 47, 48, 53, and 54PL, located at 540 Route 440, Jersey City, New Jersey, (b) all such property owned by Elisabeth and Rafael Rosario consisting of Block 1292, Lot 49, located at 93 Fisk Street, Jersey City, New Jersey, (c) all such property owned by Michael Vo consisting of Block 1292, Lot 50, located at 95 Fisk Street, Jersey City, New Jersey, (d) all such property owned by NJCU consisting of Block 1286, Lots 5 and 6D and Block 1286.5, Lots 1 and 2, Jersey City, New Jersey, (e) all such property owned by Inland Southeast Jersey City LLC consisting of Lot 1, Block 1285.5 located at 440 Route 440, Jersey City, New Jersey, and (f) all such property owned by 425/445 Route 440 Property LLC, consisting of Block 1289.5, Lot E, Jersey City, New Jersey.

38. **Study Area 6 North** shall mean the property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, which is subject to the Study Area 6 North Consent Decree.

39. **Study Area 6 North Consent Decree** shall mean the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North, entered by the Court on April 21, 2008, in the Consolidated Litigation.

40. **Study Area 6 South** shall mean (a) that property currently owned by Bayfront Redevelopment Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Bayfront Redevelopment LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Bayfront Redevelopment LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Bayfront Redevelopment LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Bayfront Redevelopment LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Bayfront Redevelopment LLC located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey; (h) that property currently owned by Bayfront Redevelopment LLC located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey; and (i) that property currently owned by Bayfront Redevelopment LLC, consisting of Site 163, formerly the Colonial Concrete Company, located at 75 Kellogg Street in Jersey City, Hudson County, New Jersey.

41. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

42. **Study Area 7** shall mean (a) that property currently owned by Bayfront Redevelopment LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that

property currently owned by Bayfront Redevelopment LLC located at 465 Route 440, Jersey City, Hudson County, New Jersey.

43. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

44. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

45. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

46. For purposes of this Consent Decree, the Riverkeeper Complaint in the Consolidated Litigation states claims upon which relief may be granted against Honeywell.

47. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 113, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils, shallow groundwater and L-Well groundwater at Study Area 6 South. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 5 or property owned by Regnal Realty consisting of Block 1288.2, lot 1, located at 420 Route 440, Jersey City, New Jersey.

48. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

49. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. General Terms and Requirements

50. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 South at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 South shall be undertaken in accordance with the terms of this Consent Decree.

51. **Designation of Chromium Areas of Concern.** For the purposes of remediation, Study Area 6 South shall consist of two AOC's, designated as the Open Space AOC and the Development AOC as shown approximately on Exhibit A. The exact boundaries of the two AOC's shall be subject to further delineation during the design and implementation of the Chromium Remedy.

52. **Consistency of the Chromium Remedy with NJDEP Guidance and Remedial Action Work Plan.** The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and any Remedial Action Work Plan, including any modifications or addenda approved by NJDEP. Prior to submitting any Remedial Action Work Plan, Honeywell shall take all reasonable steps to ensure that the plan is consistent with the Chromium Remedy. However, this Consent Decree shall have precedence over any Remedial Action Work Plan in the event of any inconsistency. The approved Remedial Action Work Plan is a minimum standard, and the Chromium Remedy may be more protective than the remedy NJDEP approves.

53. **General Scope of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and L-Well groundwater containing total chromium concentrations of 70 µg/l or greater and soil containing hexavalent chromium at concentrations of 20 mg/kg or greater within the top 20 feet of soil below the ground surface, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow and L-Well levels of groundwater (see paragraphs 69 - 72). The deep overburden and bedrock groundwater remediation, including source control, is addressed in the Deep Groundwater Consent Order.

54. **Development of a Schedule for the Chromium Remedy.** The Chromium Remedy shall be carried out diligently, and the development and implementation of any remedy required by NJDEP for non-chromium contamination shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Within 90 days of entry of this Consent Decree, Honeywell shall propose a Master Schedule for the implementation of the Chromium Remedy .

(a) The Master Schedule shall incorporate the following dates:

(i) No later than August 15, 2008, Honeywell shall submit a Chromium Impacted Soils Pilot Test Work Plan to NJDEP and Riverkeeper;

(ii) No later than September 15, 2008, Honeywell shall complete field work in accordance with the RIWP Addendum;

(iii)No later than December 31, 2008, Honeywell shall submit an Initial Treatment Study Report and Remedial Action Work Plan pursuant to paragraph 86(c);

(iv) No later than July 31, 2012, Honeywell shall submit the soil and groundwater data from its 2010 and 2011 supplemental investigation of Site 163, a brief summary report, and

a designation of the boundaries of the Site 163 Development AOC to the Special Master pursuant to paragraph 86(c);

(v) No later than October 1, 2012, Honeywell shall submit an addendum to the Study Area 6 South 100% Design setting forth the 100% Design for the Site 163 Development AOC portion of the Study Area 6 South Chromium Remedy; and

(vi) Honeywell shall undertake, in good faith, to begin implementation of the Chromium Remedy by March 1, 2013.

(b) In addition, the Master Schedule shall propose deadlines for the following milestones:

(i) Submission of all documents subject to submission and review pursuant to paragraph 86(c);

(ii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy;

(iii)Submission, following implementation of the soil components of the Chromium Remedy for the Development AOC, of the groundwater plans and reports required by paragraphs 70 and 72;

(iv)Completion of additional sampling for shallow groundwater delineation pursuant to paragraph 71 and a proposal for a remedy pursuant to paragraph 71, if needed;

(v) The submission of a 50% Design Report for the Chromium Remedy;

(vi) The submission of a 100% Design Report for the Chromium Remedy;

(vii) The date for completion of the installation of the Chromium Remedy;

(viii)Implementation of the long-term protections of the Open Space AOC established pursuant to paragraph 74; and

(ix) Transfer of the Open Space AOC to Jersey City pursuant to paragraph 74(a)(iii).

B. Initial Chromium Remedy Steps: Delineation, Treatment Study, and Remedial Action Work Plan

55. **Delineation of Development AOC.** Honeywell shall conduct further soil sampling on Study Area 6 South in accordance with the RIWP Addendum. In addition to the locations set forth in the RIWP Addendum, Honeywell shall conduct further soil sampling pursuant to the provisions of the RIWP Addendum at the boring locations set forth in Exhibit E. Upon completion of the soil sampling required by this paragraph, Honeywell shall submit a Second Supplemental Remedial Investigation Report that sets forth the results of the sampling and Honeywell's proposal as to the delineation of the Development AOC. In conjunction with its proposal, Honeywell shall set forth its rationale as to whether prior sampling data should be included or excluded in the proposed delineation. The soil sampling and submission of a Second Supplemental Remedial Investigation Report shall be completed in accordance with the Schedule set forth in paragraph 54. Honeywell shall submit the Second Supplemental Remedial Investigation Report pursuant to paragraph 86(c). The Site 163 Development AOC shall be exempt from the requirements of paragraphs 55-58.

56. **Conduct of a Treatment Study in the Development AOC.** Honeywell shall conduct a field study of the efficacy of *in situ* treatment of 20 to 1000 Soils in accordance with the Chromium Impacted Soil Pilot Test Work Plan. The purpose of the pilot test shall be to evaluate whether *in situ* chemical treatment of 20 to 1000 Soils with one or more reductants can result in the permanent establishment of hexavalent chromium concentrations below 20 mg/kg under conditions in those areas of the Development AOC that may be subject to treatment as a remedy. Honeywell shall provide the raw data from the pilot test to NJDEP and Riverkeeper in scientifically useable electronic form as soon as the data become available. Honeywell shall

submit an Initial Treatment Study Report setting forth the initial results of the pilot test pursuant to paragraph 86(c) .

57. **Continued Monitoring of the Treatment Study.** As the result of the need to complete Study Area 7 remediation, to maintain Study Area 7 remediation support operations currently located on Study Area 6 South, and to conduct Site Preparation activities including the relocation of operating businesses on Study Area 6 South in advance of implementation of the Chromium Remedy, the Parties do not anticipate that implementation of field work for the Chromium Remedy will begin until March 1, 2013. Honeywell shall continue to monitor the performance of the pilot test and shall submit a Final Treatment Study Monitoring Report assessing the long term effectiveness of treatment for 20 to 1000 Soils in the Development AOC pursuant to paragraph 86(c) no later than December 31, 2011.

58. **Submission of a Remedial Action Work Plan.** On or before December 31, 2008, Honeywell shall submit a Remedial Action Work Plan for the Chromium Remedy pursuant to paragraph 86(c). The Remedial Action Work Plan shall be consistent with the Chromium Remedy set forth in this Consent Decree.

C. Development AOC Soil Remedy

59. **Remedial Components.** In the Development AOC, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be remediated as follows:

(a) Soils with a concentration greater than 1000 mg/kg shall be:

(i) Excavated and disposed of off-site at a waste disposal facility licensed to accept such waste; or

(ii) Treated *ex situ* and consolidated under the cap in the Open Space AOC provided the requirements of paragraphs 60 and 63 are satisfied and provided that such soils do not

require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a).

(b) 20 to 1000 Soils shall be:

(i) Excavated and consolidated within the Open Space AOC provided that such soils do not require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a); or

(ii) Excavated and disposed of off-site pursuant to the requirements of paragraph 59(a); or

(iii) Remediated pursuant to paragraphs 59(c) or 59(d) provided that such soils are also 20 to 240 soils and meet the requirements of paragraphs 59(c) or 59(d).

(c) 20 to 240 Soils may be remediated by excavation and consolidation within the Study Area 6 North AOC 1 Open Space Area, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy.

(d) 20 to 240 Soils within the Site 163 Development AOC may be remediated by *in situ* treatment, provided the requirements of paragraph 61 are satisfied.

60. **Treatment and Consolidation of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** *Ex situ* treatment and consolidation under the Open Space AOC cap may be used as a remedial component for soils containing greater than 1000 mg/kg hexavalent chromium provided that the requirements of this paragraph are satisfied:

(a) Honeywell demonstrates in the Final Treatment Study Monitoring Report that the proposed treatment will likely result in the reduction of the hexavalent chromium concentration of the treated soils such that the post-treatment total chromium concentration shown by Toxicity

Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C);

(b) Following a review of the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d), NJDEP agrees that Honeywell has made the demonstration required by paragraph 60(a).

(c) Plaintiffs have had an opportunity to review and comment on the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d)and pursuant to the Special Master review process set forth in paragraphs 86(e)-86(f); and

(d) Following review of the demonstration required by paragraph 60(a) pursuant to the Special Master review process set forth in paragraph 86(f), the Special Master issues a recommendation finding that Honeywell has made the demonstration required by paragraph 60(a) or the Court finds that Honeywell has made the demonstration required by paragraph 60(a) in the event that any Party seeks the Court's review of the Special Master's recommendations under this paragraph.

61. **Treatment as a Remedial Component for 20 to 240 Soils.** *In situ* treatment may be used as a remedial component for the 20 to 240 Soils in the Site 163 Development ACO, provided that such soils are 3 feet or more below ground surface and the requirements of this paragraph are satisfied:

(a) If Honeywell elects to treat *in situ* 20 to 240 Soils in the Site 163 Development AOC, Honeywell shall include in the 100% Design Addendum for Site 163 a plan for such treatment. Such treatment plan shall be comparable in detail and approach to the pipeline treatability plan which is Appendix F to the Study Area 6 North 100% Design. The goal of such *in situ* treatment

shall be to reduce hexavalent chromium soil concentrations to less than 20 mg/kg in soils 20 feet or less below ground surface;

(b) Three years after conducting the treatment set forth in subparagraph (a), Honeywell shall collect additional soil samples in the treated areas to evaluate the success of the treatment. These soil samples shall be analyzed for EH, pH, hexavalent chromium (using EPA/NJDEP Methods 3060A/7199), and sulfides (using EPA Method 9030B). Within 60 days of its receipt of the final data from such sampling, Honeywell shall submit a report with such data to the Special Master pursuant to paragraph 86(c);

(c) In the event that the sampling pursuant to subparagraph (b) shows that soils with greater than 20 mg/kg hexavalent chromium remain or that excess treatment reductant remains present, Honeywell may elect to pursue one or more of the following approaches after providing notice to the Special Master, Riverkeeper and the Jersey City Entities;

(i) In the case of excess treatment reductant remaining in the soil, continue to monitor such areas pursuant to subparagraph (b) until the excess reductant is no longer present;

(ii) In the case of soils with greater than 20 mg/kg hexavalent chromium:

(1) Excavate such soils and consolidate them under the cap in the Open Space AOC, consolidate them under the cap in the Study Area 6 North AOC 1 Open Space Area, and/or dispose of them off-site provided that in each instance the applicable requirements of paragraph 59 are satisfied;

(2) Conduct further *in situ* treatment using additional treatment reductant and submit a monitoring plan pursuant to paragraph 64; or

(3) In the event that the soils are within the areas depicted as River Front Park, Riverfront Drive or Kellogg Street on page 39 of the Redevelopment Plan, cover the affected

soils with a road, walkway, and/or other hardscape and restrict the use of that area through each of the following institutional controls:

(a) Issuance and recording of a conservation restriction comparable to that required under paragraphs 74(b) and 74(d);

(b) Transfer of title to that area to Jersey City pursuant to paragraphs 74(a)(iii) through 74(a)(iv)(2); and

(c) Issuance and recording of a deed notice comparable to that required under paragraphs 74(c) and 74(d).

62. **Submissions Related to Site 163.** Pursuant to the Schedule, Honeywell shall prepare and submit the following with regard to Site 163:

(a) A summary report of all chromium soil and groundwater data collected during site investigations in 2010 and 2011; and

(b) An addendum incorporating Site 163 into the 100% Design.

63. **Post-Treatment Analysis of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** In the event that *ex situ* treatment is used as a final remedy for any portion of the soils containing greater than 1000 mg/kg pursuant to paragraph 59(a)(ii), Honeywell shall conduct post-treatment analysis of each treated batch of soil to demonstrate that the treatment has resulted in the reduction of the hexavalent chromium concentration such that the post-treatment total chromium concentration shown by Toxicity Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C). Such monitoring and demonstration shall be made prior to consolidation of the treated soils under the Open Space AOC cap pursuant to paragraph 59(a)(ii). In the event that Honeywell fails to make the demonstration required by this paragraph,

Honeywell shall dispose of the soils off-site at a waste disposal facility licensed to accept such waste.

64. **Post-Treatment Monitoring for 20 to 1000 Soils.** In the event that *in situ* treatment is used as a final remedy for any portion of the 20 to 1000 Soils, Honeywell shall conduct post-treatment monitoring to demonstrate that the treatment has resulted in permanent hexavalent chromium concentrations of less than 20 mg/kg in the treated area. Honeywell shall propose a program of post-treatment monitoring in a document that is submitted pursuant to paragraph 86(c). In the event that Honeywell fails to make the demonstration required by this paragraph, Honeywell shall propose further remedial actions pursuant to paragraph 59 in a document that is submitted pursuant to paragraph 86(c).

D. Open Space AOC Components of the Chromium Remedy

65. **Open Space AOC Soil Remedy.** In the Open Space AOC, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, pursuant to paragraph 59(b)(i), shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of a gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the Open Space AOC. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the Open Space AOC shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the

two feet of clean fill required by paragraph 65(c). Excavated 20 to 1000 Soils from the Development AOC shall be placed and spread in the Open Space AOC under the cap. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

E. Demolition, Grading, and Backfill Requirements

66. **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community from airborne dusts and exposures to contaminated soils.

67. **Backfill Requirements.** Soils excavated from the Development AOC shall be replaced with backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

68. **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

F. Groundwater Components of the Chromium Remedy

69. **Shallow Groundwater Remedy for the Open Space AOC.** The Open Space AOC shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing

above the meadow mat in the Open Space AOC to the extent that such groundwater contains total chromium in concentrations in excess of 70 µg/l. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 South and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the southern, eastern and western sides of the Open Space AOC and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that shall consist of (i) one or more shallow extraction wells, sumps, or french drains within the Open Space AOC; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater within the Open Space AOC;

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP regulations.

70. **The Shallow Groundwater Remedy for the Development AOC.** Following implementation of the Development AOC soil components of the Chromium Remedy, Honeywell shall submit a report to (a) determine whether shallow groundwater remaining in the

Development AOC exceeds 70 µg/l total chromium and, (b) if so, evaluate the need for further remedial measures to address any such shallow groundwater remaining in the Development AOC with total chromium concentrations in excess of 70 µg/l. This evaluation shall be subject to review and comment by the Parties and approval by the Special Master.

(a) In the event that the evaluation demonstrates that further remedial measures are necessary, Honeywell shall propose such measures subject to review and comment by the Parties and approval by the Special Master;

(b) The capture zone of any remedy shall include at least the entire area of contaminated shallow groundwater except for shallow groundwater that is captured and subject to the shallow groundwater remedy for the Open Space AOC pursuant to paragraph 69;

(c) In the event that a pump-and-treat system is selected as a contingency measure for shallow groundwater in the Development AOC, all infrastructure for the pump-and-treat contingency system that is needed to ensure that the contingency system is fully operational, as required by paragraph 70(d), shall be installed prior to or in conjunction to any development of the Site. This includes at least one shallow extraction well, sump, or french drain, and the piping to convey any extracted groundwater to Honeywell's water treatment plant;

(d) If it is determined that the pump-and-treat contingency system must be activated, the pump-and-treat system shall be operational no later than six months after the date of the determination.

71. **Off-Site Shallow Groundwater Remedy.** Honeywell shall propose additional sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site. Honeywell shall submit a report of the results of such sampling and, in the event that contaminated shallow groundwater is found to extend off-site, a proposal for a remedy based on

such results. The report and the proposal for a remedy shall be subject to review and comment by the Parties and approval by the Special Master.

72. **L-Well Groundwater Remedy.** At the time this Decree is entered, the L-Well Groundwater is contained and not contributing to further contamination of surrounding waters and/or soils. However, in order to verify that this status continues following implementation of the Chromium Remedy, including any groundwater remedial measures pursuant to paragraphs 70 and 71, Honeywell shall propose a plan for one round of monitoring designed to evaluate whether the L-Well Groundwater remains contained. The plan shall include monitoring for total and hexavalent chromium and major ion chemistry to determine whether there has been movement in the L-Well Groundwater.

(a) In the event that no substantial change is detected in the major ion chemistry, no further action is required unless paragraph 72(c) is applicable.

(b) In the event that substantial changes are detected in the major ion chemistry, Honeywell shall propose a plan for further monitoring of the L-Well Groundwater. Such a plan shall be subject to review and comment by the Parties and approval by the Special Master.

(c) In the event that the initial monitoring or monitoring conducted pursuant to paragraph 72(b) demonstrates that proximate waters have total chromium concentrations in excess of 70 µg/l, regardless of whether there is a change in the major ion chemistry, Honeywell shall propose a remediation plan for the L-Well Groundwater. Such remediation plan shall be subject to review and comment by the Parties and approval by the Special Master.

G. Permits and Authorizations

73. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article.

H. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

74. **Protection of the Open Space AOC.** Except as provided in paragraphs 74(j) and 74(k), development in the Open Space AOC shall be prohibited. The Open Space AOC shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the Open Space AOC pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54:

(a) **Ownership of and Access to the Open Space AOC.** Ownership of and access to the Open Space AOC shall be in accordance with the following:

(i) Bayfront Redevelopment LLC, as the current owner in fee simple absolute of all property that comprises the Open Space AOC, shall not convey any rights or interests in any parcel that comprises the Open Space AOC property except as provided in this Decree. Within 90 days of entry of this decree, Bayfront Redevelopment LLC shall give Jersey City an option to buy all of the Open Space AOC property prior to the planned transfer pursuant to paragraph 74(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall exercise the option to buy the Open Space AOC in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 98(c) or 98(d) are met;

(ii) Within 90 days of the entry of this Consent Decree, Bayfront Redevelopment LLC shall grant a conservation restriction for the Open Space AOC pursuant to the requirements of paragraph 74(b);

(iii) Upon the final construction of all roads and utility corridors within the Open Space AOC, Bayfront Development LLC shall donate good and marketable title to all the land comprising the Open Space AOC to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 South to create a new parcel(s) comprising the Open Space AOC. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the Open Space AOC by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the Open Space AOC unless and until it shall have complied with the requirements of paragraph 74(a)(iv);

(iv)After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the Open Space AOC to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the Open Space AOC to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the Open Space AOC and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the Open Space AOC pursuant to this paragraph

and routine maintenance of the permissible development in the Open Space AOC pursuant to paragraph 78(d); or

(2) The Open Space AOC has been remediated such that no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** Prior to the grant of the option to buy pursuant to paragraph 74(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the Open Space AOC substantially in the form set forth in Exhibit C. Exhibit C is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 74(j) and 74(k), including the construction and placement of roads and utilities. The Conservation Restriction shall also allow for current uses of the Open Space AOC to continue until such time as construction of the Chromium Remedy begins. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the Open Space AOC as set forth in paragraphs 74(j) and 74(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph 74(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the Open Space AOC shall be subjected to the deed notice substantially in the form set forth in Exhibit D that restricts

future activities on the Open Space AOC. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the Open Space AOC pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 74(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 74(b), and the deed notice imposed pursuant to paragraph 74(c) shall be recorded, pursuant to N.J.S.A. §§ 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the Open Space AOC. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the Open Space AOC in the real estate records related to the Open Space AOC.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the Open Space AOC is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 74(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the Open Space AOC, Jersey City shall add those portions of the Open Space AOC not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. § 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor,

maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 74(j) and 74(k); and (iv) the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the Open Space AOC have been added to its ROSI, such that those portions of the Open Space AOC shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the Open Space AOC is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 74(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the Open Space AOC subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the Open Space AOC under the statute. If the Parties are unable to reach agreement on establishment of an environmental covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the Open Space AOC without

unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the Open Space AOC. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the Open Space AOC if they would provide substantial additional protection for the Open Space AOC without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in Open Space AOC.** Only development satisfying the requirements of this paragraph and paragraph 74(k) shall be permitted in the Open Space AOC. All other development in the Open Space AOC shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the Open Space AOC regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 74(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the Open Space AOC shall be the development undertaken following the completion of the Chromium Remedy in the Open Space AOC. The Initial Development may occur in one or more phases. Honeywell and Bayfront

Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 74(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the Open Space AOC shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 74(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the Open Space AOC, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 74(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 74(b), and the Redevelopment Plan; however, in the

event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the Open Space AOC, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 74(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 86(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 86(e) and 86(f) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the Open Space AOC shall require the preparation and submission of a Development Plan pursuant to

paragraph 74(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 74(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and Jersey City. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and Jersey City for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix)During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 74(j)(v) and 74(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 74(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 74(j)(v); or

(3) The development meets the requirements of paragraphs 74(j)(v) and 74(j)(xi), and Jersey City provides notice of its intention to alter or add to the development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 74(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 74(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holder(s) of the conservation restriction established pursuant to paragraph 74(b) with an annual report that describes any alterations or additions, including those activities under paragraph 74(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the Open Space AOC.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 74(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the Open Space AOC, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 74(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 74(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the Open Space AOC of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

75. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

76. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 65, 69, 68, 69, 72, and 77. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

77. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the Open Space AOC.

78. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 77. Honeywell shall provide Riverkeeper, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the Open Space AOC to ensure that it is not being put to any use that is inconsistent with paragraphs 74(j) and 74(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 74 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the Open Space AOC is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the Open Space AOC grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii)Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the Open Space AOC such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv)A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the Open Space AOC has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 65(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and

the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the Open Space AOC to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii)Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 69(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the Open Space AOC.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed

subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by the Court.

(c) **Contingency Plan**. As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance**. The title owner of the Open Space AOC shall conduct maintenance of the Open Space AOC features or facilities that are permissible under paragraphs 74(j) and 74(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the Open Space AOC or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of Open Space AOC shall annually provide to the other Parties and

the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the Open Space AOC shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the Open Space AOC identified by its workers during routine maintenance.

(e) **Recordkeeping**. Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring Plan. Such logs shall be provided to Riverkeeper on a quarterly basis.

79. **Monitoring and Reporting to Riverkeeper.** Riverkeeper shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 86(c).

80. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the Open Space AOC; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 78 and annual reports on changes to the Initial Development as required by paragraph 74(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The public provision of the maps and documents referred to in paragraph 80(b)(ii) via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

81. **Annual Letter to Riverkeeper on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 80, Honeywell shall provide a letter to the Riverkeeper documenting its compliance with paragraph 80.

82. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

83. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

I. Oversight and Enforcement by the Special Master and NJDEP

84. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.I.

85. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the Open Space AOC. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of any non-chromium related remedy, any site preparation activities, and any site redevelopment activities do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

86. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority**. Nothing in or pursuant to this Consent Decree shall limit NJDEP's full statutory and regulatory authority with respect to the Study Area 6 South site, including (i) permitting authority; (ii) authority to review and approve the Treatment Study reports, the Remedial Action Work Plan, the 100% Design, and final Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities**. The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting bi-monthly progress reports to the Court pursuant to the schedule for the submission of such reports established in *ICO v. Honeywell*;

(vi) Overseeing the financial assurances established pursuant to paragraphs 91 through 100, and, until the expiration of his term pursuant to paragraph 90, overseeing the financial assurances established pursuant to paragraphs 101 through 112;

(vii) Coordinating review of the documents as provided in paragraphs 86(c) through 86(g);

(viii) Overseeing all development undertaken in the Open Space AOC during the Initial Development Period pursuant to paragraph 74(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, Jersey City, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule") consistent with paragraph 54 above;

(ii) A Second Supplemental Remedial Investigation Report reporting the results of the field work conducted pursuant to paragraph 55;

(iii)A Chromium Impacted Soils Pilot Test Work Plan and Analytical Protocol for conduct of the treatment study pursuant to paragraph 56, unless such documents are agreed to by NJDEP and Riverkeeper before the entry of this Consent Decree;

(iv)An Initial Treatment Study Report for the Development AOC;

(v) A Final Treatment Study Monitoring Report;

(vi) The documents for Site 163 submitted pursuant to paragraphs 54(a)(iv), 54(a)(v), 61, and 62;

(vii) A report to evaluate the need for remediation of any potentially remaining contaminated shallow groundwater in the Development AOC after implementation of the Development AOC Soils Remedy and, based on such an evaluation, a proposal;

(viii) A report of the results of the sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site pursuant to paragraph 71 and, based on the results, a proposal for a remedy;

(ix) A plan for one round of monitoring to evaluate whether the L-Well Groundwater remains contained pursuant to paragraph 72;

(x) A proposal for a remedy of the L-Well Groundwater, in the event L-Well Groundwater monitoring indicates the contaminated groundwater is no longer contained, pursuant to paragraph 72;

(xi) A Remedial Action Work Plan;

(xii) A 50% Design Report (which may include the Development AOC Conceptual Design Plan as a component) as well as design drawings and specifications at the 50% level for other components of the Chromium Remedy (hereinafter the 50% Design);

(xiii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(xiv) The data validation plan, including quality control and quality assurance protocols;

(xv) The site-wide master health and safety plan;

(xvi) The Long-Term Monitoring Plan;

(xvii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(xviii) A program for post-treatment monitoring pursuant to paragraph 63, and, depending on such results, a proposal for further remedial actions;

(xix) A report reviewing measured groundwater levels for the groundwater remedy;

(xx) Documents required during the Initial Development Period pursuant to paragraphs 74(j)(vi), 74(j)(vii), and 74(j)(viii); and

(xxi) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Initial Review of Documents by NJDEP.** The Parties and Special Master shall allow the period of time set forth below for NJDEP to conduct its review of a submission (hereinafter "NJDEP Review Period") before the document is subject to the Special Master review and approval process. During the NJDEP Review Period, any Party may submit comments to NJDEP. For the Second Supplemental Remedial Investigation Report, the Remedial Action Work Plan, the Initial Treatment Study, and the Final Treatment Study Monitoring Report, the NJDEP Review Period shall be 90 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. For any other documents identified in paragraph 86(c), the NJDEP Review Period shall be 30 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. The NJDEP review period shall be extended an additional 30 days for any document for which NJDEP provides the Parties and the Special Master with notice that its review will require an additional 30 days. At the conclusion of the NJDEP Review Period, the comment and review process provided for in paragraphs 86(e) and 86(f) shall commence. In the event that any document has been revised during the NJDEP Review Period, Honeywell shall resubmit the applicable document for purposes of the comment and review provided for in paragraphs 86(e) and 86(f).

(e) **Comment on Submitted Documents**. For each of the documents submitted by Honeywell pursuant to paragraph 86(c), and following conclusion of the NJDEP Review Period as described in paragraph 86(d), the Special Master shall establish a schedule for the submission

of comments and responses to comments. For each of the documents submitted, Riverkeeper, Jersey City, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all comments received and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, Jersey City, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 86(f), unless the Parties agree both on the revised document and that further review and approval pursuant to paragraph 86(f) is unnecessary. In that event, the Parties shall inform the Special Master that review under paragraph 82(f) is unnecessary and Honeywell shall proceed to implement the revised document.

(f) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review**. Subject to the limitations in paragraph 82(e), all documents submitted by Honeywell, pursuant to paragraph 86(c) and 86(e), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 86(g). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure**. Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within

the timeframe established by the Special Master in the schedule for comments pursuant to paragraph 86(e). NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review**. If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(g) **Schedule and 100% Design Documents**. As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(h) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The

Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(i) **Changes to the Schedule.** The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54; and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

87. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 89.

88. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Sediment Consent Order. The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

89. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

90. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 74(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 74(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, the Study Area 6 North Consent Decree, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities

shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

J. Initial Financial Assurances

91. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy calculated using factors, including inflation and discount rates, determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process;

(ii) The costs of monitoring and maintenance activities for five years, as required by the Long-Term Monitoring Plan, calculated using factors including inflation and discount rates determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 91(a)(i) and 91(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

92. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than December 31, 2008, Honeywell shall submit to Riverkeeper and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If Riverkeeper does not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

93. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 94, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.J, the Special Master shall direct the cancellation of the prior Chromium Remedy

Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

94. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 91(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.K. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and

in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such terms. If Honeywell is not otherwise in default as provided in Article III.J and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

95. **Bankruptcy Protection**. Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

96. **Exclusive Court Jurisdiction**. The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

97. **Application of New York Law.** The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Chromium Remedy Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

98. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 85, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 93 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from

drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 98(c), and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

99. **Placement of Proceeds in Court Registry Investment System Account**. In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The

Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 103(b)(v).

100. **Termination of Chromium Remedy Letter of Credit**. The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.K.

K. Long-Term Financial Assurances

101. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 102(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

102. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater remedies pursuant to paragraphs 69, 70, and 71;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) The perpetual administration of the trust fund regardless of whether such trust fund is selected by Honeywell pursuant to paragraph 103(a) or is established from the Long-Term Letter of Credit pursuant to paragraphs 103(b)(ii), 103(b)(v), or 109.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 102(a)(i) through 102(a)(v) plus a 25% contingency when the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of the estimated future costs of the activities specified in paragraphs 102(a)(i) through 102(a)(v), plus a 25% contingency on those costs.

103. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution managing the

trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 102(a)(i) through 102(a)(iv).

(b) **Long-Term Letter of Credit**. In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 103(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 106.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of

Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(iii) The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits) as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Long-Term Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 98. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a). After the Special Master's appointment expires pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 103(b)(ii), 103(b)(v), or 109 and Honeywell has also selected a trust fund pursuant to paragraph 103(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(c) **Combination**. Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 103(a) and 103(b).

104. **Procedures for Review of the Proposed Long-Term Financial Assurances**. No later than June 1, 2009, Honeywell shall submit to Riverkeeper and the Special Master, for their review (a) the amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper agrees to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances.

105. **Temporary Maintenance of Chromium Remedy Letter of Credit**. Until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 91 in an amount equal to at least $20,000,000 in 2008 dollars. In the event of any default by Honeywell pursuant to paragraph 98 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 103(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under

paragraph 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), shall apply.

106. **Adjustment of Amount Held in Long-Term Financial Assurances**. Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 103, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to

long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 103(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 103(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 103(b).

107. **Exclusive Court Jurisdiction**. The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 103(a), 103(b)(ii), 103(b)(v), or 109.

108. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 103(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 108(c), if Honeywell fails to provide assurance to Riverkeeper, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

109. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or pursuant to paragraph 108 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be

paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

110. **Use of the Trust Fund in the Event of Honeywell's Default.** In the event of Honeywell's default, as defined in paragraphs 108(a) through 108(d), the money in the trust fund established pursuant to paragraph 103(a) shall be available to meet the obligations of paragraph 102(a), as well as for payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

111. **Use of a Trust Fund Established Pursuant to Paragraph 99, 103(b)(ii), 103(b)(v), or 109.** In the event that a trust fund is established pursuant to paragraph 99, 103(b)(ii), 103(b)(v), or 109, the money in the trust fund shall be available to meet the obligations of paragraph 102(a), as well as for the payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

112. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations under Article III.K shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the Open Space AOC or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive

standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: TERMINATION

113. **Termination of this Consent Decree**. This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 118:

(a) The Court fails to enter this Consent Decree or this Consent Decree is determined to be invalid on appeal; or

(b) NJDEP takes one of the following actions with respect to the Remedial Action Work Plan:

(i) Rejects or fails to approve the Remedial Action Work Plan for the Chromium Remedy within 180 days of submission of the plan;

(ii) Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in more than a 50% increase in the estimated costs of the Chromium Remedy as set forth in Article III; or

(iii)Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in a substantial reduction of the protection of human health and/or the environment.

114. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 113 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 113 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

115. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 113.

116. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 113, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 113, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: TRANSFER OF TITLE TO BAYFRONT REDEVELOPMENT LLC

117. **Transfer of Title of Study Areas 6 South and 7 to and from Bayfront Redevelopment LLC.** The transfer of title of Study Area 6 South and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of

Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 South and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 South or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 South and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 South under this Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell*.

ARTICLE VI: NOTICE

118. **Notice**. Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE VII: RIVERKEEPER'S ATTORNEYS' FEES

119. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $813,000.00 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 South portion of *Riverkeeper v. Honeywell* through August 31, 2008; and

(b) $353,746.67 in out-of-pocket expenses representing a portion of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses paid pursuant to the Sediment Consent Order, the Deep Groundwater Consent Order, and the Study Area 6 North Consent Decree.

(c) Payment of the sum of $813,000.00 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $879,317.92 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

120. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after August 31, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to

Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order. In the event of Honeywell's default, Riverkeeper may seek attorneys' fees from any trust fund or court registry funds established pursuant to the financial assurances provisions of this Consent Decree.

ARTICLE VIII: MISCELLANEOUS PROVISIONS

121. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

122. **Bayfront Redevelopment LLC as a Party.** As a signatory to this Consent Decree, Bayfront Redevelopment LLC subjects itself to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agrees to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against Bayfront Redevelopment LLC.

123. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

124. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

125. **Reservation of Rights and Claims.** Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

126. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

127. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

128. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

129. **Measures to Effectuate This Consent Decree.** Jersey City shall take all appropriate steps to ensure that commitments it has agreed to with regard to the Open Space AOC have been duly considered, ratified, and approved. Such steps include consideration of such commitments and an effectuating ordinance at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the commitments made by Jersey City..

130. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

131. **Severability.** Each of the provisions in paragraph 74 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

132. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Remedial AOC's and Remedial Approach Map

Exhibit B: NJDEP Chromium Policy

Exhibit C: Conservation Restriction

Exhibit D: Deed Notice

Exhibit E: Additional Boring Locations

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM AND HISTORIC FILL CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. "Owner" shall mean Bayfront Redevelopment LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The Property (also referred to herein as the "Restricted Area(s)") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached.

1. THE PROPERTY. Bayfront Redevelopment LLC is the current owner in fee simple of certain real property designated as a portion of ***Block 24601, Lot 11 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]; the New Jersey Department of Environmental Protection Program Interest Number for the contaminated site which includes this property is ***Hudson County Chromate Site No. 163 (a.k.a. Posnak & Turkish) Program Interest ("PI") #010374*** [NJDEP PI# for non-chromium-related contaminants at the Property is #745719], and known as the Site 163

[1] All references to Block 24601 Lot 11 in this Deed Notice shall mean the applicable portions of Block 24601 Lot 11 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

Development Area of Concern ("AOC") pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The Property is part of Study Area 6 South ("SA-6 South"), a group of sites containing chromium contamination being addressed by Honeywell International Inc. ("Honeywell") as described in Paragraph 3. The Property is located along Droyers Cove as shown in Exhibit B-1 attached hereto.

This deed notice applies only to a portion of the Site 163 Development AOC which will become the Future Kellogg Street/Riverside Drive/Riverwalk during site redevelopment. The Consent Decree restricts transfer, use and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management (BCM) is the entity within the Department that is responsible for the chromium oversight of the remediation of the SA-6 South. The matter was Hudson County Chromate Site No. 163 PI No. 010374. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 South to address chromium-related and non-chromium soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented. The Remedial Action Work Plan ("RAWP") for chromium remedial actions was approved by the Department on June 22, 2012 for Hudson County Chromate Site No. 163, which includes remedial actions for chromium at the Property. The RAWP for non-chromium remedial actions pertaining to Site 163 was submitted to the Licensed Site Remediation Professional on March 21, 2011. Remedial actions were further approved pursuant to the Consent Decree.

Under both the Consent Decree and the RAWP, soil contamination remains at the Site 163 Property which contains contaminants at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") was submitted to the Department on February 8, 2017. The Department approved the RAR on March 30, 2017. A Construction Completion Report ("CCR") for SA-6 South to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil

and groundwater for SA-6 South was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

The Property is a portion of Site 163 at SA-6 South where remaining chromium-impacted soils were identified in the area south of the northern curbline of the future River Front Park/Riverside Drive/Kellogg Street. This deed notice area includes chromium and historic fill. The engineering control barrier on the Property includes clean fill material to a depth of approximately 4-feet below ground surface. During redevelopment of the Property additional engineering control barriers in the form of a roadway, walkway, and/or other hardscape will be constructed on the Property as required by paragraph 61(c)(ii)(3) of the Consent Decree. Honeywell will, or cause Bayfront Redevelopment LLC to, restrict the future use of this area by implementing a conservation restriction, which will be been recorded at the Hudson County Register of Deeds, and transfer, or cause Bayfront Redevelopment LLC to transfer, title to the City of Jersey City (as called for in Paragraph 61(c)(ii)(3) of the Consent Decree). The provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 South in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples for the Property do not indicate shallow groundwater contamination). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree and this Deed Notice, Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity.

4. CONSIDERATION. In accordance with the Department's approval of the chromium and non-chromium RAWPs for the remediation for the Hudson County Chromate Site No. 163 which includes the Property, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of contamination remaining at concentrations that do not allow for unrestricted use, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained either on on-site trailers or within the Groundwater Treatment Plant building, available for inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single family residence or a child care facility without the Department's prior written approval;

iii. The Consent Decree, paragraph 61(c), restricts the ownership, use, and development of the Property; and

iv. The Conservation Restriction, to be recorded with the Hudson County Register of Deeds, will restrict the use and development of the Property.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls on the Property. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed an LTMP which sets forth requirements for monitoring, maintaining, and repairing or and replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5E. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall

be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Restricted Areas, of the nature and location of known contamination in the Restricted Areas, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and Conservation Restriction, and (b) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of

contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree, and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the

environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C here, so that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Restricted Areas to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer,

in whole or in part, of the owner's interest in the Property . Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 80 and 83 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice

would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. After development of the Property, this Deed Notice shall be modified to show further engineering controls and topographical features constructed on the Property, such as roads, walkways or other hardscape.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - A separate table for each restricted area that includes either (A) or (B) through (F):

(A) Only for historic fill extending over the entire site or a portion of the site and for which analytical data are limited or do not exist, a narrative that states that historic fill is present at the site, a description of the fill material (e.g., ash, cinders, brick, dredge material), and a statement that such material may include, but is not limited to, contaminants such as PAHs and metals;

(B) Sample location designation from Restricted Area map (Exhibit B-1);

(C) Sample elevation based upon mean sea level;

(D) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(E) The restricted and unrestricted use standards for each contaminant in the table; and

(F) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A through C. Exhibit C-1A: Institutional Controls; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1D: Conservation Restriction as Institutional Control (recorded at Hudson County Register of Deeds as indicated in Paragraph 3): Exhibit C-1 (A through D) includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:

(1) Description and estimated size of the Restricted Areas as described above;

(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and

(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;

(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and

(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: Clean Fill Cover; Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:

(1) Description of the engineering control;

(2) The objective of the engineering control; and

(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;

(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering control continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #3 Site 163

A-1 Vicinity Map

A-2 Metes and Bounds Description and Tax Map

A-3 Property Map Portion of Block 24601, Lot 11, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

Exhibit A-2 consists of a metes and bounds and a tax map for the Property.

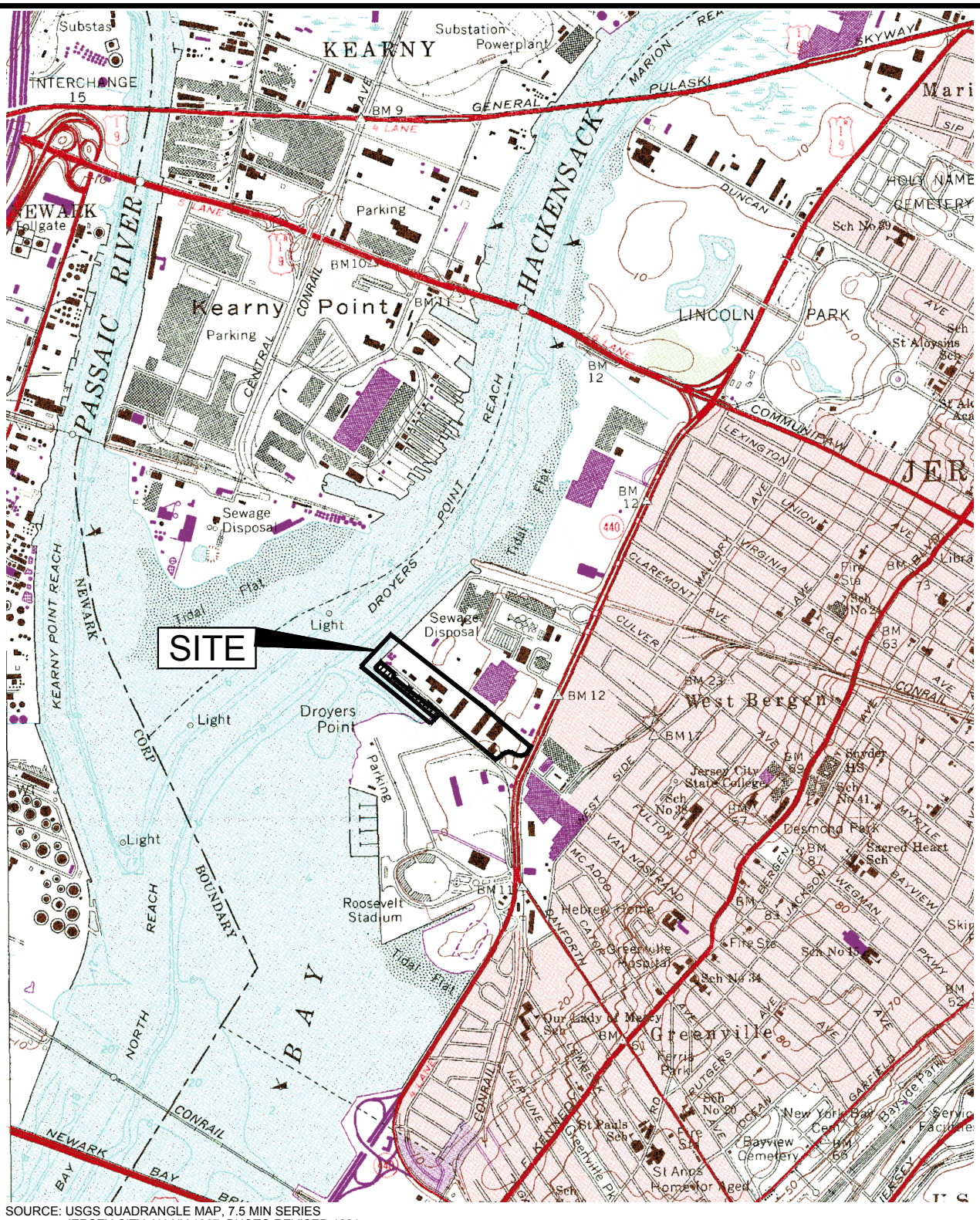
Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as buildings, roads, and parking lots.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 SOUTH SITE 163
JERSEY CITY, NEW JERSEY

CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\deed notice\deed notice 3\3480150450-5100-A100-3000.dwg Fri, 10 Mar 2017 - 1:35pm scott.rudkin



SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

RESTRICTED AREA

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 *DRAWING:* 3480150450-5100-A100-3000	
PREPARED/DATE: STR 01/28/16	*CHECKED/DATE:* NW 01/31/17

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-1
VICINITY MAP
BLOCK 24601, LOT 11
DEED NOTICE #3 SA-6 SOUTH SITE 163
JERSEY CITY, NEW JERSEY

Exhibit A-2
Deed Notice #3 Site 163
Metes and Bounds Description of Property: See Attached
Tax Map: See Attached

A-2 Metes and Bounds Description of Property Portion of Block 24601, Lot 11
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map, or any other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as a portion of Block 24601, Lot 11 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment LLC. A copy of the current tax map which includes the Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 ▪ Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY

DEED NOTICE AREA 3
BLOCK 24601 LOT 11
PROJECT NO. 10000292R
APRIL 12, 2016
REVISED SEPTEMBER 11, 2017

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 11 Block 24601, designated as Deed Notice Area 3 as shown on an exhibit entitled, "Deed Notice Area 3, SA6 South, Block 24601 Lot 11, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated April 6, 2016, revised September 11, 2017 and being more particularly bounded and described as follows, to wit:

COMMENCING at the intersection of the division line between Lots 5 and 11, Block 24601, with the northwesterly terminus of Kellogg Street (80 foot wide right of way); thence-

A. **S40°39'55" W, 3.74 feet**, along said northwesterly terminus to the **True** point of **BEGINNING**, and running; thence-

1. **S40° 39' 55"W, 80.21 feet,** along the same; thence-

Running through Lot 11 the following three (3) courses:

2. **N51°13'02" W, 1,061.96 feet,** to a point of curvature; thence-

3. **NORTHWESTWARDLY**, on an arc to the right having a radius of **26.00 feet,** and arc length of **43.82 feet** (central angle of **96°33'55"**), said arc being connected by a chord bearing **N 02° 56'04" W,** a chord distance of **38.81 feet**, to a point of tangency; thence-

4. **N45°20'54" E, 82.45 feet,** to the division line between Lots 11 and 1; thence-

5. **S51° 06' 45"E, 184.04 feet,** along said division line to a point of non-tangent curvature; thence -

Running through said Lot 11 the following twenty-three (23) courses:

6. **SOUTHEASTWARDLY**, on an arc to the left having a radius of **273.50 feet,** and arc length of **42.65 feet** (central angle of **08°56'07"**), said arc being connected by a chord bearing **S 03° 18'43" E,** a chord distance of **42.61 feet,** to a point of non-tangency; thence –

7. **S50° 24' 32"W, 42.19 feet,** thence -

8. **S18° 06' 16"W, 7.09 feet,** to a point of non-tangent curvature; thence -

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY

DEED NOTICE AREA 3
BLOCK 24601 LOT 11
PROJECT NO. 10000292R
APRIL 12, 2016
REVISED SEPTEMBER 11, 2017

9. **SOUTHEASTWARDLY**, on an arc to the left having a radius of **250.97 feet,** and arc length of **16.39 feet** (central angle of **03°44'31"**), said arc being connected by a chord bearing **S 18° 13'05" E,** a chord distance of **16.39 feet,** to a point of non-tangency; thence –

10. **S50° 24' 32"E, 244.78 feet,** thence –

11. **N39° 35' 28"E, 19.37 feet**; thence-

12. **S52° 20' 21"E, 20.65 feet,** thence -

13. **S36° 31' 45"W, 10.78 feet,** to a point of non-tangent curvature; thence -

14. **SOUTHWESTWARDLY**, on an arc to the left having a radius of **19.33 feet,** and arc length of **9.87 feet** (central angle of **29°14'30"**), said arc being connected by a chord bearing **S 21° 54'30" W,** a chord distance of **9.76 feet**, to a point of non-tangency; thence-

15. **S50° 24' 32"E, 130.38 feet,** thence –

16. **S53° 28' 08"E, 14.33 feet,** thence –

17. **S87° 26' 31"E, 12.53 feet**; thence –

18. **S53° 28' 08"E, 89.62 feet**; thence-

19. **S18° 28' 37"E, 12.21 feet**; thence –

20. **S53° 27' 19"E, 50.67 feet**, to a point of non-tangent curvature; thence –

21. **NORTHEASTWARDLY**, on an arc to the left having a radius of **19.33 feet,** and arc length of **10.91 feet** (central angle of **32°20'50"**), said arc being connected by a chord bearing **N 52° 42'11" E,** a chord distance of **10.77 feet**, to a point of non-tangency; thence -

22. **N36° 31' 45"E, 9.88 feet**; thence –

23. **S51° 06' 45"E, 25.36 feet**; thence –

24. **S36° 31' 45"W, 8.86 feet**, to a point of non-tangent curvature; thence –

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY

DEED NOTICE AREA 3
BLOCK 24601 LOT 11
PROJECT NO. 10000292R
APRIL 12, 2016
REVISED SEPTEMBER 11, 2017

25. **SOUTHWESTWARDLY**, on an arc to the left having a radius of **19.33 feet,** and arc length of **10.90 feet** (central angle of **32°18'35"**), said arc being connected by a chord bearing **S 20° 22'28" W,** a chord distance of **10.76 feet,** to a point of non-tangency; thence –

26. **S53° 27' 19"E, 34.71 feet**; thence –

27. **S88° 21' 24"E, 12.23 feet**; thence –

28. **S53° 26' 10"E, 160.18 feet**, to the point and place of **BEGINNING**.

CONTAINING: 81,406 S.F. of land more or less or 1.869 acres of land more or less.

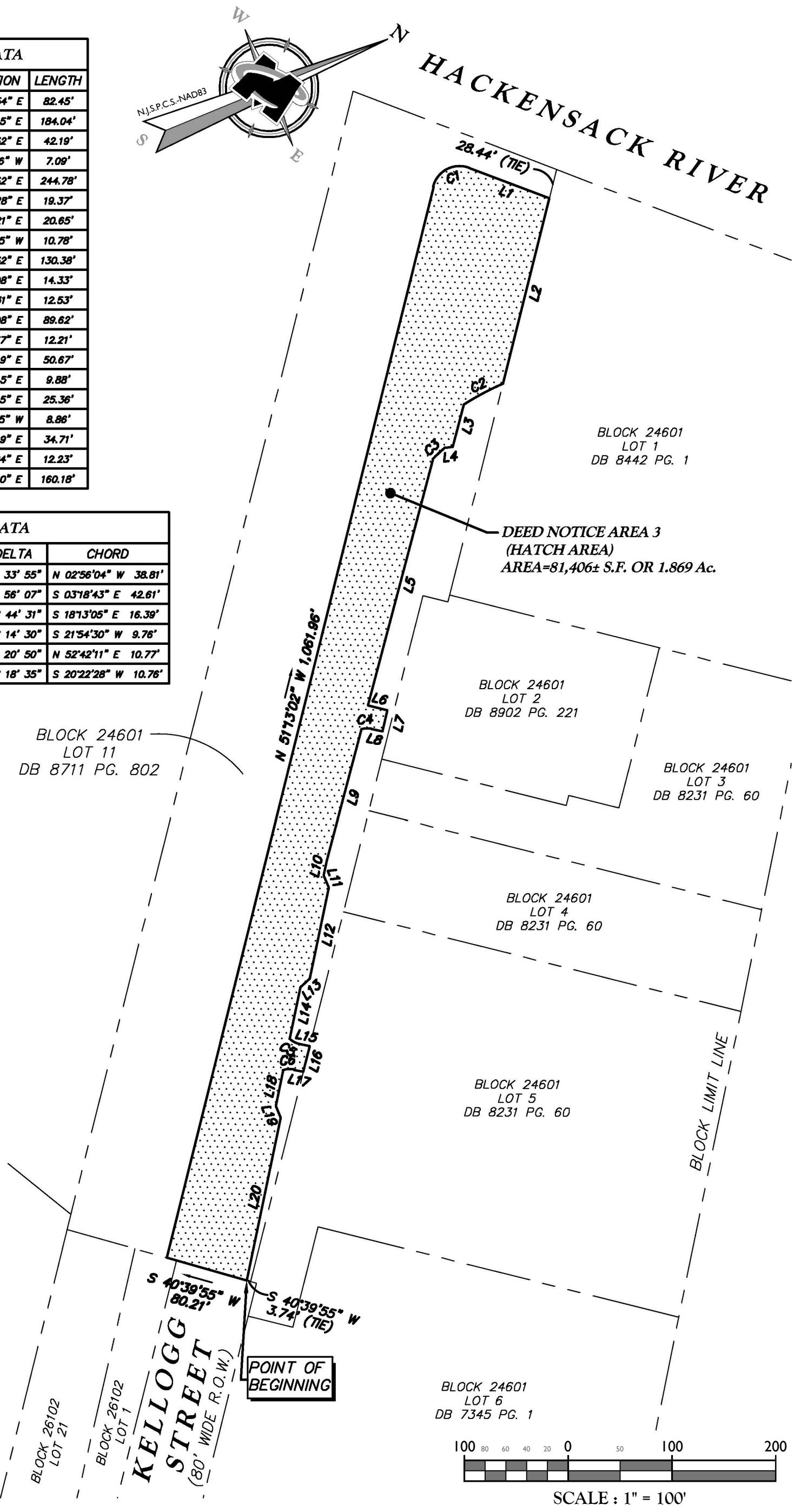
09/11/2017

GLEN J. LLOYD, P.L.S. DATE SIGNED
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

R:\General\Projects\2010\10000292Q\Survey\Description\Metes & Bounds-Deed Notice 3_REV 9-11-17.docx

LINE DATA		
SEGMENT	DIRECTION	LENGTH
L1	N 45°20'54" E	82.45'
L2	S 51°06'45" E	184.04'
L3	S 50°24'32" E	42.19'
L4	S 18°06'16" W	7.09'
L5	S 50°24'32" E	244.78'
L6	N 39°35'28" E	19.37'
L7	S 52°20'21" E	20.65'
L8	S 36°31'45" W	10.78'
L9	S 50°24'32" E	130.38'
L10	S 53°28'08" E	14.33'
L11	S 87°26'31" E	12.53'
L12	S 53°28'08" E	89.62'
L13	S 18°28'37" E	12.21'
L14	S 53°27'19" E	50.67'
L15	N 36°31'45" E	9.88'
L16	S 51°06'45" E	25.36'
L17	S 36°31'45" W	8.86'
L18	S 53°27'19" E	34.71'
L19	S 88°21'24" E	12.23'
L20	S 53°26'10" E	160.18'

CURVE DATA				
SEGMENT	RADIUS	LENGTH	DELTA	CHORD
C1	26.00'	43.82'	96° 33' 55"	N 02°56'04" W 38.81'
C2	273.50'	42.65'	8° 56' 07"	S 03°18'43" E 42.61'
C3	250.97'	16.39'	3° 44' 31"	S 18°13'05" E 16.39'
C4	19.33'	9.87'	29° 14' 30"	S 21°54'30" W 9.76'
C5	19.33'	10.91'	32° 20' 50"	N 52°42'11" E 10.77'
C6	19.33'	10.90'	32° 18' 35"	S 20°22'28" W 10.76'



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State of N.J. Cert. of Authorization: 24GA27986500

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REV	DATE	DRAWN BY	DESCRIPTION
1	9/11/17	HA	REVISE DEED NOTICE LINE
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.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

DEED NOTICE AREA 3
SA6 SOUTH

BLOCK 24601
LOT 11

CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

811 Know what's below. Call before you dig.

PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE

FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

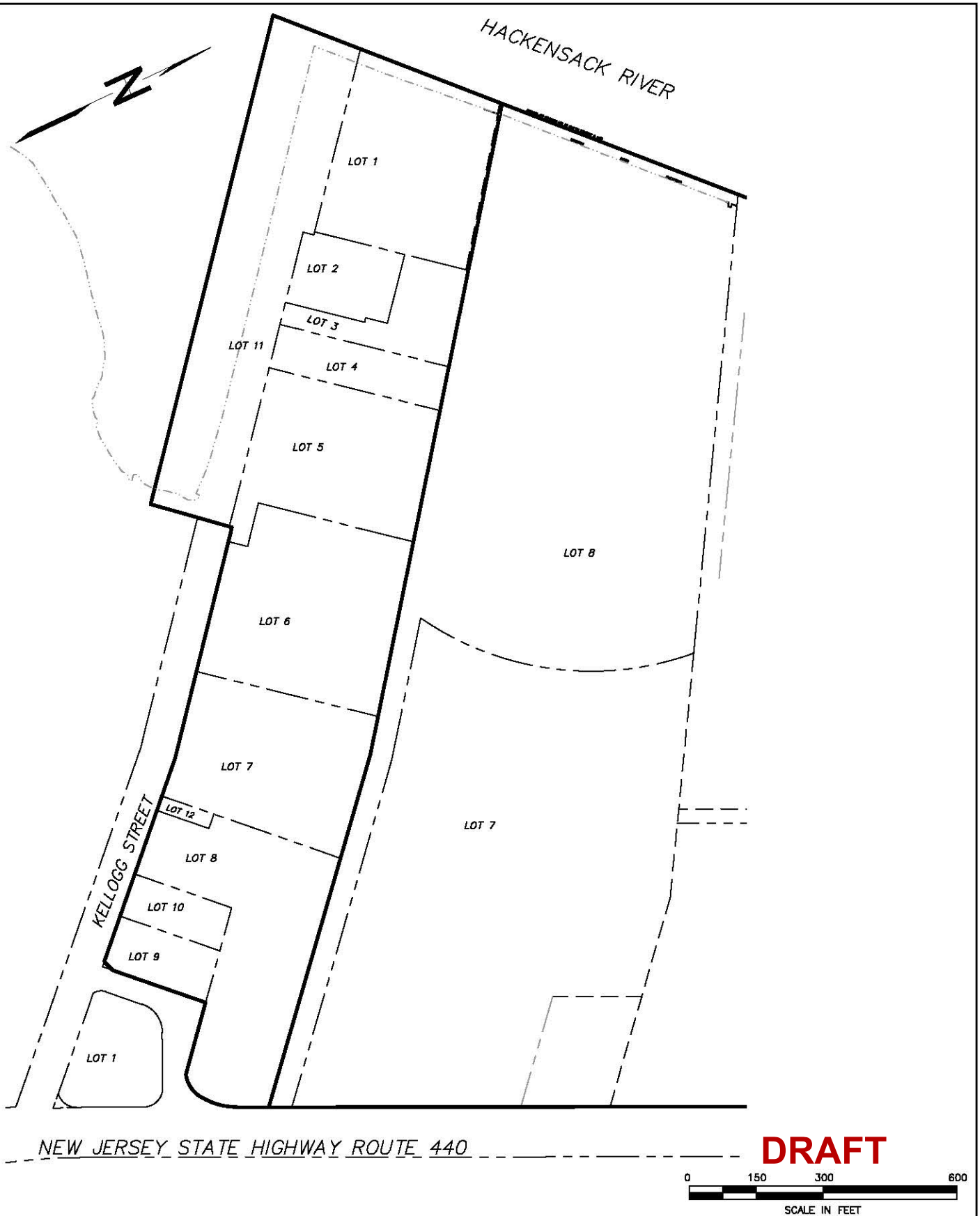
RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	4/6/2016	HA	GJL

PROJECT NUMBER: 10000292C
DRAWING NAME: V-EXBT-DN-3_REV

SHEET TITLE:
DEED NOTICE EXHIBIT

SHEET NUMBER:
1 of 1

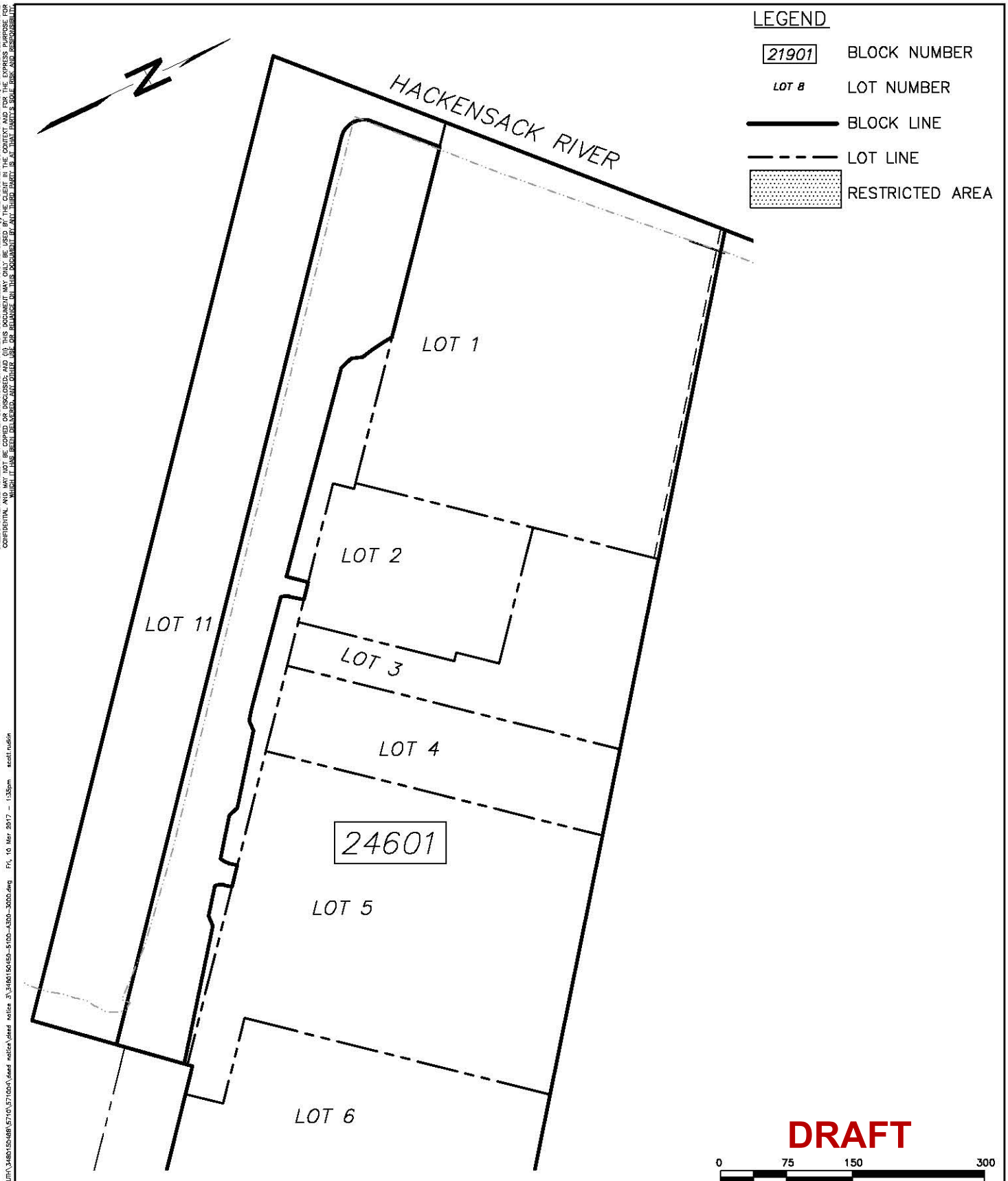


Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A200-3000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 24601, LOT 11 DEED NOTICE #3 SA-6 SOUTH SITE 163 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 01/31/17		

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150486\5710\571004\deed notice\deed notice 3\3480150450-5100-A200-3000.dwg Fri, 10 Mar 2017 - 1:35pm scott.rudkin

Exhibit A-3
Property Map



Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A300-3000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-3** PROPERTY AREA MAP BLOCK 24601 LOT 11 DEED NOTICE #3 SA-6 SOUTH SITE 163 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 01/31/17		

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

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EXHIBIT B
Deed Notice #3 Site 163
B-1 Restricted Area Maps
B-2 Restricted Area Data Table
Portion of Block 24601, Lot 11
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area and Soil Sample Locations), Exhibit B-1B (Cap System Detail), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of contaminants remaining above the level established in the New Jersey Department of Environmental Protection (NJDEP) Chromium Policy and/or other applicable NJDEP Soil Quality Standards as described below.

Restricted Area Map Notes:

Exhibit B-1 indicates engineering controls. The engineering controls include 4 to 6-inches crushed stone cover overlying 4 to 6-feet of clean soils above the impacted soil. (As part of the Bayfront Redevelopment Plan, the engineering control will also include a paved road, walkway or other hardscape. At that time, this Deed Notice will be revised to reflect the revision to the engineering controls.).

Exhibits B-1A indicates the restricted area for soil containing contaminants of concern, including hexavalent chromium above 20 milligrams per kilogram (mg/kg) pursuant to the Chromium Policy, and soils that are consistent with NJDEP's definition of "historic fill material" found at N.J.A.C. 7:26E-1.8, as shown on Exhibit B-3.

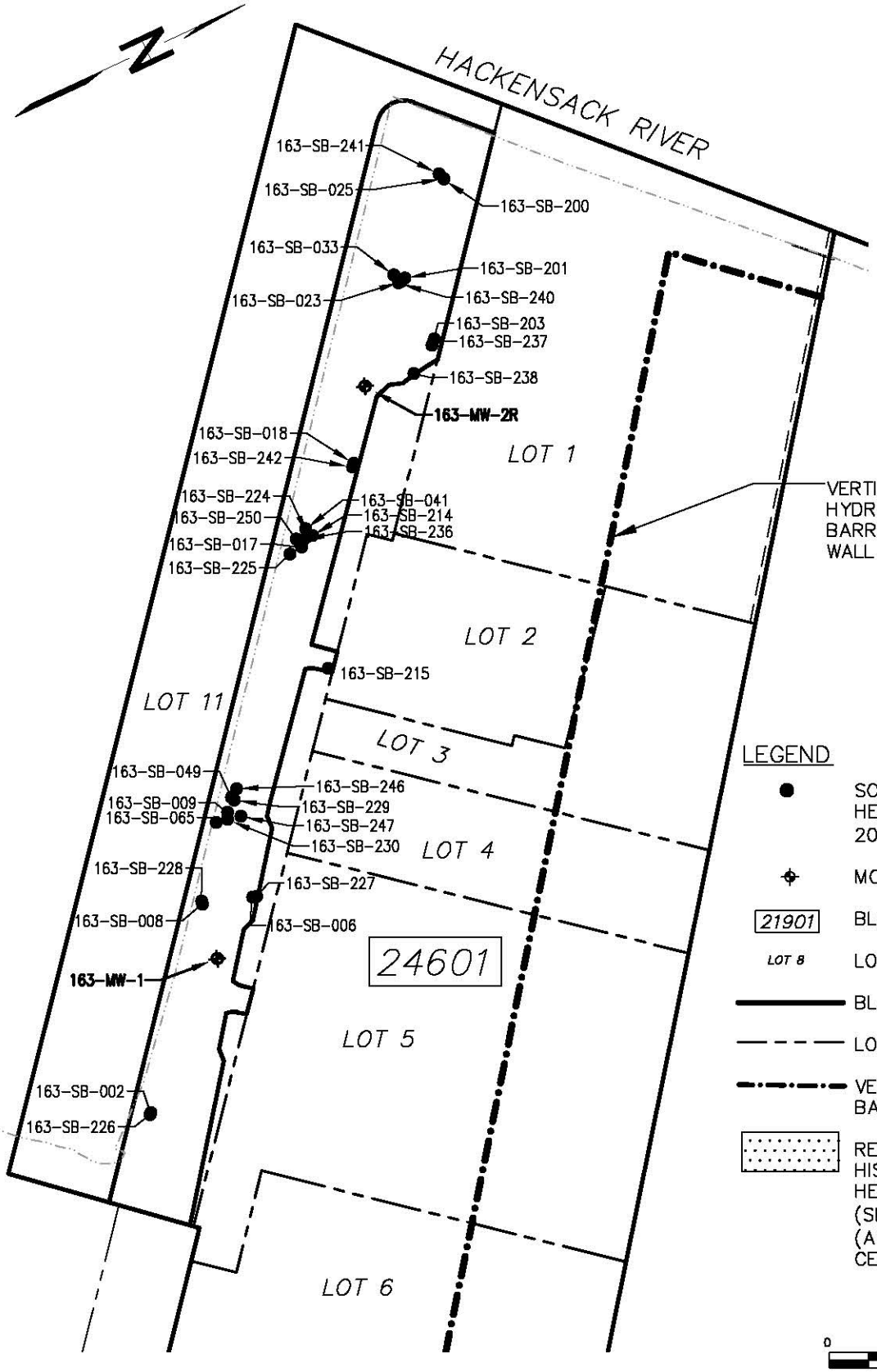
Analytical results and soil borings indicate that historic fill is present onsite and extends over the entire Restricted Area. Historic fill onsite typically consists of the following: metals, PAHs, and miscellaneous debris (including but not limited to coal fragments, brick, timber, and other construction materials).

A table summarizing maximum concentrations of typical contaminants found in the historic fill material in the Restricted Area is included as Exhibit B-2.

Exhibit B-1
Restricted Area Maps

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.

P:\JOB\HONEWELL\JERSEY CITY\SA 6 SOUTH\3480150450\5710\5710014.dsed notice\dsed notice 3\3480150450-5100-B100-3000.dwg Fri, 10 Mar 2017 - 1:36pm scott.rudkin



LEGEND

- SOIL SAMPLE LOCATION WHERE HEXAVALANT CHROMIUM > 20 mg/kg
- MONITORING WELL LOCATION
- 21901 — BLOCK NUMBER
- LOT 8 — LOT NUMBER
- BLOCK LINE
- LOT LINE
- VERTICAL HYDRAULIC BARRIER WALL
- RESTRICTED AREA FOR HISTORIC FILL AND HEXAVALENT CHROMIUM (SEE EXHIBIT B-2) (ASPHALT OR SOIL COVER) CEA AREA

DRAFT

0 75 150 300

SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-B100-3000	
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT B-1A
RESTRICTED AREA MAP
BLOCK 24601 LOT 11
DEED NOTICE # 3 SA-6 SOUTH SITE 163
JERSEY CITY, NEW JERSEY

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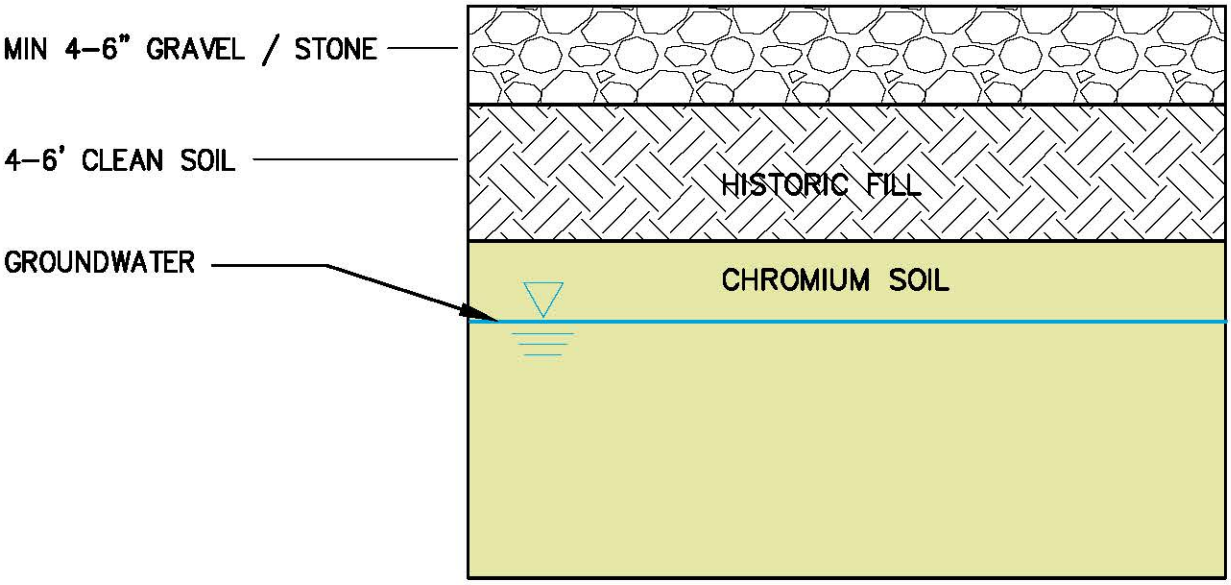
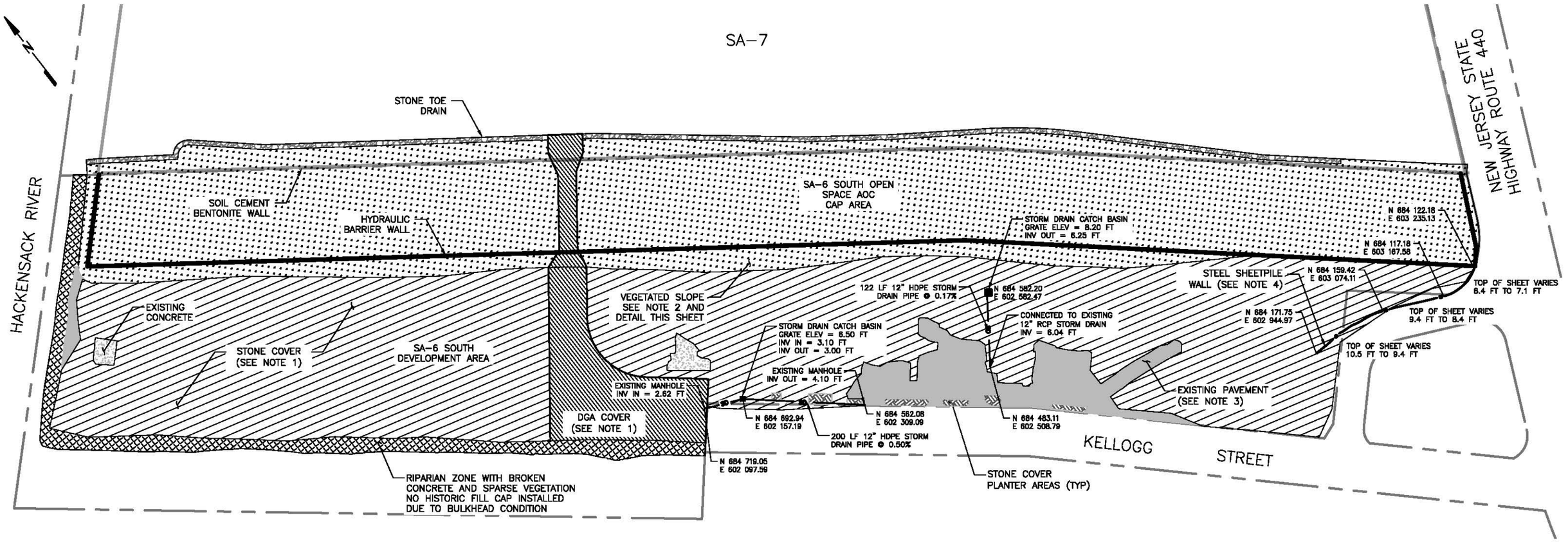
P:\CADD\HONEYWELL\JERSEY CITY\SA 6 SOUTH\3480150488\5710\571004\deed notice\deed notice 3\3480150450-5100-B200-3000.dwg Fri, 10 Mar 2017 - 1:36pm scott.rubin



CAP SYSTEM DETAIL
NTS

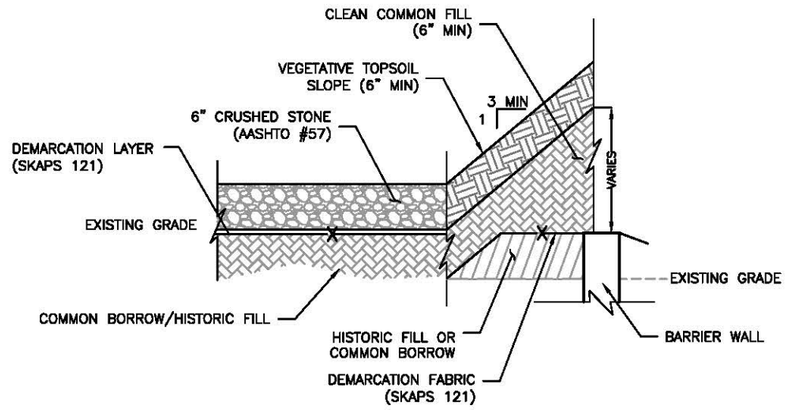
DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150450-5100-B200-3000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAIL BLOCK 24601 LOT 11 DEED NOTICE # 3 SA-6 SOUTH SITE 163 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/25/17 | *CHECKED/DATE:* NW 01/31/17		



NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA–7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.



NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA–7

TYPICAL VEGETATED SLOPE
NTS

EXHIBIT B-1C

STONE COVER | STONE COVER IN PLANTER AREAS | STEEL SHEETPILE WALL
VEGETATED COVER | RIPARIAN ZONE | STORM DRAIN PIPE
PAVEMENT COVER | DGA COVER | STORM DRAIN CATCH BASIN
CONCRETE COVER | STONE TOE DRAIN

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: AS BUILT RESTORATION PLAN SA–6 SOUTH – SHEET 001 12/12/16

PROJECT NAME & LOCATION: HONEYWELL SA–6 REMEDIATION JERSEY CITY, NJ

Exhibit B-2: Table B-2
Soil Sample Data Table

EXHIBIT B-2

Restricted Area Data Table

Deed Notice #3 Site 163

Portions of Block 24601, Lot 11

Jersey City, New Jersey

Location ID	Elevation (feet msl) NAVD88	Start Depth (feet bgs)	End Depth (feet bgs)	Hexavalent Chromium Concentration (mg/kg)	CASR#	NJDEP Chromium SCC (mg/kg)
163-SB-002	-10.00	17	17.5	33.6	18540-29-9	20
163-SB-006	-1.70	8.5	9	24.7J	18540-29-9	20
163-SB-008	1.70	6.5	7	22.5	18540-29-9	20
163-SB-009	0.70	8	8.5	85.7J	18540-29-9	20
163-SB-017	6.10	1	1.5	1.5	18540-29-9	20
163-SB-017	0.60	6.5	7	24.6	18540-29-9	20
163-SB-018	-5.50	14	14.5	22.8	18540-29-9	20
163-SB-023	-4.70	14	14.5	40.4	18540-29-9	20
163-SB-025	-2.90	12	12.5	32.9	18540-29-9	20
163-SB-033	-2.90	12	12.5	23.6	18540-29-9	20
163-SB-041	1.10	6	6.5	31.8	18540-29-9	20
163-SB-049	0.2	8.5	9	24.9J	18540-29-9	20
163-SB-065	0.7	8	8.5	27.1	18540-29-9	20
163-SB-200	-2.90	12	13	9.9	18540-29-9	20
163-SB-200	-3.90	13	14	10.6	18540-29-9	20
163-SB-201	-4.70	14	15	21.1	18540-29-9	20
163-SB-201	-5.70	15	16	16.4	18540-29-9	20
163-SB-203	-1.7	10	11	6.2	18540-29-9	20
163-SB-203	-2.7	11	12	9.2	18540-29-9	20
163-SB-203	-3.7	12	13	14.8	18540-29-9	20
163-SB-203	-4.7	13	14	11.3	18540-29-9	20
163-SB-214	-4.7	12	13	3.7	18540-29-9	20
163-SB-214	-5.7	13	14	3.8	18540-29-9	20
163-SB-215	-6	13	14	1.8	18540-29-9	20
163-SB-215	-7	14	15	2.4	18540-29-9	20
163-SB-224	1.2	6	7	17	18540-29-9	20
163-SB-224	0.2	7	8	17.7	18540-29-9	20
163-SB-225	1	6	7	<0.51	18540-29-9	20
163-SB-225	0	7	8	0.53	18540-29-9	20
163-SB-226	-9	16	17	1.4	18540-29-9	20
163-SB-226	-10	17	18	5.7	18540-29-9	20
163-SB-227	-0.2	7	8	16.9	18540-29-9	20
163-SB-227	-1.2	8	9	8.3	18540-29-9	20
163-SB-228	1.2	6	7	8.4	18540-29-9	20
163-SB-228	0.2	7	8	8.4	18540-29-9	20
163-SB-229	0.7	8	9	57.2	18540-29-9	20
163-SB-229	-0.3	9	10	79.3	18540-29-9	20
163-SB-230	-1.8	10.5	11.5	27.7	18540-29-9	20
163-SB-230	-2.8	11.5	12.5	40.7	18540-29-9	20
163-SB-236	-3.7	11	12	50.6	18540-29-9	20
163-SB-236	-4.7	12	13	11.5	18540-29-9	20
163-SB-237	-2.7	11	12	34.3	18540-29-9	20
163-SB-237	-3.7	12	13	38.7	18540-29-9	20
163-SB-237	-4.7	13	14	31.3	18540-29-9	20
163-SB-237	-5.7	14	15	80.6	18540-29-9	20
163-SB-238	-4.4	13	14	18.4	18540-29-9	20
163-SB-238	-5.4	14	15	31.6	18540-29-9	20
163-SB-240	-4.8	14	15	27.2	18540-29-9	20
163-SB-240	-5.8	15	16	13.1	18540-29-9	20
163-SB-241	-2.9	12	13	22.2	18540-29-9	20
163-SB-241	-3.9	13	14	30.6	18540-29-9	20
163-SB-242	-5.5	14	15	27.3	18540-29-9	20
163-SB-242	-6.5	15	16	92.5	18540-29-9	20

EXHIBIT B-2

Restricted Area Data Table

Deed Notice #3 Site 163

Portions of Block 24601, Lot 11

Jersey City, New Jersey

Location ID	Elevation (feet msl) NAVD88	Start Depth (feet bgs)	End Depth (feet bgs)	Hexavalent Chromium Concentration (mg/kg)	CASR#	NJDEP Chromium SCC (mg/kg)
163-SB-246	0.7	8	9	44.5	18540-29-9	20
163-SB-246	-0.3	9	10	39.7	18540-29-9	20
163-SB-247	0.7	8	9	7.7	18540-29-9	20
163-SB-247	-0.3	9	10	4.2	18540-29-9	20
163-SB-250	1	6	7	0.5	18540-29-9	20
163-SB-250	0	7	8	0.64	18540-29-9	20

Notes:

Results reported in mg/kg.

Results from In-Situ Post Treatment included even if <20 mg/kg.

Data Qualifiers:

J - Data indicates the presence of a compound that meets the identification criteria. The concentration given is an approximate value.

Abbreviations:

Feet bgs - Feet below ground surface

mg/kg - milligrams per kilogram

feet msl - feet mean sea level NAVD88 - North American Vertical Datum of 1988

NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010

EXHIBIT B-2
HISTORIC FILL COMPOUNDS ABOVE STANDARD
Deed Notice #3 Site 163
Portions of Block 24601, Lot 11
Jersey City, New Jersey

Compound>RDC	RDC	# of Samples >RDC	Maximum Conc.
BENZO(A)ANTHRACENE	**0.6**	3	1.35
BENZO(A)PYRENE	**0.2**	8	1.01
BENZO(B)FLUORANTHENE	**0.6**	3	1.4
NAPHTHALENE	**6**	1	11.9

Notes:
RDC: NJDEP Residential Direct Contact Soil Remediation Standards [N.J.A.C. 7:26D; last amended 5/7/2012].
CONC: Concentration reported in milligrams per kilogram (mg/kg)
Historic fill is present throughout the Site consisting of PAH and metals.
R or N: Rejected or negated by laboratory or data validator

EXHIBIT C
Deed Notice #3 Site 163

C-1 Institutional Controls
C-2 Engineering Controls
Portion of Block 24601, Lot 11
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree, Zoning, Conservation Restriction as Institutional Controls: Exhibit C-1 (A through D) for that portion of Block 24601, Lot 11, City of Jersey City, New Jersey known as Site 163.

Exhibits C-1A through D. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control (attached); Exhibit C-1C: Zoning as Institutional Control; Exhibit C-1D: Conservation Restriction as Institutional Control (recorded at Hudson County Register of Deeds as indicated in Paragraph 3): Exhibits C-1A through C-1D include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property is a portion of Site 163 at SA-6 South where remaining chromium-impacted soils were identified in the area south of the northern curbline of the future River Front Park/Riverside Drive/Kellogg Street. This deed notice area includes chromium and historic fill. Honeywell will restrict, or will cause Bayfront Redevelopment LLC to restrict, the future use of this area by implementing a conservation restriction, which will be recorded at the Office of the Hudson County Register. In addition, Honeywell will transfer, or will cause Bayfront Redevelopment LLC to transfer title to the Property to Jersey City (as called for in Paragraph 61(c)(ii)(3) of the Consent Decree). The provisions of the LTMP, developed pursuant to the Consent Decree, will apply to the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes a portion of Block 24601, Lot 11. The estimated size of the Area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) as identified on Exhibit B-1 is estimated at approximately 82,868 square feet or approximately 1.902 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, the applicable zoning standards, and the Conservation Restriction. Intrusive activities (i.e., excavation or digging) that breach the

engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg and soils that are historic fill.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP established thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

Same as (B)(1).

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

Same as (B)(4).

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards and the Conservation Restriction; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice, the applicable zoning standards and the Conservation Restriction.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #3 Site 163
Portion of Block 24601, Lot 11
City of Jersey City, New Jersey

Exhibits C-2A through C: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Controls consist of the following: 4 to 6-inches crushed stone cover overlying 4 to 6-feet of clean soils above the hexavalent chromium impacted soil. (As part of the Bayfront Redevelopment Plan, the engineering control will also include a paved road, walkway or other hardscape. At that time, this Deed Notice will be revised to reflect the revision to the engineering controls.)

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg and soils that are historic fill.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above 20 mg/kg and soils that are historic fill within the Property. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Should the activities carried out in conformance with the applicable portions of the LTMP developed pursuant to the Consent Decree indicate that other activities are necessary, those activities will be listed and executed.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***
- ***A report to determine whether or not the engineering controls continue to operate as designed.***
  A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Docket No. 05-5955(DMC) Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 SOUTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey (hereafter "the Court") issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property then-owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property then-owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with

various properties collectively designated by NJDEP as Study Areas 5, 6 North, which includes the properties formerly owned by JCMUA and JCIA, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* owners of the properties comprising Study Areas 5, 6 South, and 6 North;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the Court (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, Riverkeeper has alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 South property;

Whereas, on April 21, 2008, the Court entered the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North (hereafter "the Study Area 6 North Consent Decree") resolving issues between Honeywell, Riverkeeper, and the Jersey City Entities related to chromium contamination at Study Area 6 North;

Whereas, on April 21, 2008, the district court for the District of New Jersey entered the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with the Study Area 6 North Decree, which resolved claims and cross-claims between Honeywell and the Jersey City Entities;

Whereas, on May 28, 2008, the Court entered the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, on September 3, 2008, the Court entered the Deep Overburden and Bedrock Groundwater Remedies Consent Order (hereafter "the Deep Groundwater Consent Order") resolving all issues related to the remediation of deep overburden and bedrock groundwater in both *ICO v. Honeywell* and the Consolidated Litigation;

Whereas, on May 13, 2011, Plaintiffs sent Honeywell a RCRA citizen action suit notice letter with respect to Site 163, and the Parties agree that the incorporation of Site 163 into this Consent Decree resolves any claims asserted, or that could have been asserted, in the RCRA notice letter or in any RCRA citizen suit with respect to Site 163;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 South that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, Study Area 6 and Study Area 7 consist of parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in

need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 South and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City; and

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Honeywell, the Riverkeeper, and Jersey City as a means to accomplish the aforesaid purposes of this settlement:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **"20 to 1000 Soils"** shall mean those soils containing less than 1000 mg/kg of hexavalent chromium, but greater than 20 mg/kg. **"20 to 240 Soils"** shall mean those soils containing less than 240 mg/kg of hexavalent chromium, but greater than 20 mg/kg.

2. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

3. **COPR** shall mean Chromite Ore Processing Residue.

4. **Chromium Remedy or Chromium Remediation** shall mean the remedy set forth in Article III.

5. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.*, D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator*

Authority v. Honeywell International Inc., D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-022 (DMC).

6. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

7. **Deep Groundwater Consent Order** shall mean the Deep Overburden and Bedrock Groundwater Remedies Consent Order entered by the Court on September 3, 2008, in both *ICO v. Honeywell* and the Consolidated Litigation.

8. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, entered on August 15, 2008, in *ICO v. Honeywell,* and the remedies required under the Deep Groundwater Consent Order.

9. **Development Area of Concern** ("AOC") shall mean those portions of Study Area 6 South in which the hexavalent chromium concentration in the top 20 feet of soil below ground surfaces exceeds a concentration of 20 mg/kg, and for which future uses of the property may include commercial or residential development. The Open Space AOC shall not be part of the Development AOC and vice versa. The Development AOC consists of two parts: the Kellogg Street Development AOC and the Site 163 Development AOC. Collectively, the two parts shall be referred to as the "Development AOC." The approximate boundaries of the Development AOC as a whole and its two parts are shown on Exhibit A, but the boundaries may be further defined in the implementation of the Chromium Remedy. For the Kellogg Street Development AOC, remedial measures shall assume only a residential use. For the Site 163 Development AOC, remedial measures shall be implemented with the goal of unrestricted use, but limitations

on future uses (including prohibiting residential use) in some or all of the Site 163 Development AOC may be part of the remedy as set forth in paragraph 61.

10. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

11. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including 425-445 Route 440 Property LLC, Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

12. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

13. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

14. **Including** shall mean including, but not limited to.

15. **JCIA** shall mean the Jersey City Incinerator Authority.

16. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

17. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

18. **Jersey City/Honeywell Consent Order** shall mean the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. entered in the Consolidated Litigation on April 21, 2008.

19. **"L-Well Groundwater"** shall mean the groundwater found at the depth of the "L" wells on and near the former bowling alley property, NJDEP Site 124, located at 427 Route 440. The L-Well Groundwater is located within what has been referred to as the plume diversion area.

20. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

21. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit B.

22. **Open Space AOC** shall mean the portion of Study Area 6 South that is identified as The Promenade park and Grand Boulevard extending from Route 440 to the Hackensack River on page 39 of the Redevelopment Plan and for which the future uses of the property shall be restricted pursuant to paragraph 74, following remediation pursuant to paragraph 65. The Development AOC shall not be part of the Open Space AOC and vice versa. The approximate boundaries of the Open Space AOC are shown on Exhibit A, and the boundaries may be further defined in the implementation of the Chromium Remedy.

23. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

24. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.*, as amended.

25. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

26. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. § 40A:12A1, *et seq.*, as amended and supplemented.

27. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

28. **Remedial Investigation Work Plan Addendum or RIWP Addendum** shall mean the "Remedial Investigation Work Plan Addendum Study Area 6 South" submitted to NJDEP on June 27, 2008.

29. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

30. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation on May 28, 2008.

31. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

32. **Site** shall mean Study Area 6 South.

33. **Site Preparation Activities** shall mean those activities necessary to begin implementation of the Chromium Remedy in Article III of this Consent Decree, including, if appropriate, the temporary or permanent relocation of current activities and operations conducted on Study Area 6 South.

34. **Soil** shall mean soils, historic fill, and/or COPR.

35. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

36. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

37. **Study Area 5** shall mean that property comprising Sites 79, 90, 117, 153, and 184 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 42 acres and including (a) all such property owned by Bob Ciasulli consisting of Block 1291, Lot 76, and Block 1292, Lots 1F, 47, 48, 53, and 54PL, located at 540 Route 440, Jersey City, New Jersey, (b) all such property owned by Elisabeth and Rafael Rosario consisting of Block 1292, Lot 49, located at 93 Fisk Street, Jersey City, New Jersey, (c) all such property owned by Michael Vo consisting of Block 1292, Lot 50, located at 95 Fisk Street, Jersey City, New Jersey, (d) all such property owned by NJCU consisting of Block 1286, Lots 5 and 6D and Block 1286.5, Lots 1 and 2, Jersey City, New Jersey, (e) all such property owned by Inland Southeast Jersey City LLC consisting of Lot 1, Block 1285.5 located at 440 Route 440, Jersey City, New Jersey, and (f) all such property owned by 425/445 Route 440 Property LLC, consisting of Block 1289.5, Lot E, Jersey City, New Jersey.

38. **Study Area 6 North** shall mean the property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, which is subject to the Study Area 6 North Consent Decree.

39. **Study Area 6 North Consent Decree** shall mean the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North, entered by the Court on April 21, 2008, in the Consolidated Litigation.

40. **Study Area 6 South** shall mean (a) that property currently owned by Bayfront Redevelopment Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Bayfront Redevelopment LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Bayfront Redevelopment LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Bayfront Redevelopment LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Bayfront Redevelopment LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Bayfront Redevelopment LLC located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey; (h) that property currently owned by Bayfront Redevelopment LLC located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey; and (i) that property currently owned by Bayfront Redevelopment LLC, consisting of Site 163, formerly the Colonial Concrete Company, located at 75 Kellogg Street in Jersey City, Hudson County, New Jersey.

41. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

42. **Study Area 7** shall mean (a) that property currently owned by Bayfront Redevelopment LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that

property currently owned by Bayfront Redevelopment LLC located at 465 Route 440, Jersey City, Hudson County, New Jersey.

43. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

44. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

45. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

46. For purposes of this Consent Decree, the Riverkeeper Complaint in the Consolidated Litigation states claims upon which relief may be granted against Honeywell.

47. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 113, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils, shallow groundwater and L-Well groundwater at Study Area 6 South. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 5 or property owned by Regnal Realty consisting of Block 1288.2, lot 1, located at 420 Route 440, Jersey City, New Jersey.

48. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

49. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. General Terms and Requirements

50. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 South at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 South shall be undertaken in accordance with the terms of this Consent Decree.

51. **Designation of Chromium Areas of Concern.** For the purposes of remediation, Study Area 6 South shall consist of two AOC's, designated as the Open Space AOC and the Development AOC as shown approximately on Exhibit A. The exact boundaries of the two AOC's shall be subject to further delineation during the design and implementation of the Chromium Remedy.

52. **Consistency of the Chromium Remedy with NJDEP Guidance and Remedial Action Work Plan.** The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and any Remedial Action Work Plan, including any modifications or addenda approved by NJDEP. Prior to submitting any Remedial Action Work Plan, Honeywell shall take all reasonable steps to ensure that the plan is consistent with the Chromium Remedy. However, this Consent Decree shall have precedence over any Remedial Action Work Plan in the event of any inconsistency. The approved Remedial Action Work Plan is a minimum standard, and the Chromium Remedy may be more protective than the remedy NJDEP approves.

53. **General Scope of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and L-Well groundwater containing total chromium concentrations of 70 µg/l or greater and soil containing hexavalent chromium at concentrations of 20 mg/kg or greater within the top 20 feet of soil below the ground surface, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow and L-Well levels of groundwater (see paragraphs 69 - 72). The deep overburden and bedrock groundwater remediation, including source control, is addressed in the Deep Groundwater Consent Order.

54. **Development of a Schedule for the Chromium Remedy.** The Chromium Remedy shall be carried out diligently, and the development and implementation of any remedy required by NJDEP for non-chromium contamination shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Within 90 days of entry of this Consent Decree, Honeywell shall propose a Master Schedule for the implementation of the Chromium Remedy .

(a) The Master Schedule shall incorporate the following dates:

(i) No later than August 15, 2008, Honeywell shall submit a Chromium Impacted Soils Pilot Test Work Plan to NJDEP and Riverkeeper;

(ii) No later than September 15, 2008, Honeywell shall complete field work in accordance with the RIWP Addendum;

(iii)No later than December 31, 2008, Honeywell shall submit an Initial Treatment Study Report and Remedial Action Work Plan pursuant to paragraph 86(c);

(iv) No later than July 31, 2012, Honeywell shall submit the soil and groundwater data from its 2010 and 2011 supplemental investigation of Site 163, a brief summary report, and

a designation of the boundaries of the Site 163 Development AOC to the Special Master pursuant to paragraph 86(c);

(v) No later than October 1, 2012, Honeywell shall submit an addendum to the Study Area 6 South 100% Design setting forth the 100% Design for the Site 163 Development AOC portion of the Study Area 6 South Chromium Remedy; and

(vi) Honeywell shall undertake, in good faith, to begin implementation of the Chromium Remedy by March 1, 2013.

(b) In addition, the Master Schedule shall propose deadlines for the following milestones:

(i) Submission of all documents subject to submission and review pursuant to paragraph 86(c);

(ii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy;

(iii)Submission, following implementation of the soil components of the Chromium Remedy for the Development AOC, of the groundwater plans and reports required by paragraphs 70 and 72;

(iv)Completion of additional sampling for shallow groundwater delineation pursuant to paragraph 71 and a proposal for a remedy pursuant to paragraph 71, if needed;

(v) The submission of a 50% Design Report for the Chromium Remedy;

(vi) The submission of a 100% Design Report for the Chromium Remedy;

(vii) The date for completion of the installation of the Chromium Remedy;

(viii)Implementation of the long-term protections of the Open Space AOC established pursuant to paragraph 74; and

(ix) Transfer of the Open Space AOC to Jersey City pursuant to paragraph 74(a)(iii).

B. Initial Chromium Remedy Steps: Delineation, Treatment Study, and Remedial Action Work Plan

55. **Delineation of Development AOC.** Honeywell shall conduct further soil sampling on Study Area 6 South in accordance with the RIWP Addendum. In addition to the locations set forth in the RIWP Addendum, Honeywell shall conduct further soil sampling pursuant to the provisions of the RIWP Addendum at the boring locations set forth in Exhibit E. Upon completion of the soil sampling required by this paragraph, Honeywell shall submit a Second Supplemental Remedial Investigation Report that sets forth the results of the sampling and Honeywell's proposal as to the delineation of the Development AOC. In conjunction with its proposal, Honeywell shall set forth its rationale as to whether prior sampling data should be included or excluded in the proposed delineation. The soil sampling and submission of a Second Supplemental Remedial Investigation Report shall be completed in accordance with the Schedule set forth in paragraph 54. Honeywell shall submit the Second Supplemental Remedial Investigation Report pursuant to paragraph 86(c). The Site 163 Development AOC shall be exempt from the requirements of paragraphs 55-58.

56. **Conduct of a Treatment Study in the Development AOC.** Honeywell shall conduct a field study of the efficacy of *in situ* treatment of 20 to 1000 Soils in accordance with the Chromium Impacted Soil Pilot Test Work Plan. The purpose of the pilot test shall be to evaluate whether *in situ* chemical treatment of 20 to 1000 Soils with one or more reductants can result in the permanent establishment of hexavalent chromium concentrations below 20 mg/kg under conditions in those areas of the Development AOC that may be subject to treatment as a remedy. Honeywell shall provide the raw data from the pilot test to NJDEP and Riverkeeper in scientifically useable electronic form as soon as the data become available. Honeywell shall

submit an Initial Treatment Study Report setting forth the initial results of the pilot test pursuant to paragraph 86(c) .

57. **Continued Monitoring of the Treatment Study.** As the result of the need to complete Study Area 7 remediation, to maintain Study Area 7 remediation support operations currently located on Study Area 6 South, and to conduct Site Preparation activities including the relocation of operating businesses on Study Area 6 South in advance of implementation of the Chromium Remedy, the Parties do not anticipate that implementation of field work for the Chromium Remedy will begin until March 1, 2013. Honeywell shall continue to monitor the performance of the pilot test and shall submit a Final Treatment Study Monitoring Report assessing the long term effectiveness of treatment for 20 to 1000 Soils in the Development AOC pursuant to paragraph 86(c) no later than December 31, 2011.

58. **Submission of a Remedial Action Work Plan.** On or before December 31, 2008, Honeywell shall submit a Remedial Action Work Plan for the Chromium Remedy pursuant to paragraph 86(c). The Remedial Action Work Plan shall be consistent with the Chromium Remedy set forth in this Consent Decree.

C. Development AOC Soil Remedy

59. **Remedial Components.** In the Development AOC, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be remediated as follows:

(a) Soils with a concentration greater than 1000 mg/kg shall be:

(i) Excavated and disposed of off-site at a waste disposal facility licensed to accept such waste; or

(ii) Treated *ex situ* and consolidated under the cap in the Open Space AOC provided the requirements of paragraphs 60 and 63 are satisfied and provided that such soils do not

require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a).

(b) 20 to 1000 Soils shall be:

(i) Excavated and consolidated within the Open Space AOC provided that such soils do not require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a); or

(ii) Excavated and disposed of off-site pursuant to the requirements of paragraph 59(a); or

(iii) Remediated pursuant to paragraphs 59(c) or 59(d) provided that such soils are also 20 to 240 soils and meet the requirements of paragraphs 59(c) or 59(d).

(c) 20 to 240 Soils may be remediated by excavation and consolidation within the Study Area 6 North AOC 1 Open Space Area, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy.

(d) 20 to 240 Soils within the Site 163 Development AOC may be remediated by *in situ* treatment, provided the requirements of paragraph 61 are satisfied.

60. **Treatment and Consolidation of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** *Ex situ* treatment and consolidation under the Open Space AOC cap may be used as a remedial component for soils containing greater than 1000 mg/kg hexavalent chromium provided that the requirements of this paragraph are satisfied:

(a) Honeywell demonstrates in the Final Treatment Study Monitoring Report that the proposed treatment will likely result in the reduction of the hexavalent chromium concentration of the treated soils such that the post-treatment total chromium concentration shown by Toxicity

Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C);

(b) Following a review of the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d), NJDEP agrees that Honeywell has made the demonstration required by paragraph 60(a).

(c) Plaintiffs have had an opportunity to review and comment on the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d)and pursuant to the Special Master review process set forth in paragraphs 86(e)-86(f); and

(d) Following review of the demonstration required by paragraph 60(a) pursuant to the Special Master review process set forth in paragraph 86(f), the Special Master issues a recommendation finding that Honeywell has made the demonstration required by paragraph 60(a) or the Court finds that Honeywell has made the demonstration required by paragraph 60(a) in the event that any Party seeks the Court's review of the Special Master's recommendations under this paragraph.

61. **Treatment as a Remedial Component for 20 to 240 Soils.** *In situ* treatment may be used as a remedial component for the 20 to 240 Soils in the Site 163 Development ACO, provided that such soils are 3 feet or more below ground surface and the requirements of this paragraph are satisfied:

(a) If Honeywell elects to treat *in situ* 20 to 240 Soils in the Site 163 Development AOC, Honeywell shall include in the 100% Design Addendum for Site 163 a plan for such treatment. Such treatment plan shall be comparable in detail and approach to the pipeline treatability plan which is Appendix F to the Study Area 6 North 100% Design. The goal of such *in situ* treatment

shall be to reduce hexavalent chromium soil concentrations to less than 20 mg/kg in soils 20 feet or less below ground surface;

(b) Three years after conducting the treatment set forth in subparagraph (a), Honeywell shall collect additional soil samples in the treated areas to evaluate the success of the treatment. These soil samples shall be analyzed for EH, pH, hexavalent chromium (using EPA/NJDEP Methods 3060A/7199), and sulfides (using EPA Method 9030B). Within 60 days of its receipt of the final data from such sampling, Honeywell shall submit a report with such data to the Special Master pursuant to paragraph 86(c);

(c) In the event that the sampling pursuant to subparagraph (b) shows that soils with greater than 20 mg/kg hexavalent chromium remain or that excess treatment reductant remains present, Honeywell may elect to pursue one or more of the following approaches after providing notice to the Special Master, Riverkeeper and the Jersey City Entities;

(i) In the case of excess treatment reductant remaining in the soil, continue to monitor such areas pursuant to subparagraph (b) until the excess reductant is no longer present;

(ii) In the case of soils with greater than 20 mg/kg hexavalent chromium:

(1) Excavate such soils and consolidate them under the cap in the Open Space AOC, consolidate them under the cap in the Study Area 6 North AOC 1 Open Space Area, and/or dispose of them off-site provided that in each instance the applicable requirements of paragraph 59 are satisfied;

(2) Conduct further *in situ* treatment using additional treatment reductant and submit a monitoring plan pursuant to paragraph 64; or

(3) In the event that the soils are within the areas depicted as River Front Park, Riverfront Drive or Kellogg Street on page 39 of the Redevelopment Plan, cover the affected

soils with a road, walkway, and/or other hardscape and restrict the use of that area through each of the following institutional controls:

(a) Issuance and recording of a conservation restriction comparable to that required under paragraphs 74(b) and 74(d);

(b) Transfer of title to that area to Jersey City pursuant to paragraphs 74(a)(iii) through 74(a)(iv)(2); and

(c) Issuance and recording of a deed notice comparable to that required under paragraphs 74(c) and 74(d).

62. **Submissions Related to Site 163.** Pursuant to the Schedule, Honeywell shall prepare and submit the following with regard to Site 163:

(a) A summary report of all chromium soil and groundwater data collected during site investigations in 2010 and 2011; and

(b) An addendum incorporating Site 163 into the 100% Design.

63. **Post-Treatment Analysis of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** In the event that *ex situ* treatment is used as a final remedy for any portion of the soils containing greater than 1000 mg/kg pursuant to paragraph 59(a)(ii), Honeywell shall conduct post-treatment analysis of each treated batch of soil to demonstrate that the treatment has resulted in the reduction of the hexavalent chromium concentration such that the post-treatment total chromium concentration shown by Toxicity Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C). Such monitoring and demonstration shall be made prior to consolidation of the treated soils under the Open Space AOC cap pursuant to paragraph 59(a)(ii). In the event that Honeywell fails to make the demonstration required by this paragraph,

Honeywell shall dispose of the soils off-site at a waste disposal facility licensed to accept such waste.

64. **Post-Treatment Monitoring for 20 to 1000 Soils.** In the event that *in situ* treatment is used as a final remedy for any portion of the 20 to 1000 Soils, Honeywell shall conduct post-treatment monitoring to demonstrate that the treatment has resulted in permanent hexavalent chromium concentrations of less than 20 mg/kg in the treated area. Honeywell shall propose a program of post-treatment monitoring in a document that is submitted pursuant to paragraph 86(c). In the event that Honeywell fails to make the demonstration required by this paragraph, Honeywell shall propose further remedial actions pursuant to paragraph 59 in a document that is submitted pursuant to paragraph 86(c).

D. Open Space AOC Components of the Chromium Remedy

65. **Open Space AOC Soil Remedy.** In the Open Space AOC, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, pursuant to paragraph 59(b)(i), shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of a gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the Open Space AOC. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the Open Space AOC shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the

two feet of clean fill required by paragraph 65(c). Excavated 20 to 1000 Soils from the Development AOC shall be placed and spread in the Open Space AOC under the cap. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

E. Demolition, Grading, and Backfill Requirements

66. **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community from airborne dusts and exposures to contaminated soils.

67. **Backfill Requirements.** Soils excavated from the Development AOC shall be replaced with backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

68. **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

F. Groundwater Components of the Chromium Remedy

69. **Shallow Groundwater Remedy for the Open Space AOC.** The Open Space AOC shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing

above the meadow mat in the Open Space AOC to the extent that such groundwater contains total chromium in concentrations in excess of 70 µg/l. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 South and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the southern, eastern and western sides of the Open Space AOC and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that shall consist of (i) one or more shallow extraction wells, sumps, or french drains within the Open Space AOC; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater within the Open Space AOC;

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP regulations.

70. **The Shallow Groundwater Remedy for the Development AOC.** Following implementation of the Development AOC soil components of the Chromium Remedy, Honeywell shall submit a report to (a) determine whether shallow groundwater remaining in the

Development AOC exceeds 70 µg/l total chromium and, (b) if so, evaluate the need for further remedial measures to address any such shallow groundwater remaining in the Development AOC with total chromium concentrations in excess of 70 µg/l. This evaluation shall be subject to review and comment by the Parties and approval by the Special Master.

(a) In the event that the evaluation demonstrates that further remedial measures are necessary, Honeywell shall propose such measures subject to review and comment by the Parties and approval by the Special Master;

(b) The capture zone of any remedy shall include at least the entire area of contaminated shallow groundwater except for shallow groundwater that is captured and subject to the shallow groundwater remedy for the Open Space AOC pursuant to paragraph 69;

(c) In the event that a pump-and-treat system is selected as a contingency measure for shallow groundwater in the Development AOC, all infrastructure for the pump-and-treat contingency system that is needed to ensure that the contingency system is fully operational, as required by paragraph 70(d), shall be installed prior to or in conjunction to any development of the Site. This includes at least one shallow extraction well, sump, or french drain, and the piping to convey any extracted groundwater to Honeywell's water treatment plant;

(d) If it is determined that the pump-and-treat contingency system must be activated, the pump-and-treat system shall be operational no later than six months after the date of the determination.

71. **Off-Site Shallow Groundwater Remedy.** Honeywell shall propose additional sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site. Honeywell shall submit a report of the results of such sampling and, in the event that contaminated shallow groundwater is found to extend off-site, a proposal for a remedy based on

such results. The report and the proposal for a remedy shall be subject to review and comment by the Parties and approval by the Special Master.

72. **L-Well Groundwater Remedy.** At the time this Decree is entered, the L-Well Groundwater is contained and not contributing to further contamination of surrounding waters and/or soils. However, in order to verify that this status continues following implementation of the Chromium Remedy, including any groundwater remedial measures pursuant to paragraphs 70 and 71, Honeywell shall propose a plan for one round of monitoring designed to evaluate whether the L-Well Groundwater remains contained. The plan shall include monitoring for total and hexavalent chromium and major ion chemistry to determine whether there has been movement in the L-Well Groundwater.

(a) In the event that no substantial change is detected in the major ion chemistry, no further action is required unless paragraph 72(c) is applicable.

(b) In the event that substantial changes are detected in the major ion chemistry, Honeywell shall propose a plan for further monitoring of the L-Well Groundwater. Such a plan shall be subject to review and comment by the Parties and approval by the Special Master.

(c) In the event that the initial monitoring or monitoring conducted pursuant to paragraph 72(b) demonstrates that proximate waters have total chromium concentrations in excess of 70 µg/l, regardless of whether there is a change in the major ion chemistry, Honeywell shall propose a remediation plan for the L-Well Groundwater. Such remediation plan shall be subject to review and comment by the Parties and approval by the Special Master.

G. Permits and Authorizations

73. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article.

H. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

74. **Protection of the Open Space AOC.** Except as provided in paragraphs 74(j) and 74(k), development in the Open Space AOC shall be prohibited. The Open Space AOC shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the Open Space AOC pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54:

(a) **Ownership of and Access to the Open Space AOC.** Ownership of and access to the Open Space AOC shall be in accordance with the following:

(i) Bayfront Redevelopment LLC, as the current owner in fee simple absolute of all property that comprises the Open Space AOC, shall not convey any rights or interests in any parcel that comprises the Open Space AOC property except as provided in this Decree. Within 90 days of entry of this decree, Bayfront Redevelopment LLC shall give Jersey City an option to buy all of the Open Space AOC property prior to the planned transfer pursuant to paragraph 74(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall exercise the option to buy the Open Space AOC in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 98(c) or 98(d) are met;

(ii) Within 90 days of the entry of this Consent Decree, Bayfront Redevelopment LLC shall grant a conservation restriction for the Open Space AOC pursuant to the requirements of paragraph 74(b);

(iii) Upon the final construction of all roads and utility corridors within the Open Space AOC, Bayfront Development LLC shall donate good and marketable title to all the land comprising the Open Space AOC to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 South to create a new parcel(s) comprising the Open Space AOC. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the Open Space AOC by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the Open Space AOC unless and until it shall have complied with the requirements of paragraph 74(a)(iv);

(iv)After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the Open Space AOC to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the Open Space AOC to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the Open Space AOC and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the Open Space AOC pursuant to this paragraph

and routine maintenance of the permissible development in the Open Space AOC pursuant to paragraph 78(d); or

(2) The Open Space AOC has been remediated such that no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** Prior to the grant of the option to buy pursuant to paragraph 74(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the Open Space AOC substantially in the form set forth in Exhibit C. Exhibit C is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 74(j) and 74(k), including the construction and placement of roads and utilities. The Conservation Restriction shall also allow for current uses of the Open Space AOC to continue until such time as construction of the Chromium Remedy begins. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the Open Space AOC as set forth in paragraphs 74(j) and 74(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph 74(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the Open Space AOC shall be subjected to the deed notice substantially in the form set forth in Exhibit D that restricts

future activities on the Open Space AOC. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the Open Space AOC pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 74(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 74(b), and the deed notice imposed pursuant to paragraph 74(c) shall be recorded, pursuant to N.J.S.A. §§ 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the Open Space AOC. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the Open Space AOC in the real estate records related to the Open Space AOC.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the Open Space AOC is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 74(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the Open Space AOC, Jersey City shall add those portions of the Open Space AOC not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. § 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor,

maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 74(j) and 74(k); and (iv) the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the Open Space AOC have been added to its ROSI, such that those portions of the Open Space AOC shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the Open Space AOC is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 74(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the Open Space AOC subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the Open Space AOC under the statute. If the Parties are unable to reach agreement on establishment of an environmental covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the Open Space AOC without

unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the Open Space AOC. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the Open Space AOC if they would provide substantial additional protection for the Open Space AOC without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in Open Space AOC.** Only development satisfying the requirements of this paragraph and paragraph 74(k) shall be permitted in the Open Space AOC. All other development in the Open Space AOC shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the Open Space AOC regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 74(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the Open Space AOC shall be the development undertaken following the completion of the Chromium Remedy in the Open Space AOC. The Initial Development may occur in one or more phases. Honeywell and Bayfront

Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 74(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the Open Space AOC shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 74(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the Open Space AOC, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 74(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 74(b), and the Redevelopment Plan; however, in the

event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the Open Space AOC, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 74(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 86(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 86(e) and 86(f) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the Open Space AOC shall require the preparation and submission of a Development Plan pursuant to

paragraph 74(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 74(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and Jersey City. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and Jersey City for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix)During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 74(j)(v) and 74(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 74(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 74(j)(v); or

(3) The development meets the requirements of paragraphs 74(j)(v) and 74(j)(xi), and Jersey City provides notice of its intention to alter or add to the development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 74(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 74(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holder(s) of the conservation restriction established pursuant to paragraph 74(b) with an annual report that describes any alterations or additions, including those activities under paragraph 74(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the Open Space AOC.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 74(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the Open Space AOC, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 74(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 74(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the Open Space AOC of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

75. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

76. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 65, 69, 68, 69, 72, and 77. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

77. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the Open Space AOC.

78. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 77. Honeywell shall provide Riverkeeper, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the Open Space AOC to ensure that it is not being put to any use that is inconsistent with paragraphs 74(j) and 74(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 74 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the Open Space AOC is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the Open Space AOC grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii)Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the Open Space AOC such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv)A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the Open Space AOC has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 65(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and

the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the Open Space AOC to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii)Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 69(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the Open Space AOC.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed

subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by the Court.

(c) **Contingency Plan**. As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance**. The title owner of the Open Space AOC shall conduct maintenance of the Open Space AOC features or facilities that are permissible under paragraphs 74(j) and 74(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the Open Space AOC or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of Open Space AOC shall annually provide to the other Parties and

the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the Open Space AOC shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the Open Space AOC identified by its workers during routine maintenance.

(e) **Recordkeeping**. Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring Plan. Such logs shall be provided to Riverkeeper on a quarterly basis.

79. **Monitoring and Reporting to Riverkeeper.** Riverkeeper shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 86(c).

80. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the Open Space AOC; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 78 and annual reports on changes to the Initial Development as required by paragraph 74(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The public provision of the maps and documents referred to in paragraph 80(b)(ii) via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

81. **Annual Letter to Riverkeeper on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 80, Honeywell shall provide a letter to the Riverkeeper documenting its compliance with paragraph 80.

82. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

83. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

I. Oversight and Enforcement by the Special Master and NJDEP

84. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.I.

85. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the Open Space AOC. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of any non-chromium related remedy, any site preparation activities, and any site redevelopment activities do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

86. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority**. Nothing in or pursuant to this Consent Decree shall limit NJDEP's full statutory and regulatory authority with respect to the Study Area 6 South site, including (i) permitting authority; (ii) authority to review and approve the Treatment Study reports, the Remedial Action Work Plan, the 100% Design, and final Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities**. The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting bi-monthly progress reports to the Court pursuant to the schedule for the submission of such reports established in *ICO v. Honeywell*;

(vi) Overseeing the financial assurances established pursuant to paragraphs 91 through 100, and, until the expiration of his term pursuant to paragraph 90, overseeing the financial assurances established pursuant to paragraphs 101 through 112;

(vii) Coordinating review of the documents as provided in paragraphs 86(c) through 86(g);

(viii) Overseeing all development undertaken in the Open Space AOC during the Initial Development Period pursuant to paragraph 74(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, Jersey City, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule") consistent with paragraph 54 above;

(ii) A Second Supplemental Remedial Investigation Report reporting the results of the field work conducted pursuant to paragraph 55;

(iii)A Chromium Impacted Soils Pilot Test Work Plan and Analytical Protocol for conduct of the treatment study pursuant to paragraph 56, unless such documents are agreed to by NJDEP and Riverkeeper before the entry of this Consent Decree;

(iv)An Initial Treatment Study Report for the Development AOC;

(v) A Final Treatment Study Monitoring Report;

(vi) The documents for Site 163 submitted pursuant to paragraphs 54(a)(iv), 54(a)(v), 61, and 62;

(vii) A report to evaluate the need for remediation of any potentially remaining contaminated shallow groundwater in the Development AOC after implementation of the Development AOC Soils Remedy and, based on such an evaluation, a proposal;

(viii) A report of the results of the sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site pursuant to paragraph 71 and, based on the results, a proposal for a remedy;

(ix) A plan for one round of monitoring to evaluate whether the L-Well Groundwater remains contained pursuant to paragraph 72;

(x) A proposal for a remedy of the L-Well Groundwater, in the event L-Well Groundwater monitoring indicates the contaminated groundwater is no longer contained, pursuant to paragraph 72;

(xi) A Remedial Action Work Plan;

(xii) A 50% Design Report (which may include the Development AOC Conceptual Design Plan as a component) as well as design drawings and specifications at the 50% level for other components of the Chromium Remedy (hereinafter the 50% Design);

(xiii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(xiv) The data validation plan, including quality control and quality assurance protocols;

(xv) The site-wide master health and safety plan;

(xvi) The Long-Term Monitoring Plan;

(xvii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(xviii) A program for post-treatment monitoring pursuant to paragraph 63, and, depending on such results, a proposal for further remedial actions;

(xix) A report reviewing measured groundwater levels for the groundwater remedy;

(xx) Documents required during the Initial Development Period pursuant to paragraphs 74(j)(vi), 74(j)(vii), and 74(j)(viii); and

(xxi) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Initial Review of Documents by NJDEP.** The Parties and Special Master shall allow the period of time set forth below for NJDEP to conduct its review of a submission (hereinafter "NJDEP Review Period") before the document is subject to the Special Master review and approval process. During the NJDEP Review Period, any Party may submit comments to NJDEP. For the Second Supplemental Remedial Investigation Report, the Remedial Action Work Plan, the Initial Treatment Study, and the Final Treatment Study Monitoring Report, the NJDEP Review Period shall be 90 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. For any other documents identified in paragraph 86(c), the NJDEP Review Period shall be 30 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. The NJDEP review period shall be extended an additional 30 days for any document for which NJDEP provides the Parties and the Special Master with notice that its review will require an additional 30 days. At the conclusion of the NJDEP Review Period, the comment and review process provided for in paragraphs 86(e) and 86(f) shall commence. In the event that any document has been revised during the NJDEP Review Period, Honeywell shall resubmit the applicable document for purposes of the comment and review provided for in paragraphs 86(e) and 86(f).

(e) **Comment on Submitted Documents**. For each of the documents submitted by Honeywell pursuant to paragraph 86(c), and following conclusion of the NJDEP Review Period as described in paragraph 86(d), the Special Master shall establish a schedule for the submission

of comments and responses to comments. For each of the documents submitted, Riverkeeper, Jersey City, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all comments received and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, Jersey City, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 86(f), unless the Parties agree both on the revised document and that further review and approval pursuant to paragraph 86(f) is unnecessary. In that event, the Parties shall inform the Special Master that review under paragraph 82(f) is unnecessary and Honeywell shall proceed to implement the revised document.

(f) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review**. Subject to the limitations in paragraph 82(e), all documents submitted by Honeywell, pursuant to paragraph 86(c) and 86(e), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 86(g). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure**. Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within

the timeframe established by the Special Master in the schedule for comments pursuant to paragraph 86(e). NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review**. If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(g) **Schedule and 100% Design Documents**. As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(h) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The

Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(i) **Changes to the Schedule.** The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54; and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

87. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 89.

88. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Sediment Consent Order. The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

89. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

90. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 74(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 74(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, the Study Area 6 North Consent Decree, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities

shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

J. Initial Financial Assurances

91. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy calculated using factors, including inflation and discount rates, determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process;

(ii) The costs of monitoring and maintenance activities for five years, as required by the Long-Term Monitoring Plan, calculated using factors including inflation and discount rates determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 91(a)(i) and 91(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

92. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than December 31, 2008, Honeywell shall submit to Riverkeeper and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If Riverkeeper does not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

93. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 94, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.J, the Special Master shall direct the cancellation of the prior Chromium Remedy

Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

94. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 91(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.K. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and

in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such terms. If Honeywell is not otherwise in default as provided in Article III.J and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

95. **Bankruptcy Protection**. Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

96. **Exclusive Court Jurisdiction**. The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

97. **Application of New York Law.** The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Chromium Remedy Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

98. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 85, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 93 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from

drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 98(c), and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

99. **Placement of Proceeds in Court Registry Investment System Account**. In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The

Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 103(b)(v).

100. **Termination of Chromium Remedy Letter of Credit**. The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.K.

K. Long-Term Financial Assurances

101. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 102(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

102. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater remedies pursuant to paragraphs 69, 70, and 71;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) The perpetual administration of the trust fund regardless of whether such trust fund is selected by Honeywell pursuant to paragraph 103(a) or is established from the Long-Term Letter of Credit pursuant to paragraphs 103(b)(ii), 103(b)(v), or 109.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 102(a)(i) through 102(a)(v) plus a 25% contingency when the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of the estimated future costs of the activities specified in paragraphs 102(a)(i) through 102(a)(v), plus a 25% contingency on those costs.

103. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution managing the

trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 102(a)(i) through 102(a)(iv).

(b) **Long-Term Letter of Credit**. In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 103(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 106.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of

Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(iii) The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits) as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Long-Term Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 98. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a). After the Special Master's appointment expires pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 103(b)(ii), 103(b)(v), or 109 and Honeywell has also selected a trust fund pursuant to paragraph 103(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(c) **Combination**. Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 103(a) and 103(b).

104. **Procedures for Review of the Proposed Long-Term Financial Assurances**. No later than June 1, 2009, Honeywell shall submit to Riverkeeper and the Special Master, for their review (a) the amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper agrees to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances.

105. **Temporary Maintenance of Chromium Remedy Letter of Credit**. Until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 91 in an amount equal to at least $20,000,000 in 2008 dollars. In the event of any default by Honeywell pursuant to paragraph 98 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 103(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under

paragraph 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), shall apply.

106. **Adjustment of Amount Held in Long-Term Financial Assurances**. Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 103, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to

long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 103(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 103(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 103(b).

107. **Exclusive Court Jurisdiction**. The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 103(a), 103(b)(ii), 103(b)(v), or 109.

108. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 103(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 108(c), if Honeywell fails to provide assurance to Riverkeeper, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

109. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or pursuant to paragraph 108 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be

paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

110. **Use of the Trust Fund in the Event of Honeywell's Default.** In the event of Honeywell's default, as defined in paragraphs 108(a) through 108(d), the money in the trust fund established pursuant to paragraph 103(a) shall be available to meet the obligations of paragraph 102(a), as well as for payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

111. **Use of a Trust Fund Established Pursuant to Paragraph 99, 103(b)(ii), 103(b)(v), or 109.** In the event that a trust fund is established pursuant to paragraph 99, 103(b)(ii), 103(b)(v), or 109, the money in the trust fund shall be available to meet the obligations of paragraph 102(a), as well as for the payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

112. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations under Article III.K shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the Open Space AOC or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive

standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: TERMINATION

113. **Termination of this Consent Decree**. This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 118:

(a) The Court fails to enter this Consent Decree or this Consent Decree is determined to be invalid on appeal; or

(b) NJDEP takes one of the following actions with respect to the Remedial Action Work Plan:

(i) Rejects or fails to approve the Remedial Action Work Plan for the Chromium Remedy within 180 days of submission of the plan;

(ii) Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in more than a 50% increase in the estimated costs of the Chromium Remedy as set forth in Article III; or

(iii)Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in a substantial reduction of the protection of human health and/or the environment.

114. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 113 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 113 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

115. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 113.

116. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 113, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 113, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: TRANSFER OF TITLE TO BAYFRONT REDEVELOPMENT LLC

117. **Transfer of Title of Study Areas 6 South and 7 to and from Bayfront Redevelopment LLC.** The transfer of title of Study Area 6 South and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of

Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 South and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 South or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 South and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 South under this Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell*.

ARTICLE VI: NOTICE

118. **Notice**. Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE VII: RIVERKEEPER'S ATTORNEYS' FEES

119. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $813,000.00 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 South portion of *Riverkeeper v. Honeywell* through August 31, 2008; and

(b) $353,746.67 in out-of-pocket expenses representing a portion of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses paid pursuant to the Sediment Consent Order, the Deep Groundwater Consent Order, and the Study Area 6 North Consent Decree.

(c) Payment of the sum of $813,000.00 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $879,317.92 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

120. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after August 31, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to

Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order. In the event of Honeywell's default, Riverkeeper may seek attorneys' fees from any trust fund or court registry funds established pursuant to the financial assurances provisions of this Consent Decree.

ARTICLE VIII: MISCELLANEOUS PROVISIONS

121. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

122. **Bayfront Redevelopment LLC as a Party.** As a signatory to this Consent Decree, Bayfront Redevelopment LLC subjects itself to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agrees to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against Bayfront Redevelopment LLC.

123. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

124. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

125. **Reservation of Rights and Claims.** Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

126. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

127. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

128. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

129. **Measures to Effectuate This Consent Decree.** Jersey City shall take all appropriate steps to ensure that commitments it has agreed to with regard to the Open Space AOC have been duly considered, ratified, and approved. Such steps include consideration of such commitments and an effectuating ordinance at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the commitments made by Jersey City..

130. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

131. **Severability.** Each of the provisions in paragraph 74 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

132. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/ David Sheehan

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45 Rockefeller Plaza
11th Floor
New York, NY 10111
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Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Remedial AOC's and Remedial Approach Map

Exhibit B: NJDEP Chromium Policy

Exhibit C: Conservation Restriction

Exhibit D: Deed Notice

Exhibit E: Additional Boring Locations

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

DRAFT DEED NOTICE

IN ACCORDANCE WITH N.J.S.A. 58:10B-13, THIS DOCUMENT IS TO BE RECORDED IN THE SAME MANNER AS ARE DEEDS AND OTHER INTERESTS IN REAL PROPERTY.

Prepared by: _____
[Signature]

_____
[Bayfront Redevelopment LLC]

Recorded by:

_____
[Signature, Officer of County Recording Office]

_____
[Print name below signature]

DEED NOTICE CONCERNING CONTROLS INSTALLED FOR CHROMIUM CONTAMINATION UNDERLYING THE PROPERTY

This Deed Notice is made as of the __ day of _____, 2017, by ***Bayfront Redevelopment LLC, whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950***. "Owner" shall mean Bayfront Redevelopment LLC together with its successors and assigns, including all successors in interest in the Property which is the subject of this Deed Notice as described fully below. The Property (also referenced herein as the "Restricted Area(s)") shall consist of those lands particularly described by metes and bounds in Exhibit A-2 attached.

1. THE PROPERTY. Bayfront Redevelopment LLC is the current owner in fee simple of certain real property designated as a portion of ***Block 24601, Lot 1 and Block 21901 Lots 8 and 10 on the tax map of the City of Jersey City, Hudson County, New Jersey***[1]; the New Jersey Department of Environmental Protection Program Interest Numbers for the contaminated site which includes this property are ***Hudson County Chromate Site No. 073 Program Interest ("PI") No. G000000927 and Hudson County Chromate Site No. 115 PI No. G000002548*** (NJDEP PI# for non-chromium-related contaminants at the Property is #745719). The Property is located between the Hackensack

[1] All references to Block 24601 Lot 1 and Block 21901 Lots 8 and 10 in this Deed Notice shall mean those applicable portions of Block 24601 Lot 1 and applicable portions of Block 21901 Lots 8 and 10 as shown in the metes and bounds description, regardless of whether the word "portion(s)" is specifically called out or not.

River bulkhead and the western hydraulic barrier walls installed within Study Areas 6 South and 7 as shown on Exhibit B-1, attached hereto. A portion of the Property (Tract 1) is part of the site referred to as Study Area 7 (Site 115) and the subject of an Administrative Consent Order (ACO) between Honeywell International Inc. ("Honeywell") and the Department dated June 17, 1993, and a Court-Ordered Remedy pursuant to the U.S. District Court for the District of New Jersey ("Court") Final Judgment in *Interfaith Community Organization v. Honeywell International Inc*., Case No. 95-2097, entered on June 30, 2003. The second portion of the Property (Tract 2) is subject to the ACO and to litigation captioned *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J. Civ. No. 05-5955, and *Jersey City Incinerator Authority v. Honeywell International Inc.*, D.N.J. Civ. No. 05-5993. Study Area 7 was previously remediated by Honeywell and received a No Further Action/Covenant Not to Sue letter, dated December 23, 2010, which did not include Tract 1. Tract 2 of the Property is part of the site referred to as Study Area 6 South (Site 073) for which Honeywell recently completed the Chromium Remedy pursuant to the First Amended Consent Decree Regarding the Remediation and Redevelopment of Study Area 6 South ("Consent Decree") which is attached hereto as Appendix I and is entered as an order of the Court in the following consolidated actions *JCMUA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-05955; *JCIA v. Honeywell International, Inc.,* D.N.J., Civ. No. 05-5993; and *Hackensack Riverkeeper, Inc. v. Honeywell International, Inc.,* D.N.J., Civ. No. 06-22 (consolidated under Civ. No. 95-2097). The Consent Decree restricts transfer, use, and development of the Property. To the extent that there is any conflict or inconsistency between the terms of this Deed Notice and the terms of the Consent Decree, the Consent Decree shall govern.

2. REMEDIATION.

i. The Department's Bureau of State Case Management (BCM) is the entity within the Department that is responsible for the chromium oversight of the remediation of SA-6 South and SA-7. The matter for SA-6 South was Hudson County Chromate Site No. 073 Program Interest (PI) No. G000000927. The matter for SA-7 was Hudson County Chromate Site No. 115 PI No. G000002548. The Department has approved this Deed Notice as an institutional control for the Property, which is part of the remediation of the Property.

ii. N.J.A.C. 7:26-C-7 requires the Owner, among other persons, including the responsible party Honeywell International Inc. ("Honeywell"), to obtain a soil remedial action permit for the soil remedial action at the Property. That permit will contain the monitoring, maintenance and biennial certification requirements that apply to the Property.

3. SOIL AND GROUNDWATER CONTAMINATION. Honeywell, a corporation of the State of Delaware, licensed to do business in the State of New Jersey whose post office address is 115 Tabor Road, Morris Plains, New Jersey 07950, has remediated SA-6 South and SA-7 to address chromium-related soil and shallow groundwater contamination, except for the Property and certain other deed noticed areas where engineering controls were implemented.

For SA-6 South, the Remedial Action Work Plan ("RAWP") was approved by the Department on March 24, 2009 for Hudson County Chromate Site Nos. 073, 124, 125, 134, and 140, which included portions of the Property. Remedial actions were further approved pursuant to the Consent Decree. Under both the Consent Decree and the RAWP, soil contamination remains in the

Property at concentrations that do not allow for the unrestricted use of the Property. A Remedial Action Report ("RAR") for SA-6 South was submitted to the Department on February 8, 2017. The Department approved the RAR on March 30, 2017. A Construction Completion Report ("CCR") for SA-6 South to document the implementation of the Chromium Remedy pursuant to Article III of the Consent Decree (the "Chromium Remedy") to address chromium-impacted soil and groundwater for SA-6 South was entered by the Court on [DATE], [CITE TO DOCKET AND DOCKET #].

For SA-7, the Court-Ordered Remedy 100% Design was approved by the Court on March 14, 2005. Remediation was completed to comply with the court order to remove all materials containing hexavalent chromium in excess of 240 milligrams per kilogram ("mg/kg"). The remedial action achieved compliance with the Department's current most stringent soil cleanup criteria of 20 mg/kg, with the exception of a small portion of the Property at the bulkhead along the Hackensack River where excavation was technically impractical (the Technically Impracticable Area (or "TI Area")) (*i.e.*, Tract 1). Completion of the excavation remedy at SA-7 was acknowledged by the Court in the Amended Order Modifying the Judgment, January 13, 2012, ECF No. 1116, in Interfaith Community Organization v. Honeywell International Inc., Civ. No. 95-2097. Remedial actions for soils are also documented in a Remedial Action Report for Soils ("RAR") submitted to the New Jersey Department of Environmental Protection during December 2010.

The Property is comprised of two tracts of land; Tract 1 is on a portion of SA-7 and Tract 2 is on a portion of Site 073 on SA-6 South. Tract 1 is an approximately 22,323 square foot area on SA-7 between the bulkhead and the western hydraulic barrier installed at SA-7. Tract 1 includes the western hydraulic barrier of SA-7. Tract 1 is the "Technically Impracticable Area or TI Area" identified in the SA-7 RAR. NJDEP issued a conditional No Further Action letter for SA-7 soils on December 23, 2010, that excludes the TI Area. Soils within Tract 1 do not meet the 20 mg/kg objective in the NJDEP Chromium Policy. Tract 1 soils exceeding 20 mg/kg hexavalent chromium are covered by at least 7 feet of clean soils. Tract 1 will not be remediated by Honeywell; instead the 7-foot thick clean soil cap will remain in place and Tract 1 will be subject to this Deed Notice. Tract 1 also includes two steel sheetpile "wing walls" that project toward the bulkhead from the northern and southern corners of the hydraulic barrier intersections. These wing walls are part of the SA-7 Remedy in that they act to minimize re-contamination of the clean backfill material placed in the TI area from either the north or south. The Riverwalk feature including bulkhead improvements, additional fill soils and hardscape features will be constructed over the top of the Tract 1 Deed Notice Area. The provisions of the Long Term Monitoring Plan ("LTMP"), developed pursuant to the Consent Decree, will apply to Tract 1 of the Property.

Tract 2 is an approximately 11,689 square foot area adjacent to the bulkhead partially between the western boundary of the SA 6 South western hydraulic barrier wall and the bulkhead and extending south. The 100% Design plan for the Tract 2 area was to excavate the top 4 feet of soils within the area and defer additional excavation below a depth of 4 feet until implementation of the Bayfront Redevelopment Project when the bulkhead will either be repaired or replaced. Because an approximately 5-foot thick concrete slab was unexpectedly encountered while excavating in this area and because removal of this concrete would jeopardize the integrity of the bulkhead, excavation of residual chromium-impacted soil at any depth in Tract 2 will be coordinated with

bulkhead improvement work to be implemented during the Bayfront Redevelopment Project. Tract 2 soils exceeding 20 mg/kg hexavalent chromium are covered by at least 1 foot of clean soils.

Honeywell is instituting this deed notice on the Property (both Tracts 1 and 2 together). Once the remediation of the Tract 2 area is complete (*i.e.*, the excavation of soils with hexavalent chromium concentration of 20 mg/kg or greater to a depth of 20 feet below ground surface), Honeywell will terminate the deed notice for Tract 2 consistent with the requirements of Paragraph 13 below. In the meantime, the provisions of the LTMP, developed pursuant to the Consent Decree, will apply to Tract 2 of the Property.

The soil contamination is described, including the type, concentration and specific location of such contaminants, in Exhibit B, which is attached hereto and made a part hereof. Groundwater contaminant concentrations and restrictions for SA-6 South in its entirety are addressed in the Classification Exception Area (CEA) approved by the NJDEP on February 16, 2012 and in a forthcoming Remedial Action Permit for Groundwater (recent groundwater samples collected in the Tract 1 portion of the Property do not indicate shallow groundwater contamination within the Property). As a result of the remaining soil contamination, there is a statutory requirement for this Deed Notice and engineering controls in accordance with N.J.S.A. 58:10B-13. Under the terms of the Consent Decree (for Tract 2), Honeywell is responsible for monitoring and maintaining the soil remediation for the Property in perpetuity or until remediation is implemented that renders this Deed Notice unnecessary.

4. CONSIDERATION. In accordance with the Department's approval of the chromium RAWP for the Hudson County Chromate Site Nos. 073, 124, 125, 134, and 140 and the Department's issuance of the No Further Action/Covenant Not to Sue letter for soils at SA-7, and in consideration of the terms and conditions of that approval, and in accordance with the Consent Decree, and other good and valuable considerations, Owner has agreed to subject the Property to certain statutory and regulatory requirements which impose restrictions upon the use of the Property, to restrict certain uses of the Property, and to provide notice to subsequent owners, lessees and operators of the restrictions and the monitoring, maintenance, and biennial certification requirements outlined in this Deed Notice and required by law, as set forth herein.

5A. RESTRICTED AREAS. Due to the presence of contamination remaining at concentrations that do not allow for unrestricted use, Owner has agreed, as part of the remedial action for the Property, to restrict the use of the Property (the "Restricted Areas"); a narrative description of these restrictions, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C, which is attached hereto and made a part hereof. Owner will develop a binder containing a list of these restrictions which will be maintained either at onsite trailers or within the Groundwater Treatment Plant building, available for review and inspection by governmental enforcement officials if requested.

5B. RESTRICTED LAND USES. The following land use restrictions apply to the Property:

i. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(10), prohibits the conversion of a contaminated site, remediated to non-residential soil remediation standards that require the maintenance of engineering or institutional controls, to a child care

facility, or public, private, or charter school without the Department's prior written approval, unless a presumptive remedy is implemented;

ii. The Brownfield and Contaminated Site Remediation Act, N.J.S.A. 58:10B-12.g(12), prohibits the conversion of a landfill, with gas venting systems and or leachate collection systems, to a single-family residence or a child care facility without the Department's prior written approval;

iii. The Consent Decree, paragraph 9, prohibits the unrestricted use of Tract 2 of the Property until the Chromium Remedy set forth in Article III of the Consent Decree is implemented; and

iv. The Conservation Restriction, recorded with the Hudson County Register of Deeds at Book 8772, page 105, restricts the use and development of Tract 2 of the Property; the Conservation Restriction will be removed if the Chromium Remedy set forth in Article III of the Consent Decree is implemented and the Deed Notice for Tract 2 is terminated.

5C. ENGINEERING CONTROLS. Due to the presence and concentration of these contaminants, the Owner has also agreed, as part of the remedial action for the Property, to the placement of certain engineering controls within the Property. A narrative description of these engineering controls, along with the associated monitoring and maintenance activities and the biennial certification requirements are provided in Exhibit C. Honeywell shall be responsible for monitoring and maintenance of engineering controls and biennial certification requirements as specified in the Consent Decree, the LTMP, and Paragraphs 8A and 8B herein.

5D. LONG TERM MONITORING PLAN. Pursuant to the Consent Decree, Honeywell has developed an LTMP which sets forth requirements for monitoring, maintenance, and repairing or replacing the soil and groundwater chromium remedial measures including engineering controls within the Property, with limitations for Tract 1 of the Property as described above, and requirements for notification and reporting pursuant to the Consent Decree, Deed Notice, and Soil Remedial Action Permit. A copy of the LTMP is maintained by Honeywell at 115 Mount Tabor Road, Morris Plains, NJ 07950. This Deed Notice is appended to the LTMP.

5F. WORKER TRAINING MATERIALS. All maintenance workers engaged in maintenance at the Property shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. Workers shall be trained using materials developed by Honeywell pursuant to the Consent Decree.

6A. CHANGE IN OWNERSHIP AND REZONING.

i. The Owner and the subsequent owners and lessees, shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. The Owner and the subsequent owners shall provide written notice to the Department of Environmental Protection on a form provided by the Department and available at www.nj.gov/srp/forms within thirty (30) calendar days after the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property.

iii. The Owner and the subsequent owners shall provide written notice to the Department, on a form available from the Department at www.nj.gov/srp/forms, within thirty (30) calendar days after the owner's petition for or filing of any document initiating a rezoning of the Property to residential.

6B. SUCCESSORS AND ASSIGNS. This Deed Notice shall be binding upon Owner and upon Owner's successors and assigns, and subsequent owners, lessees, and operators while each is an owner, lessee, or operator of the Property.

7A. ALTERATIONS, IMPROVEMENTS, AND DISTURBANCES.

i. The Owner and all subsequent owners and lessees shall notify any person of whom it has knowledge, including, without limitation, tenants, employees of tenants, developers, and contractors, intending to conduct invasive work or excavate within the Restricted Areas, of the nature and location of known contamination in the Restricted Areas, and, of the precautions necessary to protect the engineering controls and minimize potential human exposure to contaminants.

ii. Except as provided in the Consent Decree and Paragraph 7B below, no person shall make, or allow to be made, any alteration, improvement, or disturbance in, to, or about the Property which disturbs any engineering control at the Property except as (a) permitted in the Consent Decree and Conservation Restriction, and (b) without first obtaining a Soil Remedial Action Permit modification from the Department. Nothing herein shall constitute a waiver of the obligation of any person to comply with all applicable laws and regulations including, without limitation, the applicable rules of the Occupational Safety and Health Administration.

iii. Notwithstanding subparagraph 7A.ii.(b), above, a Soil Remedial Action Permit modification is not required for any alteration, improvement, or disturbance provided that:

(A) Such action is taken in conformance with the Consent Decree and this Deed Notice; and

(B) The Department of Environmental Protection is notified of the activity by calling the DEP Hotline, at 1-877-WARN-DEP or 1-877-927-6337, within twenty-four (24) hours after the beginning of each alteration, improvement, or disturbance; and

(C) Honeywell is notified of the activity by calling 855-727-2658; and

(D) Honeywell and/or the owner restores any disturbance of an engineering control to pre-disturbance conditions, consistent with the requirements of the Consent Decree and

LTMP, within sixty (60) calendar days after the initiation of the alteration, improvement or disturbance; and

(E) All applicable worker health and safety laws and regulations are followed during the alteration, improvement, or disturbance, and during the restoration; and

(F) Appropriate measures are taken so that human exposure, and exposure of the environment outside the containment of the engineering controls, to contamination in excess of the applicable remediation standards does not occur; and

(G) The next biennial certification includes a description of the nature of the alteration, improvement, or disturbance, the dates and duration of the alteration, improvement, or disturbance, the name of key individuals and their affiliations conducting the alteration, improvement, or disturbance, a description of the notice the Owner gave to those persons prior to the disturbance, the amounts of soil generated for disposal, if any, the final disposition and any precautions taken to prevent exposure.

7B. EMERGENCIES. In the event of an emergency which presents, or may present, an unacceptable risk to the public health and safety, or to the environment, or immediate environmental concern, see N.J.S.A. 58:10C-2, any person may temporarily breach an engineering control provided that:

i. The Department of Environmental Protection is immediately notified of the emergency, by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

ii. Immediately after notifying NJDEP, Honeywell is notified of the emergency by calling 855-727-2658; and

iii. Both the actual disturbance and the time needed for the disturbance are limited to the minimum reasonably necessary to adequately respond to the emergency; and

iv. All measures necessary to limit actual or potential, present or future risk of exposure to humans or the environment to the contamination are implemented; and

v. The Department of Environmental Protection is notified when the emergency has ended by calling the DEP Hotline at 1-877-WARNDEP or 1-877-927-6337; and

vi. Honeywell is notified when the emergency has ended by calling 855-727-2658; and

vii. Honeywell restores the engineering control to the pre-emergency conditions, consistent with the requirements of the Consent Decree and LTMP, as soon as possible, and submits a written report to the Department of Environmental Protection of such emergency and restoration efforts within sixty (60) calendar days after completion of the restoration of the engineering control. The report must include all information pertinent to the emergency, potential discharges of contaminants, and restoration measures that were implemented, which, at a minimum, should specify: (a) the nature and likely cause of the emergency, (b) the potential discharges of or

exposures to contaminants, if any, that may have occurred, (c) the measures that have been taken to mitigate the effects of the emergency on human health and the environment, (d) the measures completed or implemented to restore the engineering control, and (e) the changes to the engineering control or site operation and maintenance plan to prevent recurrence of such conditions in the future. Honeywell shall submit the report to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413

8A. MONITORING AND MAINTENANCE OF DEED NOTICE, AND PROTECTIVENESS CERTIFICATION. The persons in any way responsible, pursuant to the Spill Compensation and Control Act, N.J.S.A. 58:10-23.11a et seq., for the hazardous substances that remain at the Property, the persons responsible for conducting the remediation, Honeywell, the Owner, and the subsequent owners, lessees, and operators, shall monitor and maintain this Deed Notice. The subsequent owners, lessees and operators have this obligation only during their ownership, tenancy, or operation. Honeywell shall certify to the Department on a biennial basis that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the deed notice shall include all of the following:

i. Monitoring and maintaining this Deed Notice according to the requirements in Article III of the Consent Decree and Exhibit C herein, to ensure that the remedial action that includes the Deed Notice continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes this Deed Notice remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes this Deed Notice, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

8B. MONITORING AND MAINTENANCE OF ENGINEERING CONTROLS, AND PROTECTIVENESS CERTIFICATION. Honeywell shall maintain all engineering controls at the Property and certify to the Department on a biennial basis that the remedial action of which each engineering control is a part remains protective of the public health and safety and of the environment. The specific obligations to monitor and maintain the engineering controls shall include the following:

i. Monitoring and maintaining each engineering control according to the requirements in Article III of the Consent Decree, the LTMP, and Exhibit C herein, to ensure that the remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment; and

ii. Conducting any additional remedial investigations and implementing any additional remedial actions, that are necessary to correct, mitigate, or abate each problem related to the protectiveness of the remedial action for the Property prior to the date that the certification is due to the Department pursuant to iii, below, so that the remedial action that includes the engineering control remains protective of the public health and safety and of the environment; and

iii. Certifying to the Department of Environmental Protection the continued protectiveness of the remedial action that includes the engineering control, on a form provided by the Department and consistent with N.J.A.C. 7:26C-1.2 (a)1, every two years on the anniversary of the date stamped on the Deed Notice that indicates when the Deed Notice was recorded.

9. ACCESS. The Owner, subsequent owners, lessees, and operators, agree to allow the Department, its agents and representatives access to the Property to inspect and evaluate the continued protectiveness of the remedial action that includes this Deed Notice and to conduct additional remediation to ensure the protection of the public health and safety and of the environment if the persons responsible for monitoring the protectiveness of the remedial action, as described in Paragraph 8, above, fail to conduct such remediation pursuant to this Deed Notice as required by law. The Owner, and the subsequent owners and lessees, shall also cause all leases, subleases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring that all holders thereof provide such access to the Department.

10. NOTICES.

i. Owner shall cause all leases, grants, and other written transfers of an interest in the Property to contain a provision expressly requiring all holders thereof to take the Property subject to the restrictions contained herein and to comply with all, and not to violate any of the conditions of this Deed Notice. Nothing contained in this Paragraph shall be construed as limiting any obligation of any person to provide any notice required by any law, regulation, or order of any governmental authority.

ii. Honeywell or the Owner shall notify any person intending to conduct invasive work or excavate within the Property of the nature and location of contamination and, of the precautions necessary to minimize potential human exposure, and exposure of the environment outside the containment of the engineering controls, to contaminants.

iii. Owner shall provide written notice to the Department of Environmental Protection at least thirty (30) calendar days before the effective date of any conveyance, grant, gift, or other transfer, in whole or in part, of the owner's interest in the Property. Any such conveyance, grant or gift must be consistent with the terms of the Consent Decree.

iv. Owner shall provide written notice to the Department within thirty (30) calendar days following the Owner's receiving notice of any petition for a rezoning of the Property. Any such rezoning must be consistent with the terms of the Consent Decree. The Owner shall submit the written notice to:

Department of Environmental Protection
Division of Remediation Management and Response
Bureau of Operation, Maintenance and Monitoring
Deed Notice Inspection Program
P.O. Box 413
401 E. State Street
Trenton, NJ 08625-0413.

11. ENFORCEMENT OF VIOLATIONS.

i. This Deed Notice itself is not intended to create any interest in real estate in favor of the Department of Environmental Protection, nor to create a lien against the Property, but merely is intended to provide notice of certain conditions and restrictions on the Property and to reflect the regulatory and statutory obligations imposed as a conditional remedial action for this Property.

ii. The restrictions provided herein may be enforceable by the Department against any person who violates this Deed Notice. To enforce violations of this Deed Notice, the Department may initiate one or more enforcement actions pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C, and require additional remediation and assess damages pursuant to N.J.S.A. 58:10-23.11, and N.J.S.A. 58:10C.

iii. This Deed Notice as to Tract 2 is also enforceable in the United States District Court for the District of New Jersey by all residents, owners, lessees, and all commercial tenants on Study Areas 6 and 7 pursuant to paragraphs 80 and 83 of the Consent Decree.

12. SEVERABILITY. If any court of competent jurisdiction determines that any provision of this Deed Notice requires modification, such provision shall be deemed to have been modified automatically to conform to such requirements. If a court of competent jurisdiction determines that any provision of this Deed Notice is invalid or unenforceable and the provision is of such a nature that it cannot be modified, the provision shall be deemed deleted from this instrument as if the provision had never been included herein. In either case, the remaining provisions of this Deed Notice shall remain in full force and effect.

13. MODIFICATION AND TERMINATION.

i. Any person may request in writing, at any time, that the Department modify this Deed Notice where performance of subsequent remedial actions, a change of conditions at the Property, or the adoption of revised remediation standards suggest that modification of the Deed Notice would be appropriate, provided that any such modification is consistent with the requirements of the Consent Decree.

ii. Any person may request in writing, at any time, that the Department terminate this Deed Notice because the conditions which triggered the need for this Deed Notice are no longer applicable.

iii. Any person seeking a modification or termination of this Deed Notice must also have such modification approved by the United States District Court for the District of New Jersey pursuant to the Consent Decree until such time as the Consent Decree terminates with regard to the Property pursuant to the Consent Decree.

iv. If the United States District Court for the District of New Jersey and NJDEP have concluded that this Deed Notice shall be modified or terminated, such modification or termination will only be effective upon the filing of a Termination of Deed Notice, available at N.J.A.C. 7:26C Appendix C, with the office of the Register of Deeds of Hudson County, New Jersey, expressly modifying or terminating this Deed Notice.

v. Within thirty (30) calendar days after the filing of a Termination of Deed Notice, the owner of the Property shall apply to the Department for modification or termination of the Soil Remedial Action Permit pursuant to N.J.A.C. 7:26C-7.

vi. This Deed Notice may be modified only if it has first been terminated pursuant to subparagraphs 13v above, and upon filing of a modified Deed Notice, executed by the Owner of the Property, in the office of the Register of Deeds of Hudson County, New Jersey.

14A. EXHIBIT A. Exhibit A includes the following maps of the Property and the vicinity:

i. Exhibit A-1: Vicinity Map - A map that identifies by name the roads, and other important geographical features in the vicinity of the Property;

ii. Exhibit A-2: Metes and Bounds Description - A metes and bounds description of the Property, including reference to tax lot and block numbers for the Property and a Tax Map;

iii. Exhibit A-3: Property Map - A scaled map of the Property, scaled at one inch to 200 feet or less, and if more than one map is submitted, the maps shall be presented as overlays, keyed to a base map; the map(s) shall include diagrams of major surface topographical features such as buildings, roads, and parking lots. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as roads, walkways and other hardscape.

14B. EXHIBIT B. Exhibit B includes the following descriptions of the Restricted Areas:

i. Exhibit B-1: Restricted Area Map - Maps for the Property that include, as applicable:

(A) As-built diagrams of each engineering control, including caps, fences, hydraulic barrier walls, ground water monitoring wells, and ground water pumping system;

(B) As-built diagrams of any buildings, roads, parking lots, utility corridors, and other structures that function as engineering controls; and

(C) Designation of all soil and/or sediment sample locations within the restricted areas that exceed any soil or sediment standard that are keyed into one of the tables described below.

ii. Exhibit B-2 (Table B-2): Restricted Area Data Tables - Table for the Property that includes:

(A) Sample location designation from Restricted Area maps (Exhibit B-1);

(B) Sample elevation based upon mean sea level;

(C) Name and chemical abstract service registry number of each contaminant with a concentration that exceeds the unrestricted use standard;

(D) The restricted and unrestricted use standards for each contaminant in the table; and

(E) The remaining concentration of each contaminant at each sample location at each elevation (or if historic fill, include data from the Department's default concentrations at N.J.A.C. 7:26E-4.6, Table 4-2).

14C. EXHIBIT C. Exhibit C includes narrative descriptions of the institutional controls and engineering controls as follows:

i. Exhibit C-1A and B. Exhibit C-1-A: Deed Notice as Institutional Control; Exhibit C-1-B: Consent Decree as Institutional Control (attached): Exhibit C-1 (A and B) includes a narrative description of the restrictions and obligations of this Deed Notice that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
(1) Description and estimated size of the Restricted Areas as described above;
(2) Description of the restrictions on the Property by operation of this Deed Notice and the other Institutional Controls; and
(3) The objective of the restrictions;

(B) Description of the monitoring necessary to determine whether:
(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;
(2) There have been any land use changes subsequent to the filing of this Deed Notice and the other Institutional Controls or the most recent biennial certification, whichever is more recent;
(3) The current land use on the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls;
(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the Property; and

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice and the other Institutional Controls, and conduct the necessary sampling.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice and the other Institutional Controls;

(2) Land use at the Property is consistent with the restrictions in this Deed Notice and the other Institutional Controls; and

(3) The remedial action that includes this Deed Notice and the other Institutional Controls continues to be protective of the public health and safety and of the environment.

ii. Exhibit C-2. Exhibit C-2: Engineering Controls: Clean Fill/Crushed Stone Cover; Exhibit C-2 includes a narrative description of the engineering controls as follows:

(A) General Description of the engineering control:

(1) Description of the engineering control;

(2) The objective of the engineering control; and

(3) How the engineering control is intended to function.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering control;

(4) The engineering control is being inspected and maintained and its integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering control. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering control; and

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering control continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

15. SIGNATURES. IN WITNESS WHEREOF, Owner has executed this Deed Notice as of the date first written above.

ATTEST: , LLC

_____ By_____
[Signature] [Signature]

_____ _____
[Print name and title] [Print name and title]

STATE OF NEW JERSEY SS.:
COUNTY OF _____

I certify that on _____ ___, 2017, _____ personally came before me, and this person acknowledged under oath, to my satisfaction, that:

(a) this person is the _____ of _____, LLC, the Limited Liability Corporation named in this document;

(b) this person is the attesting witness to the signing of this document by the proper corporate officer who is the _____ of the Limited Liability Corporation;

(c) this document was signed and delivered by the Limited Liability Corporation as its voluntary act and was duly authorized;

(d) this person knows the proper seal of the Limited Liability Corporation which was affixed to this document; and

(e) this person signed this proof to attest to the truth of these facts.

_____
[Signature]

_____
[Print name and title of attesting witness]

Signed and sworn before me on _____, 20__

_____, Notary Public

_____
[Print name and title]

EXHIBIT A
Deed Notice #4 Site 073 and SA-7

A-1 Vicinity Map

A-2 Metes and Bounds Description and Tax Map

A-3 Property Map Portions of Block 24601, Lot 1 and Portions of Block 21901 Lots 8 and 10, City of Jersey City, New Jersey

Exhibit A-1 Vicinity Map consists of a road map for the vicinity of the Property.

Exhibit A-2 consists of the metes and bounds and a tax map for the Property.

Exhibit A-3 Property Map consists of a figure indicating major surface features and engineering control for the Property. After development of the Property, this Deed Notice shall be modified to show topographical features constructed on the Property such as roads, walkways and other hardscape.

Exhibit A-1
Site Vicinity Map
Jersey City, New Jersey

EXHIBIT A-1
SITE VICINITY MAP
PORTIONS OF STUDY AREA 6 SOUTH SITES 073 and PORTIONS OF STUDY AREA 7
SITE 115
JERSEY CITY, NEW JERSEY

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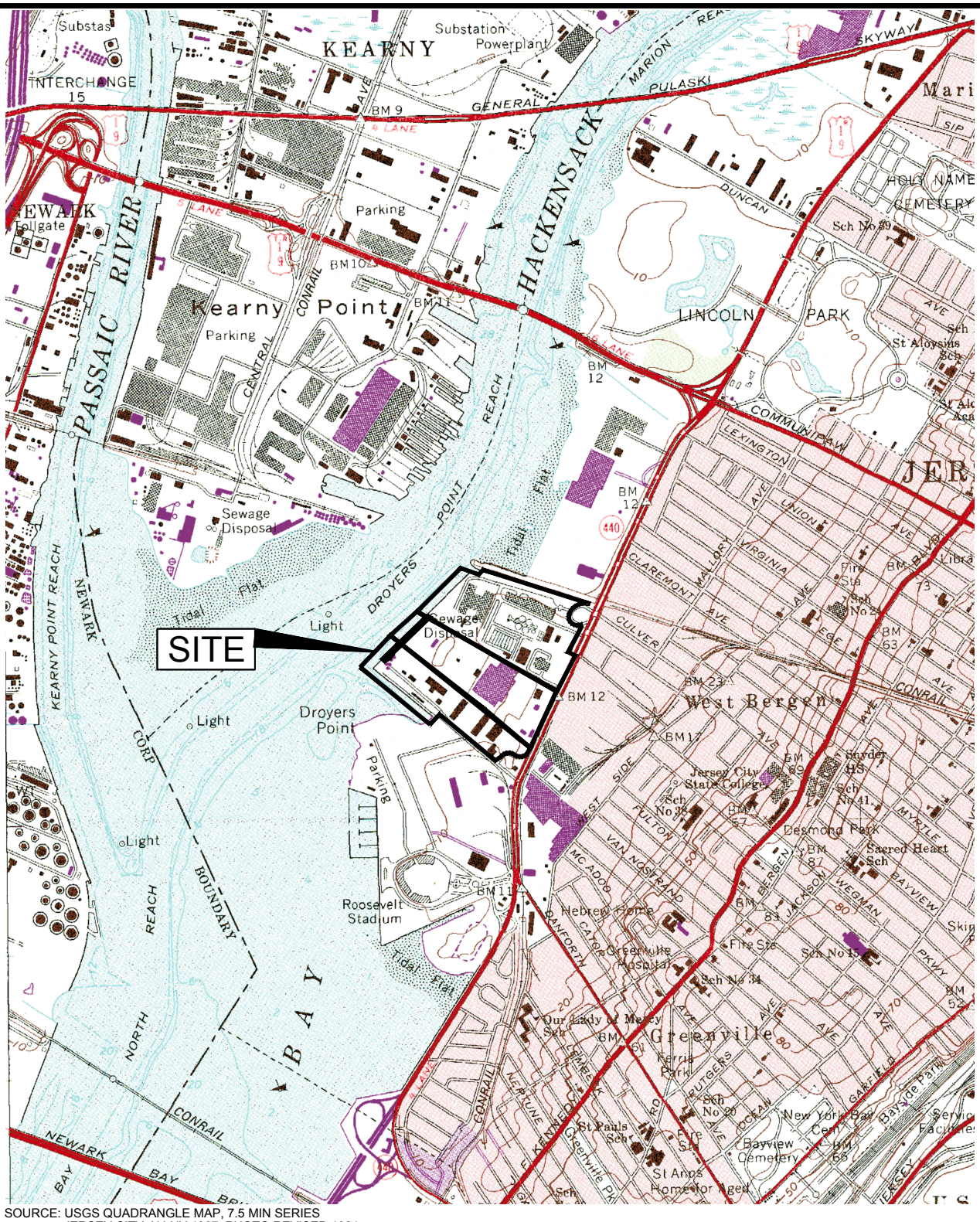


SOURCE: USGS QUADRANGLE MAP, 7.5 MIN SERIES
JERSEY CITY, NJ-NY 1967, PHOTO REVISED 1981

SA–6 SITE 073 DEFERRED AREA AND SA–7

DRAFT

0 1000 2000 4000
SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 *DRAWING:* 3480150450–5100–A100–4000	
PREPARED/DATE: STR 01/28/16	*CHECKED/DATE:* NW 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-1
VICINITY MAP
BLOCK 24601 LOT 1 AND
BLOCK 21901 LOTS 8 &10
DEED NOTICE # 4 SA-6 SOUTH
SITE 073 DEFERRED AREA AND SA-7
JERSEY CITY, NEW JERSEY

Exhibit A-2
Deed Notice #4 Site 073 and SA-7
Metes and Bounds Description of Property: See Attached
Tax Map: See Attached

A-2 Metes and Bounds Description of Property Portions of Block 24601, Lot 1 and Portions of Block 21901 Lots 8 and 10
City of Jersey City, New Jersey

If there is any discrepancy between the Metes and Bounds and the tax map, or any other maps attached hereto, the Metes and Bounds prevails.

The Property is identified as a portion of Block 24601, Lot 1 and portion of Block 21901 Lots 8 and 10 on the City of Jersey City tax maps, the Property being presently owned by Bayfront Redevelopment LLC. A copy of the current tax map which includes the Property is attached as Exhibit A-2.

MASER CONSULTING P.A.
Consulting, Municipal & Environmental Engineers
Planners ▪ Surveyors ▪ Landscape Architects

331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Tel: 732.383.1950 ▪ Fax: 732.383.1984

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292Q

DEED NOTICE AREA 4
BLOCK 24601 LOT 1
& BLOCK 21901 LOTS 8 & 10
APRIL 6, 2016
REVISED: JUNE 28, 2017

All that certain lot, tract or parcel of land situate lying and being in the City of Jersey, in the County of Hudson and State of New Jersey, and being a portion of Lot 1 Block 24601, and a portion of Lot 8 Block 21901, designated as Deed Notice Area 4 as shown on an exhibit entitled, "Deed Notice Area 4, SA6 South, Block 21901, Lot 8, Block 24601, Lot 1, City of Jersey City, Hudson County, New Jersey," prepared by Maser Consulting P.A., dated April 6, 2016, revised June 28, 2017 and being more particularly bounded and described as follows, to wit:

TRACT I:

COMMENCING at the intersection of the division line between Lots 8 and 10, Block 21901, with the northwesterly line of said Lot 8; thence-

A. **S 59°39'05" E, 23.69 feet**, along said division line to the **True** point of **BEGINNING**, and running; thence-

1. **N 44° 21' 38" E, 6.65 feet,** through a portion of Lot 10, Block 21901; thence-

2. **S 50° 26' 45" E, 40.33 feet,** through said Lot 10 to a point in said division line between Lots 8 and 10, Block 21901; thence-

Running through said Lot 8, Block 21901 the following two (2) courses, as shown on aforementioned exhibit map:

3. **S 45°51'07" W, 569.68 feet**; thence-

4. **S 45°54'51" W, 4.10 feet,** to the division line between Lot 1, Block 24601 and Lot 8, Block 21901; thence-

5. **N 53° 42' 45" W, 40.04 feet,** along said division line; thence –

Running through said Lot 8, Block 21901 the following three (3) courses, as shown on aforementioned exhibit map:

6. **N 45° 37' 13" E, 5.46 feet**; thence –

7. **N 45° 57' 38" E, 511.35 feet**; thence-

8. **N 44° 21' 38" E, 52.57 feet,** to the point and place of **BEGINNING**.

CONTAINING: 22,457 S.F. of land more or less or 0.516 acres of land more or less.

TRACT II:

COMMENCING at the intersection of the division line between Lot 1, Block 24601 and Lot 8, Block 21901, with the northwesterly line of said Lot 8; thence-

A. **S 53° 42' 45" E, 23.85 feet**, along said division line to the **True** point of **BEGINNING**, and running; thence-

1. **S 53° 42' 45" E, 40.04 feet,** along said division line; thence-

Running through said Lot 1, Block 24601 the following ten (10) courses, as shown on aforementioned exhibit map:

2. **S 45°54'51" W, 153.16 feet,** thence –
3. **S 53° 41' 21" E, 12.04 feet**; thence-
4. **S 36° 26' 04" W, 6.50 feet,** thence –
5. **S 38° 36' 29" W, 41.58 feet,** thence –
6. **S 40° 39' 53" W, 9.05 feet,** thence-
7. **N 88° 57' 37" W, 27.39 feet,** thence -
8. **S 26° 56' 10" W, 17.04 feet,** thence -
9. **S 54° 23' 40" W, 30.23 feet,** thence –
10. **N 46° 36' 39" W, 38.87 feet,** thence –
11. **N 45° 37' 13" E, 268.17 feet,** to the point and place of **BEGINNING**.

DESCRIPTION OF PROPERTY
CITY OF JERSEY CITY
HUDSON COUNTY, NEW JERSEY
PROJECT NO. 10000292Q

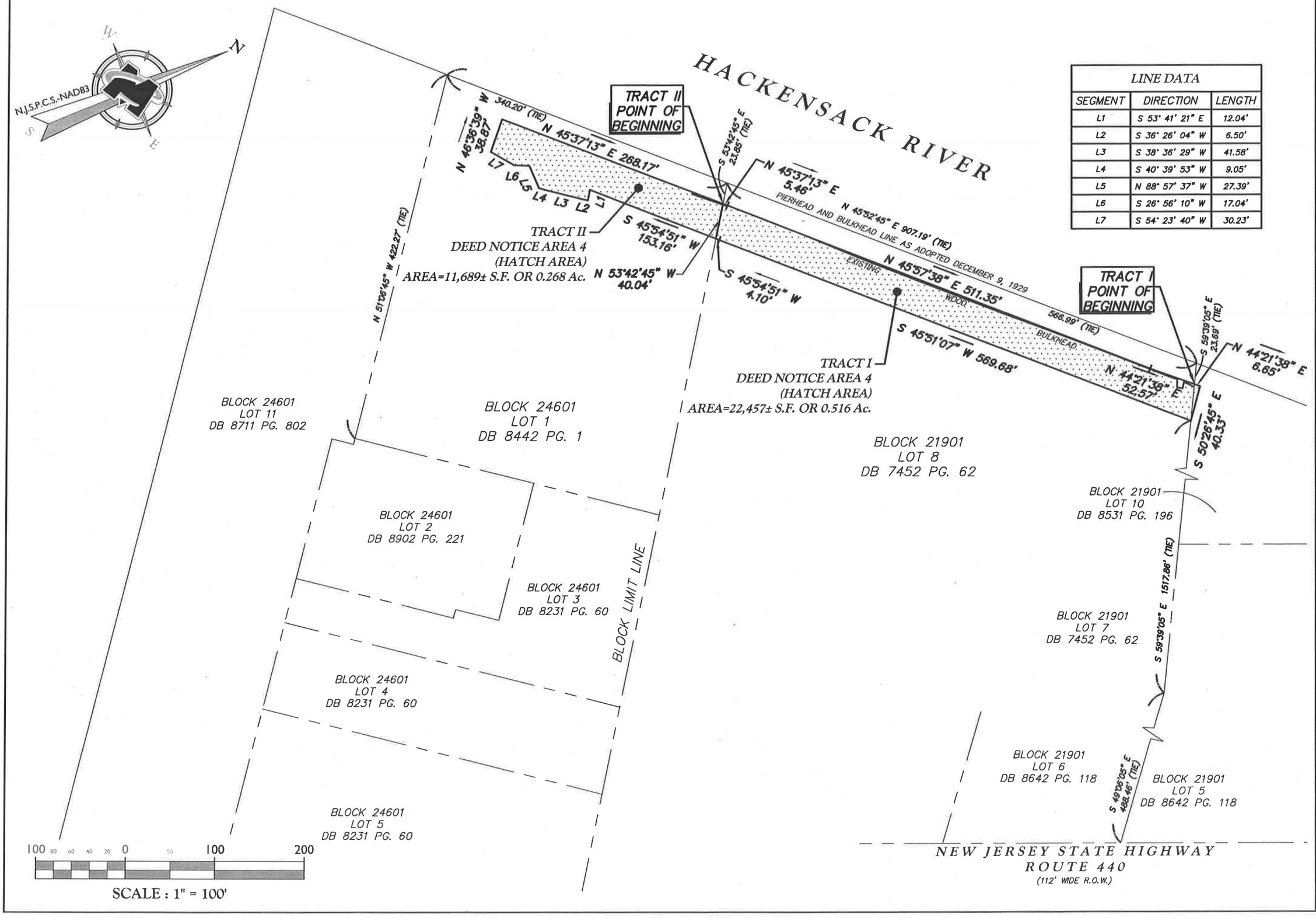
DEED NOTICE AREA 4
BLOCK 24601 LOT 1
& BLOCK 21901 LOTS 8 & 10
APRIL 6, 2016
REVISED: JUNE 28, 2017

CONTAINING: 11,689 S.F. of land more or less or 0. 0.268 acres of land more or less.

06/28/17

GLEN J. LLOYD, P.L.S. DATE SIGNED
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS037598

\\HQFAS1\General\Projects\2010\10000292Q\Survey\Description\Metes & Bounds-Deed Notice 4_REV_6-28-17.docx



LINE DATA		
SEGMENT	DIRECTION	LENGTH
L1	S 53° 41' 21" E	12.04'
L2	S 36° 26' 04" W	6.50'
L3	S 38° 36' 29" W	41.58'
L4	S 40° 39' 53" W	9.05'
L5	N 88° 57' 37" W	27.39'
L6	S 26° 56' 10" W	17.04'
L7	S 54° 23' 40" W	30.23'

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▪ Norfolk, VA ▪ Tampa, FL
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▪ Columbia, MD
State of N.J. Cert. of Authorization: 24GA27906500

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811 PROTECT YOURSELF
ALL STATES REQUIRE NOTIFICATION OF EXCAVATORS, DESIGNERS, OR ANY PERSON PREPARING TO DISTURB THE EARTH'S SURFACE ANYWHERE IN ANY STATE
Know what's below. Call before you dig.
FOR STATE SPECIFIC DIRECT PHONE NUMBERS VISIT: WWW.CALL811.COM

REV	DATE	DRAWN BY	DESCRIPTION
1	2/2/17	KAN	DIVIDED DN-4 INTO TWO TRACTS
2	6/28/17	HA	REVISE DN-4 TRACT I SOUTHEASTERLY LINE NEAR LOT 10

DEED NOTICE AREA 4
SA6 SOUTH
FOR

BLOCK 21901, LOT 8
BLOCK 24601, LOT 1
CITY OF JERSEY CITY
HUDSON COUNTY
NEW JERSEY

RED BANK OFFICE
Corporate Headquarters
331 Newman Springs Road
Suite 203
Red Bank, NJ 07701
Phone: 732.383.1950
Fax: 732.383.1984

SCALE:	DATE:	DRAWN BY:	CHECKED BY:
AS SHOWN	4/6/2016	HA	GJL
PROJECT NUMBER: 10000292C		DRAWING NAME: V-EXBT-DN-4_REV	

SHEET TITLE: DEED NOTICE EXHIBIT

SHEET NUMBER: 1 of 1

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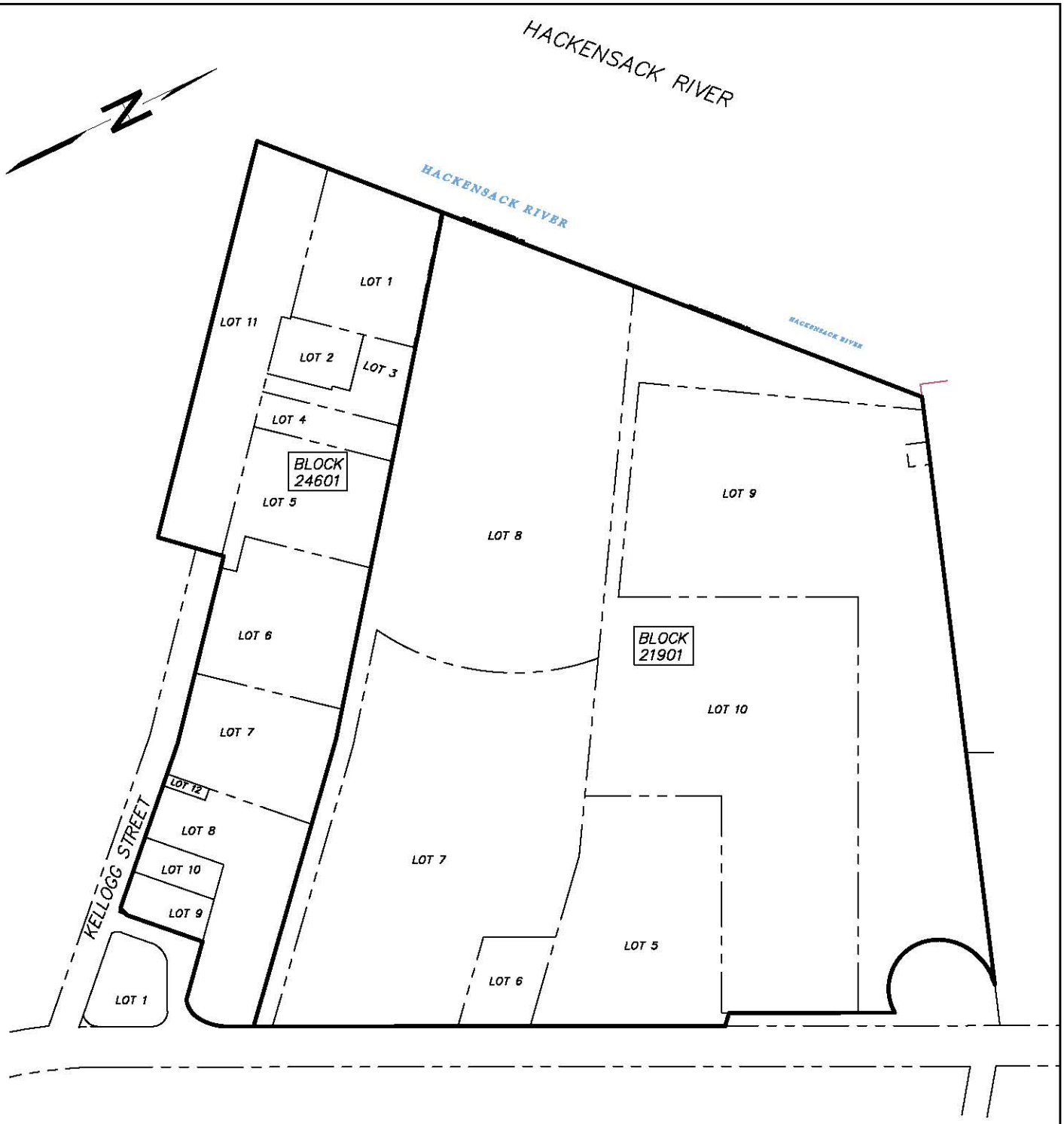
P:\CAD\HONEYWELL_JERSEY CITY\SA 6 SOUTH\3480150468\5710\5710-1\deed notice\deed notice 4\3480150450-5100-A200-4000.dwg Fri, 30 Jun 2017 - 9:53am scott.rudkin



NEW JERSEY STATE HIGHWAY ROUTE 440

DRAFT

0 150 300 600

SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A200-4000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT A-2** TAX MAP BLOCK 24601 LOT 1 AND BLOCK 21901 LOTS 8 & 10 DEED NOTICE # 4 SA-6 SOUTH SITE 073 DEFERRED AREA AND SA-7 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 CHECKED/DATE: NW 01/31/17		

Exhibit A-3
Property Map

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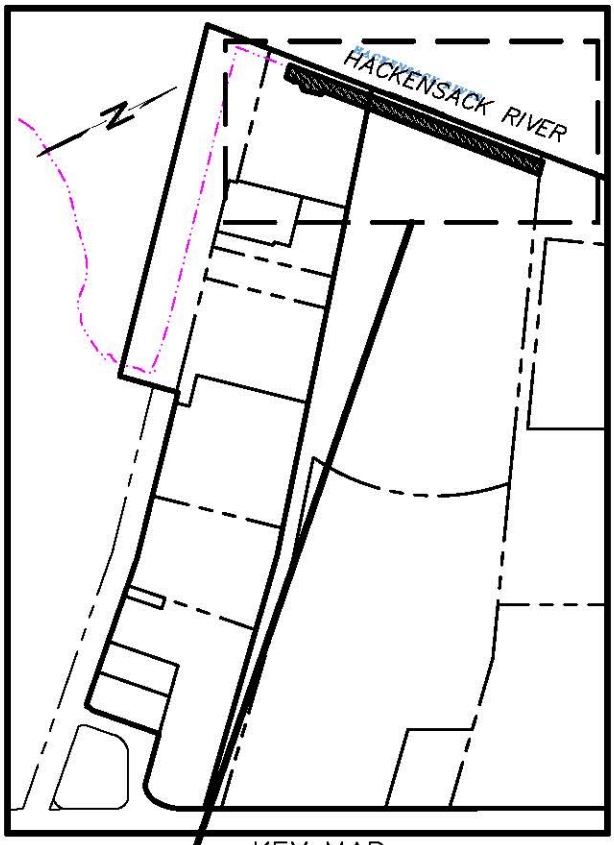
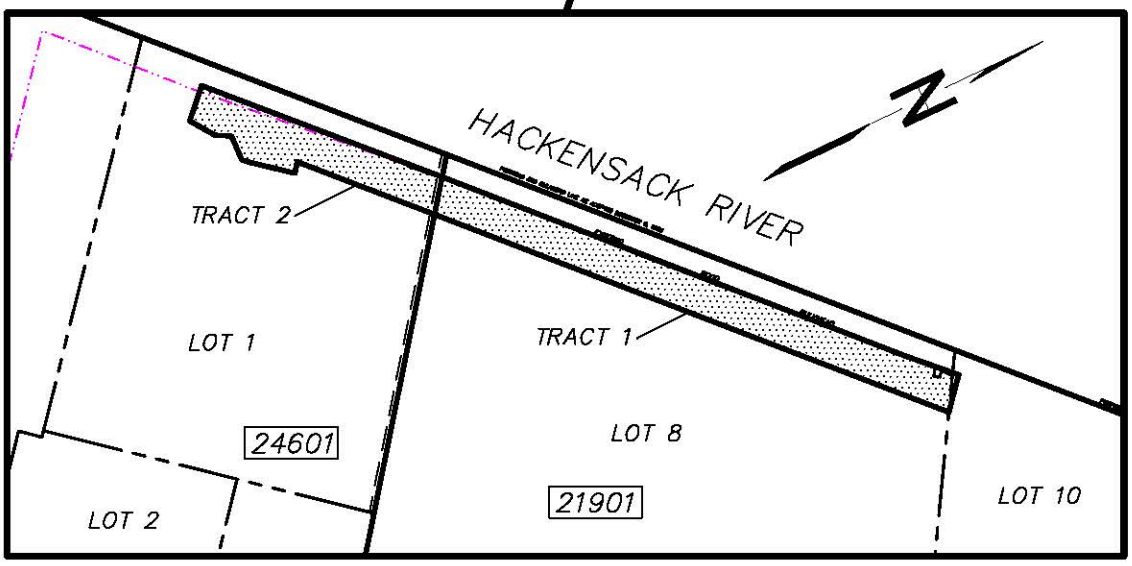


KEY MAP
SCALE 1" = 600'

LEGEND

21901	BLOCK NUMBER
LOT 8	LOT NUMBER
———	BLOCK LINE
- - - -	LOT LINE



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SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-A300-4000	
PREPARED/DATE: STR 01/28/16	CHECKED/DATE: NW 01/31/17

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

EXHIBIT A-3
PROPERTY AREA MAP
BLOCK 24601, LOT 1 AND
BLOCK 21901, LOTS 8 & 10
DEED NOTICE # 4 SA-6 SOUTH
SITE 073 DEFERRED AREA AND SA-7
JERSEY CITY, NEW JERSEY

EXHIBIT B
Deed Notice #4 Site 073 and SA-7
B-1 Restricted Area Maps
B-2 Restricted Area Data Table
Block 24601, Lot 1 and Block 21901 Lots 8 and 10
City of Jersey City, New Jersey

Exhibit B-1 Restricted Area Maps include Exhibit B-1A (Restricted Area and Soil Sample Locations), Exhibit B-1B (Cap System Details), and Exhibit B-1C (As-Built Restoration Plan).

Exhibit B-2 is a Restricted Area Data Table indicating soil sample locations with concentrations of hexavalent chromium remaining above the level established in the New Jersey Department of Environmental Protection (NJDEP) Chromium Policy of 20 milligrams per kilogram (mg/kg).

Restricted Area Map Notes:

Exhibit B-1 indicates the engineering controls for the chromium remedy components. For soils with hexavalent chromium concentrations above 20 mg/kg, the engineering controls include a minimum of 7 to 14 feet of clean soil cover/crushed stone in the Tract 1 area and a minimum 1 foot of clean soil cover plus asphalt in the Tract 2 area.

Exhibit B-1
Restricted Area Maps

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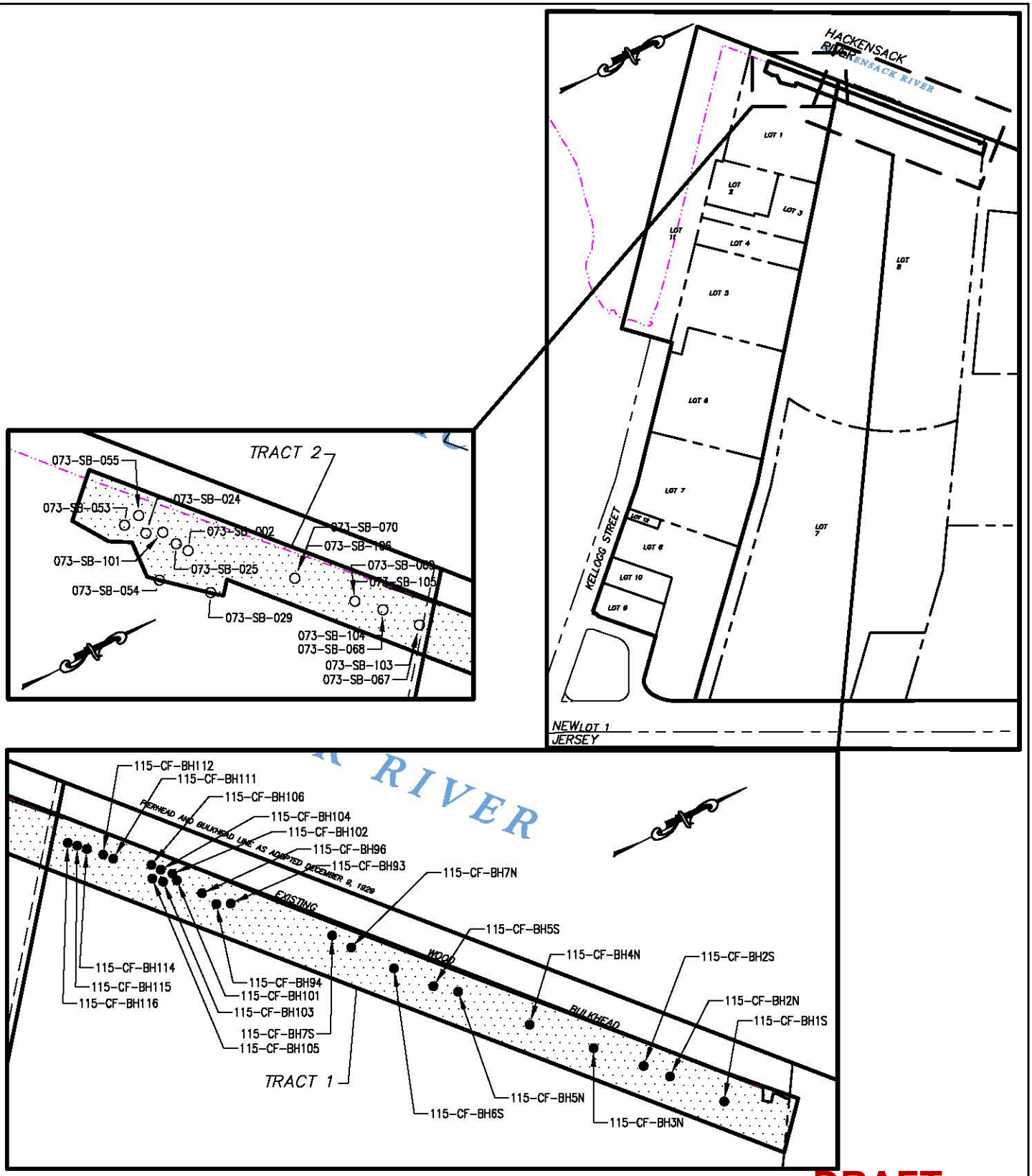

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SCALE IN FEET

Amec Foster Wheeler PROJECT No. 3480150450 DRAWING: 3480150450-5100-B100-4000	amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1**A RESTRICTED AREA MAP BLOCK 24601 LOT 1 & BLOCK 21901 LOTS 8 & 10 DEED NOTICE # 4 SA-6 SOUTH SITE 073 DEFERRED AREA AND SA-7 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/28/16 CHECKED/DATE: NW 01/31/17		

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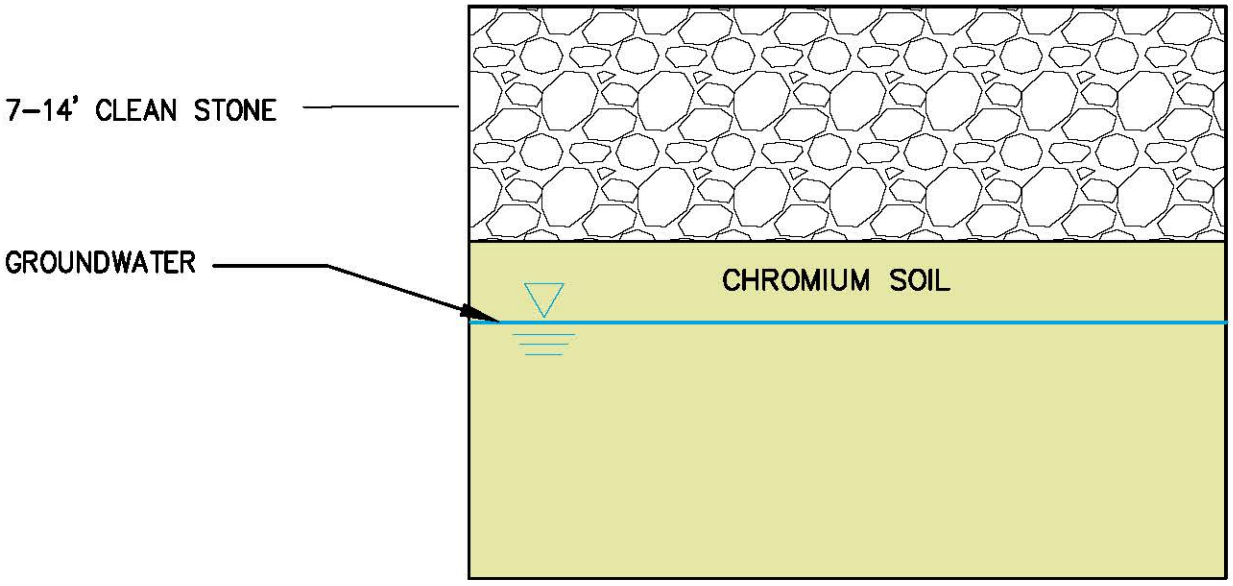
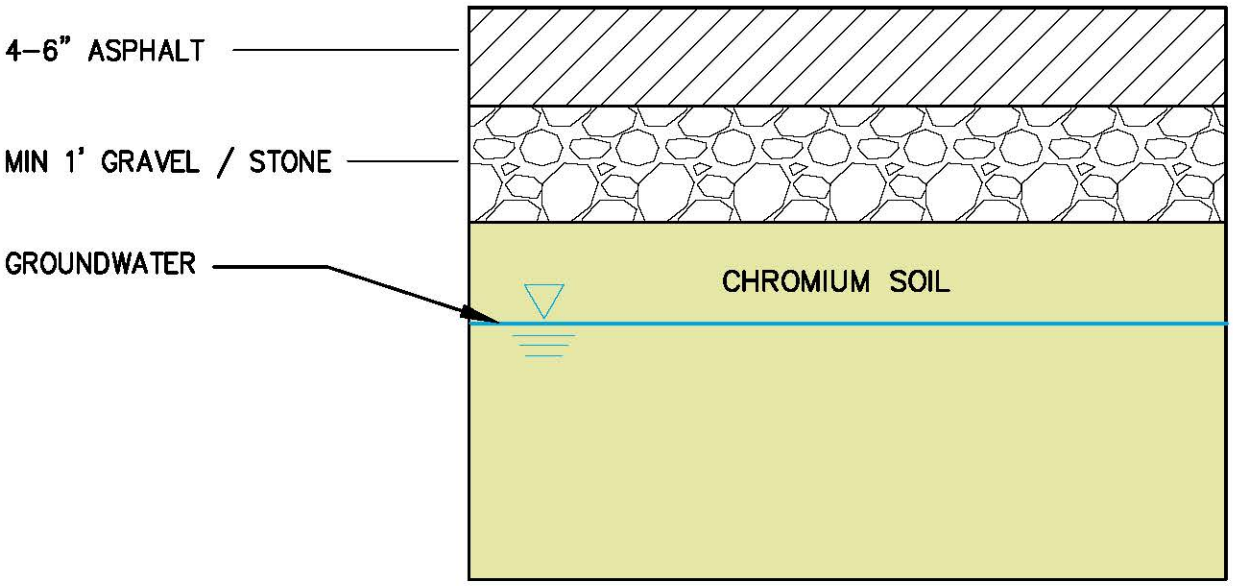


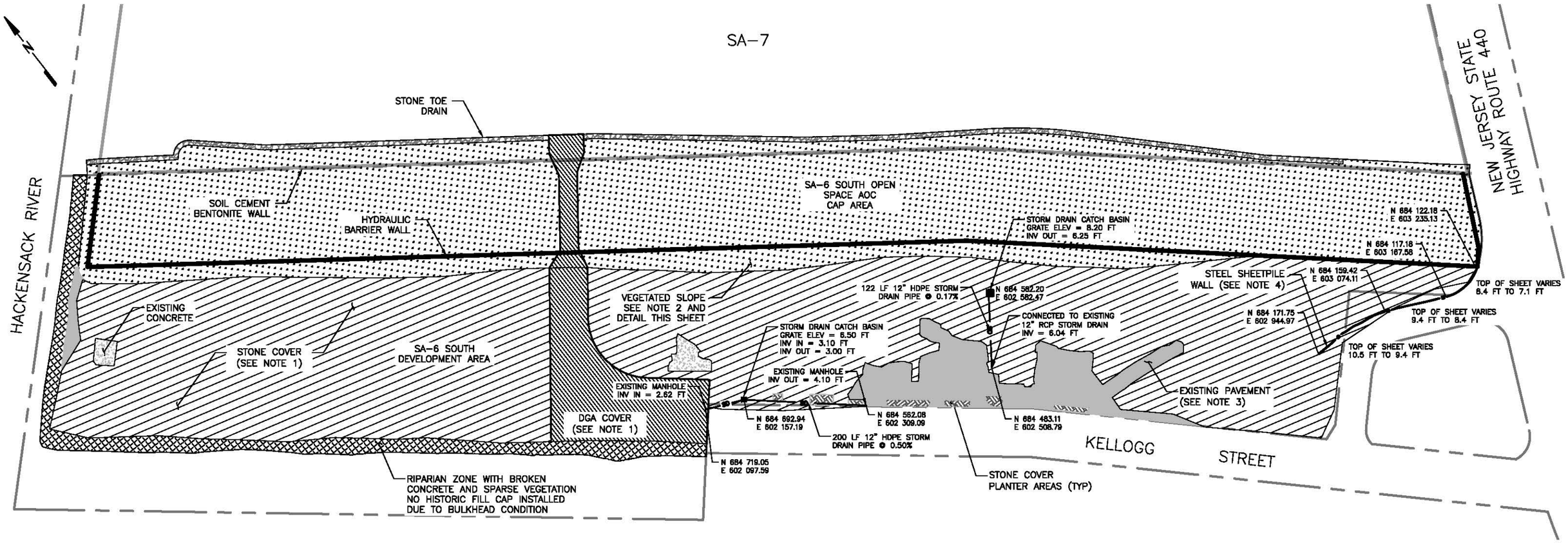
CAP SYSTEM DETAIL
TRACT 1
NTS

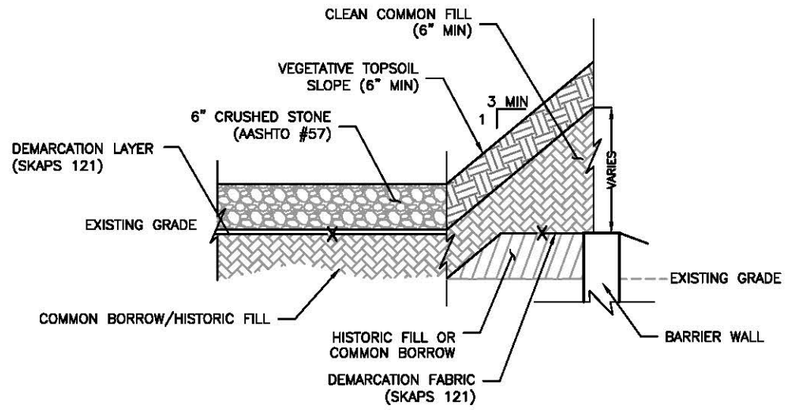


CAP SYSTEM DETAIL
TRACT 2
NTS

DRAFT

Amec Foster Wheeler PROJECT No. 3480150488 *DRAWING:* 3480150450-5100-B200-4000		amec foster wheeler ENVIRONMENT & INFRASTRUCTURE. Inc. 200 AMERICAN METRO BLVD, SUITE 113 HAMILTON, NEW JERSEY 08619	**EXHIBIT B-1B** CAP SYSTEM DETAILS BLOCK 24601 LOT 1 & BLOCK 21901 LOTS 8 & 10 DEED NOTICE # 4 SA-6 SOUTH SITE 073 DEFERRED AREA AND SA-7 JERSEY CITY, NEW JERSEY
PREPARED/DATE: STR 01/25/17	*CHECKED/DATE:* NW 01/31/17		





NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA–7

TYPICAL VEGETATED SLOPE
NTS

NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA–7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
STONE COVER IN PLANTER AREAS
RIPARIAN ZONE
DGA COVER
STONE TOE DRAIN
STEEL SHEETPILE WALL
STORM DRAIN PIPE
STORM DRAIN CATCH BASIN

0 80 160 FEET
SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: AS BUILT RESTORATION PLAN SA–6 SOUTH – SHEET 001 12/12/16

PROJECT NAME & LOCATION: HONEYWELL SA–6 REMEDIATION JERSEY CITY, NJ

EXHIBIT B-1C

Exhibit B-2: Table B-2
Soil Sample Data Table (Hexavalent Chromium)

EXHIBIT B-2

Restricted Area Data Table

Deed Notice #4 Tract 2 Site 073 and Tract 1 SA-7

Portion of Block 24601, Lot 1 and Portion of Block 21901 Lot 8

Jersey City, New Jersey

Location	Elevation (feet msl)	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	Soil Concentration (mg/kg)
115-CF-BH1S	-0.8	Hexavalent Chromium	18540-29-9	20	27.9
115-CF-BH2N	0.058	Hexavalent Chromium	18540-29-9	20	30.6
115-CF-BH2S	-0.311	Hexavalent Chromium	18540-29-9	20	21.2
115-CF-BH3N	0.051	Hexavalent Chromium	18540-29-9	20	36.3
115-CF-BH4N	-0.129	Hexavalent Chromium	18540-29-9	20	22.7 J
115-CF-BH5N	-0.525	Hexavalent Chromium	18540-29-9	20	36.4 J
115-CF-BH5S	-0.154	Hexavalent Chromium	18540-29-9	20	25.3 J
115-CF-BH6S	-1.639	Hexavalent Chromium	18540-29-9	20	46.9
115-CF-BH7N	-2.118	Hexavalent Chromium	18540-29-9	20	31.8
115-CF-BH7S	-1.981	Hexavalent Chromium	18540-29-9	20	20.9
115-CF-BH93	-2.579	Hexavalent Chromium	18540-29-9	20	34.6
115-CF-BH94	-2.556	Hexavalent Chromium	18540-29-9	20	21.7
115-CF-BH96	-3.164	Hexavalent Chromium	18540-29-9	20	28.7
115-CF-BH101	-5.224	Hexavalent Chromium	18540-29-9	20	45.6
115-CF-BH102	-5.657	Hexavalent Chromium	18540-29-9	20	36.8
115-CF-BH103	-5.617	Hexavalent Chromium	18540-29-9	20	42.2
115-CF-BH104	-5.645	Hexavalent Chromium	18540-29-9	20	32.2
115-CF-BH105	-5.563	Hexavalent Chromium	18540-29-9	20	113
115-CF-BH106	-5.597	Hexavalent Chromium	18540-29-9	20	26
115-CF-BH111	-5.291	Hexavalent Chromium	18540-29-9	20	75.1
115-CF-BH112	-5.533	Hexavalent Chromium	18540-29-9	20	105
115-CF-BH113	-5.696	Hexavalent Chromium	18540-29-9	20	68.9
115-CF-BH114	-5.646	Hexavalent Chromium	18540-29-9	20	83.7
115-CF-BH115	-5.718	Hexavalent Chromium	18540-29-9	20	39.9
115-CF-BH116	-5.477	Hexavalent Chromium	18540-29-9	20	61.1
115-CF-BH12E	-7	Hexavalent Chromium	18540-29-9	20	75.9
115-CF-BH12W	-7	Hexavalent Chromium	18540-29-9	20	53.8
073-SB-002	8.5	Hexavalent Chromium	18540-29-11	20	534 J
073-SB-002	6	Hexavalent Chromium	18540-29-12	20	721
073-SB-002	5	Hexavalent Chromium	18540-29-13	20	1100
073-SB-002	3	Hexavalent Chromium	18540-29-14	20	27.9 J
073-SB-024	3.2	Hexavalent Chromium	18540-29-15	20	22
073-SB-025	8	Hexavalent Chromium	18540-29-15	20	25.6
073-SB-025	7	Hexavalent Chromium	18540-29-16	20	52.6
073-SB-053	6.8	Hexavalent Chromium	18540-29-17	20	356
073-SB-054	6.4	Hexavalent Chromium	18540-29-18	20	71.6
073-SB-067	8.7	Hexavalent Chromium	18540-29-24	20	36.3
073-SB-067	5.7	Hexavalent Chromium	18540-29-25	20	1370
073-SB-067	3.7	Hexavalent Chromium	18540-29-26	20	211
073-SB-067	2.7	Hexavalent Chromium	18540-29-27	20	62.4
073-SB-067	0.7	Hexavalent Chromium	18540-29-19	20	54.3
073-SB-067	-1.3	Hexavalent Chromium	18540-29-20	20	33.3
073-SB-067	-4.3	Hexavalent Chromium	18540-29-21	20	132
073-SB-067	-5.3	Hexavalent Chromium	18540-29-22	20	86.3
073-SB-067	-7.8	Hexavalent Chromium	18540-29-23	20	201
073-SB-068	4.5	Hexavalent Chromium	18540-29-33	20	179
073-SB-068	2.5	Hexavalent Chromium	18540-29-34	20	35.1
073-SB-068	1	Hexavalent Chromium	18540-29-35	20	42.1
073-SB-068	-2	Hexavalent Chromium	18540-29-28	20	23.9
073-SB-068	-3.5	Hexavalent Chromium	18540-29-29	20	28.2
073-SB-068	-5.5	Hexavalent Chromium	18540-29-30	20	66.3
073-SB-068	-7.5	Hexavalent Chromium	18540-29-31	20	112
073-SB-068	-10	Hexavalent Chromium	18540-29-32	20	81.2
073-SB-069	4.4	Hexavalent Chromium	18540-29-39	20	176
073-SB-069	1.9	Hexavalent Chromium	18540-29-40	20	23.8

EXHIBIT B-2

Restricted Area Data Table

Deed Notice #4 Tract 2 Site 073 and Tract 1 SA-7

Portion of Block 24601, Lot 1 and Portion of Block 21901 Lot 8

Jersey City, New Jersey

Location	Elevation (feet msl)	Contaminant	CASR#	NJDEP Chromium SCC (mg/kg)	Soil Concentration (mg/kg)
073-SB-069	0.4	Hexavalent Chromium	18540-29-41	20	20.1
073-SB-069	-3.6	Hexavalent Chromium	18540-29-36	20	24.5
073-SB-069	-7.6	Hexavalent Chromium	18540-29-37	20	106
073-SB-069	-10.1	Hexavalent Chromium	18540-29-38	20	24.5
073-SB-101	7.7	Hexavalent Chromium	18540-29-43	20	705
073-SB-101	-1.3	Hexavalent Chromium	18540-29-42	20	21.1
073-SB-103	3.75	Hexavalent Chromium	18540-29-43	20	71.6
073-SB-103	1.7	Hexavalent Chromium	18540-29-44	20	1490
073-SB-103	-0.3	Hexavalent Chromium	18540-29-45	20	523
073-SB-103	-2.3	Hexavalent Chromium	18540-29-46	20	35
073-SB-103	-4.3	Hexavalent Chromium	18540-29-47	20	23.6
073-SB-103	-6.3	Hexavalent Chromium	18540-29-48	20	136
073-SB-103	-8.3	Hexavalent Chromium	18540-29-49	20	35.4
073-SB-103	-10.3	Hexavalent Chromium	18540-29-50	20	76
073-SB-104	4.5	Hexavalent Chromium	18540-29-51	20	362
073-SB-104	2.5	Hexavalent Chromium	18540-29-52	20	4710
073-SB-104	0.5	Hexavalent Chromium	18540-29-53	20	118
073-SB-104	-1.5	Hexavalent Chromium	18540-29-54	20	144
073-SB-104	-3.5	Hexavalent Chromium	18540-29-55	20	112
073-SB-104	-5.5	Hexavalent Chromium	18540-29-56	20	25.7
073-SB-104	-7.5	Hexavalent Chromium	18540-29-57	20	54.6
073-SB-104	-9.5	Hexavalent Chromium	18540-29-58	20	87.3
073-SB-104	-11.5	Hexavalent Chromium	18540-29-59	20	67.4
073-SB-105	0.6	Hexavalent Chromium	18540-29-60	20	52.6
073-SB-105	-1.4	Hexavalent Chromium	18540-29-60	20	36.7
073-SB-105	-3.4	Hexavalent Chromium	18540-29-60	20	69.4
073-SB-105	-7.4	Hexavalent Chromium	18540-29-60	20	125
073-SB-105	-9.4	Hexavalent Chromium	18540-29-60	20	264
073-SB-105	-11.4	Hexavalent Chromium	18540-29-60	20	142
073-SB-106	2.5	Hexavalent Chromium	18540-29-60	20	36.7
073-SB-106	-1.5	Hexavalent Chromium	18540-29-60	20	76.1
073-SB-106	-3.5	Hexavalent Chromium	18540-29-60	20	50.3
073-SB-106	-5.5	Hexavalent Chromium	18540-29-60	20	57.7
073-SB-106	-7.5	Hexavalent Chromium	18540-29-60	20	59.3
073-SB-106	-9.5	Hexavalent Chromium	18540-29-60	20	23
073-SB-106	-11.5	Hexavalent Chromium	18540-29-60	20	88.7

Notes:

Results reported in mg/kg.

Data Qualifiers:

J-Data indicates the presence of a compound that meets the identification criteria. The concentration is an approximate value.

Abbreviations:

Feet bgs - Feet below ground surface

mg/kg - milligrams per kilogram

feet msl = feet mean seal level NAVD88 - North American Vertical Datum of 1988

NJDEP Chromium SCC - New Jersey Department of Environmental Protection Chromium Soil Cleanup Criteria, revised April 2010

EXHIBIT C
Deed Notice #4 Site 073 and SA-7

C-1 Institutional Controls
C-2 Engineering Controls
Portion of Block 24601, Lot 1 and a portion of Block 21901 Lots 8 and 10
City of Jersey City, New Jersey

C-1 Institutional Controls

C-1 Deed Notice, Consent Decree (attached), as Institutional Controls: Exhibit C-1 (A and B) for those portions of Block 24601, Lot 1 and of Block 21901 Lots 8 and 10, City of Jersey City, New Jersey known as Tracts 1 and 2.

Exhibits C-1A and C-1B. Exhibit C-1A: Deed Notice as Institutional Control; Exhibit C-1B: Consent Decree as Institutional Control; Exhibits C-1A and C-1B include a narrative description of the restrictions and obligations of this Deed Notice and the other Institutional Controls that are in addition to those described above, as follows:

(A) General Description of the Institutional Control:
The Property is comprised of two tracts of land; Tract 1 is on a portion of SA-7 and Tract 2 is on a portion of Site 073 on SA-6 South. Tract 1 is an approximately 22,323 square foot area on SA-7 between the bulkhead and the western hydraulic barrier installed at SA-7. Tract 1 includes the western hydraulic barrier wall of SA-7. Tract 1 is the "Technically Impracticable Area or TI Area" identified in the SA-7 RAR. NJDEP issued a conditional No Further Action letter for SA-7 soils on December 23, 2010, that excludes the TI Area. Soils within Tract 1 do not meet the 20 mg/kg objective in the NJDEP Chromium Policy. Tract 1 soils exceeding 20 mg/kg hexavalent chromium are covered by at least 7 feet of clean soils. Tract 1 will not be remediated by Honeywell; instead the 7-foot thick clean soil cap will remain in place and Tract 1 will be subject to this Deed Notice. Tract 1 also includes two steel sheetpile "wing walls" that project toward the bulkhead from the northern and southern corners of the hydraulic barrier intersections. These wing walls are part of the SA-7 Remedy in that they act to minimize re-contamination of the clean backfill material placed in the TI area from either the north or south. The Riverwalk feature including bulkhead improvements, additional fill soils and hardscape features will be constructed over top of the Tract 1 Deed Notice Area. The provisions of the LTMP, developed pursuant to the Consent Decree, will apply to Tract 1 of the Property.

Tract 2 is an approximately 11,689 square foot area adjacent to the bulkhead partially between the western boundary of the SA 6 South western hydraulic barrier wall and the bulkhead and partially south. The 100% Design plan for the Tract 2 area was to excavate the top 4 feet of soils within the area and defer additional excavation below a depth of 4 feet until implementation of the Bayfront Redevelopment Plan when the bulkhead will either be repaired or replaced. Because an approximately 5-foot thick concrete slab was unexpectedly encountered while excavating in this area and because

removal of this concrete would jeopardize the integrity of the bulkhead, excavation of residual chromium-impacted soil at any depth in Tract 2 will be coordinated with bulkhead improvement work to be implemented during the Bayfront Redevelopment Project. Tract 2 soils exceeding 20 mg/kg hexavalent chromium are covered by at least 1 foot of clean soils. In the meantime, Honeywell will institute this deed notice on this area which will include both Tracts 1 and 2. Once the remediation of the Tract 2 area is complete and soils in Tract 2 have a hexavalent chromium concentration of less than 20 mg/kg to a depth of 20 feet below ground surface, Honeywell will terminate the deed notice for Tract 2 with approval of the Court and the Department pursuant to Paragraph 13 above. In the meantime, the LTMP, developed pursuant to the Consent Decree, will apply to Tract II of the Property.

(1) Description and estimated size of the Restricted Areas as described above;

The Property constitutes a portion of Block 24601, Lot 1 and a portion of Block 21901 Lots 8 and 10. The estimated size of the Area containing chromium-impacted soils (hexavalent chromium above 20 mg/kg) as identified on Exhibit B-1 is estimated at approximately 34,000 square feet or approximately 0.781 acres.

(2) Description of the restrictions on the Property by operation of the Institutional Control;

The Property shall only be used for activities consistent with this Deed Notice, the Consent Decree, and the applicable zoning standards. Intrusive activities (i.e., excavation or digging) that breach the engineering controls (as described in Exhibit C-2) will not be permitted on the Property except in compliance with the terms of the Consent Decree and the applicable portions of the LTMP developed thereunder, and this Deed Notice. See subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information. A copy of the LTMP is maintained by Honeywell at 115 Tabor Road, Morris Plains, NJ 07950.

(3) The objective of the restrictions;

The restrictions will prohibit contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy Criteria of 20 mg/kg.

(B) Description of the monitoring necessary to determine whether:

(1) Any disturbances of the soil in the Restricted Areas resulted in the unacceptable exposure to the soil contamination;

Visual inspections of the Property and other monitoring as set forth in the Consent Decree and the applicable portions of the LTMP developed thereunder.

(2) There have been any land use changes subsequent to the filing of this Deed Notice or the most recent biennial certification, whichever is more recent;

***Same as (B)(1*).**

(3) The current land use on the Property is consistent with the restrictions in this Deed Notice;

Same as (B)(1).

(4) Any newly promulgated or modified requirements of applicable regulations or laws apply to the site; and

Review of newly promulgated or modified requirements of applicable regulations or laws that potentially may apply to the site.

(5) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

***Same as (B)(4)*.**

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) Land use at the Property is consistent with the restrictions in the Consent Decree, this Deed Notice, and the applicable zoning standards; and

(3) The remedial action that includes this Deed Notice continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including evaluation of any available documents as a result of changes in land use or incidents.***
- ***A report that determines whether or not the land use at the Property has remained consistent with the restrictions in the Consent Decree, this Deed Notice*, and *the applicable zoning standards.***
- ***A report that determines whether or not the Deed Notice continues to be protective of the public health and safety and the environment.***

C-2 Engineering Controls
Deed Notice #4 Site 073 and SA-7
Portion of Block 24601, Lot 1 and Portion of Block 21901 Lots 8 and 10
City of Jersey City, New Jersey

Exhibits C-2: Narrative description of the Engineering Controls including Clean Fill as follows:

(A) General Description of the engineering controls:

(1) Description of the engineering controls;

The Engineering Controls consist of the following: The engineering controls for Tract 1 Study Area 7 (Site 115) include a minimum 7 to 14 feet of clean soil cover (crushed stone) and for Tract 2 Study Area 6 South (Site 073) a minimum of 1 foot of clean soil cover plus asphalt pavement as shown on Exhibit B-1.

(2) The objective of the engineering controls; and

The objective of the controls is to prevent contact with soils containing hexavalent chromium above the level established in the NJDEP Chromium Policy of 20 mg/kg.

(3) How the engineering controls are intended to function.

The soil engineering controls are intended to function as a barrier to underlying and adjacent soils containing hexavalent chromium above 20 mg/kg within the Property. Monitoring requirements for the engineering controls are set forth in the applicable portions of the LTMP.

(B) Description of the operation and maintenance necessary to ensure that:

(1) Periodic inspections of each engineering control are performed in order to determine its integrity, operability, and effectiveness;

Honeywell will perform monitoring by visual inspection of the Property pursuant to the Consent Decree for the portion of the Property that lies within SA-6 South. Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(2) Each engineering control continues as designed and intended to protect the public health and safety and the environment;

Same as (B)(1) above.

(3) Each alteration, excavation or disturbance of any engineering control is timely and appropriately addressed to maintain the integrity of the engineering controls;

Same as (B)(1) above. Also, see the Consent Decree and subsections 7A Alterations, Improvements, Disturbances, and 7B Emergencies for additional information.

(4) The engineering controls are being inspected and maintained and their integrity remains so that the remedial action continues to be protective of the public health and safety and of the environment;

Same as (B)(1) above.

(5) A record of the self-inspection dates, name of the inspector, results of the inspection and condition(s) of the engineering controls. Sampling, for example, may be necessary if it is not possible to visually evaluate the integrity/performance of the engineering controls; and

Records of the inspections are to be maintained as listed in (5). Other monitoring activities shall be performed as set forth in the applicable portions of the LTMP developed pursuant to the Consent Decree.

(6) Any new standards, regulations, or laws apply to the Property that might necessitate additional sampling in order to evaluate the protectiveness of the remedial action which includes this Deed Notice, and conduct the necessary sampling; and

A review of any new standards, regulations, or laws will be conducted. Should the review indicate that other activities are necessary, those activities will be listed and executed.

(C) Description of the following items that will be included in the biennial certification:

(1) A monitoring report that describes the specific activities, pursuant to (A) and (B), above, conducted in support of the biennial certification of the protectiveness of the remedial action that includes this Deed Notice;

(2) The engineering controls continues to operate as designed; and

(3) The remedial action that includes the engineering control continues to be protective of the public health and safety and of the environment.

The monitoring report will be included in the biennial certification. Components of the monitoring report will include the following:

- ***A report of all conditions set forth in sections (A) and (B) above to assure that they have been adhered to, including an evaluation to determine whether or not the engineering controls are continuing to meet the original objective and intended function.***
- ***A report to determine whether or not the engineering controls continue to operate as designed.***
  A report to determine whether or not the engineering controls continue to be protective of the public health and safety and of the environment.

Appendix I
Consent Decree

APPENDIX I

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY MUNICIPAL UTILITIES AUTHORITY, Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Docket No. 05-5955(DMC) Consolidated under Docket No. 95-2097 (DMC)
JERSEY CITY INCINERATOR AUTHORITY Plaintiff, v. HONEYWELL INTERNATIONAL INC., Defendant.	Civil Action No. 05-5993 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097 (DMC)
HACKENSACK RIVERKEEPER, INC., *et al.* Plaintiffs, v. HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	Civil Action No. 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

FIRST AMENDED CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 SOUTH

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RECITALS

Whereas, on June 30, 2003, the district court for the District of New Jersey (hereafter "the Court") issued a Final Judgment in *Interfaith Community Organization v. Honeywell International Inc.*, Civ. No. 95-2097 (DMC) (*"ICO v. Honeywell"*), ordering the remediation of an area designated by the New Jersey Department of Environmental Protection ("NJDEP") as Study Area 7 by excavation of all chromium contamination on the property, under the oversight of a court-appointed Special Master;

Whereas, on or about December 23, 2005, the Jersey City Municipal Utilities Authority ("JCMUA") filed litigation styled *Jersey City Municipal Utilities Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5955 (DMC), bringing claims against Honeywell International Inc. ("Honeywell") under, *inter alia*, Section 6972 of the Resource Conservation and Recovery Act ("RCRA"), and seeking remediation of chromium contamination on property then-owned by JCMUA and other relief;

Whereas, on or about December 28, 2005, the Jersey City Incinerator Authority ("JCIA") filed litigation styled *Jersey City Incinerator Authority v. Honeywell International Inc.,* D.N.J., Civ. No. 05-5993 (DMC), bringing claims against Honeywell under, *inter alia*, Section 6972 of RCRA, and seeking remediation of chromium contamination on property then-owned by JCIA and other relief;

Whereas, on or about January 4, 2006, the Hackensack Riverkeeper, Inc., Captain William Sheehan, Reverend Winston Clarke, and Lawrence Baker ("Riverkeeper") filed litigation styled *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.,* D.N.J., Civ. No. 06-022 (DMC), bringing a claim against Honeywell under RCRA and seeking remediation of chromium contamination to soils, groundwater, surface waters, and sediments associated with

various properties collectively designated by NJDEP as Study Areas 5, 6 North, which includes the properties formerly owned by JCMUA and JCIA, and 6 South;

Whereas, Study Areas 6 North and South are directly adjacent to Study Area 7 on the north and south sides, respectively;

Whereas, Study Area 5 is comprised of properties to the east of Study Areas 6 North, 6 South, and 7 across Route 440;

Whereas, Riverkeeper also named as defendants in *Riverkeeper v. Honeywell* owners of the properties comprising Study Areas 5, 6 South, and 6 North;

Whereas, *JCMUA v. Honeywell*, *JCIA v. Honeywell,* and *Riverkeeper v. Honeywell* were consolidated by the Court (hereinafter the "Consolidated Litigation");

Whereas, in the Consolidated Litigation, Riverkeeper has alleged that Honeywell bears responsibility for the presence and remediation of chromite ore processing residue ("COPR") and chromium in soils and groundwater on the Study Area 6 South property;

Whereas, on April 21, 2008, the Court entered the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North (hereafter "the Study Area 6 North Consent Decree") resolving issues between Honeywell, Riverkeeper, and the Jersey City Entities related to chromium contamination at Study Area 6 North;

Whereas, on April 21, 2008, the district court for the District of New Jersey entered the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. (hereafter "Jersey City/Honeywell Consent Order"), filed in the Consolidated Litigation simultaneously with the Study Area 6 North Decree, which resolved claims and cross-claims between Honeywell and the Jersey City Entities;

Whereas, on May 28, 2008, the Court entered the Consent Order on Sediment Remediation and Financial Assurances ("Sediment Consent Order"), resolving issues related to the remediation of chromium contaminated sediments in the Hackensack River in the vicinity of Study Areas 5, 6, and 7;

Whereas, on September 3, 2008, the Court entered the Deep Overburden and Bedrock Groundwater Remedies Consent Order (hereafter "the Deep Groundwater Consent Order") resolving all issues related to the remediation of deep overburden and bedrock groundwater in both *ICO v. Honeywell* and the Consolidated Litigation;

Whereas, on May 13, 2011, Plaintiffs sent Honeywell a RCRA citizen action suit notice letter with respect to Site 163, and the Parties agree that the incorporation of Site 163 into this Consent Decree resolves any claims asserted, or that could have been asserted, in the RCRA notice letter or in any RCRA citizen suit with respect to Site 163;

Whereas, the Parties to this Consent Decree each believe that it is in their mutual interest to move forward productively to resolve their differences so that they can implement environmental remediation at Study Area 6 South that ensures the continued protection of human health and the environment and so that Study Area 6 and Study Area 7 can be redeveloped in keeping with Jersey City's vision for a revitalized West Side;

Whereas, the Local Redevelopment and Housing Law, N.J.S.A. 40A:12A-1, *et seq.*, as amended and supplemented (the "Redevelopment Law") provides for municipalities to participate in the redevelopment and improvement of areas in need of redevelopment;

Whereas, Study Area 6 and Study Area 7 consist of parcels which by ordinance adopted by the City Council of Jersey City on February 27, 2008, have been determined to be "areas in

need of redevelopment" under the criteria of the Redevelopment Law because of conditions prevalent on those parcels;

Whereas, the settlement which is the subject matter of this Consent Decree contemplates the environmental remediation of Study Area 6 South and redevelopment of the parcels that comprise Study Areas 6 and 7 to create a major mixed use project in an important section of Jersey City; and

Whereas, each of the actions to implement this Consent Decree have been fully considered by the Honeywell, the Riverkeeper, and Jersey City as a means to accomplish the aforesaid purposes of this settlement:

NOW, THEREFORE, IT IS HEREBY ORDERED AND DECREED AS FOLLOWS:

ARTICLE I: DEFINITIONS

For purposes of this Consent Decree, the following terms shall have the meanings set forth in this Article:

1. **"20 to 1000 Soils"** shall mean those soils containing less than 1000 mg/kg of hexavalent chromium, but greater than 20 mg/kg. **"20 to 240 Soils"** shall mean those soils containing less than 240 mg/kg of hexavalent chromium, but greater than 20 mg/kg.

2. **Bayfront Redevelopment LLC** shall have the meaning set forth in paragraph 4.1 of the Jersey City/Honeywell Consent Order.

3. **COPR** shall mean Chromite Ore Processing Residue.

4. **Chromium Remedy or Chromium Remediation** shall mean the remedy set forth in Article III.

5. **Consolidated Litigation** shall mean *Jersey City Municipal Utility Authority v. Honeywell International Inc.*, D.N.J., Civ. No. 05-5955 (DMC), *Jersey City Incinerator*

Authority v. Honeywell International Inc., D.N.J., Civ. No. 05-5993 (DMC), and *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-022 (DMC).

6. The **Court** shall mean the United States District Court of the District of New Jersey, which has jurisdiction over the Consolidated Litigation.

7. **Deep Groundwater Consent Order** shall mean the Deep Overburden and Bedrock Groundwater Remedies Consent Order entered by the Court on September 3, 2008, in both *ICO v. Honeywell* and the Consolidated Litigation.

8. **Deep Groundwater Remedy** shall mean the deep overburden and bedrock groundwater pump and treat remedy as required by the Order Approving the Deep Overburden Groundwater Remediation, entered on October 6, 2006, the Stipulation on Consent Regarding the Schedule for Implementation of Deep Groundwater Remedial Actions, entered on August 15, 2008, in *ICO v. Honeywell,* and the remedies required under the Deep Groundwater Consent Order.

9. **Development Area of Concern** ("AOC") shall mean those portions of Study Area 6 South in which the hexavalent chromium concentration in the top 20 feet of soil below ground surfaces exceeds a concentration of 20 mg/kg, and for which future uses of the property may include commercial or residential development. The Open Space AOC shall not be part of the Development AOC and vice versa. The Development AOC consists of two parts: the Kellogg Street Development AOC and the Site 163 Development AOC. Collectively, the two parts shall be referred to as the "Development AOC." The approximate boundaries of the Development AOC as a whole and its two parts are shown on Exhibit A, but the boundaries may be further defined in the implementation of the Chromium Remedy. For the Kellogg Street Development AOC, remedial measures shall assume only a residential use. For the Site 163 Development AOC, remedial measures shall be implemented with the goal of unrestricted use, but limitations

on future uses (including prohibiting residential use) in some or all of the Site 163 Development AOC may be part of the remedy as set forth in paragraph 61.

10. **Hackensack River Watershed Land Trust** shall mean the dedicated fund of the Hackensack Riverkeeper, Inc., established under Section 501(c) of the Internal Revenue Code for the purpose of acquiring and preserving open space within the Hackensack River watershed and administered by the Board of Trustees of the Hackensack Riverkeeper, Inc.

11. **Honeywell** shall mean Honeywell International Inc. and its affiliates, including 425-445 Route 440 Property LLC, Kellogg Street 80 Property LLC, Kellogg Street 60 Property LLC, and Kellogg Street/440 Property LLC.

12. **Honeywell's Treatment Plant** shall mean the treatment plant currently located at 80 Kellogg Street that is used to treat, *inter alia*, chromium contaminated groundwater.

13. ***ICO v. Honeywell*** shall mean *Interfaith Community Organization v. Honeywell International Inc.*, D.N.J., Civ. No. 95-2097 (DMC).

14. **Including** shall mean including, but not limited to.

15. **JCIA** shall mean the Jersey City Incinerator Authority.

16. **JCMUA** shall mean the Jersey City Municipal Utilities Authority.

17. **Jersey City Entities** shall mean the City of Jersey City, including the Department of Public Works ("DPW") and other agencies and branches thereof, the JCIA, and the JCMUA.

18. **Jersey City/Honeywell Consent Order** shall mean the Settlement Consent Order by and between the Jersey City Entities and Honeywell International Inc. entered in the Consolidated Litigation on April 21, 2008.

19. **"L-Well Groundwater"** shall mean the groundwater found at the depth of the "L" wells on and near the former bowling alley property, NJDEP Site 124, located at 427 Route 440. The L-Well Groundwater is located within what has been referred to as the plume diversion area.

20. **NJDEP** shall mean the New Jersey Department of Environmental Protection.

21. **NJDEP Chromium Directive** shall mean the Chromium Directive issued by NJDEP on February 8, 2007, and attached as Exhibit B.

22. **Open Space AOC** shall mean the portion of Study Area 6 South that is identified as The Promenade park and Grand Boulevard extending from Route 440 to the Hackensack River on page 39 of the Redevelopment Plan and for which the future uses of the property shall be restricted pursuant to paragraph 74, following remediation pursuant to paragraph 65. The Development AOC shall not be part of the Open Space AOC and vice versa. The approximate boundaries of the Open Space AOC are shown on Exhibit A, and the boundaries may be further defined in the implementation of the Chromium Remedy.

23. **Party or Parties** shall mean any one or all of the signatories to this Consent Decree.

24. **RCRA** shall mean the Resource Conservation and Recovery Act, 42 U.S.C. § 6901, *et seq.*, as amended.

25. **Redevelopment Area** shall mean Study Area 6 North, Study Area 6 South, and Study Area 7, collectively.

26. **Redevelopment Law** shall mean the New Jersey Local Redevelopment and Housing Law, N.J.S.A. § 40A:12A1, *et seq.*, as amended and supplemented.

27. **Redevelopment Plan** shall mean the Bayfront I Redevelopment Plan as adopted by Jersey City on March 12, 2008.

28. **Remedial Investigation Work Plan Addendum or RIWP Addendum** shall mean the "Remedial Investigation Work Plan Addendum Study Area 6 South" submitted to NJDEP on June 27, 2008.

29. **Riverkeeper** shall mean the plaintiffs in *Hackensack Riverkeeper, Inc. v. Honeywell International Inc.*, D.N.J., Civ. No. 06-22 (DMC), and includes the Hackensack Riverkeeper, Inc., William Sheehan, Reverend Winston Clarke, and Lawrence Baker.

30. **Sediment Consent Order** shall mean the Consent Order on Sediment Remediation and Financial Assurances, entered by the Court in *ICO v. Honeywell* and this Consolidated Litigation on May 28, 2008.

31. **Shallow Groundwater** or **Shallow Level of Groundwater** shall mean groundwater above the meadow mat, groundwater at stratigraphically equivalent depths in locations where there is no meadow mat, and groundwater that is contaminated by recent contact with COPR or other chromium soil contamination above the meadow mat and subsequently flows downward through or past the meadow mat into the upper portion of the lacustrine sediments. This does not include groundwater found in the bedrock, the deep zone, or any plume of contamination that is in both the intermediate and deep zones, as those zones are defined in the Final Groundwater Investigation Report, prepared in *ICO v. Honeywell*, dated February 2007, p. 1-2.

32. **Site** shall mean Study Area 6 South.

33. **Site Preparation Activities** shall mean those activities necessary to begin implementation of the Chromium Remedy in Article III of this Consent Decree, including, if appropriate, the temporary or permanent relocation of current activities and operations conducted on Study Area 6 South.

34. **Soil** shall mean soils, historic fill, and/or COPR.

35. The **Special Master** shall mean Senator Robert G. Torricelli, appointed as the Special Master in *ICO v. Honeywell* and the Consolidated Litigation, and his successors or whomever the Court may appoint as Special Master.

36. **Stratum O** shall mean the layer composed of soft brown silty fine sand interlayered with soft gray silty clay and fine sandy to clayey silt generally located above the meadow mat below the Historic Fill and/or COPR.

37. **Study Area 5** shall mean that property comprising Sites 79, 90, 117, 153, and 184 of the Chromate Chemical Production Waste Sites designated by NJDEP, comprising approximately 42 acres and including (a) all such property owned by Bob Ciasulli consisting of Block 1291, Lot 76, and Block 1292, Lots 1F, 47, 48, 53, and 54PL, located at 540 Route 440, Jersey City, New Jersey, (b) all such property owned by Elisabeth and Rafael Rosario consisting of Block 1292, Lot 49, located at 93 Fisk Street, Jersey City, New Jersey, (c) all such property owned by Michael Vo consisting of Block 1292, Lot 50, located at 95 Fisk Street, Jersey City, New Jersey, (d) all such property owned by NJCU consisting of Block 1286, Lots 5 and 6D and Block 1286.5, Lots 1 and 2, Jersey City, New Jersey, (e) all such property owned by Inland Southeast Jersey City LLC consisting of Lot 1, Block 1285.5 located at 440 Route 440, Jersey City, New Jersey, and (f) all such property owned by 425/445 Route 440 Property LLC, consisting of Block 1289.5, Lot E, Jersey City, New Jersey.

38. **Study Area 6 North** shall mean the property comprising Sites 87 and 88 of the Chromate Chemical Production Waste Sites designated by NJDEP, which is subject to the Study Area 6 North Consent Decree.

39. **Study Area 6 North Consent Decree** shall mean the Consent Decree and Order Regarding Remediation and Redevelopment of Study Area 6 North, entered by the Court on April 21, 2008, in the Consolidated Litigation.

40. **Study Area 6 South** shall mean (a) that property currently owned by Bayfront Redevelopment Property LLC consisting of Site 73, located at 200 Kellogg Street Jersey City, Hudson County, New Jersey; (b) that property currently owned by Bayfront Redevelopment LLC consisting of Site 134, located at 100 Kellogg Street Jersey City, Hudson County, New Jersey; (c) that property currently owned by Bayfront Redevelopment LLC consisting of Site 140 located at 80 Kellogg Street Jersey City, Hudson County, New Jersey; (d) that property currently owned by Bayfront Redevelopment LLC consisting of Site 125, located at 60 Kellogg Street Jersey City, Hudson County, New Jersey; (e) that property currently owned by Bayfront Redevelopment LLC consisting of Site 124, Jersey City, Hudson County, New Jersey; (f) that property currently owned by Kellogg St/Harsimus Cove Realty located at 150 Kellogg Street, Jersey City, Hudson County, New Jersey, (g) that property currently owned by Bayfront Redevelopment LLC located at 38 Kellogg Street, Jersey City, Hudson County, New Jersey; (h) that property currently owned by Bayfront Redevelopment LLC located at 28 Kellogg Street, Jersey City, Hudson County, New Jersey; and (i) that property currently owned by Bayfront Redevelopment LLC, consisting of Site 163, formerly the Colonial Concrete Company, located at 75 Kellogg Street in Jersey City, Hudson County, New Jersey.

41. **Study Area 6** shall mean Study Area 6 North and Study Area 6 South, collectively.

42. **Study Area 7** shall mean (a) that property currently owned by Bayfront Redevelopment LLC located at 425 and 445 Route 440, Jersey City, Hudson County, New Jersey, and (b) that

property currently owned by Bayfront Redevelopment LLC located at 465 Route 440, Jersey City, Hudson County, New Jersey.

43. **Technical Requirements for Site Remediation** shall mean the NJDEP Technical Requirements for Site Remediation, N.J.A.C. Chapter 26E, as duly and properly promulgated and amended.

44. **Unrestricted Use** shall mean that the contaminated medium is restored to a condition or quality suitable for all uses.

ARTICLE II: SCOPE OF THE CONSENT DECREE, JURISDICTION, AND CLAIMS RESOLVED

45. This Court has jurisdiction over the Parties and subject matter of the Consolidated Litigation pursuant to Section 6972 of RCRA.

46. For purposes of this Consent Decree, the Riverkeeper Complaint in the Consolidated Litigation states claims upon which relief may be granted against Honeywell.

47. In the event that this Decree is not terminated by one or more Parties pursuant to paragraph 113, this Consent Decree resolves, settles, and satisfies all claims by Riverkeeper against Honeywell with respect to soils, shallow groundwater and L-Well groundwater at Study Area 6 South. This Consent Decree does not resolve any claims by Riverkeeper against Honeywell with respect to Study Area 5 or property owned by Regnal Realty consisting of Block 1288.2, lot 1, located at 420 Route 440, Jersey City, New Jersey.

48. Nothing in this Consent Decree shall be construed or interpreted to waive any claim or defense any Party has asserted or may assert against any third party in the Consolidated Litigation except as explicitly stated herein.

49. This Consent Decree does not constitute an admission of liability on the part of any Party with respect to any claims, cross-claims, or counter-claims in the Consolidated Litigation.

ARTICLE III: CHROMIUM REMEDIATION

A. General Terms and Requirements

50. **Responsibility for Implementation of Chromium Remediation.** As between the Parties, Honeywell shall be responsible for and shall undertake remediation of COPR and chromium present in Study Area 6 South at Honeywell's sole cost and expense. Remediation of COPR and chromium present in Study Area 6 South shall be undertaken in accordance with the terms of this Consent Decree.

51. **Designation of Chromium Areas of Concern.** For the purposes of remediation, Study Area 6 South shall consist of two AOC's, designated as the Open Space AOC and the Development AOC as shown approximately on Exhibit A. The exact boundaries of the two AOC's shall be subject to further delineation during the design and implementation of the Chromium Remedy.

52. **Consistency of the Chromium Remedy with NJDEP Guidance and Remedial Action Work Plan.** The Chromium Remedy shall be consistent with the NJDEP Technical Requirements for Site Remediation, the Chromium Directive as issued by NJDEP on February 8, 2007 ("the NJDEP Chromium Directive"), and any Remedial Action Work Plan, including any modifications or addenda approved by NJDEP. Prior to submitting any Remedial Action Work Plan, Honeywell shall take all reasonable steps to ensure that the plan is consistent with the Chromium Remedy. However, this Consent Decree shall have precedence over any Remedial Action Work Plan in the event of any inconsistency. The approved Remedial Action Work Plan is a minimum standard, and the Chromium Remedy may be more protective than the remedy NJDEP approves.

53. **General Scope of the Chromium Remedy.** The Chromium Remedy shall address shallow groundwater and L-Well groundwater containing total chromium concentrations of 70 µg/l or greater and soil containing hexavalent chromium at concentrations of 20 mg/kg or greater within the top 20 feet of soil below the ground surface, and shall be consistent with the requirements set forth in this Article. The Chromium Remedy set forth in this Consent Decree addresses only the shallow and L-Well levels of groundwater (see paragraphs 69 - 72). The deep overburden and bedrock groundwater remediation, including source control, is addressed in the Deep Groundwater Consent Order.

54. **Development of a Schedule for the Chromium Remedy.** The Chromium Remedy shall be carried out diligently, and the development and implementation of any remedy required by NJDEP for non-chromium contamination shall not delay satisfaction of the milestones in the Schedule established pursuant to this paragraph. Within 90 days of entry of this Consent Decree, Honeywell shall propose a Master Schedule for the implementation of the Chromium Remedy .

(a) The Master Schedule shall incorporate the following dates:

(i) No later than August 15, 2008, Honeywell shall submit a Chromium Impacted Soils Pilot Test Work Plan to NJDEP and Riverkeeper;

(ii) No later than September 15, 2008, Honeywell shall complete field work in accordance with the RIWP Addendum;

(iii)No later than December 31, 2008, Honeywell shall submit an Initial Treatment Study Report and Remedial Action Work Plan pursuant to paragraph 86(c);

(iv) No later than July 31, 2012, Honeywell shall submit the soil and groundwater data from its 2010 and 2011 supplemental investigation of Site 163, a brief summary report, and

a designation of the boundaries of the Site 163 Development AOC to the Special Master pursuant to paragraph 86(c);

(v) No later than October 1, 2012, Honeywell shall submit an addendum to the Study Area 6 South 100% Design setting forth the 100% Design for the Site 163 Development AOC portion of the Study Area 6 South Chromium Remedy; and

(vi) Honeywell shall undertake, in good faith, to begin implementation of the Chromium Remedy by March 1, 2013.

(b) In addition, the Master Schedule shall propose deadlines for the following milestones:

(i) Submission of all documents subject to submission and review pursuant to paragraph 86(c);

(ii) Completion of those Site Preparation Activities necessary for the implementation of the Chromium Remedy;

(iii)Submission, following implementation of the soil components of the Chromium Remedy for the Development AOC, of the groundwater plans and reports required by paragraphs 70 and 72;

(iv)Completion of additional sampling for shallow groundwater delineation pursuant to paragraph 71 and a proposal for a remedy pursuant to paragraph 71, if needed;

(v) The submission of a 50% Design Report for the Chromium Remedy;

(vi) The submission of a 100% Design Report for the Chromium Remedy;

(vii) The date for completion of the installation of the Chromium Remedy;

(viii)Implementation of the long-term protections of the Open Space AOC established pursuant to paragraph 74; and

(ix) Transfer of the Open Space AOC to Jersey City pursuant to paragraph 74(a)(iii).

B. Initial Chromium Remedy Steps: Delineation, Treatment Study, and Remedial Action Work Plan

55. **Delineation of Development AOC.** Honeywell shall conduct further soil sampling on Study Area 6 South in accordance with the RIWP Addendum. In addition to the locations set forth in the RIWP Addendum, Honeywell shall conduct further soil sampling pursuant to the provisions of the RIWP Addendum at the boring locations set forth in Exhibit E. Upon completion of the soil sampling required by this paragraph, Honeywell shall submit a Second Supplemental Remedial Investigation Report that sets forth the results of the sampling and Honeywell's proposal as to the delineation of the Development AOC. In conjunction with its proposal, Honeywell shall set forth its rationale as to whether prior sampling data should be included or excluded in the proposed delineation. The soil sampling and submission of a Second Supplemental Remedial Investigation Report shall be completed in accordance with the Schedule set forth in paragraph 54. Honeywell shall submit the Second Supplemental Remedial Investigation Report pursuant to paragraph 86(c). The Site 163 Development AOC shall be exempt from the requirements of paragraphs 55-58.

56. **Conduct of a Treatment Study in the Development AOC.** Honeywell shall conduct a field study of the efficacy of *in situ* treatment of 20 to 1000 Soils in accordance with the Chromium Impacted Soil Pilot Test Work Plan. The purpose of the pilot test shall be to evaluate whether *in situ* chemical treatment of 20 to 1000 Soils with one or more reductants can result in the permanent establishment of hexavalent chromium concentrations below 20 mg/kg under conditions in those areas of the Development AOC that may be subject to treatment as a remedy. Honeywell shall provide the raw data from the pilot test to NJDEP and Riverkeeper in scientifically useable electronic form as soon as the data become available. Honeywell shall

submit an Initial Treatment Study Report setting forth the initial results of the pilot test pursuant to paragraph 86(c) .

57. **Continued Monitoring of the Treatment Study.** As the result of the need to complete Study Area 7 remediation, to maintain Study Area 7 remediation support operations currently located on Study Area 6 South, and to conduct Site Preparation activities including the relocation of operating businesses on Study Area 6 South in advance of implementation of the Chromium Remedy, the Parties do not anticipate that implementation of field work for the Chromium Remedy will begin until March 1, 2013. Honeywell shall continue to monitor the performance of the pilot test and shall submit a Final Treatment Study Monitoring Report assessing the long term effectiveness of treatment for 20 to 1000 Soils in the Development AOC pursuant to paragraph 86(c) no later than December 31, 2011.

58. **Submission of a Remedial Action Work Plan.** On or before December 31, 2008, Honeywell shall submit a Remedial Action Work Plan for the Chromium Remedy pursuant to paragraph 86(c). The Remedial Action Work Plan shall be consistent with the Chromium Remedy set forth in this Consent Decree.

C. Development AOC Soil Remedy

59. **Remedial Components.** In the Development AOC, soils containing hexavalent chromium at concentrations greater than 20 mg/kg shall be remediated as follows:

(a) Soils with a concentration greater than 1000 mg/kg shall be:

(i) Excavated and disposed of off-site at a waste disposal facility licensed to accept such waste; or

(ii) Treated *ex situ* and consolidated under the cap in the Open Space AOC provided the requirements of paragraphs 60 and 63 are satisfied and provided that such soils do not

require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a).

(b) 20 to 1000 Soils shall be:

(i) Excavated and consolidated within the Open Space AOC provided that such soils do not require venting of gases and do not serve as the basis for gas venting as set forth in paragraph 65(a); or

(ii) Excavated and disposed of off-site pursuant to the requirements of paragraph 59(a); or

(iii) Remediated pursuant to paragraphs 59(c) or 59(d) provided that such soils are also 20 to 240 soils and meet the requirements of paragraphs 59(c) or 59(d).

(c) 20 to 240 Soils may be remediated by excavation and consolidation within the Study Area 6 North AOC 1 Open Space Area, provided that such soils do not require venting of gases and shall not serve as the basis for the inclusion of gas venting as part of the Study Area 6 North AOC 1 Open Space Area remedy.

(d) 20 to 240 Soils within the Site 163 Development AOC may be remediated by *in situ* treatment, provided the requirements of paragraph 61 are satisfied.

60. **Treatment and Consolidation of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** *Ex situ* treatment and consolidation under the Open Space AOC cap may be used as a remedial component for soils containing greater than 1000 mg/kg hexavalent chromium provided that the requirements of this paragraph are satisfied:

(a) Honeywell demonstrates in the Final Treatment Study Monitoring Report that the proposed treatment will likely result in the reduction of the hexavalent chromium concentration of the treated soils such that the post-treatment total chromium concentration shown by Toxicity

Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C);

(b) Following a review of the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d), NJDEP agrees that Honeywell has made the demonstration required by paragraph 60(a).

(c) Plaintiffs have had an opportunity to review and comment on the demonstration required by paragraph 60(a) pursuant to the NJDEP review process set forth in paragraph 86(d)and pursuant to the Special Master review process set forth in paragraphs 86(e)-86(f); and

(d) Following review of the demonstration required by paragraph 60(a) pursuant to the Special Master review process set forth in paragraph 86(f), the Special Master issues a recommendation finding that Honeywell has made the demonstration required by paragraph 60(a) or the Court finds that Honeywell has made the demonstration required by paragraph 60(a) in the event that any Party seeks the Court's review of the Special Master's recommendations under this paragraph.

61. **Treatment as a Remedial Component for 20 to 240 Soils.** *In situ* treatment may be used as a remedial component for the 20 to 240 Soils in the Site 163 Development ACO, provided that such soils are 3 feet or more below ground surface and the requirements of this paragraph are satisfied:

(a) If Honeywell elects to treat *in situ* 20 to 240 Soils in the Site 163 Development AOC, Honeywell shall include in the 100% Design Addendum for Site 163 a plan for such treatment. Such treatment plan shall be comparable in detail and approach to the pipeline treatability plan which is Appendix F to the Study Area 6 North 100% Design. The goal of such *in situ* treatment

shall be to reduce hexavalent chromium soil concentrations to less than 20 mg/kg in soils 20 feet or less below ground surface;

(b) Three years after conducting the treatment set forth in subparagraph (a), Honeywell shall collect additional soil samples in the treated areas to evaluate the success of the treatment. These soil samples shall be analyzed for EH, pH, hexavalent chromium (using EPA/NJDEP Methods 3060A/7199), and sulfides (using EPA Method 9030B). Within 60 days of its receipt of the final data from such sampling, Honeywell shall submit a report with such data to the Special Master pursuant to paragraph 86(c);

(c) In the event that the sampling pursuant to subparagraph (b) shows that soils with greater than 20 mg/kg hexavalent chromium remain or that excess treatment reductant remains present, Honeywell may elect to pursue one or more of the following approaches after providing notice to the Special Master, Riverkeeper and the Jersey City Entities;

(i) In the case of excess treatment reductant remaining in the soil, continue to monitor such areas pursuant to subparagraph (b) until the excess reductant is no longer present;

(ii) In the case of soils with greater than 20 mg/kg hexavalent chromium:

(1) Excavate such soils and consolidate them under the cap in the Open Space AOC, consolidate them under the cap in the Study Area 6 North AOC 1 Open Space Area, and/or dispose of them off-site provided that in each instance the applicable requirements of paragraph 59 are satisfied;

(2) Conduct further *in situ* treatment using additional treatment reductant and submit a monitoring plan pursuant to paragraph 64; or

(3) In the event that the soils are within the areas depicted as River Front Park, Riverfront Drive or Kellogg Street on page 39 of the Redevelopment Plan, cover the affected

soils with a road, walkway, and/or other hardscape and restrict the use of that area through each of the following institutional controls:

(a) Issuance and recording of a conservation restriction comparable to that required under paragraphs 74(b) and 74(d);

(b) Transfer of title to that area to Jersey City pursuant to paragraphs 74(a)(iii) through 74(a)(iv)(2); and

(c) Issuance and recording of a deed notice comparable to that required under paragraphs 74(c) and 74(d).

62. **Submissions Related to Site 163.** Pursuant to the Schedule, Honeywell shall prepare and submit the following with regard to Site 163:

(a) A summary report of all chromium soil and groundwater data collected during site investigations in 2010 and 2011; and

(b) An addendum incorporating Site 163 into the 100% Design.

63. **Post-Treatment Analysis of Soils Containing Greater than 1000 mg/kg Hexavalent Chromium.** In the event that *ex situ* treatment is used as a final remedy for any portion of the soils containing greater than 1000 mg/kg pursuant to paragraph 59(a)(ii), Honeywell shall conduct post-treatment analysis of each treated batch of soil to demonstrate that the treatment has resulted in the reduction of the hexavalent chromium concentration such that the post-treatment total chromium concentration shown by Toxicity Characteristic Leaching Procedure SW-846, Test Method 1311, is less than 5 mg/l and the soils are no longer classified as hazardous waste under 40 C.F.R. 261.24 (Subpart C). Such monitoring and demonstration shall be made prior to consolidation of the treated soils under the Open Space AOC cap pursuant to paragraph 59(a)(ii). In the event that Honeywell fails to make the demonstration required by this paragraph,

Honeywell shall dispose of the soils off-site at a waste disposal facility licensed to accept such waste.

64. **Post-Treatment Monitoring for 20 to 1000 Soils.** In the event that *in situ* treatment is used as a final remedy for any portion of the 20 to 1000 Soils, Honeywell shall conduct post-treatment monitoring to demonstrate that the treatment has resulted in permanent hexavalent chromium concentrations of less than 20 mg/kg in the treated area. Honeywell shall propose a program of post-treatment monitoring in a document that is submitted pursuant to paragraph 86(c). In the event that Honeywell fails to make the demonstration required by this paragraph, Honeywell shall propose further remedial actions pursuant to paragraph 59 in a document that is submitted pursuant to paragraph 86(c).

D. Open Space AOC Components of the Chromium Remedy

65. **Open Space AOC Soil Remedy.** In the Open Space AOC, the soil remedy shall consist of an engineered RCRA cap to isolate contaminated soils with gas venting, if necessary, to address the generation of methane and other naturally occurring gases in the Stratum O and/or Stratum D in the Open Space AOC. Soils consolidated under the cap, pursuant to paragraph 59(b)(i), shall not require gas venting and shall not be the basis for the inclusion of gas venting as a component of the cap. The cap shall be designed and constructed so that:

(a) The cap shall consist of a gas collection system, if gas venting is necessary, a base protective layer, an impervious geomembrane liner with a minimum thickness of 40 mil; a geocomposite drainage layer; a filter fabric; and a distinctive colored warning layer with markings in English and Spanish that would deter penetration of the cap in the event that digging occurred in the vicinity of the cap;

(b) All utilities, including those supporting the pump-and-treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the cap (but may be below the ground surface and/or contained within utility corridors). In the event that above-cap-grade gas collection and treatment is selected or is needed to meet current or future regulatory requirements, such collection and treatment facilities are prohibited in the Open Space AOC, except for piping to connect the sub-liner collection system with the treatment facilities; and

(c) Exclusive of roadways, the cap shall be overlain by layers of clean fill, backfill and/or overburden with an average depth of at least three feet and a minimum depth of at least two feet provided that any layer that incorporates overburden shall be below at least two feet of clean fill. Any clean fill or backfill soil brought to the Site will either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master. One foot of clean fill, covered with bituminous blacktop, shall be sufficient cover where roads, walkways, or other paved surfaces are located within the Open Space AOC. All clean soil fill in areas that will not involve paved roads, walkways, or other paved surfaces shall be vegetated in such a manner as to protect and maintain the required depth of the clean soil fill and to ensure that such vegetation shall not cause any interference with or penetration of the cap.

(d) The existing overburden soils in the Open Space AOC shall first be stripped off and set aside for use. If hexavalent chromium concentrations in the overburden exceed 20 mg/kg, the overburden shall be placed under the cap. If hexavalent chromium concentrations in the overburden do not exceed 20 mg/kg, the overburden may be placed above the cap but below the

two feet of clean fill required by paragraph 65(c). Excavated 20 to 1000 Soils from the Development AOC shall be placed and spread in the Open Space AOC under the cap. Both the chromium impacted soils and the previously stripped overburden shall be suitably compacted according to design specifications. Debris, to the extent it would interfere with the compaction specification requirements of the 100% Design, shall not be placed under the cap. The engineered cap shall be installed over the chromium-impacted soils exceeding 20 mg/kg hexavalent chromium.

E. Demolition, Grading, and Backfill Requirements

66. **Demolition and Grading Activities.** During demolition and grading activities, adequate protective measures shall be taken to protect site workers and the community from airborne dusts and exposures to contaminated soils.

67. **Backfill Requirements.** Soils excavated from the Development AOC shall be replaced with backfill soil. Any backfill soil brought to the Site shall either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with a beneficial soil reuse plan that is approved by NJDEP and subject to review and comment by the Parties and approval by the Special Master.

68. **Vegetation of Clean Fill.** All clean soil fill in areas that will not involve paved roads, sidewalks, paths, walkways, or building structures shall be vegetated in such a manner to protect and maintain the required depth of clean soil fill.

F. Groundwater Components of the Chromium Remedy

69. **Shallow Groundwater Remedy for the Open Space AOC.** The Open Space AOC shallow groundwater remedy shall consist of hydraulic barriers with a pump-and-treat system designed to isolate shallow groundwater and to intercept and treat shallow groundwater flowing

above the meadow mat in the Open Space AOC to the extent that such groundwater contains total chromium in concentrations in excess of 70 µg/l. The shallow groundwater remedy shall consist of the following:

(a) The existing soil/cement/bentonite wall on the boundary of Study Area 6 South and Study Area 7 shall be incorporated into the other engineering controls;

(b) Subterranean slurry walls or other hydraulic barriers shall be installed along the southern, eastern and western sides of the Open Space AOC and keyed into the meadow mat or Stratum O or to comparable depths below ground surface;

(c) A groundwater extraction system shall be established that shall consist of (i) one or more shallow extraction wells, sumps, or french drains within the Open Space AOC; (ii) pumps; and (iii) underground piping to convey any extracted water to Honeywell's Treatment Plant;

(d) The capture zone for the shallow groundwater remedy shall include at least the entire area of contaminated shallow groundwater within the Open Space AOC;

(e) A plan for control of water levels shall be developed;

(f) In the event that underground structures are demolished, the plans shall address the need for special attention for structures that extend below the meadow mat in order to control needed water levels; and

(g) Honeywell shall submit such information as is required to allow NJDEP to establish a classification exception area for groundwater at the Site, in accordance with NJDEP regulations.

70. **The Shallow Groundwater Remedy for the Development AOC.** Following implementation of the Development AOC soil components of the Chromium Remedy, Honeywell shall submit a report to (a) determine whether shallow groundwater remaining in the

Development AOC exceeds 70 µg/l total chromium and, (b) if so, evaluate the need for further remedial measures to address any such shallow groundwater remaining in the Development AOC with total chromium concentrations in excess of 70 µg/l. This evaluation shall be subject to review and comment by the Parties and approval by the Special Master.

(a) In the event that the evaluation demonstrates that further remedial measures are necessary, Honeywell shall propose such measures subject to review and comment by the Parties and approval by the Special Master;

(b) The capture zone of any remedy shall include at least the entire area of contaminated shallow groundwater except for shallow groundwater that is captured and subject to the shallow groundwater remedy for the Open Space AOC pursuant to paragraph 69;

(c) In the event that a pump-and-treat system is selected as a contingency measure for shallow groundwater in the Development AOC, all infrastructure for the pump-and-treat contingency system that is needed to ensure that the contingency system is fully operational, as required by paragraph 70(d), shall be installed prior to or in conjunction to any development of the Site. This includes at least one shallow extraction well, sump, or french drain, and the piping to convey any extracted groundwater to Honeywell's water treatment plant;

(d) If it is determined that the pump-and-treat contingency system must be activated, the pump-and-treat system shall be operational no later than six months after the date of the determination.

71. **Off-Site Shallow Groundwater Remedy.** Honeywell shall propose additional sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site. Honeywell shall submit a report of the results of such sampling and, in the event that contaminated shallow groundwater is found to extend off-site, a proposal for a remedy based on

such results. The report and the proposal for a remedy shall be subject to review and comment by the Parties and approval by the Special Master.

72. **L-Well Groundwater Remedy.** At the time this Decree is entered, the L-Well Groundwater is contained and not contributing to further contamination of surrounding waters and/or soils. However, in order to verify that this status continues following implementation of the Chromium Remedy, including any groundwater remedial measures pursuant to paragraphs 70 and 71, Honeywell shall propose a plan for one round of monitoring designed to evaluate whether the L-Well Groundwater remains contained. The plan shall include monitoring for total and hexavalent chromium and major ion chemistry to determine whether there has been movement in the L-Well Groundwater.

(a) In the event that no substantial change is detected in the major ion chemistry, no further action is required unless paragraph 72(c) is applicable.

(b) In the event that substantial changes are detected in the major ion chemistry, Honeywell shall propose a plan for further monitoring of the L-Well Groundwater. Such a plan shall be subject to review and comment by the Parties and approval by the Special Master.

(c) In the event that the initial monitoring or monitoring conducted pursuant to paragraph 72(b) demonstrates that proximate waters have total chromium concentrations in excess of 70 µg/l, regardless of whether there is a change in the major ion chemistry, Honeywell shall propose a remediation plan for the L-Well Groundwater. Such remediation plan shall be subject to review and comment by the Parties and approval by the Special Master.

G. Permits and Authorizations

73. **Permits and Authorizations.** Honeywell shall obtain all necessary federal, state, and local permits and authorizations to carry out the Chromium Remedy as set forth in this Article.

H. Long-Term Monitoring, Maintenance, and Protection of Engineering and Institutional Controls

74. **Protection of the Open Space AOC.** Except as provided in paragraphs 74(j) and 74(k), development in the Open Space AOC shall be prohibited. The Open Space AOC shall be protected against activities that may jeopardize the integrity of the cap and/or the groundwater remedial measures that shall be installed in the Open Space AOC pursuant to the Chromium Remedy or that may impede the long-term monitoring and maintenance of the cap and/or groundwater remedial measures. It is the intention of the Parties to implement different layers of protection, which alone or in concert, impose restrictions on development, run with the land, and survive all parties. Accordingly, the following actions shall be taken pursuant to the Schedule provided in paragraph 54:

(a) **Ownership of and Access to the Open Space AOC.** Ownership of and access to the Open Space AOC shall be in accordance with the following:

(i) Bayfront Redevelopment LLC, as the current owner in fee simple absolute of all property that comprises the Open Space AOC, shall not convey any rights or interests in any parcel that comprises the Open Space AOC property except as provided in this Decree. Within 90 days of entry of this decree, Bayfront Redevelopment LLC shall give Jersey City an option to buy all of the Open Space AOC property prior to the planned transfer pursuant to paragraph 74(a)(iii). Such option to buy shall be subject to the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall exercise the option to buy the Open Space AOC in the event that the conditions allowing for withdrawal of funds from the financial assurance mechanisms under paragraphs 98(c) or 98(d) are met;

(ii) Within 90 days of the entry of this Consent Decree, Bayfront Redevelopment LLC shall grant a conservation restriction for the Open Space AOC pursuant to the requirements of paragraph 74(b);

(iii) Upon the final construction of all roads and utility corridors within the Open Space AOC, Bayfront Development LLC shall donate good and marketable title to all the land comprising the Open Space AOC to Jersey City. In conjunction with such donation, Bayfront Redevelopment LLC shall petition to subdivide the properties within Study Area 6 South to create a new parcel(s) comprising the Open Space AOC. At the time of the donation, Jersey City shall grant Honeywell an easement for the purpose of monitoring and maintaining the Chromium Remedy. Jersey City shall also grant Honeywell all necessary access to the Open Space AOC by license or such other mechanisms as may be appropriate for purposes of monitoring and maintaining the Chromium Remedy. After it acquires title pursuant to this paragraph, Jersey City shall retain ownership of the Open Space AOC unless and until it shall have complied with the requirements of paragraph 74(a)(iv);

(iv)After it acquires title pursuant to this paragraph, Jersey City shall not convey or enter into any lease of the Open Space AOC to any other person or entity unless it has first satisfied either of the following conditions:

(1) Jersey City has obtained the Special Master's (or if the Special Master's appointment has expired, the Court's) approval to convey the Open Space AOC to a government entity that has the capacity and willingness to fulfill Jersey City's obligations under the Consent Decree with respect to the Open Space AOC and such entity agrees to submit to the Court's jurisdiction and to be bound by the requirements of the Consent Decree that Jersey City has committed to fulfill with respect to protection of the Open Space AOC pursuant to this paragraph

and routine maintenance of the permissible development in the Open Space AOC pursuant to paragraph 78(d); or

(2) The Open Space AOC has been remediated such that no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive, and Jersey City has demonstrated to the Special Master and/or the Court, as appropriate, that such remediation has been completed in accordance with all applicable requirements.

(b) **Conservation Restriction.** Prior to the grant of the option to buy pursuant to paragraph 74(a)(i), Bayfront Redevelopment LLC shall grant an open space conservation restriction, pursuant to N.J.S.A. 13:8-B-1, *et seq.*, over the Open Space AOC substantially in the form set forth in Exhibit C. Exhibit C is a conservation restriction that is consistent with the terms of this paragraph and this Consent Decree. The conservation restriction shall allow for the implementation, maintenance, monitoring, repair and replacement of the Chromium Remedy and development consistent with paragraphs 74(j) and 74(k), including the construction and placement of roads and utilities. The Conservation Restriction shall also allow for current uses of the Open Space AOC to continue until such time as construction of the Chromium Remedy begins. The Hackensack River Watershed Land Trust shall be the primary holder of the conservation restriction, with all rights of monitoring and enforcement. Riverkeeper shall propose an entity to serve as the secondary holder of the conservation restriction subject to comment by the Parties and review by the Special Master. The secondary holder shall have secondary rights of monitoring and enforcement.

(i) The conservation restriction shall be incorporated into this Consent Decree and made part of this Consent Decree. The final, executed conservation restriction shall be lodged with the Court and entered as an order of the Court. The conservation restriction shall be enforceable in this Court, in the same manner as this Consent Decree.

(ii) The conservation restrictions provided under this Consent Decree shall be consistent with the prohibited and permitted development of the Open Space AOC as set forth in paragraphs 74(j) and 74(k) below.

(iii) Jersey City shall not take any action, whether through exercise of any power of eminent domain, application to the State of New Jersey for approval of a diversion of public park or recreation land, legal challenge to the validity or enforceability of the conservation restriction, or otherwise, the effect of which would be to in any way terminate, abrogate, or diminish the terms, conditions, or purposes of the conservation restriction. If, notwithstanding the preceding sentence, Jersey City proceeds with a condemnation or other action, the result of which would be to terminate, abrogate, or otherwise diminish the terms, conditions, or purposes of the conservation restriction, Jersey City shall, before taking any such action satisfy all of the conditions set forth in paragraph 74(a)(iv)(2).

(iv) Notwithstanding the foregoing, the conservation restriction may be terminated upon application of any Party when no hexavalent or total chromium contamination remains in the Open Space AOC, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive standards for Unrestricted Use in place at the time, whichever is more restrictive.

(c) **Deed Notice.** Upon completion of the Chromium Remedy, the Open Space AOC shall be subjected to the deed notice substantially in the form set forth in Exhibit D that restricts

future activities on the Open Space AOC. Nothing in the deed notice shall be construed as preventing the imposition of more stringent restrictions on the development allowed in the Open Space AOC pursuant to this paragraph and, in particular, the conservation restriction provided for in paragraph 74(b).

(d) **Recording of the Consent Decree, Conservation Restriction, and Deed Notice.** This Consent Decree, the conservation restriction imposed pursuant to paragraph 74(b), and the deed notice imposed pursuant to paragraph 74(c) shall be recorded, pursuant to N.J.S.A. §§ 46:15-1.1, 46:16-1.1, and 46:16-2, in the office of the Hudson County Register and a conspicuous reference to the Consent Decree, conservation restriction, and deed notice shall be included in all instruments concerning title to the Open Space AOC. Any Party shall have the right, periodically, but no more than once every 25 years, to record memoranda or other instruments that reference, incorporate, or attach this Consent Decree, the conservation restriction, the deed notice, and/or any further orders of the Court related to the Open Space AOC in the real estate records related to the Open Space AOC.

(e) **Zoning.** Pursuant to the Redevelopment Plan, the Open Space AOC is designated for open space and park. Jersey City shall not amend or change this designation unless it first satisfies the requirements of paragraph 74(a)(iv)(2).

(f) **Recreation and Open Space Inventory.** Upon acquiring fee simple absolute title to the Open Space AOC, Jersey City shall add those portions of the Open Space AOC not covered by roads, the pedestrian thoroughfare, and utility corridors adjacent to roads onto its Green Acres Program Recreation and Open Space Inventory ("ROSI") pursuant to N.J.A.C. § 7:36 and shall specify in such listing that it is subject to (i) Honeywell's prior easement to monitor, maintain, repair, and replace the Chromium Remedy; (ii) the actions necessary to implement, monitor,

maintain, repair, and replace the Chromium Remedy; (iii) the actions necessary to install any development permissible under paragraphs 74(j) and 74(k); and (iv) the conservation restriction imposed pursuant to paragraph 74(b). Jersey City shall also take all steps necessary or appropriate to notify the New Jersey Green Acres Program that such portions of the Open Space AOC have been added to its ROSI, such that those portions of the Open Space AOC shall thereafter be subject to all procedural and regulatory requirements applicable under the Green Acres Program, including prohibitions against diversion.

(g) **Eminent Domain.** If all or part of the Open Space AOC is taken in exercise of the power of eminent domain, or acquired by purchase in lieu of condemnation, by any public, corporate, or other authority so as to terminate, abrogate, or limit the restrictions created by this Consent Decree or the conservation restriction imposed pursuant to paragraph 74(b), in whole or in part, any Party may take appropriate actions to challenge such taking if there is a reasonable legal basis for doing so. In the event that the Parties are unable to prevent a taking notwithstanding their reasonable and appropriate efforts, any Party may take appropriate actions to recover the full value of the interests in the Open Space AOC subject to the taking or in lieu purchase, and all direct and incidental damages, costs, and fees occasioned thereby.

(h) **Environmental Covenant.** In the event that New Jersey enacts the Uniform Environmental Covenants Act or its substantial equivalent, the Parties shall address the issue of whether an environmental covenant shall be established for the Open Space AOC under the statute. If the Parties are unable to reach agreement on establishment of an environmental covenant, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of an environmental covenant if it would provide substantial additional protection for the Open Space AOC without

unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(i) **Future Protections.** Any Party shall have the right to propose consideration of additional or substitute protections for the Open Space AOC. If the Parties are unable to reach agreement with regard to the proposal, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. The Special Master shall recommend adoption of additional or substitute protections for the Open Space AOC if they would provide substantial additional protection for the Open Space AOC without unreasonably harming the interests of any Party. Any Party shall have the right to seek review by the Court of the Special Master's recommendation or consideration by the Court of the dispute in the event that the Special Master's appointment has expired.

(j) **Prohibited Development in Open Space AOC.** Only development satisfying the requirements of this paragraph and paragraph 74(k) shall be permitted in the Open Space AOC. All other development in the Open Space AOC shall be prohibited.

(i) Honeywell shall establish Open Space Design Standards that shall govern all development in the Open Space AOC regardless of when the construction or installation of permissible development occurs. The Open Space Design Standards shall satisfy each of the requirements set forth in paragraph 74(j)(v) and shall set forth the requirements for development that are necessary for the protection of the integrity of the Chromium Remedy.

(ii) The Initial Development in the Open Space AOC shall be the development undertaken following the completion of the Chromium Remedy in the Open Space AOC. The Initial Development may occur in one or more phases. Honeywell and Bayfront

Redevelopment LLC shall prepare a Development Plan before the initiation of each phase of the Initial Development. The Initial Development Period for each phase shall consist of the period covered by the Initial Development, plus a period of 10 years following the submission of the as-built documentation for the phase pursuant to paragraph 74(j)(viii).

(iii) The Special Master shall have jurisdiction to review the Open Space Design Standards and the Development Plan(s) solely for the purpose of ensuring that any development undertaken during the Initial Development Period is consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy. The Special Master's jurisdiction with regard to development in the Open Space AOC shall run through the Initial Development Period for each phase.

(iv) Honeywell shall ensure that the requirements of this paragraph and paragraph 74(k) are satisfied with regard to any development undertaken within the Initial Development Period. Honeywell shall also ensure that any development undertaken within the Initial Development Period is designed and installed in a manner consistent with this Consent Decree and with protection of the integrity of the Chromium Remedy.

(v) Any development undertaken in the Open Space AOC, regardless of when undertaken, shall satisfy each of the following requirements:

(1) It shall not jeopardize the integrity of the Chromium Remedy;

(2) It shall be limited to the types of development permitted under paragraph 74(k);

(3) It shall be consistent with this Consent Decree, including the conservation restriction imposed pursuant to paragraph 74(b), and the Redevelopment Plan; however, in the

event of any conflict or inconsistency between this Decree and the Redevelopment Plan, this Decree shall govern;

(4) In total, at least 75% of the Open Space AOC, exclusive of the acreage used for roads and the pedestrian thoroughfare, shall be comprised of landscaping, as defined by paragraph 74(k)(xi);

(5) The portion of the Open Space Design Standards necessary for protection of the Chromium Remedy as related to all roads, the pedestrian thoroughfare and associated utility corridors as well as the general location of such items shall be included in the 100% Design of the Chromium Remedy;

(6) If the lowest elevation for the bedding for any utility line, including irrigation or sprinkler lines, is two feet from the top of the warning layer of the cap, the utility line shall be placed in a utility corridor;

(7) In any event, there shall be two feet of soil or more between the warning layer of the cap and the lowest elevation of the bedding for any irrigation or sprinkler lines; and

(8) No permanent concession facilities shall be permitted.

(vi) Honeywell shall submit the Open Space Design Standards and the Development Plan(s) for any development undertaken during the Initial Development Period pursuant to the requirements of paragraph 86(c), except that such documents need not be submitted to NJDEP. Following Honeywell's submission of such documents, the procedures of paragraphs 86(e) and 86(f) shall apply, except that the Special Master need not provide notice to NJDEP.

(vii) During the Initial Development Period, any development in the Open Space AOC shall require the preparation and submission of a Development Plan pursuant to

paragraph 74(j)(vi) and such Development Plan shall be subject to review by the Special Master pursuant to paragraph 74(j)(iii).

(viii) Upon completion of each phase of the Initial Development, Honeywell shall provide as-built documentation for the Initial Development to the Special Master, Riverkeeper, and Jersey City. Upon completion of any further development during the Initial Development Period for the phase, Honeywell shall also provide as-built documentation to the Special Master, Riverkeeper, and Jersey City for the additional development. Such additional as-built documentation for a phase shall not affect the running of the Initial Development Period for the phase.

(ix)During the Initial Development Period, replacement in-kind of development features or facilities included in the Initial Development or minor modifications to the development features or facilities included in the Initial Development shall not require the preparation of a Development Plan or be subject to review by the Special Master, provided that such replacement or modification satisfies the requirements of the Open Space Design Standards, the applicable Development Plan, and paragraphs 74(j)(v) and 74(j)(x)(3)(notice requirement).

(x) After the Initial Development Period, all development is prohibited unless one of the following conditions is met:

(1) Jersey City satisfies the conditions set forth in paragraph 74(a)(iv)(2);

(2) The development is a replacement in-kind and such replacement is made in conformance with the specifications of the Open Space Design Standards, the applicable Development Plan, and paragraph 74(j)(v); or

(3) The development meets the requirements of paragraphs 74(j)(v) and 74(j)(xi), and Jersey City provides notice of its intention to alter or add to the development undertaken in the Initial Development Period. Such notice shall be provided in writing to Honeywell, Riverkeeper, and the holders of the conservation restriction established pursuant to paragraph 74(b) at least 30 days prior to Jersey City's alteration or addition to development undertaken in the Initial Development Period. Honeywell, Riverkeeper, or any holder of the conservation restriction shall have the right to move the Court to prohibit such alteration or addition.

(xi) If any of the development features or facilities that Jersey City seeks to add pursuant to paragraph 74(j)(x) require utilities that would require utility corridors other than the utility corridors installed during the Initial Development Period, Jersey City shall obtain approval from the Court before installing such new utility corridors.

(xii) Jersey City shall provide Honeywell, Riverkeeper, and the holder(s) of the conservation restriction established pursuant to paragraph 74(b) with an annual report that describes any alterations or additions, including those activities under paragraph 74(j)(x)(2), to the development undertaken during the Initial Development Period.

(xiii) All development features or facilities, whether included in the Initial Development or added subsequent thereto, are subject to demolition and/or removal to the extent necessary to maintain, replace, or repair the Chromium Remedy.

(k) **Permissible Development in the Open Space AOC.** The Initial Development or any subsequent addition or alteration thereto may include any or all of the following types of development features or facilities, provided that such development features or facilities satisfy the conditions set forth in paragraph 74(j)(v):

(i) Roads and the pedestrian thoroughfare -- both crossing and running along the Open Space AOC, but no more extensive than provided for in the diagram on page 39 of the Redevelopment Plan;

(ii) Curbing and fences;

(iii) Sidewalks, paths, walkways, and nature trails;

(iv) Utilities and utility corridors, lighting, and restrooms;

(v) Irrigation or sprinkler components or systems;

(vi) Water features;

(vii) Above-ground storm water cisterns;

(viii) Signs, including the signs or display required by paragraph 74(l);

(ix) Benches, trash receptacles, and bicycle racks;

(x) Recreational facilities, such as playground equipment, bocce ball courts, tennis courts, basketball courts, and athletic fields; and

(xi) Landscaping, including natural grasses, small trees, shrubbery, flowers, and potted plants, provided that such landscaping and the anticipated root structure of each landscaping component do not and will not jeopardize the integrity of the Chromium Remedy. Any portion of an athletic field that is covered in natural grass shall be considered landscaping for purposes of the percentage set forth in paragraph 74(j)(v)(4).

(l) **Signs or Displays.** Honeywell shall develop a permanent plan for informing visitors to the Open Space AOC of the history of the chromium production, contamination, and its remediation. Such plan shall provide for appropriate signs or displays that communicate this information. Such plan shall be subject to review and comment by the Parties and approval by the Special Master.

75. **Honeywell's Ongoing Responsibility.** Honeywell shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy in perpetuity. Honeywell shall satisfy this responsibility through establishment and implementation of a Long-Term Monitoring Plan. In the event that Honeywell ceases to exist without a successor-in-interest or its obligations under this Consent Decree are stayed or limited due to a bankruptcy petition, the Court shall appoint an independent third-party fiduciary who shall be responsible for implementing, monitoring, maintaining, repairing and replacing the Chromium Remedy pursuant to the requirements of this Consent Decree and the Long-Term Monitoring Plan, unless Jersey City volunteers to assume these responsibilities for the Chromium Remedy.

76. **Long-Term Monitoring Plan.** In consultation with the Parties, and subject to approval by the Special Master and NJDEP, Honeywell shall develop a Long-Term Monitoring Plan to ensure the ongoing effectiveness of the Chromium Remedy to meet the objectives set forth in paragraphs 65, 69, 68, 69, 72, and 77. The Long-Term Monitoring Plan shall be consistent with the applicable EPA policies and guidance, including, among others, EPA's Comprehensive Five Year Review Guidance (2001) (or any subsequent revision) and with NJDEP's Technical Requirements for Site Remediation (or any subsequent revision).

77. **Long-Term Monitoring Plan Objectives.** Honeywell shall design the Long-Term Monitoring Plan to satisfy each of the following objectives:

(a) Provide monitoring to ensure that the integrity and effectiveness of the Chromium Remedy are maintained; and

(b) Provide monitoring to ensure that the restrictions of the institutional controls are being satisfied, including the prohibition on development in the Open Space AOC.

78. **Monitoring and Remediation Under the Long-Term Monitoring Plan.** The Long-Term Monitoring Plan shall include the monitoring and remediation activities set forth in this paragraph and other monitoring and remediation activities, if necessary, to meet the objectives of paragraph 77. Honeywell shall provide Riverkeeper, the Special Master, and NJDEP with annual reports on activities conducted under the Long-Term Monitoring Plan.

(a) **Monitoring Activities in the Long-Term Monitoring Plan.** Honeywell shall undertake the following monitoring activities at intervals to be specified in the Long-Term Monitoring Plan, but no less frequently than set forth below, and, if the monitoring shows it is necessary, Honeywell shall also undertake the remediation activities as set forth below:

(i) Quarterly visual inspection monitoring of the Open Space AOC to ensure that it is not being put to any use that is inconsistent with paragraphs 74(j) and 74(k) or any use that may compromise the integrity of the Chromium Remedy. The Long-Term Monitoring Plan shall include an inventory of the prohibited and permissible uses pursuant to paragraph 74 and a corresponding checklist to be used by the individuals conducting the monitoring. If Honeywell determines that the Open Space AOC is being used in a manner inconsistent with the protections or the integrity and effectiveness of the Chromium Remedy, Honeywell shall act as soon as possible to cause such use to cease and, if there has been damage to the Chromium Remedy, to repair or replace it to original specifications or to a level of protection equivalent to the original Chromium Remedy;

(ii) Quarterly visual inspection monitoring of the Open Space AOC grade and slope to identify whether erosion has occurred or is occurring. Honeywell shall remediate any significant erosion.

(iii)Quarterly visual inspection monitoring to determine whether noticeable differential settlement or subsidence has occurred or is occurring in the Open Space AOC such that the integrity of the Chromium Remedy may be materially impaired. If evidence of differential settlement or subsidence is found, Honeywell shall propose further investigative measures. Honeywell shall remediate any differential settlement or subsidence that is beyond the degree of differential settlement/subsidence allowed for in the 100% Design and repair the cap and/or the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(iv)A baseline topographic survey at the completion of the Chromium Remedy and three additional surveys conducted at five-year intervals beginning five years after the conduct of the baseline survey. The topographic survey shall be of sufficient precision and accuracy to present the results as one-foot contours;

(v) Quarterly visual inspection monitoring to determine whether the Chromium Remedy in the Open Space AOC has been disturbed. Any evidence of the distinctive warning layer materials or any other cap materials as described in paragraph 65(a) at the surface is an indication that the cap has been disturbed. In such an event, Honeywell shall propose further investigative measures to evaluate whether the integrity of the cap has been compromised. In the event that the investigative measures show that the cap integrity has been compromised, Honeywell shall repair or replace the cap and the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vi) Quarterly visual inspection monitoring to ensure that burrowing animals are not materially impairing the integrity of the Chromium Remedy. If evidence of burrowing animals is found, Honeywell shall follow humane removal procedures and repair or replace the cap and

the overlying layers to original 100% Design specifications or to a level of protection at least equivalent to the original Chromium Remedy;

(vii) Quarterly visual inspection monitoring of the vegetative cover in the Open Space AOC to ensure that vegetative cover is in conformance with the landscaping provisions of the 100% Design and the Redevelopment Plan and will not materially impair the integrity of the Chromium Remedy. Maintenance of the vegetative cover shall include, at a minimum, mowing to ensure that tree species cannot become established and removal of any other vegetation with the potential to damage the Chromium Remedy;

(viii)Quarterly groundwater monitoring to ensure that groundwater levels are maintained in accordance with the requirement to maintain an outward gradient from Study Area 7 and in accordance with the water level control plan developed pursuant to paragraph 69(e);

(ix) Monitoring of vented gases and the gas venting system to ensure proper operation of the system, to evaluate any degradation of the system, to assess the need for treatment of vented gases, either initial, subsequent, or further depending on whether treatment has been previously provided, and to detect any condition that might endanger public health or safety. Such monitoring shall be conducted on a monthly basis for at least one year and, if the readings are stable, such monitoring may be conducted thereafter on a quarterly basis; and

(x) Any additional monitoring as required by specific details added in the design phase of the Open Space AOC.

(b) **Procedures for Proposing Changes to the Long-Term Monitoring Plan.** Any Party may, from time to time, propose changes to the scope of the monitoring activities under the Long-Term Monitoring Plan. If the Parties agree, the Long-Monitoring Plan shall be so changed

subject to approval by NJDEP and by the Special Master, if his appointment has not terminated, or otherwise, by the Court. If the Parties are unable to reach agreement over alterations to the monitoring and the Special Master's appointment has not terminated under this Consent Decree, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation. In the event that the dispute arises after the Special Master's appointment has terminated, any Party may file a motion seeking a resolution of the dispute by the Court.

(c) **Contingency Plan**. As part of the Long-Term Monitoring Plan, Honeywell shall develop a contingency plan to ensure the integrity of the remediation in the event of any planned penetration of the cap or otherwise planned activity that compromises the cap or any unplanned event or accident that penetrates the cap or otherwise compromises the integrity of the Chromium Remedy. The contingency plan shall include, at a minimum, an annually updated plan to notify the relevant persons, including the Special Master, NJDEP, and the Parties, of (i) the event penetrating the cap, compromising the cap, or compromising the integrity of the Chromium Remedy; (ii) the general steps to be taken to identify the extent of the problem; and (iii) the standards for remedying the problem.

(d) **Routine Maintenance**. The title owner of the Open Space AOC shall conduct maintenance of the Open Space AOC features or facilities that are permissible under paragraphs 74(j) and 74(k). The maintenance workers shall be trained in maintenance procedures that do not jeopardize the integrity of the Chromium Remedy. The training shall include the identification and reporting of any uses or features that are not permissible in the Open Space AOC or that may jeopardize the integrity of the Chromium Remedy. Honeywell shall provide all training materials. The title owner of Open Space AOC shall annually provide to the other Parties and

the Special Master a report describing the training which has been provided to its maintenance workers. The title owner of the Open Space AOC shall also provide to the Parties and the Special Master notice of any violations of the restrictions relating to the Open Space AOC identified by its workers during routine maintenance.

(e) **Recordkeeping**. Honeywell shall maintain written logs or other records of those monitoring and remediation activities undertaken pursuant to the Long-Term Monitoring Plan. Such logs shall be provided to Riverkeeper on a quarterly basis.

79. **Monitoring and Reporting to Riverkeeper.** Riverkeeper shall be provided with all documents submitted to NJDEP and/or the Special Master with respect to the Chromium Remedy, including the documents identified in paragraph 86(c).

80. **Notice to Stakeholders.** All residents, regardless of whether they are owners or lessees, and all commercial tenants on Study Areas 6 and 7 are hereby deemed stakeholders. Honeywell shall ensure that all stakeholders shall be provided at the time of their purchase or lease with notice of the contamination, the remedial actions that have been undertaken or are planned, and the importance of reporting activities that may appear to jeopardize the integrity of the engineering controls. Notice shall be accomplished in the following manner:

(a) Bold or otherwise conspicuous language on the first page of the deed provided to all purchasers in the Residential Area;

(b) A summary notice of the Chromium Remedy which:

(i) Has been subject to review and comment by the Parties and approval by the Special Master; and

(ii) Provides a reference to public websites and libraries and/or the future equivalents thereof, where the following can be found:

(1) Zoning and other Jersey City maps showing the Open Space AOC; and

(2) Documents describing the contamination and the remediation, including:

(a) This Consent Decree;

(b) The Remedial Investigation Report and the Final Remedial Action Report,

(c) The annual reports on long-term monitoring and maintenance and repair activities as required by paragraph 78 and annual reports on changes to the Initial Development as required by paragraph 74(j)(xii); and

(d) The Long-Term Monitoring Plan.

(c) The public provision of the maps and documents referred to in paragraph 80(b)(ii) via websites and libraries and/or the future equivalents thereof; and

(d) Notices to lessees and commercial tenants in all lease documents.

81. **Annual Letter to Riverkeeper on Notice to Stakeholders.** Each year beginning one year after the issuance of the first notice in a deed or lease pursuant to paragraph 80, Honeywell shall provide a letter to the Riverkeeper documenting its compliance with paragraph 80.

82. **Future Notice to Stakeholders.** Honeywell shall ensure that all stakeholders are provided with notice, at least annually, of long-term monitoring activities and any additional remediation activities undertaken with respect to the Chromium Remedy. Such notice shall be accomplished by notices on websites or future equivalents thereof, including Jersey City websites, any websites created to provide information about the Chromium Remediation or redevelopment of the Redevelopment Area, and one or more of the following:

(a) Any community message board or other similar site used and/or maintained by stakeholders or the manager(s) of the Redevelopment Area;

(b) Mailings to all stakeholders; and

(c) Posters and flyers throughout the Redevelopment Area.

83. **Stakeholder Enforcement.** Any stakeholder shall have the right to enforce the remedial obligations of this Consent Decree in the Court, including post-implementation monitoring and maintenance obligations, and the terms of any deed notice or use restriction.

I. Oversight and Enforcement by the Special Master and NJDEP

84. **Federal Court Jurisdiction.** The Court shall retain jurisdiction for the purpose of overseeing and enforcing this Consent Decree and to review any issue or dispute which is not resolved through the oversight process described in Article III.I.

85. **Appointment and Jurisdiction of the Special Master.** The Chromium Remedy provided for in this Consent Decree is hereby referred to a Special Master pursuant to Rule 53 of the Federal Rules of Civil Procedure. The Special Master is appointed in the Consolidated Litigation for the purpose of overseeing and enforcing the Chromium Remedy, the first five years of long-term monitoring of the Chromium Remedy, financial assurances for the Chromium Remedy, and the Initial Development Period for each phase of development in the Open Space AOC. The Special Master is also appointed in the Consolidated Litigation for the limited purpose of ensuring that the scheduling and implementation of any non-chromium related remedy, any site preparation activities, and any site redevelopment activities do not undermine the integrity of, unreasonably interfere with, or unnecessarily delay the effectuation of the Chromium Remedy, the Study Area 7 remedies, and other remedies within his jurisdiction as of the date of entry of this Consent Decree. The Special Master shall have jurisdiction over all matters for which he is appointed.

86. **Oversight of the Chromium Remedy.**

(a) **NJDEP Authority**. Nothing in or pursuant to this Consent Decree shall limit NJDEP's full statutory and regulatory authority with respect to the Study Area 6 South site, including (i) permitting authority; (ii) authority to review and approve the Treatment Study reports, the Remedial Action Work Plan, the 100% Design, and final Remedial Action Report for the Chromium Remedy; and (iii) authority to issue a no further action letter.

(b) **Special Master Responsibilities**. The Special Master shall have the following responsibilities:

(i) Ensuring that Honeywell's implementation of the Chromium Remedy satisfies the requirements of this Consent Decree;

(ii) Ensuring that Honeywell's implementation of the Chromium Remedy conforms with federal, state, and local permit requirements;

(iii) Establishing a reasonable schedule for the implementation of the Chromium Remedy and monitoring conformance with it;

(iv) Reviewing monthly progress reports and conducting periodic meetings with the Parties to review the progress of the implementation of the Chromium Remedy. NJDEP shall be invited, but not required, to participate in these meetings and the decision as to whether to participate shall be left to NJDEP's sole discretion;

(v) Submitting bi-monthly progress reports to the Court pursuant to the schedule for the submission of such reports established in *ICO v. Honeywell*;

(vi) Overseeing the financial assurances established pursuant to paragraphs 91 through 100, and, until the expiration of his term pursuant to paragraph 90, overseeing the financial assurances established pursuant to paragraphs 101 through 112;

(vii) Coordinating review of the documents as provided in paragraphs 86(c) through 86(g);

(viii) Overseeing all development undertaken in the Open Space AOC during the Initial Development Period pursuant to paragraph 74(j)(iii); and

(ix) To the extent that, in matters within the jurisdiction of the Special Master as set forth herein, a dispute arises between the Parties with respect to implementation of the Chromium Remedy, issuing a recommendation to the Court with respect to the dispute.

(c) **Submission of Documents by Honeywell.** Honeywell shall submit the following documents to Riverkeeper, Jersey City, the Special Master, and NJDEP:

(i) An overall schedule with milestones for the design and implementation of the remedy ("Schedule") consistent with paragraph 54 above;

(ii) A Second Supplemental Remedial Investigation Report reporting the results of the field work conducted pursuant to paragraph 55;

(iii)A Chromium Impacted Soils Pilot Test Work Plan and Analytical Protocol for conduct of the treatment study pursuant to paragraph 56, unless such documents are agreed to by NJDEP and Riverkeeper before the entry of this Consent Decree;

(iv)An Initial Treatment Study Report for the Development AOC;

(v) A Final Treatment Study Monitoring Report;

(vi) The documents for Site 163 submitted pursuant to paragraphs 54(a)(iv), 54(a)(v), 61, and 62;

(vii) A report to evaluate the need for remediation of any potentially remaining contaminated shallow groundwater in the Development AOC after implementation of the Development AOC Soils Remedy and, based on such an evaluation, a proposal;

(viii) A report of the results of the sampling to complete delineation of contaminated shallow groundwater in the area to the southeast of the Site pursuant to paragraph 71 and, based on the results, a proposal for a remedy;

(ix) A plan for one round of monitoring to evaluate whether the L-Well Groundwater remains contained pursuant to paragraph 72;

(x) A proposal for a remedy of the L-Well Groundwater, in the event L-Well Groundwater monitoring indicates the contaminated groundwater is no longer contained, pursuant to paragraph 72;

(xi) A Remedial Action Work Plan;

(xii) A 50% Design Report (which may include the Development AOC Conceptual Design Plan as a component) as well as design drawings and specifications at the 50% level for other components of the Chromium Remedy (hereinafter the 50% Design);

(xiii) Design drawings and specifications at the 100% level (after selection of the contractor) (hereafter "100% Design");

(xiv) The data validation plan, including quality control and quality assurance protocols;

(xv) The site-wide master health and safety plan;

(xvi) The Long-Term Monitoring Plan;

(xvii) The final Remedial Action Report or final construction report (including as-built drawings and such other reports as may be prepared of the remedy as implemented);

(xviii) A program for post-treatment monitoring pursuant to paragraph 63, and, depending on such results, a proposal for further remedial actions;

(xix) A report reviewing measured groundwater levels for the groundwater remedy;

(xx) Documents required during the Initial Development Period pursuant to paragraphs 74(j)(vi), 74(j)(vii), and 74(j)(viii); and

(xxi) Other post-implementation monitoring reports as required by the Long-Term Monitoring Plan.

(d) **Initial Review of Documents by NJDEP.** The Parties and Special Master shall allow the period of time set forth below for NJDEP to conduct its review of a submission (hereinafter "NJDEP Review Period") before the document is subject to the Special Master review and approval process. During the NJDEP Review Period, any Party may submit comments to NJDEP. For the Second Supplemental Remedial Investigation Report, the Remedial Action Work Plan, the Initial Treatment Study, and the Final Treatment Study Monitoring Report, the NJDEP Review Period shall be 90 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. For any other documents identified in paragraph 86(c), the NJDEP Review Period shall be 30 days from the date of submission of the document to NJDEP, the Special Master, and the Parties. The NJDEP review period shall be extended an additional 30 days for any document for which NJDEP provides the Parties and the Special Master with notice that its review will require an additional 30 days. At the conclusion of the NJDEP Review Period, the comment and review process provided for in paragraphs 86(e) and 86(f) shall commence. In the event that any document has been revised during the NJDEP Review Period, Honeywell shall resubmit the applicable document for purposes of the comment and review provided for in paragraphs 86(e) and 86(f).

(e) **Comment on Submitted Documents**. For each of the documents submitted by Honeywell pursuant to paragraph 86(c), and following conclusion of the NJDEP Review Period as described in paragraph 86(d), the Special Master shall establish a schedule for the submission

of comments and responses to comments. For each of the documents submitted, Riverkeeper, Jersey City, the Special Master, and NJDEP shall have the right to submit comments to Honeywell. Honeywell shall address all comments received and submit a revised document. The revised document shall be submitted by Honeywell to Riverkeeper, Jersey City, the Special Master, and NJDEP. The revised document shall be subject to review and approval pursuant to paragraph 86(f), unless the Parties agree both on the revised document and that further review and approval pursuant to paragraph 86(f) is unnecessary. In that event, the Parties shall inform the Special Master that review under paragraph 82(f) is unnecessary and Honeywell shall proceed to implement the revised document.

(f) **Review and Approval of the Submitted/Revised Document**

(i) **Scope of Review**. Subject to the limitations in paragraph 82(e), all documents submitted by Honeywell, pursuant to paragraph 86(c) and 86(e), shall be subject to review and approval by the Special Master in accordance with the following procedure. All such documents, except the Schedule and the 100% Design, shall be subject to the review and approval process and shall not require an order of the Court. The Schedule and 100% Design documents shall be subject to the review and approval process, but shall also require an order of the Court as provided in paragraph 86(g). A document shall be approved if the document (1) complies with this Consent Decree; (2) complies with the Remedial Action Work Plan for the Chromium Remedy; and (3) complies with the Schedule and 100% Design.

(ii) **Procedure**. Prior to making a decision on a document, the Special Master shall notify NJDEP of his intention to rule on the document or make a recommendation to the Court on the document. Such notice shall notify NJDEP that the Special Master will consider any comments NJDEP wishes to submit on the document if such comments are submitted within

the timeframe established by the Special Master in the schedule for comments pursuant to paragraph 86(e). NJDEP shall in its sole discretion determine whether to submit comments to the Special Master.

(iii) **Court Review**. If any Party objects to the Special Master's recommendation to the Court or approval of any document pursuant to this paragraph, that Party may seek further relief from the Court with respect to the document.

(g) **Schedule and 100% Design Documents**. As to the Schedule and the 100% Design documents, Honeywell shall have the responsibility, within 30 days of the Special Master's approval of each document, of (i) moving for entry of an order by the Court approving the document as approved by the Special Master; or (ii) filing objections with the Court to the Special Master's approval (and any recommendations contained therein) and moving for entry of the Schedule or 100% Design (including any such recommendations of the Special Master to which Honeywell agrees). Riverkeeper shall have the right in these proceedings to raise any objections they might have to the Schedule or 100% Design as approved by the Special Master or to the submission by Honeywell to the Court. NJDEP shall receive notice of any motion filed with respect to the Schedule or the 100% Design.

(h) **Flexibility in 50% and 100% Design Documents**. The Parties recognize that work conducted to implement the Chromium Remedy may be conducted by Honeywell contractors and that Honeywell may establish performance-based criteria or specifications for its contractors. As a result, the Parties recognize that the 50% Design and 100% Design documents for the Chromium Remedy may include performance-based standards, criteria, and specifications. These documents shall be sufficiently prescriptive to enable the Parties and the Special Master to evaluate their conformance with the Remedial Action Work Plan and this Consent Decree. The

Parties also recognize that the 100% Design will be completed after Honeywell has selected a contractor. The Parties further recognize that completing the 100% Design after the selection of the contractor(s) shall not make the 100% Design subject to any less stringent or more deferential review. Honeywell's commitment to the contractor(s) shall not be cause to limit review by the Parties and the Special Master.

(i) **Changes to the Schedule.** The Parties recognize that changes to individual line items in the Schedule will occur. To the extent that (i) the Parties and the Special Master agree that such changes do not have a material impact on satisfaction of the Schedule milestones established for items set forth in paragraph 54; and (ii) such changes do not require modifications to any necessary permits or authorizations for the Chromium Remedy, such changes may be made upon agreement of the Parties and the Special Master without further order of the Court.

87. **Retention of Professionals.** The Special Master may retain the services of professionals and/or other technical personnel, as reasonably needed, to fulfill his obligations under this Consent Decree, and for which he will be reimbursed pursuant to paragraph 89.

88. **Insurance for the Special Master.** The Special Master shall obtain insurance coverage relating to the performance of the Special Master's duties and responsibilities under this Consent Decree. Such coverage shall be similar to the Special Master's existing coverage in *ICO v. Honeywell*, procured pursuant to the Court's November 11, 2005 Stipulation and Order Regarding Special Master's Application to Procure Insurance Coverage, and as extended to the Consolidated Litigation by the Sediment Consent Order. The insurance coverage shall be sufficiently extended in duration and scope to cover all additional duties and responsibilities as set forth hereunder. Honeywell shall pay the premiums and other administrative costs of the Special Master's insurance.

89. **Reimbursement of Special Master Fees and Expenses.** The Special Master shall submit fee applications to the Court for approval of reasonable fees and expenses incurred in the oversight of matters referred to him pursuant to this Consent Decree. Any Party may raise with the Court objections to such fee applications. Upon approval of a fee application by the Court, the reimbursement of the Special Master's fees and expenses shall be made from the escrow fund previously established by Honeywell for the purpose of paying the Special Master's fees and expenses in *ICO v. Honeywell* pursuant to this Court's September 15, 2003 Order Setting Financial Assurances and extended to the Consolidated Litigation by the Sediment Consent Order.

90. **Expiration of Special Master's Appointment.** The Special Master's appointment under this Consent Decree shall expire after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy and the Initial Development Period for each phase of development has been concluded as provided in paragraph 74(j)(ii). However, solely to the extent that the Special Master is still supervising other portions of the Consolidated Litigation or *ICO v. Honeywell* after Honeywell has completed the first five years of long-term monitoring of the Chromium Remedy or the Initial Development Period for each phase of development as provided in paragraph 74(j)(ii), whichever is later, the Special Master shall continue to have jurisdiction under this Consent Decree until he has completed his specifically enumerated responsibilities under the Final Judgment in *ICO v. Honeywell*, the Sediment Consent Order, the Deep Groundwater Consent Order, the Study Area 6 North Consent Decree, and any other future orders, decrees, or judgments in *ICO v. Honeywell* and the Consolidated Litigation. Enumerated responsibilities under any order, decree, or judgment shall include only those tasks specifically assigned to the Special Master in the order, decree, or judgment. Enumerated responsibilities

shall not include any continued jurisdiction exercised over long-term monitoring beyond the initial period specified in the order, decree, or judgment. For example, the Special Master has jurisdiction over the first five years of long-term monitoring under the Sediment Consent Order. Oversight during these five years shall be an enumerated responsibility, but any continued oversight of long-term monitoring, pursuant to the extension of the Special Master's jurisdiction beyond the first five years, as provided in paragraph 60 of the Sediment Consent Order, shall not be an enumerated responsibility. Such extensions of jurisdiction shall be effective only so long as specific enumerated responsibilities in any order, decree, or judgment have not been fulfilled.

J. Initial Financial Assurances

91. **Chromium Remedy Letter of Credit.** Honeywell shall obtain a one-year, irrevocable letter of credit (the "Chromium Remedy Letter of Credit") to be automatically renewed annually in an amount equal to the "Remedial Costs Subject to Financial Assurance."

(a) Remedial Costs Subject to Financial Assurance shall mean:

(i) The costs of implementing the Chromium Remedy calculated using factors, including inflation and discount rates, determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process;

(ii) The costs of monitoring and maintenance activities for five years, as required by the Long-Term Monitoring Plan, calculated using factors including inflation and discount rates determined to be appropriate in the Study Area 6 North Consent Decree financial assurance comment and approval process; and

(iii) A contingency of 25% with respect to those costs listed in paragraphs 91(a)(i) and 91(a)(ii).

(b) The Chromium Remedy Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution, provided that in either case, the financial institution shall be acceptable to the Special Master.

92. **Procedures for Review of the Proposed Chromium Remedy Letter of Credit.** No later than December 31, 2008, Honeywell shall submit to Riverkeeper and the Special Master for their review the proposed (a) amount of the Chromium Remedy Letter of Credit; (b) form of the Chromium Remedy Letter of Credit; and (c) name of the institution that will issue the Chromium Remedy Letter of Credit. If Riverkeeper does not agree to the terms of the Chromium Remedy Letter of Credit, the Parties shall meet and confer in an effort to resolve their differences. If the Parties are unable to reach agreement over the terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the Chromium Remedy Letter of Credit.

93. **Automatic Renewal.** The Chromium Remedy Letter of Credit shall be automatically renewed annually unless (a) no later than 120 days prior to the anniversary of the Chromium Remedy Letter of Credit issue date, the issuer provides notice of nonrenewal or (b) Honeywell seeks a reduction in the Chromium Remedy Letter of Credit, pursuant to paragraph 94, to correspond to the reduced estimate of Remedial Costs Subject to Financial Assurances. If the issuer provides notice of nonrenewal, Honeywell shall obtain a replacement irrevocable Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit. If Honeywell is not otherwise in default as provided in Article III.J, the Special Master shall direct the cancellation of the prior Chromium Remedy

Letter of Credit within 91 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit. In the event that the Special Master is entitled to draw upon a Chromium Remedy Letter of Credit because there are two Chromium Remedy Letters of Credit currently in place, the Special Master shall not draw an aggregate amount in excess of the highest valued Chromium Remedy Letter of Credit. Upon Honeywell's request, the Special Master may, at his option, decide not to require overlapping letters of credit in any year based on Honeywell's financial strength in that year, provided that Honeywell has submitted all necessary information so that the Special Master can make his determination at least 150 days prior to the expiration of the Chromium Remedy Letter of Credit.

94. **Annual Right to Seek Reduction in Amount of Chromium Remedy Letter of Credit.** Honeywell shall have the right annually to seek a reduction in the Chromium Remedy Letter of Credit. At the time of seeking such reduction, Honeywell shall submit to the Riverkeeper and the Special Master an estimate of the remaining Remedial Costs Subject to Financial Assurance, including the contingency as described in paragraph 91(a)(iii), and shall seek adjustment of the Chromium Remedy Letter of Credit so that the total estimated amount of remaining Remedial Costs Subject to Financial Assurance are covered by the Chromium Remedy Letter of Credit. However, the adjustment shall not result in reducing the Chromium Remedy Letter of Credit to an amount below the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), plus a contingency of 25% of the remaining estimated costs under paragraphs 91(a)(i) and 91(a)(ii), and shall not result in reducing the Chromium Remedy Letter of Credit to an amount less than $20,000,000 as expressed in 2008 dollars unless long-term financial assurances are in place pursuant to Article III.K. Before making any request to reduce the amount or modify the terms of the Chromium Remedy Letter of Credit, Honeywell shall first confer with the Riverkeeper and

in an effort to reach agreement on the modified amount or terms of the Chromium Remedy Letter of Credit. If the Parties are unable to reach agreement over the modified amount or terms of the Chromium Remedy Letter of Credit, the Parties shall submit the dispute to the Special Master, who shall resolve the dispute. Any Party shall have the right to seek review by the Court of the Special Master's decision regarding the modified amount or terms of the Chromium Remedy Letter of Credit. Upon agreement on the amount of the reduction or modified terms of the Chromium Remedy Letter of Credit (or upon order of the Court directing that the Chromium Remedy Letter of Credit be reduced to an identified amount or otherwise modified), Honeywell shall obtain a replacement Chromium Remedy Letter of Credit in such amount and with such terms. If Honeywell is not otherwise in default as provided in Article III.J and the issuer of the primary Chromium Remedy Letter of Credit has not provided notice of non-renewal, within 30 days after delivery to the Special Master of any replacement of a Chromium Remedy Letter of Credit, the Special Master shall direct the cancellation of the prior Chromium Remedy Letter of Credit.

95. **Bankruptcy Protection**. Neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy. The Chromium Remedy Letter of Credit shall contain the language necessary to assure that neither the Chromium Remedy Letter of Credit nor the proceeds of the Chromium Remedy Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

96. **Exclusive Court Jurisdiction**. The Chromium Remedy Letter of Credit shall recite that the issuer submits to the exclusive jurisdiction of this Court for any and all disputes arising under the Letter of Credit.

97. **Application of New York Law.** The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Chromium Remedy Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

98. **Procedures upon Honeywell's Material Default of Its Obligations.** During the period in which the Special Master has jurisdiction pursuant to paragraph 85, the Chromium Remedy Letter of Credit shall be payable to the Special Master and shall not, prior to its expiration date, be revoked or terminated except consistent with this Consent Decree and with the consent of the Special Master and approval by the Court. The Special Master's ability to draw upon the Chromium Remedy Letter of Credit shall not be limited by any agreement between Honeywell and the issuer. The Special Master may, without further order or notice to this Court, draw upon the Chromium Remedy Letter of Credit upon the occurrence of default by Honeywell, which shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 93 to deliver a replacement Chromium Remedy Letter of Credit at least 95 days prior to the expiration date of the existing Chromium Remedy Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 15 days after written notice to Honeywell thereof and either (i) Honeywell, in the opinion of the Special Master without further input from the Parties, shall have failed to cure the breach; (ii) during the 15-day period, the Court has not entered an order to prevent the Special Master from

drawing on the Chromium Remedy Letter of Credit; or (iii) the Court or the Special Master has not granted Honeywell additional time to cure the breach;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if involuntary filing has not been dismissed within 60 days; the appointment of a custodian, receiver, liquidator, or trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 98(c), and the failure of Honeywell to provide assurance to the Special Master, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

99. **Placement of Proceeds in Court Registry Investment System Account**. In the event that the Special Master draws upon the Chromium Remedy Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Chromium Remedy Letter of Credit which represent the remaining estimated Chromium Remedy costs under paragraphs 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), in an account with the Court Registry Investment System in accordance with Local Civil Rule 67.1 and not expend the proceeds of the Letter of Credit without further order of this Court. The

Special Master shall place all additional proceeds of the Chromium Remedy Letter of Credit in a trust fund pursuant to paragraph 103(b)(v).

100. **Termination of Chromium Remedy Letter of Credit**. The Chromium Remedy Letter of Credit may be withdrawn in its entirety upon the satisfaction of all of the following:

(a) The implementation of the Chromium Remedy; and

(b) Establishment of long-term financial assurance pursuant to Article III.K.

K. Long-Term Financial Assurances

101. **Long-Term Financial Assurances.** Honeywell shall fund long-term financial assurances to ensure that the activities set forth in paragraph 102(a) are carried out regardless of whether Honeywell is financially able to carry out such activities in perpetuity.

102. **Costs Subject to Long-Term Financial Assurances.**

(a) Long-term financial assurances shall provide enough funds to cover the costs of the following activities:

(i) Perpetual monitoring and maintenance of the Chromium Remedy, including installation, operation and monitoring of any above-cap-grade gas collection and/or treatment system as may be necessary, but such system is not part of the 100% Design;

(ii) Perpetual operation of the shallow groundwater remedies pursuant to paragraphs 69, 70, and 71;

(iii) Perpetual repair of the cap;

(iv) Perpetual replacement of the cap on a 75-year replacement interval; and

(v) The perpetual administration of the trust fund regardless of whether such trust fund is selected by Honeywell pursuant to paragraph 103(a) or is established from the Long-Term Letter of Credit pursuant to paragraphs 103(b)(ii), 103(b)(v), or 109.

(b) The costs that shall be subject to financial assurances is an amount that will provide the full payment for each of the activities set forth in paragraphs 102(a)(i) through 102(a)(v) plus a 25% contingency when the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to be performed. The costs subject to financial assurances are forward looking because they state an amount valued at the time the funds are needed. As such, they shall be stated in contemporary time as the present value (calculated on the basis of a discount rate of 4.75%) of the estimated future costs of the activities specified in paragraphs 102(a)(i) through 102(a)(v), plus a 25% contingency on those costs.

103. **Long-Term Financial Assurance Mechanisms.** Honeywell shall provide long-term financial assurances in the amount of the costs subject to long-term financial assurances in the form of a trust fund, a letter of credit, or some combination of the two. The selected mechanism(s) shall satisfy the following requirements:

(a) **Trust Fund.** In the event that Honeywell selects a trust fund, Honeywell shall create a trust fund such that it can provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(i) The trust fund shall be at arm's length from Honeywell and shall not be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The trust fund agreement shall contain the language necessary to assure that neither the trust fund nor the earnings of the trust fund shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The trust fund shall be managed by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution managing the

trust fund declares bankruptcy, the Court shall withdraw the funds and appoint another financial institution meeting the requirements of this paragraph to manage the trust.

(iii) No more frequently than once per year, Honeywell may apply to the Court for an order directing the trust manager to reimburse Honeywell for any costs that it has incurred to carry out the activities set forth in paragraphs 102(a)(i) through 102(a)(iv).

(b) **Long-Term Letter of Credit**. In the event that Honeywell selects a letter of credit, Honeywell shall obtain a one-year irrevocable letter of credit (the "Long-Term Letter of Credit") to be automatically renewed annually in an amount that provides sufficient funds such that a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a), could be created. The Long-Term Letter of Credit-funded trust, plus any trust fund established under paragraph 103(a), shall provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The amount of any Long-Term Letter of Credit shall therefore be adjusted periodically as the cap replacement interval is approached because, for example, the money needed in the 10th year to fund a trust that can provide for replacement of the cap in the 75th year is much less than the money that would be needed in the 40th year. Such periodic adjustments shall be proposed and approved by the Court in conjunction with the adjustments under paragraph 106.

(i) Neither the Long-Term Letter of Credit nor the proceeds of the Long-Term Letter of Credit shall be considered the property of Honeywell or property of the estate in the event of Honeywell's bankruptcy, dissolution, privatization, or sale. The Long-Term Letter of Credit shall contain the language necessary to assure that neither the Long-Term Letter of

Credit nor the proceeds of the Long-Term Letter of Credit shall be affected or restricted in any way by operation of the automatic stay in 11 U.S.C. § 362.

(ii) The Long-Term Letter of Credit shall be issued by a financial institution domiciled in the United States or by a United States subsidiary of a non-U.S. financial institution acceptable to Riverkeeper or approved by the Court. In the event that the financial institution issuing the Long-Term Letter of Credit declares bankruptcy, the Court shall authorize the drawing of funds from the Long-Term Letter of Credit and shall deposit those funds in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(iii) The then-current provisions of the Uniform Customs and Practice ("UCP") for Documentary Credits) as published by the International Chamber of Commerce or such successor organization and New York law shall apply to the Long-Term Letter of Credit at the time that Honeywell obtains such letter of credit or any replacements thereafter.

(iv) The Long-Term Letter of Credit shall be automatically renewed annually, unless, no later than 120 days prior to the anniversary of the Long-Term Letter of Credit issue date, the issuer provides notice of non-renewal. If the issuer provides notice of non-renewal, Honeywell shall obtain a replacement irrevocable Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit. If Honeywell is not otherwise in default as provided in this Article, the Court shall direct the cancellation of the prior Long-Term Letter of Credit within 91 days after delivery to the Court of any replacement of a Long-Term Letter of Credit. In the event that the Court is entitled to draw upon a Long-Term Letter of Credit when there are two Letters of Credit currently in place, the Court shall not draw an aggregate amount in excess of the highest valued Long-Term Letter of Credit.

(v) Prior to the expiration of the Special Master's appointment pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Special Master. During the time the Long-Term Letter of Credit is payable to the Special Master, the Special Master may draw on the Long-Term Letter of Credit as provided in paragraph 98. In the event that the Special Master draws upon the Long-Term Letter of Credit due to an event of default, the Special Master shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a). After the Special Master's appointment expires pursuant to paragraph 90, the Long-Term Letter of Credit shall be payable to the Court and, in the event that the Court draws on the Long-Term Letter of Credit, the Court shall place the proceeds of the Long-Term Letter of Credit in a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

(vi) Whether the Long-Term Letter of Credit is payable to the Special Master or the Court, it shall not, prior to its expiration date, be revoked or terminated by Honeywell except consistent with this Consent Decree and with the approval of the Court. The ability of the Special Master or the Court to draw upon the Long-Term Letter of Credit shall not be limited by any agreement between Honeywell and the issuer.

(vii) In the event that the Long-Term Letter of Credit is drawn upon and invested pursuant to paragraph 103(b)(ii), 103(b)(v), or 109 and Honeywell has also selected a trust fund pursuant to paragraph 103(a), resulting in the existence of two trust funds, the two trust funds shall be managed so as to ensure that the combined amount of the trust funds is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary.

(c) **Combination**. Honeywell may use some combination of a trust fund and a letter of credit to achieve the requirements of this paragraph. However, if a combination is used, Honeywell shall ensure that the combined amount of financial assurances is sufficient to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. The trust fund and the letter of credit shall otherwise satisfy all the requirements of paragraphs 103(a) and 103(b).

104. **Procedures for Review of the Proposed Long-Term Financial Assurances**. No later than June 1, 2009, Honeywell shall submit to Riverkeeper and the Special Master, for their review (a) the amount of the proposed long-term financial assurances; (b) the form(s) of the proposed long-term financial assurance mechanisms; and (c) the name(s) of the institution proposed to manage or issue the long-term financial assurances. If Riverkeeper agrees to the terms of the proposed long-term financial assurances, within 60 days of such agreement, Honeywell shall create a trust fund and/or secure a Long-Term Letter of Credit on those terms. If the Parties are unable to reach agreement over the terms of the long-term financial assurances, the Parties shall submit the dispute to the Special Master, who shall recommend a resolution of the dispute. Any Party shall have the right to seek review by the Court of the Special Master's recommendation regarding the terms of the financial assurances.

105. **Temporary Maintenance of Chromium Remedy Letter of Credit**. Until the long-term financial assurances have been put into place, Honeywell shall maintain the Chromium Remedy Letter of Credit required by paragraph 91 in an amount equal to at least $20,000,000 in 2008 dollars. In the event of any default by Honeywell pursuant to paragraph 98 while the Chromium Remedy Letter of Credit is in place, the provisions of paragraph 103(b)(v) for the placement of the proceeds that exceed the remaining estimated Chromium Remedy costs under

paragraph 91(a)(i), plus a contingency of 25% of the remaining estimated costs under paragraph 91(a)(i), shall apply.

106. **Adjustment of Amount Held in Long-Term Financial Assurances**. Every five years as marked from the establishment of the first long-term financial assurances pursuant to paragraph 103, the Parties shall report to the Court whether the long-term financial assurances are adequately funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. At such time as the Parties report to the Court, any Party may seek an adjustment in the amount of the long-term financial assurances. The Party seeking an adjustment must demonstrate that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Such demonstration shall reflect the actual costs of implementing the remedy and/or any replacement of the remedy, once such actual costs are available. The demonstration shall also reflect the costs of work completed to date and the actual lifetime of the cap, once the cap has been replaced or has passed a replacement interval without requiring replacement. The demonstration shall further reflect the actual performance of the fund and its ability to provide the full amount of the costs subject to long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary. Any demonstration shall be forward looking and shall be based upon estimates of what the activities in paragraphs 102(a)(i) through 102(a)(v) are expected to cost at the time they must be performed and the amount of funding projected to be available to undertake such activities at the time they must be performed. If, after reviewing the submission(s) received from the Parties, the Court determines that the long-term financial assurances are under-funded or over-funded to provide the full amount of the costs subject to

long-term financial assurances, as set forth in paragraph 102(b), at the time those funds are necessary, the Court shall order an adjustment in the amount held in the long-term financial assurances to overcome the shortage or overage. In the event that the Court determines that the long-term financial assurances are under-funded, it shall order Honeywell to increase the amount held in the long-term financial assurances. In the event that the Court determines that any trust fund established pursuant to paragraph 103(a) is over-funded, the Court shall issue an order directing the trust manager to pay the overage to Honeywell. In the event that the Court determines that the Long-Term Letter of Credit is over-funded, the Court shall issue an order permitting Honeywell to reduce the amount covered during the next annual renewal of the Long-Term Letter of Credit pursuant to paragraph 103(b)(iv). Any adjustment to the amount of the Long-Term Letter of Credit pursuant to this paragraph shall be in addition to any adjustment of the amount of the Long-Term Letter of Credit required pursuant to paragraph 103(b).

107. **Exclusive Court Jurisdiction**. The trust fund agreement and/or the Long-Term Letter of Credit shall recite that the trust fund manager and/or issuer of the Long-Term Letter of Credit submit to the exclusive jurisdiction of this Court for any and all disputes arising under the trust fund or the Long-Term Letter of Credit. The requirements of this paragraph shall apply whether the trust fund is established pursuant to paragraph 103(a), 103(b)(ii), 103(b)(v), or 109.

108. **Procedures upon Honeywell's Material Default of Its Obligations after the Special Master's Appointment Has Expired.** Upon the occurrence of default by Honeywell, after the Special Master's appointment has expired, Riverkeeper may move the Court on an expedited basis for an order to withdraw funds from the trust fund or to draw on the Long-Term Letter of Credit. Default shall include:

(a) The failure of Honeywell, in the event that notice is given pursuant to paragraph 103(b)(iv) to deliver a replacement Long-Term Letter of Credit at least 95 days prior to the expiration date of the existing Long-Term Letter of Credit;

(b) The material failure of Honeywell to proceed with diligence and in good faith to carry out the terms of this Consent Decree and the continuance of such a material breach for a period of 30 days after written notice by Riverkeeper to Honeywell of the alleged material failure, unless Honeywell cures the alleged breach within the 30-day notice period or such longer period as the Parties may agree to or the Court may order;

(c) The filing by Honeywell of a petition seeking relief, or the granting of relief, under the Federal Bankruptcy Code or any similar federal or state statute; any assignment for the benefit of creditors made by Honeywell; the involuntary filing of any of the foregoing against Honeywell if the involuntary filing is not dismissed within 60 days; the appointment of a custodian, receiver, liquidator, trustee, or other similar official for Honeywell or for a substantial part of Honeywell's property; any action by Honeywell to effect any of the foregoing; or if Honeywell becomes insolvent as defined in Section 101(32) of the Federal Bankruptcy Code; or

(d) The dissolution, liquidation, merger, consolidation, or reorganization of Honeywell or the institution of any proceeding to effect any of the foregoing, other than under paragraph 108(c), if Honeywell fails to provide assurance to Riverkeeper, and the Court, within 15 days after written notice, that such an event will not impair Honeywell's ability to carry out the terms of this Consent Decree.

109. **Drawing on the Long-Term Letter of Credit in the Event of Honeywell's Default.** If the Court grants any motion by Riverkeeper or pursuant to paragraph 108 to draw on the Long-Term Letter of Credit, the sum approved by the Court's order granting the motion shall be

paid from the Long-Term Letter of Credit into a trust fund, separate from any trust fund created under paragraph 103(a) but satisfying the requirements of paragraph 103(a).

110. **Use of the Trust Fund in the Event of Honeywell's Default.** In the event of Honeywell's default, as defined in paragraphs 108(a) through 108(d), the money in the trust fund established pursuant to paragraph 103(a) shall be available to meet the obligations of paragraph 102(a), as well as for payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

111. **Use of a Trust Fund Established Pursuant to Paragraph 99, 103(b)(ii), 103(b)(v), or 109.** In the event that a trust fund is established pursuant to paragraph 99, 103(b)(ii), 103(b)(v), or 109, the money in the trust fund shall be available to meet the obligations of paragraph 102(a), as well as for the payment of future attorneys' fees and expenses pursuant to paragraph 120. Riverkeeper shall file motions with the Court seeking orders directing how the money in the trust fund shall be used. The Court shall consider motions on an expedited basis and shall enter appropriate orders. The Court may enter an order allowing for automatic withdrawal of regular expenses without separate motion to the Court by Riverkeeper.

112. **Termination of the Long-Term Financial Assurances.** Honeywell's obligations under Article III.K shall be terminated and the long-term financial assurance mechanisms shall be terminated when the Court finds that no hexavalent or total chromium contamination remains in the Open Space AOC or on the Site, whether in soils or in groundwater, in excess of the levels specified for Unrestricted Use in the NJDEP Chromium Directive or any more restrictive

standards for Unrestricted Use in place at the time, whichever is more restrictive. Upon determining that long-term financial assurances may be terminated, the Court shall order that any Long-Term Letter of Credit may be withdrawn in its entirety and any trust fund may be terminated. In conjunction with its order terminating any trust fund, the Court in its discretion shall designate a recipient(s) of any remaining trust funds.

ARTICLE IV: TERMINATION

113. **Termination of this Consent Decree**. This Consent Decree shall terminate upon the withdrawal of any Party as provided for in this paragraph. Any Party may elect to withdraw from this Consent Decree due to the occurrence of one or more of the following events, provided that such Party provides written notice of withdrawal to the other Parties pursuant to paragraph 118:

(a) The Court fails to enter this Consent Decree or this Consent Decree is determined to be invalid on appeal; or

(b) NJDEP takes one of the following actions with respect to the Remedial Action Work Plan:

(i) Rejects or fails to approve the Remedial Action Work Plan for the Chromium Remedy within 180 days of submission of the plan;

(ii) Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in more than a 50% increase in the estimated costs of the Chromium Remedy as set forth in Article III; or

(iii)Approves the Remedial Action Work Plan for the Chromium Remedy, but conditions such approval on changes in the Work Plan that result in a substantial reduction of the protection of human health and/or the environment.

114. **Procedures for Withdrawal and Termination.** Any Party electing to withdraw pursuant to paragraph 113 and thereby terminate this Consent Decree shall provide written notice of such withdrawal and termination to all other Parties within 30 days of the occurrence giving rise to the decision to withdraw. If any Party objects to termination of the Consent Decree, or believes that the conditions set forth in paragraph 113 have not been met, such objecting Party may move the Court for an expedited hearing on the issue of whether the conditions for termination have been effectuated.

115. **Good-Faith Obligation to Avoid Termination.** The Parties agree that they will each endeavor to fulfill the terms of this Consent Decree, that they will work diligently and in good faith to meet their obligations hereunder, and that they will promptly and timely take all reasonable steps to give effect to this Consent Decree and to avoid termination under paragraph 113.

116. **Effect of Termination.** If this Consent Decree is terminated pursuant to paragraph 113, the Consent Decree shall no longer be binding on the Parties and shall be of no further effect. In the event that this Consent Decree is terminated by one or more Parties pursuant to paragraph 113, each Party to this Consent Decree reserves all of its rights, claims, and defenses (both legal and factual) against the other Parties with respect to the matters at issue in the Consolidated Litigation and each Party remains free to pursue such rights, claims, and defenses.

ARTICLE V: TRANSFER OF TITLE TO BAYFRONT REDEVELOPMENT LLC

117. **Transfer of Title of Study Areas 6 South and 7 to and from Bayfront Redevelopment LLC.** The transfer of title of Study Area 6 South and Study Area 7 properties to Bayfront Redevelopment LLC pursuant to the Jersey City/Honeywell Consent Order and any subsequent transfers shall not impede Honeywell's obligations to (a) complete the remediation of

Study Area 7 and implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or (b) complete the Chromium Remedy and conduct long-term monitoring and fulfill its other obligations set forth in this Consent Decree. Such transfers of Study Areas 6 South and Study Area 7 shall not include a transfer of Honeywell's obligations to implement the Final Judgment and subsequent orders in *ICO v. Honeywell* or a transfer of Honeywell's obligations under this Consent Decree, but shall include a right of access or any other right required by Honeywell to complete the remediation. Any subsequent transfer of Study Area 6 South or Study Area 7 from Bayfront Redevelopment LLC to a redeveloper or other party shall provide all necessary agreements to allow Honeywell all necessary access to Study Area 6 South and Study Area 7 for purposes of completing Honeywell's obligations with respect to Study Area 6 South under this Consent Decree and completing the Study Area 7 remediation and implementing the Final Judgment and subsequent orders in *ICO v. Honeywell*.

ARTICLE VI: NOTICE

118. **Notice**. Any and all notices given in connection with this Consent Decree shall be deemed adequately given only if in writing and addressed to the Party for whom such notices are intended at the addresses set forth in this paragraph. All notices shall be sent by Federal Express or other nationally recognized overnight messenger service or by first-class registered or certified mail, postage prepaid, return receipt requested. A written notice shall be deemed to have been given to the recipient party on the earlier of (a) the date it shall be delivered to the address set forth in this paragraph; (b) the date delivery shall have been refused at the address set forth in this paragraph; or (c) with respect to notices sent by mail, the date as of which the postal service shall have indicated such notice to be undeliverable at the address set forth in this paragraph.

Any and all notices referred to in this Consent Decree, or which any Party desires to give to the other, shall be addressed as follows:

If to Honeywell and/or
Bayfront Redevelopment LLC :

Tom Byrne, Esq.
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-2775

With copies to:

John Morris
Honeywell International Inc.
101 Columbia Road
Morristown, NJ 07962
(973) 455-4003

If to Jersey City:

William Matsikoudis
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NJ 07305
(201) 547-4667

If to Riverkeeper:

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th St., N.W.
Washington, DC 20005-4632
(202) 682-2100

Any party may change its designated recipients or addresses for notice in this paragraph by providing written notice of such change to all other Parties.

ARTICLE VII: RIVERKEEPER'S ATTORNEYS' FEES

119. **Payment of Past Fees and Expenses.** Within 30 days of the entry of this Consent Decree, Honeywell shall pay Terris, Pravlik & Millian, LLP the sum of $813,000.00 which represents the following:

(a) A compromise of the attorneys' fees incurred by Riverkeeper in the litigation of Study Area 6 South portion of *Riverkeeper v. Honeywell* through August 31, 2008; and

(b) $353,746.67 in out-of-pocket expenses representing a portion of the expenses incurred by Riverkeeper in *Riverkeeper v. Honeywell* from the inception of the litigation after deducting the expenses paid pursuant to the Sediment Consent Order, the Deep Groundwater Consent Order, and the Study Area 6 North Consent Decree.

(c) Payment of the sum of $813,000.00 shall be in full satisfaction of all obligations, duties, and responsibilities of Honeywell with respect to the $879,317.92 in fees and expenses that Riverkeeper claimed with regard to the above described fees and expenses.

120. **Future Fees and Expenses.** Honeywell shall reimburse Riverkeeper's attorneys for reasonable fees and expenses incurred: (a) in negotiating this Consent Decree after August 31, 2008; (b) in the monitoring and enforcement of this Consent Decree; and (c) in participation in the Special Master process established pursuant to this Consent Decree. Honeywell shall also reimburse Riverkeeper for reasonable attorneys' fees and expenses for Riverkeeper's review of and participation in the Long-Term Monitoring Plan and monitoring and enforcement of this Consent Decree following the term of the Special Master. In the event that any dispute arises between the Parties under this Consent Decree that must be resolved by the Court, Riverkeeper shall be entitled to recover its attorneys' fees and expenses for litigation of the dispute to the extent allowed by federal law. Riverkeeper and Honeywell shall use the same informal procedure for attempting to settle fees issues as has been used for post-judgment monitoring fees in *ICO v. Honeywell*. In the event that Riverkeeper and Honeywell are unable to reach a settlement on fees, Riverkeeper shall apply to the Court for an award of attorneys' fees and expenses. If Honeywell objects to only a portion of the Riverkeeper's statement of attorneys' fees and expenses, Honeywell shall pay the undisputed portion within 60 days of Riverkeeper's submittal of the statement to Honeywell. The Court shall resolve any objections to

Riverkeeper's statement of attorneys' fees and expenses and shall enter an appropriate Order. In the event of Honeywell's default, Riverkeeper may seek attorneys' fees from any trust fund or court registry funds established pursuant to the financial assurances provisions of this Consent Decree.

ARTICLE VIII: MISCELLANEOUS PROVISIONS

121. **Force Majeure.** Force Majeure, for the purposes of this Consent Decree, is defined as an event arising from causes beyond the control of any Party or Parties (or their agents, contractors, subcontractors, representatives, or assigns) which could not have been overcome by reasonable diligence and which delays or prevents the performance of any obligation under this Consent Decree. Examples of events which may constitute force majeure include the refusal of any federal or state governmental authority to grant a permit or authorization necessary for the completion of actions required by this Consent Decree, floods, hurricanes, tornadoes, and other extraordinary weather events, earthquakes and other natural disasters, terrorist attacks, war, and other national emergencies. Examples of events that are not force majeure events include normal inclement weather, increased costs or expense, the failure to timely and fully apply for a permit or authorization necessary for the completion of actions required by this Consent Decree, or financial difficulty of any Party. The Party claiming force majeure shall bear the burden of showing an event was a force majeure event.

122. **Bayfront Redevelopment LLC as a Party.** As a signatory to this Consent Decree, Bayfront Redevelopment LLC subjects itself to the Court's jurisdiction for the purpose of enforcing this Consent Decree and agrees to be bound by this Consent Decree. This Consent Decree shall be fully enforceable against Bayfront Redevelopment LLC.

123. **Successors and Assigns.** This Consent Decree shall be binding upon and shall inure to the benefit of the successors, assigns, heirs, corporate parents, subsidiaries, and affiliates of each Party. No assignment or delegation of the obligations hereunder shall release the assigning Party from its obligations under this Consent Decree.

124. **Successors to Hackensack Riverkeeper, Inc.** In the event that Hackensack Riverkeeper, Inc. disbands or otherwise ceases operations, it shall assign its rights under this Consent Decree to another qualified nonprofit organization. A nonprofit organization shall be qualified for assignment under this Consent Decree if it is a charitable organization under Section 501(c)(3) of the Internal Revenue Code or its substantial equivalent and has an established record of working to enhance or preserve the ecology, natural habitat, or environment. Any such assignment shall be subject to approval by the Court and Honeywell shall have the right to object to any proposed assignment. Any successor organization shall have the duty to assign its rights under this Consent Decree to another qualified nonprofit organization in the event that the successor disbands or otherwise ceases operations. In the event that a successor is not appointed at any given time, the New Jersey Attorney General or equivalent officer shall appoint a successor subject to approval by the Court and objection by Honeywell.

125. **Reservation of Rights and Claims.** Except as set forth expressly herein, this Consent Decree does not affect in any way any of the Parties' claims or defenses against third parties who have not signed the Consent Decree.

126. **Governing Law and Continuing Jurisdiction.** The Court shall retain jurisdiction over the matters addressed in this Consent Decree for purposes of enabling the Parties to apply to the Court for any further order as may be necessary to construe, carry out, or enforce the terms of this Consent Decree. This Consent Decree shall be interpreted and enforced under the laws of

the United States and the State of New Jersey by the United States District Court for the District of New Jersey.

127. **Construction.** Questions regarding the interpretation of this Consent Decree shall not be resolved against any Party on the ground that this Consent Decree has been drafted by that Party. This Consent Decree is the result of review, negotiation, and compromise by each Party.

128. **Authority to Enter into Agreement.** The undersigned representative for each Party represents, certifies, and warrants that he or she is duly authorized by the Party whom he or she represents to enter into the terms of this Consent Decree and bind such Party legally to this Consent Decree.

129. **Measures to Effectuate This Consent Decree.** Jersey City shall take all appropriate steps to ensure that commitments it has agreed to with regard to the Open Space AOC have been duly considered, ratified, and approved. Such steps include consideration of such commitments and an effectuating ordinance at a meeting of the City Council, open to the public, at which members of the public have the opportunity to comment on all aspects of the commitments made by Jersey City..

130. **Modifications.** This Consent Decree may be modified by mutual agreement of the Parties but such agreement must be in writing, duly and properly signed by all Parties, and shall be submitted to the Court for approval.

131. **Severability.** Each of the provisions in paragraph 74 of this Consent Decree shall be deemed severable and, in the event that one or more of such provisions is deemed invalid or unenforceable, it shall not affect the validity or enforceability of the other provisions of the Consent Decree.

132. **Signatures.** This Consent Decree may be signed simultaneously or in counterparts by the respective signatories, which shall be as fully valid and binding as if a single document was signed by all of the signatories. This Consent Decree may be signed electronically by any or all signatories, and such electronic signature shall be as fully valid and binding as a hand-written signature.

Consented to and approved for entry:

s/Aurelio Vincitore

William Matsikoudis
Aurelio Vincitore
Corporation Counsel
City of Jersey City
280 Grove Street
Jersey City, NY 07305
(201) 547-4667

Counsel for the City of Jersey City

s/ David Sheehan

David Sheehan
Baker Hostetler
45 Rockefeller Plaza
11th Floor
New York, NY 10111
(212) 589-4200

Michael D. Daneker
Arnold & Porter LLP
555 12th Street N.W.
Washington, DC 20004
(202) 942-5000

Counsel for Honeywell International Inc. and Bayfront Redevelopment LLC

s/ Edward Lloyd

Edward Lloyd
Columbia Law School
435 West 116th Street, Room 831
New York, NY 10027
(212) 854-4376

Bruce J. Terris
Carolyn Smith Pravlik
Kathleen L. Millian
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
(202) 682-2100

Counsel for the Hackensack Riverkeeper, William Sheehan, Reverend Winston Clarke, and Lawrence Baker

APPROVED AND ENTERED as an Order of this Court this ___ day of _____, 2012.

Hon. Dennis M. Cavanaugh
United States District Judge

EXHIBITS

Exhibit A: Remedial AOC's and Remedial Approach Map

Exhibit B: NJDEP Chromium Policy

Exhibit C: Conservation Restriction

Exhibit D: Deed Notice

Exhibit E: Additional Boring Locations

Deed Notice

Dated: _____, 2017

BAYFRONT REDEVELOPMENT LLC

Grantor(s).

Record and return to:

Waters, McPherson, McNeill, P.C.
P.O. Box 1560
300 Lighting Way
Secaucus, New Jersey 07096-1560

ATTN: _____, Esq

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 1 OF 25

- **Groundwater Memo 11/07/2016**
- **2013 Monthly Reports**
- **2014 Monthly Reports Part 1**

GROUNDWATER MEMO 11/07/2016

Honeywell

115 Tabor Road
Morris Plains, NJ 07950

November 7, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: Initiation of Long Term Groundwater Monitoring
Study Area 6 (SA-6) South
Jersey City, New Jersey

Dear Senator Torricelli:

In accordance with the September 1, 2016 Revised Draft SA-6 Long Term Monitoring Plan (LTMP) and the Groundwater Level Monitoring Plan (GWLMP) which was Appendix J of the SA-6 North Chromium Remedy 100% Design Report, Honeywell is hereby providing notice to the Parties that we will initiate long-term groundwater monitoring activities at SA-6 South the week of November 14, 2016. While Honeywell acknowledges the LTMP has not been approved as final by the parties, Honeywell will act to meet the requirements of the current draft to move site activities forward. Since the Chromium Remedy at SA-6 South was substantially complete when the geomembrane liner was installed in October 2015, the 12-month "transition period" for groundwater specified in the LTMP and GWLMP ended in October 2016. We have authorized our environmental consultants, Amec Foster Wheeler and Cornerstone, to implement the following general activities at SA-6 South:

- Install data loggers in piezometers,
- Conduct manual water level gauging, and
- Implement quarterly groundwater sampling of the twelve specified monitoring wells in the Development AOC.

Similarly for SA-6 North, we are monitoring the groundwater level recovery following completion of excavation and geomembrane liner installation, and anticipate that the "transition period" will be complete in Spring 2017. At that time, we will initiate long-term monitoring at SA-6 North. The Spring 2017 monitoring will include the inspections associated with the cap vegetation.

In response to Plaintiffs' request to establish baseline groundwater quality conditions inside the Open Space Areas, Amec Foster Wheeler collected filtered and unfiltered groundwater samples from each piezometer on the interior of both Sites. The samples were analyzed for total and hexavalent chromium. A summary of this data is provided in the attached Table 1. The location of the piezometers is shown on the attached Figure 1.

Should the Parties wish to discuss this further, we will be prepared to discuss at the next All Parties meeting on November 15th. Should you have any questions in the meantime, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:dn/sgf

Encl: Table 1: Summary of SA-6 North and South Interior Piezometer Groundwater Sample Data
Figure 1: SA-6 North and South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 North & South
Honeywell International Inc.
Honeywell International Inc.

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 087-PZ-02		Piezometer 087-PZ-04		Piezometer 087-PZ-06		Piezometer 087-PZ-08		Piezometer 087-PZ-10	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/06/2016	09/06/2016	10/14/2016	10/14/2016	09/02/2016	09/02/2016	09/02/2016	09/02/2016
Metals Analysis												
CHROMIUM	70	ug/L	**62.2**	<10	**10.2**	<10	**28.4**	<4	**<10**	<10	**29**	12.6
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5	<5.5

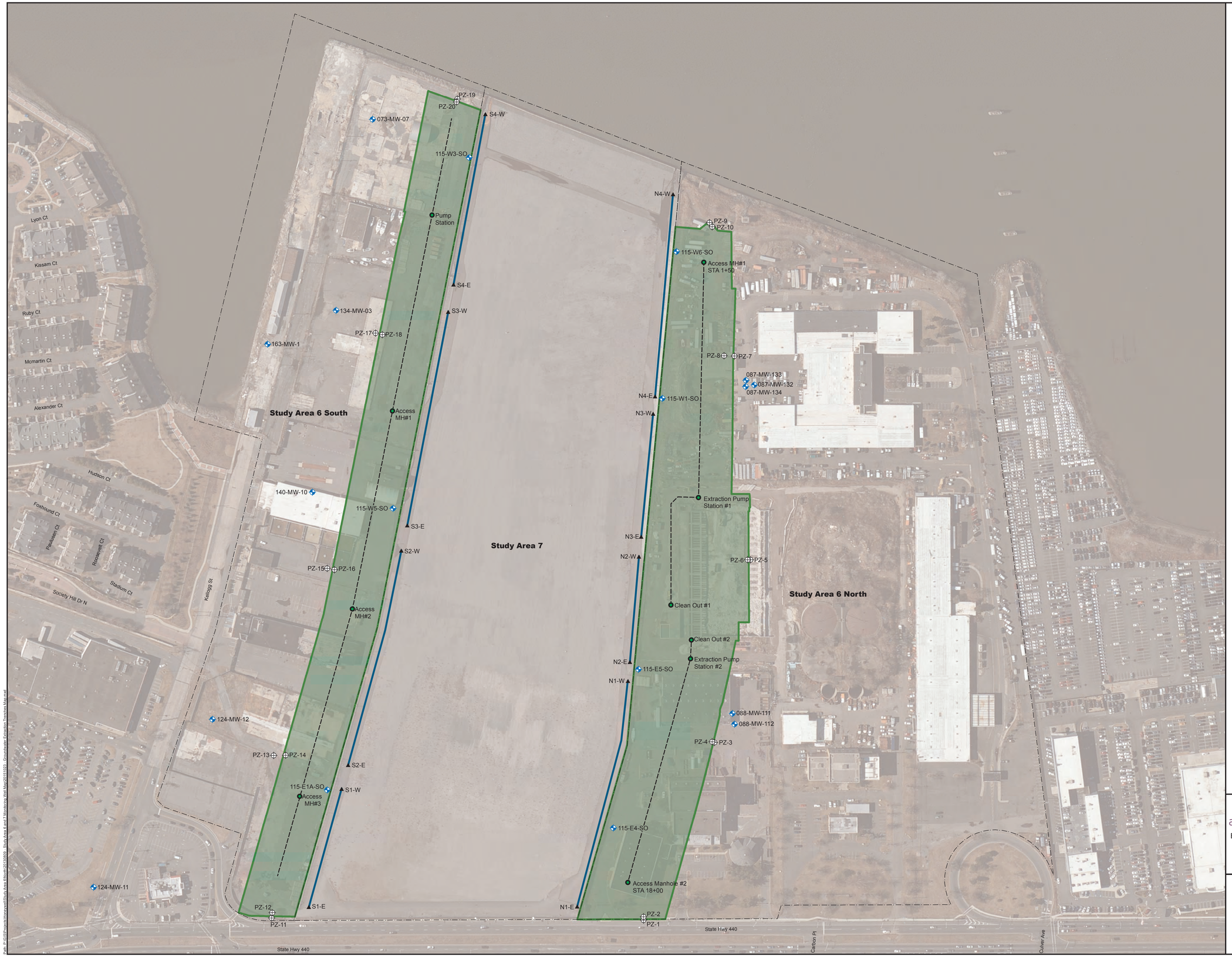
Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration

TABLE 1

SUMMARY OF SA-6 NORTH & SOUTH INTERIOR PIEZOMETER GROUNDWATER SAMPLE ANALYTICAL RESULTS
Study Area 6 North & South
Honeywell International Inc.
Honeywell International Inc.

Client Sample ID:	Ground Water Quality Standard (GWQS)	Units	Piezometer 124-PZ-12		Piezometer 124-PZ-14		Piezometer 124-PZ-16		Piezometer 124-PZ-18		Piezometer 124-PZ-20	
	Sample Type:		Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered	Unfiltered	Filtered
	Date Sampled:		09/06/2016	09/06/2016	09/02/2016	09/02/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016	09/01/2016
Metals Analysis												
CHROMIUM	70	ug/L	**24,200**	**23,300**	**37.3**	<10	**1,720**	**1,690**	**83.7**	<4	<4	<4
General Chemistry												
HEXAVALENT CHROMIUM	-	ug/L	**24,500**	**24,500**	<5.5	<5.5	**1,700 J**	**1,900**	<5.5 J	<5.5	<5.5 J	<5.5

Notes:
GWQS: NJDEP Ground Water Quality Standards (GWQS)
N.J.A.C 7:9C; last amended 7/20/2010
DUP: Duplicate Sample
J: Estimated concentration



Legend

- Piezometer Location
- Existing Monitoring Well Location
- Groundwater Collection Manhole (approx.)
- Standpipe Location
- Perimeter Pool Location (approx.)
- Contingent Groundwater Trenches (approx.)
- Cap Area
- Study Area Boundary

Source:
New Jersey 2012 - 2013 High Resolution Orthophotography, NAD83 NJ State Plane Feet, MrSID Tile; NJ Office of Information Technology (NJOIT), Office of Geographic Information Systems (OGIS); Trenton, NJ; 2013/03.

120 60 0 120 240
SCALE IN FEET

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Amec Project No.
3480130354

Prepared/Date
WSL 05/28/2014

Checked/Date

Figure 1
SA-6 North & South Contingent Groundwater Extraction Trenches and Sampled Monitoring Well Locations
Study Area 6 & Study Area 7
Jersey City, New Jersey

Path: P:\GIS\Projects\Honeywell\Study Area 6\North\20130909_Study Area 6 and 7 Monitoring Well Map\20141023 - Groundwater Extraction Trenches Map.mxd

2013 MONTHLY REPORTS

4/12/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 12, 2013

Office of the Special Master
Robert G. Torricelli
49 Bridge Street
Suite 2
Lambertville, NJ 08530

Re: SA-6 North and SA-6 South Remediation Progress Report No. 58

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from March 1 – March 31, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Derek Fanciullo – City Hall
William Matsikoudis - City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Joni Noble McDonnell - Genova, Burns & Giantomasi
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Michelle Weaver - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 58
Project SA-6N/6S Remediation

March 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
03/12/13	Progress Report No. 57	The Honorable Robert G. Torricelli Office of the Special Master 49 Bridge Street, Suite 2 Lambertville, NJ 08530
03/18/13	Appendix L: Open Space Design Standards for the Bayfront Redevelopment	The Honorable Robert G. Torricelli Office of the Special Master 49 Bridge Street, Suite 2 Lambertville, NJ 08530
03/19/13	Special Master Meeting (Study Area 6)	n/a
03/21/12	Incident No. 1302-21-16-44-40 Study Area 6 North Chromium Site 087 Jersey City Incineration Authority JCMUA UST AOC 555 Route 440, Jersey City, NJ NJDEP PI# 002633	The Honorable Robert G. Torricelli Office of the Special Master 49 Bridge Street, Suite 2 Lambertville, NJ 08530
03/22/13	Notification of Utility Construction Honeywell Groundwater Treatment Plant (GWTP) – Site Utility Relocation Work Study Area SA-6 North, Bayfront Redevelopment LLC	Chuck Lee, P.E., P.P., C.M.E. City Engineer City of Jersey City Department of Public Works 575 Route 440 Jersey City, NJ 07305
03/22/13	Notification of Construction Groundwater Treatment Plant - Study Area 6 North Jersey City, Hudson County, New Jersey Modification of the CAFRA GP#15/Waterfront Development Permit - Upland/Flood Hazard Area Individual Permit/Water Quality Certification NJDEP File No: 0906-08-0002.6 FHA120001/WFD120001 (Former Permit #0906-10-0004.1 WFD 100001, 0906-08-0002.1 FHA080001/CAF080001)	Suzanne U. Dietrick New Jersey Department of Environmental Protection Site Remediation Program Office of Dredging and Sediment Technology 401 E. State Street, 401-04P Trenton, NJ 08625-0028

Key Activities – Last Month (March 2013)

Study Area 6 North Sites 087 and 088

- Honeywell and Amec continued finalization of the Issued for Construction Design Packages for both SA-6 North and SA-6 South Chromium Remedy projects.
- Honeywell and Amec continued to coordinate implementation of the Site Preparation Plan activities for facility demolition and planned relocation of the Jersey City (JC) Entities.
    - Honeywell and Amec met with the Jersey City Entities to continue to advance the Site Preparation Activities including clearing of vehicles and materials from the surcharge area.
    - On March 27, 2013, Arcadis submitted the draft Construction Completion Report documenting the activities related to removal of residual oil materials from the Sedimentation Basin.
    - On February 21, 2013, Amec collected groundwater samples from three (3) monitoring wells in the vicinity of the Sedimentation Basin for analysis of total petroleum hydrocarbons – diesel range organics (TPH-DRO).
- Honeywell continued to work with Plaintiffs to resolve the outstanding comments on the Open Space Design Standards.
- Honeywell continued efforts to develop an access agreement for the Trenk property.
- Honeywell and Amec continued to meet with the Chromium Remedy contractor on a weekly basis to implement action items developed during the Constructability Review meetings.

The following activities are noted as part of the Non-Chromium PDI:

- On March 12, 2013, Amec met with representatives of the manufacturer of the SVE/GWE System at the JCMUA UST area to perform a root-cause analysis following the software malfunction on February 20, 2013. Based on successfully testing all system fault shut-down procedures, Amec restarted the SVE/GWE System on March 15, 2013.
- On March 25, 2013, NJDEP issued a Discharge to Groundwater (DWG) Permit by Rule Authorization for continued Phase II EAB implementation at the JCIA and JCDPW UST areas in 2013.
- Amec continued monthly inspections of the select monitoring wells installed within the UST areas where separate phase product has been observed.
- Honeywell continued to work with offsite property owners to advance discussions on Access Agreement finalization.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).
    - The site utility contractor, Creamer, mobilized to the site on March 28, 2013.
    - Submittal and request for information (RFI) phase are in process with the Site Utility Relocation Contractor and the Building Contractor.
    - Footings and Foundation Permit was obtained from Jersey City.
- On March 14, 2013, Amec and Honeywell hosted a pre-bid meeting at SA-6 South for the In-Situ Chemical Reduction Treatment Program at Site 163.
- The following activities are noted as part of the Non-Chromium PDI:
    - Amec continues to evaluate data from additional soil samples collected in February as part of pre-design investigation activities at Site 163 in accordance with the NJDEP-approved combined RIR/RASR/RAWP for Non-Chromium.

Key Activities Planned for This Month (April 2013)

Study Area 6 North Sites 087 and 088

- On April 16, 2013, Honeywell and Amec will submit the Issued for Construction Design Packages for both SA-6 North and SA-6 South Chromium Remedy projects to NJDEP, the Special Master, Plaintiffs, and stakeholders.
- Honeywell and Amec will continue to work with Plaintiffs to finalize the Open Space Design Standards with anticipated submittal as part of the Issued for Construction Design Packages on April 16, 2013.
- Amec will continue preparation of construction-related permit applications for submittal to governing agencies for the SA-6 North and SA-6 South Chromium Remedy projects.
- Honeywell will continue efforts to develop an access agreement for the Trenk property.
- Honeywell and its consultants will continue the Non-Chromium activities including:
    - Amec will continue to operate and maintain the SVE/GWE system.
    - Amec will perform ongoing monthly inspections of the JCMUA-1A monitoring wells and product recovery as needed from the JCIA-1B and JCDPW UST Areas.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Honeywell and Amec will continue to evaluate contractor bids for implementing the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South).
- Honeywell and Amec will continue to advance the new GWTP construction project.
- As part of the Non-Chromium remedial design process, Honeywell and Amec will:

- Continue to support the JCRA in the Eminent Domain process at the former Harsimus Property including removal and disposal of the remaining boats.
- Continue to evaluate additional pre-design investigation step-out boring analytical data in recently collected soil samples from Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

5/13/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 13, 2013

Office of the Special Master
Robert G. Torricelli
49 Bridge Street
Suite 2
Lambertville, NJ 08530

Re: SA-6 North and SA-6 South Remediation Progress Report No. 59

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from April 1 – April 30, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Derek Fanciullo – City Hall
William Matsikoudis - City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Joni Noble McDonnell - Genova, Burns & Giantomasi
David Isabel - Golub & Isabel PC
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Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Michelle Weaver - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 59
Project SA-6N/6S Remediation

April 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
04/02/13	Submittal: Notification of Treatment Works Approval (TWA) Application Submittal to NJDEP Remedial Action – Study Area 6 North and Study Area 6 South Jersey City, Hudson County, New Jersey	Passaic Valley Sewerage Commission (PVSC) Jersey City Environmental Commission Municipal Planning Board – Jersey City Jersey City Municipal Utilities Authority (JCMUA)
04/03/13	Submittal: Response to Comments for a Temporary Dewatering Permit - New Program Interest No.: 1304D, Activity No.: DWP130001, SA-6 North and South Chromium Remedy, Jersey City, Hudson County, New Jersey	Carolyn Olynyk New Jersey Department of Environmental Protection Bureau of Water Allocation and Well Permitting
04/03/13	Submittal: TWA Permit Application to JCMUA	Jersey City Municipal Utilities Authority (JCMUA)
04/12/13	Submittal: Study Area 6 North and South - Progress Report No. 58	The Honorable Robert G. Torricelli Office of the Special Master
04/12/13	Submittal: Revised Work Plan for In-Situ Treatment of Chromium Impacted Soils (ISOTEC Chromium Treatment Program Operations Plan), SA-6 North Chromium Remedy, Sites 087 and 088, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
04/15/13	Submittal: Integrated Annual Groundwater Performance Report for 2012, Study Areas 5, 6, and 7 - Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
4/16/13	Meeting: SA-6 & SA-7 Special Master All-Hands Conference Call	n/a

Date	Submittal/Meeting	Recipient
04/16/13	Submittal: Chromium Remedy 100% Design Submittal, Issued for Construction (Special Master Review), SA-6 North Sites 087 and 088, SA-6 South Sites 073, 124 125, 134, 140, and 163, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
04/18/13	Submittal: Revised Master Schedule for Study Area 6 North and South	The Honorable Robert G. Torricelli Office of the Special Master
04/23/13	Submittal: NJDEP Correspondence re: Treatment Works Approval No. 12-0196 Study Area 6, Jersey City, Hudson County	The Honorable Robert G. Torricelli Office of the Special Master

Key Activities – Last Month (April 2013)

Study Area 6 North Sites 087 and 088

- On April 16, 2013, Honeywell and Amec finalized and submitted the Issued for Construction (Special Master Review) Design Packages for both SA-6 North and SA-6 South Chromium Remedy projects.
- On May 1, 2013, Honeywell issued an Errata letter regarding a correction to the Legend on select drawings associated with SA-6 South.
- Honeywell and Amec continued to coordinate implementation of the Site Preparation Plan activities for facility demolition and planned relocation of the Jersey City (JC) Entities.
    - Honeywell and Amec continued to coordinate with the Jersey City Entities regarding clearing of vehicles and materials from the surcharge area.
    - On May 1, 2013, Arcadis submitted the revised draft Construction Completion Report documenting the activities related to removal of residual oil materials from the Sedimentation Basin.
- Honeywell and Plaintiffs resolved the outstanding comments on the Open Space Design Standards (OSDS). The OSDS was provided as Appendix L in the Issued for Construction (Special Master Review) Design Packages submitted on April 16, 2013.
- Honeywell continued efforts to develop an access agreement for the Trenk property.
- Honeywell and Amec continued to coordinate with PVSC regarding the condition assessment of the 72-inch Force Main. While technical details have been addressed between PVSC and Honeywell it appears additional reviews at NJDEP may impact overall remedy schedule.
- Honeywell and Amec continued to meet with the Chromium Remedy contractor on a weekly basis to implement action items developed during the Constructability Review meetings.

The following activities are noted as part of the Non-Chromium PDI:

- The SVE/GWE System has been operating continuously since being re-started on March 15, 2013.
- Amec continued monthly inspections of the select monitoring wells installed within the UST areas where separate phase product has been observed.
- Honeywell continued to work with offsite property owners to advance discussions on Access Agreement finalization.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).
  - The site utility contractor, Creamer, continued their construction activities, including installation of the storm sewer lines and relocation of an existing water line.
  - Amec is continuing to work with PVSC to obtain an indirect discharge permit and NJDEP to modify the existing air permit for the existing GWTP.
  - Amec and the building erection contractor, Oradel, continue to work through administrative submittals in advance of mobilization for the building foundation work.
- On April 12, 2013, Honeywell and Amec obtained best and final bids for SA-6 South for the In-Situ Chemical Reduction Treatment Program at Site 163.
- On April 26, 2013, Honeywell and Amec obtained best and final bids for the above-grade demolition of 60 Kellogg Warehouse and 80 Kellogg structures.
- On April 26, 2013, Arecon Ltd., mobilized to the site to begin removal of the boats on the Harsimus Property.
- The following activities are noted as part of the Non-Chromium PDI:
  - Amec continues to evaluate data from additional soil samples collected in February as part of pre-design investigation activities at Site 163 in accordance with the NJDEP-approved combined RIR/RASR/RAWP for Non-Chromium.

Key Activities Planned for This Month (May 2013)

Study Area 6 North Sites 087 and 088

- On May 3, 2013, Amec submitted the Soil Erosion and Sedimentation Control Permit to Hudson-Essex-Passaic Soil Conservation District.
- Amec will continue preparation of construction-related permit applications for submittal to governing agencies for the SA-6 North and SA-6 South Chromium Remedy projects.
- Honeywell and Amec will continue to coordinate with PVSC regarding the condition assessment of the 72-inch Force Main.
- Honeywell will continue efforts to develop an access agreement for the Trenk property.

- Amec will coordinate with ISOTEC and Jersey City Entities on the mobilization and implementation schedule for the in-situ treatment of the three designated areas.
- Honeywell and its consultants will continue the Non-Chromium activities including:
    - Amec will continue to operate and maintain the SVE/GWE system.
    - Amec will perform ongoing monthly inspections of the JCMUA-1A monitoring wells and product recovery as needed from the JCIA-1B and JCDPW UST Areas.
    - Arcadis will perform additional groundwater monitoring to evaluate the progress of the Enhanced Anerobic Bioremediation work on JCIA-1A and JCDPW-1A.
    - Honeywell will continue to work with offsite property owners to advance discussions on Access Agreement finalization.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Honeywell and Amec will complete evaluation of contractor bids for implementing the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South) and execute a contract with the successful bidder.
- Honeywell and Amec will continue to advance the new GWTP construction project.
- As part of the Non-Chromium remedial design process, Honeywell and Amec will:
    - Continue to support the JCRA in the Eminent Domain process at the former Harsimus Property and complete removal and disposal of the remaining boats.
    - Continue to evaluate additional pre-design investigation step-out soil boring analytical data from Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

6/12/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 12, 2013

Office of the Special Master
Robert G. Torricelli
49 Bridge Street
Suite 2
Lambertville, NJ 08530

Re: SA-6 North and SA-6 South Remediation Progress Report No. 60

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from May 1 – May 31, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Derek Fanciullo – City Hall
William Matsikoudis - City Hall
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Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
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Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 60
Project SA-6N/6S Remediation

May 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
05/01/13	Submittal: Errata Notification - Chromium Remedy 100% Design Submittal Issued for Construction (Special Master Review) SA-6 North and South	Honorable Robert G. Torricelli Office of the Special Master
05/02/13	Submittal: Request for Approval of Statements of Consent Form WQM-003 Treatment Works Approval (TWA) Permit Application for Discharge of Construction Water to Jersey City Municipal Utilities Authority (JCMUA) Wet Well Remedial Action Study Area 6 North (SA-6 North) and Study Area 6 South (SA-6 South) Jersey City, Hudson County, New Jersey	Passaic Valley Sewerage Commission (PVSC)
05/03/13	Submittal: Application for Soil Erosion and Sediment Control Plan Certification, Chromium Remedy - Study Area 6 North (SA-6 North) and Study Area 6 South (SA-6 South), Jersey City, Hudson County, New Jersey	Hudson-Essex-Passaic Soil Conservation District (HEPSCD)
05/13/13	Submittal: Progress Report No. 59	The Honorable Robert G. Torricelli Office of the Special Master
05/21/13	Meeting: Special Master Meeting	n/a
05/23/13	Submittal: Response to Comments for a Temporary Dewatering Permit – New Program Interest No.: 1304D Activity No.: DWP130001 SA-6 North and SA-6 South Chromium Remedy Jersey City, Hudson County, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/28/13	Submittal: Letter of Authorization - NJDEP Stormwater Construction E-Permit, Study Area 6 Imported Novartis Fill Stockpile Block: 21901 --- Lot: 6,7,8 HEPSCD 251 ID code #212-H-3046, plan dated 7/27/2012	Hudson-Essex-Passaic Soil Conservation District and New Jersey Department of Environmental Protection

Date	Submittal/Meeting	Recipient
05/28/13	Submittal May 21, 2013 Special Master Presentation (PPS) SA-6 Chromium Remedy Overview	The Honorable Robert G. Torricelli Office of the Special Master
05/31/13	Submittal: Response to Comments re Chromium Remedy 100% Design Submittal, Issued for Construction, SA-6 North Sites 087 and 088/ SA-6 South Sites 073, 124 125, 134, 140, and 163 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

Key Activities – Last Month (May 2013)

Study Area 6 North Sites 087 and 088

- On May 14, 2013, Honeywell received comments from the Plaintiffs on the Issued for Construction (Special Master Review) Design Packages for both SA-6 North and SA-6 South Chromium Remedy projects submitted in April 2013.
- On May 20, 2013, Honeywell received comments from the Special Master on the Issued for Construction (Special Master Review) Design Packages for both SA-6 North and SA-6 South Chromium Remedy projects submitted in April 2013.
- On May 20, 2013, Honeywell received Soil Erosion and Sedimentation Control Permit from Hudson-Essex-Passaic Soil Conservation District for both SA-6 North and SA-6 South Chromium Remedy projects.
- On May 29, 2013, Honeywell received the Authorization to Discharge – 5G3 Construction Activity Stormwater (GP) from NJDEP for both SA-6 North and SA-6 South Chromium Remedy projects.
- Honeywell and Amec continued to coordinate implementation of the Site Preparation Plan activities for facility demolition and planned relocation of the Jersey City (JC) Entities.
    - Honeywell and Amec continued to coordinate with the Jersey City Entities regarding clearing of vehicles and materials from the surcharge area.
    - On June 7, 2013, Arcadis submitted the final revised draft Construction Completion Report documenting the activities related to removal of residual oil materials from the Sedimentation Basin.
- Honeywell continued efforts to develop an access agreement for the Trenk property.
- Honeywell and Amec continued to coordinate with PVSC regarding the condition assessment of the 72-inch Force Main. While technical details have been addressed between PVSC and Honeywell it appears additional reviews scheduled for June 11, 2013 with NJDEP may impact overall remedy schedule.
- Honeywell and Amec continued to meet with the Chromium Remedy contractor on a weekly basis to implement action items developed during the Constructability Review meetings.

- On May 13, 2013, Amec conducted a kick-off meeting with Amec's in-situ injection subcontractor, ISOTEC, and Jersey City Entities to discuss the mobilization and implementation schedule for the in-situ treatment of the three designated areas.

The following activities are noted as part of the Non-Chromium PDI:

  - The SVE/GWE System has been operating continuously since being re-started on March 15, 2013.
  - Amec continued monthly inspections of the select monitoring wells installed within the UST areas where separate phase product has been observed.
  - On May 19 and 20, 2013, Arcadis collected groundwater samples from the two (2) underground storage tank (UST) areas of concern (AOCs) in which Arcadis previously conducted enhanced anaerobic in-situ bioremediation (EAISB) injections to update groundwater contaminant concentrations.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).
  - The site utility contractor, Creamer, completed installation of the storm sewer lines and relocation of an existing water line. Also, installation of new 6-inch water service and two new fire hydrants was completed.
  - Amec is continuing to work with PVSC to obtain an indirect discharge permit and NJDEP to modify the existing air permit for the existing GWTP.
  - The building contractor, Oradel, commenced construction of the building foundations.
- Honeywell and Amec completed evaluation of contractor bids for implementing the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South) and issued notice to proceed with ERFS.
- The following activities are noted as part of the Non-Chromium PDI:
  - Amec continues to evaluate data from additional soil samples as part of pre-design investigation activities at Site 163 in accordance with the NJDEP-approved combined RIR/RASR/RAWP for Non-Chromium.

Key Activities Planned for This Month (June 2013)

Study Area 6 North Sites 087 and 088

- Amec will continue preparation of construction-related permit applications for submittal to governing agencies for the SA-6 North and SA-6 South Chromium Remedy projects.
- Honeywell and Amec will continue to coordinate with PVSC regarding the condition assessment of the 72-inch Force Main. On June 11, 2013, Honeywell and Amec will meet with PVSC, all Parties, and NJDEP on this matter.

- Amec and ISOTEC will continue to prepare for the commencement of in-situ treatment of the three designated areas and coordinate with Jersey City Entities on the mobilization and implementation schedule.
- Honeywell and its consultants will continue the Non-Chromium activities including:
    - Amec will continue to operate and maintain the SVE/GWE system.
    - Amec will perform ongoing monthly inspections of the JCMUA-1A monitoring wells and product recovery as needed from the JCIA-1B and JCDPW UST Areas.
    - Arcadis and Amec will evaluate the additional groundwater results to evaluate the progress of the Enhanced Anaerobic Bioremediation work on JCIA-1A and JCDPW-1A AOCs.
    - Honeywell will meet with offsite property owners to coordinate the remaining offsite investigation field work for delineating the JCDPW UST area.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Amec and ERFS will prepare the Contractor Work Plan for the In-Situ Chemical Reduction Treatment Program at Site 163.
- Honeywell and Amec will continue to advance the new GWTP construction project.
- As part of the Non-Chromium remedial design process, Honeywell and Amec will:
    - Continue to support the JCRA in the Eminent Domain process at the former Harsimus Property.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

7/10/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 10, 2013

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Re: SA-6 North and SA-6 South Remediation Progress Report No. 61

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from June 1 – June 30, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Derek Fanciullo – City Hall
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Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Joni Noble McDonnell - Genova, Burns & Giantomasi
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 61
Project SA-6N/6S Remediation

June 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
06/05/13	Construction Completion Report Sedimentation Basin Sludge Removal Study Area 6 North Hudson County Chromate Sites 087 & 088, Jersey City, New Jersey	New Jersey Department of Environmental Protection
06/11/13	Public Notification Letters (SA-6 062613 Public Meeting)	*Distribution List*
06/11/13	TWA Permit Application to NJDEP	New Jersey Department of Environmental Protection
06/11/13	Bi-Annual Update to Public Notification Letters	*Distribution List*
06/12/13	Progress Report No. 60	The Honorable Robert G. Torricelli Office of the Special Master
06/13/13	Public Meeting Notification Letter	The Honorable Robert G. Torricelli Office of the Special Master
06/17/13	Draft Contractual Indirect Discharger Agreement, Customer ID # 31630016 New Groundwater Treatment Plant Honeywell International Inc. Bayfront Redevelopment LLC Jersey City, New Jersey	Passaic Valley Sewerage Commission
06/18/13	Public Notification Update Honeywell Study Area 6 North, Sites 087 and 088, Jersey City, Hudson County, NJ, NJDEP PI#s: G0000008710 and G0000008711	City of Jersey City Municipal Clerk Hudson Regional Health Commission
06/18/13	Conference Call: Special Master Meeting	n/a
06/20/13	72" Force Main Relocation-Stress Analysis, Study Area 6 North (SA-6N) Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
06/27/13	Draft Sewer Use Permit # 31630016 New Groundwater Treatment Plant Bayfront Redevelopment LLC Honeywell International Inc. Jersey City, New Jersey	Passaic Valley Sewerage Commission
06/27/13	Response to Plaintiffs' June 11, 2013 Comments on the 100% Design Report Study Area 6 North and South Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
06/28/13	Response to Comments Provided by Connell Foley LLP on June 12, 2013 SA-6 North and South 100% Design Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/28/13	Chromium Remedy 100% Design Submittal, Final - Issued for Construction, SA-6 North Sites 087 and 088, SA-6 South Sites 073, 124 125, 134, 140, and 163, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

Key Activities – Last Month (June 2013)

Study Area 6 North Sites 087 and 088

- In June 2013, Amec completed measurement of groundwater pH at selected locations along the hydraulic barrier alignment at both the SA-6 North and South Sites.
- Honeywell and Amec continued to coordinate implementation of the Site Preparation Plan activities for facility demolition and planned relocation of the Jersey City (JC) Entities.
    - Honeywell and Amec advanced the engineering cost estimate for the above-grade demolition of the JCIA structures.
- On June 11, 2013, Honeywell and Amec met with PVSC, Hatch Mott MacDonald (HMM), NJDEP, and all Parties to discuss the existing condition assessment of the 72-inch Force Main and the potential relocation of the hydraulic barrier wall. Honeywell and Amec will continue to work through technical details and will submit proposed remedial design revisions to all Parties once finalized.
- Honeywell and Amec continued to import Novartis surcharge materials to the site. The additional 30,000 cubic yards of material is expected to be onsite in early July 2013.
- On June 17, 2013, Entact, the chromium remedy excavation contractor, initiated mobilization activities at the site.
- On June 17, 2013, Amec and the in-situ injection subcontractor, ISOTEC, mobilized and initiated the in-situ treatment of two of the three designated treatment areas (Treatment Area 7 and 8). The third area (Treatment Area 10) is on hold until the potential relocation of the hydraulic barrier wall proximate to the 72-inch Force Main is finalized.
- On June 26, 2013, Honeywell held separate project update meetings with the Mayor-elect and the general public which were attended by all Parties.
- Honeywell continued efforts to develop an access agreement for the Trenk property.

The following activities are noted as part of the Non-Chromium PDI:

- The SVE/GWE System appears to be reaching asymptotic levels and Amec is collecting performance data to determine future operation.
- Amec continued monthly inspections of the select monitoring wells installed within the UST areas where separate phase product has been observed.
- Arcadis received and started evaluating analytical data from groundwater samples collected from the two (2) underground storage tank (UST) areas of concern (AOCs) in which Arcadis previously conducted enhanced anaerobic in-situ bioremediation (EAISB) injections to update groundwater contaminant concentrations.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).
  - The site utility contractor, Creamer, completed initial activities and demobilized.
  - The building contractor, Oradell, continued construction of the building foundations.
  - We continued to advance remaining permits pending with NJDEP for the air permit and Jersey City Building Department for the GWTP Building permit.
- The in-situ injection subcontractor for the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South), ERFS, continued to prepare the Implementation Work Plan.
- The following activities are noted as part of the Non-Chromium PDI:
  - Amec continues to evaluate data from additional soil samples as part of pre-design investigation activities at Site 163 in accordance with the NJDEP-approved combined RIR/RASR/RAWP for Non-Chromium.

Key Activities Planned for This Month (July 2013)

Study Area 6 North Sites 087 and 088

- Honeywell will enter the 100% Designs for SA-6 North and South with the Court.
- Amec will continue preparation of construction-related permit applications for submittal to governing agencies for the SA-6 North and SA-6 South Chromium Remedy projects.
- Honeywell and Amec will continue to coordinate with PVSC regarding resolution of the barrier wall location relative to the 72-inch Force Main.
- Amec and Entact will continue mobilization activities including placement of trailers, construction of erosion controls and processing of historic fill stockpiles for surcharge.
- Honeywell and its consultants will continue the Non-Chromium activities including:
  - Amec will evaluate the need for additional operation of the SVE/GWE system.
  - Amec will perform ongoing monthly inspections of the JCMUA-1A monitoring wells and product recovery as needed from the JCIA-1B and JCDPW UST Areas.

  - Arcadis and Amec will continue to evaluate the additional groundwater results to evaluate additional full-scale implementation of the Enhanced Anaerobic Bioremediation work on JCIA-1A and JCDPW-1A AOCs.
  - Honeywell will meet with offsite property owners to coordinate the remaining offsite investigation field work for delineating the JCDPW UST area.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Amec and ERFS will prepare the Contractor Work Plan for the In-Situ Chemical Reduction Treatment Program at Site 163.
- Honeywell and Amec will continue to advance the new GWTP construction project.
- As part of the Non-Chromium remedial design process, Honeywell and Amec will:
  - Continue to support the JCRA in the Eminent Domain process at the former Harsimus Property.
  - Implement additional delineation soil samples as part of pre-design investigation activities at Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

8/12/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 12, 2013

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

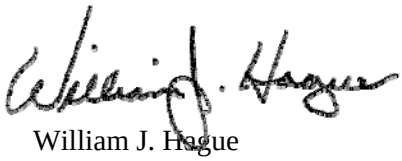
Re: SA-6 North and SA-6 South Remediation Progress Report No. 62

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from July 1 – July 31, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,



William J. Hague
Director, Remediation
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
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Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 62

Project SA-6N/6S Remediation

July 2013

Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
07/10/13	Progress Report No. 61	Honorable Robert G. Torricelli Office of the Special Master
07/23/13	Special Master Meeting	n/a
07/25/13	Study Area 6 Excavation Approach (7/23/13 SM Presentation)	Honorable Robert G. Torricelli Office of the Special Master
07/25/13	Application for Letter of Authorization and Contractual Indirect Discharge Agreement, Discharge of Construction Water to JCMUA Wet Well Remedial Action – Study Area 6 North (SA-6 North) and Study Area 6 South (SA-6 South), Jersey City, Hudson County, New Jersey	Passaic Valley Sewerage Commission
07/30/13	Response to Comments Pertaining to the 4th Integrated Annual Groundwater Performance Report for 2012 Study Areas 5, 6, and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

Key Activities – Last Month (July 2013)

Study Area 6 North Sites 087 and 088

- On July 10, 2013, Honeywell entered the Final 100% Design Reports for SA-6 North and South with the Court.
- Amec and Entact continued Chromium Remedy activities:
  - Completed mobilization activities including placement of trailers and perimeter fencing;
  - Continued construction of erosion controls, and
  - Initiated processing of historic fill stockpiles for use as surcharge.
- Honeywell and Amec continued to coordinate implementation of the Site Preparation Plan activities for facility demolition and planned relocation of the Jersey City (JC) Entities.

  - Honeywell submitted the engineering cost estimate for the above-grade demolition of the JCIA structures.

- Honeywell and Amec continued technical discussions with PVSC, Hatch Mott MacDonald (HMM), NJDEP, and all Parties regarding the existing condition assessment of the 72-inch Force Main and the planned relocation of the hydraulic barrier wall.
- On August 1, 2013, Honeywell submitted technical memorandums to Special Master independently prepared by Amec and HMM indicating that the structural integrity of the 72-inch Force Main can be protected by relocating the hydraulic barrier wall 15 feet to the south of the position depicted in the 100% Design.
- Honeywell and Amec completed importation of Novartis surcharge materials to the site.
- Honeywell and Amec will prepare an amendment to the NJDEP-Discharge to Groundwater (DGW) Work Plan to address the in-situ approach for the new area resulting from the planned 15-foot relocation of the hydraulic barrier wall proximate to the 72-inch Force Main.
- Honeywell continued efforts to develop an access agreement for the Trenk property.

The following activities are noted as part of the Non-Chromium PDI:

  - The SVE/GWE System appears to be reaching asymptotic levels and Amec collected the final performance data to determine future operation.
  - Amec continued monthly inspections of the select monitoring wells installed within the UST areas where separate phase product has been observed.
  - Arcadis completed evaluating analytical data from groundwater samples collected from the two (2) underground storage tank (UST) areas of concern (AOCs) in which Arcadis previously conducted enhanced anaerobic in-situ bioremediation (EAISB) injections to update groundwater contaminant concentrations. Arcadis is currently finalizing their recommendations to Honeywell for further actions in these AOCs.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Amec and Entact continued Chromium Remedy activities.
  - Initiated collection of waste characterization soil samples from areas on SA-6 South where soil is designated for offsite disposal;
  - Initiated pre-trenching activities of the hydraulic barrier alignment and temporary excavation support sheet pile alignments; and
  - Initiated drilling and installation of shallow construction dewatering wells at Site 124.
- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).
  - All Jersey City Building Department permits for the GWTP were obtained.
  - The building contractor, Oradell, substantially completed construction of the building foundations, roughed in all sub-slab utilities, and the building floor slab.

  - The groundwater extraction piping system modification contractor, ENR, started the submittal process for extraction piping power and control modifications.
  - The building steel erection contractor, BCA, began mobilization activities.
  - On July 19, 2013, we submitted the application for the NJDEP air permit for the GWTP system.
- The in-situ injection subcontractor for the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South), ERFS, continued to prepare the Implementation Work Plan.
- The following activities are noted as part of the Non-Chromium PDI:
  - On July 24, 2013, Amec collected additional step-out soil samples as part of pre-design investigation activities at Site 163 in accordance with the NJDEP-approved combined RIR/RASR/RAWP for Non-Chromium.

Key Activities Planned for This Month (August 2013)

Study Area 6 North Sites 087 and 088

- Honeywell and Amec will submit design revisions to accommodate the barrier wall relocation relative to the 72-inch Force Main.
- Amec and Entact will continue Chromium Remedy activities:
  - Processing of historic fill stockpiles for surcharge; and
  - Initiate utility abandonment.
- Honeywell and its consultants will continue the Non-Chromium activities including:
  - Amec will terminate operation of the SVE/GWE system and demobilize the system.
  - Amec will perform ongoing monthly inspections of the JCMUA-1A monitoring wells and product recovery as needed from the JCIA-1B and JCDPW UST Areas.
  - Arcadis will finalize recommendations to Honeywell concerning additional full-scale implementation of the Enhanced Anaerobic Bioremediation work on JCIA-1A and JCDPW-1A AOCs.
  - On August 7, 2013, Amec collected groundwater samples from temporary well points installed on the offsite property to complete delineation of the JCDPW UST area.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Amec and Entact will continue Chromium Remedy activities:
  - Drilling and installing dewatering wells;
  - Initiate hydraulic barrier wall installation; and
  - Evaluate waste characterization soil sample results and initiate the waste profiling process.
- Amec and ERFS will complete the draft Contractor Work Plan for the In-Situ Chemical Reduction Treatment Program at Site 163.

- Honeywell and Amec will continue to advance the new GWTP construction project:
    - Pouring of remaining concrete building floor slabs;
    - Substantially complete the building shell erection; and
    - Complete the sanitary lift station.
- As part of the Non-Chromium remedial design process, Honeywell and Amec will:
    - Continue to support the JCRA in the Eminent Domain process at the former Harsimus Property.
    - Evaluate the data from the additional delineation soil samples as part of pre-design investigation activities at Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

9/12/2013
MONTHLY REPORT

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 12, 2013

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

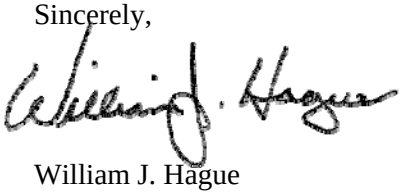
Re: SA-6 North and SA-6 South Remediation Progress Report No. 63

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from August 1 – August 31, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,



William J. Hague
Director, Remediation
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
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Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
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Dr. Benjamin Ross - Disposal Safety, Inc.
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
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Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 63

Project SA-6N/6S Remediation

August 2013

Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
08/01/13	Barrier Wall Alignment w/ PVSC Force Main, Study Area 6 North Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/07/13	Hydraulic Barrier Alignment Modification Along 72-Inch Force Main SA-6 North Sites 087 and 088 Jersey City, NJ	Mr. Tom Cozzi, Assistant Director New Jersey Department of Environmental Protection
08/12/13	Progress Report No. 62	Honorable Robert G. Torricelli Office of the Special Master
08/13/13	Notification of Construction Remedial Action of Study Areas 6 North and South (SA-6 North and South) Jersey City, Hudson County, New Jersey SA-6 North: Waterfront Development Individual Permit – Upland NJDEP File No: 0906-10-0004.1 WFD100001 SA-6 South: Flood Hazard Area Individual Permit/Verification Coastal General Permit No. 15 NJDEP File No: 0906-12-0007.1 FHA120001/FHA120002/CAF120001	Suzanne U. Dietrick New Jersey Department of Environmental Protection
08/20/13	Special Master Meeting	n/a

Key Activities – Last Month (August 2013)

Study Area 6 North Sites 087 and 088

- Amec and Entact continued Chromium Remedy activities as follow:
  - Completed construction of erosion controls;
  - Continued processing of historic fill stockpiles for use as surcharge;
  - Initiated utility abandonment; and
  - Completed the construction access road across SA-7 and the ramp and new gate between SA-6 North and SA-7.
- Honeywell and Amec continued to coordinate implementation of the Site Preparation Plan activities for facility demolition and planned relocation of the Jersey City (JC) Entities.

- Honeywell and Amec continued technical discussions with PVSC, Hatch Mott MacDonald (HMM), NJDEP, and all Parties regarding the existing condition assessment of the 72-inch Force Main and the planned relocation of the hydraulic barrier wall.
- Honeywell and Amec continued to amend the NJDEP-Discharge to Groundwater (DGW) Work Plan to address the in-situ approach for the new area resulting from the planned 15-foot relocation of the hydraulic barrier wall proximate to the 72-inch Force Main.
- Honeywell continued efforts to develop an access agreement for the Trenk property.

The following activities are noted as part of the Non-Chromium PDI:

  - Operation of the SVE/GWE System was terminated and the System trailer was decontaminated and demobilized from the Site and the electrical service drop was removed.
  - Amec continued monthly inspections of the select monitoring wells installed within the UST areas where separate phase product has been observed.
  - Amec evaluated groundwater sample results from temporary well points installed on the offsite property to complete delineation of the JCDPW UST area. Results indicate delineation is complete.
  - Arcadis is finalizing proposals for remaining enhanced anaerobic in-situ bioremediation (EAISB) injections.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Amec and Entact continued Chromium Remedy activities as follow:
  - Continued collection of waste characterization soil samples from areas where soil is designated for offsite disposal (including soils with hexavalent chromium >1,000 mg/kg and non-chromium soils areas which are being remediated concurrently);
  - Initiated vibration monitoring at the diner located on the Kellogg Street jughandle;
  - Continued pre-trenching activities and initiated installation of sheeting within the hydraulic barrier alignment on Sites 073, 124, 125, and 134 and temporary excavation support sheet pile alignments;
  - Continued drilling and installation of shallow construction dewatering wells at Site 124 and initiated installation of the construction groundwater extraction system; and
  - Completed coordination with PSE&G Electrical group for temporary rerouting of overhead electric for installation of the 150 linear foot of hydraulic barrier wall running along the NJDOT right of way; and,
  - Continued reviews with NJDOT regarding a temporary use permit for temporary sheeting, excavating and grading proximate to the Kellogg Street jughandle.
- Amec and Ontario Specialty Contracting completed permitting, asbestos abatement, and initiated demolition of the warehouse portion of the 60 Kellogg Street building.
- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).

  - The building contractor, Oradell, substantially completed installation of the sanitary sewer lift station and substantially completed the exterior truck loading pad, and continued working on process control equipment submittals.
  - The groundwater extraction piping system modification contractor, ENR, continued the submittal process for extraction piping power and control modifications.
  - BCA/Clinton Steel, began steel erection activities of the building shell.
  - On September 9, 2013, we submitted responses to NJDEP technical review comments received in August regarding the NJDEP air permit for the GWTP system.
- On September 6, 2013, Honeywell submitted the contractor work plan for the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South).
- The following activities are noted as part of the Non-Chromium PDI:
  - Amec evaluated the analytical results from the additional at Site 163 in accordance with the NJDEP-approved combined RIR/RASR/RAWP for Non-Chromium and concluded that delineation is complete.

Key Activities Planned for This Month (September 2013)

Study Area 6 North Sites 087 and 088

- Honeywell and Amec will submit revised design drawings to depict the agreed upon barrier wall relocation of 25 feet from the 72-inch Force Main centerline.
- Amec and Entact will continue Chromium Remedy activities:
  - Processing of historic fill stockpiles for surcharge;
  - Initiate construction of the construction water treatment system; and,
  - Installation of surcharge monitoring and acoustical monitoring equipment.
- Honeywell and its consultants will continue the Non-Chromium activities including:
  - Amec will perform ongoing monthly inspections of the JCMUA-1A monitoring wells and product recovery as needed from the JCIA-1B and JCDPW UST Areas.
  - Arcadis will continue to modify the Discharge to Groundwater-Permit By Rule Authorization, and plan for mobilization by the end of October.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

- Amec and Entact will continue Chromium Remedy activities:
  - Drilling and installing dewatering wells and installation of the groundwater extraction system;
  - Complete pre-trenching for the hydraulic barrier at Sites 125 and 134;
  - Continue hydraulic barrier wall installation, including grouting the joints between the sheets in the hydraulic barrier;
  - Continue installation of sheeting for temporary excavation support; and

  - Continue to evaluate waste characterization soil sample results and initiate the waste profiling process.

- Honeywell and Amec will continue to advance the new GWTP construction project:
  - Initiate installation of groundwater extraction treatment system modifications;
  - Substantially complete the building shell erection; and
  - Initiate installation of process control equipment.
- As part of the Non-Chromium remedial design process, Honeywell and Amec will:
  - Continue to support the JCRA in the Eminent Domain process at the former Harsimus Property.
  - Finalize the design of the excavation based on the additional soil delineation data collected at Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

10/11/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

October 11, 2013

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Re: SA-6 North and SA-6 South Remediation Progress Report No. 64

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from September 1 – September 30, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
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Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 64
Project SA-6N/6S Remediation

September 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
09/03/13	Adjustment of Barrier Wall for Study Area 6 North	Honorable Robert G. Torricelli Office of the Special Master
09/06/13	ERFS' In-Situ Chemical Reduction Implementation Work Plan SA-6 South Site 163 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
09/12/13	Progress Report No. 63	Honorable Robert G. Torricelli Office of the Special Master
09/12/13	Supplemental Chromium Remedy 100% Design Submittal Hydraulic Barrier Wall Alignment Study Area 6 North Sites 087 and 088 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
09/17/13	Special Master Meeting	n/a
09/19/13	Public Notification Update Study Areas 1, 3, 5, 6 and 7 Jersey City, NJ	Mr. David Doyle, Case Manager New Jersey Department of Environmental Protection
09/19/13	Public Notification Update Honeywell Study Areas 1, 3, 5, 6 and 7 Jersey City, Hudson County, NJ	Robert Byrne City of Jersey City Municipal Clerk Carrie Nawrocki, Executive Director Hudson Regional Health Commission

Key Activities –September 2013

Study Area 6 North Sites 087 and 088

Amec and Entact continued Chromium Remedy activities as follow:

- Completed construction of the temporary construction water treatment plant (CWTP).
- Completed construction of the double-walled piping for transfer of construction water from SA-6 South across SA-7 to the CWTP on SA-6 North.
- Installed settlement plates in the Sedimentation Basin and surrounding area for monitoring consolidation of subsurface strata during surcharging.

The following activities are noted as part of the Non-Chromium PDI:

- On behalf of Honeywell, Amec submitted requests to terminate permits obtained from NJDEP and PVSC for operation of the SVE/GWE System.
- Arcadis finalized their proposal for remaining enhanced anaerobic in-situ bioremediation (EAISB) injections.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact continued Chromium Remedy activities as follows:

- Continued vibration monitoring at the diner located on the Kellogg Street jughandle.
- Completed installation of sheeting within the hydraulic barrier alignment on Sites 073, 124, 125, and most of Site 134, and temporary excavation support sheet pile alignments.
- Completed grouting of sheet pile interlocks on the installed hydraulic barrier alignment.
- Completed pre-trenching of temporary excavation support sheet pile alignments along the northern boundary of Site 163.
- Completed drilling and installation of shallow and deep construction dewatering wells at Site 124 and completed the installation of the construction groundwater extraction system.
- Completed coordination with PSE&G Electrical group for temporary rerouting of overhead electric for installation of the 150 linear foot of hydraulic barrier wall running along the NJDOT right of way.
- Completed reviews with NJDOT and obtained a temporary use permit for temporary sheeting, excavating and grading proximate to the Kellogg Street jughandle.

Activities by others:

- Amec and Ontario Specialty Contracting completed demolition of the warehouse portion of the 60 Kellogg Street building.
- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP).
- On September 25, 2013, Honeywell received comments from the Plaintiffs on the contractor work plan for the In-Situ Chemical Reduction Treatment Program at Site 163 (SA-6 South). Honeywell is currently preparing a response.

Key Activities Planned for This Month (October 2013)

Study Area 6 North Sites 087 and 088

Amec and Entact will continue Chromium Remedy activities:

- Processing of historic fill stockpiles for surcharge.
- Coordinate PVSC and JCMUA inspections on the construction water treatment system.
- Installation of surcharge monitoring and acoustical monitoring equipment.

Activities by others:

- Honeywell and Amec will submit revised design drawings to depict the agreed upon barrier wall relocation relative to the 72-inch Force Main centerline.
- Arcadis will submit a modification to the NJDEP Discharge to Groundwater-Permit By Rule Authorization.
- Arcadis will finalize their report summarizing the results of their Phase I EAISB in the JCIA UST AOC. Honeywell will submit this report to NJDEP and ask for closure of the UST Case Number.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact will continue Chromium Remedy activities:

- Initiate dewatering and excavation at Site 124.
- Continue hydraulic barrier wall installation, including grouting the joints between the sheets in the hydraulic barrier at Site 134.
- Continue installation of sheeting for temporary excavation support.
- Continue the waste profiling process.
- Continue to advance the new GWTP construction project.

As part of the Non-Chromium remedial design process, Honeywell and Amec will:

- Finalize the design of the excavation based on the additional soil delineation data collected at Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

11/12/2013
MONTHLY REPORT

Honeywell
101 Columbia Rd
Morristown, NJ 07962

November 12, 2013

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

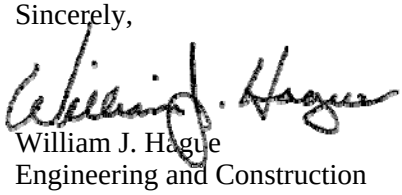
Re: SA-6 North and SA-6 South Remediation Progress Report No. 65

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from October 1 – October 31, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,



William J. Hague
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 65
Project SA-6N/6S Remediation

October 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
10/08/13	Non-Chromium Remedy Update - JCIA-1 UST AOC Study Area 6 North Hudson County Chromate Site 088, Jersey City, New Jersey	Mr. Thomas Cozzi, Assistant Director New Jersey Department of Environmental Protection
10/09/13	Response to Comments Provided by PVSC in September 9, 2013 letter Draft Sewer Use Permit # 31630019 Study Area 6 North and Study Area 6 South, Jersey City, New Jersey	Anthony Gammaro Assistant Manager, User Charge and Permit Management Passaic Valley Sewerage Commission
10/11/13	Study Area 6 North and South Progress Report No. 64	Honorable Robert G. Torricelli Office of the Special Master
10/15/13	Special Master Conference Call	n/a
10/21/13	Posted to The Louis Berger SharePoint Site: Public Notification Update Study Areas 1, 3, 5, 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/23/13	Posted to The Louis Berger SharePoint Site: Study Area 6 North and South: First Amendment to Memorandum of Understanding Between Honeywell and PVSC	Honorable Robert G. Torricelli Office of the Special Master
10/24/13	Response to Comments Provided by Terris, Pravlik & Millian, LLP Honeywell Chromium Remedy In-Situ Contractor Implementation Work Plan SA-6 South Site 163 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/24/13	Arnold & Porter Correspondence: Consent Order Entering Revised Drawings for Study Area 6 North Barrier Wall	Honorable Robert G. Torricelli Office of the Special Master
10/29/13	Posted to The Louis Berger SharePoint Site: PVSC Sewer Use Permit - 31630016	Honorable Robert G. Torricelli Office of the Special Master

Key Activities –October 2013

Study Area 6 North Sites 087 and 088

Amec and Entact continued Chromium Remedy activities as follow:

- On October 8, 2013, Passaic Valley Sewerage Commission (PVSC) inspected the discharge piping and flow meter calibration prior to startup of the temporary construction water treatment system (CWTS).
- Continued processing historic fill stockpiles for use as surcharge.

The following activities are noted as part of the Non-Chromium PDI:

- Amec initiated an evaluation of debris disposal options, which is being screened from the historic fill soil piles located at SA-6 North and is unsuitable for surcharge.
- Arcadis initiated modifications to the existing NJDEP-approved EAISB Work Plan/Discharge to Groundwater-Permit by Rule, dated March 25, 2013 and is preparing to implement the remaining enhanced anaerobic in-situ bioremediation (EAISB) injections.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact continued Chromium Remedy activities as follows:

- Continued hydraulic barrier wall installation, including the eastern edge of the open space area along Route 440, and continued grouting the joints between the sheets in the hydraulic barrier at Site 134.
- Initiated drilling and installation of surcharge monitoring instrumentation in the cap areas at Site 124 and Site 125.
- Initiated dewatering and excavation at Site 124 and offsite transportation and disposal of soils impacted with hexavalent chromium >1,000 milligrams per kilogram (mg/kg).
- Initiated sampling of less than 20 mg/kg soils in accordance with approved plans.

Activities by others:

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP). The building is complete and the major treatment components are in-place with piping and process control wiring installation continuing.

Key Activities Planned for This Month (November 2013)

Study Area 6 North Sites 087 and 088

Amec and Entact will continue Chromium Remedy activities:

- Processing of historic fill stockpiles for surcharge.
- Installing the surcharge monitoring instrumentation proximate to the 72-inch forcemain.

Activities by others:

- Arcadis will prepare a modification to the NJDEP Discharge to Groundwater-Permit By Rule Authorization.
- Honeywell and Amec will coordinate with PVSC and Hatch Mott McDonald to install acoustical monitoring equipment proximate to the 72-inch forcemain.
- Honeywell and Amec will continue to develop the in-situ approach for Treatment Area 10 proximate to the 72-inch forcemain.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact will continue Chromium Remedy activities:

- Continue dewatering and excavation at Site 124, including offsite transportation and disposal of soils impacted with hexavalent chromium >1,000 mg/kg.
- Complete hydraulic barrier wall installation except proximate to 80 Kellogg Street which is inaccessible until demolition.
- Continue installation of sheeting for temporary excavation support.
- Continue the waste profiling process.
- Continue to advance the new GWTP construction project.

Activity by others:

- Honeywell and Amec will coordinate potential mobilization dates with ERFS to begin in-situ treatment of soils at Site 163.

As part of the Non-Chromium remedial design process, Honeywell and Amec will:

- Finalize the disposal selection for non-chromium impacted materials on Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

12/13/2013
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

December 13, 2013

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Re: SA-6 North and SA-6 South Remediation Progress Report No. 66

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from November 1 – November 30, 2013.

We are in the process of evaluating the SA-6 North and South, and SA-7 Progress Reports, with plans of combining and expanding the content with regards to operation data in 2014 (February 2014 report focusing on January 2014 activities). We anticipate having a draft outline prepared in January which we will share with the Parties.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 66
Project SA-6N/6S Remediation

November 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
11/06/13	Revised Master Schedule for Study Area 6 North and South	Honorable Robert G. Torricelli Office of the Special Master
11/07/13	Integrated Groundwater Sampling and Analysis Plan (Study Areas 5, 6, and 7)	Honorable Robert G. Torricelli Office of the Special Master
11/11/2013	Filed Order with Court on Location of Hydraulic Barrier Wall	U.S. District Court (D.NJ)
11/12/13	SA-6 North and South Progress Report No. 65	Honorable Robert G. Torricelli Office of the Special Master
11/13/13	SA-6 Chromium Remedy Waste Characterization Sampling Plan SA-6 North Sites 087 and 088 SA-6 South Sites 073, 124, 125, 134, 140, and 163 Jersey City, New Jersey	Mr. David Doyle, Case Manager New Jersey Department of Environmental Protection
11/15/13	Correspondence on Droyer's Cove Beneficial Environmental Project (Study Areas 6 and 7)	Honorable Robert G. Torricelli Office of the Special Master
11/15/13	Draft Study Area 6 Excavation Declaration	Honorable Robert G. Torricelli Office of the Special Master
11/19/13	Special Master Meeting	n/a
11/21/13	Draft Sewer Use Permit # 31630019 Study Area 6 North and Study Area 6 South Bayfront Redevelopment LLC Honeywell International Inc. Jersey City, New Jersey	Anthony Gammaro Passaic Valley Sewerage Commission

Key Activities –November 2013

Study Area 6 North Sites 087 and 088

Amec and Entact continued Chromium Remedy activities as follow:

- Used soft dig approach to uncover the crown of the 72-inch force main for installation of surcharge monitoring instrumentation on the pipeline. Passaic Valley Sewerage Commission (PVSC) and their subcontractors Hatch Mott MacDonald and Pure Technologies concurrently installed the acoustical monitoring equipment.
- Continued processing historic fill stockpiles for use as surcharge.

- Honeywell and Amec continued to develop the revised in-situ work plan to address the expanded Treatment Area 10 footprint proximate to the 72-inch force main.

The following activities are noted as part of the Non-Chromium PDI:

- Arcadis continued modifications to the existing NJDEP-approved EAISB Work Plan/Discharge to Groundwater-Permit by Rule, dated March 25, 2013 and is preparing to implement the remaining enhanced anaerobic in-situ bioremediation (EAISB) injections.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact continued Chromium Remedy activities as follows:

- Completed hydraulic barrier wall installation, except proximate to 60 Kellogg Street and 80 Kellogg Street which is inaccessible until demolition. Completed installation locations include the western edge of the Open Space Area near the Hackensack River, and grouting the joints between the installed sheets in the hydraulic barrier at Site 134.
- Continued dewatering and excavation at Site 124 and offsite transportation and disposal of soils impacted with hexavalent chromium >1,000 milligrams per kilogram (mg/kg).
- Initiated backfilling of completed excavation areas in the eastern part of Site 124.
- Continued drilling and installation of surcharge monitoring instrumentation in the cap areas at Site 124 and Site 125.
- Continued sampling of less than 20 mg/kg soils in accordance with approved plans. Data was obtained from the first pile sampled in October and approved to be reused.

Activities by others:

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP). The primary activities include continuing installation of process piping and process control wiring.

Key Activities Planned for This Month (December 2013)

Study Area 6 North Sites 087 and 088

Amec and Entact will continue Chromium Remedy activities:

- Processing of historic fill stockpiles for surcharge.
- Continue to install surcharge monitoring instrumentation.

Activities by others:

- Arcadis will continue to prepare the modification to the NJDEP Discharge to Groundwater-Permit By Rule Authorization.
- Honeywell and Amec will continue to coordinate with PVSC and Hatch Mott MacDonald on the acoustical monitoring instrumentation installed on the 72-inch force main.
- Honeywell and Amec will complete the revisions to the in-situ work plan for the expanded Treatment Area 10 footprint proximate to the 72-inch force main.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact will continue Chromium Remedy activities:

- Continue dewatering and excavation at Site 124, including offsite transportation and disposal of soils impacted with hexavalent chromium >1,000 mg/kg.
- Continue installation of sheeting for temporary excavation support.
- Continue the waste profiling process.
- Continue to advance the new GWTP construction project.

Activity by others:

- Honeywell and Amec will schedule a technical meeting or conference call with all Parties to as requested by Plaintiffs in their letter dated November 18, 2013 on the Site 163 Contractor In-situ Work Plan.

As part of the Non-Chromium remedial design process, Honeywell and Amec will:

- Finalize the disposal selection for non-chromium impacted materials on Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

2014 MONTHLY REPORTS
PART 1

1/14/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

January 14, 2014

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Re: SA-6 North and SA-6 South Remediation Progress Report No. 67

Dear Senator Torricelli:

Attached is the Chromium Remedy Monthly Progress Report for Study Areas 6 North and South for activities conducted by Honeywell during the period from December 1 – December 31, 2013.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Engineering and Construction

WJH:sg

Encl.

cc: (electronic)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

HEALTH, SAFETY, ENVIRONMENTAL AND REMEDIATION
MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 67
Project SA-6N/6S Remediation

December 2013
Study Area 6 North and South
Jersey City, NJ

Submittals and Meetings

Date	Submittal/Meeting	Recipient
12/05/13	Arnold & Porter correspondence to the Special Master re Consolidation of Cases Related to Study Areas 5, 6, and 7	Honorable Robert G. Torricelli Office of the Special Master
12/10/13	Application for Permit Type 4 Permit for Chemical Storage Groundwater Treatment Plant Bayfront Redevelopment, LLC Block 21901; Lots 9 & 10 (Formerly Block 1290.A; Lot, 2E & 2D) Jersey City, Hudson County, New Jersey	Jersey City Fire Department Fire Prevention Division
12/10/13	Revised Master Schedule for Study Area 6 North and South	Honorable Robert G. Torricelli Office of the Special Master
12/13/13	Progress Report No. 66	Honorable Robert G. Torricelli Office of the Special Master
12/17/13	Special Master Conference Call	n/a
12/20/13	Re: Request for Extension for Submittal of Local Limit Baseline Monitoring Report & Slug Control Questionnaire Permit # 31630016, New Groundwater Treatment Plant Honeywell International Inc. Jersey City, Hudson County, New Jersey	Andrew Caltagirone - Passaic Valley Sewerage Commission
12/20/13	SA-6 Chromium Remedy, Certificate of Authority to Operate (CAO) a Beneficial Use Project Application (BUD) SA-6 North Sites 087 and 088 SA-6 South Sites 073, 124, 125, 134, 140, and 163, Jersey City, New Jersey	New Jersey Department of Environmental Protection
12/20/13	Notification of upload of the following submittal to the LB SharePoint Site: SA-6 Chromium Remedy, Certificate of Authority to Operate (CAO) a Beneficial Use Project Application (BUD) SA-6 North Sites 087 and 088 SA-6 South Sites 073, 124, 125, 134, 140, and 163, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
12/20/13	SA-6 Chromium Remedy Waste Characterization Sampling Plan SA-6 North Sites 087 and 088 SA-6 South Sites 073, 124, 125, 134, 140, and 163. Jersey City, New Jersey	Mr. David Doyle - New Jersey Department of Environmental Protection

Key Activities –December 2013

Study Area 6 North Sites 087 and 088

Amec and Entact continued Chromium Remedy activities as follow:

- Completed installation of surcharge monitoring instrumentation on the 72-inch force main. Passaic Valley Sewerage Commission (PVSC) and their subcontractors Hatch Mott MacDonald and Pure Technologies initiated baseline acoustical monitoring.
- Completed processing historic fill stockpiles for use as surcharge and demobilized the screening equipment.
- Honeywell and Amec continued to develop the revised in-situ work plan to address the expanded Treatment Area 10 footprint proximate to the 72-inch force main.

The following activities are noted as part of the Non-Chromium PDI:

- Arcadis continued modifications to the existing NJDEP-approved EAISB Work Plan/Discharge to Groundwater-Permit by Rule, dated March 25, 2013 and is preparing to implement the remaining enhanced anaerobic in-situ bioremediation (EAISB) injections.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact continued Chromium Remedy activities as follows:

- Continued to receive shipments of steel sheet pile in preparation for completing 60 Kellogg, 80 Kellogg and the SA-6 North section of barrier wall installation proximate to the 72-inch force main.
- Continued dewatering and excavation at Site 124 and offsite transportation and disposal of soils impacted with hexavalent chromium >1,000 milligrams per kilogram (mg/kg).
- Continued backfilling of completed excavation areas in the eastern and central parts of Site 124.
- Continued drilling and installation of surcharge monitoring instrumentation in the cap areas at Site 134.
- Continued sampling of less than 20 mg/kg soils in accordance with approved plans. Data was obtained from the stockpiles sampled in November and December and approved for reuse.

Activities by others:

- Honeywell and Amec continued to advance activities associated with construction of the new Groundwater Treatment Plant (GWTP). The primary activities include final installation of process piping and process control wiring and completion of punch list items on the building for final Jersey City inspections.

Key Activities Planned for This Month (January 2014)

Study Area 6 North Sites 087 and 088

Amec and Entact will continue Chromium Remedy activities:

- Relocation of non-suitable debris (generated from processing historic fill stockpiles) out of active work areas.
- Continue drilling and installation of surcharge monitoring instrumentation in the western portion of the cap area.
- Initiate abandonment of the former 54-inch Sedimentation Basin discharge pipe.

Activities by others:

- Arcadis will finalize the modification to the NJDEP Discharge to Groundwater-Permit By Rule Authorization.
- PVSC, Hatch Mott MacDonald, and Pure Technologies will continue acoustical monitoring as needed.
- Honeywell and Amec will complete the revisions to the in-situ work plan for the expanded Treatment Area 10 footprint proximate to the 72-inch force main.

Study Area 6 South Sites 073, 124, 125, 134, 140, and 163

Amec and Entact will continue Chromium Remedy activities:

- Continue dewatering and excavation at Site 124, including offsite transportation and disposal of soils impacted with hexavalent chromium >1,000 mg/kg.
- Initiate stockpile sampling of soils with presumed hexavalent chromium >1,000 mg/kg.
- Continue the waste profiling process.
- Continue to advance the new GWTP construction project including initiating commissioning activities.

Activity by others:

- Honeywell and Amec will schedule a technical meeting or conference call with all Parties as requested by Plaintiffs in their letter dated November 18, 2013 on the Site 163 Contractor In-situ Work Plan.

As part of the Non-Chromium remedial design process, Honeywell and Amec will:

- Finalize the disposal selection for non-chromium impacted materials on Site 163.

Prepared By:
W.J. Hague - Honeywell
J.T. Clifford - Amec

2/14/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

February 14, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Progress Report No. 2014-01

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for both Study Areas 6 and 7 for activities conducted by Honeywell during the period from January 1 – January 31, 2014. This report follows the updated outline which was provided to the Parties in our January 14, 2014 correspondence. Please note that we have taken this opportunity to change the Progress Report numbering system more accurately to tie-in to the reporting month.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: January 2014 SA-6/7 Combined Monthly Progress Report No. 2014-01

cc: Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)

Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2014-01
Project SA-6 & 7 Remediation

January 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
01/02/14	SA-6 Chromium Remedy Waste Characterization Sampling Plan SA-6 North Sites 087 and 088 SA-6 South Sites 073, 124, 125, 134, 140, and 163, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/07/14	Response to Comments Provided by Terris, Pravlik & Millian, LLP Chromium Remedy Backfill Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/07/14	Arnold & Porter correspondence: SA-7 Sediment Consent Order – Revised Master Schedule Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/14/14	Progress Report No. 67 Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/14/14	Progress Report No. 128 Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/14/14	Draft Combined Remediation Monthly Progress Report Study Area 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/16/14	PVSC MR1/MR2 (Discharge of Tannin Construction Water) Study Area 7, Jersey City, NJ	Andy Caltagirone Passaic Valley Sewerage Commissioners
01/21/14	Meeting: Special Master All Hands Meeting	N/A
01/23/14	Surface Water DMR (December 2013) Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	State of New Jersey Department of Environmental Protection
01/23/14	Excavation Bottom Approach Special Master Meeting (1/21/14 Presentation) Study Area 6 South, Jersey City, NJ	Uploaded to the Louis Berger SharePoint Site
01/28/14	Arnold and Porter Correspondence on Study Area 7 Sediment Declaration	Honorable Robert G. Torricelli Office of the Special Master
01/29/14	Work Plan for In-Situ Treatment of Chromium- Impacted Soils Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/29/14	Revised Master Schedule Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	01/05/14	01/12/14	01/19/14	01/26/14	02/02/14
Construction Management (AMEC)	4	9	9	9	9
Engineering (AMEC)	2	2	2	2	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	26	34	33	30	37
Arecon/US Ecology Subcontractors	1	2	2	2	3
Oradell (SA-6N GWTP Building Mech/ Plumbing/HVAC)	8	8	7	3	5
ENR (SA-6N GWTP Utilities)	3	5	4	5	3
BCA (SA-6N Building Construction)	1	1	0	0	0
Siemens	1	3	4	1	1
HBS (SA-6N GWTP Security System)	0	0	1	1	1
HPS (SA-6N GWTP Process Controls)	0	1	1	1	0
Other	0	0	0	0	0
TOTAL	**50**	**69**	**67**	**58**	**64**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued new Ground Water Treatment Plant (GWTP) construction activities to include completion of operational commissioning, and PW-1 and PW-2 piping connections into new GWTP.
- Passed final Jersey City Inspections for GWTP Building Electrical, Plumbing, Fire & Life Safety and placed initial order for GWTP chemical deliveries.
- Initiated decommissioning activities for exterior ModuTanks at 80 Kellogg Street WWTP.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Completed numerous snow removal events on SA-6N and SA-6S.
- Collected PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. 80 KELLOGG GROUND WATER TREATMENT PLANT

- Hydrochloric acid cleaning was performed for three micro filter trains (MF-1).
- Filter cake container changed-out (Arecon-FCI) on January 13th.
- January monthly and quarterly effluent DMR samples were collected.
- Began cleaning sludge tanks in treatment plant.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	01/05/14	01/12/14	01/19/14	01/26/14	02/02/14
Avg. Gallons Treated & Discharged (per day)	84,034	86,312	89,299	76,112	86,558
Average Flow (gpm) for Operating Period	156	140	167	161	171
Avg. Hours of Plant Operation	9	11	9	8	8
GWTP ModuTanks (gal.)	151,880	149,120	148,760	111,360	144,180

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 25 through 37.
- Petroleum-impacted soils were identified during excavation activities via field observations and PID. These materials were separately stockpiled and sampled for off-site disposal.
- Completed pre-trench activities for Vertical Hydraulic Barrier Wall within the 60 Kellogg employee parking lot.
- Continued storm-water management activities.
- Continued dewatering activities and associated discharge to the construction water treatment facility.
- Continued backfill placement activities and associated compaction testing.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	19.50	19.50
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	150	21.86	3,278.36

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ Venerio	Tri-axle Dump	Middlesex City Landfill	NA	Hg Impacted material (non–haz)	3	21.50	64.50
Entact/ Tilcon	Tri-axle Dump	Tilcon	NA	Asphalt for Recycling	27	25.09	677.45

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 36, 37
Excavation Completed	Cell Number(s) 25 through 35
Backfill in Progress	Cell Number(s) 1 through 20

3. BACKFILL MATERIALS USED

Source	Pre 12/31/13 Summaries	(Week Ending)				
		01/05/14	01/12/14	01/19/14	01/26/14	02/02/14
<20ppm re-use, CY	500	0	0	0	0	0
Weldon, Import-Tons	4,769.01	1,383.31	1743	1,035.01	1725.36	3,344.31
Tilcon, Import-Tons	4,290.83	0	0	0	0	0

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~30% complete. No Surcharge Initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion dependent upon Building Demolition. No Surcharge Initiated.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. Surcharge placement not initiated.
- Area 1N: Instrumentation Installation ~60% complete. No Surcharge initiated.
- Area 2N: No instrumentation installed. Settlement platforms have been installed in the sedimentation basin to the north of Area 2 and portion of the Sedimentation Basin has been temporarily filled with screened materials that will be used for Surcharging the designated Surcharge Areas.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/15	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/12
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP	SA-6 Chromium Remedy	Final anticipated Feb 2014, Using Temp Permit Now Issued 9/1/13	Pending	Pending	-
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/15	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/14	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2015	6/23/2015	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/12	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/13	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

G. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete abandonment in place of the former 54-inch discharge pipe from the Sedimentation Basin.
- Initiate steel sheeting installation of barrier wall proximate to the 72-inch force main (FM), pending delivery of the spare FM section and coordination with PVSC.
- Initiate dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 36 through 46.
- Beginning with Cell 31, stockpile potential >1,000 mg/kg soils for sampling.
- Complete waste characterization and coordinate off-site disposal of petroleum-impacted soils.
- Continue backfill and associated compaction test activities.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Complete new GWTP commissioning.
- Continue decommissioning of 80 Kellogg Ground Water Treatment Plant.
- Continue SWPPP inspections.
- Complete PVSC compliance sampling.

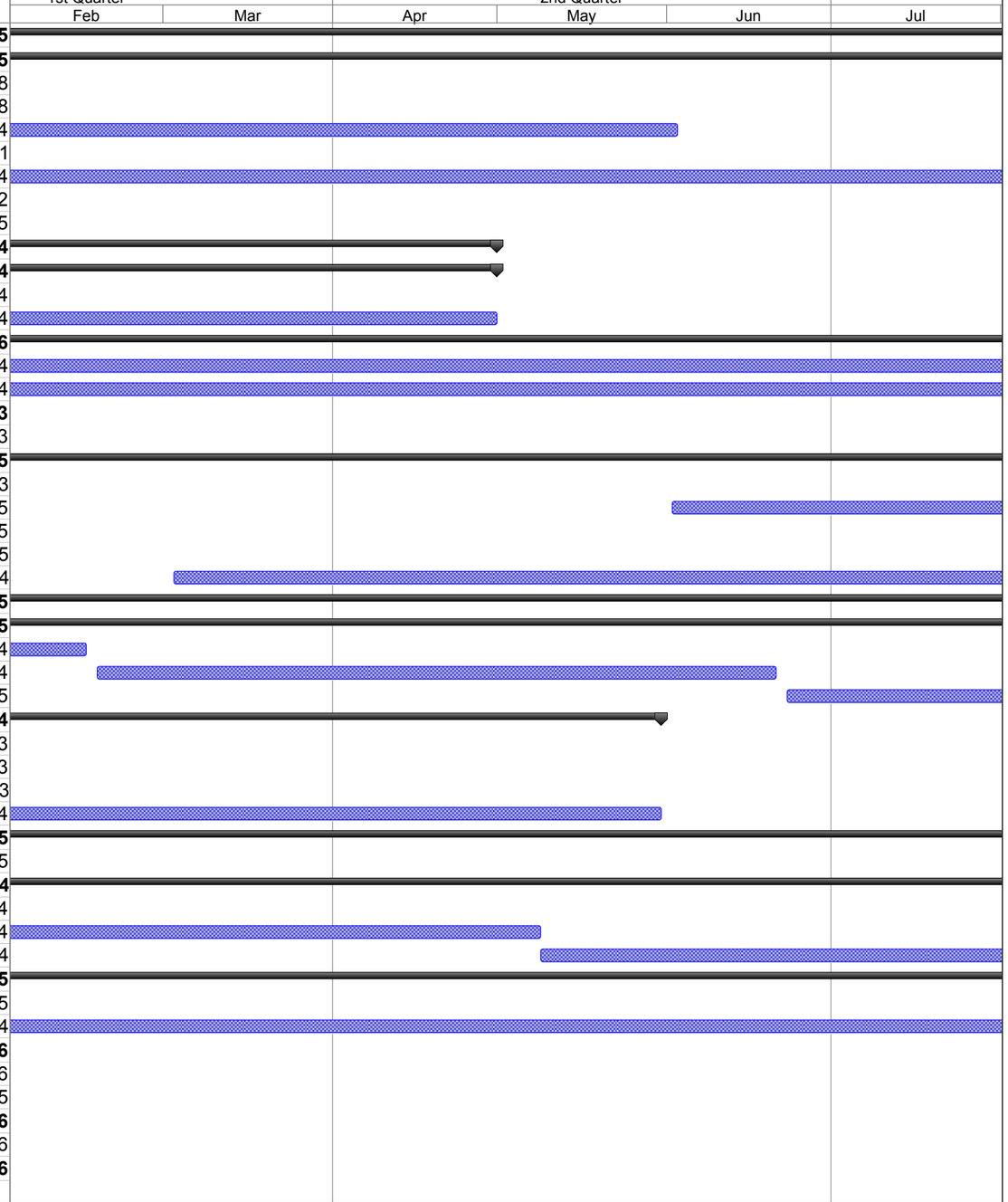
ATTACHMENTS:

1: Schedule – 6 Month Look Ahead
2: Site Photographs
3: Excavation and Backfill
   - Progression Chart
   - Weekly Excavation and Survey Data (Excavation Bottom Elevations and corresponding Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points)
   - Backfill Compaction Locations
   - Field Density Test Summary Log
4: Dewatering Operations Update
   - Figure 6: Well Point Dewatering System *(included in initial submittal only)*
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-1)
   - SA-6 South Deep Well Data (DW-2)
5: SA-6 Construction Water Discharge Data (To PVSC)
6: Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7: Perimeter Pools Update
8: Quality and Level Data in GWET Wells *(not included in this submittal -provided on a quarterly basis)*
9: Surcharge Monitoring Update
   - Surcharge Monitoring Plan Report Figures *(included in initial submittal only)*
10: Sheet Pile Update
   - Hydraulic Barrier Wall Plan & Profile
   - Sheet Deflection Along Open Excavation
11: Weekly SWPPP Reports
12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (December 2013 Correction and January 2014 DMR)

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 2/4/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: A worker decons a truck leaving the EZ.



Site Photograph 2: Backfill is piled against the sheetpile hydraulic barrier.



Site Photograph 3: Backfill lift being installed over crushed concrete.



Site Photograph 4: Contractor breaks up the 60 Kellogg warehouse slab.



Site Photograph 5: Contractor clears snow from the backfill area.



Site Photograph 6: Contractor excavates in Cell No 30.



Site Photograph 7: Contractor pushes out a lift of backfill material.



Site Photograph 8: Contractor scrapes the Stratum D excavation floor.

Attachment 3: Excavation and Backfill

- Progression Chart
- Weekly Excavation and Survey Data (Excavation Bottom Elevations and corresponding Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points)
- Backfill Compaction Locations
- Field Density Test Summary Log

Jersey City & Kellogg Street Properties Remedies
Progress as of February 1, 2014

January 2014 SA-6/7 Progress Report
Attachment 3: Excavation and Backfill

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

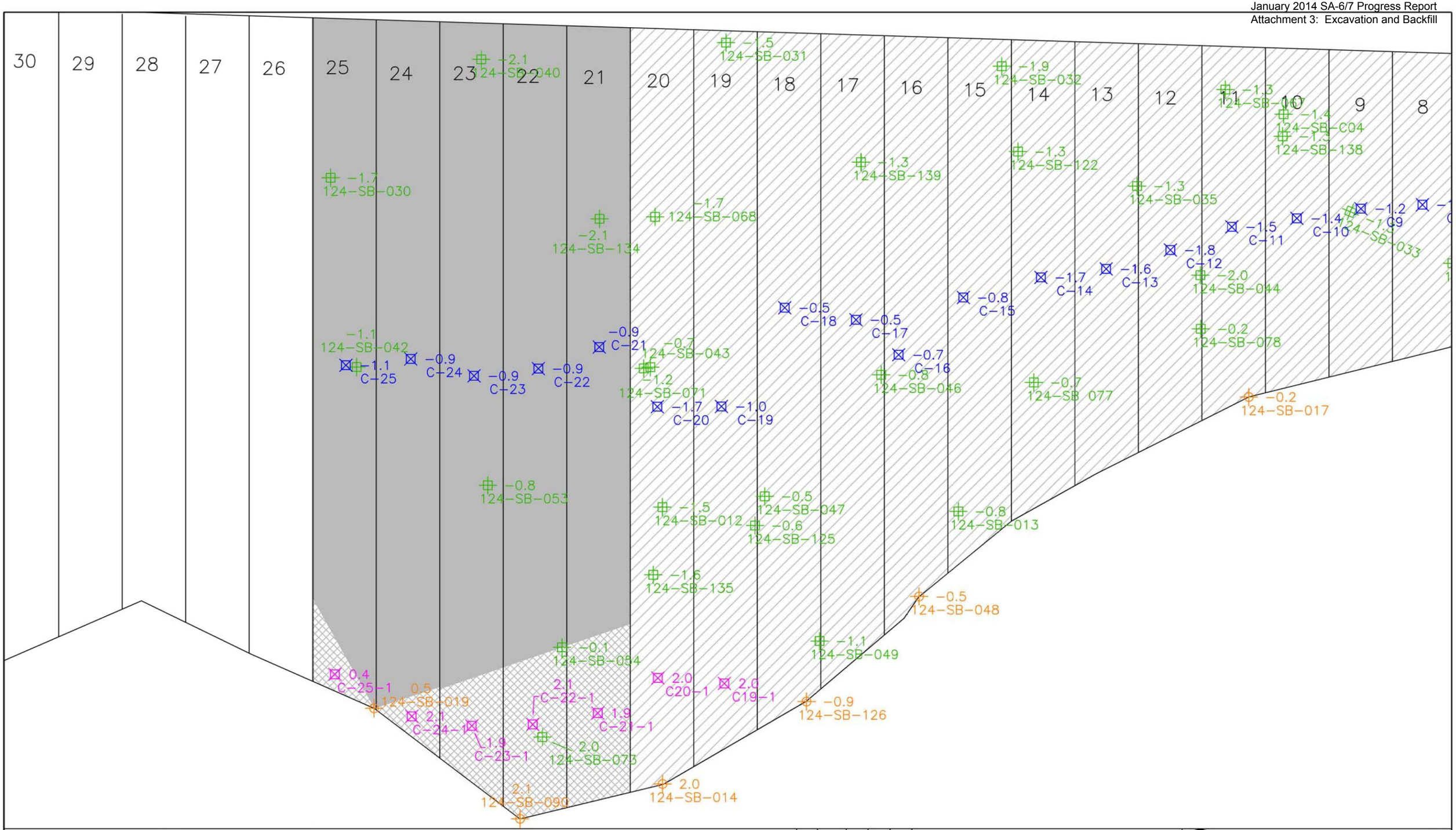
Former Roosevelt Drive-In Site
(Remediation Complete)

Kellogg Street Properties

Route 440

Hackensack River

Kellogg Street



LEGEND

- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 12-13-13 TO 01-09-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

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SA-6 South Excavation: Confirmatory Points

Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684256.4	602965.5	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points							
Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area

* Elevation based on Surveyed Center Point

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

Note: Data shown is for recent months activity

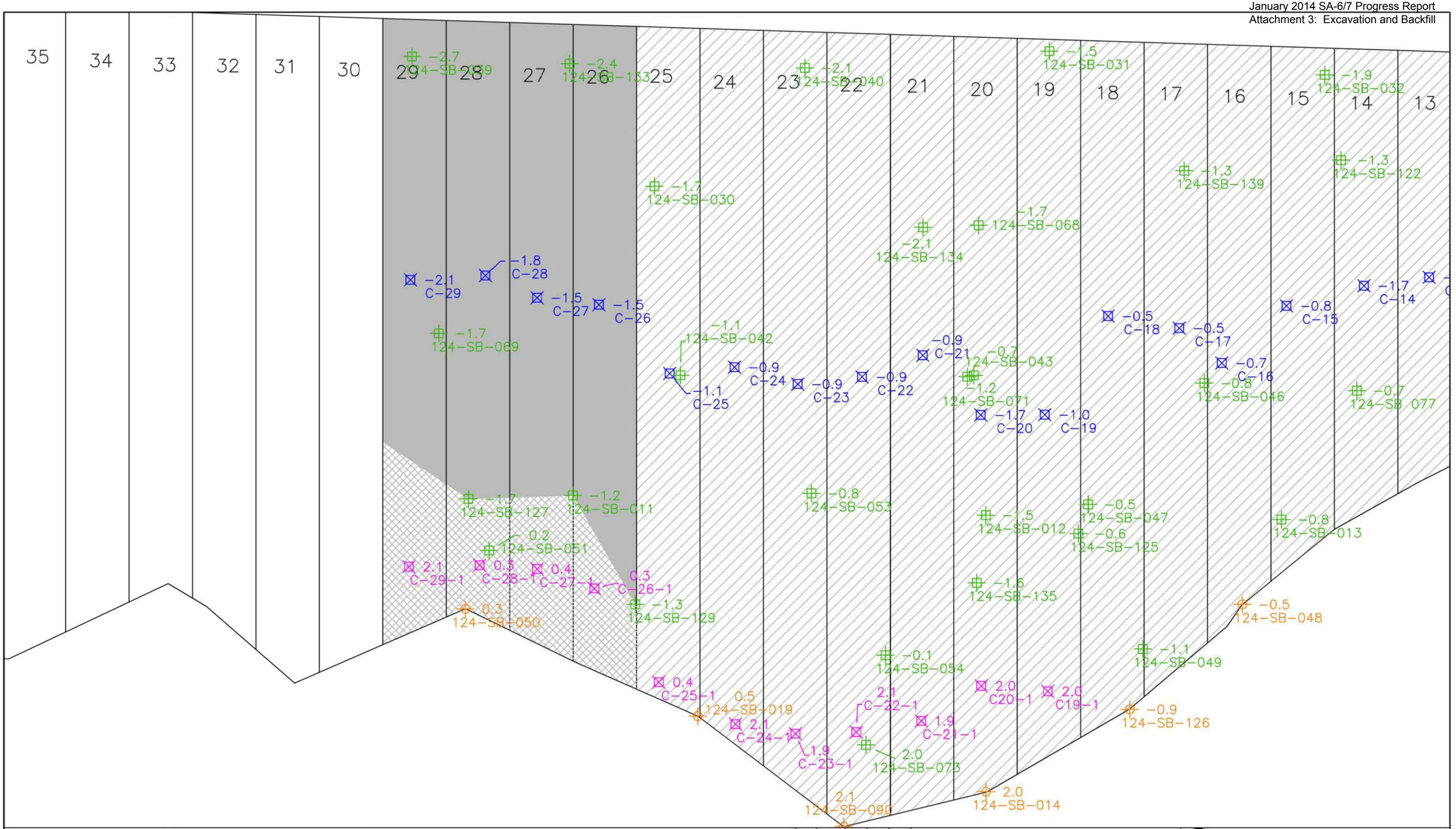
SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Sidewall Confirmatory Points							
Sidewall Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached

Note: Data shown is for recent months activity



LEGEND

0.0 POINT ELEVATION	CONFIRMATORY BOTTOM SAMPLE ELEVATION
POINT POINT DESCRIPTION	CONFIRMATORY SIDEWALL SAMPLE ELEVATION
BOTTOM CENTER POINT ELEVATION STRATUM D	BOTTOM CENTER POINT ELEVATION <20 PPM
PREVIOUSLY SUBMITTED DATA	CURRENT EXCAVATION TO STRATUM D
CURRENT EXCAVATION TO <20 PPM	

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 01-10-14 TO 01-16-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

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SA-6 South Excavation: Confirmatory Points

Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684256.4	602965.5	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points							
Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area

* Elevation based on Surveyed Center Point

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

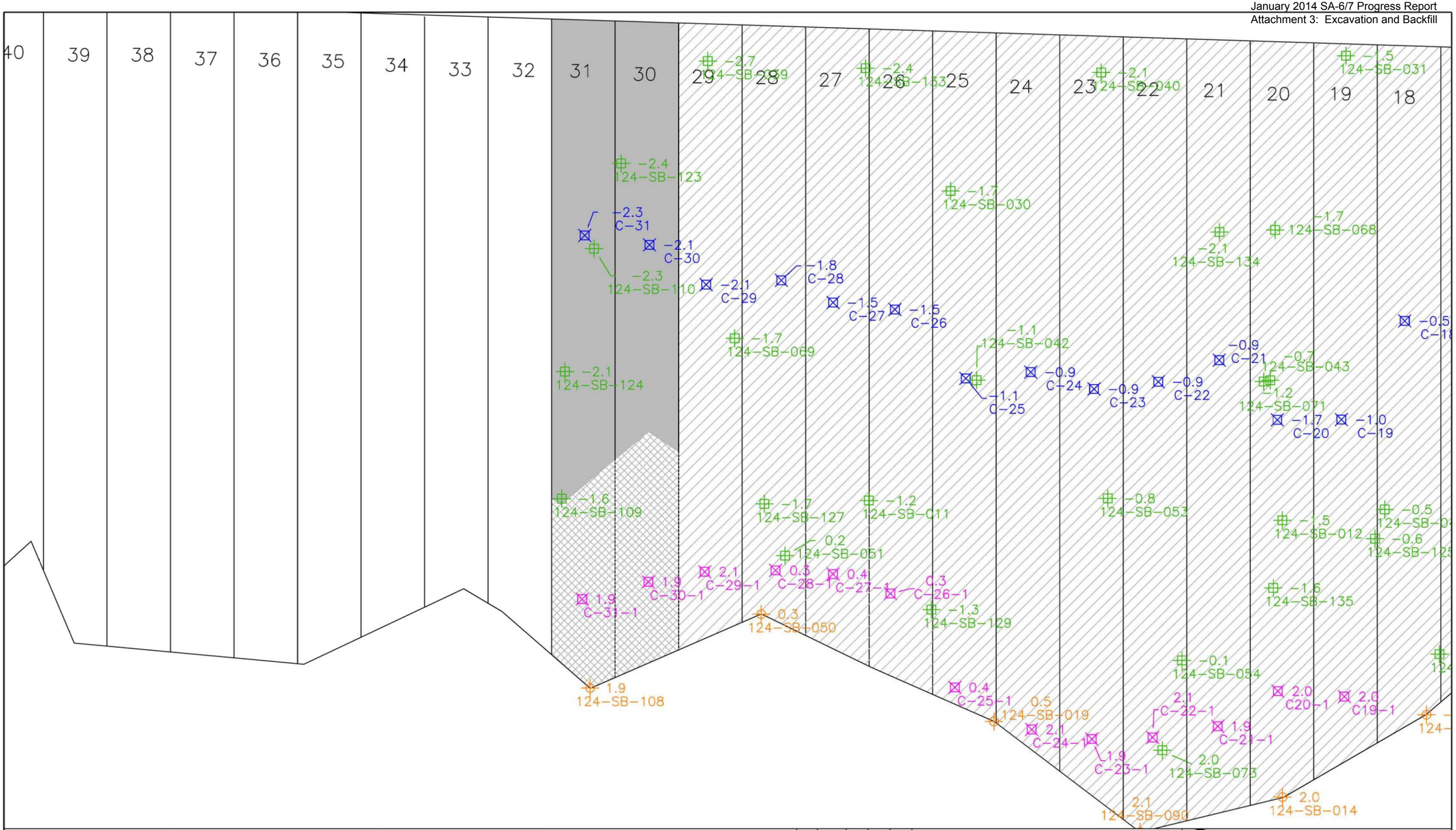
Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Sidewall Confirmatory Points							
Sidewall Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached



LEGEND

X 0.0 POINT ELEVATION	
POINT POINT DESCRIPTION	
CONFIRMATORY BOTTOM SAMPLE ELEVATION	BOTTOM CENTER POINT ELEVATION STRATUM D
CONFIRMATORY SIDEWALL SAMPLE ELEVATION	BOTTOM CENTER POINT ELEVATION <20 PPM
PREVIOUSLY SUBMITTED DATA	
CURRENT EXCAVATION TO STRATUM D	
CURRENT EXCAVATION TO <20 PPM	

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 01-17-14 TO 01-23-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

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SA-6 South Excavation: Confirmatory Points

Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684256.4	602965.5	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points							
Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points							
Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area

* Elevation based on Surveyed Center Point

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

Note: Data shown is for recent months activity

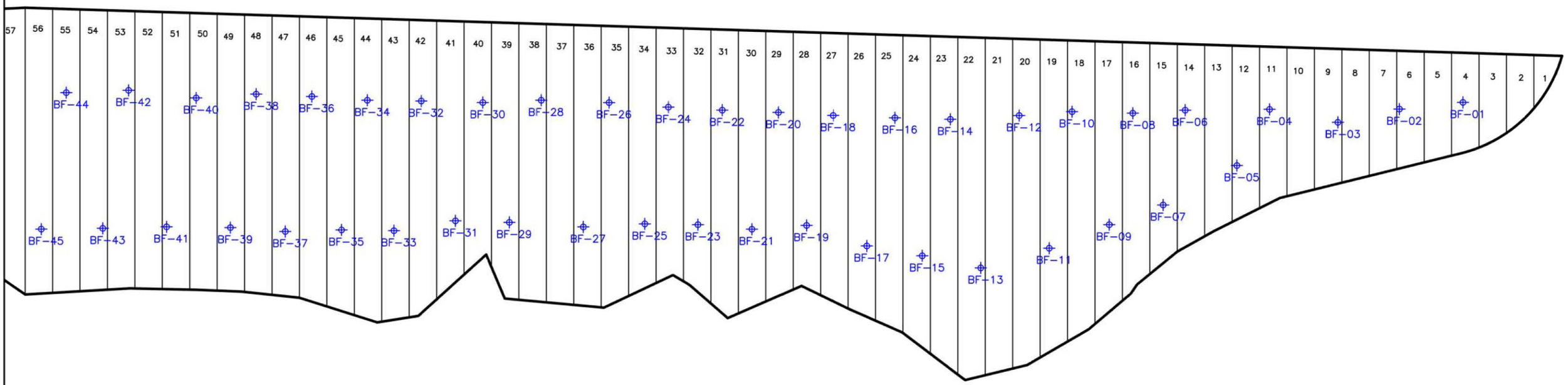
SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Sidewall Confirmatory Points							
Sidewall Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached

Note: Data shown is for recent months activity



NOTES: Proposed Test locations are approximate and based on meeting the maximum testing frequency specified in 012315–15 3.13 A. 2.

Sample frequency may be reduced in accordance with 3.13 A. 3.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
HONEYWELL STUDY AREA 7 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	PROCTOR NOTES
1	BF-01		684138.40	603182.80	-0.5						4	Crushed concrete	Bottom of excavation elevation
2	BF-01-01	12/5/2013	684144.22	603184.16	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP	
3	BF-01-02	12/5/2013	684137.77	603181.67	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP	
4	BF-01-03	12/6/2013	684140.20	603182.66	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP	
5	BF-01-04	12/6/2013	684136.62	603189.99	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP	
6	BF-01-05	12/6/2013	684134.87	603186.67	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP	
7	BF-01-06	12/6/2013	684141.06	603182.62	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP	
8	BF-01-07	12/10/2013	684147.62	603186.80	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP	
9	BF-01-08	12/10/2013	684140.19	603189.62	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift
9	BF-01-08R	12/10/2013	684140.19	603189.62	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction
10	BF-01-09	12/12/2013	684130.07	603175.51	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings	
11	BF-01-10	12/31/2013	684140.00	603184.30	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings	
1	BF-02		684153.80	603153.90	-0.6						6	Crushed concrete	Bottom of excavation elevation
2	BF-02-01	12/5/2013	684162.75	603161.31	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP	
3	BF-02-02	12/5/2013	684160.82	603162.33	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP	
4	BF-02-03	12/6/2013	684157.71	603161.30	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP	
5	BF-02-04	12/6/2013	684145.73	603162.11	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP	
6	BF-02-05	12/6/2013	684156.93	603171.05	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP	
7	BF-02-06	12/6/2013	684150.07	603155.35	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP	
8	BF-02-07	12/10/2013	684135.46	603153.45	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP	
9	BF-02-08	12/10/2013	684157.93	603174.92	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings	
1	BF-03		684179.90	603119.50	-1.2						9	Crushed concrete	Bottom of excavation elevation
2	BF-03										9	Type A Material	No compaction testing required
3	BF-03-01	11/22/2013	684198.06	603131.60	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP	
4	BF-03-02	11/22/2013	684155.72	603111.63	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP	
5	BF-03-03	12/5/2013	684177.45	603121.50	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings	
6	BF-03-04	12/12/2013	684180.46	603126.88	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings	
7	BF-03-05	12/12/2013	684177.07	603132.39	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings	
8	BF-03-06	12/16/2013	684172.40	603128.53	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings	
9	BF-03-07	1/6/2014	684177.12	603113.81	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings	
10	BF-03-08	1/9/2014	684178.20	603121.80	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings	
1	BF-04		684195.70	603093.10	-1.5						11	Crushed concrete	Bottom of excavation elevation
2	BF-04										11	Type A Material	No compaction testing required
3	BF-04-01	12/5/2013	684198.04	603094.76	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings	
4	BF-04-02	12/12/2013	684206.60	603104.72	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings	
5	BF-04-03	12/16/2013	684217.51	603111.14	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings	
6	BF-04-04	12/31/2013	684213.60	603115.00	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings	
7	BF-04-05	1/9/2014	684195.80	603100.00	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings	
1	BF-05		684200.80	603078.40	-1.8						12	Crushed concrete	Bottom of excavation elevation
2	BF-05										12	Type A Material	No compaction testing required
3	BF-05-01	12/5/2013	684185.18	603057.89	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings	
4	BF-05-02	12/12/2013	684179.86	603057.68	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift
4	BF-05-02R	12/16/2013	684186.21	603070.22	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction
5	BF-05-03	12/31/2013	684181.60	603060.80	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings	
6	BF-05-04	1/9/2013	684186.10	603053.50	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings	
7	BF-05-05	1/9/2013	684180.60	603048.60	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings	
1	BF-06		684214.80	603050.60	-1.7						14	Crushed concrete	Bottom of excavation elevation
2	BF-06										14	Crushed concrete	No compaction testing required
3	BF-06-01	12/31/2013	684229.90	603061.30	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings	

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
HONEYWELL STUDY AREA 7 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	PROCTOR NOTES
4	BF-06-02	12/31/2013	684228.80	603062.80	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings	
5	BF-06-03	1/6/2014	684234.03	603066.82	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings	
6	BF-06-04	1/9/2014	684230.80	603071.30	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings	
7	BF-06-05	1/9/2014	684213.90	603095.70	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings	
1	BF-07		684222.70	603033.30	-0.8						15	Crushed concrete	Bottom of excavation elevation
2	BF-07										15	Crushed concrete	No compaction testing required
3	BF-07-01	12/31/2013	684196.20	603014.90	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings	
4	BF-07-02	12/31/2013	684192.80	603021.10	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04
6	BF-07-04	1/9/2014	684196.90	603018.80	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift
6	BF-07-04R	1/9/2014	684196.90	603018.80	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction
7	BF-07-05	1/9/2014	684195.00	603021.00	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings	
1	BF-08		684221.80	603013.00	-0.7						16	Crushed concrete	Bottom of excavation elevation
2	BF-08										16	Crushed concrete	No compaction testing required
3	BF-08-01	12/31/2013	684246.90	603039.80	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings	
4	BF-08-02	12/31/2013	684240.50	603043.20	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings	
5	BF-08-03	1/6/2014	684231.74	603038.78	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings	
6	BF-08-04	1/9/2014	684242.30	603046.80	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings	
7	BF-08-05	1/9/2014	684236.30	603066.00	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings	
1	BF-09		684208.50	602989.40	-0.5						17	Crushed concrete	Bottom of excavation elevation
2	BF-09		684208.50	602989.40							17	Crushed concrete	No compaction testing required
3	BF-09-01	1/28/2014	684209.70	602987.60	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings	
4	BF-09-02	1/28/2014	684213.60	602980.40	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings	
5	BF-09-03	1/28/2014	684204.20	602981.50	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings	
1	BF-10		684269.00	603014.00	-0.5						18	Crushed concrete	Bottom of excavation elevation
2	BF-10		684208.50	602989.40							18	Crushed concrete	No compaction testing required
3	BF-10-01	1/20/2014	684275.40	603018.20	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings	
4	BF-10-02	1/28/2014	684267.50	603026.10	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost
4	BF-10-02R	1/28/2014	684267.50	603026.10	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction
5	BF-10-03	1/28/2014	684271.80	603014.40	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings	
1	BF-11				-1.0						19	Crushed concrete	Bottom of excavation elevation
2	BF-11		684208.50	602989.40							19	Crushed concrete	No compaction testing required
3	BF-11-01	1/28/2014	684216.60	602952.70	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings	
4	BF-11-02	1/28/2014	684223.40	602953.80	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings	
5	BF-11-03	1/28/2014	684211.60	602949.00	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings	
1	BF-12				-1.7						20	Crushed concrete	Bottom of excavation elevation
2	BF-12		684208.50	602989.40							20	Crushed concrete	No compaction testing required
3	BF-12-01	1/20/2014	684291.70	602995.20	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings	
4	BF-12-02	1/28/2014	684288.50	602989.80	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost
4	BF-12-02R	1/28/2014	684288.50	602989.80	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction
5	BF-12-03	1/28/2014	684291.30	602995.40	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings	
1	BF-13				-1.9						22	Crushed concrete	Bottom of excavation elevation
2	BF-13		684235.70	602919.60							22	Crushed concrete	No compaction testing required
3	BF-13-01	1/28/2014	684235.60	602919.10	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings	
1	BF-14				-0.9						23	Crushed concrete	Bottom of excavation elevation
2	BF-14		684312.10	602956.00							23	Crushed concrete	No compaction testing required
3	BF-14-01	1/20/2014	684312.70	602965.20	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings	
1	BF-15				-0.9						24	Crushed concrete	Bottom of excavation elevation
2	BF-15		684260.70	602896.70							24	Crushed concrete	No compaction testing required

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
HONEYWELL STUDY AREA 7 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	PROCTOR NOTES
3	BF-15-01	1/28/2014	684259.00	602897.10	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings	
1	BF-16				-1.1						25	Crushed concrete	Bottom of excavation elevation
2	BF-16		684326.70	602937.00							25	Crushed concrete	No compaction testing required
3	BF-16-01	1/20/2014	684331.90	602942.70	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings	

XX = Test number conducted at that test location

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill

01 = Test Location (as noted on Backfill Compaction Location Figure)

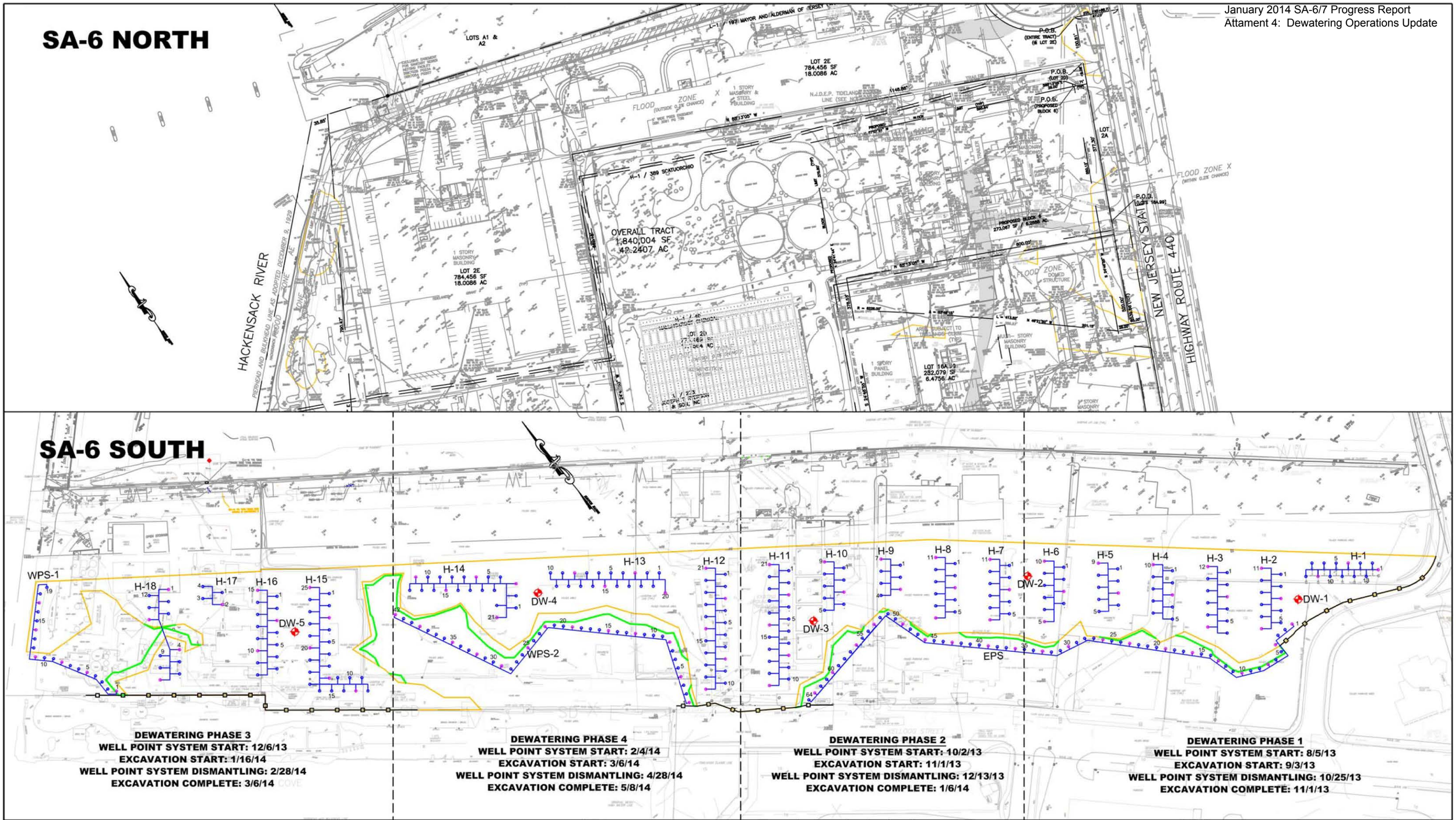
01 = Number of test performed at that location (sequential)

Attachment 4: Dewatering Operations Update

- Figure 6: Well Point Dewatering System *(included in initial submittal only)*
- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-1)
- SA-6 South Deep Well Data (DW-2)

SA-6 NORTH

SA-6 SOUTH



DEWATERING PHASE 3
WELL POINT SYSTEM START: 12/6/13
EXCAVATION START: 1/16/14
WELL POINT SYSTEM DISMANTLING: 2/28/14
EXCAVATION COMPLETE: 3/6/14

DEWATERING PHASE 4
WELL POINT SYSTEM START: 2/4/14
EXCAVATION START: 3/6/14
WELL POINT SYSTEM DISMANTLING: 4/28/14
EXCAVATION COMPLETE: 5/8/14

DEWATERING PHASE 2
WELL POINT SYSTEM START: 10/2/13
EXCAVATION START: 11/1/13
WELL POINT SYSTEM DISMANTLING: 12/13/13
EXCAVATION COMPLETE: 1/6/14

DEWATERING PHASE 1
WELL POINT SYSTEM START: 8/5/13
EXCAVATION START: 9/3/13
WELL POINT SYSTEM DISMANTLING: 10/25/13
EXCAVATION COMPLETE: 11/1/13

NOTES:

1). THE INFORMATION HEREIN IS CONFIDENTIAL IN NATURE AND IS NOT TO BE REPRODUCED OR RE-USED WITHOUT THE EXPRESSED WRITTEN PERMISSION OF ENTACT.

2.) SCHEDULE IS BASED ON AN ASSUMED EXCAVATION RATE OF 800 CY/DAY AND AN EXCAVATION START DATE OF 9/3/12.

LEGEND:

- EXTRACTION WELL POINT
- SPLIT SPOON INVESTIGATION BORING WITHIN 10 FEET OF THIS WELL POINT
- DEEP WELL (APPROXIMATE LOCATION)
- EXCAVATION AREA BORDER
- TOP OF EXCAVATION SLOPE
- SOIL RETENTION SYSTEM

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION
3	8/29/13	JH	KG	KG	RELOCATED HEADER 1 DUE TO R.O.W. CONFLICT
2	7/29/13	JH	KG	KG	ADDED NUMBERING AND SPLIT SPOON SAMPLING LOCATIONS
1	7/2/13	JH	KG	KG	REMOVED DEEP WELLS FROM SA-6 NORTH

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	FIGURE 6 WELL POINT DEWATERING SYSTEM
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

DRAWN BY	J. HOUGH	APPROVED BY	K. GRIFFIN		3
DATE	3/4/13	DATE	3/4/13	SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
10/04/13	1	6	2, EPS	12	N/A	N/A	6,500	6,500	18.1	Not installed
10/07/13	1	7	1,2,3,EPS	43	N/A	N/A	2,700	9,200	6.4	Not installed
10/08/13	1	1.5	1,2,3,EPS	43	N/A	N/A	2,200	11,400	24.4	Not installed
10/09/13	1	9	1,2,3,EPS	43	N/A	N/A	4,500	15,900	8.3	Not installed
10/10/13	1	10.5	1,2,3,EPS	44	N/A	N/A	4,500	20,400	7.1	Not installed
10/11/13	1	10	1,2,3,EPS	53	N/A	N/A	4,200	24,600	7.0	Not installed
10/14/13	1	10	1,2,3,4,EPS	63	N/A	N/A	5,500	30,100	9.2	Not installed
10/15/13	1	24	1,2,3,4,EPS	63	N/A	N/A	12,800	42,900	8.9	Not installed
10/16/13	1	24	1,2,3,4,EPS	63	N/A	N/A	11,450	54,350	8.0	Not installed
10/17/13	1	24	1,2,3,4,EPS	64	N/A	N/A	14,800	69,150	10.3	Not installed
10/18/13	1	24	1,2,3,4,5,EPS	77	N/A	N/A	11,220	80,370	7.8	Not installed
10/21/13	1	72	1,2,3,4,5,EPS	78	Not Installed	2,403	23,550	103,920	5.5	Flow meter installed midway through daily cycle. Reading was from tank gauging and meter reading at day's end.
10/22/13	1	24	1,2,3,4,5,EPS	77	2,403	7,574	5,171	109,091	3.6	
10/23/13	1	24	1,2,3,4,5,EPS	77	7,574	11,468	3,894	112,985	2.7	
10/24/13	2	24	1,2,3,EPS	32	N/A	N/A	2,500	115,485	1.7	Not installed
10/24/13	1	24	4,5,6,EPS	34	11,468	17,456	5,988	121,473	4.2	
10/25/13	2	24	1,2,3,EPS	32	N/A	N/A	5,210	126,683	3.6	Not installed
10/25/13	1	24	4,5,6,EPS	34	17,456	26,720	9,264	135,947	6.4	
10/28/13	2	67	1,2,3,EPS	32	N/A	N/A	14,400	150,347	3.6	Not installed
10/28/13	1	72	4,5,6,EPS	34	26,720	44,982	18,262	168,609	4.2	
10/29/13	1	24	1,2,3,4,5,6,EPS	66	44,982	49,327	4,345	172,954	3.0	
10/30/13	1	24	1,2,3,4,5,6,EPS	66	49,327	53,293	3,966	176,920	2.8	
10/31/13	1	24	1,2,3,4,5,6,EPS	66	53,293	57,299	4,006	180,926	2.8	
11/01/13	1	24	2,3,4,5,6,EPS	53	57,299	60,953	3,654	184,580	2.5	Header 1 removed 11/1/13
11/04/13	1	72	2,3,4,5,6,EPS	53	60,953	76,409	15,456	200,036	3.6	
11/05/13	1	24	2,3,4,5,6,EPS	53	76,409	78,991	2,582	202,618	1.8	
11/06/13	1	24	2,3,4,5,6,EPS	53	78,991	82,289	3,298	205,916	2.3	
11/07/13	1	24	2,3,4,5,6,EPS	53	82,289	85,894	3,605	209,521	2.5	
11/08/13	1	24	2,3,4,5,6,EPS	53	85,894	88,233	2,339	211,860	1.6	
11/11/13	1	72	2,3,4,5,6,EPS	53	88,233	90,472	2,239	214,099	0.5	
11/12/13	1	24	2,3,4,5,6,EPS	53	90,472	92,021	1,549	215,648	1.1	
11/13/13	1	24	2,3,4,5,6,EPS	53	92,021	95,451	3,430	219,078	2.4	
11/14/13	1	24	2,3,4,5,6,EPS	51	95,451	98,850	3,399	222,477	2.4	
11/15/13	1	24	2,3,4,5,6,EPS	51	98,850	102,200	3,350	225,827	2.3	
11/18/13	1	72	2,3,4,5,6,EPS	51	102,200	107,680	5,480	231,307	1.3	
11/19/13	1	24	3,4,5,6,EPS	40	107,680	114,159	6,479	237,786	4.5	Header 2 removed 11/18/13
11/20/13	1	24	3,4,5,6,EPS	40	114,159	122,549	8,390	246,176	5.8	
11/21/13	1	24	3,4,5,6,EPS	40	122,549	123,061	512	246,688	0.4	
11/22/13	1	24	3,4,5,6,EPS	40	123,061	129,534	6,473	253,161	4.5	
11/25/13	1	24	3,4,5,6,EPS	40	0	103	103	253,264	0.1	
11/26/13	1	24	3,4,5,6,EPS	40	103	8,559	8,456	261,720	5.9	
11/27/13	1	24	3,4,5,6,EPS	40	8,559	20,117	11,558	273,278	8.0	
12/02/13	1	120	3,4,5,6,EPS	40	20,117	79,516	59,399	332,677	8.2	
12/03/13	1	24	3,4,5,6,EPS	40	79,516	91,854	12,338	345,015	8.6	
12/04/13	1	24	3,4,5,6,EPS	40	91,854	103,283	11,429	356,444	7.9	

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
12/05/13	1	24	3,4,5,6,EPS	40	103,283	112,785	9,502	365,946	6.6	
12/06/13	1	24	3,4,5,6,EPS	55	112,785	122,330	9,545	375,491	6.6	
12/09/13	1	72	3,4,5,6,EPS	55	122,330	170,188	47,858	423,349	11.1	
12/10/13	1	24	3,4,5,6,EPS	55	170,188	185,509	15,321	438,670	10.6	
12/11/13	1	24	3,4,5,6,EPS	55	185,509	200,920	15,411	454,081	10.7	
12/12/13	1	24	3,4,5,6,EPS	55	200,920	214,877	13,957	468,038	9.7	
12/13/13	1	24	3,4,5,6,EPS	55	214,877	229,603	14,726	482,764	10.2	
12/16/13	1	72	4,5,6,EPS	49	229,603	266,010	36,407	519,171	8.4	Header 3 removed 12/13/13
12/17/13	1	24	4,5,6,EPS	49	266,010	281,247	15,237	534,408	10.6	
12/18/13	1	24	4,5,6,EPS	49	281,247	294,671	13,424	547,832	9.3	
12/19/13	1	24	4,5,6,EPS	49	294,671	304,097	9,426	557,258	6.5	
12/20/13	1	24	4,5,6,EPS	49	304,097	315,151	11,054	568,312	7.7	
12/23/13	1	72	4,5,6,EPS	49	315,151	352,173	37,022	605,334	8.6	
12/24/13	1	24	4,5,6,EPS	49	352,173	362,335	10,162	615,496	7.1	
12/30/13	1	144	4,5,6,EPS	49	362,335	415,250	52,915	668,411	6.1	
12/31/13	1	24	4,5,6,EPS	44	415,250	431,429	16,179	684,590	11.2	
01/02/14	1	48	4,5,6,EPS	44	431,429	466,166	34,737	719,327	12.1	
01/06/14	1	96	4,5,6,EPS	44	466,166	513,613	47,447	766,774	8.2	
01/07/14	1	24	4,5,6,EPS	44	N/A	N/A	13,220	779,994	9.2	Meter Innacurate Due to Temp
01/08/14	1	24	4,5,6,EPS	44	N/A	N/A	13,450	793,444	9.3	Meter Innacurate Due to Temp
01/09/14	1	24	4,5,6,EPS	44	N/A	3,749	15,100	808,544	10.5	Flow Meter Reset, Header 4 removed
01/10/14	1	24	5,6,EPS	44	3,749	15,043	11,294	819,838	7.8	
01/13/14	1	72	5,6,7,EPS	60	15,043	52,782	37,739	857,577	8.7	
01/14/14	1	24	5,6,7,EPS	60	52,782	68,191	15,409	872,986	10.7	
01/15/14	1	24	5,6,7,EPS	60	68,191	86,290	18,099	891,085	12.6	
01/16/14	1	24	5,6,7,EPS	60	86,290	103,647	17,357	908,442	12.1	
01/17/14	1	24	5,6,7,EPS	60	103,647	120,724	17,077	925,519	11.9	
01/20/14	1	72	5,6,7,EPS	60	120,724	177,150	56,426	981,945	13.1	
01/21/14	1	24	5,6,7,EPS	60	177,150	192,354	15,204	997,149	10.6	
01/23/14	1	48	5,6,7,EPS	60	192,354	209,564	17,210	1,014,359	6.0	
01/24/14	1	24	5,6,7,EPS	60	209,564	219,596	10,032	1,024,391	7.0	
01/27/14	1	72	5,6,7,EPS	60	219,596	241,870	22,274	1,046,665	5.2	
01/28/14	1	24	5,6,7,EPS	60	241,870	249,752	7,882	1,054,547	5.5	
01/29/14	1	24	5,6,7,EPS	60	249,752	256,270	6,518	1,061,065	4.5	Header 5 removed 01/29/14
01/30/14	1	24	6,7,EPS	51	256,270	262,157	5,887	1,066,952	4.1	
01/31/14	1	24	6,7,EPS	51	262,157	268,122	5,965	1,072,917	4.1	
02/03/14	1	72	6,7,EPS	51	268,122	292,592	24,470	1,097,387	5.7	
02/04/14	1	24	6,7,EPS	51	292,592	299,040	6,448	1,103,835	4.5	
02/05/14	1	24	6,7,EPS	51	299,040	309,154	10,114	1,113,949	7.0	
02/06/14	1	24	6,7,EPS	51	309,154	318,585	9,431	1,123,380	6.5	

Notes: Active Header numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-1)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (GPM)	COMMENTS
10/23/13	29	0	24,640	24,640	24,640	14.2	
10/24/13	24	24,640	31,757	7,117	31,757	4.9	
10/25/13	24	31,757	39,567	7,810	39,567	5.4	Slight blockage cleaned from meter
10/28/13	72	39,567	91,820	52,253	91,820	12.1	
10/29/13	24	91,820	101,672	9,852	101,672	6.8	
10/30/13	24	101,672	111,472	9,800	111,472	6.8	
10/31/13	24	111,472	120,558	9,086	120,558	6.3	
11/01/13	24	120,558	128,248	7,690	128,248	5.3	
11/04/13	72	128,248	162,721	34,473	162,721	8.0	
11/05/13	24	162,721	173,853	11,132	173,853	7.7	
11/06/13	24	173,853	189,770	15,917	189,770	11.1	
11/07/13	24	189,770	210,266	20,496	210,266	14.2	
11/08/13	24	210,266	220,964	10,698	220,964	7.4	
11/11/13	72	220,964	235,035	14,071	235,035	3.3	
11/12/13	24	235,035	254,720	19,685	254,720	13.7	
11/13/13	24	254,720	272,758	18,038	272,758	12.5	
11/14/13	24	272,758	275,336	2,578	275,336	1.8	
11/15/13	24	275,336	281,413	6,077	281,413	4.2	
11/18/13	72	281,413	318,812	37,399	318,812	8.7	
11/19/13	24	318,812	328,059	9,247	328,059	6.4	Well Taken Offline for Excavation
11/27/13	24	328,059	351,245	23,186	351,245	16.1	
12/02/13	120	351,245	414,031	62,786	414,031	8.7	Well Shut Off for Excavation Activities
12/04/13	24	430,536	446,631	16,095	430,126	11.2	
12/05/13	24	446,631	459,826	13,195	443,321	9.2	
12/06/13	24	459,826	468,837	9,011	452,332	6.3	
12/09/13	72	468,837	499,005	30,168	482,500	7.0	
12/10/13	24	499,005	508,914	9,909	492,409	6.9	
12/11/13	24	508,914	519,185	10,271	502,680	7.1	
12/12/13	24	519,185	528,500	9,315	511,995	6.5	
12/13/13	24	528,500	535,384	6,884	518,879	4.8	
12/16/13	72	535,384	555,625	20,241	539,120	4.7	
12/17/13	24	555,625	563,870	8,245	547,365	5.7	
12/18/13	24	563,870	572,558	8,688	556,053	6.0	
12/19/13	24	572,588	578,579	5,991	562,044	4.2	
12/20/13	24	578,579	585,086	6,507	568,551	4.5	
12/23/13	72	585,086	604,411	19,325	587,876	4.5	
12/24/13	24	604,411	613,829	9,418	597,294	6.5	
12/30/13	144	613,829	669,247	55,418	652,712	6.4	
12/31/13	24	669,247	678,171	8,924	661,636	6.2	
01/02/14	48	678,171	697,609	19,438	681,074	6.7	
01/06/14	96	697,609	733,339	35,730	716,804	6.2	Well Taken Offline

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (GPM)	COMMENTS
11/19/13	4	0	3,866	3,866	3,866	16.1	
11/20/13	24	3,866	18,857	14,991	18,857	10.4	
11/21/13	24	18,857	31,307	12,450	31,307	8.6	
11/22/13	24	31,307	52,611	21,304	52,611	14.8	
11/25/13	72	52,611	62,866	10,255	62,866	2.4	
11/26/13	24	62,866	69,596	6,730	69,596	4.7	
11/27/13	24	0	15,926	15,926	85,522	11.1	
12/02/13	120	15,926	81,682	65,756	151,278	9.1	
12/03/13	24	81,682	94,975	13,293	164,571	9.2	
12/04/13	24	94,682	108,260	13,578	178,149	9.4	
12/05/13	24	108,260	122,026	13,766	191,915	9.6	
12/06/13	24	122,026	134,343	12,317	204,232	8.6	
12/09/13	72	134,343	164,429	30,086	234,318	7.0	
12/10/13	24	164,429	174,915	10,486	244,804	7.3	
12/11/13	24	174,915	183,567	8,652	253,456	6.0	
12/12/13	24	183,567	193,229	9,662	263,118	6.7	
12/13/13	24	193,229	202,100	8,871	271,989	6.2	
12/16/13	72	202,100	229,583	27,483	299,472	6.4	
12/17/13	24	229,583	237,924	8,341	307,813	5.8	
12/18/13	24	237,924	246,510	8,586	316,399	6.0	
12/19/13	24	246,510	255,486	8,976	325,375	6.2	
12/20/13	24	255,486	263,423	7,937	333,312	5.5	
12/23/13	72	263,423	286,843	23,420	356,732	5.4	
12/24/13	24	286,843	297,632	10,789	367,521	7.5	
12/30/13	144	297,632	360,191	62,559	430,080	7.2	
12/31/13	24	360,191	369,462	9,271	439,351	6.4	
01/02/14	48	369,462	390,036	20,574	459,925	7.1	
01/06/14	96	390,036	429,927	39,891	499,816	6.9	
01/07/14	24	429,927	440,516	10,589	510,405	7.4	
01/08/14	24	440,516	459,411	18,895	529,300	13.1	
01/09/14	24	459,411	472,954	13,543	542,843	9.4	
01/10/14	24	472,954	486,509	13,555	556,398	9.4	
01/13/14	72	486,509	529,157	42,648	599,046	9.9	
01/24/14	24	529,157	543,032	13,875	612,921	9.6	
01/15/14	24	543,032	557,261	14,229	627,150	9.9	
01/16/14	24	557,261	571,278	14,017	641,167	9.7	
01/17/14	24	571,278	585,429	14,151	655,318	9.8	
01/20/14	72	585,429	627,704	42,275	697,593	9.8	
01/21/14	24	627,704	641,168	13,464	711,057	9.4	
01/23/14	48	641,168	666,348	25,180	736,237	8.7	
01/24/14	24	666,348	684,142	17,794	754,031	12.4	
01/27/14	72	684,142	726,325	42,183	796,214	9.8	
01/28/14	24	726,325	740,701	14,376	810,590	10.0	
01/29/14	24	740,701	754,662	13,961	824,551	9.7	
01/30/14	24	754,662	767,882	13,220	837,771	9.2	
01/31/14	24	767,882	782,573	14,691	852,462	10.2	
02/03/14	72	782,573	827,501	44,928	897,390	10.4	

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (GPM)	COMMENTS
02/04/14	24	827,501	838,572	11,071	908,461	7.7	
02/05/14	24	838,572	853,159	14,587	923,048	10.1	
02/06/14	24	853,159	866,882	13,723	936,771	9.5	

Note: Data shown is for recent months activity

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/17/13	1.5	0.45	19.49	19,040	19,040	Test Operation: Potable Water
10/18/13	1.0	19.49	27.50	8,010	27,050	
10/22/13	4.0	27.50	85.74	58,240	85,290	
10/23/13	2.0	85.74	116.87	31,130	116,420	
10/24/13	1.3	116.87	135.20	18,330	134,750	
10/28/13	4.5	135.20	200.88	65,680	200,430	PVSC Compliance Sample collected
10/29/13	4.0	200.88	258.53	57,650	258,080	
11/01/13	4.3	258.53	300.34	41,810	299,890	
11/04/13	4.8	300.34	368.43	68,090	367,980	
11/05/13	4.3	368.43	408.77	40,340	408,320	
11/06/13	1.5	408.77	425.89	17,120	425,440	
11/07/13	1.0	425.89	453.88	27,990	453,430	
11/08/13	1.0	453.88	478.10	24,220	477,650	
11/12/13	4.5	478.10	526.82	48,720	526,370	
11/14/13	1.3	526.82	556.26	29,440	555,810	
11/18/13	5.0	556.26	619.36	63,100	618,910	PVSC Compliance Sample collected
11/21/13	4.0	619.36	652.91	33,550	652,460	
11/26/13	6.0	652.91	719.80	66,890	719,350	
11/27/13	6.0	719.80	784.49	64,690	784,040	
11/29/13	5.0	784.49	840.47	55,980	840,020	
12/02/13	6.5	840.47	923.11	82,640	922,660	
12/03/13	7.0	923.11	1,011.32	88,210	1,010,870	PVSC Compliance Sample collected
12/05/13	8.0	1,011.32	1,103.37	92,050	1,102,920	
12/06/13	4.0	1,103.37	1,143.07	39,700	1,142,620	
12/09/13	6.5	1,143.07	1,224.23	81,160	1,223,780	
12/10/13	6.0	1,224.23	1,286.03	61,800	1,285,580	
12/13/13	8.0	1,286.03	1,374.91	88,880	1,374,460	
12/16/13	8.0	1,374.91	1,485.04	110,130	1,484,590	
12/17/13	6.0	1,485.04	1,551.22	66,180	1,550,770	
12/18/13	7.0	1,551.22	1,628.26	77,040	1,627,810	
12/19/13	4.5	1,628.26	1,678.47	50,210	1,678,020	
12/20/13	5.0	1,678.47	1,732.93	54,460	1,732,480	
12/23/13	8.0	1,732.93	1,894.96	162,030	1,894,510	
12/24/13	7.0	1,894.96	1,989.84	94,880	1,989,390	
12/27/13	5.0	1,989.84	2,054.25	64,410	2,053,800	
12/30/13	8.0	2,054.25	2,147.46	93,210	2,147,010	
12/31/13	8.0	2,147.46	2,244.54	97,080	2,244,090	
01/02/14	8.0	2,244.54	2,368.54	124,000	2,368,090	
01/06/14	8.0	2,368.54	2,485.40	116,860	2,484,950	
01/09/14	8.0	2,485.40	2,567.15	81,750	2,566,700	PVSC Compliance Sample collected
01/10/14	8.0	2,567.15	2,635.97	68,820	2,635,520	
01/13/14	6.0	2,635.97	2,719.26	83,290	2,718,810	
01/14/14	8.0	2,719.26	2,864.73	145,470	2,864,280	
01/15/14	8.0	2,864.73	2,981.21	116,480	2,980,760	
01/16/14	8.0	2,981.21	3,111.28	130,070	3,110,830	
01/17/14	8.0	3,111.28	3,190.67	79,390	3,190,220	
01/20/14	8.0	3,190.67	3,297.59	106,920	3,297,140	
01/21/14	8.0	3,297.59	3,338.21	40,620	3,337,760	
01/27/14	8.0	3,338.21	3,438.26	100,050	3,437,810	
01/31/14	8.0	3,438.26	3,516.69	78,430	3,516,240	
02/04/14	8.0	3,516.69	3,628.15	111,460	3,627,700	

Note: Data shown is for recent months activity

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

Stockpiled Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
							<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	Off-Site Disposal
1-7	<20	7-20-a	124-7-20-a1	10/31/2013	14:20	5.8	10, 11, 12, 13		
1-7	<20	7-20-a	124-7-20-a2	10/31/2013	14:25	7.8	10, 11, 12, 13		
1-7	<20	7-20-a	124-7-20-a3	10/31/2013	14:30	4.6	10, 11, 12, 13		
1-7	<20	7-20-a	124-7-20-a4	10/31/2013	14:35	4.7	10, 11, 12, 13		
7-12	<20	12-20-a	124-12-20-a1	11/26/2013	15:00	26.1		Yes	
7-12	<20	12-20-a	124-12-20-a2	11/26/2013	15:05	2.9	**		
7-12	<20	12-20-a	124-12-20-a3	11/26/2013	15:10	7.8	**		
7-12	<20	12-20-a	124-12-20-a4	11/26/2013	15:15	23.2		Yes	
7-12	<20	12-20-b	124-12-20-b1	11/26/2013	15:20	4.3	**		
7-12	<20	12-20-b	124-12-20-b2	11/26/2013	15:25	2.5	**		
7-12	<20	12-20-b	124-12-20-b3	11/26/2013	15:30	5.1	**		
7-12	<20	12-20-b	124-12-20-b4	11/26/2013	15:35	5.8	**		
12-22	<20	22-20-a	124-22-20-a1	12/13/2013	13:30	5.5	**		
12-22	<20	22-20-a	124-22-20-a2	12/13/2013	13:35	11.9	**		
12-22	<20	22-20-a	124-22-20-a3	12/13/2013	13:40	1.3	**		
12-22	<20	22-20-a	124-22-20-a4	12/13/2013	13:45	2.3	**		
12-25	<20	25-20-a	124-25-20-a1	12/23/2013	9:00	1.6	**		
12-25	<20	25-20-a	124-25-20-a2	12/23/2013	9:05	1.7	**		
12-25	<20	25-20-a	124-25-20-a3	12/23/2013	9:10	10.8	**		
12-25	<20	25-20-a	124-25-20-a4	12/23/2013	9:15	17.4	**		
20-29	<20	29-20-a	124-29-20-a1	1/13/2014	14:00	0.31	**		
20-29	<20	29-20-a	124-29-20-a2	1/13/2014	14:05	0.84	**		
20-29	<20	29-20-a	124-29-20-a3	1/13/2014	14:10	3.4	**		
20-29	<20	29-20-a	124-29-20-a4	1/13/2014	14:15	1.9	**		

Notes:
*Material placement locations are approximate.
**Material currently stockpiled.

Note: Data shown is for recent months activity

Attachment 7: Perimeter Pools Update

HACKENSACK RIVER

POOL N4 ELEV.+6.5 525'
POOL N3 ELEV.+7.5 343'
POOL N2 ELEV.+8.0 237'
POOL N1 ELEV.+10.0 660'
N4
N3
N2
N1
087-MW-Y20
087-MW-S19
087-MW-O19
087-MW-O01
088-MW-G19
090-MW-E1
STA. N1+10
STA. N6+35
STA. N6+80
STA. N10+23
STA. N19+73
STA. N13+10
STA. N13+80
STA. N20+25
W1-S0
W6-S0
E5-S0
E4-S0
S-C-B BARRIER (TYP.)
STA. E0+50
E1
E3-S0
POOL E1 ELEV.+9.0 325'
117-MW-A99
STATE ROUTE
NEW JERSEY
STA. E3+75
STA. E4+50
E2
E2-S0
117-MW-A85
POOL E2 ELEV.+8 270'
STA. E7+25
118-PZ-6
118-PZ-5
118-PZ-4
INTERIOR POOL ELEVATION CONTROLLED BY WEST BARRIER CUTOFF ELEV. +4.0
INTERIOR POOL ELEV. +4.0
UNDERDRAINAGE SYSTEM (TYP.)
COMPACTED CLAY DAM SEPARATING PERIMETER POOLS (TYP.)
COMPACTED CLAY LEVEE SEPARATING PERIMETER POOL FROM INTERIOR POOL (TYP.)
W3-S0
W5-S0
E1-S0
E1A-S0
S4
S3
S2
S1
POOL S4 ELEV.+6.0 419'
POOL S3 ELEV.+7.0 640'
POOL S2 ELEV.+7.5 622'
POOL S1 ELEV.+8 338'
STA. S22+05
STA. S17+98
STA. S17+50
STA. S11+10
STA. S10+80
STA. S4+50
STA. S3+86
STA. S0+50
073-MW-BB11
073-MW-Y10
134-MW-V09
134-MW-Q08
140-MW-06
140-MW-07
125-MW-L03
MW-124-103L
MW-124-103D
MW-124-102T
117-MW-A89
KELLOGG STREET

LEGEND
FILL TYPE A CLAY
FILL TYPE B GRANULAR FILL

GRAPHIC SCALE
100' 50' 0 100' 200'

IN PROGRESS
04-19-2010

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS
NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET
FILE NO. 10210
DRAWING NO. PP-1

Apr 19, 2010 at 3:12pm
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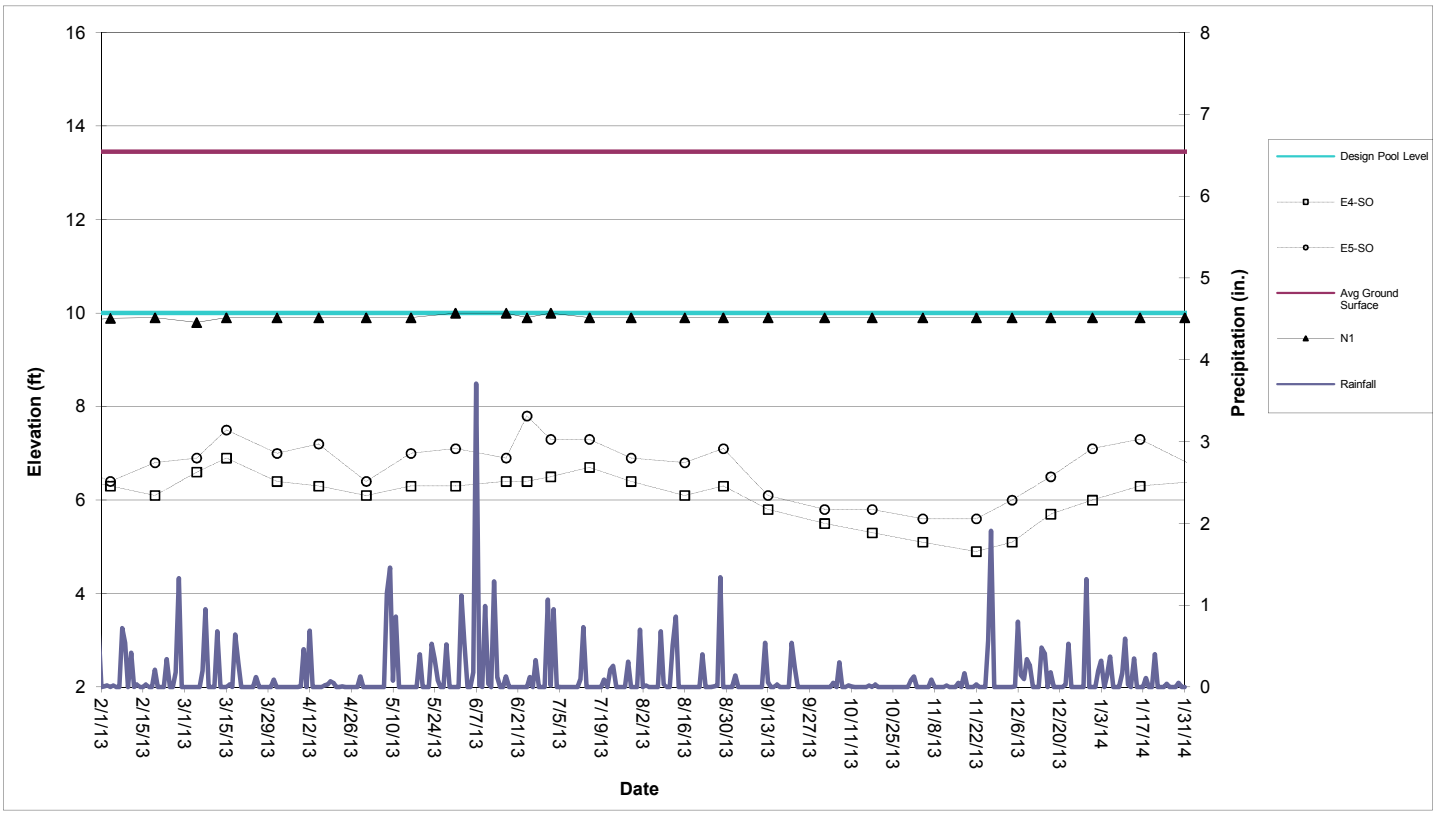
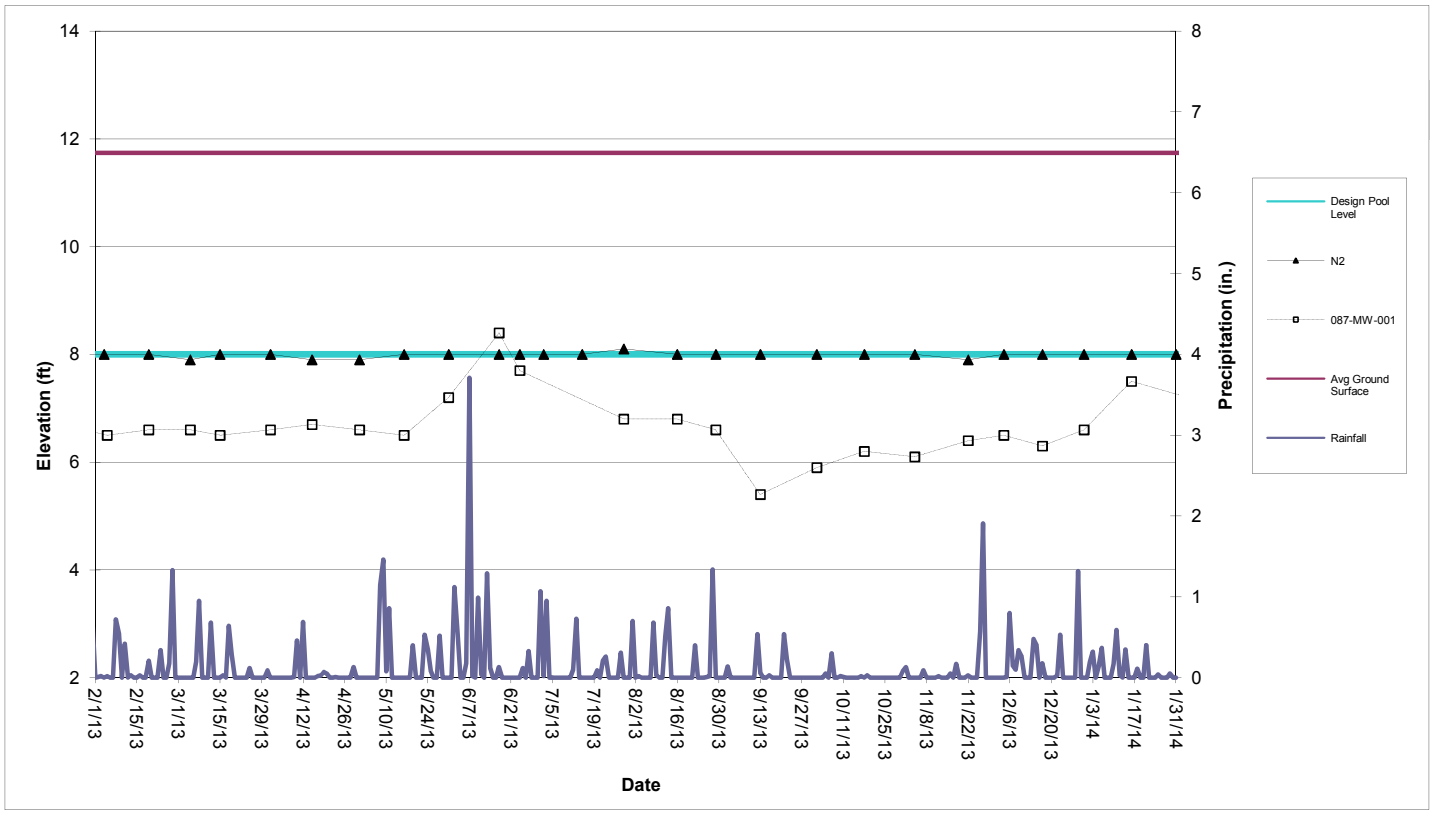
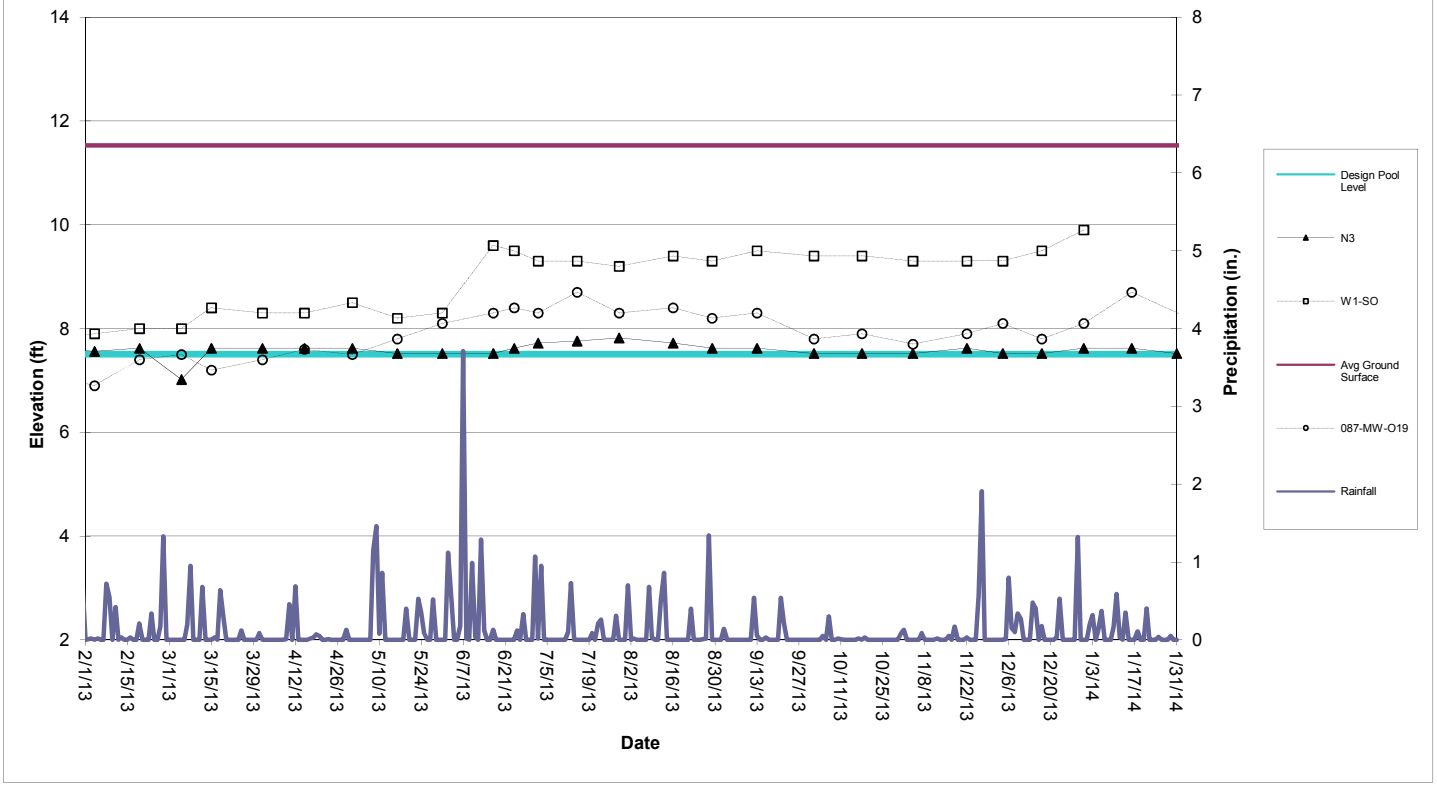
lreva



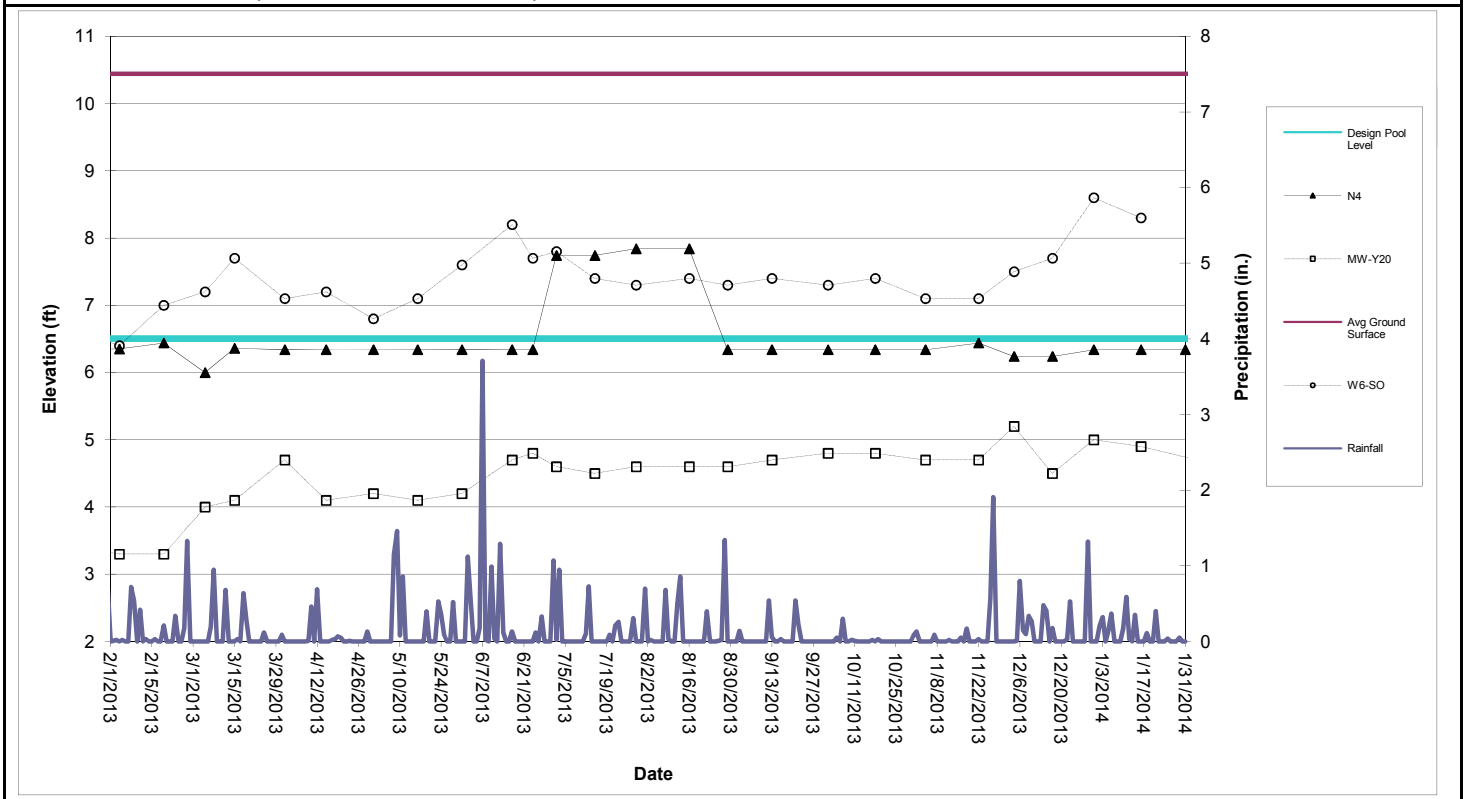
Perimeter Pool N1 (Sta. N13+60 to N20+25)



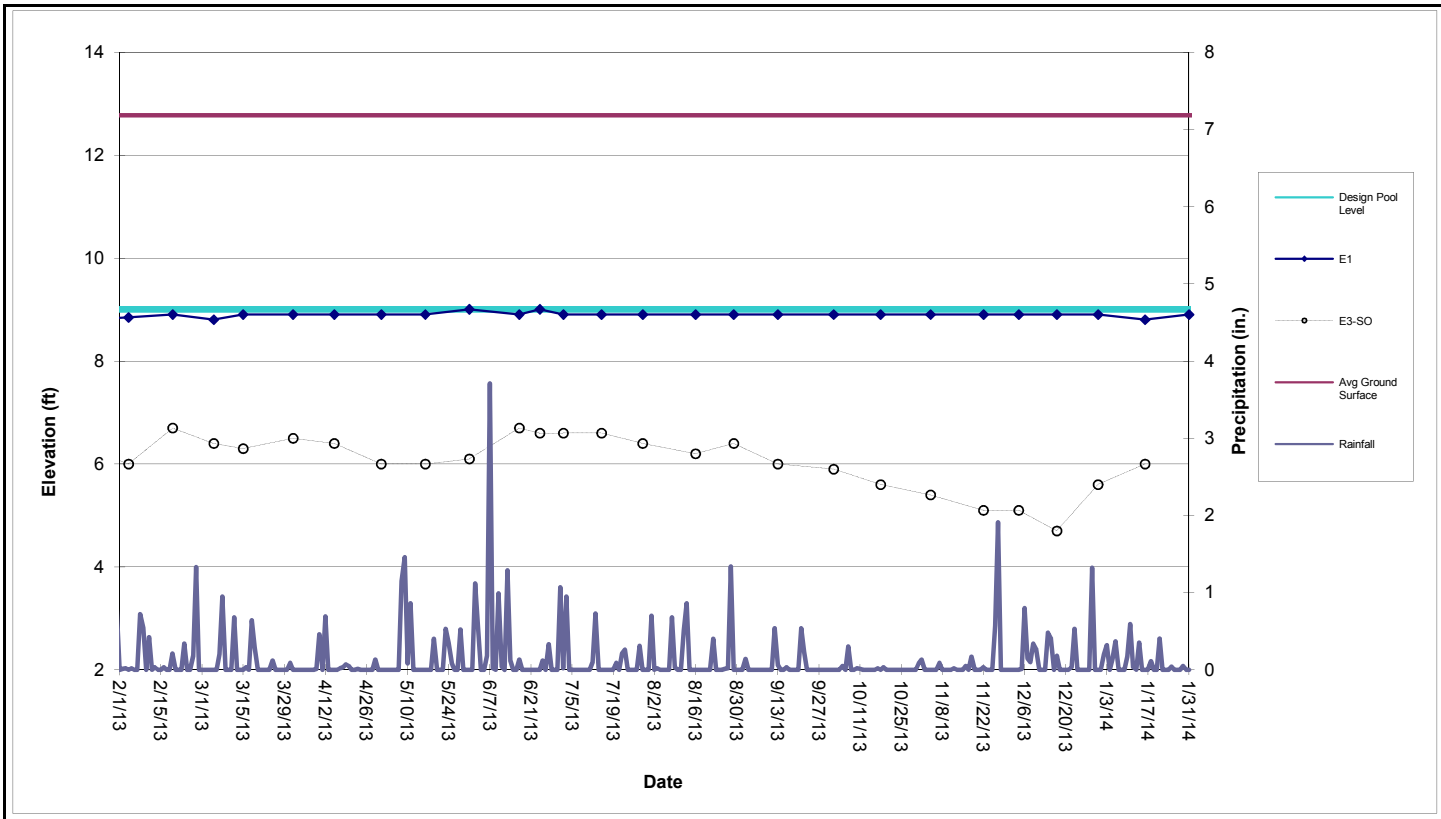
Perimeter Pool N2 (Sta. N10+73 to N13+10)



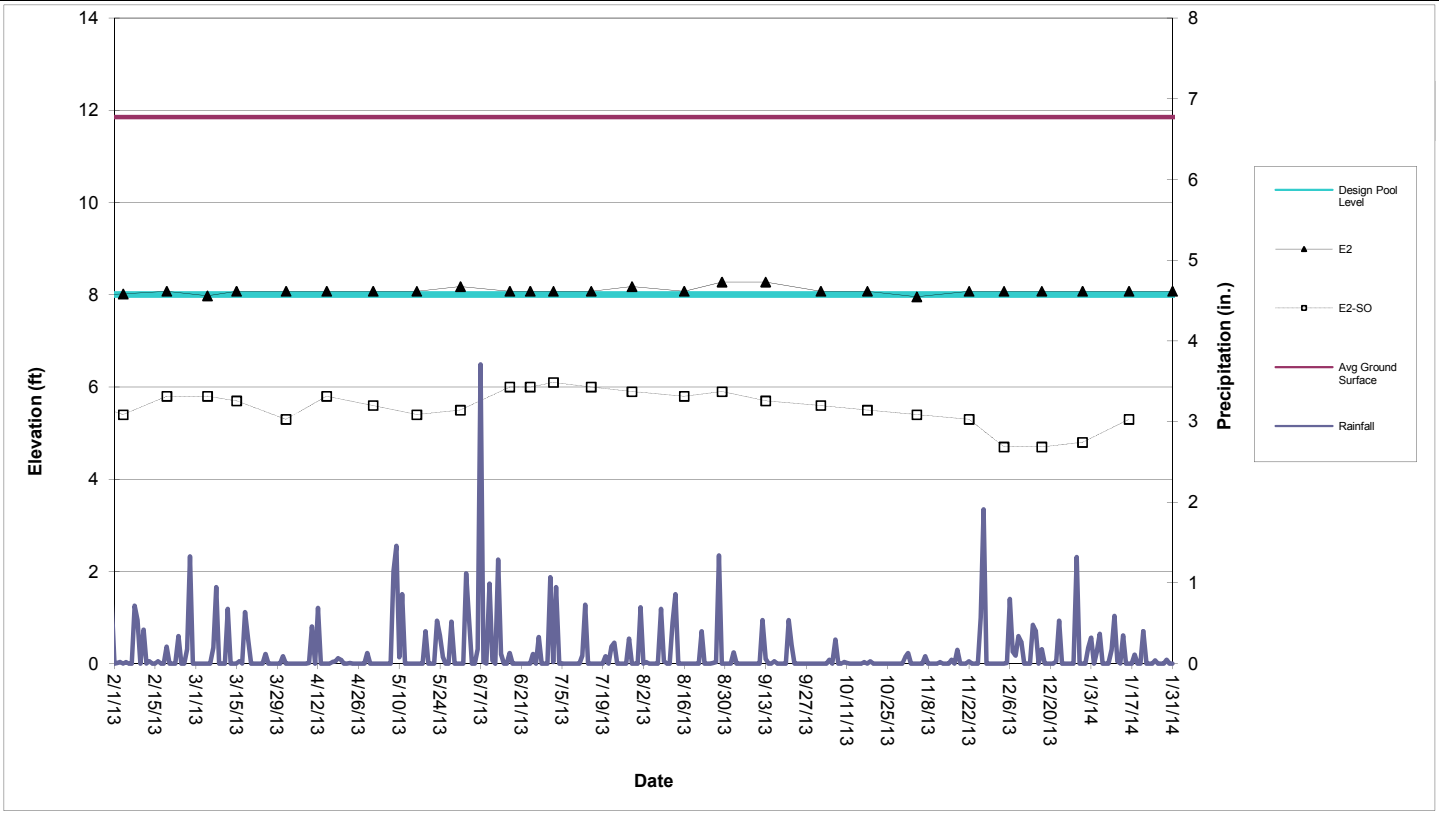
Perimeter Pool N3 (Sta. N6+80 to N10+23)



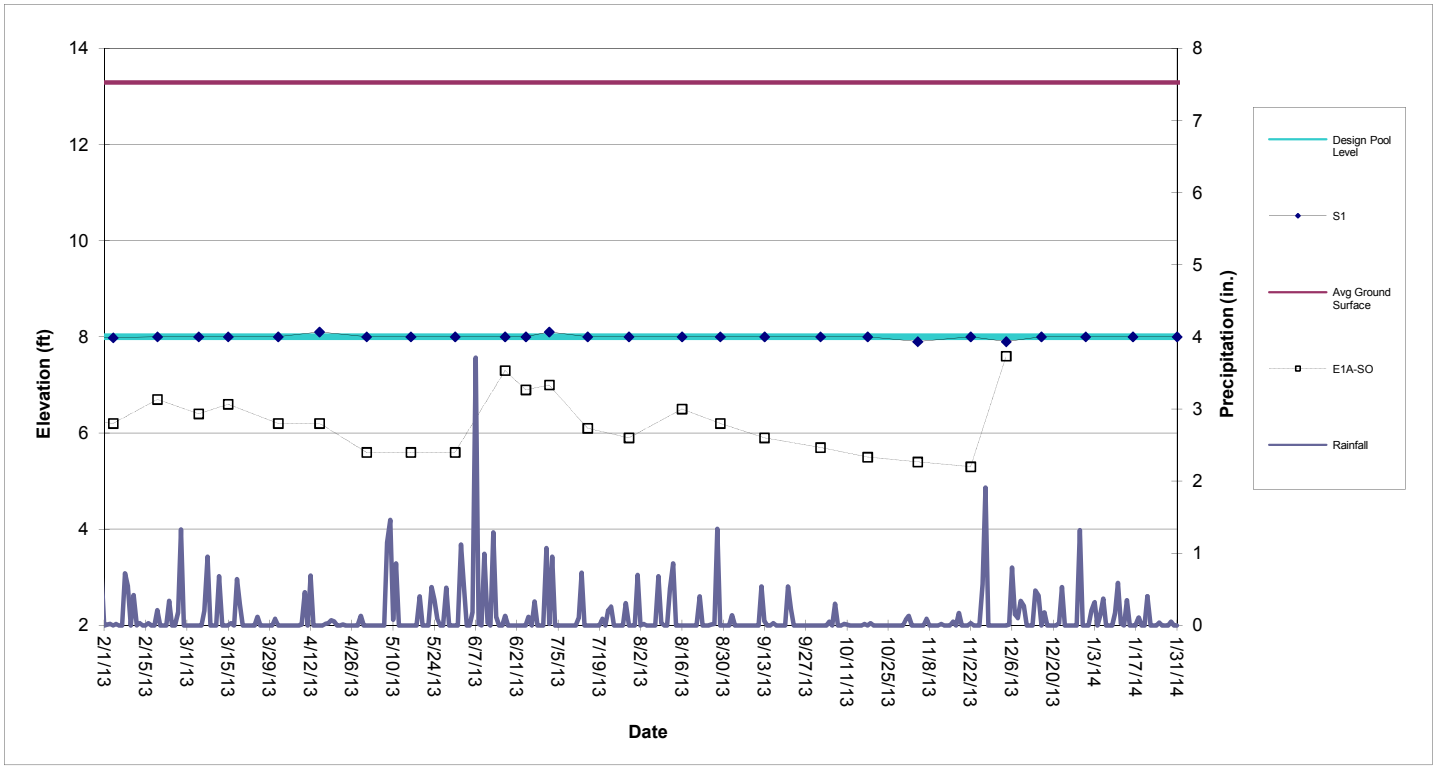
Perimeter Pool N4 (Sta. N6+80 to N10+23)



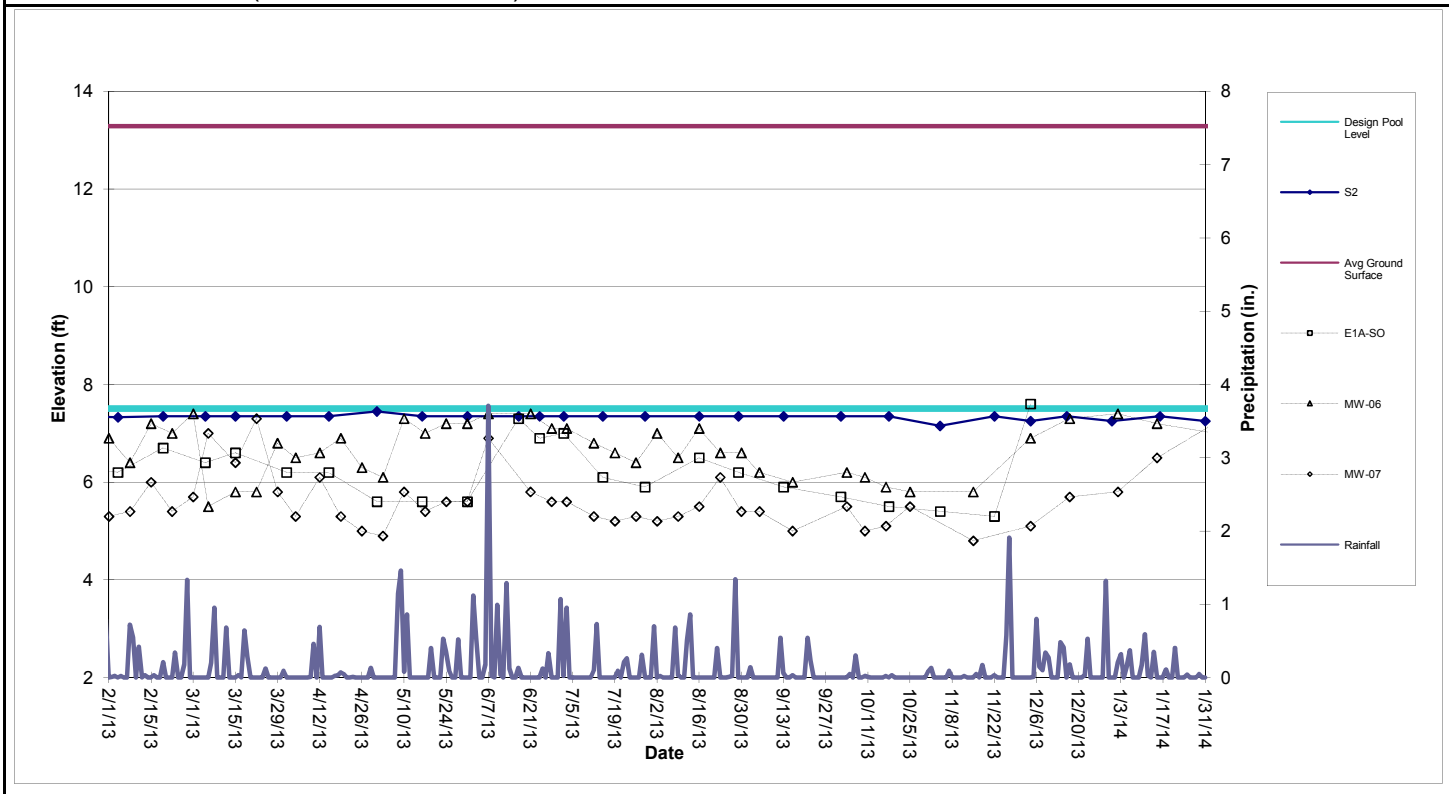
Perimeter Pool E1 (Sta. E0+50 to E3+75)



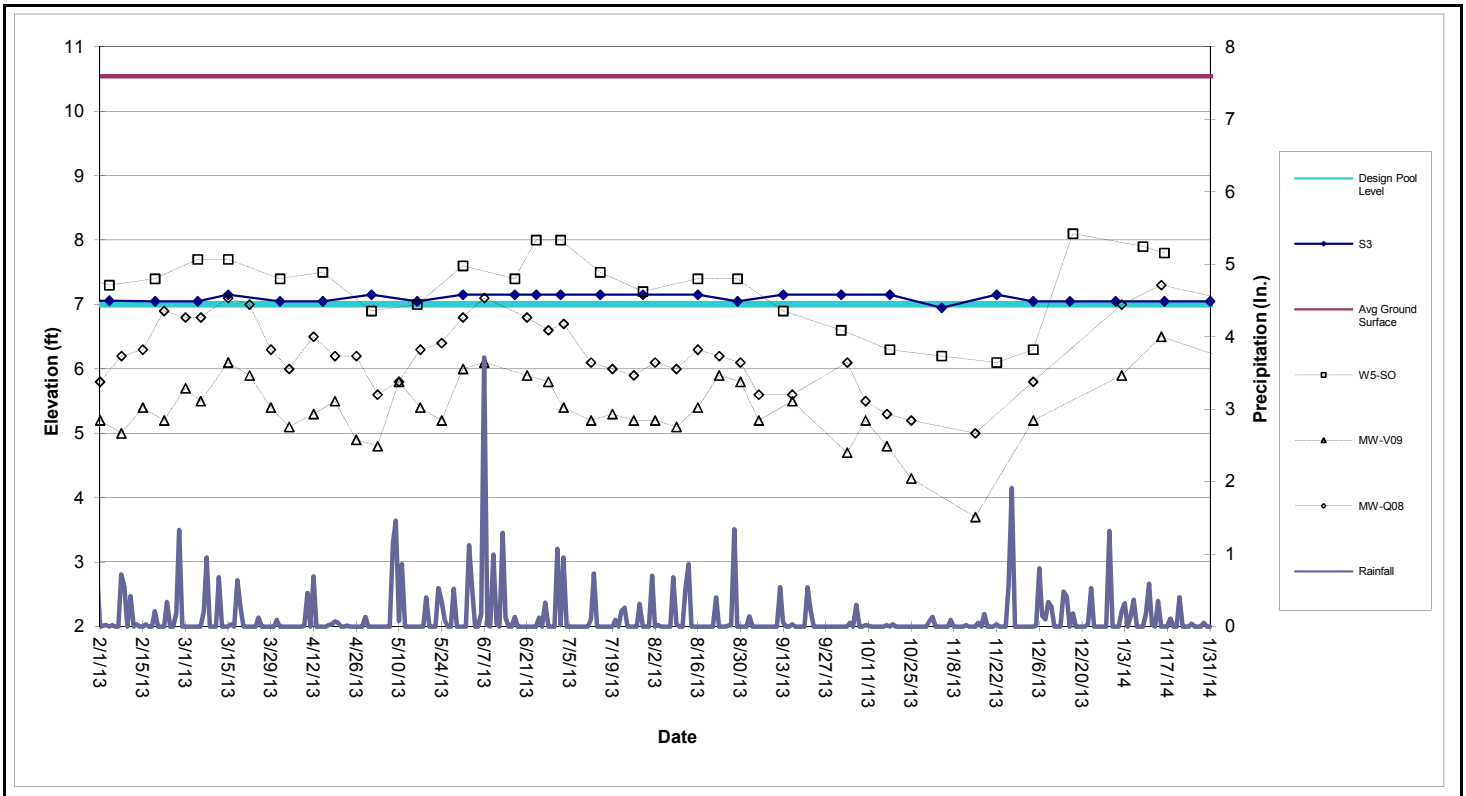
Perimeter Pool E2 (Sta. E4+50 to E7+25)



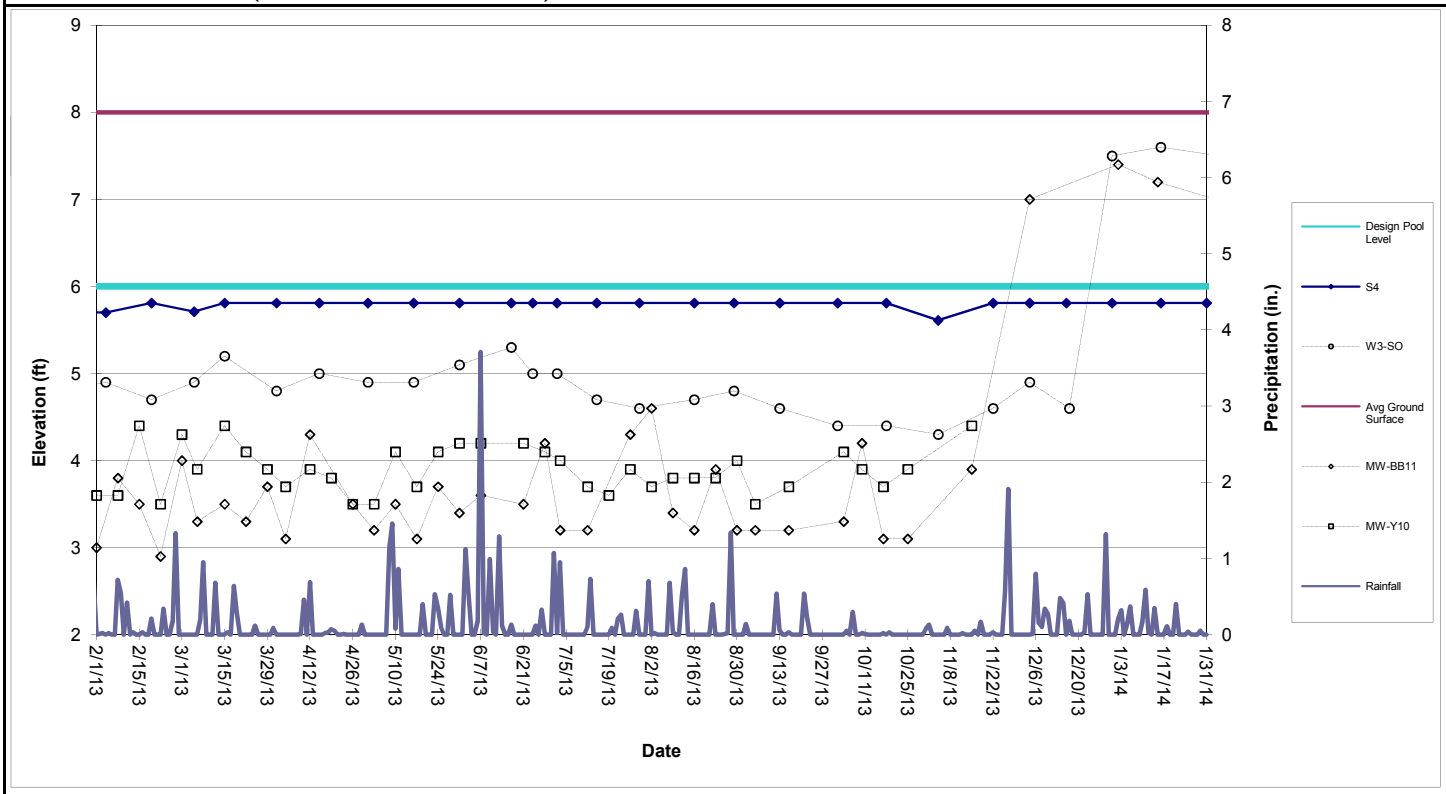
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

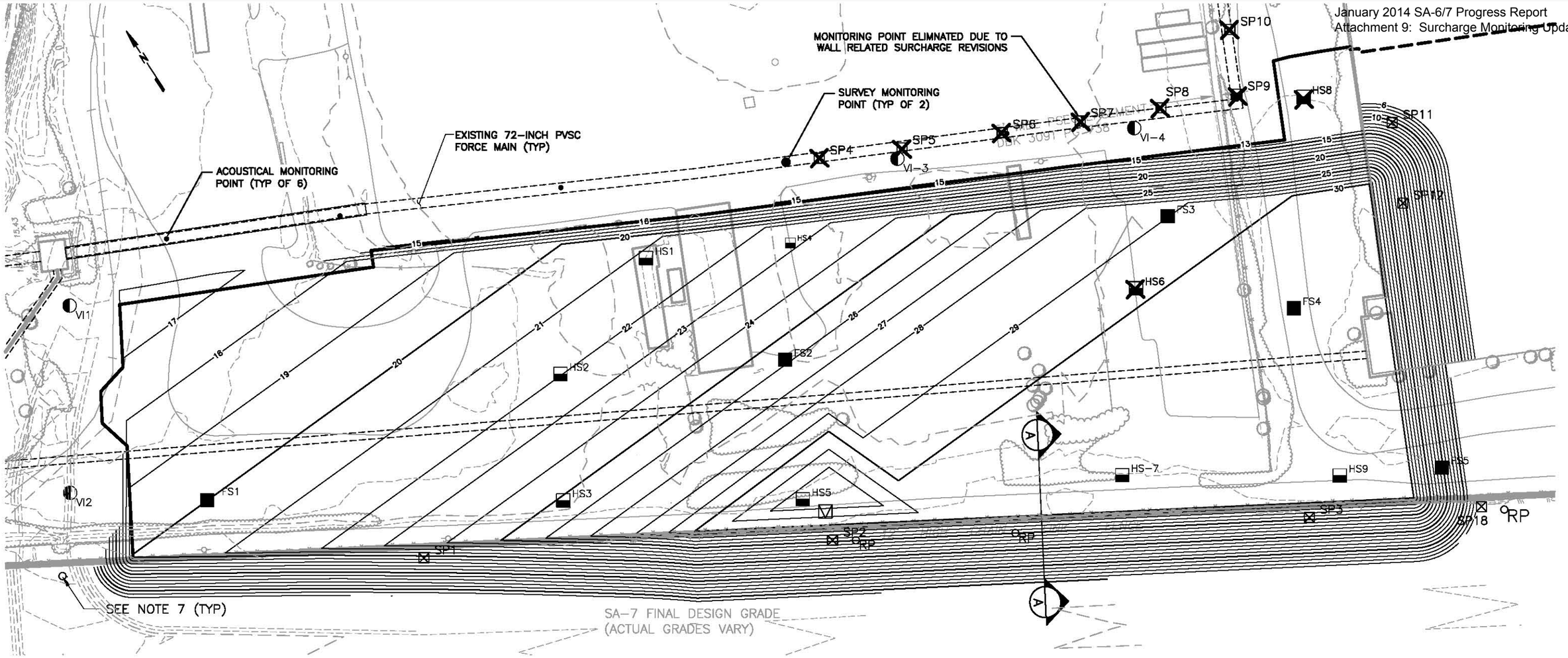
										087-MW-			134-MW-		073-MW-		140-	
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	Y20	001	O19	V09	Q08	BB-11	Y10	MW-06	MW-07
Date																		
7/2/2013	7.0	6.1	6.6	6.5	7.3	9.3	5.0	8.0	7.8	4.6		8.3						
7/3/2013													5.4	6.7	3.2	4.0	7.1	5.6
7/12/2013													5.2	6.1	3.2	3.7	6.8	5.3
7/15/2013	6.1	6.0	6.6	6.7	7.3	9.3	4.7	7.5	7.4	4.5		8.7						
7/19/2013													5.3	6.0		3.6	6.6	5.2
7/26/2013													5.2	5.9	4.3	3.9	6.4	5.3
7/29/2013	5.9	5.9	6.4	6.4	6.9	9.2	4.6	7.2	7.3	4.6	6.8	8.3						
8/2/2013													5.2	6.1	4.6	3.7	7.0	5.2
8/9/2013													5.1	6.0	3.4	3.8	6.5	5.3
8/16/2013	6.5	5.8	6.2	6.1	6.8	9.4	4.7	7.4	7.4	4.6	6.8	8.4	5.4	6.3	3.2	3.8	7.1	5.5
8/23/2013													5.9	6.2	3.9	3.8	6.6	6.1
8/29/2013	6.2	5.9	6.4	6.3	7.1	9.3	4.8	7.4	7.3	4.6	6.6	8.2						
8/30/2013													5.8	6.1	3.2	4.0	6.6	5.4
9/5/2013													5.2	5.6	3.2	3.5	6.2	5.4
9/13/2013	5.9	5.7	6.0	5.8	6.1	9.5	4.6	6.9	7.4	4.7	5.4	8.3						
9/16/2013													5.5	5.6	3.2	3.7	6.0	5.0
10/2/2013	5.7	5.6	5.9	5.5	5.8	9.4	4.4	6.6	7.3	4.8	5.9	7.8						
10/4/2013													4.7	6.1	3.3	4.1	6.2	5.5
10/10/2013													5.2	5.5	4.2	3.9	6.1	5.0
10/17/2013													4.8	5.3	3.1	3.7	5.9	5.1
10/18/2013	5.5	5.5	5.6	5.3	5.8	9.4	4.4	6.3	7.4	4.8	6.2	7.9						
10/25/2013													4.3	5.2	3.1	3.9	5.8	5.5
11/4/2013	5.4	5.4	5.4	5.1	5.6	9.3	4.3	6.2	7.1	4.7	6.1	7.7						
11/15/2013													3.7	5.0	3.9	4.4	5.8	4.8
11/22/2013	5.3	5.3	5.1	4.9	5.6	9.3	4.6	6.1	7.1	4.7	6.4	7.9						
12/4/2013	7.6	4.7	5.1	5.1	6.0	9.3	4.9	6.3	7.5	5.2	6.5	8.1	5.2	5.8	7.0		6.9	5.1
12/17/2013		4.7	4.7	5.7	6.5	9.5	4.6	8.1	7.7	4.5	6.3	7.8					7.6	5.7
12/31/2013		4.8	5.6	6.0	7.1	9.9	7.5		8.6	5.0	6.6	8.1						
1/2/2014													5.9	7.0	7.2		7.2	6.5
1/9/2014								7.9										
1/15/2014													6.5	7.3	7.0		7.0	7.2
1/16/2014		5.3	6.0	6.3	7.3		7.6	7.8	8.3	4.9	7.5	8.7						

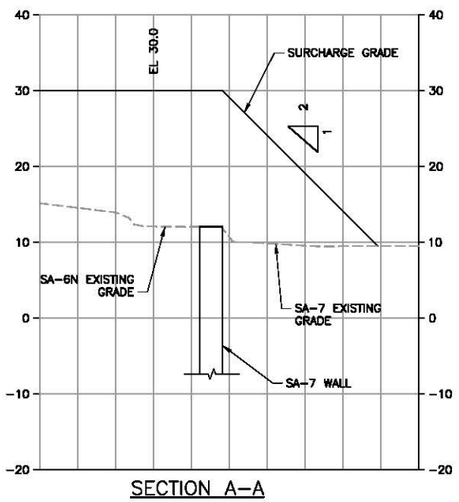
Attachment 8: Quality and Level Data in GWET Wells

(not provided in this submittal - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

- Surcharge Monitoring Plan Report Figures *(included in initial submittal only)*





SECTION A-A

NOTES:

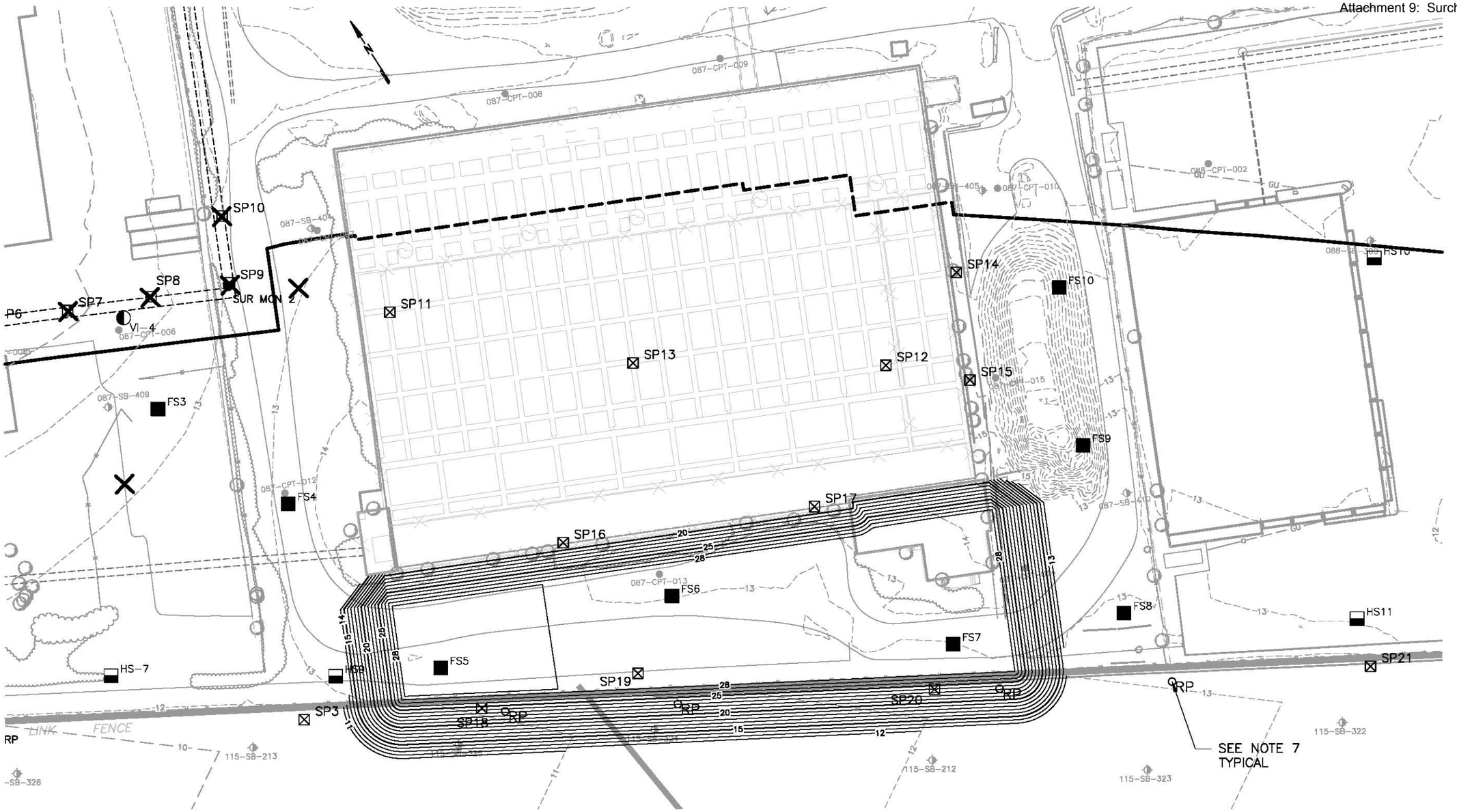
1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL - SETUP
HS-1-1	SETTLEMENT MONITORING POINT HALF - SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
▼	72-INCH FM ACOUSTICAL MONITORING POINT
●	72-INCH FM SURVEY MONITORING POINT
X	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 2/4/14
Checked/Date: SGS 2/4/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	INSTRUMENTATION LOCATION PLAN 1N Project 3480-09-0006 Figure B1



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Revised/Date: TDD 2/4/14
Checked/Date: SGS 2/4/14

0 15 30 60
SCALE IN FEET

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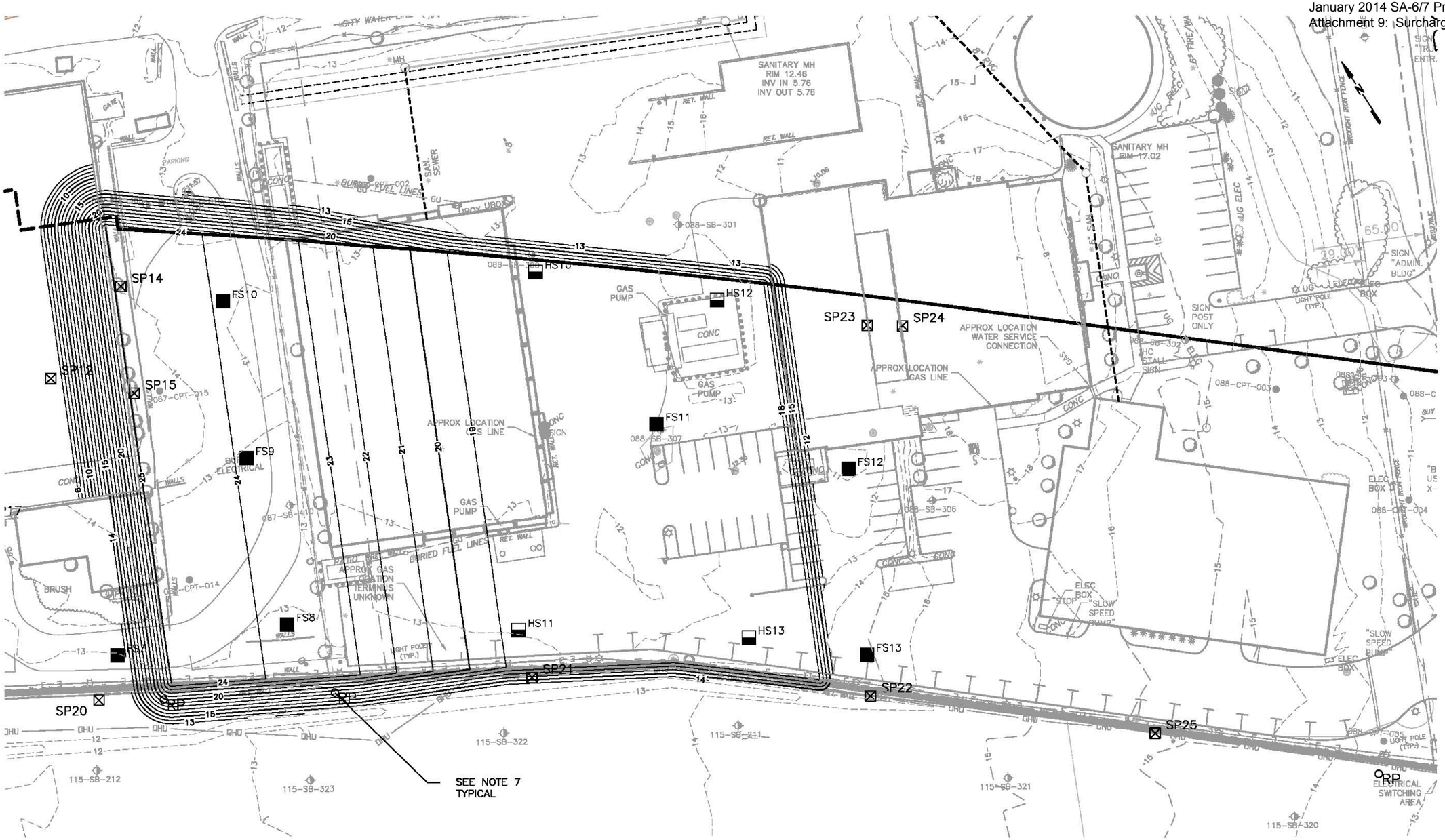
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 2N
Project 3480-09-0006
Figure C1



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

$\oplus_{I-2}$	INCLINOMETER LOCATION
$\blacksquare^{FS-1-1}$	SETTLEMENT MONITORING POINT FULL – SET UP
$\blacksquare^{HS-1-1}$	SETTLEMENT MONITORING POINT HALF – SET UP
$\boxtimes^{SP12}$	SETTLEMENT MONITORING PLATFORM
$\bigcirc^{RP}$	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Revised/Date: TDD 2/4/14
Checked/Date: SGS 2/4/24

0 15 30 60
SCALE IN FEET

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 3N
Project 3480-09-0006
Figure D1



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

$\oplus_{VI-2}$	INCLINOMETER LOCATION
FS12	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Revised/Date: TDD 2/4/14
Checked/Date: SGB 2/4/14

0 15 30 60
SCALE IN FEET

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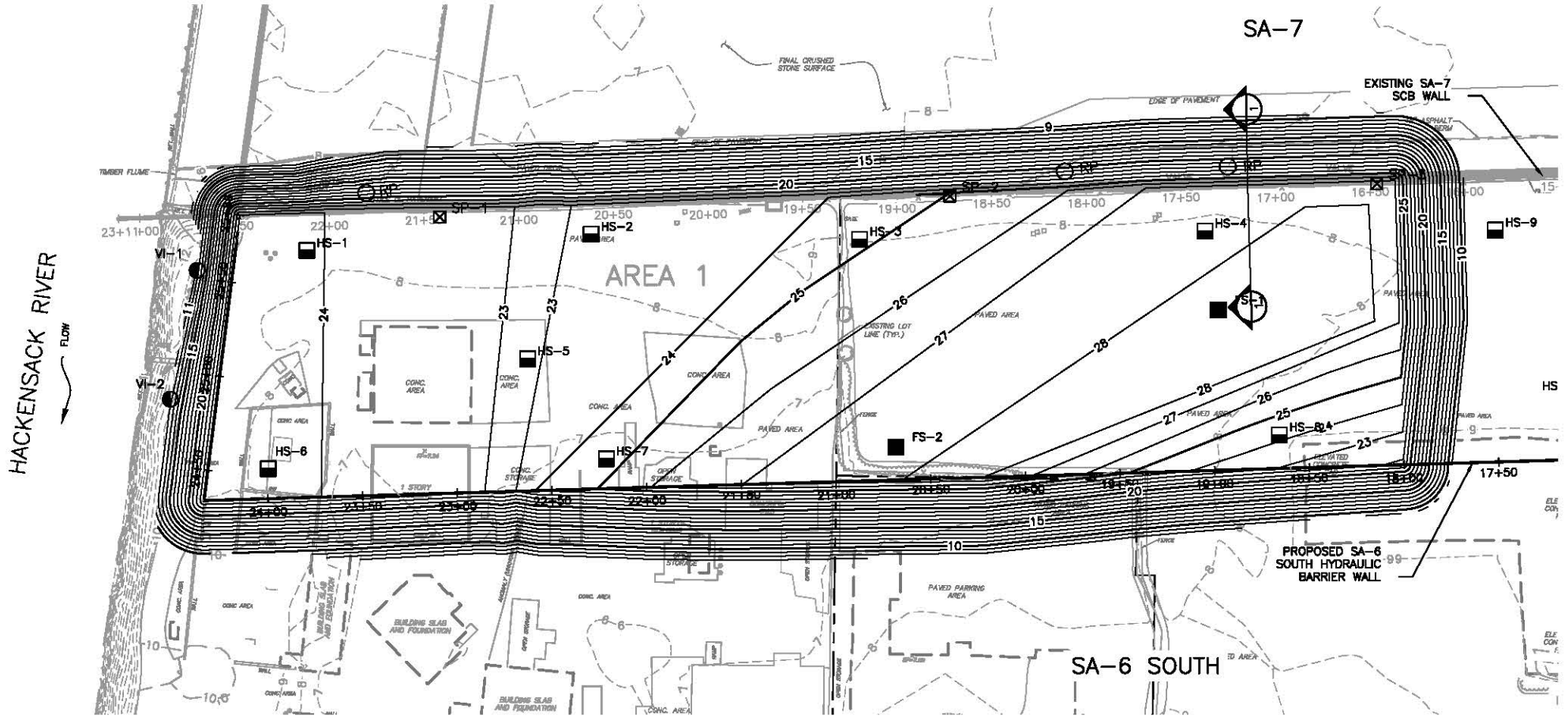
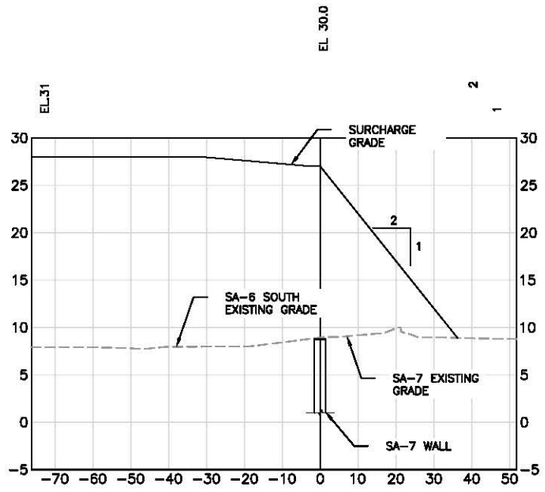
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 4N
Project 3480-09-0006
Figure E1





SECTION A–A

NOTES:

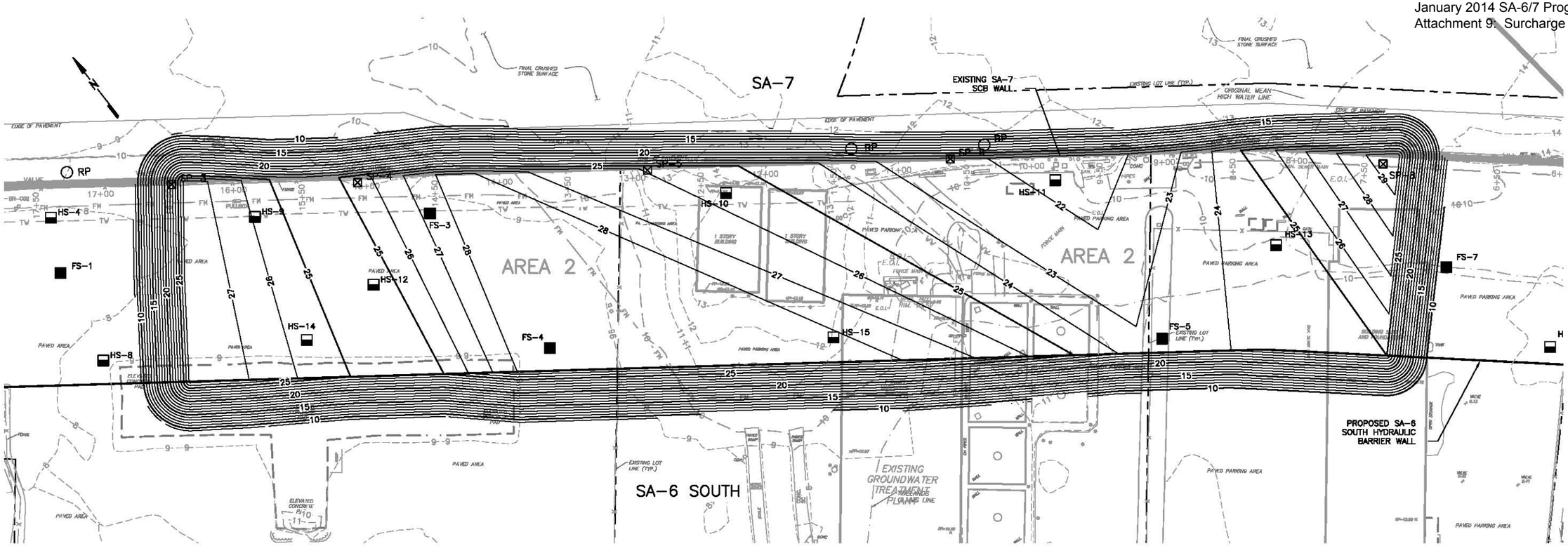
1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

⊕ VI–2	INCLINOMETER LOCATION
■ FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
■ HS–1–1	SETTLEMENT MONITORING POINT HALF – SET UP
⊠ SP12	SETTLEMENT MONITORING PLATFORM
○ RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 06/18/13
Checked/Date: AE 06/18/13

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	INSTRUMENTATION LOCATION PLAN 1S Figure F1



VI-2	INCLINOMETER LOCATION	
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP	
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP	
SP-12	SETTLEMENT MONITORING PLATFORM	
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)	

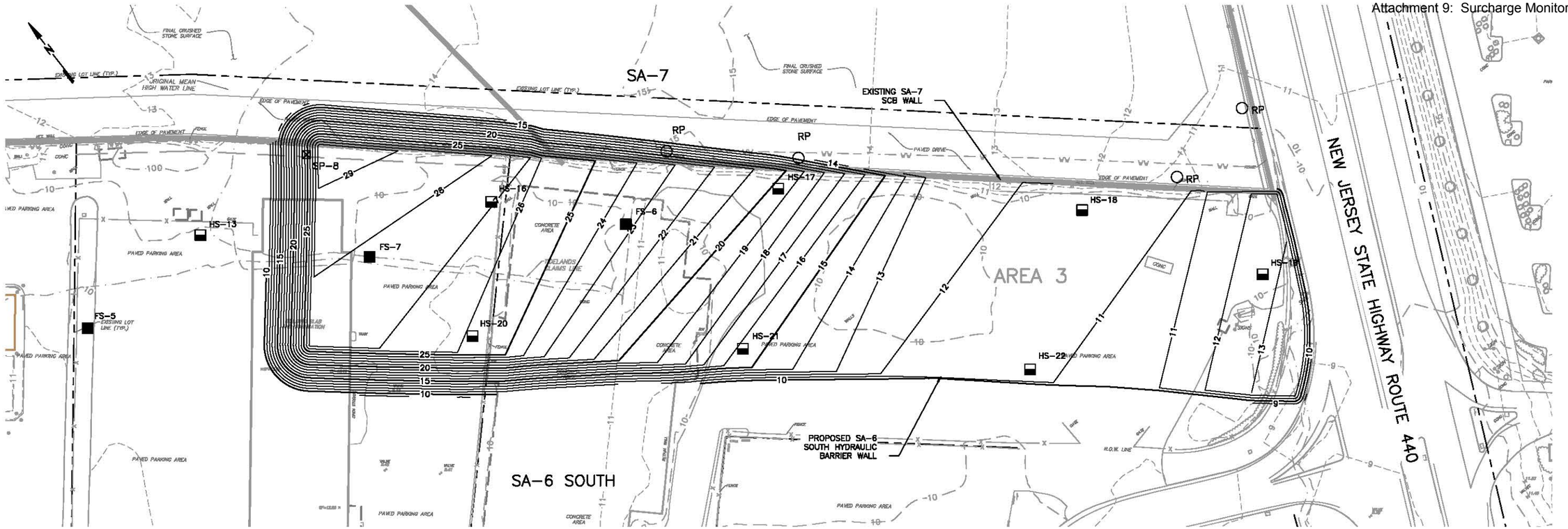
NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
4. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

0 20 40 80
SCALE IN FEET

Revised/Date: TDD 2/4/14
Checked/Date: SGB 2/4/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	INSTRUMENTATION LOCATION PLAN 2S Figure G1



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARDS ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

VI–2	INCLINOMETER LOCATION
FS–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS–1	SETTLEMENT MONITORING POINT HALF – SET UP
SP–12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Revised/Date: TDD 2/4/14
Checked/Date: SGB 2/4/14

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

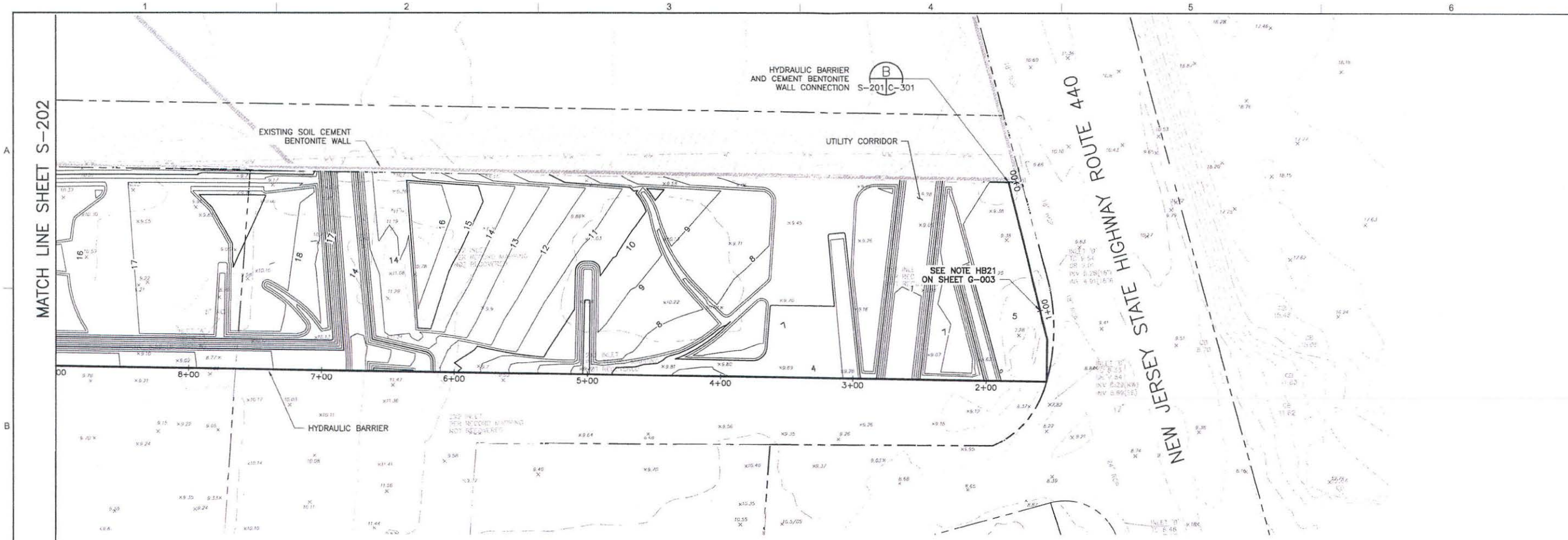
INSTRUMENTATION LOCATION PLAN 3S

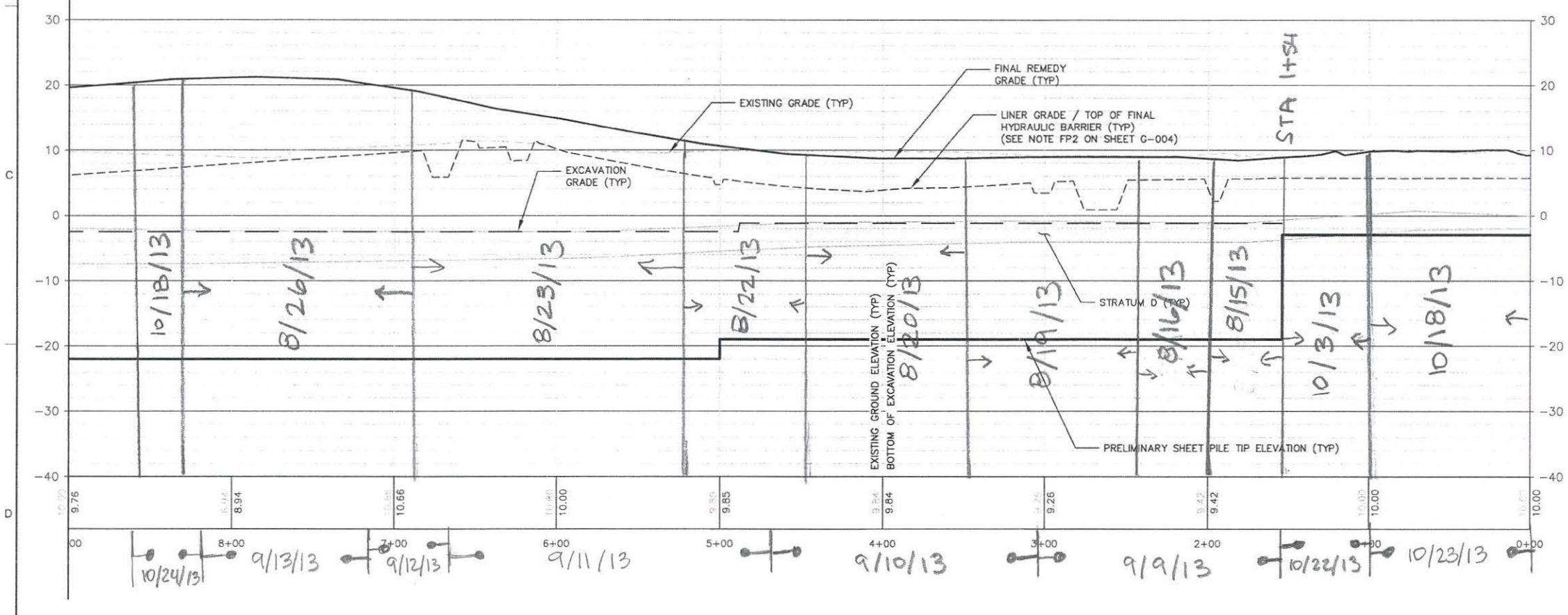
Figure H1

Z:\Projects\VANTAGE\JERSEY CITY\Dwg Design-Site-CAD\CAD\SA-6 North and South Au-Subs\SA-6 North and South Surcharge Monitoring\Mit Figure – Surcharge Instrumentation Plan.dwg Tue, 04 Feb 2014 – 8:56pm tony.dickerson

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation





HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	1+54	-3	AZ 19-700
STRUCTURAL	1+54	5+00	-19	AZ 19-700
STRUCTURAL	5+00	12+60	-22	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

Time Frame for:

|→ ←|: Hydraulic Barrier Driven

|—•—|: Angles Grouted

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

STEPHEN H. MITCHELL
5/24/13
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

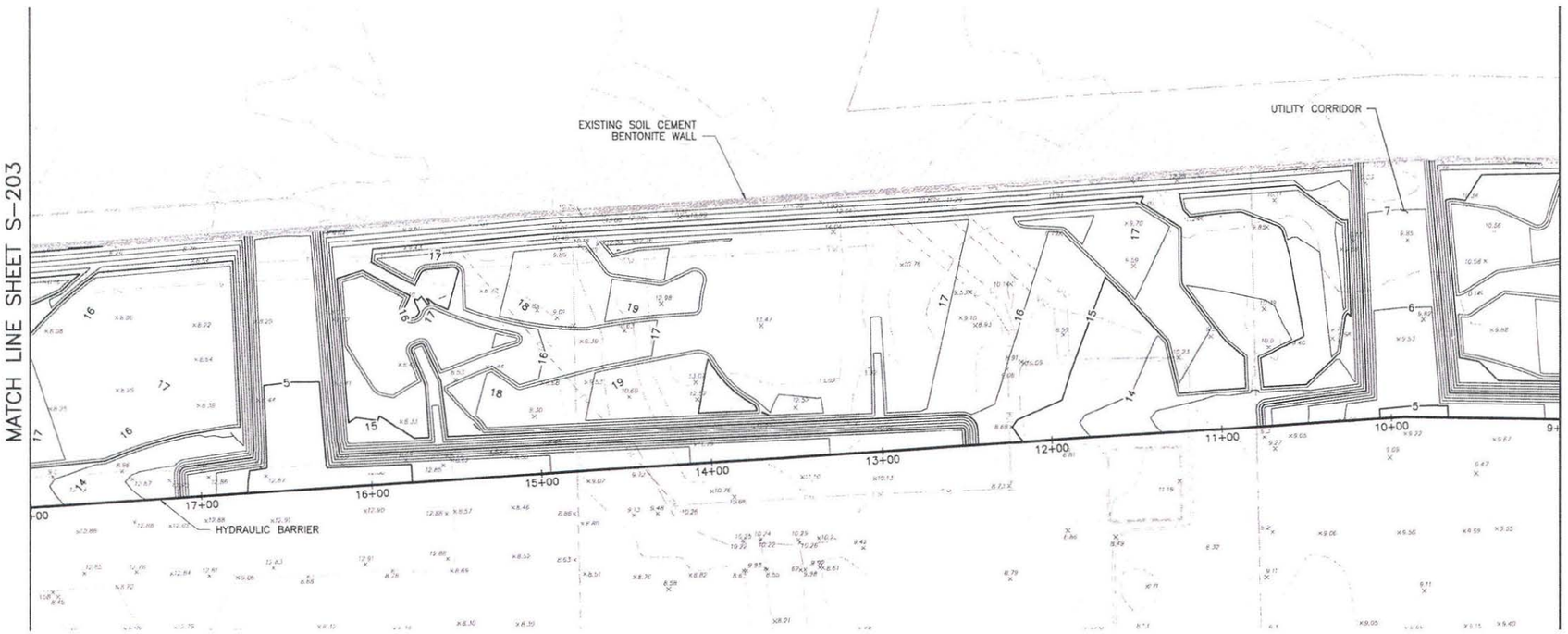
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28013900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

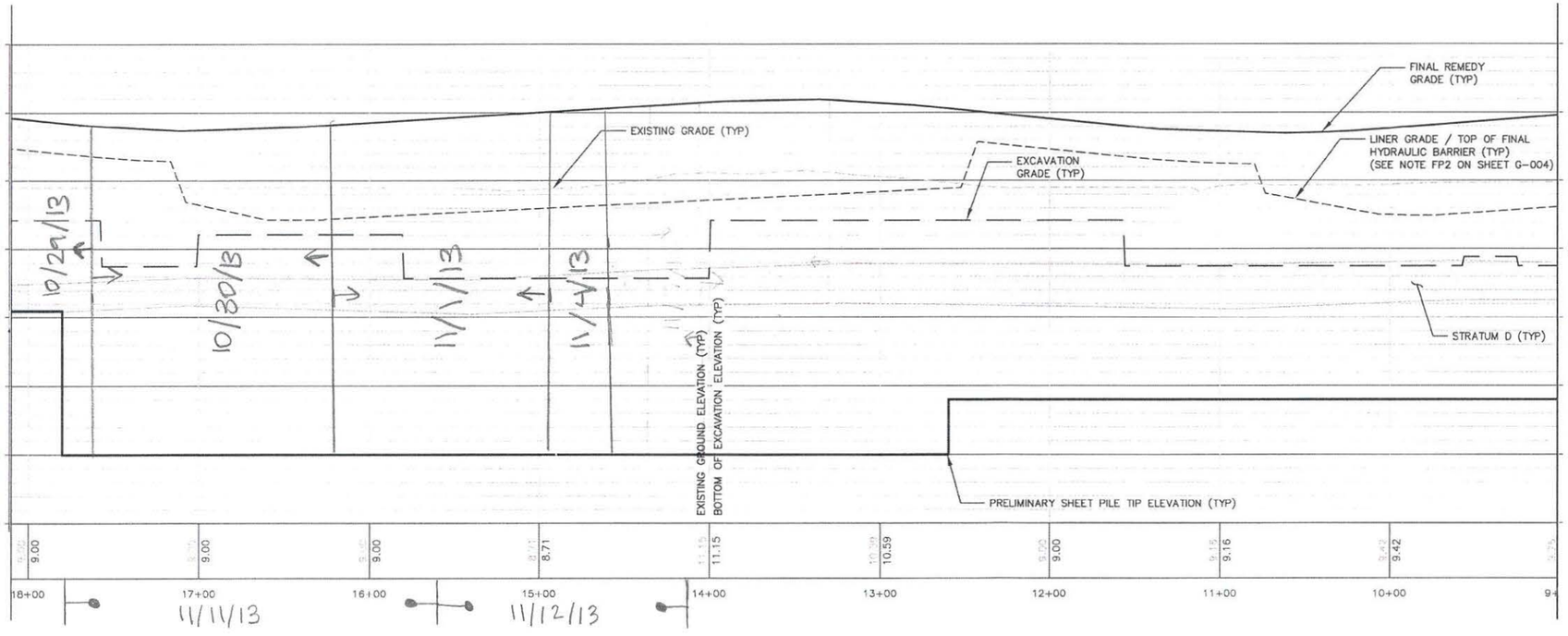
DATE
PROJ 3480-12-0317
DWG S-201
SHEET 53 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR53-S-201 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed 22 May 2013 PLOT TIME: 1:09 PM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+60	-22	AZ 19-700
STRUCTURAL	12+60	17+80	-30	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700



NOTES:

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4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
5/24/13
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD
0	06/07/13	TDD	TDD	RJR	TDD

ISSUED FOR CONSTRUCTION

REVISION	BY	APVD
	TDD	SHM

SHM

Honeywell
101 COLUMBIA RD. BOX 2150, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

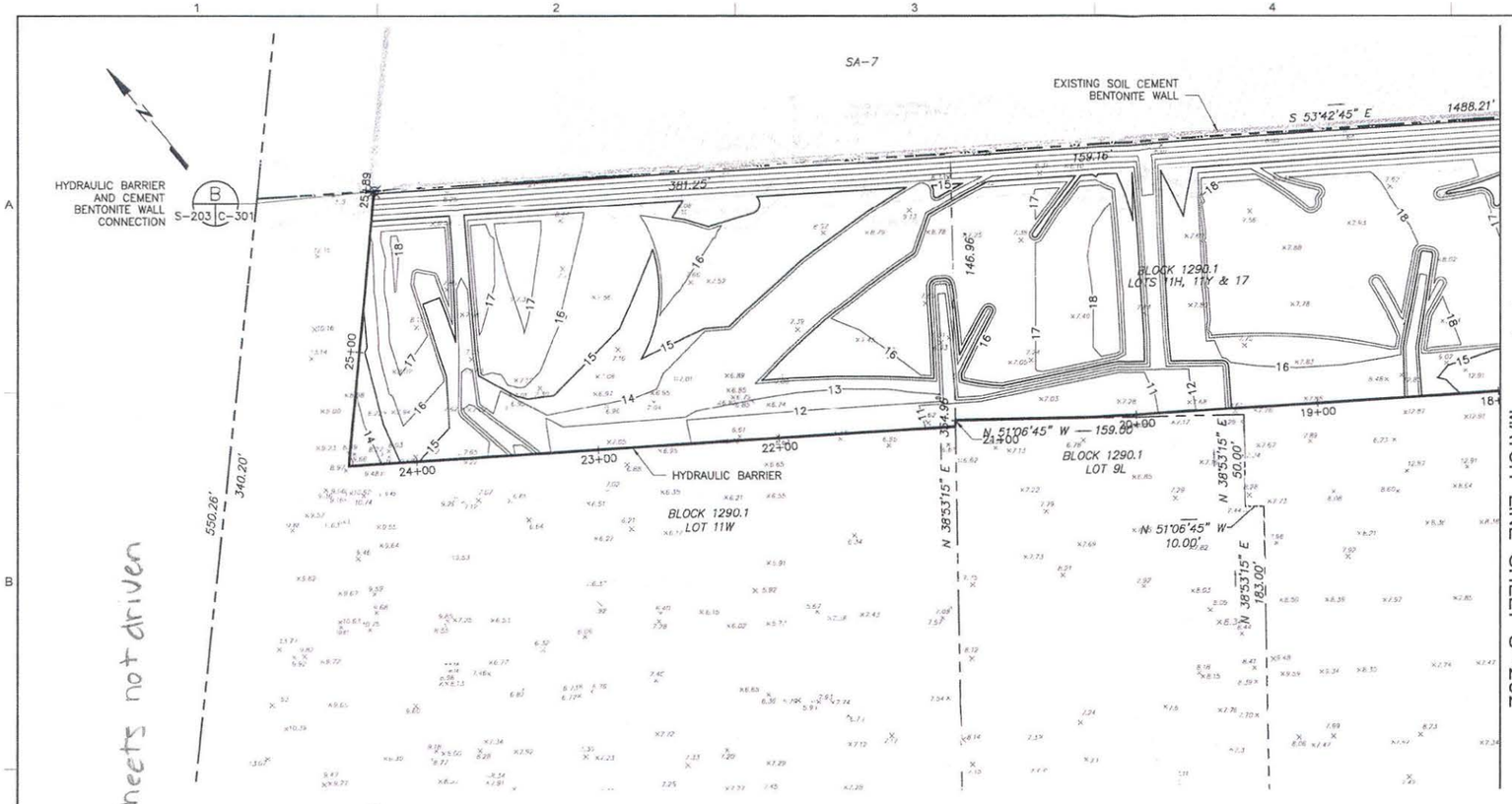
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

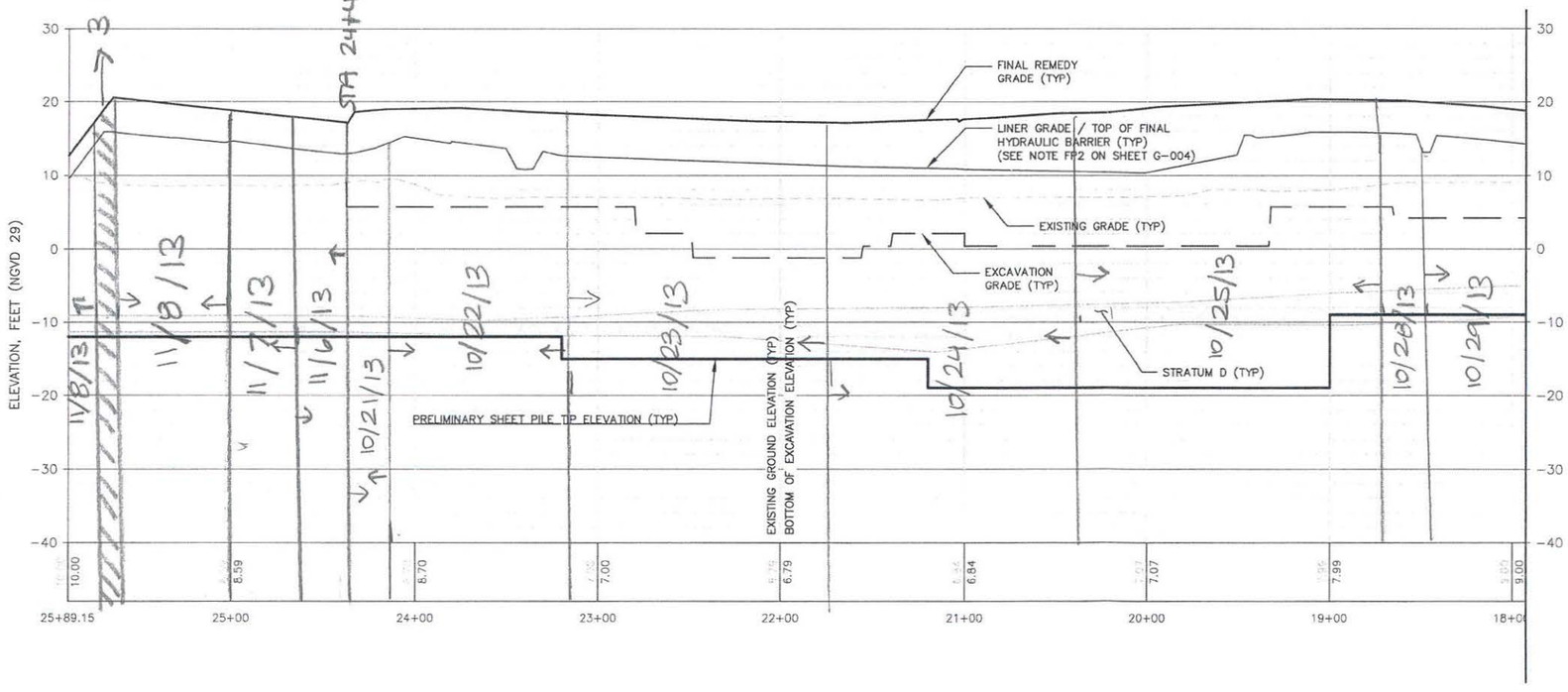
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

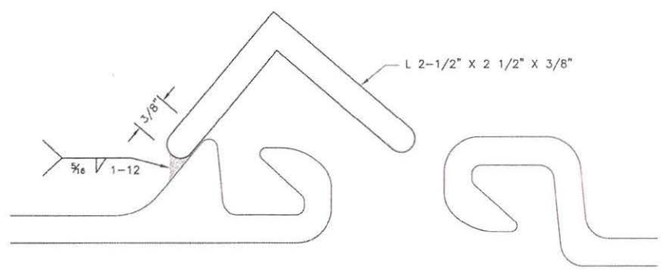
DATE
PROJ 3480-12-0317
DWG S-202
SHEET 54 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR IN PART, NOR THE USE OF THE DRAWINGS FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

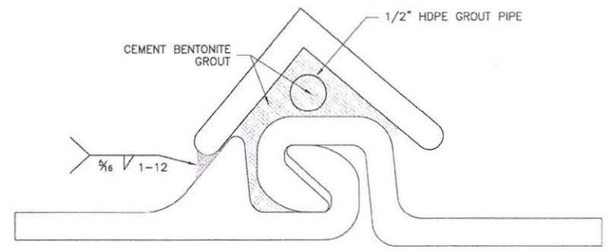
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Civil Design\SA6-C3D\CAD\SA6SCR54-S-202 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 2:57 PM







BEFORE DRIVING SHEETS



SHEET SEALING DETAIL
NTS
BF
TYP S-203

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD
0	06/07/13	TDD	RJR	TDD	SHM

ISSUED FOR CONSTRUCTION
REVISION
TDD SHM
BY APVD
SHM

ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.
THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ. 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER PLAN & PROFILE

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28018900

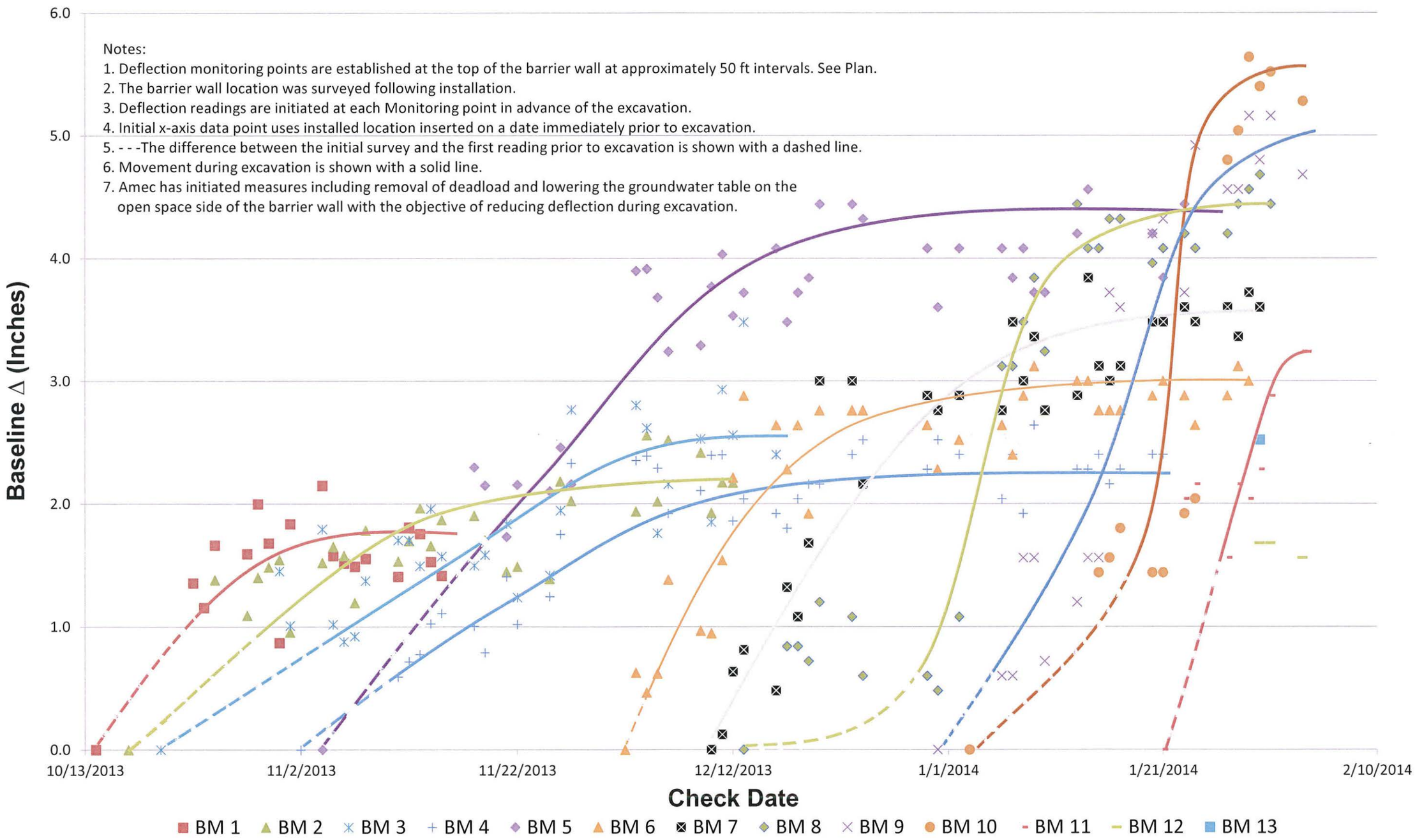
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE
PROJ 3480-12-0317
DWG S-203
SHEET 55 OF 66

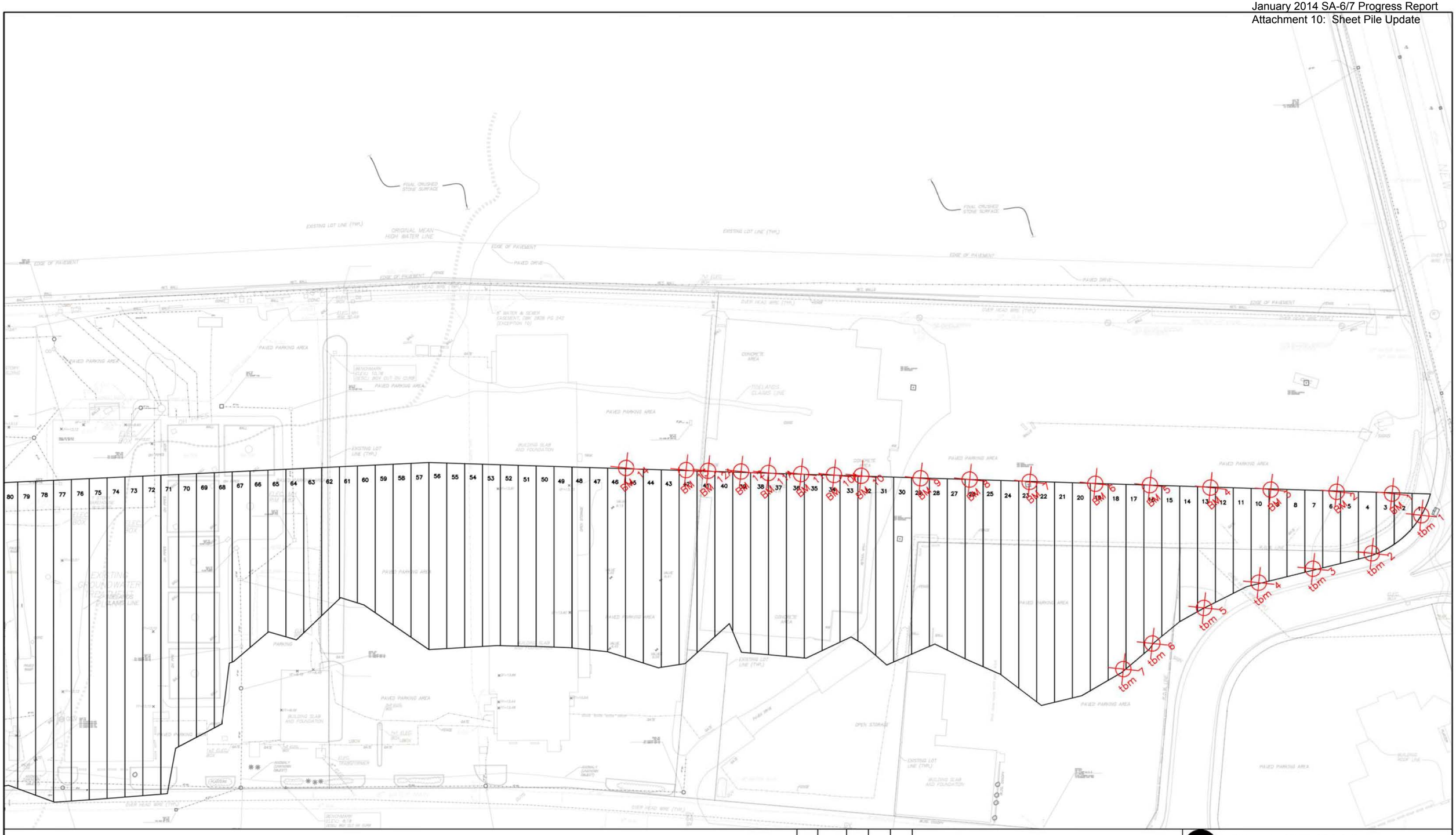
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cad Design-SA6-C3D\CAD\SA6SICR55-S-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 3:01 PM

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.



Note: Data shown is for recent months activity



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 02-05-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 7, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		4
Flood Protection	X			
Sediment Outside of Controls		X		5
Storm Drain Filter Baskets		X		6
SA-6 North				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
SA-7				
Hay Bales/Silt Fence Present and Intact		X		8
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		9
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	

NOTE: All comments are numbered for reference and included on the comment section below.

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange fencing around EZ requires maintenance.
2	IA2Q4A1AL8	Soil stockpile on Teal slab requires erosion control at toe.
3	IA2Q4A1AL8	Berm on east side of EZ requires maintenance/enhancement.
4	IA2Q4A1AL8	Tracking pad required for truck decon station at EZ exit.
5	IA2Q4A1AL8	Sediment outside of flood barrier on parking lot asphalt.
6	IA2Q4A1AL8	Catch basin filter fabric requires replacement.
7	EHWG3RTMXR	Silt fence along ENR excavation alignment requires maintenance.
8	IA2Q4A1AL8	Silt fence at SES stiockpile area requires repair.
9	EEPSQUO2YB	Novartis stockpile at top of containment measures on north side.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature George Pfeiffer **Date:** 01/09/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1		
2		
3		
4		
5		
6		
7		
8		
9		

Construction Manager: _____ **Date:** _____

Received from Exhibit 01/17/14

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange fencing around EZ requires maintenance. ✓ Fri
2	IA2Q4A1AL8	Soil stockpile on Teal slab requires erosion control at toe 1/16
3	IA2Q4A1AL8	Berm on east side of EZ requires maintenance/enhancement. Mon
4	IA2Q4A1AL8	Tracking pad required for truck decon station at EZ exit.
5	IA2Q4A1AL8	Sediment outside of flood barrier on parking lot asphalt. 1/16
6	IA2Q4A1AL8	Catch basin filter fabric requires replacement. Tues 1/15
7	EHWG3RTMXR	Silt fence along ENR excavation alignment requires maintenance.
8	IA2Q4A1AL8	Silt fence at SES stockpile area requires repair. 1/16
9	EEPSQUO2YB	Novartis stockpile at top of containment measures on north side.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 01/09/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1		
2		
3		
4		
5		
6		
7		
8		
9		

Construction Manager: _____ **Date:** _____

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 15, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other Fog
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		4
Flood Protection	X			
Sediment Outside of Controls		X		5
Storm Drain Filter Baskets		X		6
Ponded Storm Water		X		7
SA-6 North				
Hay Bales/Silt Fence Present and Intact		X		8
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation				
Flood Protection				
SA-7				
Hay Bales/Silt Fence Present and Intact		X		9
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		10
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/15/14

SWPPP Observer: _____ (George Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on outboard side of sheetpile requires maintenance.
2	IA2Q4A1AL8	Orange fencing on south side of EZ requires maintenance/repair.
3	IA2Q4A1AL8	<20 ppm pile A-5 requires erosion protection. <20 ppm staging area on the former boatyard property requires fabric installed over bin blocks.
4	IA2Q4A1AL8	Tracking pad required for truck decon station at EZ exit.
5	IA2Q4A1AL8	Sediment outside of flood barrier on parking lot asphalt.
6	IA2Q4A1AL8	Catch basin filter fabric requires replacement.
7	EHWG3RTMXR	Storm water ponded in eastern EZ and on the former Teal/Degen properties.
8	IA2Q4A1AL8	Silt fence along ENR excavation alignment requires maintenance and/or repair.
9	EEPSQUO2YB	Hay bales degraded on west side of Novartis pile; replace. Silt fence at Sevenson stone staging area requires repair.
10	EEPSQUO2YB	Novartis stockpile overtopping containment measures on north side, inboard material removal required.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 01/15/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1		
2	Repeat - Entact	
3		
4	Repeat - Entact	
5	Repeat - Entact	
6	Repeat - Entact	
7		
8	Repeat - ENR	
9		
10	Repeat - Entact	

Construction Manager: _____ **Date:** 01/15/14

Received from Entact
01/17/14

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on outboard side of sheetpile requires maintenance. 1-16
2	IA2Q4A1AL8	~~Orange fencing on south side of EZ requires maintenance/repair.~~ 1/16
3	IA2Q4A1AL8	<20 ppm pile A-5 requires erosion protection. ~~<20 ppm staging area on the former boatyard property requires~~ fabric installed over bin blocks. 1/16
4	IA2Q4A1AL8	Tracking pad required for truck decon station at EZ exit.
5	IA2Q4A1AL8	Sediment outside of flood barrier on parking lot asphalt. 1/16
6	IA2Q4A1AL8	~~Catch basin filter fabric requires replacement.~~ 1/15
7	EHWG3RTMXR	Storm water ponded in eastern EZ and on the former Teal/Degen properties. 1-17
8	~~IA2Q4A1AL8~~	Silt fence along ENR excavation alignment requires maintenance and/or repair.
9	EEPSQUO2YB	Hay bales degraded on west side of Novartis pile; replace. Silt fence at Sevenson stone staging area requires repair. 1/16 Haybales are ordered.
10	EEPSQUO2YB	Novartis stockpile overtopping containment measures on north side, inboard material removal required.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: [signature] Signature **Date:** 01/15/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1		
2	Repeat - Entact	
3		
4	Repeat - Entact	
5	Repeat - Entact	
6	Repeat - Entact	
7		
8	Repeat - ENR	
9		
10	Repeat - Entact	

Construction Manager: [signature] **Date:** 01/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 21, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☑ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		3
Flood Protection	X			
Perimeter Fencing/Windscreen		X		4
SA-6 North				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Work Zone Barriers		X		5
SA-7				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		7
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	

NOTE: All comments are numbered for reference and included on the comment section below.

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence to the west of sheet pile barrier wall requires maintenance.
2	IA2Q4A1AL8	Filter fabric on concrete bin blocks surrounding <20 ppm staged material requires maintenance.
3	IA2Q4A1AL8	Truck and equipment decontamination area requires the installation of a tracking pad.
4	IA2Q4A1AL8	Windscreen on perimeter fencing requires maintenance.
5	IA2Q4A1AL8	Work zone barrier along the south side of the H-Building has a gap. Replace missing Jersey barrier.
6	EEPSQUO2YB	Hay bales degraded. Replace weathered bales.
7	EEPSQUO2YB	Sediment over-topping the stockpile containment barrier. Remove material on inside of barrier to restore containment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 01/22/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repeat item. Entact to address immediately.	
2	Re-install fabric which has blown from surface of blocks and secure. Fabric should be installed on all bin blocks in containment structure.	
3	Repeat item. Entact to address immediately.	
4	Secure windscreen along JCIA perimeter fenceline.	
5	Replace Jersey barrier and confirm that there are no gaps in the vehicle barrier separating the SA-6 North work area from the Jersey City occupied area.	
6	Repeat item. Entact to address immediately.	
7	Repeat item. Entact to address immediately.	

Construction Manager: _____ **Date:** 01/22/14

Received from ENTACT 01/28/14

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence to the west of sheet pile barrier wall requires maintenance. completed / removed 1/23
2	IA2Q4A1AL8	Filter fabric on concrete bin blocks surrounding <20 ppm staged material requires maintenance. completed 1/24 ~~1/23~~
3	IA2Q4A1AL8	Truck and equipment decontamination area requires the installation of a tracking pad. completed 1/23
4	IA2Q4A1AL8	Windscreen on perimeter fencing requires maintenance.
5	IA2Q4A1AL8	Work zone barrier along the south side of the H-Building has a gap. Replace missing Jersey barrier. completed 1/24
6	EEPSQUO2YB	Hay bales degraded. Replace weathered bales. started 1/24
7	EEPSQUO2YB	Sediment over-topping the stockpile containment barrier. Remove material on inside of barrier to restore containment. completed 1/24

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 01/22/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repeat item. Entact to address immediately.	1/23/14
2	Re-install fabric which has blown from surface of blocks and secure. Fabric should be installed on all bin blocks in containment structure.	1/24/14
3	Repeat item. Entact to address immediately.	1/23/14
4	Secure windscreen along JCIA perimeter fenceline.	1/27/14
5	Replace Jersey barrier and confirm that there are no gaps in the vehicle barrier separating the SA-6 North work area from the Jersey City occupied area.	1/24/14
6	Repeat item. Entact to address immediately.	1/27/14
7	Repeat item. Entact to address immediately.	1/24/14

Construction Manager: _____ **Date:** 01/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 28, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Perimeter Fencing/Windscreen	X			
Work Zone Barriers	X			
Storm Drain Protection		X		3
SA-6 North and GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North and GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Perimeter Fencing/Windscreen		X		5
Work Zone Barriers		X		6
Storm Drain Protection			X	
SA-7 and Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing				
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Perimeter Fencing/Windscreen	X			
Work Zone Barriers		X		8

NOTE: All comments are numbered for reference and included on the comment section below.

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Entact- Orange Exclusion Zone fencing on southern perimeter of excavation requires repair.
2	IA2Q4A1AL8	Entact- Petroleum and propylene glycol drums requre secondary containment.
3	IA2Q4A1AL8	Entact- Storm drain catch basin to the north of the Guard Shack requires sediment protection.
4	EHWG3RTMXR	ENR- Silt fence along the GWET line alignment requires maintenance at the southwest corner of SA-6 North.
5	IA2Q4A1AL8	Entact- The perimeter fence between SA-6 North and SA-7 has a gap in the chain link fabric (where the construction water lines cross the SCB wall) that requires repair.
6	EHWG3RTMXR	ENR- The excavation in the southwest corner of SA-6 North requires installation of work zone barriers.
7	EEPSQUO2YB	Entact- Silt fencing on the northwest corner of the SES stockpile area requires maintenance.
8	EHWG3RTMXR	ENR- The excavation in the northwest corner of SA-7 requires installation of work zone barriers.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWPPP Observer: (G. Pfeiffer) **Date:** 01/29/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
2	Spill pallets or comparable methods are acceptable.	

Construction Manager: _____ **Date:** _____

Received from ENR
02/04/14 DP

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Entact- Orange Exclusion Zone fencing on southern perimeter of excavation requires repair 1-30
2	IA2Q4A1AL8	Entact- Petroleum and propylene glycol drums requre secondary containment. ✓ spill pallets ordered + arriving on 2-4
3	IA2Q4A1AL8	Entact- Storm drain catch basin to the north of the Guard Shack requires sediment protection. 1-29
4	EHWG3RTMXR	ENR- Silt fence along the GWET line alignment requires maintenance at the southwest corner of SA-6 North Completed By ENR DP
5	IA2Q4A1AL8	Entact- The perimeter fence between SA-6 North and SA-7 has a gap in the chain link fabric (where the construction water lines cross the SCB wall) that requires repair 1-31
6	EHWG3RTMXR	ENR- The excavation in the southwest corner of SA-6 North requires installation of work zone barriers. Completed By ENR DP
7	EEPSQUO2YB	Entact- Silt fencing on the northwest corner of the SES stockpile area requires maintenance. ENR keeps removing the silt fence for access to fill materials Snow + ice have not allowed for the repairs to be made.
8	EHWG3RTMXR	ENR- The excavation in the northwest corner of SA-7 requires installation of work zone barriers COMPLETED By ENR DP

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWPPP Observer: (G. Pfeiffer) Date: 01/29/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
2	Spill pallets or comparable methods are acceptable.	See Above DP

Construction Manager: Date: 02/04/14

Attachment 12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (December 2013 Correction and January 2014)

The Monitoring Report originally submitted to the NJDEP on January 23, 2014, erroneously contained January 2014 data and was resubmitted with along with the January 2014 Report on February 12, 2014.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

February 11, 2014

Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: December 2013 correction and January 2014 Surface Water Discharge Monitoring Reports
Study Area 7, Jersey City, NJ

To Whom It May Concern:

On January 23, 2014, I submitted an incorrect December 2013 DMR. I had mistakenly reported the January 2014 sampling results on the December 2013 DMR. Attached please find the corrected December 2013 DMR and the January 2014 DMR. I apologize for this error and have instituted a checking mechanism so that it does not occur again.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: File
US Filter WWTP File

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	12	1	2013	To	12	31	2013	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☐ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris JM 2/11/14 — 1/23/2014 — 973-455-4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **DATE** | **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director — John J Morris JM 2/11/14 — 1/23/2014 — 973-455-4003

NAME AND TITLE | **SIGNATURE** | **DATE** | **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	12/1/2013 TO 12/31/2013	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	71,735	104,150	GPD	******	******	******	******	0	Continuous	Meter
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	7.61	******	7.61	SU	0	1/Month	Grab
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	Code N	******	******	%EFFL	0	1/Year	Compos
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	Code N	******	******	%EFFL	0	1/Year	Compos
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <5.1	ND, <5.1	MG/L	0	1/Month	Grab
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	5.5	5.5	MG/L	0	1/Month	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 10/1/2013

JM 2/11/14

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	12/1/2013 TO 12/31/2013	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	14.5	14.5	UG/L	0	1/Month	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

JM 2/11/14

Pre-Print Creation Date: 10/1/2013

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	12/1/2013 TO 12/31/2013	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	Code N	Code N	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

JM 2/11/14

Pre-Print Creation Date: 10/1/2013

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	12/1/2013 TO 12/31/2013	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT	12028	03547	-	-	-	-	-	-	-	-
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

JM 2/11/14

Honeywell Flume Flow Daily Totals

Year:	2013
Month:	December

Day	Meter Reading	Flows (gpm)	Volume Treated (gpd)	Run Time (hr/day)
12/1/2013	341053508	152.81	82,520	9
12/2/2013	341136028	125.83	90,600	12
12/3/2013	341226628	151.90	82,028	9
12/4/2013	341308656	173.92	83,480	8
12/5/2013	341392136	125.53	90,380	12
12/6/2013	341482516	153.16	82,704	9
12/7/2013	341565220	125.31	82,704	11
12/8/2013	341647924	165.73	89,496	9
12/9/2013	341737420	100.92	84,776	14
12/10/2013	341822196	184.70	88,656	8
12/11/2013	341910852	152.48	73,192	8
12/12/2013	341984044	198.18	95,124	8
12/13/2013	342079168	95.39	17,170	3
12/14/2013	342096338	95.39	17,170	3
12/15/2013	342113508	87.11	15,680	3
12/16/2013	342129188	92.42	16,636	3
12/17/2013	342145824	134.73	24,252	3
12/18/2013	342170076	133.62	48,104	6
12/19/2013	342218180	181.30	21,756	2
12/20/2013	342239936	150.24	72,116	8
12/21/2013	342312052	92.46	72,116	13
12/22/2013	342384168	140.33	84,200	10
12/23/2013	342468368	107.01	102,728	16
12/24/2013	342571096	102.50	86,100	14
12/25/2013	342657196	89.69	86,100	16
12/26/2013	342743295	123.99	104,150	14
12/27/2013	342847445	104.24	81,305	13
12/28/2013	342928750	150.56	81,305	9
12/29/2013	343010055	149.96	89,977	10
12/30/2013	343100032	134.42	88,720	11
12/31/2013	343188752	163.95	88,534	9
Totals	2135244			283
Average		133.54	71,735	
Maximum			104,150	

Arecon Ltd (NJ Lab Cert. # 03547)
40 US Highway Route 130
Bordentown, NJ 08505
(609)-298-0770, Fax (609-)291-8186

Chain Of Custody / Analysis Request

COC #:
Lab Use Only
Lab Proj #
Lab ID 03547

Privileged & Confidential: Y
Site Name:
Location of Site:
PAGE 1 of 1
Job No.

Client Contact: (name, co., address)
Helen Fahy
101 Columbia Road
Morristown, NJ 07961
hfahy@honeywell.com

Hardcopy Report To: Helen Fahy
Invoice To: Helen Fahy

Sampler:
P O #
Analysis Turnaround Time:
Standard -
Rush Charges Authorized for -
2 weeks -
1 week -
Next Day -

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Grab/Composite	Field Filtered Sample ?	Preservative													Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID									0	0	0	0	0									
					NW						Units		mg/L	-												
1	WTP			Effluent	11/13/2015		Grab	water	pH																	
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

pH 7.61 @ 11.1 °C

Relinquished by	Company	Date/Time	Received by	Company	Date/Time	Condition	Cooler Temp.	Custody Seals Intact
	Arecon	11/13 0920						
Relinquished by	Company	Date/Time	Received by	Company	Date/Time	Condition	Cooler Temp.	Custody Seals Intact

Preservatives: 0 = None; 1 = HCL; 2 = HNO3; 3 = H2SO4; 4 = NaOH; 5 = Zn. Acetate; 6 = MeOH; 7 = NaHSO4; 8 = Other (specify)

JM 2/11/14

New Jersey Department of Environmental Protection
Division of Water Quality

PI 234822

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD						MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	1	1	2014	To	1	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☐ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J. Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris 2/11/2014 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **DATE** | **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6E(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director John J Morris 2/11/2014 973.455.4003

NAME AND TITLE | **SIGNATURE** | **DATE** | **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	1/1/2014 TO 1/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	84,126	102,404	GPD	******	******	******	******	O	Continuous	Meter
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	7.69	******	7.69	SU	O	1/Month	Grab
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	Code N	******	******	%EFFL	O	1/Year	Composite
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	Code N	******	******	%EFFL	O	1/Year	Composite
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <5.0	ND, <5.0	MG/L	O	1/Month	Grab
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	5.3	5.3	MG/L	O	1/Month	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	1/1/2014 TO 1/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	19.8	19.8	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	10	10	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <10	ND, <10	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	20.9	20.9	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <0.5	ND, <0.5	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	19.8	19.8	UG/L	0	1/Month	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

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Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	1/1/2014 TO 1/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <10	ND, <10	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <10	ND, <10	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <0.2	ND, <0.2	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	1.0	1.0	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******	13.1	13.1	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	23.2	23.2	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	1/1/2014 TO 1/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT	12028	03547	–	–	–	–	–	–	–	–
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell Flume Flow Daily Totals

Year:	2014
Month:	January

Day	Meter Reading	Flows (gpm)	Volume Treated (gpd)	Run Time (hr/day)
1/1/2014	343277286	163.95	88,534	9
1/2/2014	343365820	155.47	83,956	9
1/3/2014	343449776	173.48	83,272	8
1/4/2014	343533048	126.17	83,272	11
1/5/2014	343616320	156.14	74,948	8
1/6/2014	343691268	137.82	90,964	11
1/7/2014	343782232	91.59	82,432	15
1/8/2014	343864664	184.93	99,864	9
1/9/2014	343964528	168.08	80,680	8
1/10/2014	344045208	136.89	73,920	9
1/11/2014	344119128	88.00	73,920	14
1/12/2014	344193048	170.67	102,404	10
1/13/2014	344295452	174.56	94,264	9
1/14/2014	344389716	115.09	89,772	13
1/15/2014	344479488	179.72	97,048	9
1/16/2014	344576536	187.97	90,224	8
1/17/2014	344666760	171.28	82,216	8
1/18/2014	344748976	152.25	82,216	9
1/19/2014	344831192	186.16	89,356	8
1/20/2014	344920548	177.70	95,956	9
1/21/2014	345016504	148.21	80,036	9
1/22/2014	345096540	158.41	76,036	8
1/23/2014	345172576	155.25	37,260	4
1/24/2014	345209836	178.85	85,850	8
1/25/2014	345295686	158.98	85,850	9
1/26/2014	345381536	149.58	71,796	8
1/27/2014	345453332	162.86	87,944	9
1/28/2014	345541276	173.62	93,756	9
1/29/2014	345635032	172.18	82,648	8
1/30/2014	345717680	159.88	76,744	8
1/31/2014	345794424	189.07	90,754	8
Average		158.22	84,126	
Maximum			102,404	

Arecon Ltd (NJ Lab Cert. # 03547)
90 US Highway Route 130
Bordentown, NJ 08505
(609)-298-0770, Fax: (609-)291-8386

Chain Of Custody / Analysis Request

COC #:
Lab Use Only
Lab Proj #
Lab ID: 03547
PAGE 1 of 1
Job No.

Privileged & Confidential: Y
EDD To:
Sampler:
PO #:
Site Name:
Location of Site:

Client Contact: (name, co., address)
Helen Fahy
101 Columbia Road
Morristown, NJ 07961
Helen.Fahy@honeywell.com

Hardcopy Report To: Helen Fahy
Invoice To: Helen Fahy

Analysis Turnaround Time:
Standard -
Rush Charges Authorized for -
2 weeks -
1 week -
Next Day -

| | Sample Identification | | | | Sample Date | Sample Time | Sample Type | Sample Matrix | Sample Purpose | # of Cont. | Grab/Composite | Field Filtered Sample? | Preservative | | | |

3/13/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 13, 2014 ***Via Express Mail***

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Progress Report No. 2014-02

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from February 1 – February 28, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: February 2014 SA-6/7 Combined Monthly Progress Report No. 2014-02

cc: Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-02

Project SA-6 & 7 Remediation

February 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
02/06/14	Multiple Responses to Comments Provided by Plaintiffs - January 28, 2014, SA-6 South – Excavation of Cells 17 through 20/January 31, 2014, SA-6 South – Excavation of Cells 21 through 29 Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/10/14	Response to Comments Provided by Plaintiffs, January 28, 2014, Certificate to Operate (CAO) a Beneficial Use Project Application (BUD), SA-6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/12/14	Surface Water DMR (December 2013 correction and Jan 2014) Study Area 7, Jersey City, NJ	State of New Jersey Department of Environmental Protection Office of Permit Management Division of Water Quality
02/14/14	Combined Monthly Progress/Highlights Report No. 2014-01 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/17/14	2013 Annual Hazardous Waste Export Report for USEPA ID # NJD986581437, EPA Notice No.: 004954/5E/12 and 007142/5E/13 Study Area 7, Jersey City, NJ	US Environmental Protection Agency
02/17/14	PVSC MR1/MR2 (Discharge of Tannin Construction Water) Study Area 7, Jersey City, NJ	Andrew Caltagirone Passaic Valley Sewerage Commission
02/18/14	Special Master All Hands Conference Call	N/A
02/25/14	Ownership of Kellogg St. 80 Property, LLC Block 1290.1, Lot No. 18 Study Area 6, Jersey City, NJ	City of Jersey City Tax Collector's Offices
02/26/14	Re: Request for Extension for Submittal of Local Limit Baseline Monitoring Report & Slug Control Questionnaire, Permit # 31630016 New Groundwater Treatment Plant Study Areas 6 and 7, Jersey City, NJ	Andrew Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	2/9/2014	2/16/2014	2/23/2014	3/2/2014
Construction Management (AMEC)	10	10	10	11
Engineering (AMEC)	2	2	2	2
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	35	27	30	35
Arecon/US Ecology Subcontractors	3	2	6	5
Oradell (SA-6N GWTP Building Mech/ Plumbing/HVAC)	1	1	0	0
ENR (SA-6N GWTP Utilities)	2	1	0	0
BCA (SA-6N Building Construction)	0	0	0	0
Siemens	2	2	2	2
HBS (SA-6N GWTP Security System)	0	0	0	0
HPS (SA-6N GWTP Process Controls)	0	0	0	0
Other	0	0	0	0
TOTAL	**59**	**49**	**56**	**59**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued new Ground Water Treatment Plant (GWTP) commissioning activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Continued numerous snow removal events on SA-6N and SA-6S.
- Initiated abandonment of former 54" Sedimentation Basin outfall pipe on SA-6N.
- Terminated operation of the 80 Kellogg St WWTP on February 28, 2014.
- Collected February PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. 80 KELLOGG GROUND WATER TREATMENT PLANT

- Hydrochloric acid cleaning was performed for all micro filter trains.
- Filter cake container changed-out (Arecon-FCI) on. February 10th.
- February monthly and quarterly effluent DMR samples were collected.
- Continued decommissioning activities for exterior ModuTanks, sludge tanks, microfilters and performed electrical disconnect and lockout/tagout procedures on pumps and equipment.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	2/9/2014	2/16/2014	2/23/2014	3/2/2014
Avg. Gallons Treated & Discharged (per day)	86,274	25,347	24,668	30,549
Average Flow (gpm) for Operating Period	162	126	94	144
Avg. Hours of Plant Operation	9	3	4	4
GWTP ModuTanks (gal.)	142,700	136,960	140,280	148,875

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 38 through 43.
- Completed initial sampling, waste characterization and initiated off-site T&D of petroleum-impacted soils that were identified during excavation activities via field observations and PID readings.
- Began pre-trench activities for Vertical Hydraulic Barrier Wall on SA-6N proximate to the 72-inch force main.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Compaction tests were not performed due to inclement weather during the month.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	18.0	18.0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	75	21.52	1,614.16

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ Venerio	Tri-axle Dump	Middlesex City Landfill	NA	Petroleum Impacted Soils (non–haz)	20	24.63	492.78
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Petroleum Impacted Soils (non-haz)	98	24.94	2,444.22
Entact/ Montecalvo	30 cubic Yard Roll off	Bayshore Recycling	NA	Creosote Debris (non- haz)	4	11.78	47.13

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 42,43
Excavation Completed	Cell Number(s) 36 through 41 Volume Excavated - Total for Reporting Period: 5,551 CY/ Total to Date:30,879 CY
Backfill in Progress	Cell Number(s) 1 through 39

3. BACKFILL MATERIALS USED

Source	(Week Ending)			
	2/9/2014	2/16/2014	2/23/2014	3/2/201
<20ppm re-use, CY	0	0	0	0
Weldon, Import-Tons	0	426.83	0	0
Tilcon, Import-Tons	0	0	0	1,309.23

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~60% complete. Access limitations due to ice and demolition materials. No Surcharge Initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of demolition activities. No Surcharge Initiated.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~80% complete. No Surcharge initiated. The installation of the inclinometers (V1-1 through V1-4), HS1, HS2, FS3 will be installed following completion of the Barrier Wall along the 72-inch force main. SP1, SP2, and SP-3 will be installed prior to fill placement along SA-7.
- Area 2N: No instrumentation installed. Settlement platforms have been installed in the sedimentation basin to the north of Area 2 and portion of the Sedimentation Basin has been temporarily filled with screened materials that will be used for surcharging the designated Surcharge Areas.

- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see Attachment 10)*

- Hydraulic Barrier installation was initiated adjacent to the 72-inch force main. Vibration and acoustical monitoring results show no responses of concern.
- Vibration Monitoring indicated maximum accelerations continue to be within allowable range (0.2 in/sec observed, while the allowable acceleration is 1.0 in/sec).
- Acoustical Monitoring. PVSC/Hatch Mott MacDonald (HMM) report that there were no wire breaks recorded during the current reporting period.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/15	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/12
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP	SA-6 Chromium Remedy	Final anticipated Feb 2014, Using Temp Permit Now Issued 9/1/13	Pending	Pending	-
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/15	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/14	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/12	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/13	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete abandonment in place of the former 54-inch discharge pipe from the Sedimentation Basin.
- Complete installation of vertical hydraulic barrier wall proximate to the 72-inch force main.
- Initiate placement of surcharge materials in SA-6N Area 1N.

- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 43 through 53.
- Continue stockpiling potential >1,000 mg/kg soils for sampling.
- Continue off-site disposal of petroleum-impacted soils.
- Resume backfill placement and associated compaction testing activities.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Complete permanent piping tie-ins to PW-1/PW-2 and 215-BR and continue full-scale SA-6N Ground Water Treatment Plant operational activities.
- Complete decommissioning of 80 Kellogg Ground Water Treatment Plant.
- Mobilize demolition contractor for equipment salvage at the 80 Kellogg Ground Water Treatment Plant.
- Continue SWPPP inspections.
- Complete PVSC compliance sampling.
- Conduct quarterly LTMP groundwater level measurements.
- Conduct S-3 Sand Injection Event No.12 in well 088-IW-01.

ATTACHMENTS:

1: Schedule – 6 Month Look Ahead
2: Site Photographs
3: Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points
   - Backfill Compaction Locations *(no update for this reporting period/not provided in this submittal)*
   - Field Density Test Summary Log *(no update for this reporting period/not provided in this submittal)*
4: Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-1)
   - SA-6 South Deep Well Data (DW-2)
5: SA-6 Construction Water Discharge Data (To PVSC)
6: Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7: Perimeter Pools Update
8: Quality and Level Data in GWET Wells *(not included in this submittal -provided on a quarterly basis)*
9: Surcharge Monitoring Update
   - Surcharge Monitoring Plan Report Figures B1 and F1 *(figures updated to show installed locations)*

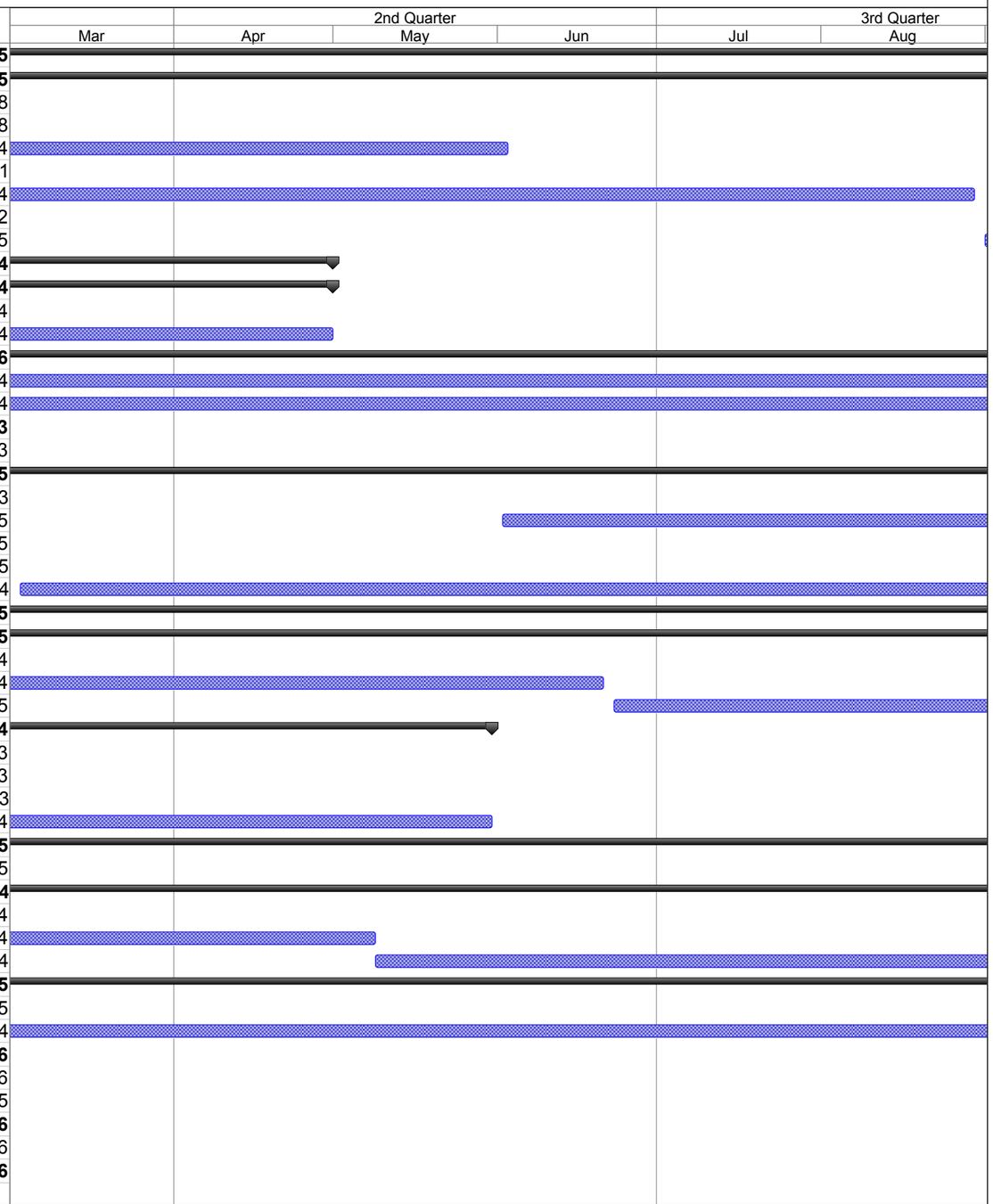
10: Sheet Pile Update
- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Pile Repair Log/Photos

11: Weekly SWPPP Reports

12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (January 2014) *(not provided in this submittal – this information was previously provided in Progress Report 2014-01)*

Attachment 1: Schedule – 6 Month Look Ahead

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Attachment 2: Site Photographs



Site Photograph 1: Barrier wall installation progress on Kellogg St. properties looking east.



Site Photograph 2: Equipment installs barrier wall sheet pile on Kellogg St. properties.



Site Photograph 3: Excavation and backfill progress Kellogg St. properties looking south.



Site Photograph 4: Excavation continues on Kellogg St. properties looking north.



Site Photograph 5: Excavation continues on Kellogg St. properties looking west.



Site Photograph 6: Former discharge pipeline being demolished on Jersey City properties.



Site Photograph 7: New GWTP final construction.



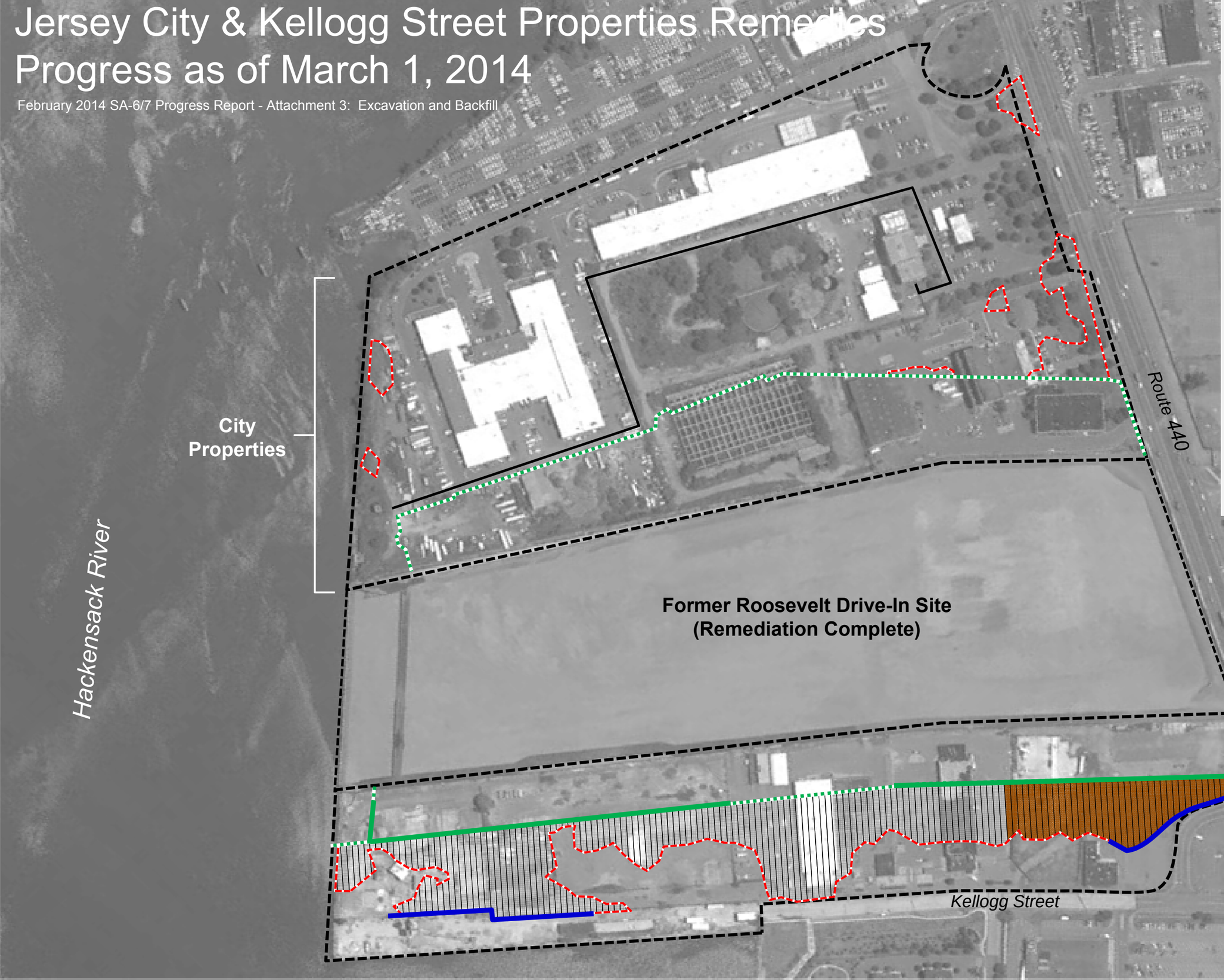
Site Photograph 8: Spare repair section of sewer pipe arrives on-site.

Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points)
- Backfill Compaction Locations (no update for this reporting period/not provided in this submittal)
- Field Density Test Summary Log (no update for this reporting period/not provided in this submittal)

Jersey City & Kellogg Street Properties Remedies
Progress as of March 1, 2014

February 2014 SA-6/7 Progress Report - Attachment 3: Excavation and Backfill



Legend

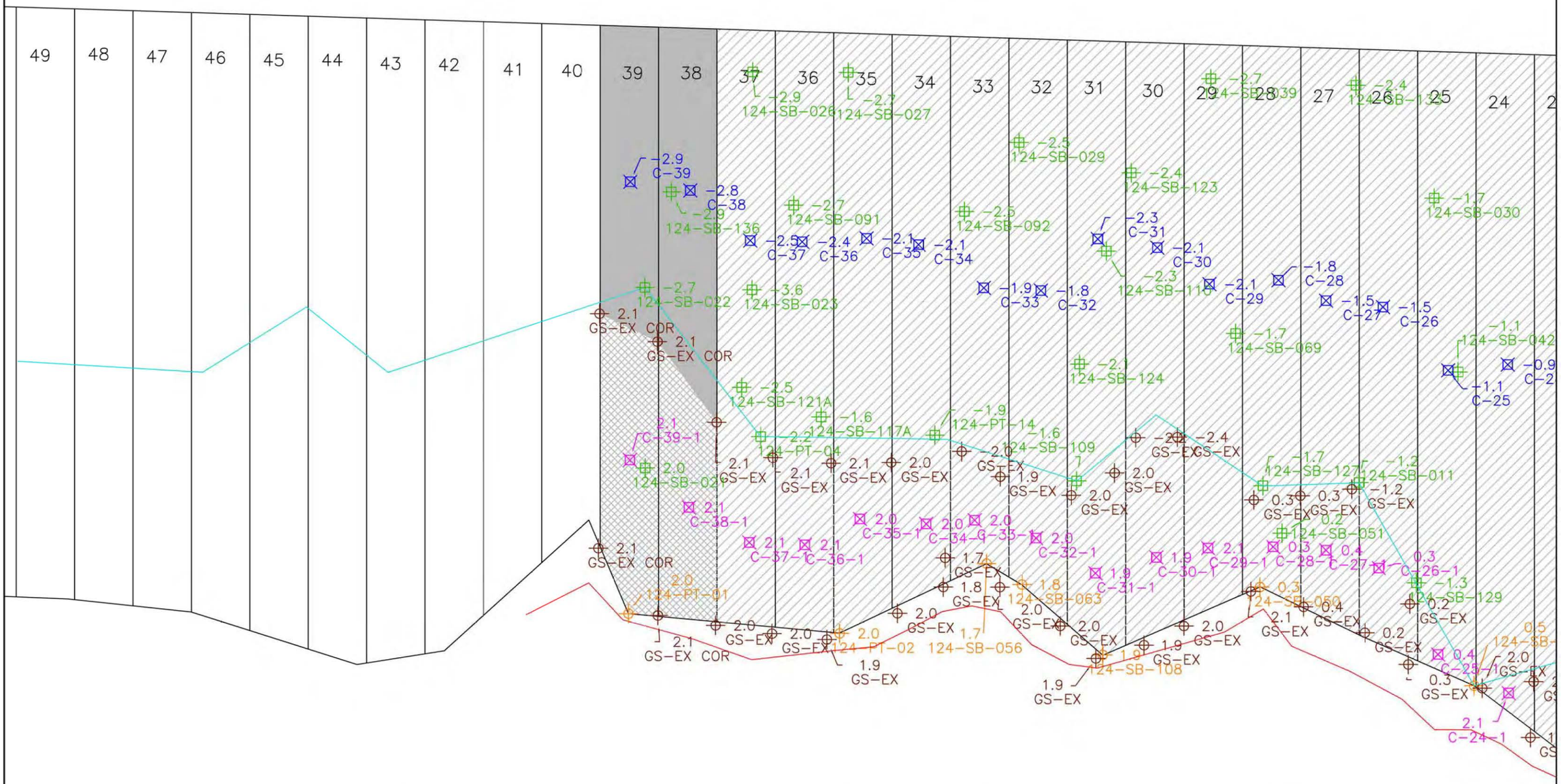
- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete



ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 02-14-14 TO 02-20-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points

Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684256.4	602965.5	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points							
Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684256.4	602965.5	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684204.7	602890.7	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684296.4	602850.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points							
Bottom Target Coordinates (based on PDI)					Actual Coordinates		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	32	1/30/2014	2.0*	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	33	1/30/2014	2.0*	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	36	2/11/2014	2.1*	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	37	2/11/2014	2.1*	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area

* Elevation based on Surveyed Center Point

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points							
Bottom Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Sidewall Confirmatory Points							
Sidewall Target Coordinates					Actual Coordinates		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached

Note: Data shown is for recent months activity

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-1)
- SA-6 South Deep Well Data (DW-2)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
10/04/13	1	6	2, EPS	12	NA	NA	6,500	6,500	18.1	Not installed
10/07/13	1	7	1,2,3,EPS	43	NA	NA	2,700	9,200	6.4	Not installed
10/08/13	1	1.5	1,2,3,EPS	43	NA	NA	2,200	11,400	24.4	Not installed
10/09/13	1	9	1,2,3,EPS	43	NA	NA	4,500	15,900	8.3	Not installed
10/10/13	1	10.5	1,2,3,EPS	44	NA	NA	4,500	20,400	7.1	Not installed
10/11/13	1	10	1,2,3,EPS	53	NA	NA	4,200	24,600	7.0	Not installed
10/14/13	1	10	1,2,3,4,EPS	63	NA	NA	5,500	30,100	9.2	Not installed
10/15/13	1	24	1,2,3,4,EPS	63	NA	NA	12,800	42,900	8.9	Not installed
10/16/13	1	24	1,2,3,4,EPS	63	NA	NA	11,450	54,350	8.0	Not installed
10/17/13	1	24	1,2,3,4,EPS	64	NA	NA	14,800	69,150	10.3	Not installed
10/18/13	1	24	1,2,3,4,5,EPS	77	NA	NA	11,220	80,370	7.8	Not installed
10/21/13	1	72	1,2,3,4,5,EPS	78	Not Installed	2,403	23,550	103,920	5.5	Flow meter installed midway through daily cycle. Reading was from tank gauging and meter reading at day's end.
10/22/13	1	24	1,2,3,4,5,EPS	77	2,403	7,574	5,171	109,091	3.6	
10/23/13	1	24	1,2,3,4,5,EPS	77	7,574	11,468	3,894	112,985	2.7	
10/24/13	2	24	1,2,3,EPS	32	NA	NA	2,500	115,485	1.7	Not installed
10/24/13	1	24	4,5,6,EPS	34	11,468	17,456	5,988	121,473	4.2	
10/25/13	2	24	1,2,3,EPS	32	NA	NA	5,210	126,683	3.6	Not installed
10/25/13	1	24	4,5,6,EPS	34	17,456	26,720	9,264	135,947	6.4	
10/28/13	2	67	1,2,3,EPS	32	NA	NA	14,400	150,347	3.6	Not installed
10/28/13	1	72	4,5,6,EPS	34	26,720	44,982	18,262	168,609	4.2	
10/29/13	1	24	1,2,3,4,5,6,EPS	66	44,982	49,327	4,345	172,954	3.0	
10/30/13	1	24	1,2,3,4,5,6,EPS	66	49,327	53,293	3,966	176,920	2.8	
10/31/13	1	24	1,2,3,4,5,6,EPS	66	53,293	57,299	4,006	180,926	2.8	
11/01/13	1	24	2,3,4,5,6,EPS	53	57,299	60,953	3,654	184,580	2.5	Header 1 removed 11/1/13
11/04/13	1	72	2,3,4,5,6,EPS	53	60,953	76,409	15,456	200,036	3.6	
11/05/13	1	24	2,3,4,5,6,EPS	53	76,409	78,991	2,582	202,618	1.8	
11/06/13	1	24	2,3,4,5,6,EPS	53	78,991	82,289	3,298	205,916	2.3	
11/07/13	1	24	2,3,4,5,6,EPS	53	82,289	85,894	3,605	209,521	2.5	
11/08/13	1	24	2,3,4,5,6,EPS	53	85,894	88,233	2,339	211,860	1.6	
11/11/13	1	72	2,3,4,5,6,EPS	53	88,233	90,472	2,239	214,099	0.5	
11/12/13	1	24	2,3,4,5,6,EPS	53	90,472	92,021	1,549	215,648	1.1	
11/13/13	1	24	2,3,4,5,6,EPS	53	92,021	95,451	3,430	219,078	2.4	
11/14/13	1	24	2,3,4,5,6,EPS	51	95,451	98,850	3,399	222,477	2.4	
11/15/13	1	24	2,3,4,5,6,EPS	51	98,850	102,200	3,350	225,827	2.3	
11/18/13	1	72	2,3,4,5,6,EPS	51	102,200	107,680	5,480	231,307	1.3	
11/19/13	1	24	3,4,5,6,EPS	40	107,680	114,159	6,479	237,786	4.5	Header 2 removed 11/18/13
11/20/13	1	24	3,4,5,6,EPS	40	114,159	122,549	8,390	246,176	5.8	
11/21/13	1	24	3,4,5,6,EPS	40	122,549	123,061	512	246,688	0.4	
11/22/13	1	24	3,4,5,6,EPS	40	123,061	129,534	6,473	253,161	4.5	
11/25/13	1	24	3,4,5,6,EPS	40	0	103	103	253,264	0.1	
11/26/13	1	24	3,4,5,6,EPS	40	103	8,559	8,456	261,720	5.9	
11/27/13	1	24	3,4,5,6,EPS	40	8,559	20,117	11,558	273,278	8.0	
12/02/13	1	120	3,4,5,6,EPS	40	20,117	79,516	59,399	332,677	8.2	
12/03/13	1	24	3,4,5,6,EPS	40	79,516	91,854	12,338	345,015	8.6	
12/04/13	1	24	3,4,5,6,EPS	40	91,854	103,283	11,429	356,444	7.9	
12/05/13	1	24	3,4,5,6,EPS	40	103,283	112,785	9,502	365,946	6.6	
12/06/13	1	24	3,4,5,6,EPS	55	112,785	122,330	9,545	375,491	6.6	
12/09/13	1	72	3,4,5,6,EPS	55	122,330	170,188	47,858	423,349	11.1	
12/10/13	1	24	3,4,5,6,EPS	55	170,188	185,509	15,321	438,670	10.6	
12/11/13	1	24	3,4,5,6,EPS	55	185,509	200,920	15,411	454,081	10.7	
12/12/13	1	24	3,4,5,6,EPS	55	200,920	214,877	13,957	468,038	9.7	
12/13/13	1	24	3,4,5,6,EPS	55	214,877	229,603	14,726	482,764	10.2	
12/16/13	1	72	4,5,6,EPS	49	229,603	266,010	36,407	519,171	8.4	Header 3 removed 12/13/13

Data shown is for recent months activity

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
12/17/13	1	24	4,5,6,EPS	49	266,010	281,247	15,237	534,408	10.6	
12/18/13	1	24	4,5,6,EPS	49	281,247	294,671	13,424	547,832	9.3	
12/19/13	1	24	4,5,6,EPS	49	294,671	304,097	9,426	557,258	6.5	
12/20/13	1	24	4,5,6,EPS	49	304,097	315,151	11,054	568,312	7.7	
12/23/13	1	72	4,5,6,EPS	49	315,151	352,173	37,022	605,334	8.6	
12/24/13	1	24	4,5,6,EPS	49	352,173	362,335	10,162	615,496	7.1	
12/30/13	1	144	4,5,6,EPS	49	362,335	415,250	52,915	668,411	6.1	
12/31/13	1	24	4,5,6,EPS	44	415,250	431,429	16,179	684,590	11.2	
01/02/14	1	48	4,5,6,EPS	44	431,429	466,166	34,737	719,327	12.1	
01/06/14	1	96	4,5,6,EPS	44	466,166	513,613	47,447	766,774	8.2	
01/07/14	1	24	4,5,6,EPS	44	N/A	N/A	13,220	779,994	9.2	Meter Innacurate Due to Temp
01/08/14	1	24	4,5,6,EPS	44	N/A	N/A	13,450	793,444	9.3	Meter Innacurate Due to Temp
01/09/14	1	24	4,5,6,EPS	44	N/A	3,749	15,100	808,544	10.5	Flow Meter Reset, Header 4 removed
01/10/14	1	24	5,6,EPS	44	3,749	15,043	11,294	819,838	7.8	
01/13/14	1	72	5,6,7,EPS	60	15,043	52,782	37,739	857,577	8.7	
01/14/14	1	24	5,6,7,EPS	60	52,782	68,191	15,409	872,986	10.7	
01/15/14	1	24	5,6,7,EPS	60	68,191	86,290	18,099	891,085	12.6	
01/16/14	1	24	5,6,7,EPS	60	86,290	103,647	17,357	908,442	12.1	
01/17/14	1	24	5,6,7,EPS	60	103,647	120,724	17,077	925,519	11.9	
01/20/14	1	72	5,6,7,EPS	60	120,724	177,150	56,426	981,945	13.1	
01/21/14	1	24	5,6,7,EPS	60	177,150	192,354	15,204	997,149	10.6	
01/23/14	1	48	5,6,7,EPS	60	192,354	209,564	17,210	1,014,359	6.0	
01/24/14	1	24	5,6,7,EPS	60	209,564	219,596	10,032	1,024,391	7.0	
01/27/14	1	72	5,6,7,EPS	60	219,596	241,870	22,274	1,046,665	5.2	
01/28/14	1	24	5,6,7,EPS	60	241,870	249,752	7,882	1,054,547	5.5	
01/29/14	1	24	5,6,7,EPS	60	249,752	256,270	6,518	1,061,065	4.5	Header 5 removed 01/29/14
01/30/14	1	24	6,7,EPS	51	256,270	262,157	5,887	1,066,952	4.1	
01/31/14	1	24	6,7,EPS	51	262,157	268,122	5,965	1,072,917	4.1	
02/03/14	1	72	6,7,EPS	51	268,122	292,592	24,470	1,097,387	5.7	
02/04/14	1	24	6,7,EPS	51	292,592	299,040	6,448	1,103,835	4.5	
02/05/14	1	24	6,7,EPS	51	299,040	309,154	10,114	1,113,949	7.0	
02/06/14	1	24	6,7,EPS	51	309,154	318,585	9,431	1,123,380	6.5	
02/07/14	1	24	6,7,EPS	51	318,585	328,074	9,489	1,132,869	6.6	
02/10/14	1	72	6,7,EPS	51	328,074	344,536	16,462	1,149,331	3.8	
02/11/14	1	24	6,7,EPS	51	344,536	347,331	2,795	1,152,126	1.9	
02/12/14	1	24	6,7,EPS	47	347,331	349,076	1,745	1,153,871	1.2	System Temporarily Disable for Relocation
02/18/14	1	144	6,7,EPS	47	349,076	349,084	8	1,153,879	0.0	Pump maintenance and Freezing Delays
02/19/14	1	24	6,7,EPS	47	349,084	351,236	2,152	1,156,031	1.5	
02/20/14	1	24	6,7,EPS	47	351,236	358,591	7,355	1,163,386	5.1	
02/21/14	1	24	6,7,8,EPS	65	358,591	369,538	10,947	1,174,333	7.6	
02/24/14	1	72	7,8,EPS	59	369,538	385,722	16,184	1,190,517	3.7	
02/25/14	1	24	7,8,EPS	59	385,722	389,100	3,378	1,193,895	2.3	
02/26/14	1	24	7,8,EPS	59	389,100	392,185	3,085	1,196,980	2.1	
02/27/14	1	24	7,8,EPS	59	392,185	394,083	1,898	1,198,878	1.3	
02/28/14	1	24	7,8,EPS	59	394,083	394,858	775	1,199,653	0.5	
03/03/14	1	72	7,8,9,EPS	66	N/A	N/A	12,100	1,211,753	2.8	Flowmeter Froze (Read by Gauging Tank)

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-1)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (GPM)	COMMENTS
10/23/13	29	0	24,640	24,640	24,640	14.2	
10/24/13	24	24,640	31,757	7,117	31,757	4.9	
10/25/13	24	31,757	39,567	7,810	39,567	5.4	Slight blockage cleaned from meter
10/28/13	72	39,567	91,820	52,253	91,820	12.1	
10/29/13	24	91,820	101,672	9,852	101,672	6.8	
10/30/13	24	101,672	111,472	9,800	111,472	6.8	
10/31/13	24	111,472	120,558	9,086	120,558	6.3	
11/01/13	24	120,558	128,248	7,690	128,248	5.3	
11/04/13	72	128,248	162,721	34,473	162,721	8.0	
11/05/13	24	162,721	173,853	11,132	173,853	7.7	
11/06/13	24	173,853	189,770	15,917	189,770	11.1	
11/07/13	24	189,770	210,266	20,496	210,266	14.2	
11/08/13	24	210,266	220,964	10,698	220,964	7.4	
11/11/13	72	220,964	235,035	14,071	235,035	3.3	
11/12/13	24	235,035	254,720	19,685	254,720	13.7	
11/13/13	24	254,720	272,758	18,038	272,758	12.5	
11/14/13	24	272,758	275,336	2,578	275,336	1.8	
11/15/13	24	275,336	281,413	6,077	281,413	4.2	
11/18/13	72	281,413	318,812	37,399	318,812	8.7	
11/19/13	24	318,812	328,059	9,247	328,059	6.4	Well Taken Offline for Excavation
11/27/13	24	328,059	351,245	23,186	351,245	16.1	
12/02/13	120	351,245	414,031	62,786	414,031	8.7	Well Shut Off for Excavation Activities
12/04/13	24	430,536	446,631	16,095	430,126	11.2	
12/05/13	24	446,631	459,826	13,195	443,321	9.2	
12/06/13	24	459,826	468,837	9,011	452,332	6.3	
12/09/13	72	468,837	499,005	30,168	482,500	7.0	
12/10/13	24	499,005	508,914	9,909	492,409	6.9	
12/11/13	24	508,914	519,185	10,271	502,680	7.1	
12/12/13	24	519,185	528,500	9,315	511,995	6.5	
12/13/13	24	528,500	535,384	6,884	518,879	4.8	
12/16/13	72	535,384	555,625	20,241	539,120	4.7	
12/17/13	24	555,625	563,870	8,245	547,365	5.7	
12/18/13	24	563,870	572,558	8,688	556,053	6.0	
12/19/13	24	572,588	578,579	5,991	562,044	4.2	
12/20/13	24	578,579	585,086	6,507	568,551	4.5	
12/23/13	72	585,086	604,411	19,325	587,876	4.5	
12/24/13	24	604,411	613,829	9,418	597,294	6.5	
12/30/13	144	613,829	669,247	55,418	652,712	6.4	
12/31/13	24	669,247	678,171	8,924	661,636	6.2	
01/02/14	48	678,171	697,609	19,438	681,074	6.7	
01/06/14	96	697,609	733,339	35,730	716,804	6.2	Well Taken Offline

Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/19/13	4	0	3,866	3,866	3,866	16.1	
11/20/13	24	3,866	18,857	14,991	18,857	10.4	
11/21/13	24	18,857	31,307	12,450	31,307	8.6	
11/22/13	24	31,307	52,611	21,304	52,611	14.8	
11/25/13	72	52,611	62,866	10,255	62,866	2.4	
11/26/13	24	62,866	69,596	6,730	69,596	4.7	
11/27/13	24	0	15,926	15,926	85,522	11.1	
12/02/13	120	15,926	81,682	65,756	151,278	9.1	
12/03/13	24	81,682	94,975	13,293	164,571	9.2	
12/04/13	24	94,682	108,260	13,578	178,149	9.4	
12/05/13	24	108,260	122,026	13,766	191,915	9.6	
12/06/13	24	122,026	134,343	12,317	204,232	8.6	
12/09/13	72	134,343	164,429	30,086	234,318	7.0	
12/10/13	24	164,429	174,915	10,486	244,804	7.3	
12/11/13	24	174,915	183,567	8,652	253,456	6.0	
12/12/13	24	183,567	193,229	9,662	263,118	6.7	
12/13/13	24	193,229	202,100	8,871	271,989	6.2	
12/16/13	72	202,100	229,583	27,483	299,472	6.4	
12/17/13	24	229,583	237,924	8,341	307,813	5.8	
12/18/13	24	237,924	246,510	8,586	316,399	6.0	
12/19/13	24	246,510	255,486	8,976	325,375	6.2	
12/20/13	24	255,486	263,423	7,937	333,312	5.5	
12/23/13	72	263,423	286,843	23,420	356,732	5.4	
12/24/13	24	286,843	297,632	10,789	367,521	7.5	
12/30/13	144	297,632	360,191	62,559	430,080	7.2	
12/31/13	24	360,191	369,462	9,271	439,351	6.4	
01/02/14	48	369,462	390,036	20,574	459,925	7.1	
01/06/14	96	390,036	429,927	39,891	499,816	6.9	
01/07/14	24	429,927	440,516	10,589	510,405	7.4	
01/08/14	24	440,516	459,411	18,895	529,300	13.1	
01/09/14	24	459,411	472,954	13,543	542,843	9.4	
01/10/14	24	472,954	486,509	13,555	556,398	9.4	
01/13/14	72	486,509	529,157	42,648	599,046	9.9	
01/24/14	24	529,157	543,032	13,875	612,921	9.6	
01/15/14	24	543,032	557,261	14,229	627,150	9.9	
01/16/14	24	557,261	571,278	14,017	641,167	9.7	
01/17/14	24	571,278	585,429	14,151	655,318	9.8	
01/20/14	72	585,429	627,704	42,275	697,593	9.8	
01/21/14	24	627,704	641,168	13,464	711,057	9.4	
01/23/14	48	641,168	666,348	25,180	736,237	8.7	
01/24/14	24	666,348	684,142	17,794	754,031	12.4	
01/27/14	72	684,142	726,325	42,183	796,214	9.8	
01/28/14	24	726,325	740,701	14,376	810,590	10.0	
01/29/14	24	740,701	754,662	13,961	824,551	9.7	
01/30/14	24	754,662	767,882	13,220	837,771	9.2	
01/31/14	24	767,882	782,573	14,691	852,462	10.2	
02/03/14	72	782,573	827,501	44,928	897,390	10.4	
02/04/14	24	827,501	838,572	11,071	908,461	7.7	
02/05/14	24	838,572	853,159	14,587	923,048	10.1	
02/06/14	24	853,159	866,882	13,723	936,771	9.5	
02/07/14	24	866,882	881,016	14,134	950,905	9.8	
02/10/14	72	881,016	923,079	42,063	992,968	9.7	
02/11/14	24	923,079	936,961	13,882	1,006,850	9.6	
02/12/14	24	936,961	950,902	13,941	1,020,791	9.7	

Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
02/13/14	24	950,902	976,618	25,716	1,046,507	17.9	
02/14/14	24	976,618	990,724	14,106	1,060,613	9.8	
02/18/14	86	990,724	1,051,980	61,256	1,121,869	11.9	
02/19/14	24	1,053,780	1,073,780	20,000	1,141,869	13.9	
02/20/14	24	1,073,780	1,083,940	10,160	1,152,029	7.1	
02/21/14	24	1,083,940	1,114,610	30,670	1,182,699	21.3	
02/24/14	72	1,114,610	1,163,430	48,820	1,231,519	11.3	
02/25/14	24	1,163,430	1,184,280	20,850	1,252,369	14.5	
02/26/14	24	0	4,180	4,180	1,256,549	2.9	Flowmeter Reset
02/27/14	24	4,180	9,643	5,463	1,262,012	3.8	
02/28/14	24	9,643	14,717	5,074	1,267,086	3.5	
03/03/14	72	14,717	43,855	29,138	1,296,224	6.7	

Data shown is for recent months activity

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/17/13	1.5	0.45	19.49	19,040	19,040	Test Operation: Potable Water
10/18/13	1.0	19.49	27.50	8,010	27,050	
10/22/13	4.0	27.50	85.74	58,240	85,290	
10/23/13	2.0	85.74	116.87	31,130	116,420	
10/24/13	1.3	116.87	135.20	18,330	134,750	
10/28/13	4.5	135.20	200.88	65,680	200,430	PVSC Compliance Sample collected
10/29/13	4.0	200.88	258.53	57,650	258,080	
11/01/13	4.3	258.53	300.34	41,810	299,890	
11/04/13	4.8	300.34	368.43	68,090	367,980	
11/05/13	4.3	368.43	408.77	40,340	408,320	
11/06/13	1.5	408.77	425.89	17,120	425,440	
11/07/13	1.0	425.89	453.88	27,990	453,430	
11/08/13	1.0	453.88	478.10	24,220	477,650	
11/12/13	4.5	478.10	526.82	48,720	526,370	
11/14/13	1.3	526.82	556.26	29,440	555,810	
11/18/13	5.0	556.26	619.36	63,100	618,910	PVSC Compliance Sample collected
11/21/13	4.0	619.36	652.91	33,550	652,460	
11/26/13	6.0	652.91	719.80	66,890	719,350	
11/27/13	6.0	719.80	784.49	64,690	784,040	
11/29/13	5.0	784.49	840.47	55,980	840,020	
12/02/13	6.5	840.47	923.11	82,640	922,660	
12/03/13	7.0	923.11	1,011.32	88,210	1,010,870	PVSC Compliance Sample collected
12/05/13	8.0	1,011.32	1,103.37	92,050	1,102,920	
12/06/13	4.0	1,103.37	1,143.07	39,700	1,142,620	
12/09/13	6.5	1,143.07	1,224.23	81,160	1,223,780	
12/10/13	6.0	1,224.23	1,286.03	61,800	1,285,580	
12/13/13	8.0	1,286.03	1,374.91	88,880	1,374,460	
12/16/13	8.0	1,374.91	1,485.04	110,130	1,484,590	
12/17/13	6.0	1,485.04	1,551.22	66,180	1,550,770	
12/18/13	7.0	1,551.22	1,628.26	77,040	1,627,810	
12/19/13	4.5	1,628.26	1,678.47	50,210	1,678,020	
12/20/13	5.0	1,678.47	1,732.93	54,460	1,732,480	
12/23/13	8.0	1,732.93	1,894.96	162,030	1,894,510	
12/24/13	7.0	1,894.96	1,989.84	94,880	1,989,390	
12/27/13	5.0	1,989.84	2,054.25	64,410	2,053,800	
12/30/13	8.0	2,054.25	2,147.46	93,210	2,147,010	
12/31/13	8.0	2,147.46	2,244.54	97,080	2,244,090	
01/02/14	8.0	2,244.54	2,368.54	124,000	2,368,090	
01/06/14	8.0	2,368.54	2,485.40	116,860	2,484,950	
01/09/14	8.0	2,485.40	2,567.15	81,750	2,566,700	
01/10/14	8.0	2,567.15	2,635.97	68,820	2,635,520	
01/13/14	6.0	2,635.97	2,719.26	83,290	2,718,810	
01/14/14	8.0	2,719.26	2,864.73	145,470	2,864,280	
01/15/14	8.0	2,864.73	2,981.21	116,480	2,980,760	
01/16/14	8.0	2,981.21	3,111.28	130,070	3,110,830	
01/17/14	8.0	3,111.28	3,190.67	79,390	3,190,220	
01/20/14	8.0	3,190.67	3,297.59	106,920	3,297,140	
01/21/14	8.0	3,297.59	3,338.21	40,620	3,337,760	
01/27/14	8.0	3,338.21	3,438.26	100,050	3,437,810	
01/31/14	8.0	3,438.26	3,516.69	78,430	3,516,240	
02/04/14	8.0	3,516.69	3,628.15	111,460	3,627,700	PVSC Compliance Sample collected
02/07/14	8.0	3,628.15	3,733.31	105,160	3,732,860	
02/11/14	8.0	3,733.31	3,854.45	121,140	3,854,000	
02/12/14	2.0	3,854.45	3,884.29	29,840	3,883,840	
02/14/14	6.0	3,884.29	3,933.69	49,400	3,933,240	
02/15/14	8.0	3,933.69	4,032.69	99,000	4,032,240	
02/18/14	8.0	4,032.69	4,123.91	91,220	4,123,460	
02/20/14	8.0	4,123.91	4,251.33	127,420	4,250,880	

Data shown is for recent months activity

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/21/14	8.0	4,251.33	4,412.37	161,040	4,411,920	
02/22/14	8.0	4,412.37	4,536.78	124,410	4,536,330	
02/24/14	8.0	4,536.78	4,660.60	123,820	4,660,150	
02/25/14	8.0	4,660.60	4,850.50	189,900	4,850,050	
02/26/14	8.0	4,850.50	4,970.69	120,190	4,970,240	

Data shown is for recent months activity

Attachment 6: Backfill Analytical Data

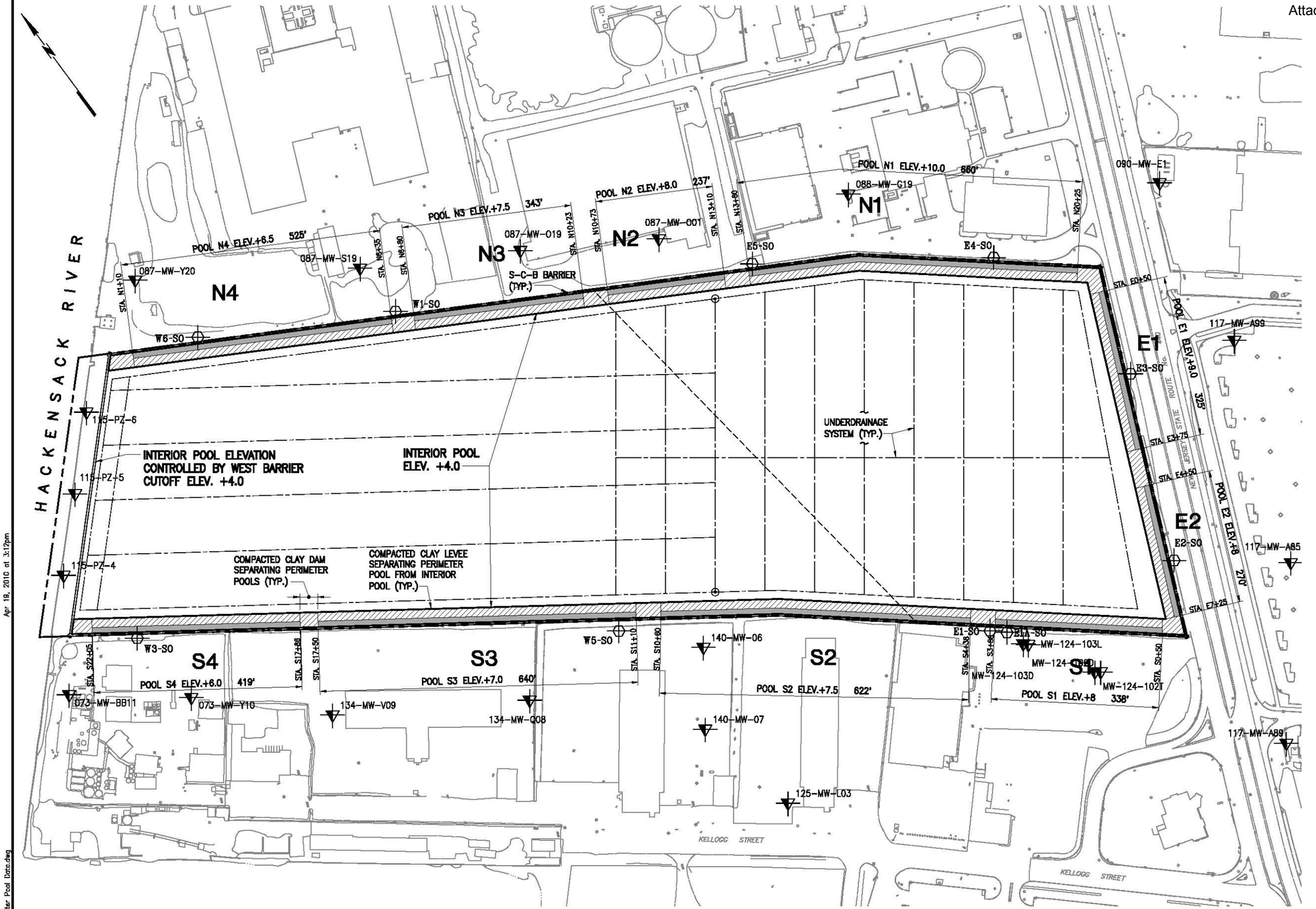
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Stockpiled Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID (One Sample Per Stockpile Quadrant)	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
7-Jan	<20	7-20-a	500	124-7-20-a1	10/31/2013	14:20	5.8	10, 11, 12, 13		
				124-7-20-a2	10/31/2013	14:25	7.8	10, 11, 12, 13		
				124-7-20-a3	10/31/2013	14:30	4.6	10, 11, 12, 13		
				124-7-20-a4	10/31/2013	14:35	4.7	10, 11, 12, 13		
7-12	<20	12-20-a	500	124-12-20-a1	11/26/2013	15:00	26.1		Yes	
				124-12-20-a2	11/26/2013	15:05	2.9	**		
				124-12-20-a3	11/26/2013	15:10	7.8	**		
				124-12-20-a4	11/26/2013	15:15	23.2		Yes	
7-12	<20	12-20-b	500	124-12-20-b1	11/26/2013	15:20	4.3	**		
				124-12-20-b2	11/26/2013	15:25	2.5	**		
				124-12-20-b3	11/26/2013	15:30	5.1	**		
				124-12-20-b4	11/26/2013	15:35	5.8	**		
12-22	<20	22-20-a	600	124-22-20-a1	12/13/2013	13:30	5.5	**		
				124-22-20-a2	12/13/2013	13:35	11.9	**		
				124-22-20-a3	12/13/2013	13:40	1.3	**		
				124-22-20-a4	12/13/2013	13:45	2.3	**		
12-25	<20	25-20-a	1000	124-25-20-a1	12/23/2013	9:00	1.6	**		
				124-25-20-a2	12/23/2013	9:05	1.7	**		
				124-25-20-a3	12/23/2013	9:10	10.8	**		
				124-25-20-a4	12/23/2013	9:15	17.4	**		
20-29	<20	29-20-a	500	124-29-20-a1	1/13/2014	14:00	0.31	**		
				124-29-20-a2	1/13/2014	14:05	0.84	**		
				124-29-20-a3	1/13/2014	14:10	3.4	**		
				124-29-20-a4	1/13/2014	14:15	1.9	**		
30-41	>1000	41-1000-a	750	124-41-1000-a1	2/25/2014	12:40	1,750			Pending
				124-41-1000-a2	2/25/2014	12:45	3,690			Pending
				124-41-1000-a3	2/25/2014	12:50	3,410			Pending
				124-41-1000-a4	2/25/2014	12:55	453		Pending	
30-41	>1000	41-1000-b	750	124-41-1000-b1	2/25/2014	13:00	490		Pending	
				124-41-1000-b2	2/25/2014	13:05	1,110			Pending
				124-41-1000-b3	2/25/2014	13:10	669		Pending	
				124-41-1000-b4	2/25/2014	13:15	1,920			Pending

Notes:
*Material placement locations are approximate.
**Material currently stockpiled.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
04-19-2010

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

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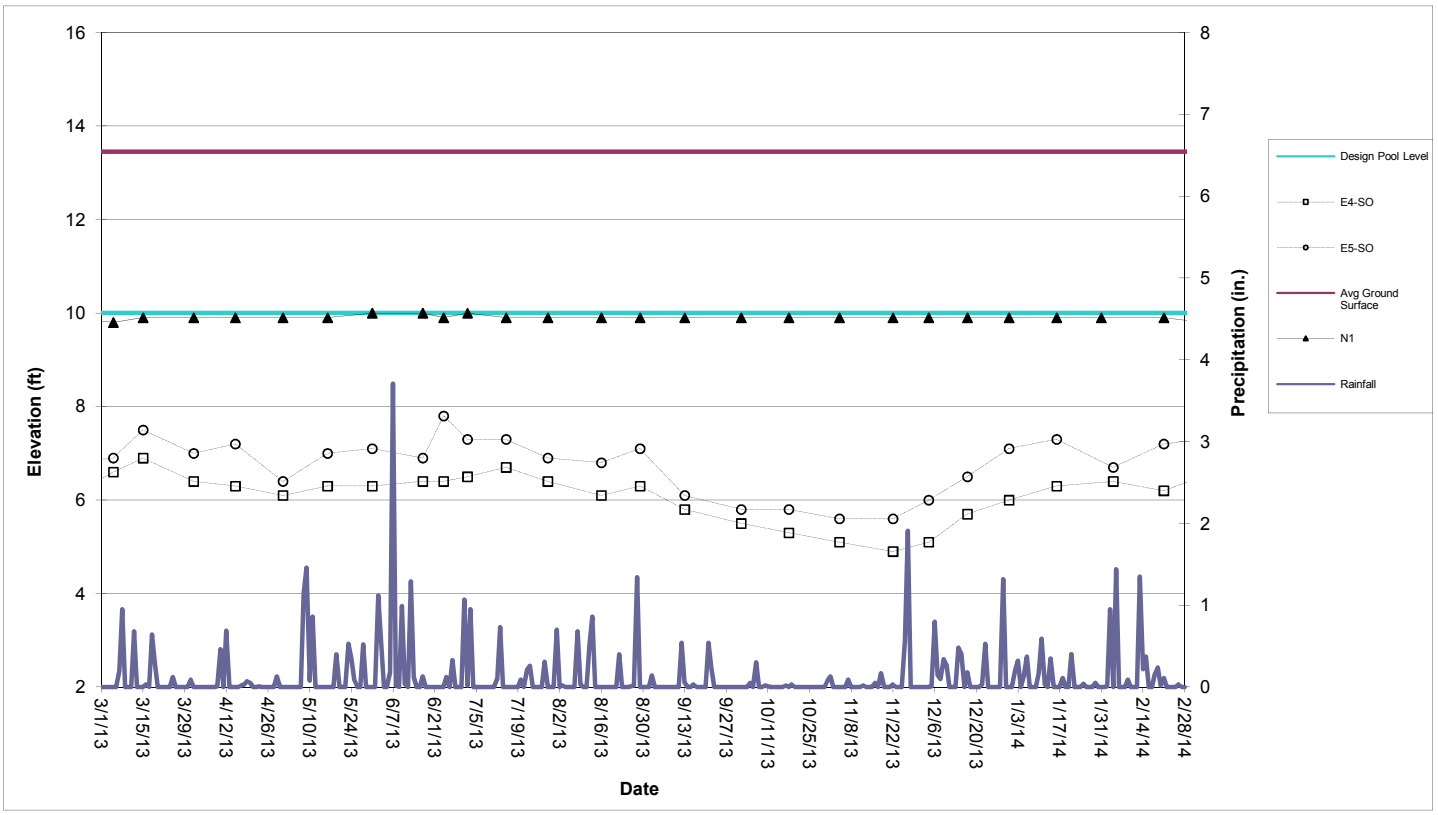
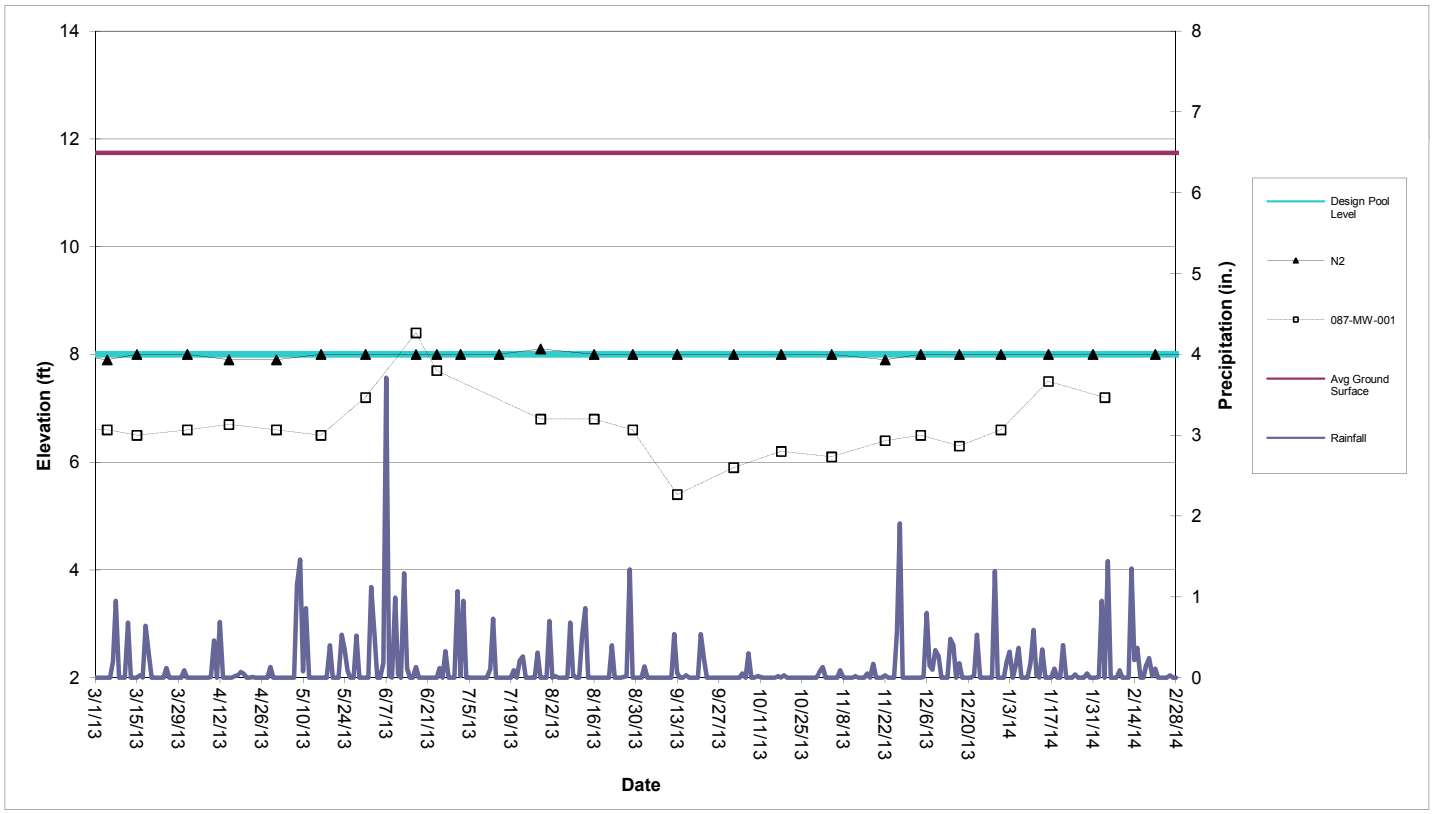
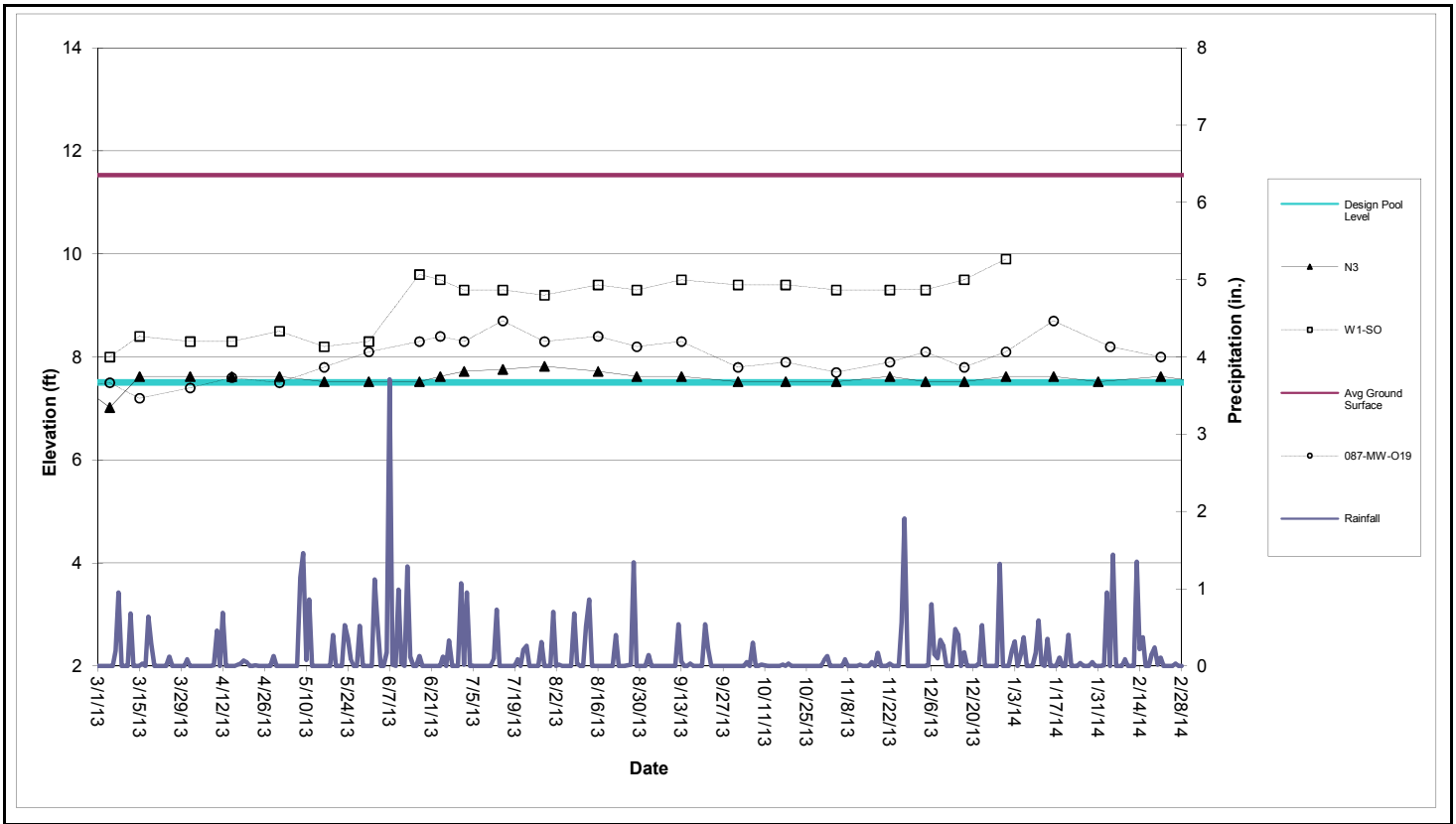
Apr 19, 2010 at 3:12pm
ireva



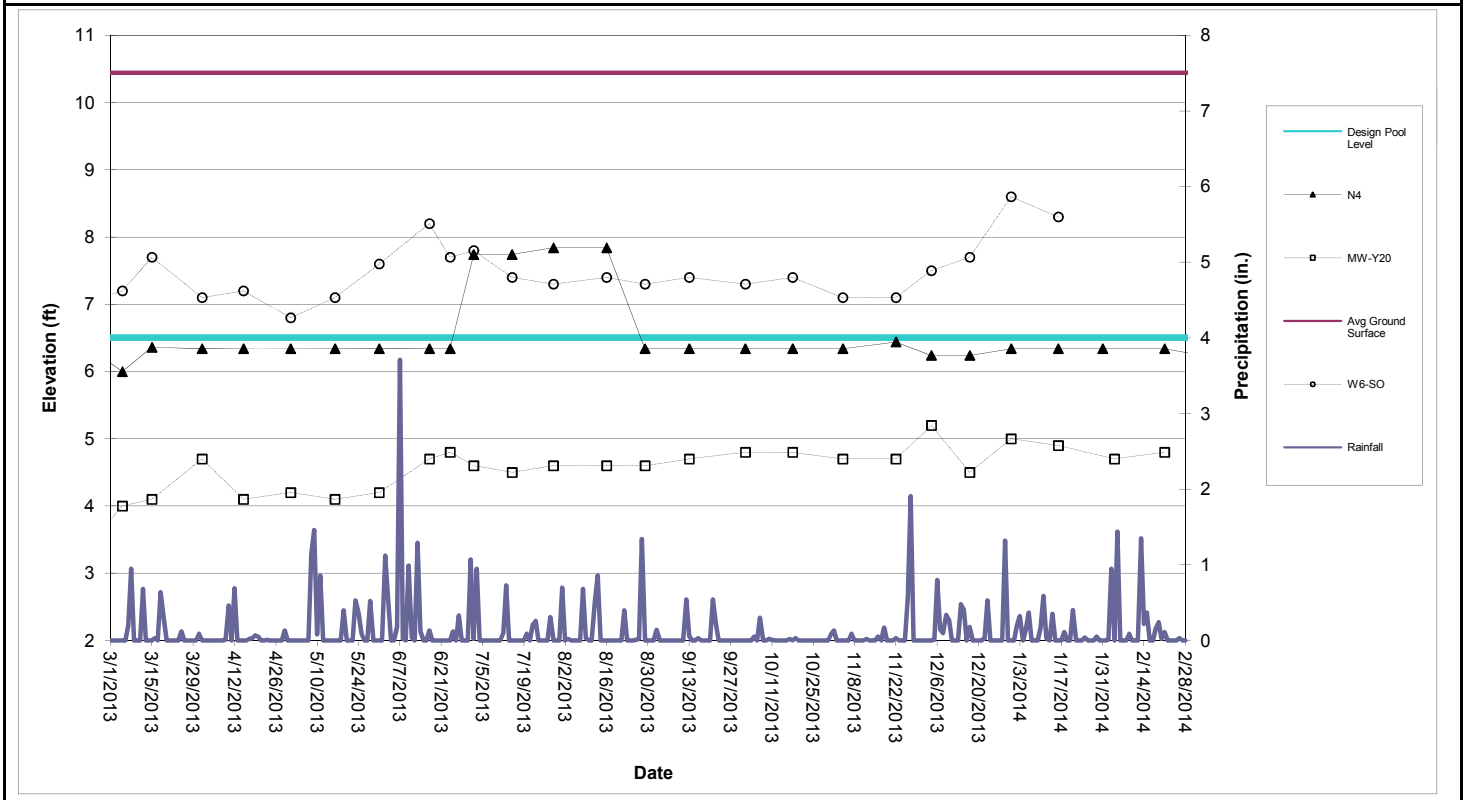
Perimeter Pool N1 (Sta. N13+60 to N20+25)



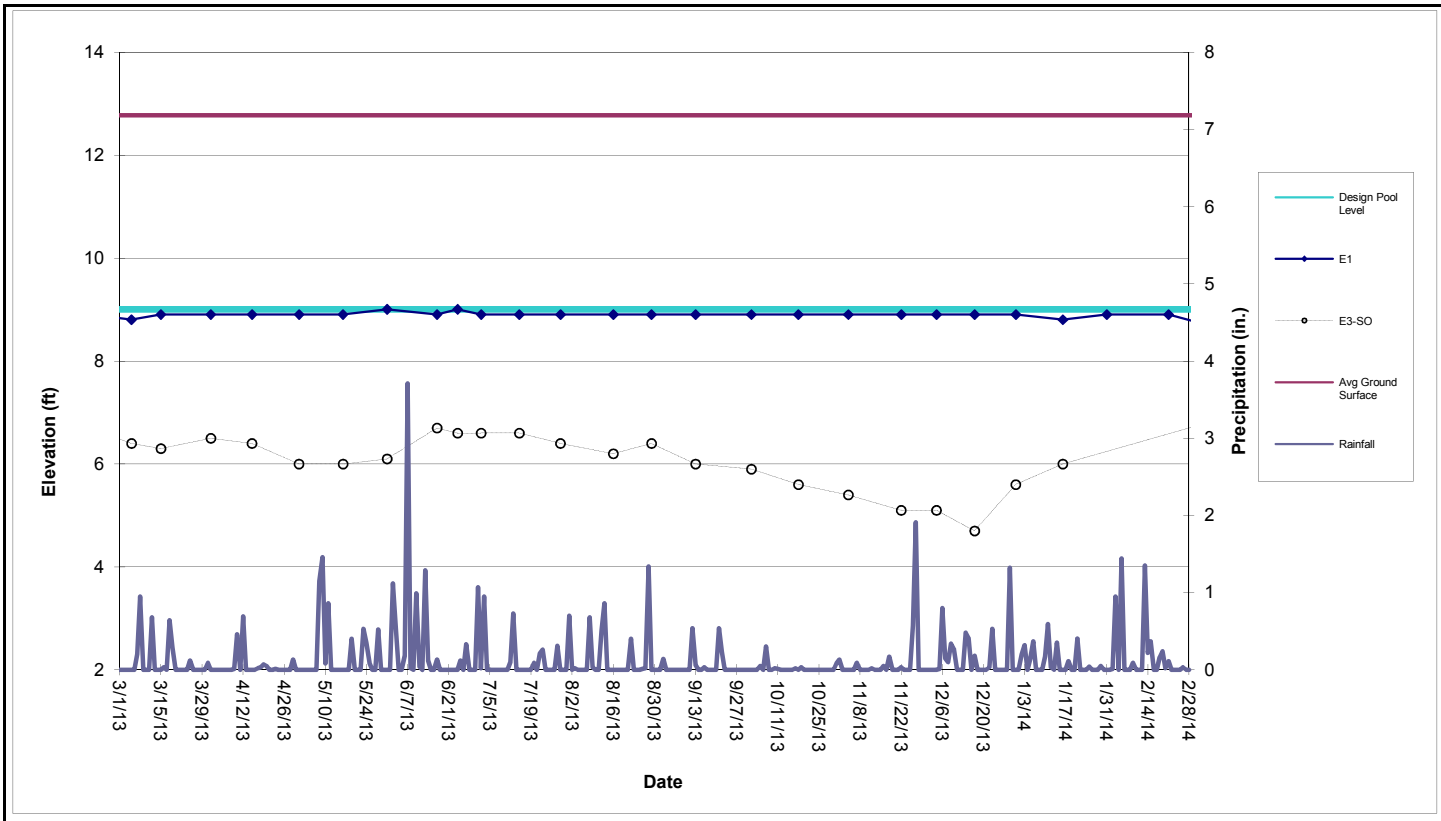
Perimeter Pool N2 (Sta. N10+73 to N13+10)



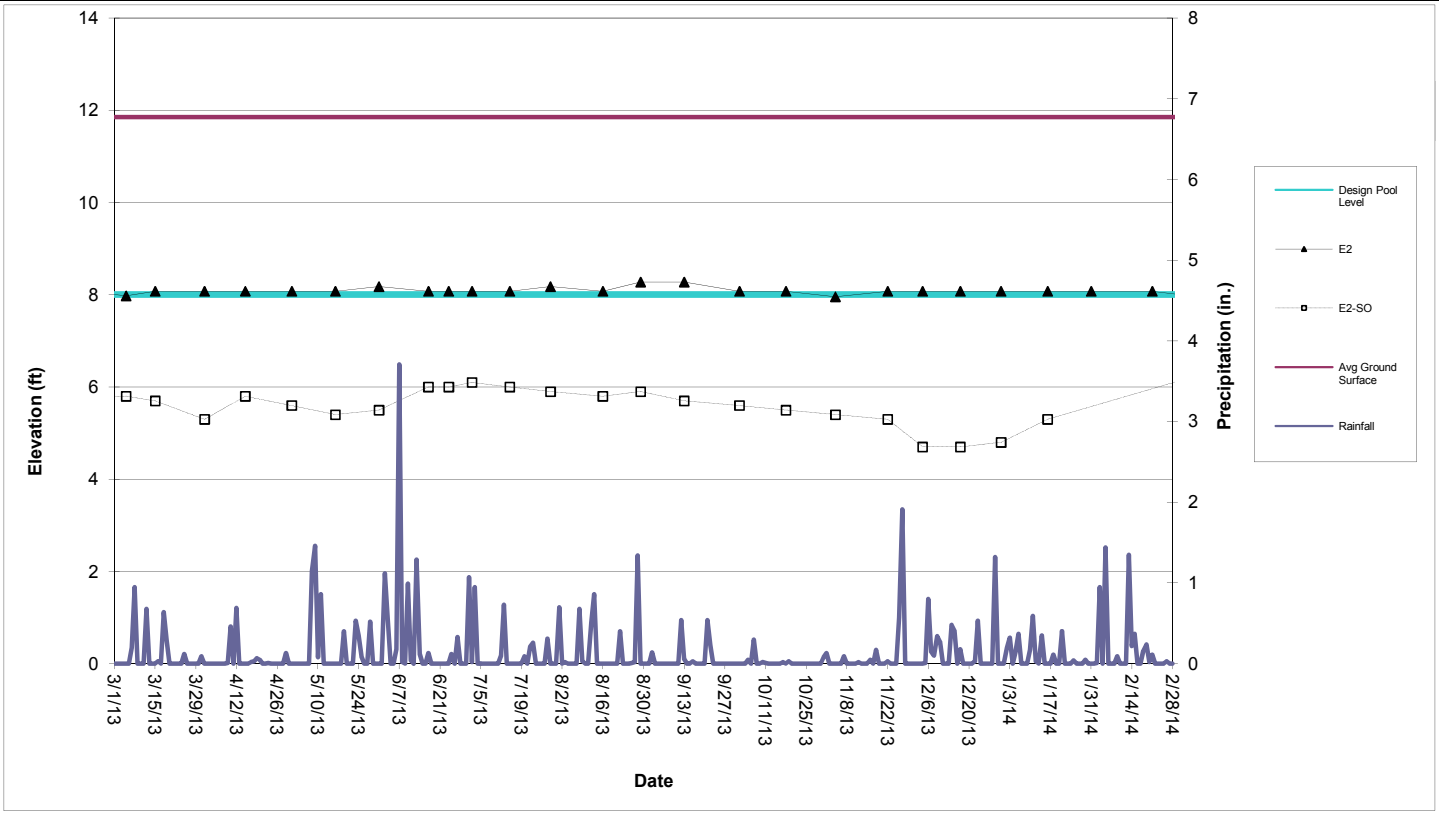
Perimeter Pool N3 (Sta. N6+80 to N10+23)



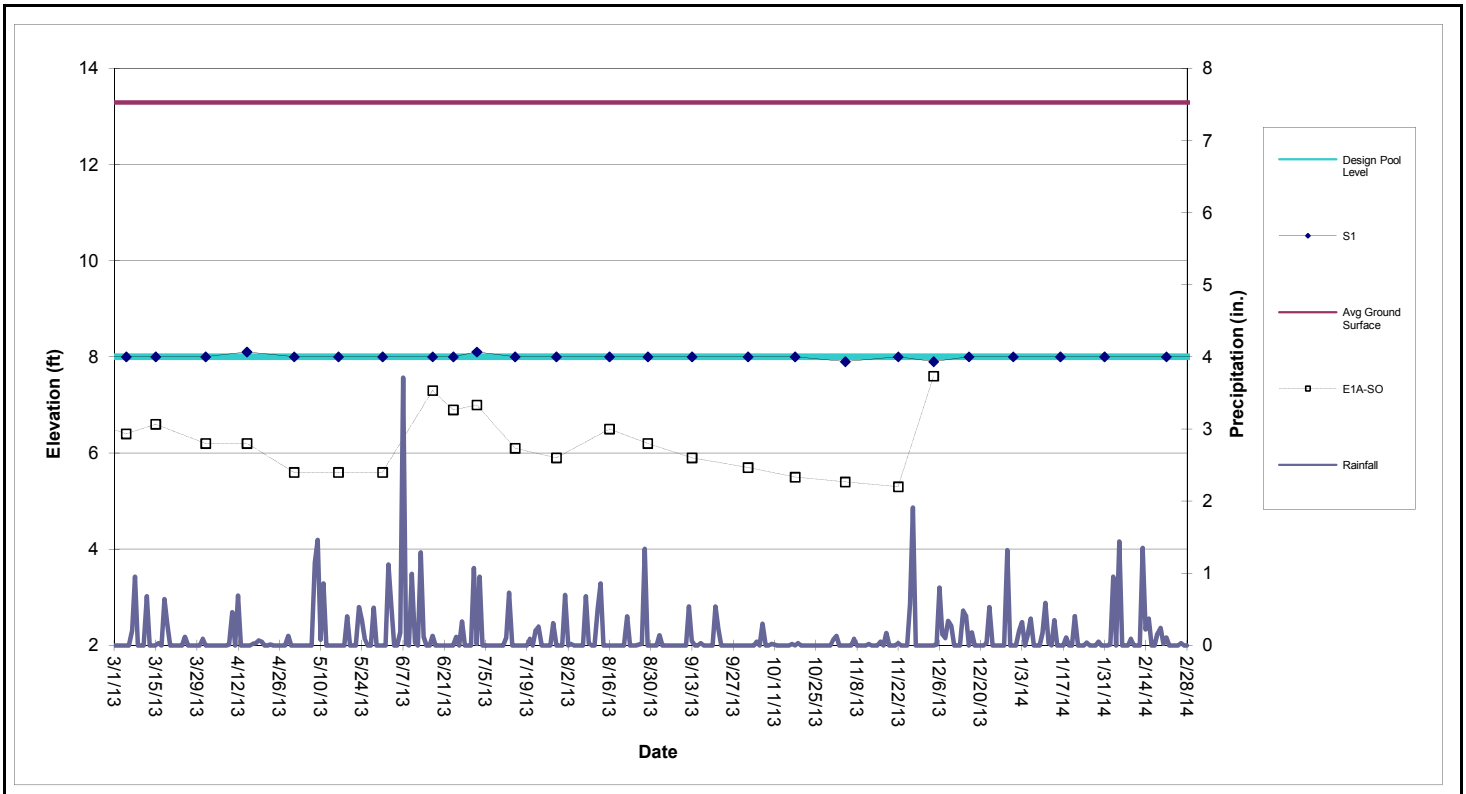
Perimeter Pool N4 (Sta. N6+80 to N10+23)



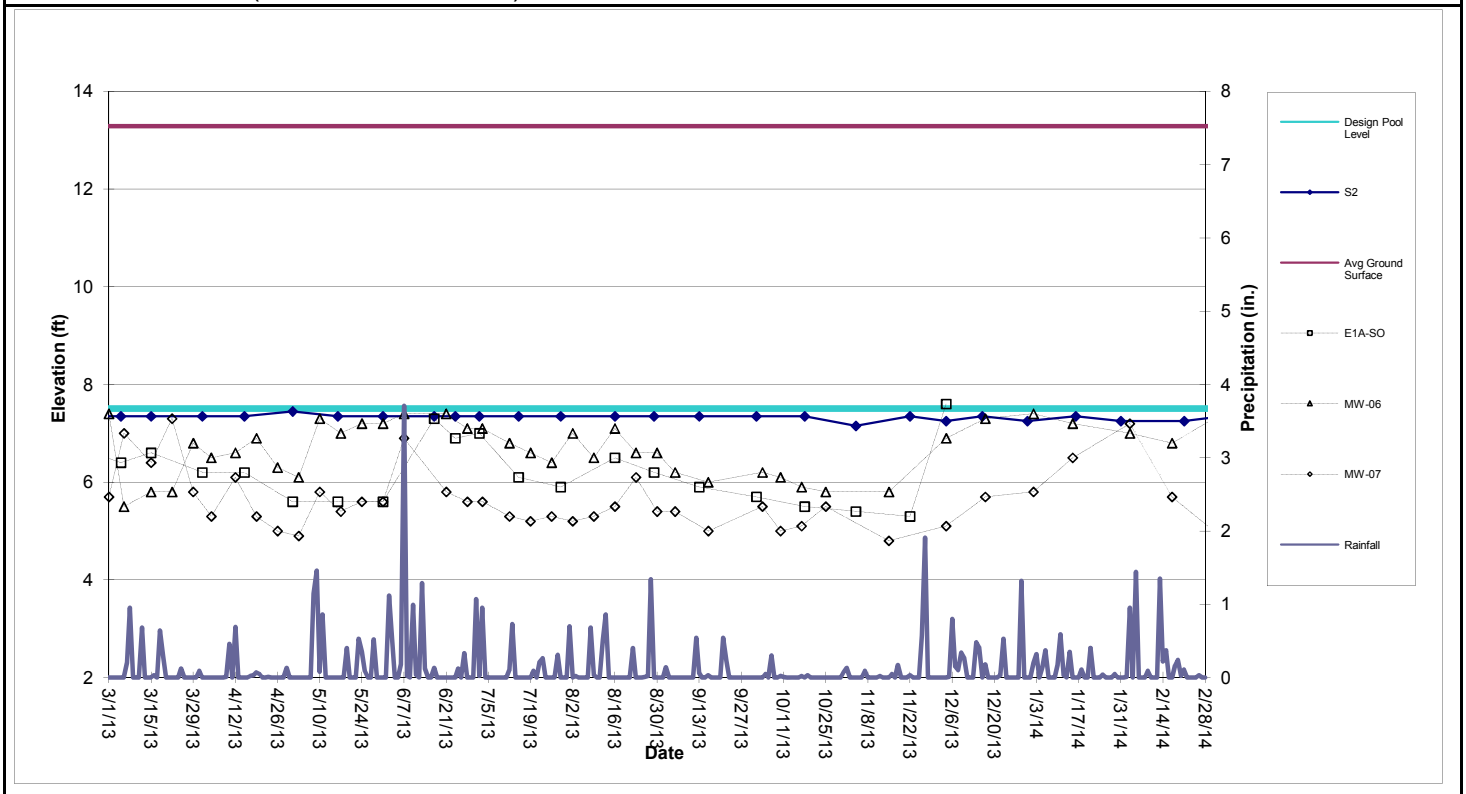
Perimeter Pool E1 (Sta. E0+50 to E3+75)



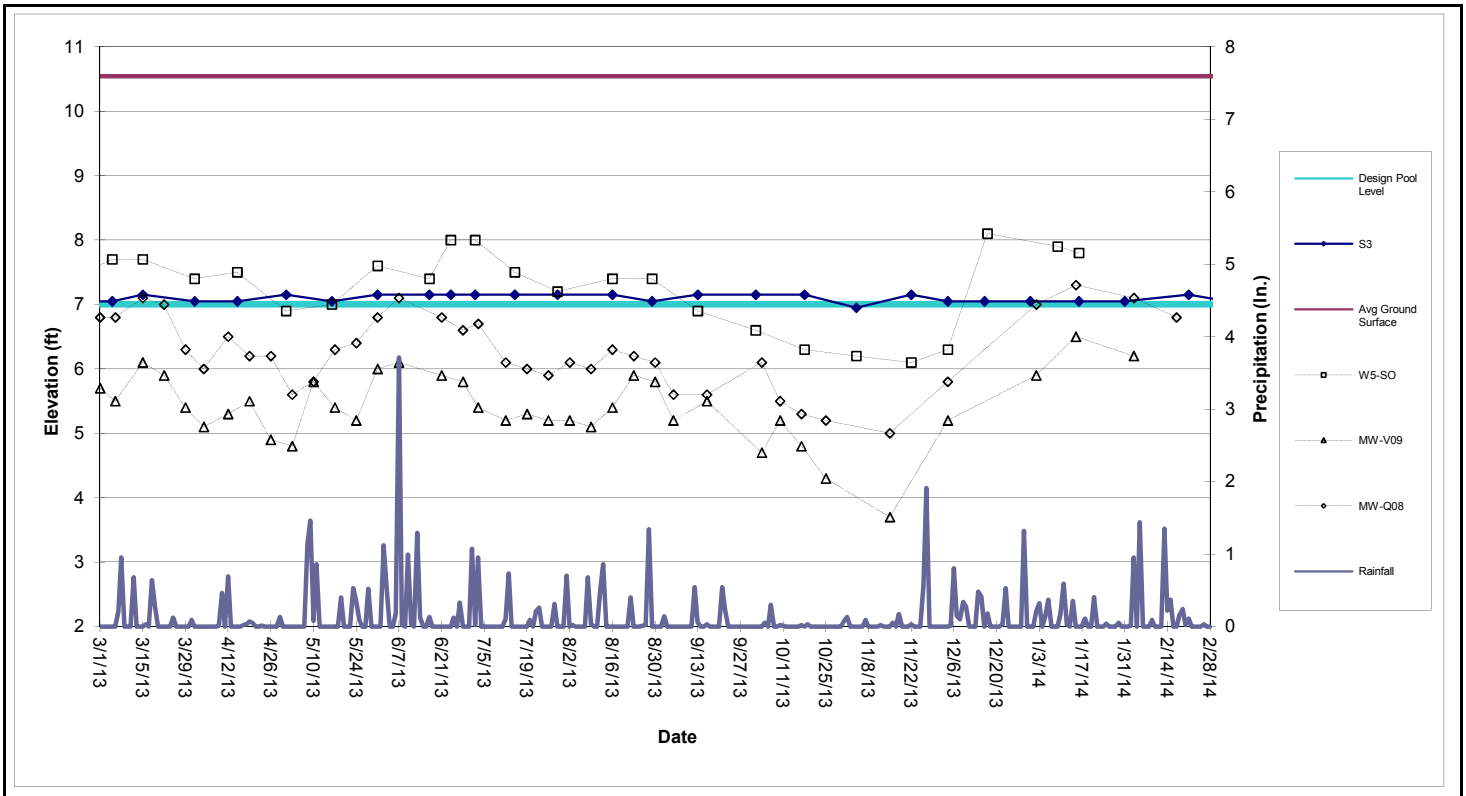
Perimeter Pool E2 (Sta. E4+50 to E7+25)



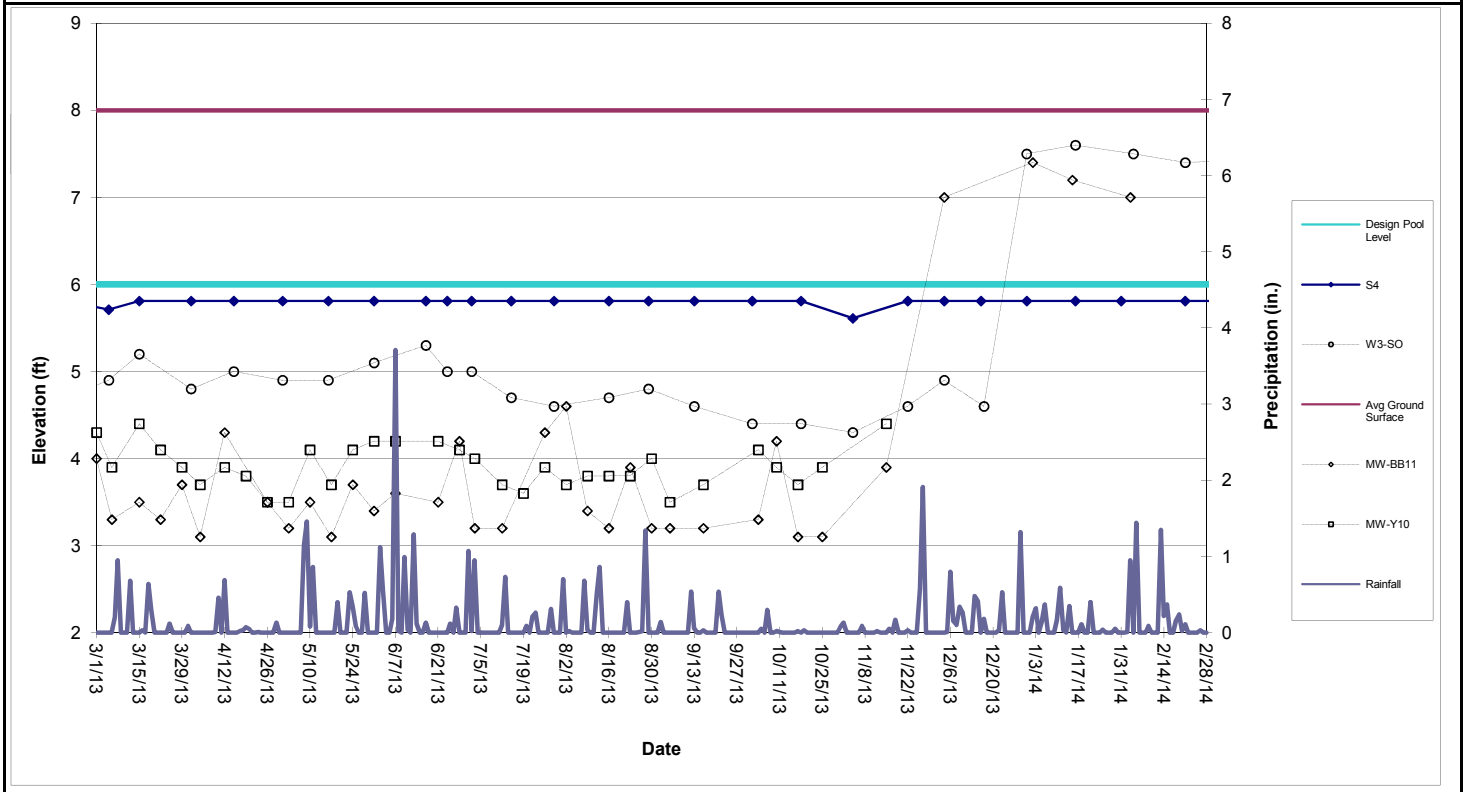
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

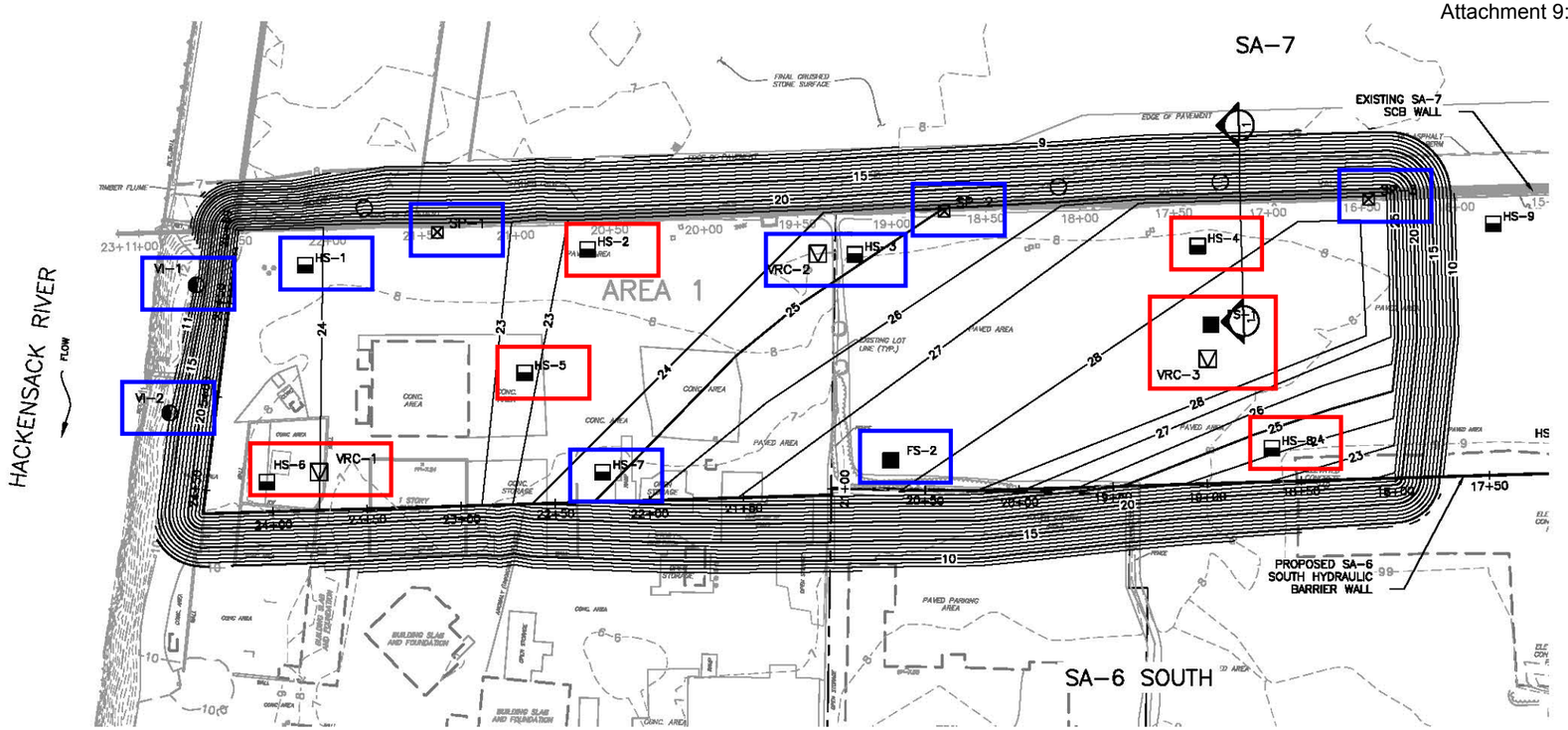
										087-MW-			134-MW-		073-MW-		140-	
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	Y20	001	O19	V09	Q08	BB-11	Y10	MW-06	MW-07
Date																		
8/2/2013													5.2	6.1	4.6	3.7	7.0	5.2
8/9/2013													5.1	6.0	3.4	3.8	6.5	5.3
8/16/2013	6.5	5.8	6.2	6.1	6.8	9.4	4.7	7.4	7.4	4.6	6.8	8.4	5.4	6.3	3.2	3.8	7.1	5.5
8/23/2013													5.9	6.2	3.9	3.8	6.6	6.1
8/29/2013	6.2	5.9	6.4	6.3	7.1	9.3	4.8	7.4	7.3	4.6	6.6	8.2						
8/30/2013													5.8	6.1	3.2	4.0	6.6	5.4
9/5/2013													5.2	5.6	3.2	3.5	6.2	5.4
9/13/2013	5.9	5.7	6.0	5.8	6.1	9.5	4.6	6.9	7.4	4.7	5.4	8.3						
9/16/2013													5.5	5.6	3.2	3.7	6.0	5.0
10/2/2013	5.7	5.6	5.9	5.5	5.8	9.4	4.4	6.6	7.3	4.8	5.9	7.8						
10/4/2013													4.7	6.1	3.3	4.1	6.2	5.5
10/10/2013													5.2	5.5	4.2	3.9	6.1	5.0
10/17/2013													4.8	5.3	3.1	3.7	5.9	5.1
10/18/2013	5.5	5.5	5.6	5.3	5.8	9.4	4.4	6.3	7.4	4.8	6.2	7.9						
10/25/2013													4.3	5.2	3.1	3.9	5.8	5.5
11/4/2013	5.4	5.4	5.4	5.1	5.6	9.3	4.3	6.2	7.1	4.7	6.1	7.7						
11/15/2013													3.7	5.0	3.9	4.4	5.8	4.8
11/22/2013	5.3	5.3	5.1	4.9	5.6	9.3	4.6	6.1	7.1	4.7	6.4	7.9						
12/4/2013	7.6	4.7	5.1	5.1	6.0	9.3	4.9	6.3	7.5	5.2	6.5	8.1	5.2	5.8	7.0		6.9	5.1
12/17/2013		4.7	4.7	5.7	6.5	9.5	4.6	8.1	7.7	4.5	6.3	7.8					7.3	5.7
12/31/2013		4.8	5.6	6.0	7.1	9.9	7.5		8.6	5.0	6.6	8.1						
1/2/2014													5.9	7.0	7.4		7.4	5.8
1/9/2014								7.9										
1/15/2014													6.5	7.3	7.2		7.2	6.5
1/16/2014		5.3	6.0	6.3	7.3		7.6	7.8	8.3	4.9	7.5	8.7						
2/3/2014													6.2	7.1	7.0		7.0	7.2
2/4/2014				6.4	6.7		7.5			4.7	7.2	8.2						
2/17/2014														6.8			6.8	5.7
2/21/2014				6.2	7.2		7.4			4.8		8.0						

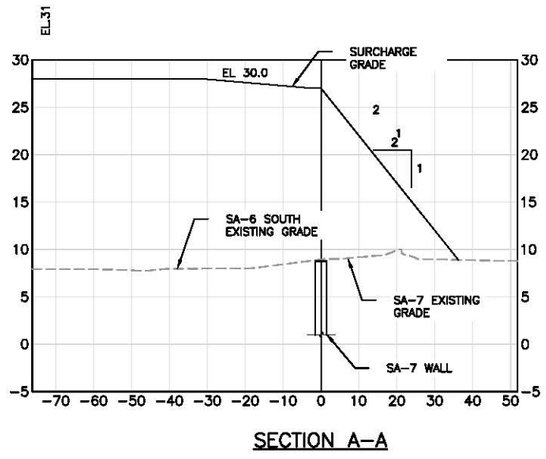
Attachment 8: Quality and Level Data in GWET Wells

(Not provided in this submittal - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

- Surcharge Monitoring Plan Report Figures B1 and F1 *(figures updated to show installed locations)*





SECTION A–A

Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

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JERSEY CITY, NEW JERSEY

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INSTRUMENTATION LOCATION PLAN 1S

Figure F1

J:\Projects\HONEYWELL\CORE\ CITY\Dwg Design-SA6-(SA7)\SA6(SA7)Figure - Surcharge Area Instrumentation Plan.dwg Fri, 19 Jul 2013 - 12:29pm mgershfeld

EXCAVATE MATERIAL ABOVE FORCE MAIN TO PLACE SP4–SP10 IN DIRECT CONTACT WITH STRUCTURE

EXISTING 72" PVSC FORCE MAIN

AS BUILT SENSOR LOCATION 686080.23 602774.18 ELEV=11.97

AS BUILT SENSOR LOCATION 686125.20 602179.75 ELEV=12.74

AS BUILT SENSOR LOCATION 686022.45 602394.16 ELEV=11.04

AS BUILT SENSOR LOCATION 685961.96 602514.81 ELEV=9.88

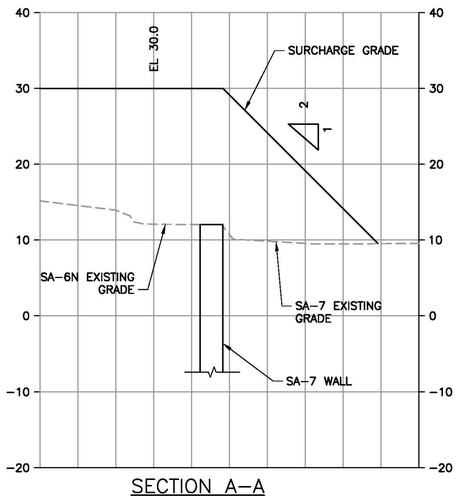
AS BUILT SENSOR LOCATION 685904.43 602635.42 ELEV=8.85

AS BUILT SENSOR LOCATION 685848.02 602762.07 ELEV=7.32

INCLINOMETERS BETWEEN HYDRAULIC BARRIER AND 72" FORCE MAIN

SEE NOTE 7 (TYP)

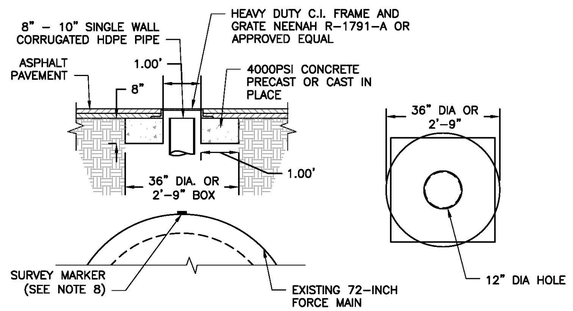
SA-7 FINAL GRADE (ACTUAL GRADES VARY)



SECTION A–A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686123	602109
VI–2	686029	602048
VI–3	685927	602572
VI–4	685866	602701
FS1	685981	602115
FS2	685863	602451
FS3	685811	602689
FS4	685723	602723
HS1	685959	602414
HS2	685929	602333
HS3	685865	602294
HS4	685920	602491
HS5	685787	602414
~~HS6~~	~~685785~~	~~602650~~
HS7	685696	602582
~~HS8~~	~~685826~~	~~602796~~
HS9	685624	602691

SP1	685881	602205
SP2	685757	602416
SP3	685613	602662
~~SP4~~	~~685953~~	~~602533~~
~~SP5~~	~~685931~~	~~602578~~
~~SP6~~	~~685906~~	~~602634~~
~~SP7~~	~~685887~~	~~602676~~
~~SP8~~	~~685867~~	~~602721~~
~~SP9~~	~~685849~~	~~602764~~
~~SP10~~	~~685884~~	~~602781~~



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
6. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
7. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
8. AT ALL SURVEY LOCATIONS CLEAN ADEQUATELY A SUFFICIENT AREA ON THE TOP SURFACE OF THE 72 INCH FORCE MAIN TO EPOXY THE SURVEY MARKER AND ELECTRONIC EQUIPMENT.

Installed Instrumentation Locations

Instrumentation Locations Not Installed

VI–2 INCLINOMETER LOCATION
FS–1–1 SETTLEMENT MONITORING POINT FULL – SETUP
HS–1–1 SETTLEMENT MONITORING POINT HALF – SETUP
SP12 SETTLEMENT MONITORING PLATFORM
RP APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC
A1 ACOUSTICAL LOCATION FOR DISCUSSION PURPOSES ONLY
AS3 ACOUSTICAL/SURVEY LOCATION FOR DISCUSSION PURPOSES ONLY
STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Prepared/Date: RJR 08/16/13
Checked/Date: AE 08/16/13

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

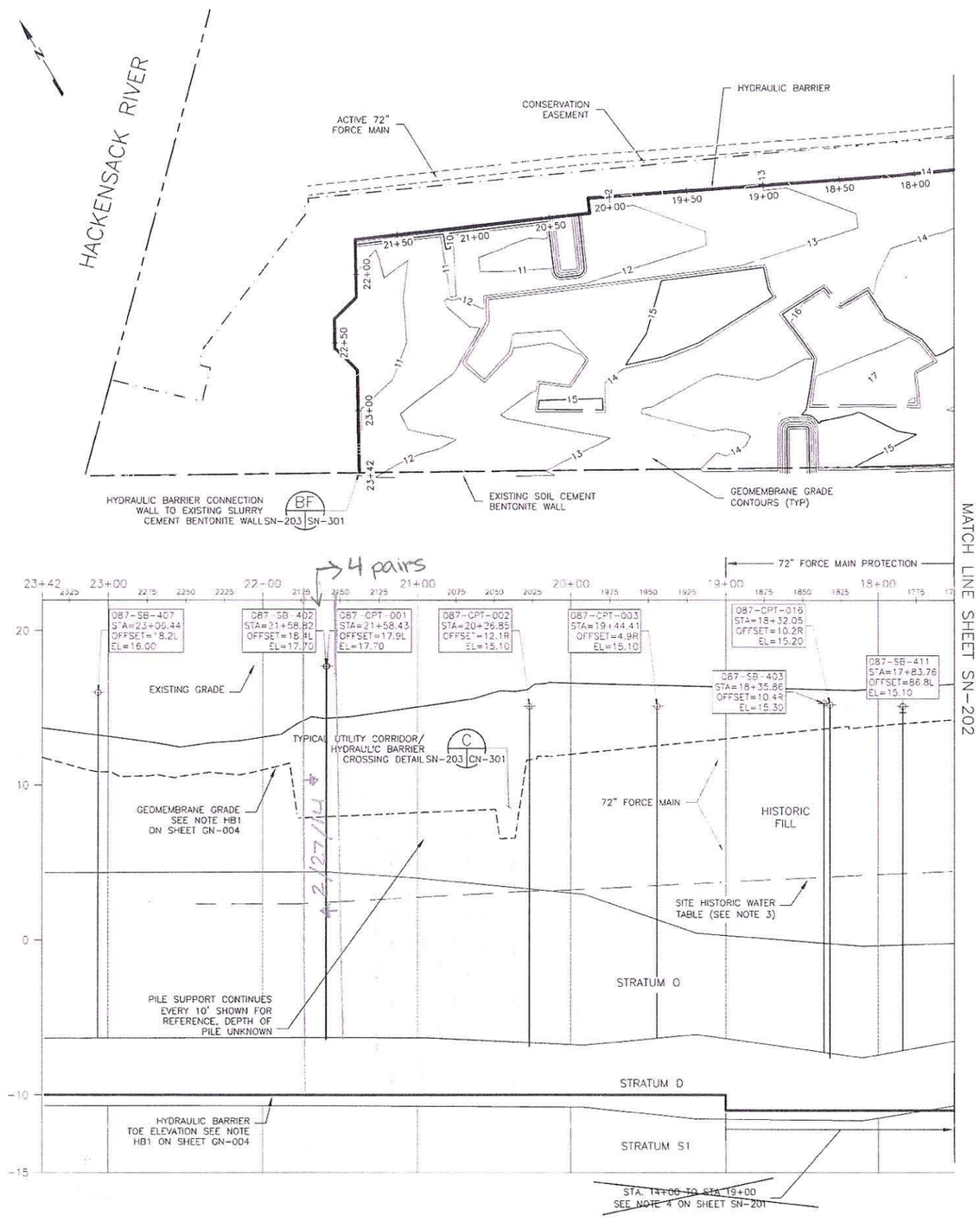
amec

INSTRUMENTATION LOCATION PLAN 1N
Project 3480-09-0006
Figure B1

J:\Projects\HONEYWELL\JERSEY CITY\Dwg Design–SA6–CSD\CAD\SA6N\100 Percent\Figure 1 Surcharge Settling Monitoring Plan – Area 1.dwg Tue, 21 Jan 2014 – 7:11am roger.ripster

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Pile Repair Log/Photos



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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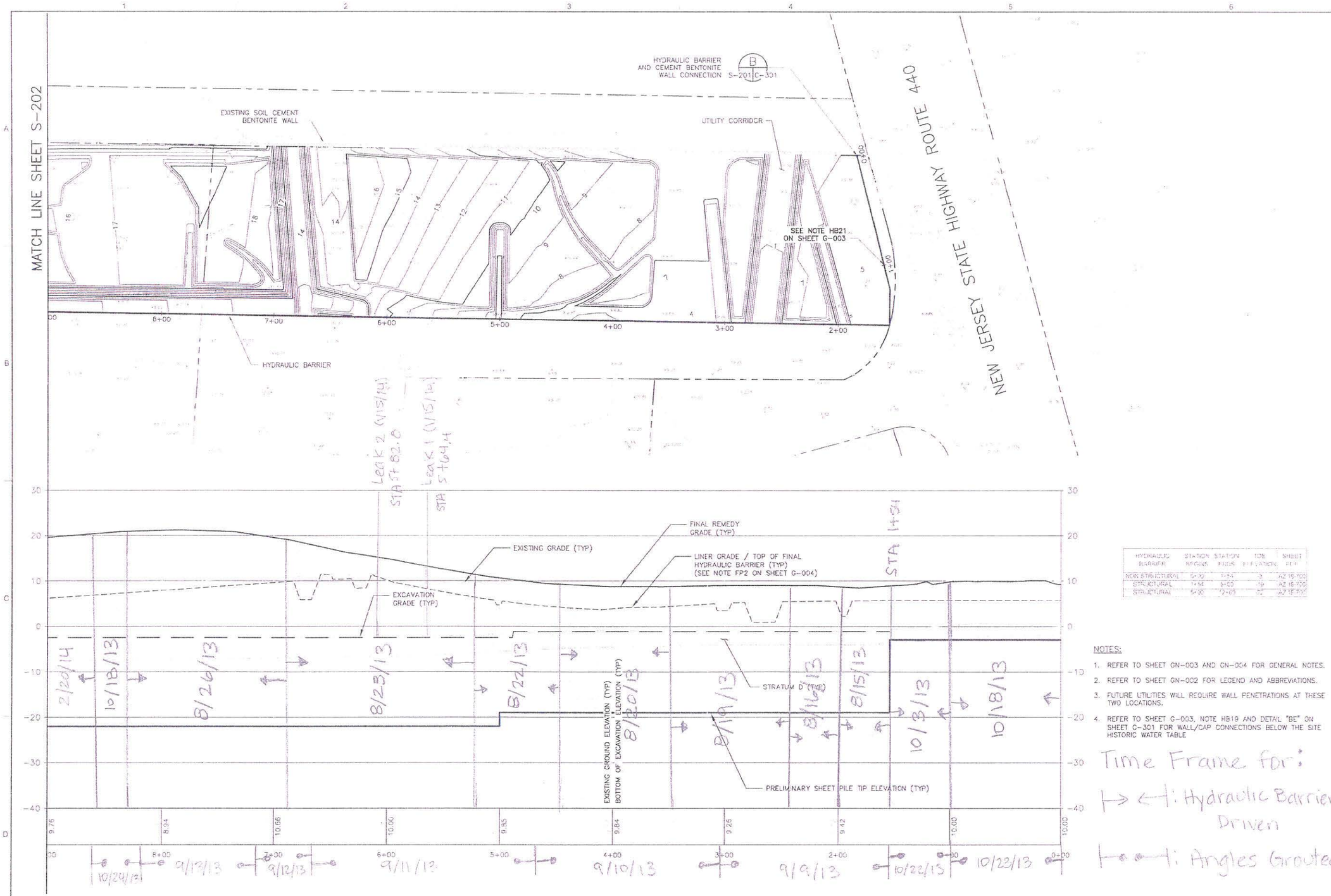
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cad Design-SA6-CSD\CAD SA6\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri 18 Oct 2013 PLOT TIME: 10:37 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET REF
NON STRUCTURAL	5+00	1+54	-3	AZ 19-700
STRUCTURAL	1+54	5+00	-19	AZ 19-700
STRUCTURAL	5+00	12+00	-22	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

Time Frame for:

↦ ←|: Hydraulic Barrier Driven

|—•—|: Angles Grouted

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE0032240

NO	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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HYDRAULIC BARRIER
PLAN & PROFILE

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Hamilton, NJ 08619
(609) 689-2829
NJ Certificate of Authorization Number 24GA28011900

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PROJ	3480-12-0317
DWG	S-201
SHEET	53 OF 66

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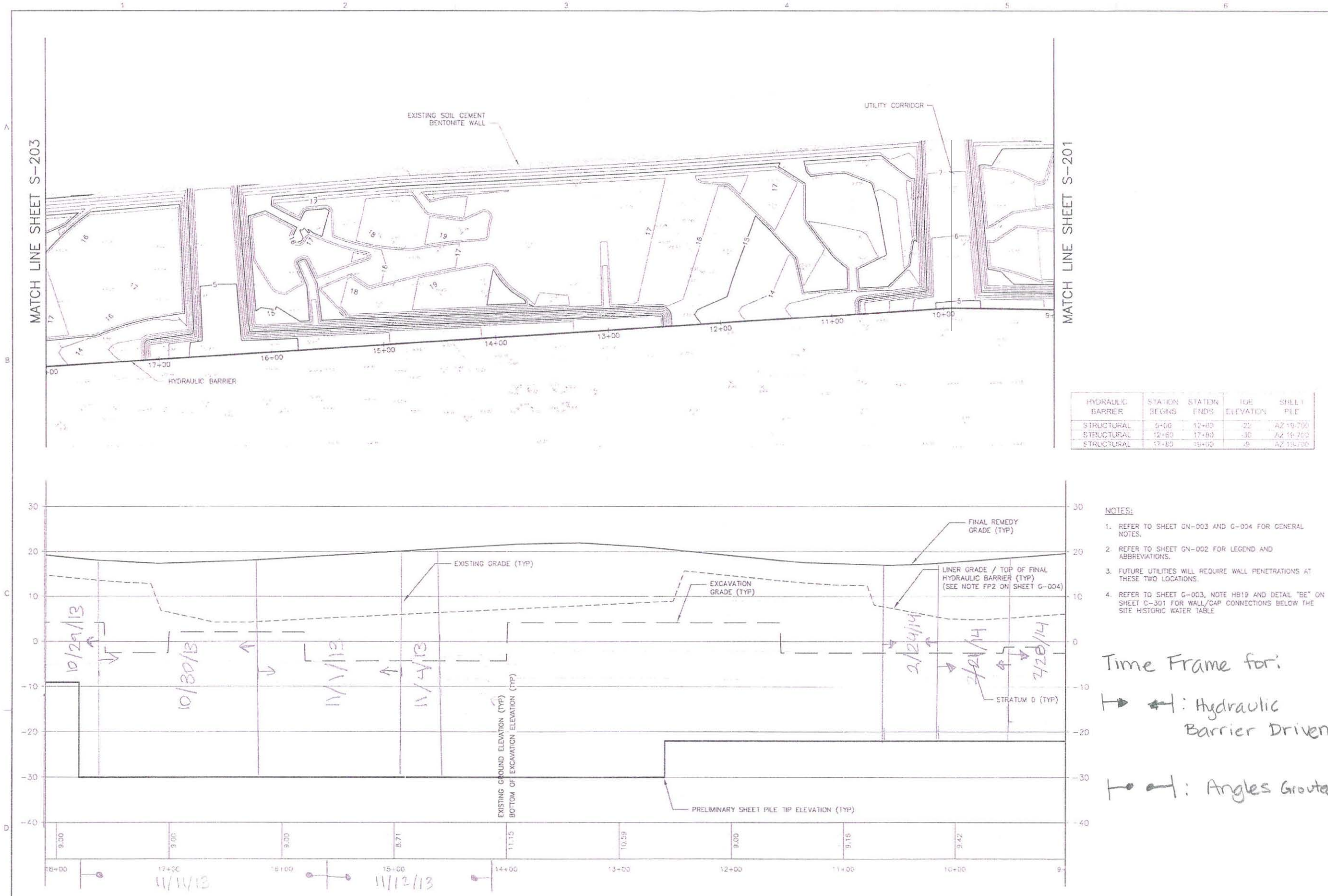

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	9+00	12+80	-22	AZ 19-700
STRUCTURAL	12+80	17+80	-30	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

Time Frame for:

: Hydraulic Barrier Driven

: Angles Grouted

STEPHEN H. MITCHELL

NO.	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

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Hamilton, NJ 08619
(609) 689-2829
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0 1"

DATE	
PROJ	3480-12-0317
DWG	S-202
SHEET	54 OF 66

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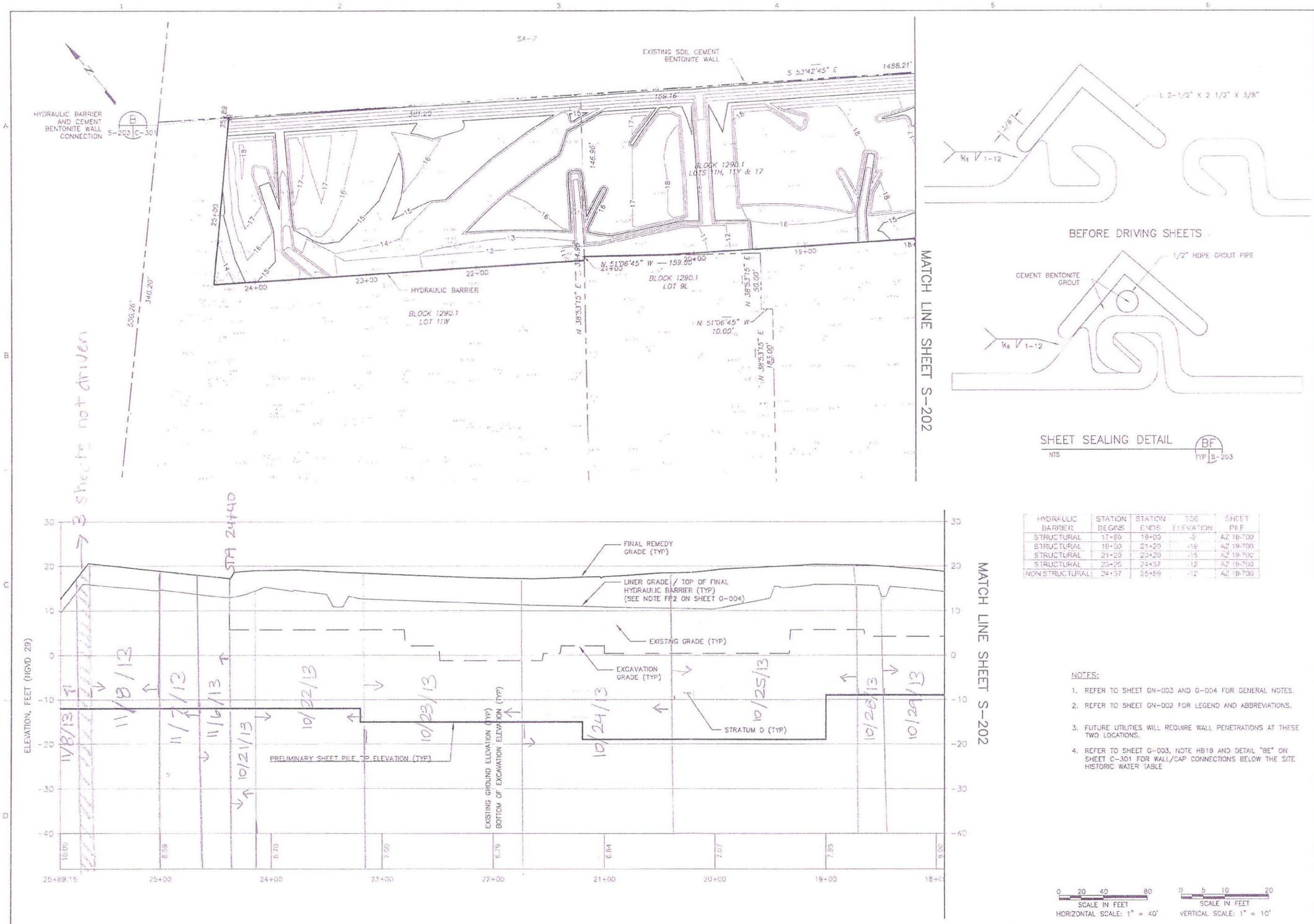

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-18	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

STEPHEN H. MITCHELL

NO	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
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Hamilton, NJ 08619
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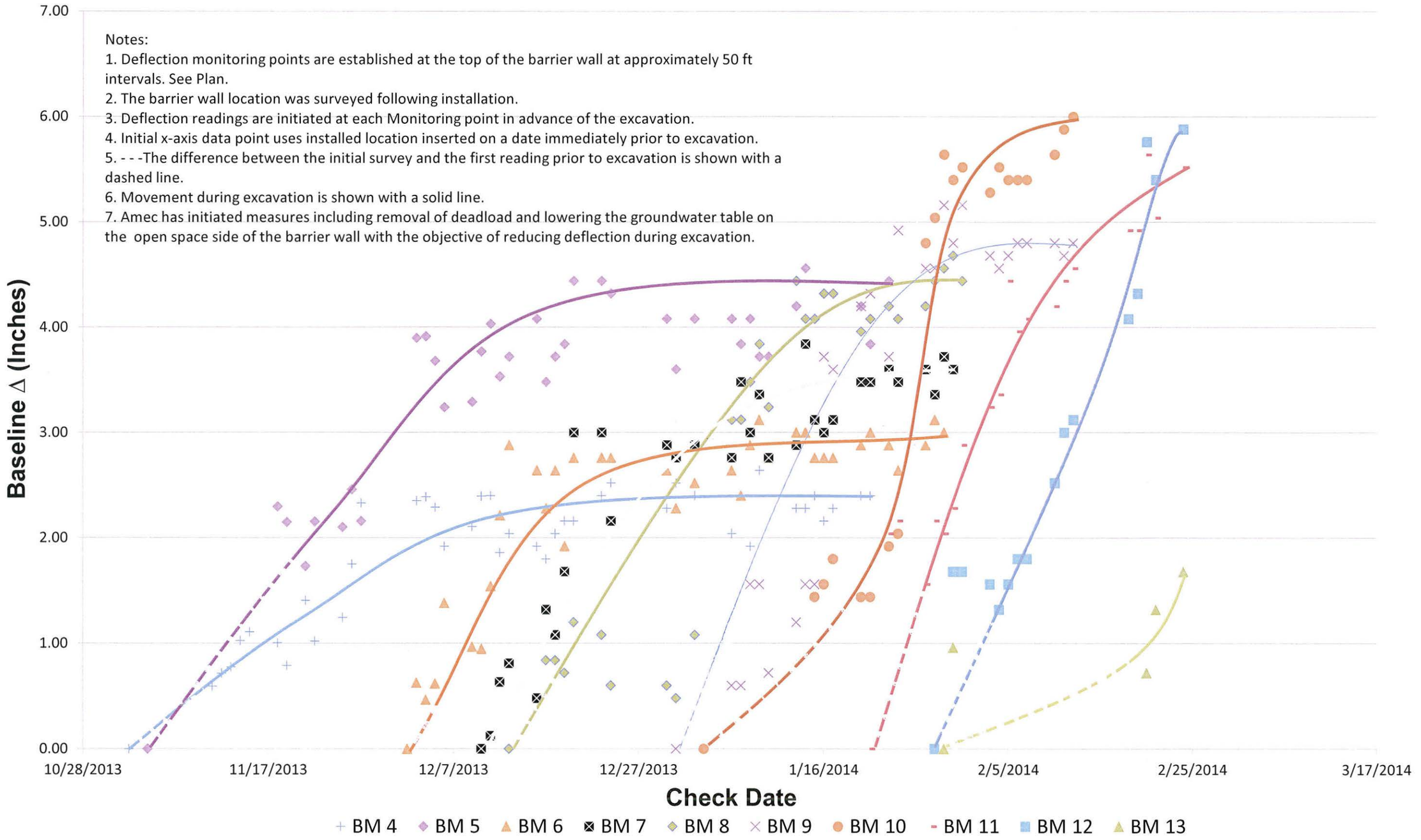
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

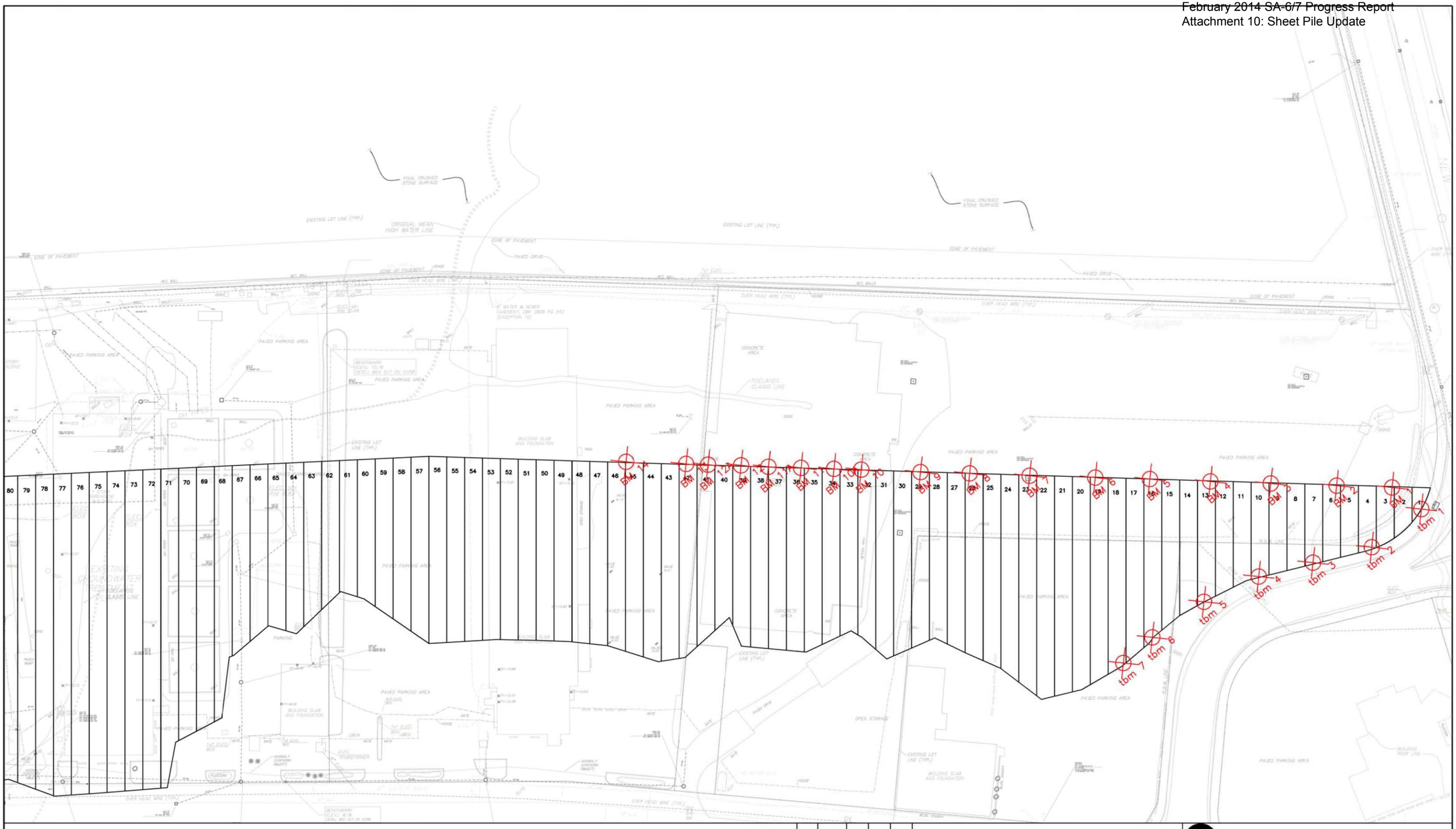
DATE	
PROJ	3480-12-0317
DWG	S-203
SHEET	55 OF 66

THIS DRAWING IS THE PROPERTY OF AMEC, INC. USING ALL PATENTED AND PATENTABLE FEATURES, ANY OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USE AS AGREEMENT NOT TO REPRODUCE THE DRAWING IN WHOLE OR PART NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 02-05-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 3PI-15
Date Exposed: 10/31/2013
Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13
Inspected by: M. Senna
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 3PI-17
Date Exposed: 10/31/13
Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13
Inspected by: M. Senna
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 3PI-18
Date Exposed: 10/31/13
Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13
Inspected by: M. Senna
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 3PI-19
Date Exposed: 10/31/13
Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13
Inspected by: M. Senna
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 3P1-20

Date Exposed: 10/31/13

Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 3P1-21

Date Exposed: 10/31/13

Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13

Inspected by: M. Senna

Describe Repair: clean grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 3P1-22

Date Exposed: 10/31/13

Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/4/13

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/4/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 5P1-9

Date Exposed: 11/20/13

Describe Damage: Spots of Base metal

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/25/13

Inspected by: M. Senna.

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/25/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-11

Date Exposed: 11/20/13

Describe Damage: Damaged by the bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/25/13

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/25/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-12

Date Exposed: 11/20/13

Describe Damage: Spots of bare metal

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/25/13

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/25/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-14

Date Exposed: 11/20/13

Describe Damage: Spots of bare metal

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/25/13

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/25/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-16

Date Exposed: 11/20/13

Describe Damage: Bare metal on center interlock

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/25/13

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/25/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-17

Date Exposed: 11/20/13

Describe Damage: Spots of bare metal along the corner of the sheetpile

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 11/25/13

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/25/13

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SA-6 South Hydraulic Barrier Epoxy Repair within the Excavation

Damage to Epoxy Coating



AMEC Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
Tel 609-689-2829
Fax 609-689-2838
amec.com


11.04.2013 10:43

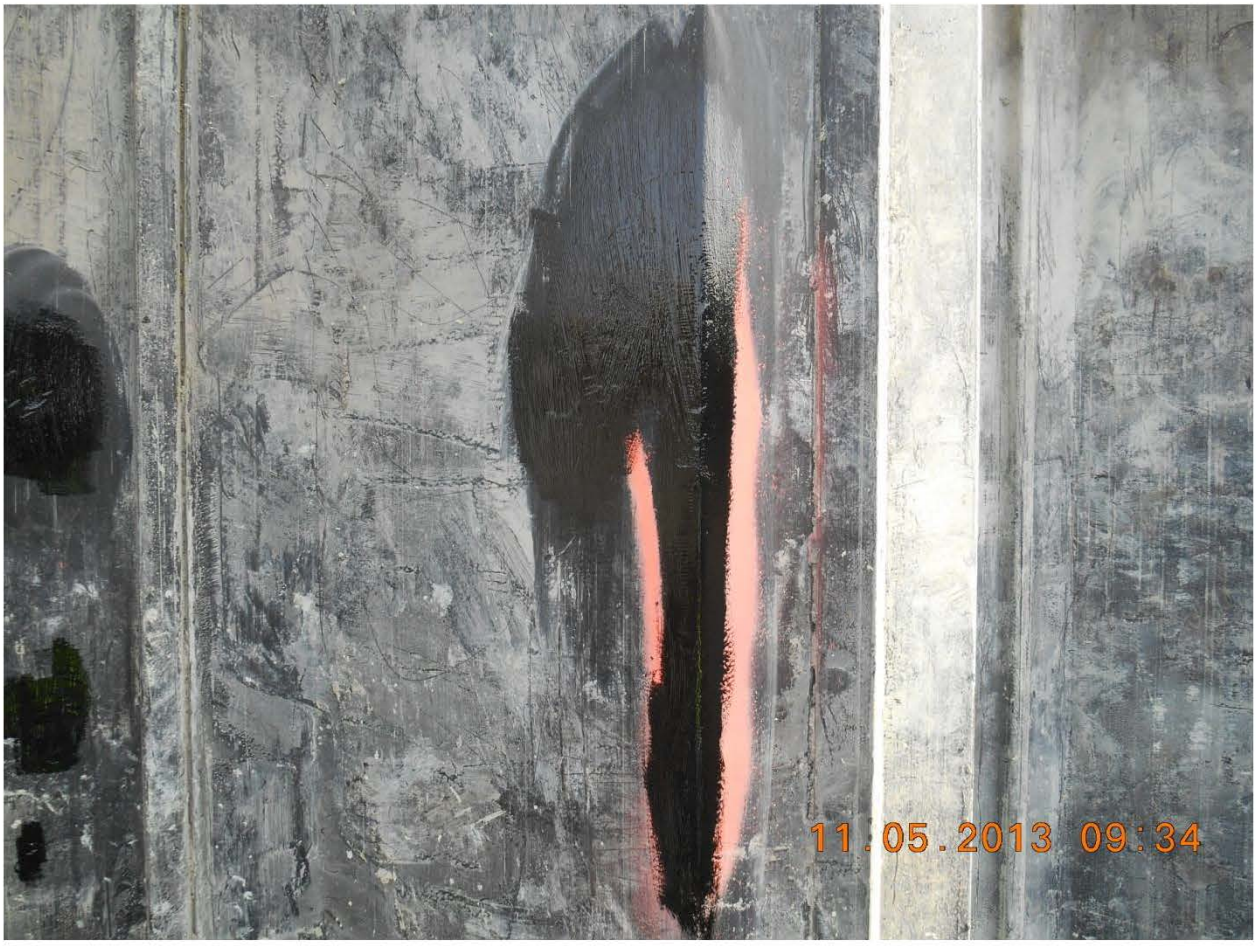
Epoxy Repair Preparation




11.04.2013 11:46

Finished Epoxy Repair




11.05.2013 09:34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11.05.2013 09:33




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Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 4, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		1
Flood Protection	X			
Perimeter Fencing/Windscreen		X		2
Work Zone Barriers	X			
Storm Drain Protection		X		3
SA-6 North and GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North and GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Perimeter Fencing/Windscreen	X			
Work Zone Barriers	X			
Storm Drain Protection			X	
SA-7 and Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Perimeter Fencing/Windscreen	X			
Work Zone Barriers	X			

NOTE: All comments are numbered for reference and included on the comment section below.

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
February 4, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence requires maintenance/repair two locations immediately north of the Kellogg Street jughandle on Rt.440 and immediately west of the Guard Shack on Kellogg Street.
2	IA2Q4A1AL8	One storm water catch basin requires maintenance of sediment protection. It is located to the north of the Guard Shack, just to the east of the fire hydrant.
3	IA2Q4A1AL8	The stone decon pad at the Eastern Exclusion Zone exit requires maintenance to remove sediment build-up.
4		
5		
6		
7		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey
SWPPP Observer: (L. Pfeiffer) **Date:** 02/05/14

Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Windscreen to be repaired or replaced as needed.	2/6/14 RAD
2	Filter fabric to be re-installed.	2/6/14 RAD
3	Stone pad to be cleaned out to restore proper function.	2/7/14 RAD

Construction Manager: **Date:** 02/10/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 12, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		2
Flood Protection	X			
Perimeter Fencing/Windscreen	X			
Work Zone Barriers	X			
Storm Drain Protection	X			
SA-6 North and GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North and GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Perimeter Fencing/Windscreen	X			
Work Zone Barriers		X		3
Storm Drain Protection			X	
SA-7 and Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Perimeter Fencing/Windscreen	X			
Work Zone Barriers	X			
Storm Drain Protection				

NOTE: All comments are numbered for reference and included on the comment section below.

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
February 12, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA3Q4A1AL8	A twenty foot section of the orange Exclusion Zone fencing on the southern side of the active excavation is sagging and requires maintenance.
2	IA3Q4A1AL8	The haul road to the east of the new >1000 PPM staging area is muddy. It requires cleaning and pothole repair.
3	IA3Q4A1AL8	The two gates on the SA-6 North/SA-7 fenceline must be closed at the end of each work day.
4		
5		
6		
7		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWPPP Observer: [signature] (George Pfeiffer) **Date:** 02/12/14

Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Truck haul road to the east of the new >1000 PPM stockpile area requires cleaning and maintenance.	2-18-14 RAD
2	Exclusion Zone fencing to the south of the active excavation requries maintenance.	2-18-14 RAD

Construction Manager: [signature] **Date:** 02/18/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 19, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		7
Storm Drain Protection	X			

NOTE: All comments are numbered for reference and included on the comment section below.

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, February 19, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
	IA2Q4A1AL8	In addition to the current signage, the Western Exclusion Zone on the former Old Dominion property requires orange fencing around the perimeter. This fencing should extend across the entrance/exit during periods of inactivity.
	IA2Q4A1AL8	Kerosene drums are stored on the former Old Dominion property without required spill control measures. All drums are to be stored wit secondary containment or on-spill pallets. Sammy
3	IA2Q4A1AL8	The haul road to the east of the Western Exclusion Zone on Study Area 6 South requires maintenance for potholes and muddy conditions. Thorne
	IA2Q4A1AL8	The sediment basket in the storm water catch basin immediately to the north of the Guard Shack requires maintenance.
	IA2Q4A1AL8	Markers on the crane mat bridge over the 72" force main on Study Area 6 North have been moved/buried by snow plowing/removal. These markers must be reinstalled to clearly delineate the edges of the bridge. ~~Brett~~ Ross / Justin
6	EEPSQUO2YB	Silt fence surrounding the clean material stockpiles on the western end of Study Area 7 requires maintenance. truck line-guys
	EEPSQUO2YB	Windscreen on the Study Area 7 perimeter fence is sagging at various locations and requires maintenance. truck line-guys

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 02/19/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Fencing will be installed after the snow melts in this area. No way to stage fence right now.	
2	Kerosene drums in use are now on secondary containment in this area. Completed	2-20-14 RAD
3	Stone dumped in area. will be complete once operator is available	
4	Completed	2-20-14 RAD
5	Completed. Staged barricades w/ water inside along bridge exterior	2-20-14 RAD
6	Silt fence will be installed after snow has melted & ground not frozen	
7	Completed	2-21-14 RAD

Construction Manager: _____ **Date:** 02/25/14

Completed 02/28/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 26, 2014

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 2/26/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, February 26, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Repair Exclusion Zone Fencing along the eastern edge of the 60 Kellogg slab and along the HBW between Cells 9 and 17
2	IA2Q4A1AL8	The haul road to the east of the western Exclusion zone on Study Area 6 south requires maintenacne for potholes
3	IA2Q4A1AL8	The sediment basket in the storm water catch basin locted on the NE corner of the modutanks requires maintennce
4	IA2Q4A1AL8	Repair silt fence north of the Construction Water Treatment Plant
5	EEPSQUO2YB	Silt fence surrounding the clean material stockpiles on the western portion of SA7 requires repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature **Date:** 2/26/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Completed	2-27-14
2	Completed	2-28-14
3	Completed	2-27-14
4&5	impossible to do until ground thaws	

Construction Manager: **Date:** 2-28-14

Attachment 12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (January 2014)

(Not provided in this submittal – this information was previously provided in Progress Report 2014-01)

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 2 OF 25

- **2014 Monthly Reports Part 2**

4/16/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 16, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-03

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from March 1 – March 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: March 2014 SA-6/7 Combined Monthly Progress Report No. 2014-03

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-03

Project SA-6 & 7 Remediation

March 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
03/04/14	Two-Year Summary Report for In-Situ Chromium Mass Removal from S-3 Sand Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/12/14	Response to Comments Provided by Plaintiffs re. Combined Monthly Progress/Highlights Report Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/12/14	Design Change Bulletin – Surcharge Monitoring Plan Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/13/14	Combined Monthly Progress/Highlights Report No. 2014-02 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/18/14	Response to Comments Provided by Dr. Ben Ross January 27, 2014, Revised Integrated Groundwater Sampling and Analysis Plan Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/18/14	Discharge of Tannin Construction Water Customer ID# 31630005-1 Study Area 7, Jersey City, NJ	Andy Caltagirone PVSC
03/18/14	Bayfront Redevelopment at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016	Andy Caltagirone PVSC
03/18/14	NJPDES Permit NJ0156311: February 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	NJDEP Office of Permit Management Division of Water Quality
03/18/14	Response to Comments Provided by Dr. Ben Ross February 12, 2014 re. Recommendation Regarding Bedrock Monitoring Wells on Kearny Point and NJCU Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/25/14	Special Master All Hands Conference Call	N/A
03/25/14	Design Change Bulletin – Trench Layout for Contingent Groundwater Extraction System Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/26/14	Study Area 5 Shallow Groundwater Arnold & Porter RTC re Plaintiffs' 1/2/14 Correspondence re. Long-Term Monitoring and Controls	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
03/31/14	Table D to the 3/18/14 Revised Integrated Groundwater Sampling and Analysis Plan Study Areas 5, 6, and 7 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	03/09/2014	03/16/2014	03/23/2014	03/30/2014
Construction Management (AMEC)	10	10	10	10
Engineering (AMEC)	2	2	2	2
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	38	36	39	43
Arecon/US Ecology Subcontractors	4	5	5	5
OSC (-80 Kellogg Demolition	0	2	5	8
ENR (SA-6N GWTP Utilities)	5	5	0	0
BCA (SA-6N Building Construction)	0	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
HPS (SA-6N GWTP Process Controls)	0	0	0	0
Other	0	0	0	0
TOTAL	**64**	**65**	**66**	**73**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted quarterly LTMP groundwater level measurement round.
- Conducted S-3 Injection/Mass Removal Event No.12 in well 088-IW-01.
- Completed new Ground Water Treatment Plant (GWTP) commissioning activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Completed abandonment of former 54" Sedimentation Basin outfall pipe on SA-6N.
- Continued well abandonment activities in accordance with approved Monitoring Well Abandonment Plan.
- Began 80 Kellogg St GWTP demolition activities.

- Completed decommissioning activities associated with the 80 Kellogg GWTP to include exterior ModuTanks, sludge tanks, microfilters and miscellaneous equipment.
- Completed all scheduled crane lifts for 80 Kellogg salvage equipment removals, two (2) sludge tanks, one (1) filter press and one (1) generator.
- Collected March PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Completed permanent connection of PW-2 to the GWTP.
- Complete permanent connection of PW-1 to the GWTP.
- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer tank using the original Siemens' formula (300 cc powder per 100 gallon drum batch).

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	03/09/2014	03/16/2014	03/23/2014	03/30/2014
Avg. Gallons Treated & Discharged (per day)	71,112	53,872	77,063	79,192
Average Flow (gpm) for Operating Period	49	43	54	55
Avg. Hours of Plant Operation	24	18	24	24
GWTP ModuTanks (gal.)	4,680	4,668	4,800	6,240

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 43 through 56.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	21.3	21.3

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	110	21.69	2,386.93
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	240-1000 mg/kg soils	15	21.65	324.89
Entact/ Venerio	Tri-axle Dump	Middlesex City Landfill	NA	Petroleum Impacted Soils (non–haz)	42	24.53	1030.44
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Petroleum Impacted Soils (non-haz)	65	25.67	1669.12
Entact/ Montecalvo	30 cubic Yard Roll off	Bayshore Recycling	NA	Creosote Debris (non-haz)	1	8.1	8.1
Entact/Tilcon	Tri-axle Dump	Tilcon, Mt. Hope	NA	Asphalt	28	22.91	641.49

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 55,56
Excavation Completed	Cell Number(s) 42 through 52 Volume Excavated - Total for Reporting Period: 10,712 CY/ Total to Date:41,592 CY
Backfill in Progress	Cell Number(s) 1 through 43

3. BACKFILL MATERIALS USED

Source	(Week Ending)			
	03/09/2014	03/16/2014	03/23/2014	03/30/2014
<20ppm re-use, CY	0	0	0	0
Weldon, Import-Tons	0	863.90	1,628.19	3,145.29
Tilcon, Import-Tons	518.04	3,973.37	2,801.16	908.06

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~60% complete. Access limitations due to ice and demolition materials. No Surcharge Initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of demolition activities. No Surcharge Initiated.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. No Surcharge initiated.

- Area 2N: No instrumentation installed. Settlement platforms have been installed in the sedimentation basin to the north of Area 2 and portion of the Sedimentation Basin has been temporarily filled with screened materials that will be used for surcharging the designated Surcharge Areas.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Hydraulic Barrier installation was completed adjacent to the 72-inch force main. Vibration Monitoring indicated maximum accelerations continue to be within allowable range (0.2 in/sec observed, while the allowable acceleration is 1.0 in/sec).
- Acoustical Monitoring. PVSC/Hatch Mott MacDonald (HMM) report that there was no wire breaks recorded during the current reporting period.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/15	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/12
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP	SA-6 Chromium Remedy	Obtained 3/26/2014	Renewal Not Needed	8/31/2018	-
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/15	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/14	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/12	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/13	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Initiate placement of surcharge materials in SA-6N Area 1N.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 56 through 60 and Cells 156 to 132.

- Continue stockpiling potential >1,000 mg/kg soils for sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Initiate construction of SA-6S Contingent Groundwater Trench System.
- Continue demolition activities associated with 80 Kellogg.
- Continue SWPPP inspections.
- Complete PVSC compliance sampling.

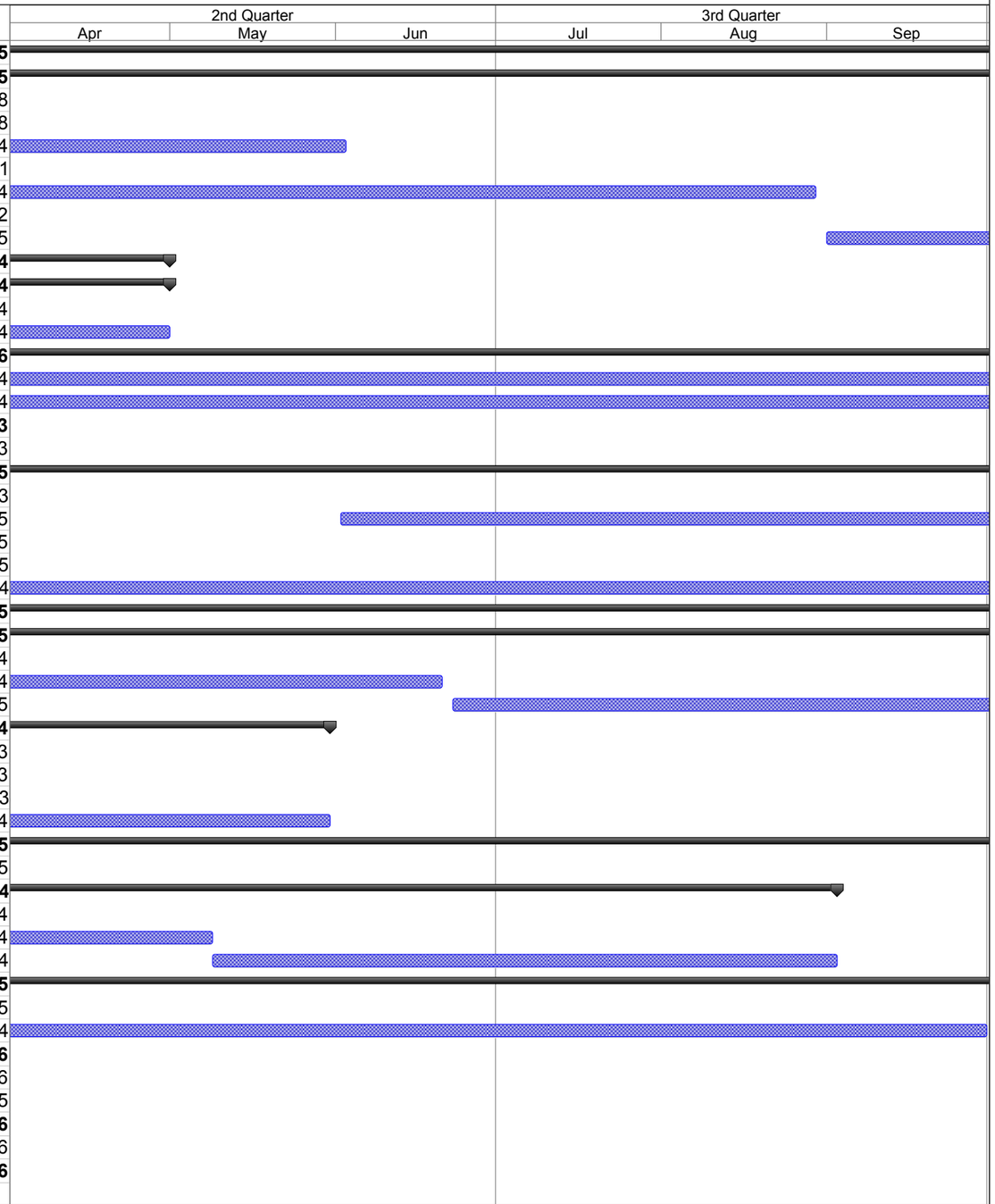
ATTACHMENTS:

1: Schedule – 6 Month Look Ahead
2: Site Photographs
3: Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
4: Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-1)
   - SA-6 South Deep Well Data (DW-2)
5: SA-6 Construction Water Discharge Data (To PVSC)
6: Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7: Perimeter Pools Update
8: Groundwater Quality Data in GWET Wells *(provided on a quarterly basis - not available as of this report date)*
9: Surcharge Monitoring Update
   - Instrumentation Location Plan 1N
   - Instrumentation Installation Data
10: Sheet Pile Update
   - Hydraulic Barrier Wall Plan & Profile
   - Sheet Deflection Along Open Excavation
   - Sheet Pile Repair Log
11: Weekly SWPPP Reports
12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (February 2014)

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 4/1/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Former timber piles removed as part of excavation.



Site Photograph 2: Standing water removed prior to backfilling.



Site Photograph 3: Excavation reaches the 60 Kellogg warehouse foundation.



Site Photograph 4: Installation of stormwater control measures on Kellogg St Properties.



Site Photograph 5: Contractor crushes concrete debris at JC Properties.



Site Photograph 6: 80 Kellogg St WWTP tank cleanout prior to demo.



Site Photograph 7: Salvage of tanks for reuse at other facilities.



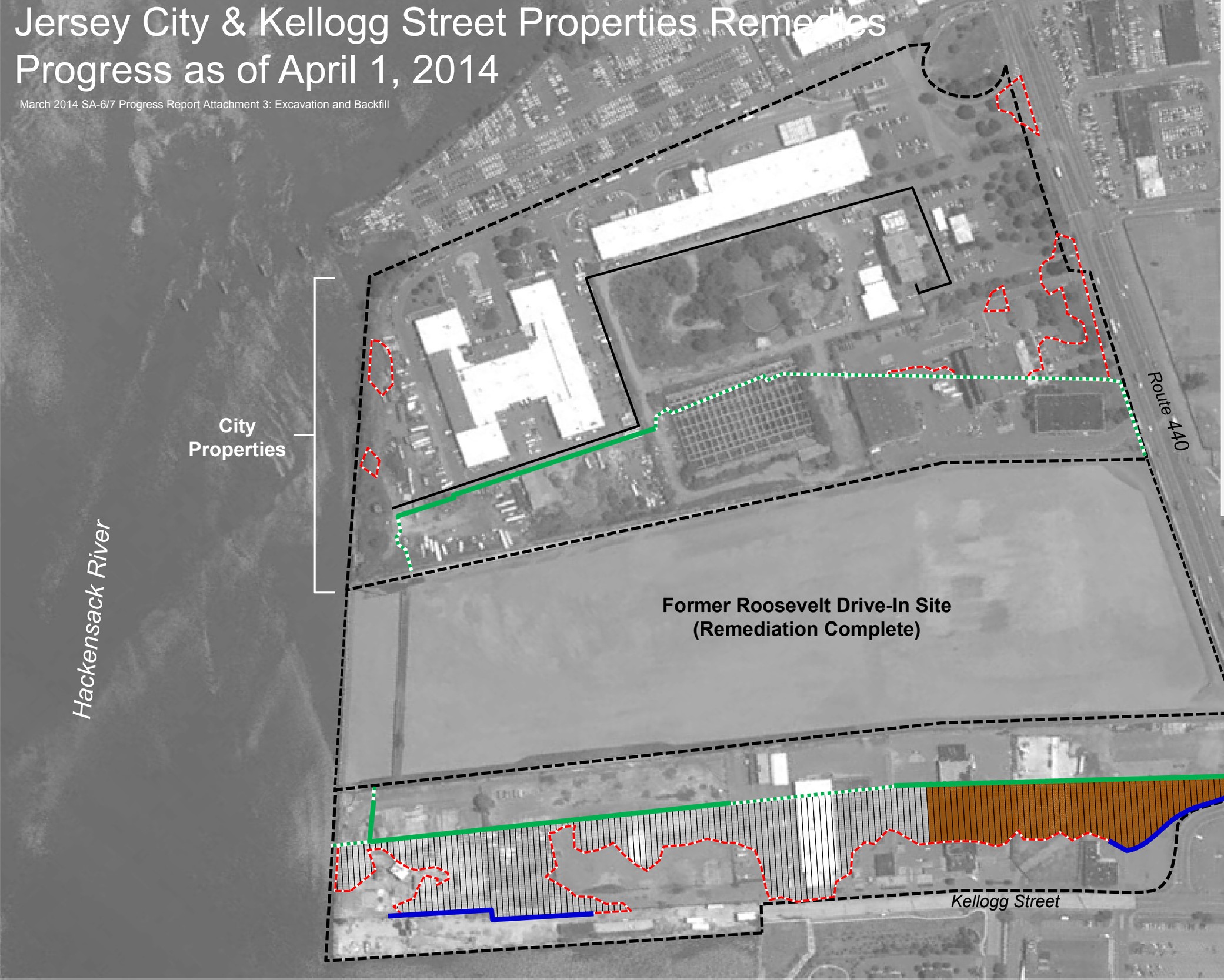
Site Photograph 8: Sheetpile installation along Sewer Line at JC Properties.

Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/Sidewall Confirmatory Points)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of April 1, 2014

March 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall

- Planned
- Complete

Excavation

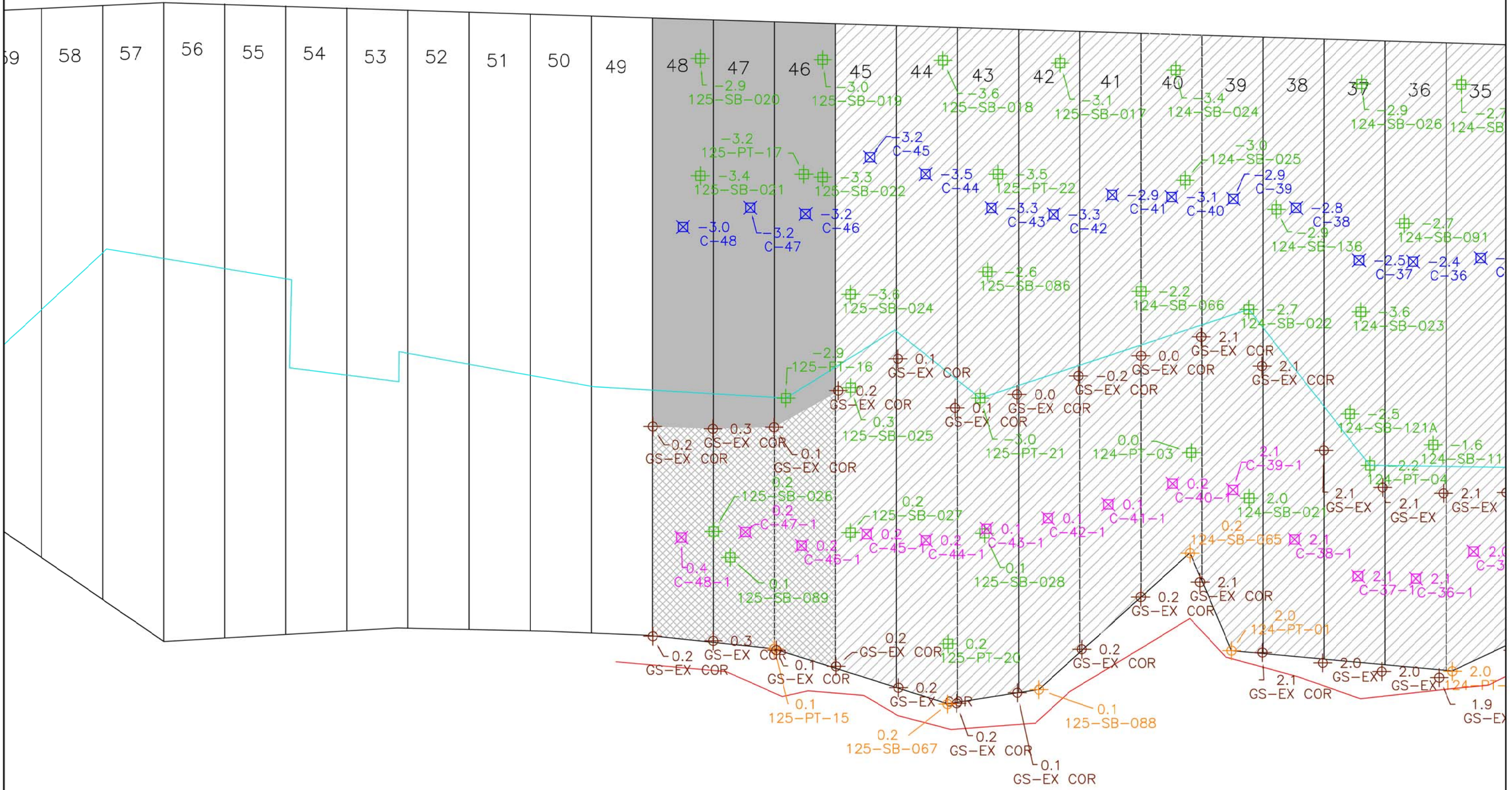
- Planned
- Complete

Soil Compaction

- In Progress
- Complete

Open Space Containment

- In Progress
- Complete



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 03-14-14 TO 03-20-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

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Planners
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Landscape Architects
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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0*	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0*	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1*	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1*	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

Note: Data shown is for recent months activity

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

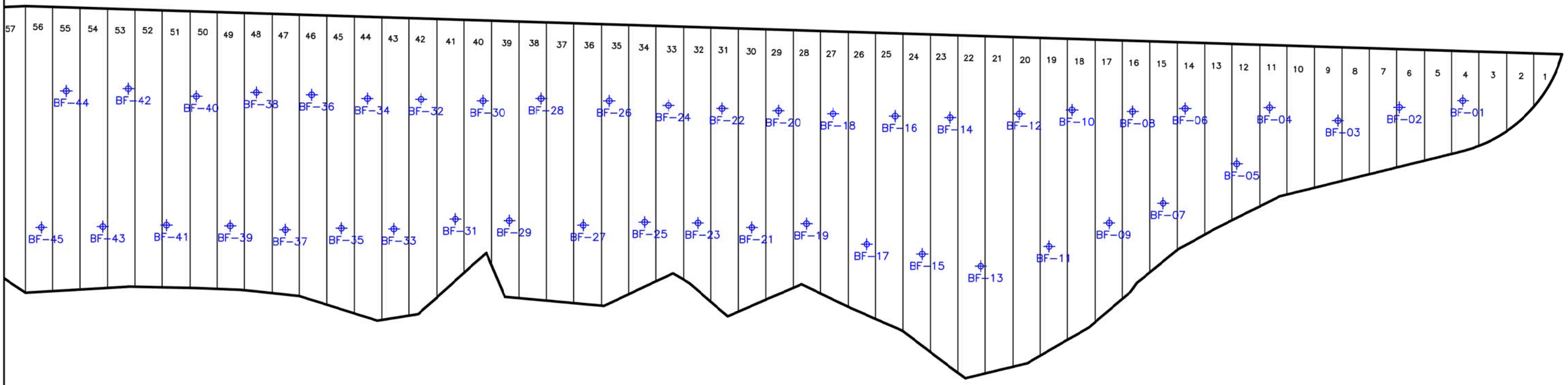
Note: Data shown is for recent months activity

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

Note: Data shown is for recent months activity



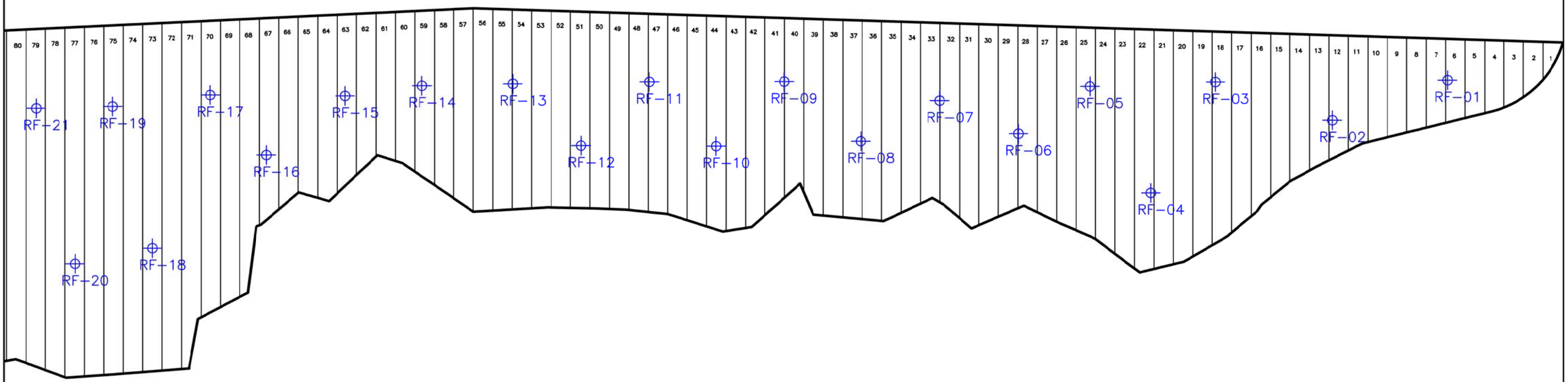
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.40	603182.30	-0.5						4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.22	603184.16	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.77	603181.67	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.20	603182.66	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.62	603189.99	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.87	603186.67	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.06	603182.62	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.62	603186.80	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.19	603189.62	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.19	603189.62	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.07	603175.51	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.00	603184.30	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings		Sor
1	BF-02		684153.80	603153.90	-0.6						6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.75	603161.31	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.82	603162.33	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.71	603161.30	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.73	603162.11	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.93	603171.05	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.07	603155.35	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.46	603153.45	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.93	603174.92	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings		Sor
1	BF-03		684179.90	603119.50	-1.2						9	Crushed concrete	Bottom of excavation elevation	
2	BF-03										9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.06	603131.60	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.72	603111.63	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.45	603121.50	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.46	603126.88	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.07	603132.39	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.40	603128.53	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.12	603113.81	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.20	603121.80	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings		Sor
1	BF-04		684195.70	603093.10	-1.5						11	Crushed concrete	Bottom of excavation elevation	
2	BF-04										11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.04	603094.76	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.60	603104.72	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.51	603111.14	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.60	603115.00	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.80	603100.00	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings		Sor
1	BF-05		684200.80	603078.40	-1.8						12	Crushed concrete	Bottom of excavation elevation	
2	BF-05										12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.18	603057.89	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.86	603057.68	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.21	603070.22	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.60	603060.80	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.10	603053.50	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.60	603048.60	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.60	603060.40	7.5	122.5	4.9	128.9	21.1	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.80	603050.60	-1.7						14	Crushed concrete	Bottom of excavation elevation	
2	BF-06										14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.90	603061.30	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.80	603062.80	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.03	603066.82	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.80	603071.30	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.90	603095.70	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings		Sor
1	BF-07		684222.70	603033.30	-0.8						15	Crushed concrete	Bottom of excavation elevation	
2	BF-07										15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.20	603014.90	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.80	603021.10	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.90	603018.80	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.90	603018.80	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.00	603021.00	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings		Sor
1	BF-08		684221.80	603013.00	-0.7						16	Crushed concrete	Bottom of excavation elevation	
2	BF-08										16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.90	603039.80	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.50	603043.20	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings		Sor

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
5	BF-08-03	1/6/2014	684231.74	603038.78	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.30	603046.80	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.30	603066.00	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
1	BF-09		684208.50	602989.40	-0.5						17	Crushed concrete	Bottom of excavation elevation	
2	BF-09										17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.70	602987.60	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.60	602980.40	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.20	602981.50	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings		Sor
1	BF-10		684269.00	603014.00	-0.5						18	Crushed concrete	Bottom of excavation elevation	
2	BF-10										18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.40	603018.20	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.50	603026.10	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.50	603026.10	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.80	603014.40	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.90	603017.50	5.2	126.4	6.8	128.9	12.1	98	18	Weldon WC Screenings		Sor
1	BF-11		684208.50	602989.40	-1.0						19	Crushed concrete	Bottom of excavation elevation	
2	BF-11										19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.60	602952.70	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.40	602953.80	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.60	602949.00	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings		Sor
1	BF-12		684286.70	602988.60	-1.7						20	Crushed concrete	Bottom of excavation elevation	
2	BF-12										20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.70	602995.20	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.50	602989.80	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.50	602989.80	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.30	602995.40	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings		Sor
1	BF-13		684235.70	602919.60	-0.9						22	Crushed concrete	Bottom of excavation elevation	
2	BF-13										22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.60	602919.10	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.50	602922.00	2.1	132.0	2.9	135.8	6.4	97	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-13-02	3/12/2014	684238.40	602918.20	3.4	133.0	1.4	135.8	6.4	98	22	Tilcon MH DGA		Vertical 5
5	BF-13-03	3/19/2014	684235.10	602916.00	4.5	124.0	3.7	128.9	12.1	96	22	Weldon WC Screenings		Vertical 5
1	BF-14		684312.10	602956.00	-0.9						23	Crushed concrete	Bottom of excavation elevation	
2	BF-14										23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.70	602965.20	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.60	602935.70	1.8	132.0	1.7	135.8	6.4	97	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-14-02	3/14/2014	684301.90	602952.70	2.6	133.0	1.6	135.8	6.4	98	23	Tilcon MH DGA		Vertical 5
1	BF-15		684260.70	602896.70	-0.9						24	Crushed concrete	Bottom of excavation elevation	
2	BF-15										24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.00	602897.10	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.50	602902.20	2.1	131.0	2.4	135.8	6.4	96	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-15-02	3/12/2014	684260.50	602900.20	2.8	133.0	1.3	135.8	6.4	98	24	Tilcon MH DGA		Vertical 5
1	BF-16		684326.70	602937.00	-1.1						25	Crushed concrete	Bottom of excavation elevation	
2	BF-16										25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.90	602942.70	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.00	602937.20	1.8	132.2	1.4	135.8	6.4	97	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-16-02	3/14/2014	684326.70	602930.00	2.5	134.0	1.2	135.8	6.4	99	25	Tilcon MH DGA		Vertical 5
1	BF-17		684283.70	602879.00	0.4						26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17										26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.60	602882.10	2.1	130.0	2.9	135.8	6.4	96	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-17-02	3/14/2014	684273.70	602879.10	3.1	132.0	2.2	135.8	6.4	97	26	Tilcon MH DGA		Vertical 5
1	BF-18		684350.80	602909.60	-1.5						27	Crushed concrete	Bottom of excavation elevation	
2	BF-18										27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.50	602885.60	1.5	132.4	1.4	135.8	6.4	97	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-18-02	3/14/2014	684344.00	602911.50	2.7	134.0	1.1	135.8	6.4	99	27	Tilcon MH DGA		Vertical 5
1	BF-19		684313.20	602860.40	0.3						28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19										28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.10	602872.70	2.8	134.0	0.9	135.8	6.4	99	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-19-02	3/17/2014	684301.40	602851.50	3.6	133.0	1.3	135.8	6.4	98	28	Tilcon MH DGA		Vertical 5
1	BF-20		684370.90	602887.40	-1.7						29	Crushed concrete	Bottom of excavation elevation	
2	BF-20										29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.50	602862.10	2.0	133.0	1.7	135.8	6.4	98	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
1	BF-21		684330.40	602835.90	1.9						30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.30	602842.20	2.4	132.0	1.6	135.8	6.4	97	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	Vertical 5
3	BF-21-02	3/17/2014	684307.40	602827.30	3.3	134.0	0.8	135.8	6.4	99	30	Tilcon MH DGA	Bridge Lift over Stratum O	Vertical 5

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	BF-21-03	3/19/2014	684314.60	602830.90	3.9	122.5	5.1	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
5	BF-21-04	3/20/2014	684314.40	602815.10	4.5	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
6	BF-21-05	3/20/2014	684321.10	602814.10	5.2	124.0	3.9	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
7	BF-21-06	3/20/2014	684308.30	602802.20	5.8	122.5	5.0	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
8	BF-21-07	3/20/2014	684305.80	602806.30	6.7	123.3	4.0	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
9	BF-21-08	3/20/2014	684314.40	602804.80	7.6	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	Vertical 5
10	BF-21-09	3/20/2014	684310.50	602806.60	8.4	132.5	1.9	135.8	6.4	98	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	Vertical 5
1	BF-22		684391.20	602864.30	-2.3						31	Crushed concrete	Bottom of excavation elevation	
2	BF-22										31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.30	602845.00	1.4	134.0	0.8	135.8	6.4	99	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
1	BF-23		684350.90	602814.50	-1.6						32	Crushed concrete	Bottom of excavation elevation	
2	BF-23										32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.90	602818.80	2.4	132.0	2.0	135.8	6.4	97	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-23-02	3/17/2014	684339.80	602809.60	3.5	134.0	1.1	135.8	6.4	99	32	Tilcon MH DGA		Vertical 5
1	BF-24		684411.00	602842.40	-1.8						33	Crushed concrete	Bottom of excavation elevation	
2	BF-24										33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.40	602827.40	1.1	134.0	0.8	135.8	6.4	99	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
1	BF-25		684369.50	602729.20	-1.8						34	Crushed concrete	Bottom of excavation elevation	
2	BF-25										34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.50	602796.30	2.0	131.0	2.1	135.8	6.4	96	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-25-02	3/17/2014	684354.80	602790.50	3.4	133.0	1.5	135.8	6.4	98	34	Tilcon MH DGA		Vertical 5
1	BF-26		684433.40	602818.80	-2.1						35	Crushed concrete	Bottom of excavation elevation	
2	BF-26										35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.90	602828.30	0.3	134.0	0.8	135.8	6.4	99	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	Vertical 5
4	BF-26-02	3/18/2014	684431.70	602817.70	0.8	133.0	1.3	135.8	6.4	98	35	Tilcon MH DGA		Vertical 5
1	BF-27		684389.40	602765.00	-1.8						36	Crushed concrete	Bottom of excavation elevation	
2	BF-27										36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.20	602773.80	1.8	133.0	1.6	135.8	6.4	98	36	Tilcon MH DGA		Vertical 5
0	BF-28		684457.00	602790.80	-2.8						38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.20	602789.30	-0.4	133.2	1.0	135.8	6.4	98	38	Tilcon MH DGA		Vertical 5
0	BF-29		684418.80	602735.20	2.1						39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.60	602731.30	3.3	134.0	1.2	135.8	6.4	99	39	Tilcon MH DGA		Vertical 5
0	BF-30		684476.80	602765.10	-3.1						40	Stratum D	Bottom of excavation elevation	
2	BF-30-01	3/12/2014	684478.90	602766.20	-0.7	133.2	1.1	135.8	6.4	98	40	Tilcon MH DGA		Vertical 5
0	BF-31		684436.00	602712.80	0.1						41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.70	602739.50	-2.2						42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.60	602743.00	-0.9	131.0	2.3	135.8	6.4	96	42	Tilcon MH DGA		Vertical 5
0	BF-33		684453.00	602683.20	0.1						43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.50	602716.80	-2.5						44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.60	602715.40	-1.1	131.0	2.0	135.8	6.4	96	44	Tilcon MH DGA		Vertical 5
0	BF-35		684471.30	602661.20	0.2						45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.20	602694.60	-3.0						46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.10	602700.70	-1.9	134.5	0.5	135.8	6.4	99	46	Tilcon MH DGA		Vertical 5
0	BF-37		684490.00	602636.80	0.2						47	Stratum O		
0	BF-38		684558.40	602671.70	-3.0						48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.40	602683.60	-1.7	131.9	1.9	135.8	6.4	97	48	Tilcon MH DGA		Vertical 5
0	BF-39		684510.60	602614.80	0.4						49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.40	602644.90	-3.6						50	Stratum D	Bottom of excavation elevation	
	BF-40-01	3/26/2014	684572.20	602653.50	-1.4	134.8	0.5	135.8	6.4	99	50	Tilcon MH DGA		Vertical 5
	BF-41										51	Crushed concrete		

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:
BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

Note: Data shown is for recent months activity

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	RF-01		684158.60	603152.40							6			
	RF-02		684190.60	603063.90							12			
	RF-03		684270.20	603012.00							18			
7	RF-03-01	3/21/2014	684267.90	603017.50	6.1	124.0	3.6	128.9	12.1	96	18	Weldon WC Screenings		V5N
	RF-04		684235.20	602919.80							22			
6	RF-04-01	3/21/2014	684227.00	602916.60	5.5	124.0	3.6	128.9	12.1	96	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.50	602908.50	6.2	123.6	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.80	602904.90	7.1	125.8	3.0	128.9	12.1	98	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.80	602926.90	8.2	120.0	3.6	128.9	12.1	93	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.80	602926.90	8.2	125.0	4.1	128.9	12.1	97	22	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-05		684328.50	602935.00							25			
5	RF-05-01	3/24/2014	684347.10	602947.50	3.3	122.5	4.5	128.9	12.1	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.12	602942.00	4.1	123.5	3.7	128.9	12.1	96	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.40	602937.80	5.4	125.0	2.6	128.9	12.1	97	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.00	602933.40	6.4	128.9	4.7	128.9	12.1	100	25	Weldon WC Screenings		V5N
	RF-06		684334.97	602869.13							25			
2	RF-06-01	4/1/2014	684383.70	602908.80	3.0	126.0	2.7	128.9	12.1	98	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.80	602904.90	4.1	125.0	2.8	128.9	12.1	97	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.90	602890.50	5.9	127.6	4.0	128.9	12.1	99	29	Weldon WC Screenings		V5N
	RF-07		684392.90	602838.10							32			
4	RF-07-01	4/3/2014	684425.20	602890.40	3.0	125.3	5.1	128.9	12.1	97	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.60	602854.90	4.1	126.3	5.5	128.9	12.1	98	32	Weldon WC Screenings		V5N
	RF-08		684406.90	602771.10							36			
4	RF-08-01	4/3/2014	684421.70	602797.10	2.9	129.0	6.0	128.9	12.1	100	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

Note: Data shown is for recent months activity

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-1)
- SA-6 South Deep Well Data (DW-2)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
02/03/14	1	72	6,7,EPS	51	268,122	292,592	24,470	1,097,387	5.7	
02/04/14	1	24	6,7,EPS	51	292,592	299,040	6,448	1,103,835	4.5	
02/05/14	1	24	6,7,EPS	51	299,040	309,154	10,114	1,113,949	7.0	
02/06/14	1	24	6,7,EPS	51	309,154	318,585	9,431	1,123,380	6.5	
02/07/14	1	24	6,7,EPS	51	318,585	328,074	9,489	1,132,869	6.6	
02/10/14	1	72	6,7,EPS	51	328,074	344,536	16,462	1,149,331	3.8	
02/11/14	1	24	6,7,EPS	51	344,536	347,331	2,795	1,152,126	1.9	
02/12/14	1	24	6,7,EPS	47	347,331	349,076	1,745	1,153,871	1.2	System Temporarily Disable for Relocation
02/18/14	1	144	6,7,EPS	47	349,076	349,084	8	1,153,879	0.0	Pump maintenance and Freezing Delays
02/19/14	1	24	6,7,EPS	47	349,084	351,236	2,152	1,156,031	1.5	
02/20/14	1	24	6,7,EPS	47	351,236	358,591	7,355	1,163,386	5.1	
02/21/14	1	24	6,7,8,EPS	65	358,591	369,538	10,947	1,174,333	7.6	
02/24/14	1	72	7,8,EPS	59	369,538	385,722	16,184	1,190,517	3.7	
02/25/14	1	24	7,8,EPS	59	385,722	389,100	3,378	1,193,895	2.3	
02/26/14	1	24	7,8,EPS	59	389,100	392,185	3,085	1,196,980	2.1	
02/27/14	1	24	7,8,EPS	59	392,185	394,083	1,898	1,198,878	1.3	
02/28/14	1	24	7,8,EPS	59	394,083	394,858	775	1,199,653	0.5	
03/03/14	1	72	7,8,9,EPS	66	N/A	N/A	12,100	1,211,753	2.8	Flowmeter Frozen (Read by Gauging Tank)
03/04/14	1	24	7,8,9,EPS	66	N/A	N/A	4,600	1,216,353	3.2	
03/05/14	1	24	7,8,9,EPS	66	N/A	N/A	3,900	1,220,253	2.7	
03/06/14	1	24	7,8,9,EPS	66	N/A	N/A	3,700	1,223,953	2.6	
03/07/14	1	24	7,8,9,EPS	66	N/A	N/A	2,500	1,226,453	1.7	
03/10/14	1	72	7,8,9,EPS	66	N/A	N/A	1,700	1,228,153	0.4	
03/11/14	1	24	7,8,9,EPS	66	394858	394,948	90	1,228,243	0.1	
03/12/14	1	24	7,8,9,EPS	66	394948	395,094	146	1,228,389	0.1	Flowmeter Blockage Cleared and Reset
03/14/14	1	24	7,8,9,EPS	67	0	8,194	8,194	1,236,583	5.7	
03/17/14	1	72	8,9,EPS	56	8,194	32,805	24,611	1,261,194	5.7	
03/18/14	1	24	8,9,EPS	52	32,805	41,005	8,200	1,269,394	5.7	
03/19/14	1	24	8,9,EPS	52	41,005	53,281	12,276	1,281,670	8.5	
03/20/14	1	24	8,9,EPS	52	53,281	68,164	14,883	1,296,553	10.3	
03/21/14	1	24	8,9,EPS	44	68,164	82,672	14,508	1,311,061	10.1	
03/24/14	1	72	9,EPS	44	82,672	112,690	30,018	1,341,079	6.9	
03/25/14	1	24	9,EPS	14	112,690	136,290	23,600	1,364,679	16.4	
03/26/14	1	24	9,EPS	14	136,290	159,720	23,430	1,388,109	16.3	
03/27/14	1	24	9,EPS	14	159,720	173,928	14,208	1,402,317	9.9	
03/28/14	1	24	9,EPS	14	173,928	188,251	14,323	1,416,640	9.9	
03/31/14	1	72	9,EPS	14	188,251	234,816	46,565	1,463,205	10.8	
04/01/14	1	24	9,EPS	14	234,816	254,072	19,256	1,482,461	13.4	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-1)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (GPM)	COMMENTS
01/02/14	48	678,171	697,609	19,438	681,074	6.7	
01/06/14	96	697,609	733,339	35,730	716,804	6.2	Well Taken Offline
03/11/14	24	0	13,985	13,985	730,789	9.7	Well Online
03/12/14	24	13,985	28,186	14,201	744,990	9.9	
03/13/14	24	28,186	29,780	1,594	746,584	1.1	
03/14/14	24	29,780	31,460	1,680	748,264	1.2	
03/17/14	72	31,460	36,200	4,740	753,004	1.1	
03/18/14	24	36,200	37,460	1,260	754,264	0.9	
03/19/14	24	37,460	46,700	9,240	763,504	6.4	
03/20/14	24	46,700	55,760	9,060	772,564	6.3	
03/21/14	24	55,760	63,390	7,630	780,194	5.3	
03/24/14	72	63,390	96,110	32,720	812,914	7.6	
03/25/14	24	96,110	107,450	11,340	824,254	7.9	
03/26/14	24	107,450	116,401	8,951	833,205	6.2	Well Taken Offline

Note: Data shown is for recent months activity

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
02/03/14	72	782,573	827,501	44,928	897,390	10.4	
02/04/14	24	827,501	838,572	11,071	908,461	7.7	
02/05/14	24	838,572	853,159	14,587	923,048	10.1	
02/06/14	24	853,159	866,882	13,723	936,771	9.5	
02/07/14	24	866,882	881,016	14,134	950,905	9.8	
02/10/14	72	881,016	923,079	42,063	992,968	9.7	
02/11/14	24	923,079	936,961	13,882	1,006,850	9.6	
02/12/14	24	936,961	950,902	13,941	1,020,791	9.7	
02/13/14	24	950,902	976,618	25,716	1,046,507	17.9	
02/14/14	24	976,618	990,724	14,106	1,060,613	9.8	
02/18/14	86	990,724	1,051,980	61,256	1,121,869	11.9	
02/19/14	24	1,053,780	1,073,780	20,000	1,141,869	13.9	
02/20/14	24	1,073,780	1,083,940	10,160	1,152,029	7.1	
02/21/14	24	1,083,940	1,114,610	30,670	1,182,699	21.3	
02/24/14	72	1,114,610	1,163,430	48,820	1,231,519	11.3	
02/25/14	24	1,163,430	1,184,280	20,850	1,252,369	14.5	
02/26/14	24	0	4,180	4,180	1,256,549	2.9	Flowmeter Reset
02/27/14	24	4,180	9,643	5,463	1,262,012	3.8	
02/28/14	24	9,643	14,717	5,074	1,267,086	3.5	
03/03/14	72	14,717	43,855	29,138	1,296,224	6.7	
03/04/14	24	43,855	50,452	6,597	1,302,821	4.6	
03/05/14	24	50,452	61,014	10,562	1,313,383	7.3	
03/06/14	24	61,014	71,934	10,920	1,324,303	7.6	Well Taken Offline for Excavation
03/27/14	8	71,934	74,639	2,705	1,327,008	5.6	Well Online
03/28/14	24	74,639	85,721	11,082	1,338,090	7.7	
03/31/14	72	85,721	123,254	37,533	1,375,623	8.7	
04/01/14	24	0	17,708	17,708	1,393,331	12.3	Flowmeter Reset

Note: Data shown is for recent months activity

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/04/14	8.0	3,516.69	3,628.15	111,460	3,627,700	PVSC Compliance Sample collected
02/07/14	8.0	3,628.15	3,733.31	105,160	3,732,860	
02/11/14	8.0	3,733.31	3,854.45	121,140	3,854,000	
02/12/14	2.0	3,854.45	3,884.29	29,840	3,883,840	
02/14/14	6.0	3,884.29	3,933.69	49,400	3,933,240	
02/15/14	8.0	3,933.69	4,032.69	99,000	4,032,240	
02/18/14	8.0	4,032.69	4,123.91	91,220	4,123,460	
02/20/14	8.0	4,123.91	4,251.33	127,420	4,250,880	
02/21/14	8.0	4,251.33	4,412.37	161,040	4,411,920	
02/22/14	8.0	4,412.37	4,536.78	124,410	4,536,330	
02/24/14	8.0	4,536.78	4,660.60	123,820	4,660,150	
02/25/14	8.0	4,660.60	4,850.50	189,900	4,850,050	
02/26/14	8.0	4,850.50	4,970.69	120,190	4,970,240	
03/04/14	8.0	4,970.69	5,064.73	94,040	5,064,280	PVSC Compliance Sample collected
03/05/14	8.0	5,064.73	5,170.07	105,340	5,169,620	
03/10/14	8.0	5,170.07	5,299.77	129,700	5,299,320	
03/11/14	8.0	5,299.77	5,368.86	69,090	5,368,410	
03/12/14	8.0	5,368.86	5,433.63	64,770	5,433,180	
03/17/14	8.0	5,433.63	5,590.00	156,370	5,589,550	
03/18/14	8.0	5,590.00	5,690.00	100,000	5,689,550	
03/19/14	8.0	5,690.00	5,849.46	159,460	5,849,010	
03/20/14	8.0	5,849.46	5,912.45	62,990	5,912,000	
03/21/14	8.0	5,912.45	6,024.94	112,490	6,024,490	
03/24/14	8.0	6,024.94	6,125.64	100,700	6,125,190	
03/25/14	8.0	6,125.64	6,175.64	50,000	6,175,190	
03/26/14	8.0	6,175.64	6,248.89	73,250	6,248,440	
03/27/14	8.0	6,248.89	6,310.44	61,550	6,309,990	
03/28/14	8.0	6,310.44	6,380.45	70,010	6,380,000	
03/31/14	8.0	6,380.45	6,575.85	195,400	6,575,400	

Note: Data shown is for recent months activity

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

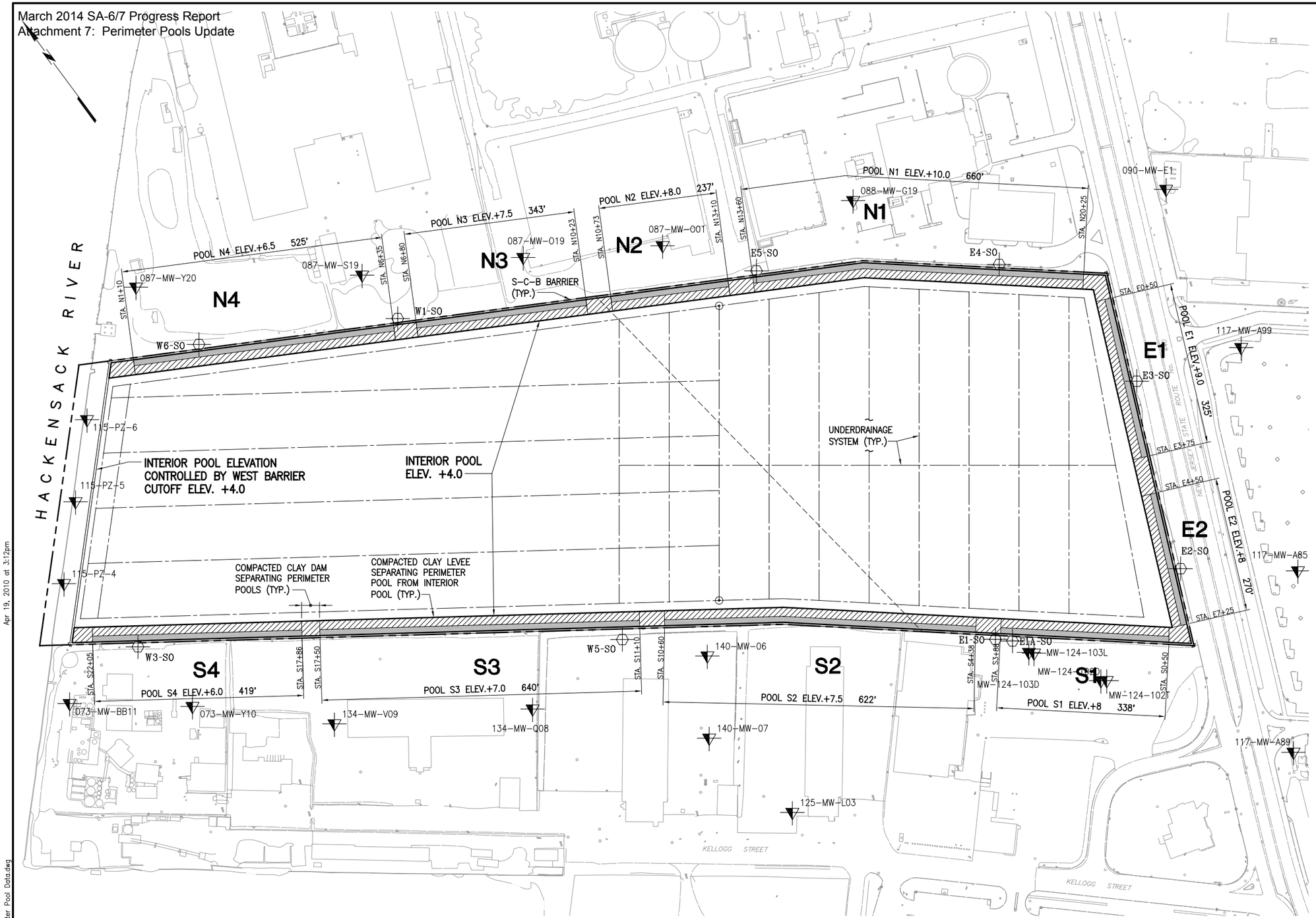
SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL*		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
30-41	>1000	41-1000-a	750	124-41-1000-a1	2/25/2014	12:40	1,750			Yes
				124-41-1000-a2	2/25/2014	12:45	3,690			Yes
				124-41-1000-a3	2/25/2014	12:50	3,410			Yes
				124-41-1000-a4	2/25/2014	12:55	453		Yes	
30-41	>1000	41-1000-b	750	124-41-1000-b1	2/25/2014	13:00	490		Yes	
				124-41-1000-b2	2/25/2014	13:05	1,110			Yes
				124-41-1000-b3	2/25/2014	13:10	669		Yes	
				124-41-1000-b4	2/25/2014	13:15	1,920			Yes
37-46	<20	46-20-a	750	124-46-20-a1	3/12/2014	14:00	3.2	**		
				124-46-20-a2	3/12/2014	14:05	2.2	**		
				124-46-20-a3	3/12/2014	14:10	3.9	**		
				124-46-20-a4	3/12/2014	14:15	2	**		
37-46	<20	46-20-b	750	124-46-20-b1	3/12/2014	14:20	2.9	**		
				124-46-20-b2	3/12/2014	14:25	3.8	**		
				124-46-20-b3	3/12/2014	14:30	2.2	**		
				124-46-20-b4	3/12/2014	14:35	2.6	**		
41-49	>1000	124-49-1000-a	1000	124-49-1000-a1	3/24/2014	9:15	3490			Pending
				124-49-1000-a2	3/24/2014	9:20	3850			Pending
				124-49-1000-a3	3/24/2014	9:25	2580			Pending
				124-49-1000-a4	3/24/2014	9:30	5570			Pending
41-49	>1000	124-49-1000-b	1000	124-49-1000-b1	3/24/2014	9:35	8840			Pending
				124-49-1000-b2	3/24/2014	9:40	2340			Pending
				124-49-1000-b3	3/24/2014	9:45	2		Pending	
				124-49-1000-b4	3/24/2014	9:50	4250			Pending

Notes:
*Material placement locations are approximate.
**Material currently stockpiled.

Note: Data shown is for recent months activity

Attachment 7: Perimeter Pools Update



IN PROGRESS
04-19-2010

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Apr 19, 2010 at 3:12pm
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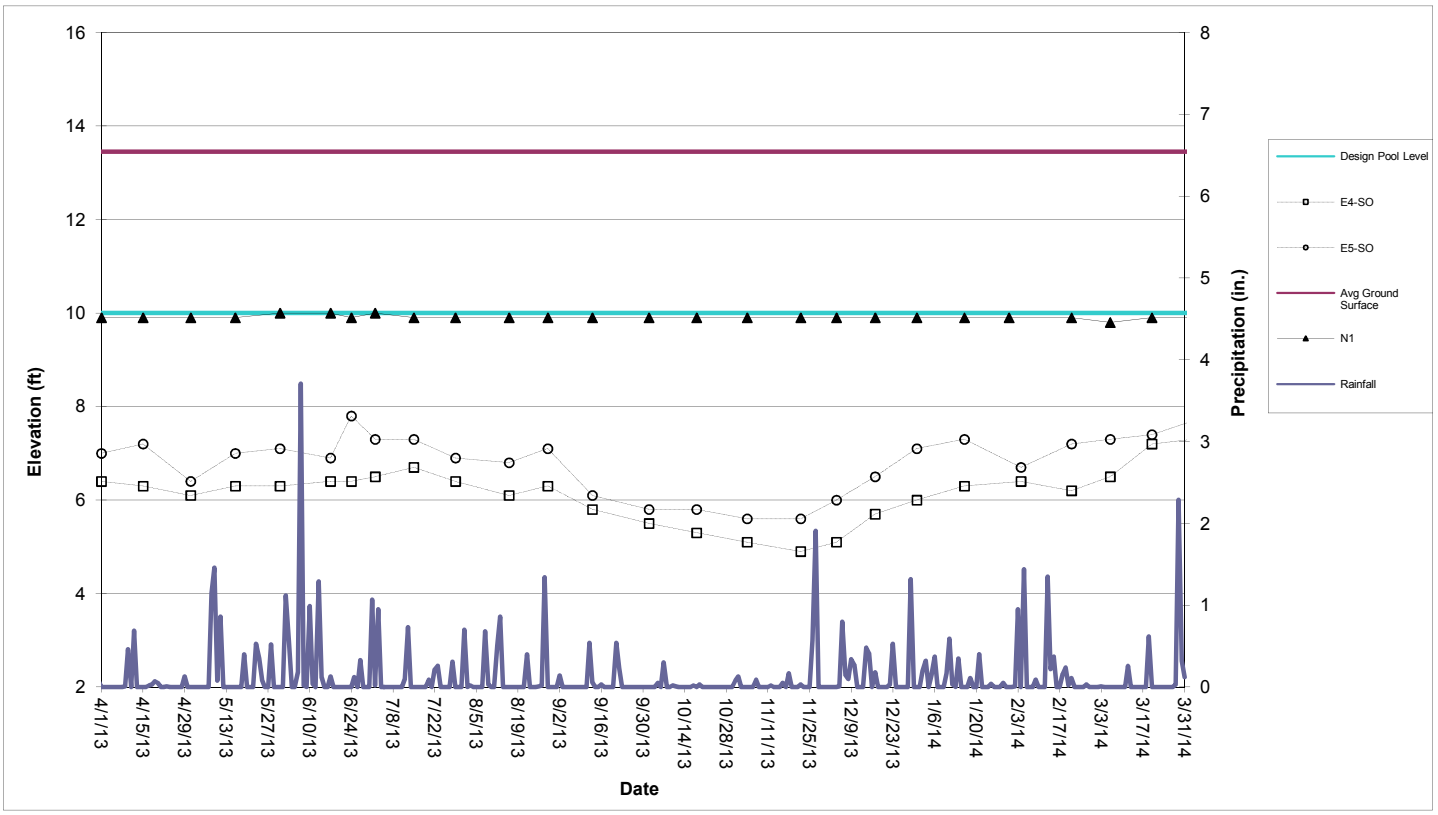
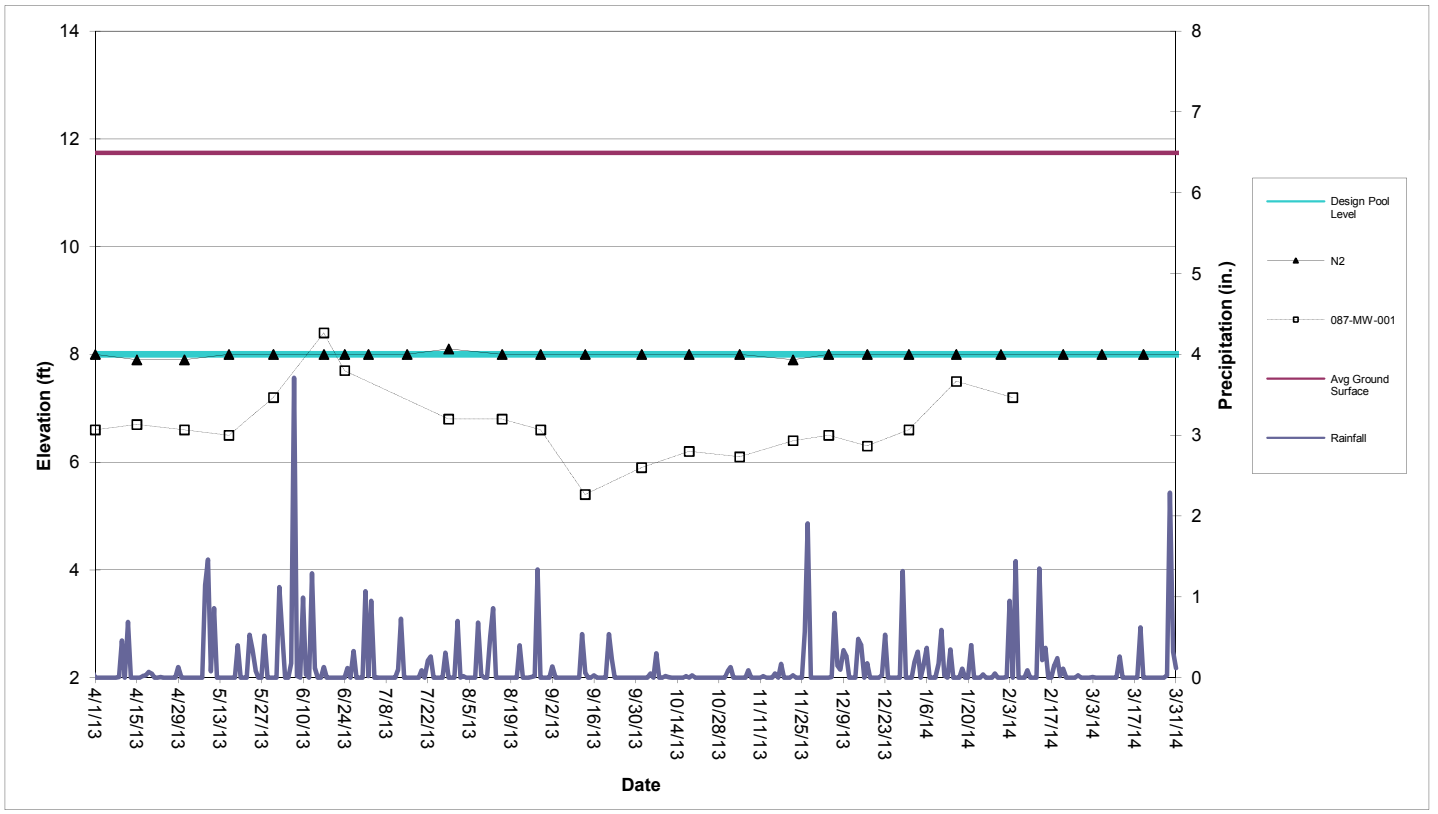
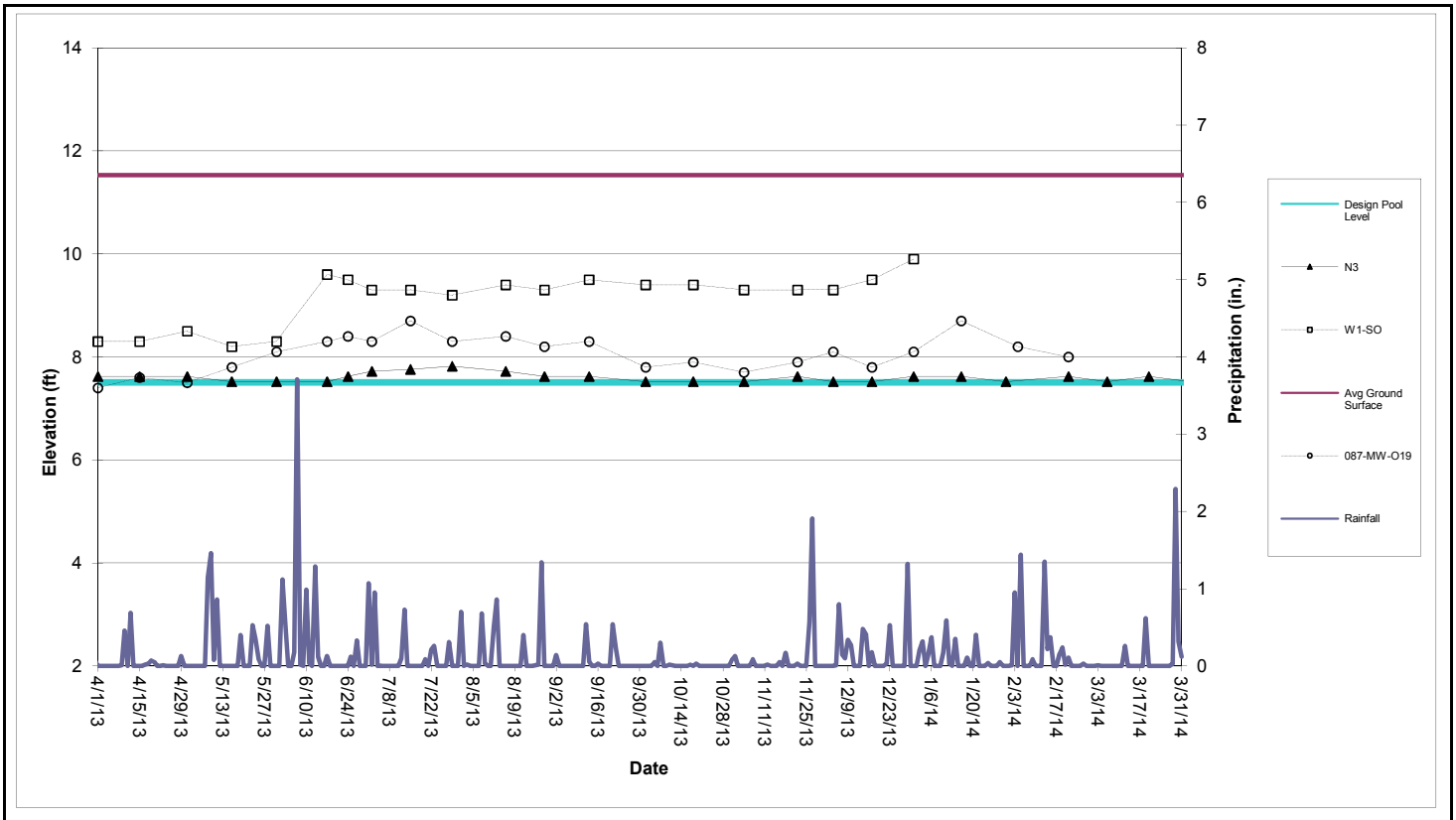
lreva



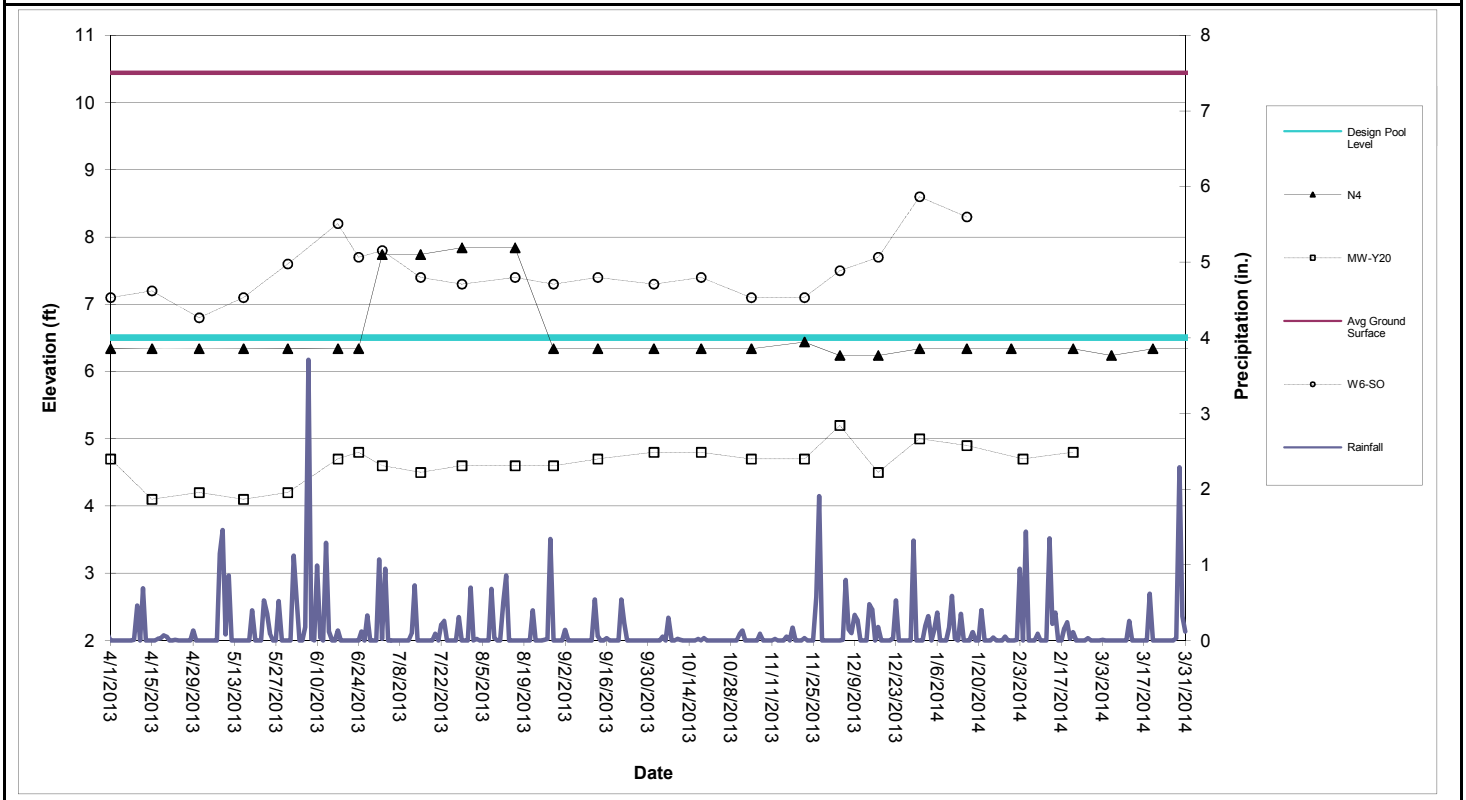
Perimeter Pool N1 (Sta. N13+60 to N20+25)



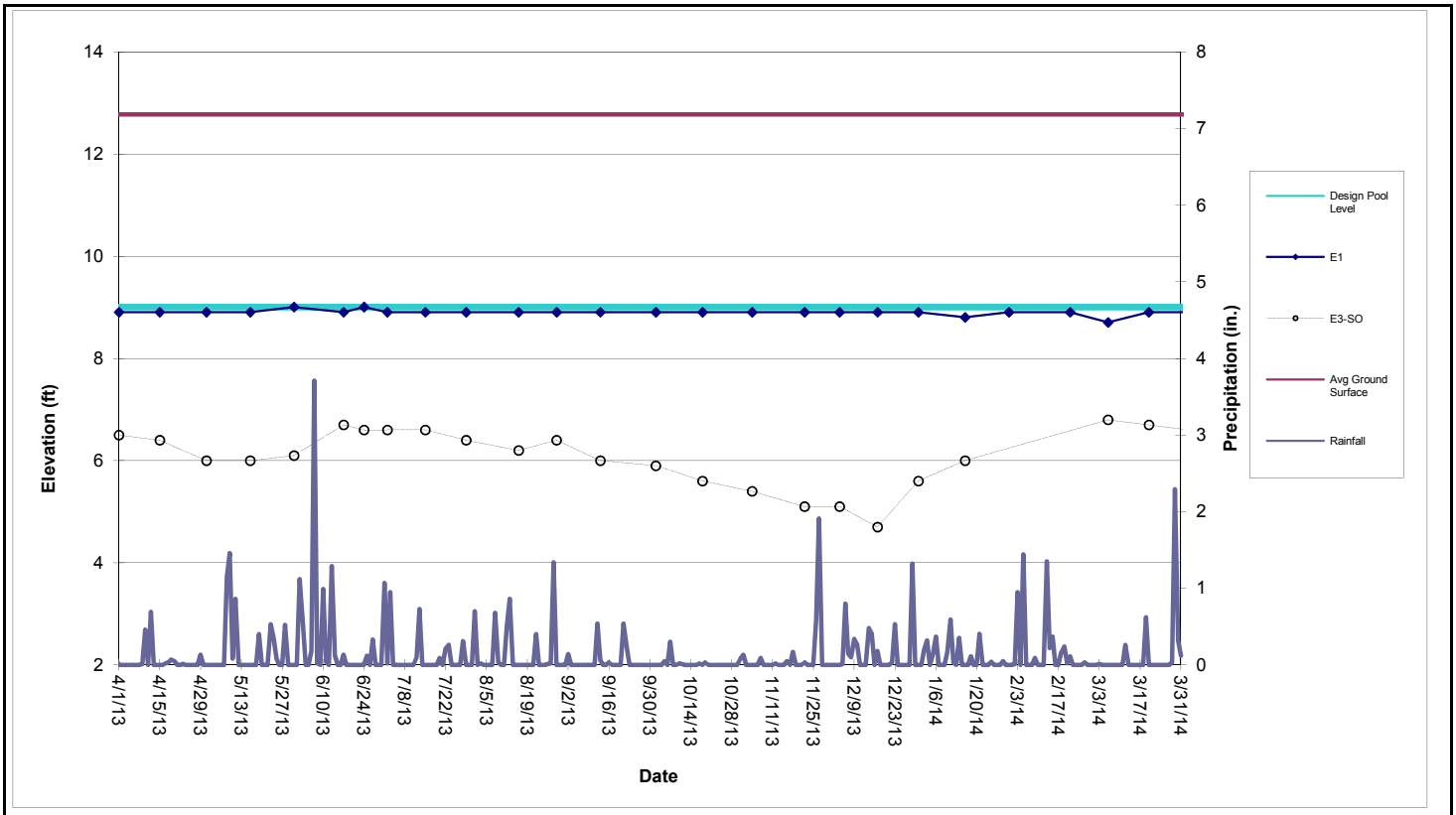
Perimeter Pool N2 (Sta. N10+73 to N13+10)



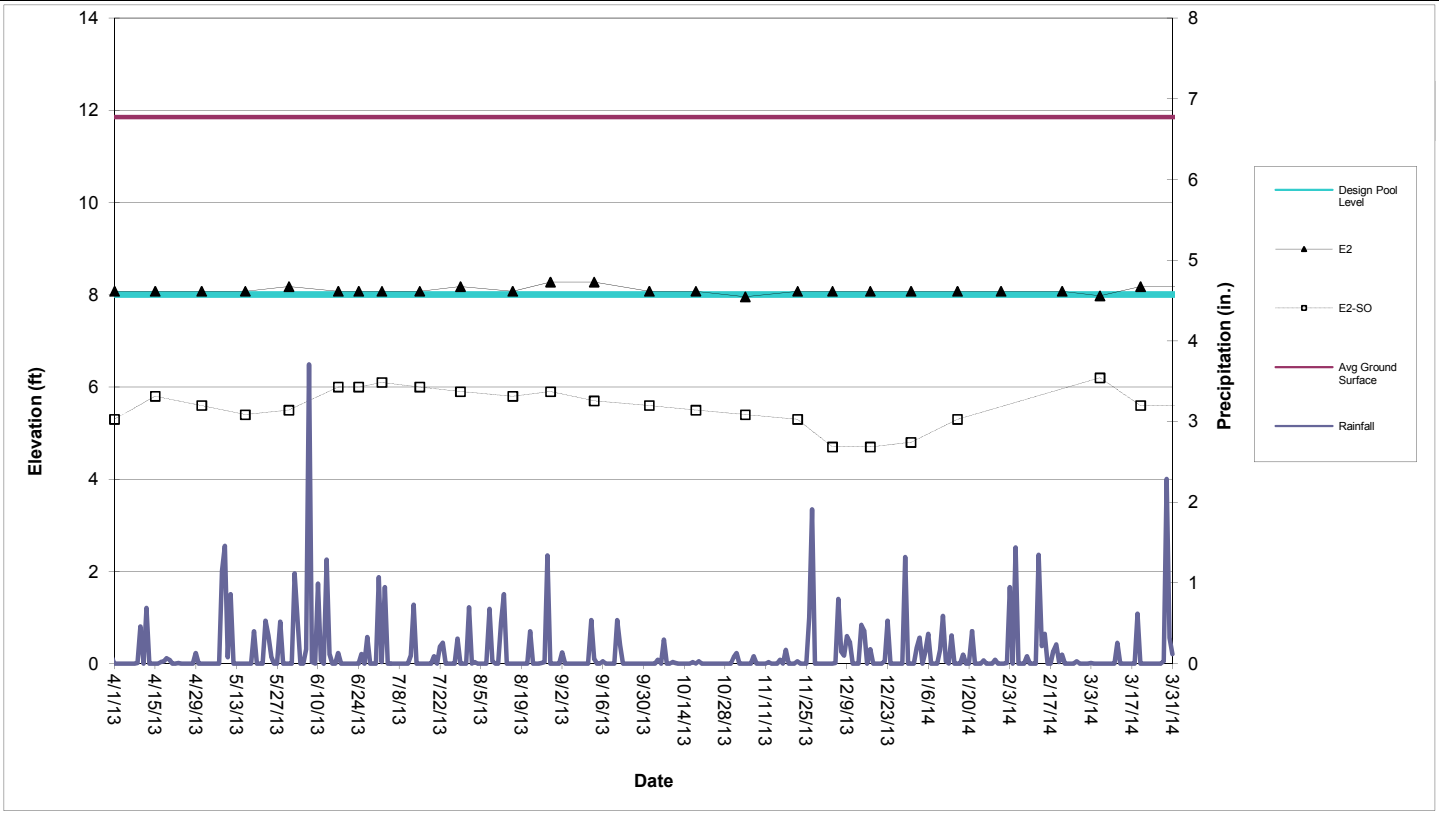
Perimeter Pool N3 (Sta. N6+80 to N10+23)



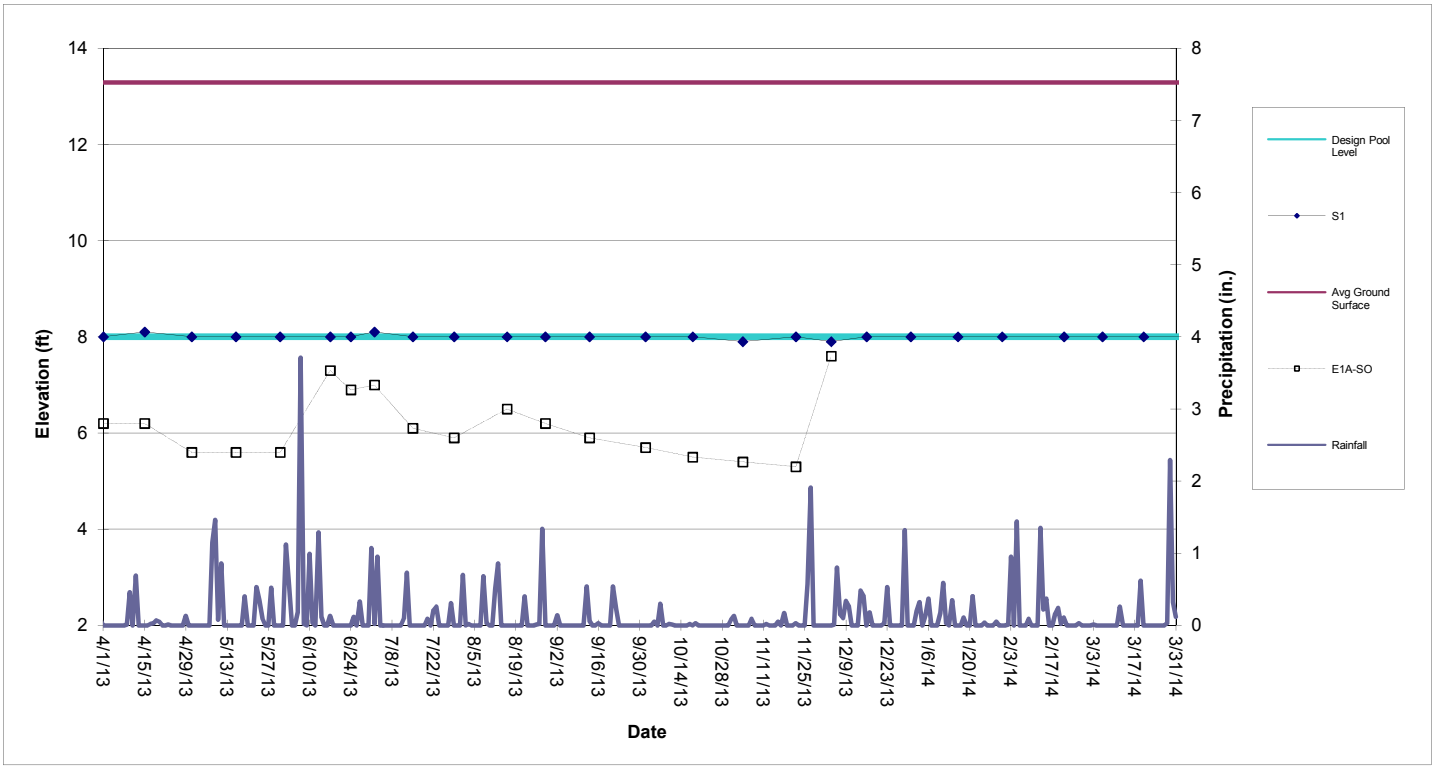
Perimeter Pool N4 (Sta. N6+80 to N10+23)



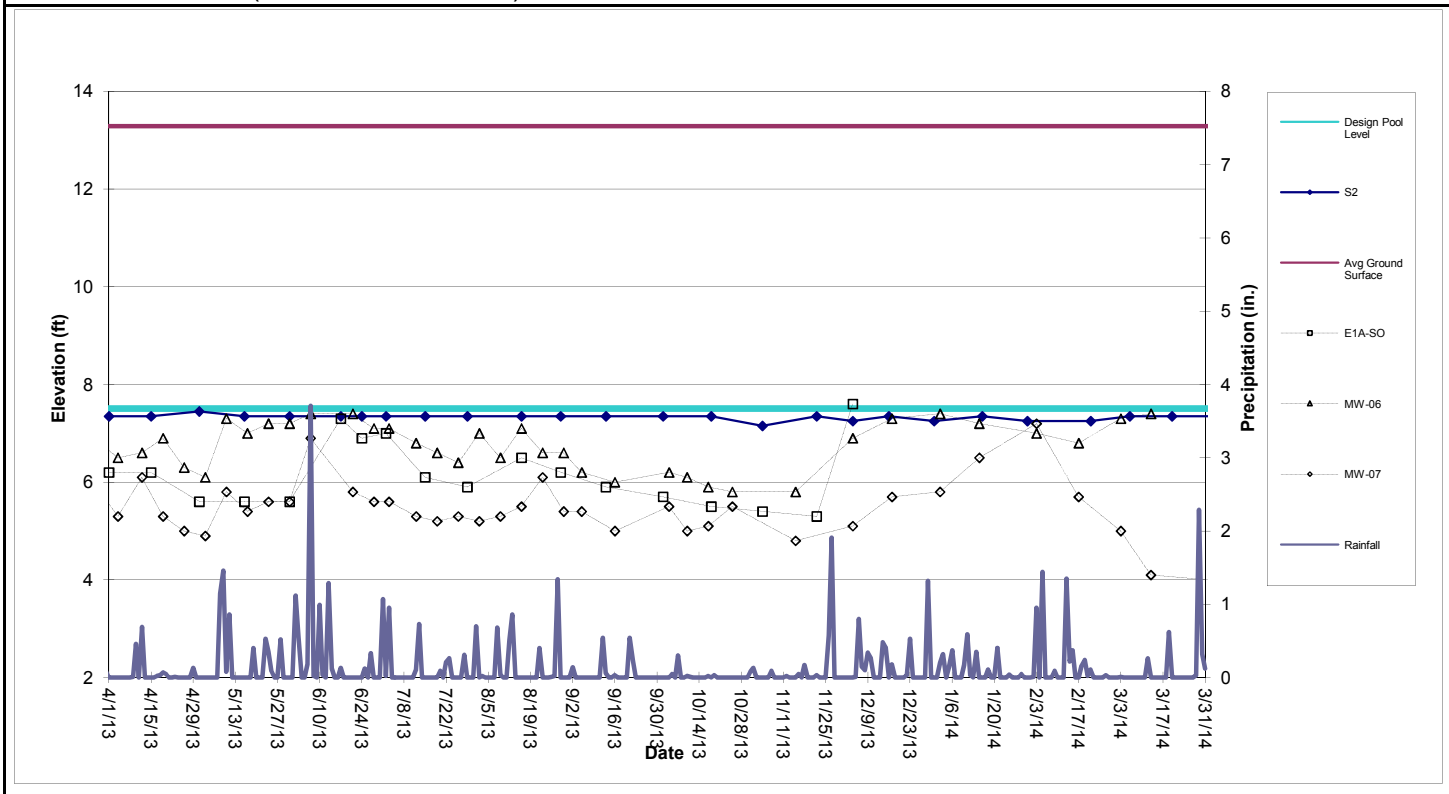
Perimeter Pool E1 (Sta. E0+50 to E3+75)



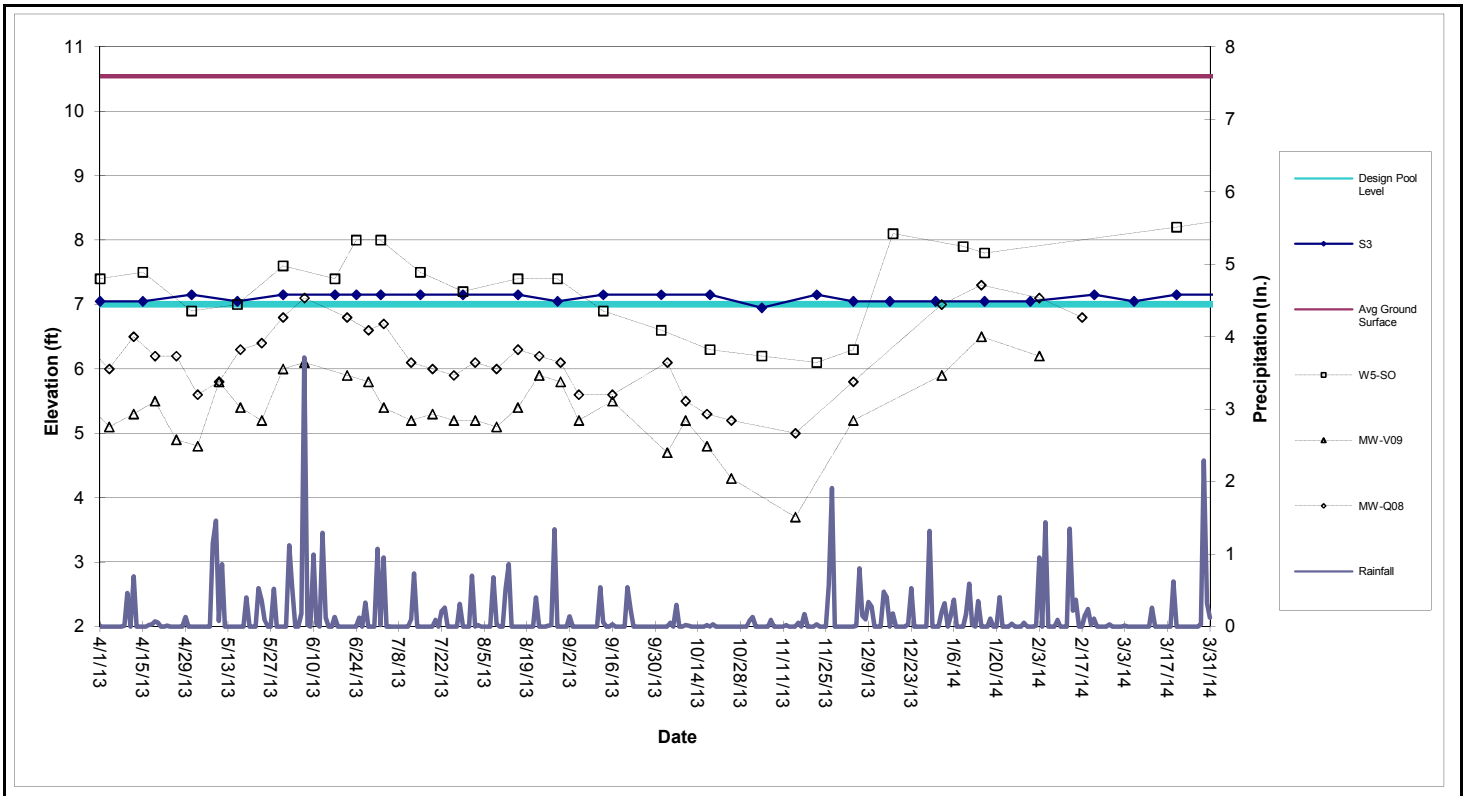
Perimeter Pool E2 (Sta. E4+50 to E7+25)



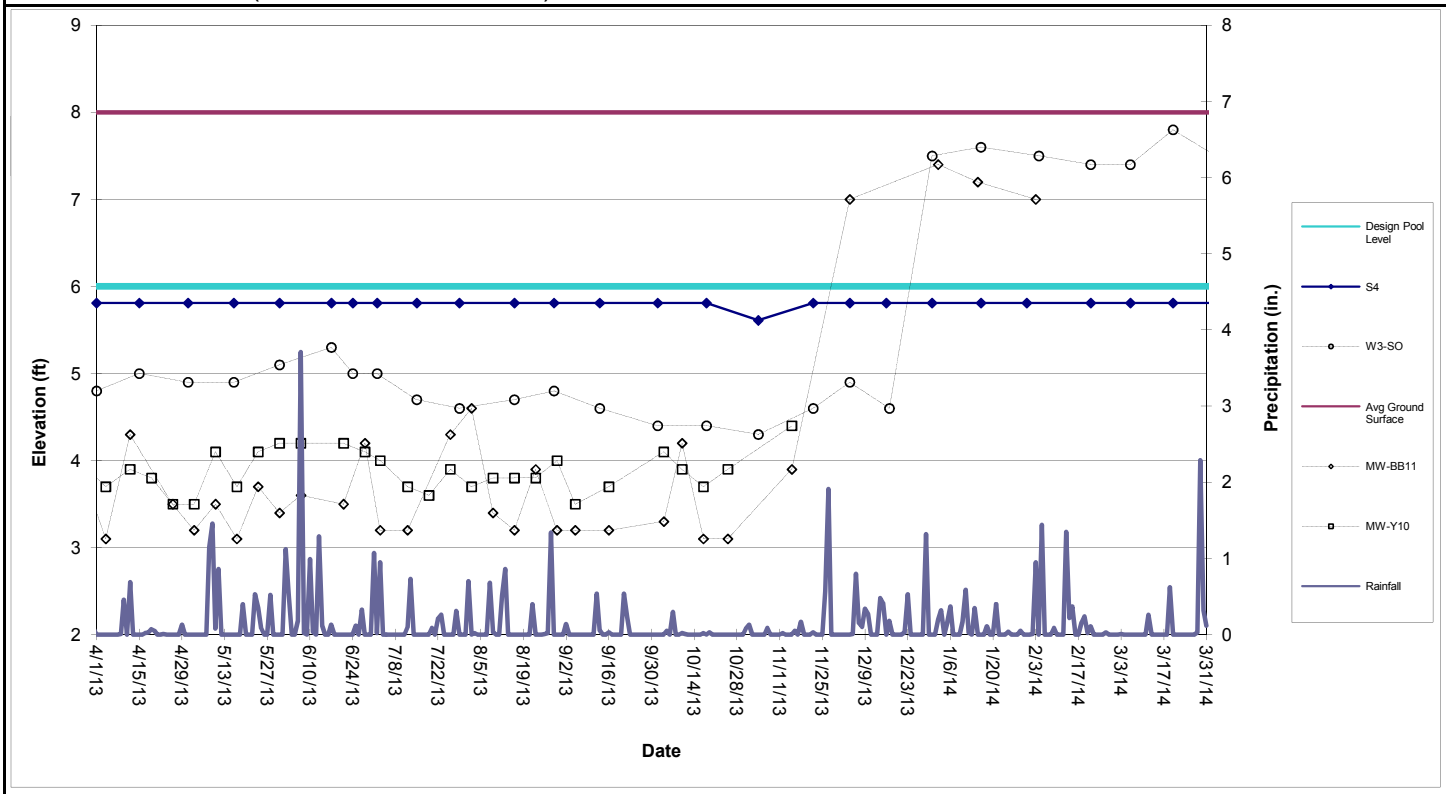
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										087-MW-			134-MW-		073-MW-		140-	
	** E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	** W1-SO	W3-SO	W5-SO	** W6-SO	* Y20	*001	* O19	** V09	*Q08	* BB-11	Y10	MW-06	MW-07
Date																		
9/5/2013													5.2	5.6	3.2	3.5	6.2	5.4
9/13/2013	5.9	5.7	6.0	5.8	6.1	9.5	4.6	6.9	7.4	4.7	5.4	8.3						
9/16/2013													5.5	5.6	3.2	3.7	6.0	5.0
10/2/2013	5.7	5.6	5.9	5.5	5.8	9.4	4.4	6.6	7.3	4.8	5.9	7.8						
10/4/2013													4.7	6.1	3.3	4.1	6.2	5.5
10/10/2013													5.2	5.5	4.2	3.9	6.1	5.0
10/17/2013													4.8	5.3	3.1	3.7	5.9	5.1
10/18/2013	5.5	5.5	5.6	5.3	5.8	9.4	4.4	6.3	7.4	4.8	6.2	7.9						
10/25/2013													4.3	5.2	3.1	3.9	5.8	5.5
11/4/2013	5.4	5.4	5.4	5.1	5.6	9.3	4.3	6.2	7.1	4.7	6.1	7.7						
11/15/2013													3.7	5.0	3.9	4.4	5.8	4.8
11/22/2013	5.3	5.3	5.1	4.9	5.6	9.3	4.6	6.1	7.1	4.7	6.4	7.9						
12/4/2013	7.6	4.7	5.1	5.1	6.0	9.3	4.9	6.3	7.5	5.2	6.5	8.1	5.2	5.8	7.0		6.9	5.1
12/17/2013		4.7	4.7	5.7	6.5	9.5	4.6	8.1	7.7	4.5	6.3	7.8					7.3	5.7
12/31/2013		4.8	5.6	6.0	7.1	9.9	7.5		8.6	5.0	6.6	8.1						
1/2/2014													5.9	7.0	7.4		7.4	5.8
1/9/2014								7.9										
1/15/2014													6.5	7.3	7.2		7.2	6.5
1/16/2014		5.3	6.0	6.3	7.3		7.6	7.8	8.3	4.9	7.5	8.7						
2/3/2014													6.2	7.1	7.0		7.0	7.2
2/4/2014				6.4	6.7		7.5			4.7	7.2	8.2						
2/17/2014														6.8			6.8	5.7
2/21/2014				6.2	7.2		7.4			4.8		8.0						
3/3/2014																	7.3	5.0
3/6/2014		6.2	6.8	6.5	7.3		7.4											
3/13/2014																	7.4	4.1
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2										

* Monitoring well abandoned per 100% Design Report
** Temporarily unavailable due to construction activities

Attachment 8: Quality and Level Data in GWET Wells

(Not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1N
- Instrumentation Installation Data

EXCAVATE MATERIAL ABOVE FORCE MAIN TO PLACE SP4–SP10 IN DIRECT CONTACT WITH STRUCTURE

EXISTING 72" PVSC FORCE MAIN

AS BUILT SENSOR LOCATION 686080.23 602274.18 ELEV=11.97

AS BUILT SENSOR LOCATION 686125.20 602179.75 ELEV=12.74

AS BUILT SENSOR LOCATION 686022.45 602394.16 ELEV=11.04

AS BUILT SENSOR LOCATION 685961.96 602514.81 ELEV=9.88

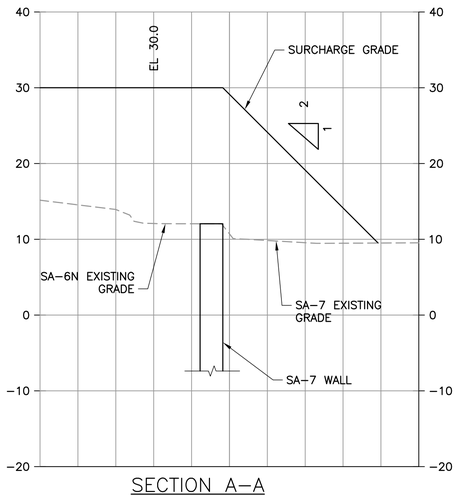
AS BUILT SENSOR LOCATION 685904.43 602635.42 ELEV=8.85

AS BUILT SENSOR LOCATION 685848.02 602762.07 ELEV=7.32

INCLINOMETERS BETWEEN HYDRAULIC BARRIER AND 72" FORCE MAIN

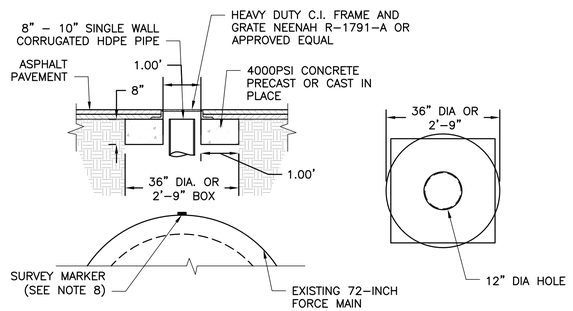
SEE NOTE 7 (TYP)

SA–7 FINAL GRADE (ACTUAL GRADES VARY)



SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686123	602109
VI–2	686029	602048
VI–3	685927	602572
VI–4	685866	602701
FS1	685981	602115
FS2	685863	602451
FS3	685811	602689
FS4	685723	602723
HS1	685959	602414
HS2	685929	602333
HS3	685865	602294
HS4	685920	602491
HS5	685787	602414
~~HS6~~	~~685785~~	~~602650~~
HS7	685696	602582
~~HS8~~	~~685826~~	~~602796~~
HS9	685624	602691

SP1	685881	602205
SP2	685757	602416
SP3	685613	602662
~~SP4~~	~~685953~~	~~602533~~
~~SP5~~	~~685931~~	~~602578~~
~~SP6~~	~~685906~~	~~602634~~
~~SP7~~	~~685887~~	~~602676~~
~~SP8~~	~~685867~~	~~602721~~
~~SP9~~	~~685849~~	~~602764~~
~~SP10~~	~~685884~~	~~602781~~



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
6. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
7. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
8. AT ALL SURVEY LOCATIONS CLEAN ADEQUATELY A SUFFICIENT AREA ON THE TOP SURFACE OF THE 72 INCH FORCE MAIN TO EPOXY THE SURVEY MARKER AND ELECTRONIC EQUIPMENT.

Installed Instrumentation Locations

Instrumentation Locations Not Installed

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SETUP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC
A1	ACOUSTICAL LOCATION FOR DISCUSSION PURPOSES ONLY
AS3	ACOUSTICAL/SURVEY LOCATION FOR DISCUSSION PURPOSES ONLY
X	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Prepared/Date: RJR 08/16/13
Checked/Date: AE 08/16/13

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

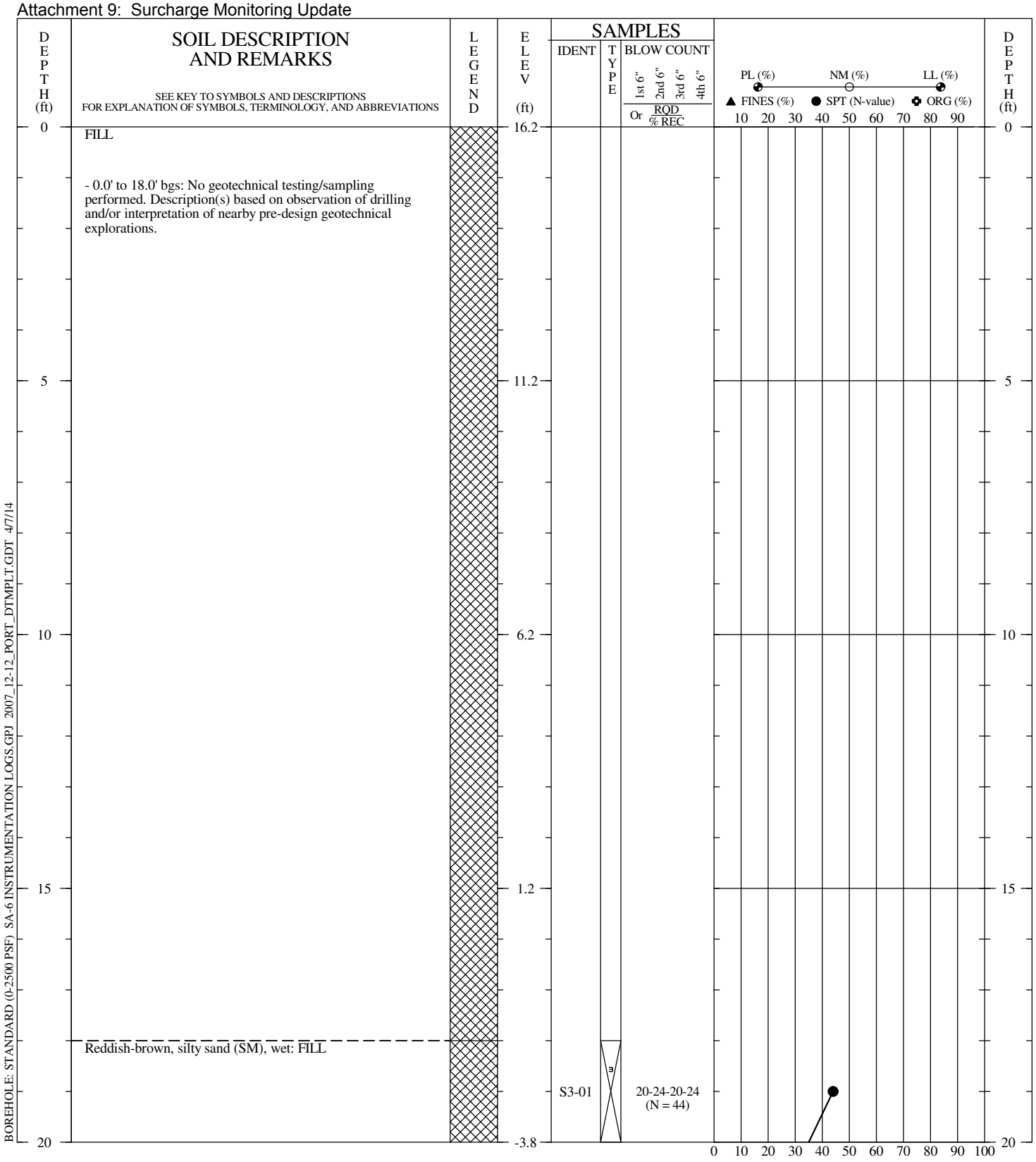
INSTRUMENTATION LOCATION PLAN 1N
Project 3480-09-0006
Figure B1

Z:\Projects\HONEYWELL\JERSEY CITY\Corp Design–2340–2580\2430\2430A\190 Percent\Figure 1 Surcharge Settling Monitoring Plan – Area 1.dwg Tue, 21 Jan 2014 – 7:11am roger.rauler

SURCHARGE AREA N1

INSTRUMENT INSTALLATION DATA

FS-01



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_VWP
DRILLED:	12/20/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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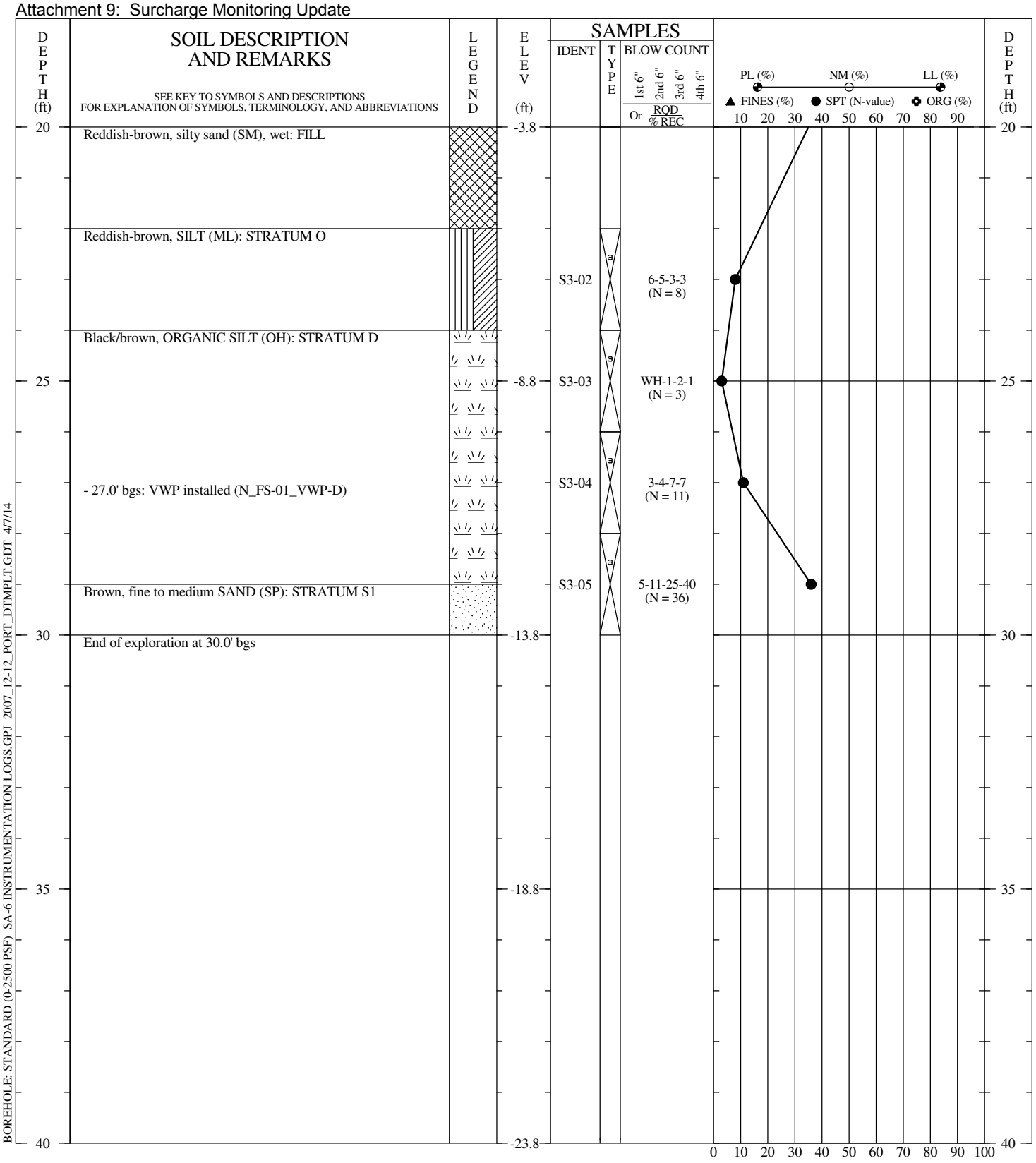

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_VWP
DRILLED:	12/20/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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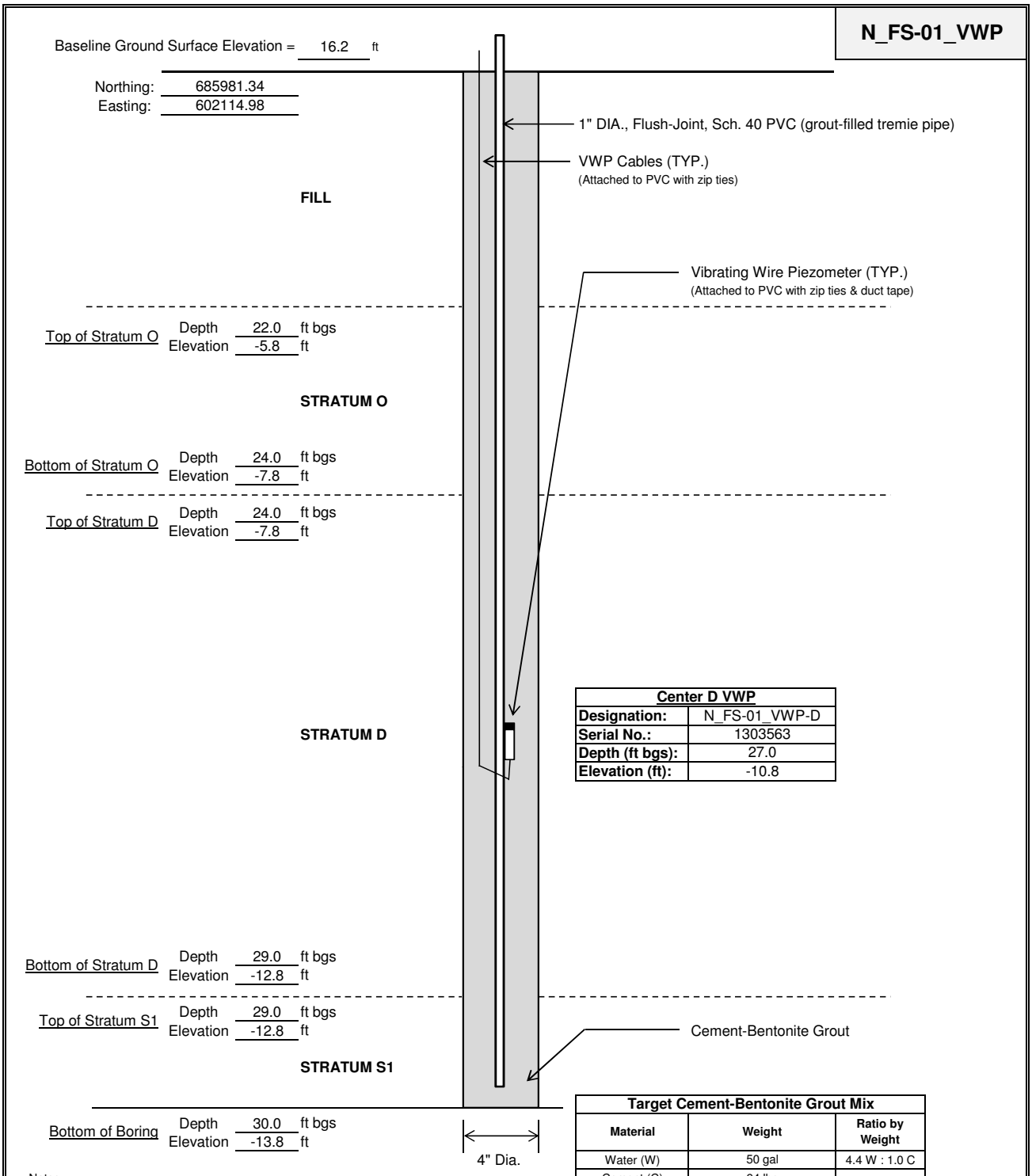
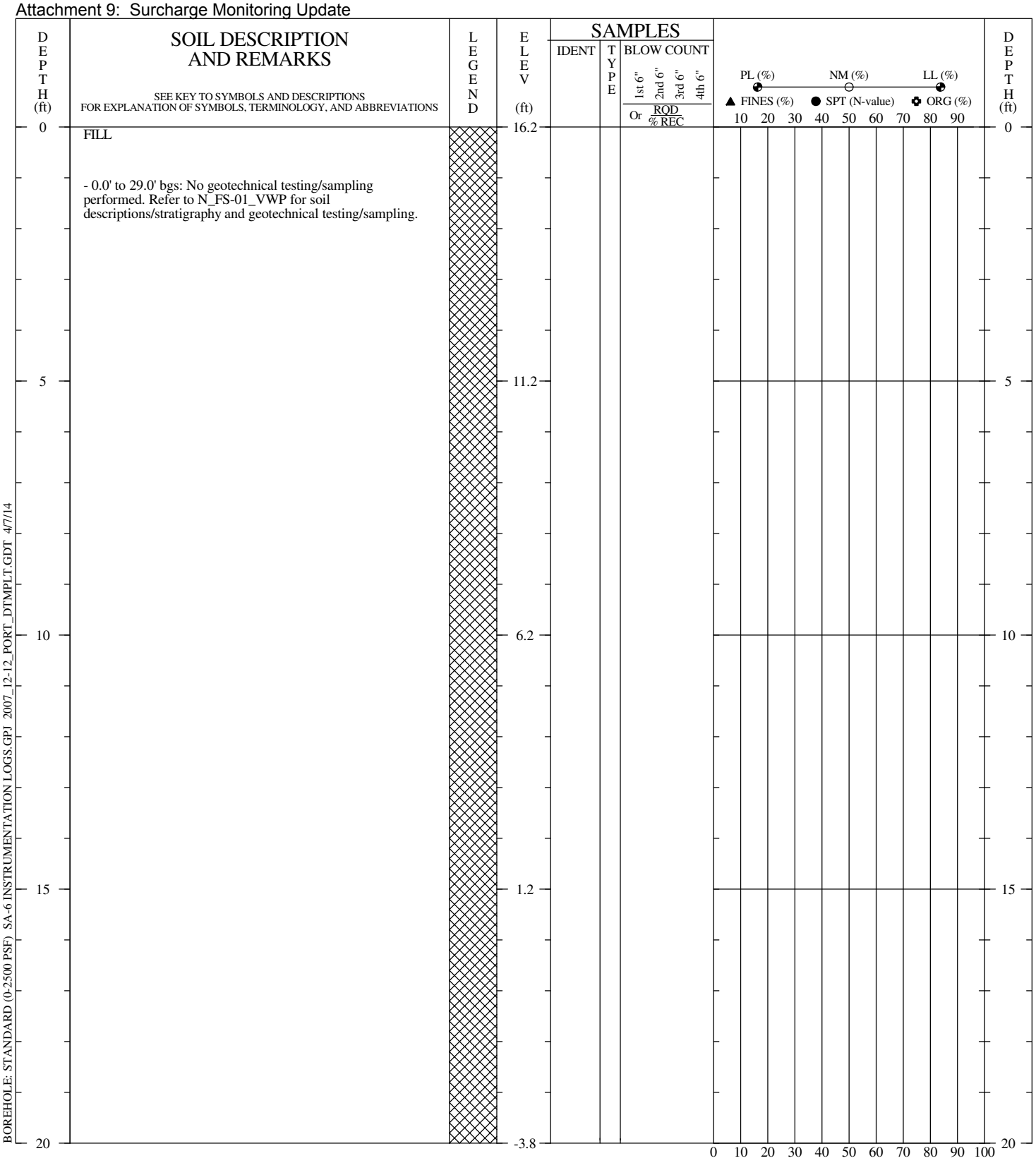


Notes:

1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-01_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/12-30-13
Boring No.:	N_FS-01_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	12/20/2013	**Project No.:**	3480-13-0377	**Scale:**	NTS



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 29' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_SS
DRILLED:	12/23/13 - 12/24/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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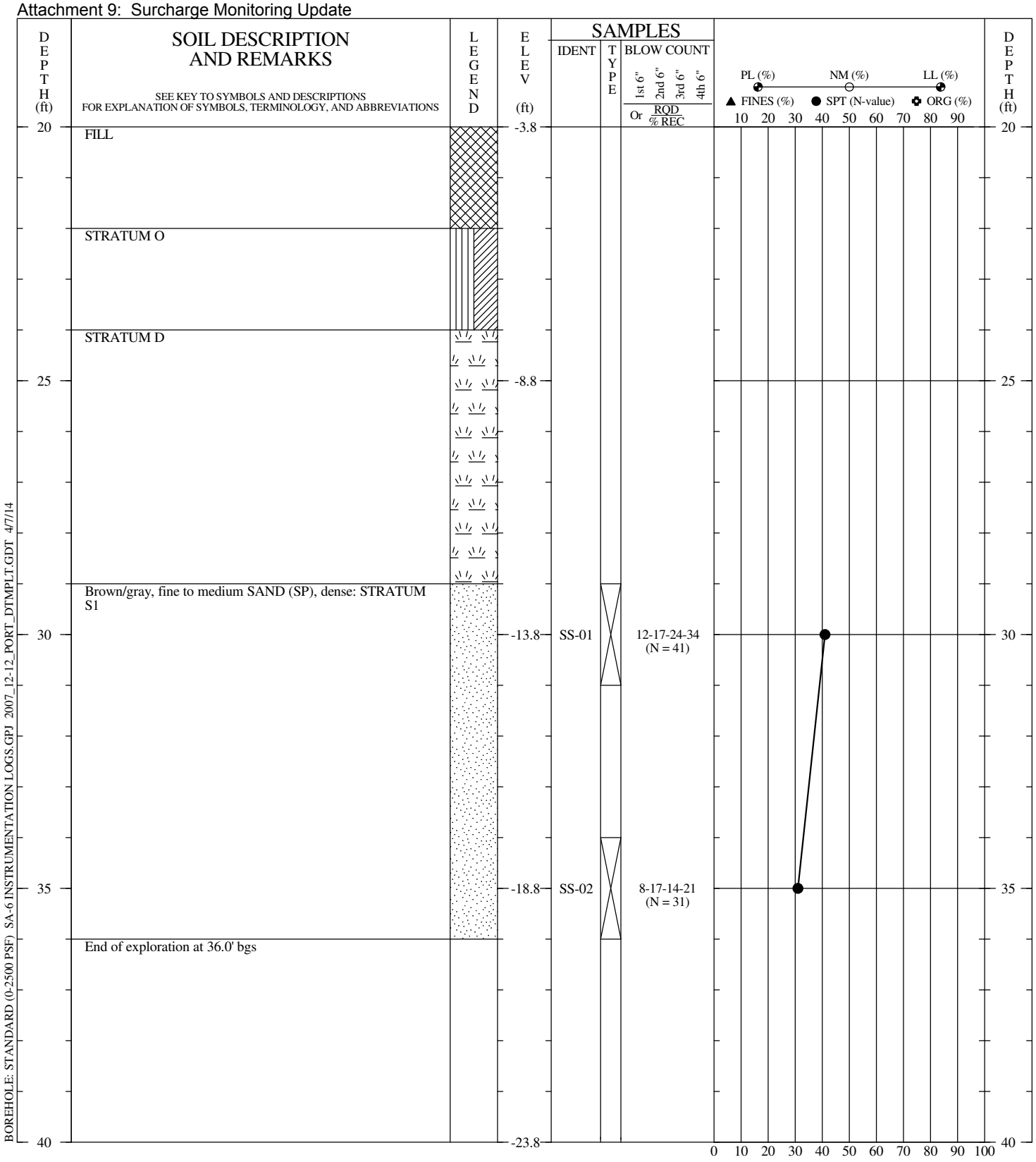

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 29' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_SS
DRILLED:	12/23/13 - 12/24/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 2 **OF** 2

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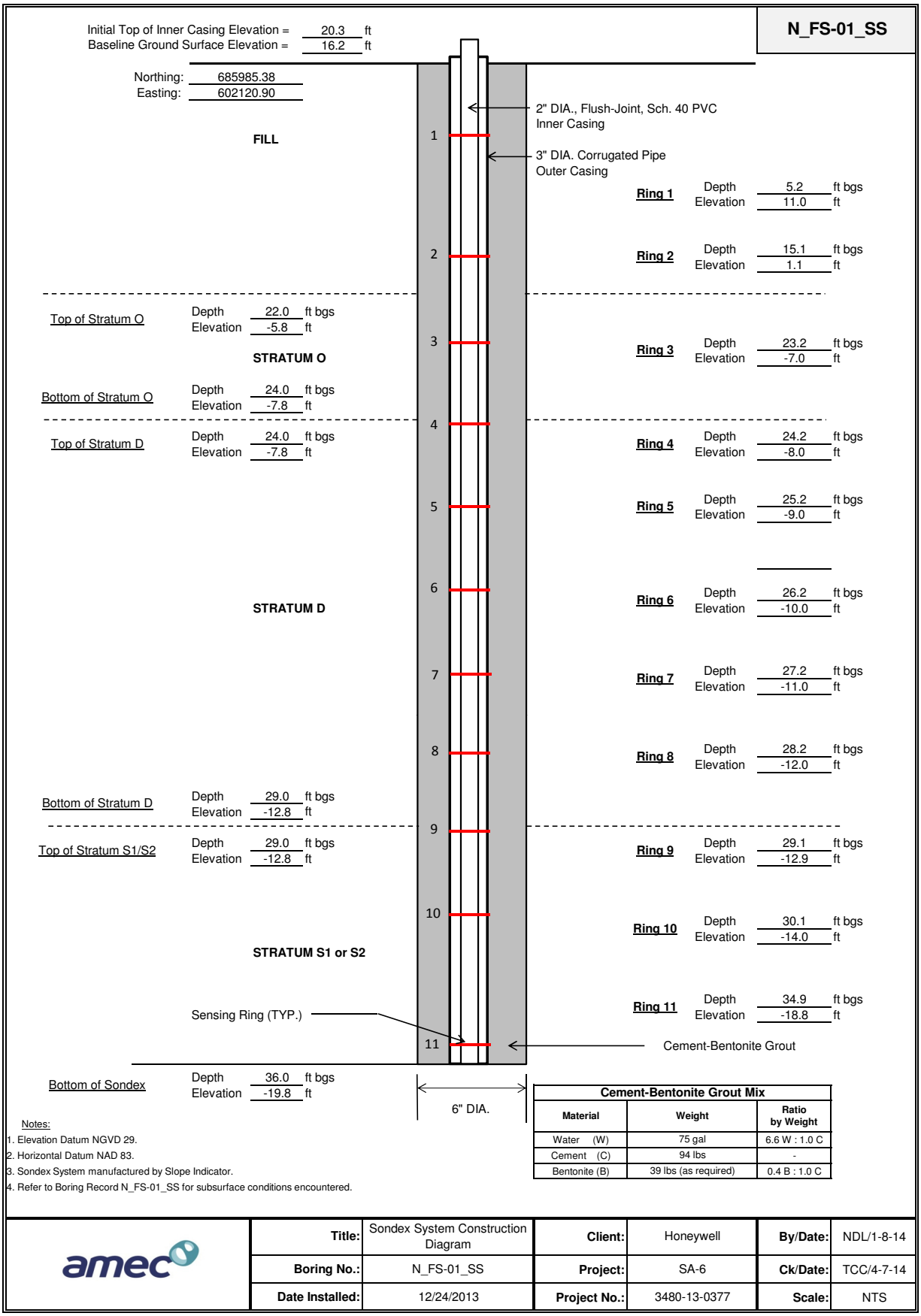

Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-01_SS for subsurface conditions encountered.

Title:	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-8-14
Boring No.:	N_FS-01_SS	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	12/24/2013	**Project No.:**	3480-13-0377	**Scale:**	NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES: IDENT	SAMPLES: TYPE	SAMPLES: BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6" / Or RQD / % REC)
0	FILL - No geotechnical testing/sampling was performed in this boring. - Refer to N_FS-01_VWP and N_FS-01_SS for soil descriptions/stratigraphy and geotechnical testing/sampling for this monitoring point.		16.2			
5			11.2			
10			6.2			
15			1.2			
20	End of exploration at 20.0' bgs		-3.8			

PL (%) NM (%) LL (%)
▲ FINES (%) ● SPT (N-value) ✪ ORG (%)
10 20 30 40 50 60 70 80 90
0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER: B&B
RIG TYPE: Gustech Brat 22
METHOD: Hollow-Stem Augers
HOLE DIAM.: 4.25" ID
SPTs: N/A
REMARKS: Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.: N_FS-01_SPP
DRILLED: 12/30/13
PROJECT: SA-6 Surcharge Monitoring
LOCATION: Jersey City, New Jersey
PROJECT NO.: 3480130377 **PAGE** 1 **OF** 2

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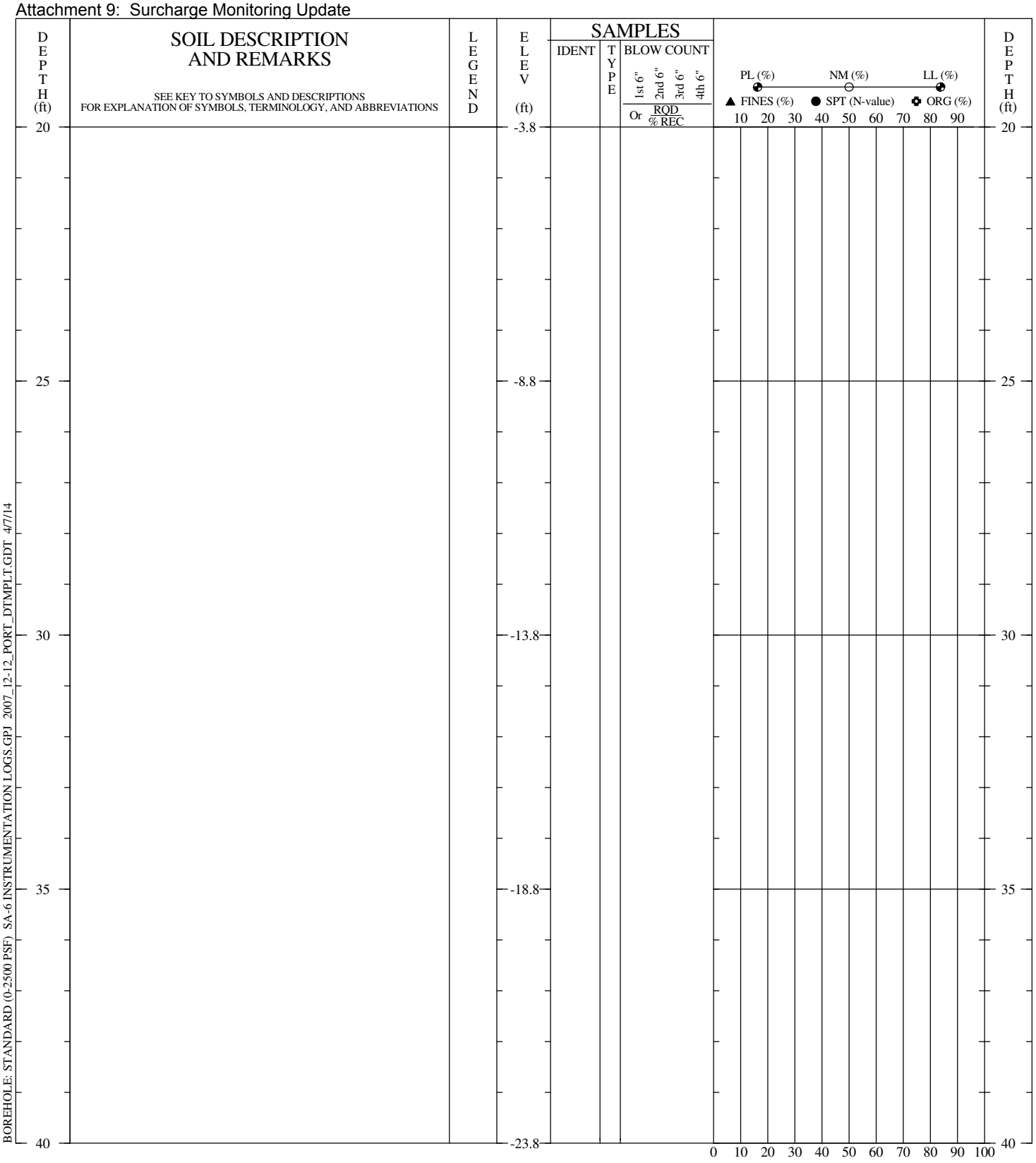

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	Gustech Brat 22
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
SPTs:	N/A
REMARKS:	Installed standpipe piezometer. Drill cuttings containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-01_SPP
DRILLED:	12/30/13
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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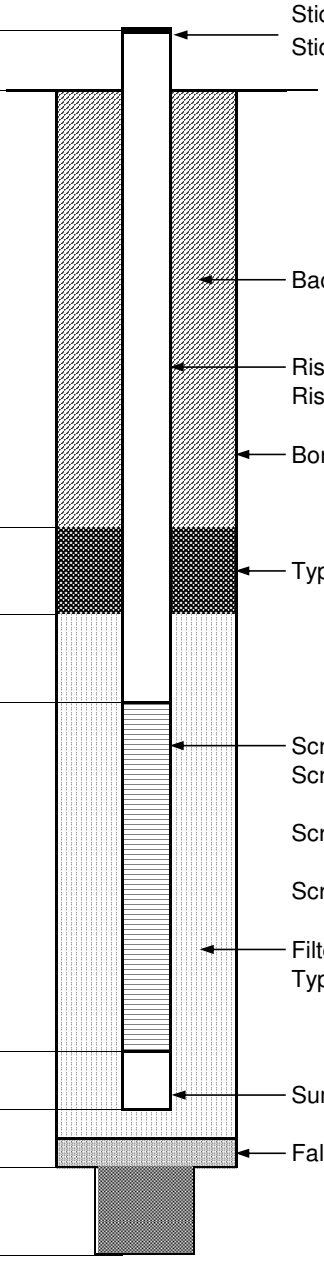
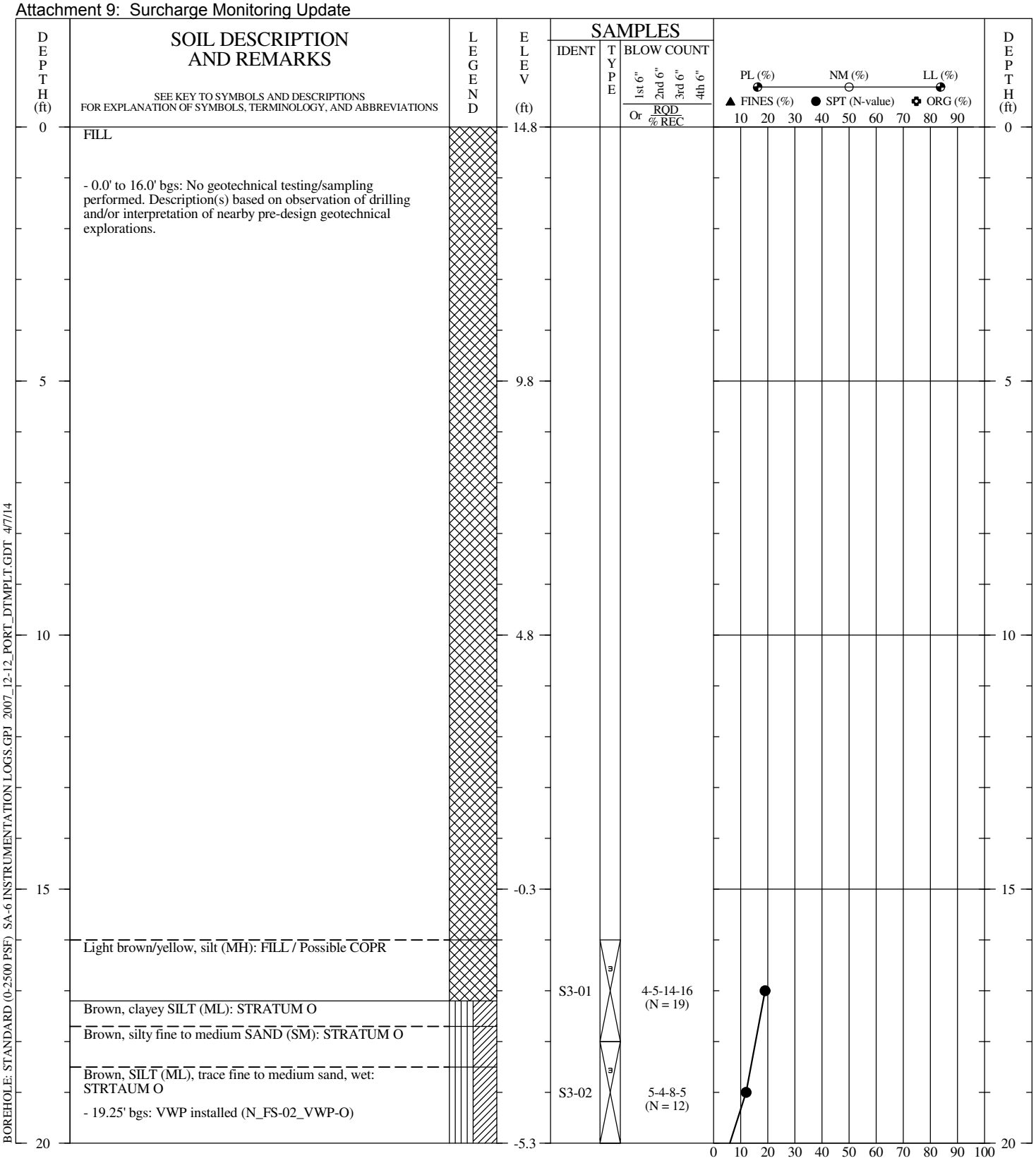
AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM
Project:	SA-6 Surcharge Monitoring	**Project Number:**	3480130377	**N_FS-01_SPP**
Location:	Jersey City, NJ			
Client:	Honeywell	**Date:**	3/13/2014	
Drilling Method:	4.25-inch ID HSA			**Measuring Point**
Installed Date:	12/30/2013			**Type:** Top of Riser
Installed By:	AE			**Elevation (ft):** 21.1

Item	Depth (ft bgs)	Elevation (ft)	Description
Top of Riser	-4.9	21.1	Stickup Type: PVC (sch. 40); Stickup Diameter: 1-inch
Ground Surface	0.0	16.2	
			Backfill/Grout Type: N.J.A.C. 7:9D-2.9 Table 2
			Riser Pipe Type: PVC (sch. 40); Riser Pipe ID: 1-inch
			Borehole Diameter: 9-inches
Top of Seal	5.0	11.2	
			Type of Seal: Bentonite Chips
Top of Filter Pack	8.0	8.2	
Top of Screen	10.0	6.2	
			Screen Type: PVC (sch. 40); Screen ID: 1-inch
			Screen Slot Size: 0.010-inch
			Screen Length: 10 feet
			Filter/Sand Pack Type: Filter Sand (#1)
Base of Screen	20.0	-3.8	
End Cap	20.0	-3.8	Sump: N/A
Drilled Depth	20.0	-3.8	Fallback/Backfill: N/A
Total Depth	20.0	-3.8	



Notes: 1. Elevation Datum NGVD 29.

FS-02



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_VWP
DRILLED:	01/13/14 - 01/14/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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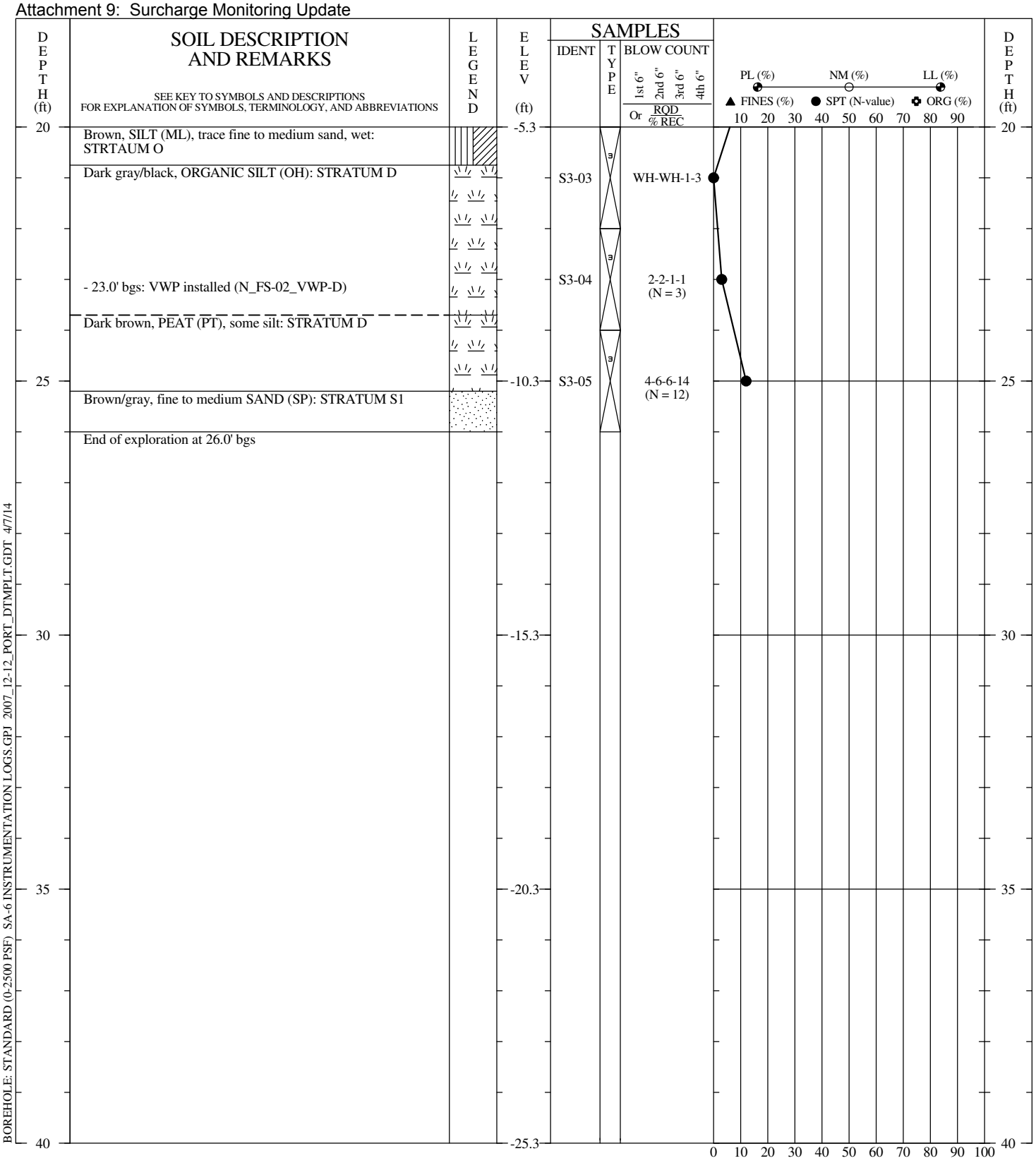

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
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GEOTECHNICAL BORING RECORD

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DRILLED:	01/13/14 - 01/14/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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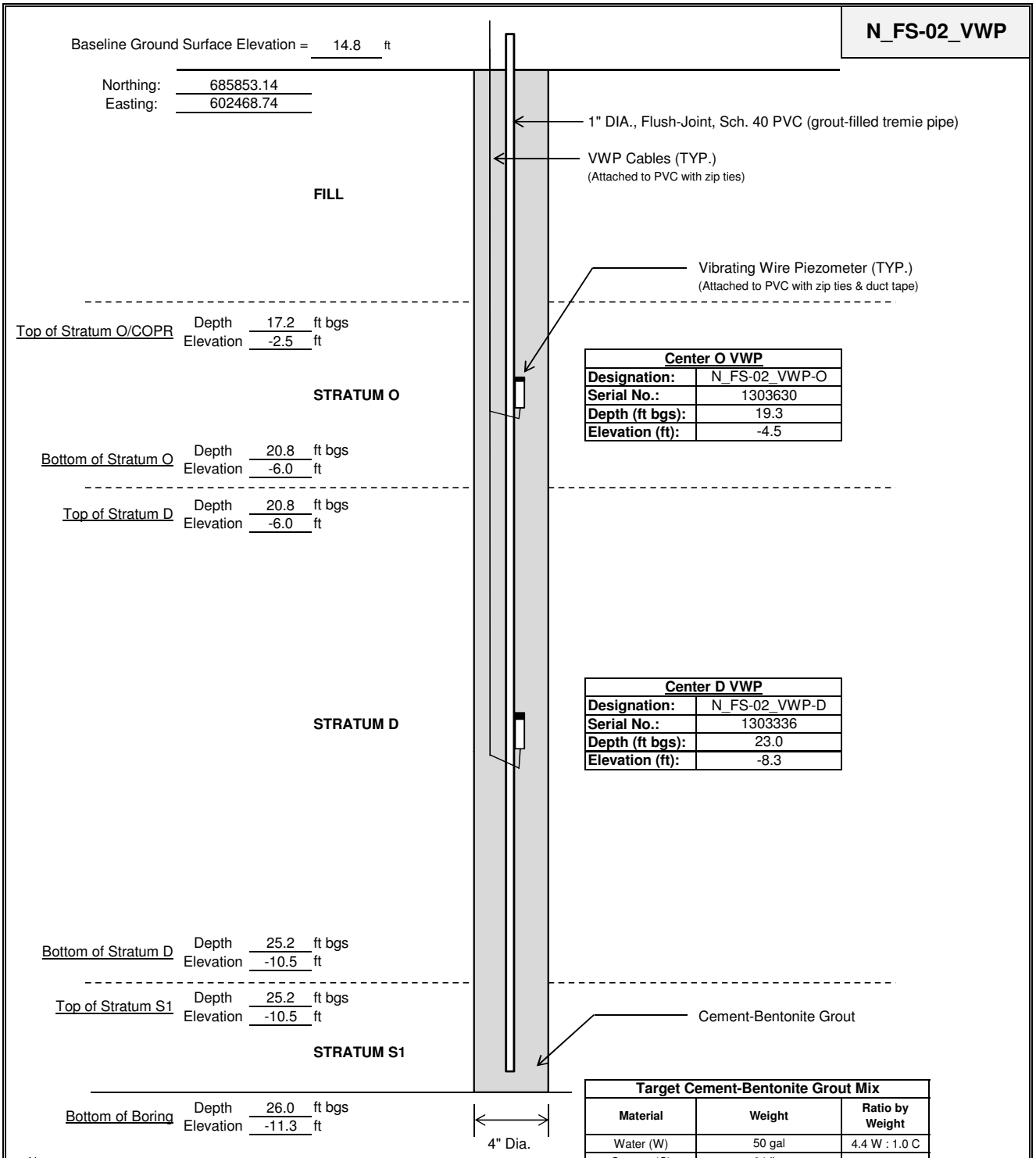
N_FS-02_VWP



Center O VWP	
Designation:	N_FS-02_VWP-O
Serial No.:	1303630
Depth (ft bgs):	19.3
Elevation (ft):	-4.5

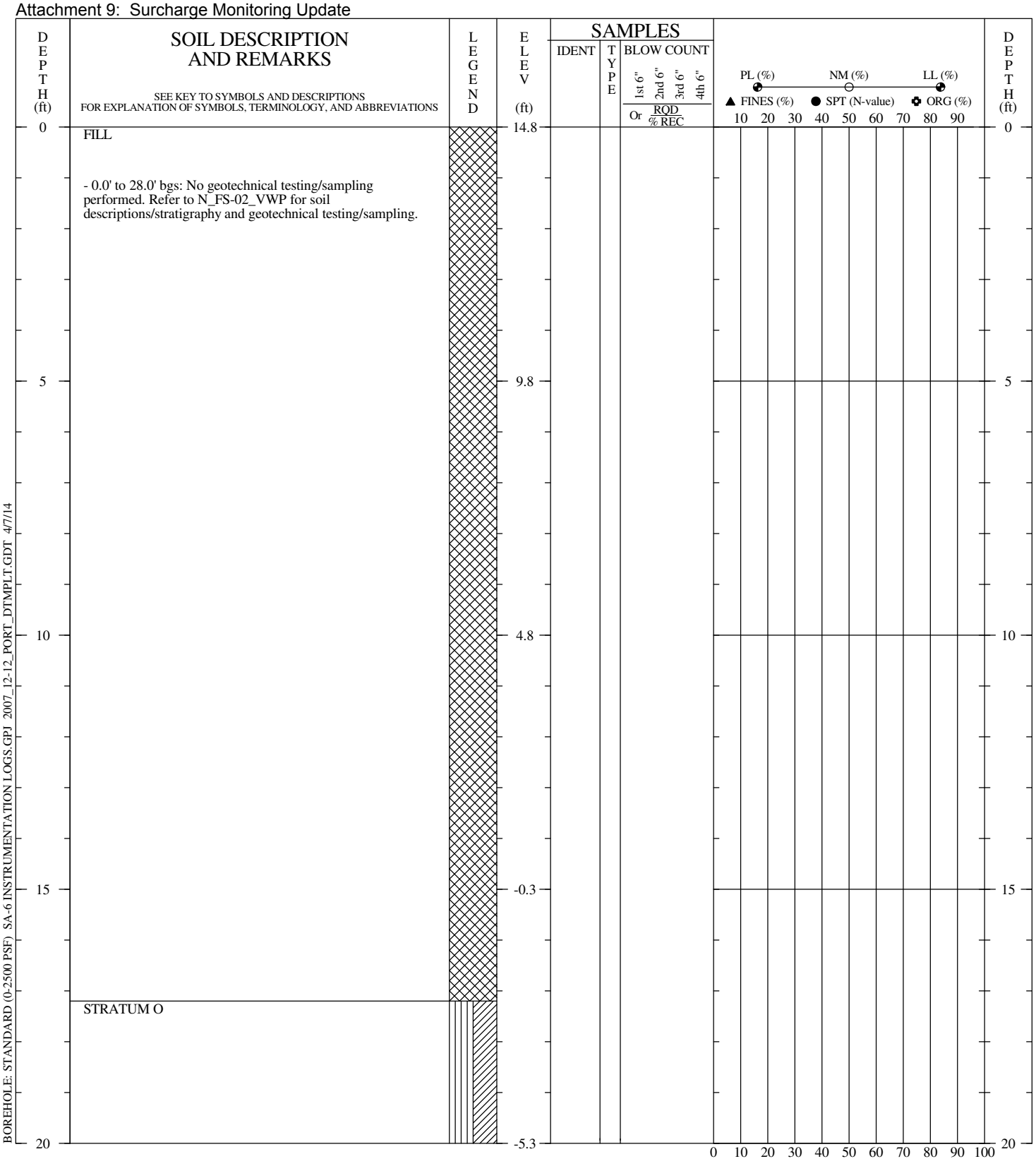
Center D VWP	
Designation:	N_FS-02_VWP-D
Serial No.:	1303336
Depth (ft bgs):	23.0
Elevation (ft):	-8.3

Target Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-02_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1/14/14
Boring No.:	N_FS-02_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/14/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 28' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_SS
DRILLED:	01/15/14 - 01/16/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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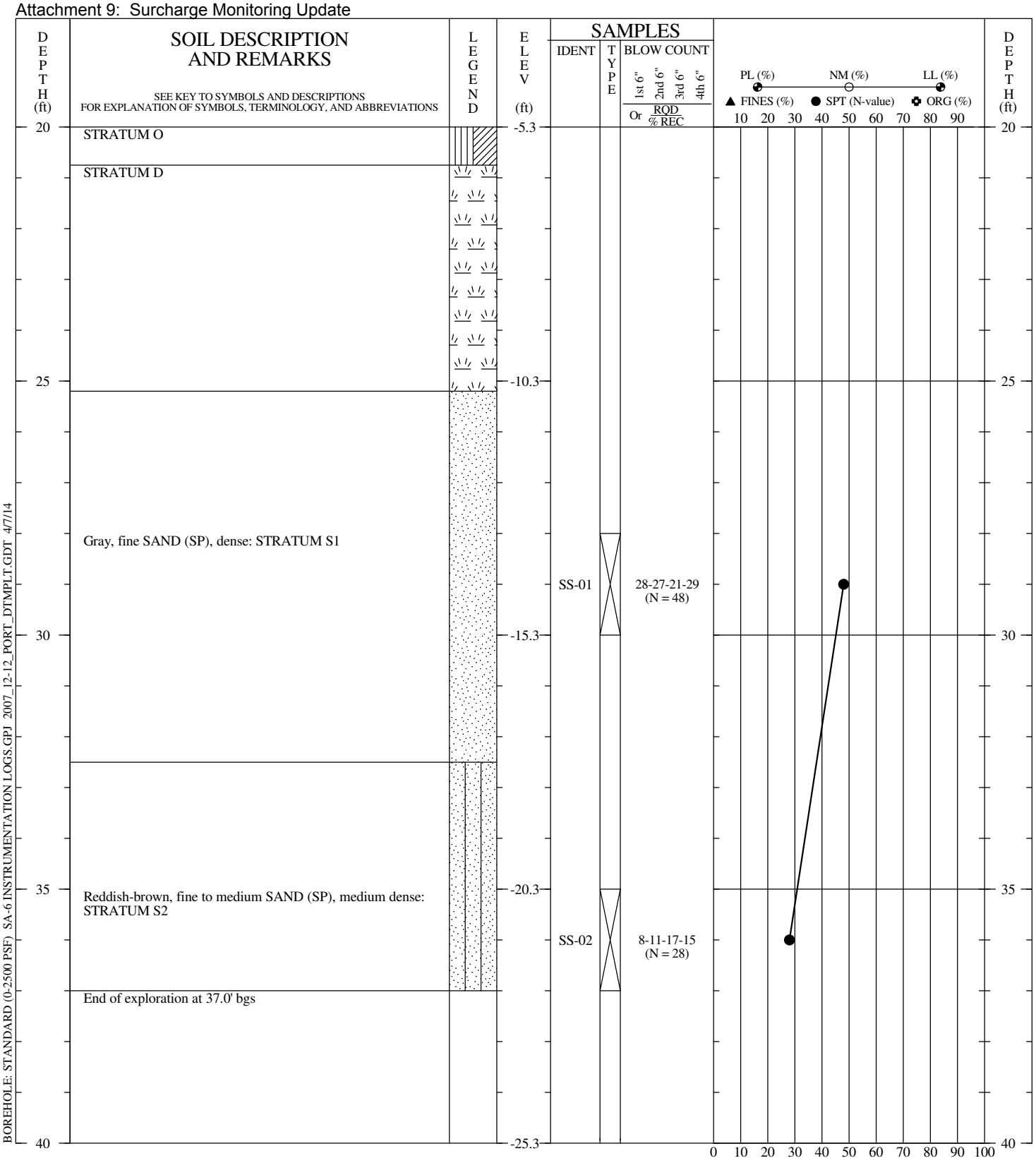

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
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LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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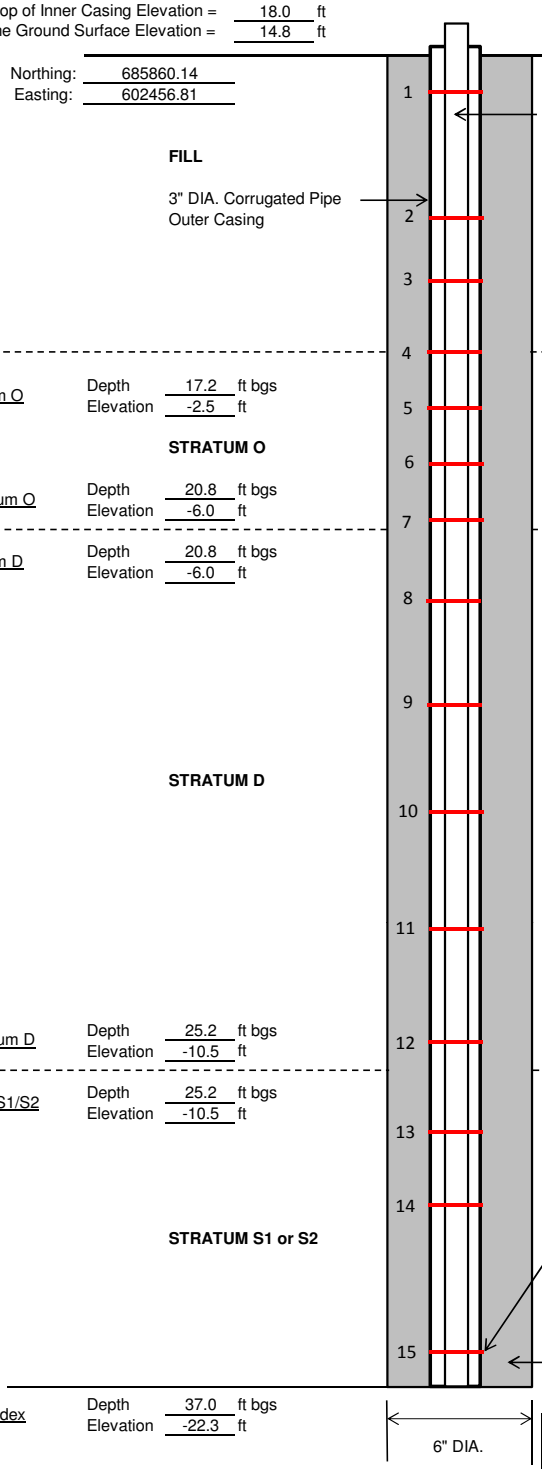
N_FS-02_SS

Initial Top of Inner Casing Elevation = 18.0 ft
Baseline Ground Surface Elevation = 14.8 ft

Northing: 685860.14
Easting: 602456.81



FILL

Top of Stratum O — Depth 17.2 ft bgs; Elevation -2.5 ft

STRATUM O

Bottom of Stratum O — Depth 20.8 ft bgs; Elevation -6.0 ft

Top of Stratum D — Depth 20.8 ft bgs; Elevation -6.0 ft

STRATUM D

Bottom of Stratum D — Depth 25.2 ft bgs; Elevation -10.5 ft

Top of Stratum S1/S2 — Depth 25.2 ft bgs; Elevation -10.5 ft

STRATUM S1 or S2

Bottom of Sondex — Depth 37.0 ft bgs; Elevation -22.3 ft

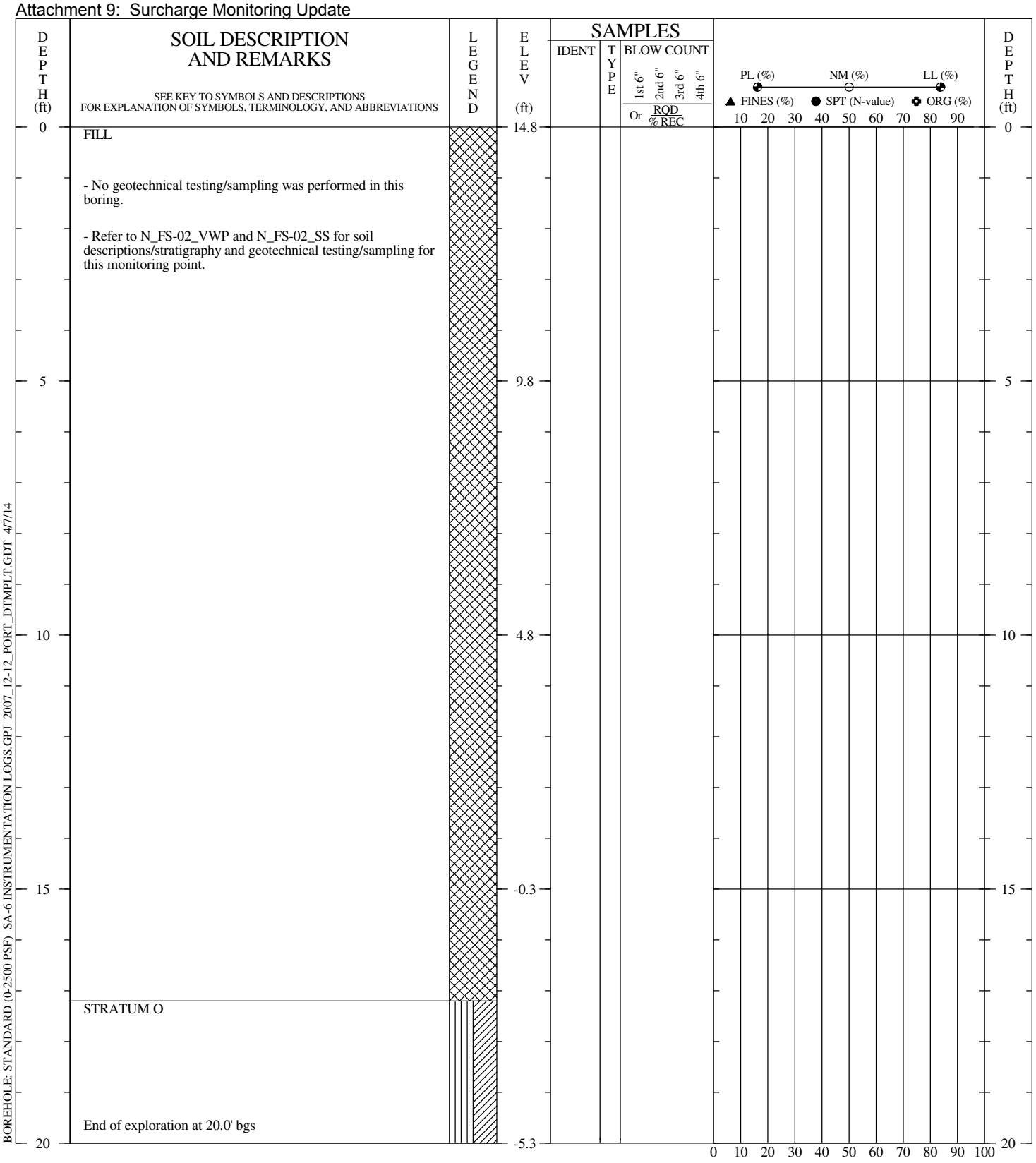
Ring 1	Depth 7.3 ft bgs	Elevation 7.4 ft	
Ring 2	Depth 15.4 ft bgs	Elevation -0.6 ft	
Ring 3	Depth 16.3 ft bgs	Elevation -1.6 ft	
Ring 4	Depth 17.3 ft bgs	Elevation -2.6 ft	
Ring 5	Depth 18.3 ft bgs	Elevation -3.5 ft	
Ring 6	Depth 19.2 ft bgs	Elevation -4.5 ft	
Ring 7	Depth 20.2 ft bgs	Elevation -5.4 ft	
Ring 8	Depth 21.2 ft bgs	Elevation -6.5 ft	
Ring 9	Depth 22.2 ft bgs	Elevation -7.4 ft	
Ring 10	Depth 23.2 ft bgs	Elevation -8.4 ft	
Ring 11	Depth 24.2 ft bgs	Elevation -9.5 ft	
Ring 12	Depth 25.2 ft bgs	Elevation -10.5 ft	
Ring 13	Depth 26.2 ft bgs	Elevation -11.4 ft	
Ring 14	Depth 27.1 ft bgs	Elevation -12.4 ft	
Ring 15	Depth 35.9 ft bgs	Elevation -21.1 ft	

Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-02_SS for subsurface conditions encountered.

Title:	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/3-27-14
Boring No.:	N_FS-02_SS	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/16/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
SPTs:	N/A
REMARKS:	Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_SPP
DRILLED:	01/14/14 - 01/15/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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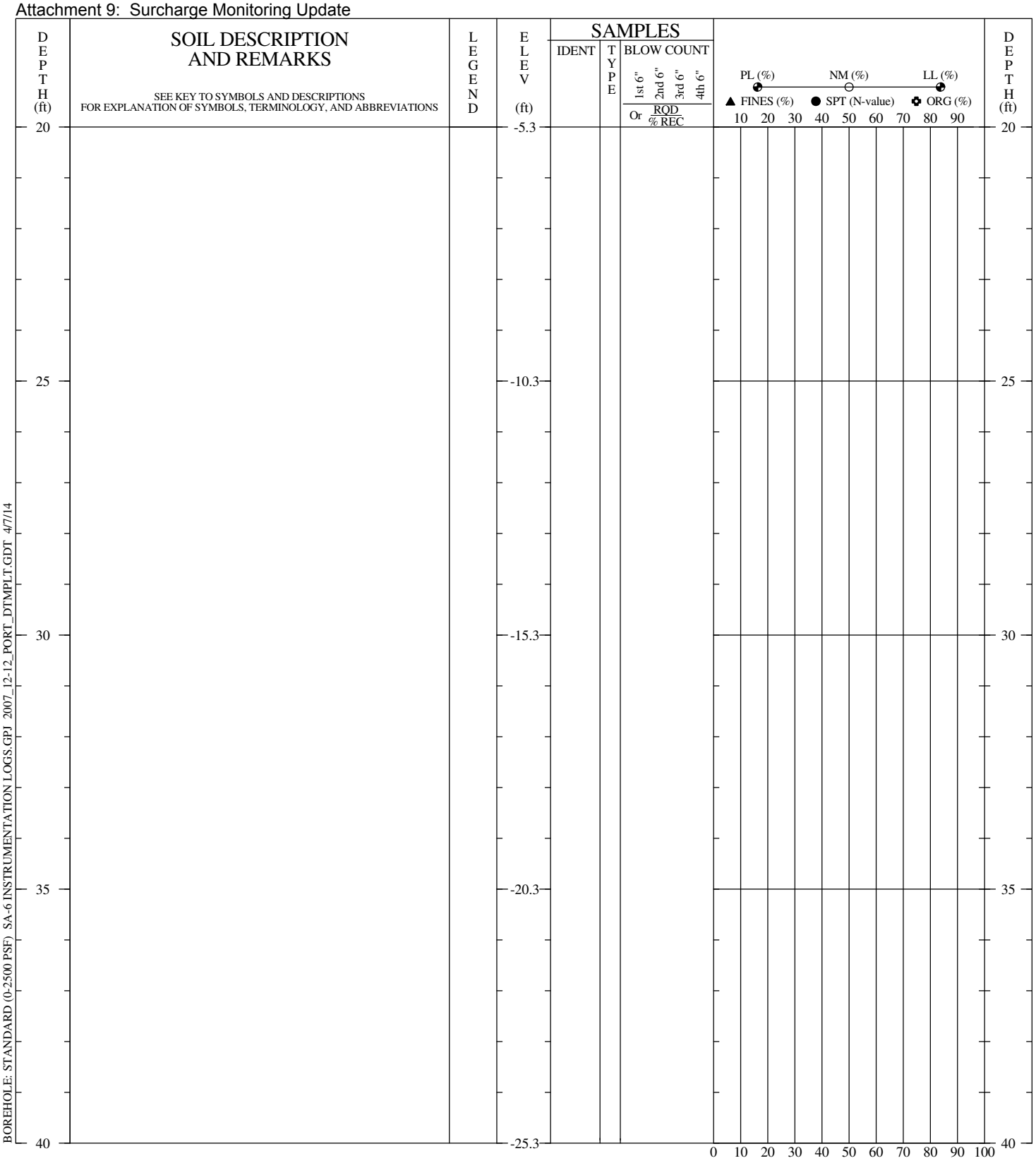

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
SPTs:	N/A
REMARKS:	Installed standpipe piezometer. Drill cuttings containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-02_SPP
DRILLED:	01/14/14 - 01/15/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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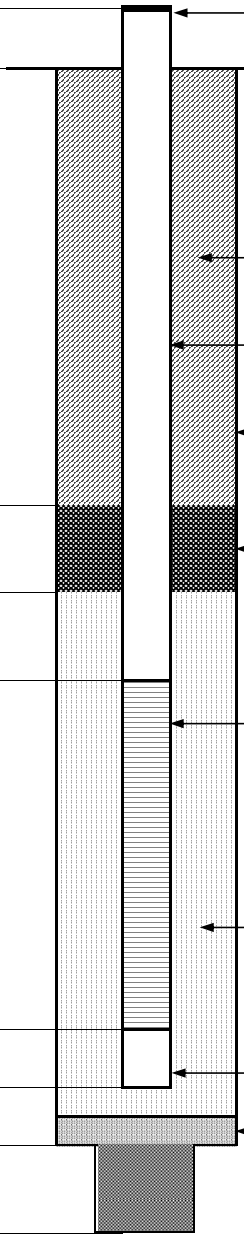
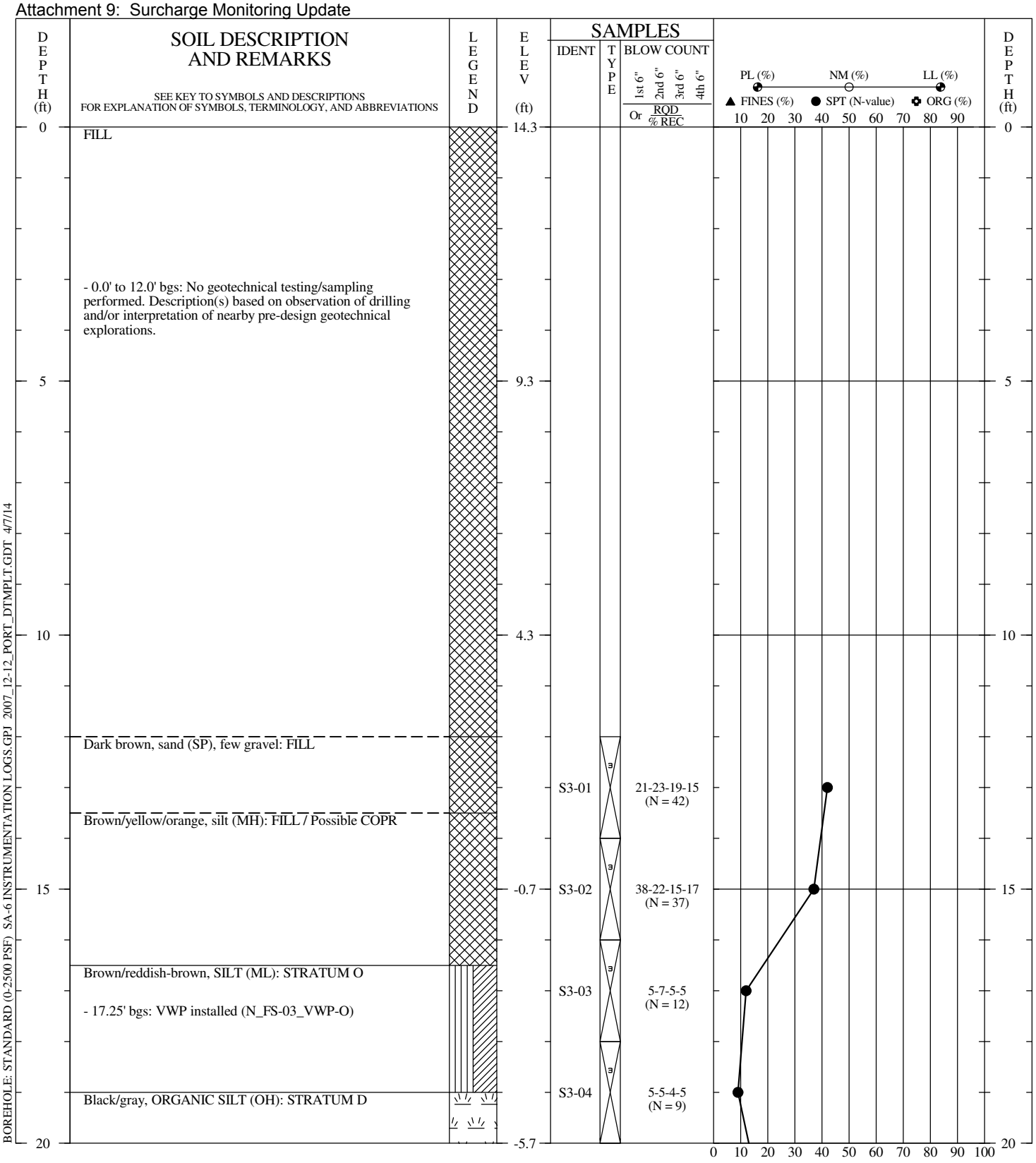
AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM
Project:	SA-6 Surcharge Monitoring	**Project Number:**	3480130377	**N_FS-02_SPP**
Location:	Jersey City, NJ			
Client:	Honeywell	**Date:**	3/13/2014	
Drilling Method:	4.25-inch ID HSA			**Measuring Point**
Installed Date:	1/15/2014			**Type:** Top of Riser
Installed By:	AE			**Elevation (ft):** 19.4

Item	Depth (ft bgs)	Elevation (ft)	Description
Top of Riser	-4.7	19.4	Stickup Type: PVC (sch. 40)
			Stickup Diameter: 1-inch
Ground Surface	0.0	14.8	
			Backfill/Grout Type: N.J.A.C. 7:9D-2.9 Table 2
			Riser Pipe Type: PVC (sch. 40)
			Riser Pipe ID: 1-inch
			Borehole Diameter: 9-inches
Top of Seal	5.0	9.8	
			Type of Seal: Bentonite Chips
Top of Filter Pack	8.0	6.8	
Top of Screen	10.0	4.8	
			Screen Type: PVC (sch. 40)
			Screen ID: 1-inch
			Screen Slot Size: 0.010-inch
			Screen Length: 10 feet
			Filter/Sand Pack Type: Filter Sand (#1)
Base of Screen	20.0	-5.3	
End Cap	20.0	-5.3	Sump: N/A
Drilled Depth	20.0	-5.3	Fallback/Backfill: N/A
Total Depth	20.0	-5.3	



Notes: 1. Elevation Datum NGVD 29.

FS-03



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_VWP
DRILLED:	01/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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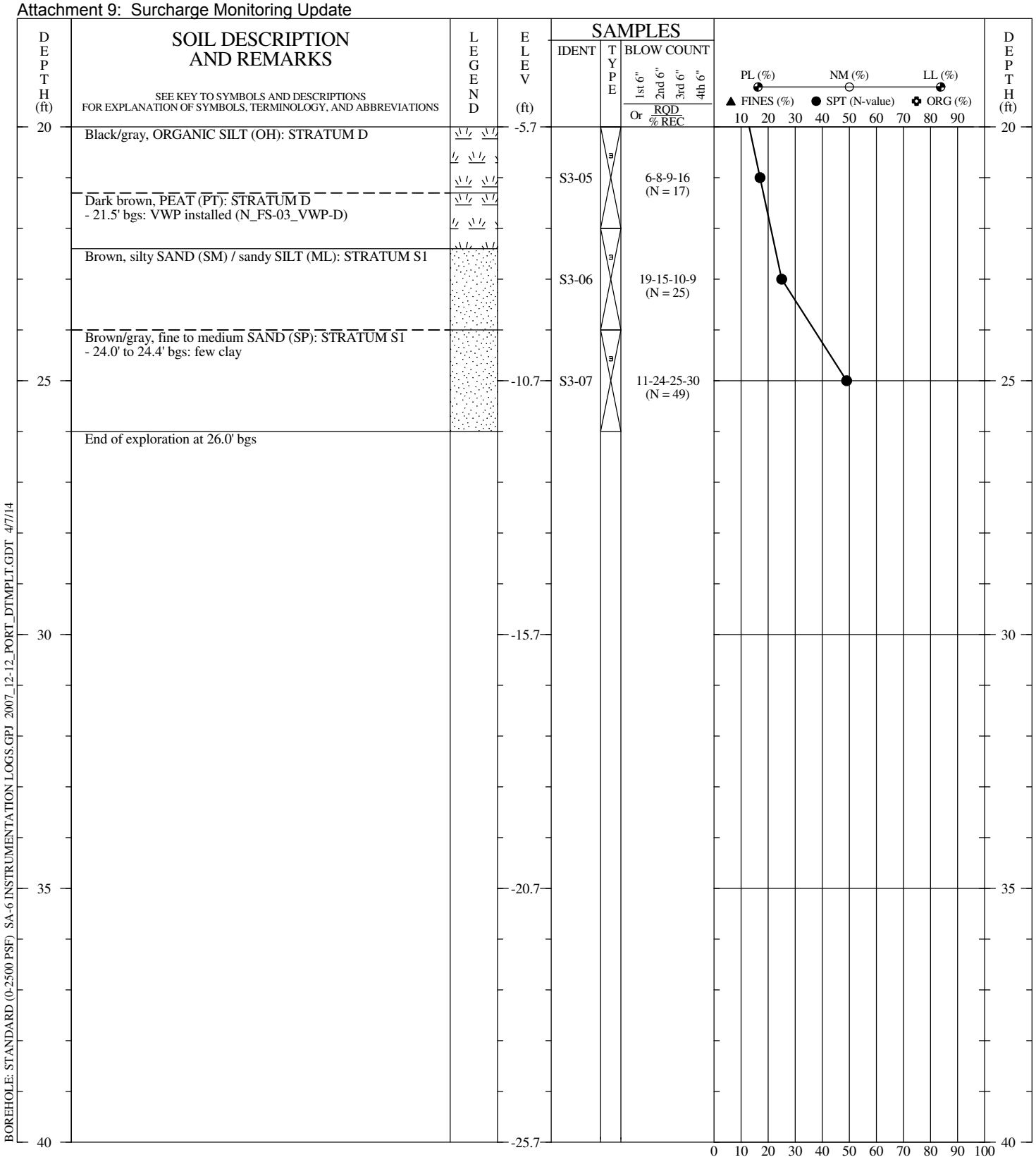

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_VWP
DRILLED:	01/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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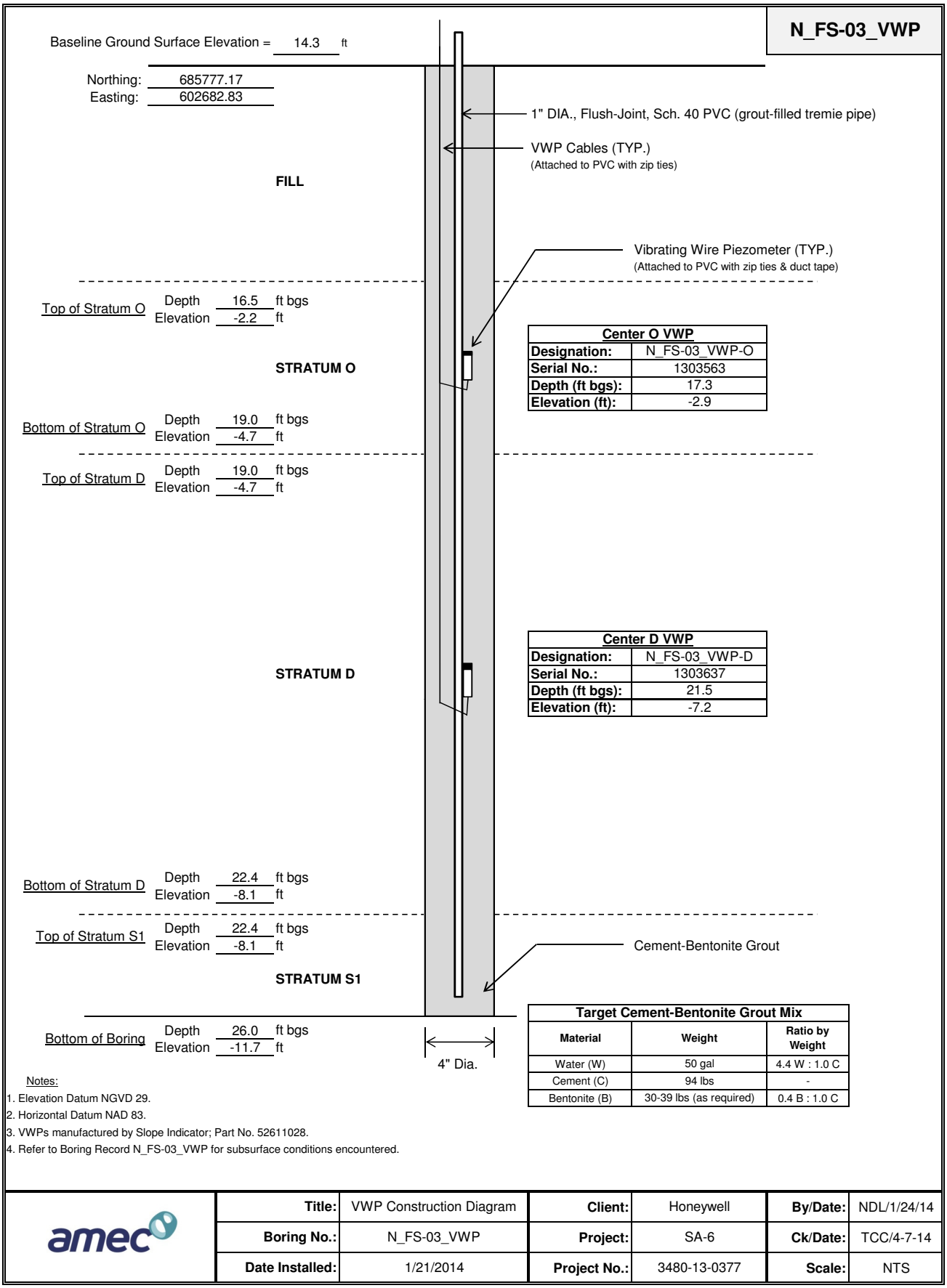


Center O VWP	
Designation:	N_FS-03_VWP-O
Serial No.:	1303563
Depth (ft bgs):	17.3
Elevation (ft):	-2.9

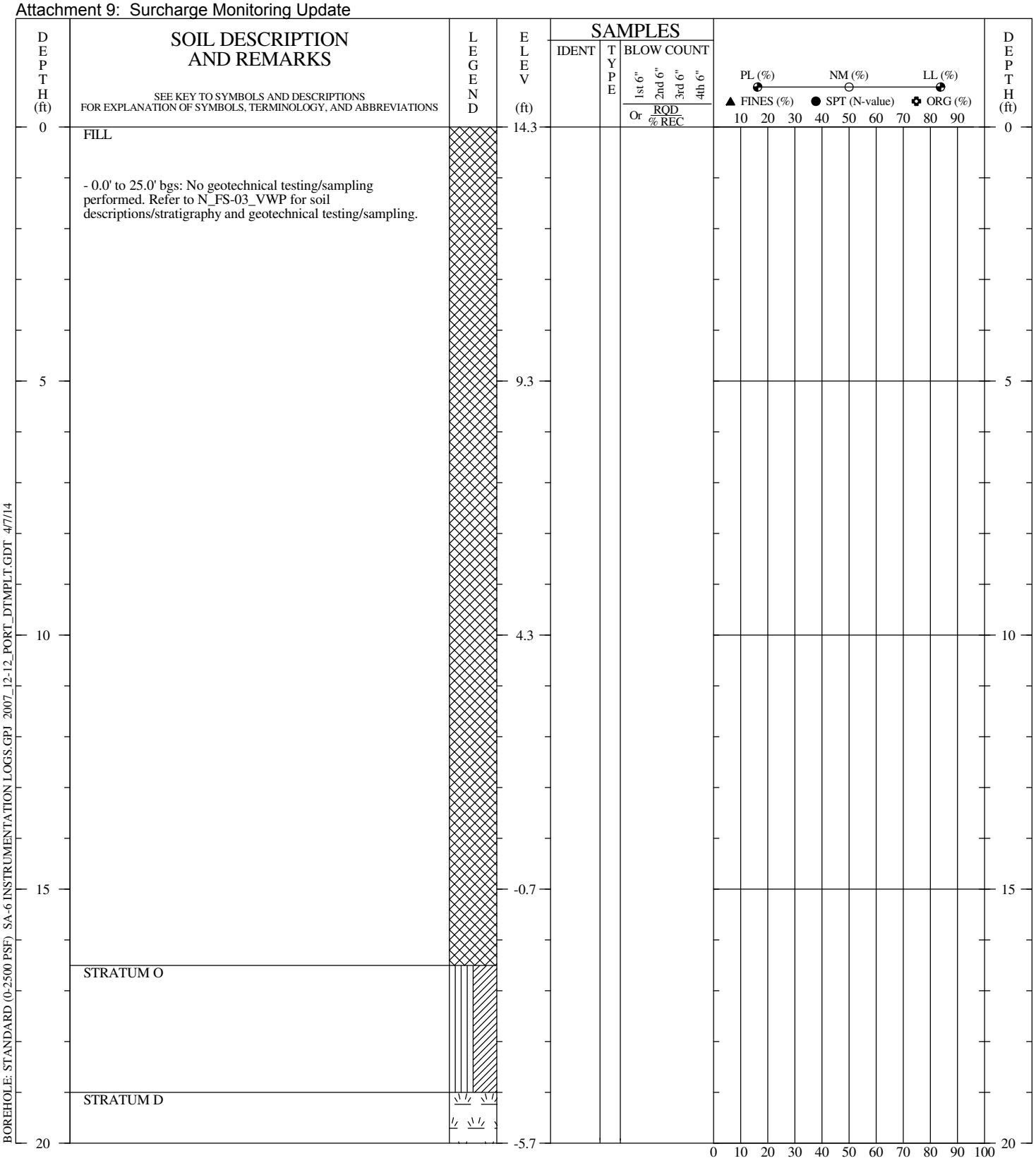
Center D VWP	
Designation:	N_FS-03_VWP-D
Serial No.:	1303637
Depth (ft bgs):	21.5
Elevation (ft):	-7.2

Target Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-03_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1/24/14
Boring No.:	N_FS-03_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/21/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 23.5' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	MS CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_SS
DRILLED:	1/30/14 - 1/31/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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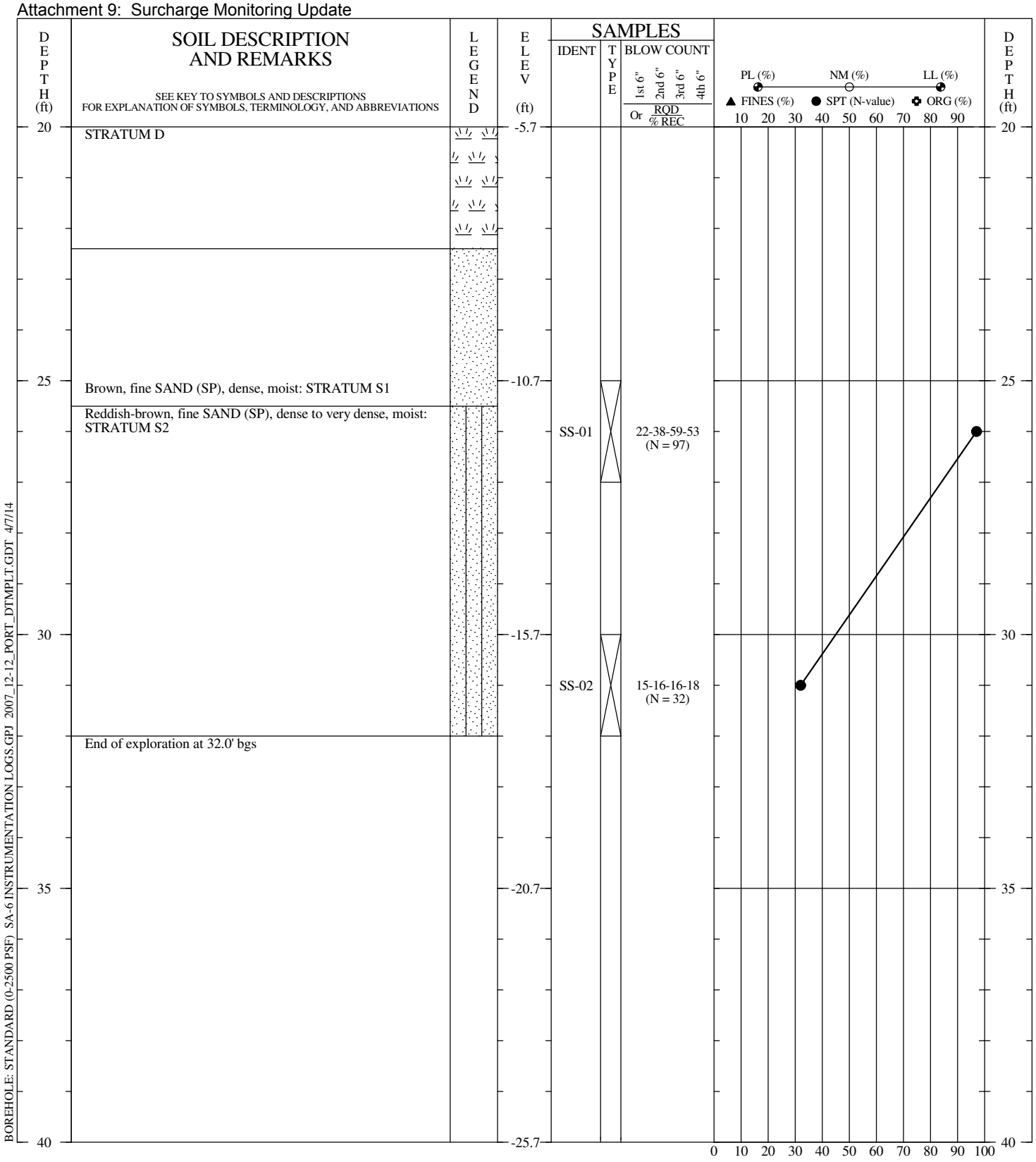

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to 23.5' bgs. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_SS
DRILLED:	1/30/14 - 1/31/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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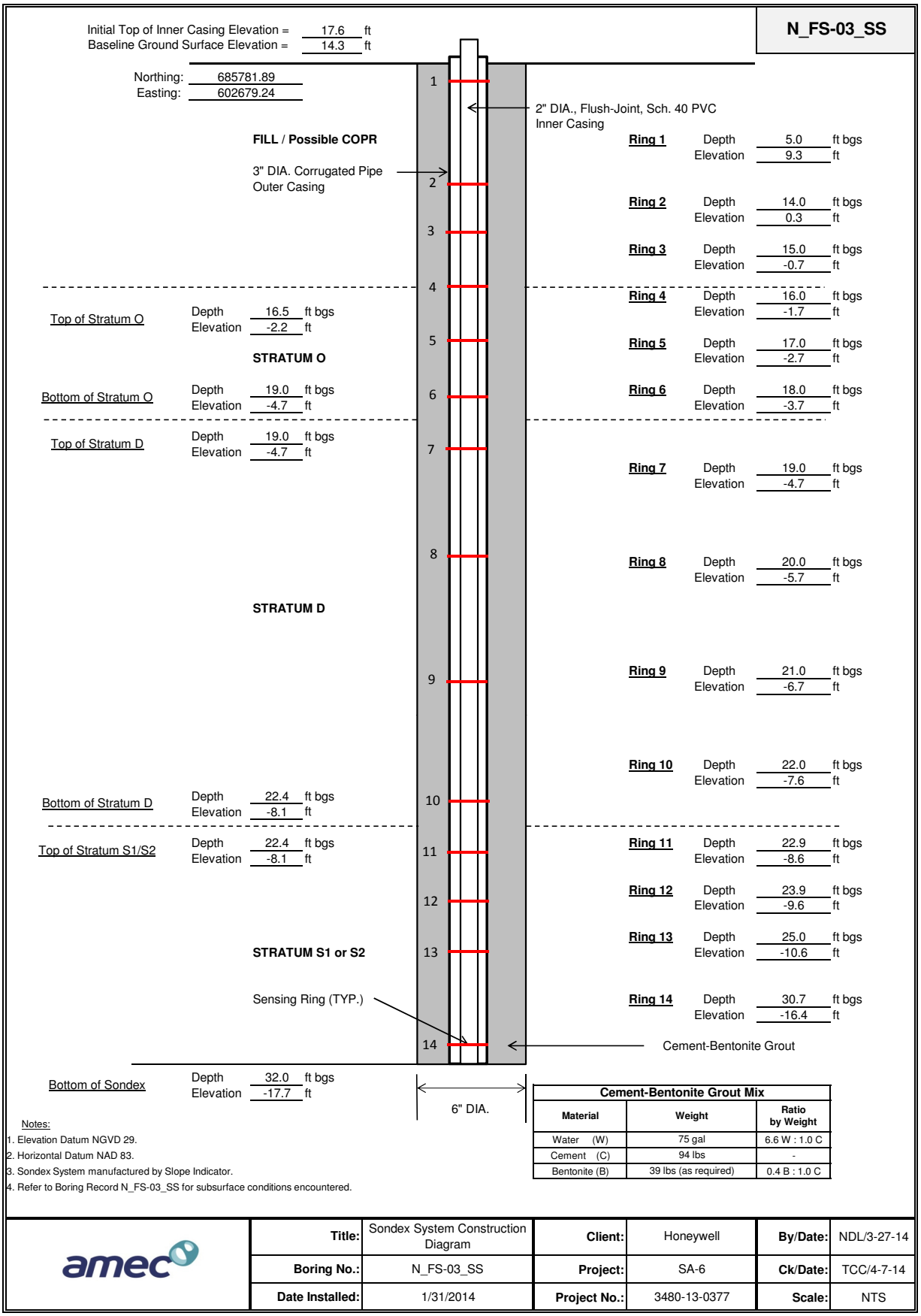
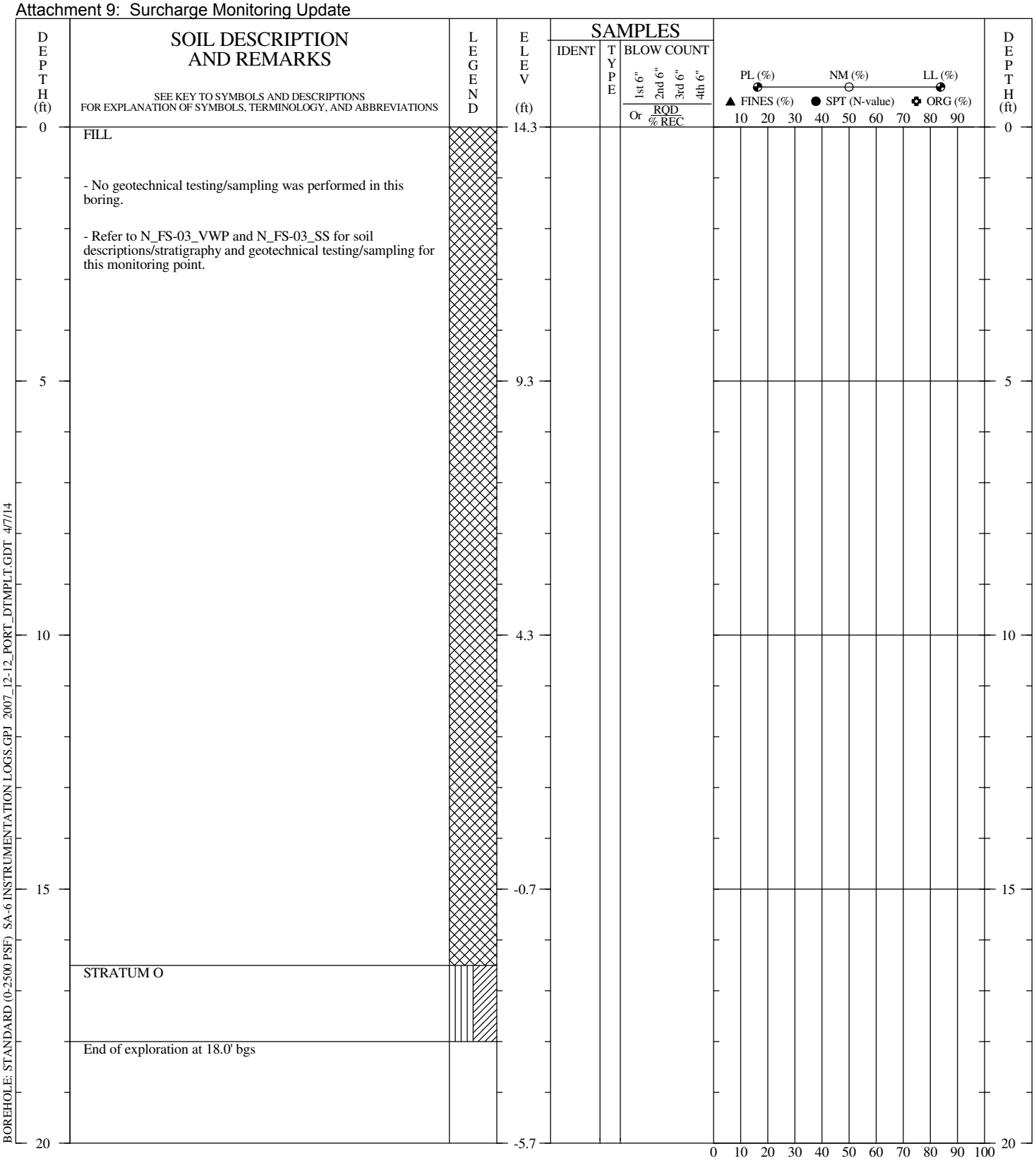


Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-03_SS for subsurface conditions encountered.

Title:	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/3-27-14
Boring No.:	N_FS-03_SS	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/31/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS



DRILLER:	B&B
RIG TYPE:	Gustech Brat 22
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
SPTs:	N/A
REMARKS:	Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-03_SPP
DRILLED:	1/30/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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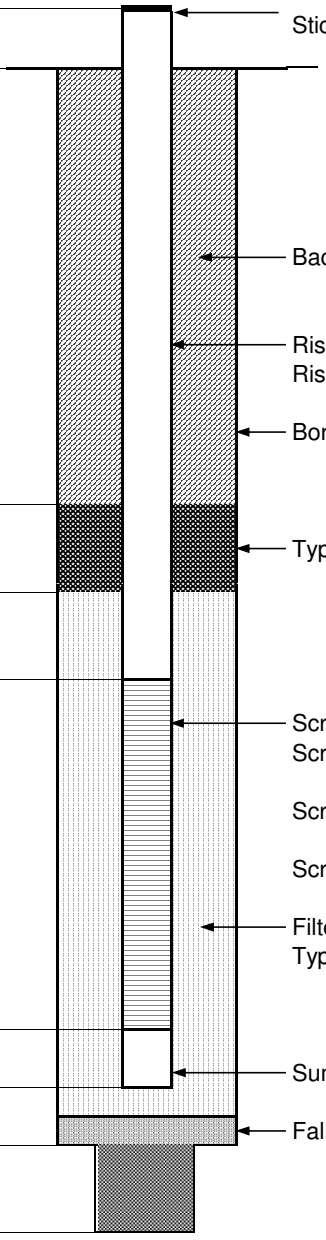
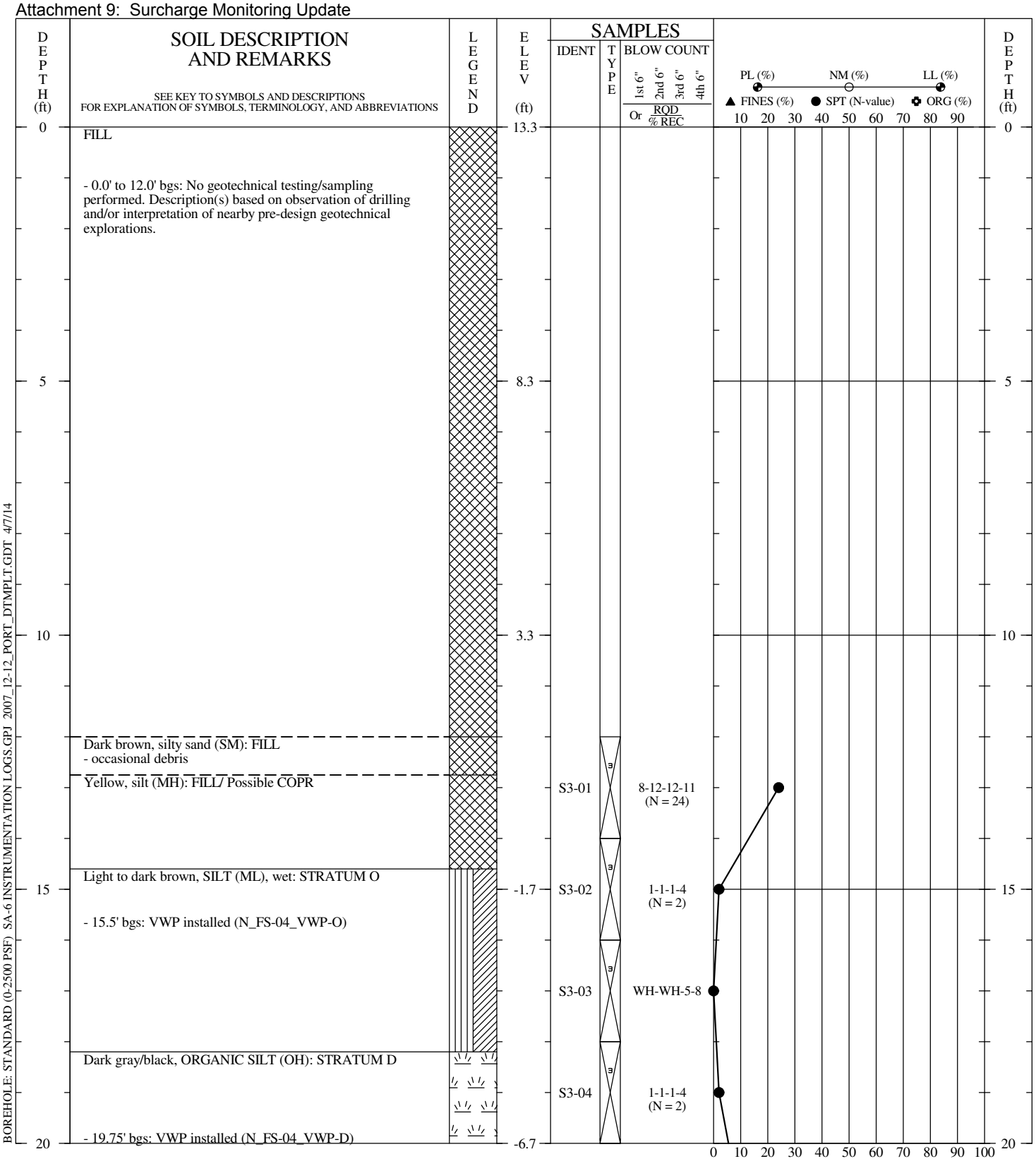
AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM	
Project:	SA-6 Surcharge Monitoring		**Project Number:** 3480130377	**N_FS-03_SPP**	
Location:	Jersey City, NJ				
Client:	Honeywell		**Date:** 3/13/2014		
Drilling Method:	4.25-inch ID HSA			**Measuring Point**	
Installed Date:	1/30/2014			**Type:**	Top of Riser
Installed By:	AE			**Elevation (ft):**	16.2

Item	Depth (ft bgs)	Elevation (ft)	Legend	Description	
Top of Riser	-1.9	16.2		Stickup Type:	PVC (sch. 40)
				Stickup Diameter:	1-inch
Ground Surface	0.0	14.3			
				Backfill/Grout Type:	N.J.A.C. 7:9D-2.9 Table 2
				Riser Pipe Type:	PVC (sch. 40)
				Riser Pipe ID:	1-inch
				Borehole Diameter:	9-inches
Top of Seal	3.0	11.3			
				Type of Seal:	Bentonite Chips
Top of Filter Pack	6.0	8.3			
Top of Screen	8.0	6.3			
				Screen Type:	PVC (sch. 40)
				Screen ID:	1-inch
				Screen Slot Size:	0.010-inch
				Screen Length:	10 ft
				Filter/Sand Pack Type:	Filter Sand (#1)
Base of Screen	18.0	-3.7			
End Cap	18.0	-3.7		Sump:	N/A
Drilled Depth	18.0	-3.7		Fallback/Backfill:	N/A
Total Depth	18.0	-3.7			

Notes: 1. Elevation Datum NGVD 29.

FS-04



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP
DRILLED:	02/18/14 - 02/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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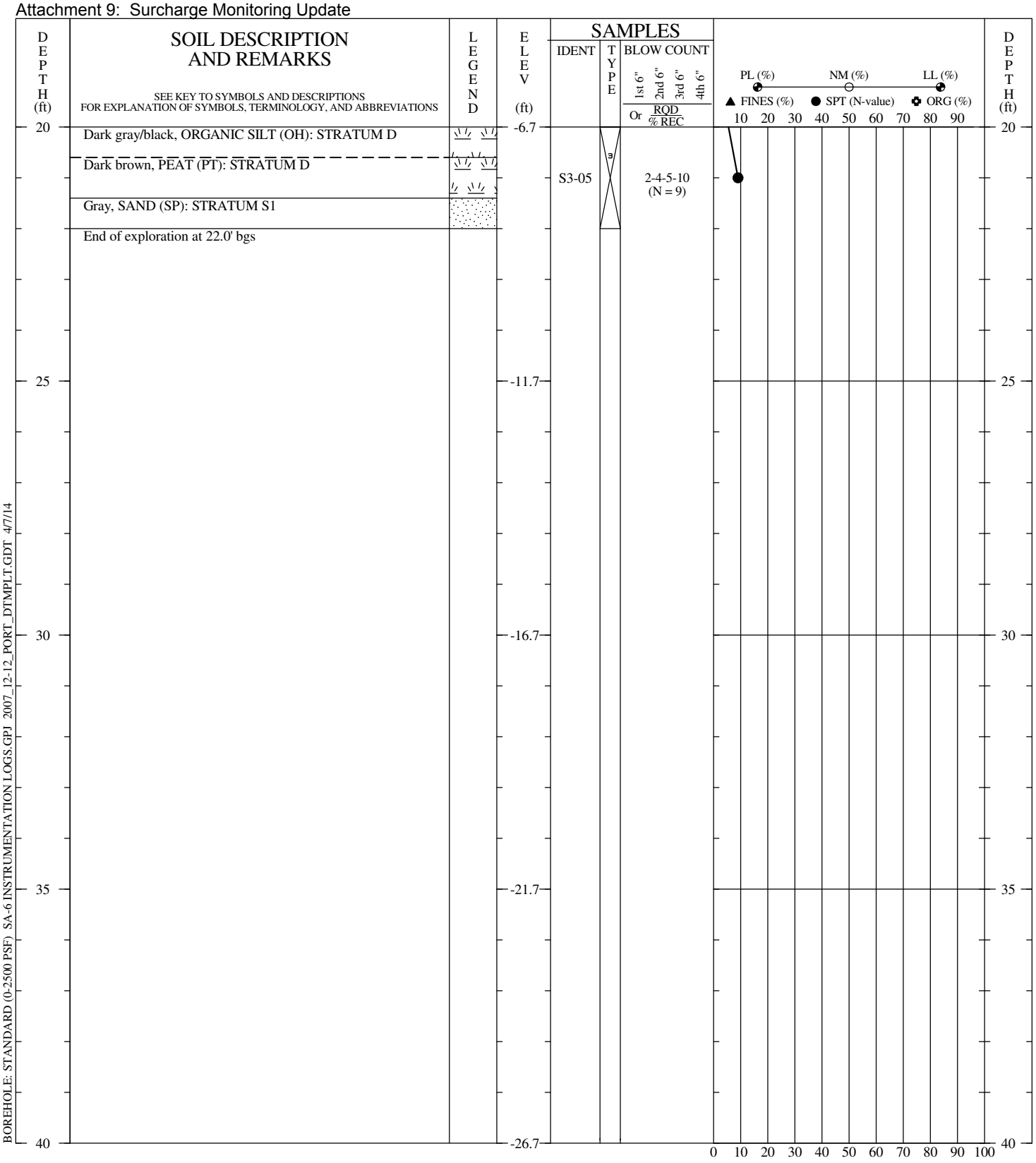

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 2 VWPs. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP
DRILLED:	02/18/14 - 02/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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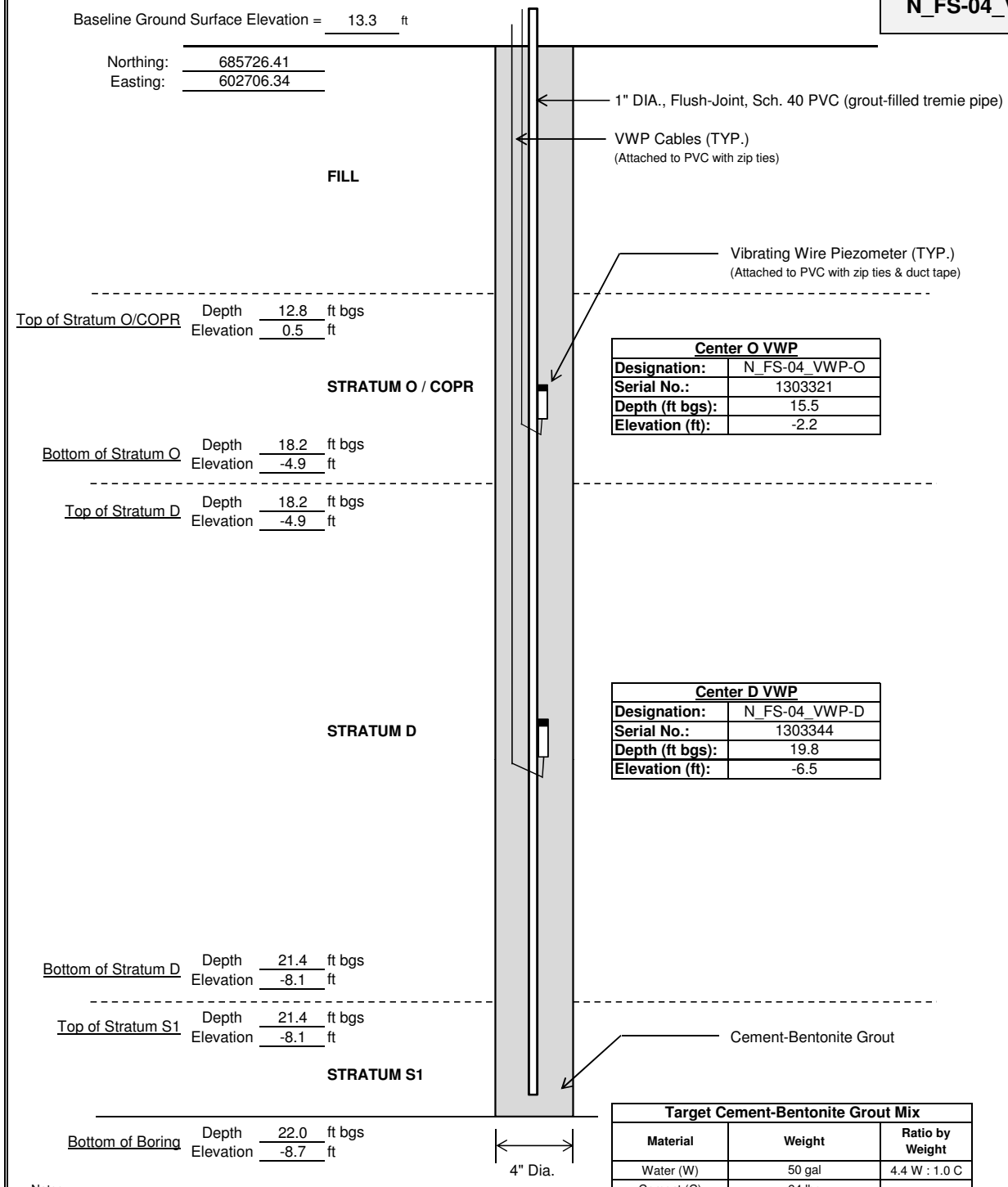
N_FS-04_VWP



Center O VWP	
Designation:	N_FS-04_VWP-O
Serial No.:	1303321
Depth (ft bgs):	15.5
Elevation (ft):	-2.2

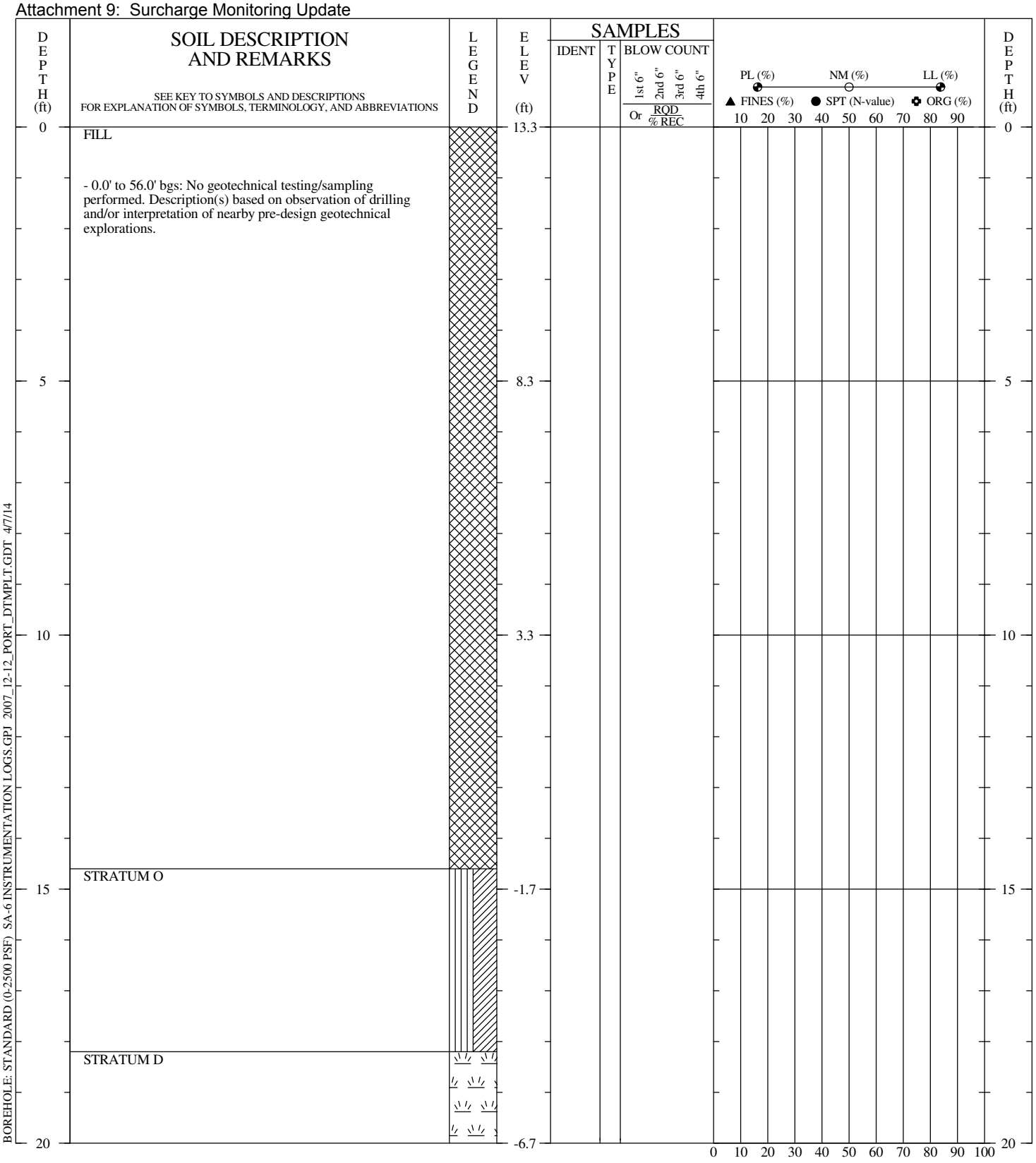
Center D VWP	
Designation:	N_FS-04_VWP-D
Serial No.:	1303344
Depth (ft bgs):	19.8
Elevation (ft):	-6.5

Target Cement-Bentonite Grout Mix

Material	Weight	Ratio by Weight
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_FS-04_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/3-27-14
Boring No.:	N_FS-04_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	2/19/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	MS CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP-RC
DRILLED:	02/19/14 - 02/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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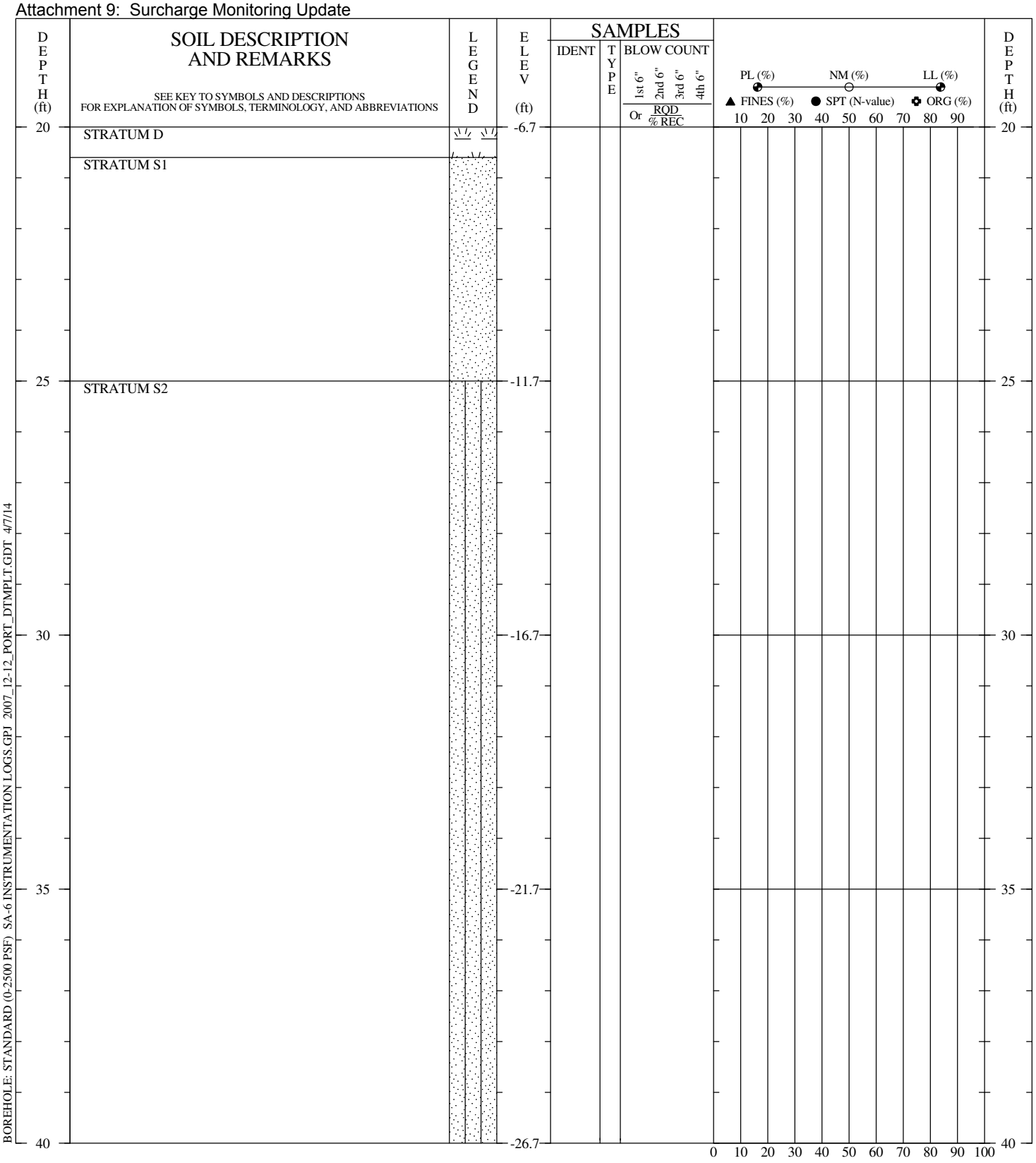

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP-RC
DRILLED:	02/19/14 - 02/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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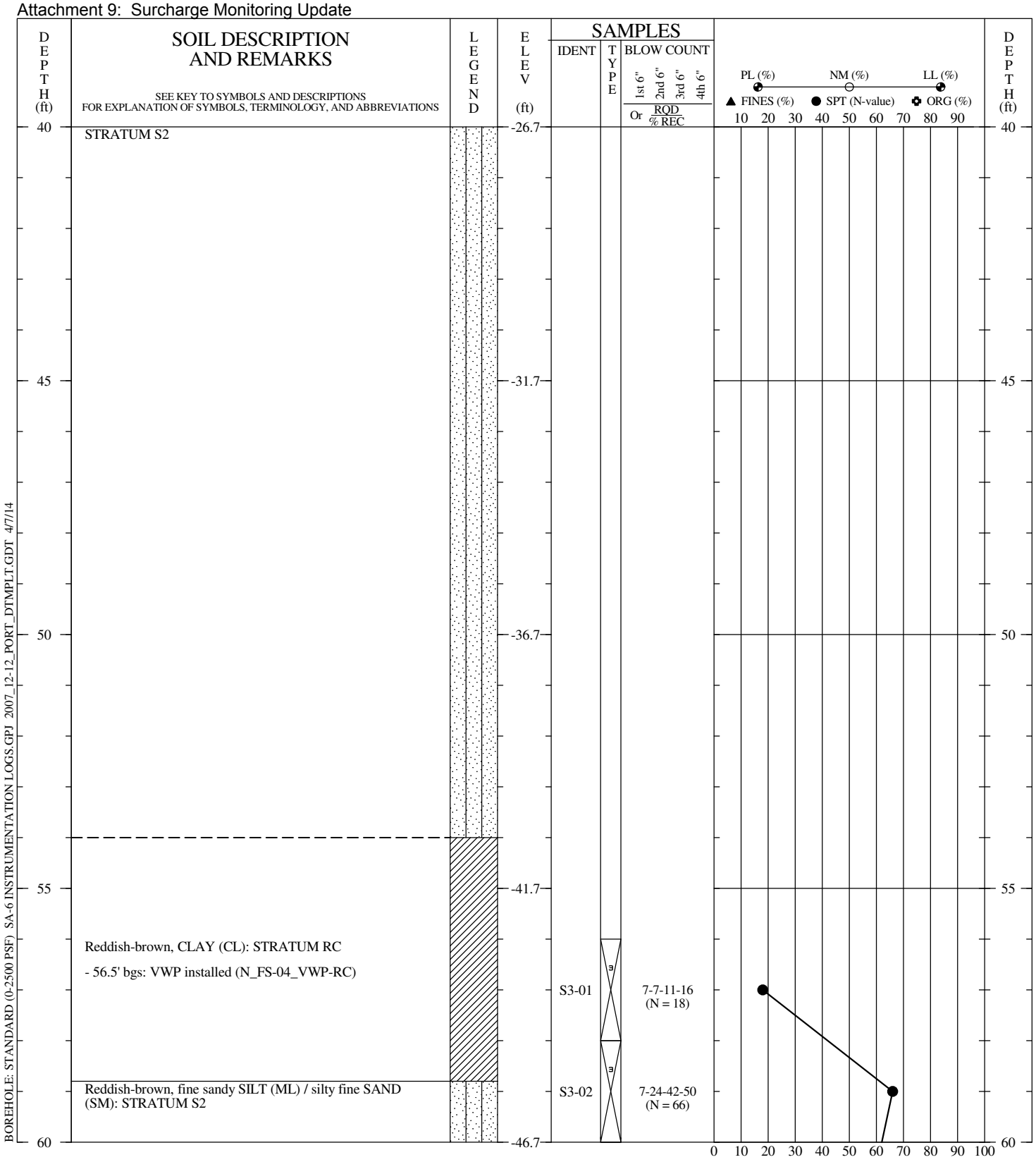

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP-RC
DRILLED:	02/19/14 - 02/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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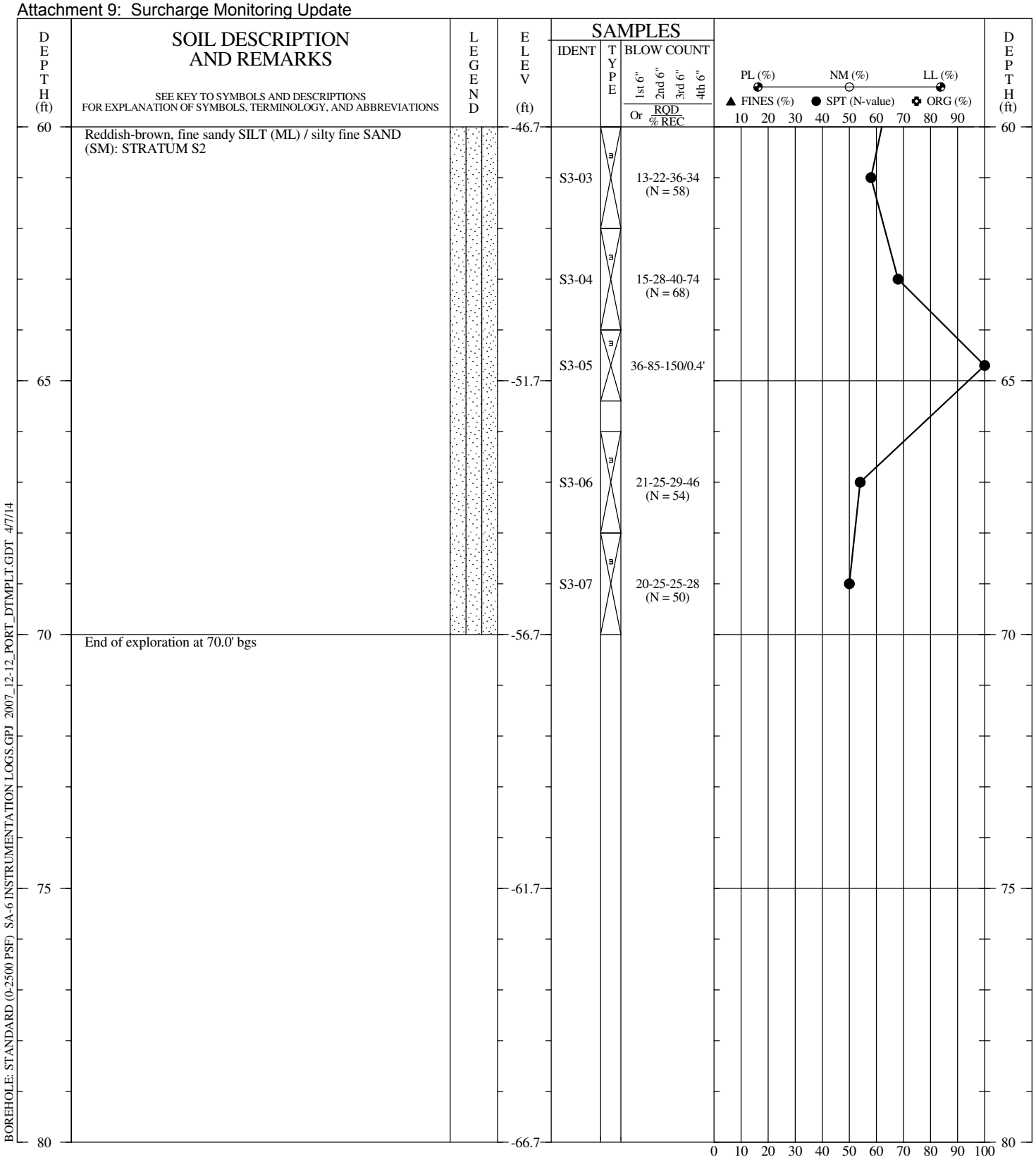

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_VWP-RC
DRILLED:	02/19/14 - 02/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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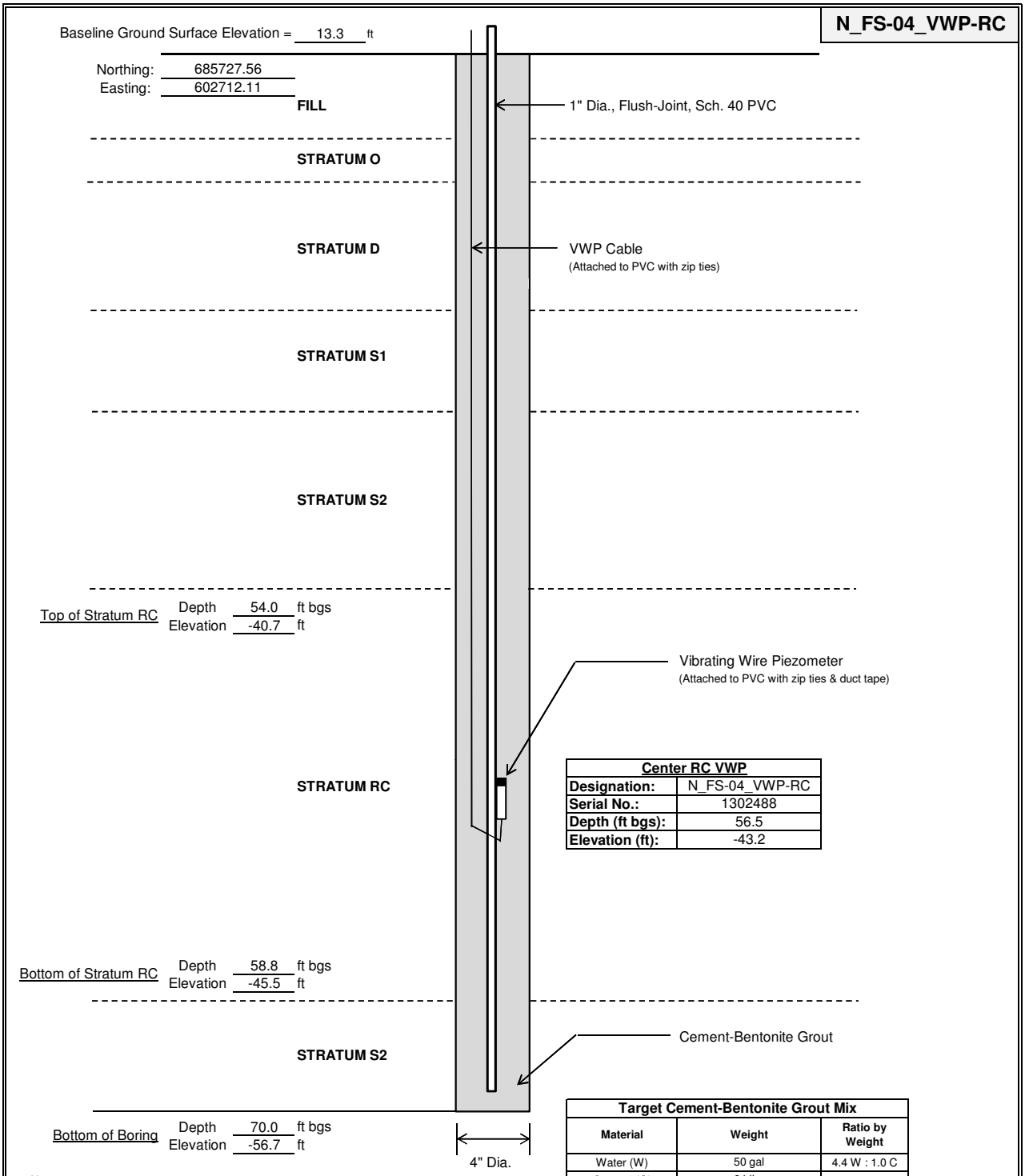
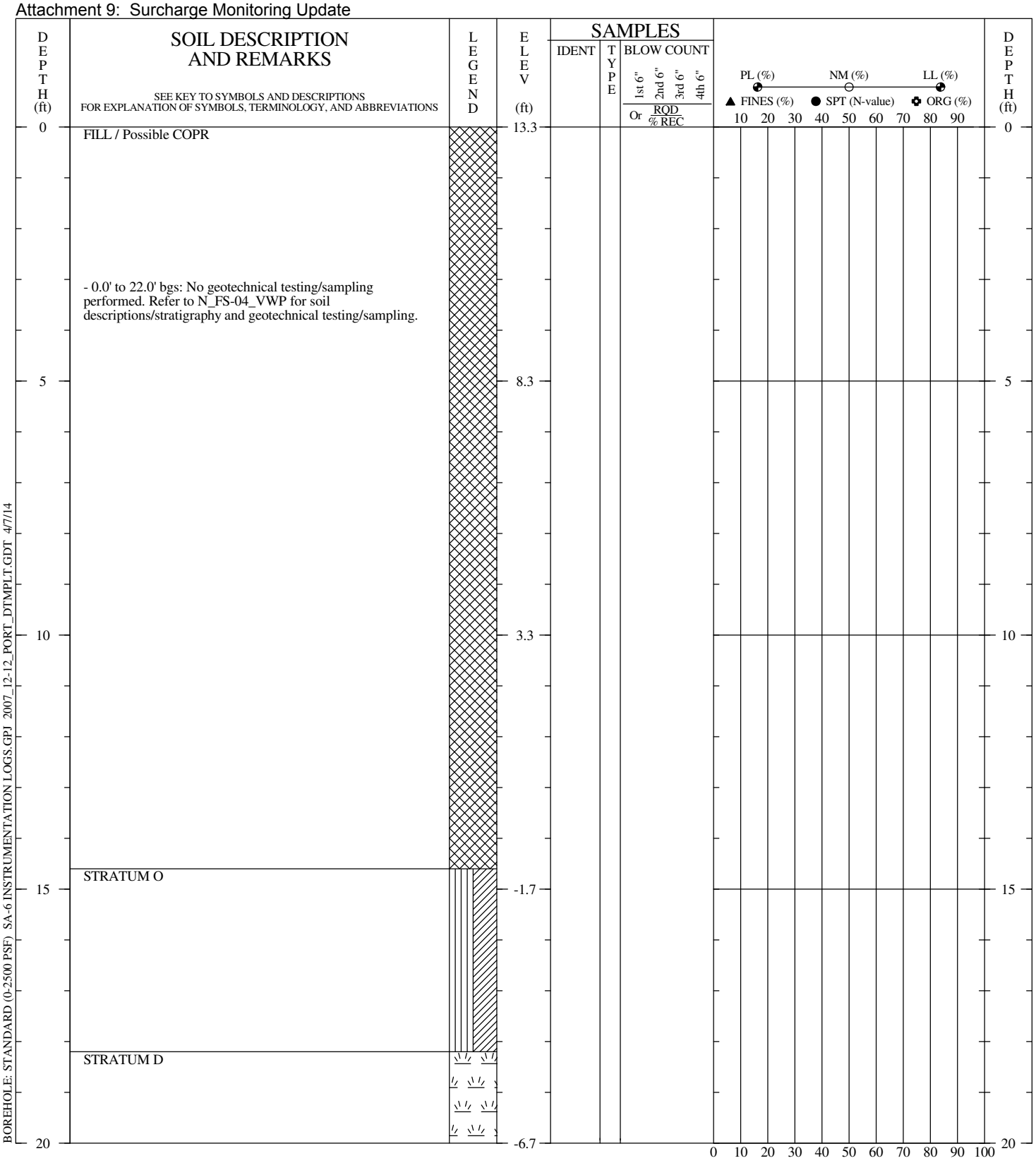


Center RC VWP	
Designation:	N_FS-04_VWP-RC
Serial No.:	1302488
Depth (ft bgs):	56.5
Elevation (ft):	-43.2

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611024.
4. Refer to Boring Record N_FS-04_VWP-RC for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/3-27-14
Boring No.:	N_FS-04_VWP-RC	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	2/20/2014	**Project No.**	3480-13-0377	**Scale:**	NTS



DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	MS CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_SS
DRILLED:	02/21/14 - 02/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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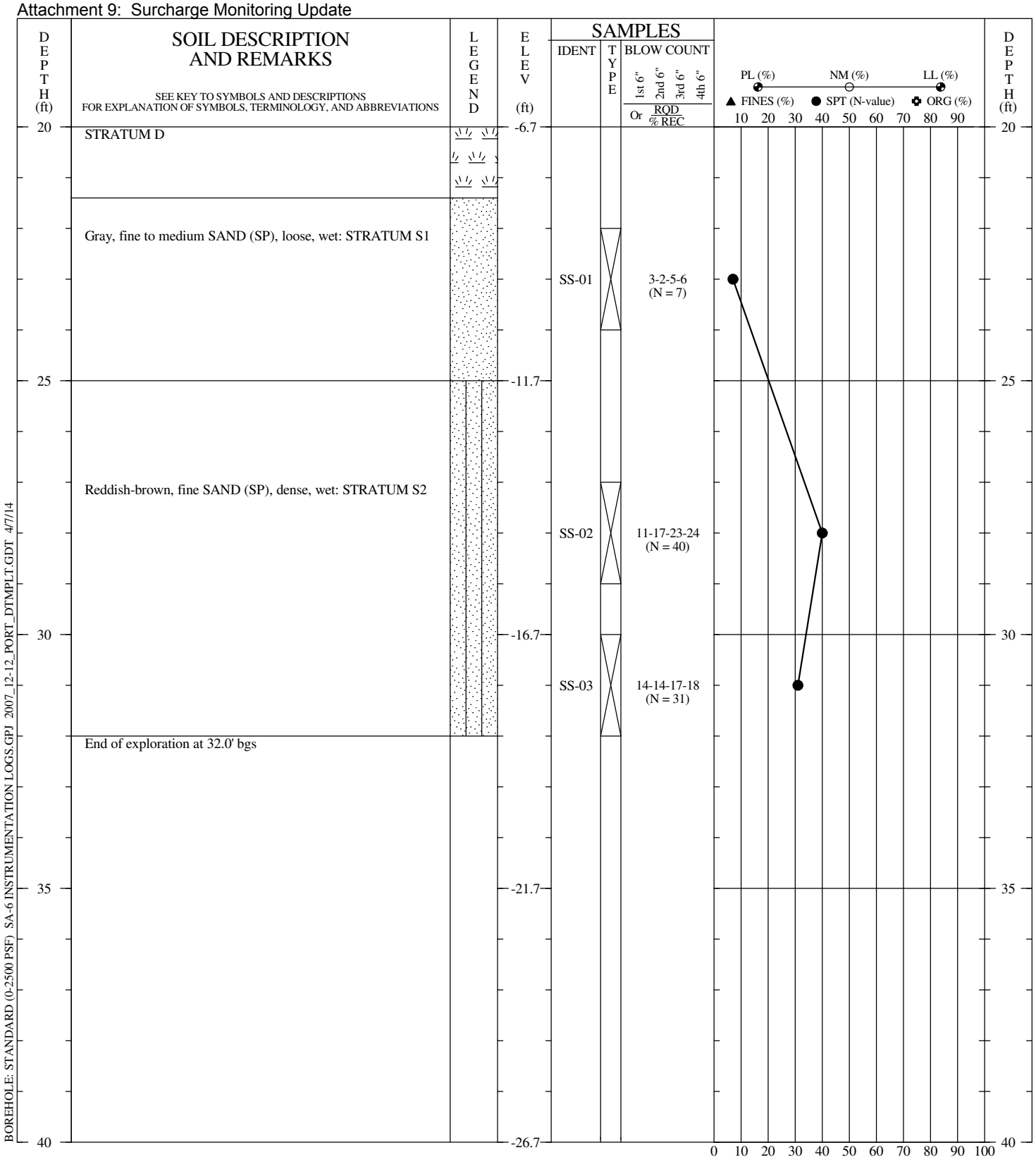

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash (Variable)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Installed Sondex System. CB grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_SS
DRILLED:	02/21/14 - 02/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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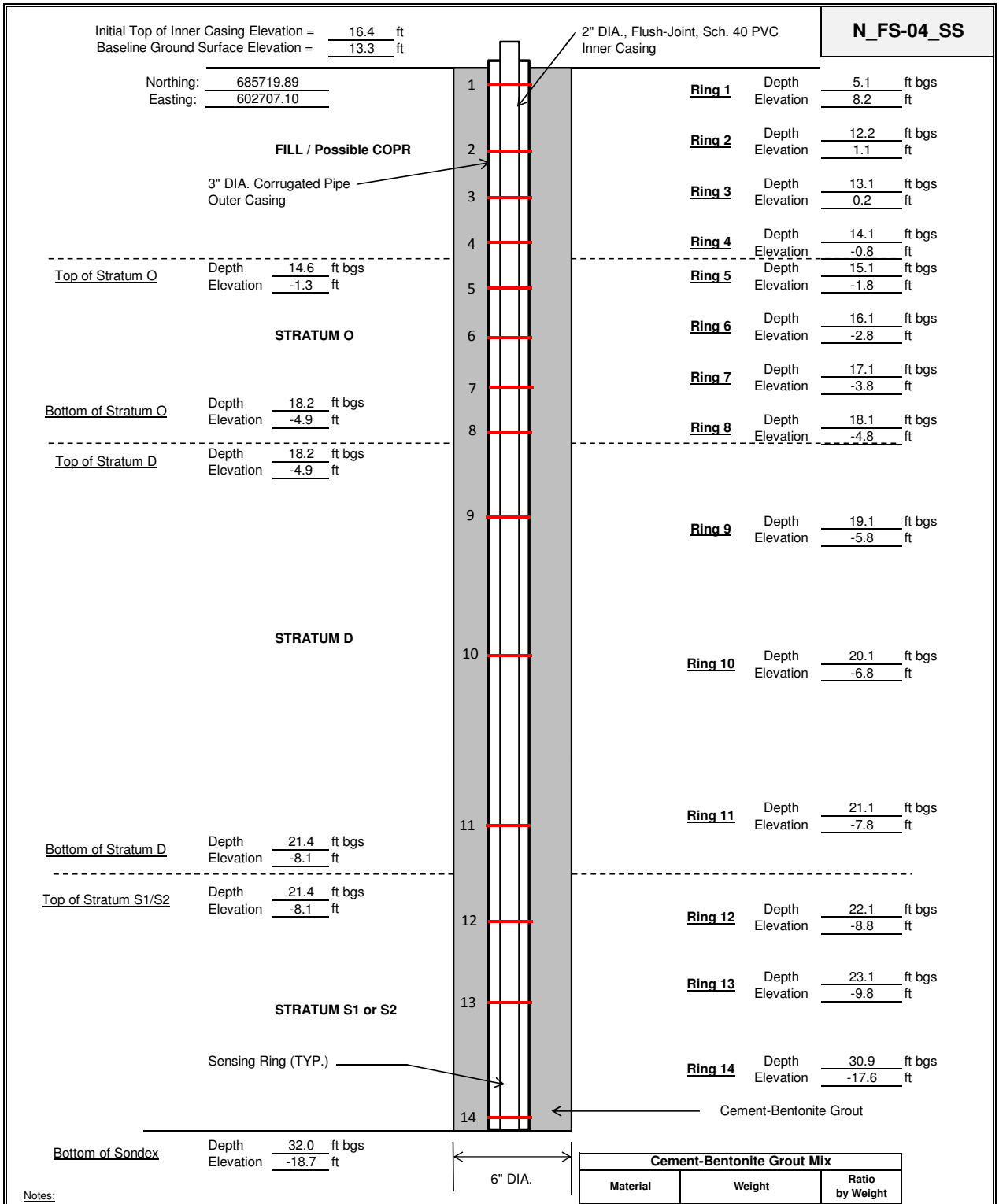
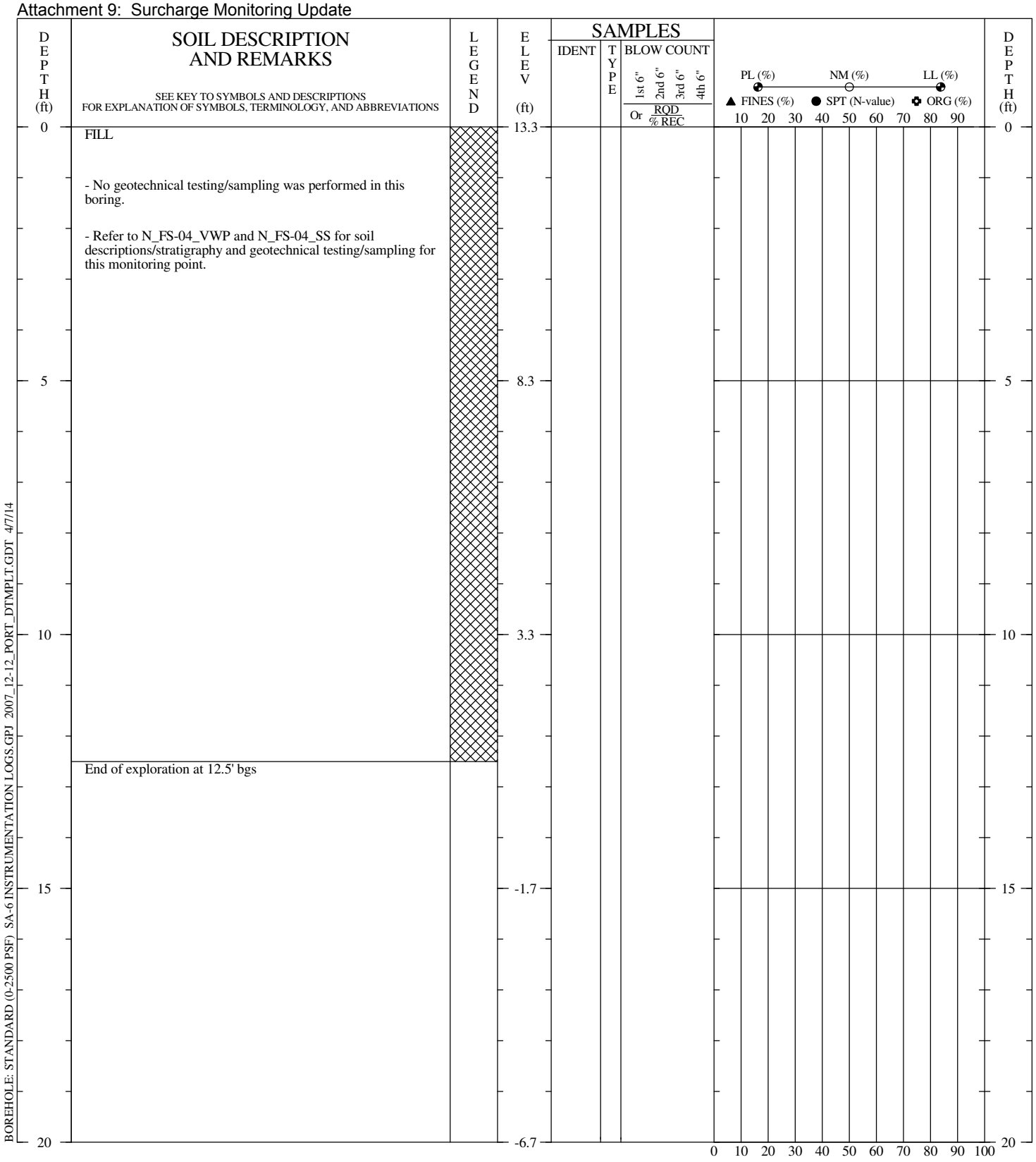


Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. Sondex System manufactured by Slope Indicator.
4. Refer to Boring Record N_FS-04_SS for subsurface conditions encountered.

Title:	Sondex System Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/3-27-14
Boring No.:	N_FS-04_SS	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	2/24/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Hollow-Stem Augers
HOLE DIAM.:	4.25" ID
SPTs:	N/A
REMARKS:	Installed standpipe piezometer. Drill cuttings containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_FS-04_SPP
DRILLED:	02/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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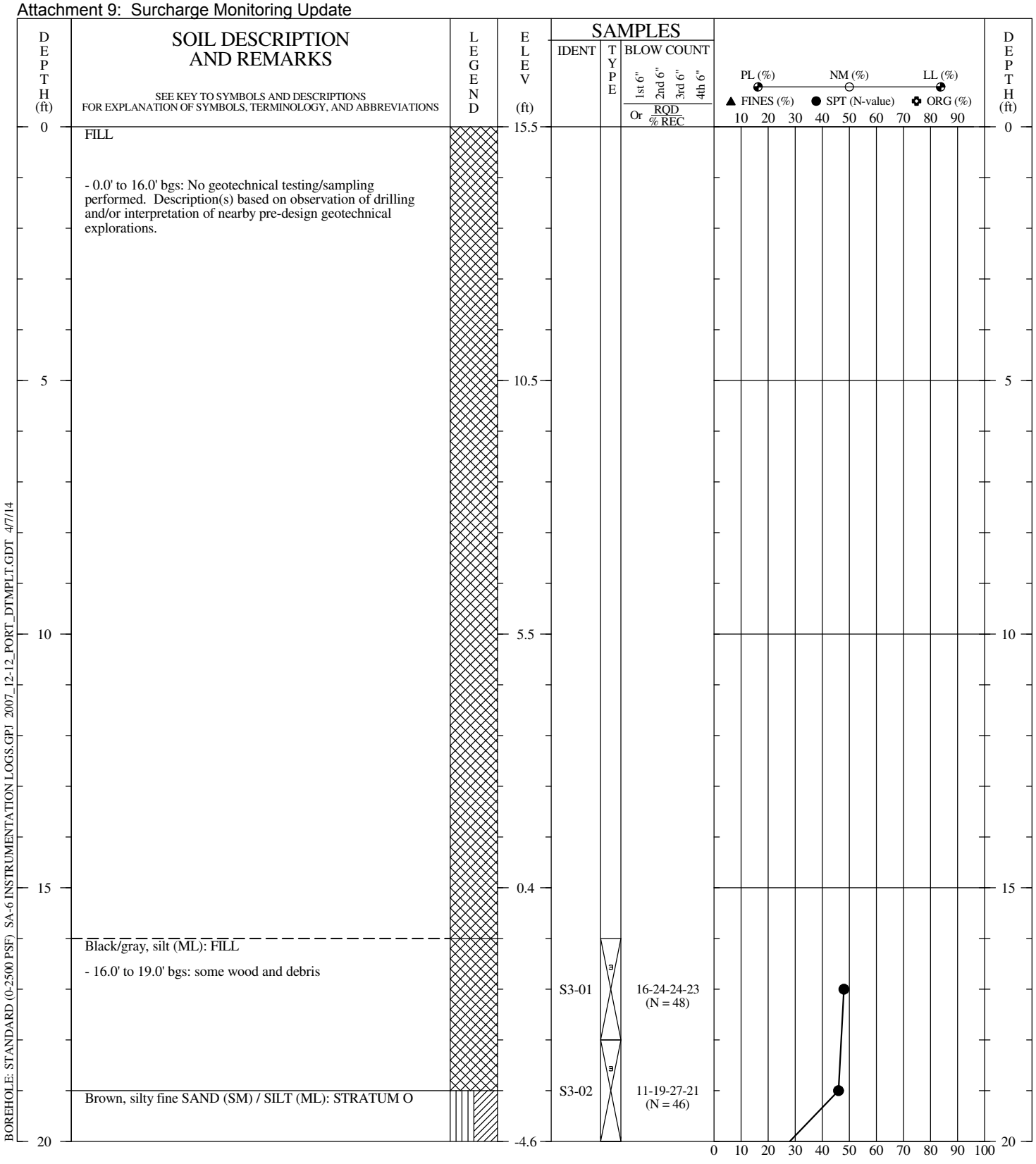
AMEC E&I, Inc.				STANDPIPE PIEZOMETER CONSTRUCTION DIAGRAM	
Project:	SA-6 Surcharge Monitoring		**Project Number:** 3480130377	**N_FS-04_SPP**	
Location:	Jersey City, NJ				
Client:	Honeywell		**Date:** 3/13/2014		
Drilling Method:	4.25-inch ID HSA			**Measuring Point**	
Installed Date:	2/21/2014			**Type:**	Top of Riser
Installed By:	AE			**Elevation (ft):**	15.8

Item	Depth (ft bgs)	Elevation (ft)	Legend	Description	
Top of Riser	-2.5	15.8		Stickup Type:	PVC (sch. 40)
				Stickup Diameter:	1-inch
Ground Surface	0.0	13.3			
				Backfill/Grout Type:	N.J.A.C. 7:9D-2.9 Table 2
				Riser Pipe Type:	PVC (sch. 40)
				Riser Pipe ID:	1-inch
				Borehole Diameter:	9-inches
Top of Seal	2.5	10.8			
				Type of Seal:	Bentonite Chips
Top of Filter Pack	5.5	7.8			
Top of Screen	7.5	5.8			
				Screen Type:	PVC (sch. 40)
				Screen ID:	1-inch
				Screen Slot Size:	0.010-inch
				Screen Length:	5 feet
				Filter/Sand Pack Type:	Filter Sand (#1)
Base of Screen	12.5	0.8			
End Cap	12.5	0.8		Sump:	N/A
Drilled Depth	12.5	0.8		Fallback/Backfill:	N/A
Total Depth	12.5	0.8			

Notes: 1. Elevation Datum NGVD 29.

HS-01



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-01_VWP
DRILLED:	03/25/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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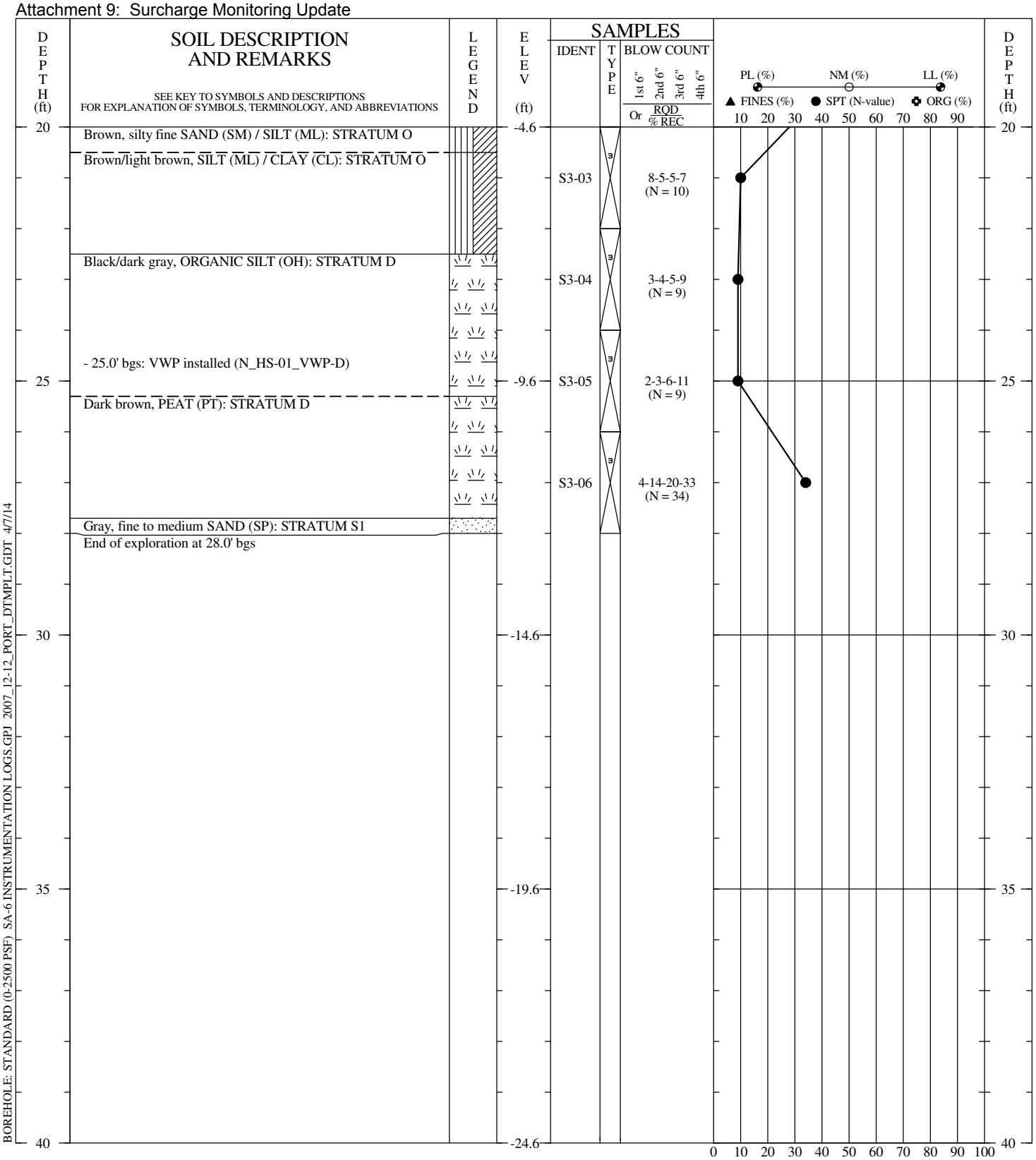

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-01_VWP
DRILLED:	03/25/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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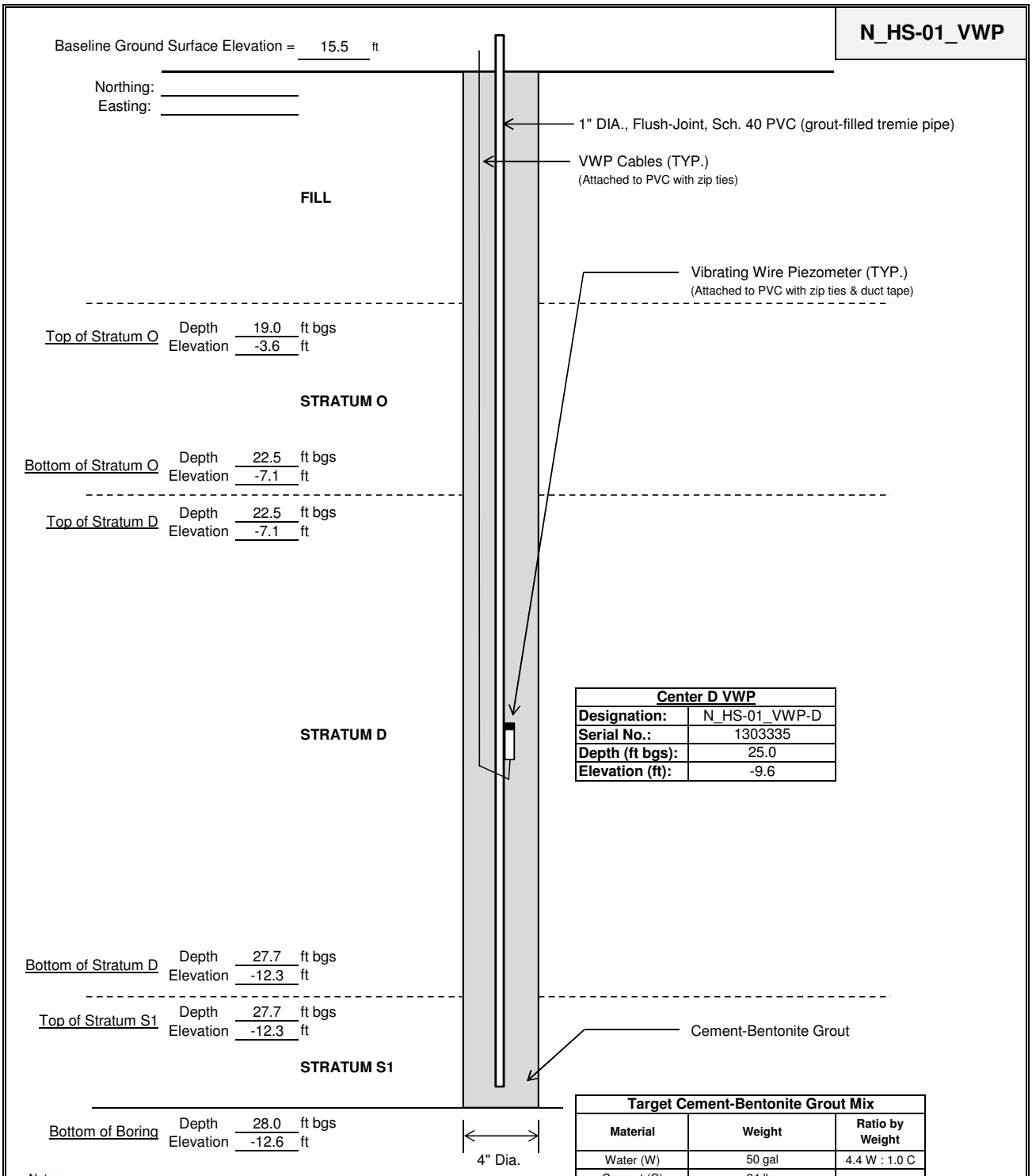


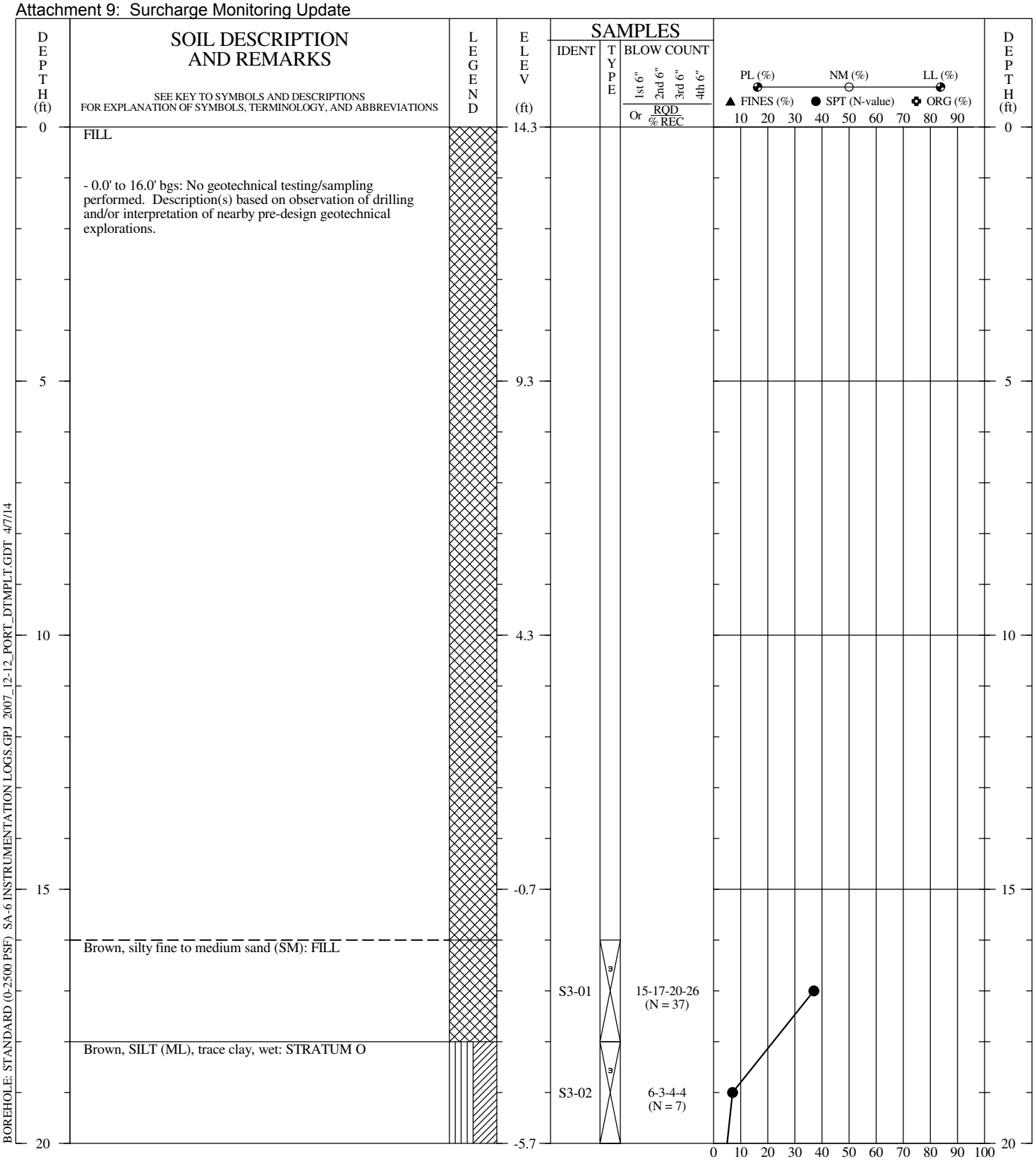
Center D VWP	
Designation:	N_HS-01_VWP-D
Serial No.:	1303335
Depth (ft bgs):	25.0
Elevation (ft):	-9.6

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-01_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/4-1-14
Boring No.:	N_HS-01_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	3/25/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-02



DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-02_VWP
DRILLED:	01/13/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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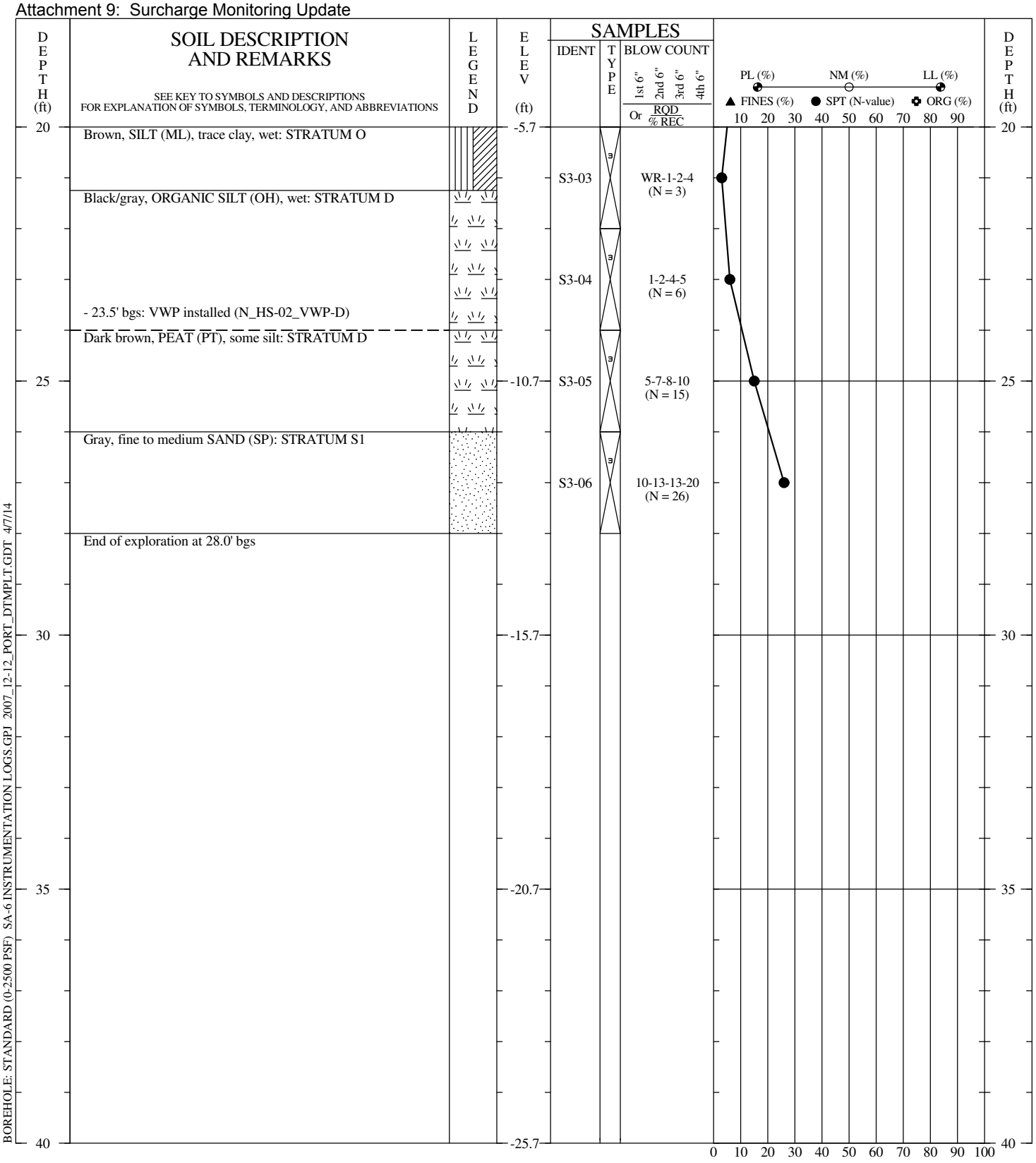

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-02_VWP
DRILLED:	01/13/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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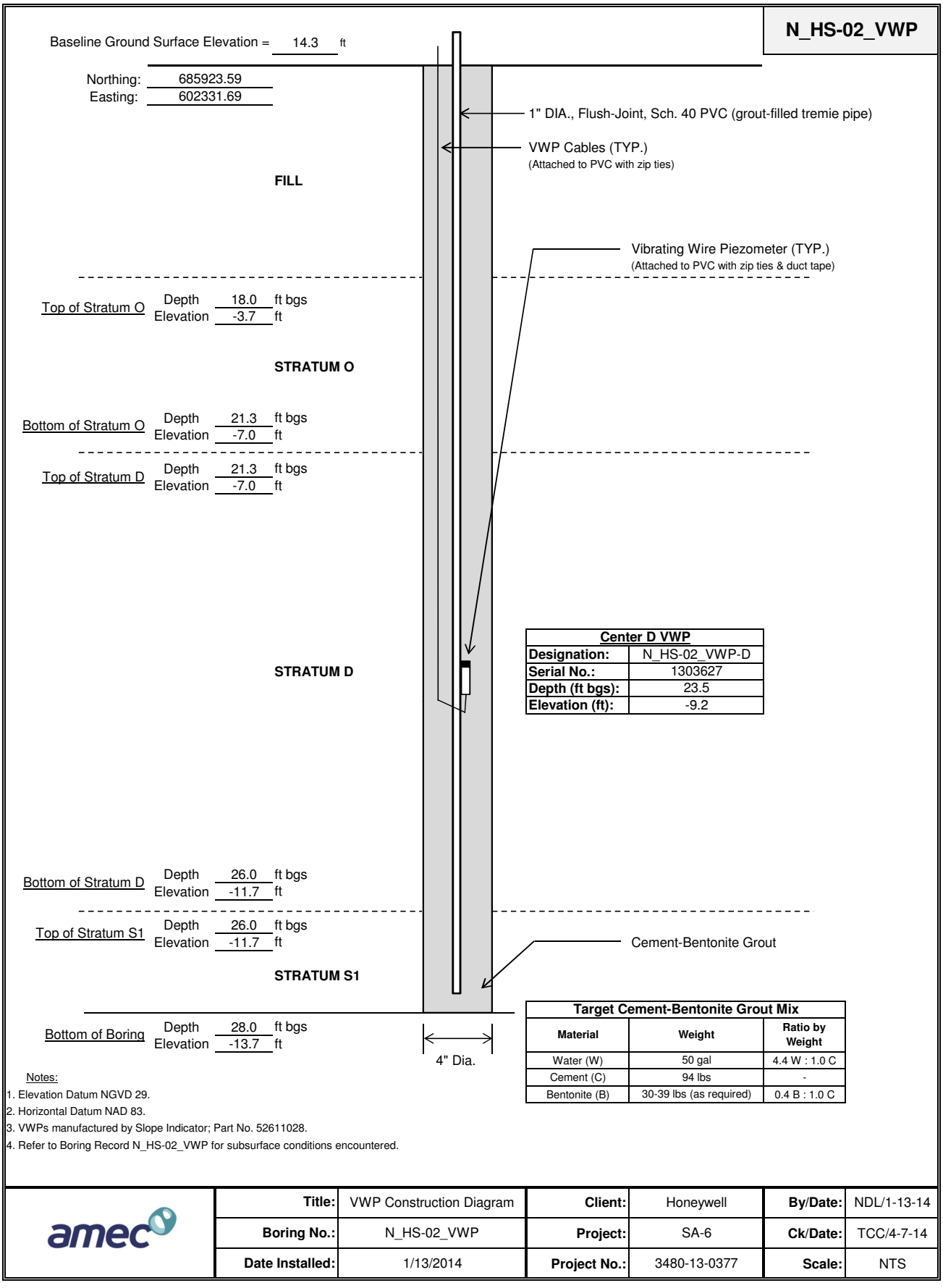


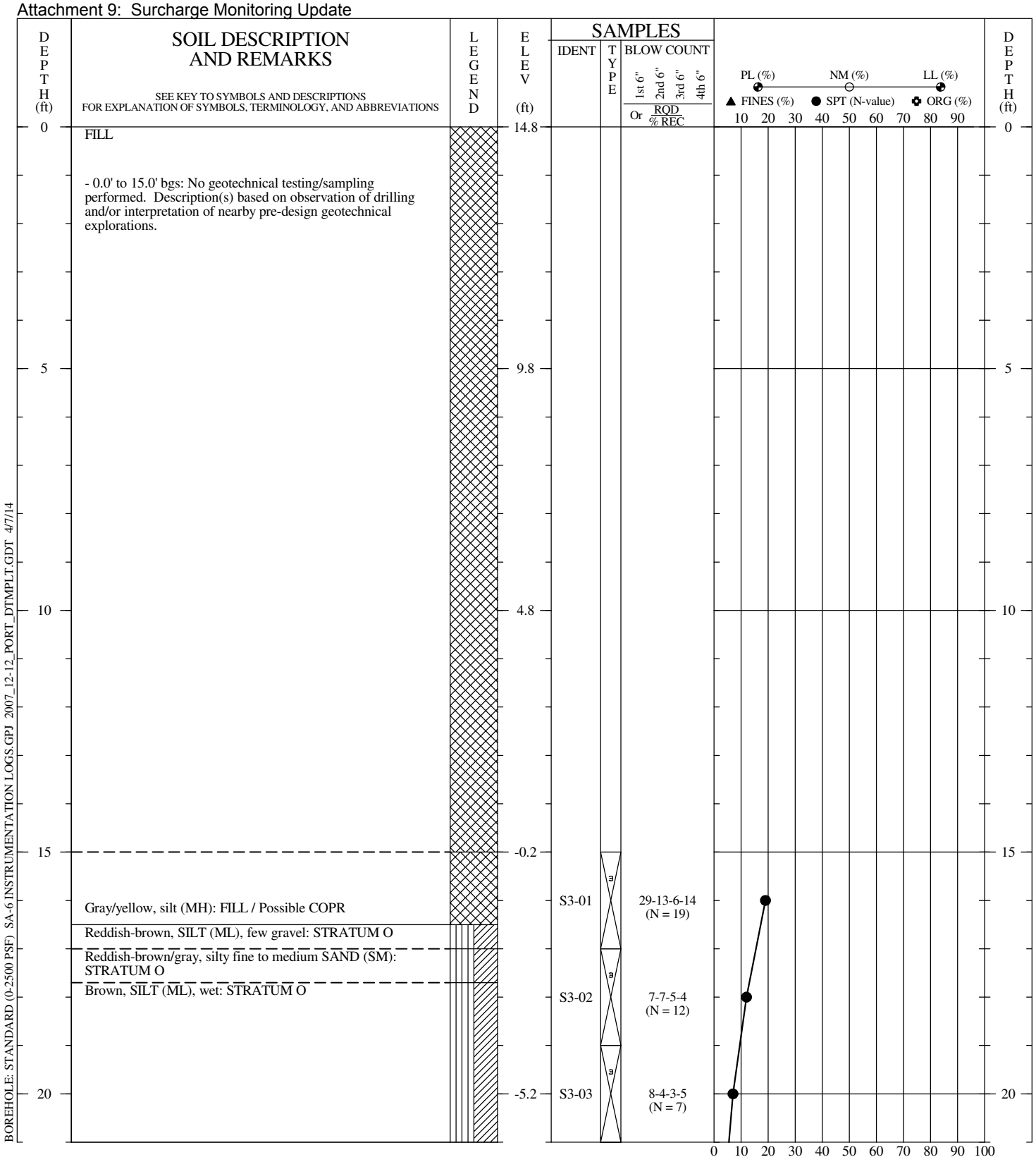
Center D VWP	
Designation:	N_HS-02_VWP-D
Serial No.:	1303627
Depth (ft bgs):	23.5
Elevation (ft):	-9.2

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-02_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-13-14
Boring No.:	N_HS-02_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/13/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-03



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-03_VWP
DRILLED:	12/31/13 - 01/02/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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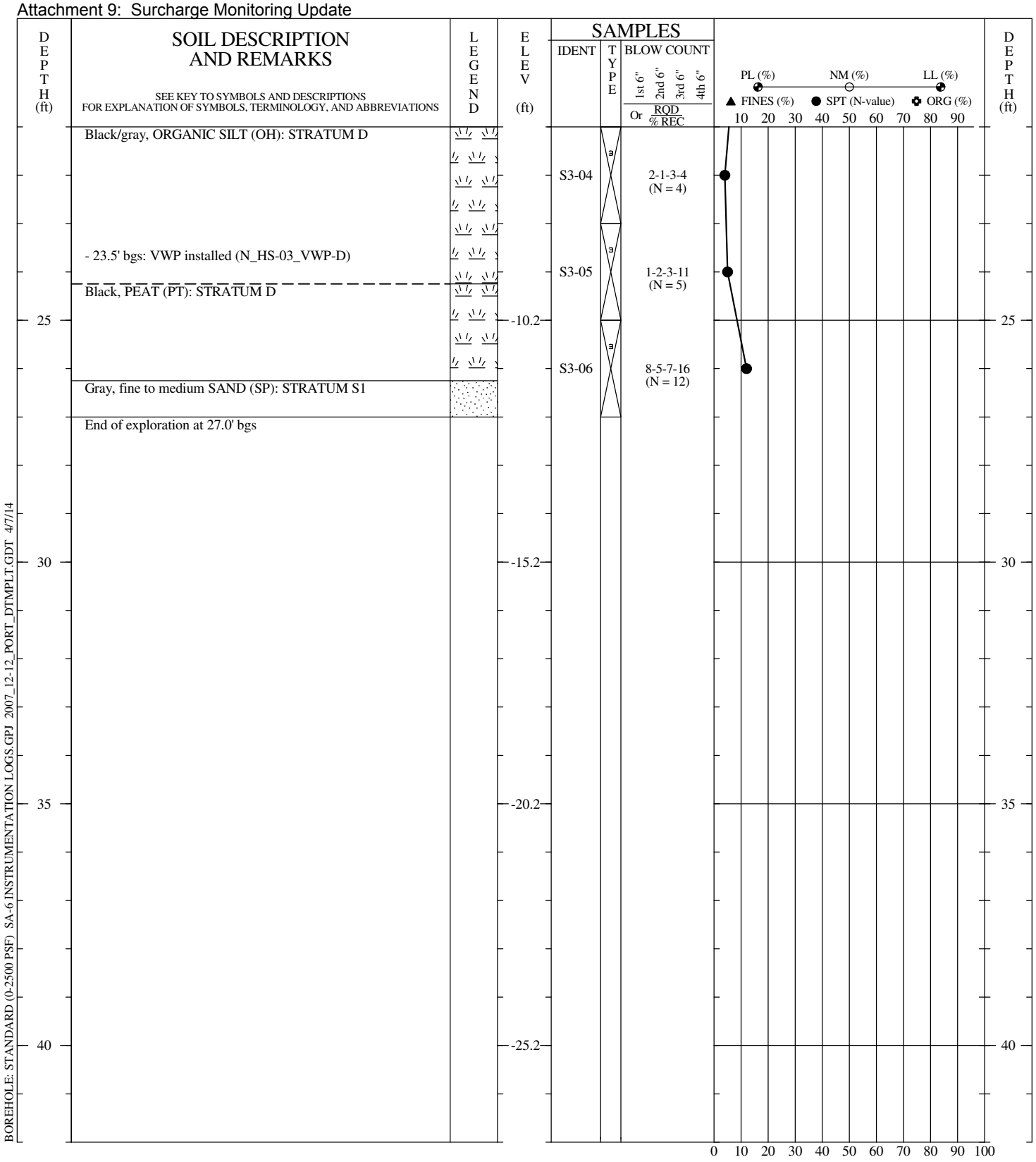

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-03_VWP
DRILLED:	12/31/13 - 01/02/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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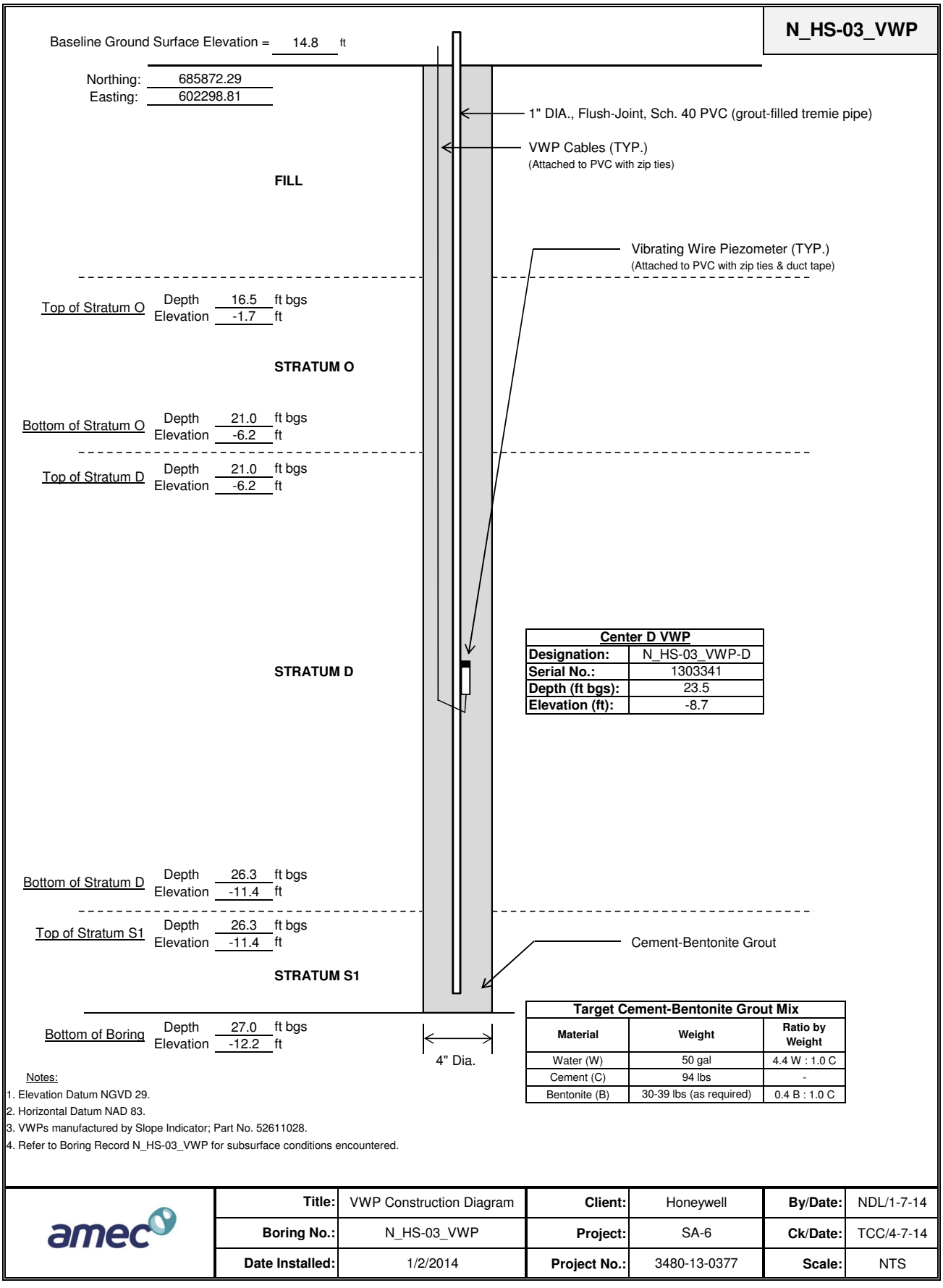


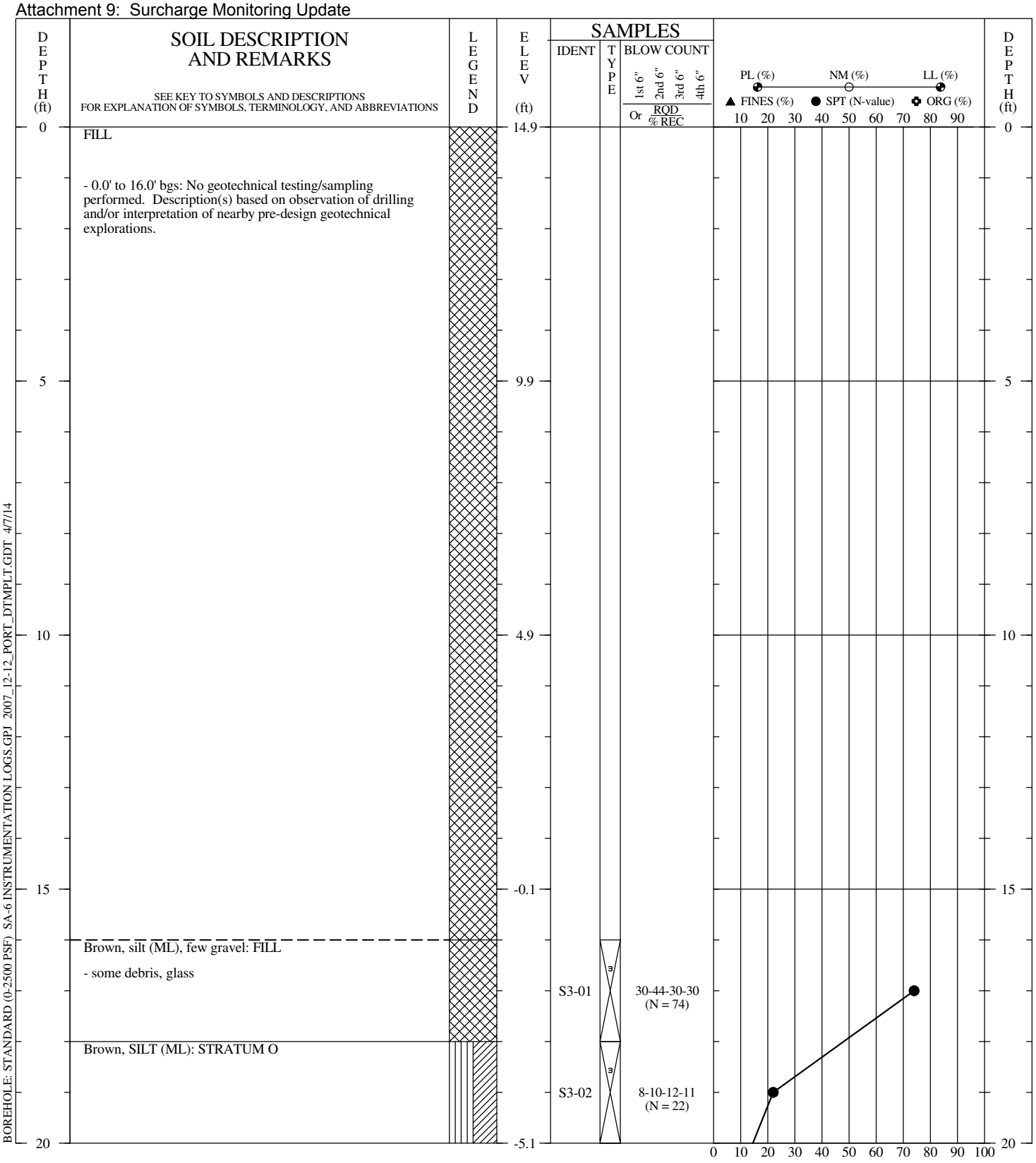
Center D VWP	
Designation:	N_HS-03_VWP-D
Serial No.:	1303341
Depth (ft bgs):	23.5
Elevation (ft):	-8.7

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-03_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-7-14
Boring No.:	N_HS-03_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/2/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-04



DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-04_VWP
DRILLED:	03/26/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 2

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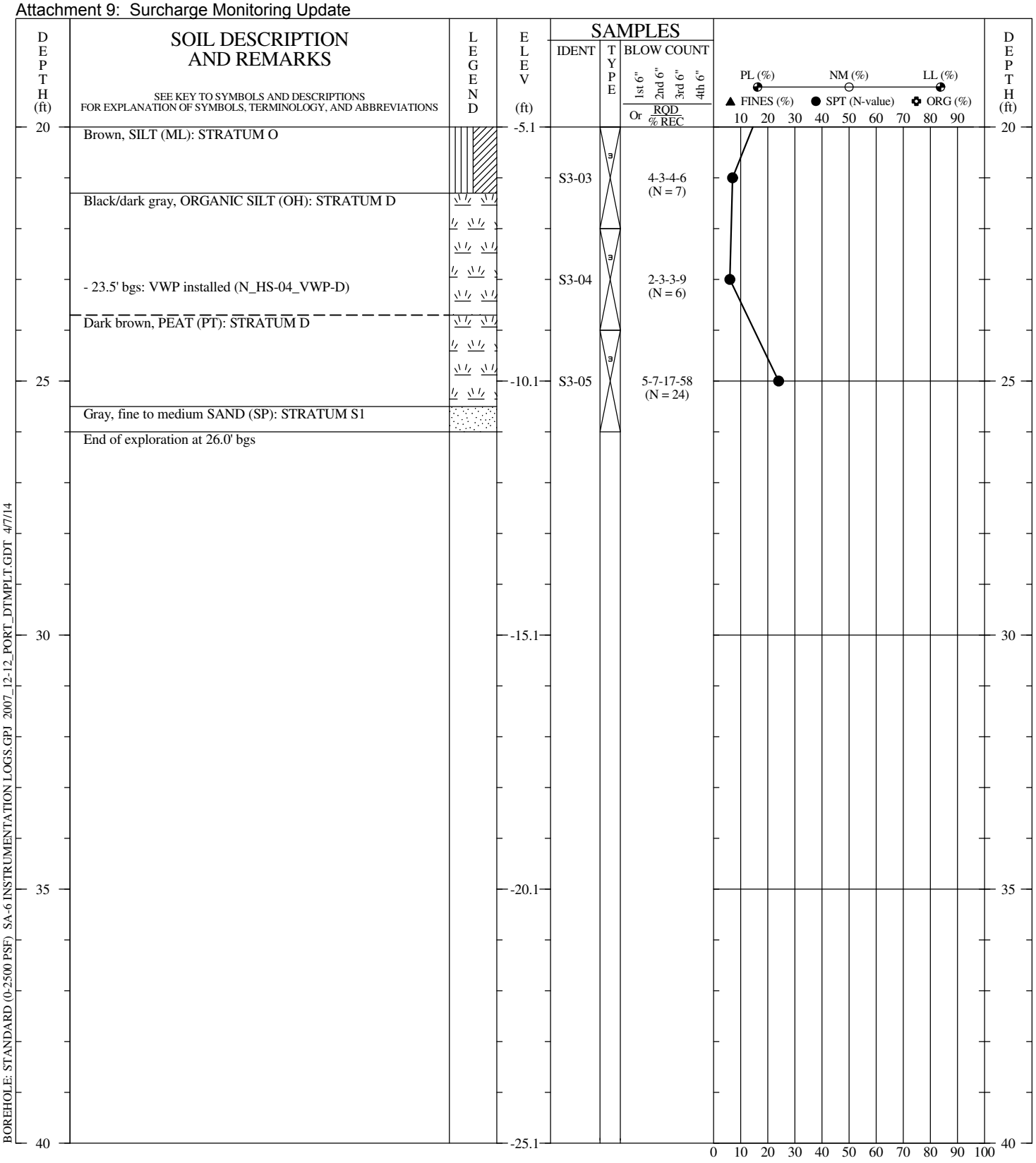

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-04_VWP
DRILLED:	03/26/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 2 **OF** 2

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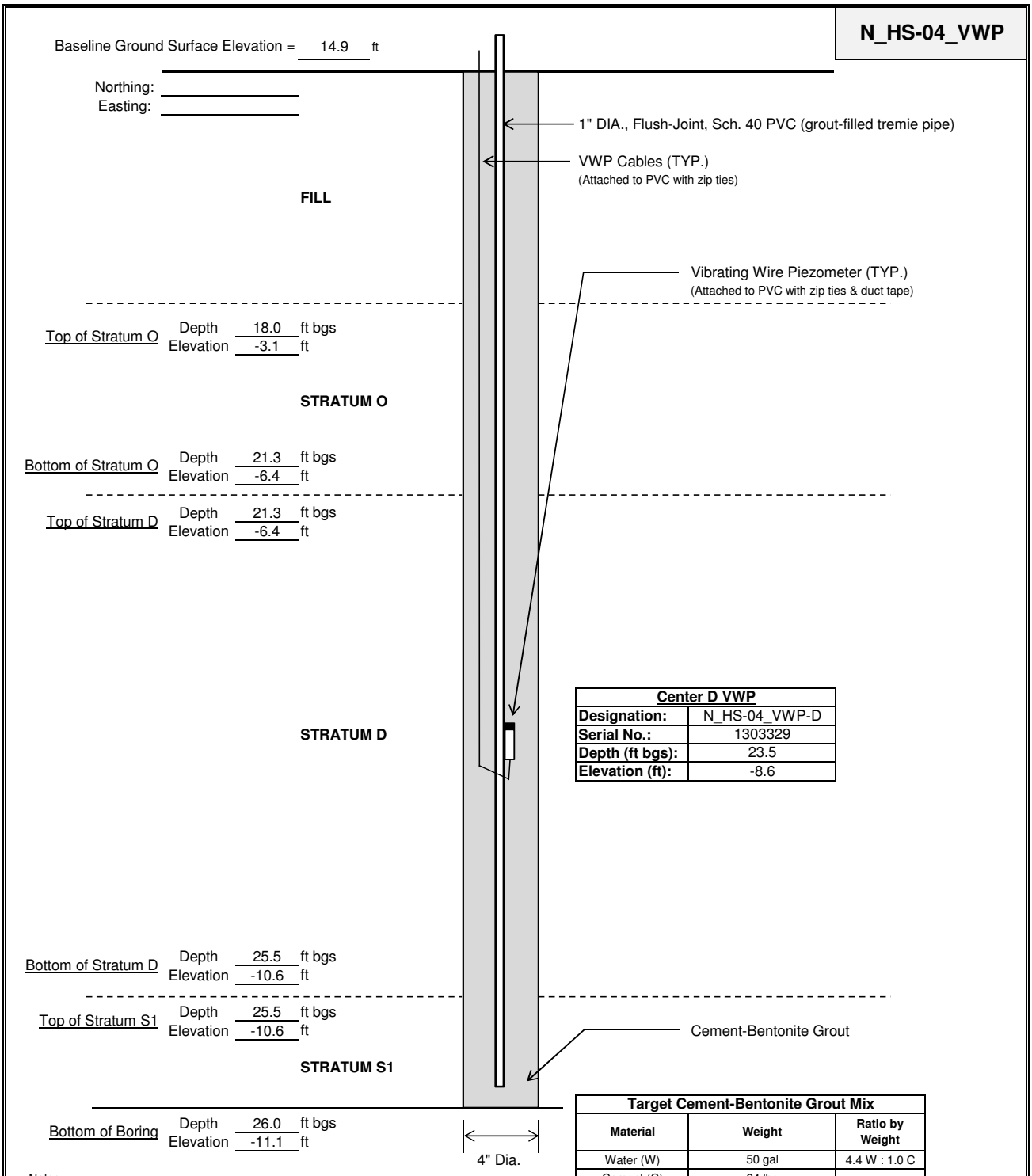


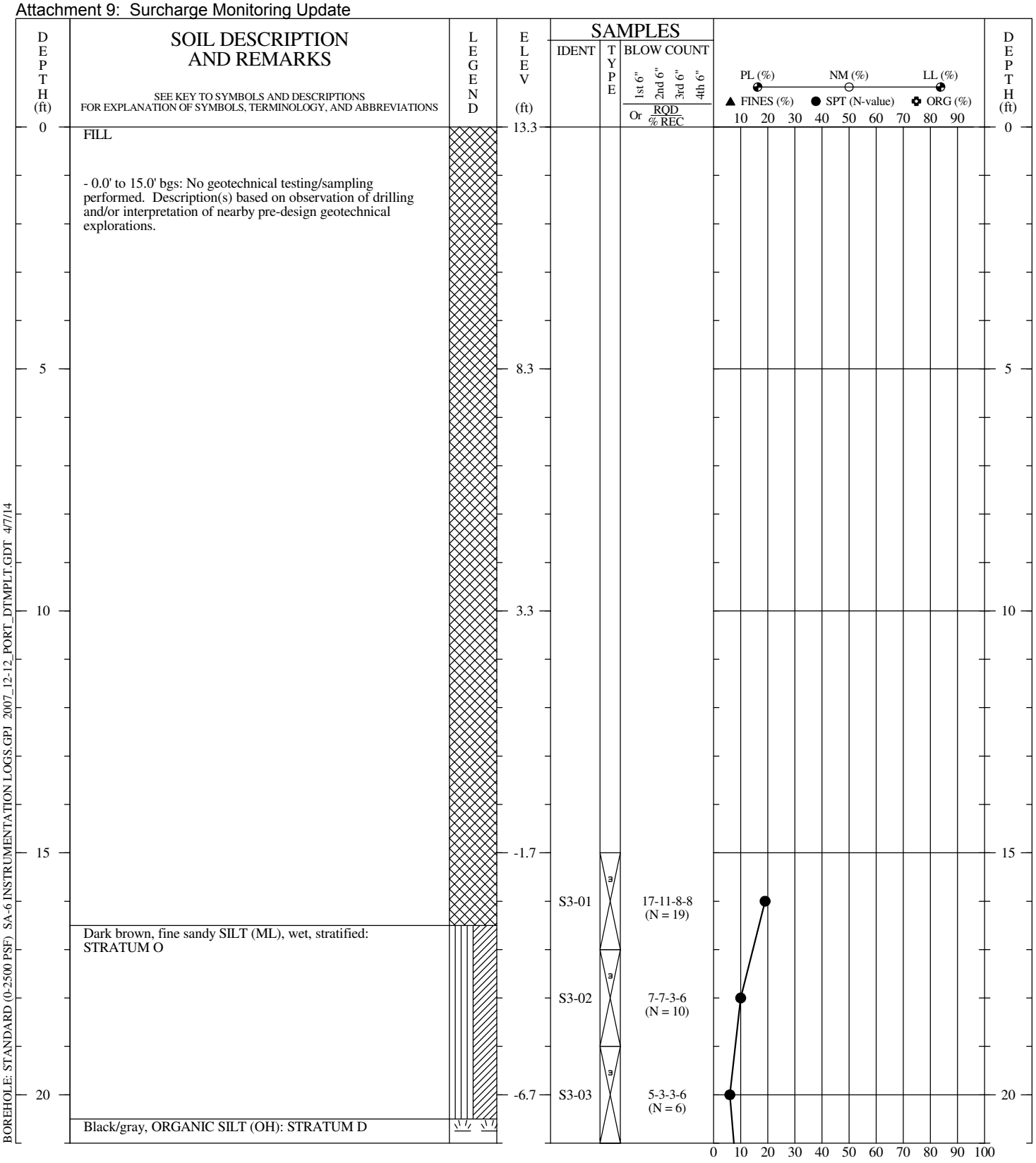
Center D VWP	
Designation:	N_HS-04_VWP-D
Serial No.:	1303329
Depth (ft bgs):	23.5
Elevation (ft):	-8.6

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-04_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/4-1-14
Boring No.:	N_HS-04_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	3/26/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-05



DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP
DRILLED:	01/02/14 - 01/06/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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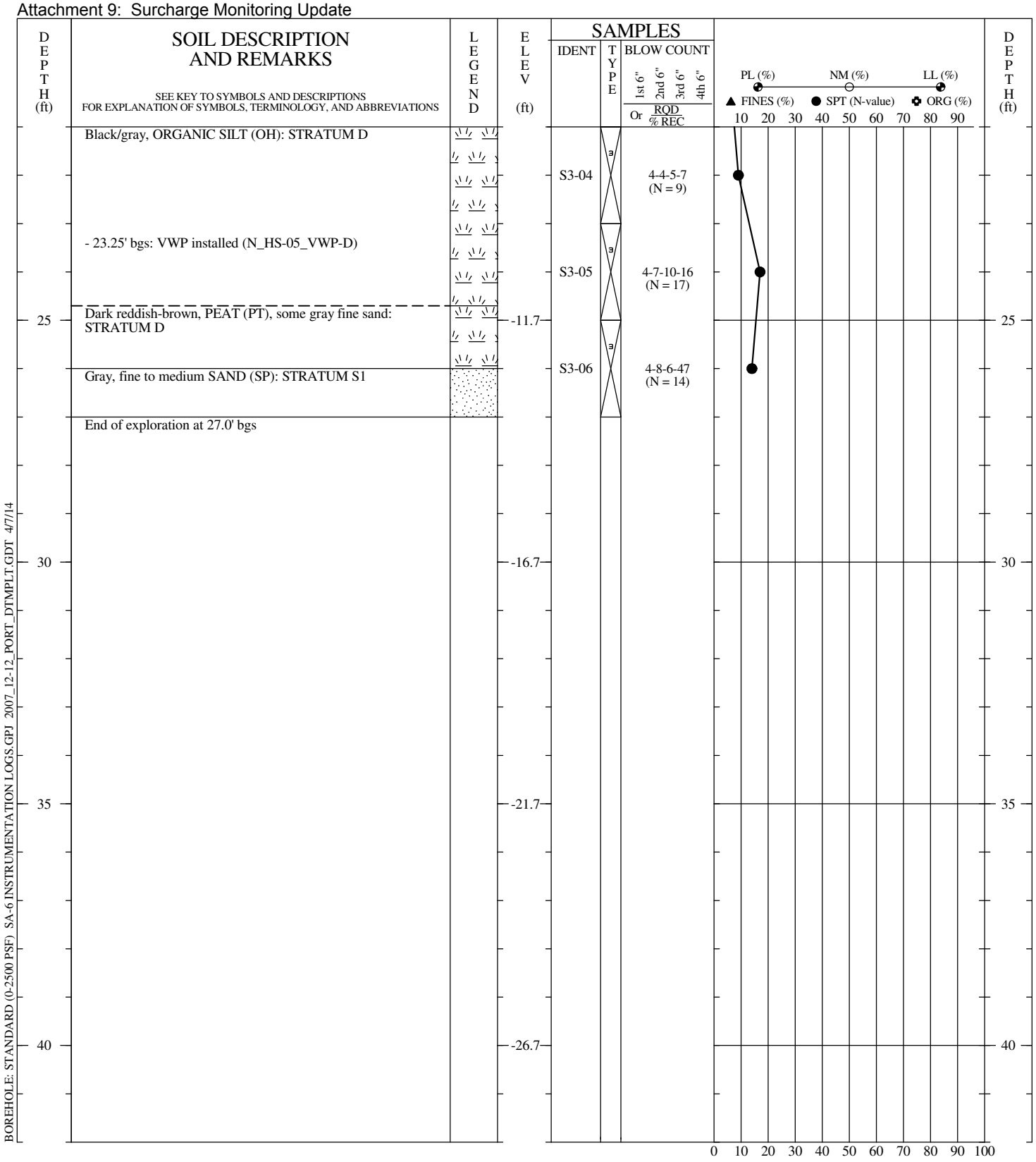

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP
DRILLED:	01/02/14 - 01/06/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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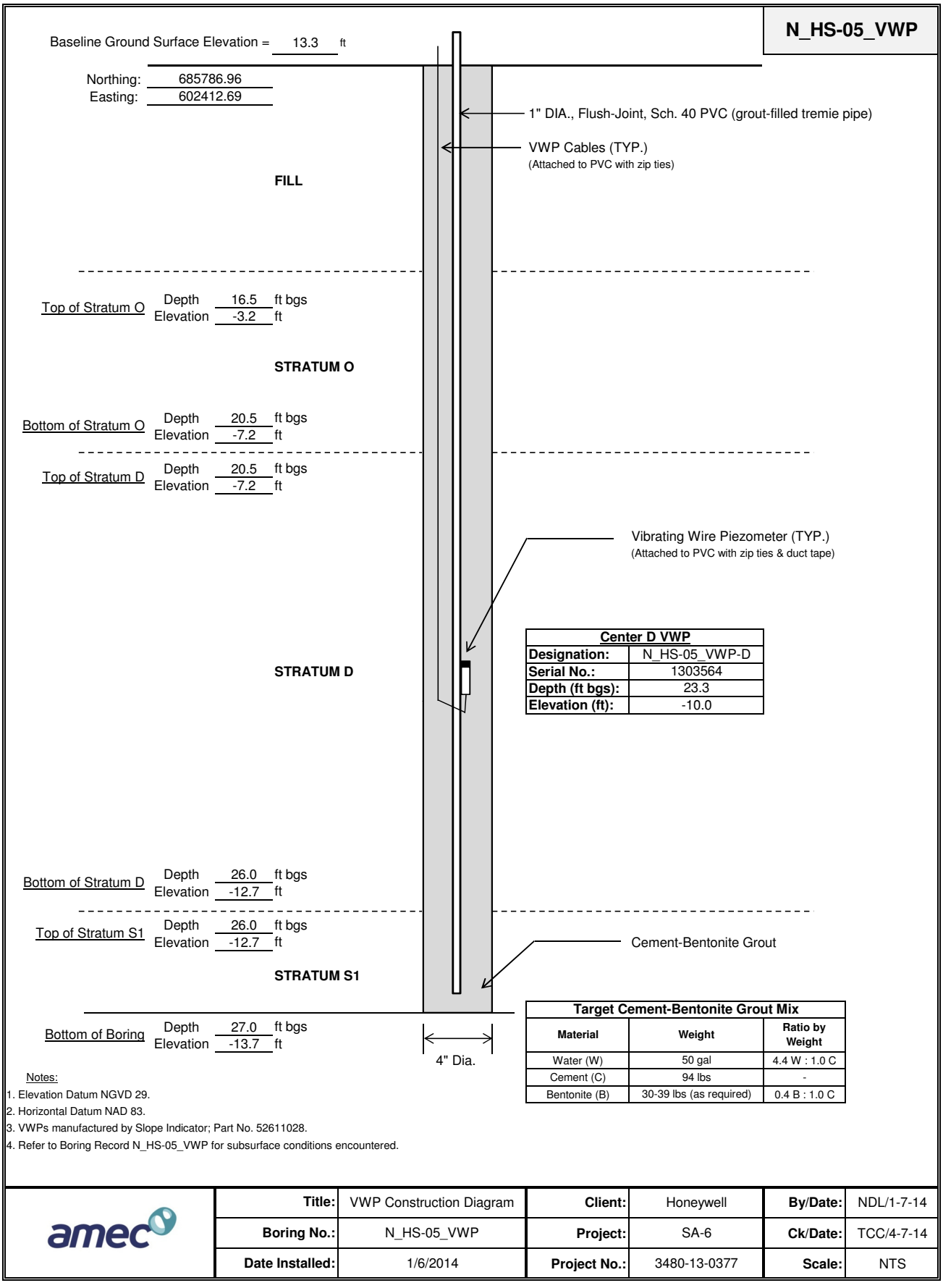

Center D VWP	
Designation:	N_HS-05_VWP-D
Serial No.:	1303564
Depth (ft bgs):	23.3
Elevation (ft):	-10.0

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-05_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-7-14
Boring No.:	N_HS-05_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/6/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

DEPTH (ft)	SOIL DESCRIPTION AND REMARKS SEE KEY TO SYMBOLS AND DESCRIPTIONS FOR EXPLANATION OF SYMBOLS, TERMINOLOGY, AND ABBREVIATIONS	LEGEND	ELEV (ft)	SAMPLES: IDENT	SAMPLES: TYPE	SAMPLES: BLOW COUNT (1st 6" / 2nd 6" / 3rd 6" / 4th 6") Or RQD / % REC
0	FILL - 0.0' to 55.0' bgs: No geotechnical testing/sampling performed. Description(s) based on observation of drilling, N_HS-05_VWP, and/or interpretation of nearby pre-design geotechnical explorations.		13.3			
5			8.3			
10			3.3			
15			-1.7			
20	STRATUM O		-6.7			
	STRATUM D					

PL (%) NM (%) LL (%)
▲ FINES (%) ● SPT (N-value) ✪ ORG (%)
10 20 30 40 50 60 70 80 90

0 10 20 30 40 50 60 70 80 90 100

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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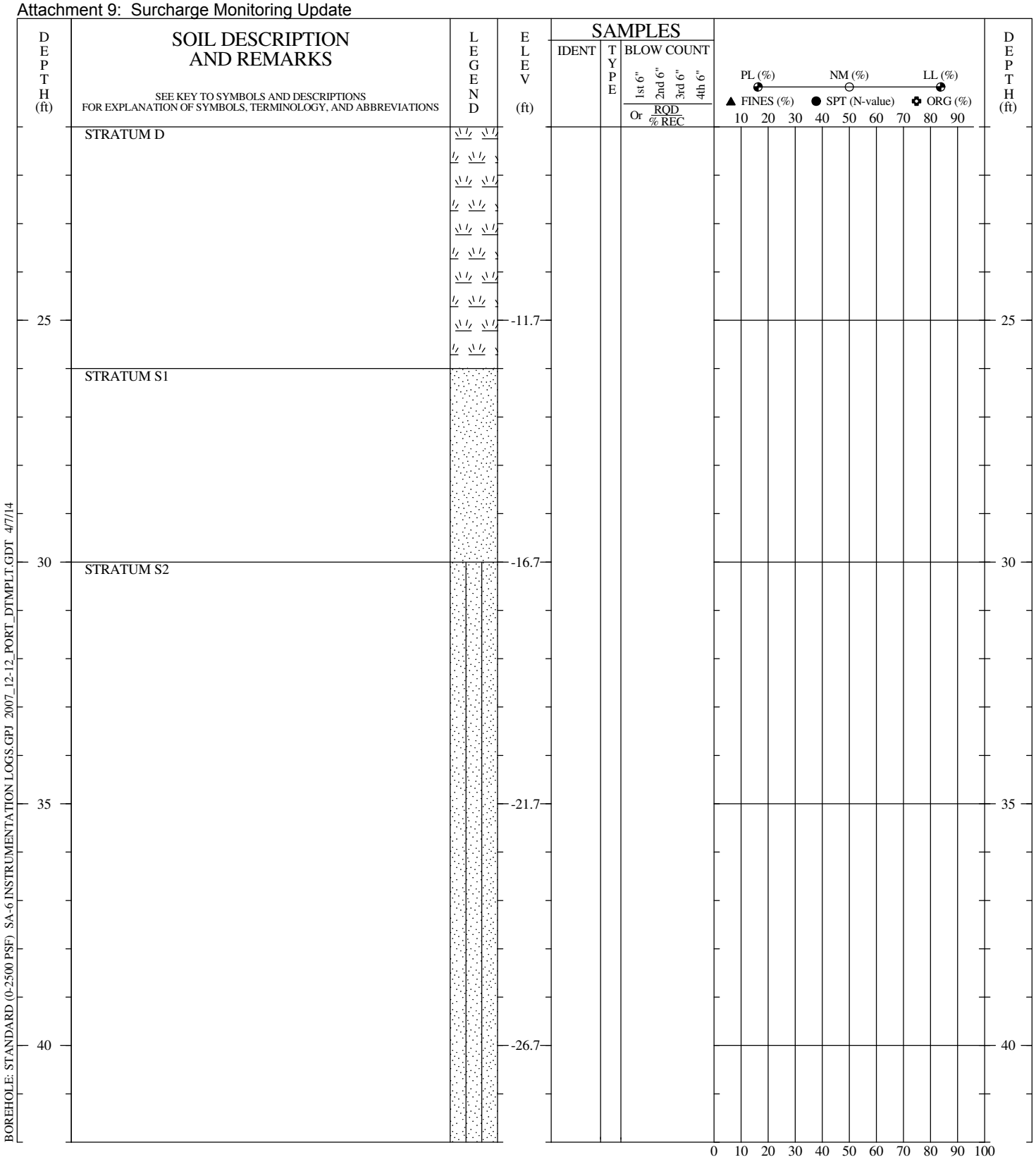

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 2 **OF** 4

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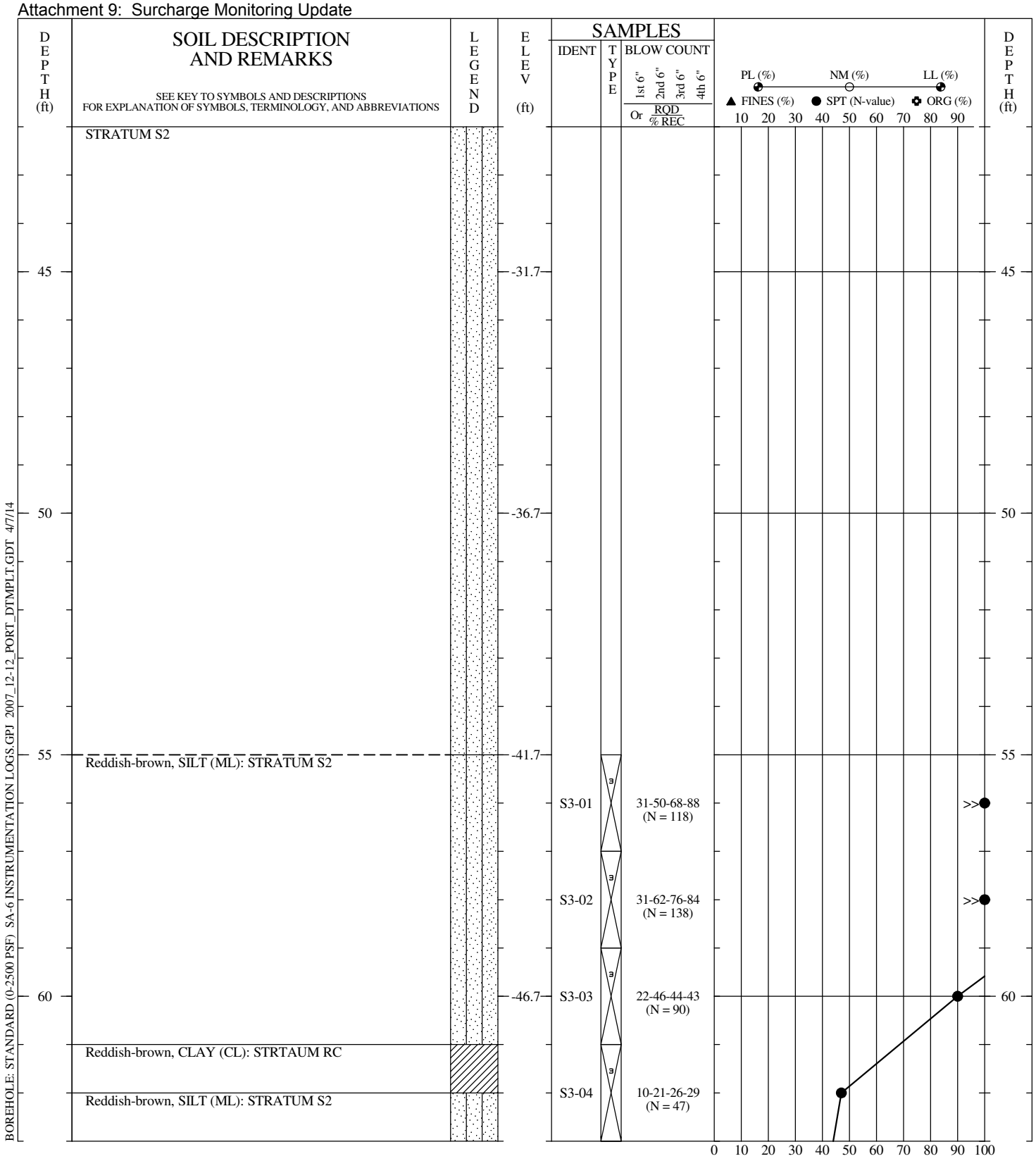

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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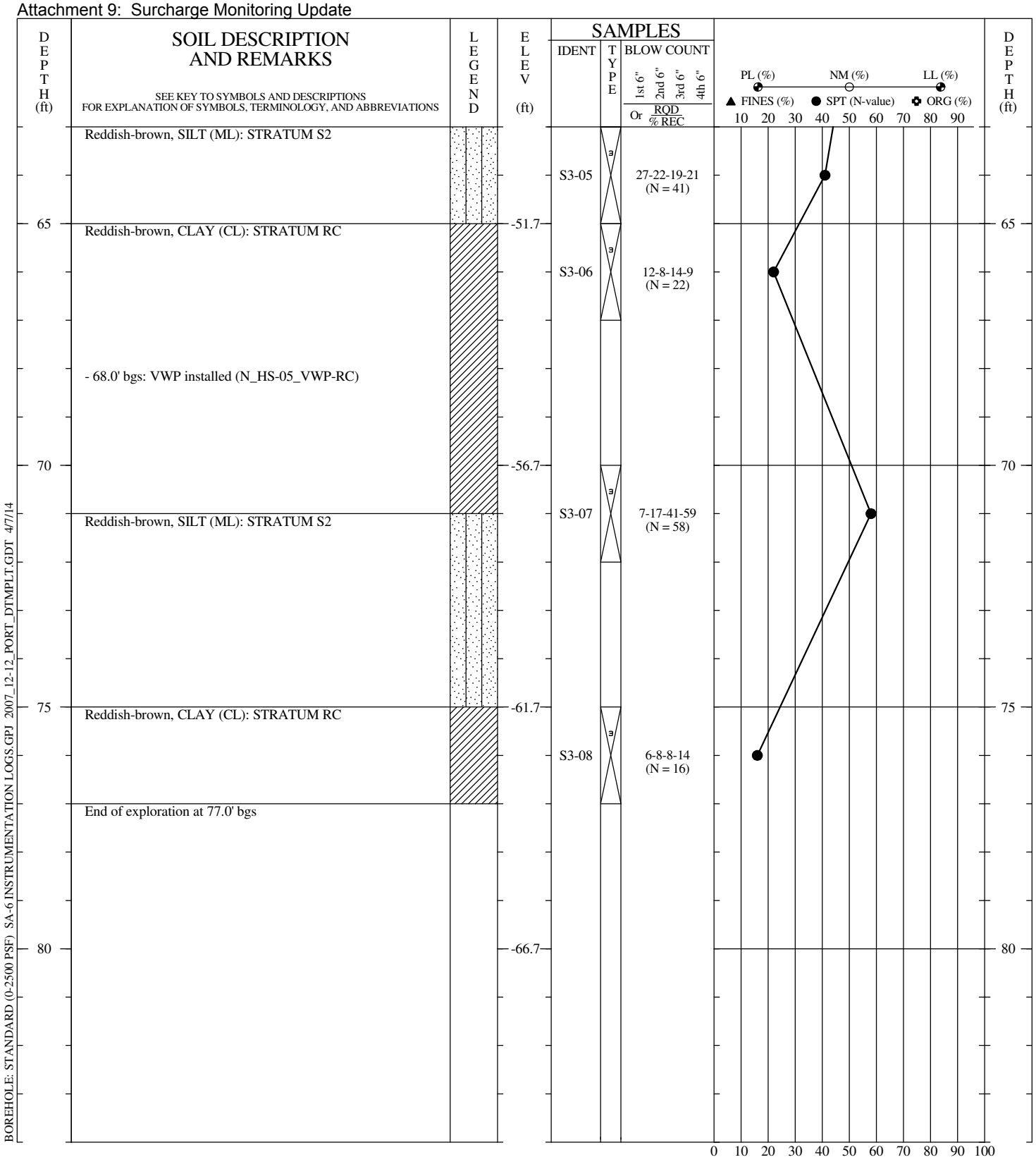

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	4" casing into Stratum D. Casing flushed. 4" casing advanced to Stratum RC. Installed 1 VWP. CB grout pumped from bottom to top via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-05_VWP-RC
DRILLED:	01/06/14 - 01/10/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 4 **OF** 4

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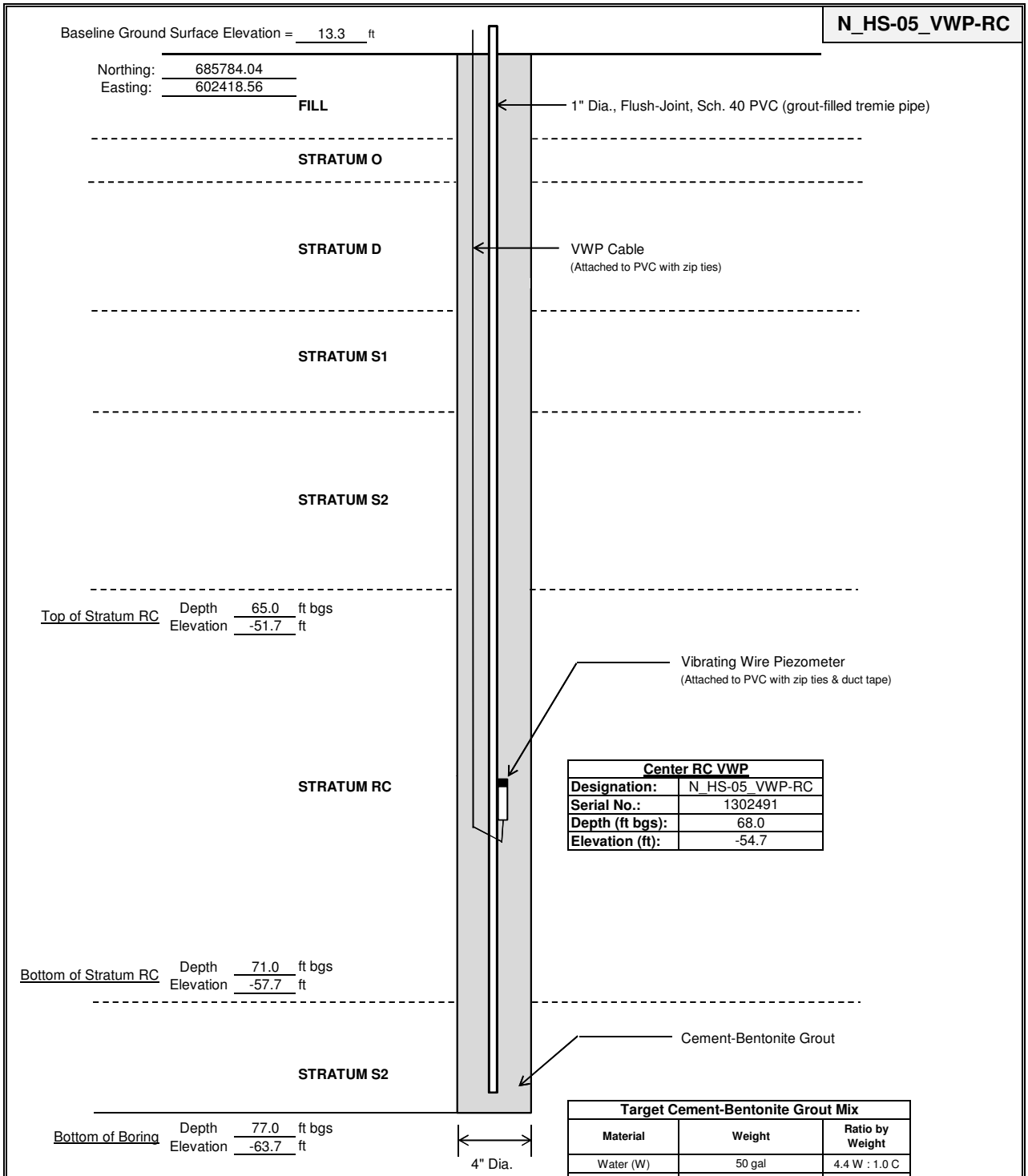


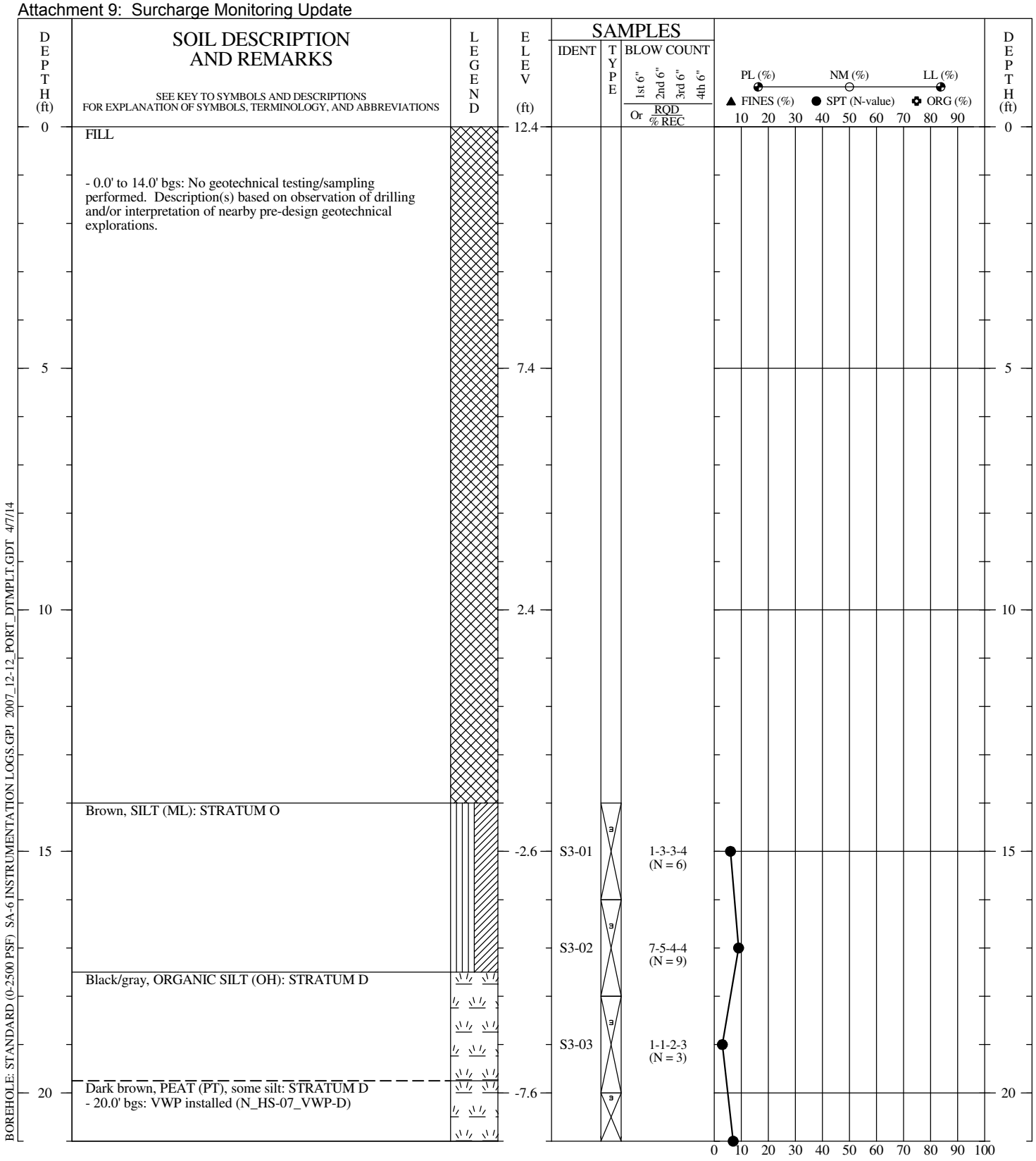
Center RC VWP	
Designation:	N_HS-05_VWP-RC
Serial No.:	1302491
Depth (ft bgs):	68.0
Elevation (ft):	-54.7

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611024.
4. Refer to Boring Record N_HS-05_VWP-RC for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-13-14
Boring No.:	N_HS-05_VWP-RC	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/10/2014	**Project No.**	3480-13-0377	**Scale:**	NTS

HS-07



DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

LOGGED BY: AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-07_VWP
DRILLED:	01/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

PAGE 1 **OF** 2

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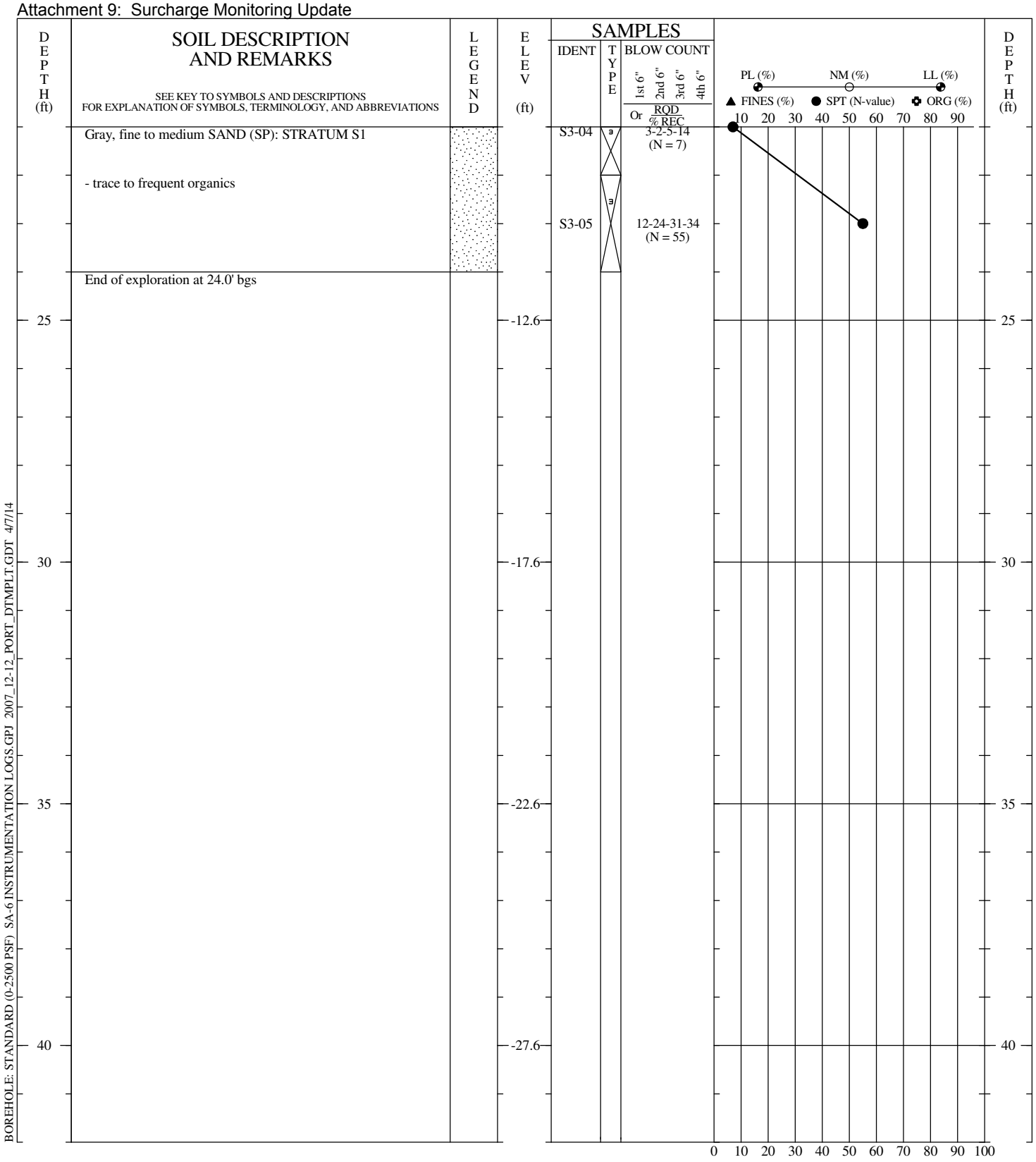

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-07_VWP
DRILLED:	01/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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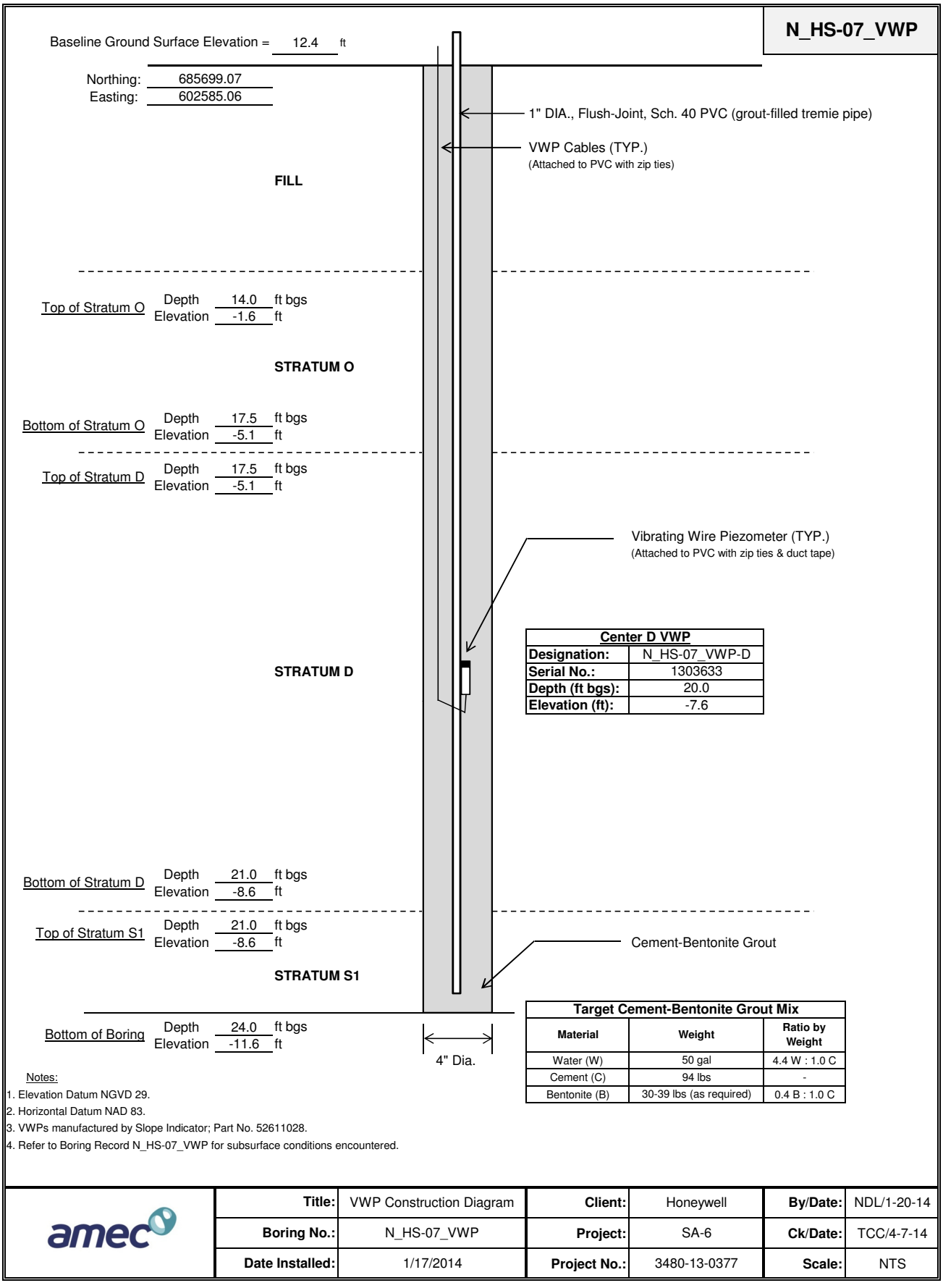


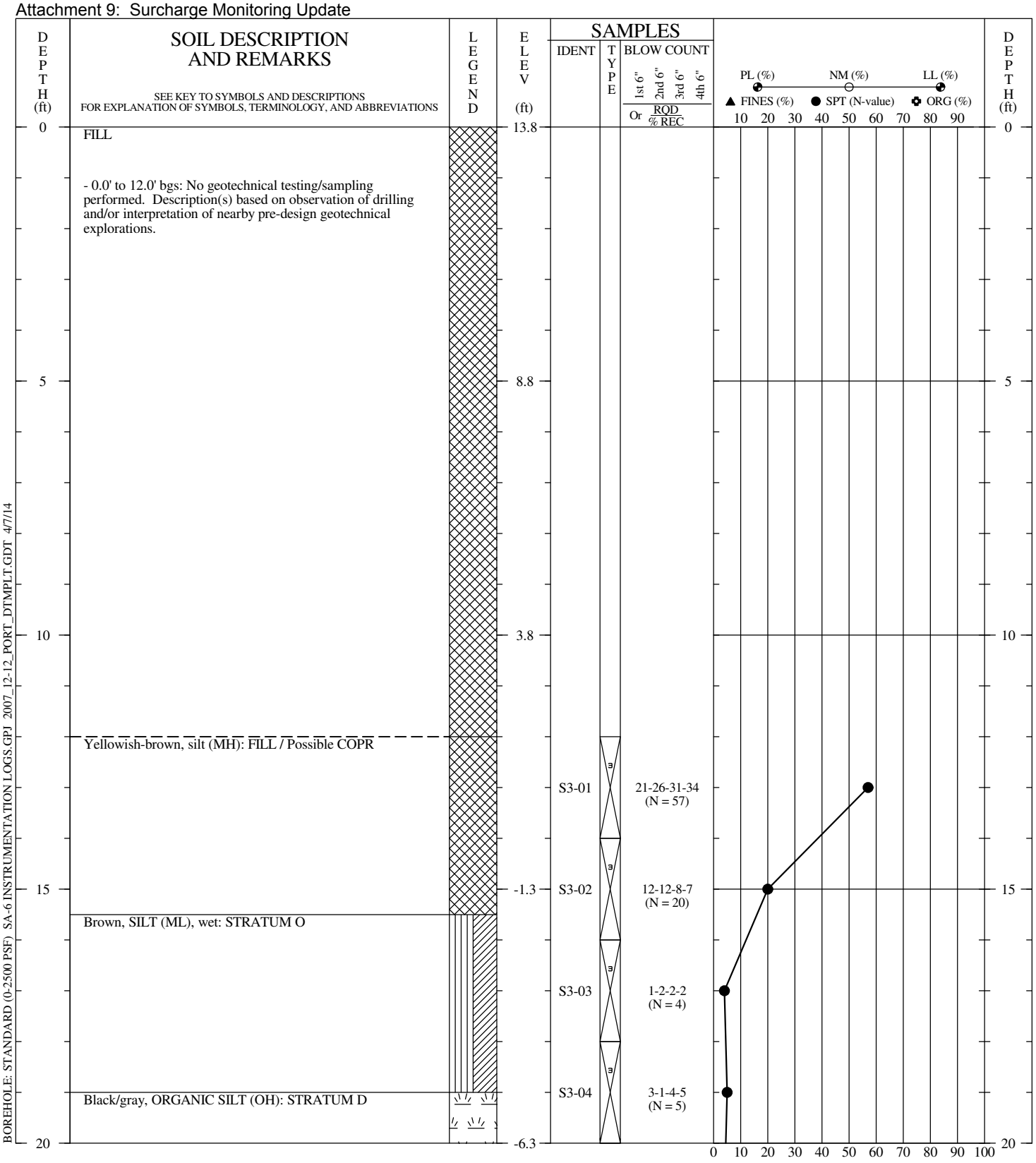
Center D VWP	
Designation:	N_HS-07_VWP-D
Serial No.:	1303633
Depth (ft bgs):	20.0
Elevation (ft):	-7.6

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-07_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-20-14
Boring No.:	N_HS-07_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/17/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

HS-09



DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-09_VWP
DRILLED:	01/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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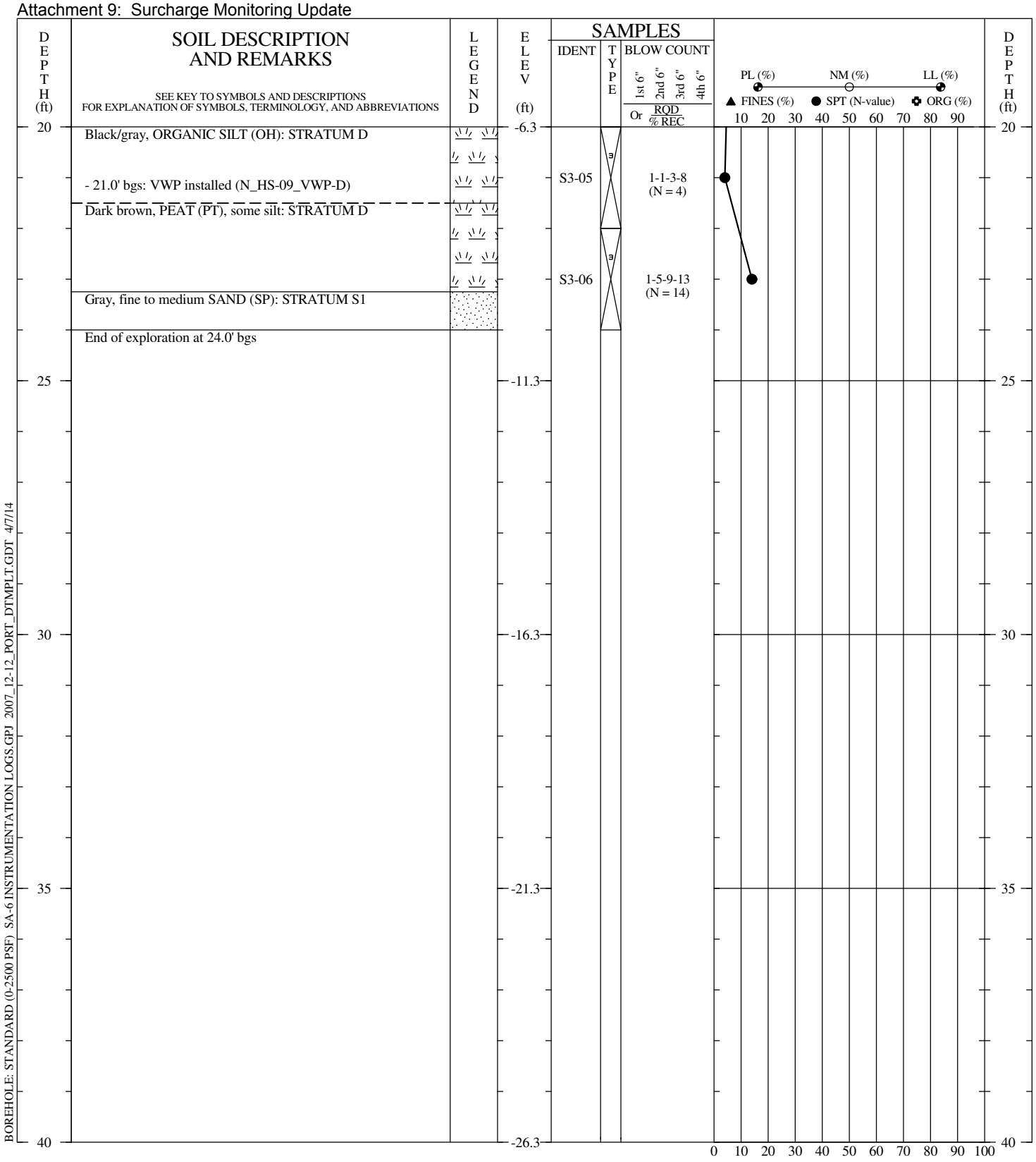

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	4"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	Installed 1 VWP. Cement-bentonite grout placed (pumped) from bottom to top via tremie pipe. Drill cuttings and fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_HS-09_VWP
DRILLED:	01/20/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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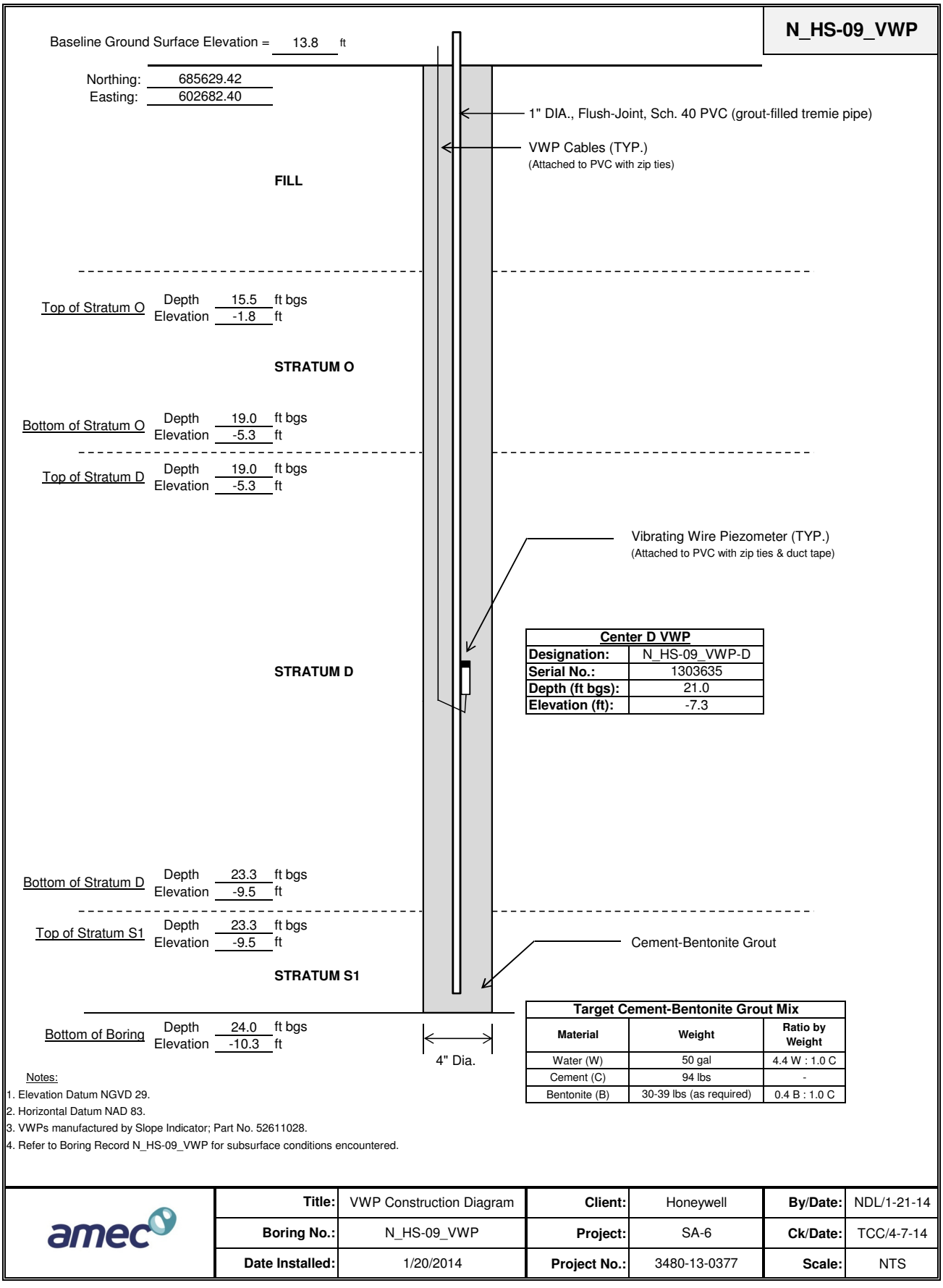


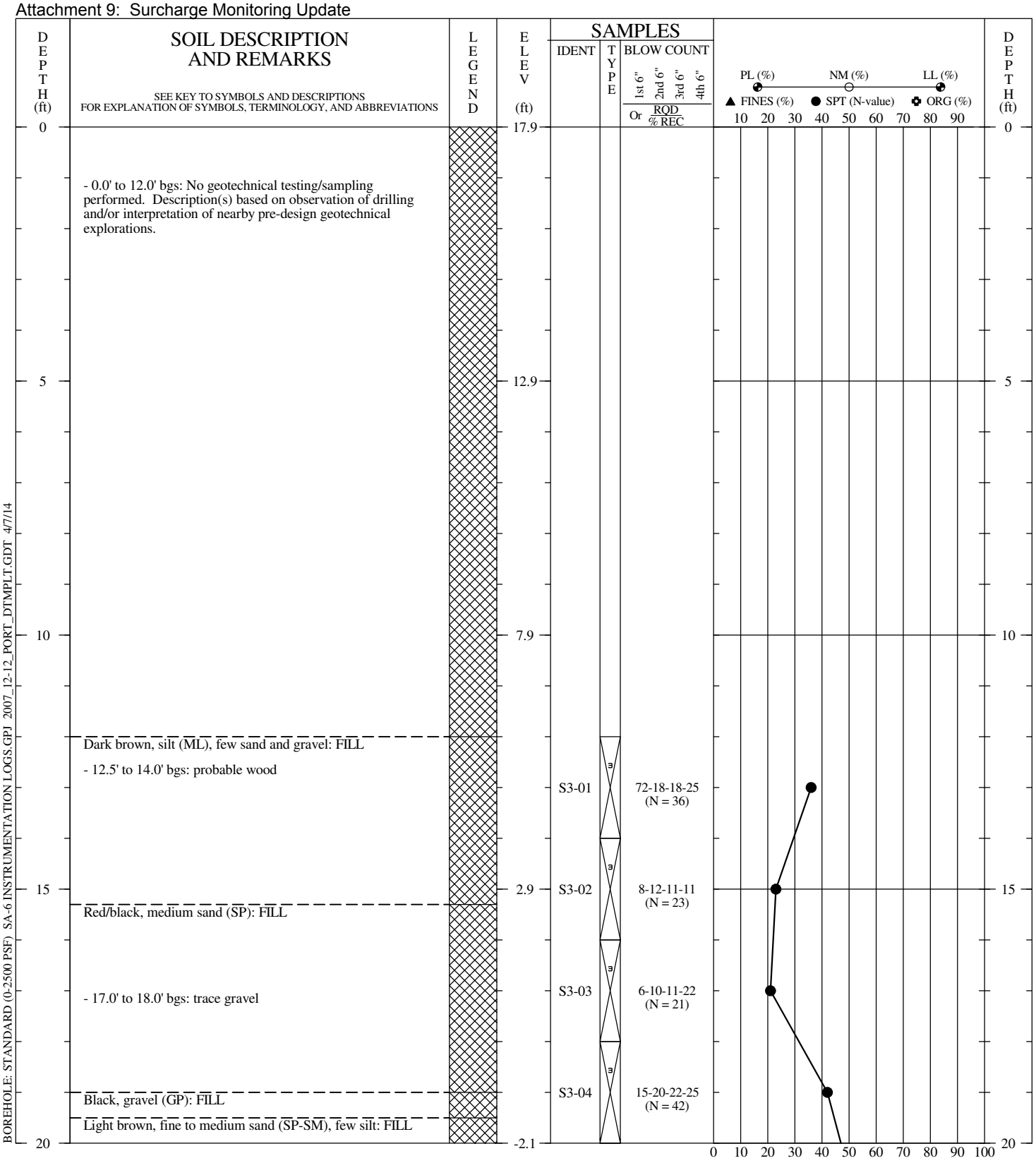
Center D VWP	
Designation:	N_HS-09_VWP-D
Serial No.:	1303635
Depth (ft bgs):	21.0
Elevation (ft):	-7.3

Target Cement-Bentonite Grout Mix		
Material	**Weight**	**Ratio by Weight**
Water (W)	50 gal	4.4 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	30-39 lbs (as required)	0.4 B : 1.0 C

Notes:
1. Elevation Datum NGVD 29.
2. Horizontal Datum NAD 83.
3. VWPs manufactured by Slope Indicator; Part No. 52611028.
4. Refer to Boring Record N_HS-09_VWP for subsurface conditions encountered.

Title:	VWP Construction Diagram	**Client:**	Honeywell	**By/Date:**	NDL/1-21-14
Boring No.:	N_HS-09_VWP	**Project:**	SA-6	**Ck/Date:**	TCC/4-7-14
Date Installed:	1/20/2014	**Project No.:**	3480-13-0377	**Scale:**	NTS

VI-01



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-01
DRILLED:	03/14/14 - 03/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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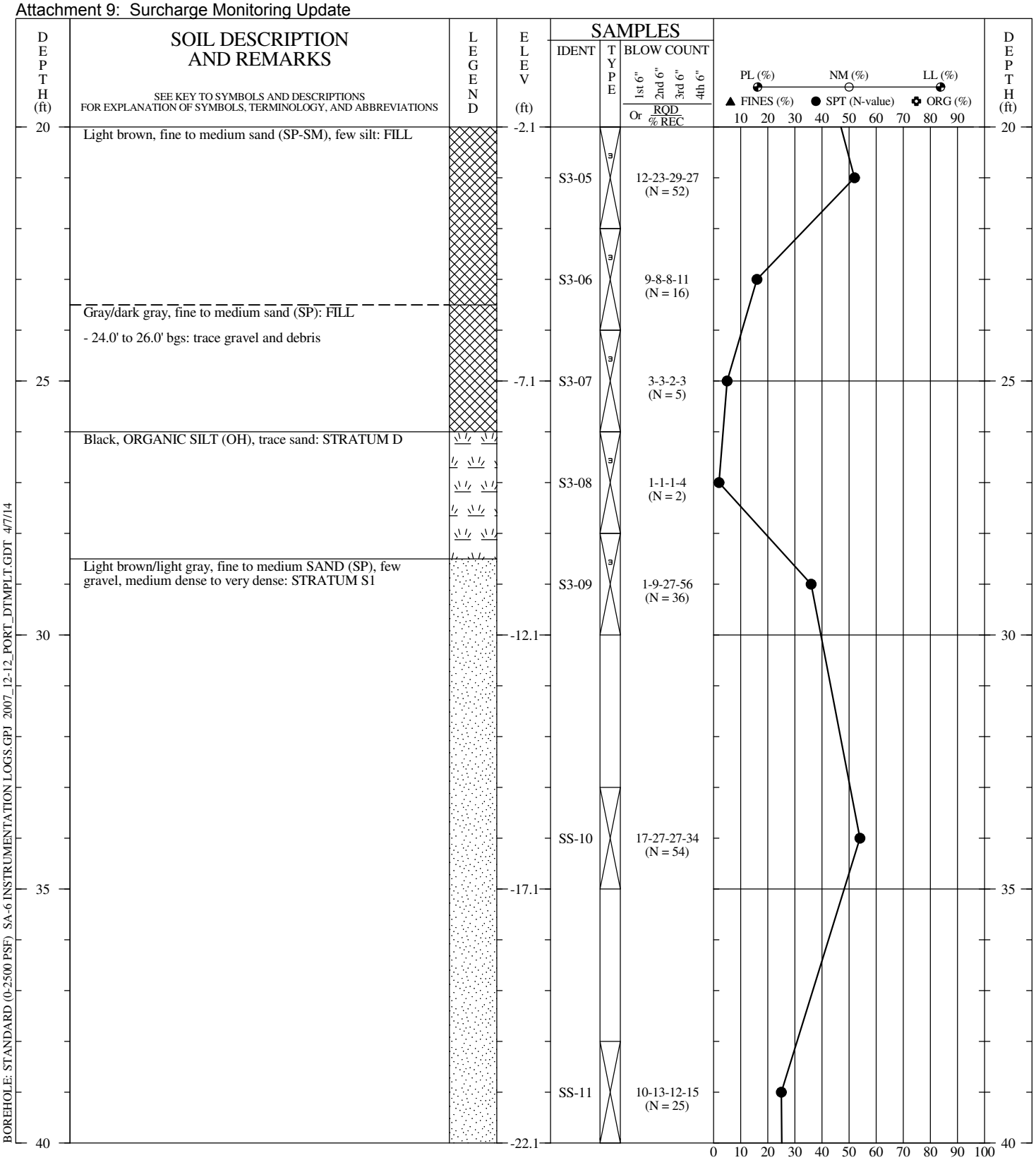

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-01
DRILLED:	03/14/14 - 03/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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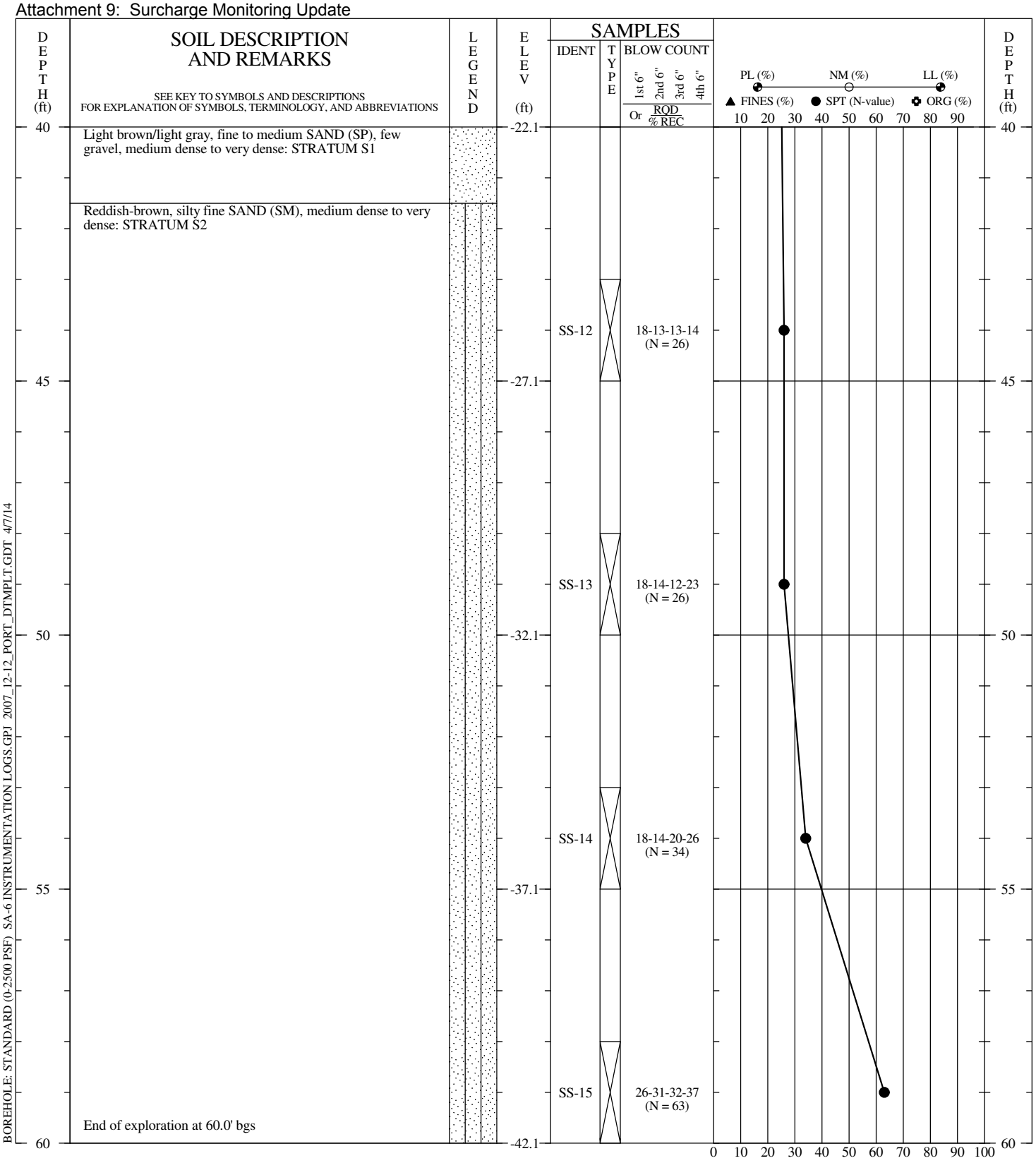

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-01
DRILLED:	03/14/14 - 03/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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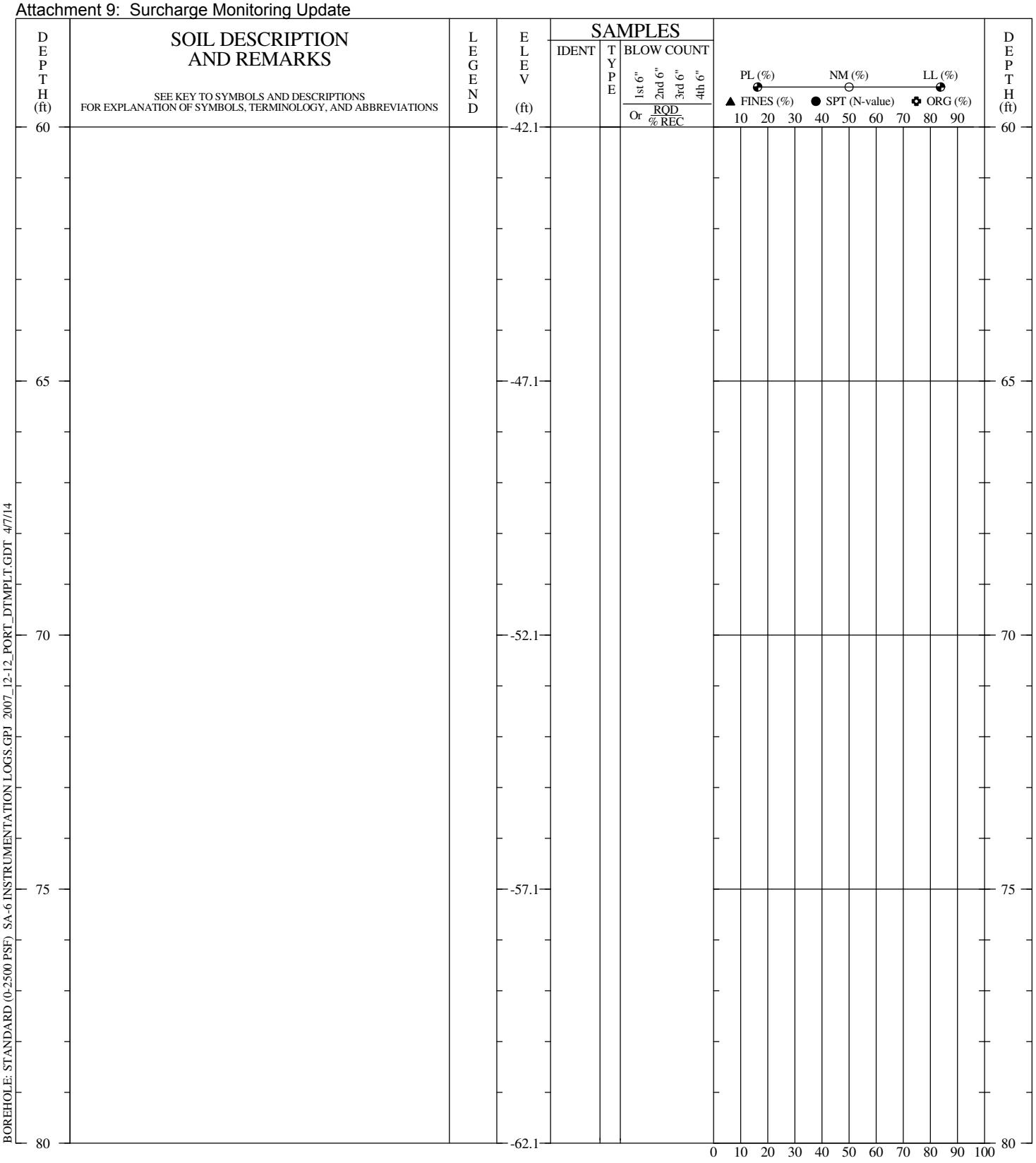

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-01
DRILLED:	03/14/14 - 03/17/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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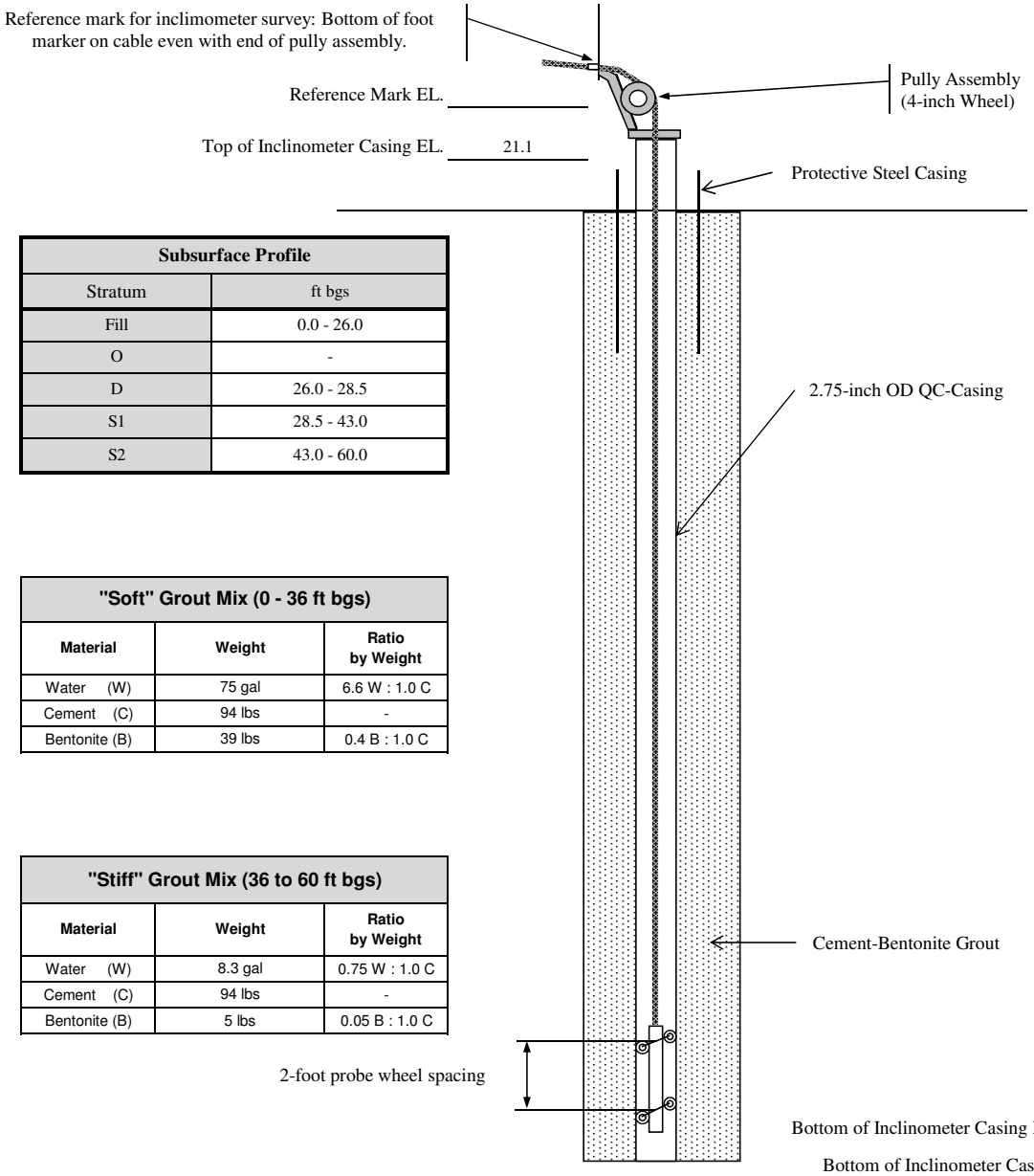
amec

amec	**Project:**	Study Area 6	**Inclinometer #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	**N_VI-01**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	17.9	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to bulkhead	**Cable Length:**	140 feet
Installation Date:	3/17/2014	**Readout SN:**	10412
Northing:	686110.45	**Probe SN:**	29233
Easting:	602120.77	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 26.0
O	-
D	26.0 - 28.5
S1	28.5 - 43.0
S2	43.0 - 60.0

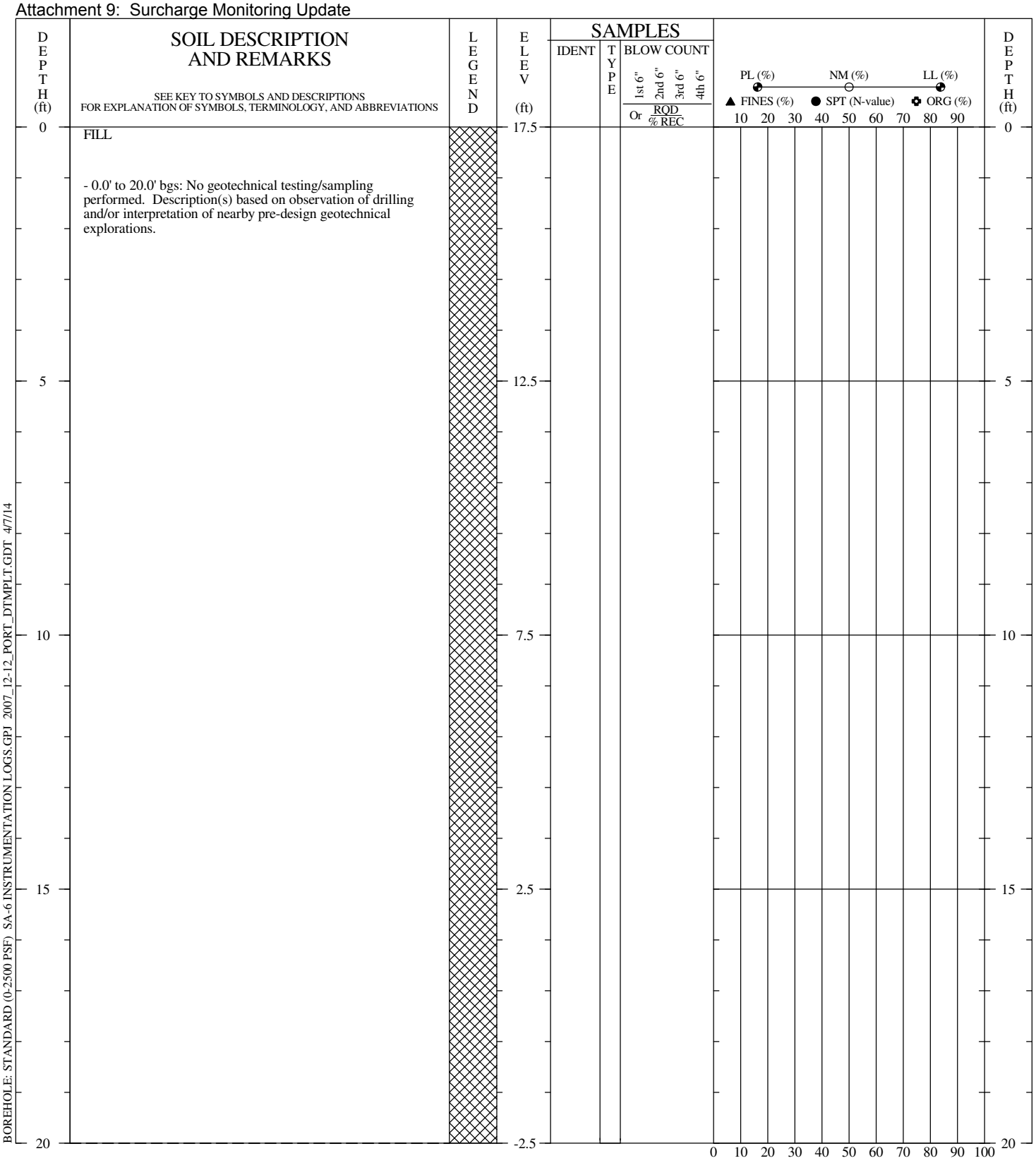
"Soft" Grout Mix (0 - 36 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

"Stiff" Grout Mix (36 to 60 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	60.0	ft bgs
Bottom of Inclinometer Casing EL.	-42.1	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-01 for subsurface conditions encountered.

VI-02



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-02
DRILLED:	03/18/14 - 03/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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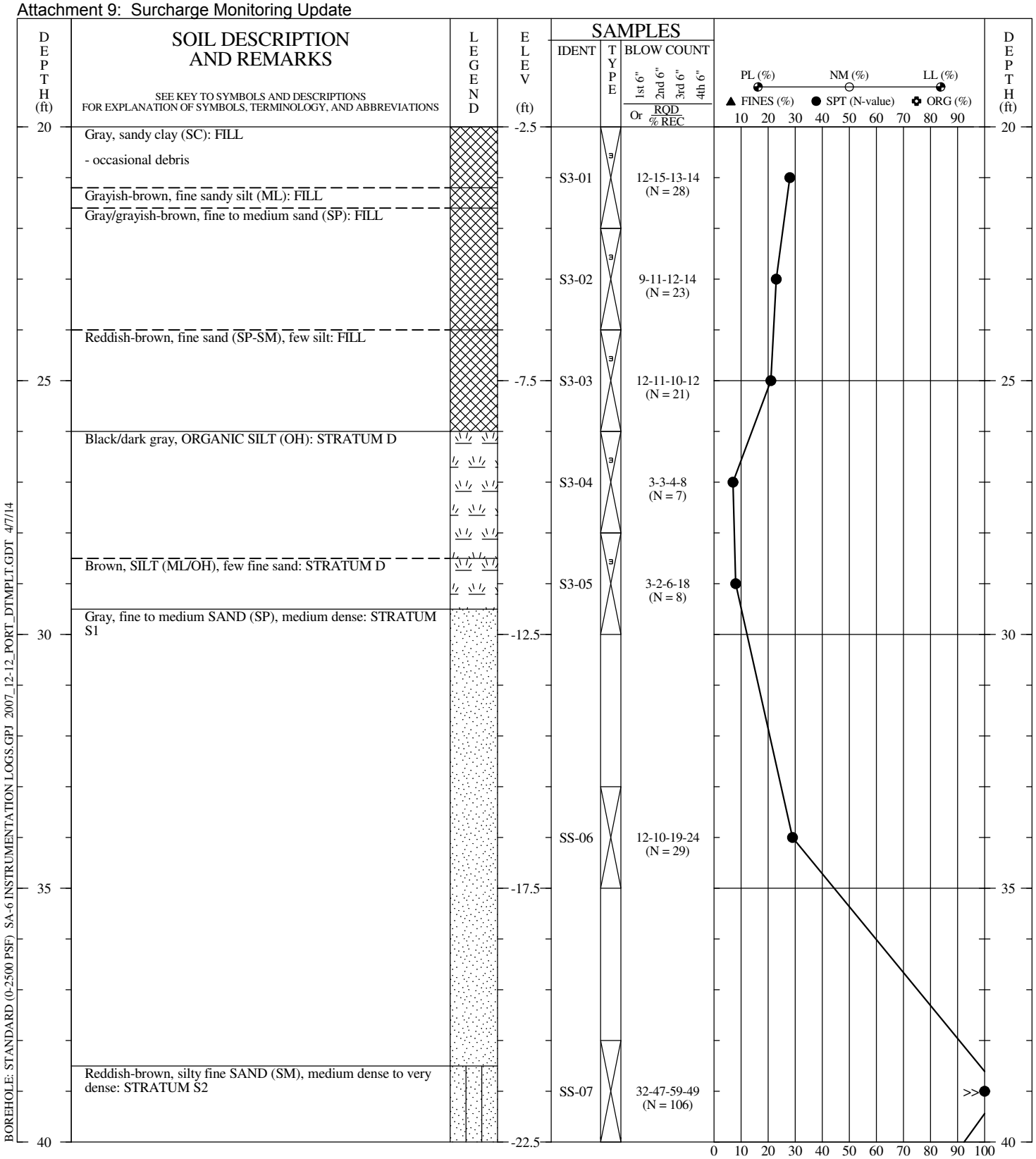

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-02
DRILLED:	03/18/14 - 03/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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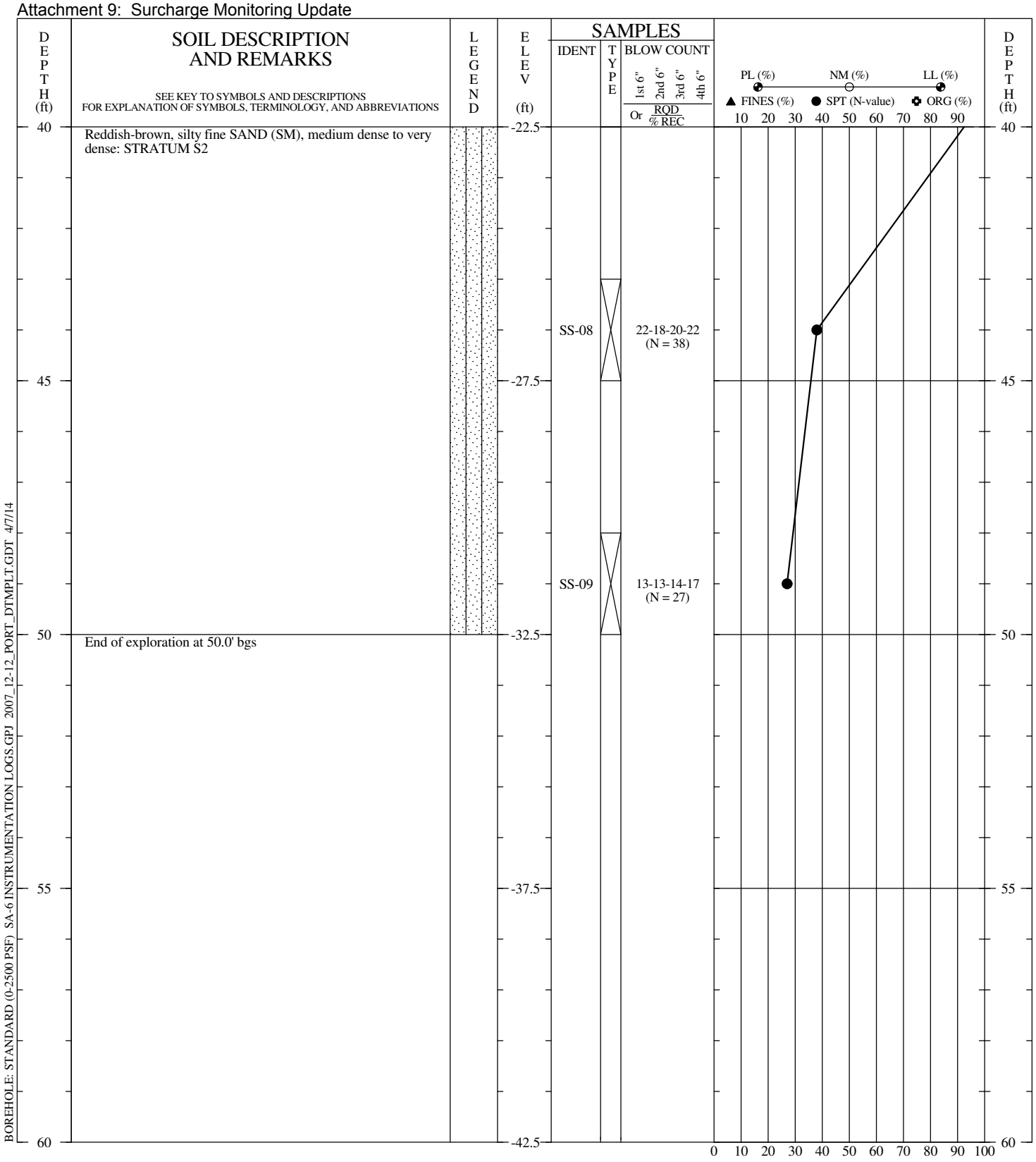

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-02
DRILLED:	03/18/14 - 03/19/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

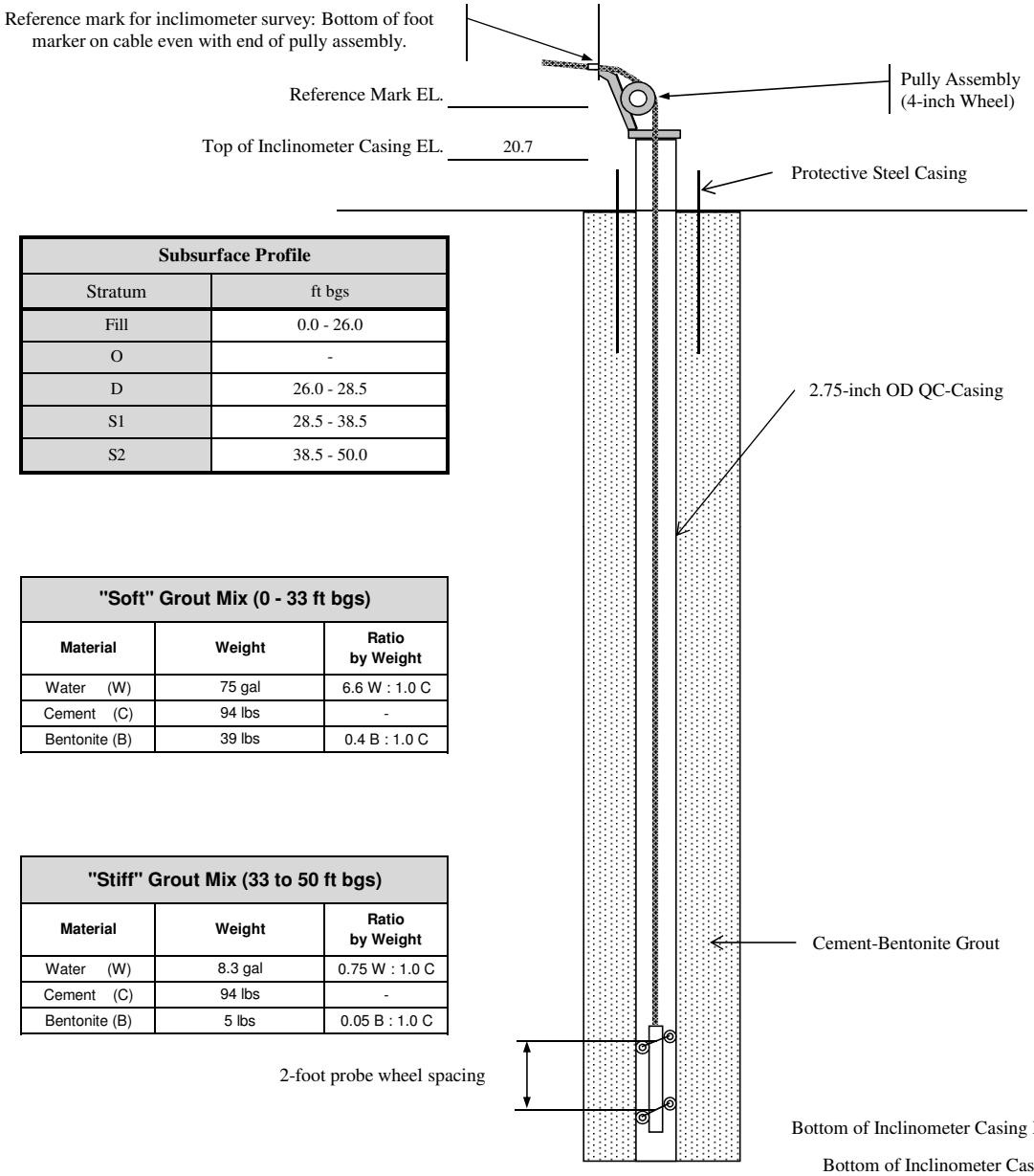
PAGE 3 **OF** 3

amec

amec	**Project:**	Study Area 6	**Inclinometer #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	**N_VI-02**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	17.5	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to bulkhead	**Cable Length:**	140 feet
Installation Date:	3/19/2014	**Readout SN:**	10412
Northing:	686042.24	**Probe SN:**	29233
Easting:	602032.58	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 26.0
O	-
D	26.0 - 28.5
S1	28.5 - 38.5
S2	38.5 - 50.0

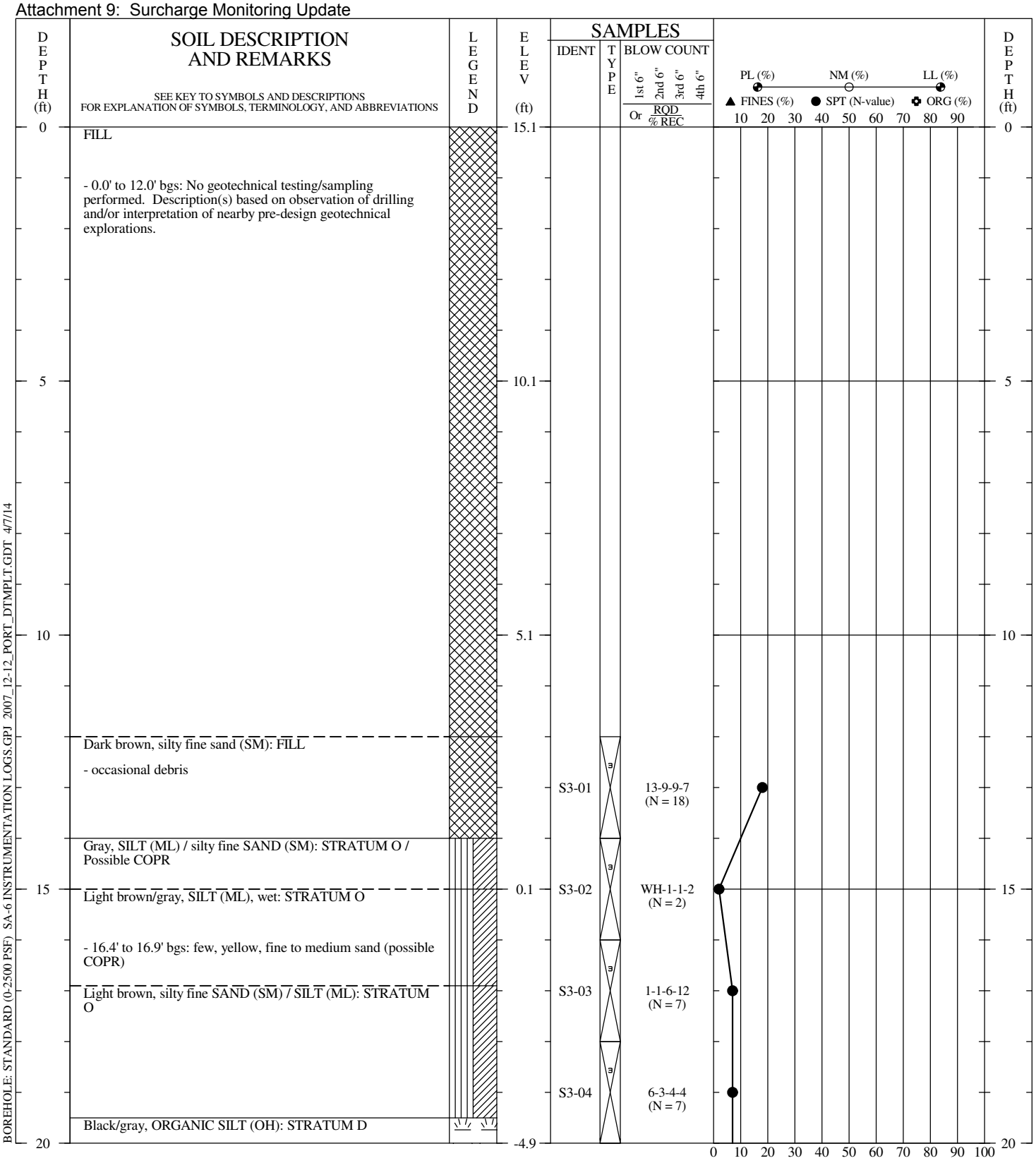
"Soft" Grout Mix (0 - 33 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

"Stiff" Grout Mix (33 to 50 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	50.0	ft bgs
Bottom of Inclinometer Casing EL.	-32.5	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-02 for subsurface conditions encountered.

VI-03



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-03
DRILLED:	03/19/14 - 03/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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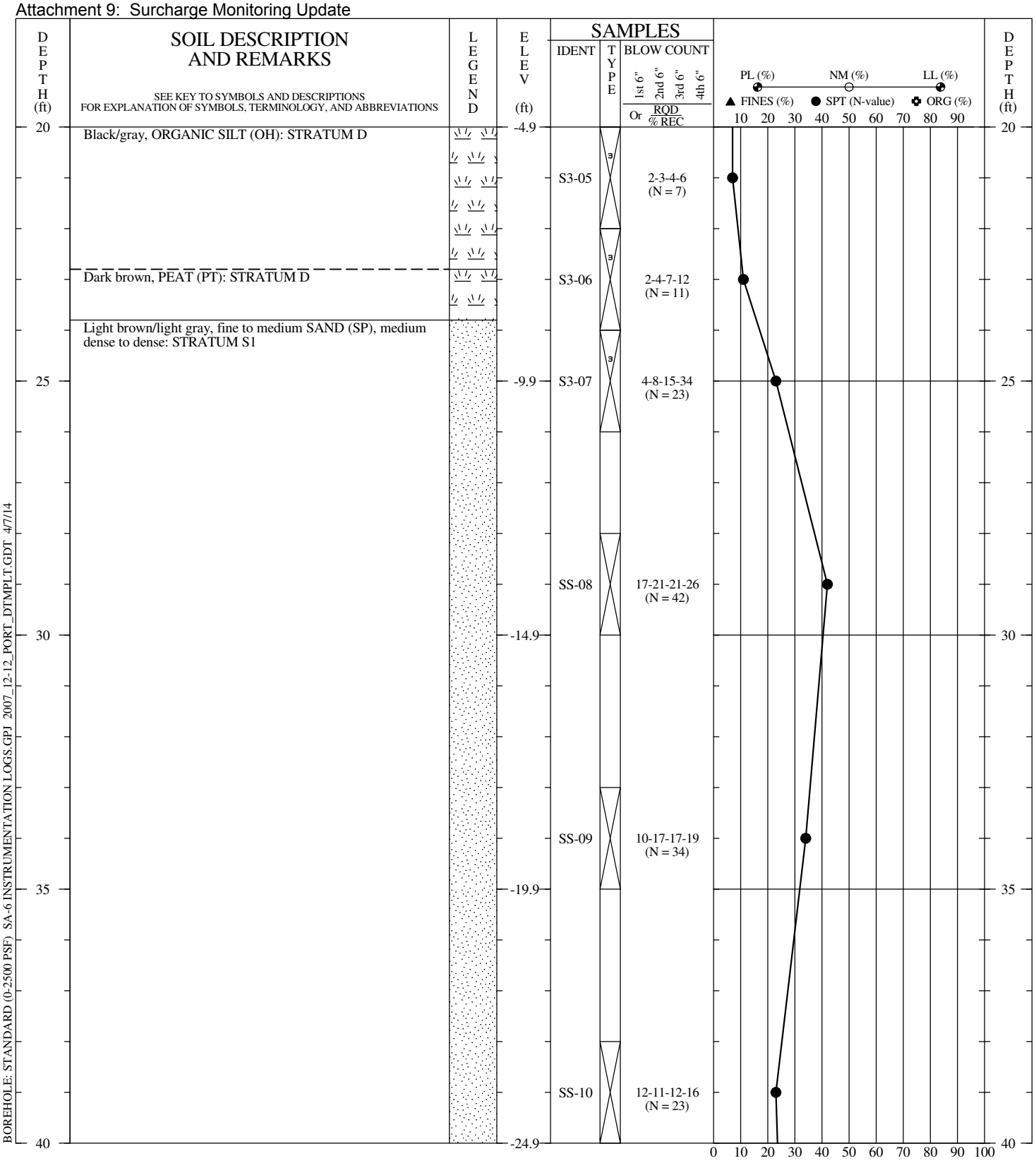

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-03
DRILLED:	03/19/14 - 03/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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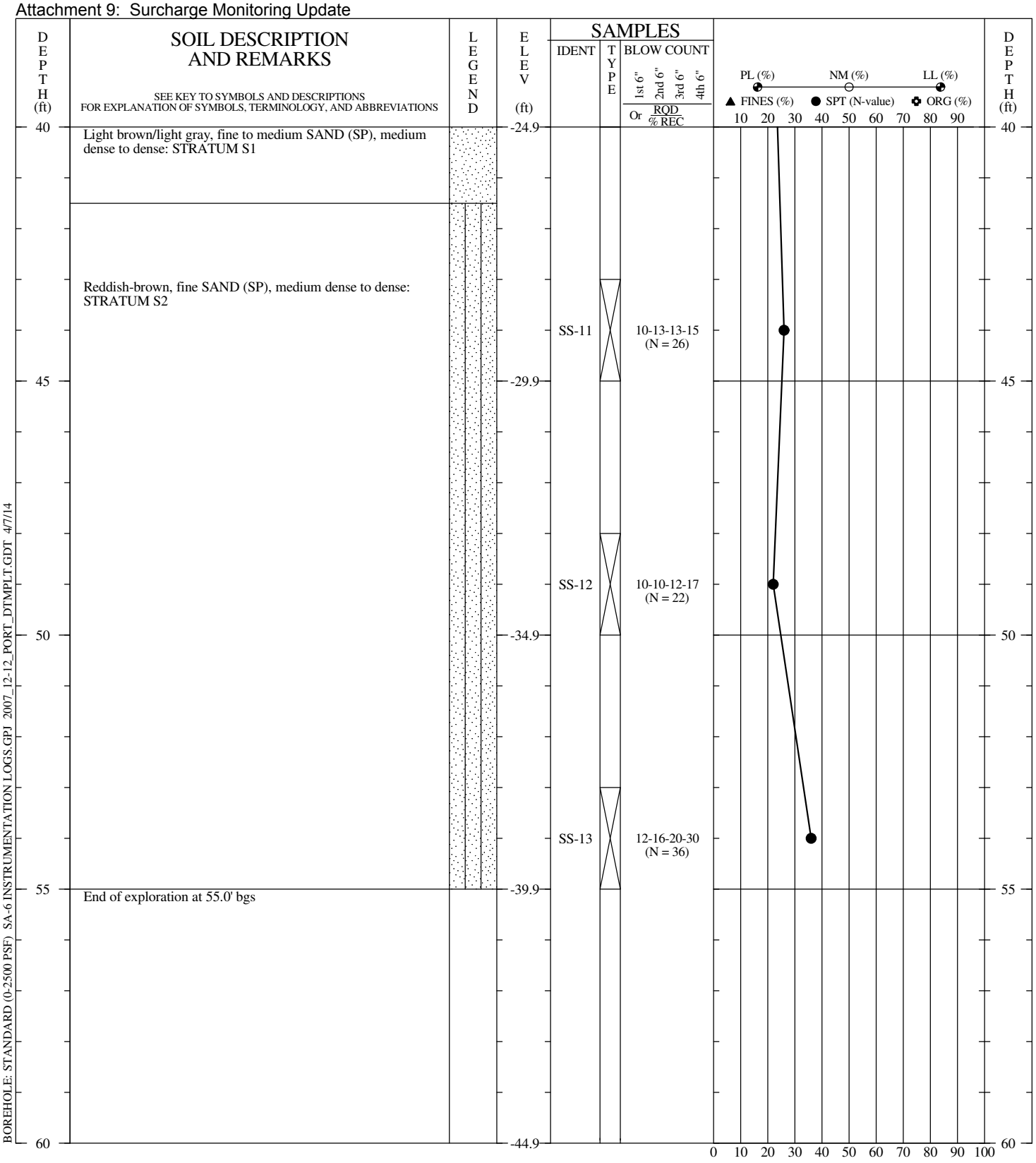

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-03
DRILLED:	03/19/14 - 03/21/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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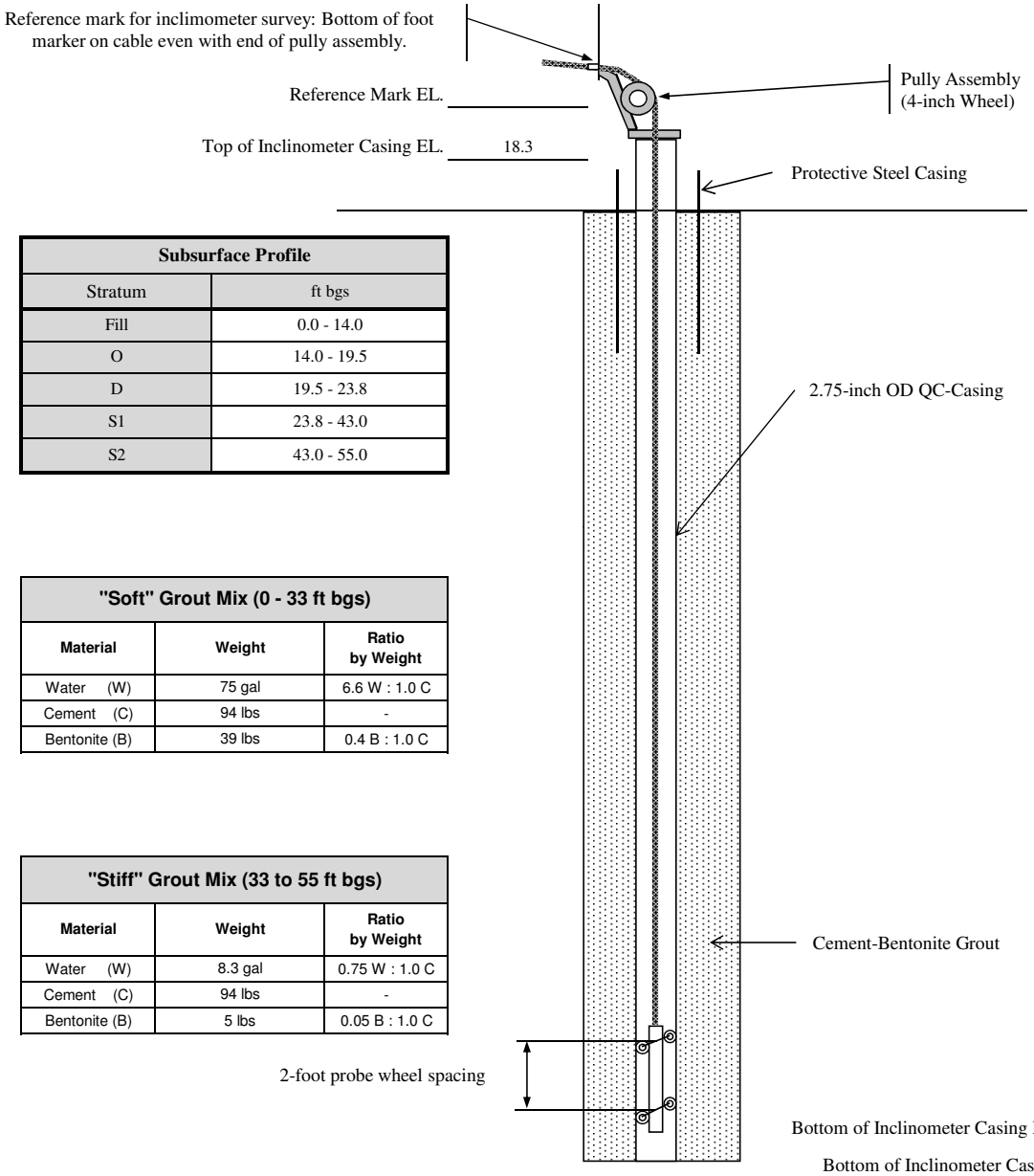
amec

amec	**Project:**	Study Area 6	**Inclinometer #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	**N_VI-03**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	15.1	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to forcemain	**Cable Length:**	140 feet
Installation Date:	3/21/2014	**Readout SN:**	10412
Northing:	685921.65	**Probe SN:**	29233
Easting:	602571.16	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 14.0
O	14.0 - 19.5
D	19.5 - 23.8
S1	23.8 - 43.0
S2	43.0 - 55.0

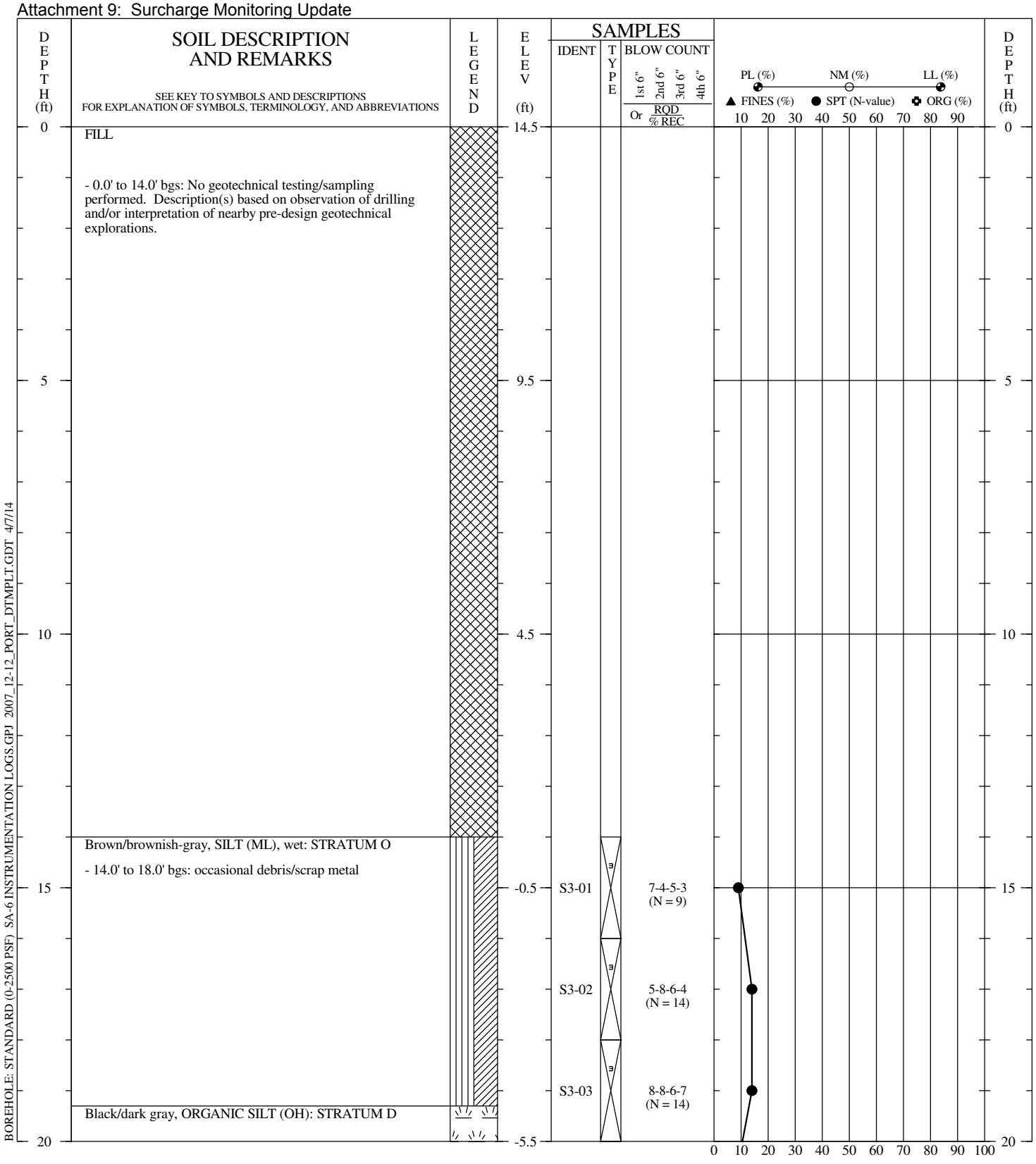
"Soft" Grout Mix (0 - 33 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

"Stiff" Grout Mix (33 to 55 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	55.0	ft bgs
Bottom of Inclinometer Casing EL.	-39.9	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-03 for subsurface conditions encountered.

VI-04



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.
LOGGED BY:	AE CHECKED BY/DATE: TCC/04-07-14

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-04
DRILLED:	03/21/14 - 03/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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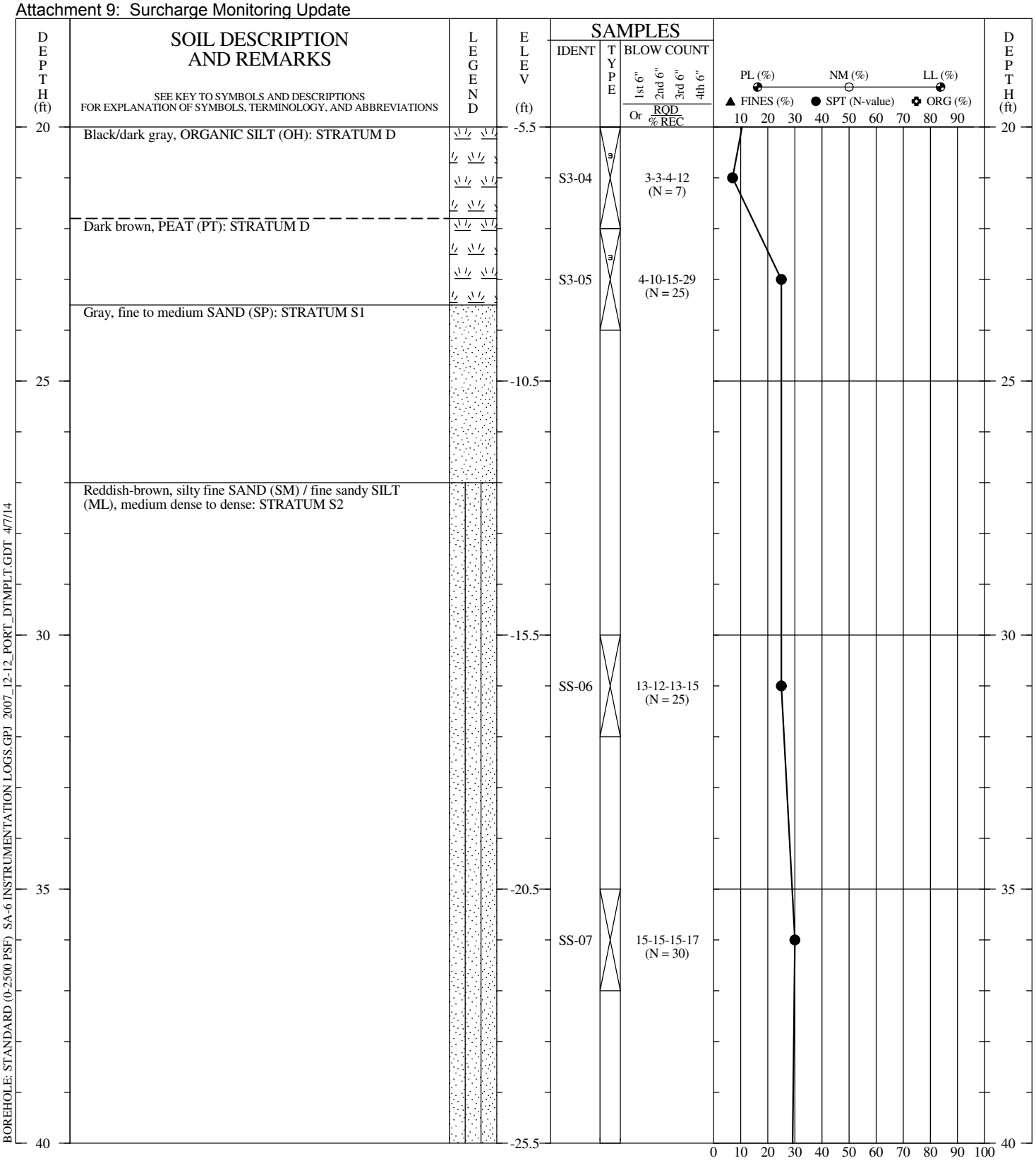

BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

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GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-04
DRILLED:	03/21/14 - 03/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

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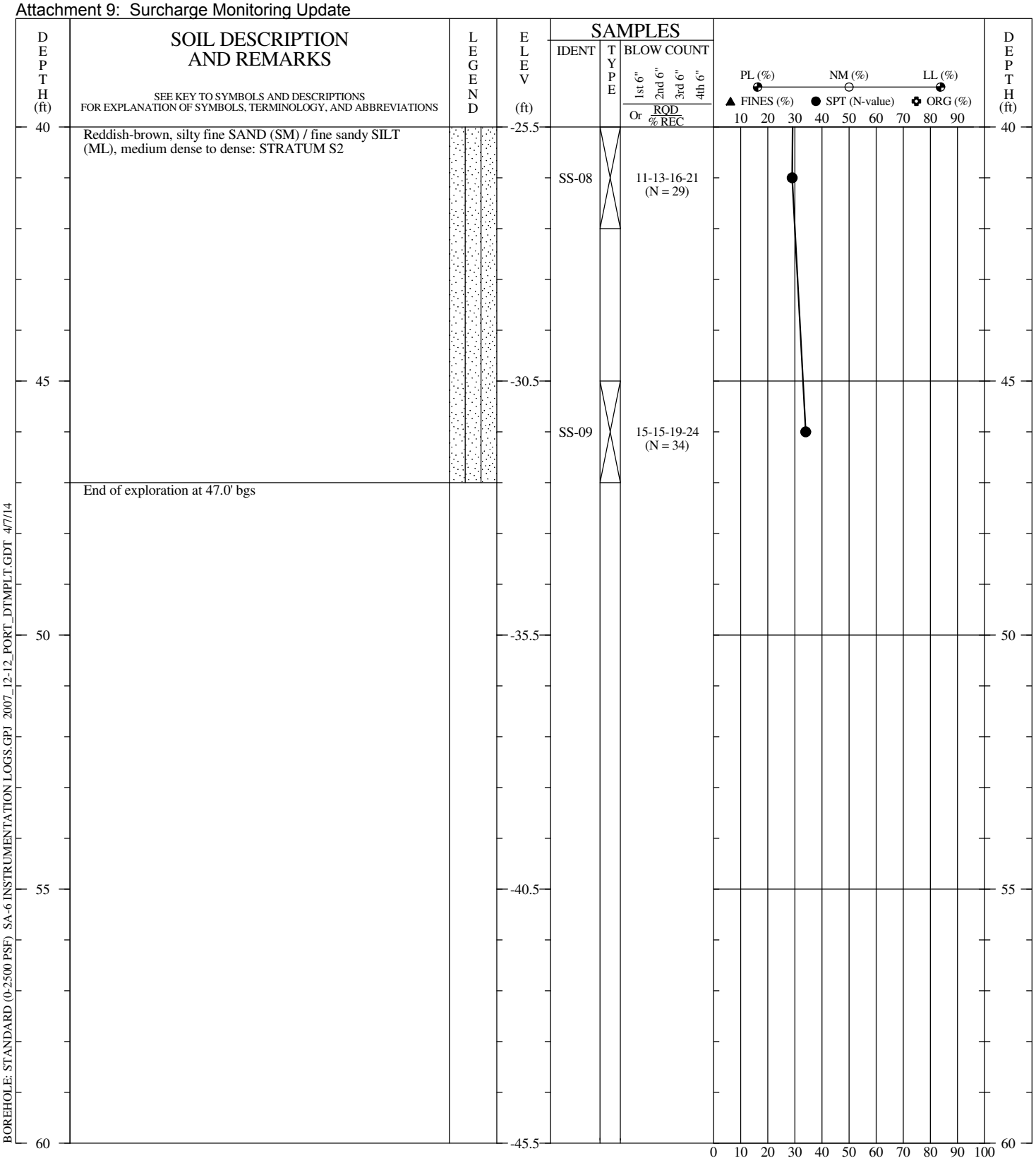
amec



BOREHOLE: STANDARD (0-2500 PSF) SA-6 INSTRUMENTATION LOGS.GPJ 2007_12-12_PORT_DTMPLT.GDT 4/7/14

DRILLER:	B&B
RIG TYPE:	B-61 Mobile
METHOD:	Rotary Wash with Water (Cased)
HOLE DIAM.:	6"
SPTs:	Spooling-Winch; Safety Hammer; NWJ Drill Rods
REMARKS:	6" casing to Stratum D. Casing flushed. Then mud rotary to depth. Restored as Inclinometer. CB grout placed (pumped) via tremie pipe. Drill cuttings/fluids containerized upon completion.

THIS BORING RECORD PRESENTS A REASONABLE INTERPRETATION OF THE SUBSURFACE CONDITIONS AT THE EXPLORATION LOCATION. SUBSURFACE CONDITIONS AT OTHER LOCATIONS MAY DIFFER. STRATA INTERFACES (AS SHOWN) ARE APPROXIMATE. ACTUAL TRANSITIONS BETWEEN STRATA MAY BE GRADUAL.

GEOTECHNICAL BORING RECORD

BORING NO.:	N_VI-04
DRILLED:	03/21/14 - 03/24/14
PROJECT:	SA-6 Surcharge Monitoring
LOCATION:	Jersey City, New Jersey
PROJECT NO.:	3480130377

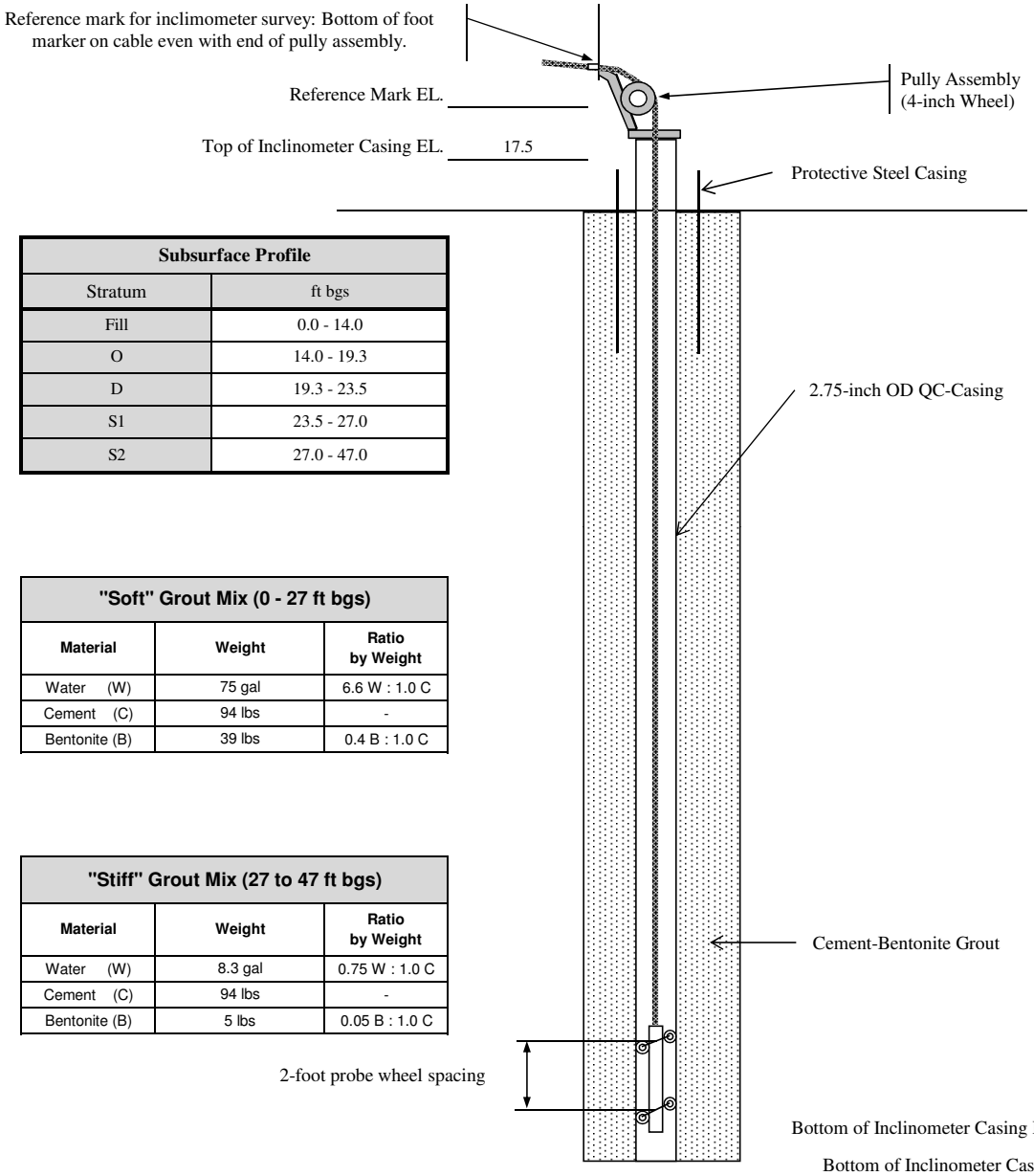
PAGE 3 **OF** 3

amec

amec	**Project:**	Study Area 6	**Inclinometer #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	**N_VI-04**

INCLINOMETER CONSTRUCTION DIAGRAM

Existing Grade (ft.):	14.5	**Cable No.:**	2448
A+ Axis Orientation:	Perpendicular to forcemain	**Cable Length:**	140 feet
Installation Date:	3/24/2014	**Readout SN:**	10412
Northing:	685859.50	**Probe SN:**	29233
Easting:	602702.68	**Installed By:**	AE



Subsurface Profile	
Stratum	ft bgs
Fill	0.0 - 14.0
O	14.0 - 19.3
D	19.3 - 23.5
S1	23.5 - 27.0
S2	27.0 - 47.0

"Soft" Grout Mix (0 - 27 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	75 gal	6.6 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	39 lbs	0.4 B : 1.0 C

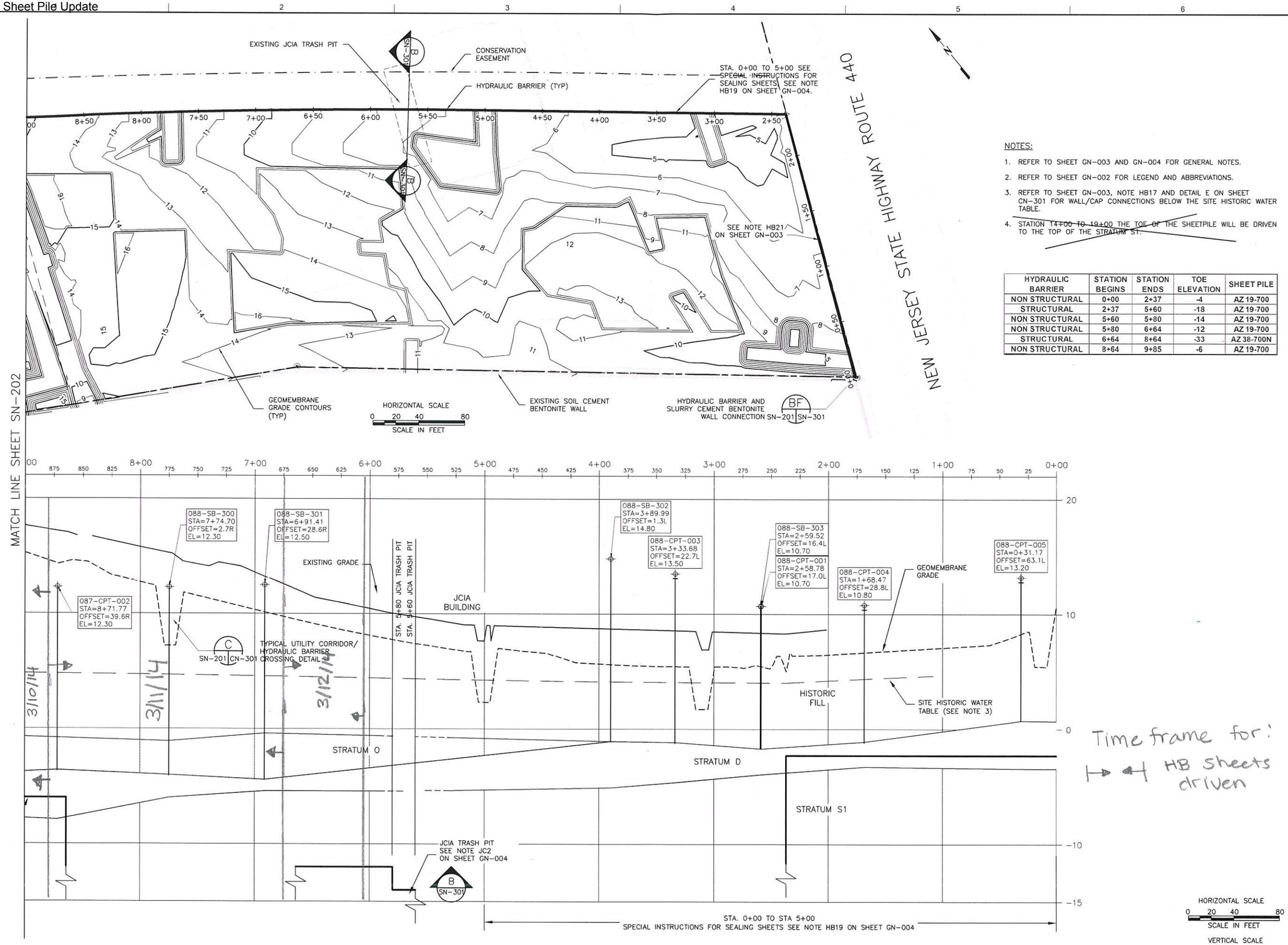
"Stiff" Grout Mix (27 to 47 ft bgs)		
Material	**Weight**	**Ratio by Weight**
Water (W)	8.3 gal	0.75 W : 1.0 C
Cement (C)	94 lbs	-
Bentonite (B)	5 lbs	0.05 B : 1.0 C

Bottom of Inclinometer Casing Depth:	47.0	ft bgs
Bottom of Inclinometer Casing EL.	-32.5	ft

Notes:
1. Elevation Datum NGVD 29.
2. Inclinometer manufactured by Slope Indicator.
3. Refer to Boring Record N_VI-04 for subsurface conditions encountered.

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Pile Repair Log



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

Time frame for:
→ 4 HB sheets driven

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	10/10/13	TDD	RJR	TDD	RJR	TDD	SGS
0	06/07/13						SGS

HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 4755, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

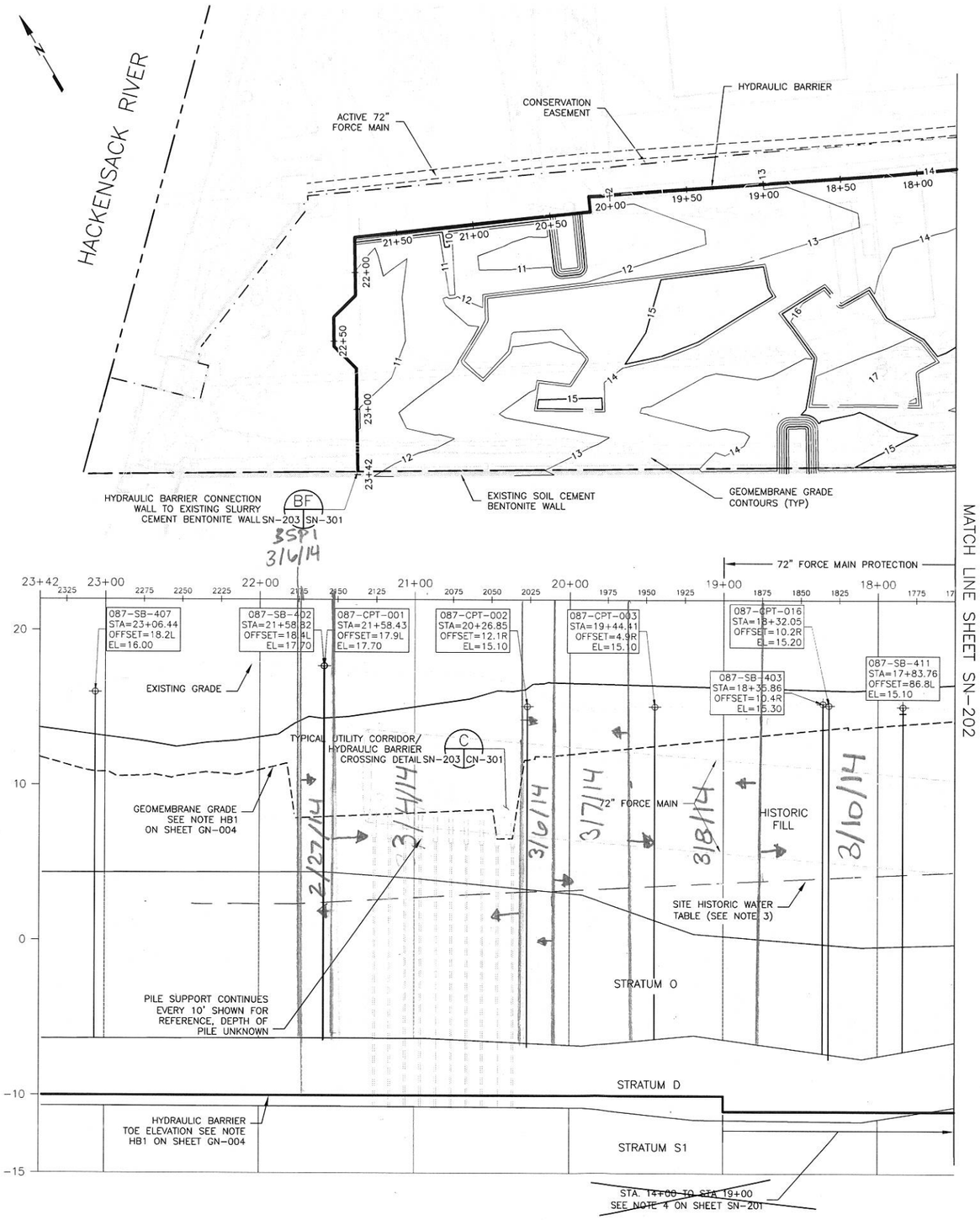
amec
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN	TDD	DR TDD CHK RJR APVD		SGS

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

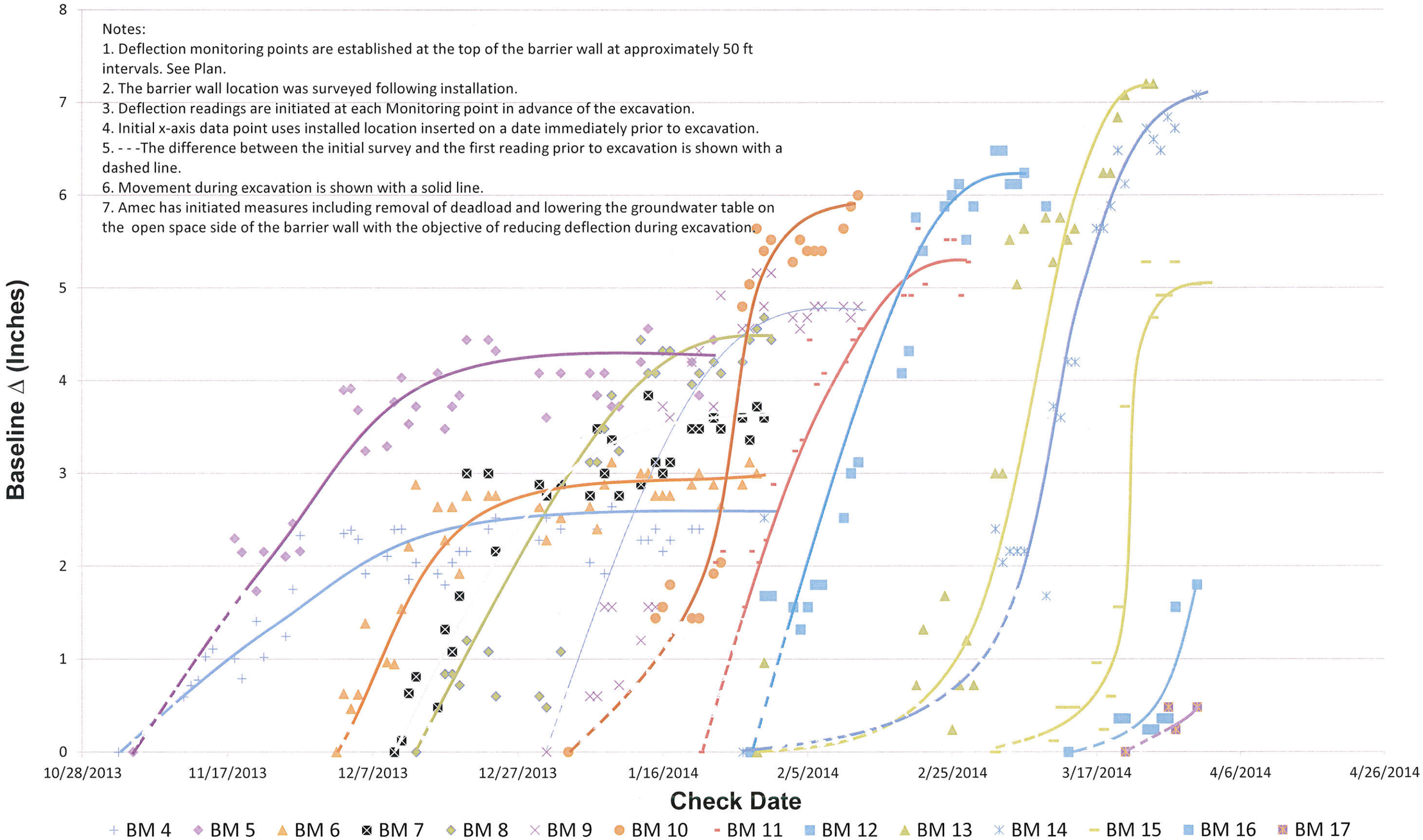
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

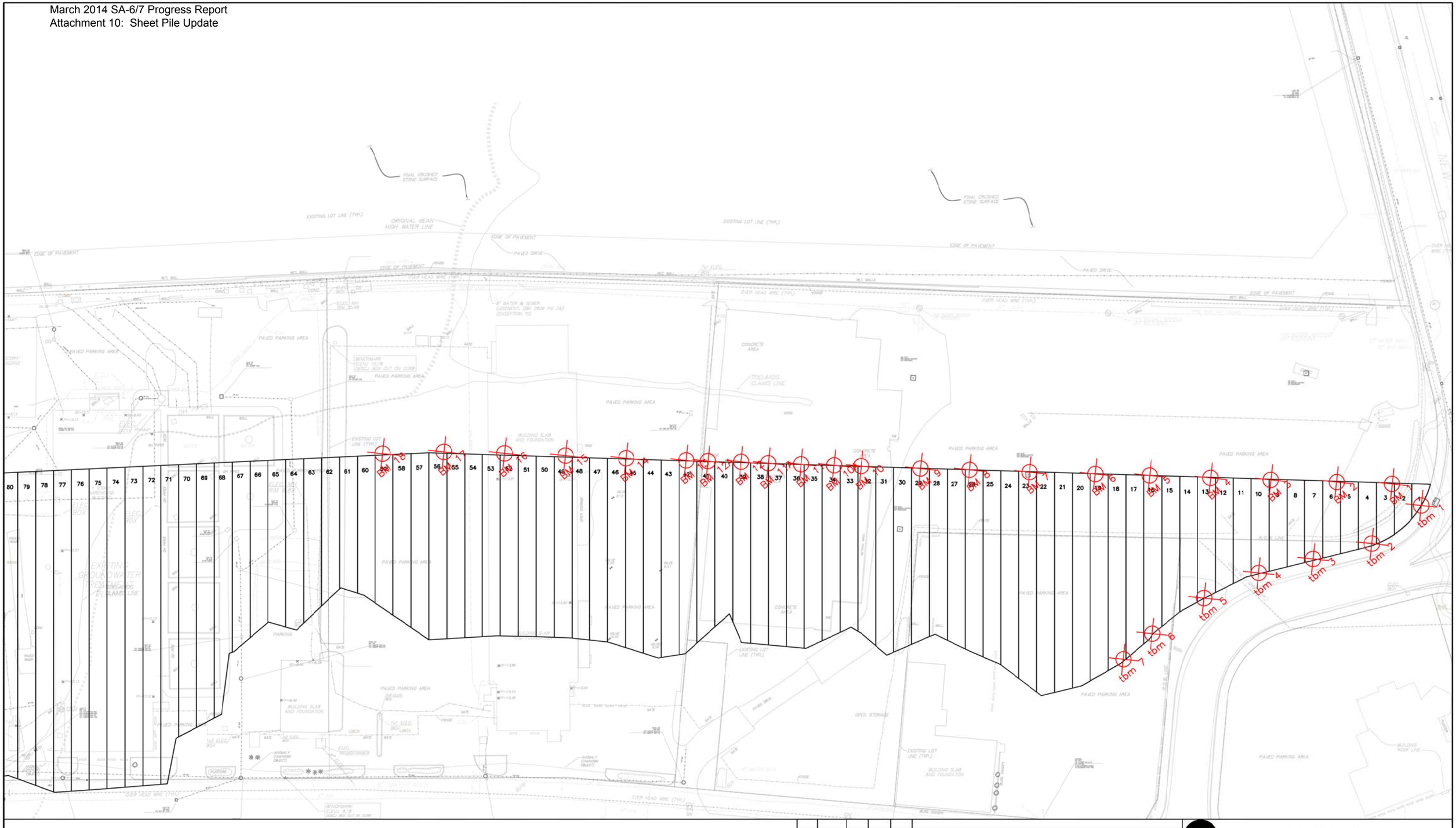
DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SHEET MONITORING LOCATIONS
03-12-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-6

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-7

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-8

Date Exposed:

Describe Damage:

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: SP1-9

Date Exposed:

Describe Damage:

AE

~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature:

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-10

Date Exposed: _____

Describe Damage: _____

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-11

Date Exposed: _____

Describe Damage: _____

AE

~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-12

Date Exposed: _____

Describe Damage: _____

AE

~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-13

Date Exposed: _____

Describe Damage: _____

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-14

Date Exposed: _____

Describe Damage: _____

AE
~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: ~~AE~~ AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-15

Date Exposed: _____

Describe Damage: _____

Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-16

Date Exposed: _____

Describe Damage: _____

AE
~~Damage by bucket during excavation~~

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-17

Date Exposed: _____

Describe Damage: _____

~~Damage by bucket during excavation~~ AE

Damaged by dozer during backfill

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-18

Date Exposed: _____

Describe Damage: Damage by bucked during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-19

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-20

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-21

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-22

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-23

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-24

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-25

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-26

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-27

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-28

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-29

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-30

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-31

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-32

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-33

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-34

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-37

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/13/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-38

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-41

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-42

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-43

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-44

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-1

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-2

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-3

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-5

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-6

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-7

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-8

Date Exposed: _____

Describe Damage: Damage by bucked during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-9

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-10

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-11

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-12

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-13

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-14

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-15

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-16

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-17

Date Exposed: _____

Describe Damage: Damage by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/11/14

Inspected by: AE

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-18

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: 3/25/14

Date: [signature]

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-19

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-20

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-21

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6P1-22

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: MS

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-1

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-2

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-3

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-4

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-5

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-6

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-7

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation.

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-8

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-9

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-10

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-11

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-12

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 7P1-13

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8-P1-1

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-2

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-3

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-4

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-5

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-6

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-7

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-8

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-9

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-10

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-11

Date Exposed: _____

Describe Damage: _____

Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: MM

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-12

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-13

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-14

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-15

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-16

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-17

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-18

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-19

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-20

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-21

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-22

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-23

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-24

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-25

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-26

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 5, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection			X	
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/05/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, March 05, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Entact- The Western Exclusion Zone fencing on the former Old Dominion property requires maintenance, particularly the western face.
2	IA2Q4A1AL8, EHWG3RTMXR	Entact- The silt fence to the north of the CWTP requires maintenance- *Repeat*. ENR- The silt fence at SW corner of SA-6 North requires maintenance/re-installation.
3	IA2Q4A1AL8	Entact- Warning fencing along southern perimeter of the former MUA settlement tank requires maintenance.
4	IA2Q4A1AL8	Entact- The silt fence surrounding the former SES stockpile area requires maintenance/re-installation at locations on all four sides.
5		
6		
7		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 03/05/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Entact- Tighten fencing, re-install along the western perimeter.	3-10-14 RAD
2	Entact- *Repeat Item.* Confirm proper installation buried fabric toe. ENR- Repair or replace. Confirm that fabric is toed-in.	3-11-14 RAD
3	Entact- Orange construction fencing along the SA-6 North haul road is sagging/down. Re-install.	3-10-14 RAD
4	Entact- Repair or replace silt fencing, confirming proper toed-in installation.	3-11-14 RAD

Construction Manager: _____ **Date:** 03/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 12, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/13/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, March 12, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	A lubricant drums which is currently in use is not on a spill pallet or other form of secondary containment.
2	IA2Q4A1AL8	The containment measures surrounding the western non-haz material staging area require maintenance.
3	IA2Q4A1AL8	Ponded storm water should be pumped, treated and discharged to PVSC.
4	EHWG3RTMXR	**Repeat Item:** Silt fence at the southwestern corner of Study Area 6 North requires maintenance/repair.
5	IA2Q4A1AL8	Fencing along the western perimeter of the former sedimentation basin must be modified/enhanced to mitigate a fall hazard of greater than 6 feet.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: G. Pfeiffer (Signature) **Date:** 03/13/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	All product drums are to be protected by some form of secondary containment.	3-13-14 RAD
2	The fabric and liner has become detached from the bin blocks on the northern perimeter of the non-haz staging area.	3-13-14 RAD
3	The fabric and liner has become detached from the bin blocks on the northern perimeter of the non-haz staging area.	3-14-14 RAD
4	Surface water from the melting snow and ice has ponded on the former Teal property. Remove the ponded water from both sides of the sheet pile hydraulic barrier.	3-14-14 RAD
5	Fencing along the western perimeter of the sed basin does not hinder access to a fall hazard of greater than 6 feet. Reposition the existing or install additional fencing.	3-14-14 RAD

Construction Manager: (Signature) **Date:** 03/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 19, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/19/14

SWPPP Observer: _____ (G. PFEIFER)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, March 19, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**Repeat Item:** Ponded storm water on the former Degen Oil property requires pumping to the Construction Water Treatment Plant.
2	EHWG3RTMXR	**Repeat Item:** Silt fence at the southwestern corner of Study Area 6 North requires maintenance/repair ENR
3	IA2Q4A1AL8	Silt fence surrounding the sediment remedy stockpile area on SA-7 requires repair.
4	IA2Q4A1AL8	Filter baskets in two storm water catch basins on the eastern SA-7 perimeter haul road require replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 03/19/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	**REPEAT ITEM** Surface water from storm events has ponded on the former Teal property. Remove the ponded water.	3-24-14 RAD
2	REPEAT ITEM The silt fence along a section of the Hackensack riverfront requires repair.	ENR
3	The silt fence surrounding the sed. remedy stockpile area has sustained wind damage.	3-24-14 RAD
4	Filter fabric in two catch basins on the eastern raceway is blinded. Replace.	3-24-14 RAD

Construction Manager: _____ **Date:** 03/25/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 26, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☑ Other Wind
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and intact		X		4
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/27/14

SWPPP Observer: D. Pfeiffer (D. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, March 26, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**Entact-** Material spilled over containment on southern edge of non-haz stockpile area.
2	IA2Q4A1AL8	**Entact-** Ponded water on haul road at northwest corner of haz containment area.
3	EHWG3RTMXR	**ENRC- Repeat** Silt fence in southwest corner of Study Area 6 North requires maintenance.
4	IA2Q4A1AL8	**Entact-** Silt fence surrounding the sediment remedy stockpile area requires maintenance. Blown down in today's high winds.
5	IA2Q4A1AL8	**Entact-** Windscreen on the perimeter fence bordering the JCIA property requires maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 03/27/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Material to be shoveled back into containment area. Edges of stockpiles should not extend more than 1/2 way up the containment structures.	3-28-14 RAD
2	Stone should be placed in the areas where ponded water occurs.	3-28-14 RAD
3	Repeat Item- Repair and maintain silt fence until such time as the disturbed soil in the area is stabilized.	ENR
4	Silt fence to be maintained until the permit is closed out. Stock piles being removed	3-31-14 RAD
5	Re-secure the windscreen material to the perimeter fence.	3-28-14 RAD

Construction Manager: _____ **Date:** 04/01/14

Attachment 12: 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (February 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 18, 2014

Mr. Brian Salvo
Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: February 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

Dear Mr. Salvo:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the February 2014 Surface Water Discharge Monitoring Report for Outfall 001A. This is the last DMR for Permit NJ0156311.

Please be advised that the Groundwater Treatment Plant's last day of discharge was February 28, 2014. The Plant is currently being demolished. A new Groundwater Treatment Plant has been built and is treating groundwater for discharge to the Passaic Valley Sewerage Commission treatment plant.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Scott Serino - GWTT
Frank Schroyer - Parsons
Angle Trujillo, Operator, Evoqua

New Jersey Department of Environmental Protection
Division of Water Quality

PI 234822

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	2	1	2014	To	2	28	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☐ **No Discharge this Monitoring Period** ☒ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris 3/14/2014 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director John J Morris 3/14/2014 973.455.4003

NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT	44,372	106,632	GPD	******	******	******	******	0	Continuous	Meter
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	7.76	******	7.76	SU	0	1/Month	Grab
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	CODE N *	******	******	%EFFL	0	1/Year	Compos
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	CODE N *	******	******	%EFFL	0	1/Year	Compos
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	ND, <5.0	ND, <5.0	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	4.7	4.7	MG/L	0	1/Month	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

* See attached letters

Pre-Print Creation Date: 1/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	CODE N	CODE N	UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******	31.0	31.0	UG/L	0	1/Month	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

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Pre-Print Creation Date: 1/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Comp 24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L	0	1/Quarter	Grab
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 1/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	2/1/2014 TO 2/28/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT	12028	03547	-	-	-	-	-	-	-	-
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 1/1/2014

Graham, Stephanie

From: Fahy, Helen
Sent: Monday, March 10, 2014 6:32 PM
To: Graham, Stephanie
Subject: SA7; WWTP Bioassay Lab Failure

Stephanie,
We need to add this e-mail to the February DMR, please.
Thank you,

Helen Fahy
Fahy Associates
Remediation Manager
c/o Honeywell
101 Columbia Rd
Morristown, NJ 07962
Tel: 973-455-2989
Cell: 814-571-4912
<mailto:helen.fahy@honeywell.com>

From: Schroyer, Franklin [mailto:Franklin.Schroyer@parsons.com]
Sent: Tuesday, February 11, 2014 1:45 PM
To: Fahy, Helen
Cc: Bills, Stuart B; Kessler, Timothy; Mojka, John
Subject: SA7; WWTP Bioassay Lab Failure

Helen,

I was informed about noon today by QC Laboratories' manager Robert Martino that their Southampton, PA lab was without power and phone for several days last week due to extreme storm conditions. Consequently they lost all bioassays then in progress, including ours.

We will be getting an official notification of the failure from QC in the next several days.

Regards,
Frank
(973) 722-5240

QC LABORATORIES

February 10th, 2014

Dear Valued Customer,

QC Laboratories was without power for approximately between February 4th and 6th due to the ice storm that took out power lines feeding our laboratory.

Although generators were employed we were unable to maintain the required test condition specified in EPA and state regulations. It was decided to invalidate all studies running that week. Although a costly decision, it was the only one we could make that would ensure that no client would be negatively impacted.

All studies affected have been or are in the process of being rescheduled. It was been a tough winter and we certainly appreciate your patience in this matter.

Regards,
Robert Martino
Director, Aquatic Toxicology and Sciences

1205 Industrial Blvd., P.O. Box 514, Southampton, PA 18966-0514 · Toll Free: 800-289-8378 · Phone: 215-355-3900 · Fax: 215-355-7231 · www.qclaboratories.com

Honeywell Flume Flow Daily Totals

Year:	**2014**
Month:	**February**

Day	Meter Reading	Flows (gpm)	Volume Treated (gpd)	Run Time (hr/day)
2/1/2014	345885178	168.06	90,754	9
2/2/2014	345975932	173.57	83,312	8
2/3/2014	346059244	162.58	87,792	9
2/4/2014	346147036	177.72	106,632	10
2/5/2014	346253668	171.58	82,360	8
2/6/2014	346336028	149.11	89,464	10
2/7/2014	346425492	171.06	82,110	8
2/8/2014	346507602	152.06	82,110	9
2/9/2014	346589712	153.03	73,452	8
2/10/2014	346663164	143.12	34,348	4
2/11/2014	346697512	119.47	21,504	3
2/12/2014	346719016	147.00	26,460	3
2/13/2014	346745476	118.53	21,336	3
2/14/2014	346766812	164.90	39,576	4
2/15/2014	346806388	89.58	16,124	3
2/16/2014	346822512	100.47	18,084	3
2/17/2014	346840596	85.98	15,476	3
2/18/2014	346856072	66.84	12,032	3
2/19/2014	346868104	109.96	19,792	3
2/20/2014	346887896	103.16	18,568	3
2/21/2014	346906464	106.43	57,472	9
2/22/2014	346963936	147.30	17,676	2
2/23/2014	346981612	132.73	23,892	3
2/24/2014	347005504	181.37	43,528	4
2/25/2014	347049032	123.70	29,688	4
2/26/2014	347078720	104.98	18,896	3
2/27/2014	347097616	166.58	19,216	3
2/28/2014	347127600	59.82	10,768	3
Totals	1242422			145
Average		133.95	44,372	
Maximum			106,632	

Arcon Ltd (NJ Lab Cert. # 03547)
90 US Highway Route 130
Bordentown, NJ 08505
(609)-298-0770, Fax: (609-)291-8386

Chain Of Custody / Analysis Request

COC #:
Lab Use Only
Lab Proj #
Lab ID 03547
PAGE 1 of 1
Job No.

Privileged & Confidential: Y
PWD ID:
Site Name: Honeywell
Location of Site: GWTP
Sampler:
PO #:
Analysis Turnaround Time:
Standard -
Rush Charges Authorized for -
2 weeks -
1 week -
Next Day -

Client Contact: (name, co., address)
Helen Fahy
101 Columbia Road
Morristown, NJ 07961
Helen.Fahy@honeywell.com

Hardcopy Report to: Helen Fahy
Invoice to: Helen Fahy

Preservative: 0 0 0 0 0 — pH

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Grab/Composite	Field Filtered Sample #	Units	mg/kg	Lab Sample Numbers
1	WTP			EFFLUENT	2/11/14	0736	GRAB	WATER	pH					X	
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

pH @ 7.76 @ 14.9 °C

Relinquished by	Company: Arcon	Received by	Company	Condition	Custody Seals Intact		
	Date/Time: 2/11/14 0736		Date/Time	Cooler Temp.			
Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact		
	Date/Time		Date/Time	Cooler Temp.			

Preservatives: 0 = None; 1 = HCl; 2 = HNO3; 3 = H2SO4; 4 = NaOH; 5 = Zn Acetate; 6 = MeOH; 7 = NaHSO4; 8 = Other (specify)

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 3 OF 25

- **2014 Monthly Reports Part 3**

5/14/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 14, 2014

Via Express Mail

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-04

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from April 1 – April 30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: April 2014 SA-6/7 Combined Monthly Progress Report No. 2014-04

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-04

Project SA-6 & 7 Remediation

April 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
04/09/14	Integrated Annual Groundwater Performance Report for 2013 Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/14/14	Deflection of Barrier Wall Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/15/14	NJPDES Permit NJ0156311: March 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
04/15/14	NJDEP Division of Water Quality New Jersey Pollutant Request for Permit Revocation Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection
04/15/14	Discharge of Tannin Construction Water Customer ID# 31630005-1 Study Area 7, Jersey City, NJ	Andy Caltagirone PVSC
04/15/14	Bayfront Redevelopment at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 *(see **Attachment 12**)*	Andy Caltagirone PVSC
04/16/14	Combined Monthly Progress Report No. 2014-03 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/17/14	Response to Comments Provided by Plaintiffs, April 11, 2004 - Excavation of Cells 44 Through 52 Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/22/14	Special Master All Hands Meeting	N/A
04/23/14	Response to Comments Provided by Plaintiffs, April 17, 2014 - Design Change Bulletin (DCB) – Trench Layout for Contingent Groundwater Extraction System Study Area 6 (SA-6) North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/24/14	Response to Comments Provided by Plaintiffs, March 13, 2014 - Revised In-Situ Work Plan for Treatment Area 10 Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/24/14	Response to Comments Provided by Plaintiffs, April 11, 2004 - Standard Operating Procedure for Confirmation of Excavation Limits	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
	Study Area 6 South, Jersey City, NJ	
04/29/14	Response to Comments Provided by Dr. Ben Ross April 8, 2014 - Revised Integrated Groundwater Sampling and Analysis Plan Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/30/14	Recommendations Regarding Bedrock Monitoring Wells 90-MW-18BR and KP-MW-6BR Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/30/14	Response to Comments Provided by Plaintiffs, April 17, 2014 - Design Change Bulletin (DCB) – Surcharge Plan Design Change Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	04/06/014	04/13/2014	04/20/2014	04/27/2014
Construction Management (AMEC)	9	10	10	9
Engineering (AMEC)	2	2	2	2
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	42	40	35	40
Arecon/US Ecology Subcontractors	1	1	1	1
OSC (-80 Kellogg Demolition	0	0	4	5
ENR (SA-6N GWTP Utilities)	0	0	0	0
BCA (SA-6N Building Construction)	0	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	1	0	0	0
HPS (SA-6N GWTP Process Controls)	0	0	0	0
Other	0	0	0	0
TOTAL	**60**	**58**	**57**	**62**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted quarterly LTMP groundwater level measurement round.

- Conducted S-3 Injection/Mass Removal Event No.13 in well 088-IW-03.
- Continued new Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Completed installation of the temporary SA-6 North Surcharge area dewatering system.
- Continued well abandonment activities in accordance with approved Monitoring Well Abandonment Plan.
- Continued former 80 Kellogg St GWTP and truck wash demolition activities.
- Collected April PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Based upon a final inspection the Hudson, Essex and Passaic Soil Conservation District issued a Report of Compliance on 4/21/2014 for the SA-7 Sediment Remediation Project.
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received fully compliant monthly lab results for the GWTP effluent PVSC sampling conducted on March 28, 2014.
- Changed out sludge box from the ground water treatment plant.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	04/06/2014	04/13/2014	04/20/2014	04/27/2014
Avg. Gallons Treated & Discharged (per day)	78,664	78,458	77,874	78,925
Average Flow (gpm) for Operating Period	55	54	54	55
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	11,520	12,240	11,400	9,293

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 56 through 59 and Cells 152A through 135A and 146B through 142B
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	15.92	15.92
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	195	21.69	4,250.24
Entact/ Montecalvo	30 cubic Yard Roll off	Bayshore Recycling	NA	Creosote Debris (non- haz)	2	11.58	23.17
Entact/Tilcon	Tri-axle Dump	Tilcon, Mt. Hope	NA	Asphalt	37	24	890.20
OSC	30yd Roll Off	375 RT 1-9 South Jersey	IWS	C&D	33	TBD	TBD
OSC	40yd Roll Off	Cinelli JC	Cinelli	Light Iron	21	TBD	TBD

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 146B-142B, 137A-135A
Excavation Completed	Cell Number(s) 55 through 58, 152A-140A Volume Excavated - Total for Reporting Period: 9,607CY/ Total to Date:51,199 CY
Backfill in Progress	Cell Number(s) 1 through 58, 152A-140A

3. BACKFILL MATERIALS USED

Source	(Week Ending)			
	04/6/2014	04/13/2014	04/20/2014	04/27/2014
<20ppm re-use, CY	0	0	0	1,598
Weldon, Import-Tons	4,592.86	5,195.18	6645.69	2,082.82
Tilcon, Import-Tons	0	0	50.61	308.24

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~85% complete. Instrumentation installation scheduled for completion in May 2014. No Surcharge initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of 80 Kellogg demolition activities. No Surcharge initiated.

- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. Placement of surcharge material initiated on April 8, 2014.
- Area 2N: No instrumentation installed. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Two (2) pairs driven on the hydraulic barrier wall at Sta 25+65 on SA-6 South.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue placement of surcharge materials in SA-6N Area 1N.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 135-120.

- Continue stockpiling of potential <20 mg/kg and >1,000 mg/kg hexavalent chromium soils for sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Complete demolition activities associated with the former 80 Kellogg Ground Water Treatment Plant and Truck Wash Building.
- Continue SWPPP inspections.
- Complete PVSC compliance sampling.

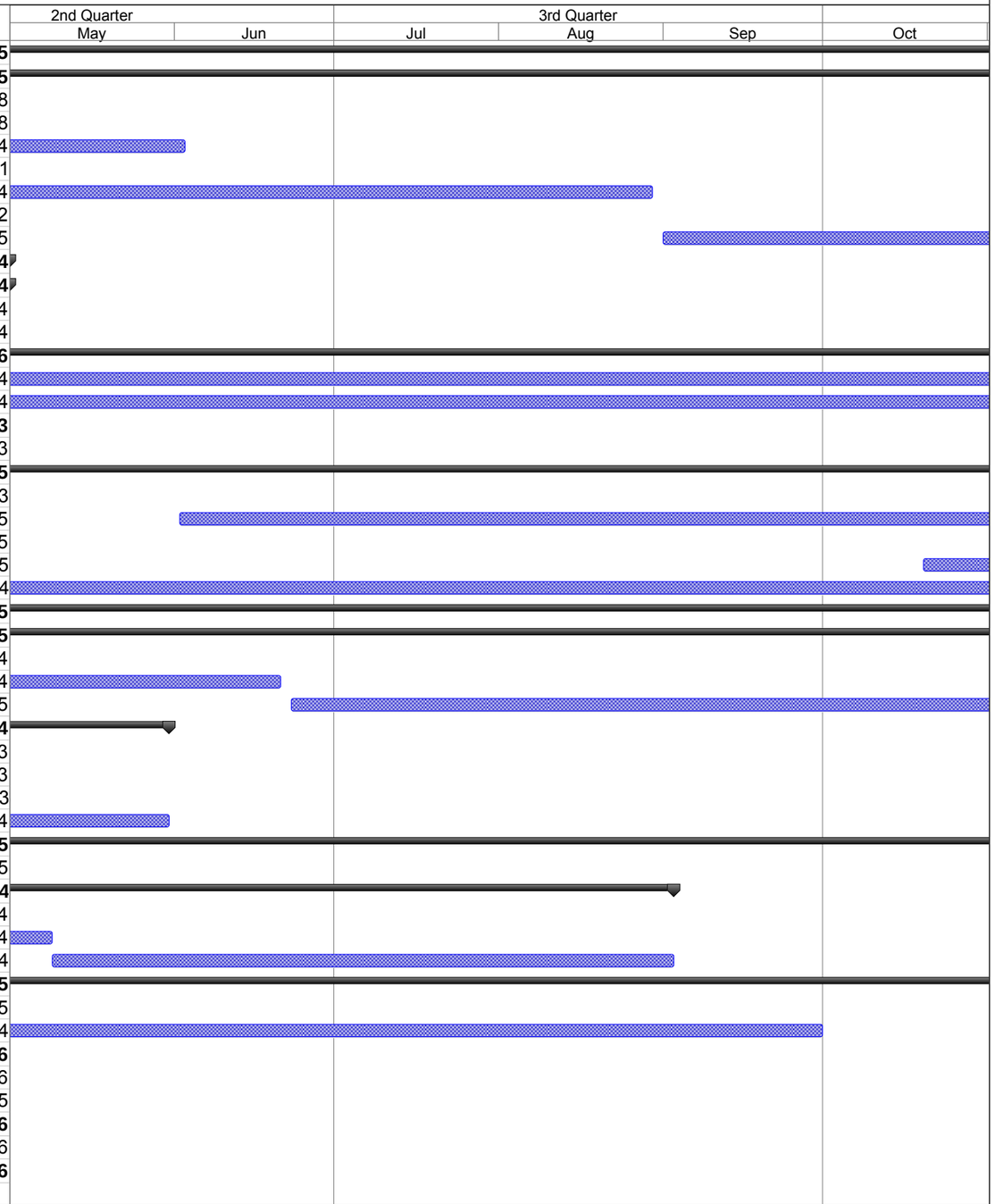
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-1)
   - SA-6 South Deep Well Data (DW-2)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1N
   - Instrumentation Location Plan 1S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (March 2014)
    - Request to NJDEP re Permit NJG0156311 Permit Revocation
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (March 2014)

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 5/5/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Backfill is placed at the western end of the Kellogg St. excavation.



Site Photograph 2: Contractor breaks up concrete slab prior to excavation along Kellogg St.



Site Photograph 3: Contractor continues to backfill eastern area of excavation at Kellogg St.



Site Photograph 4: Contractor excavates against the temporary sheet pile along western portion of Kellogg St.



Site Photograph 5: Contractor loads soils for use as surcharge material on JC property.



Site Photograph 6: Contractor places surcharge soil over white geotextile fabric on JC property.



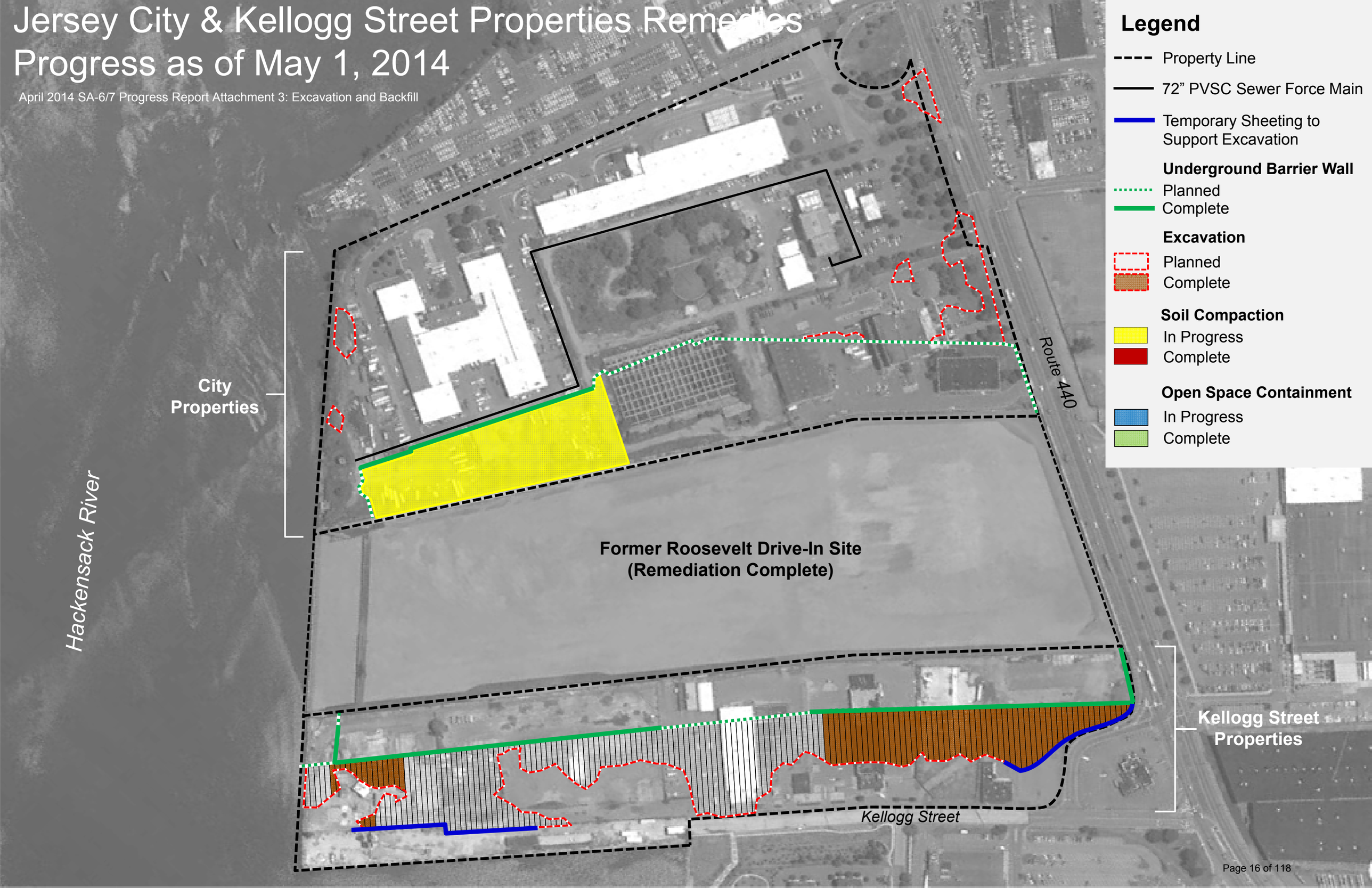
Site Photograph 7: Demolition of the 80 Kellogg building is started.

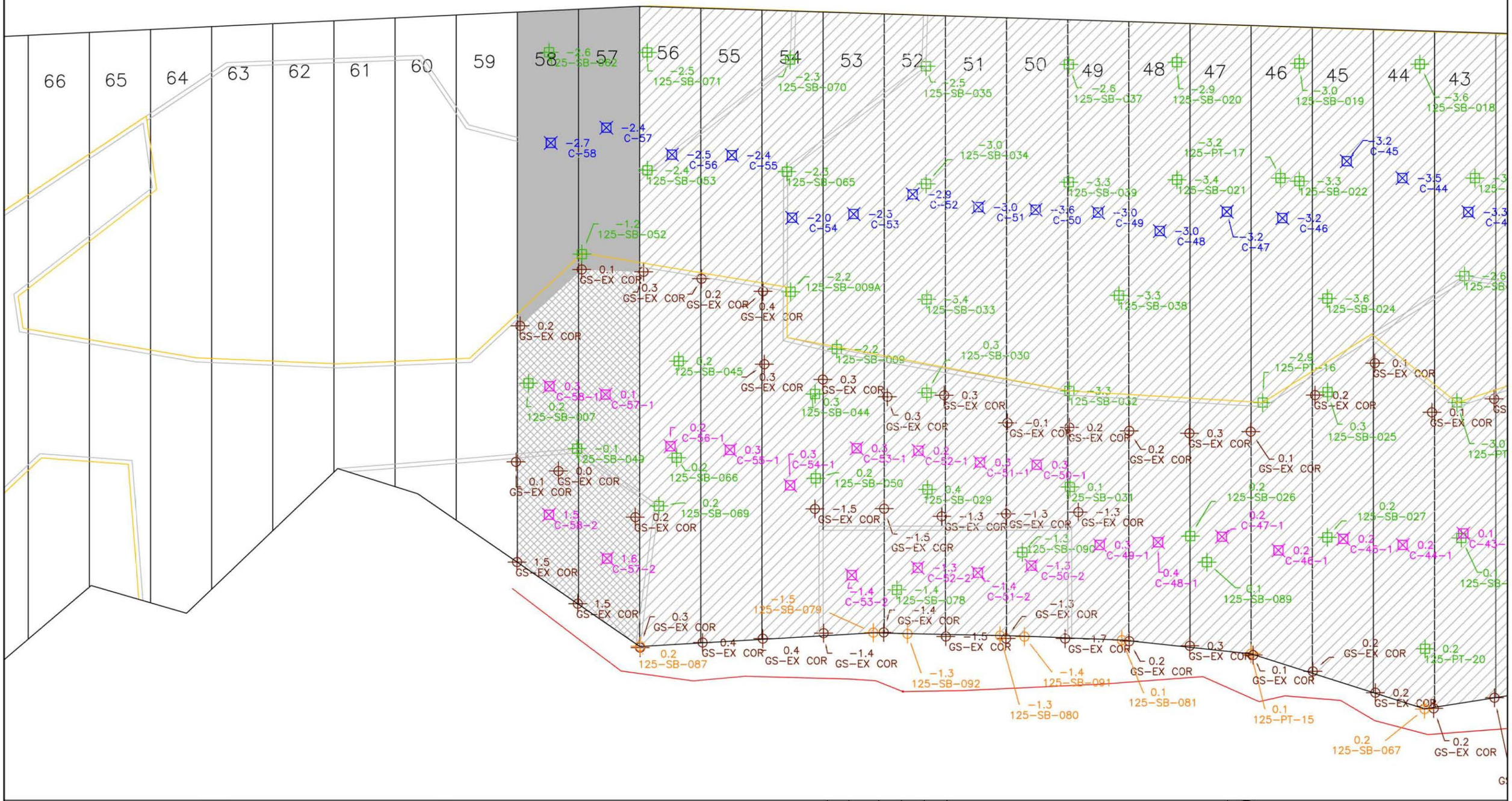
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of May 1, 2014

April 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





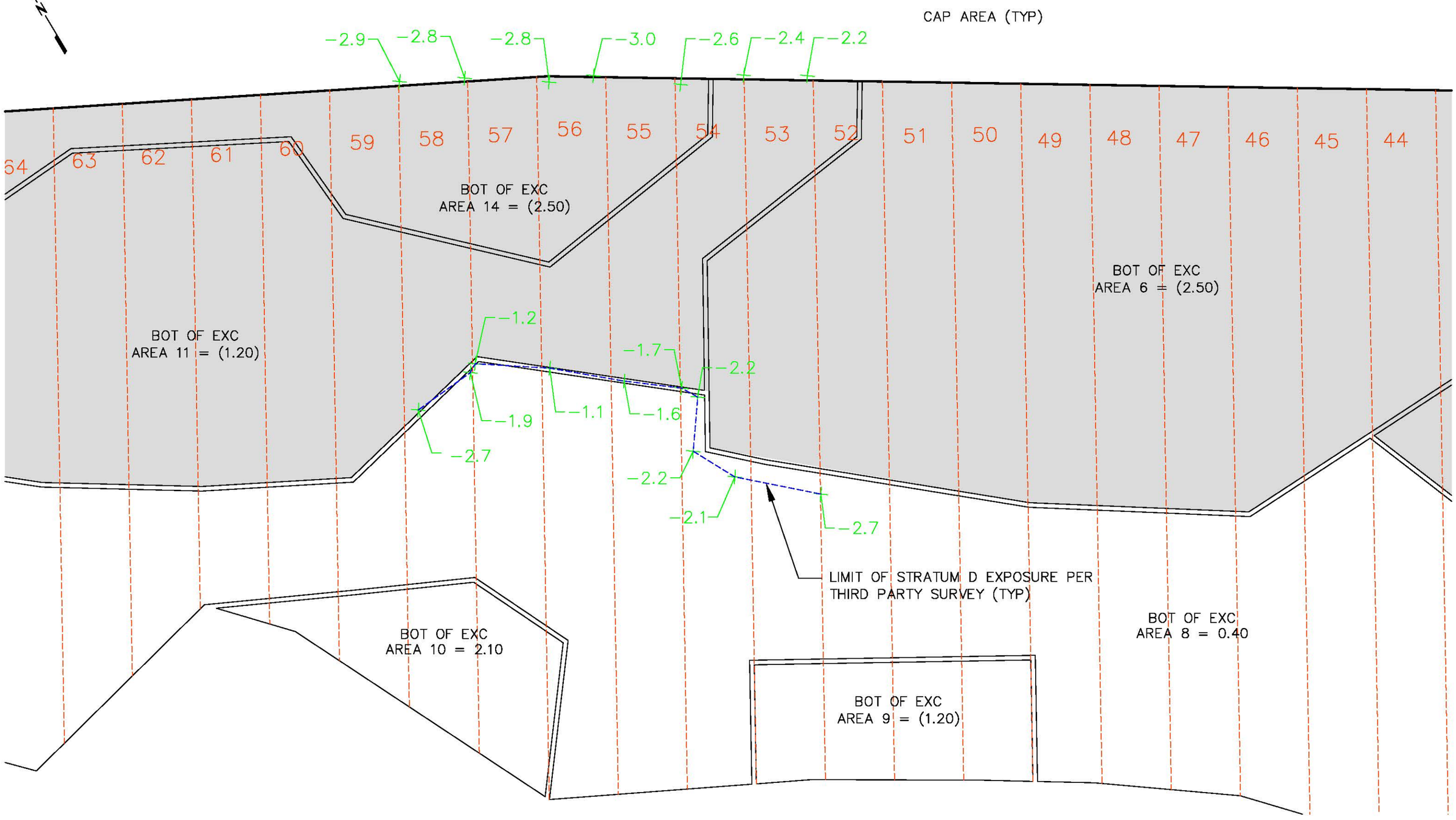
LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 04-07-14 TO 04-10-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LIMIT OF ANTICIPATED STRATUM D EXPOSURE PER DESIGN (TYP)

-3.8 BOE ELEVATION AT EDGE OF STRATUM D PER THIRD PARTY SURVEY (TYP)

0 5 10 20
SCALE IN FEET

Prepared/Date: TDD 4/22/14
Checked/Date: SGS 4/22/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	SA-6 SOUTH STRATUM D CELLS 53 THRU 58 FIGURE 1

MASER CONSULTING P.A.

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7*	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5*	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6*	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7*	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0*	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0*	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9*	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9*	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9*	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9*	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1*	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4*	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3*	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4*	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1*	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9*	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9*	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0*	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0*	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1*	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1*	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached
684545.6	602650.2	-3.3	125-SB-038	49	3/20/2014	-3.3	Stratum D Reached
684597.3	602676.1	-3.5	125-SB-037	49	3/25/2014	-2.6	Stratum D Reached
684574.9	602657.9	-3.4	125-SB-039	49	3/25/2014	-3.3	Stratum D Reached
684535.1	602625.9	0.6	125-SB-032	49	3/25/2014	-3.3	Stratum D Reached
684516.6	602611.2	1.1	125-SB-031	49	3/25/2014	0.1	Target Elevation Reached
684511.6	602592.1	-1.0	125-SB-090	50	3/25/2014	-1.3	Target Elevation Reached
684526.0	602608.3	0.4	125-SB-029R	50	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.3	124-SB-136R	50	3/25/2014	-3.6	Stratum D Reached
684514.6	602580.4	-1.0	125-SB-090R	51	3/28/2014	-1.4	Target Elevation Reached
684535.3	602597.8	0.4	125-SB-029R	51	3/28/2014	0.3	Target Elevation Reached
684584.1	602636.9	-2.3	124-SB-136R	51	3/28/2014	-3.0	Stratum D Reached
684619.0	602648.6	-1.5	125-SB-035	52	3/28/2014	-2.5	Stratum D Reached

684596.6	602630.5	-3.6	125-SB-034	52	3/28/2014	-3.0	Stratum D Reached
SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684574.5	602612.8	0.7	125-SB-033	52	3/28/2014	-3.4	Stratum D Reached
684556.8	602598.4	0.8	125-SB-030	52	3/28/2014	0.3	Target Elevation Reached
684538.3	602583.7	0.4	125-SB-029	52	3/28/2014	0.4	Target Elevation Reached
684523.8	602562.3	-0.9	125-SB-078	52	3/28/2014	-1.4	Target Elevation Reached
684579.0	602588.0	0.9	125-SB-009	53	4/1/2014	-2.2	Stratum D Reached
684557.0	602576.5	0.4	125-SB-029R	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.0	125-SB-090R	53	4/1/2014	-1.4	Target Elevation Reached
684620.4	602605.9	0.4	125-SB-065	54	4/1/2014	-2.3	Stratum D Reached
684641.2	602623.7	-2.1	125-SB-070	54	4/1/2014	-2.3	Stratum D Reached
684597.0	602588.0	-2.7	125-SB-009A	54	4/1/2014	-2.2	Stratum D Reached
684573.7	602577.0	0.7	125-SB-044	54	4/1/2014	0.3	Target Elevation Reached
684557.6	602564.1	1.2	125-SB-050	54	4/1/2014	0.2	Target Elevation Reached
684632.0	602597.9	-1.4	140-SB-083R	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	125-SB-029R	55	4/4/2014	0.3	Target Elevation Reached
684664.6	602597.6	-3.3	125-SB-071	56	4/4/2014	-2.5	Stratum D Reached
684642.2	602579.5	0.2	125-SB-053	56	4/4/2014	-2.4	Stratum D Reached
684601.1	602556.0	3.1	125-SB-045	56	4/4/2014	0.2	Target Elevation Reached
684583.0	602540.8	0.6	125-SB-066	56	4/4/2014	0.2	Target Elevation Reached
684576.6	602529.9	2.1	125-SB-069	56	4/4/2014	0.2	Target Elevation Reached
684574.5	602511.9	2.1	125-SB-069R	57	4/9/2014	1.6	Target Elevation Reached
684606.0	602536.9	0.4	125-SB-029R	57	4/9/2014	0.1	Target Elevation Reached
684636.4	602554.1	-2.4	125-SB-052	57	4/9/2014	-1.2	Stratum D Reached
684591.8	602507.6	2.1	125-SB-069R	58	4/9/2014	1.5	Target Elevation Reached
684679.9	602578.9	-2.3	125-SB-062	58	4/9/2014	-2.6	Stratum D Reached
684620.0	602524.0	0.6	125-SB-007	58	4/9/2014	0.2	Target Elevation Reached
684600.1	602523.2	0.6	125-SB-049	58	4/9/2014	-0.1	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached
684564.6	602658.9	-2.5	C-49	49	3/25/2014	-3.0	Stratum D Reached
684501.1	602607.9	0.4	C-49-1	49	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.5	C-50	50	3/25/2014	-3.6	Stratum D Reached
684526.0	602608.3	0.4	C-50-1	50	3/25/2014	0.3	Target Elevation Reached
684507.7	602591.7	-1.2	C-50-2	50	3/25/2014	-1.3	Target Elevation Reached
684584.1	602636.9	-2.5	C-51	51	3/28/2014	-3.0	Stratum D Reached
684535.3	602597.8	0.4	C-51-1	51	3/28/2014	0.3	Target Elevation Reached
684514.6	602580.4	-1.2	C-51-2	51	3/28/2014	-1.4	Target Elevation Reached
684596.7	602626.3	-2.5	C-52	52	3/28/2014	-2.9	Stratum D Reached
684547.0	602587.9	0.4	C-52-1	52	3/28/2014	0.2	Target Elevation Reached
684524.8	602569.7	-1.2	C-52-2	52	3/28/2014	-1.3	Target Elevation Reached
684602.1	602612.0	-2.5	C-53	53	4/1/2014	-2.3	Stratum D Reached
684557.0	602576.5	0.4	C-53-1	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.2	C-53-2	53	4/1/2014	-1.4	Target Elevation Reached
684610.8	602599.7	-2.5	C-54	54	4/4/2014	-2.0	Stratum D Reached
684560.2	602558.1	0.4	C-54-1	54	4/4/2014	0.3	Target Elevation Reached
684632.0	602597.9	-2.5	C-55	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	C-55-1	55	4/4/2014	0.3	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684641.4	602586.6	-2.5	C-56	56	4/4/2014	-2.5	Stratum D Reached
684586.1	602541.3	0.4	C-56-1	56	4/4/2014	0.2	Target Elevation Reached
684656.7	602578.2	-2.5	C-57	57	4/9/2014	-2.4	Stratum D Reached
684606.0	602536.9	0.4	C-57-1	57	4/9/2014	0.1	Target Elevation Reached
684574.5	602511.9	2.1	C-57-2	57	4/9/2014	1.6	Target Elevation Reached
684662.3	602565.2	-2.5	C-58	58	4/9/2014	-2.7	Stratum D Reached
684616.2	602527.5	0.4	C-58-1	58	4/9/2014	0.3	Target Elevation Reached
684591.8	602507.6	2.1	C-58-2	58	4/9/2014	1.5	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	4.9	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached
684479.5	602597.5	3.7	125-SB-081	49	3/20/2014	0.1	Target Elevation Reached
684495.3	602579.6	0.8	125-SB-091	50	3/25/2014	-1.4	Target Elevation Reached
684499.2	602575.0	2.3	125-SB-080	51	3/28/2014	-1.3	Target Elevation Reached
684513.9	602557.6	0.6	125-SB-092	52	3/28/2014	-1.3	Target Elevation Reached
684519.3	602551.3	2.5	125-SB-079	53	4/1/2014	-1.5	Target Elevation Reached
684552.7	602504.6	3.5	125-SB-087	56	4/4/2014	0.2	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 4/14/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-01		684138.4	603182.3	-0.5						4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6						6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2						9	Crushed concrete	Bottom of excavation elevation	
2	BF-03										9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5						11	Crushed concrete	Bottom of excavation elevation	
2	BF-04										11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8						12	Crushed concrete	Bottom of excavation elevation	
2	BF-05										12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	21.1	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7						14	Crushed concrete	Bottom of excavation elevation	
2	BF-06										14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8						15	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
2	BF-07										15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7						16	Crushed concrete	Bottom of excavation elevation	
2	BF-08										16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5						17	Crushed concrete	Bottom of excavation elevation	
2	BF-09										17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5						18	Crushed concrete	Bottom of excavation elevation	
2	BF-10										18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0						19	Crushed concrete	Bottom of excavation elevation	
2	BF-11										19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7						20	Crushed concrete	Bottom of excavation elevation	
2	BF-12										20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9						22	Crushed concrete	Bottom of excavation elevation	
2	BF-13										22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9						23	Crushed concrete	Bottom of excavation elevation	
2	BF-14										23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9						24	Crushed concrete	Bottom of excavation elevation	
2	BF-15										24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1						25	Crushed concrete	Bottom of excavation elevation	
2	BF-16										25	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4						26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17										26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5						27	Crushed concrete	Bottom of excavation elevation	
2	BF-18										27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3						28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7						29	Crushed concrete	Bottom of excavation elevation	
2	BF-20										29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9						30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3						31	Crushed concrete	Bottom of excavation elevation	
2	BF-22										31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6						32	Crushed concrete	Bottom of excavation elevation	
2	BF-23										32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8						33	Crushed concrete	Bottom of excavation elevation	
2	BF-24										33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8						34	Crushed concrete	Bottom of excavation elevation	
2	BF-25										34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1						35	Crushed concrete	Bottom of excavation elevation	
2	BF-26										35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8						36	Crushed concrete	Bottom of excavation elevation	
2	BF-27										36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8						38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1						39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1						40	Stratum D	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1						41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2						42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1						43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5						44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2						45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0						46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2						47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0						48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4						49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6						50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	50	Tilcon MH DGA		V5N
0	BF-128		685382.2	601566.3	-2.5						140	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	140	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9						142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2						144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6						146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

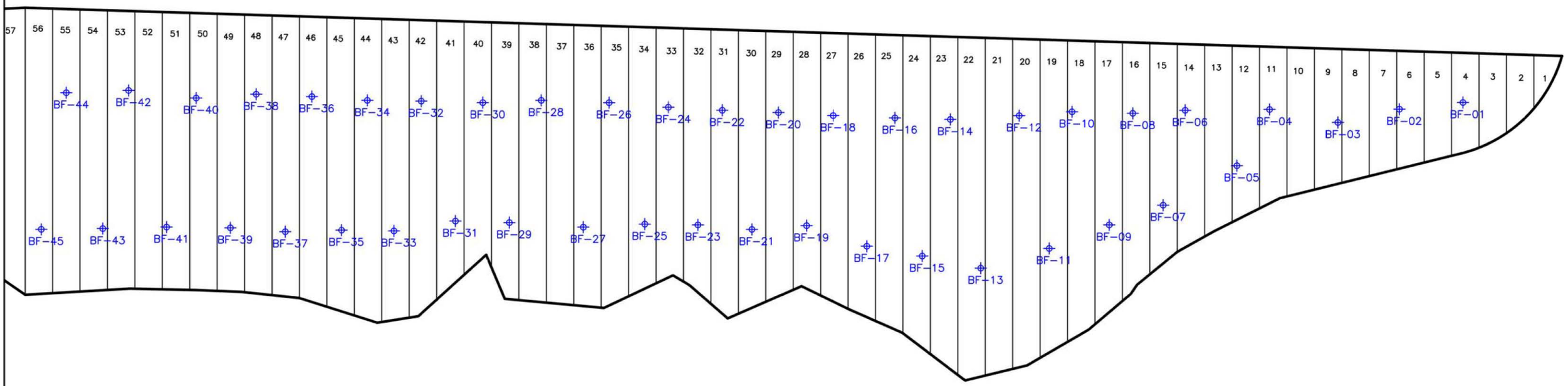
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



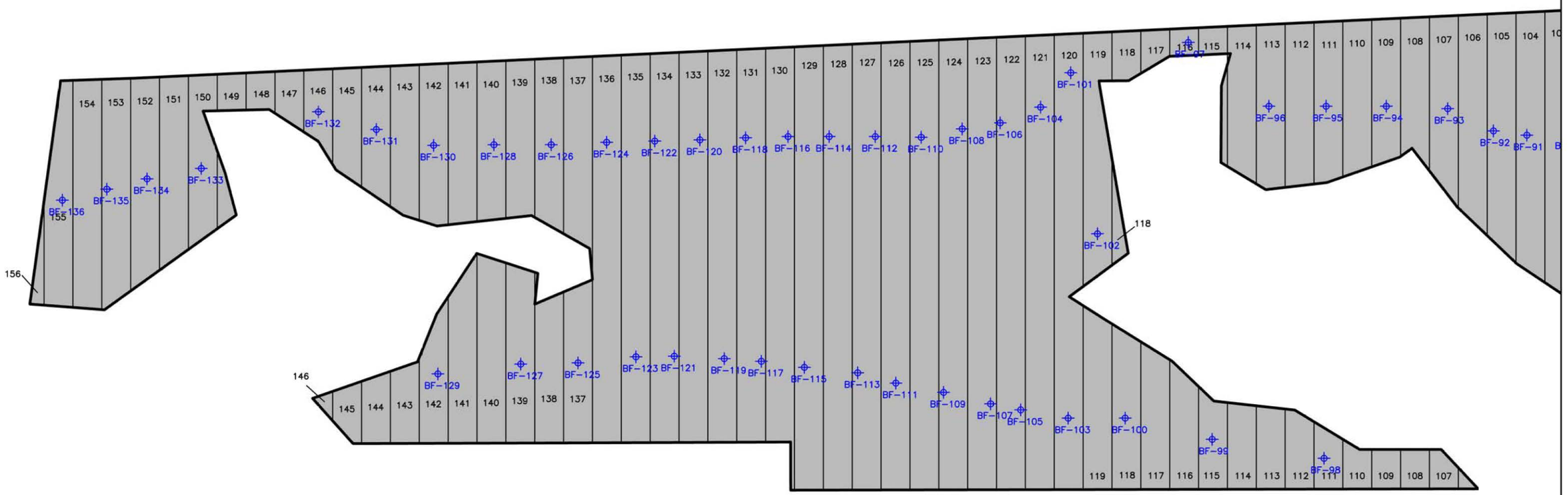
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-01		684158.6	603152.4							6			
	RF-02		684190.6	603063.9							12			
	RF-03		684270.2	603012.0							18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8							22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0							25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1							25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1							32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1							36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0							40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2						44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1							44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	44	Weldon WC Screenings	Placed on Tye A Material	V5N
2	RF-11		684545.0	602673.2							48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3						51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3							51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	51	Weldon WC Screenings	Placed on Type A Material	V5N
1	RF-13		684610.2	602590.4	-2.3						54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4							54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	54	Weldon WC Screenings	Against HB	V5N
0	RF-39		685485.1	601397.7	3.8						152	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	151	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	151	Weldon WC Screenings		V5N
3	RF-39-04	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	151	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

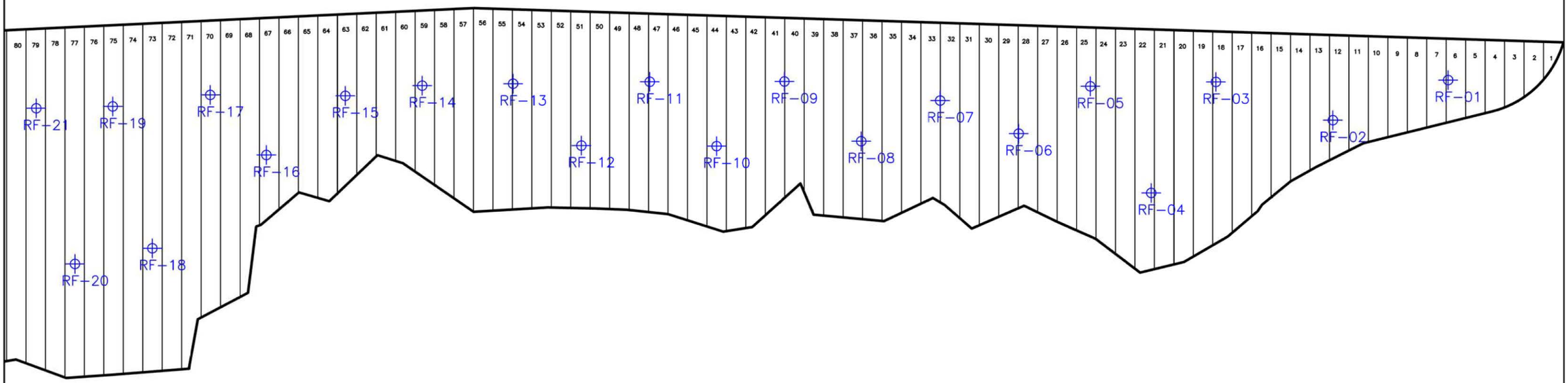
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

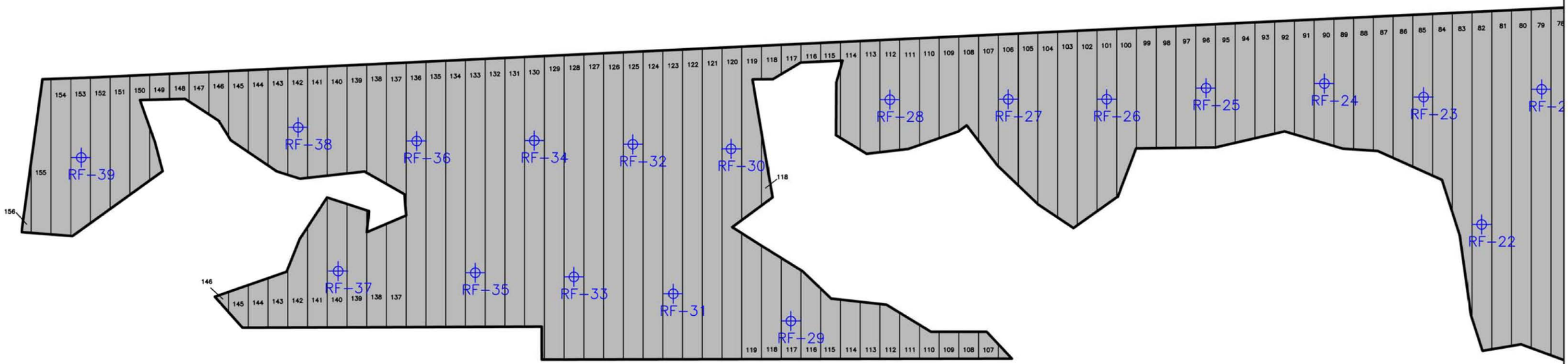
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-1)
- SA-6 South Deep Well Data (DW-2)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
03/03/14	1	72	7,8,9,EPS	66	N/A	N/A	12,100	1,211,753	2.8	Flowmeter Frozen (Read by Gauging Tank)
03/04/14	1	24	7,8,9,EPS	66	N/A	N/A	4,600	1,216,353	3.2	
03/05/14	1	24	7,8,9,EPS	66	N/A	N/A	3,900	1,220,253	2.7	
03/06/14	1	24	7,8,9,EPS	66	N/A	N/A	3,700	1,223,953	2.6	
03/07/14	1	24	7,8,9,EPS	66	N/A	N/A	2,500	1,226,453	1.7	
03/10/14	1	72	7,8,9,EPS	66	N/A	N/A	1,700	1,228,153	0.4	
03/11/14	1	24	7,8,9,EPS	66	394858	394,948	90	1,228,243	0.1	
03/12/14	1	24	7,8,9,EPS	66	394948	395,094	146	1,228,389	0.1	Flowmeter Blockage Cleared and Reset
03/14/14	1	24	7,8,9,EPS	67	0	8,194	8,194	1,236,583	5.7	
03/17/14	1	72	8,9,EPS	56	8,194	32,805	24,611	1,261,194	5.7	
03/18/14	1	24	8,9,EPS	52	32,805	41,005	8,200	1,269,394	5.7	
03/19/14	1	24	8,9,EPS	52	41,005	53,281	12,276	1,281,670	8.5	
03/20/14	1	24	8,9,EPS	52	53,281	68,164	14,883	1,296,553	10.3	
03/21/14	1	24	8,9,EPS	44	68,164	82,672	14,508	1,311,061	10.1	
03/24/14	1	72	9,EPS	44	82,672	112,690	30,018	1,341,079	6.9	
03/25/14	1	24	9,EPS	14	112,690	136,290	23,600	1,364,679	16.4	
03/26/14	1	24	9,EPS	14	136,290	159,720	23,430	1,388,109	16.3	
03/27/14	1	24	9,EPS	14	159,720	173,928	14,208	1,402,317	9.9	
03/28/14	1	24	9,EPS	14	173,928	188,251	14,323	1,416,640	9.9	
03/31/14	1	72	9,EPS	14	188,251	234,816	46,565	1,463,205	10.8	
04/01/14	1	24	9,EPS	14	234,816	254,072	19,256	1,482,461	13.4	
04/02/14	1	24	9,EPS	14	254,072	272,724	18,652	1,501,113	13.0	
04/03/14	1	24	9,EPS	14	272,724	292,383	19,659	1,520,772	13.7	
04/04/14	1	24	9,EPS	14	292,383	310,862	18,479	1,539,251	12.8	
04/07/14	1	72	9,EPS	14	310,862	361,008	50,146	1,589,397	11.6	
04/08/14	1	24	9,EPS	14	361,008	375,723	14,715	1,604,112	10.2	
04/09/14	1	24	9,EPS	14	375,723	389,220	13,497	1,617,609	9.4	
04/10/14	1	24	9,EPS	14	389,220	403,320	14,100	1,631,709	9.8	
04/11/14	1	24	9,EPS	14	403,320	416,137	12,817	1,644,526	8.9	
04/14/14	1	72	9,EPS	14	416,137	453,580	37,443	1,681,969	8.7	
04/15/14	1	24	9,EPS	14	453,580	464,088	10,508	1,692,477	7.3	
04/16/14	1	24	9,EPS	14	464,088	473,709	9,621	1,702,098	6.7	
04/17/14	1	24	9,EPS	14	473,709	484,453	10,744	1,712,842	7.5	
04/18/14	1	24	9,EPS	14	484,453	492,855	8,402	1,721,244	5.8	
04/18/14	2	24	16,17,18,WPS-1	40	N/A	N/A	21,000	1,742,244	14.6	Flow meter not installed. Volumes based on tank gauging
04/21/14	1	72	9,EPS	14	492,855	518,050	25,195	1,767,439	5.8	
04/18/14	2	72	16,17,18,WPS-1	40	N/A	N/A	62,000	1,829,439	14.4	Flow meter not installed. Volumes based on tank gauging
04/22/14	1	24	9,EPS	14	518,050	523,548	5,498	1,834,937	3.8	
04/22/14	2	24	16,17,18,WPS-1	40	N/A	N/A	19,500	1,854,437	13.5	Flow meter not installed. Volumes based on tank gauging
04/23/14	1	24	9,EPS	14	523,548	528,369	4,821	1,859,258	3.3	
04/23/14	2	24	16,17,18,WPS-1	40	0	15,441	15,441	1,874,699	10.7	
04/24/14	1	24	9,EPS	14	528,369	532,995	4,626	1,879,325	3.2	
04/24/14	2	24	16,17,18,WPS-1	40	15,441	30,198	14,757	1,894,082	10.2	
04/25/14	1	24	9,EPS	14	532,995	537,006	4,011	1,898,093	2.8	
04/25/14	2	24	16,17,18,WPS-1	40	30,198	41,737	11,539	1,909,632	8.0	
04/28/14	1	72	9,EPS	12	537,006	552,302	15,296	1,924,928	3.5	
04/28/14	2	72	16,17	18	41,737	59,981	18,244	1,943,172	4.2	
04/29/14	1	24	9,EPS	12	552,302	555,724	3,422	1,946,594	2.4	
04/29/14	2	24	16,17	18	59,981	62,592	2,611	1,949,205	1.8	

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
04/30/14	1	24	9,EPS	12	555,724	560,143	4,419	1,953,624	3.1	
04/30/14	2	24	16,17	18	62,592	65,318	2,726	1,956,350	1.9	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013
Previous information is trunketed. Only last month and current month information is provided.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-1)

DATE	HOURS OF OPERATION	DEEP WELL FLOW METER START (Gal)	DEEP WELL FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (GPM)	COMMENTS
10/23/13	29	0	24,640	24,640	24,640	14.2	
10/24/13	24	24,640	31,757	7,117	31,757	4.9	
10/25/13	24	31,757	39,567	7,810	39,567	5.4	Slight blockage cleaned from meter
10/28/13	72	39,567	91,820	52,253	91,820	12.1	
10/29/13	24	91,820	101,672	9,852	101,672	6.8	
10/30/13	24	101,672	111,472	9,800	111,472	6.8	
10/31/13	24	111,472	120,558	9,086	120,558	6.3	
11/01/13	24	120,558	128,248	7,690	128,248	5.3	
11/04/13	72	128,248	162,721	34,473	162,721	8.0	
11/05/13	24	162,721	173,853	11,132	173,853	7.7	
11/06/13	24	173,853	189,770	15,917	189,770	11.1	
11/07/13	24	189,770	210,266	20,496	210,266	14.2	
11/08/13	24	210,266	220,964	10,698	220,964	7.4	
11/11/13	72	220,964	235,035	14,071	235,035	3.3	
11/12/13	24	235,035	254,720	19,685	254,720	13.7	
11/13/13	24	254,720	272,758	18,038	272,758	12.5	
11/14/13	24	272,758	275,336	2,578	275,336	1.8	
11/15/13	24	275,336	281,413	6,077	281,413	4.2	
11/18/13	72	281,413	318,812	37,399	318,812	8.7	
11/19/13	24	318,812	328,059	9,247	328,059	6.4	Well Taken Offline for Excavation
11/27/13	24	328,059	351,245	23,186	351,245	16.1	
12/02/13	120	351,245	414,031	62,786	414,031	8.7	Well Shut Off for Excavation Activities
12/04/13	24	430,536	446,631	16,095	430,126	11.2	
12/05/13	24	446,631	459,826	13,195	443,321	9.2	
12/06/13	24	459,826	468,837	9,011	452,332	6.3	
12/09/13	72	468,837	499,005	30,168	482,500	7.0	
12/10/13	24	499,005	508,914	9,909	492,409	6.9	
12/11/13	24	508,914	519,185	10,271	502,680	7.1	
12/12/13	24	519,185	528,500	9,315	511,995	6.5	
12/13/13	24	528,500	535,384	6,884	518,879	4.8	
12/16/13	72	535,384	555,625	20,241	539,120	4.7	
12/17/13	24	555,625	563,870	8,245	547,365	5.7	
12/18/13	24	563,870	572,558	8,688	556,053	6.0	
12/19/13	24	572,588	578,579	5,991	562,044	4.2	
12/20/13	24	578,579	585,086	6,507	568,551	4.5	
12/23/13	72	585,086	604,411	19,325	587,876	4.5	
12/24/13	24	604,411	613,829	9,418	597,294	6.5	
12/30/13	144	613,829	669,247	55,418	652,712	6.4	
12/31/13	24	669,247	678,171	8,924	661,636	6.2	
01/02/14	48	678,171	697,609	19,438	681,074	6.7	
01/06/14	96	697,609	733,339	35,730	716,804	6.2	Well Taken Offline
03/11/14	24	0	13,985	13,985	730,789	9.7	Well Online
03/12/14	24	13,985	28,186	14,201	744,990	9.9	
03/13/14	24	28,186	29,780	1,594	746,584	1.1	
03/14/14	24	29,780	31,460	1,680	748,264	1.2	
03/17/14	72	31,460	36,200	4,740	753,004	1.1	
03/18/14	24	36,200	37,460	1,260	754,264	0.9	
03/19/14	24	37,460	46,700	9,240	763,504	6.4	
03/20/14	24	46,700	55,760	9,060	772,564	6.3	
03/21/14	24	55,760	63,390	7,630	780,194	5.3	
03/24/14	72	63,390	96,110	32,720	812,914	7.6	
03/25/14	24	96,110	107,450	11,340	824,254	7.9	
03/26/14	24	107,450	116,401	8,951	833,205	6.2	Well Taken Offline

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-2)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
03/03/14	72	14,717	43,855	29,138	1,296,224	6.7	
03/04/14	24	43,855	50,452	6,597	1,302,821	4.6	
03/05/14	24	50,452	61,014	10,562	1,313,383	7.3	
03/06/14	24	61,014	71,934	10,920	1,324,303	7.6	Well Taken Offline for Excavation
03/27/14	8	71,934	74,639	2,705	1,327,008	5.6	Well Online
03/28/14	24	74,639	85,721	11,082	1,338,090	7.7	
03/31/14	72	85,721	123,254	37,533	1,375,623	8.7	
04/01/14	24	0	17,708	17,708	1,393,331	12.3	Flowmeter Reset
04/02/14	24	17,708	25,981	8,273	1,401,604	5.7	
04/03/14	24	25,981	32,617	6,636	1,408,240	4.6	
04/04/14	24	32,617	40,149	7,532	1,415,772	5.2	
04/07/14	72	40,149	67,243	27,094	1,442,866	6.3	
04/08/14	24	67,243	74,368	7,125	1,449,991	4.9	
04/09/14	24	74,368	81,094	6,726	1,456,717	4.7	
04/10/14	24	81,094	88,044	6,950	1,463,667	4.8	
04/11/14	24	88,044	98,156	10,112	1,473,779	7.0	
04/14/14	72	98,156	129,352	31,196	1,504,975	7.2	
04/15/14	24	0	19,074	19,074	1,524,049	13.2	Flowmeter Reset
04/16/14	24	19,074	29,017	9,943	1,533,993	6.9	
04/17/14	24	29,017	39,400	10,383	1,544,376	7.2	
04/18/14	24	39,400	41,632	2,232	1,546,608	1.6	
04/21/14	72	41,632	48,331	6,699	1,553,307	1.6	
04/22/14	24	48,331	50,392	2,061	1,555,368	1.4	
04/23/14	24	50,392	59,341	8,949	1,564,317	6.2	
04/24/14	24	59,341	67,205	7,864	1,572,181	5.5	Well Taken Offline

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
04/25/14	24	0	6,883	6,883	6,883	4.8	
04/28/14	72	6,883	30,393	23,510	30,393	5.4	
04/29/14	24	30,393	37,639	7,246	37,639	5.0	
04/30/14	24	37,639	43,518	5,879	43,518	4.1	

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) DAILY	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
03/04/14	8.0	4,970.69	5,064.73	94,040	5,064,280	PVSC Compliance Sample collected
03/05/14	8.0	5,064.73	5,170.07	105,340	5,169,620	
03/10/14	8.0	5,170.07	5,299.77	129,700	5,299,320	
03/11/14	8.0	5,299.77	5,368.86	69,090	5,368,410	
03/12/14	8.0	5,368.86	5,433.63	64,770	5,433,180	
03/17/14	8.0	5,433.63	5,590.00	156,370	5,589,550	
03/18/14	8.0	5,590.00	5,690.00	100,000	5,689,550	
03/19/14	8.0	5,690.00	5,849.46	159,460	5,849,010	
03/20/14	8.0	5,849.46	5,912.45	62,990	5,912,000	
03/21/14	8.0	5,912.45	6,024.94	112,490	6,024,490	
03/24/14	8.0	6,024.94	6,125.64	100,700	6,125,190	
03/25/14	8.0	6,125.64	6,175.64	50,000	6,175,190	
03/26/14	8.0	6,175.64	6,248.89	73,250	6,248,440	
03/27/14	8.0	6,248.89	6,310.44	61,550	6,309,990	
03/28/14	8.0	6,310.44	6,380.45	70,010	6,380,000	
03/31/14	8.0	6,380.45	6,575.85	195,400	6,575,400	
04/01/14	8.0	6,575.85	6,717.81	141,960	6,717,360	
04/02/14	8.0	6,717.81	6,951.38	233,570	6,950,930	
04/03/14	8.0	6,951.38	7,050.47	99,090	7,050,020	PVSC Compliance Sample collected
04/04/14	8.0	7,050.47	7,173.74	123,270	7,173,290	
04/05/14	8.0	7,173.74	7,250.14	76,400	7,249,690	
04/08/14	8.0	7,250.14	7,452.80	202,660	7,452,350	
04/09/14	8.0	7,452.80	7,538.06	85,260	7,537,610	
04/10/14	8.0	7,538.06	7,687.85	149,790	7,687,400	
04/11/14	8.0	7,687.85	7,810.35	122,500	7,809,900	
04/14/14	6.0	7,810.35	7,883.23	72,880	7,882,780	
04/15/14	6.0	7,883.23	7,948.35	65,120	7,947,900	
04/16/14	8.0	7,948.35	8,036.99	88,640	8,036,540	
04/17/14	8.0	8,036.99	8,120.52	83,530	8,120,070	
04/18/14	8.0	8,120.52	8,241.81	121,290	8,241,360	
04/19/14	8.0	8,241.81	8,416.26	174,450	8,415,810	
04/21/14	8.0	8,416.26	8,503.96	87,700	8,503,510	
04/22/14	8.0	8,503.96	8,649.60	145,640	8,649,150	
04/23/14	8.0	8,649.60	8,775.22	125,620	8,774,770	
04/24/14	8.0	8,775.22	8,877.66	102,440	8,877,210	
04/25/14	8.0	8,877.66	8,949.22	71,560	8,948,770	
04/26/14	8.0	8,949.22	9,030.24	81,020	9,029,790	
04/28/14	8.0	9,030.24	9,133.26	103,020	9,132,810	
04/29/14	8.0	9,133.26	9,211.40	78,140	9,210,950	
04/30/14	8.0	9,211.40	9,371.72	160,320	9,371,270	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

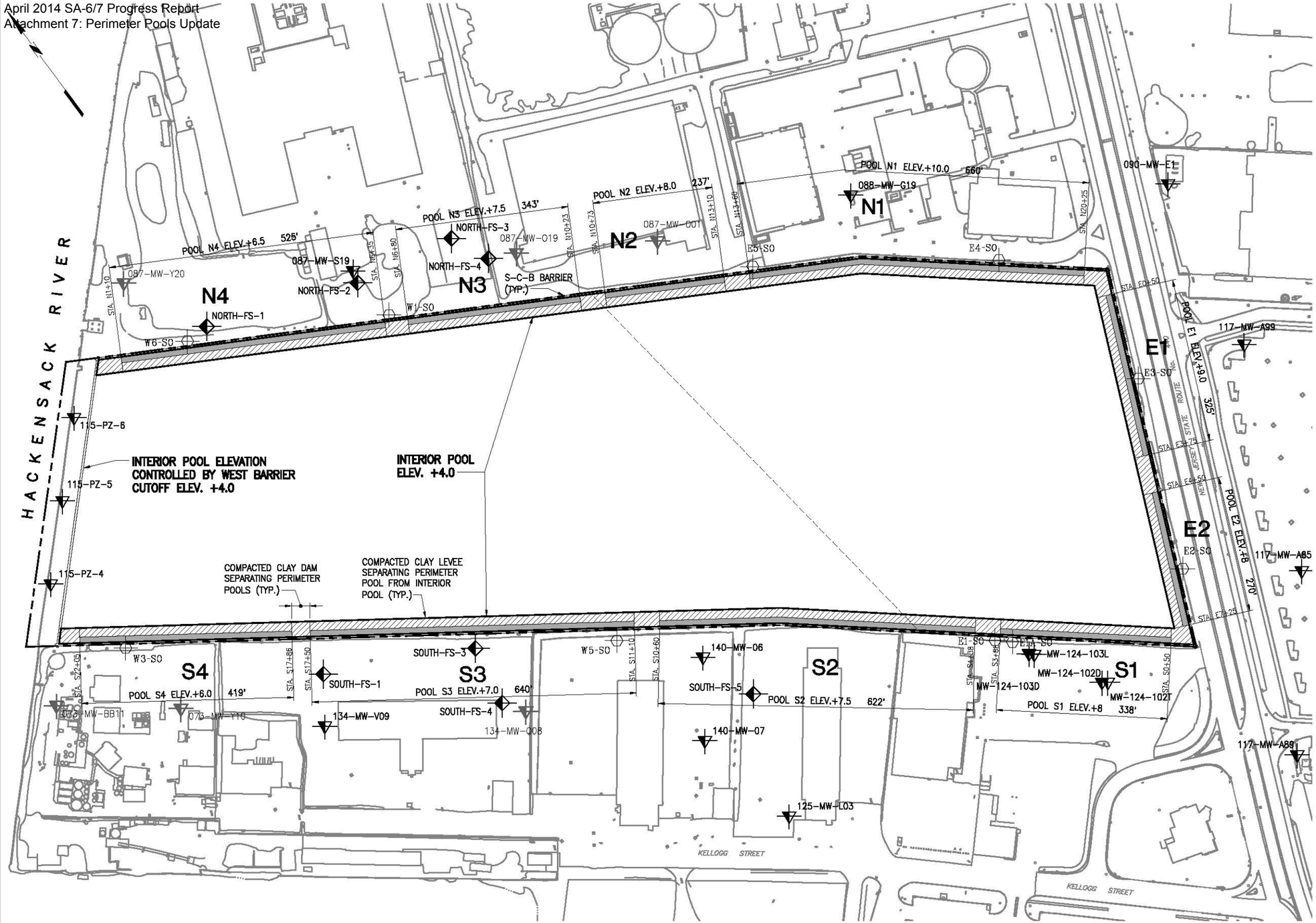
Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
1-7	<20	7-20-a	500	124-7-20-a1	10/31/2013	14:20	5.8	Yes		
				124-7-20-a2	10/31/2013	14:25	7.8	Yes		
				124-7-20-a3	10/31/2013	14:30	4.6	Yes		
				124-7-20-a4	10/31/2013	14:35	4.7	Yes		
7-12	<20	12-20-a	500	124-12-20-a1	11/26/2013	15:00	26.1		Yes	
				124-12-20-a2	11/26/2013	15:05	2.9	Yes		
				124-12-20-a3	11/26/2013	15:10	7.8	Yes		
				124-12-20-a4	11/26/2013	15:15	23.2		Yes	
7-12	<20	12-20-b	500	124-12-20-b1	11/26/2013	15:20	4.3	Yes		
				124-12-20-b2	11/26/2013	15:25	2.5	Yes		
				124-12-20-b3	11/26/2013	15:30	5.1	Yes		
				124-12-20-b4	11/26/2013	15:35	5.8	Yes		
12-22	<20	22-20-a	600	124-22-20-a1	12/13/2013	13:30	5.5	Yes		
				124-22-20-a2	12/13/2013	13:35	11.9	Yes		
				124-22-20-a3	12/13/2013	13:40	1.3	Yes		
				124-22-20-a4	12/13/2013	13:45	2.3	Yes		
12-25	<20	25-20-a	1000	124-25-20-a1	12/23/2013	9:00	1.6	Yes		
				124-25-20-a2	12/23/2013	9:05	1.7	Yes		
				124-25-20-a3	12/23/2013	9:10	10.8	Yes		
				124-25-20-a4	12/23/2013	9:15	17.4	Yes		
20-29	<20	29-20-a	500	124-29-20-a1	1/13/2014	14:00	0.31	Yes		
				124-29-20-a2	1/13/2014	14:05	0.84	Yes		
				124-29-20-a3	1/13/2014	14:10	3.4	Yes		
				124-29-20-a4	1/13/2014	14:15	1.9	Yes		
30-41	>1000	41-1000-a	750	124-41-1000-a1	2/25/2014	12:40	1,750			Yes
				124-41-1000-a2	2/25/2014	12:45	3,690			Yes
				124-41-1000-a3	2/25/2014	12:50	3,410			Yes
				124-41-1000-a4	2/25/2014	12:55	453		Yes	
30-41	>1000	41-1000-b	750	124-41-1000-b1	2/25/2014	13:00	490		Yes	
				124-41-1000-b2	2/25/2014	13:05	1,110			Yes
				124-41-1000-b3	2/25/2014	13:10	669		Yes	
				124-41-1000-b4	2/25/2014	13:15	1,920			Yes
37-46	<20	46-20-a	750	124-46-20-a1	3/12/2014	14:00	3.2	Yes		
				124-46-20-a2	3/12/2014	14:05	2.2	Yes		
				124-46-20-a3	3/12/2014	14:10	3.9	Yes		
				124-46-20-a4	3/12/2014	14:15	2	Yes		
37-46	<20	46-20-b	750	124-46-20-b1	3/12/2014	14:20	2.9	Yes		
				124-46-20-b2	3/12/2014	14:25	3.8	Yes		
				124-46-20-b3	3/12/2014	14:30	2.2	Yes		
				124-46-20-b4	3/12/2014	14:35	2.6	Yes		
41-49	>1000	124-49-1000-a	1000	124-49-1000-a1	3/24/2014	9:15	3490			Yes
				124-49-1000-a2	3/24/2014	9:20	3850			Yes
				124-49-1000-a3	3/24/2014	9:25	2580			Yes
				124-49-1000-a4	3/24/2014	9:30	5570			Yes
41-49	>1000	124-49-1000-b	1000	124-49-1000-b1	3/24/2014	9:35	8840			Yes
				124-49-1000-b2	3/24/2014	9:40	2340			Yes
				124-49-1000-b3	3/24/2014	9:45	2		Yes	
				124-49-1000-b4	3/24/2014	9:50	4250			Yes
47-57	<20	124-57-20-a	860	124-57-20-a1	4/4/2014	12:30	17.0	Yes		
				124-57-20-a2	4/4/2014	12:35	3.8	Yes		
				124-57-20-a3	4/4/2014	12:40	4.2	Yes		
				124-57-20-a4	4/4/2014	12:45	<0.52	Yes		

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
47-57	<20	124-57-20-b	860	124-57-20-b1	4/4/2014	12:50	4.1	Yes		
				124-57-20-b2	4/4/2014	12:55	14.2	Yes		
				124-57-20-b3	4/4/2014	13:00	15.7	Yes		
				124-57-20-b4	4/4/2014	13:05	<0.49	Yes		
47-57	<20	124-57-20-c	860	124-57-20-c1	4/4/2014	13:10	10.3	Yes		
				124-57-20-c2	4/4/2014	13:15	11.6	Yes		
				124-57-20-c3	4/4/2014	13:20	8.9	Yes		
				124-57-20-c4	4/4/2014	13:25	41.4		Yes	
49-59	>1000	124-59-1000-a	800	124-59-1000-a1	4/11/2014	8:00	11,000			Yes
				124-59-1000-a2	4/11/2014	8:05	26,900			Yes
				124-59-1000-a3	4/11/2014	8:10	11,900			Yes
				124-59-1000-a4	4/11/2014	8:15	32,700			Yes
57,58 144-152	<20	124-152-20-a	800	124-152-20-a1	4/23/2014	15:00	0.73	Yes		
				124-152-20-a2	4/23/2014	15:05	0.76	Yes		
				124-152-20-a3	4/23/2014	15:10	0.42	Yes		
				124-152-20-a4	4/23/2014	15:15	1.2	Yes		

Notes:
**Material currently stockpiled.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
05-07-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

May 07, 2014 at 4:13pm
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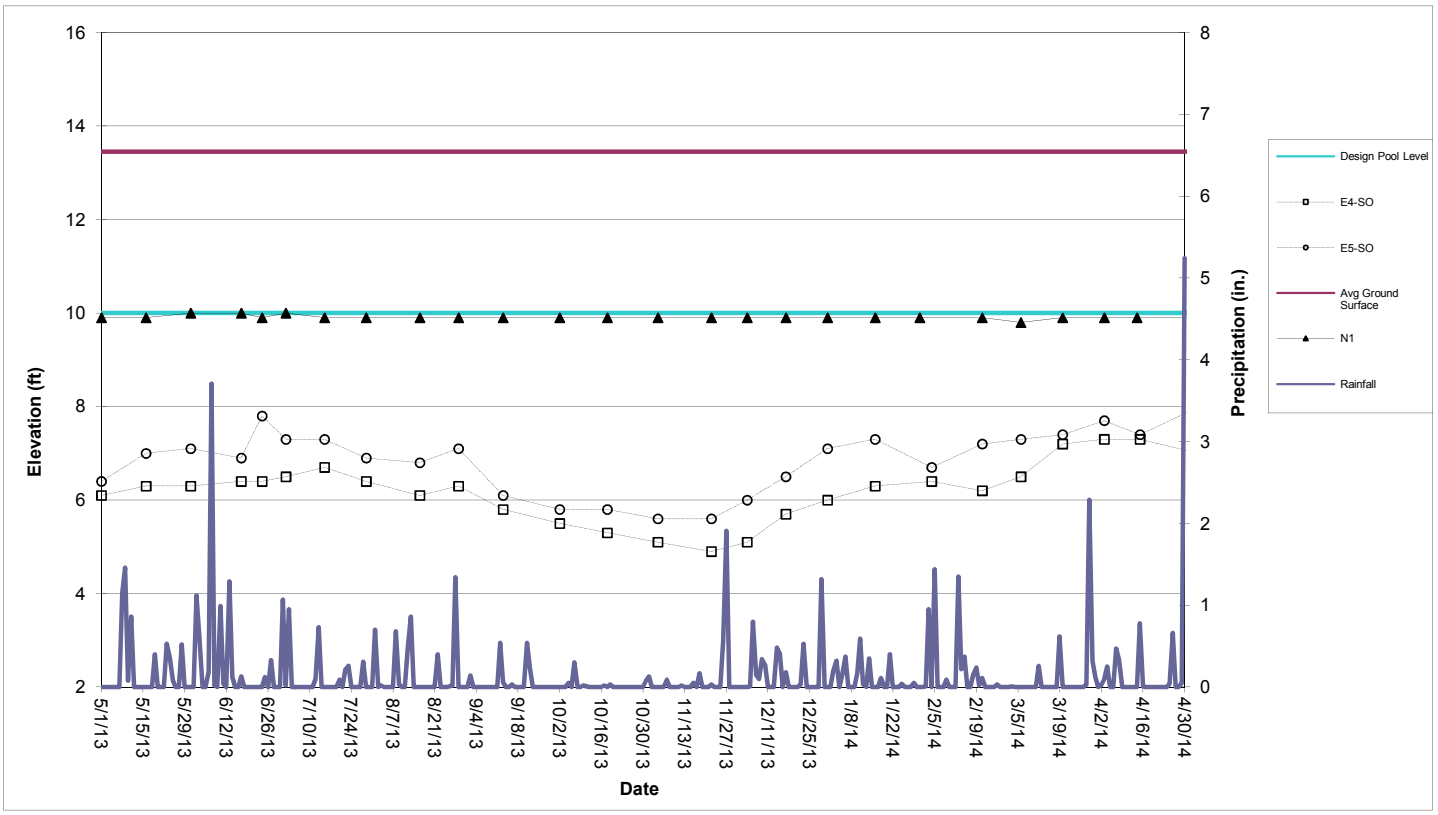
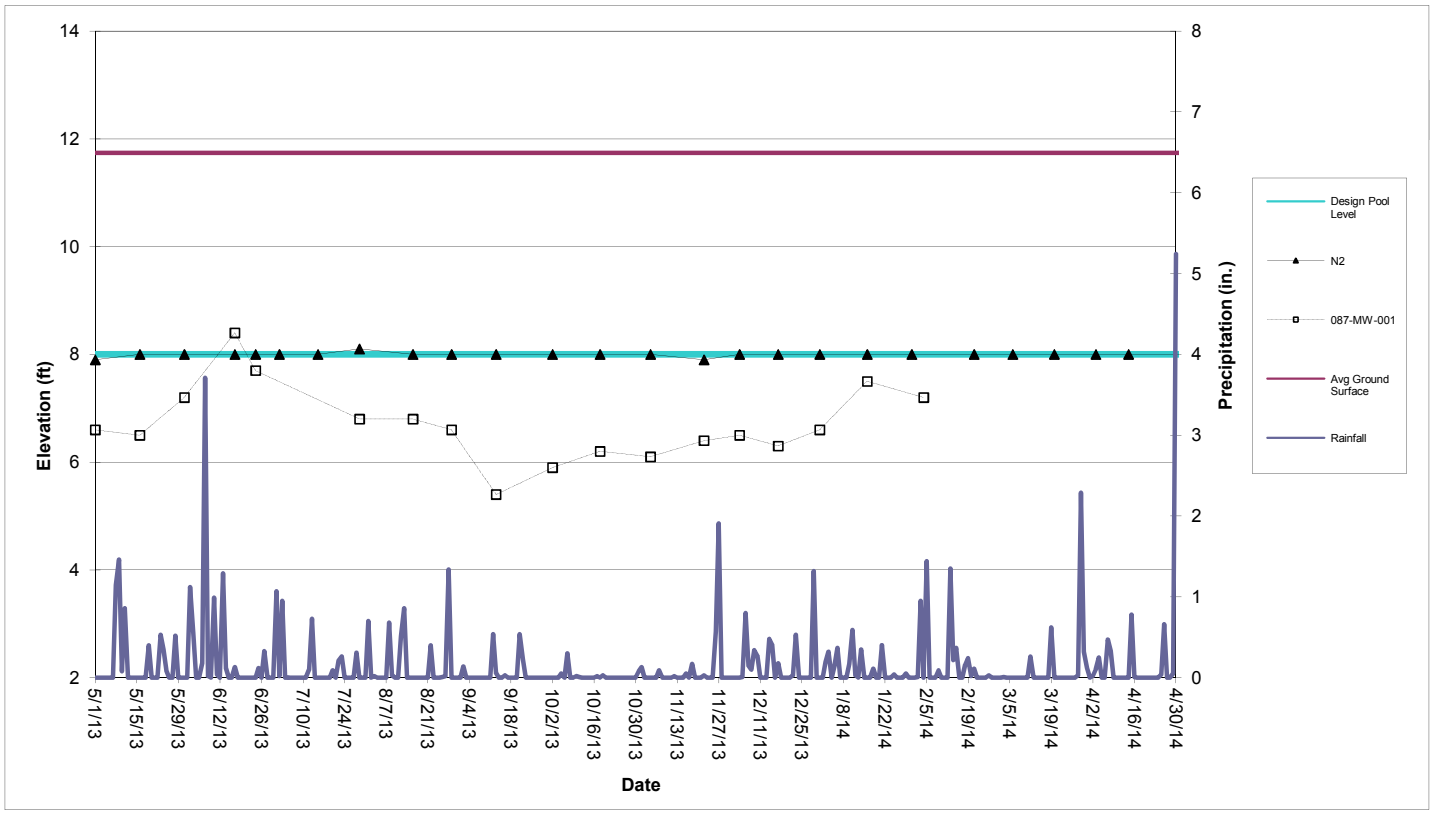
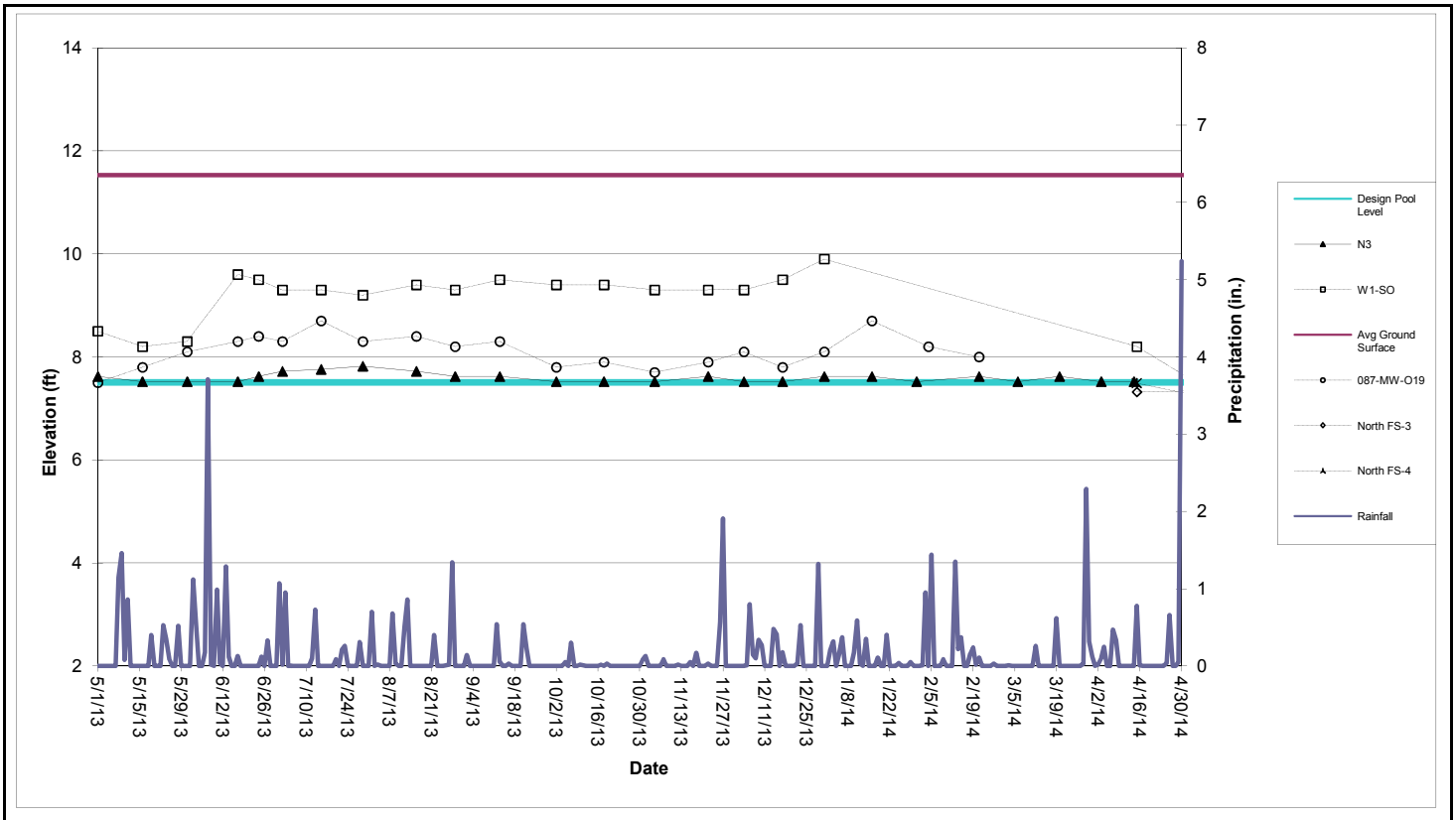
bboscaino



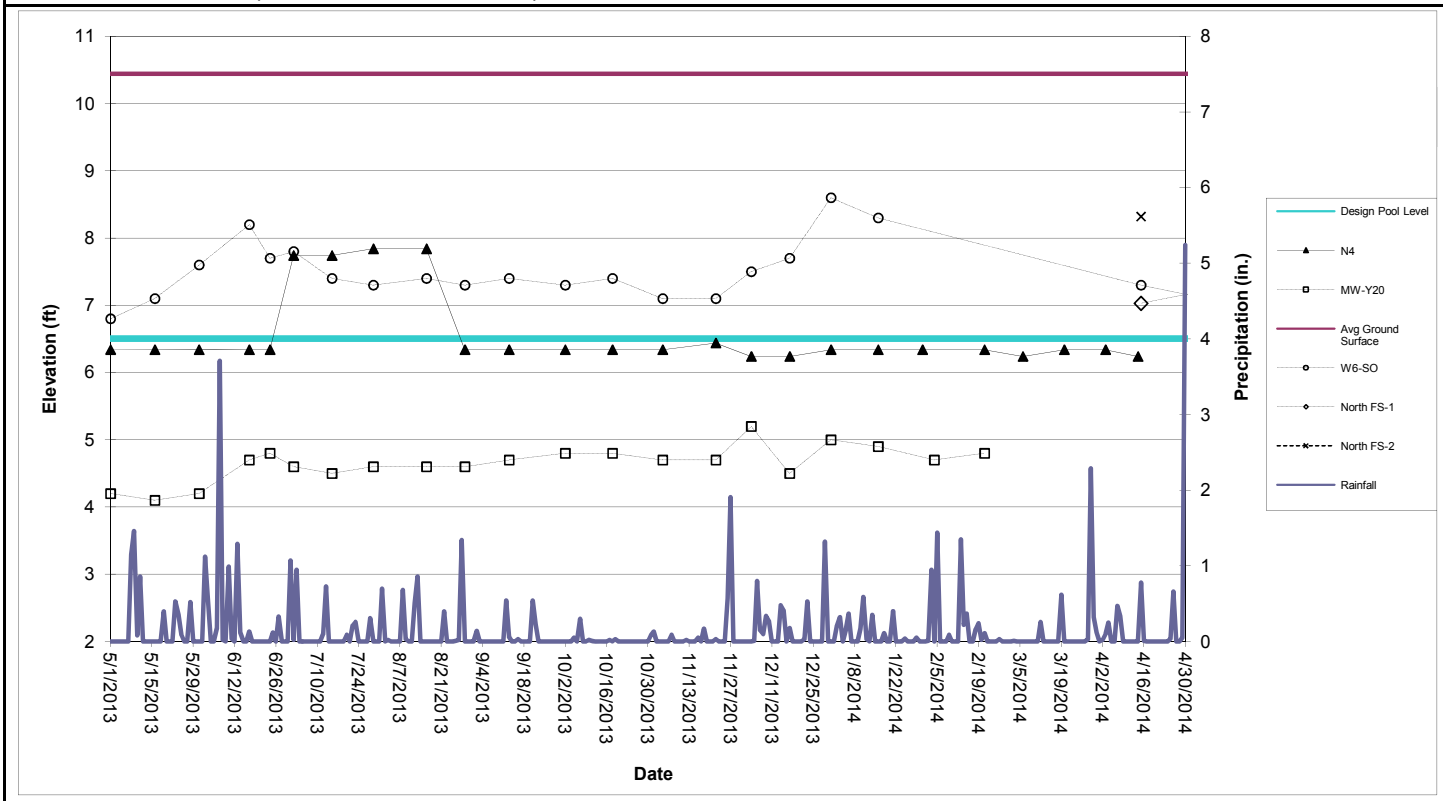
Perimeter Pool N1 (Sta. N13+60 to N20+25)



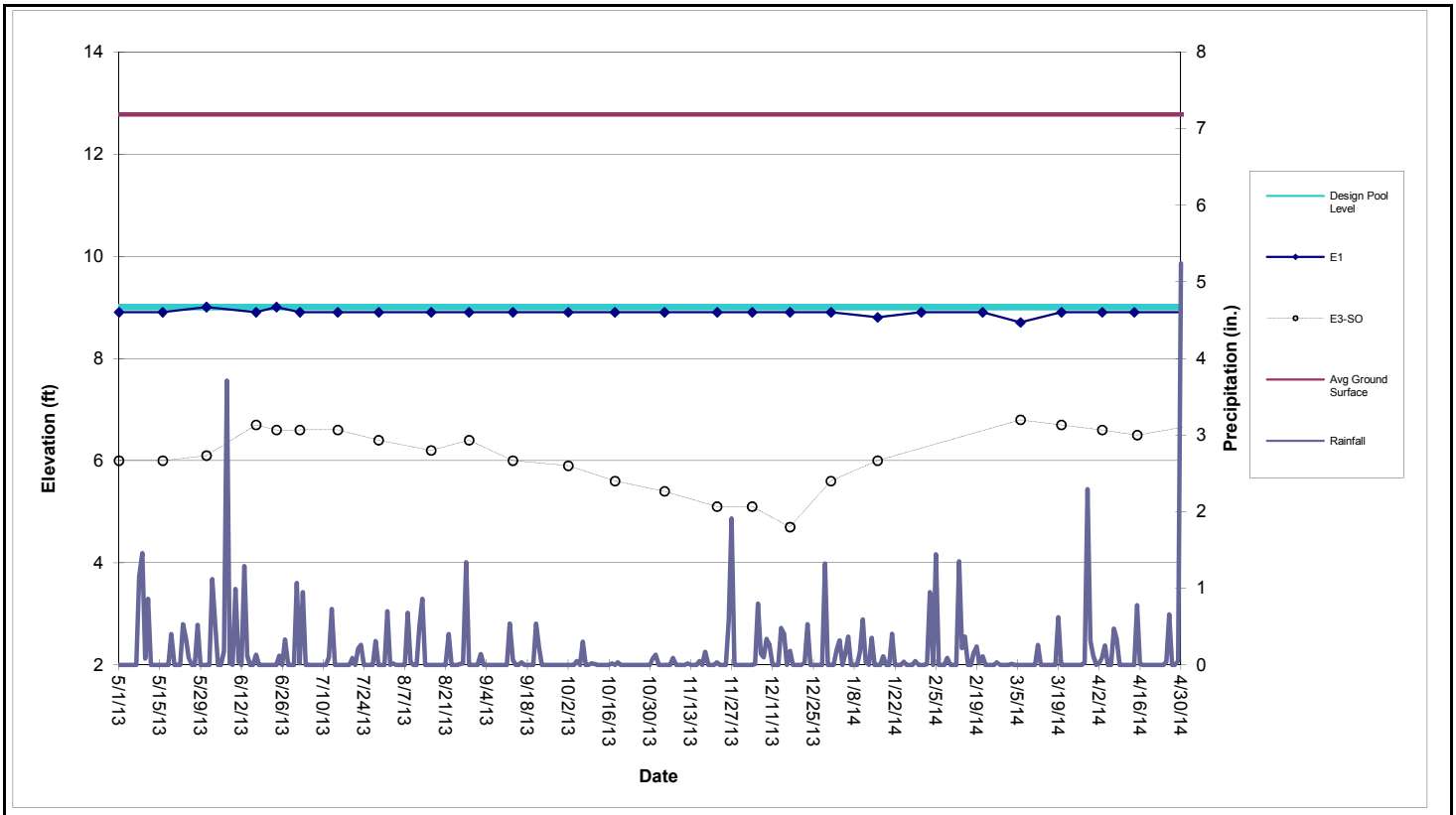
Perimeter Pool N2 (Sta. N10+73 to N13+10)



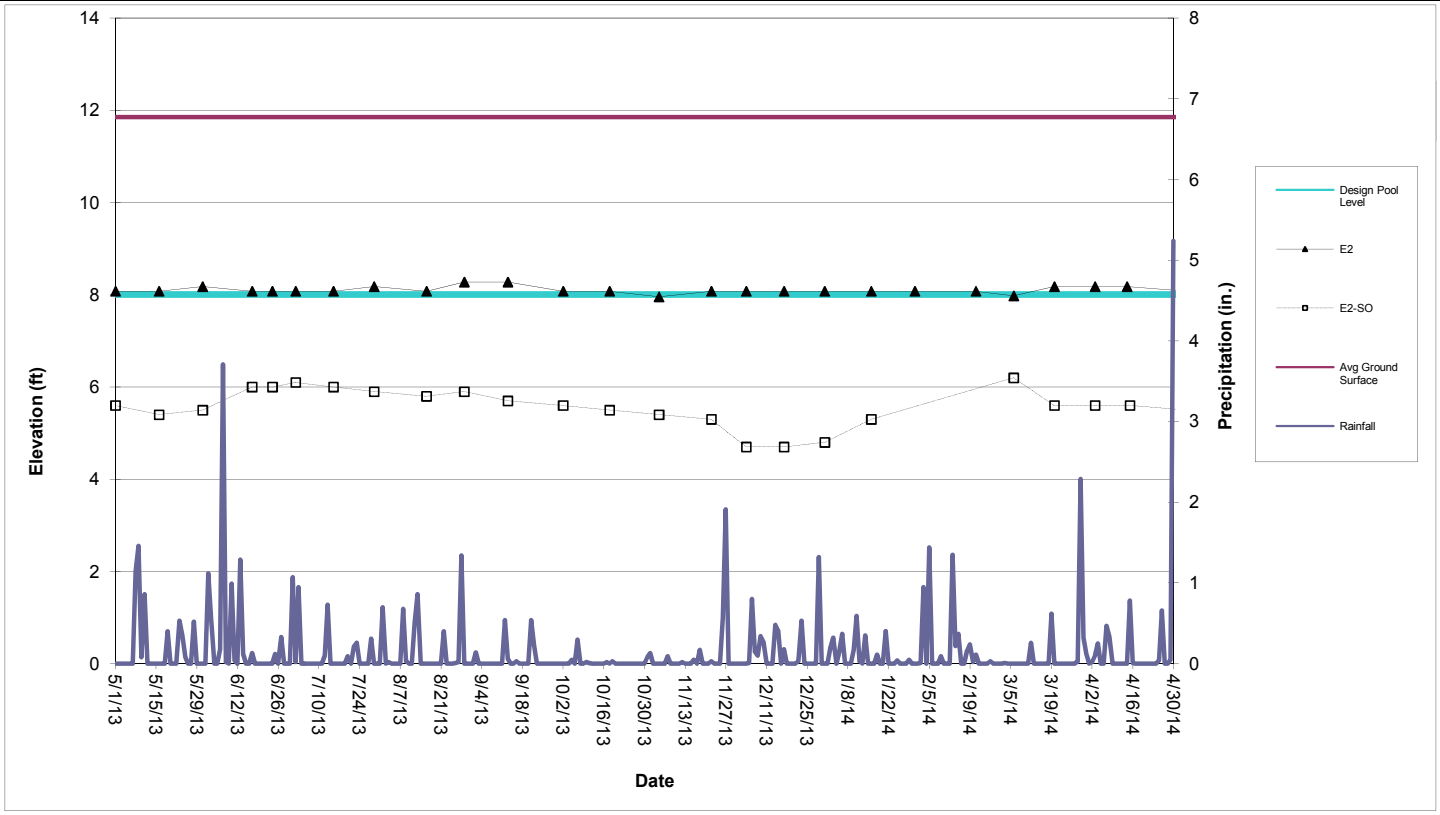
Perimeter Pool N3 (Sta. N6+80 to N10+23)



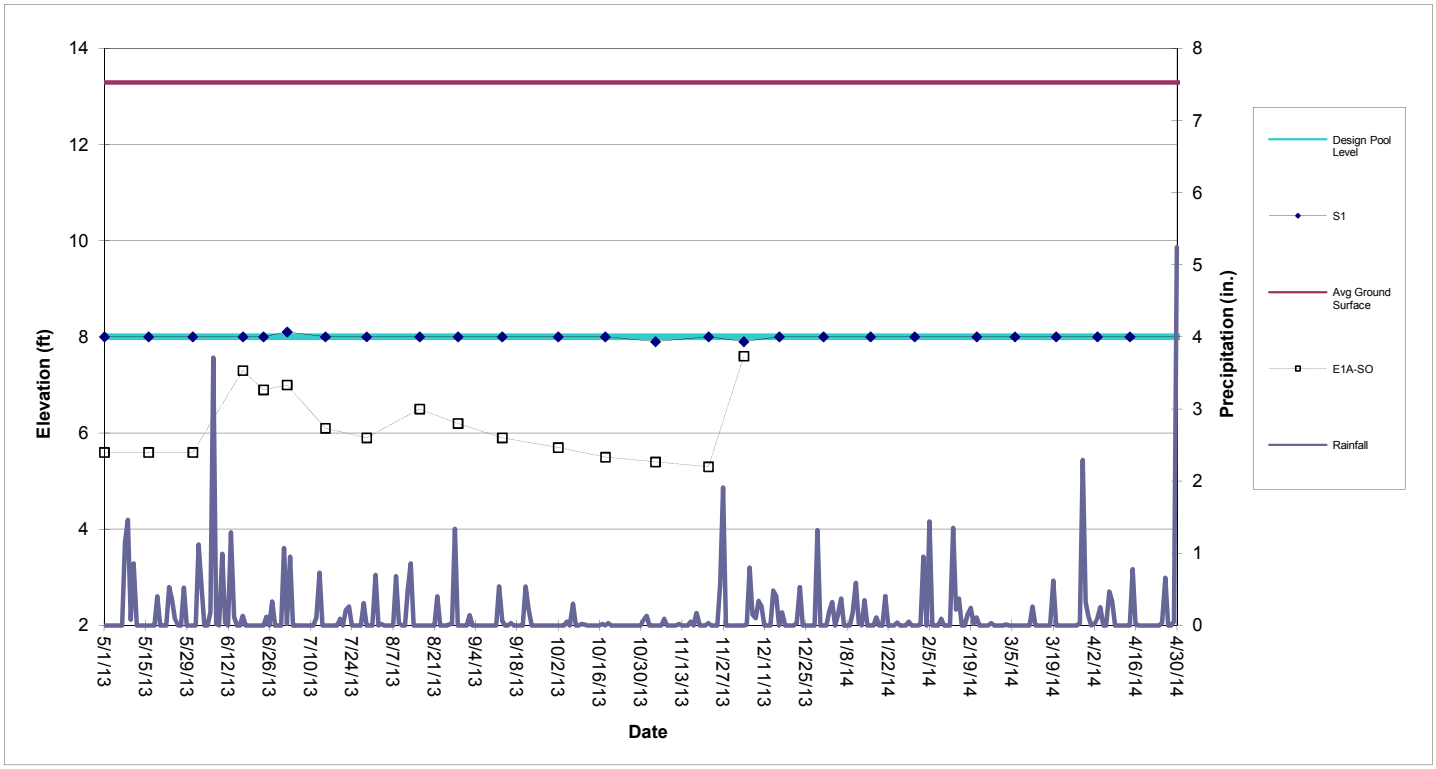
Perimeter Pool N4 (Sta. N6+80 to N10+23)



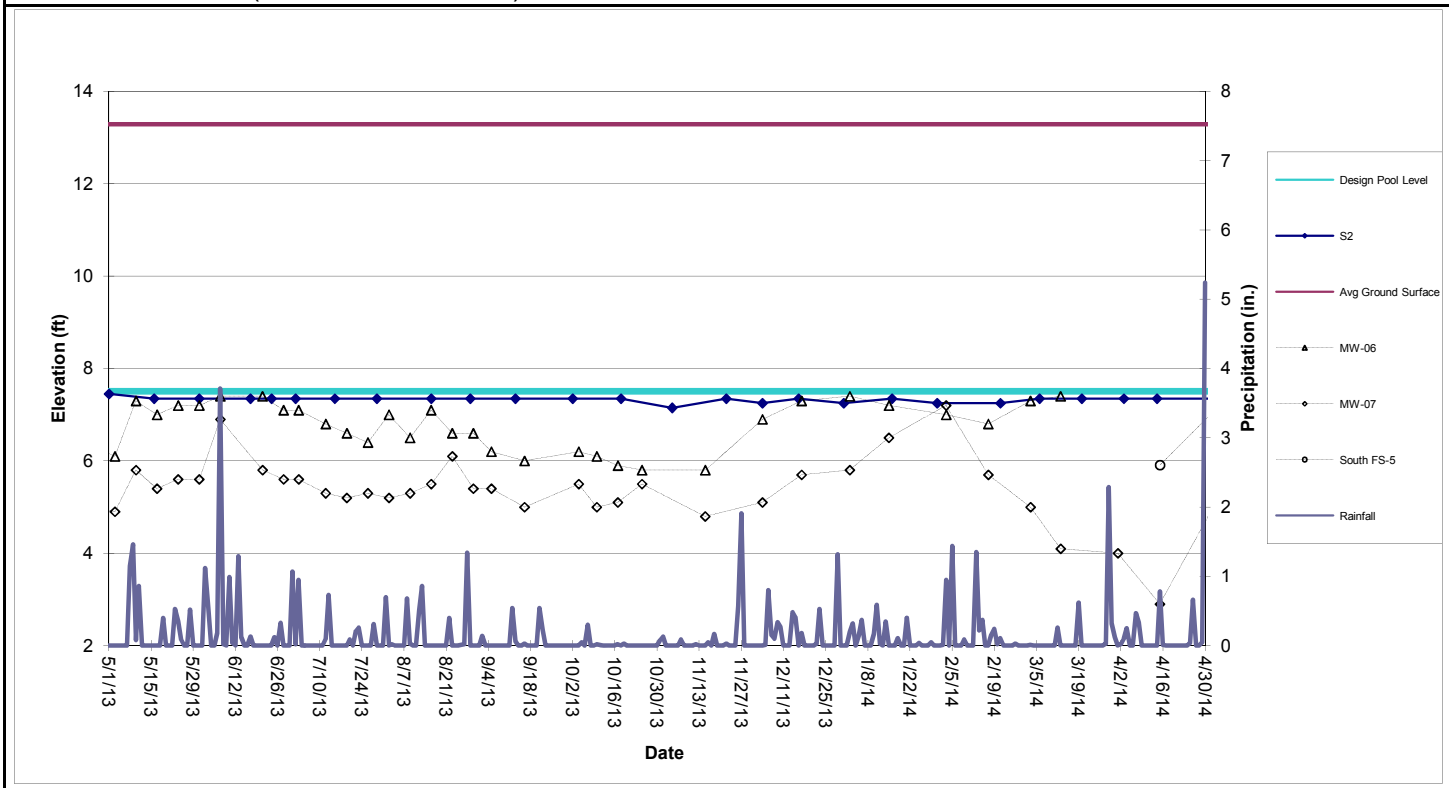
Perimeter Pool E1 (Sta. E0+50 to E3+75)



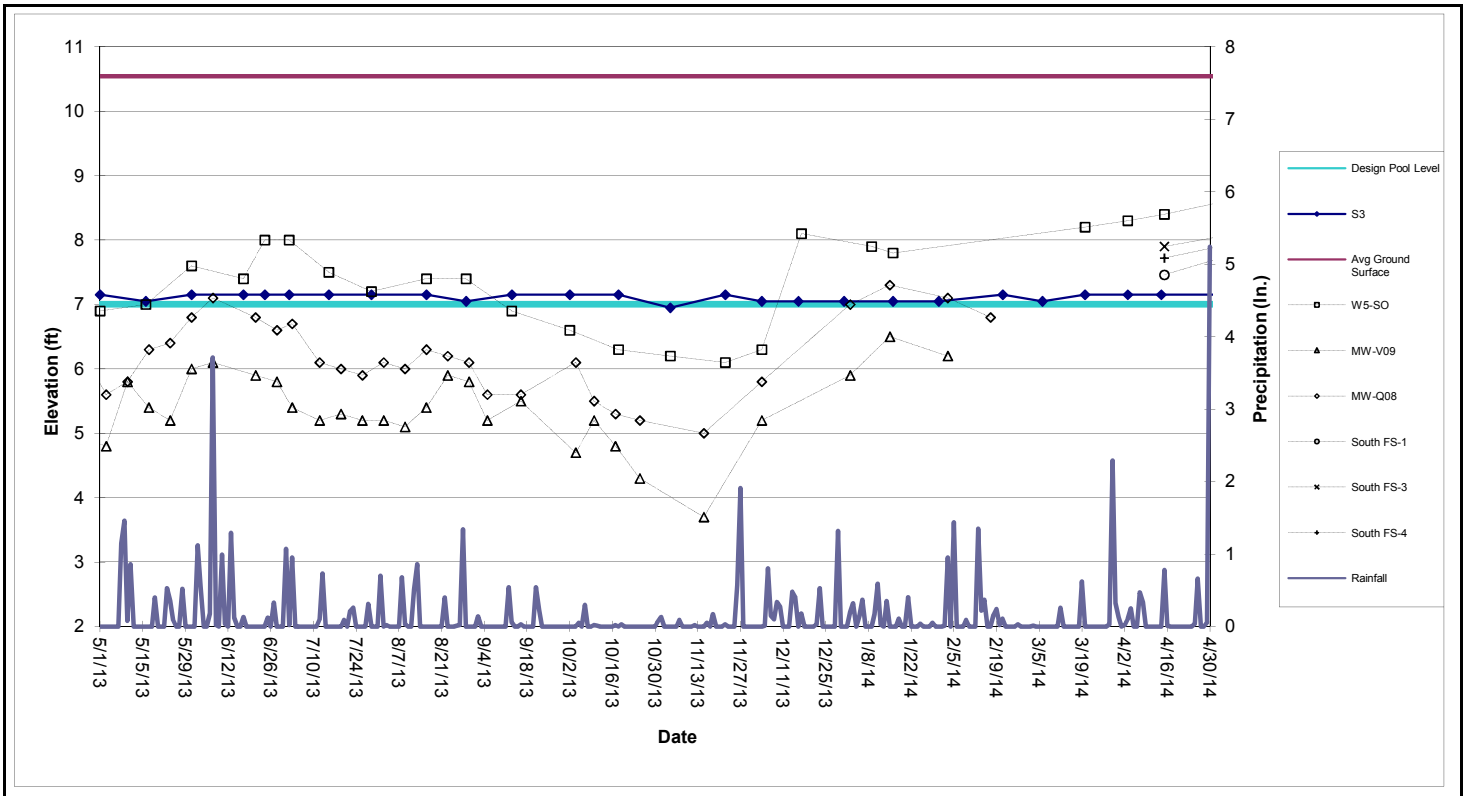
Perimeter Pool E2 (Sta. E4+50 to E7+25)



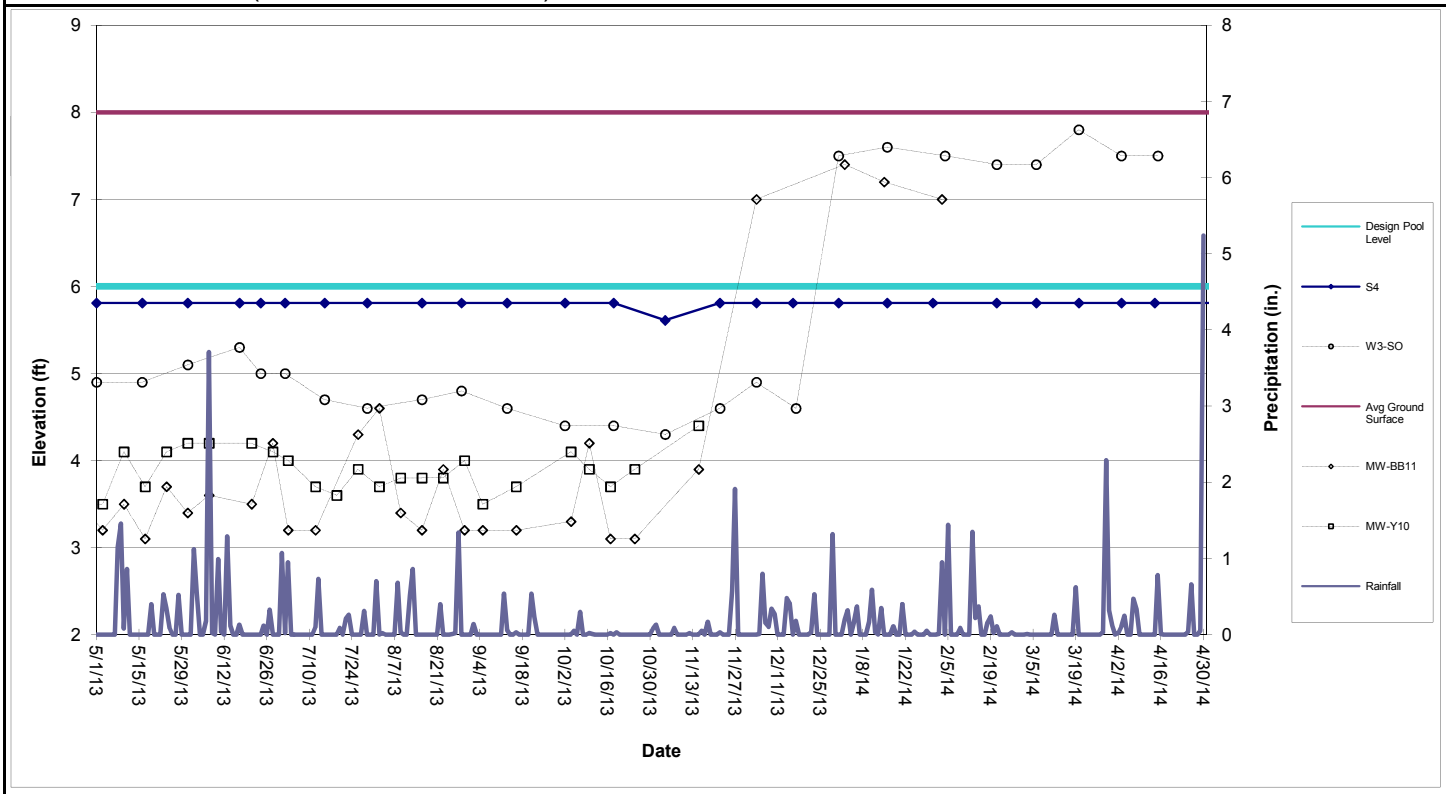
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3				7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells and perimeter pool risers are temporarily inaccessible:
134-MW-V09, N3W, N4E, N4W, W3-SO, E1A-SO

Attachment 8: Quality and Level Data in GWET Wells

- Summary of Groundwater Quality Data from GWET Wells
- Quarterly Water Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Table 1
Summary of Groundwater Quality Data from GWET Wells

Honeywell

Parameter	3-Jun-13			20-Sep-13			3-Dec-13			1-Apr-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.9	5.5	ND	3.1	4.4	ND	3.4	5.2	ND	2.9	4.0	ND
Carbon Tetrachloride	5.8	3.5	1.9	4.6	3.1	1.4	5.8	4.8	2.5	4.4J	2.8	1.9
Chloroform	30.3	27.2	ND	27.4	17.9	ND	31.0	16.8	ND	26.5	12.0	ND
1,1-Dichloroethene	0.82J	ND	ND	0.55	ND	ND	0.07	ND	ND	0.42J	ND	ND
cis-1,2-Dichloroethene	173	17.0	ND	148	13.8	ND	135	12.3	ND	96	8.1	ND
trans-1,2-Dichloroethene	5.8	0.47	ND	4.5	0.76	ND	4.9	0.35	ND	3.4	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	118	63.3	ND	95.1	52.6	ND	113.0	63.0	ND	91.3	43.4	ND
1,1-Dichloroethane	0.47	ND	ND	0.45	ND	ND	0.47	ND	ND	0.45J	ND	ND
Methylene chloride	1.3	0.76	ND	0.84	ND	ND	0.87	0.31	ND	0.77J	ND	ND
Vinyl chloride	10.6	4.4	ND	12.6	ND	ND	14.2	4.8	ND	13.5	2.7	ND
1,2-Dichlorobenzene	0.81	ND	ND	0.66	ND	ND	0.72	ND	ND	0.72J	ND	ND
Chlorobenzene	0.48	ND	ND	0.38	ND	ND	0.39	ND	ND	0.38J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	34,000	13,000	15,700	38,200	11,400	16,700	39,600	11,300	16,500	33,400	12,500	15,100
Total Chromium	48,500	28,000	21,000	39,900	13,500	17,000	34,200	10,600	14,900	36,900	16,400	16,600

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

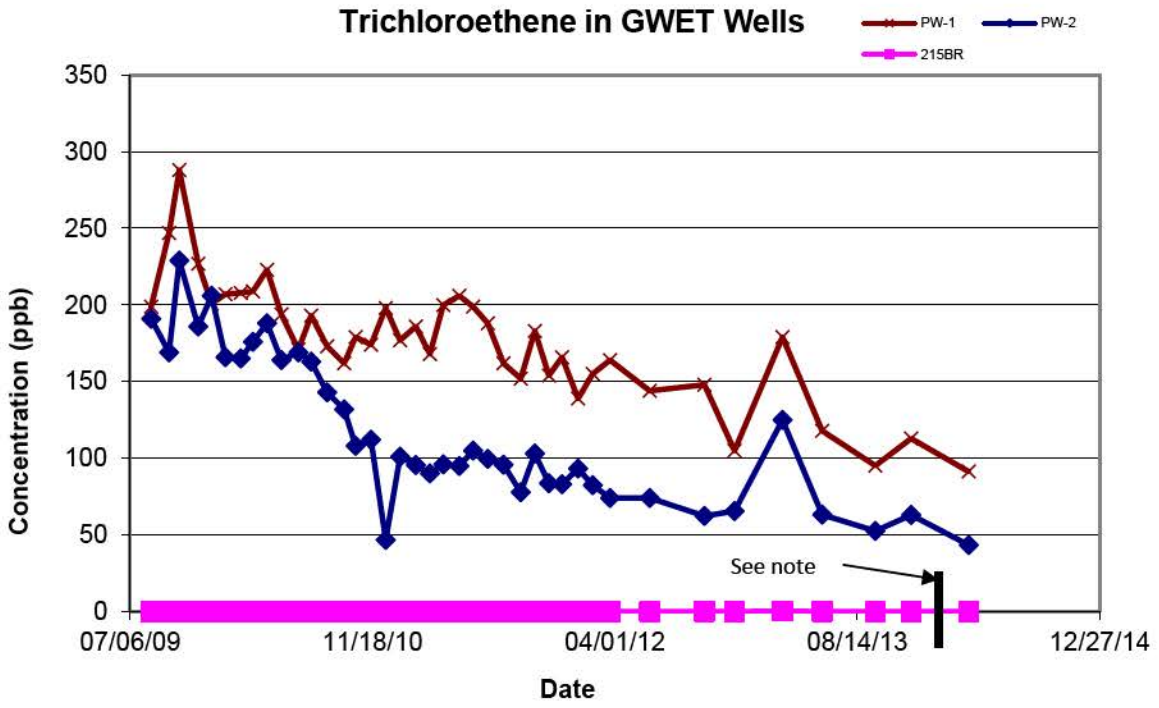
Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.

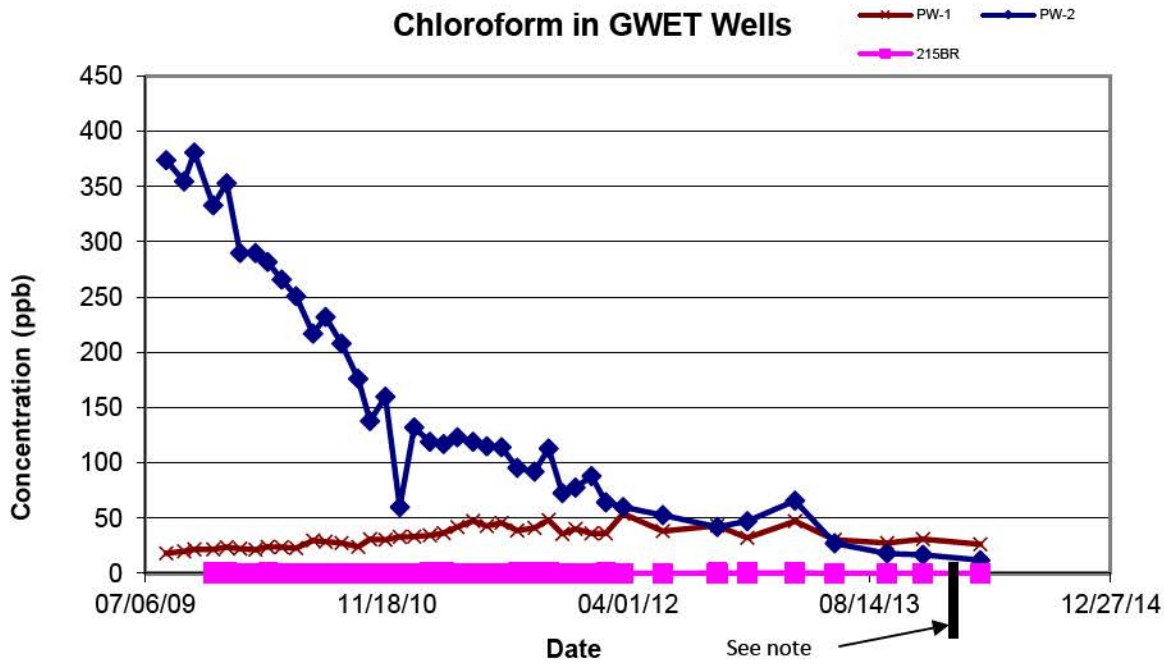
TABLE 2
Quarterly Water Levels
March 2014

Honeywell

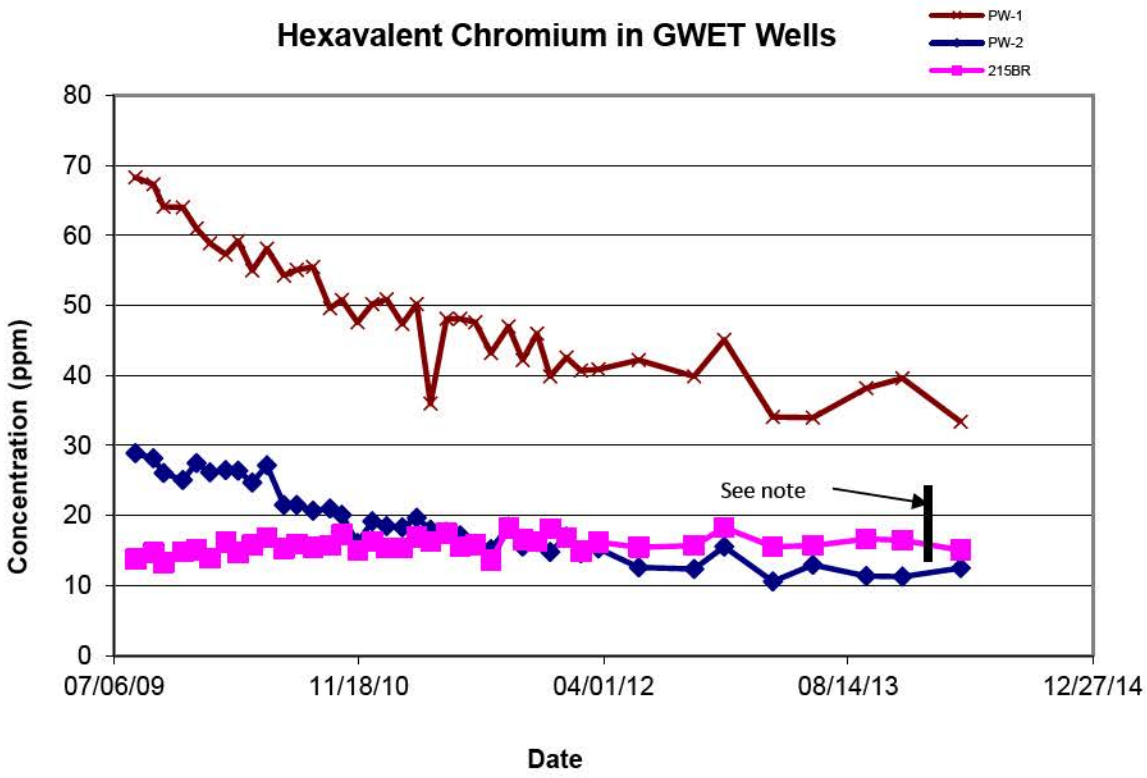
Wells Date: March 13, 2014	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
087-MW-25D	18.17	12.62	5.55	GW Elevations are not corrected for tidal influence
087-MW-25T	18.19	16.50	1.69	
087-MW-35	18.29	16.66	1.63	
087-OBS-1D	15.13	N/A	N/A	Well not accessible
087-OBS-1L	15.27	N/A	N/A	Well not accessible
087-OBS-1T	15.23	N/A	N/A	Well not accessible
087-PW-2	13.02	10.82	2.20	Well off line for maintanence
087-MW-08	12.98	10.78	2.20	
087-OBS-3L	12.88	10.72	2.16	
087-MW-13	12.93	10.65	2.28	
087-OBS-5D	12.72	10.68	2.04	
087-OBS-5T	12.62	11.78	0.84	
087-PW-1	12.66	33.51	-20.85	
087-MW-34	12.73	12.42	0.31	
087-OBS-2D	12.68	13.55	-0.87	
SA6-MW-AA1D	19.36	17.13	2.23	
SA6-MW-AA1T	15.31	13.33	1.98	
SA6-MW-5BR-1	17.06	14.85	2.21	
087-OBS-4T	11.6	10.07	1.53	
087-MW-O29D	10.32	8.08	2.24	
087-MW-O29T	9.98	7.48	2.50	
087-MW-03	13.77	N/A	N/A	Well not accessible
087-MW-02	12.57	N/A	N/A	
115-MW-203BR*	8.7	N/A	N/A	
073-MW-1BR-1	7.58	8.82	-1.24	
073-MW-10BR-1	6.67	7.17	-0.50	
115-MW-215BR*	8.82	12.75	-3.93	

* Reference point elevation to be confirmed.





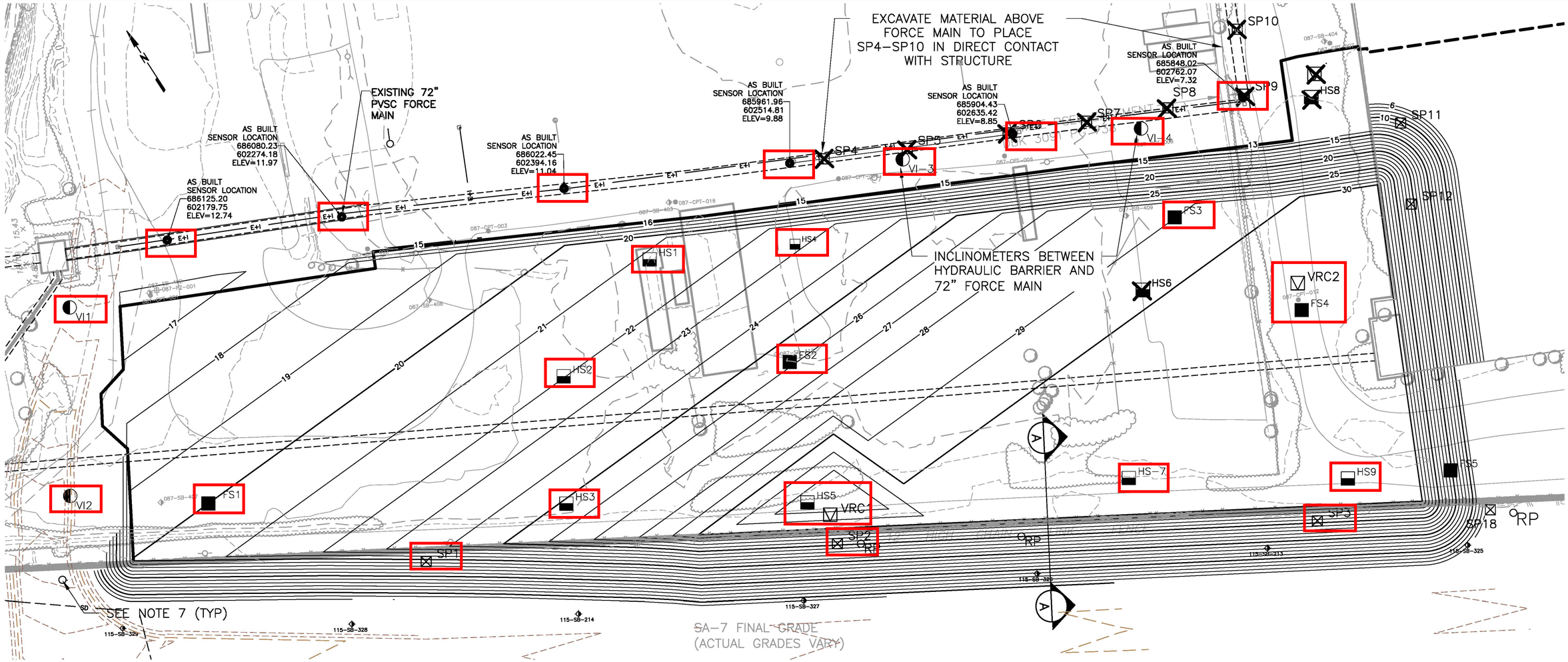
Note: Well 115-MW-203BR has been replaced with well 115-MW-215BR

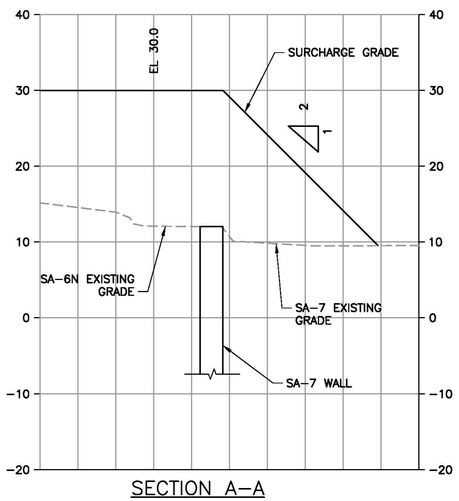


Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

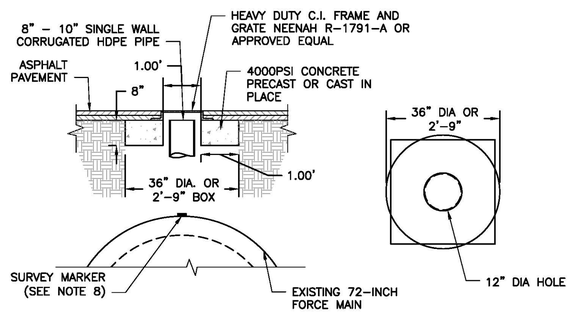
- Instrumentation Location Plan 1N
- Instrumentation Location Plan 1S





SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI–1	686123	602109
VI–2	686029	602048
VI–3	685927	602572
VI–4	685866	602701
FS1	685981	602115
FS2	685863	602451
FS3	685811	602689
FS4	685723	602723
HS1	685959	602414
HS2	685929	602333
HS3	685865	602294
HS4	685920	602491
HS5	685787	602414
~~HS6~~	~~685785~~	~~602650~~
HS7	685696	602582
~~HS8~~	~~685826~~	~~602796~~
HS9	685624	602691

SP1	685881	602205
SP2	685757	602416
SP3	685613	602662
~~SP4~~	~~685953~~	~~602533~~
~~SP5~~	~~685931~~	~~602578~~
~~SP6~~	~~685906~~	~~602634~~
~~SP7~~	~~685887~~	~~602676~~
~~SP8~~	~~685867~~	~~602721~~
~~SP9~~	~~685849~~	~~602764~~
~~SP10~~	~~685884~~	~~602781~~



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
6. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
7. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
8. AT ALL SURVEY LOCATIONS CLEAN ADEQUATELY A SUFFICIENT AREA ON THE TOP SURFACE OF THE 72 INCH FORCE MAIN TO EPOXY THE SURVEY MARKER AND ELECTRONIC EQUIPMENT.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SETUP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC
A1	ACOUSTICAL LOCATION FOR DISCUSSION PURPOSES ONLY
AS3	ACOUSTICAL/SURVEY LOCATION FOR DISCUSSION PURPOSES ONLY
X	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

Installed Instrumentation Locations

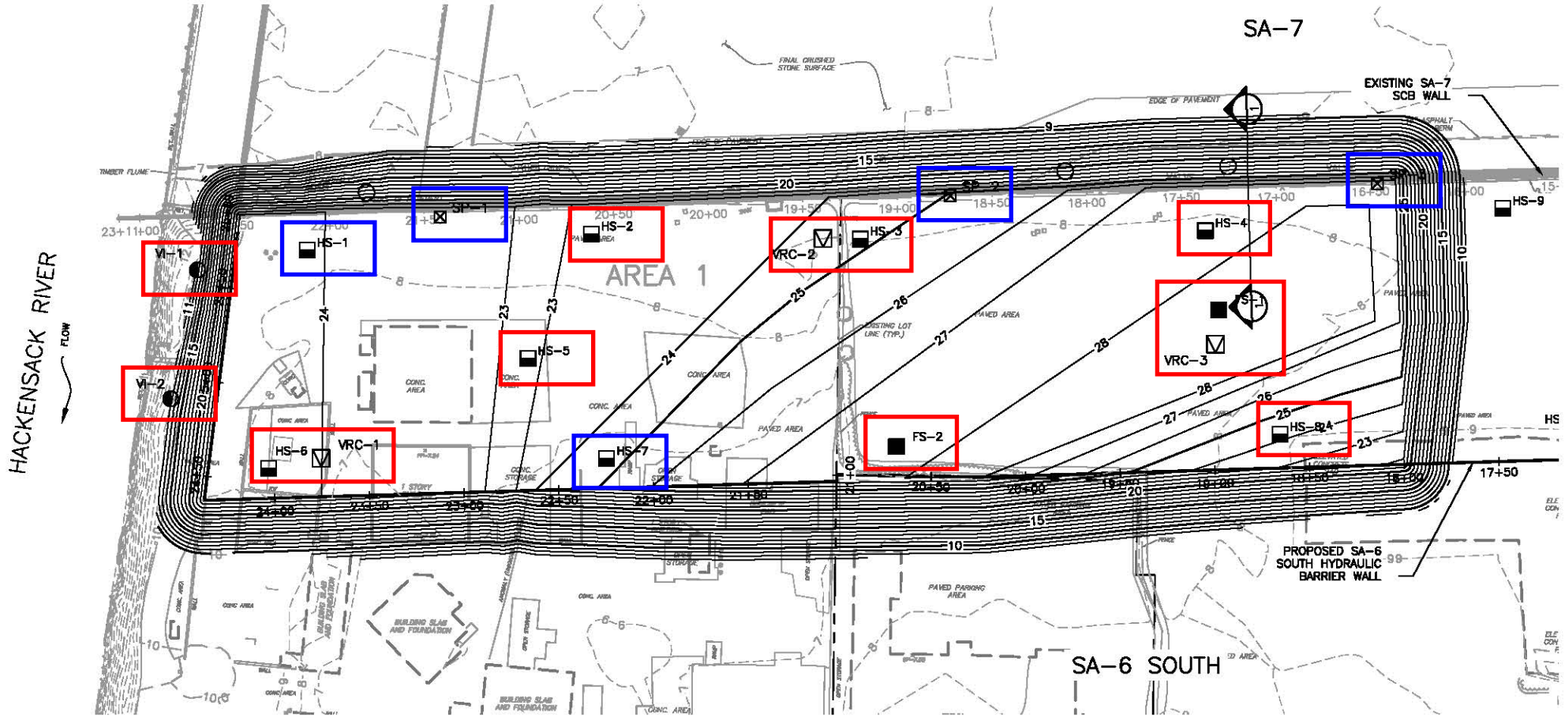
Instrumentation Locations Not Installed

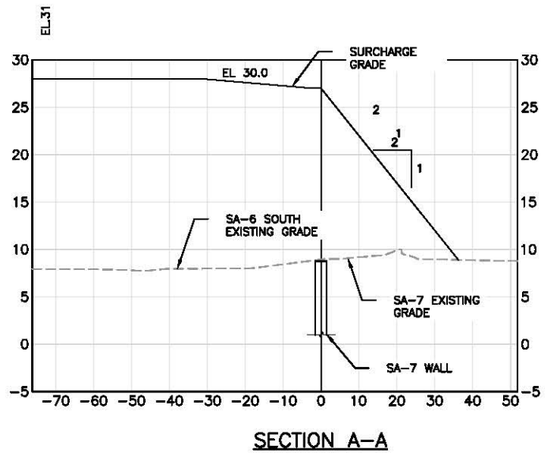
0 15 30 60
SCALE IN FEET

Prepared/Date: RJR 08/16/13
Checked/Date: AE 08/16/13

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	INSTRUMENTATION LOCATION PLAN 1N Project 3480-09-0006 Figure B1

Z:\Projects\HONEYWELL\JERSEY CITY\Dwg Design–SA6–CSD\CAD\SA6N\100 Percent\Figure 1 Surcharge Settling Monitoring Plan – Area 1.dwg Tue, 21 Jan 2014 – 7:11am roger.ryder





SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

Installed Instrumentation Locations

Instrumentation Locations Not Installed

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

- VI–2 — INCLINOMETER LOCATION
- FS–1–1 — SETTLEMENT MONITORING POINT FULL – SET UP
- HS–1–1 — SETTLEMENT MONITORING POINT HALF – SET UP
- SP12 — SETTLEMENT MONITORING PLATFORM
- RP — APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
- VRC1 — VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Revised DCB 001 7/29/13

Honeywell
101 COLUMBIA RD., BOX 2106
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

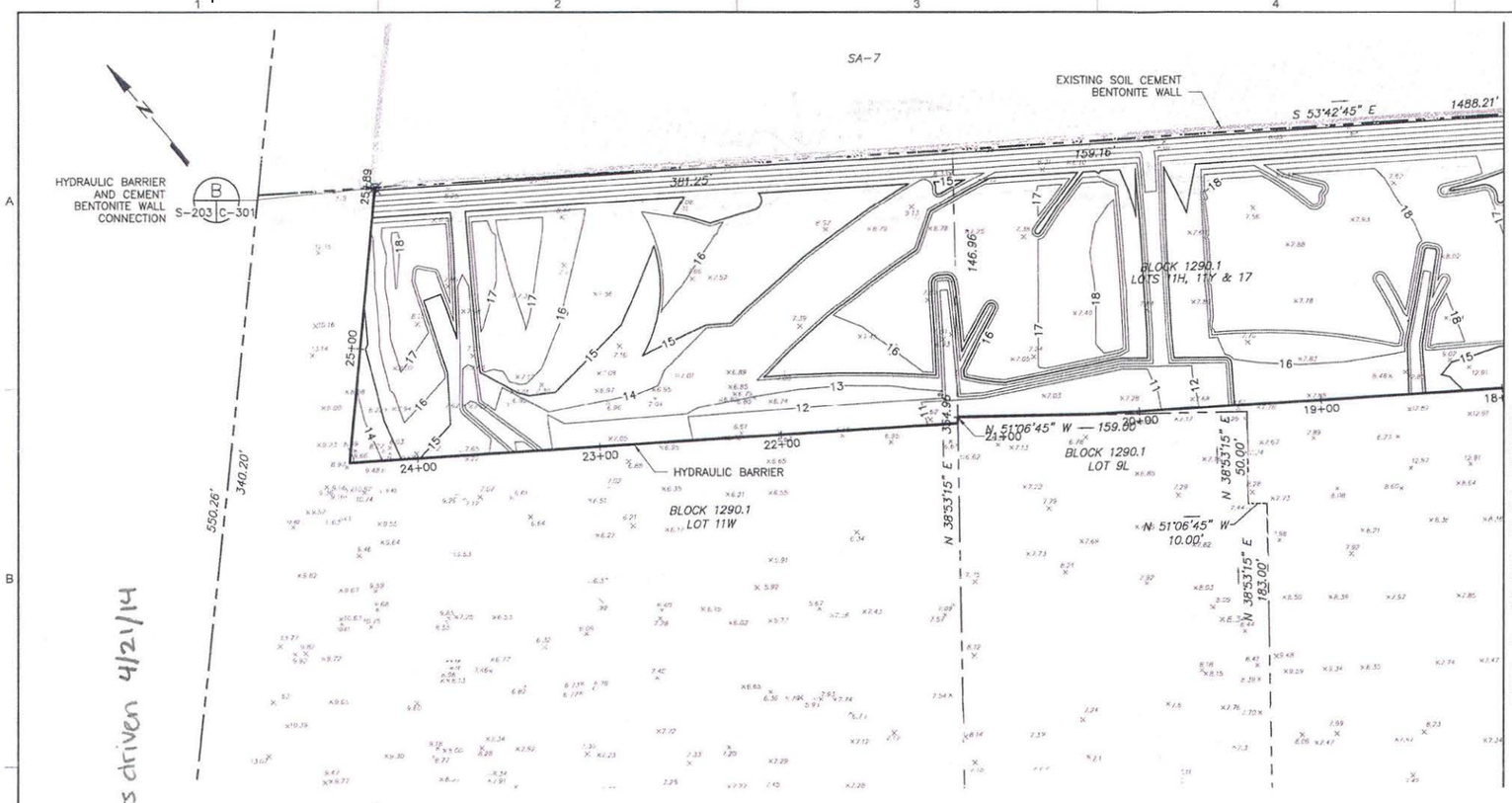
amec

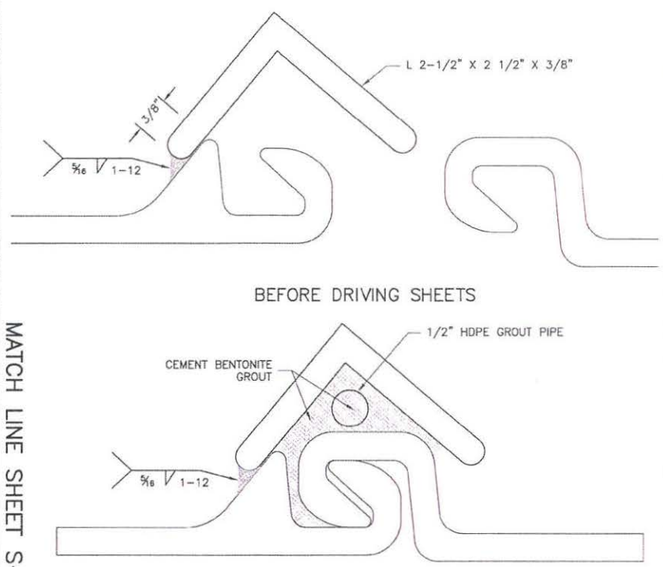
INSTRUMENTATION LOCATION PLAN 1S

Figure F1

Attachment 10: Sheet Pile Update

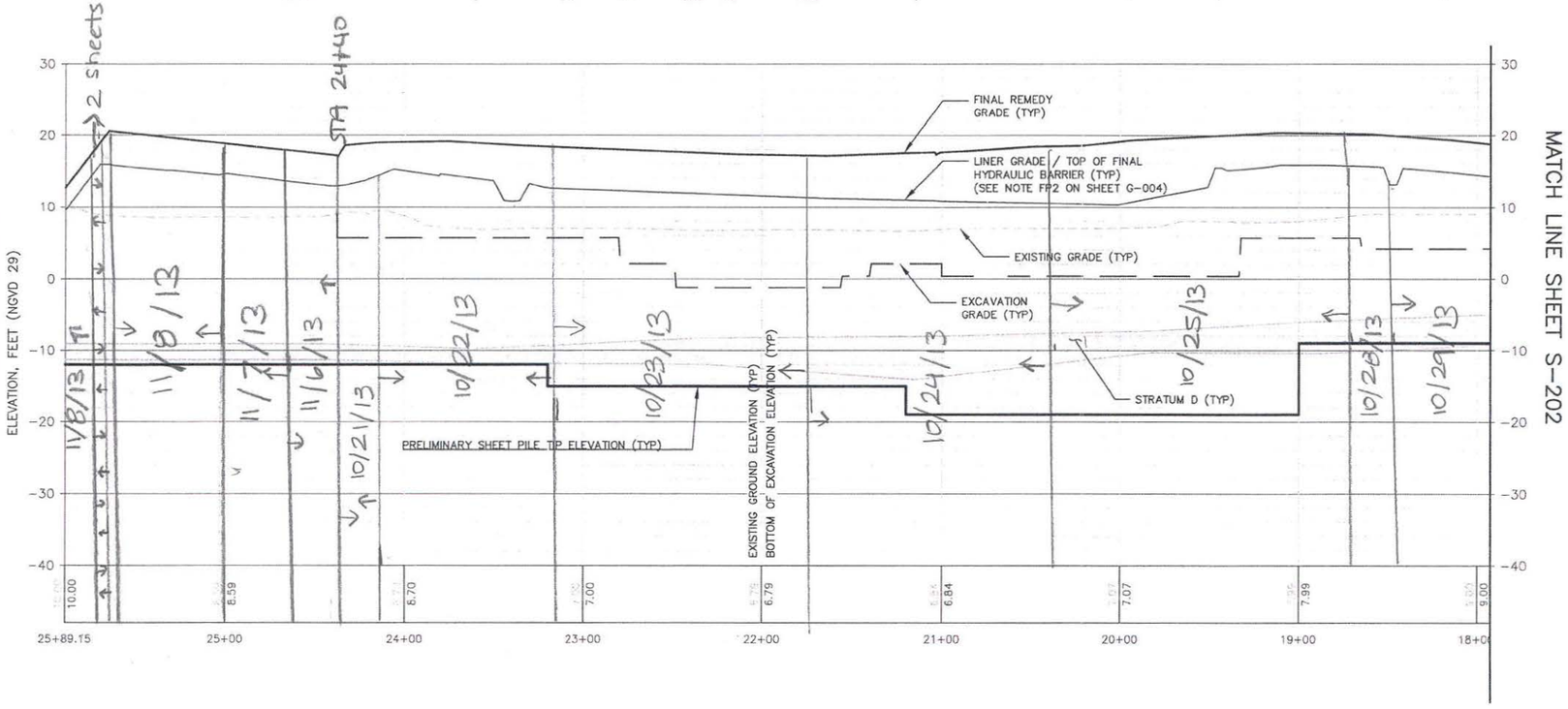
- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Pile Repair Log





SHEET SEALING DETAIL (BF TYP S-203)
NTS

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL 5/14/13
STATE OF NEW JERSEY — STEPHEN H. MITCHELL — No. 24GE04322400 — PROFESSIONAL ENGINEER
Stephen H. Mitchell

NO.	DATE	DR	CHK	APVD	BY
0	06/07/13	TDD	RJR	TDD	TDD SHM

ISSUED FOR CONSTRUCTION
REVISION
APVD
SHM

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 24GE04322400

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
(609) 890-3939
NJ Certificate of Authorization Number 24GA28016900

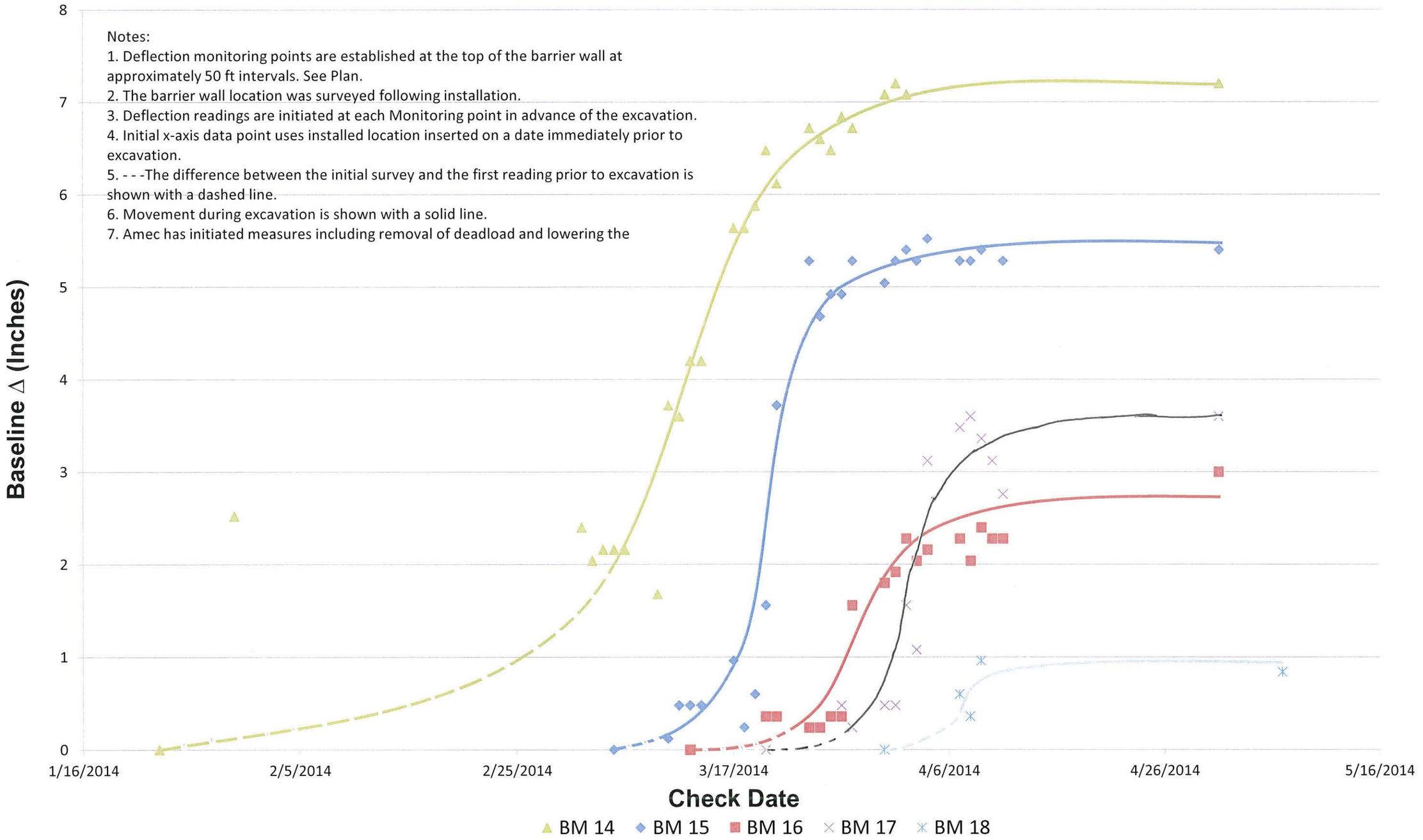
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-203
SHEET	55 OF 66

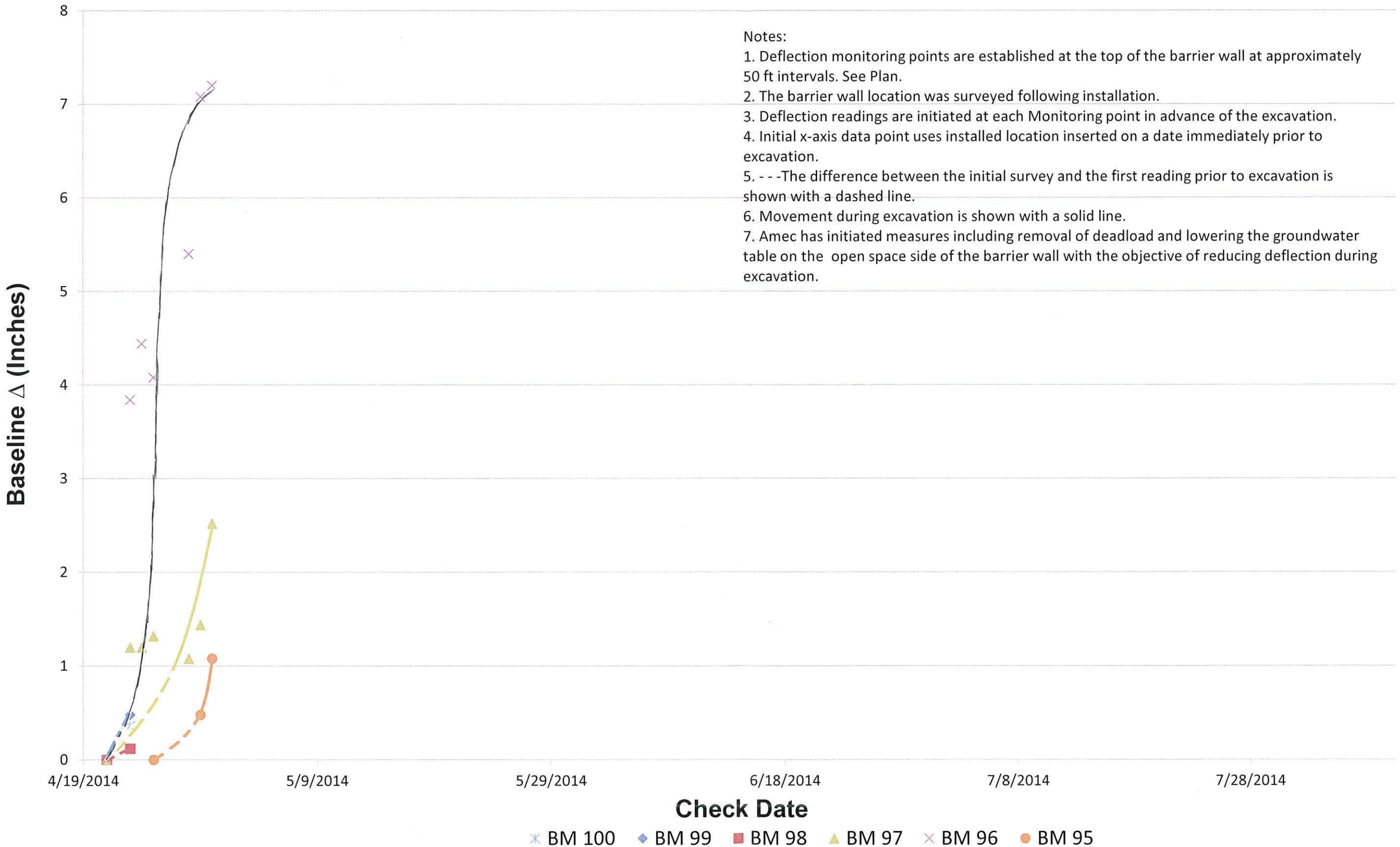
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SAR-C3D\CAD\SA6S\CR55-S-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 3:01 PM

Sheet Deflection Along Open Excavation- East

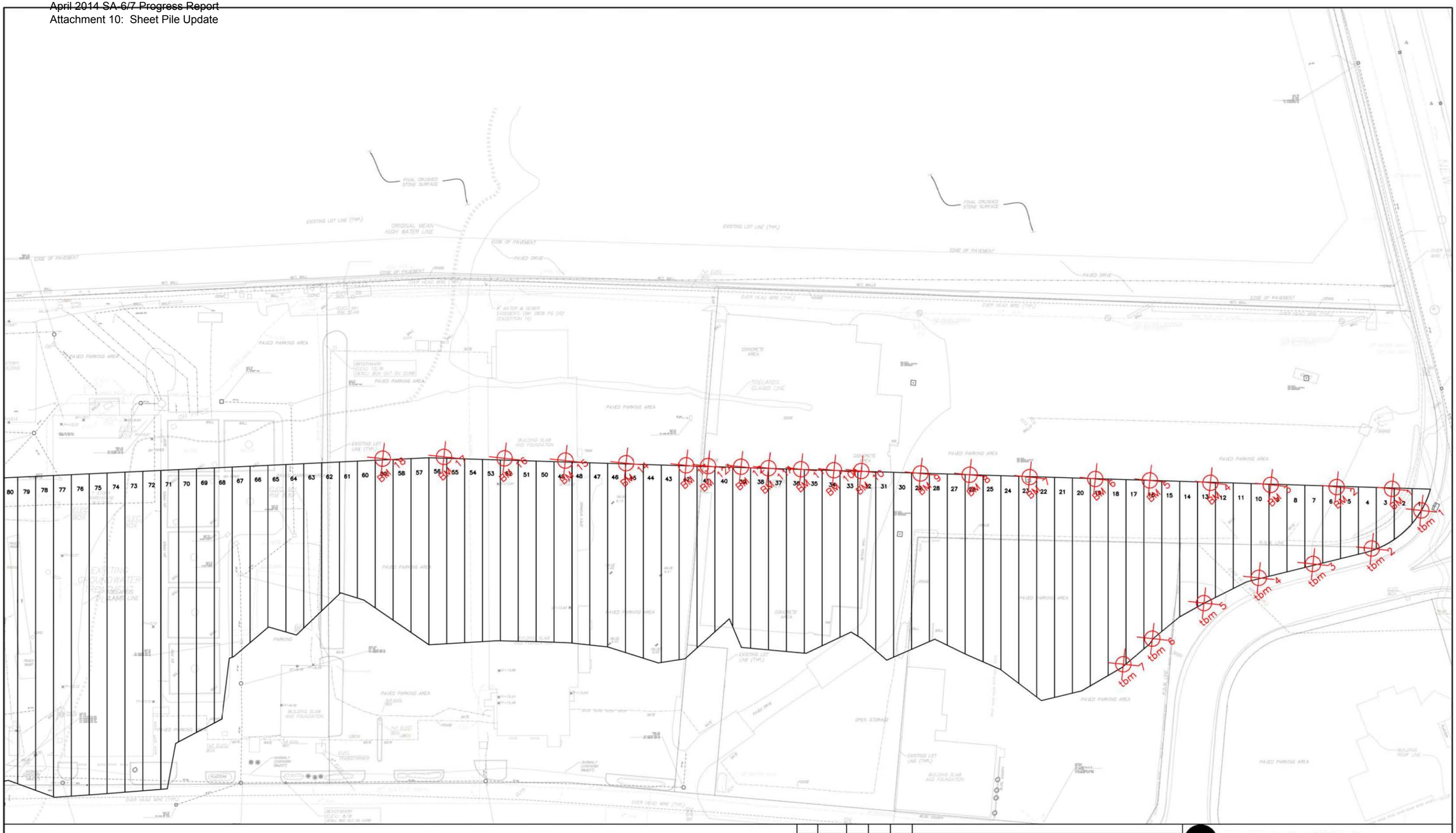
Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the



Sheet Deflection Along Open Excavation- West



Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.



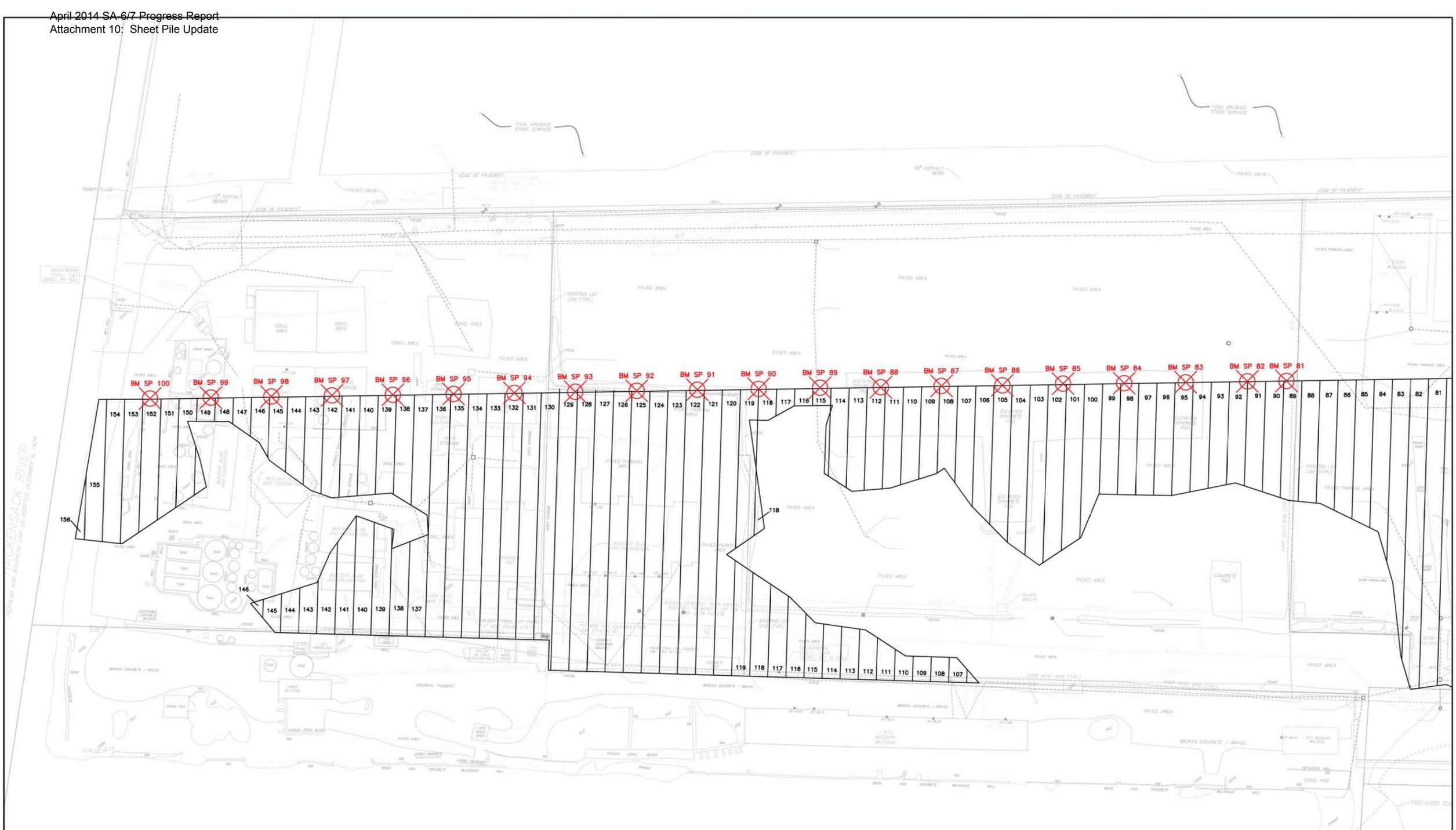
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-12-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-24

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-25

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-26

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/21/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 3/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-27

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-28

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair (coat)

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-29

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair (coat)

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-30

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation.

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SP1-31

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-32

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-33

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-34

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BP1-35

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-36

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-37

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-38

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8P1-39

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BPI-40

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BPI-41

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BPI-42

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: BPI-43

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, repair

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 8PI-44

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25PI-1

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25PI-2

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25P-3

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-4

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-5

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-6

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-7

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25P1-8

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25P1-9

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25P1-10

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 25P1-11

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-12

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-13

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 2SP1-14

Date Exposed: _____

Describe Damage: Damaged by bucket during excavation

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 3/31/14

Inspected by: M. Senna

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 4/4/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 2, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		1
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/02/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, April 02, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Petroleum impacted soils in the eastern exclusion zone on SA-6 South are nearing the top of the containment walls on the side abutting the SA-7 SCB wall.
2	IA2Q4A1AL8	Ponded water has accumulated outside the northern perimeter of the >1000 ppm stockpile area on the west end of SA-6 South.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 04/02/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Excavate the edge of the stockpile to reduce the risk of material overtopping the containment barriers.	4/7/14 RAD.
2	Pump the storm water from the affected area, place stone in the low areas to prevent recurrence.	4/7/14 RAD

Construction Manager: _____ Date: 04/08/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 9, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/10/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, April 09, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing and signage is not in place along the southern perimeter of the >1000 PPM Cr stockpile area.
2	IA2Q4A1AL8	Gasoline cans are not collected at the end of each day and returned to the flammable liquid storage cabinet.
3	IA2Q4A1AL8	A pile of backfill material adjacent toe the Hackensack River bulkhead (remaining from snow removal efforts over the winter) has no erosion protection system in place.
4	IA2Q4A1AL8	The western side of the SA-7 to SA-6N ramp is no longer protected by a geotextile cover or other erosion prevention measures.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City New Jersey

SWAP Observer: [signature] Signature (George Pfeiffer) Date: 04/10/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install fencing and/or signage as appropriate to delineate the EZ as seen from the top of the former Teal Trucking warehouse slab.	4-11-14 RAD
2	Pump the storm water from the affected area, place stone in the low areas to prevent recurrence.	4-15-14 RAD
3	Place all gasoline cans in the flammable liquid storage cabinet at the end of each workday. Check for cans around pumps, generators, etc....	4-11-14 RAD
4	A cover system should be in place to prevent erosion of ramp material into the SA-7 North sluiceway.	4-11-14 RAD

Construction Manager: [signature] Date: 04/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 16, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/17/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, April 16, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen at the Kellogg Steet jughandle requires maintenance.
2	IA2Q4A1AL8	The 80 Kellogg GWET sump is full of water
3	IA2Q4A1AL8	The newly-installed temporary perimeter fence on Study Area 6 North has a gap on its eastern end.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 04/17/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Refasten the windscreen to the perimeter fence.	4-18-14 RAD
2	Pump the sump water to the Construction Water Treatment System.	4-21-14 RAD
3	Install additional temporary fence panels on the east end of the new fenceline to close the gap by the southeast corner of the DPW H Building	4-18-14 RAD

Construction Manager: _____ **Date:** 04/21/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 23, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Windy
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			

NOTE: All comments are numbered for reference and included on the comment section below.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/24/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, April 23, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	5 gallon gasoline cans stored in Entact's storage shed area overnight, outside of Flammable Storage Cabinet.
2	IA2Q4A1AL8	Exclusion Zone fencing at eastern EZ entrance/exit requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 04/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Review flammable liquid storage requirements with all Entact personnel and obtain an additional flammables cabinet if required to accommodate all gas cans on site	4-25-14 RAD
2	Repair and maintain orange EZ fencing surrounding the eastern EZ.	4-25-14 RAD

Construction Manager: _____ **Date:** 04/28/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (March 2014)
- Request to NJDEP re Permit NJG0156311 Permit Revocation
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (March 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: March 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the March 2014 Surface Water Discharge Monitoring Report for Outfall 001A.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Scott Serino - GWTT
Frank Schroyer - Parsons

New Jersey Department of Environmental Protection
Division of Water Quality

PI 234822

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	3	1	2014	To	3	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J. Morris, Remediation Director	—	
NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	GRADE AND REGISTRY NUMBER (IF APPLICABLE)	
John J Morris	4/15/2014	973.455.4003
SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR	DATE	AREA CODE/PHONE NUMBER

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director	John J Morris	4/15/2014	973.455.4003
NAME AND TITLE	SIGNATURE	DATE	AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 1/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX				
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX				
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX				
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX				
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 1/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	3/1/2014 TO 3/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 1/1/2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2014

New Jersey Department of Environmental Protection
Mail Code 401-02B
Permit Administration Section
Division of Water Quality
P.O. Box 420
Trenton, NJ 08625-0420

RE: NJDEP Division of Water Quality New Jersey Pollutant
Request for Permit Revocation
Study Area 7, Jersey City, NJ

To Whom It May Concern:

Attached please find the completed New Jersey Pollutant Discharge Elimination System request for permit revocation for NJPDES Permit NJG0156311.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Scott Serino - GWTT
Frank Schroyer - Parsons

Reset Form

State of New Jersey
Department of Environmental Protection
Division of Water Quality
New Jersey Pollutant Discharge Elimination System

Request for Permit Revocation / Certification of Closure

1. APPLICANT(S)/OPERATING ENTITY(IES)

NJPDES Permit # NJG0156311 P.I. # 234822

Name Honeywell International Inc.

Mailing Address 101 Columbia Rd

City or Town Morristown State NJ Zip Code 07962

Telephone (973) 455-2989 E-Mail helen.fahy@honeywell.com

2. LOCATION OF FACILITY/SITE

Name of Facility/Site Honeywell Study Area 7

Street Address/Location 441 RT 440 S

City or Town Jersey City State NJ Zip Code 07305

3. FACILITY CONTACT (Person Familiar with the Facility/Site and this Application)

Name Helen Fahy Telephone (973) 455-2989

Affiliation Fahy Associates, Remediation Manager

Fax (973) 695-2444 E-Mail helen.fahy@honeywell.com

4. Treatment plant/units or storage units closed, including the date closed (e.g., sludge facilities, lagoons, equalization tanks, trickling filters, clarifiers, sludge digesters, etc.). If the entire plant has been closed write "entire." The units closed are as follows:

- entire
- _____
- _____
- _____
- _____
- _____
- _____
- _____

5. The plant or units described in Item 4 above have been closed because of one of the following:

- [x] Facility has been closed.
- [ ] Connection to Sewerage Entity (e.g., connection to another wastewater treatment plant).
- [ ] Other – Describe: _____

6. All wastes and components of the treatment plant or other units described in Item 4 above have been properly managed, disposed and secured as follows where applicable:

ACTIVITY	YES	N/A
• Influent and effluent pipes have been sealed.	✓	
• The affected units have been closed in such a manner so as to protect public safety and health, and to assure that no cont amination of ground or surface w ater will occur as a result of removing such facilities and equipment from service, either through the act of closure or through continuing the discharge of pollut ants into or through equipment; or through leaking, leaching, or discharge of pollutants from w astewater or residuals or other by-products remaining in facilities or equipment which has been removed or remains on site.	✓	
• All residual materials and all other solids from the treatment process including, but not limited to, liquid and dried sludges, grit and screenings, scum and sand bed materials have been removed and/or managed in a manner approved by the Department.	✓	
• Other, explain: _____		

After verifying that the applicant no longer requires a permit for the discharge, the appropriate Water Compliance and Enforcement Bureau will advise the Office of Permit Management to revoke the NJPDES permit or GP Authorization.

I understand that it is a violation of the "Water Pollution Control Act", N.J.S.A. 58:10A-1 et seq., to discharge pollutants except in conformity with a NJPDES permit and that I may be subject to significant civil/criminal penalties for said violation.

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based upon my inquiry of the person(s) who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for purposely, knowingly, recklessly, or negligently submitting false information."

John J. Morris
Signature of/for Permittee

4/15/2014
Date

John J. Morris
Print or Type: Name

Honeywell Remediation Director
Print or Type: Position

WHO MUST SIGN?

A Responsible Official is defined in N.J.A.C. 7:14A – 4.9 as follows:

For a corporation: A president, secretary, treasurer, or vice-president of the corporation in charge of a principal business function, or any other person who performs similar policy or decision making functions for the corporation; or the manager of one or more manufacturing, production, or operating facilities, provided:

(1) The manager is authorized to make management decisions that govern the operation of the regulated facility, including having the explicit or implicit duty of recommending major capital investment, initiating and directing comprehensive measures to assure long term compliance with environmental laws and regulations, and ensuring that the necessary systems are established or actions taken to gather complete and accurate information for permit application requirements; or
(2) The authority to sign documents has been assigned or delegated to the manager in accordance with corporate procedures.

For a partnership or sole proprietorship: A general partner or the proprietor.

For a government agency: A ranking elected official; or the chief executive officer of the agency; or a senior executive officer having responsibility for the overall operations of a principal geographic unit of the agency (e.g., Regional Administrator).

A duly authorized representative as defined in N.J.A.C. 7:14A-4.9(b).

Please send completed copies to:

Mail Code 401-02B
Permit Administration Section
Division of Water Quality
P.O. Box 420
Trenton, NJ 08625-0420

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Bayfront Redevelopment at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the March 2014 discharge monitoring reports, MR 1 and MR 2, for the Bayfront Redevelopment treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
3	01	14	3	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	70,682	97,341 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.36	0.50	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.08994	0.08994	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

4/15/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
3	01	14	3	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,191,140 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 3,310,963

DATE	BOD (mg/l)	TSS (mg/l)
3/28/2014	9.5	12.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 4/15/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Bayfront Redevelopment; GWTP (Permit #31630016)								MONTH: March 2014						
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
3/1/2014	Angel Trujillo	1119823	1210327	90,504	0.090504	7.40	0.616									0.46
3/2/2014	Angel Trujillo	1210327	1265848	55,521	0.055521	7.40	0.616									0.29
3/3/2014	Angel Trujillo	1265848	1324567	58,719	0.058719	7.43	0.616									0.30
3/4/2014	Angel Trujillo	1324567	1388969	64,402	0.064402	7.47	0.616									0.33
3/5/2014	Angel Trujillo	1388969	1457281	68,312	0.068312	7.45	0.616									0.35
3/6/2014	Angel Trujillo	1457281	1526001	68,720	0.06872	7.33	0.616									0.35
3/7/2014	Angel Trujillo	1526001	1593805	67,804	0.067804	7.34	0.616									0.35
3/8/2014	Angel Trujillo	1593805	1688090	94,285	0.094285	7.24	0.616									0.48
3/9/2014	Angel Trujillo	1688090	1749158	61,068	0.061068	7.35	0.616									0.31
3/10/2014	Angel Trujillo	1749158	1822349	73,191	0.073191	7.38	0.616									0.38
3/11/2014	Angel Trujillo	1822349	1853758	31,409	0.031409	7.19	0.616									0.16
3/12/2014	Angel Trujillo	1853758	1860986	7,228	0.007228	7.26	0.616									0.04
3/13/2014	Angel Trujillo	1860986	1905775	44,789	0.044789	7.41	0.616									0.23
3/14/2014	Angel Trujillo	1905775	1976617	70,842	0.070842	7.42	0.616									0.36
3/15/2014	Angel Trujillo	1976617	2061099	84,482	0.084482	7.40	0.616									0.43
3/16/2014	Angel Trujillo	2061099	2145582	84,483	0.084483	7.48	0.616									0.43
3/17/2014	Angel Trujillo	2145582	2217173	71,591	0.071591	7.46	0.616									0.37
3/18/2014	Angel Trujillo	2217173	2294552	77,379	0.077379	7.42	0.616									0.40
3/19/2014	Angel Trujillo	2294552	2374885	80,333	0.080333	7.52	0.616									0.41
3/20/2014	Angel Trujillo	2374885	2454558	79,673	0.079673	7.49	0.616									0.41
3/21/2014	Angel Trujillo	2454558	2532030	77,472	0.077472	7.50	0.616									0.40
3/22/2014	Angel Trujillo	2532030	2627583	95,553	0.095553	7.52	0.616									0.49
3/23/2014	Angel Trujillo	2627583	2693443	65,860	0.06586	7.27	0.616									0.34
3/24/2014	Angel Trujillo	2693443	2756617	63,174	0.063174	7.04	0.616									0.32
3/25/2014	Angel Trujillo	2756617	2839354	82,737	0.082737	7.41	0.616									0.43
3/26/2014	Angel Trujillo	2839354	2920077	80,723	0.080723	7.43	0.616	<5.1	9.5		<0.010	<0.030	<0.010	<0.0002	<0.020	0.41
3/27/2014	Angel Trujillo	2920077	3000078	80,001	0.0800	7.52	0.616									0.41
3/28/2014	Angel Trujillo	3000078	3078623	78,545	0.078545	7.51	0.616									0.40
3/29/2014	Angel Trujillo	3078623	3175964	97,341	0.097341	7.45	0.616									0.50
3/30/2014	Angel Trujillo	3175964	3241501	65,537	0.065537	7.46	0.616									0.34
3/31/2014	Angel Trujillo	3241501	3310963	69,462	0.069462	7.46	0.616									0.36
TOTAL				2,191,140	2.19114			<5.1	9.5		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	97,341											High:	0.50
			Average:	70,682											Average:	0.36

WW

E

JB63247

| | | |

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWE-032814-A		
Lab Sample ID:	JB63247-1	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	616	10	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	03/31/14	04/03/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	03/31/14	03/31/14	DP	SW846 7470A [1]	SW846 7470A [5]
Nickel	< 10	10	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	03/31/14	04/02/14	RR	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA33637
(2) Instrument QC Batch: MA33658
(3) Instrument QC Batch: MA33671
(4) Prep QC Batch: MP78641
(5) Prep QC Batch: MP78649

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWE-032814-A		
Lab Sample ID:	JB63247-1	**Date Sampled:**	03/28/14
Matrix:	AQ - Water	**Date Received:**	03/28/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	9.5	3.4	mg/l	1	03/28/14 19:17	LS	SM5210 B-01
Solids, Total Suspended	12.0	4.0	mg/l	1	03/31/14	KP	SM2540 D-11
pH [a]	6.75		su	1	03/28/14 17:35	MB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWE-032814-B		
Lab Sample ID:	JB63247-2	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T196385.D	1	03/31/14	DS	n/a	n/a	VT8000
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.8	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.31	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	21.8	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.4	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.63	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	56.1	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	97%		71-128%
2037-26-5	Toluene-D8 (SUR)	101%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	98%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWE-032814-B		
Lab Sample ID:	JB63247-2	**Date Sampled:**	03/28/14
Matrix:	AQ - Water	**Date Received:**	03/28/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	03/30/14	JOO	EPA 1664A

RL = Reporting Limit

Accutest LabLink@788347 10:55 08-Apr-2014

Report of Analysis

Client Sample ID:	087-WWI-032814		
Lab Sample ID:	JB63247-3	Date Sampled:	03/28/14
Matrix:	AQ - Water	Date Received:	03/28/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T196426.D	1	04/01/14	DS	n/a	n/a	VT8002
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	3.4	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	6.7	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.38	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	25.6	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	0.46	1.0	0.24	ug/l	J
156-60-5	trans-1,2-Dichloroethene	4.1	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.70	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	103	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	14.9	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	95%		71-128%
2037-26-5	Toluene-D8 (SUR)	102%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	96%		81-114%
1868-53-7	Dibromofluoromethane (S)	96%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

6/13/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 13, 2014

Via Express Mail

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-05

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from May 1 – May 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: May 2014 SA-6/7 Combined Monthly Progress Report No. 2014-05

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2014-05
Project SA-6 & 7 Remediation

May 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
05/02/14	Summary of Hydrocarbon-Impacted Soil Encountered Study Area 6 South, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/06/14	Summary of the Technical Evaluation Program of the SiteVision Technology Chromium Remedy In-Situ Treatment Program SA-6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/14/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-04 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/15/14	NJPDES Permit NJ0156311: April 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
05/15/14	Bayfront Redevelopment at 525 & 575 Route 440, Jersey City, MR 1 and MR 2 Permit ID# 31630016 *(see **Attachment 12**)*	Andy Caltagirone PVSC
05/15/14	Discharge of Tannin Construction Water Customer ID# 31630005-1 Study Area 7, Jersey City, NJ	Andy Caltagirone PVSC
05/16/14	Response to Comments Provided by Plaintiffs, April 8, 2014, Two-Year Summary Report for In-Situ Chromium Mass Removal from S-3 Sand Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/16/14	Surcharge Monitoring Plan – Monthly Report No. 1 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/19/14	Design Change Bulletin – Degen Deferred Area Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/22/14	Special Master All Hands Conference Call	N/A
05/27/14	Documentation and Remedial Action Summary Report Study Area 7 Sediment Remedy, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
05/28/14	Long Term Monitoring Program - First Five Year Implementation Plan Study Area 7 Sediment Remedy, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	05/04/2014	05/11/2014	05/18/2014	05/25/2014	06/01/2014
Construction Management (AMEC)	9	10	10	10	10
Engineering (AMEC)	2	2	2	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	32	40	42	47	45
Arecon/US Ecology Subcontractors	1	1	1	1	1
OSC (80 Kellogg Demolition)	5	3	0	0	0
ENR (SA-6N GWTP Utilities)	0	0	0	1	3
Siemens	1	1	1	1	1
HBS (SA-6N GWTP Security System)	1	0	0	0	0
Other	0	0	0	0	0
TOTAL	**55**	**61**	**60**	**65**	**65**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued new Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Continued well abandonment activities in accordance with approved Monitoring Well Abandonment Plan.
- Completed former 80 Kellogg St GWTP and truck wash demolition activities.
- Collected May PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Non-chromium activities, ARCADIS continues to work with NJDEP on the modification to the existing NJDEP-Discharge to Groundwater Permit by Rule for additional Enhanced Anaerobic in-situ bioremediation (EAISB) injections planned for JCMUA and JCDPW UST Areas.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on April 23, 2014.

- Completed installation of asphalt ramps associated with the north and south tanker offloading pads and the roll off garage door

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	05/04/2014	05/11/2014	05/18/2014	05/25/2014	06/01/2014
Avg. Gallons Treated & Discharged (per day)	79,342	78,825	79,068	81,360	78,896
Average Flow (gpm) for Operating Period	55	54	55	56	55
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP InfluentTanks (gal.)	13,132	11,058	12,258	11,560	12,698

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in Cells 139A through 125A and 146B through 126B.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	223	21.8	4,868
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Non Haz Petroleum Soil	041	24.98	1,024.
Entact/ Montecalvo	30yd Roll Off	NJMC Landfill	NA	Non Haz Concrete	21	22.3	468
OSC	30yd Roll Off	375 RT 1-9 South Jersey	IWS	C&D	30	13.1	393
OSC	40yd Roll Off	Cinelli JC	Cinelli	Light Iron	9	6.1	55.6

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 128B-126B, 126A-125A
Excavation Completed	Cell Number(s) 139A –127A, 146B-129B Volume Excavated - Total for Reporting Period: 11,420 CY/ Total to Date: 62,619 CY
Backfill in Progress	Cell Number(s) 1 through 58, 152-128A, 146B-136B

3. BACKFILL MATERIALS USED

Source	(Week Ending)				
	05/04/2014	05/11/2014	05/18/2014	05/25/2014	06/01/2014
<20ppm re-use, CY	1,755	3,489	0	0	315
Weldon, Import-Tons	1,550.	4,603	4,563	3,108	0
Tilcon, Import-Tons DGA	1,186	1,785	1,520	550	302
Tilcon, Import Tons – 1.5" Stone	0	0	126.07	0	201

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~90% complete. One instrument location and the settlement platforms over the perimeter pool remain to be installed. Completion of instrumentation installation is scheduled for June2014. No Surcharge initiated.
- Area 2S: Instrumentation Installation ~75% complete. Completion of instrument installation deferred pending completion of 80 Kellogg demolition activities. No Surcharge initiated.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. Placement of surcharge material initiated on April 8, 2014. As of May 30th approx. 80% of surcharge has been placed. The results of the monitoring provided in Surcharge Monitoring Report #2 to be submitted under separate cover.
- Area 2N: No instrumentation installed. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Forty Eight (48) pairs driven on the hydraulic barrier wall from Sta 12+70 to 14+90+65 on SA-6 South.
- The grout angle on one sheet pair (designated 20P-15) was dislodged from the sheet during driving. A new angle will be installed when the joint is exposed during excavation. The angle will be flushed and grouted following backfill.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete placement of surcharge materials in SA-6N Area 1N.
- Begin placement of surcharge materials in SA-6S Area 1S.
- Continue installation of the contingent groundwater system on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 125to 108. Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Conduct S-3 Injection/Mass Removal Event No.14 in well 088-IW-03 (completed on June 1, 2014.)

- Conduct quarterly LTMP groundwater level measurement round.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

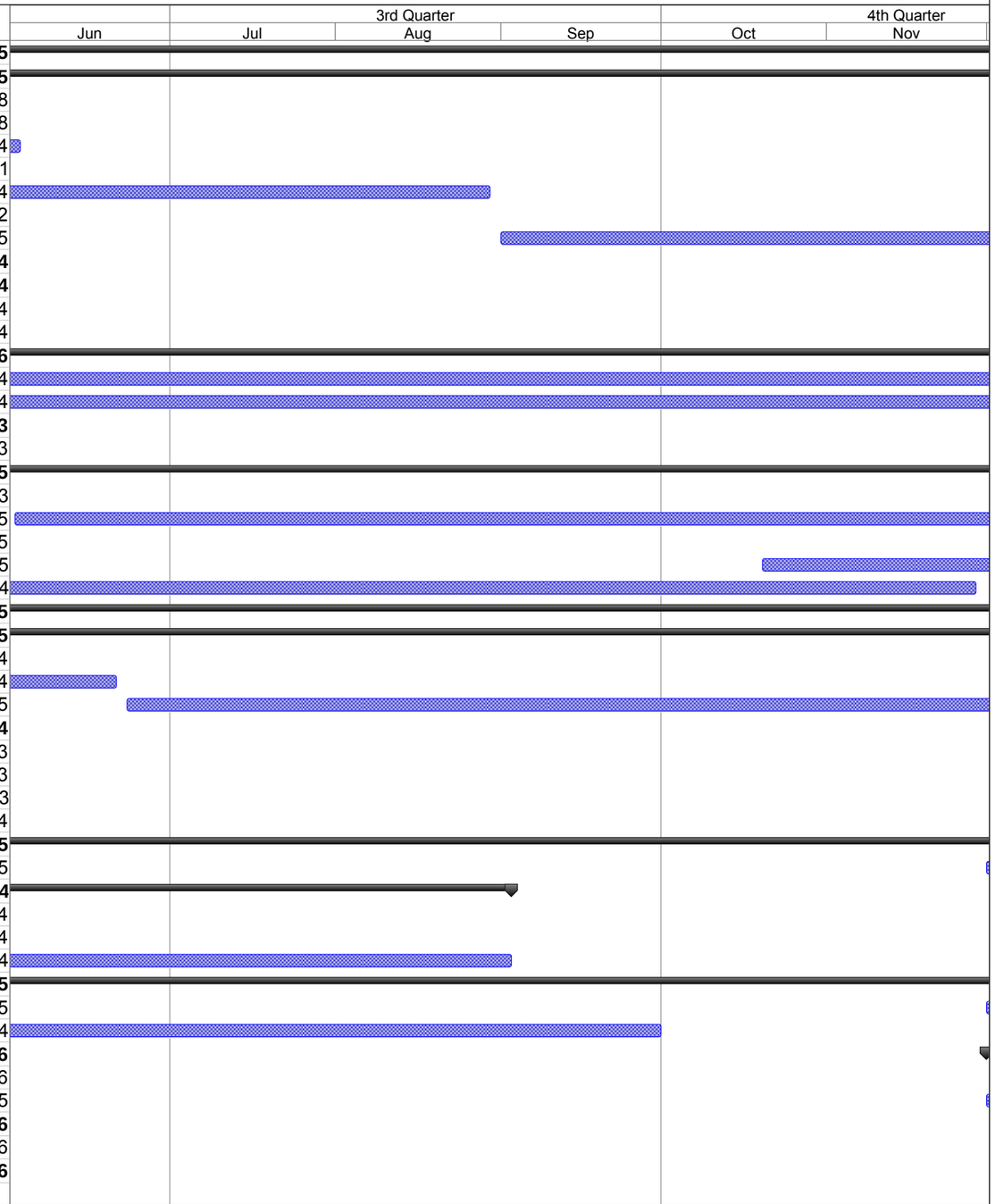
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update *(provided on a quarterly basis - not available as of this report date)*
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
    - Vibration Monitoring Update
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (April 2014)
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (April 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 5/28/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Backfill material is placed in the excavation.



Site Photograph 2: Contractor excavates materials in western area of Kellogg St.



Site Photograph 3: Contractor installs hydraulic barrier sheetpile on Kellogg St Properties.



Site Photograph 4: Contractor loads out soil for off-site disposal.



Site Photograph 5: Contractor loads surcharge material for use on JC Properties.



Site Photograph 6: Contractor performs compaction testing on Kellogg St Properties.



Site Photograph 7: Drilling contractor install settlement monitoring equipment.



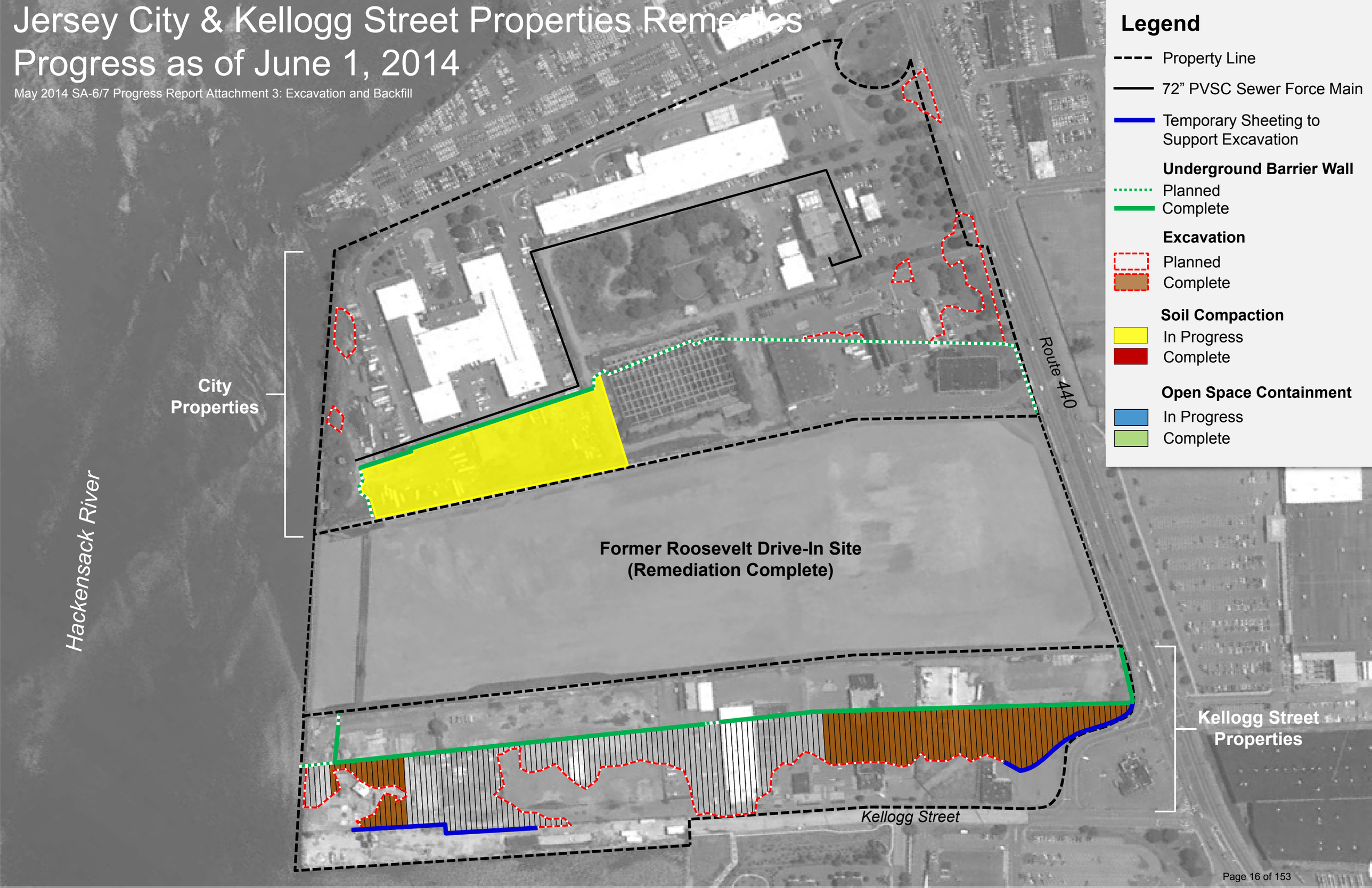
Site Photograph 8: Geotextile is placed in preparation for backfilling.

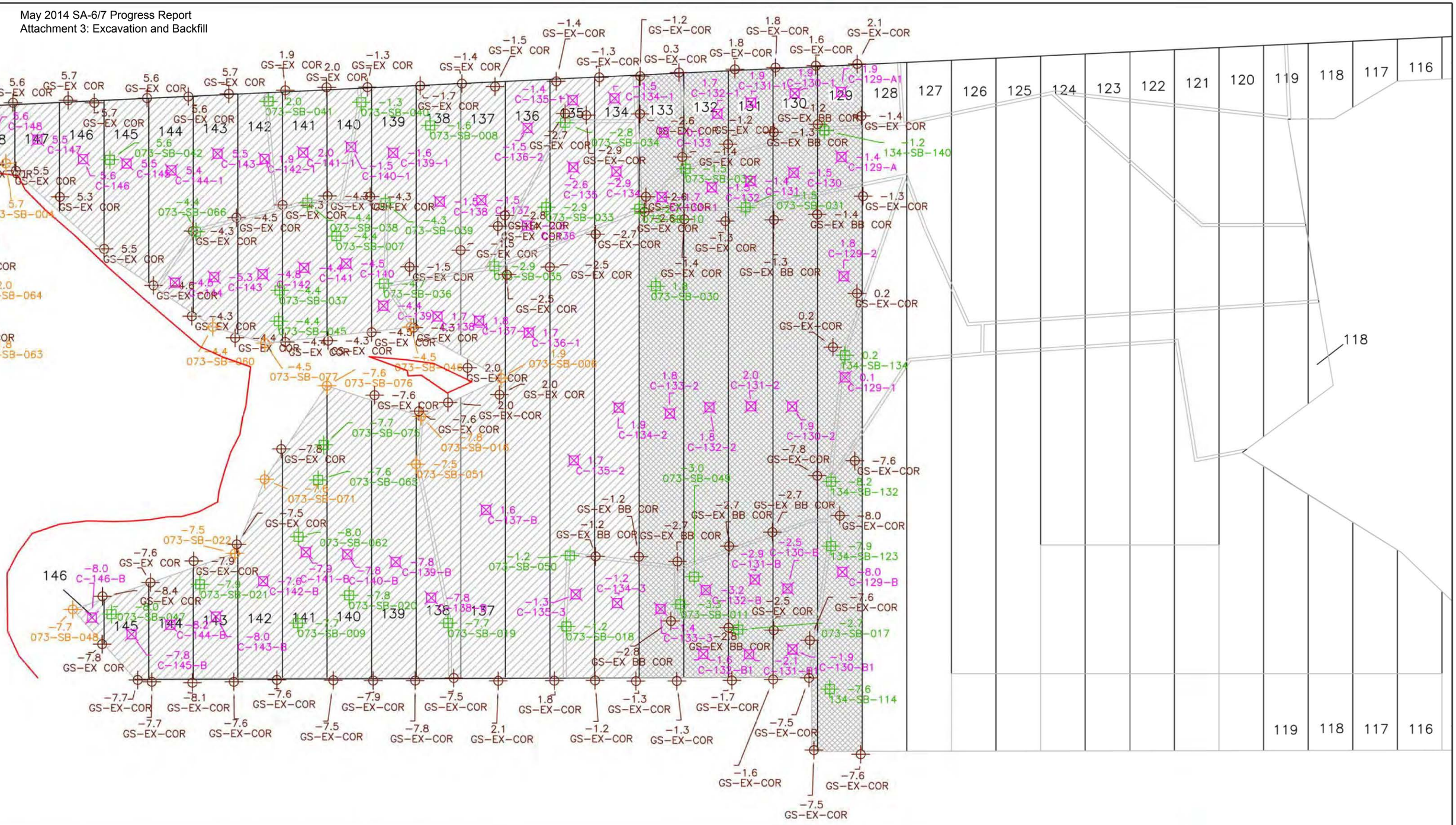
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of June 1, 2014

May 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill




LEGEND
CONFIRMATORY BOTTOM SAMPLE ELEVATION
CONFIRMATORY SIDEWALL SAMPLE ELEVATION
0.0 POINT ELEVATION
POINT POINT DESCRIPTION
BOTTOM CENTER POINT ELEVATION STRATUM D
BOTTOM CENTER POINT ELEVATION <20 PPM
BOTTOM CORNER POINT ELEVATION <20 PPM
DESIGNED STRATUM O EXCAVATION LIMIT
PREVIOUSLY SUBMITTED DATA
CURRENT EXCAVATION TO STRATUM D
CURRENT EXCAVATION TO <20 PPM
TOP OF EXCAVATION SLOPE
LIMIT OF EXCAVATION AREA
ENTACT 302 Unity Plaza Latrobe, PA 15650
DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 05-22-14 TO 06-05-14
PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached

2 This is the Bottom Elevation identified In the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.



6/6/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-01		684138.4	603182.3	-0.5						4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6						6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2						9	Crushed concrete	Bottom of excavation elevation	
2	BF-03										9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5						11	Crushed concrete	Bottom of excavation elevation	
2	BF-04										11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8						12	Crushed concrete	Bottom of excavation elevation	
2	BF-05										12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	21.1	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7						14	Crushed concrete	Bottom of excavation elevation	
2	BF-06										14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8						15	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
2	BF-07										15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7						16	Crushed concrete	Bottom of excavation elevation	
2	BF-08										16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5						17	Crushed concrete	Bottom of excavation elevation	
2	BF-09										17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5						18	Crushed concrete	Bottom of excavation elevation	
2	BF-10										18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0						19	Crushed concrete	Bottom of excavation elevation	
2	BF-11										19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7						20	Crushed concrete	Bottom of excavation elevation	
2	BF-12										20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9						22	Crushed concrete	Bottom of excavation elevation	
2	BF-13										22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9						23	Crushed concrete	Bottom of excavation elevation	
2	BF-14										23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9						24	Crushed concrete	Bottom of excavation elevation	
2	BF-15										24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1						25	Crushed concrete	Bottom of excavation elevation	
2	BF-16										25	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4						26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17										26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5						27	Crushed concrete	Bottom of excavation elevation	
2	BF-18										27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3						28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7						29	Crushed concrete	Bottom of excavation elevation	
2	BF-20										29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9						30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3						31	Crushed concrete	Bottom of excavation elevation	
2	BF-22										31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6						32	Crushed concrete	Bottom of excavation elevation	
2	BF-23										32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8						33	Crushed concrete	Bottom of excavation elevation	
2	BF-24										33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8						34	Crushed concrete	Bottom of excavation elevation	
2	BF-25										34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1						35	Crushed concrete	Bottom of excavation elevation	
2	BF-26										35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8						36	Crushed concrete	Bottom of excavation elevation	
2	BF-27										36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8						38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1						39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1						40	Stratum D	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1						41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2						42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1						43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5						44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2						45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0						46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2						47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0						48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4						49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6						50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	50	Tilcon MH DGA		V5N
0	BF-124		685346.3	601612.6	-1.2						136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2						138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5						140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5						142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100		Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9						142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2						144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6						146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

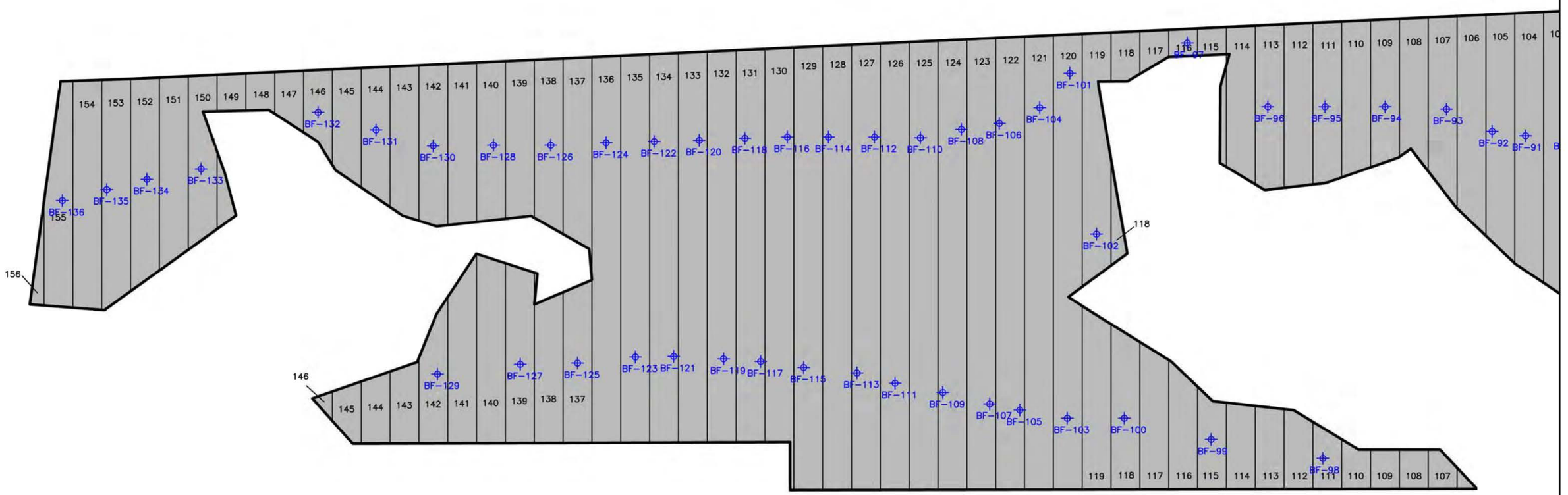
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run agair



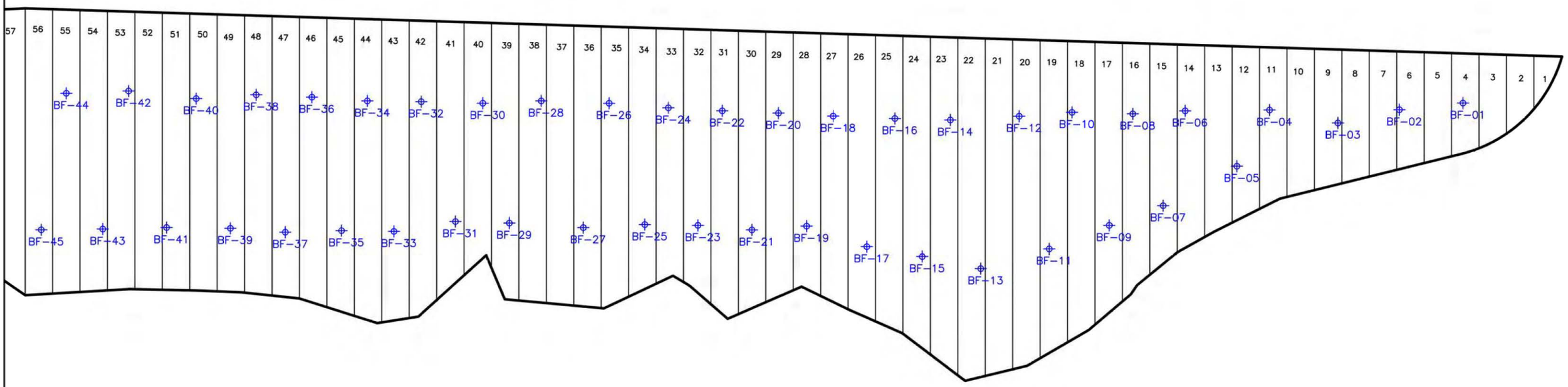
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-01		684158.6	603152.4							6			
	RF-02		684190.6	603063.9							12			
	RF-03		684270.2	603012.0							18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8							22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0							25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1							25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1							32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1							36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0							40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2						44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1							44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2							48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	126.8	4.5	124.5	12.1	102	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	124.5	12.1	100	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3						51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3							51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3						54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4							54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
1	RF-37		685295.3	601495.2	-7.8						140 (B)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	140 (B)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	140 (B)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2						142 (A)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	142 (A)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	142 (A)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8						152	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	151	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	151	Weldon WC Screenings		V5N
3	RF-39-04	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	151	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b.

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C.

Bottom of excavation elevation based on Maser survey data (Center Point elevations).

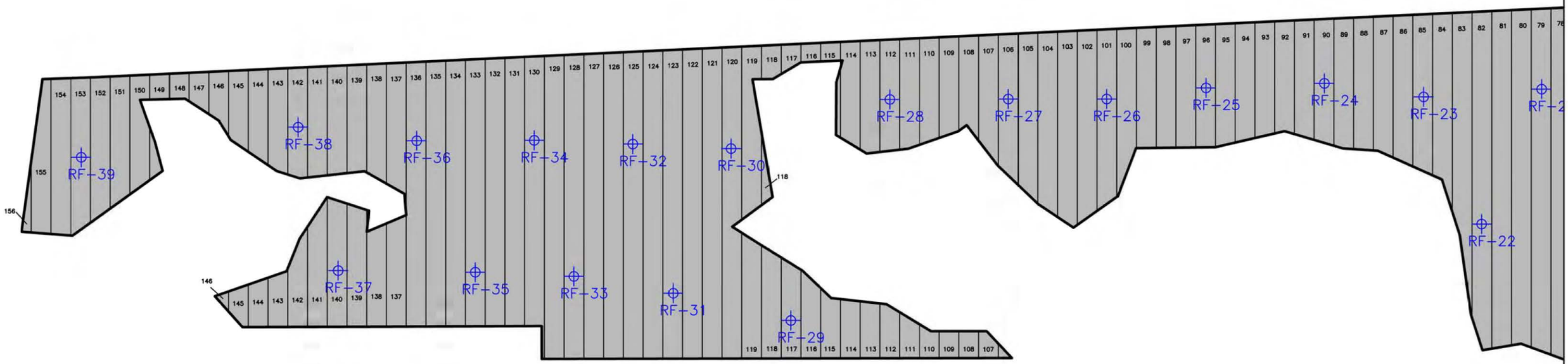
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

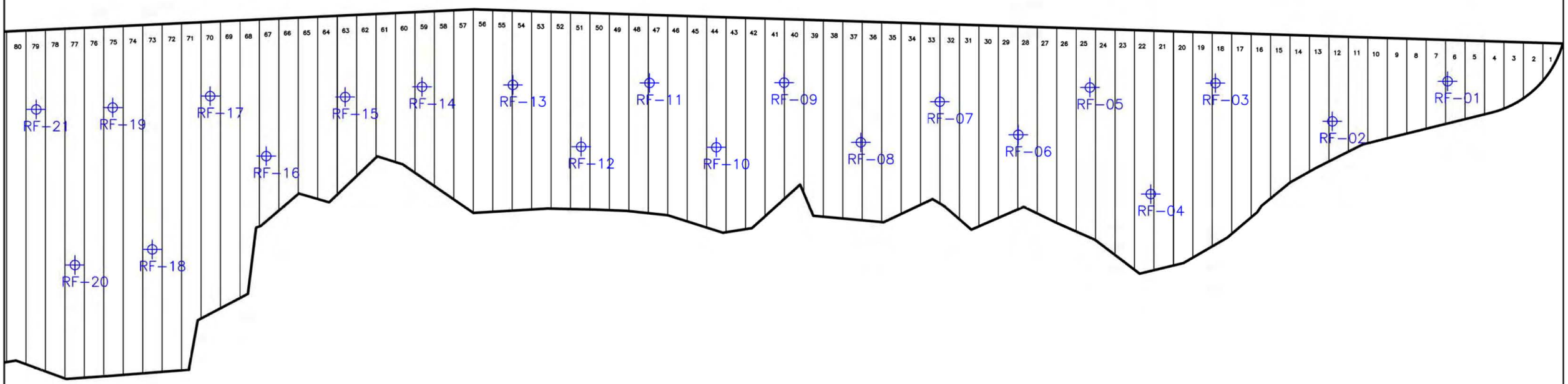
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
04/01/14	1	24	9,EPS	14	234,816	254,072	19,256	1,482,461	13.4	
04/02/14	1	24	9,EPS	14	254,072	272,724	18,652	1,501,113	13.0	
04/03/14	1	24	9,EPS	14	272,724	292,383	19,659	1,520,772	13.7	
04/04/14	1	24	9,EPS	14	292,383	310,862	18,479	1,539,251	12.8	
04/07/14	1	72	9,EPS	14	310,862	361,008	50,146	1,589,397	11.6	
04/08/14	1	24	9,EPS	14	361,008	375,723	14,715	1,604,112	10.2	
04/09/14	1	24	9,EPS	14	375,723	389,220	13,497	1,617,609	9.4	
04/10/14	1	24	9,EPS	14	389,220	403,320	14,100	1,631,709	9.8	
04/11/14	1	24	9,EPS	14	403,320	416,137	12,817	1,644,526	8.9	
04/14/14	1	72	9,EPS	14	416,137	453,580	37,443	1,681,969	8.7	
04/15/14	1	24	9,EPS	14	453,580	464,088	10,508	1,692,477	7.3	
04/16/14	1	24	9,EPS	14	464,088	473,709	9,621	1,702,098	6.7	
04/17/14	1	24	9,EPS	14	473,709	484,453	10,744	1,712,842	7.5	
04/18/14	1	24	9,EPS	14	484,453	492,855	8,402	1,721,244	5.8	
04/18/14	2	24	16,17,18,WPS-1	40	N/A	N/A	21,000	1,742,244	14.6	Flow meter not installed. Volumes based on tank gauging
04/21/14	1	72	9,EPS	14	492,855	518,050	25,195	1,767,439	5.8	
04/18/14	2	72	16,17,18,WPS-1	40	N/A	N/A	62,000	1,829,439	14.4	Flow meter not installed. Volumes based on tank gauging
04/22/14	1	24	9,EPS	14	518,050	523,548	5,498	1,834,937	3.8	
04/22/14	2	24	16,17,18,WPS-1	40	N/A	N/A	19,500	1,854,437	13.5	Flow meter not installed. Volumes based on tank gauging
04/23/14	1	24	9,EPS	14	523,548	528,369	4,821	1,859,258	3.3	
04/23/14	2	24	16,17,18,WPS-1	40	0	15,441	15,441	1,874,699	10.7	
04/24/14	1	24	9,EPS	14	528,369	532,995	4,626	1,879,325	3.2	
04/24/14	2	24	16,17,18,WPS-1	40	15,441	30,198	14,757	1,894,082	10.2	
04/25/14	1	24	9,EPS	14	532,995	537,006	4,011	1,898,093	2.8	
04/25/14	2	24	16,17,18,WPS-1	40	30,198	41,737	11,539	1,909,632	8.0	
04/28/14	1	72	9,EPS	12	537,006	552,302	15,296	1,924,928	3.5	
04/28/14	2	72	16,17	18	41,737	59,981	18,244	1,943,172	4.2	
04/29/14	1	24	9,EPS	12	552,302	555,724	3,422	1,946,594	2.4	
04/29/14	2	24	16,17	18	59,981	62,592	2,611	1,949,205	1.8	
04/30/14	1	24	9,EPS	12	555,724	560,143	4,419	1,953,624	3.1	
04/30/14	2	24	16,17	18	62,592	65,318	2,726	1,956,350	1.9	
05/01/14	1	24	9,EPS	12	560,143	563,407	3,264	1,959,614	2.3	
05/01/14	2	24	16,17	18	65,318	67,350	2,032	1,961,646	1.4	
05/02/14	1	24	9,EPS	12	563,407	571,007	7,600	1,969,246	5.3	
05/02/14	2	24	16,17	18	67,350	69,321	1,971	1,971,217	1.4	
05/05/14	1	72	9,EPS	12	571,007	596,817	25,810	1,997,027	6.0	
05/05/14	2	72	16,17	18	69,321	75,193	5,872	2,002,899	1.4	
05/06/14	1	24	9,EPS	12	596,817	604,513	7,696	2,010,595	5.3	
05/06/14	2	24	16,17	18	75,193	77,224	2,031	2,012,626	1.4	
05/07/14	1	24	9,EPS	12	604,513	612,024	7,511	2,020,137	5.2	
05/07/14	2	24	16,17	18	0	361	361	2,020,498	0.3	Flowmeter Reset
05/08/14	1	24	9,EPS	12	612,024	617,958	5,934	2,026,432	4.1	
05/08/14	2	24	16	12	361	4,243	3,882	2,030,314	2.7	
05/09/14	1	24	9,EPS	12	617,958	618,262	304	2,030,618	0.2	
05/09/14	2	24	16	12	4,243	4,886	643	2,031,261	0.4	
05/12/14	1	72	9,EPS	12	618,262	618,262	0	2,031,261	0.0	
05/12/14	2	72	16	12	4,886	6,201	1,315	2,032,576	0.3	
05/13/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/14/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/15/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/19/14	1	72	9,EPS	13	618,262	618,262	0	2,032,576	0.0	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013; Vac plant #1 taken out of service May 19, 2014
Previous information is trunketed. Only last month and current month information is provided.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
04/25/14	24	0	6,883	6,883	6,883	4.8	
04/28/14	72	6,883	30,393	23,510	30,393	5.4	
04/29/14	24	30,393	37,639	7,246	37,639	5.0	
04/30/14	24	37,639	43,518	5,879	43,518	4.1	
05/01/14	24	43,518	51,195	7,677	51,195	5.3	
05/02/14	24	51,195	57,459	6,264	57,459	4.4	
05/05/14	72	57,459	62,329	4,870	62,329	1.1	Flowmeter Reset
05/06/14	24	0	27,630	27,630	89,959	19.2	
05/07/14	24	27,630	31,613	3,983	93,942	2.8	
05/08/14	24	N/A	N/A	7,500	101,442	5.2	Flowmeter Blockage (Tank Measured)
05/09/14	24	N/A	N/A	8,000	109,442	5.6	Flowmeter Blockage (Tank Measured)
05/12/14	72	N/A	N/A	25,500	134,942	5.9	Flowmeter Blockage (Tank Measured)
05/13/14	24	31,613	32,142	529	135,471	0.4	
05/14/14	24	32,142	34,250	2,108	137,579	1.5	
05/15/14	24	34,250	36,358	2,108	139,687	1.5	Well Taken Offline for Excavation
05/29/14	24	0	4,322	4,322	144,009	3.0	
05/30/14	24	4,322	8,634	4,312	148,321	3.0	

Notes: Deep Wells DW-1 and DW-2 had no flows during May.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER START (KGal)	DISCHARGE FLOW METER FINISH (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/01/14	8.0	6,575.85	6,717.81	141,960	6,717,360	
04/02/14	8.0	6,717.81	6,951.38	233,570	6,950,930	
04/03/14	8.0	6,951.38	7,050.47	99,090	7,050,020	PVSC Compliance Sample collected
04/04/14	8.0	7,050.47	7,173.74	123,270	7,173,290	
04/05/14	8.0	7,173.74	7,250.14	76,400	7,249,690	
04/08/14	8.0	7,250.14	7,452.80	202,660	7,452,350	
04/09/14	8.0	7,452.80	7,538.06	85,260	7,537,610	
04/10/14	8.0	7,538.06	7,687.85	149,790	7,687,400	
04/11/14	8.0	7,687.85	7,810.35	122,500	7,809,900	
04/14/14	6.0	7,810.35	7,883.23	72,880	7,882,780	
04/15/14	6.0	7,883.23	7,948.35	65,120	7,947,900	
04/16/14	8.0	7,948.35	8,036.99	88,640	8,036,540	
04/17/14	8.0	8,036.99	8,120.52	83,530	8,120,070	
04/18/14	8.0	8,120.52	8,241.81	121,290	8,241,360	
04/19/14	8.0	8,241.81	8,416.26	174,450	8,415,810	
04/21/14	8.0	8,416.26	8,503.96	87,700	8,503,510	
04/22/14	8.0	8,503.96	8,649.60	145,640	8,649,150	
04/23/14	8.0	8,649.60	8,775.22	125,620	8,774,770	
04/24/14	8.0	8,775.22	8,877.66	102,440	8,877,210	
04/25/14	8.0	8,877.66	8,949.22	71,560	8,948,770	
04/26/14	8.0	8,949.22	9,030.24	81,020	9,029,790	
04/27/14	0.0	9,030.24	9,030.24	0	9,029,790	
04/28/14	8.0	9,030.24	9,133.26	103,020	9,132,810	
04/29/14	9.0	9,133.26	9,371.72	238,460	9,371,270	
04/30/14	0.0	9,371.72	9,371.72	0	9,371,270	
05/01/14	12.0	9,371.72	9,550.80	179,080	9,550,350	
05/02/14	23.5	9,665.35	9,775.14	224,340	9,774,690	Includes system operation from 05/01/12
05/03/14	21.0	9,921.23	10,020.57	245,430	10,020,120	Includes system operation from 05/02/13
05/05/14	37.0	10,377.22	10,584.99	564,420	10,584,540	Includes system operation through 5/3, 5/4 and 05/04/14
05/06/14	9.5	10,584.99	10,825.62	240,630	10,825,170	
05/07/14	7.5	10,825.62	11,006.06	180,440	11,005,610	PVSC Compliance Sample collected
05/08/14	4.5	11,006.06	11,112.94	106,880	11,112,490	
05/09/14	6.0	1,112.94	11,253.32	140,380	11,252,870	
05/12/14	7.0	11,253.32	11,439.87	186,550	11,439,420	
05/13/14	7.0	11,439.87	11,600.00	160,130	11,599,550	
05/14/14	6.5	11,600.00	11,712.86	112,860	11,712,410	
05/15/14	5.5	11,712.86	11,810.42	97,560	11,809,970	
05/16/14	6.0	11,810.42	11,885.46	75,040	11,885,010	
05/18/14	2.8	11,885.46	11,960.68	75,220	11,960,230	
05/19/14	7.0	11,960.68	12,098.90	138,220	12,098,450	
05/20/14	7.0	12,098.90	12,188.74	89,840	12,188,290	
05/21/14	5.0	12,188.74	12,262.55	73,810	12,262,100	
05/22/14	7.5	12,262.55	12,329.43	66,880	12,328,980	
05/23/14	7.5	12,329.43	12,405.66	76,230	12,405,210	
05/24/14	5.0	12,405.66	12,482.60	76,940	12,482,150	
05/25/14	2.0	12,482.60	12,527.46	44,860	12,527,010	
05/27/14	5.5	12,527.46	12,662.13	134,670	12,661,680	
05/28/14	2.0	12,662.13	12,696.70	34,570	12,696,250	
05/29/14	7.0	12,696.70	12,809.54	112,840	12,809,090	
05/30/14	7.0	12,809.54	12,906.92	97,380	12,906,470	

Notes: Previous Information is truncated. Only last month and current morth information is provided.
Yellow cells contain information that was revised after the 2014-04 Report submittal.

Attachment 6: Backfill Analytical Data

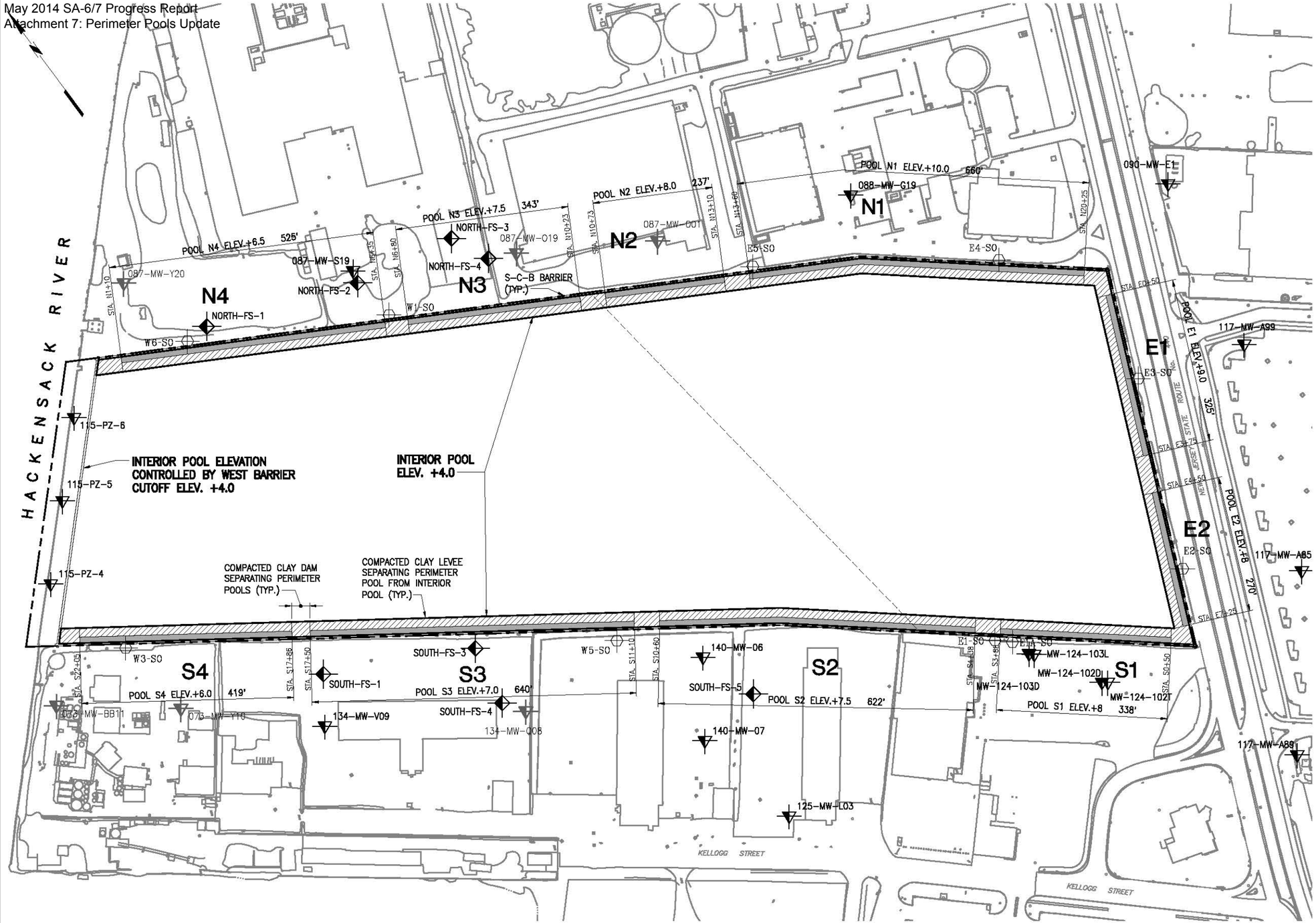
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
47-57	<20	124-57-20-a	860	124-57-20-a1	4/4/2014	12:30	17.0	Yes		
				124-57-20-a2	4/4/2014	12:35	3.8	Yes		
				124-57-20-a3	4/4/2014	12:40	4.2	Yes		
				124-57-20-a4	4/4/2014	12:45	<0.52	Yes		
47-57	<20	124-57-20-b	860	124-57-20-b1	4/4/2014	12:50	4.1	Yes		
				124-57-20-b2	4/4/2014	12:55	14.2	Yes		
				124-57-20-b3	4/4/2014	13:00	15.7	Yes		
				124-57-20-b4	4/4/2014	13:05	<0.49	Yes		
47-57	<20	124-57-20-c	860	124-57-20-c1	4/4/2014	13:10	10.3	Yes		
				124-57-20-c2	4/4/2014	13:15	11.6	Yes		
				124-57-20-c3	4/4/2014	13:20	8.9	Yes		
				124-57-20-c4	4/4/2014	13:25	41.4		Yes	
49-59	>1000	124-59-1000-a	800	124-59-1000-a1	4/11/2014	8:00	11,000			Yes
				124-59-1000-a2	4/11/2014	8:05	26,900			Yes
				124-59-1000-a3	4/11/2014	8:10	11,900			Yes
				124-59-1000-a4	4/11/2014	8:15	32,700			Yes
57,58 144-152	<20	124-152-20-a	800	124-152-20-a1	4/23/2014	15:00	0.73	Yes		
				124-152-20-a2	4/23/2014	15:05	0.76	Yes		
				124-152-20-a3	4/23/2014	15:10	0.42	Yes		
				124-152-20-a4	4/23/2014	15:15	1.2	Yes		
135,141,143-145	<20	124-145-20-a	675	124-145-20-a1	5/9/2014	9:00	22.8		Yes	
				124-145-20-a2	5/9/2014	9:05	0.4	Yes		
				124-145-20-a3	5/9/2014	9:10	5.4	Yes		
				124-145-20-a4	5/9/2014	9:15	3.0	Yes		
139-142B, 131-132A	<20	124-142-20-a	1000	124-142-20-a1	5/15/2014	11:00	2.1	Yes		
				124-142-20-a2	5/15/2014	11:05	8.7	Yes		
				124-142-20-a3	5/15/2014	11:10	5.9	Yes		
				124-142-20-a4	5/15/2014	11:15	4.3	Yes		
135-138B, 131A	<20	124-138-20-a, b	1500	124-138-20-a1	5/19/2014	10:45	4.0	Yes		
				124-138-20-a2	5/19/2014	10:50	10.2	Yes		
				124-138-20-a3	5/19/2014	10:55	5.7	Yes		
				124-138-20-a4	5/19/2014	11:00	3.9	Yes		
				124-138-20-b1	5/19/2014	11:05	1.2	Yes		
				124-138-20-b2	5/19/2014	11:10	4.9	Yes		
				124-138-20-b3	5/19/2014	11:15	2.7	Yes		
				124-138-20-b4	5/19/2014	11:20	5.4	Yes		
129-134	<20	124-134-20-a, b	1250	124-134-20-a1	5/21/2014	13:10	7.5	**		
				124-134-20-a2	5/21/2014	13:15	7.8	**		
				124-134-20-a3	5/21/2014	13:20	4.2	**		
				124-134-20-a4	5/21/2014	13:25	30.5		**	
				124-134-20-b1	5/21/2014	13:30	10.7	**		
				124-134-20-b2	5/21/2014	13:35	2.5	**		
				124-134-20-b3	5/21/2014	13:40	4.9	**		
				124-134-20-b4	5/21/2014	13:45	7.3	**		

Notes:
*Material currently stockpiled. Pending final placement.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
05-07-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

May 07, 2014 at 4:13pm
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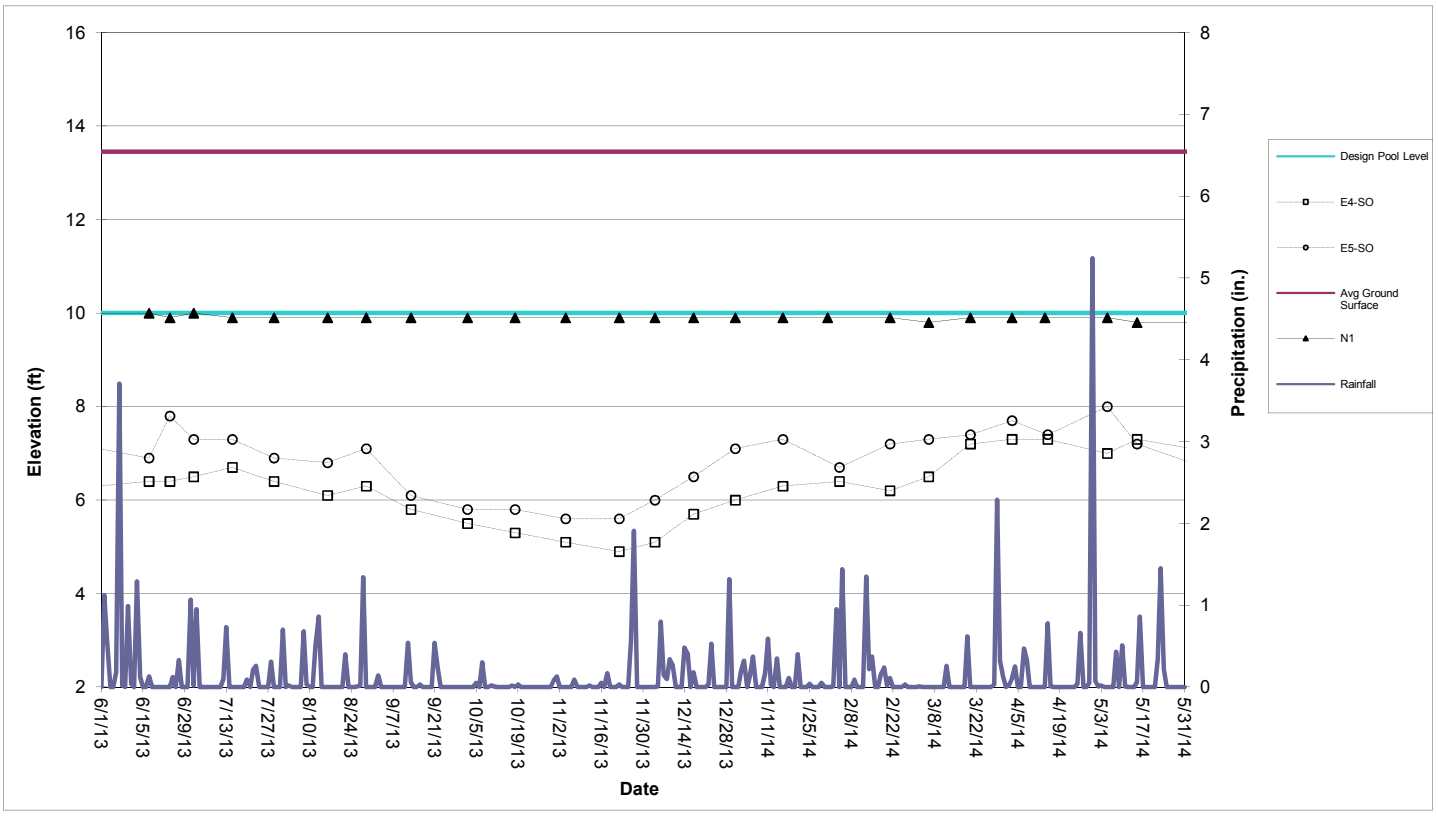
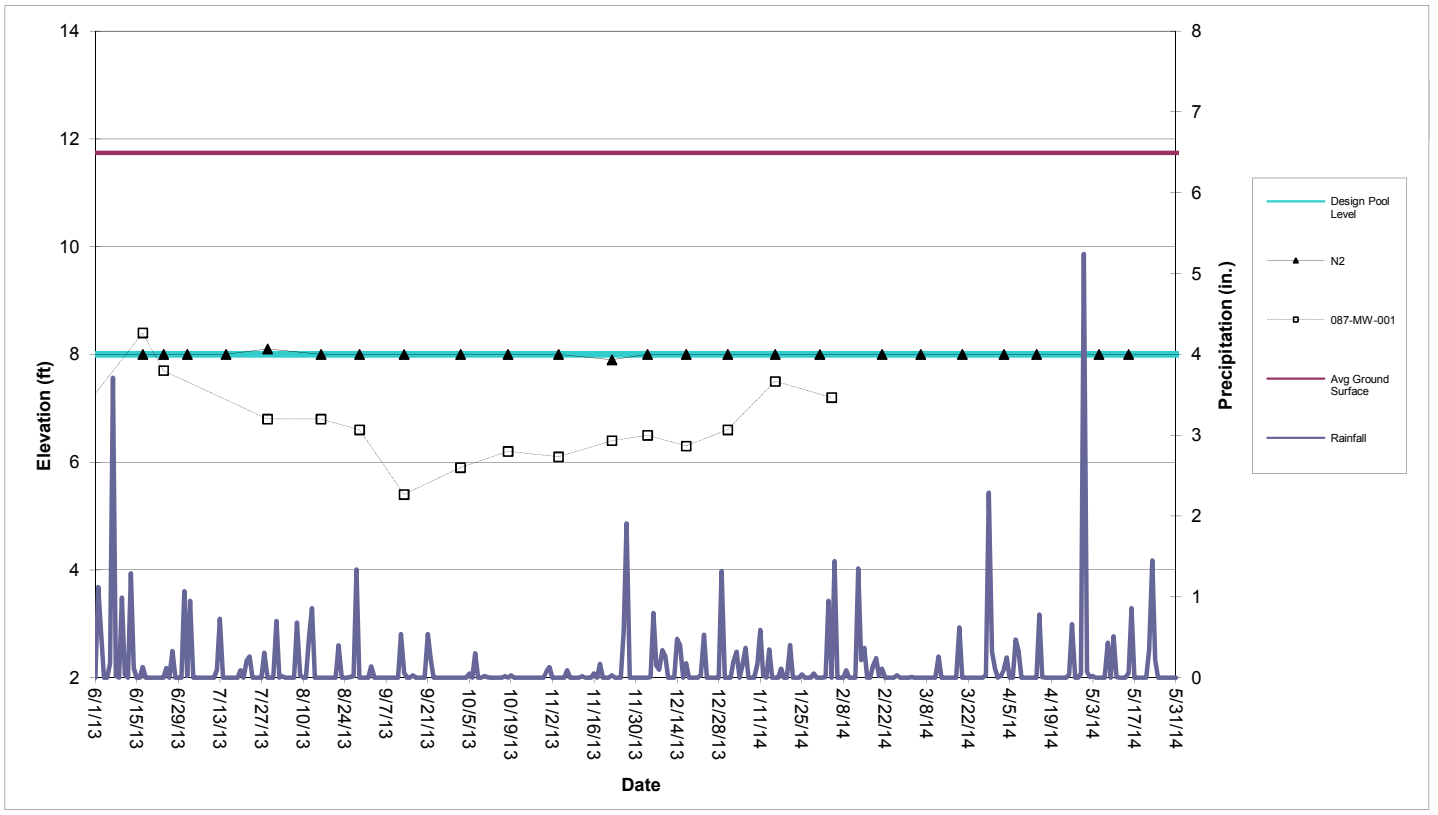
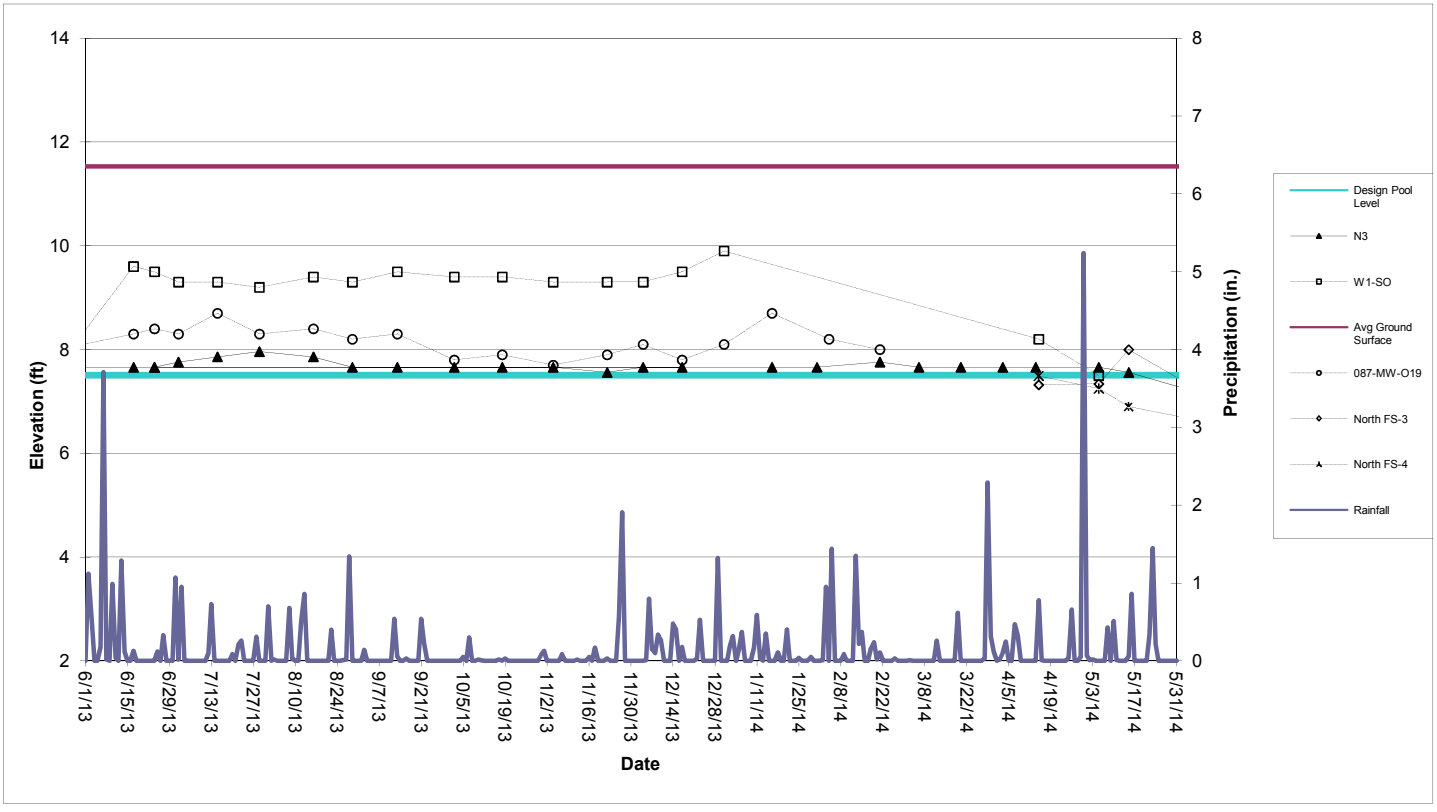


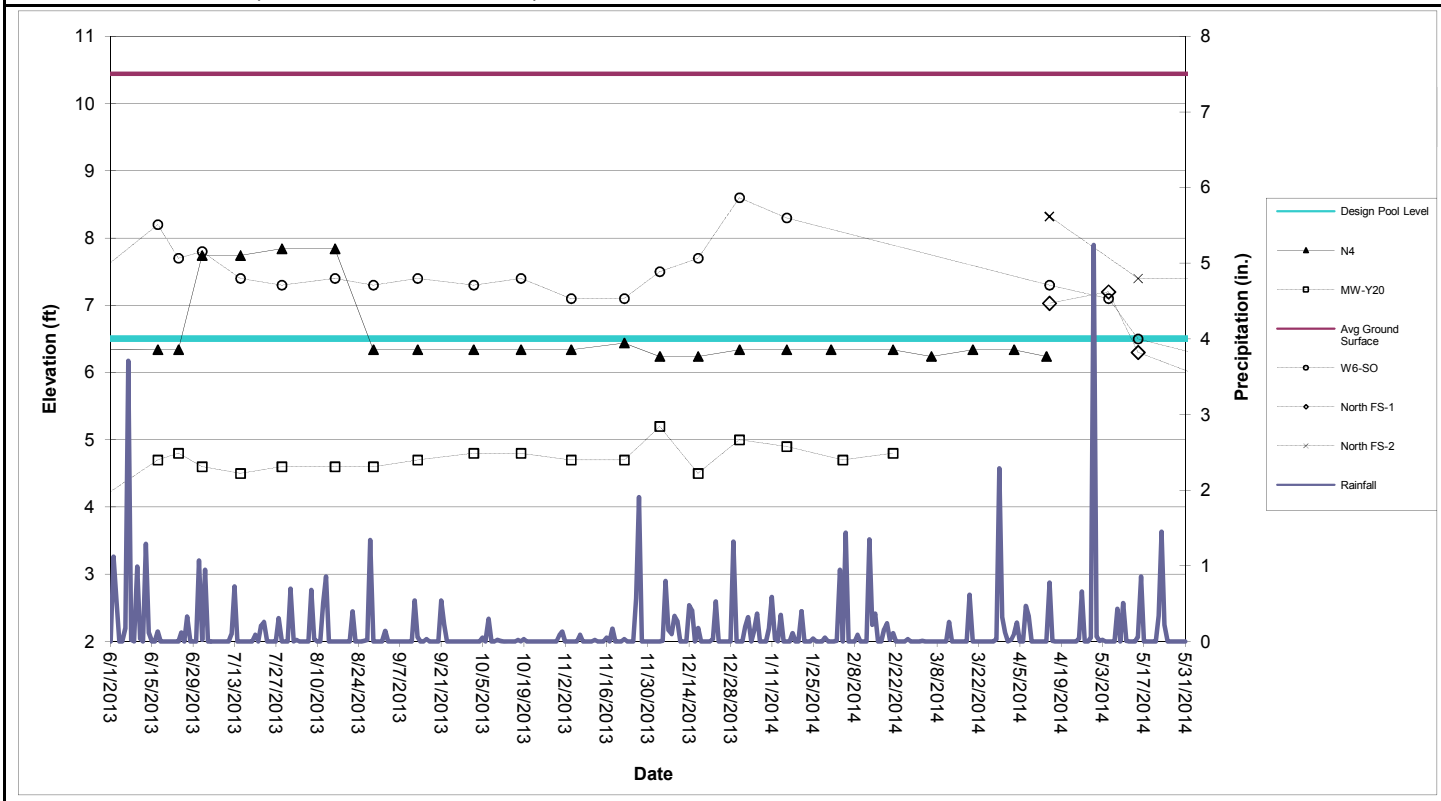
Perimeter Pool N1 (Sta. N13+60 to N20+25)



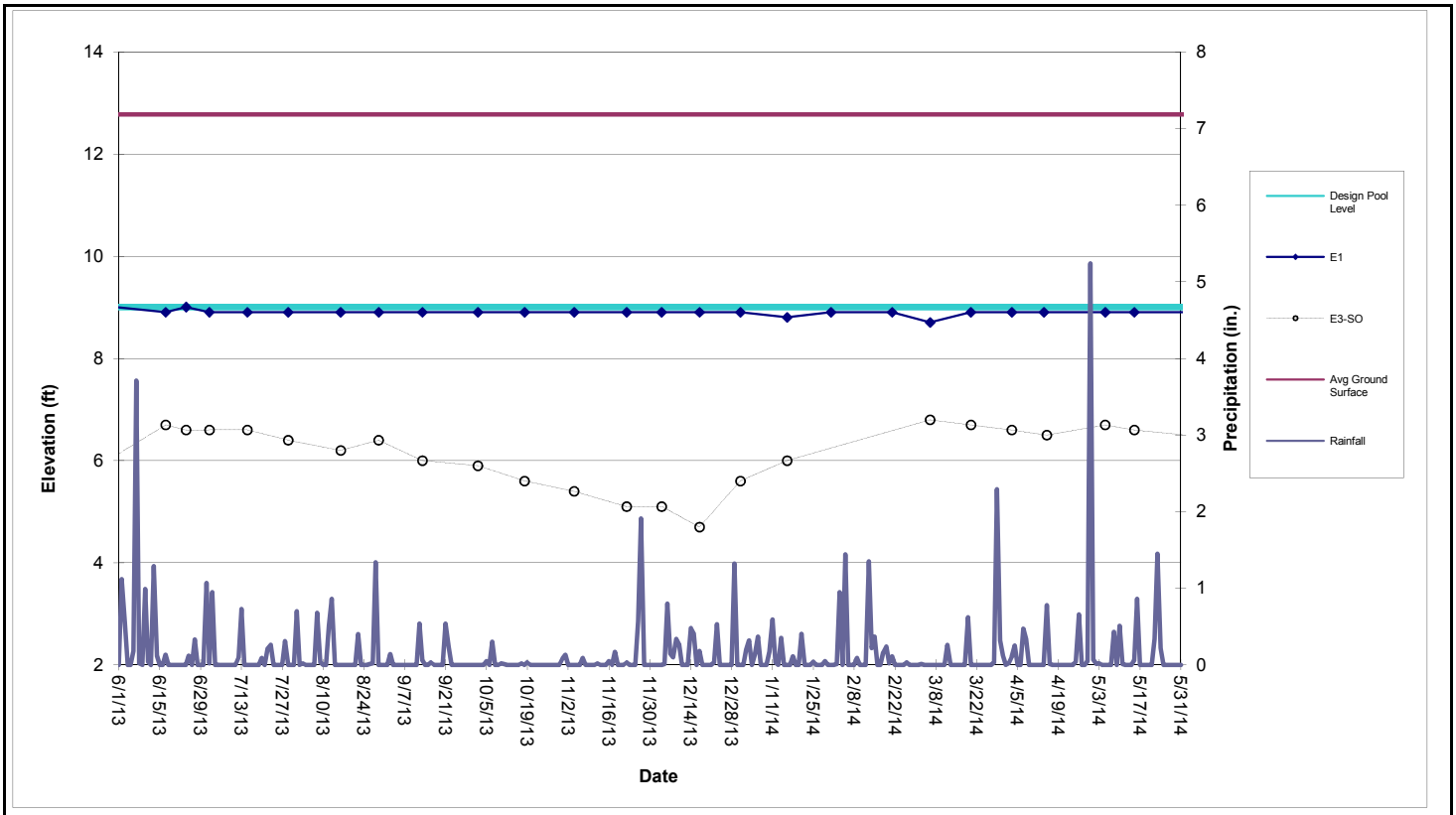
Perimeter Pool N2 (Sta. N10+73 to N13+10)



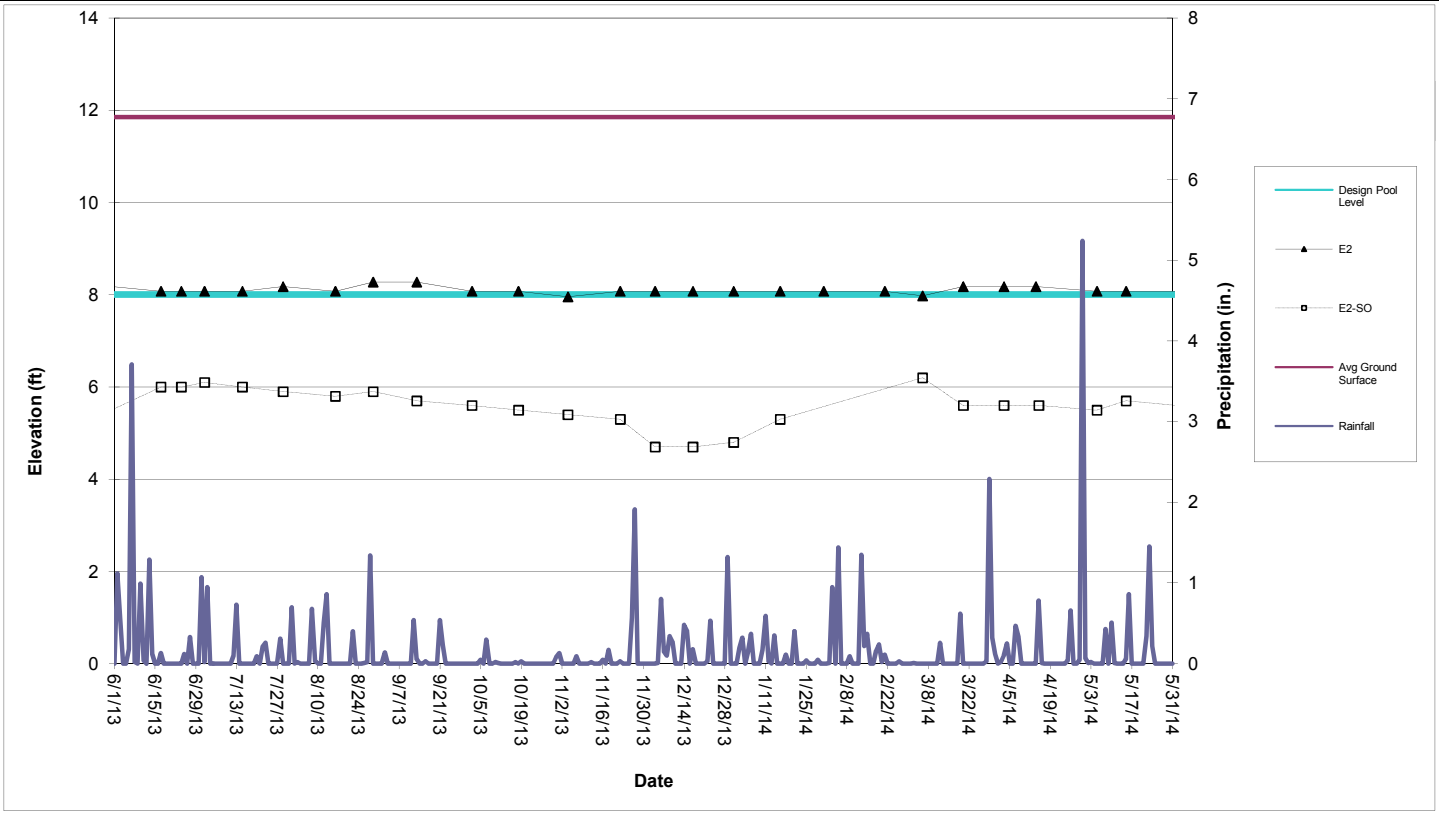
Perimeter Pool N3 (Sta. N6+80 to N10+23)



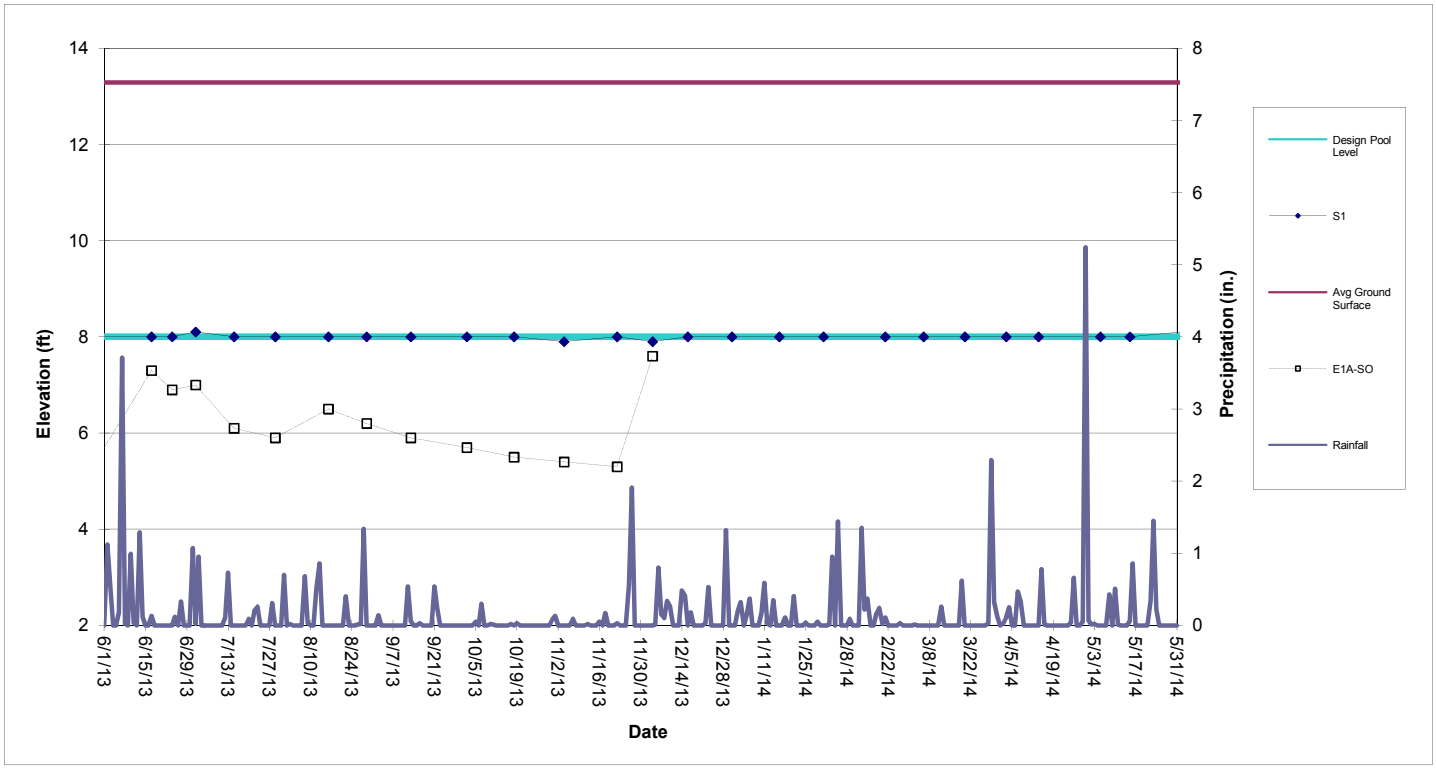
Perimeter Pool N4 (Sta. N6+80 to N10+23)



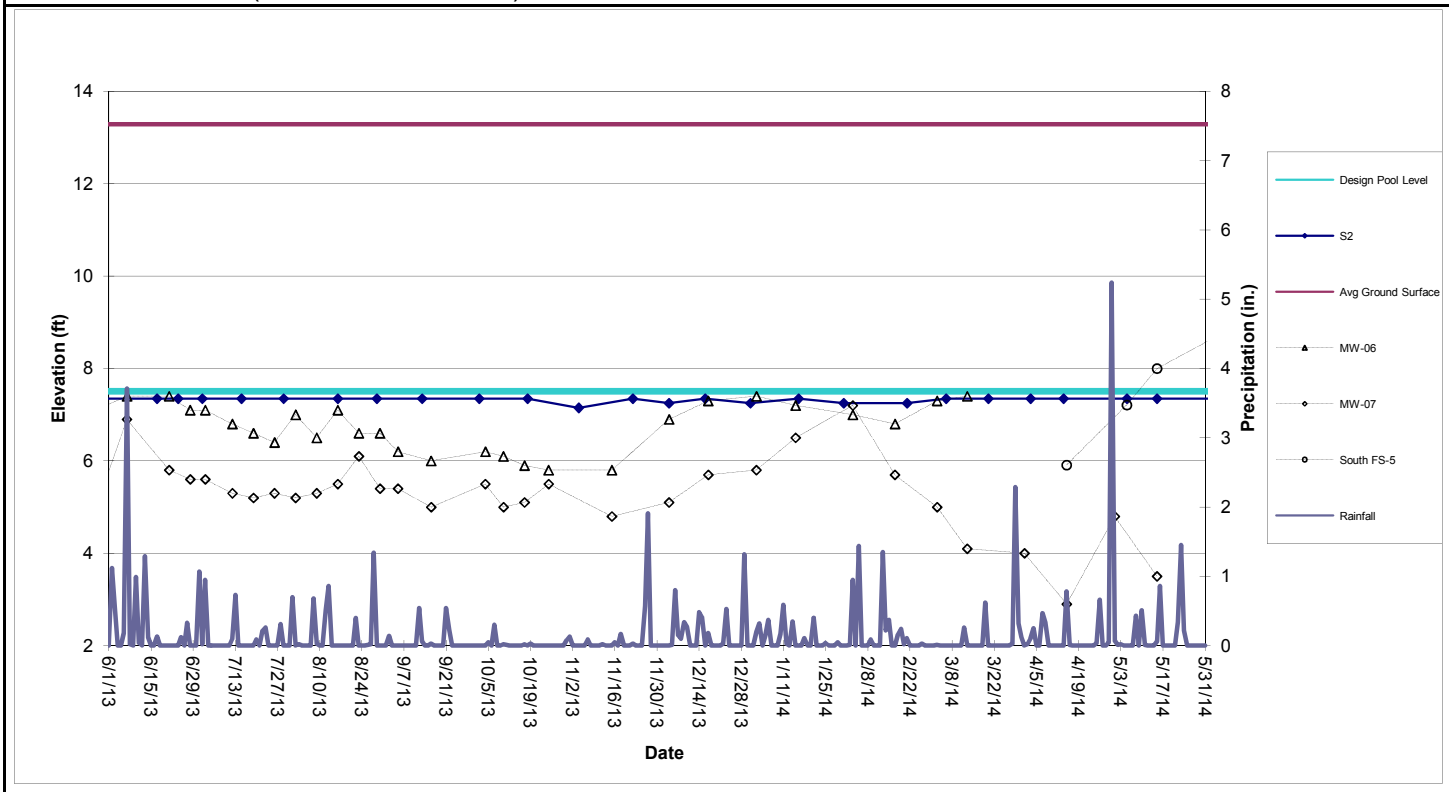
Perimeter Pool E1 (Sta. E0+50 to E3+75)



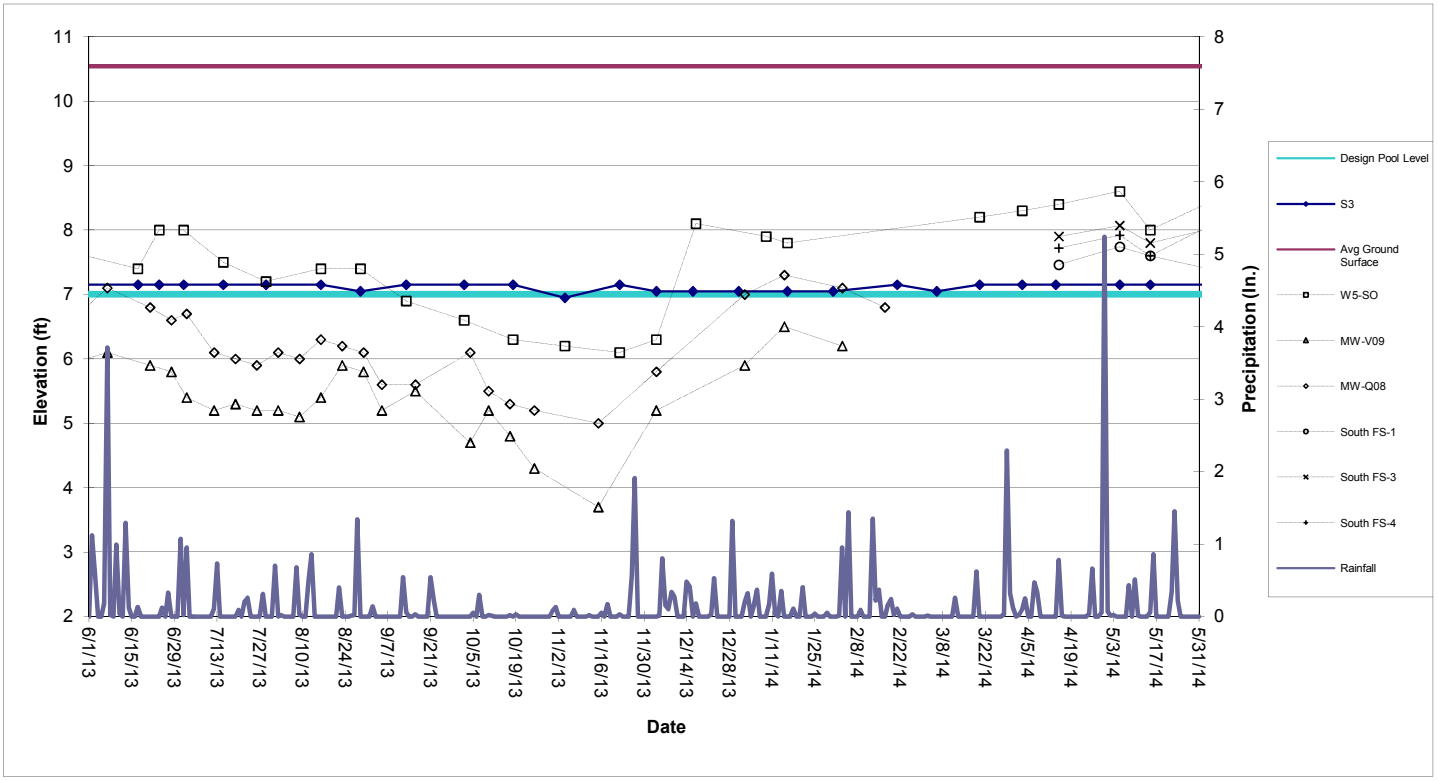
Perimeter Pool E2 (Sta. E4+50 to E7+25)



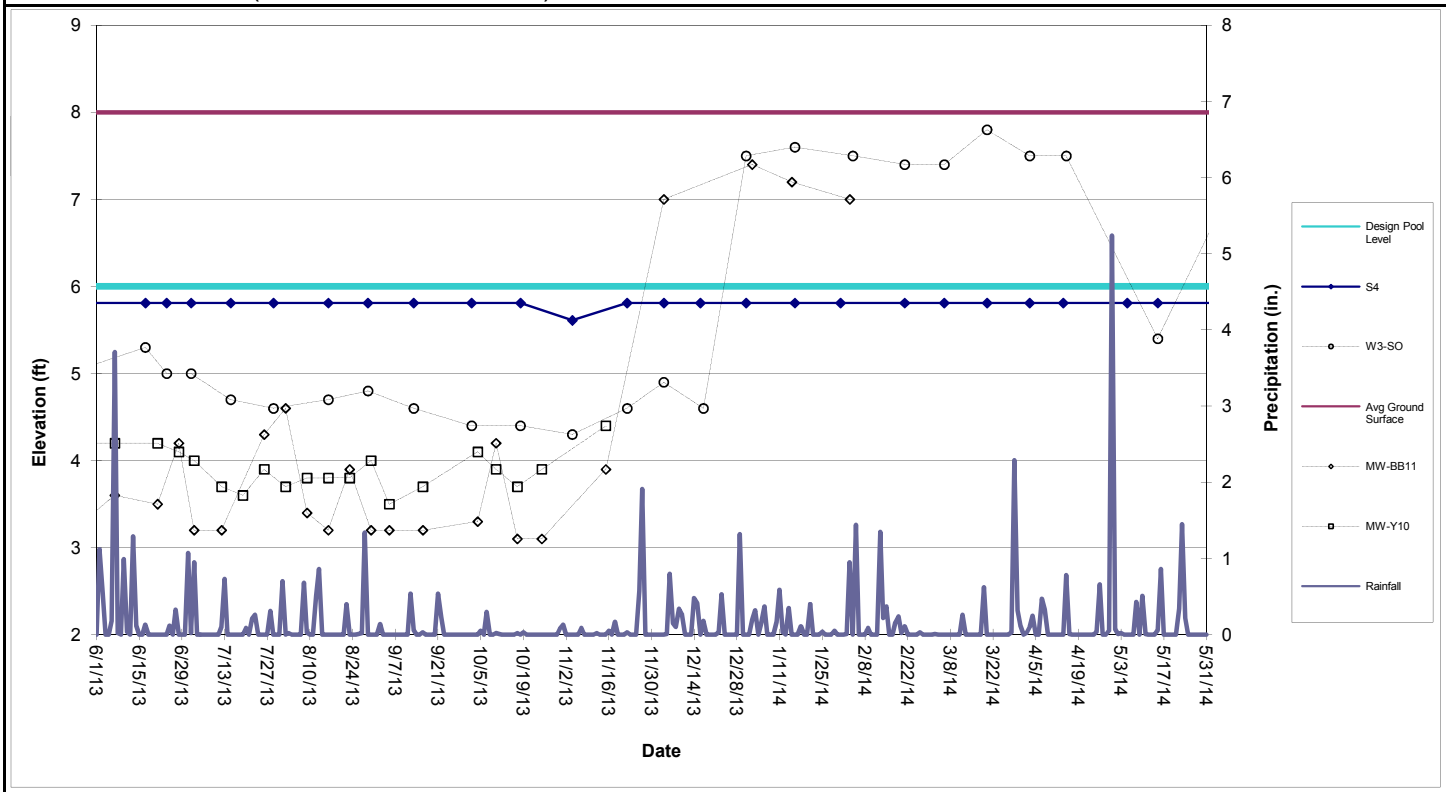
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

											134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells and perimeter pool risers are temporarily inaccessible:
134-MW-V09, N3W, N4E, N4W, E1A-SO

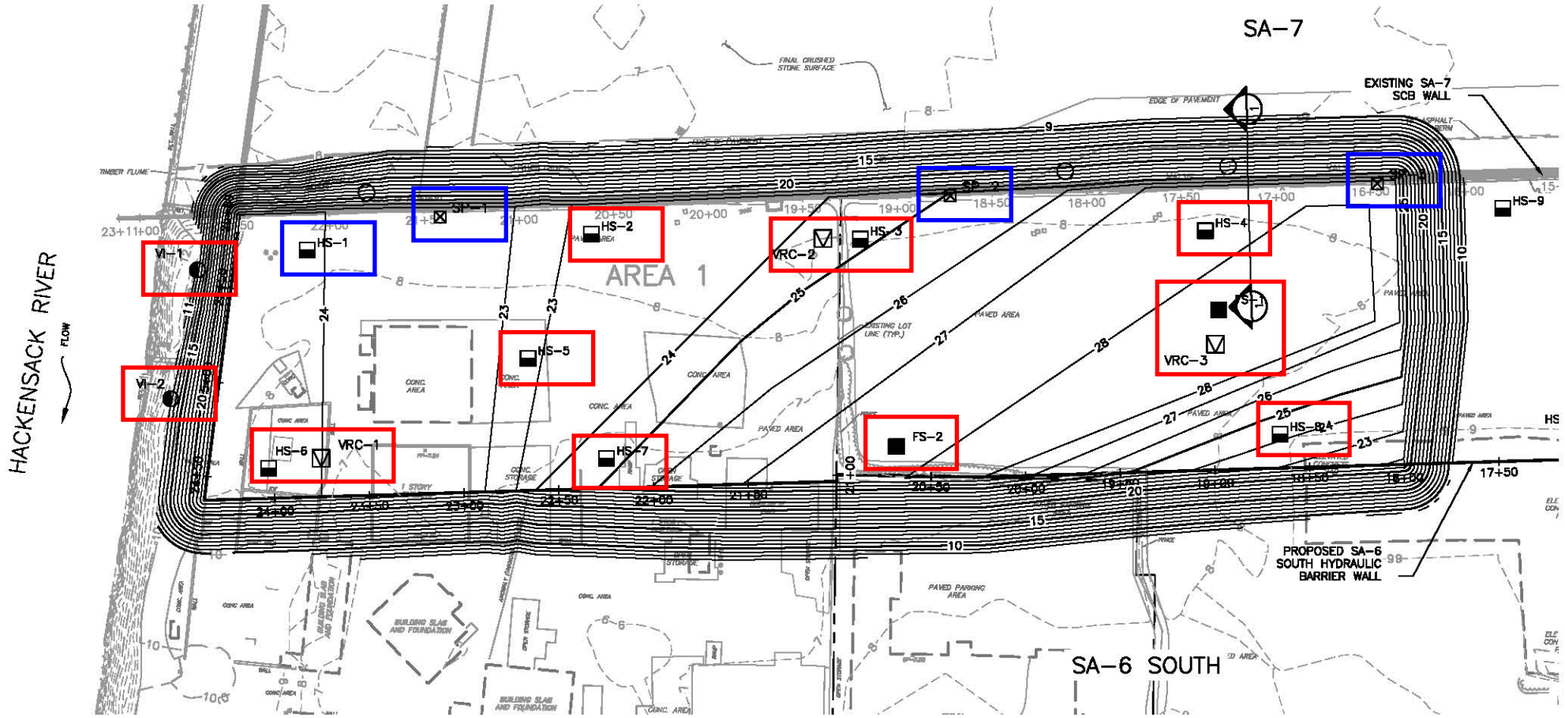
Attachment 8: Quality and Level Data in GWET Wells

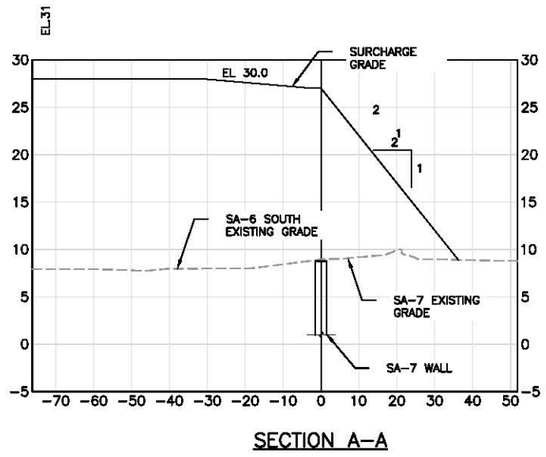
(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Quarterly Water Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1S





Installed Instrumentation Locations

Instrumentation Locations Not Installed

Revised DCB 001 7/29/13

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD., BOX 2106
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

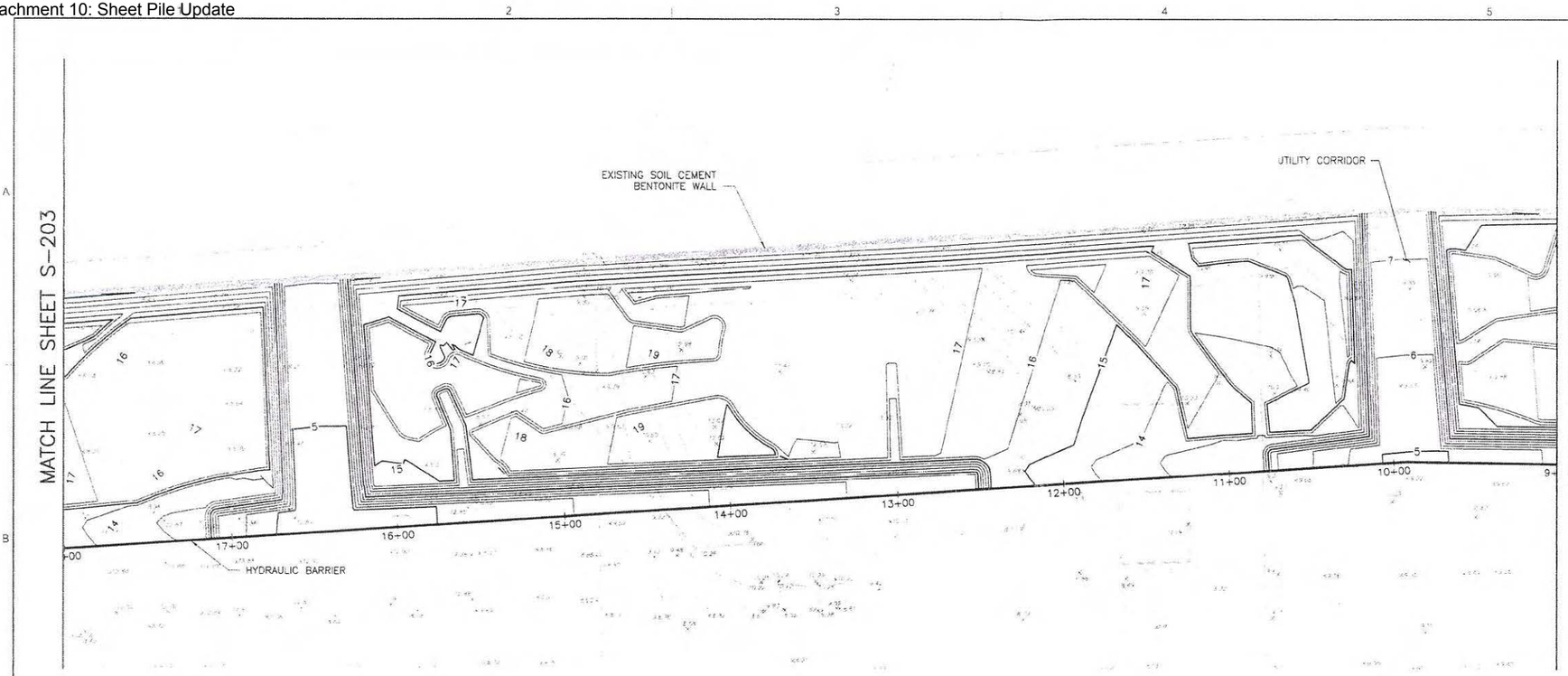
amec

INSTRUMENTATION LOCATION PLAN 1S

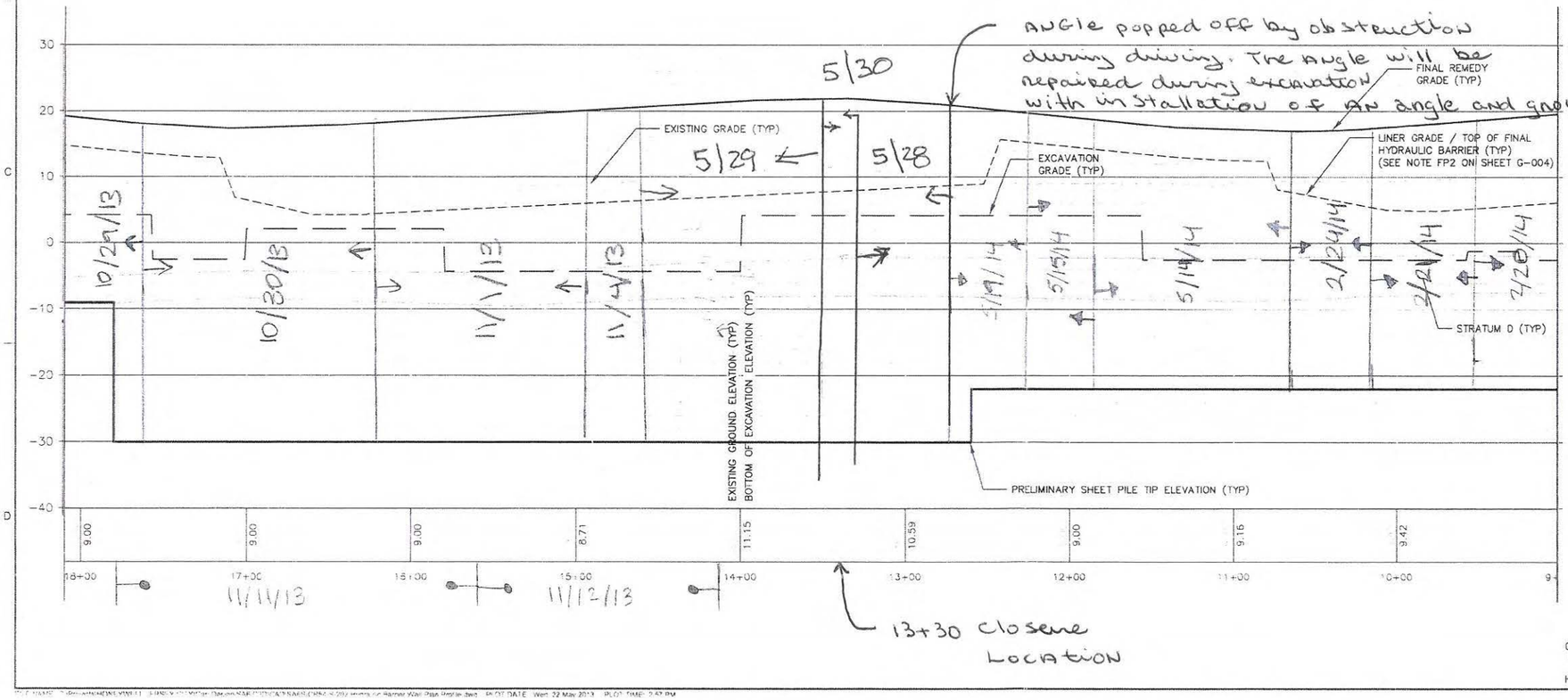
Figure F1

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log
- Vibration Monitoring Update



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+80	-20'	AZ 19-700
STRUCTURAL	12+80	17+80	-30'	AZ 19-700
STRUCTURAL	17+80	19+00	-9'	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04932400

NO.	DATE	DSGN	DR	CHK	APVD
0	06/07/13	TDD		RJR	TDD

ISSUED FOR CONSTRUCTION

BY	APVD
TDD	SHM

REVISION

SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

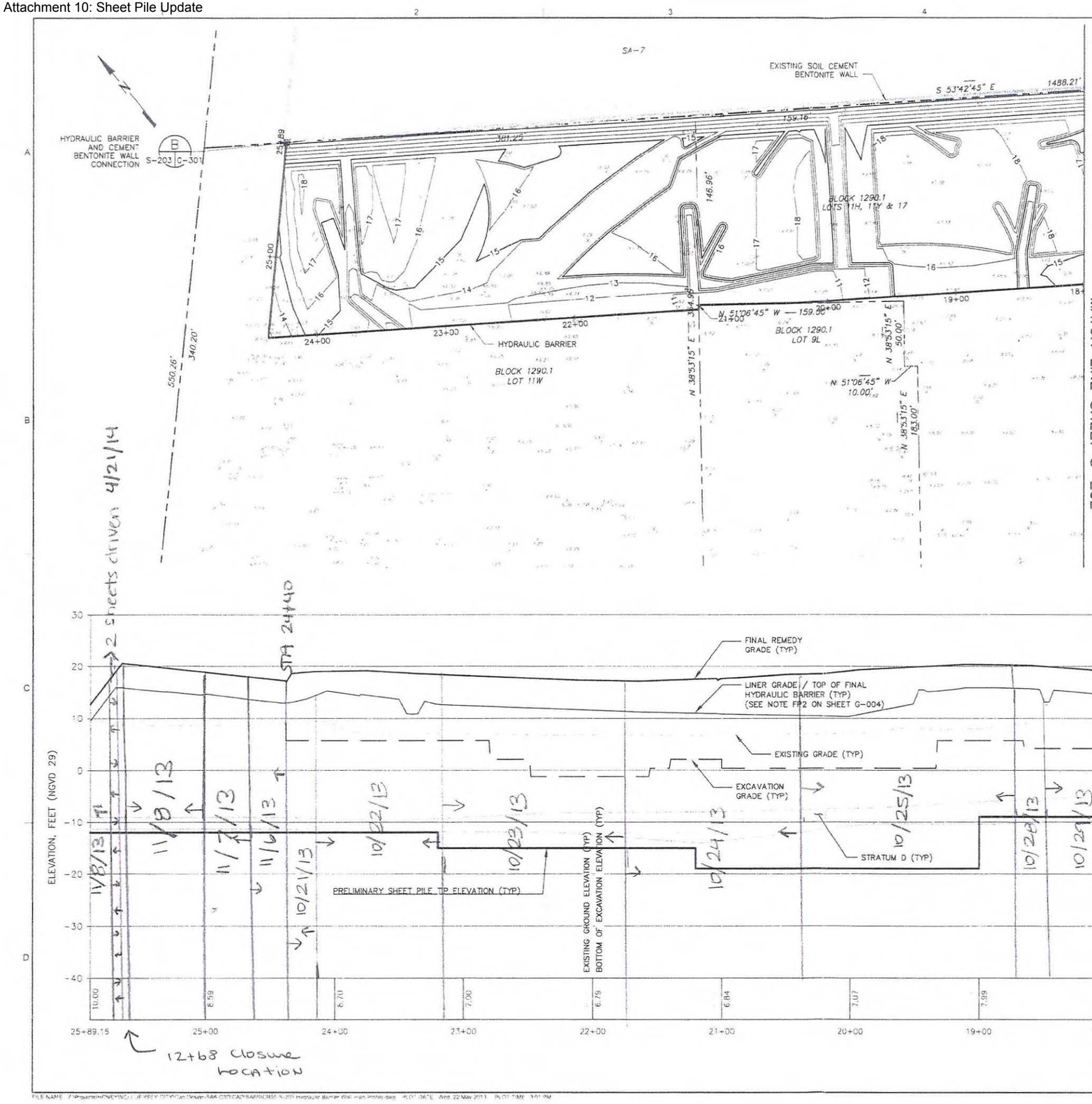
CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

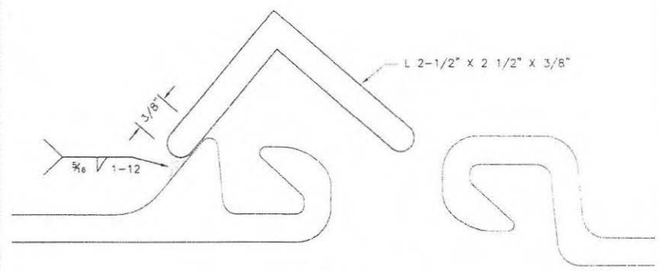
amec
Environment & Infrastructure, Inc
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

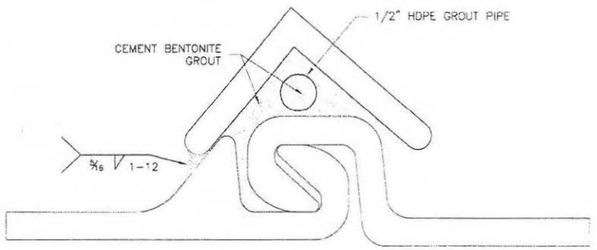
DATE	
PROJ	3480-12-0317
DWG	S-202
SHEET	54 OF 66

PLOT DATE: Wed 22 May 2013 PLOT TIME: 2:47 PM





BEFORE DRIVING SHEETS



SHEET SEALING DETAIL (BF) TYP S-203
NTS

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

0 20 40 80 SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 5 10 20 SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL

NO.	DATE	DSGN	DR	CHK	APVD
0	06/07/13	TDD	TDD	RJR	TDD

ISSUED FOR CONSTRUCTION

BY	APVD
TDD	SHM

SHM LICENSE NUMBER 24GF04012240 NJ PROFESSIONAL ENGINEER

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Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

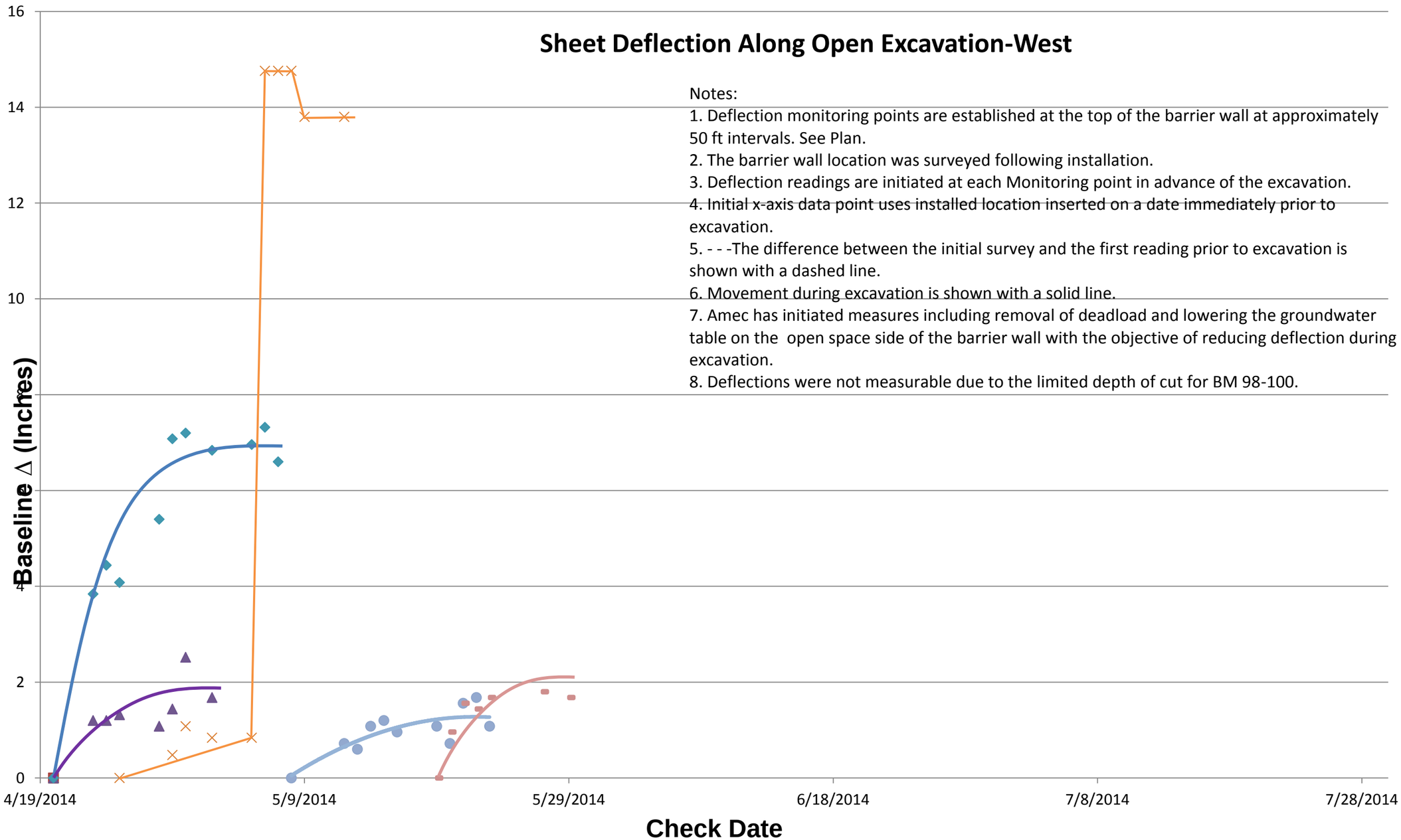
CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 -2829
NJ Certificate of Authorization Number 24GA28016900

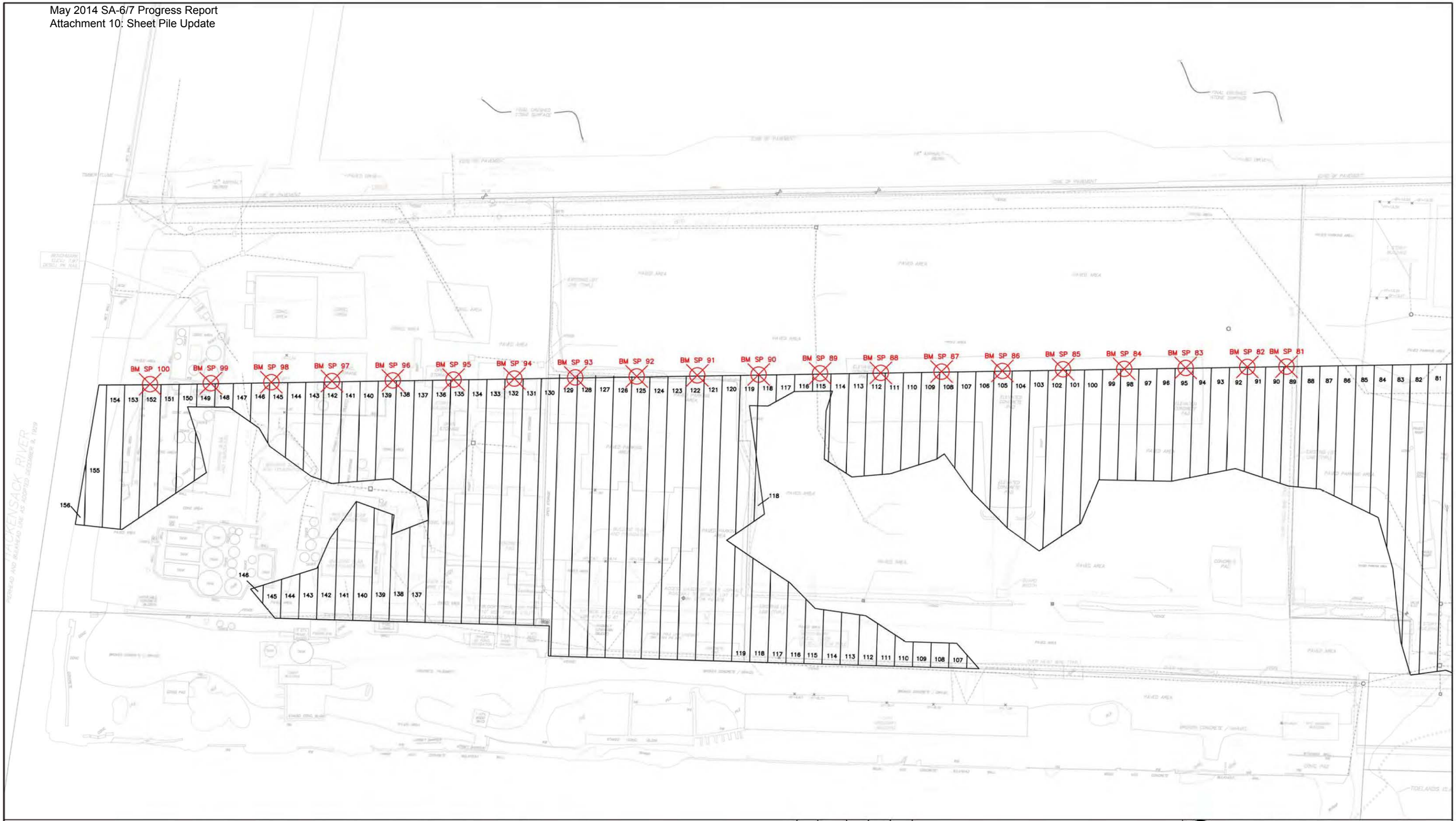
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-203
SHEET	55 OF 66

Sheet Deflection Along Open Excavation-West



Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.
8. Deflections were not measurable due to the limited depth of cut for BM 98-100.



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SHEET MONITORING LOCATIONS
03-20-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-7

Entact ID:

Date Exposed:

Describe Damage: (9) minor scrapes by excavator bucket - range in size from 1"Ø to 1"x10"

Damage Location (ft below top of sheet, inboard side outboard side): 7' - 10' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-6

Entact ID:

Date Exposed:

Describe Damage: (5) minor scrapes by excavator bucket - Range in size from 1/2" Ø to 1"x8"

Damage Location (ft below top of sheet, inboard side outboard side): 7'-10' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" Brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14-P-8

Entact ID:

Date Exposed:

Describe Damage: (5) minor scapes by excavator bucket. Range in size 1/2" Ø to 1/2" x 10"

Damage Location (ft below top of sheet, inboard side outboard side): 7' to 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-9

Entact ID:

Date Exposed:

Describe Damage: (15) minor scrapes by excavator bucket. Range in size from

Damage Location (ft below top of sheet, inboard side outboard side): 6' to 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-10

Entact ID:

Date Exposed:

Describe Damage: (13) minor scapes by excavator bucket - range in size from 1"Ø - 4"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-11

Entact ID:

Date Exposed:

Describe Damage: (11) minor scrapes by excavator bucket - range in size from 2"Ø - ½" x 24"

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-12

Entact ID:

Date Exposed:

Describe Damage: (11) minor scrapes by excavator bucket - range in size from 1"Ø - ½" x 24"

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Epoxy applied w/ 3" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-13

Entact ID:

Date Exposed:

Describe Damage: (5) minor scrapes by excavator bucket - range in size from ½"Ø - 3" x 12"

Damage Location (ft below top of sheet, inboard side outboard side): 6' - 12' outboard

Date Repaired: 5/5/14

Inspected by: Brian Shea

Describe Repair: Carboline epoxy applied w/ 3" brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14-P-14

Entact ID:

Date Exposed: 5/7/14

Describe Damage

(1) Minor scrape by the excavator bucket - ½" x 2"

Damage Location (ft below top of sheet, inboard side outboard side)

9' outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-15

Entact ID:

Date Exposed:

Describe Damage: 5/7/14

(5) Minor scrapes by the excavator bucket - ½"x2", 1"Ø, ½"Ø

Damage Location (ft below top of sheet, inboard side outboard side)

6'-10' outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, prepared w/ wire brush, epoxy applied w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-16

Entact ID:

Date Exposed: 5/7/14

Describe Damage

(1) Minor scrape by the excavator bucket - 1"x4"

Damage Location (ft below top of sheet, inboard side outboard side)

8', outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-17

Entact ID:

Date Exposed: 5/7/14

Describe Damage:

(5) Minor scrapes by the excavator bucket - ½"Ø, 1"Ø, 1"x5", 1x2", ½"Ø

Damage Location (ft below top of sheet, inboard side outboard side)

range from 6' to 10' - outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-18

Entact ID:

Date Exposed: 5/8/14

Describe Damage:

(3) minor scrapes by the excavator bucket to expose bare steel- 1x2", 1"Ø, 2"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 8'-10' outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash, grind w/ wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-19

Entact ID:

Date Exposed: 5/8/14

Describe Damage:

(3) large scrapes by the excavator bucket- 1x6", 3x6", 5"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 7-10' - outboard

Date Repaired: 5/8/14

Inspected by: Brian Shea

Describe Repair: pressure wash area, grind surface w/ wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 14P-26

Entact ID:

Date Exposed: ~~5/8~~ 5/9

Describe Damage:

(2) minor scrapes by the excavator bucket to expose bare steel- 1/2Ø, 1"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 11' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BSL

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-1

Entact ID:

Date Exposed:

Describe Damage:

(5) scrapes by the excavator ~~(illegible)~~ 349E bucket to expose bare steel- 3" long, 1/2"Ø 4" x 1/2", 1" x 1/2", 3" x 1/2"

Damage Location (ft below top of sheet, inboard side outboard side): 1'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, w/ 4" brush apply epoxy

Repair Log Closure: AMEC Signature: BSL

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-2

Entact ID:

Date Exposed:

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"Ø, 3"x½", ½"Ø 2"x1", 7"x1/2"

Damage Location (ft below top of sheet, inboard side outboard side): 6'-9' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-4

Entact ID:

Date Exposed:

Describe Damage: (4) minor scrapes by the excavator bucket - 1x2", 2"x6", ½"Ø, 1"Ø, ~~5x6~~

Damage Location (ft below top of sheet, inboard side outboard side): 5'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-3

Entact ID:

Date Exposed:

Describe Damage: (10) scrapes by Cat 349E excavator bucket - 1"Ø, 3"x½", ½"Ø, 1"Ø, 7"x1", 2"Ø, 3"x½", ½"Ø, 1"x2", 1"x3"

Damage Location (ft below top of sheet, inboard side outboard side): 4-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-5

Entact ID:

Date Exposed:

Describe Damage: (9) scrapes by Cat 349E excavator bucket - 1/2"Ø, ½"Ø, ¼"x6", 1"Ø, ½"x3", 1"Ø, ¼"x6", 2"Ø, ½"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 4'-8" outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-6

Entact ID:

Date Exposed:

Describe Damage:
(9) scrapes by Cat 349E excavator - 1/2"x4", 1"Ø, 1"x2", 1"Ø, 1/2"x24", 1/2"x3", 1/4"x36", 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side):
3'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure Wash, wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-7

Entact ID:

Date Exposed:

Describe Damage:
(4) miner scrapes by Cat 349E excavator bucket - 1/2"Ø, 1/2"Ø, 1"x3", 1"x6".

Damage Location (ft below top of sheet, inboard side outboard side):
6'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-8

Entact ID:

Date Exposed:

Describe Damage:
(10) scrapes by the Cat 349E excavator bucket - 1/2"Ø, 1x2", 1"Ø, 1/2"x4", 1/2"Ø, 1"Ø, 1/2"x7", 1x2", 1/2"x12", 1/2"x18"

Damage Location (ft below top of sheet, inboard side outboard side): 7'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-9

Entact ID:

Date Exposed:

Describe Damage:
(6) scrapes by the cat 349E excavator bucket - 1/4"x6", 1"Ø, 1"Ø, 1/2"x6", 1x2", 1/2Ø

Damage Location (ft below top of sheet, inboard side outboard side):
6'-10' outboard

Date Repaired:

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BS

Date: 5/22/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

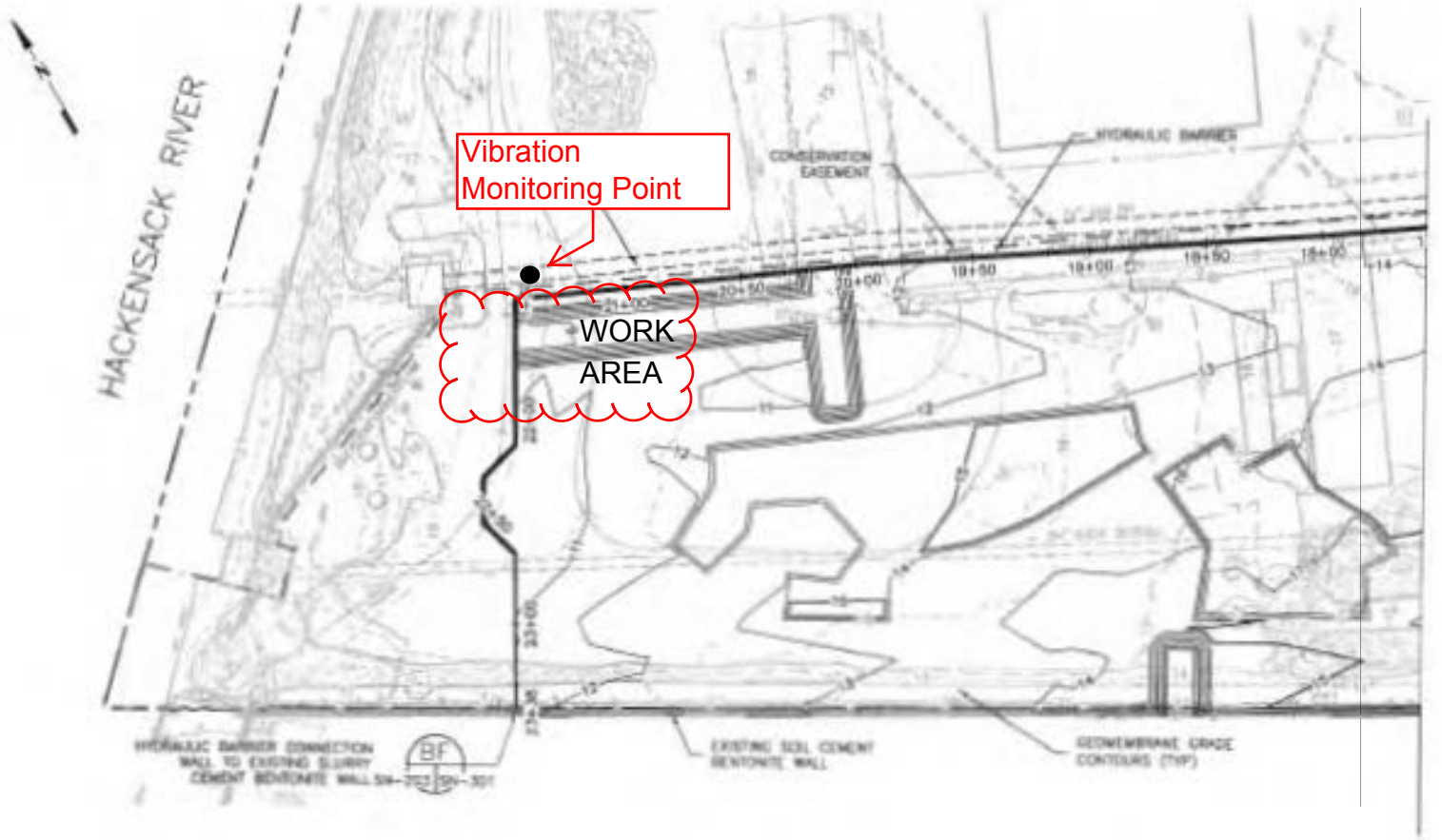
February 27th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 2:12 PM until 3:12 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Four sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


Vibration
Monitoring Point
WORK
AREA
HACKENSACK RIVER
CONSERVATION
EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT
BENTONITE WALL
GEOMEMBRANE GRADE
CONTOURS (TYP)

Event Report

Histogram Start Time	14:12:45 February 27, 2014	**Serial Number**	BA15371 V 10.60-8.17 BlastMate III/8
Histogram Finish Time Number	15:12:38 February 27, 2014	**Battery Level**	6.9 Volts
of Intervals Range	766.00 at 5 seconds	**Unit Calibration**	January 29, 2014 by Instantel
Sample Rate	Geo:10.00 in/s	**File Name**	Q3715KE7.K90
Job Number:	1024sps		

Notes 1
Location: SA-6 North 72" in Force Main
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

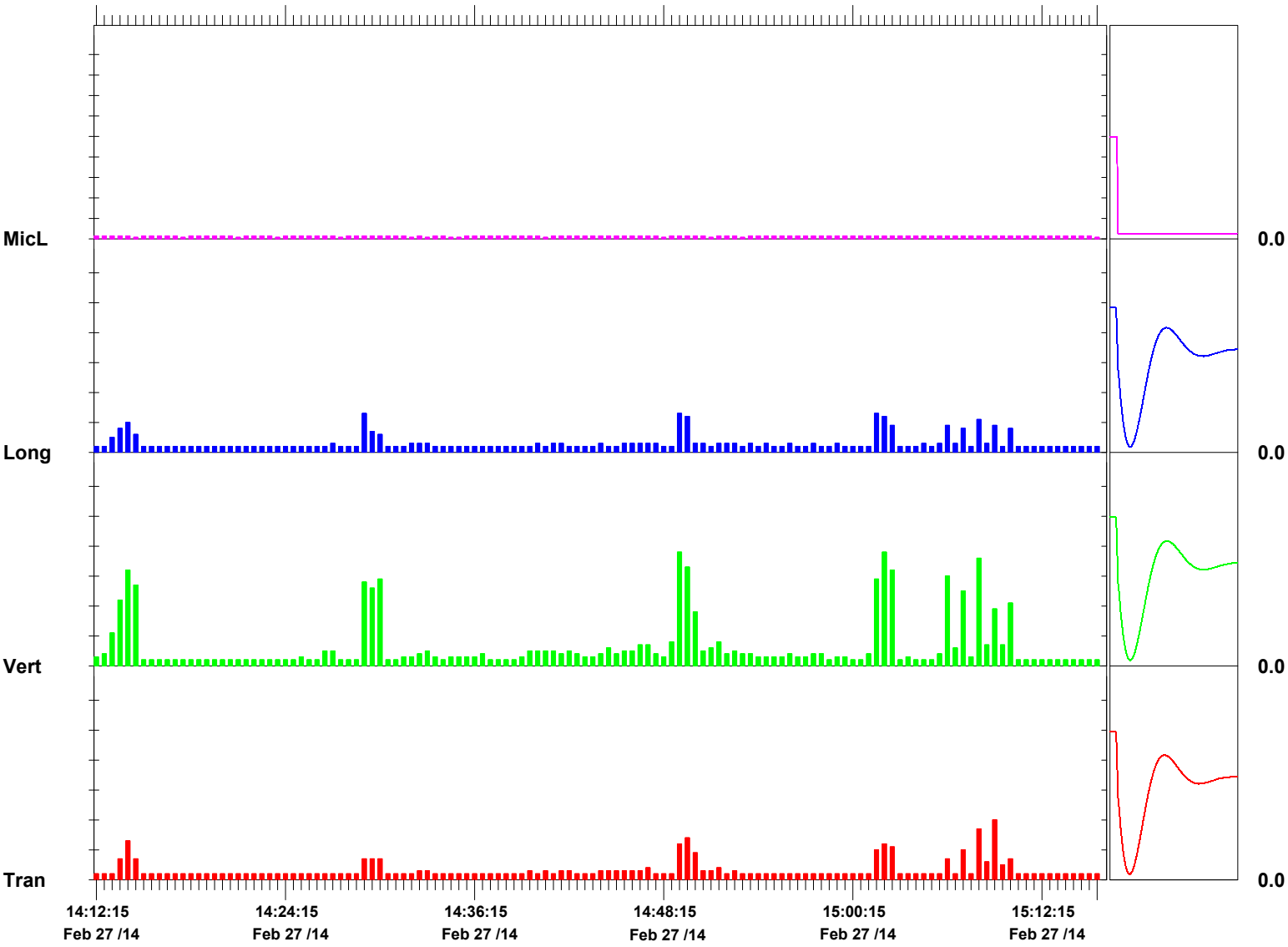
Post Event Notes

Extended Notes

Microphone
PSPL
ZC Freq
Channel Test

	Tran	Vert	Long	
PPV	0.1000	0.190	0.0650	in/s
ZC Freq	32	43	28	Hz
Date	Feb 27 /14	Feb 27 /14	Feb 27 /14	
Time	15:10:05	14:50:10	14:30:05	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.196 in/s on February 27, 2014 at 14:50:10



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Mic: 0.00050 psi(L)/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

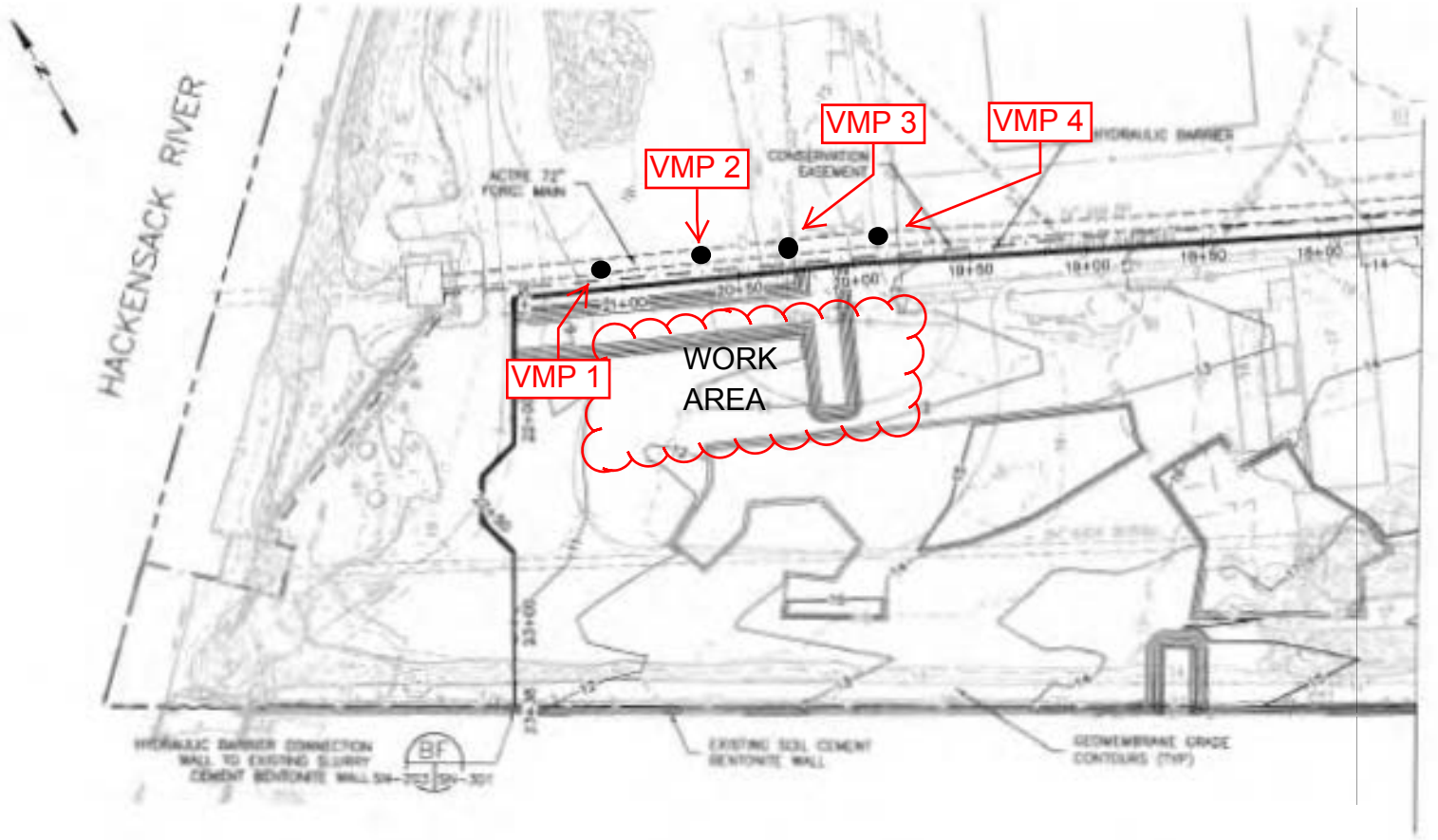
March 5th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 10:00 AM until 5:15 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

26 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 1
VMP 2
VMP 3
VMP 4
WORK
AREA
ACTIVE 72" FORC. MAIN
CONSERVATION EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time 10:00 AM March 5, 2014
Histogram Finish Time 10:55 AM March 5, 2014
Number of Intervals 623.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q3715KDW.3A0

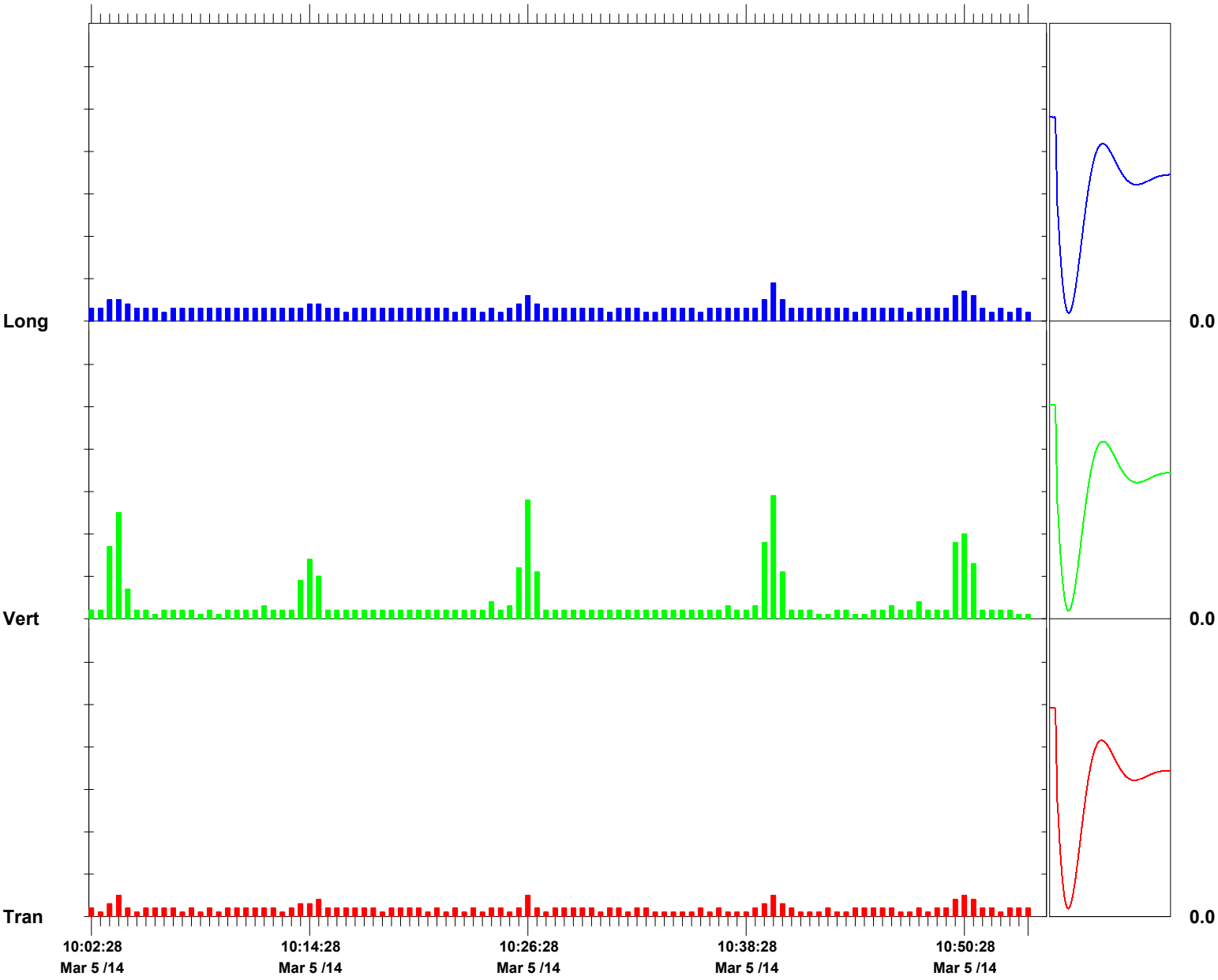
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.145	0.0450	in/s
ZC Freq	39	30	27	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	10:03:53	10:39:58	10:39:58	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.3	4.1	4.1	

Peak Vector Sum 0.146 in/s on September 1, 1995 at 12:39:58



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div

Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time 11:10:56 March 5, 2014
Histogram Finish Time 11:46:53 March 5, 2014
Number of Intervals 431.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

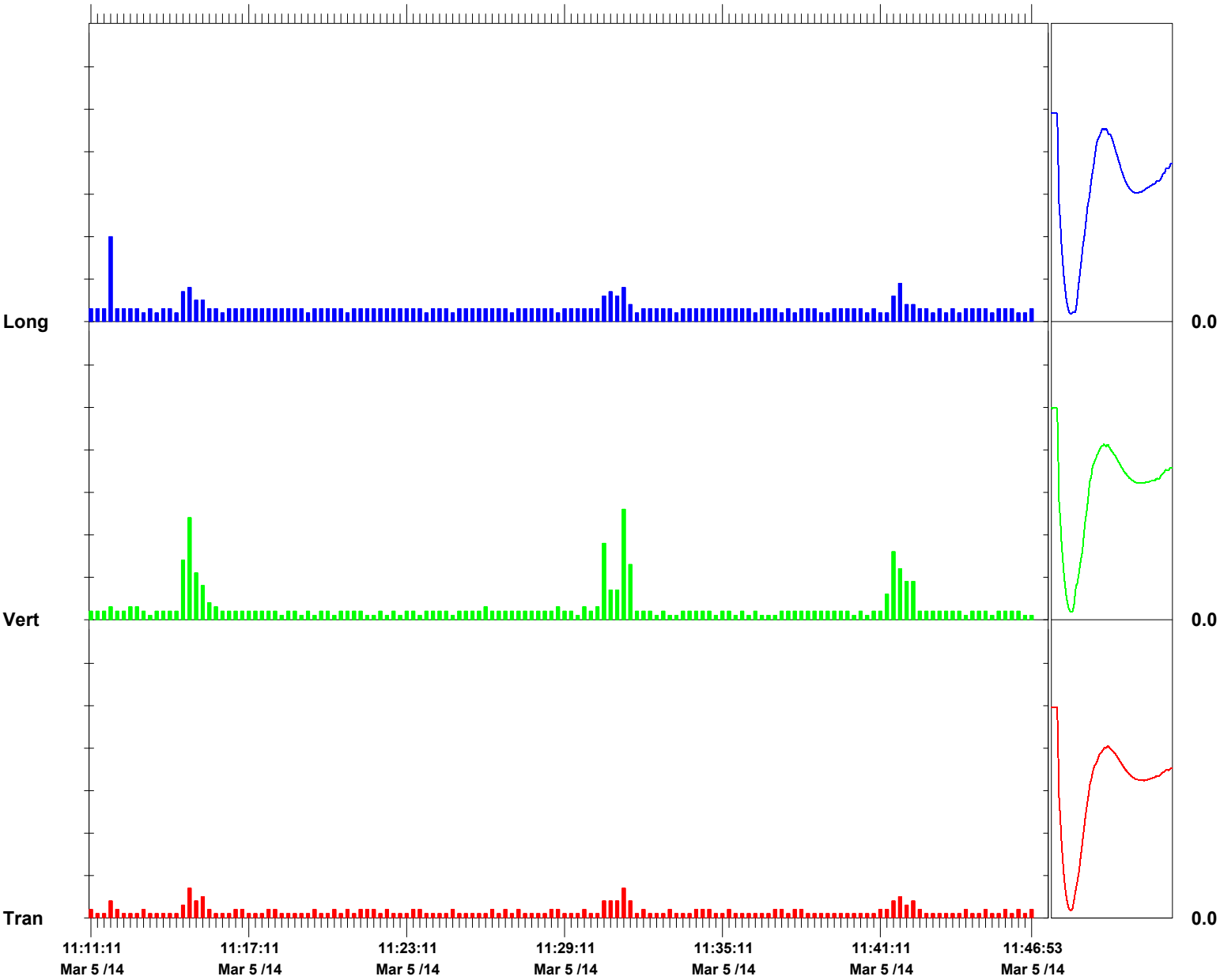
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F84C.E80

Post Event Notes
VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.130	0.1000	in/s
ZC Freq	43	37	13	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	11:14:56	11:31:21	11:11:56	
Sensor Check	Passed	Passed	Passed	
Frequency	7.2	7.4	7.4	Hz
Overswing Ratio	5.0	4.4	2.8	

Peak Vector Sum 0.131 in/s on March 5, 2014 at 11:31:21



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time 11:47:42 March 5, 2014
Histogram Finish Time 12:07:17 March 5, 2014
Number of Intervals 234.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F84E.3I0

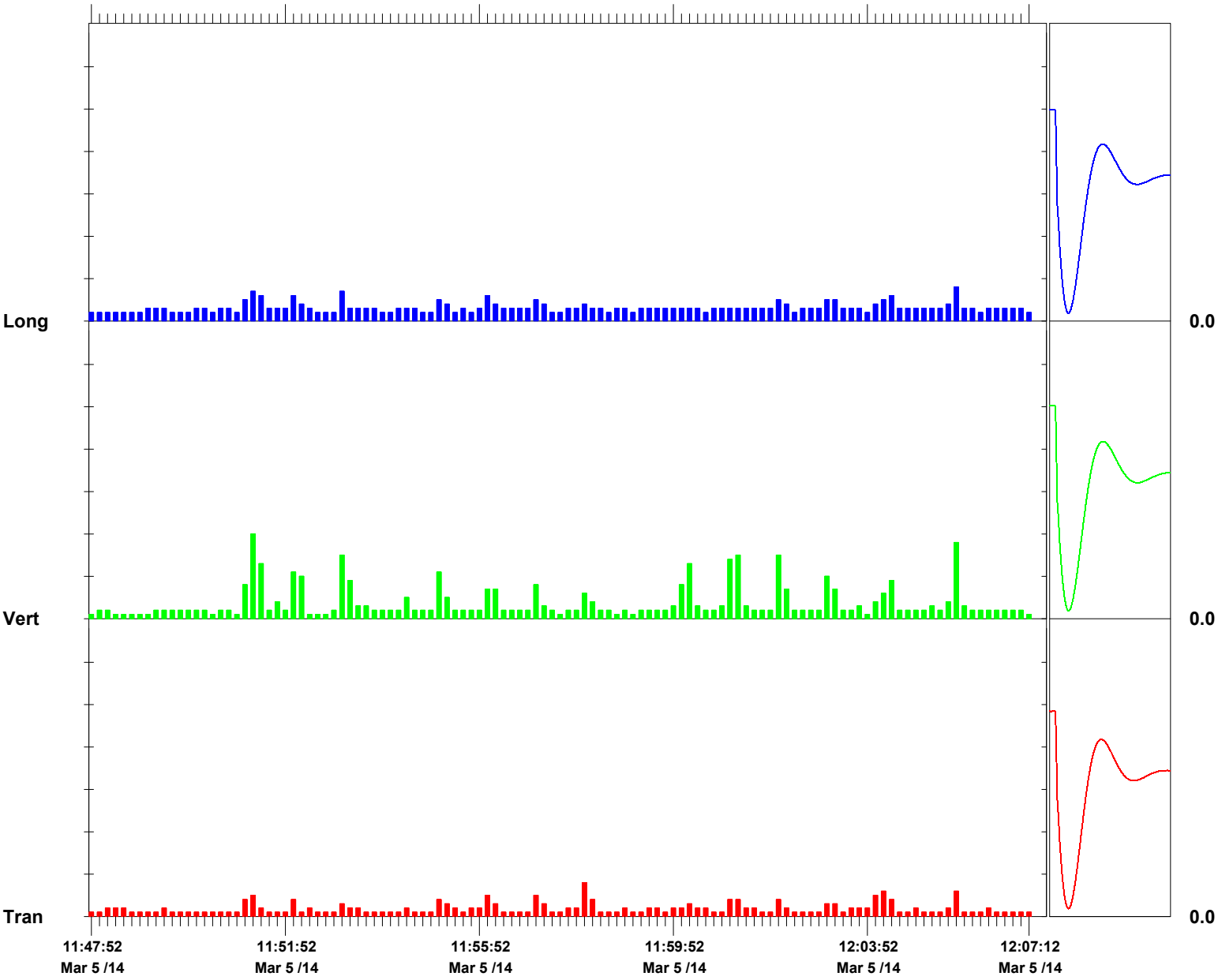
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 2

Extended Notes

	Tran	Vert	Long	
PPV	0.0400	0.1000	0.0400	in/s
ZC Freq	34	39	28	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	11:58:02	11:51:07	12:05:37	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.100 in/s on March 5, 2014 at 11:51:07



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time 13:15:00 March 5, 2014
Histogram Finish Time 15:38:45 March 5, 2014
Number of Intervals 1725.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F84I.500

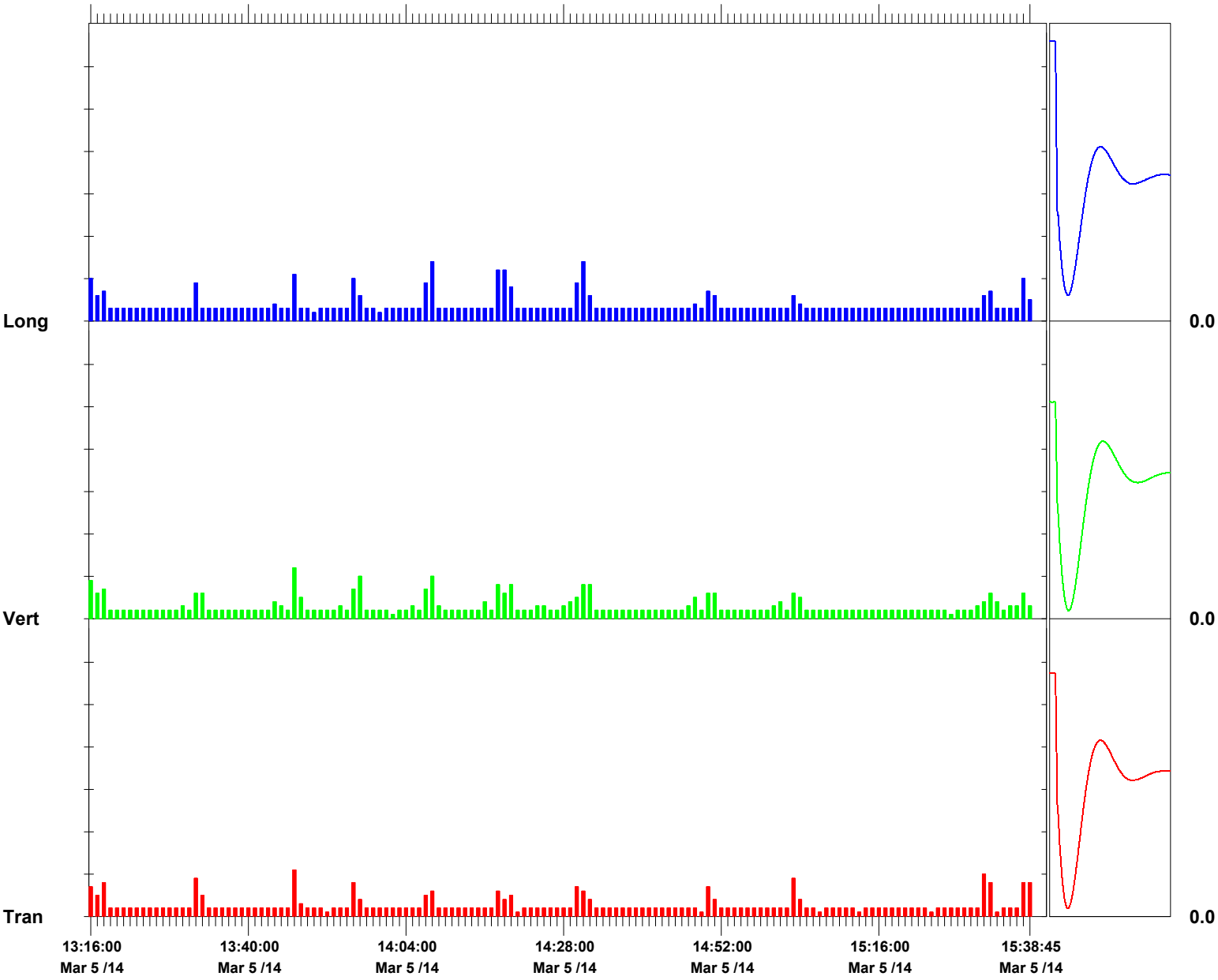
Post Event Notes

VMP 3

Extended Notes

	Tran	Vert	Long	
PPV	0.0550	0.0600	0.0700	in/s
ZC Freq	34	32	28	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	13:46:20	13:46:20	14:07:30	
Sensor Check	Passed	Passed	Check	
Frequency	7.6	7.3	7.8	Hz
Overswing Ratio	4.3	4.1	3.9	

Peak Vector Sum 0.0745 in/s on March 5, 2014 at 14:07:30



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 15:41:20 March 5, 2014
Histogram Finish Time 17:17:59 March 5, 2014
Number of Intervals 1159.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

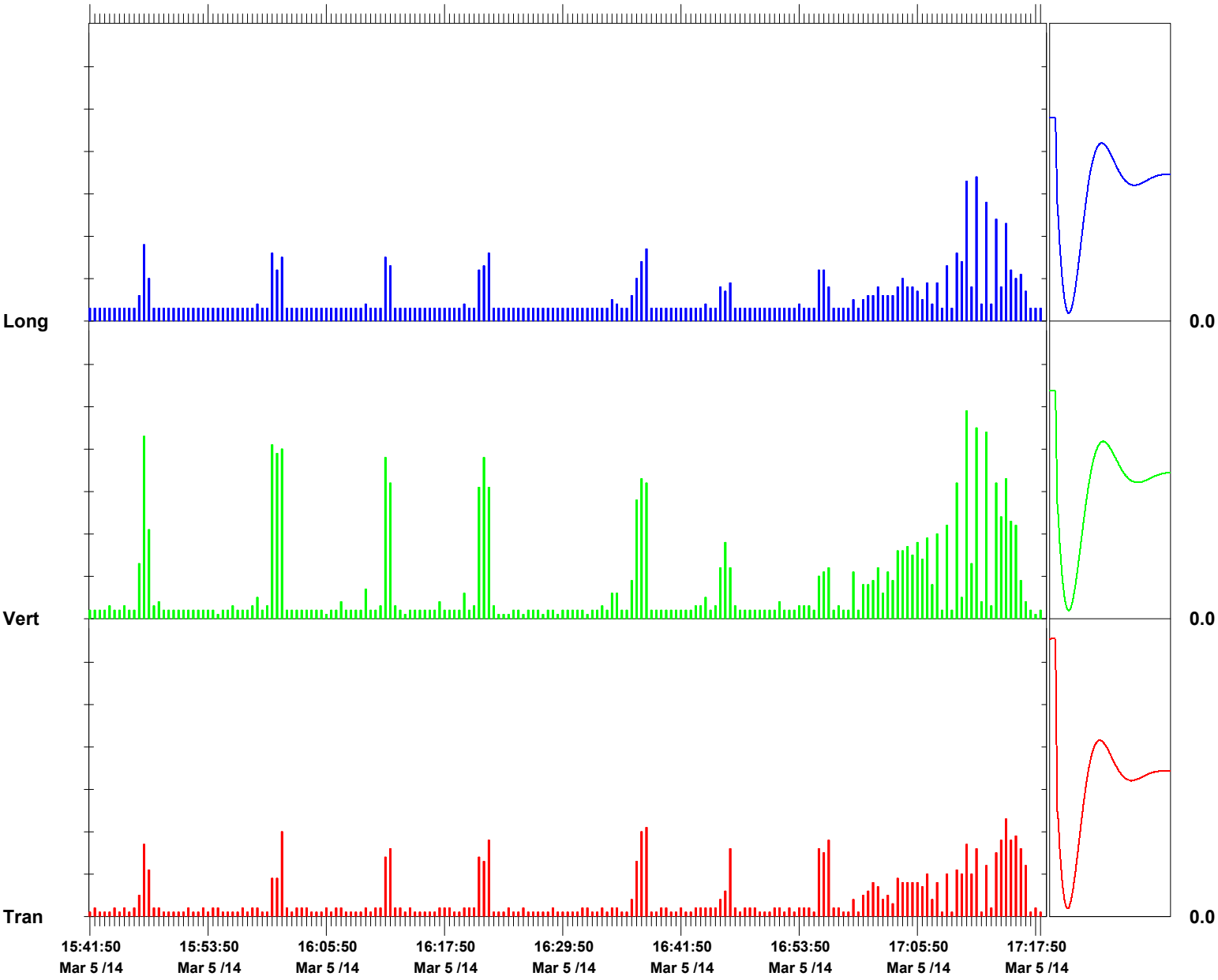
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F84O.WW0

Post Event Notes
VMP 4

Extended Notes

	Tran	Vert	Long	
PPV	0.115	0.245	0.170	in/s
ZC Freq	28	28	27	Hz
Date	Mar 5 /14	Mar 5 /14	Mar 5 /14	
Time	17:14:25	17:10:40	17:11:35	
Sensor Check	Check	Passed	Passed	
Frequency	7.8	7.3	7.5	Hz
Overswing Ratio	4.3	4.1	4.1	

Peak Vector Sum 0.266 in/s on March 5, 2014 at 17:11:35



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

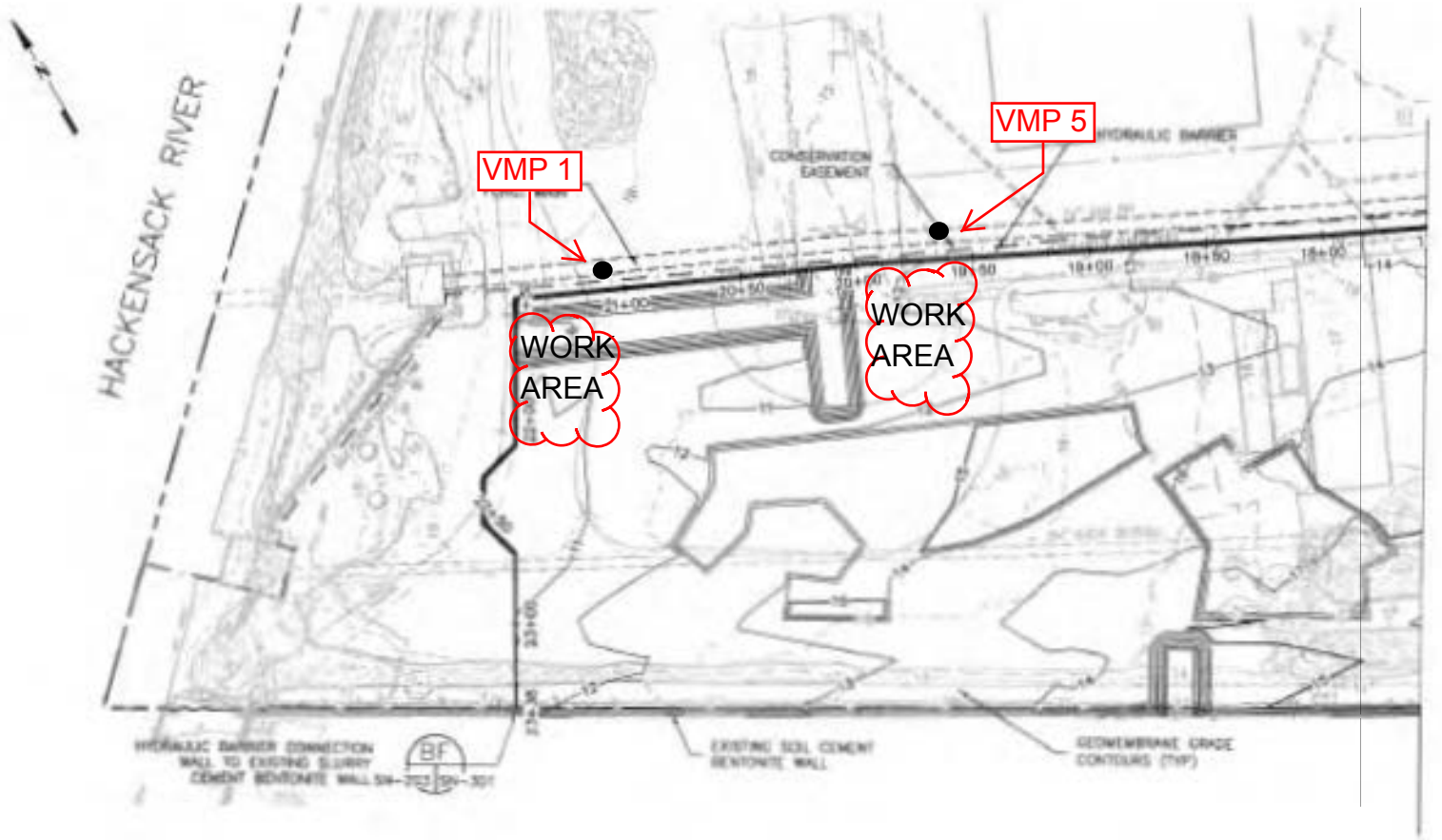
March 6th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 1:20 PM until 3:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Five sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 1
VMP 5
WORK AREA
WORK AREA
CONSERVATION EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time 13:24:41 March 6, 2014
Histogram Finish Time 13:37:26 March 6, 2014
Number of Intervals 153.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

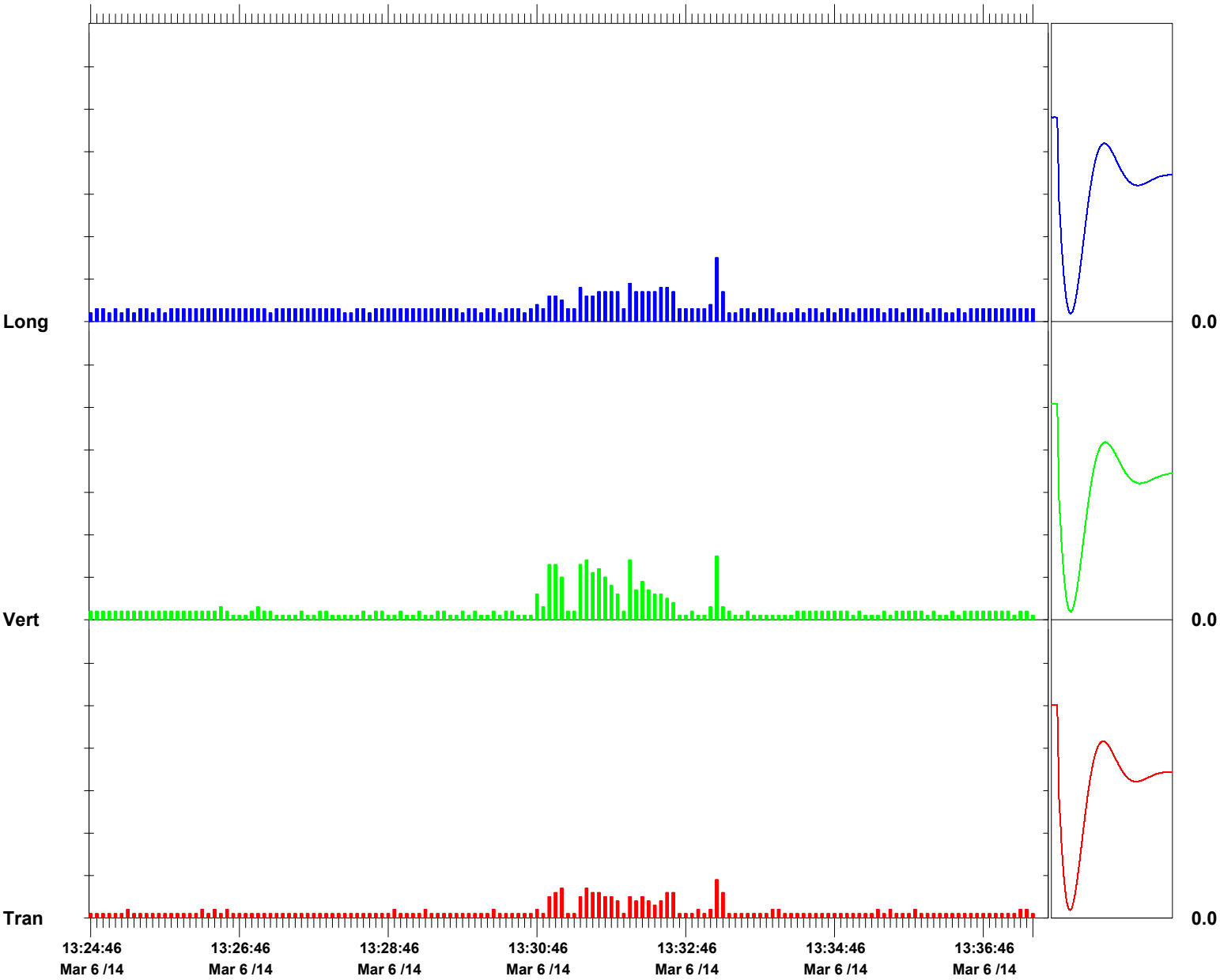
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F86D.950

Post Event Notes
VMP 1

Extended Notes

	Tran	Vert	Long	
PPV	0.0450	0.0750	0.0750	in/s
ZC Freq	43	28	27	Hz
Date	Mar 6 /14	Mar 6 /14	Mar 6 /14	
Time	13:33:11	13:33:11	13:33:11	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.0886 in/s on March 6, 2014 at 13:33:11



Time Scale: 5 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 13:49:49 March 6, 2014
Histogram Finish Time 15:29:00 March 6, 2014
Number of Intervals 1190.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F86E.F10

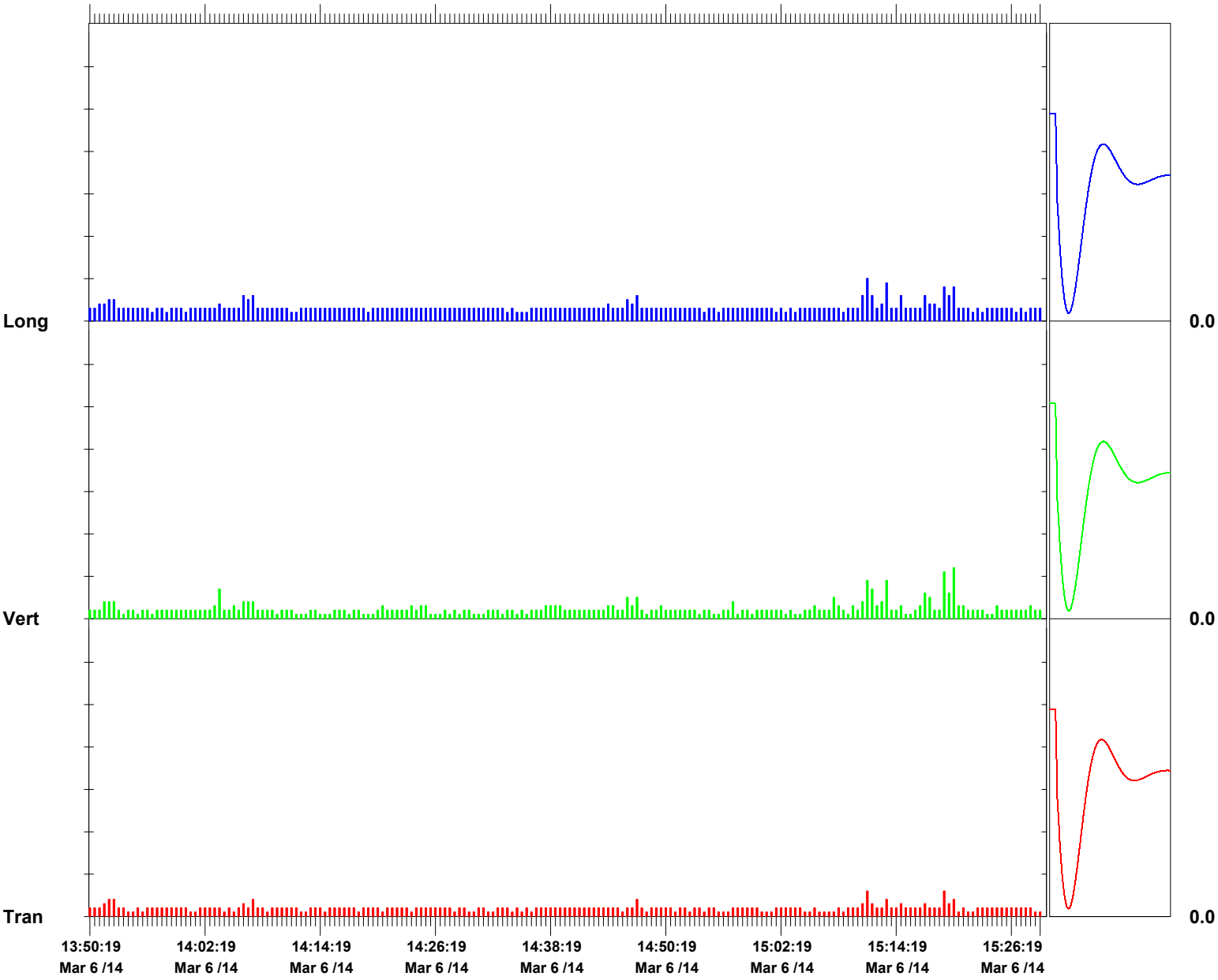
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 5

Extended Notes

	Tran	Vert	Long	
PPV	0.0300	0.0600	0.0500	in/s
ZC Freq	37	34	28	Hz
Date	Mar 6 /14	Mar 6 /14	Mar 6 /14	
Time	15:11:19	15:20:09	15:11:19	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.0610 in/s on March 6, 2014 at 15:20:09



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

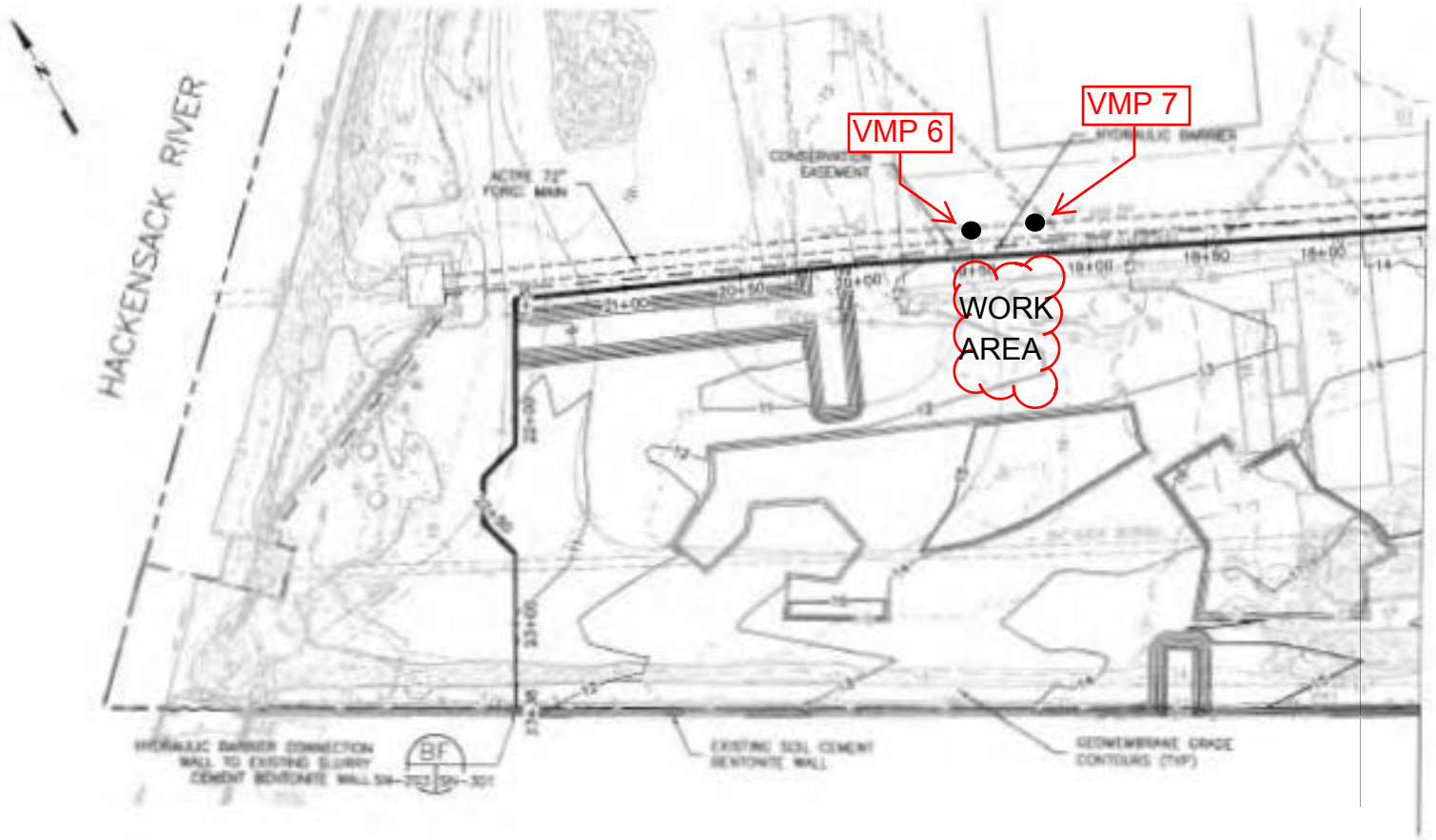
March 7th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 9:45 AM until 3:30 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

Twelve sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 6
VMP 7
WORK AREA
ACTIVE 72" FORC. MAIN
CONSERVATION EASEMENT
HYDRAULIC BARRIER
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time 09:46:05 March 7, 2014
Histogram Finish Time 14:57:11 March 7, 2014
Number of Intervals 3733.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

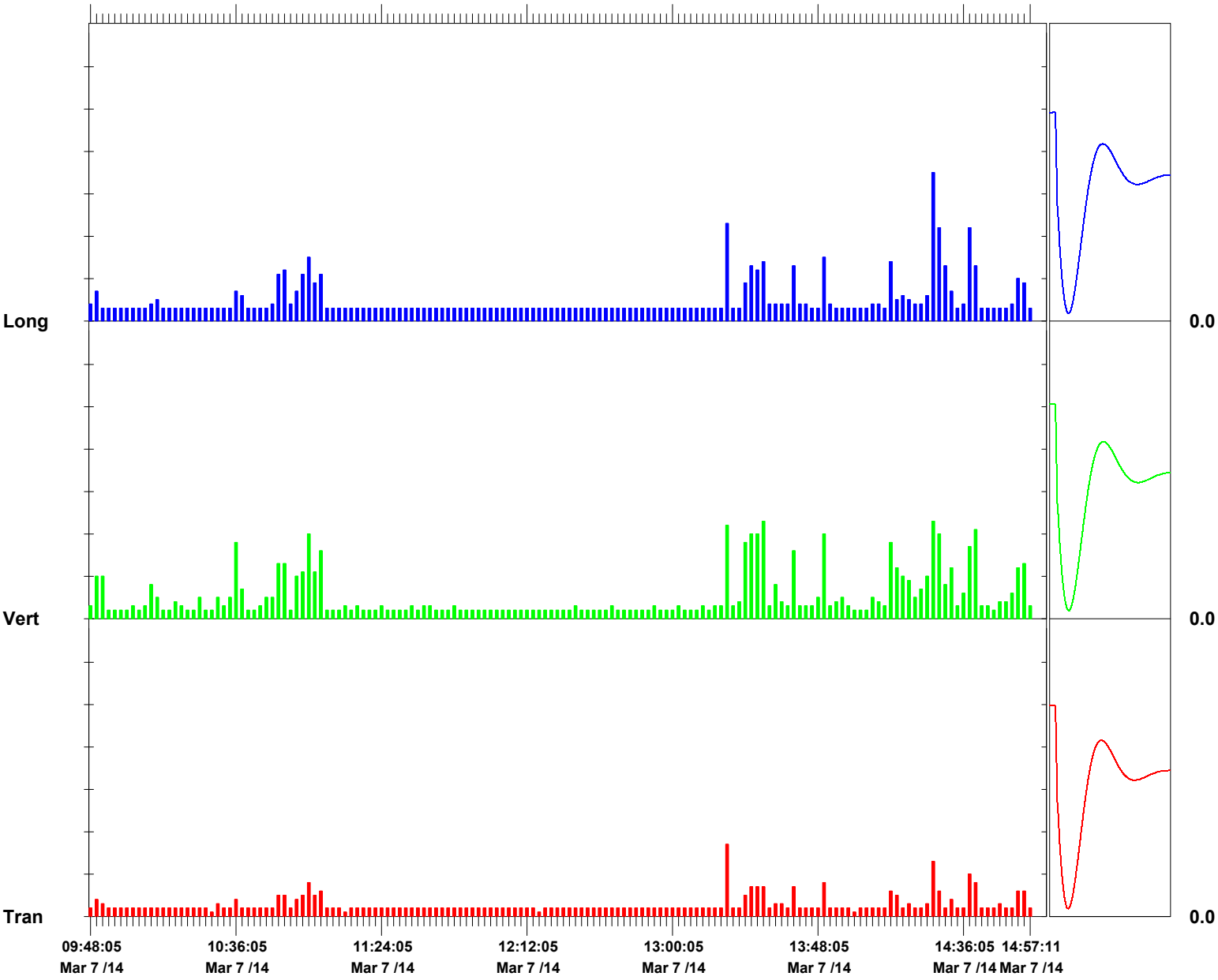
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F87X.ST0

Post Event Notes
VMP 6

Extended Notes

	Tran	Vert	Long	
PPV	0.0850	0.115	0.175	in/s
ZC Freq	43	26	28	Hz
Date	Mar 7 /14	Mar 7 /14	Mar 7 /14	
Time	13:16:35	13:28:20	14:25:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.183 in/s on March 7, 2014 at 14:25:15



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 15:00:12 March 7, 2014
Histogram Finish Time 15:39:10 March 7, 2014
Number of Intervals 467.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

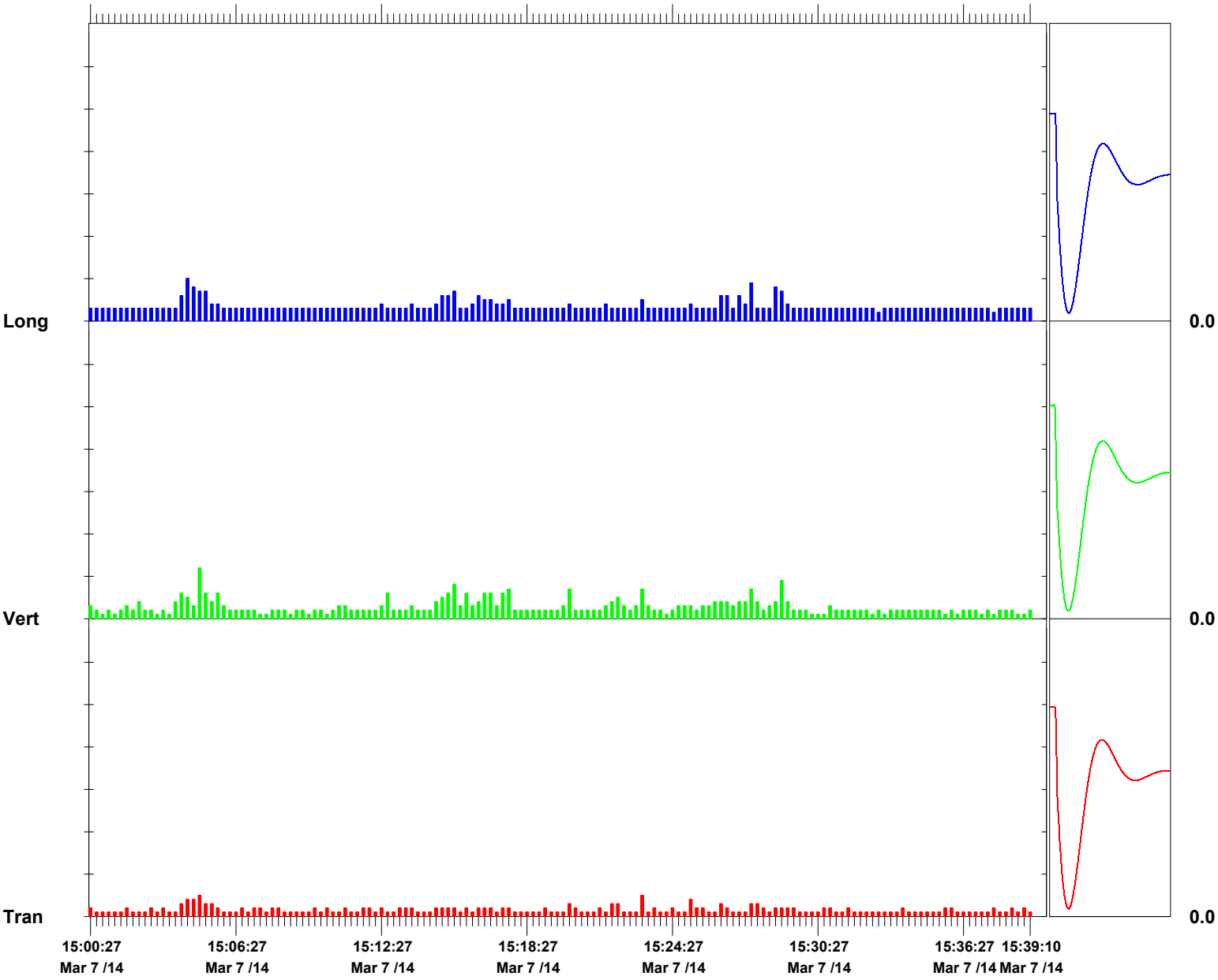
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F88C.CC0

Post Event Notes
VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.0600	0.0500	in/s
ZC Freq	47	39	28	Hz
Date	Mar 7 /14	Mar 7 /14	Mar 7 /14	
Time	15:04:47	15:04:47	15:04:27	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.0634 in/s on March 7, 2014 at 15:04:47



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

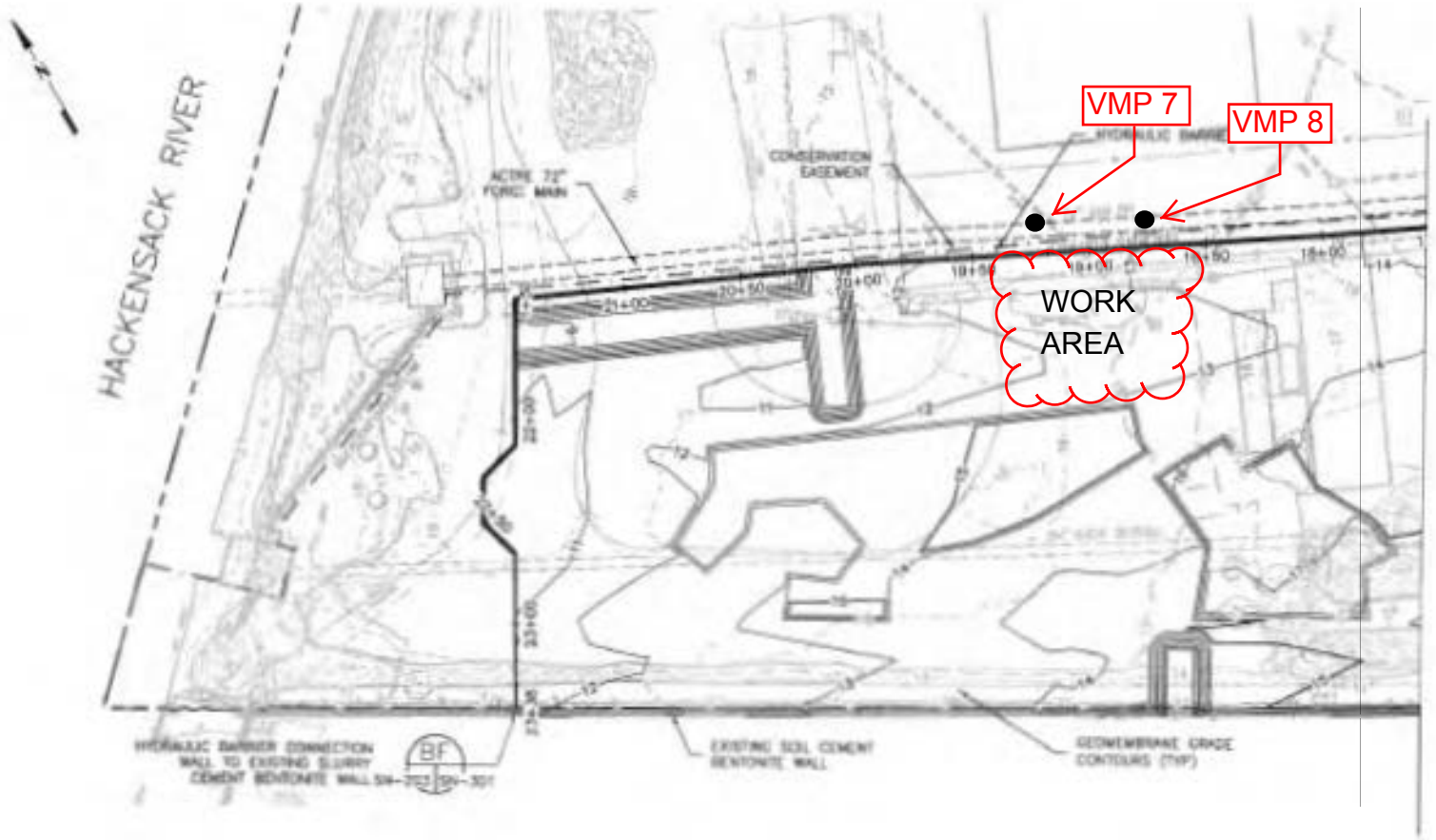
March 8th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:50 AM until 12:35 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

19 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 7
VMP 8
WORK
AREA
CONSERVATION EASEMENT
ACTIVE 22" FORCE MAIN
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)

Event Report

Histogram Start Time 08:50:20 March 8, 2014
Histogram Finish Time 10:40:45 March 8, 2014
Number of Intervals 1325.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F89P.VW0

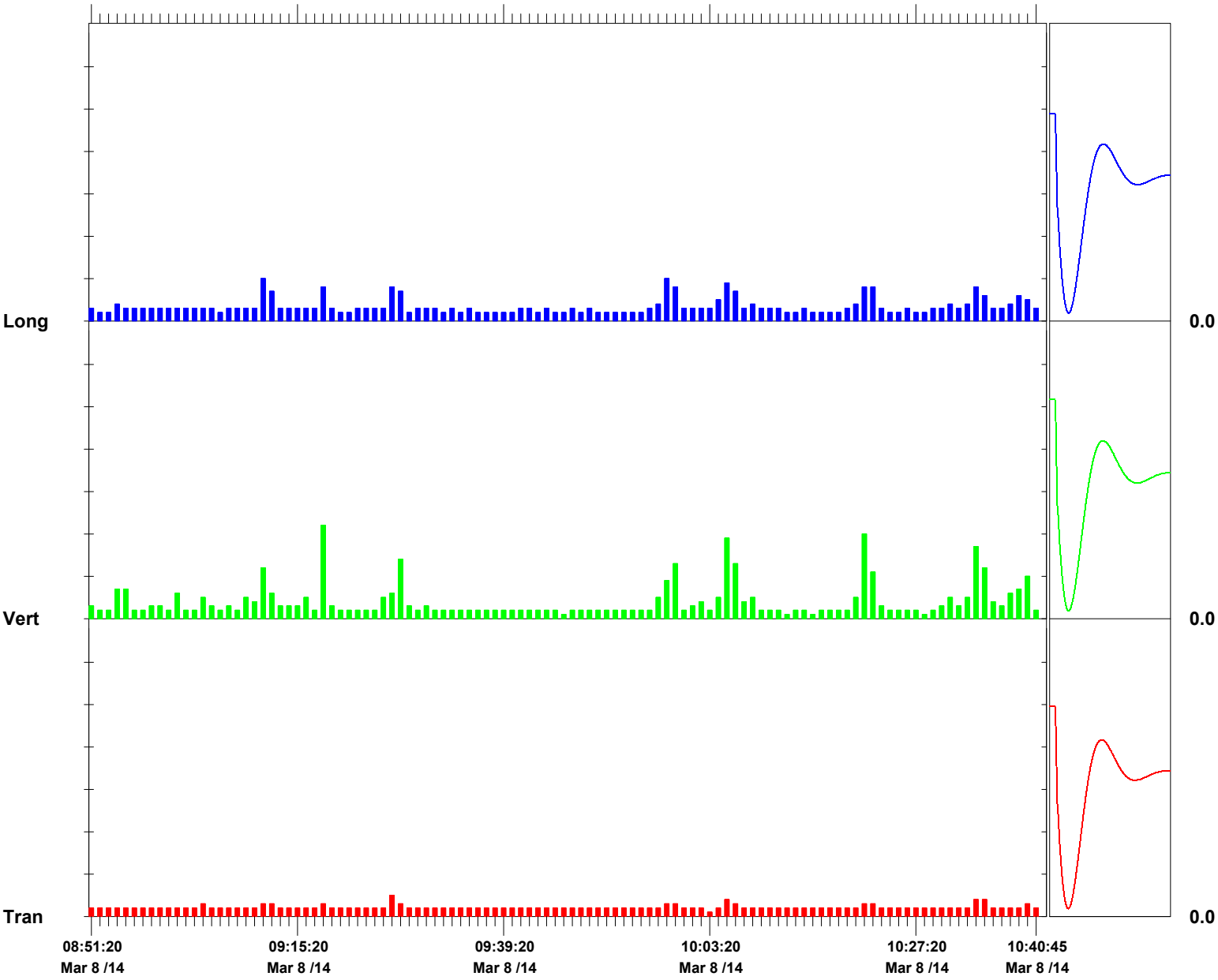
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 7

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.110	0.0500	in/s
ZC Freq	51	16	28	Hz
Date	Mar 8 /14	Mar 8 /14	Mar 8 /14	
Time	09:26:20	09:17:35	09:11:15	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.113 in/s on March 8, 2014 at 09:17:35



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

Format © 1995-2013 Xmark Corporation

Event Report

Histogram Start Time 10:43:17 March 8, 2014
Histogram Finish Time 12:36:05 March 8, 2014
Number of Intervals 1353.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

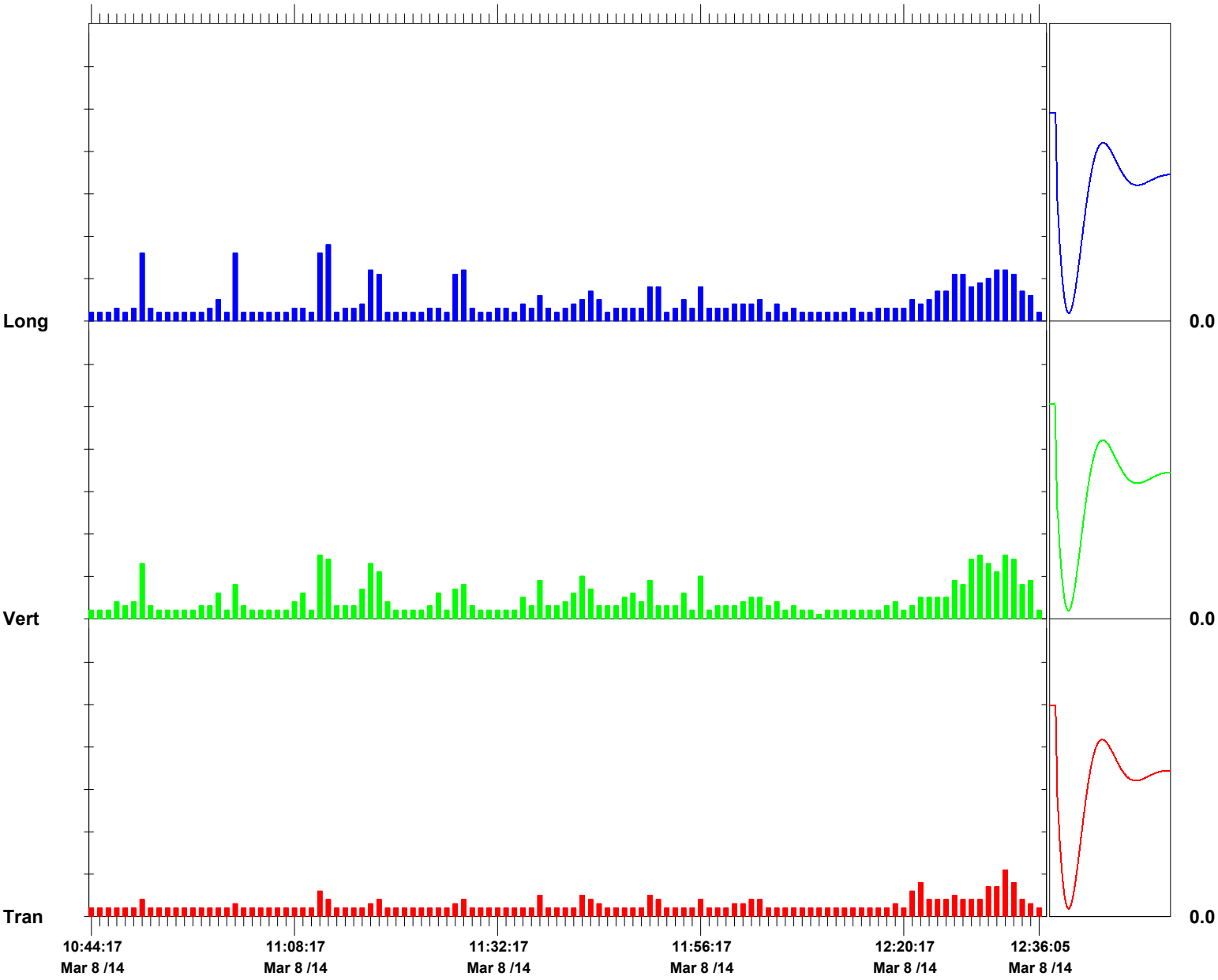
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F89V.450

Post Event Notes
VMP 8

Extended Notes

	Tran	Vert	Long	
PPV	0.0550	0.0750	0.0900	in/s
ZC Freq	30	13	30	Hz
Date	Mar 8 /14	Mar 8 /14	Mar 8 /14	
Time	12:31:52	11:10:52	11:11:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.2	4.0	4.0	

Peak Vector Sum 0.0935 in/s on March 8, 2014 at 11:11:22



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

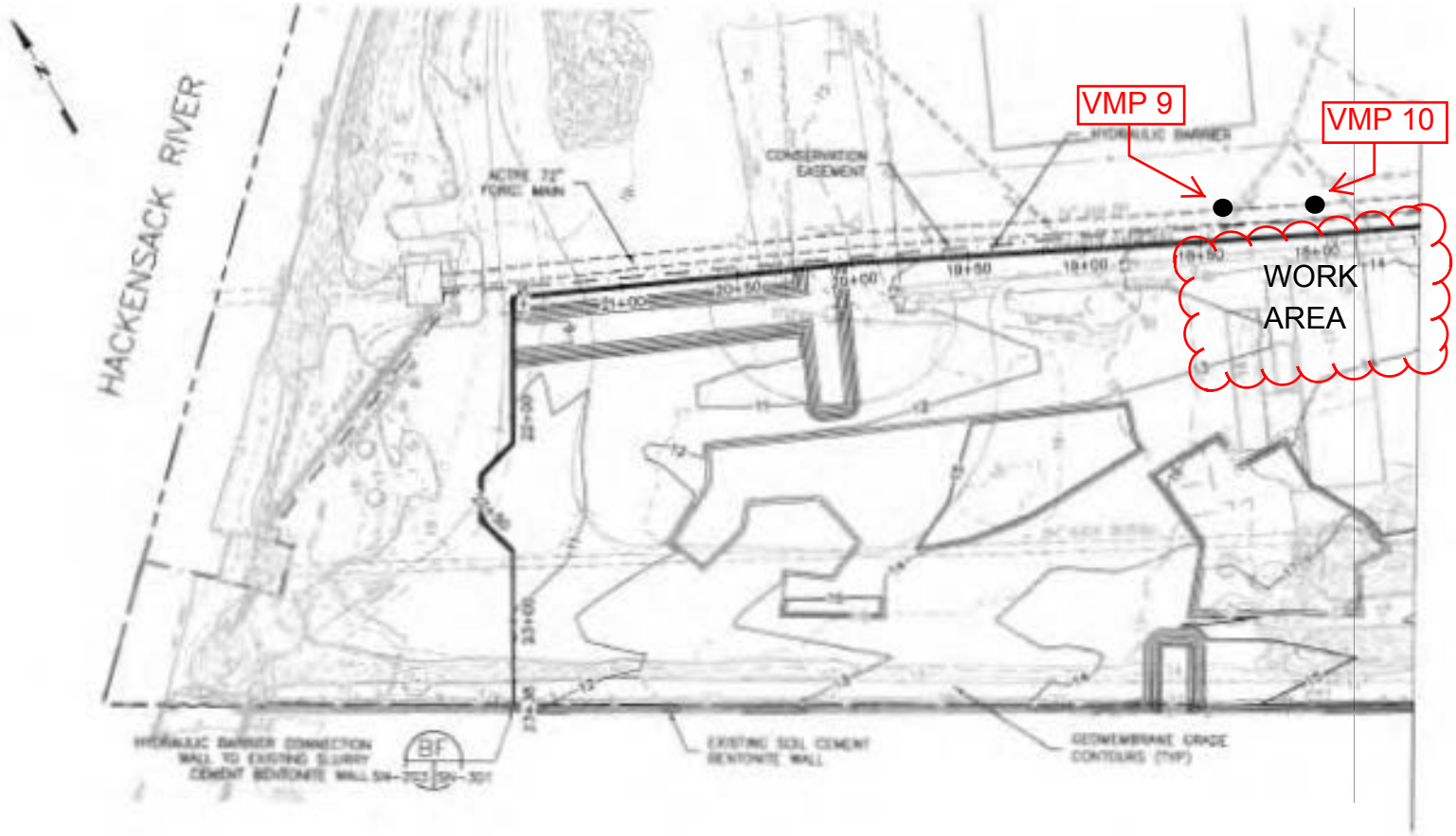
March 10th, 2014
For ENTACT, LLC

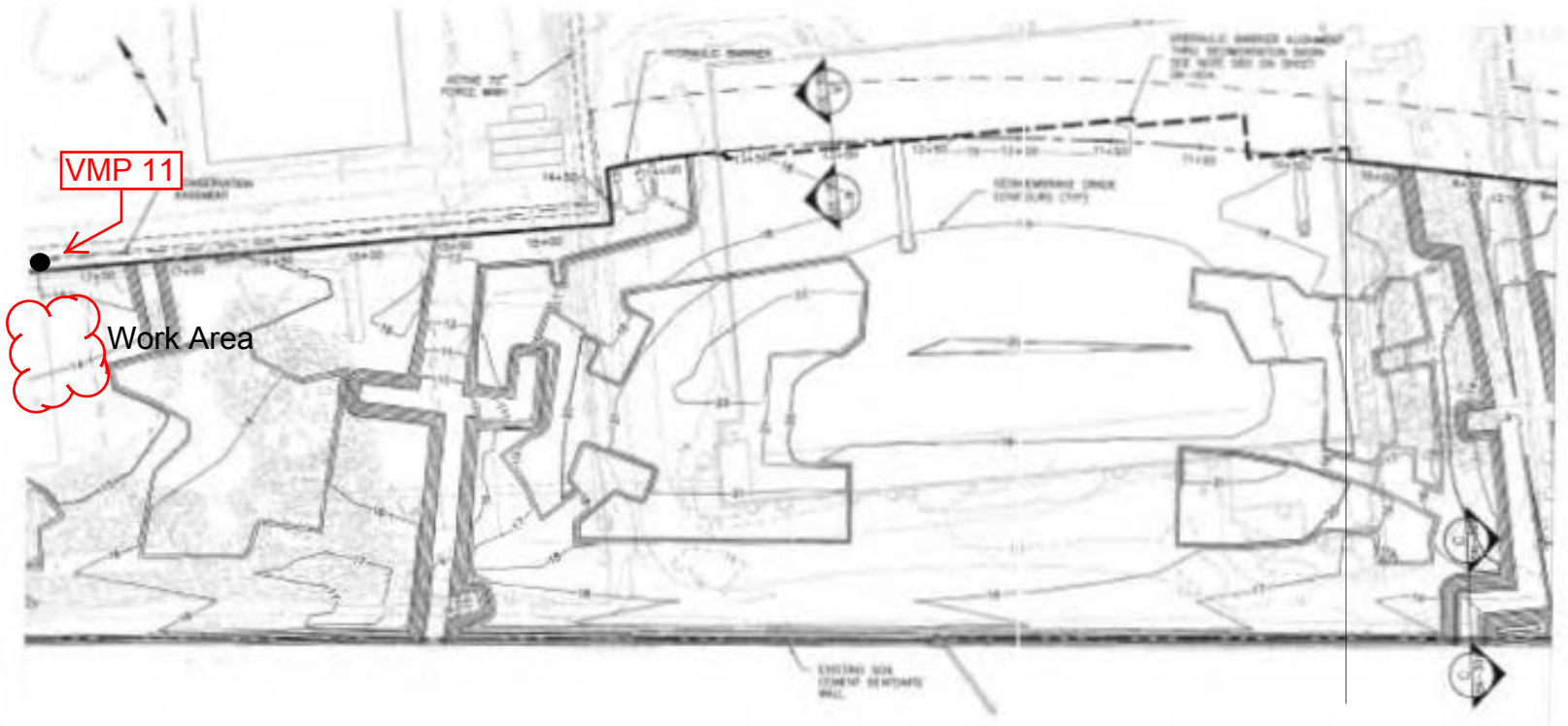
NOTES:

Summary of Work:
Sheet pile driving commenced at 11:30 AM and ended at 5:05 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

30 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


HACKENSACK RIVER
VMP 9
VMP 10
WORK
AREA
CONSERVATION EASEMENT
ACTIVE 72" FORCE MAIN
EXISTING SOIL CEMENT BENTONITE WALL
GEOMEMBRANE GRADE CONTOURS (TYP)


VMP 11
Work Area

Event Report

Histogram Start Time 11:30:36 March 10, 2014
Histogram Finish Time 13:38:03 March 10, 2014
Number of Intervals 1529.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8DM.N00

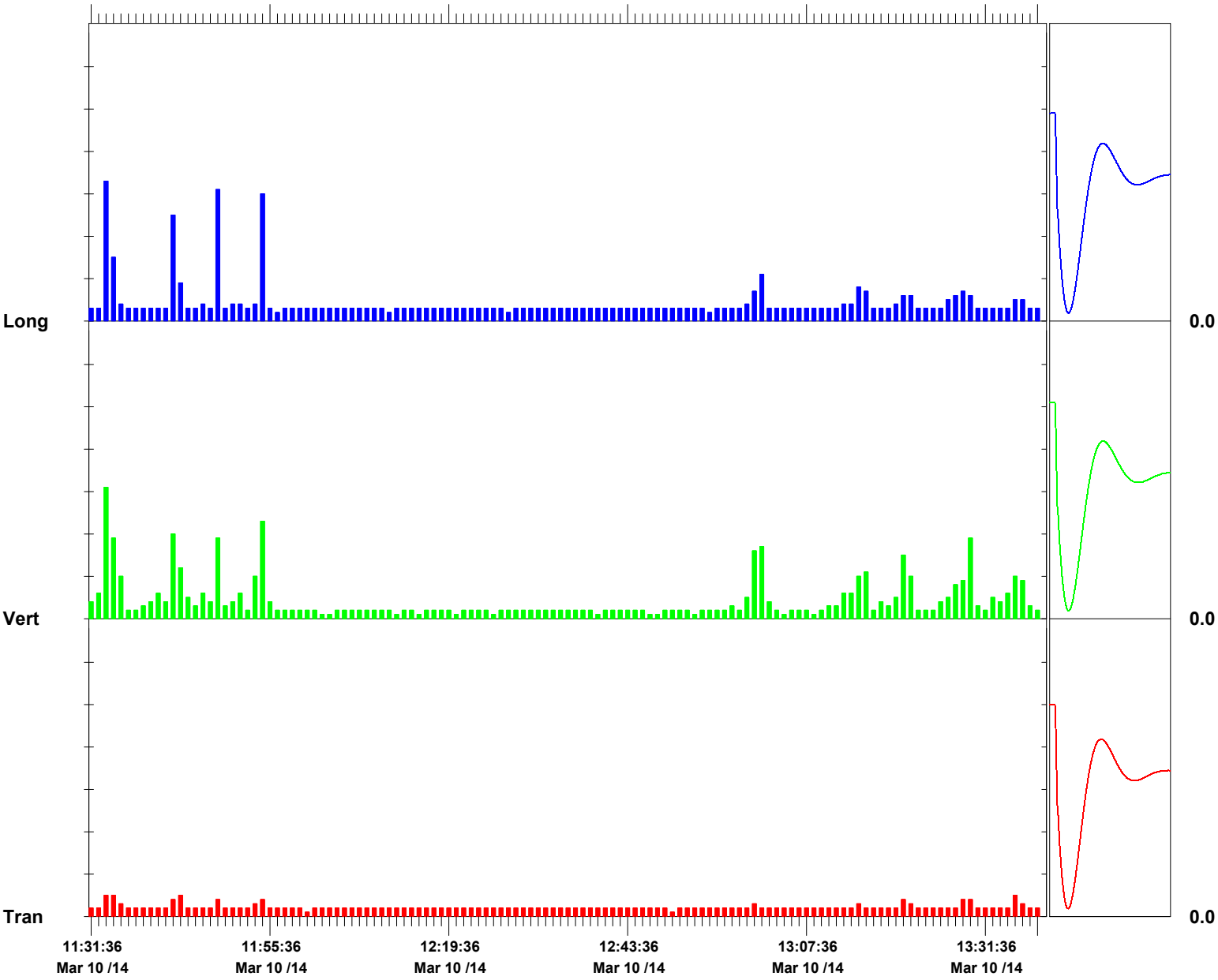
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 9

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.155	0.165	in/s
ZC Freq	34	22	51	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	11:33:21	11:33:21	11:33:26	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.1	4.1	4.1	

Peak Vector Sum 0.186 in/s on March 10, 2014 at 11:54:36



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 13:40:24 March 10, 2014
Histogram Finish Time 15:15:31 March 10, 2014
Number of Intervals 1141.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8DS.NC0

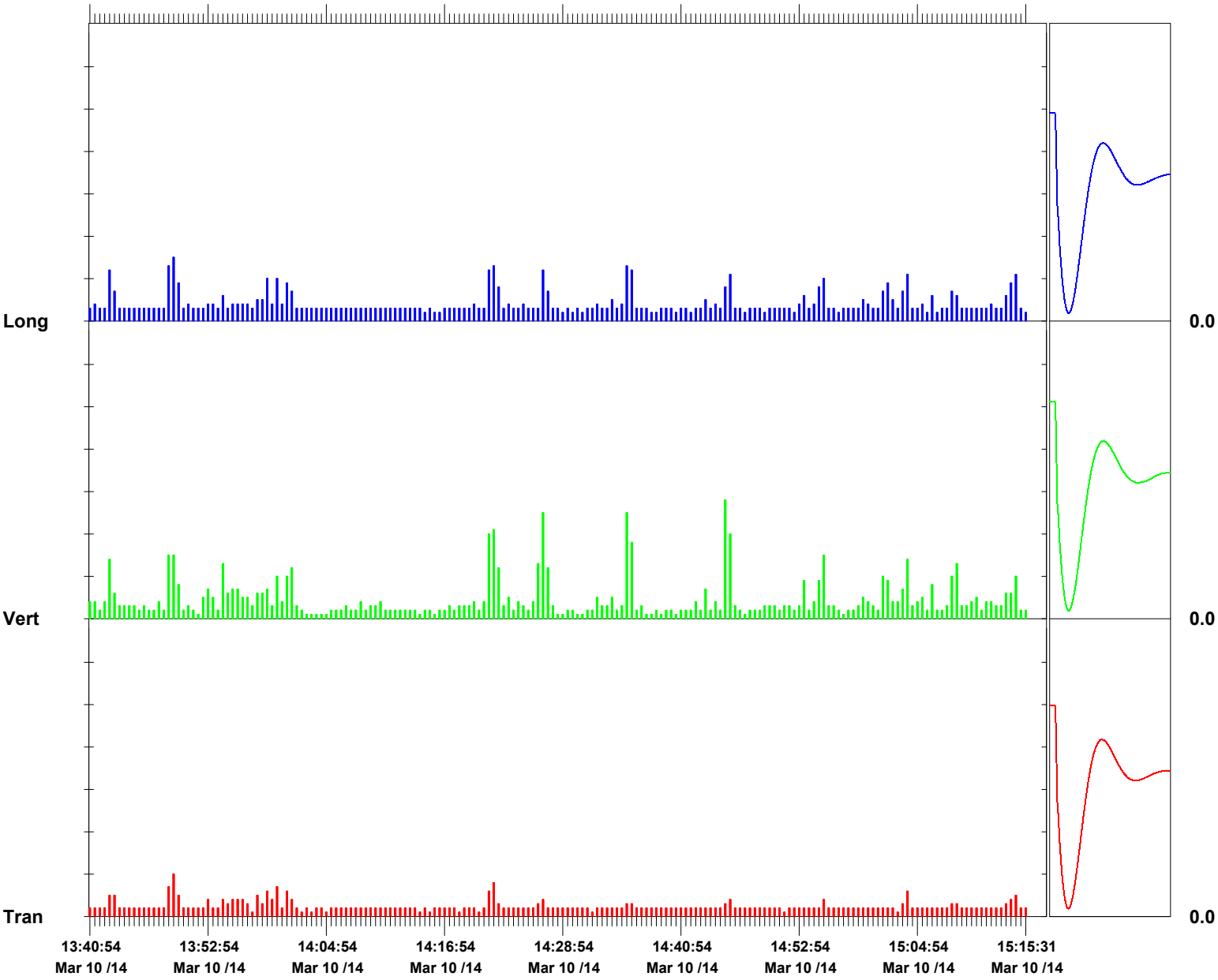
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 10

Extended Notes

	Tran	Vert	Long	
PPV	0.0500	0.140	0.0750	in/s
ZC Freq	34	32	32	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	13:48:59	14:45:24	13:49:04	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.2	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.146 in/s on March 10, 2014 at 14:45:24



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 15:17:54 March 10, 2014
Histogram Finish Time 17:08:22 March 10, 2014
Number of Intervals 1325.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

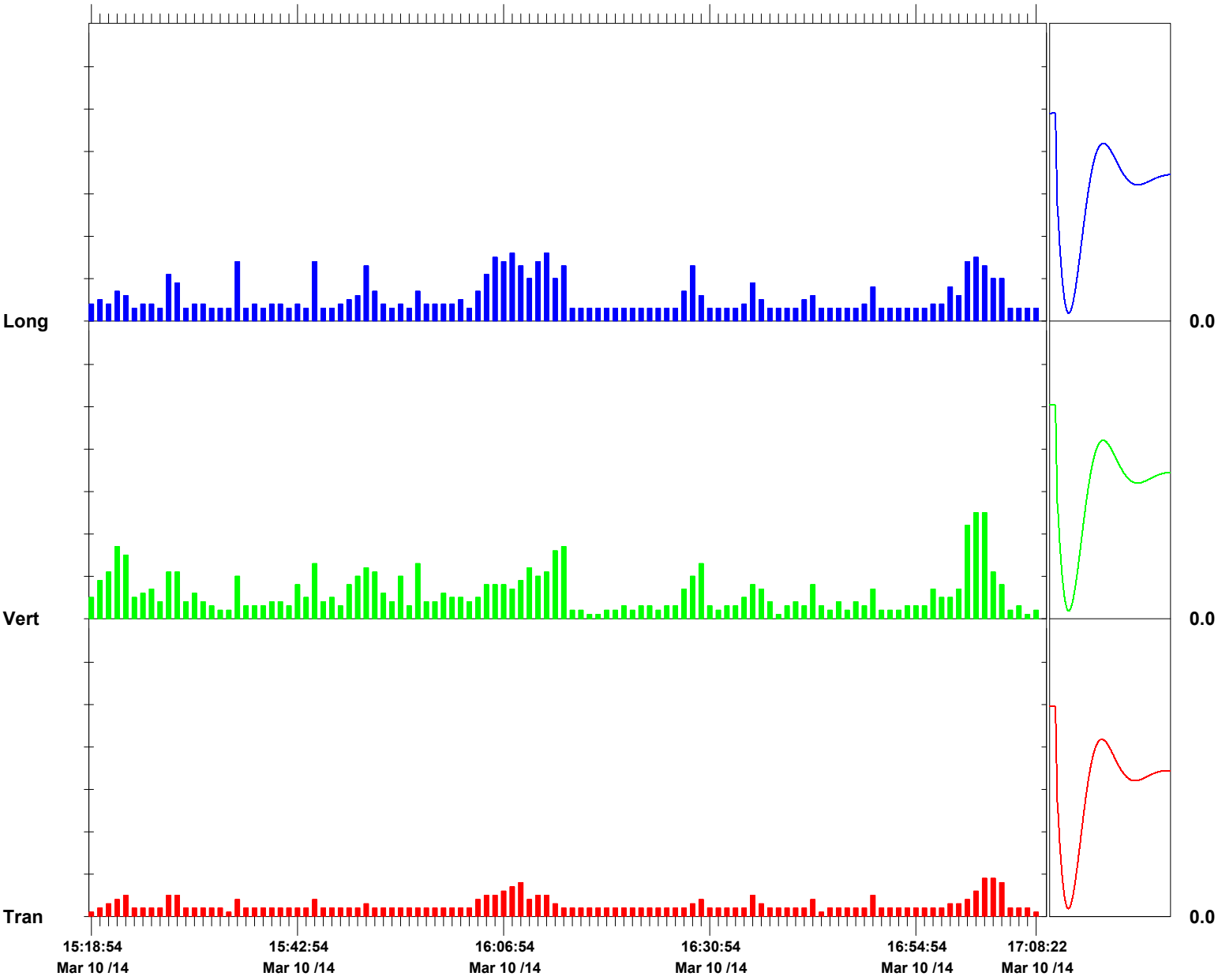
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8DX.5U0

Post Event Notes
VMP 11

Extended Notes

	Tran	Vert	Long	
PPV	0.0450	0.125	0.0800	in/s
ZC Freq	34	32	30	Hz
Date	Mar 10 /14	Mar 10 /14	Mar 10 /14	
Time	17:02:14	17:01:34	16:06:59	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.1	4.0	4.1	

Peak Vector Sum 0.145 in/s on March 10, 2014 at 17:01:34



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

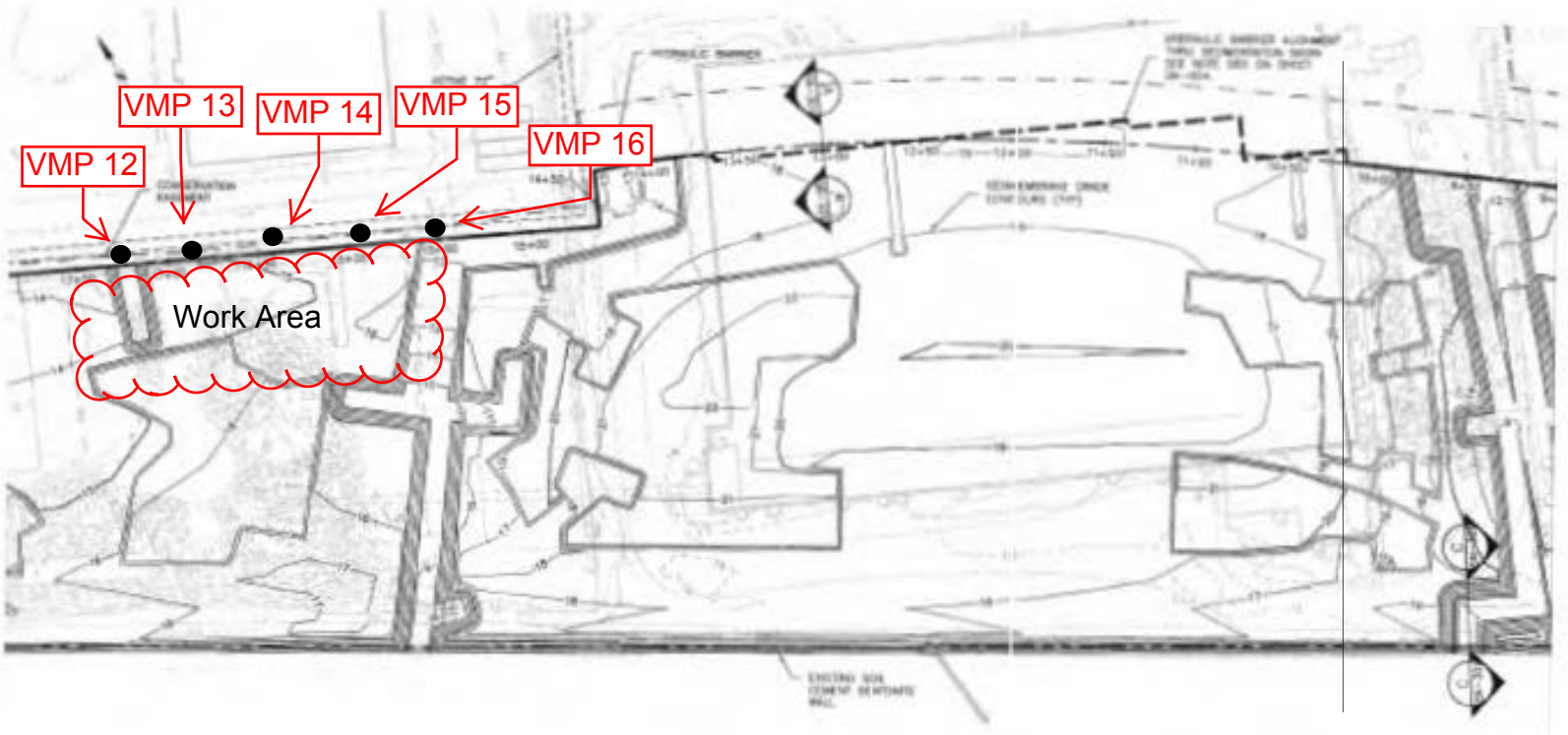
March 11th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:10 AM and ended at 6:40 PM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

44 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 12
VMP 13
VMP 14
VMP 15
VMP 16
Work Area

Event Report

Histogram Start Time 08:07:50 March 11, 2014
Histogram Finish Time 09:59:23 March 11, 2014
Number of Intervals 1338.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8F7.X20

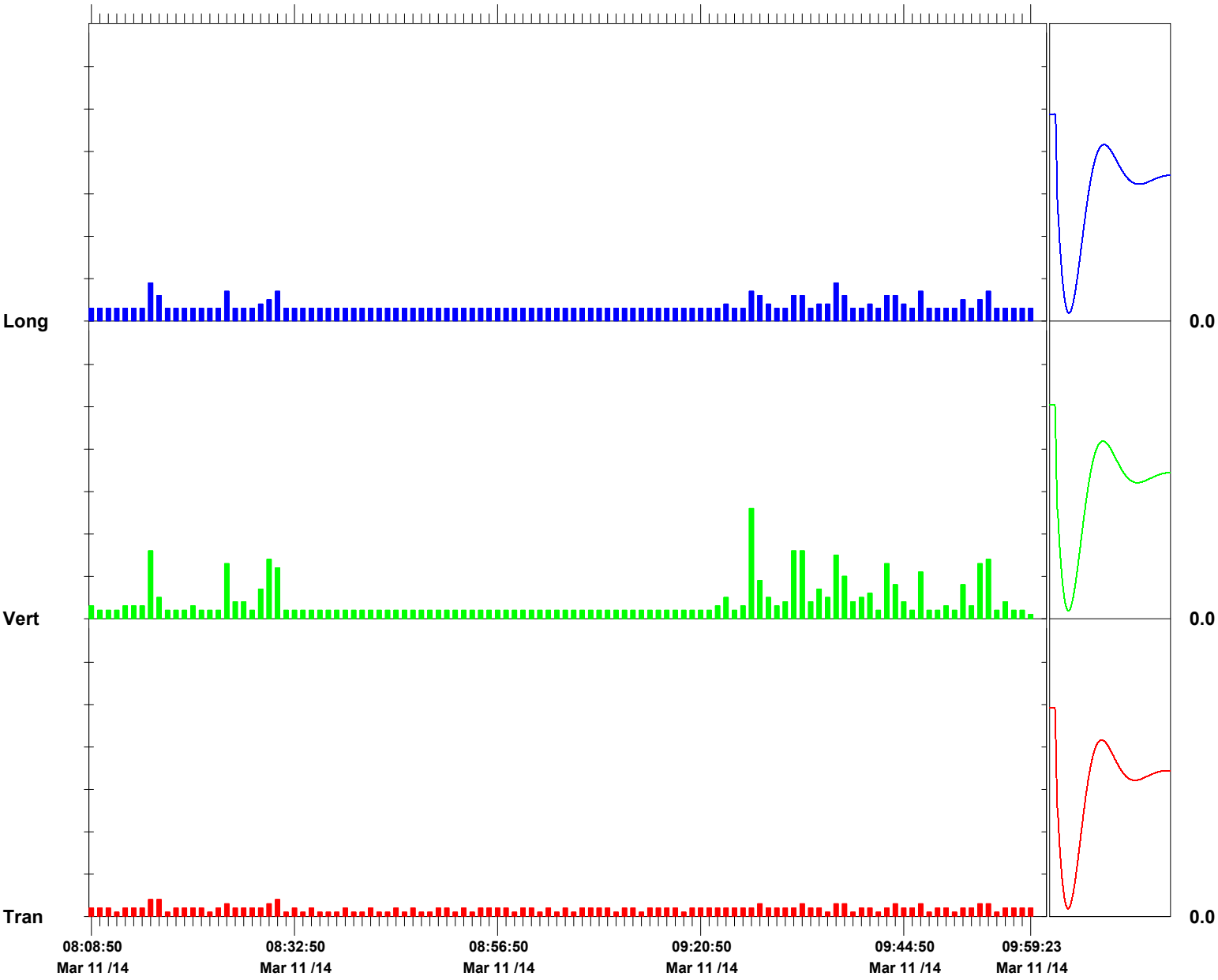
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 12

Extended Notes

	Tran	Vert	Long	
PPV	0.0200	0.130	0.0450	in/s
ZC Freq	43	15	17	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	08:15:45	09:26:45	08:15:00	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.2	Hz
Overswing Ratio	4.2	4.1	4.2	

Peak Vector Sum 0.132 in/s on March 11, 2014 at 09:26:45



Time Scale: 1 minute /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 10:01:54 March 11, 2014
Histogram Finish Time 13:41:17 March 11, 2014
Number of Intervals 2632.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8FD.760

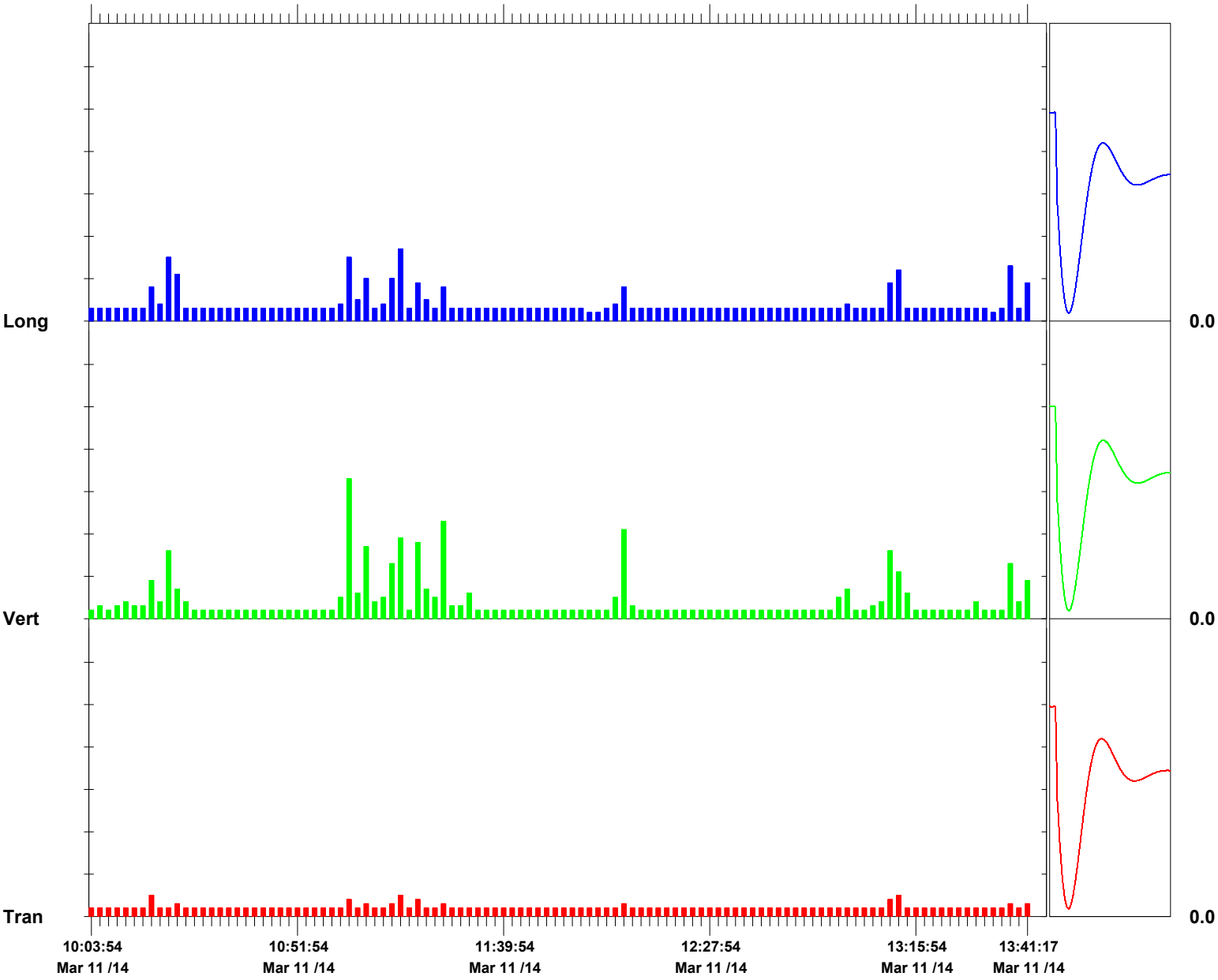
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 13

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.165	0.0850	in/s
ZC Freq	39	17	32	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	10:16:54	11:02:59	11:14:44	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.1	4.0	4.0	

Peak Vector Sum 0.169 in/s on March 11, 2014 at 11:02:59



Time Scale: 2 minutes /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 13:43:06 March 11, 2014
Histogram Finish Time 15:14:40 March 11, 2014
Number of Intervals 1098.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8FN.FU0

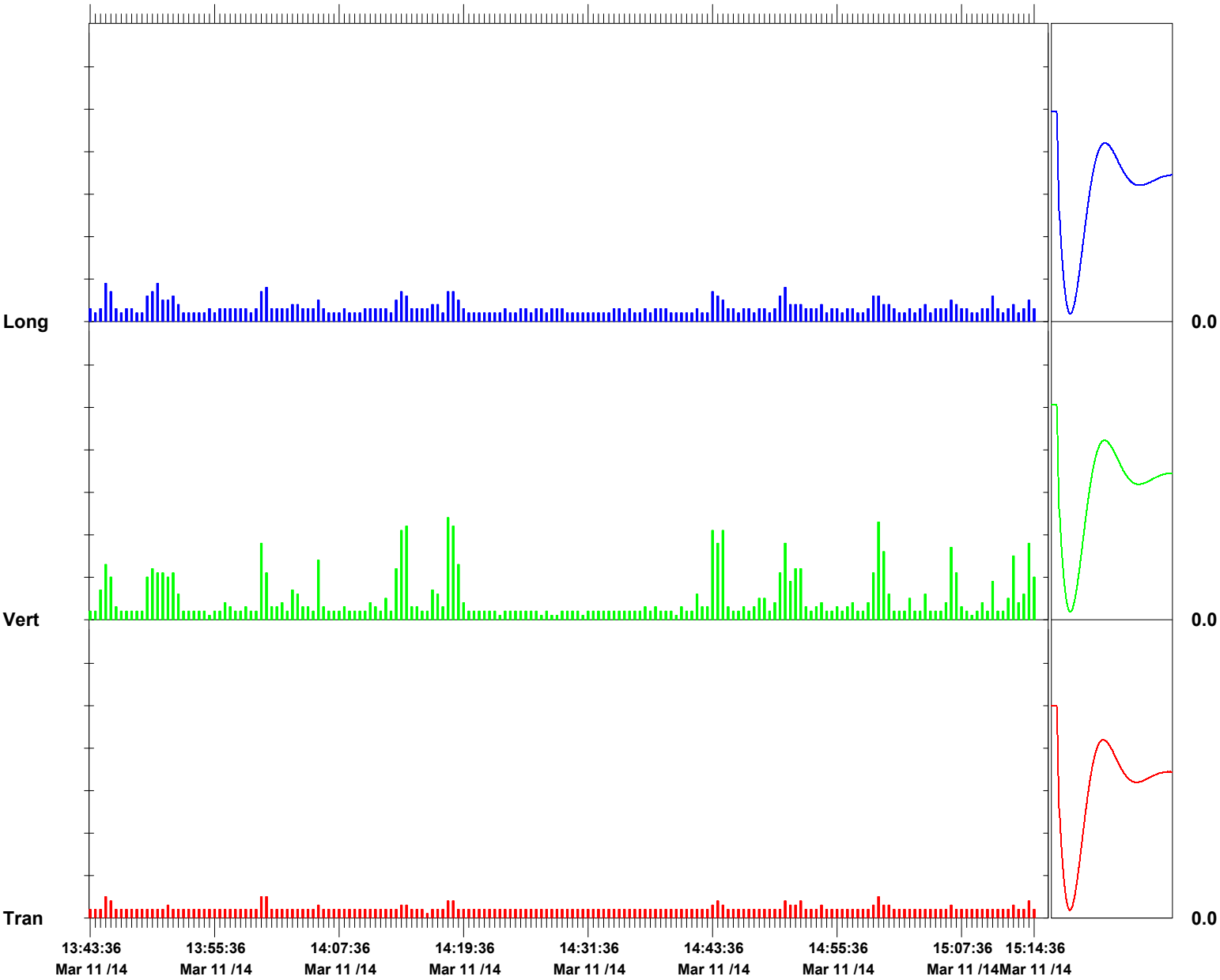
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 14

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.120	0.0450	in/s
ZC Freq	39	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	13:45:06	14:18:06	13:45:06	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.9	4.0	

Peak Vector Sum 0.122 in/s on March 11, 2014 at 14:18:06



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 15:17:04 March 11, 2014
Histogram Finish Time 15:55:36 March 11, 2014
Number of Intervals 462.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

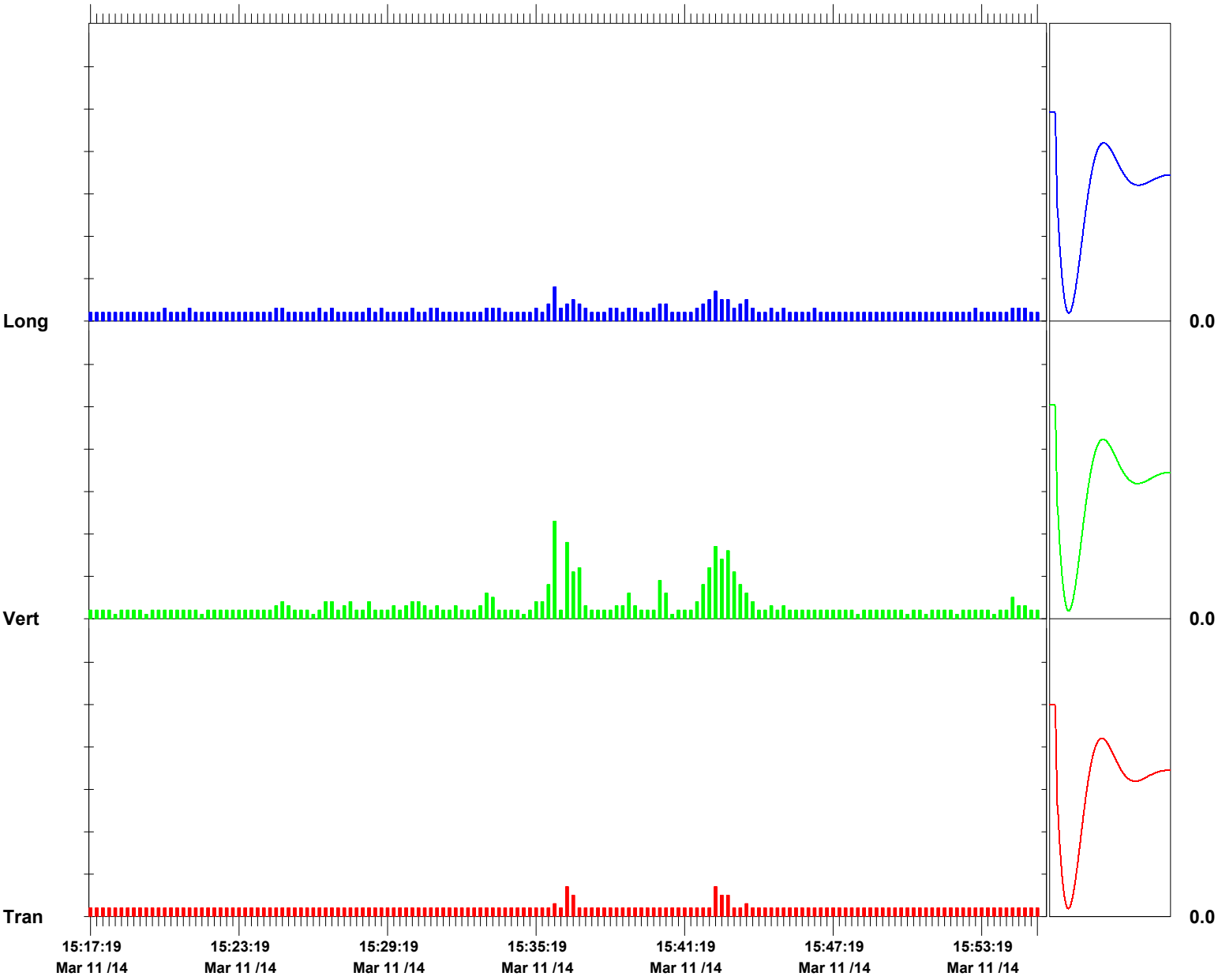
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8FR.SG0

Post Event Notes
VMP 15

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.115	0.0400	in/s
ZC Freq	34	30	34	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	15:36:34	15:35:54	15:35:54	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.0	3.9	4.0	

Peak Vector Sum 0.119 in/s on March 11, 2014 at 15:35:54



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 15:57:20 March 11, 2014
Histogram Finish Time 16:30:19 March 11, 2014
Number of Intervals 395.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8FT.NK0

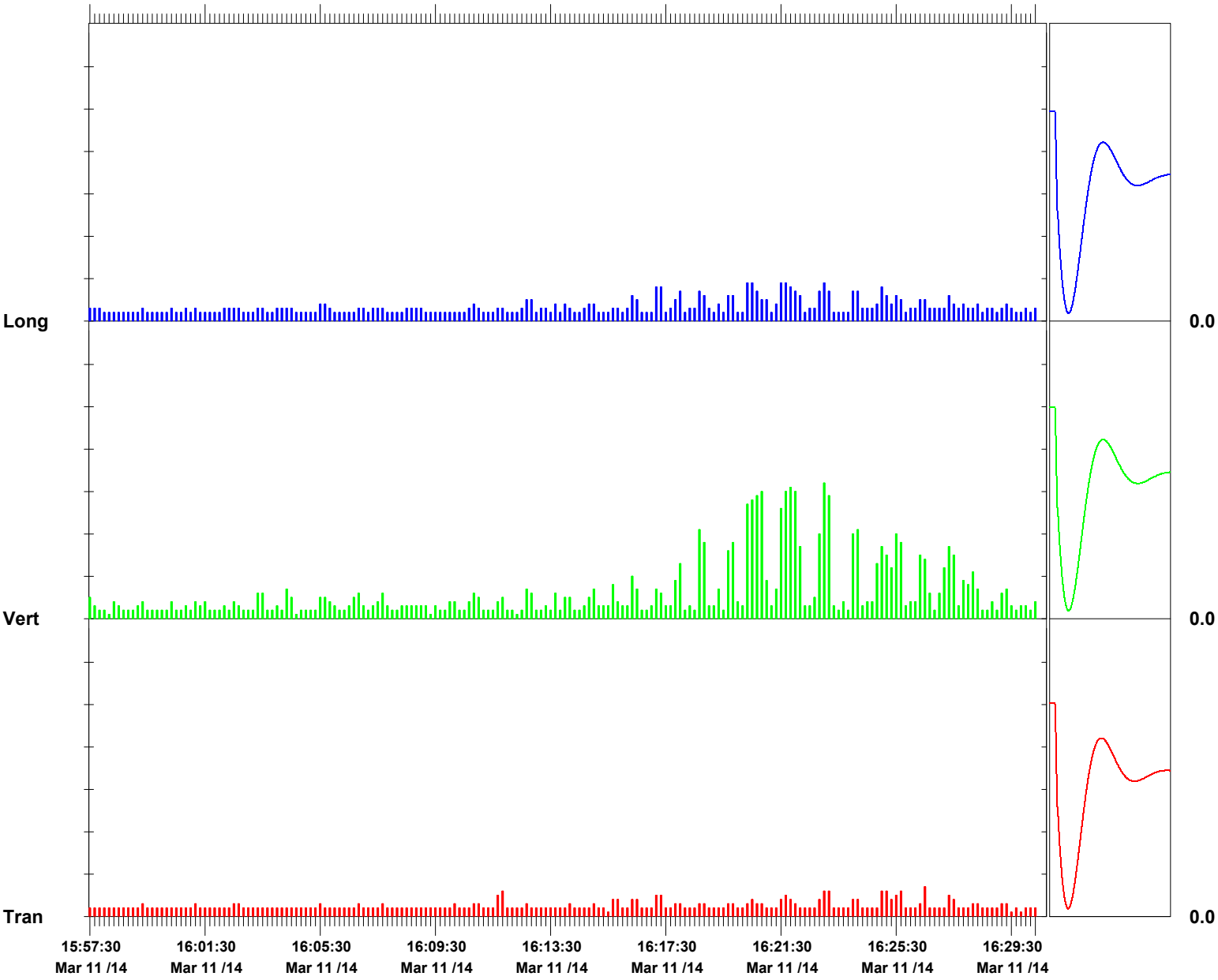
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 14

Extended Notes

	Tran	Vert	Long	
PPV	0.0350	0.160	0.0450	in/s
ZC Freq	39	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	16:26:30	16:23:00	16:20:20	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.0	3.9	3.9	

Peak Vector Sum 0.164 in/s on March 11, 2014 at 16:23:00



Time Scale: 10 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 16:32:48 March 11, 2014
Histogram Finish Time 17:59:40 March 11, 2014
Number of Intervals 1042.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8FV.AO0

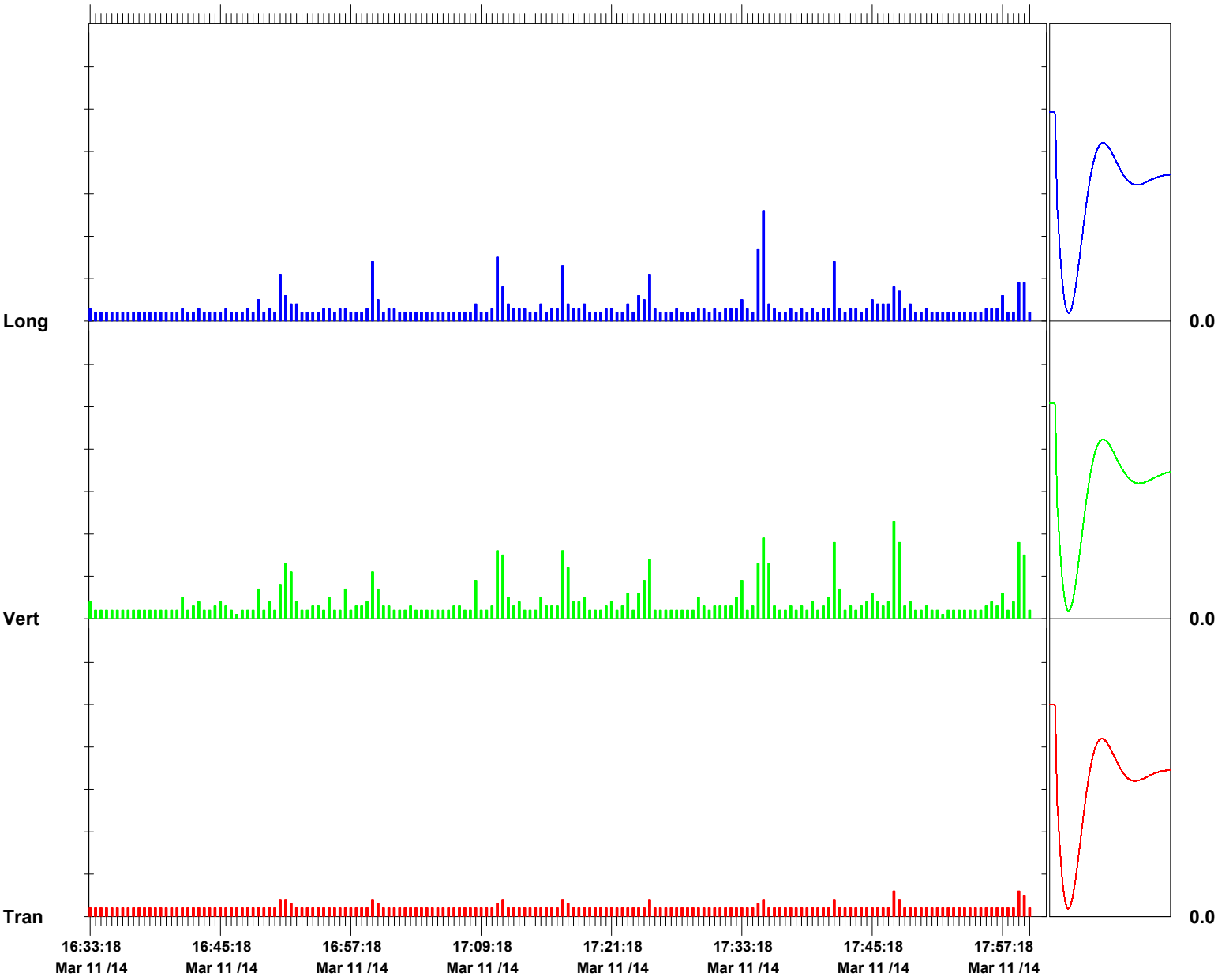
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 15

Extended Notes

	Tran	Vert	Long	
PPV	0.0300	0.115	0.130	in/s
ZC Freq	37	30	30	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	17:47:13	17:47:13	17:34:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.3	7.2	Hz
Overswing Ratio	4.1	3.9	4.0	

Peak Vector Sum 0.161 in/s on March 11, 2014 at 17:34:53



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 18:01:28 March 11, 2014
Histogram Finish Time 18:40:22 March 11, 2014
Number of Intervals 466.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

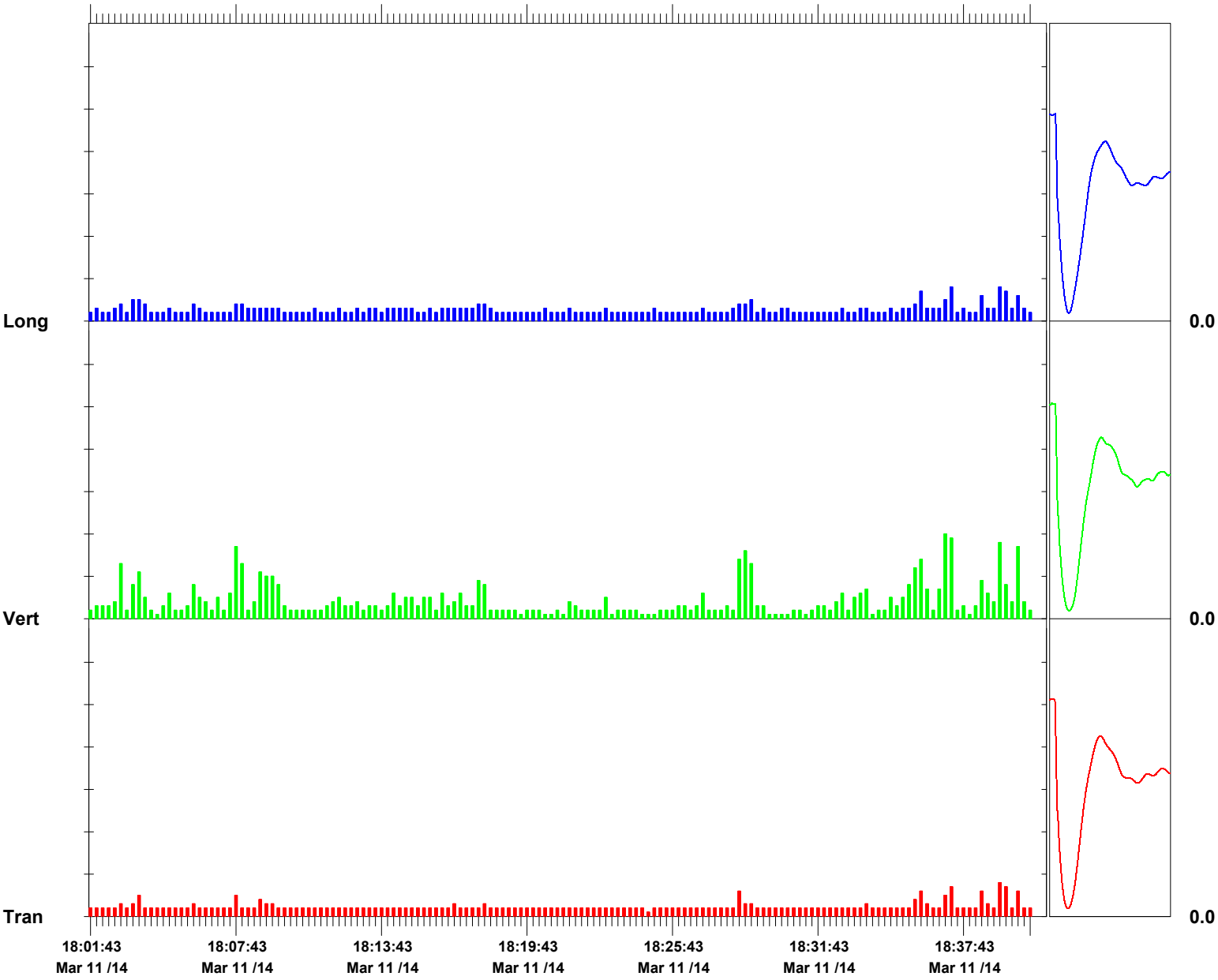
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8FZ.EG0

Post Event Notes
VMP 16

Extended Notes

	Tran	Vert	Long	
PPV	0.0400	0.1000	0.0400	in/s
ZC Freq	34	30	32	Hz
Date	Mar 11 /14	Mar 11 /14	Mar 11 /14	
Time	18:39:03	18:36:58	18:37:08	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.4	Hz
Overswing Ratio	3.8	3.7	3.9	

Peak Vector Sum 0.100 in/s on March 11, 2014 at 18:36:58



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Vibration Monitoring Report

Study Area 6 North

Prepared by
Geocomp Engineering

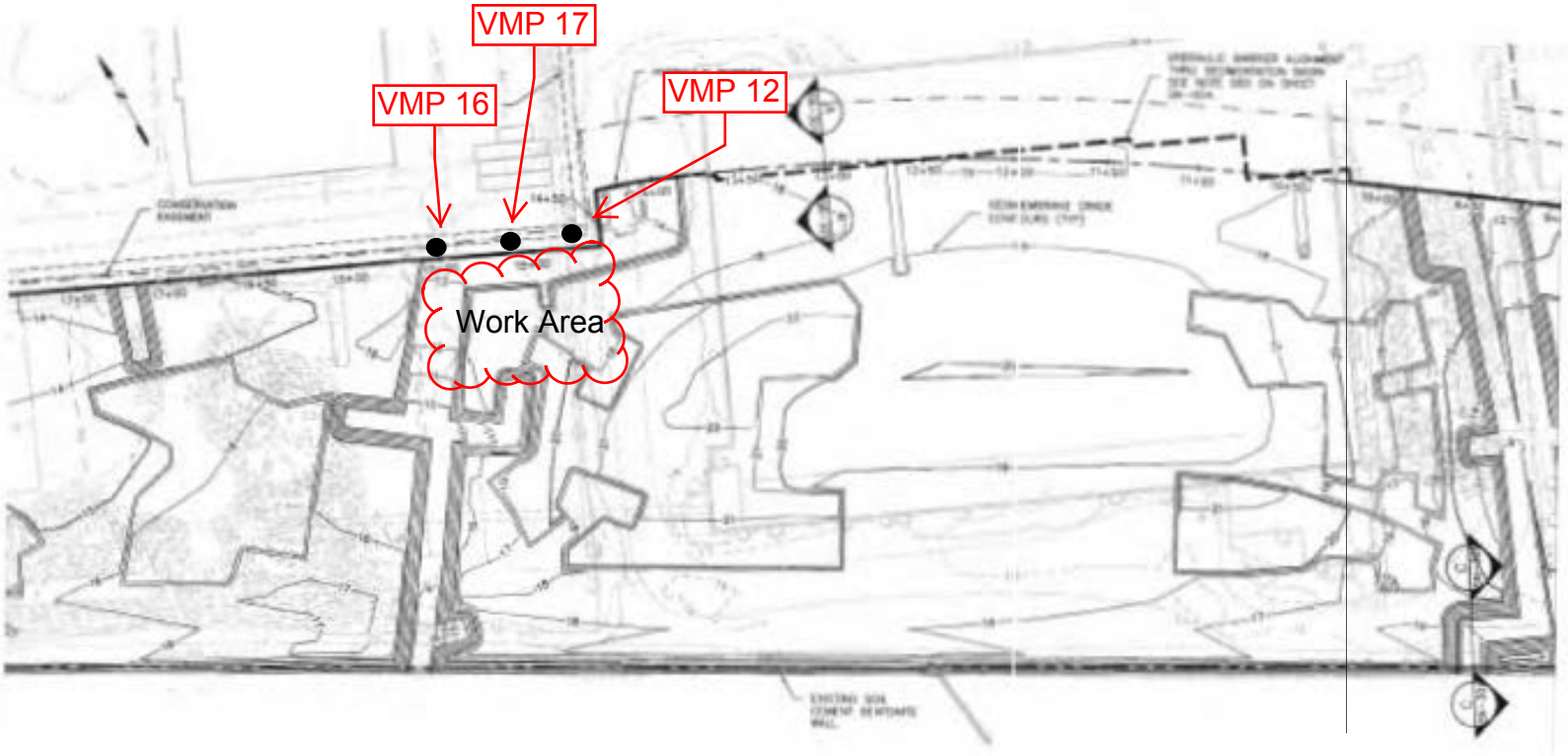
March 12th, 2014
For ENTACT, LLC

NOTES:

Summary of Work:
Sheet pile driving commenced at 8:00 AM and ended at 10:40 AM. An Instantel Blastmate III was used to record vibrations via a geophone placed on the ground over the 72 inch force main.

16 sheets were driven, and no exceedances were recorded. See attached plan for area of work and location of the seismograph. See attached Blastware reports for PPV at this location.

Trigger Level: 0.5 in/sec
Alert Level: 1.0 in/sec


VMP 17
VMP 16
VMP 12
Work Area

Event Report

Histogram Start Time 07:50:17 March 12, 2014
Histogram Finish Time 08:43:20 March 12, 2014
Number of Intervals 636.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1

Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8H1.RT0

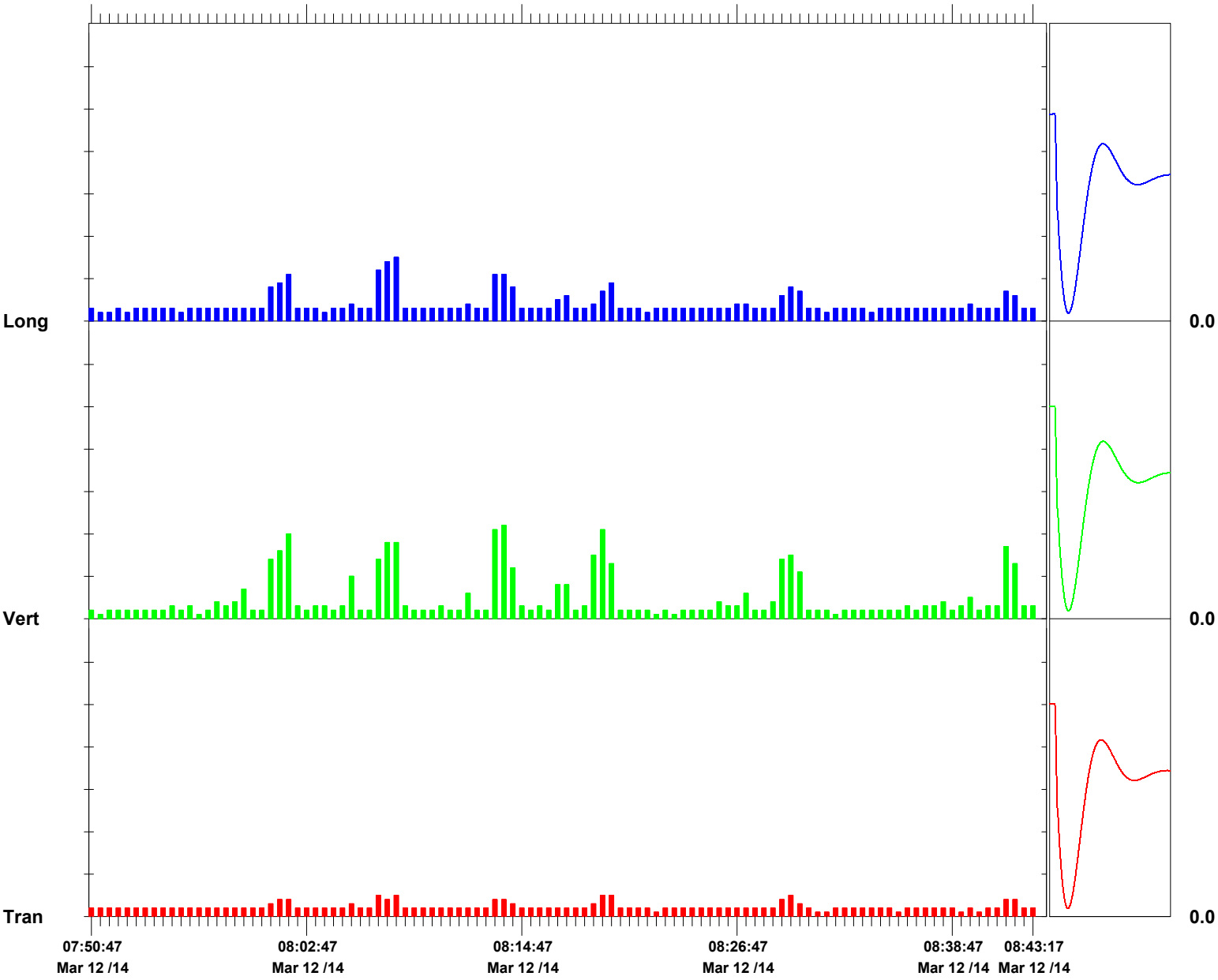
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

Post Event Notes
VMP 16

Extended Notes

	Tran	Vert	Long	
PPV	0.0250	0.110	0.0750	in/s
ZC Freq	51	32	30	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	08:06:47	08:13:22	08:07:22	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.2	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.119 in/s on March 12, 2014 at 08:13:12



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 08:45:37 March 12, 2014
Histogram Finish Time 09:50:52 March 12, 2014
Number of Intervals 783.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

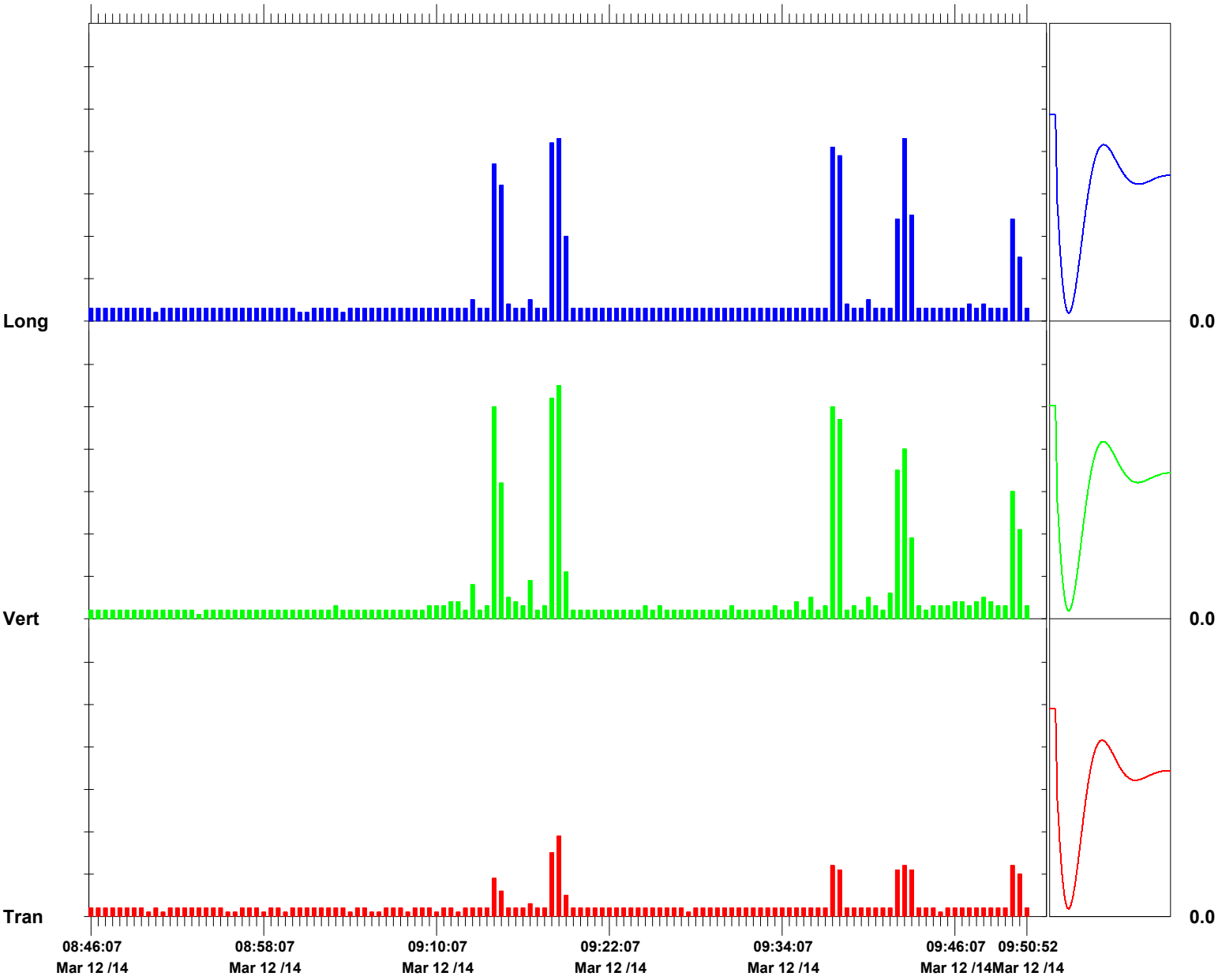
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.9 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8H4.C10

Post Event Notes
VMP 17

Extended Notes

	Tran	Vert	Long	
PPV	0.0950	0.275	0.215	in/s
ZC Freq	34	30	34	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	09:18:12	09:18:12	09:18:12	
Sensor Check	Passed	Passed	Passed	
Frequency	7.4	7.2	7.1	Hz
Overswing Ratio	4.3	4.1	4.2	

Peak Vector Sum 0.320 in/s on March 12, 2014 at 09:18:12



Time Scale: 30 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Event Report

Histogram Start Time 09:54:53 March 12, 2014
Histogram Finish Time 10:40:53 March 12, 2014
Number of Intervals 552.00 at 5 seconds
Range Geo:10.00 in/s
Sample Rate 1024sps
Job Number: 1
Notes
Location: SA 6 North 72" Forcemain
Client: Entact
User Name: Geocomp
General: Kellogg Street and Route 440

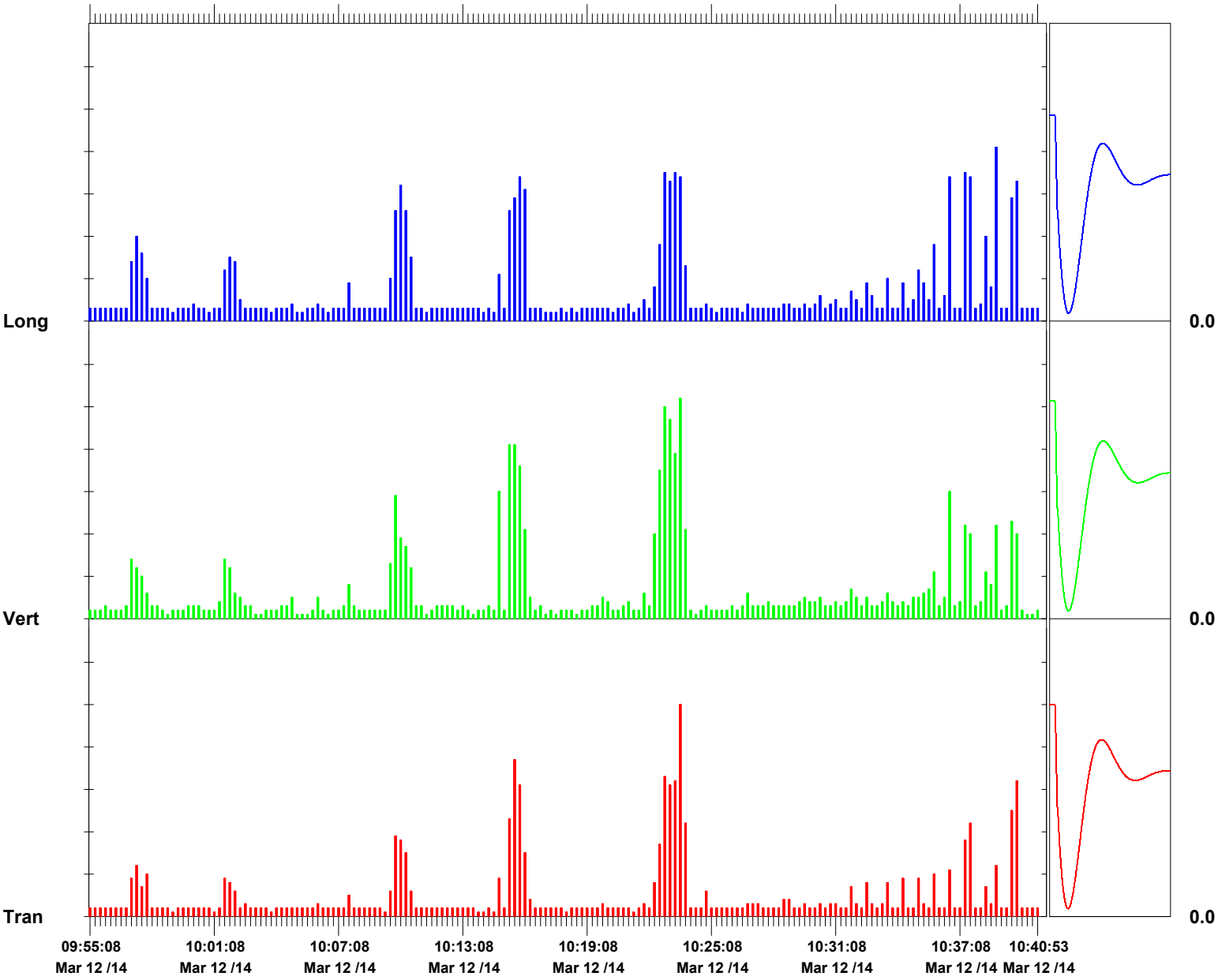
Serial Number BA15371 V 10.60-8.17 BlastMate III/8
Battery Level 6.8 Volts
Unit Calibration January 29, 2014 by Instantel
File Name Q371F8H7.JH0

Post Event Notes
VMP 18

Extended Notes

	Tran	Vert	Long	
PPV	0.250	0.260	0.205	in/s
ZC Freq	32	37	28	Hz
Date	Mar 12 /14	Mar 12 /14	Mar 12 /14	
Time	10:23:33	10:23:33	10:38:53	
Sensor Check	Passed	Passed	Passed	
Frequency	7.5	7.3	7.3	Hz
Overswing Ratio	4.2	4.1	4.1	

Peak Vector Sum 0.310 in/s on March 12, 2014 at 10:23:33



Time Scale: 15 seconds /div **Amplitude Scale:** Geo: 0.0500 in/s/div Sensor Check

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Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 30, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		1
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/01/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, April 30, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	There is ponded stormwater at several locations inside the SA-6 South exclusion zones.
2	IA2Q4A1AL8	A new access road has been constructed along the eastern side of the SA-6 North sedimentation basin. No fencing is present between the roadway and the sed basin.
3	EEPSQUO2YB	Stormwater runoff is overtopping the containment measures at the southwestern corner of the Novartis stockpile area
4	IA2Q4A1AL8	Windscreen on the eastern SA-7 perimeter fence requires maintenance.
5	IA2Q4A1AL8	Wind-blown garbage has accumulated along the inside of the eastern SA-7 perimeter fence.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 05/01/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Pump the ponded stormwater to the Construction Water Treatment Facility.	5-2-14 RAD
2	Install required fencing to protect pedestrian traffic in the area.	5-2-14 RAD
3	Regrade and/or install silt dams as necessary to alleviate sediment-laden runoff.	5-1-14 RAD
4	Repair windscreen on the Rt. 440 fenceline	5-2-14 RAD
5	Remove wind-blown garbage from along the base of the Rt. 440 perimeter fence.	5-2-14 RAD

Construction Manager: _____ **Date:** 05/02/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 7, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir			X	
Swale Check Dams		X		6
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment		X		7
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/08/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, May 07, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	No erosion control at toe of woody debris/soil pile on SA-6 South.
2	IA2Q4A1AL8	Exclusion Zone fencing along the western edge of the active excavation in SA-6 South requires maintenance and additional signage.
3	IA2Q4A1AL8	Several of the Jersey barriers surrounding the new <20 PPM stockpile area on SA-6 South are not covered in geotextile.
4	IA2Q4A1AL8	There is ponded stormwater in the SA-6 South eastern Exclusion Zone.
5	IA2Q4A1AL8	Silt fence along the southern toe of the N-1 surcharge area on SA-7 requires maintenance.
6	EEPSQUO2YB	Hay bales western end of the South SA-7 swale require replacement.
7	EEPSQUO2YB	Novartis surcharge material has accumulated against the containment measures on the north side of the stockpile.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 05/08/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place hay bales or silt fence along the toe of the stockpile.	5/8/14 RAD
2	Install/maintain EZ fencing to more clearly delineate work areas.	5/12/14 RAD
3	Install geotextile on Jersey barriers.	5/9/14 RAD
4	Pump ponded stormwater from the areas around the stockpiles in the eastern EZ.	5/12/14 RAD
5	Repair/maintain the silt fence surrounding the surcharge pile toe.	5/9/14 RAD
6	Replace the hay bales at the western end of the southern SA-7 swale.	5/9/14 RAD
7	Remove material from against the containment berm on the northern perimeter of the Novartis stockpile area to prevent storm water run-off from overtopping the containemnt.	5/9/14 RAD

Construction Manager: _____ **Date:** 05/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 14, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/15/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, May 14, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Stockpiled <20 PPM material has overtopped the Jersey barrier/fabric containment structure which surrounds the new <200 PPM Stockpile Area.
2	IA2Q4A1AL8	Clay and soils are being tracked from the surcharge operation on SA-6 North onto the SA-7 North paved roadway.
3	IA2Q4A1AL8	**Repeat Item-** There is ponded storm water in the SA-6 South eastern Exclusion Zone.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (signature) Date: 05/15/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place the spilled material in the containment area and reshape the stockpile to prevent recurrence.	5-20-14 RAD
2	Modify the ramp and haul road to prevent excessive tracking of material by the off-road dump trucks.	5-20-14 RAD
3	Pump ponded stormwater from the areas around the stockpiles in the eastern EZ.	5-20-14 RAD

Construction Manager: _____ Date: 05/20/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 22, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams		X		4
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/22/14

SWPPP Observer: (G. Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, May 22, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion control measures are absent around the pretrench excavation to the west of the 80 Kellogg building slab.
2	IA2Q4A1AL8	Stormwater is present in the unused 80 Kellogg Steet GWTP influent sump.
3	IA2Q4A1AL8	Silt fence along the southern toe of the SA-6 North surcharge area requires maintenance.
4	IA2Q4A1AL8	Erosion control measures at the SA-7 North stormwater discharge weir structure require improvement.
5	IA2Q4A1AL8	The north roadway on SA-7 requires cleaning of sediment buildup resulting from the hauling of Novartis stockpile material.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 05/22/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install hay bales or waddle around pretrench spoils to prevent sediment run-off.	5-23-14 RAD
2	Pump the accumulated storm water from the unused GWTP influent sump located to the north of the 80 Kellogg slab. Secure the fencing to limit access to the sump.	5-27-14 RAD
3	Repair or reinstall the unsecured sections of silt fence along the southern toe of the N-1 surcharge area.	5-27-14 RAD
4	Install straw waddle in the northern SA-7 swale to the east of the discharge weir structure.	5-23-14 RAD
5	Clean roadway with water truck and/or street sweeper. Implement additional measures to minimize the tracking of soils/sediments.	5-23-14 RAD

Construction Manager: _____ **Date:** 05/27/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 29, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact				
River Discharge Weir			X	
Swale Check Dams				
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation				
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/29/14

SWPPP Observer: (George Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, May 29, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment controls in a catch basin to the north of the original guard shack require maintenance/replacement.
2	IA2Q4A1AL8	The hose which supplies the shower trailer is leaking and requires repair
3	IA2Q4A1AL8	Silt fence along the north side of the N-1 surcharge pile is not properly installed.
4	IA2Q4A1AL8	The surcharge material haul road along the northern perimeter of Study Area 7 has excessive sediment/soil material on it's surface and requires cleaning/maintenance.
5	IA2Q4A1AL8	Fencing is needed at the southeast corner of the N-1 surcharge pile. The grade change due to surcharge material placement now allows access to the spill-over tank on the southern side of the sedimenation basin and fencing is required for safety.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 05/29/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace filter fabric in the catch basin.	6/3/14 RAD
2	Repair hose and/or hose bib.	5/30/14 RAD
3	Toe in silt fence as per specifications.	6/2/14 RAD
4	Clean the asphalt roadway and install hay bales as necessary to alleviate run-off of sediment.	6/3/14 RAD
5	Install fencing and/or restrict access to the spill-over tank located to the south of the sedimentation basin on SA-6 North.	6/3/14 RAD

Construction Manager: _____ Date: 06/04/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (April 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (April 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 15, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: April 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the April 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

New Jersey Department of Environmental Protection
Division of Water Quality

PI 234822

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	4	1	2014	To	4	30	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J. Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR — GRADE AND REGISTRY NUMBER (IF APPLICABLE)

John J. Morris — 5/14/2014 — 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR — DATE — AREA CODE/PHONE NUMBER

*For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director — John J. Morris — 5/14/2014 — 973.455.4003

NAME AND TITLE — SIGNATURE — DATE — AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 4/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

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Pre-Print Creation Date: 4/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

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Pre-Print Creation Date: 4/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	4/1/2014 TO 4/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 4/1/2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 15, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Bayfront Redevelopment at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the April 2014 discharge monitoring reports, MR 1 and MR 2, for the Bayfront Redevelopment treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
4	01	14	4	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,308	92,462 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	1.29	1.52	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.050	<0.050	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0839	0.0839	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

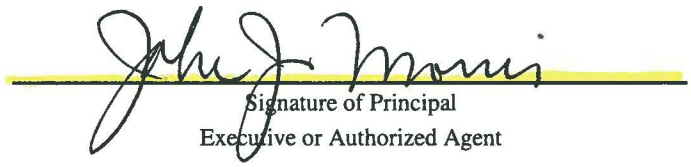
Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

May 14, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
4	01	14	4	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,349,250	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	5,660,213

DATE	BOD (mg/l)	TSS (mg/l)
4/23/2014	39.3	10.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE May 14, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Bayfront Redevelopment; GWTP (Permit #31630016)								MONTH: April 2014						
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
4/1/2014	Angel Trujillo	3310963	3392049	81,086	0.081086	7.37	1.970									1.33
4/2/2014	Angel Trujillo	3392049	3472201	80,152	0.080152	7.47	1.970									1.32
4/3/2014	Angel Trujillo	3472201	3551241	79,040	0.07904	7.31	1.970									1.30
4/4/2014	Angel Trujillo	3551241	3630423	79,182	0.079182	7.74	1.970									1.30
4/5/2014	Angel Trujillo	3630423	3722885	92,462	0.092462	7.59	1.970									1.52
4/6/2014	Angel Trujillo	3722885	3790127	67,242	0.067242	7.46	1.970									1.10
4/7/2014	Angel Trujillo	3790127	3861609	71,482	0.071482	7.52	1.970									1.17
4/8/2014	Angel Trujillo	3861609	3938419	76,810	0.07681	7.70	1.970									1.26
4/9/2014	Angel Trujillo	3938419	4015416	76,997	0.076997	7.69	1.970									1.27
4/10/2014	Angel Trujillo	4015416	4094327	78,911	0.078911	7.71	1.970									1.30
4/11/2014	Angel Trujillo	4094327	4168700	74,373	0.074373	7.70	1.970									1.22
4/12/2014	Angel Trujillo	4168700	4249999	81,299	0.081299	7.76	1.970									1.34
4/13/2014	Angel Trujillo	4249999	4336560	86,561	0.086561	7.74	1.970									1.42
4/14/2014	Angel Trujillo	4336560	4410816	74,256	0.074256	7.77	1.970									1.22
4/15/2014	Angel Trujillo	4410816	4484706	73,890	0.07389	7.75	1.970									1.21
4/16/2014	Angel Trujillo	4484706	4561960	77,254	0.077254	7.77	1.970									1.27
4/17/2014	Angel Trujillo	4561960	4640229	78,269	0.078269	7.74	1.970									1.29
4/18/2014	Angel Trujillo	4640229	4720310	80,081	0.080081	7.72	1.970									1.32
4/19/2014	Angel Trujillo	4720310	4803443	83,133	0.083133	7.67	1.970									1.37
4/20/2014	Angel Trujillo	4803443	4881981	78,538	0.078538	7.71	1.970									1.29
4/21/2014	Angel Trujillo	4881981	4955934	73,953	0.073953	7.73	1.970									1.22
4/22/2014	Angel Trujillo	4955934	5035774	79,840	0.07984	7.76	1.970									1.31
4/23/2014	Angel Trujillo	5035774	5115447	79,673	0.079673	7.10	1.970	<5.2	39.3		<0.010	<0.030	<0.050	<0.0002	<0.020	1.31
4/24/2014	Angel Trujillo	5115447	5194972	79,525	0.079525	7.74	1.970									1.31
4/25/2014	Angel Trujillo	5194972	5273422	78,450	0.07845	7.53	1.970									1.29
4/26/2014	Angel Trujillo	5273422	5353408	79,986	0.079986	7.54	1.970									1.31
4/27/2014	Angel Trujillo	5353408	5428101	74,693	0.0747	7.67	1.970									1.23
4/28/2014	Angel Trujillo	5428101	5508412	80,311	0.080311	7.33	1.970									1.32
4/29/2014	Angel Trujillo	5508412	5583939	75,527	0.075527	7.62	1.970									1.24
4/30/2014	Angel Trujillo	5583939	5660213	76,274	0.076274	7.51	1.970									1.25
TOTAL				2,349,250	2.34925			<5.2	39.3		<0.010	<0.030	<0.050	<0.0002	<0.020	
			High:	92,462											High:	1.52
			Average:	78,308											Average:	1.29

WW

JB65396

E

Honeywell Chain Of Custody / Analysis Request

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
[illegible]

Site Name:	Hudson County	Phase:	CS
Location of Site:	Jersey City, NJ	Sampling Program	087: JCIA
Sampling Co.:	Parsons	EDD To:	
Client Contact: (name, co., address)	Sampler:	Frank Schroyer	
Helen Fahy P: (973) 455-2[illegible] E: helen.fahy@honeywell.com	PO #		
Honeywell International	Analysis Turnaround Time (TAT):	3	
101 Columbia Road Morristown, NJ 07962	Consultant	CH2M	
[illegible]			
[illegible]			
Hard Copy To	Helen Fahy (Honeywell)	Full Report TAT:	28 Days
Invoice To:	Helen Fahy (Honeywell)		

AESI Ref:	41762.38875
COC#	[illegible]
Lab Proj # (EDD):	
Lab ID	[illegible]
Site ID	[illegible]
Lab Job #	HWINJM32015
Authorized User:	Honeywell

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units		Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 180.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs, see attached special list					Sampling Method (code)	Lab Sample Numbers
													3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-042314-A	4/23/2014	14:50	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		-1				6.84 pH	
2	087-WW			087-WWE-042314-B	4/23/2014	14:40	WW	WATER	REG	5	grab	N					X	X				-2					
3	087-WW			087-WWI-042314	4/23/2014	14:25	WW	WATER	REG	3	grab	N									X	-3					L19
4																											V72
5																											A7
6																											G23
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by [signature]	4/23/14	Company	Parsons	Received by	Company	Accutest	Condition		Custody Seals Intact
Frank Schroyer pH = 7.10 s.u.	Date/Time		1	[signature]	Date/Time	4/23/14 1600	Cooler Temp.	3.0°C	
Relinquished by [signature]	Company	Accutest	Received by [signature]	Company	Accutest	Condition		Custody Seals Intact	
	Date/Time	4/23/14 1726		Date/Time	4/23 1600	Cooler Temp.			

Preservatives: (Other; Specify): only

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); so (special instructions)

JK

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-A		
Lab Sample ID:	JB65396-1	Date Sampled:	04/23/14
Matrix:	AQ - Water	Date Received:	04/23/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1970	10	ug/l	1	04/24/14	04/25/14	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	04/24/14	04/25/14	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	04/24/14	04/28/14	ND	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	04/25/14	04/25/14	JW	EPA 245.1 [1]	EPA 245.1 [4]
Nickel [a]	< 50	50	ug/l	5	04/24/14	04/28/14	ND	EPA 200.7 [3]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	04/24/14	04/25/14	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA33870
(2) Instrument QC Batch: MA33871
(3) Instrument QC Batch: MA33890
(4) Prep QC Batch: MP79076
(5) Prep QC Batch: MP79129

(a) Elevated detection limit due to dilution required for matrix interference.

RL = Reporting Limit

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-A		
Lab Sample ID:	JB65396-1	**Date Sampled:**	04/23/14
Matrix:	AQ - Water	**Date Received:**	04/23/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	39.3	3.4	mg/l	1	04/23/14 19:29	LS	SM5210 B-01
Solids, Total Suspended	10.0	4.0	mg/l	1	04/25/14	KP	SM2540 D-11
pH [a]	6.84		su	1	04/23/14 17:35	OS	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-B		
Lab Sample ID:	JB65396-2	**Date Sampled:**	04/23/14
Matrix:	AQ - Water	**Date Received:**	04/23/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N234196.D	1	04/24/14	DC	n/a	n/a	VN9917
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	19.2	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.8	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.60	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	55.2	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	81%		71-128%
2037-26-5	Toluene-D8 (SUR)	99%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	93%		81-114%
1868-53-7	Dibromofluoromethane (S)	95%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Draft: 3 of 5

Accutest LabLink@792117 07:28 29-Apr-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-042314-B		
Lab Sample ID:	JB65396-2	Date Sampled:	04/23/14
Matrix:	AQ - Water	Date Received:	04/23/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	04/28/14	LS	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending May 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area; Update the list of monitoring wells to be abandoned / retained	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead	Submitted to all Parties on May 19, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 4 OF 25

- **2014 Monthly Reports Part 4**

7/11/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 11, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-06

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from June 1 – June30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: June 2014 SA-6/7 Combined Monthly Progress Report No. 2014-06

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2014-06
Project SA-6 & 7 Remediation

June 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
06/02/14	SA-6 - PVSC Permit - E-mail Notification Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/02/14	Responses to Comments Provided by Plaintiffs Summary of Hydrocarbon-Impacted Soil Encountered Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/06/14	Response to Comments Provided by Plaintiffs, May 14, 2014, Design Change Bulletin (DCB) – Trench Layout for Contingent Groundwater Extraction System Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/09/14	Bench Scale Work Plan to Test Efficacy of Treatment of Chromium-Impacted Soil Using 3DME Organic Substrate Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/12/14	Response to Comments Provided by Plaintiffs, June 3, 2014, Surcharge Plan Design Change Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/13/14	Combined Monthly Progress/Highlights Report No. 2014-04 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/17/14	Response to Comments – 2013 Annual Integrated GW Performance Report Study Areas 5, 6, and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/17/14	Surcharge Observation Proximate to PVSC Force Main Study Areas 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
06/18/14	NJPDES Permit NJ0156311: May 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	NJ Department of Environmental Protection Division of Water Quality
06/18/14	Termination of Sewer Use Permit ID 31630005 80 Kellogg Street Study Area 6, Jersey City, NJ	Anthony Gammaro Passaic Valley Sewerage Commission
06/18/14	Court Ordered Regional Groundwater Remedy Treatment Plant - MR 1 and MR 2 Permit ID# 31630016 Located at 525 & 575 Route 440, Jersey City, NJ *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
06/19/14	Declarations for Performance Certifications Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
06/24/14	Special Master All Hands Meeting	N/A
06/25/14	PVSC - Acoustic Monitoring Reports Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	06/08/14	06/15/14	06/22/14	06/29/14
Construction Management (AMEC)	9	13	13	12
Engineering (AMEC)	1	2	2	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	44	42	37	37
Arecon/US Ecology Subcontractors	1	1	1	1
OSC (80 Kellogg Demolition)	0	0	0	0
ENR (SA-6N GWTP Utilities)	2	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Other	0	0	1	2
TOTAL	**62**	**63**	**59**	**58**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected June PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On June 11, met with JCIA and JCRA representatives to discuss relocation schedule and finalization of the bid documents for the Above-grade Demolition of the designated JCIA Structures.
- On June 30, excavation contractor encountered a previously unknown underground storage tank while excavating in Cell 114. The site designated LSRP was notified and is responsible for registering and closing the UST in accordance with NJDEP requirements as part of the non-chromium remedial action being conducted concurrently.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on May 13, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	06/08/14	06/15/14	06/22/14	06/29/14
Avg. Gallons Treated & Discharged (per day)	76,998	80,687	78,742	79,710
Average Flow (gpm) for Operating Period	53	56	54	55
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	9,410	13,658	13,987	11,625

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 127B – 116B, 124A – 114A.
- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	32	21.7	693.60
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Non Haz Petroleum Soil	105	25.7	2703.22

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 127B – 116B, 124A – 114A
Excavation Completed	Cell Number(s) 128B – 118B, 125A – 115A Volume Excavated - Total for Reporting Period: 15,127 CY/ Total to Date: 77,746 CY
Backfill in Progress	Cell Number(s) 152A-114A, 146B-128B

3. BACKFILL MATERIALS USED

Source	Week Ending			
	06/08/14	06/15/14	06/22/14	06/29/14
<20ppm re-use, CY	1,779	968	1,037	1,531
Weldon, Import-Tons	0	4,603	811.11	2,125.7
Tilcon, Import-Tons DGA	1,260	359	0	0
Tilcon, Import Tons – 1.5" Stone	379.7	0	0	0
Weldon, Imported Tons - QP	0	250.34	1,367.7	3,290
Celgene - Loads	0	0	0	240
Tilcon, Imported Tons – 2.5" Stone	0	0	0	51.13

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Instrumentation Installation ~95% complete. The settlement platforms over the perimeter pool remain to be installed. They will be installed prior to construction of the slope. Surcharge initiated June 16th.
- Area 2S: Instrumentation Installation ~95% complete. The settlement platforms over the perimeter pool remain to be installed. They will be installed prior to construction of the slope.
- Area 3S: Instrumentation Installation 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Instrumentation Installation ~100% complete. Continued placement of surcharge material initiated on April 8, 2014. As of June 27th, ~95% of surcharge has been placed. The results of the monitoring provided in Surcharge Monitoring Report #3 to be submitted under separate cover. Surcharge placement was stopped due to detected movements and V1-4. Amec has been in regular communication with PVSC regarding these readings.
- Area 2N: Instrumentation Installation ~85% complete. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Two single sheets driven on the hydraulic barrier wall at Sta 12+68 for the Closure Piece 1, SA-6 South.

PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

G. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Initiate bidding process for the Above-grade Demolition of the four designated JCIA Structures.
- Complete placement of surcharge materials in SA-6N Area 1N.
- Continue placement of surcharge materials in SA-6S Area 1S.
- Begin placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 108 to 88.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Conduct S-3 Injection/Mass Removal Event No.15 in well 088-IW-01.
- Conduct quarterly LTMP groundwater level measurement round.

- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

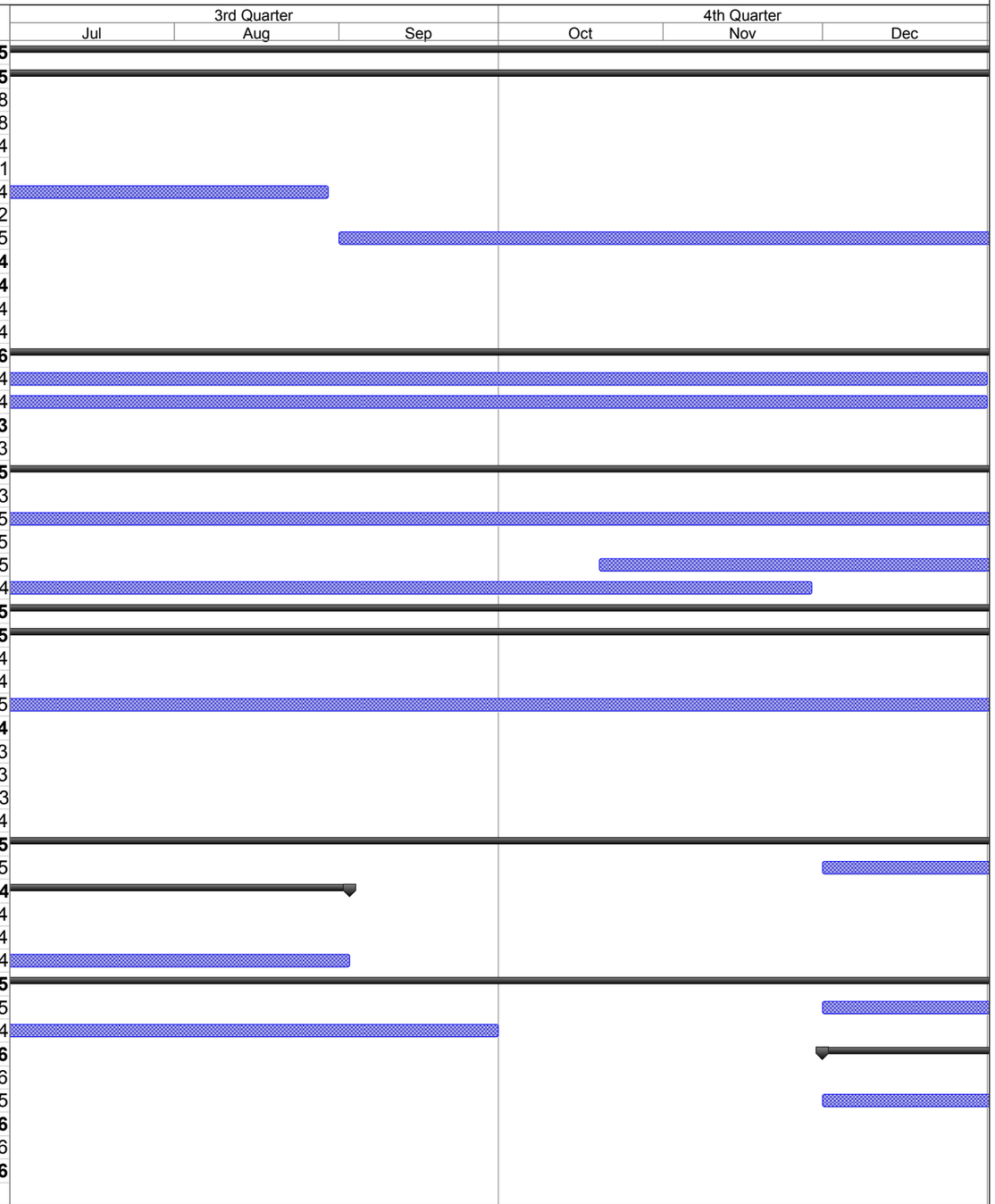
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Update *(provided on a quarterly basis)*
   - Summary of Groundwater Quality Data from GWET Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1S
   - Instrumentation Location Plan 2N
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (May 2014)
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (May 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Thu 7/3/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Backfill compaction activities.



Site Photograph 2: Contractor continues excavation activities.



Site Photograph 3: Contractor placing backfill with dozer.



Site Photograph 4: Spreading the first lift of DGA over fabric - facing southwest.



Site Photograph 5: Surcharge instrumentation installation at JC Properties.



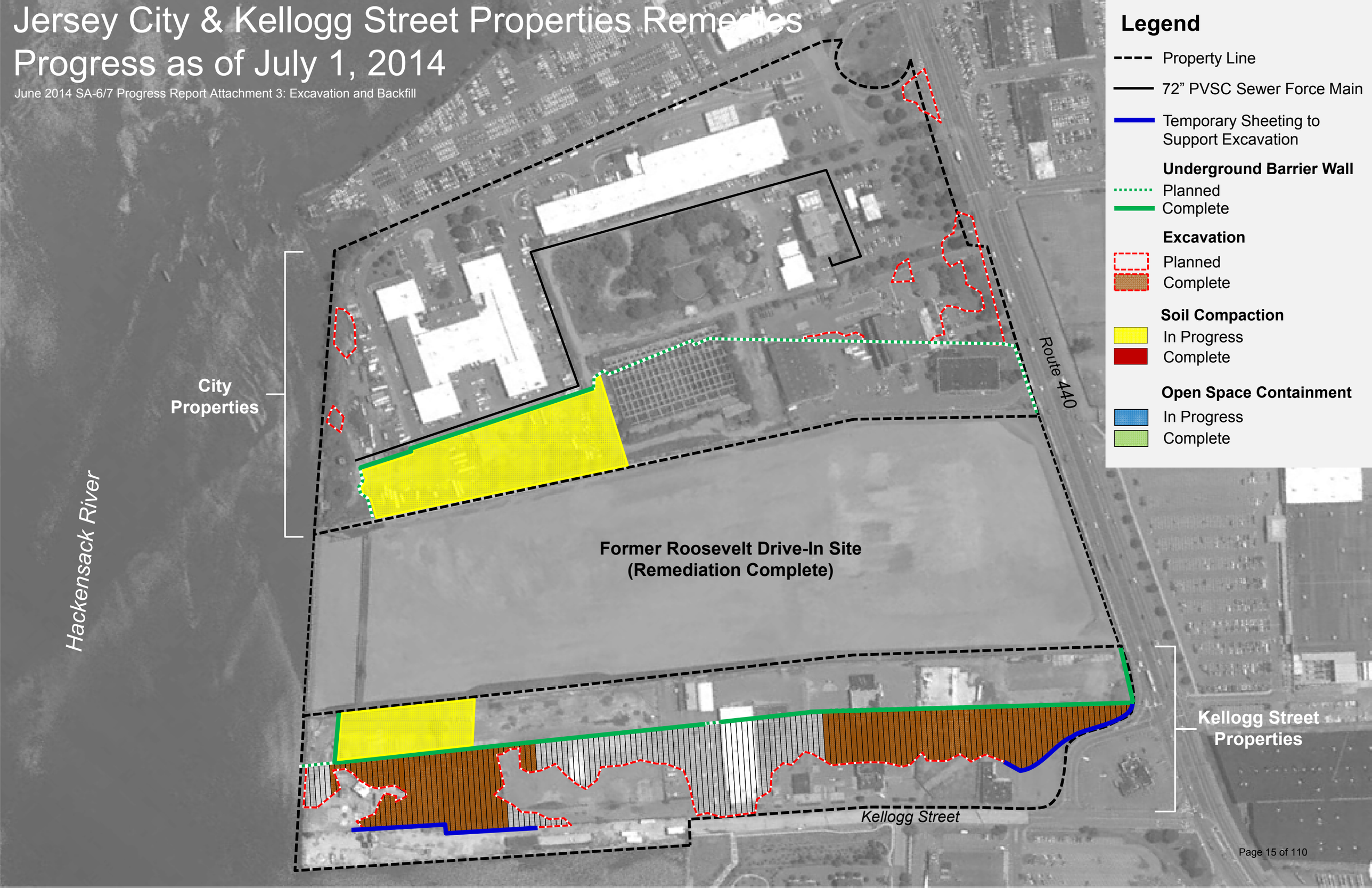
Site Photograph 6: The western excavation face.

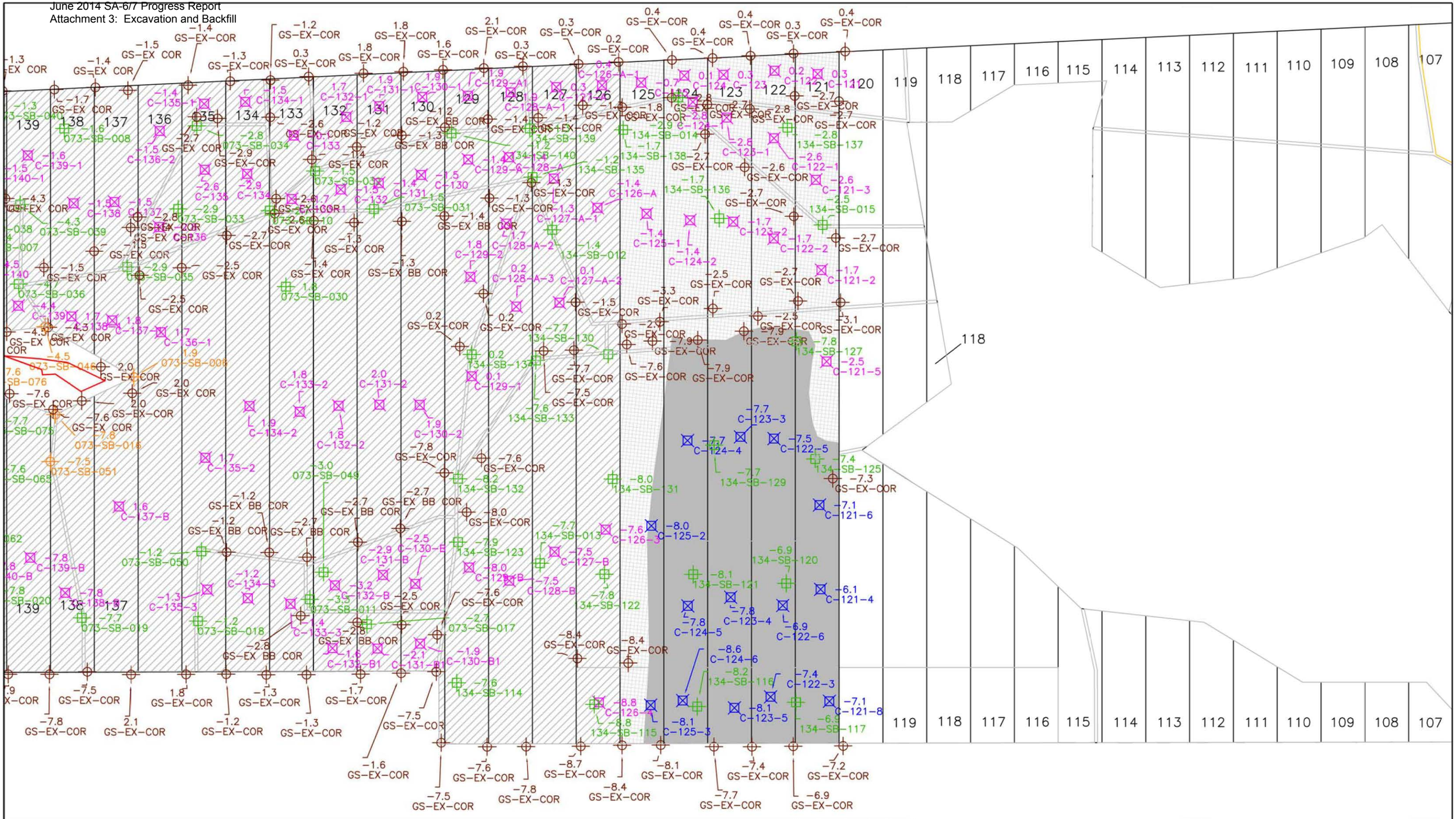
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of July 1, 2014

June 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill




LEGEND
CONFIRMATORY BOTTOM SAMPLE ELEVATION
CONFIRMATORY SIDEWALL SAMPLE ELEVATION
0.0 POINT ELEVATION
POINT POINT DESCRIPTION
BOTTOM CENTER POINT ELEVATION STRATUM D
BOTTOM CENTER POINT ELEVATION <20 PPM
BOTTOM CORNER POINT ELEVATION <20 PPM
DESIGNED STRATUM O EXCAVATION LIMIT
PREVIOUSLY SUBMITTED DATA
CURRENT EXCAVATION TO STRATUM D
CURRENT EXCAVATION TO <20 PPM
TOP OF EXCAVATION SLOPE
LIMIT OF EXCAVATION AREA
ENTACT 302 Unity Plaza Latrobe, PA 15650
DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 06-12-14 TO 06-26-14
PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.7	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.9	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.7	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.1	Stratum D Reached
685104.7	601708.0	-8.7	C-121-4	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 7/2/14

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	21.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
2	BF-19												Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.6	95	95	120 (No)	Weldon WC QP		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.6	95	95	119	Weldon WC QP		V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2		6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.6	95	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5								Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.6	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.6	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.6	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.6	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.6	97	95		Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.6	95	95		Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.6	95	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.6	98	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95		Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

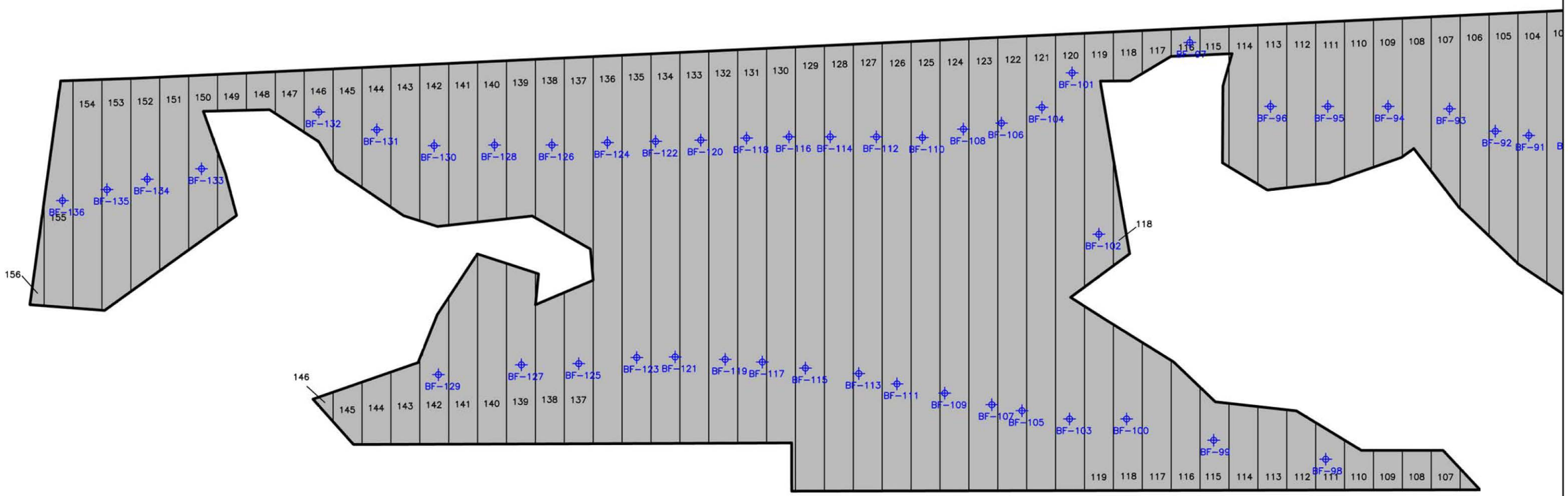
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



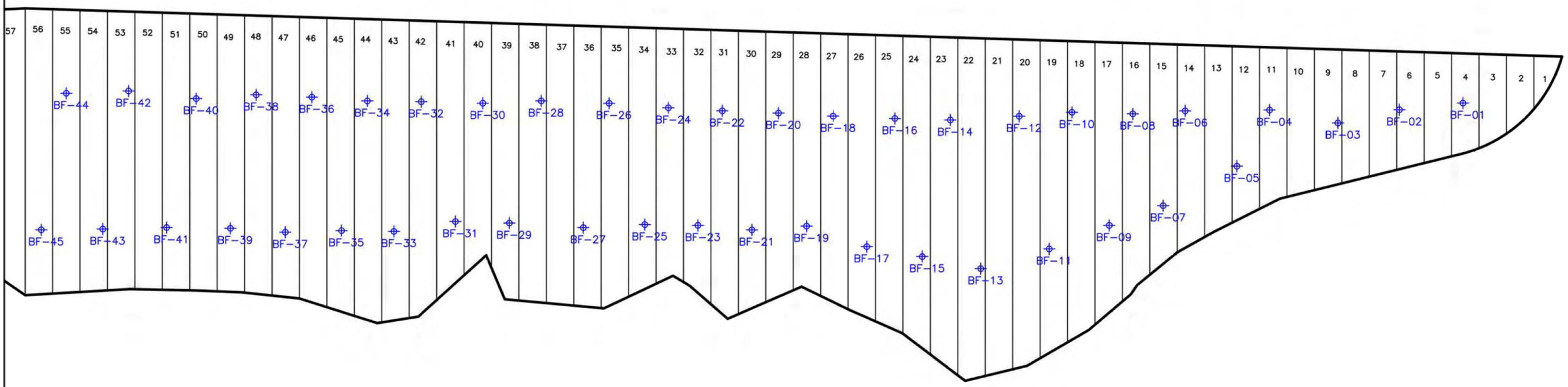
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	126.8	4.5	124.5	12.1	102	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	124.5	12.1	100	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
	RF-30		685179.4	601785.6	0.4							120 (No)			
2	RF-30-01	7/1/2014	685218.5	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
0	RF-32		684498.6	602739.4	-1.2								Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/1/2014	685263.1	601755.8	2.6	122.4	7.3	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.1719	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
0	RF-34		685278.423	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2										
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							152	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	151	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	151	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	151	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

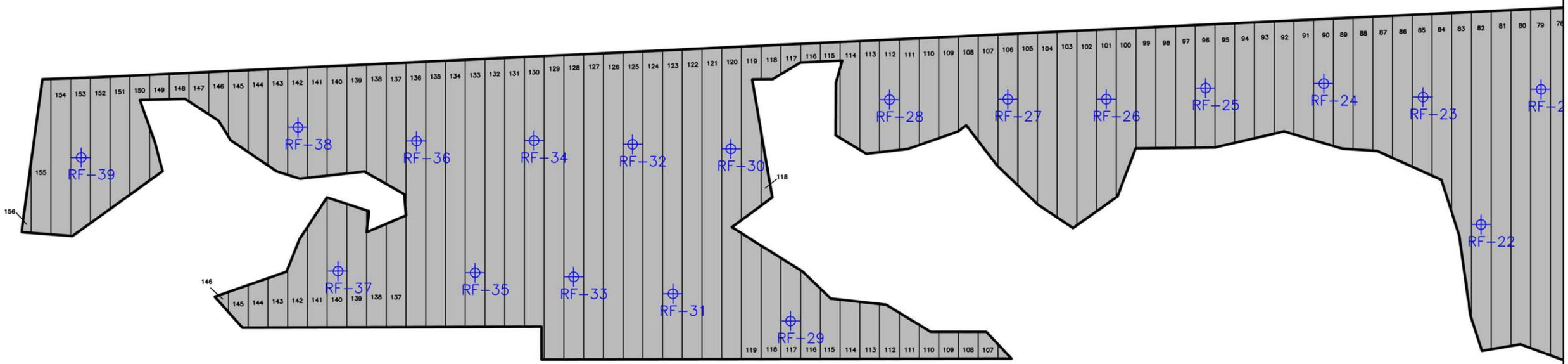
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

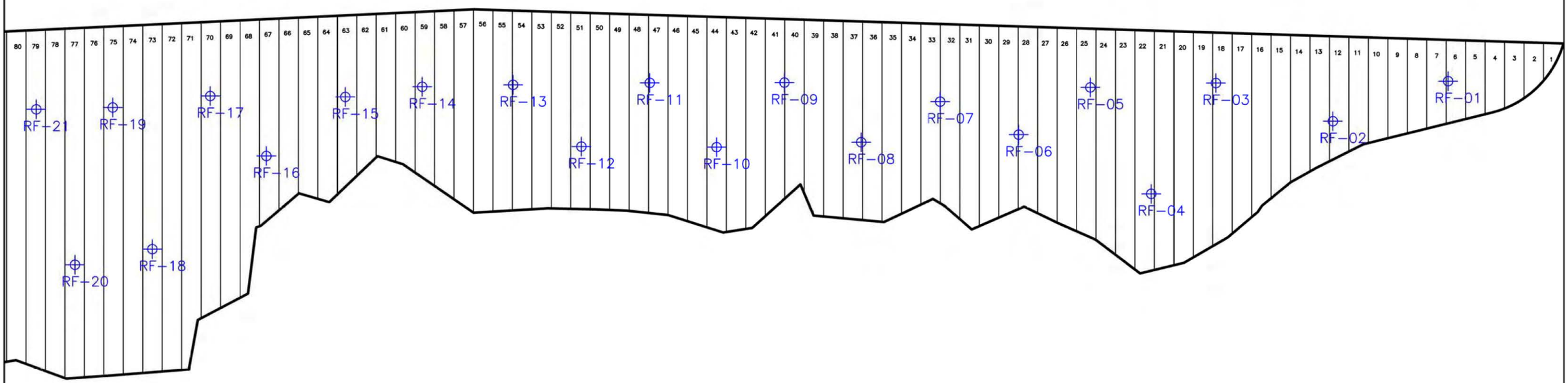
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
05/01/14	1	24	9,EPS	12	560,143	563,407	3,264	1,959,614	2.3	
05/01/14	2	24	16,17	18	65,318	67,350	2,032	1,961,646	1.4	
05/02/14	1	24	9,EPS	12	563,407	571,007	7,600	1,969,246	5.3	
05/02/14	2	24	16,17	18	67,350	69,321	1,971	1,971,217	1.4	
05/05/14	1	72	9,EPS	12	571,007	596,817	25,810	1,997,027	6.0	
05/05/14	2	72	16,17	18	69,321	75,193	5,872	2,002,899	1.4	
05/06/14	1	24	9,EPS	12	596,817	604,513	7,696	2,010,595	5.3	
05/06/14	2	24	16,17	18	75,193	77,224	2,031	2,012,626	1.4	
05/07/14	1	24	9,EPS	12	604,513	612,024	7,511	2,020,137	5.2	
05/07/14	2	24	16,17	18	0	361	361	2,020,498	0.3	Flowmeter Reset
05/08/14	1	24	9,EPS	12	612,024	617,958	5,934	2,026,432	4.1	
05/08/14	2	24	16	12	361	4,243	3,882	2,030,314	2.7	
05/09/14	1	24	9,EPS	12	617,958	618,262	304	2,030,618	0.2	
05/09/14	2	24	16	12	4,243	4,886	643	2,031,261	0.4	
05/12/14	1	72	9,EPS	12	618,262	618,262	0	2,031,261	0.0	
05/12/14	2	72	16	12	4,886	6,201	1,315	2,032,576	0.3	
05/13/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/14/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/15/14	1	24	9,EPS	12	618,262	618,262	0	2,032,576	0.0	
05/19/14	1	72	9,EPS	13	618,262	618,262	0	2,032,576	0.0	
06/04/14	2	24	14, WPS-2	35	0	8,325	8,325	2,040,901	5.8	
06/05/14	2	24	14, WPS-2	35	8,325	13,042	4,717	2,045,618	3.3	
06/06/14	2	24	14, WPS-2	35	13,042	22,720	9,678	2,055,296	6.7	
06/09/14	2	72	14, WPS-2	35	22,720	41,093	18,373	2,073,669	4.3	
06/10/14	2	24	14, WPS-2	35	41,093	54,801	13,708	2,087,377	9.5	
06/11/14	2	24	14, WPS-2	35	54,801	61,975	7,174	2,094,551	5.0	
06/12/14	2	24	14, WPS-2	35	61,975	69,411	7,436	2,101,987	5.2	
06/13/14	2	24	14, WPS-2	35	69,411	75,445	6,034	2,108,021	4.2	
06/16/14	2	72	14, WPS-2	35	75,445	95,783	20,338	2,128,359	4.7	
06/17/14	2	24	14, WPS-2	35	95,783	102,708	6,925	2,135,284	4.8	
06/18/14	2	24	13,14, WPS-2	48	102,708	117,105	14,397	2,149,681	10.0	
06/19/14	2	24	13,14, WPS-2	48	117,105	131,389	14,284	2,163,965	9.9	
06/20/14	2	24	13,14, WPS-2	48	131,389	142,678	11,289	2,175,254	7.8	
06/23/14	2	72	13,14, WPS-2	48	142,678	172,492	29,814	2,205,068	6.9	
06/24/14	2	24	13,14, WPS-2	48	172,492	182,523	10,031	2,215,099	7.0	
06/25/14	2	24	13,14, WPS-2	48	182,523	191,134	8,611	2,223,710	6.0	
06/26/14	2	24	13,14, WPS-2	48	191,134	200,723	9,589	2,233,299	6.7	
06/27/14	2	24	13,14, WPS-2	48	200,723	212,575	11,852	2,245,151	8.2	
06/30/14	2	72	13,14, WPS-2	48	212,575	247,628	35,053	2,280,204	8.1	
07/01/14	2	24	13,14, WPS-2	48	247,628	259,680	12,052	2,292,256	8.4	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013
Previous information is truncated. Only last month and current month information is provided.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
05/01/14	24	43,518	51,195	7,677	51,195	5.3	
05/02/14	24	51,195	57,459	6,264	57,459	4.4	
05/05/14	72	57,459	62,329	4,870	62,329	1.1	Flowmeter Reset
05/06/14	24	0	27,630	27,630	89,959	19.2	
05/07/14	24	27,630	31,613	3,983	93,942	2.8	
05/08/14	24	N/A	N/A	7,500	101,442	5.2	Flowmeter Blockage (Tank Measured)
05/09/14	24	N/A	N/A	8,000	109,442	5.6	Flowmeter Blockage (Tank Measured)
05/12/14	72	N/A	N/A	25,500	134,942	5.9	Flowmeter Blockage (Tank Measured)
05/13/14	24	31,613	32,142	529	135,471	0.4	
05/14/14	24	32,142	34,250	2,108	137,579	1.5	
05/15/14	24	34,250	36,358	2,108	139,687	1.5	Well Taken Offline for Excavation
05/29/14	24	0	4,322	4,322	144,009	3.0	
05/30/14	24	4,322	8,634	4,312	148,321	3.0	
06/02/14	72	8,634	20,324	11,690	160,011	2.7	
06/03/14	24	20,324	33,537	13,213	173,224	9.2	
06/04/14	24	33,537	61,661	28,124	201,348	19.5	
06/05/14	24	61,661	83,362	21,701	223,049	15.1	
06/06/14	24	83,362	90,354	6,992	230,041	4.9	
06/09/14	72	90,354	116,742	26,388	256,429	6.1	
06/10/14	24	0	11,717	11,717	268,146	8.1	Flowmeter Reset
06/11/14	24	N/A	N/A	10,500	278,646	7.3	Flowmeter Blockage (Tank Measured)
06/12/14	24	N/A	N/A	11,200	289,846	7.8	Flowmeter Blockage (Tank Measured)
06/13/14	24	N/A	N/A	11,100	300,946	7.7	Flowmeter Blockage (Tank Measured)
06/16/14	72	N/A	N/A	34,500	335,446	8.0	Flowmeter Blockage (Tank Measured)
06/17/14	24	0	12,405	12,405	347,851	8.6	Flowmeter Reset
06/18/14	24	12,405	20,193	7,788	355,639	5.4	
06/19/14	24	N/A	N/A	9,200	364,839	6.4	Flowmeter Blockage (Tank Measured)
06/20/14	24	20,193	23,966	3,773	368,612	2.6	
06/23/14	72	23,966	30,285	6,319	374,931	1.5	
06/24/14	24	N/A	N/A	2,500	377,431	1.7	Flowmeter Blockage (Tank Measured)
06/25/14	24	N/A	N/A	5,000	382,431	3.5	Flowmeter Blockage (Tank Measured)
06/26/14	24	N/A	N/A	5,100	387,531	3.5	Flowmeter Blockage (Tank Measured)
06/27/14	24	0	6,090	6,090	393,621	4.2	
06/30/14	72	6,090	24,309	18,219	411,840	4.2	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/01/14	12.0	9,371.72	9,550.80	179,080	9,550,350	
05/02/14	23.5	9,665.35	9,775.14	224,340	9,774,690	Includes system operation through 05/01/12
05/03/14	21.0	9,921.23	10,020.57	245,430	10,020,120	Includes system operation through 05/02/13
05/05/14	37.0	10,377.22	10,584.99	564,420	10,584,540	Includes system operation through 05/04/14
05/06/14	9.5	10,584.99	10,825.62	240,630	10,825,170	
05/07/14	7.5	10,825.62	11,006.06	180,440	11,005,610	PVSC Compliance Sample Collected
05/08/14	4.5	11,006.06	11,112.94	106,880	11,112,490	
05/09/14	6.0	1,112.94	11,253.32	140,380	11,252,870	
05/12/14	7.0	11,253.32	11,439.87	186,550	11,439,420	
05/13/14	7.0	11,439.87	11,600.00	160,130	11,599,550	
05/14/14	6.5	11,600.00	11,712.86	112,860	11,712,410	
05/15/14	5.5	11,712.86	11,810.42	97,560	11,809,970	
05/16/14	6.0	11,810.42	11,885.46	75,040	11,885,010	
05/18/14	2.8	11,885.46	11,960.68	75,220	11,960,230	
05/19/14	7.0	11,960.68	12,098.90	138,220	12,098,450	
05/20/14	7.0	12,098.90	12,188.74	89,840	12,188,290	
05/21/14	5.0	12,188.74	12,262.55	73,810	12,262,100	
05/22/14	7.5	12,262.55	12,329.43	66,880	12,328,980	
05/23/14	7.5	12,329.43	12,405.66	76,230	12,405,210	
05/24/14	5.0	12,405.66	12,482.60	76,940	12,482,150	
05/25/14	2.0	12,482.60	12,527.46	44,860	12,527,010	
05/27/14	5.5	12,527.46	12,662.13	134,670	12,661,680	
05/28/14	2.0	12,662.13	12,696.70	34,570	12,696,250	
05/29/14	7.0	12,696.70	12,809.54	112,840	12,809,090	
05/30/14	7.0	12,809.54	12,906.92	97,380	12,906,470	
06/02/14	6:30	12,906.92	13,081.94	175,020	13,081,490	
06/04/14	7:00	13,081.94	13,233.54	151,600	13,233,090	PVSC Compliance Sample Collected
06/05/14	8:30	13,233.54	13,391.28	157,740	13,390,830	
06/06/14	8:00	13,391.28	13,444.66	53,380	13,444,210	
06/08/14	5:00	13,444.66	13,498.28	53,620	13,497,830	
06/09/14	6:15	13,498.28	13,667.07	168,790	13,666,620	
06/10/14	5:40	13,667.07	13,839.23	172,160	13,838,780	
06/11/14	4:50	13,839.23	13,952.75	113,520	13,952,300	
06/12/14	6:50	13,952.75	14,138.23	185,480	14,137,780	
06/13/14	13:15	14,138.23	14,296.51	158,280	14,296,060	
06/14/14	7:50	14,296.51	14,447.78	151,270	14,447,330	
06/16/14	8:20	14,447.78	14,602.88	155,100	14,602,430	
06/17/14	7:55	14,602.88	14,717.27	114,390	14,716,820	
06/18/14	8:00	14,717.27	14,832.09	114,820	14,831,640	
06/19/14	7:20	14,832.09	14,937.60	105,510	14,937,150	
06/20/14	8:20	14,937.60	15,083.23	145,630	15,082,780	
06/21/14	3:00	15,083.23	15,127.76	44,530	15,127,310	
06/23/14	7:50	15,127.76	15,294.76	167,000	15,294,310	
06/24/14	8:30	15,294.76	15,348.15	53,390	15,347,700	
06/25/14	8:15	15,348.15	15,452.33	104,180	15,451,880	
06/26/14	7:50	15,452.33	15,551.63	99,300	15,551,180	
06/27/14	7:45	15,551.63	15,616.53	64,900	15,616,080	
06/30/14	8:00	15,616.53	15,754.00	137,470	15,753,550	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

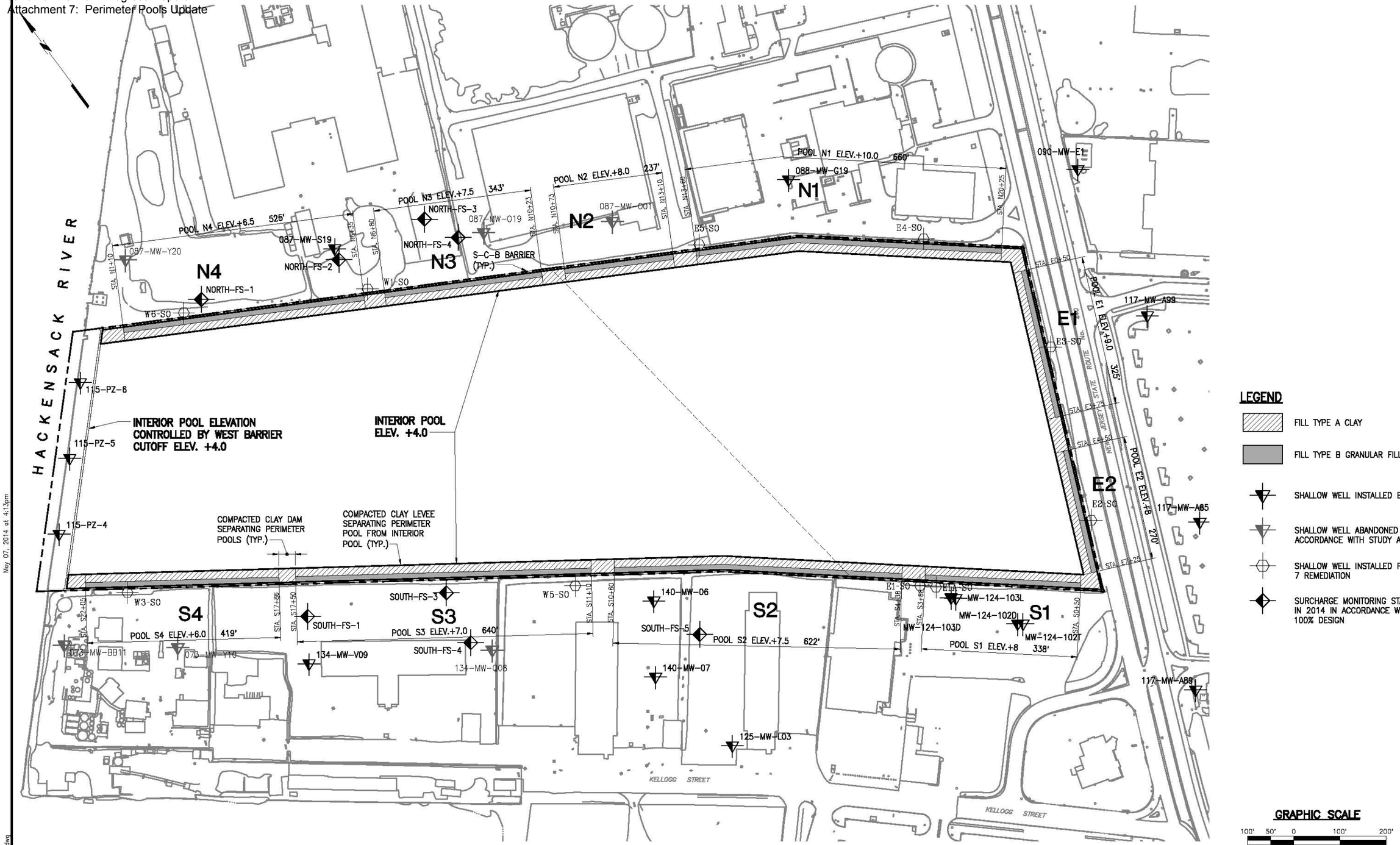
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
135,141,143-145	<20	124-145-20-a	675	124-145-20-a1	5/9/2014	9:00	22.8		Yes	
				124-145-20-a2	5/9/2014	9:05	0.4	Yes		
				124-145-20-a3	5/9/2014	9:10	5.4	Yes		
				124-145-20-a4	5/9/2014	9:15	3.0	Yes		
139-142B, 131-132A	<20	124-142-20-a	1000	124-142-20-a1	5/15/2014	11:00	2.1	Yes		
				124-142-20-a2	5/15/2014	11:05	8.7	Yes		
				124-142-20-a3	5/15/2014	11:10	5.9	Yes		
				124-142-20-a4	5/15/2014	11:15	4.3	Yes		
135-138B, 131A	<20	124-138-20-a, b	1500	124-138-20-a1	5/19/2014	10:45	4.0	Yes		
				124-138-20-a2	5/19/2014	10:50	10.2	Yes		
				124-138-20-a3	5/19/2014	10:55	5.7	Yes		
				124-138-20-a4	5/19/2014	11:00	3.9	Yes		
				124-138-20-b1	5/19/2014	11:05	1.2	Yes		
				124-138-20-b2	5/19/2014	11:10	4.9	Yes		
				124-138-20-b3	5/19/2014	11:15	2.7	Yes		
				124-138-20-b4	5/19/2014	11:20	5.4	Yes		
129-134	<20	124-134-20-a, b	1250	124-134-20-a1	5/21/2014	13:10	7.5	Yes		
				124-134-20-a2	5/21/2014	13:15	7.8	Yes		
				124-134-20-a3	5/21/2014	13:20	4.2	Yes		
				124-134-20-a4	5/21/2014	13:25	30.5		Yes	
				124-134-20-b1	5/21/2014	13:30	10.7	Yes		
				124-134-20-b2	5/21/2014	13:35	2.5	Yes		
				124-134-20-b3	5/21/2014	13:40	4.9	Yes		
				124-134-20-b4	5/21/2014	13:45	7.3	Yes		
139-142B, 131-132A	<20	124-128-20-a	1000	124-128-20-a1	6/3/2014	10:45	32.4		Yes	
				124-128-20-a2	6/3/2014	10:50	38.4		Yes	
				124-128-20-a3	6/3/2014	10:55	17.0	Yes		
				124-128-20-a4	6/3/2014	11:00	45.1		Yes	
124-126	<20	124-126-20-a, b	1450	124-126-20-a1	6/13/2014	11:00	41.1		Yes	
				124-126-20-a2	6/13/2014	11:05	13.9	Yes		
				124-126-20-a3	6/13/2014	11:10	15.0	Yes		
				124-126-20-a4	6/13/2014	11:15	2.9	Yes		
				124-126-20-b1	6/13/2014	11:20	12.9	Yes		
				124-126-20-b2	6/13/2014	11:25	8.6	Yes		
				124-126-20-b3	6/13/2014	11:30	59.4		Yes	
				124-126-20-b4	6/13/2014	11:35	8.0	Yes		
119-124	<20	124-124-20-a, b	2000	124-124-20-a1	6/25/2014	6:40	**			
				124-124-20-a2	6/25/2014	6:45	**			
				124-124-20-a3	6/25/2014	6:50	**			
				124-124-20-a4	6/25/2014	6:55	**			
				124-124-20-b1	6/25/2014	7:00	**			
				124-124-20-b2	6/25/2014	7:05	**			
				124-124-20-b3	6/25/2014	7:10	**			
				124-124-20-b4	6/25/2014	7:15	**			
119-125	>1000	124-125-1000-a	550	124-125-1000-a1	6/25/2014	6:15	**			
				124-125-1000-a2	6/25/2014	6:20	**			
				124-125-1000-a3	6/25/2014	6:25	**			
				124-125-1000-a4	6/25/2014	6:30	**			
115-119	<20	124-119-20-a	1000	124-119-20-a1	6/27/2014	13:00	**			
				124-119-20-a2	6/27/2014	13:05	**			
				124-119-20-a3	6/27/2014	13:10	**			
				124-119-20-a4	6/27/2014	13:15	**			

Notes:
*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
05-07-2014

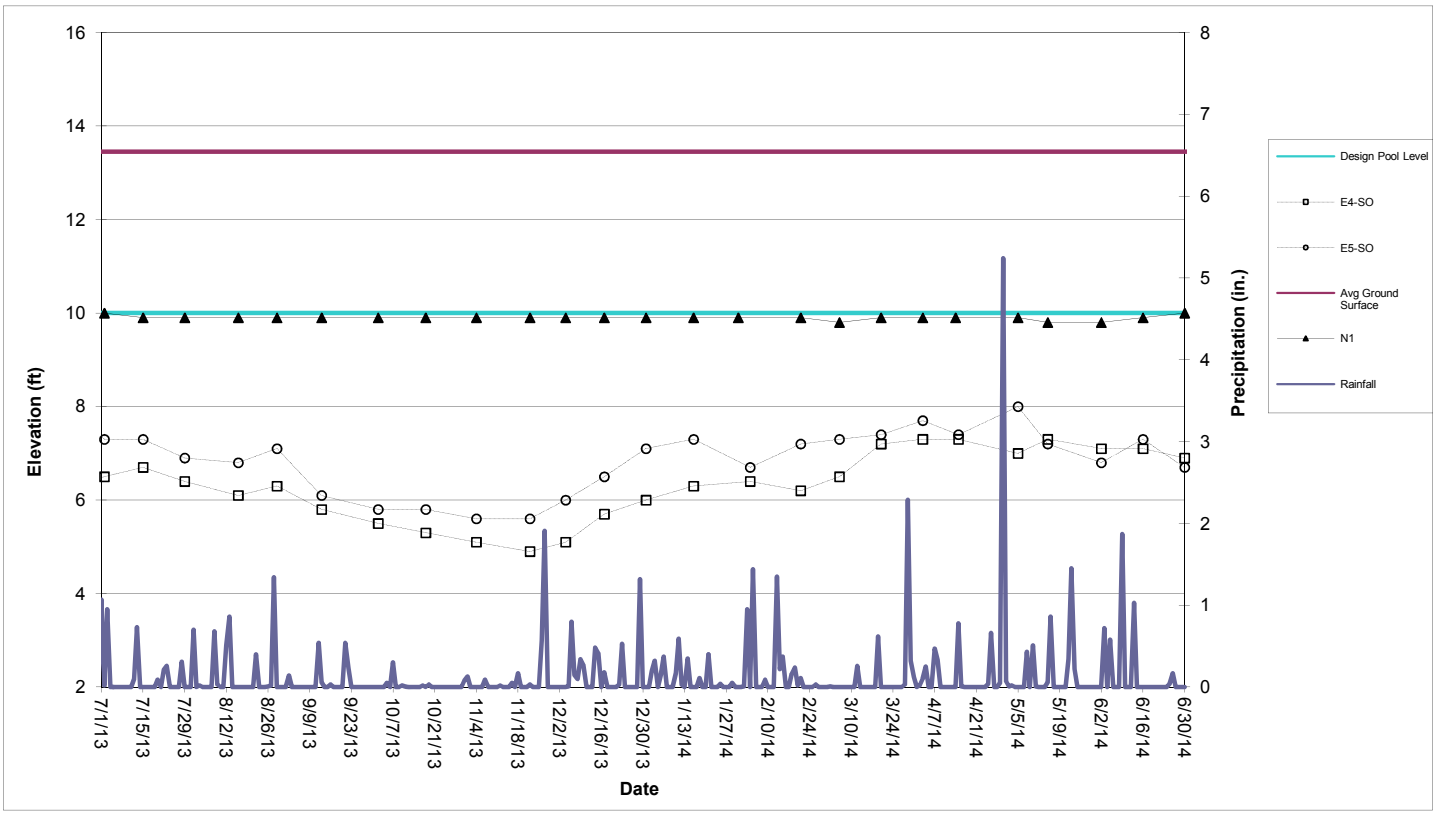
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

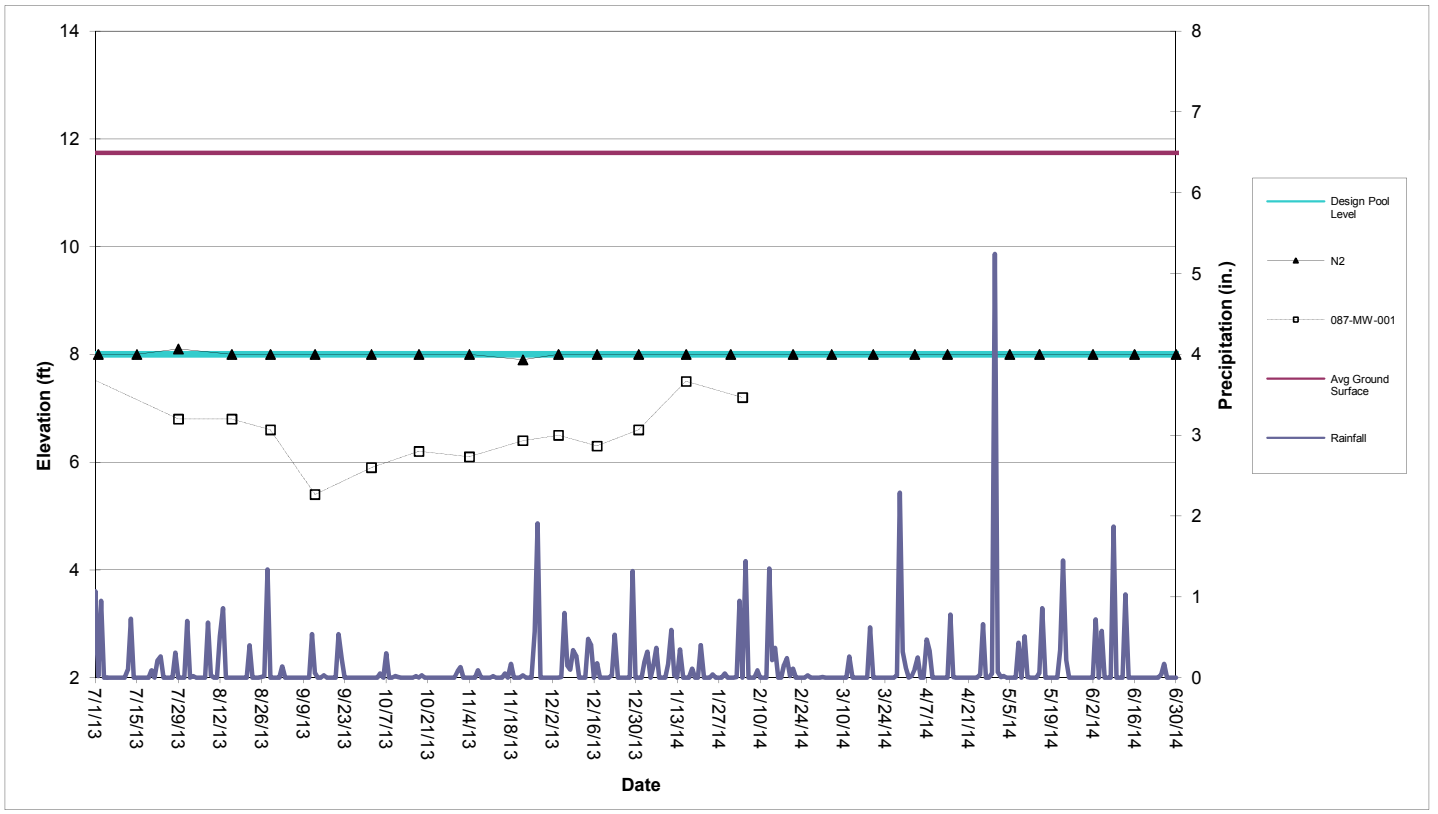
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

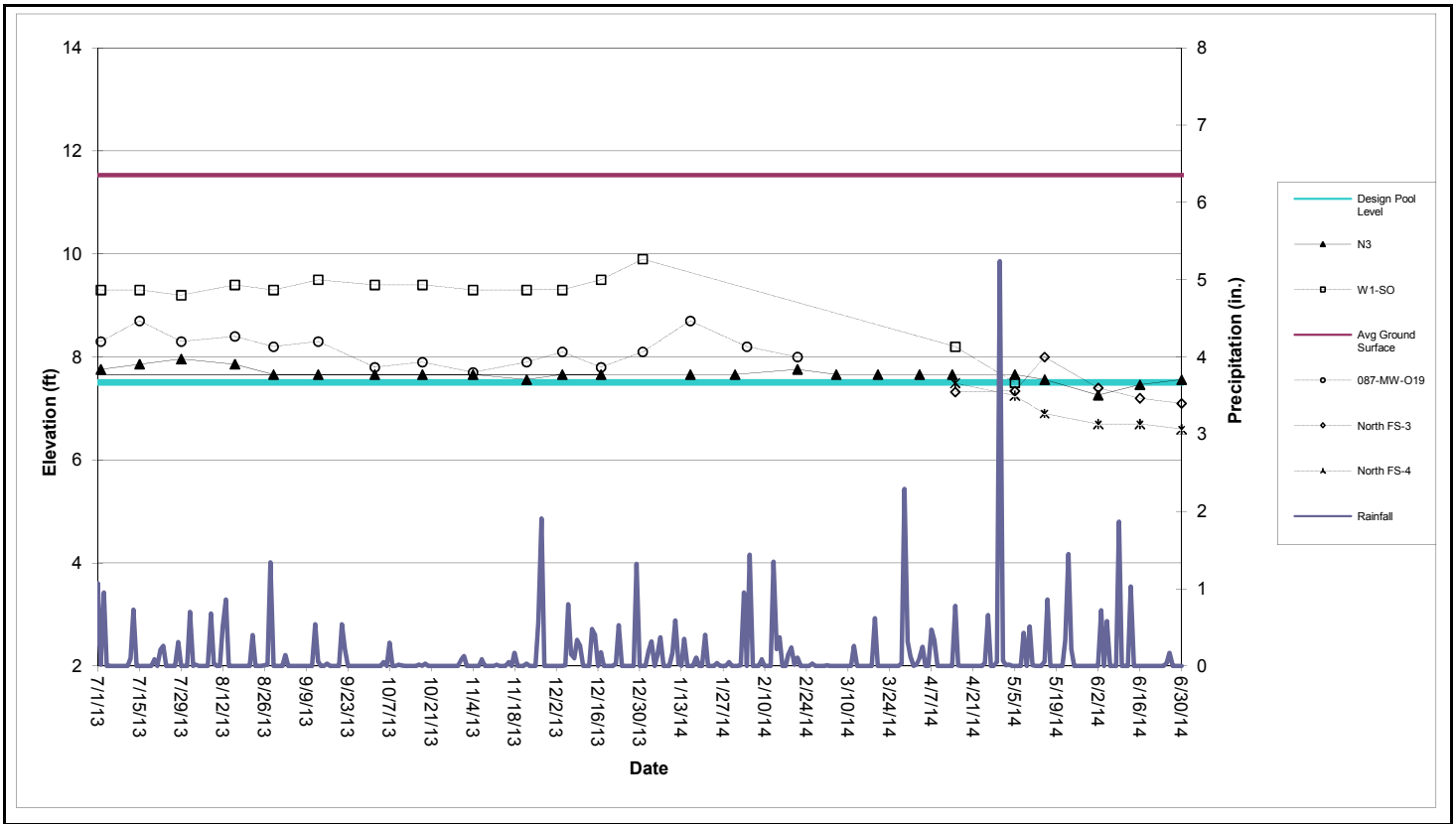
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



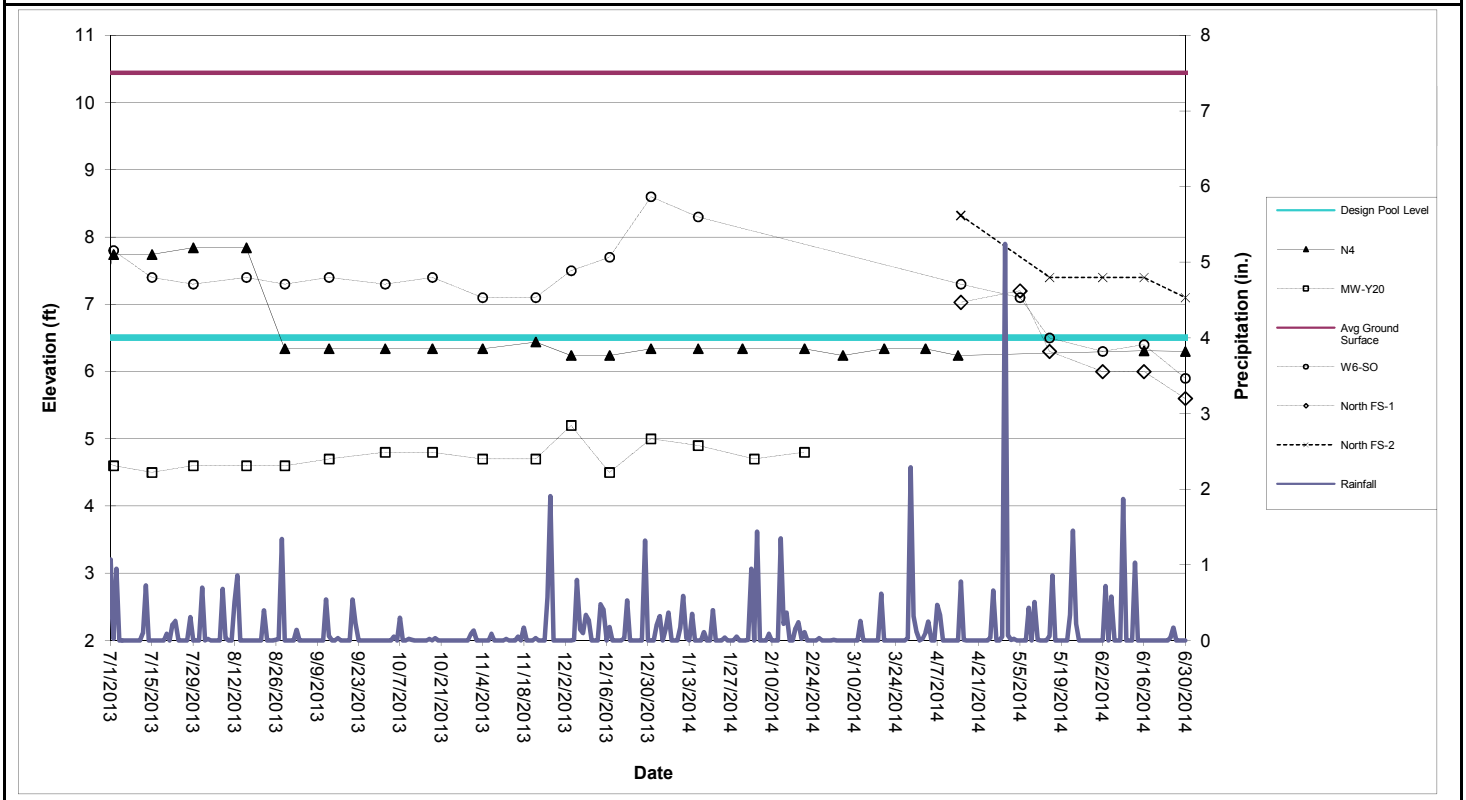
Perimeter Pool N1 (Sta. N13+60 to N20+25)



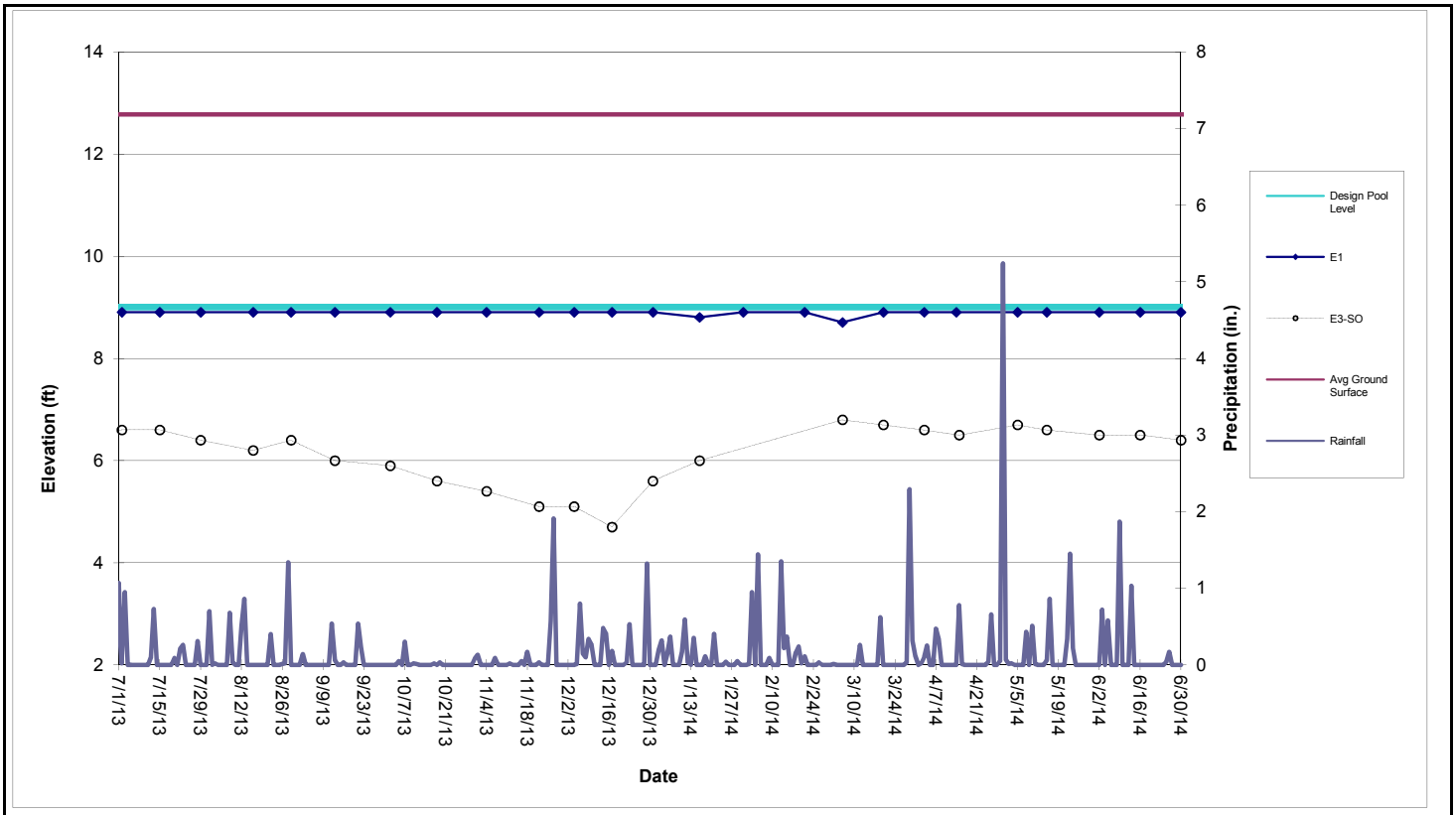
Perimeter Pool N2 (Sta. N10+73 to N13+10)



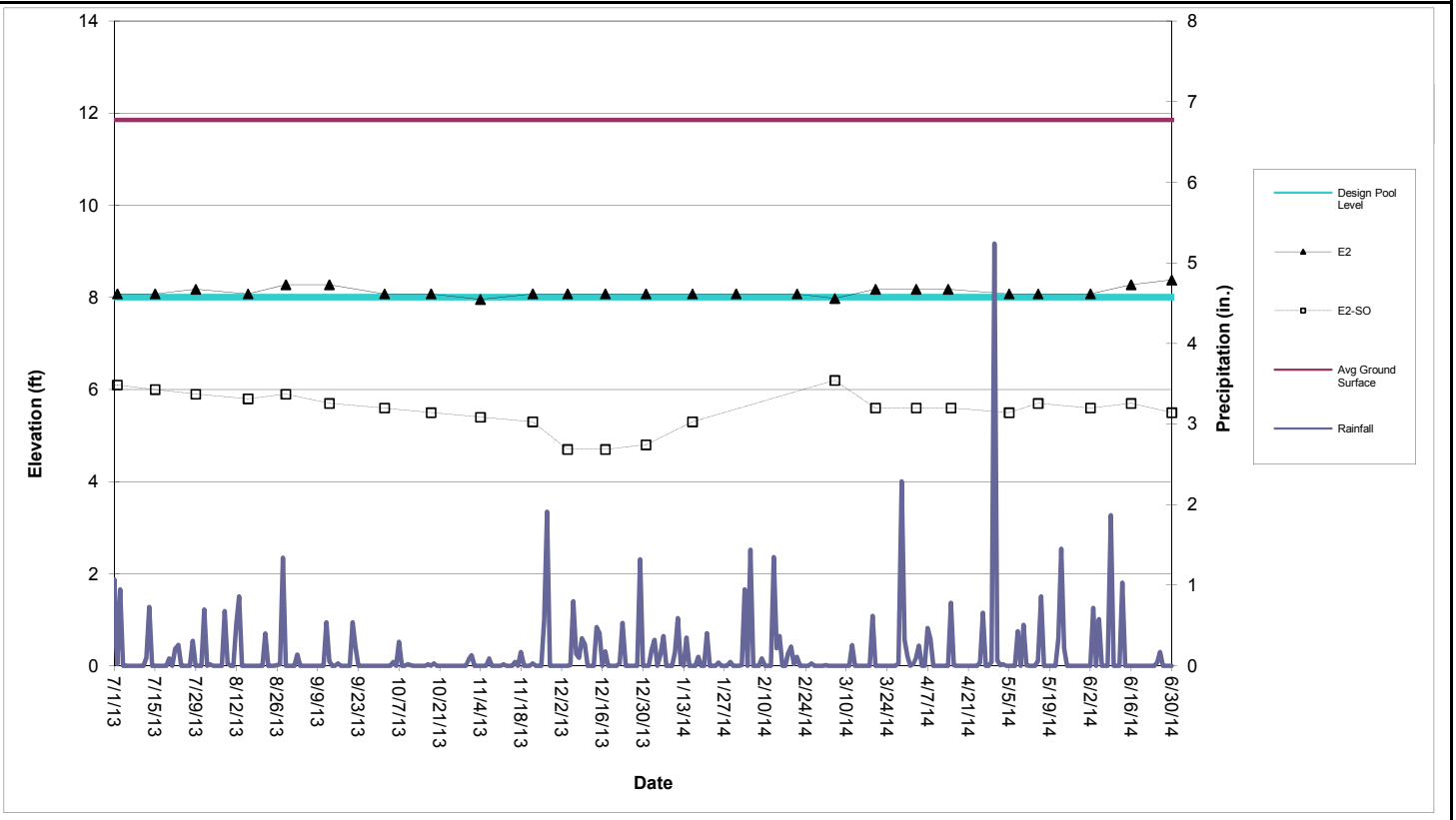
Perimeter Pool N3 (Sta. N6+80 to N10+23)



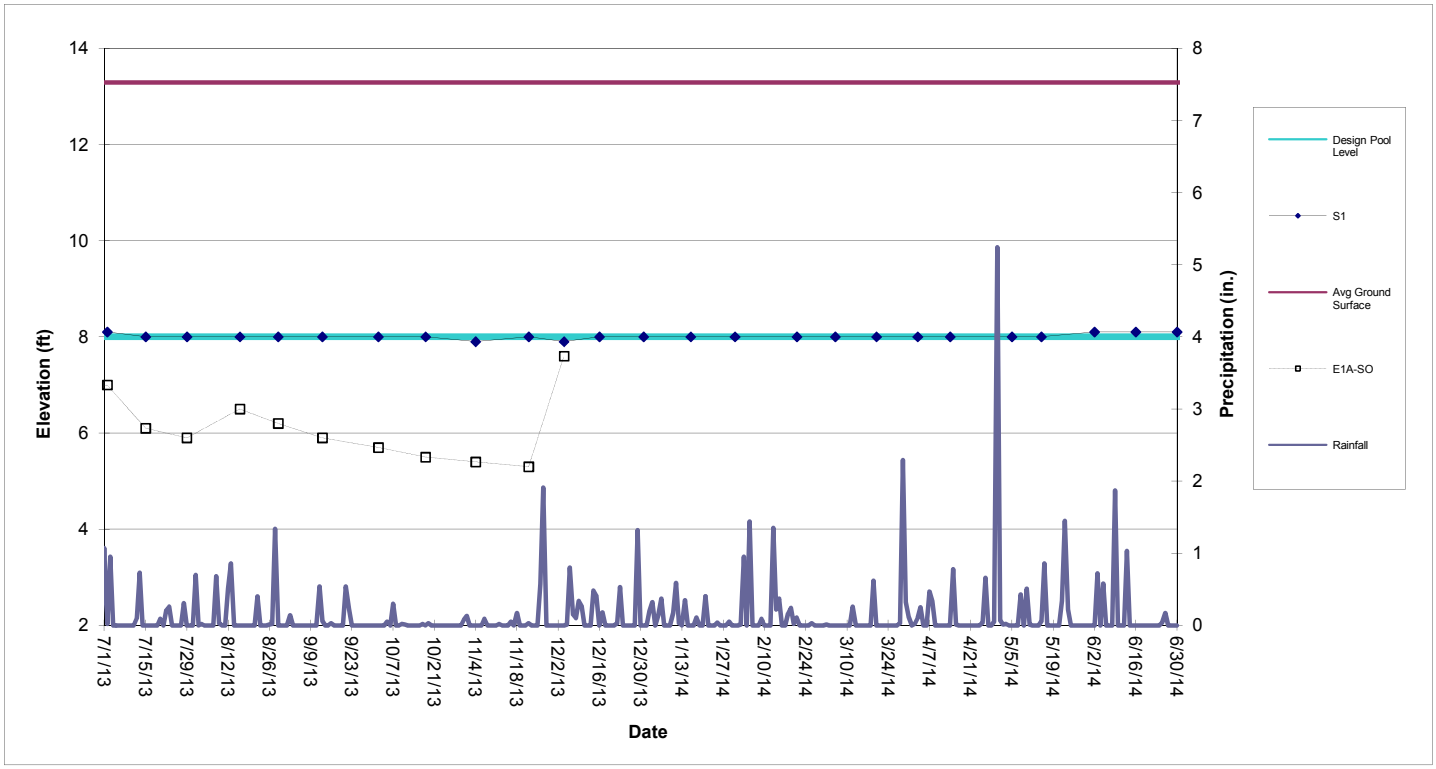
Perimeter Pool N4 (Sta. N6+80 to N10+23)



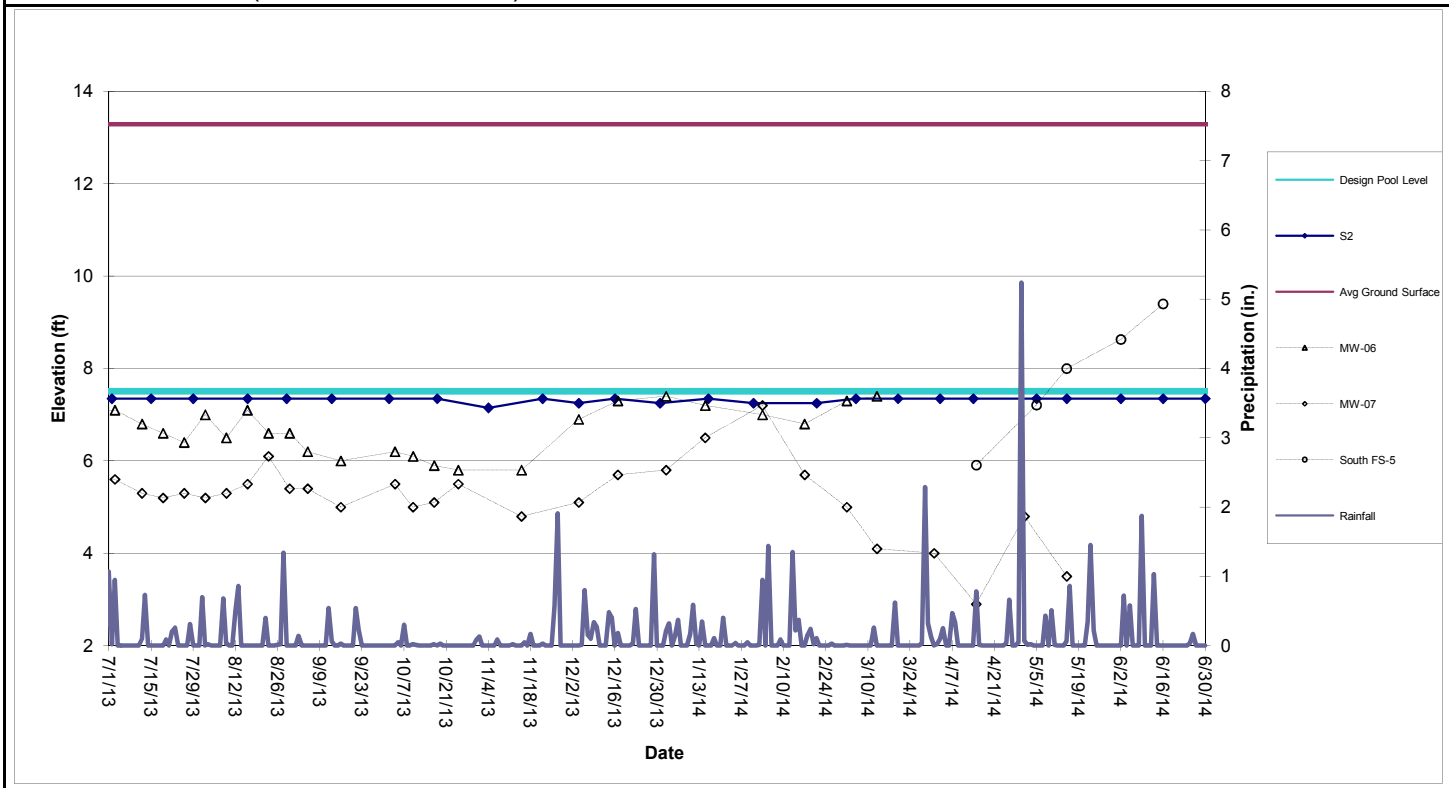
Perimeter Pool E1 (Sta. E0+50 to E3+75)



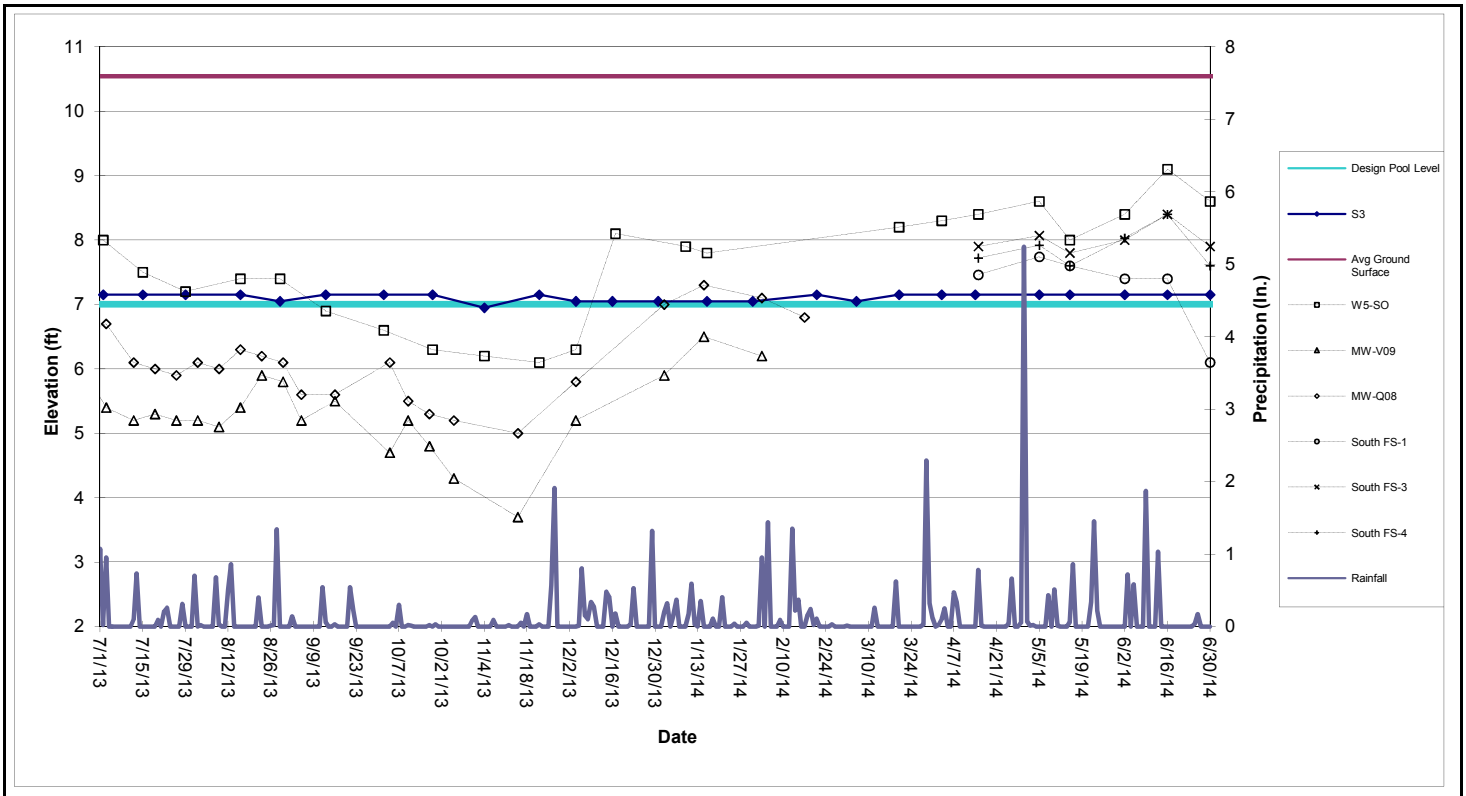
Perimeter Pool E2 (Sta. E4+50 to E7+25)



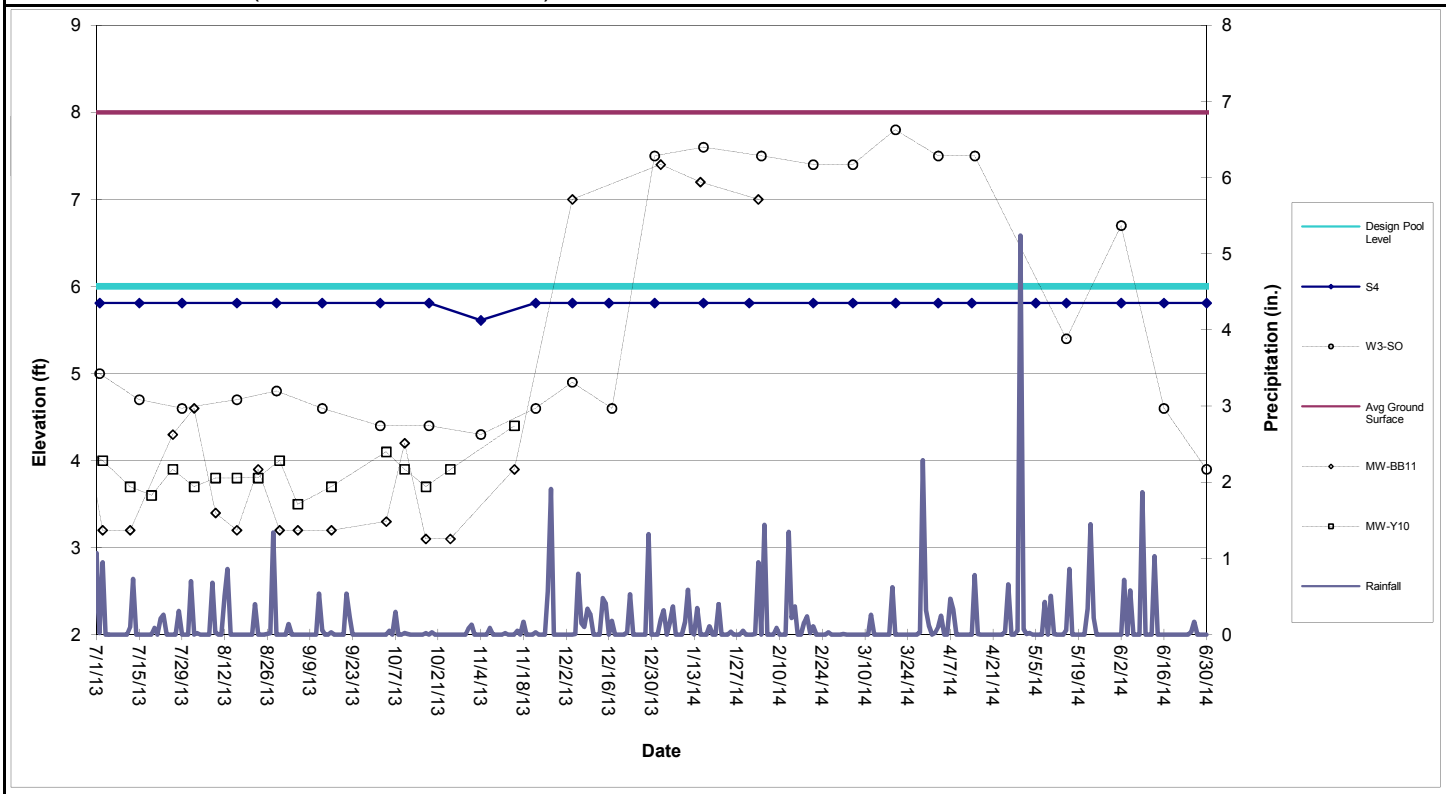
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6	

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO

Attachment 8: Quality and Level Data in GWET Wells

(provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

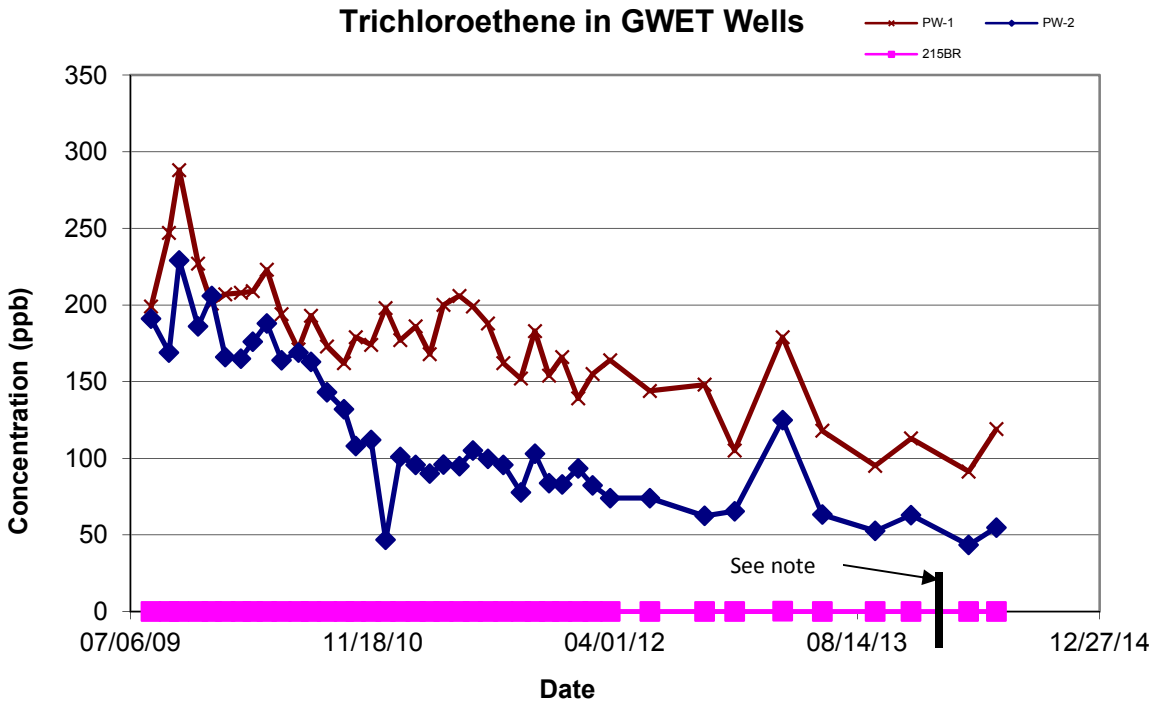
Table 1
Summary of Groundwater Quality Data from GWET Wells

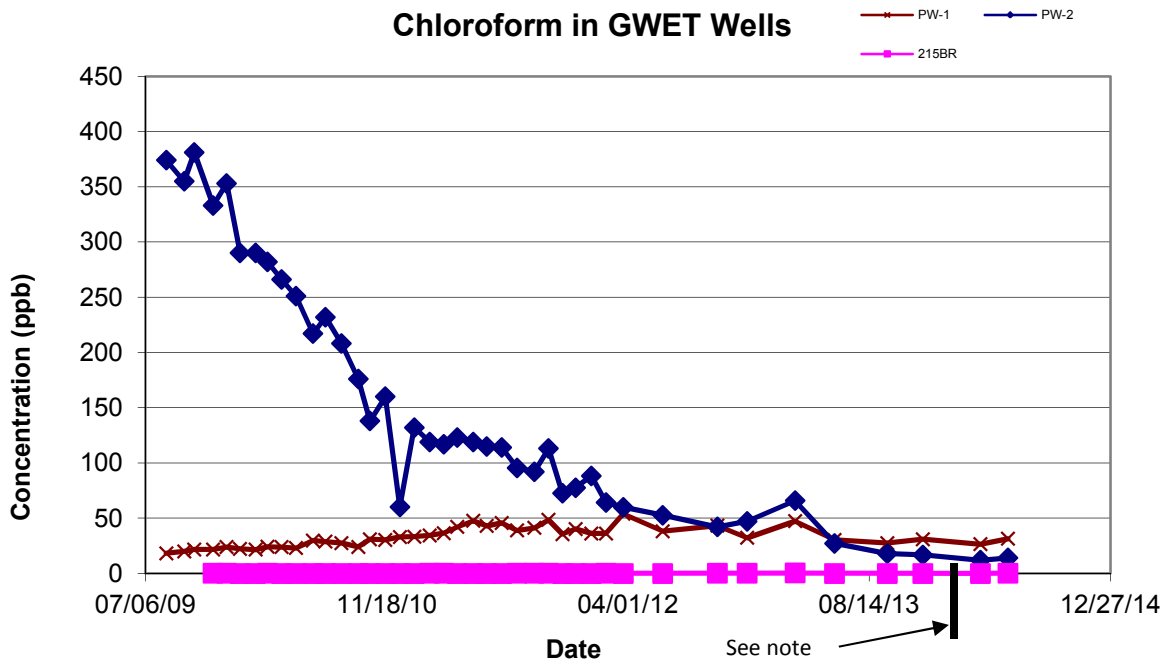
Honeywell

Parameter	20-Sep-13			3-Dec-13			1-Apr-14			28-May-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.1	4.4	ND	3.4	5.2	ND	2.9	4.0	ND	3.4	4.7	ND
Carbon Tetrachloride	4.6	3.1	1.4	5.8	4.8	2.5	4.4J	2.8	1.9	7.0	4.3	2.7
Chloroform	27.4	17.9	ND	31.0	16.8	ND	26.5	12.0	ND	31.3	14.0	0.25J
1,1-Dichloroethene	0.55	ND	ND	0.07	ND	ND	0.42J	ND	ND	0.77J	ND	ND
cis-1,2-Dichloroethene	148	13.8	ND	135	12.3	ND	96	8.1	ND	144	ND	ND
trans-1,2-Dichloroethene	4.5	0.76	ND	4.9	0.35	ND	3.4	ND	ND	5.3	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	95.1	52.6	ND	113.0	63.0	ND	91.3	43.4	ND	119	54.8	ND
1,1-Dichloroethane	0.45	ND	ND	0.47	ND	ND	0.45J	ND	ND	0.61J	ND	ND
Methylene chloride	0.84	ND	ND	0.87	0.31	ND	0.77J	ND	ND	0.92J	ND	ND
Vinyl chloride	12.6	ND	ND	14.2	4.8	ND	13.5	2.7	ND	21.2	3.8	ND
1,2-Dichlorobenzene	0.66	ND	ND	0.72	ND	ND	0.72J	ND	ND	0.70J	ND	ND
Chlorobenzene	0.38	ND	ND	0.39	ND	ND	0.38J	ND	ND	0.40J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	38,200	11,400	16,700	39,600	11,300	16,500	33,400	12,500	15,100	34,700	12,700	19,700
Total Chromium	39,900	13,500	17,000	34,200	10,600	14,900	36,900	16,400	16,600	35,500	14,500	19,600

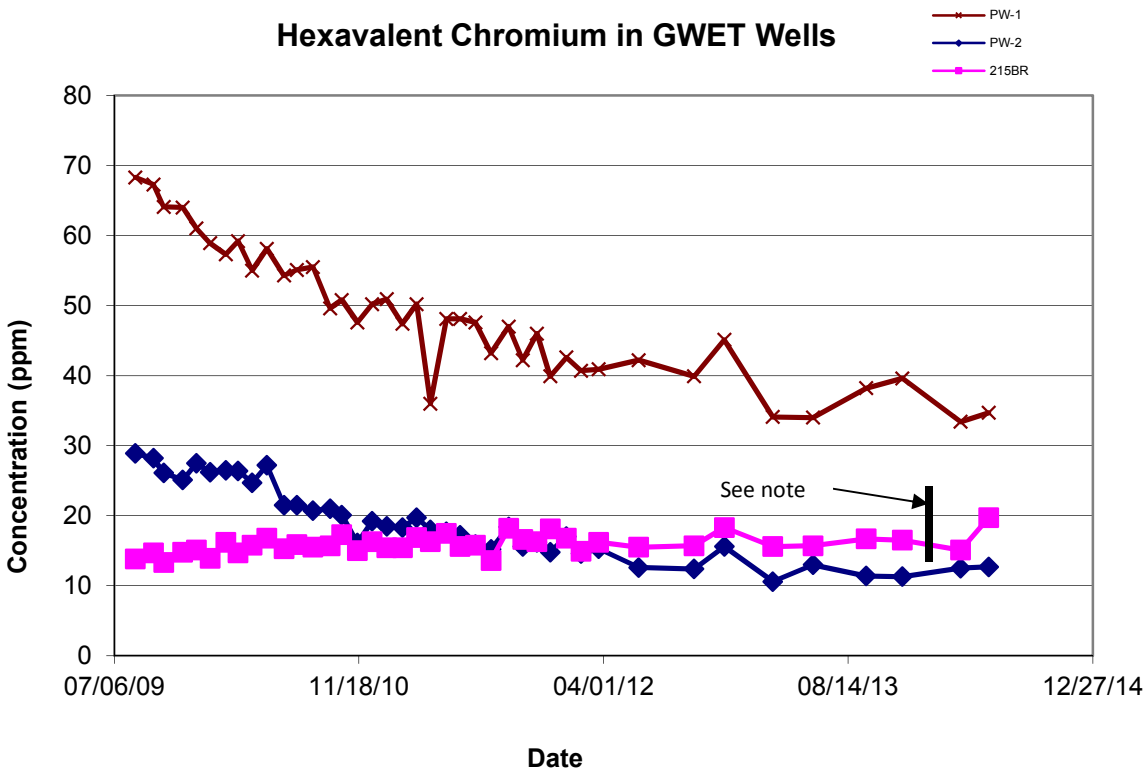
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.





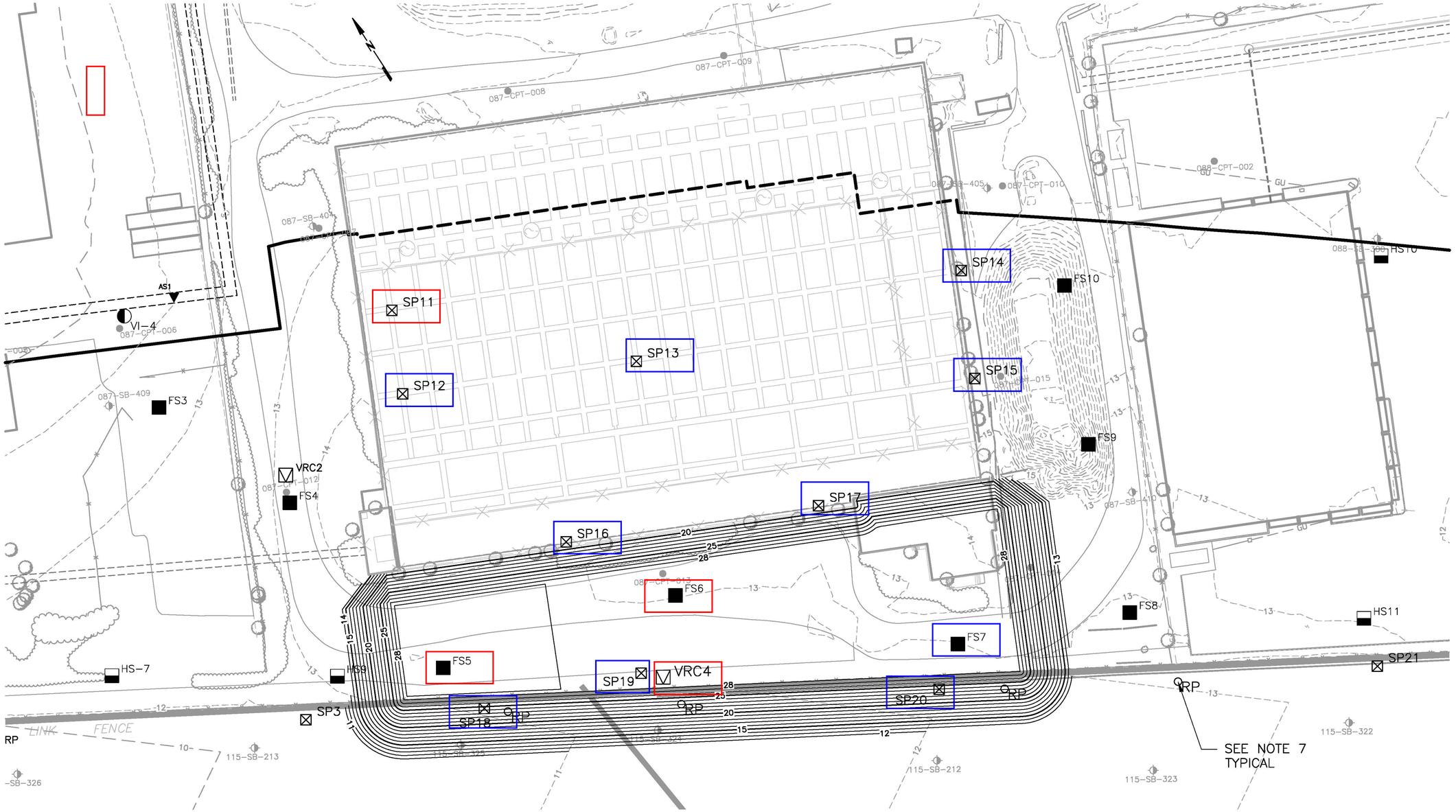
Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1S
- Instrumentation Location Plan 2N



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685595.33	602744.87
FS6	685557.42	602879.95
FS7	685445.18	603001.32
SP11	685784.33	602832.31
SP12	685740.52	602811.34
SP13	685682.87	602934.55
SP14	685624.73	603120.29
SP15	685568.20	603092.95
SP16	685617.61	602843.89
SP17	685555.82	602977.36
SP18	685562.79	602751.98
SP19	685530.51	602838.96
SP20	685429.14	602978.06
VRC4	685521.71	602848.37

Installed Insturment Locations

Insturment Locations Not Installed

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2 INCLINOMETER LOCATION

FS-1-1 SETTLEMENT MONITORING POINT FULL – SET UP

HS12 SETTLEMENT MONITORING POINT HALF – SET UP

SP12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

Prepared/Date: RJR 08/15/13
Checked/Date: AE 08/15/13

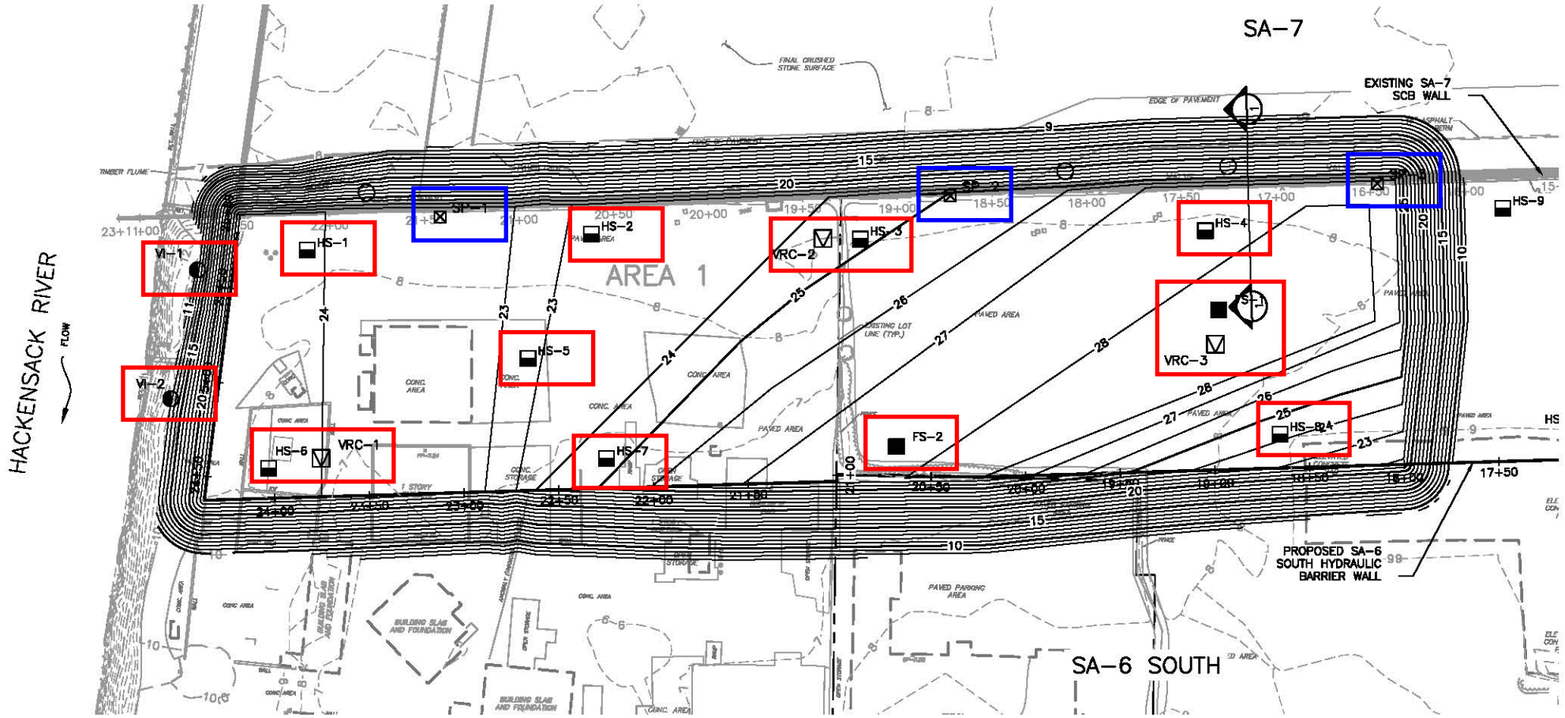
0 15 30 60
SCALE IN FEET

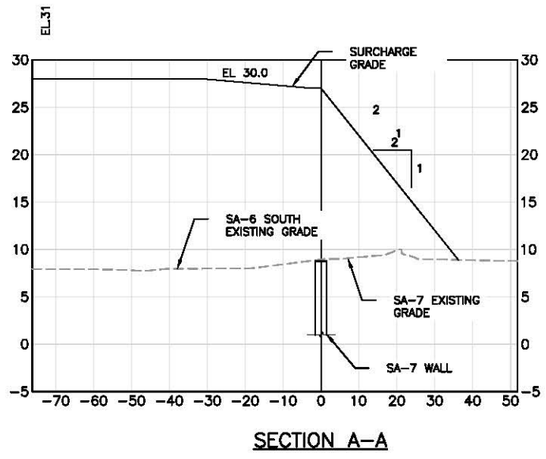
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 2N
Project 3480-09-0006
Figure C1





SECTION A–A

Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD., BOX 2106
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

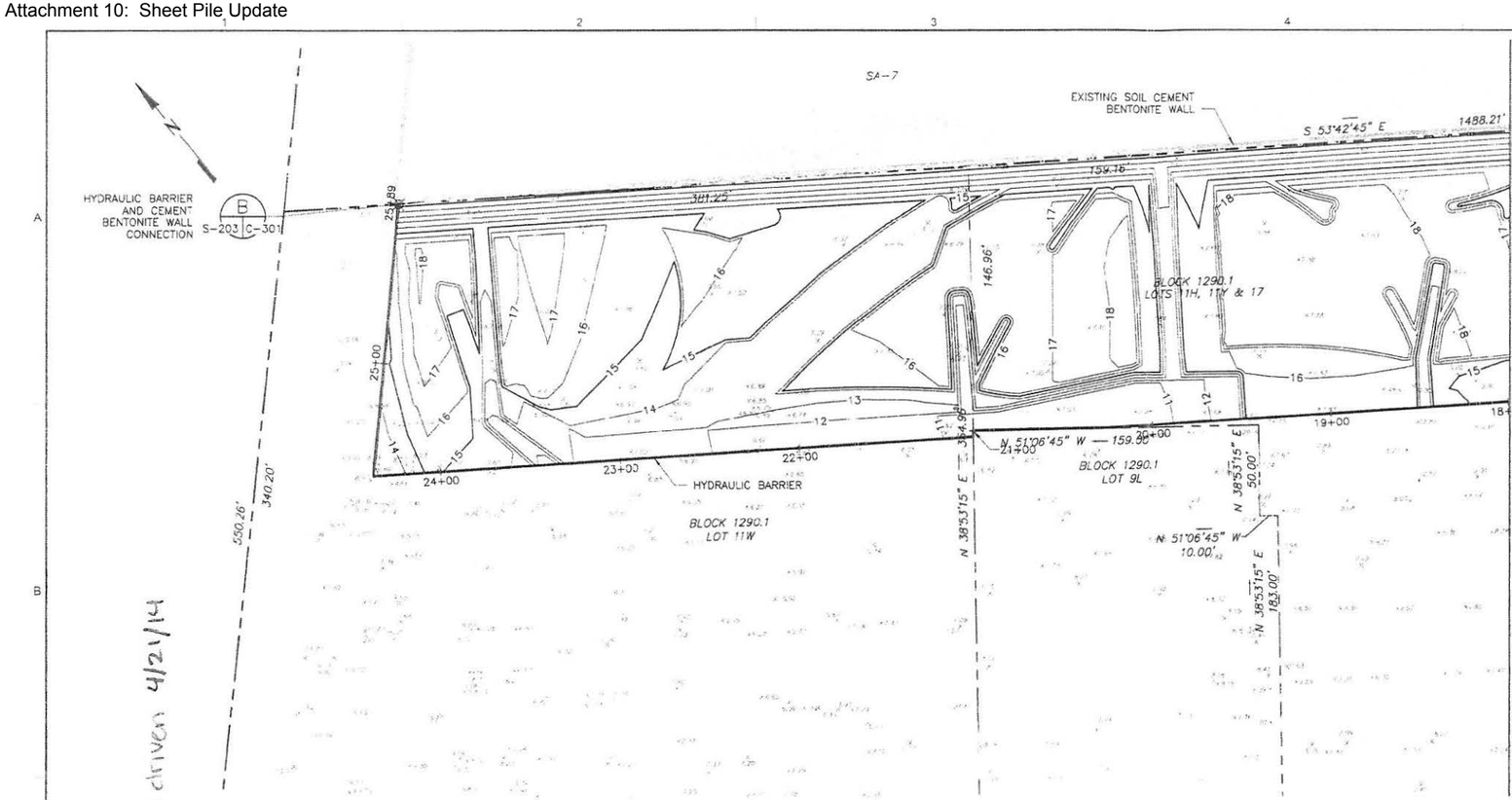
amec

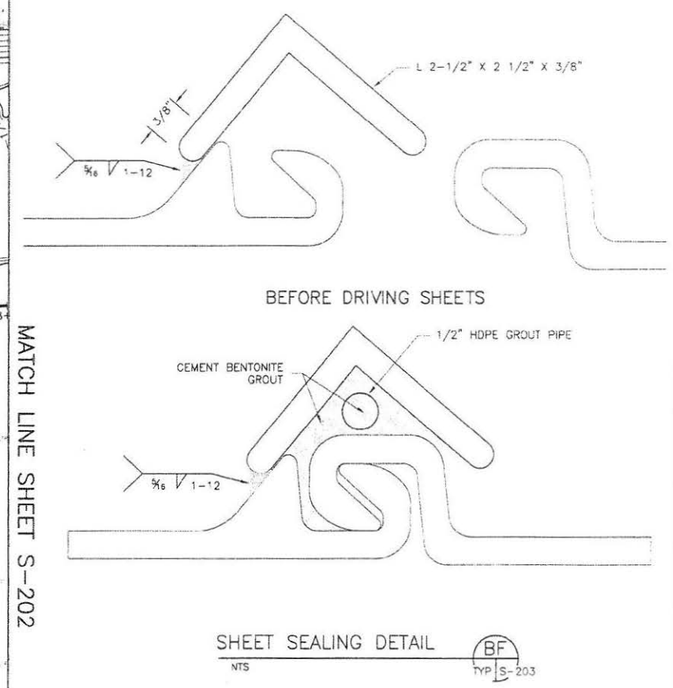
INSTRUMENTATION LOCATION PLAN 1S

Figure F1

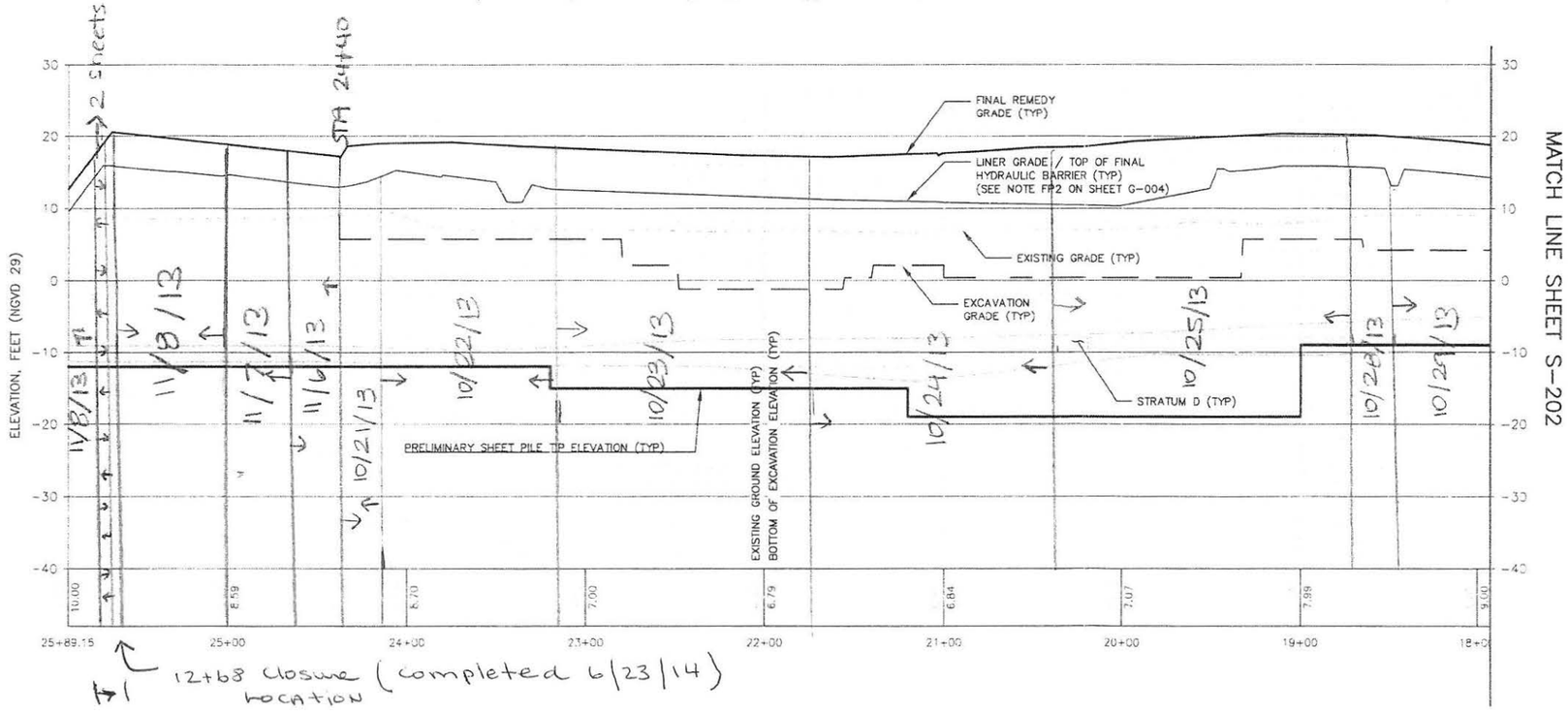
Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log





SHEET SEALING DETAIL (BF) TYP S-203
NTS



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

0 20 40 80 SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 5 10 20 SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322401

NO.	DATE	REVISION	BY	APVD
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD BOX 2105 MORRISTOWN, NJ 07992

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689-2829
NJ Certificate of Authorization Number 24GA28016900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

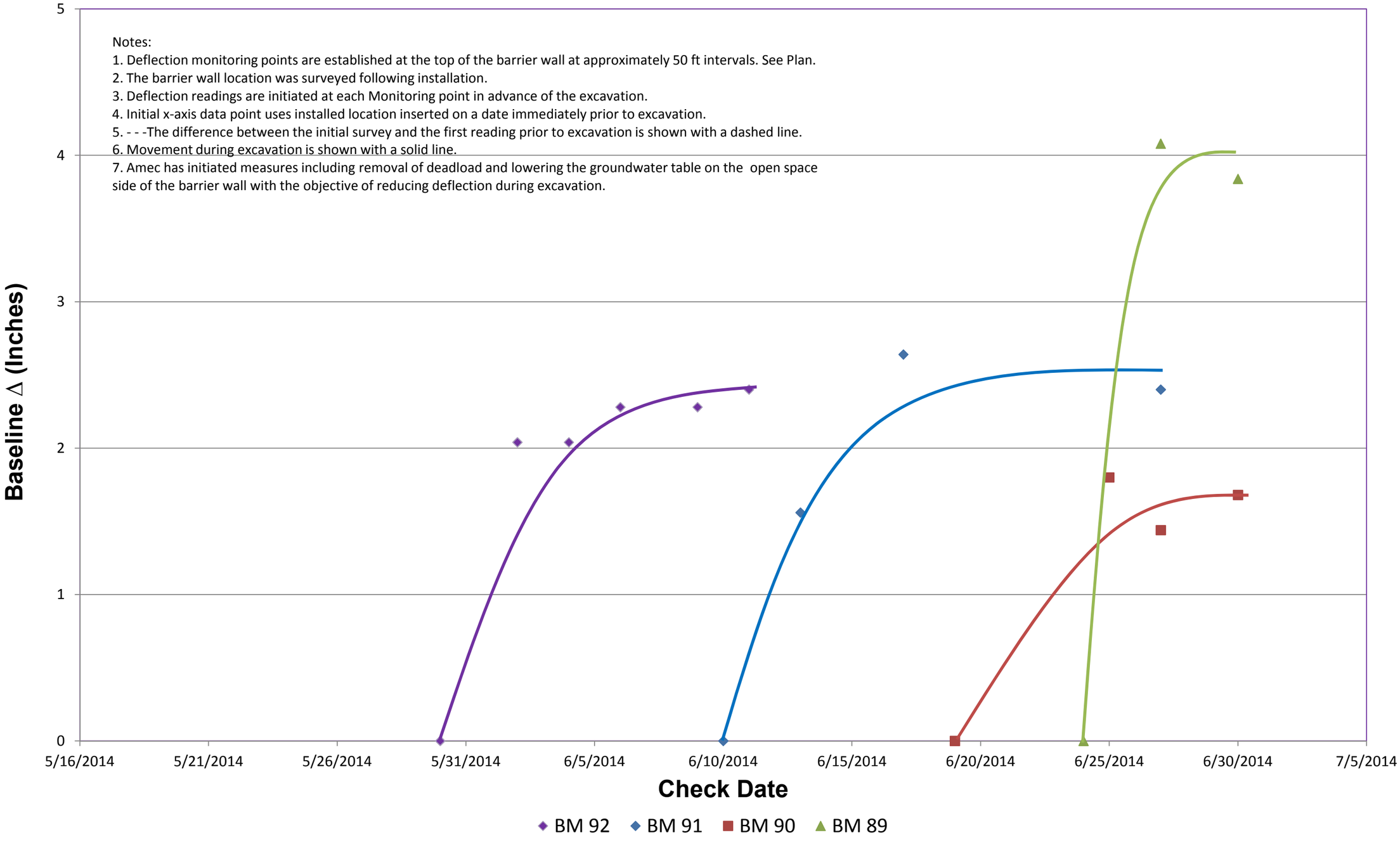
DATE
PROJ 3480-12-0317
DWG S-203
SHEET 55 OF 66

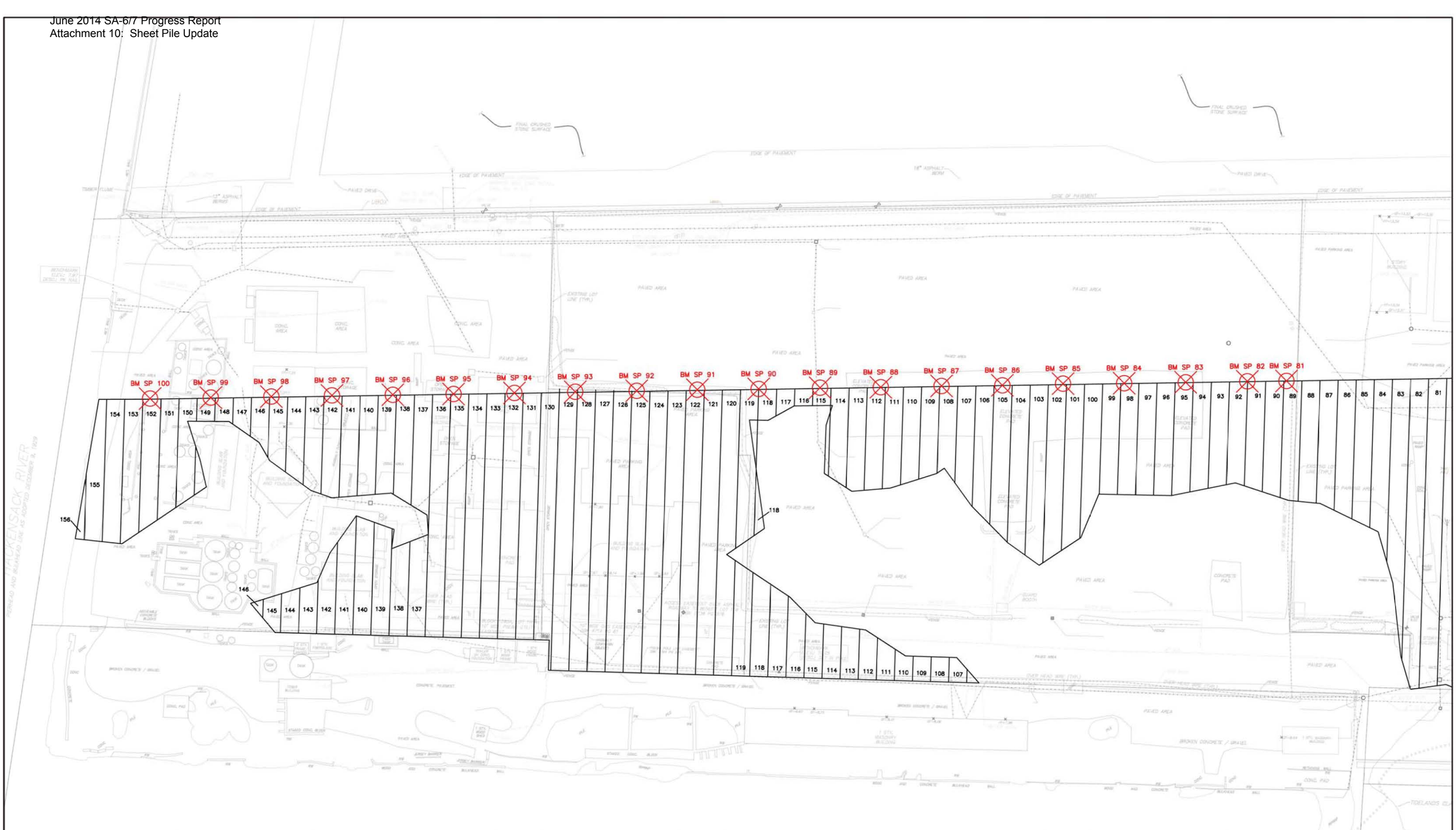
THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6 C3D\CAD\SA6\SCR55-S-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 3:01 PM

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-10

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (6) Miner scrapes by the Cat 349E Excavator Bucket- Range from 1/2"Ø to 1"x3" (Cell 128)

Damage Location (ft below top of sheet, inboard side,outboard side): 7'-10' outboard side

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-11

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (5) Miner scrapes by the Cat 349E Excavator Bucket- (Cell 128)

Damage Location (ft below top of sheet, inboard side outboard side): 7'-10' outboard side

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-12

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (4) Scrapes by the Cat 349E Excavator bucket - (Cell 128)

Damage Location (ft below top of sheet, inboard side outboard side): 5'-10' outboard

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-13

Entact ID:

Date Exposed: 5/21/14

Describe Damage: (8) scrapes by the CAT349E Excavator Bucket - (Cell 128)

Damage Location (ft below top of sheet, inboard side outboard side): 6-10' outboard

Date Repaired: 6/2/14

Inspected by: Brian Shea

Describe Repair: Pressure Wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-14

Entact ID:

Date Exposed: 5/23

Describe Damage:

(3) minor scrapes by the Cat 349E Excavator bucket - cell 127

Damage Location (ft below top of sheet, inboard side outboard side):

6'-10' outboard

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-15

Entact ID:

Date Exposed: 5/23

Describe Damage:

(4) minor scrapes by the Cat 349E Excavator bucket - cell 127

Damage Location (ft below top of sheet, inboard side outboard side):

6'-10' outboard side

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-16

Entact ID:

Date Exposed: 5/23

Describe Damage:

(4) minor scrapes by the Cat 349E Excavator Bucket - (Cell 127)

Damage Location (ft below top of sheet, inboard side outboard side):

7-10' outboard side

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 15P-17

Entact ID:

Date Exposed: 5/27/14

Describe Damage:

(3) Minor scrapes by the Cat 349E Excavator Bucket (Cell 126)

Damage Location (ft below top of sheet, inboard side outboard side):

6'-10' outboard

Date Repaired: 6/2/14

Inspected by: Mike Senna

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: B Shea

Date: 6/5/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15 P-18

Entact ID:

Date Exposed: 5/27/14

Describe Damage: Scrapes by Cat 349E excavator bucket- 1"Ø, 1/2"Ø, 1/2"x4" - Cell 126

Damage Location (ft below top of sheet, inboard side outboard side): 8-10' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, and apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15 P-19

Entact ID:

Date Exposed: 5/27/14

Describe Damage: (3) Scrapes by the Cat 349E excavator bucket- 1"Ø, 1/2x2", 2" - Cell 126

Damage Location (ft below top of sheet, inboard side outboard side): 7-9' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-20

Entact ID:

Date Exposed: 5/27/14

Describe Damage: (7) Scrapes by the Cat 349E excavator bucket - 1"Ø, 1x4", 1x5", 1/2"Ø, 1/2"Ø, 2"Ø, 1/2"x14", - Cell 125

Damage Location (ft below top of sheet, inboard side outboard side): 6-10' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" Paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 15P-21

Entact ID:

Date Exposed: 5/27/14

Describe Damage: (4) scrapes by the Cat 349E Excavator bucket - 1/2"Ø, 1/2x6", 3"Ø, 2"Ø - Cell 125

Damage Location (ft below top of sheet, inboard side outboard side): 6-10' outboard

Date Repaired: 6/3/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire wash, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 15P-26

Entact ID:

Date Exposed: 6/5/14

Describe Damage: (7) minor scrapes by the Cat 349E Excavator bucket- 1/2"Ø, 1"Ø, 1"x3", 2"Ø, 1"x40", 1/2"Ø, 1"x2". (Cell 124)

Damage Location (ft below top of sheet, inboard side outboard side): 5'-10' outbeard

Date Repaired: 6/11/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, epoxy applied w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/13/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-1

Entact ID:

Date Exposed: 6/6/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"Ø, 1"x2", 1/2"Ø, 1/2"x3", 1/2"x50". (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 11'-15' outbeard

Date Repaired: 6/11/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, epoxy applied w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 6/13/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-2

Entact ID:

Date Exposed: 6/6/14

Describe Damage: (8) scrapes by Cat 349E excavator bucket - 1"Ø, 1"Ø, 1/2"Ø, 1"x2", 1"Ø, 2"Ø, 1"x36", 1/2"x24". (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outbeard

Date Repaired: 6/11/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, applied epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 6/13/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-6

Entact ID:

Date Exposed: 6/9/14

Describe Damage: (2) scrapes by the CAT 349E excavator bucket - 1/2"x36", 1"Ø (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outbeard

Date Repaired: 6/13/14

Inspected by: Brian Shea

Describe Repair: pressure washed, iron brushed, epoxy applied w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/13/14

*A repair log is to be completed for each sheet pile section that is exposed and in need of repair

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-10

Entact ID:

Date Exposed: 6/9/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - 1"x36", 5 - ½"Ø, 1"Ø, 1"x2", 1"x5". (Cell 123)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/13/14

Inspected by: Brian Shea

Describe Repair: pressure washed, wire brushed, applied epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-16

Entact ID:

Date Exposed: 6/10/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1"x24", 1"Ø, 2"Ø, ½"x3", ½"x5", ½"Ø (cell 122)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/13/14

Inspected by: Brian Shea

Describe Repair: pressure washed, wire brushed, applied epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/13/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-9

Entact ID:

Date Exposed: 6/13/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - 2"x12", 2"Ø, 1"Ø, 2x2", 2"x6", 1"Ø, ½"Ø, 2"Ø, 1"Ø, ½"Ø (cell 122)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard side

Date Repaired: 6/17/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/18/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-7

Entact ID:

Date Exposed: 6/13/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - ½"Ø, 1"x3", ½"x18", ½"x12", 1"x24", 1"Ø (Cell 121)

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/17/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/18/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-8

Entact ID:

Date Exposed: 6/13/14

Describe Damage: (18) Scrapes by the Cat 349E excavator bucket - 1/2ø, 1"ø, 1"ø, 2"x10", 1"x6", 2"ø, 1/2"x12", 1"x14", 1"x20", 1/2"ø, 1/2"ø, 1"ø, 1/2"ø, 1"x8", 2"ø, 1/2"ø

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard side

Date Repaired: 6/17/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/18/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-9

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (10) Scrapes by the Cat 349E excavator bucket - 1x8", 4x12", 1/2x10", 1"ø, 1/2x6", 1x4" - Cell 121

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/20/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-10

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1x8", 1"ø, 1x12", 1/2"ø, 1x24", 1/2x8, 1/2x30", 1x5" - Cell 121/120

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/20/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 16P-11

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (9) scrapes by the cat 349E excavator bucket - 1"ø, 1/2x3", 1x8", 1"ø, 1"ø, 1"ø, 1x36", 1x40", 1/2"ø - Cell 120

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 6/20/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-12

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (4) scrapes by the Cat 349E excavator bucket - 1/2"x8", 2"Ø, 2x6", 1/2"Ø - Cell 120

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/19/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/20/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-13

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (9) scrapes by Cat 349E excavator bucket - 4x8", 1x18", (7) 1"Ø - Cell 120

Damage Location (ft below top of sheet, inboard side outboard side): 10'-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-14

Entact ID:

Date Exposed: 6/18/14

Describe Damage: (3) scrapes by Cat 349E excavator bucket - 1"Ø, 1/2"Ø, 1/2x6"

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/24/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-15

Entact ID:

Date Exposed:

Describe Damage: 6/18/14 (8) Scrapes by Cat 349E excavator bucket - 1"Ø, (3) 1/2"Ø, 1x24", 1/2"Ø, 2"Ø, 1"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/24/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16-P16

Entact ID:

Date Exposed: 6/19/14

Describe Damage: (9) scrapes by Cat 349E excavator bucket - 1"Ø, 1/2x2", 1x4", 1x8", 1/2"Ø, 1x12", (3) 1/2"Ø

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-17

Entact ID:

Date Exposed: 6/19/14

Describe Damage: (3) scrapes by Cat 349E excavator bucket 1/2x18", 1/2"Ø, 1/2x10"

Damage Location (ft below top of sheet, inboard side outboard side): 10-13' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-18

Entact ID:

Date Exposed: 6/19/14

Describe Damage: (3) scrapes by Cat 349E excavator bucket - 1/2x6", 1/2x3", 1/2"x10".

Damage Location (ft below top of sheet, inboard side outboard side): 12-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-19

Entact ID:

Date Exposed: 6/19/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket- 1"Ø, 1/2x18", 1/2x12", 1/2"Ø, 2"Ø, 1/2"Ø, 1/2x8, 2"Ø - Cell 118

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" wire brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-20
Entact ID:
Date Exposed: 6/23/14
Describe Damage:
(5) scrapes by the Cat 349E excavator bucket- 2"Ø, 1/2"Ø, 1/2x48", 1/2x30", 1/2x8" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side):
9-15' outboard

Date Repaired: 6/24/14
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-21
Entact ID:
Date Exposed: 6/23/14
Describe Damage: 6/23/14
(3) scrapes by the Cat 349E excavator bucket- 1/2x10", 1"x30", 2x3" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side):
10ft - 15ft outboard

Date Repaired: 6/24/14
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 16P-22
Entact ID:
Date Exposed: 6/23/14
Describe Damage:
(14) scrapes by the Cat 349E excavator bucket- (5) 1/2"Ø, 1/4"x10", 1"Ø, 2"Ø, 1/2x18", 1"Ø, 1/2x30", 2x10", 1/4x4" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side): 10-15'
outboard

Date Repaired: 6/24/14
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P-1
Entact ID:
Date Exposed: 6/23/14
Describe Damage: 6/23/14
(6) scrapes by the Cat 349E excavator bucket- 1/2x18", 1x24", 1/2"Ø, 1"Ø, 1/2x10", 1/2"x24" - Cell 117

Damage Location (ft below top of sheet, inboard side outboard side):
9-15' outboard

Date Repaired: 6/24/14
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P-2

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (10) scrapes by the Cat 349E excavator bucket - 1x10", 1x6", 1"Ø, 1/2"Ø, 1"Ø, 1x2", 1/2x3", 5x36", 1x36" 1/2"Ø - Cell 116

Damage Location (ft below top of sheet, inboard side outboard side): 10/15' outboard

Date Repaired: 6/24/14

Inspected by: Brian Shea

Describe Repair: Prossure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P-3

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (13) scrapes by the cat 349E excavator bucket- (7) 1/2"Ø, (4) 1"Ø, 1x8", 1/2x60", - Cell 116

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P1-4

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (8) scrapes by Cat 349E excavator bucket - 1/2"x6", 1/4x3", 1x12", 2x10", 1/2x3", 1/2"Ø, 1/2x8", 12"Ø, - Cell 116

Damage Location (ft below top of sheet, inboard side outboard side): 10-15 outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P1-5

Entact ID:

Date Exposed: 6/24/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1x18", 1x30", 1/2x1", 1/2x4", 1/2x8", 12"Ø - cell 115

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P1-7

Entact ID:

Date Exposed: 6/24/14

Describe Damage:

(7) scrapes by the Cat 349E excavator bucket- 1/2x48", 1/2"Ø, 2x6", 2"Ø, 1x24", 2"Ø, 3"Ø.- Cell 115

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P1-6

Entact ID:

Date Exposed: 6/24/14

Describe Damage:

(15) scrapes by the Cat 349E excavator bucket - 1/2x3", 1x4", 1/2x24", 1/2"Ø, 1/2"Ø 1/2"Ø, 3x12", (4) 1"Ø, 1x18", 1x2", 1x4", 2"Ø,- Cell 115

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 6/26/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 6/26/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 5, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2,3,4
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/05/14

SWPPP Observer: (George Pfeiffer)
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, June 05, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	A catch basin to the west of the scalehouse requires silt protection.
2	IA2Q4A1AL8	A cut-out in the 18" asphalt berm which is located on the western edge of the western SA-7 roadway requires silt protection.
3	IA2Q4A1AL8	Silt fencing along the southern toe of the N-1 surcharge area requires maintenance.
4	IA2Q4A1AL8	Straw waddle on the northern SA-7 roadway requires replacement.
5	IA2Q4A1AL8	A small pile of backfill material located to the east of the SA-7 river bulkhead requires removal.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date: 06/05/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace filter fabric in the catch basin.	6-17-14
2	Place waddle or hay bales in the gap in the berm to prevent sediment run-off.	6-12-14
3	Maintain silt fence, restapling fabric to the stakes. Toe in fabric as required.	6-16-14
4	Replace the straw waddle on the northern SA-7 roadway.	6-12-14
5	Remove the small pile of quarry screening material from the SA-7 bulkhead area. Use light equipment and maintain a distance of at least 30' from the wooden bulkhead.	6-13-14

Construction Manager: _____ Date: 06/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 12, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2,3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/12/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, June 12, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs on the orange fencing immediately west of the scale house are not needed and should be removed to avoid confusion.
2	IA2Q4A1AL8	REPEAT: A cut-out in the 18" asphalt berm which is located on the western edge of the western SA-7 roadway requires silt protection.
3	IA2Q4A1AL8	REPEAT: Silt fencing along the southern toe of the N-1 surcharge area requires maintenance.
4	IA2Q4A1AL8	The truck entrance/exit to the Novartis stockpile containment area requires additional measures to prevent the tracking of material out onto Study Area 7.
5	IA2Q4A1AL8	REPEAT: A small pile of backfill material located to the east of the SA-7 river bulkhead requires removal. The material was transported to this area during snow removal activities over the previous winter.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 06/12/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the unnecessary signage from the orange fence. The area behind this section of fencing is not currently an Exclusion Zone.	6-13-14
2	Place waddle or hay bales in the gap in the berm to prevent sediment run-off.	6-12-14
3	Maintain silt fence, restapling fabric to the stakes. Toe in fabric as required.	6-16-14
4	Install a tracking pad or other control measures to minimize the tracking of surcharge material out of the containment area.	6-13-14
5	Remove the small pile of quarry screening material from the SA-7 bulkhead area. Use light equipment and maintain a distance of at least 30' from the wooden bulkhead.	6-13-14

Construction Manager: _____ **Date:** 06/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 19, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams		X		5
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/20/14

SWPPP Observer: G. Pfeiffer
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, June 19, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing along the southern perimeter of the western excavation requires maintenance.
2	IA2Q4A1AL8	An electrical road box just to the west of the scale house has a collapsed lid.
3	IA2Q4A1AL8	There are no markers showing the southern edge of the N-1 surcharge pile or the ramp on its eastern end.
4	IA2Q4A1AL8	Orange warning fencing at the southwest corner of the sedimentation basin requires maintenance.
5	IA2Q4A1AL8	A semdiment check dam is needed in the swale at the southwest corner of Study Area 7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/20/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair Exclusion Zone fencing to the south of the <20 ppm stockpile.	6-20-14
2	Repair the road box located in the southwestern haul road.	6-23-14
3	Place traffic cones or other appropriate markers at intervals along the top of the slope of the N-1 surcharge pile and along the edges of its eastern access ramp.	6-23-14
4	Repair the warning fence to block access from the N-1 surcharge pile to the concrete overflow tank abutting it.	6-23-14
5	Install a sediment check dam just to the east of the straw waddle in the southern SA-7 stormwater discharge weir.	6-20-14

Construction Manager: _____ Date: 06/24/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 26, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/27/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, June 26, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing along the southern perimeter of the western excavation requires maintenance.
2	IA2Q4A1AL8	Stone in the southeastern exit tracking pad is blinded and requires maintenance
3	IA2Q4A1AL8	A 10 MPH speed limit sign (or multiple signs) are required on the eastern SA-7 paved access road for the trucks delivering surcharge material.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 06/27/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair Exclusion Zone fencing along the southern perimeter of the excavation area.	7-1-14 RAD
2	Clean or replace the stone in the tracking pad located to the east of the 60 Kellogg building.	7-2-14 RAD
3	Install the reflective 10 MPH speed limit sign which is currently located under the Entact office trailer.	6-30-14 RAD

Construction Manager: _____ **Date:** 07/02/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (April 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (April 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 18, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: May 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the May 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

PI 234822

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	5	1	2014	To	5	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris , Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J. Morris IV 06/17/2014 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR **DATE** **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris , Remediation Director John J. Morris IV 06/17/2014 973.455.4003

NAME AND TITLE **SIGNATURE** **DATE** **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	5/1/2014 TO 5/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 18, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the May 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
5	01	14	5	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	79,469	88,443 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	1.73	1.93	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.077	0.077	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

June 13, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc., Bayfront Redevelopment

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
5	01	14	5	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,463,526 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 8,123,739

DATE	BOD (mg/l)	TSS (mg/l)
5/13/2014	<10	6.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE June 13, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Bayfront Redevelopment; GWTP (Permit #31630016)								MONTH: May 2014						
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
5/1/2014	Angel Trujillo	5660213	5741873	81,660	0.08166	7.61	2.610									1.78
5/2/2014	Angel Trujillo	5741873	5823281	81,408	0.081408	7.73	2.610									1.77
5/3/2014	Angel Trujillo	5823281	5909094	85,813	0.085813	7.64	2.610									1.87
5/4/2014	Angel Trujillo	5909094	5989437	80,343	0.080343	7.55	2.610									1.75
5/5/2014	Angel Trujillo	5989437	6063807	74,370	0.07437	7.59	2.610									1.62
5/6/2014	Angel Trujillo	6063807	6141420	77,613	0.077613	8.03	2.610									1.69
5/7/2014	Angel Trujillo	6141420	6220321	78,901	0.078901	8.01	2.610									1.72
5/8/2014	Angel Trujillo	6220321	6296105	75,784	0.075784	7.82	2.610									1.65
5/9/2014	Angel Trujillo	6296105	6377235	81,130	0.08113	7.61	2.610									1.77
5/10/2014	Angel Trujillo	6377235	6462763	85,528	0.085528	7.82	2.610									1.86
5/11/2014	Angel Trujillo	6462763	6540118	77,355	0.077355	7.76	2.610									1.68
5/12/2014	Angel Trujillo	6540118	6615585	75,467	0.075467	7.68	2.610									1.64
5/13/2014	Angel Trujillo	6615585	6692802	77,217	0.077217	7.53	2.610	<5.2	<10		<0.010	<0.030	<0.010	<0.0002	<0.020	1.68
5/14/2014	Angel Trujillo	6692802	6769848	77,046	0.077046	7.81	2.610									1.68
5/15/2014	Angel Trujillo	6769848	6849228	79,380	0.07938	7.70	2.610									1.73
5/16/2014	Angel Trujillo	6849228	6927706	78,478	0.078478	7.57	2.610									1.71
5/17/2014	Angel Trujillo	6927706	7012269	84,563	0.084563	7.86	2.610									1.84
5/18/2014	Angel Trujillo	7012269	7092708	80,439	0.080439	7.69	2.610									1.75
5/19/2014	Angel Trujillo	7092708	7169062	76,354	0.076354	7.64	2.610									1.66
5/20/2014	Angel Trujillo	7169062	7248209	79,147	0.079147	7.82	2.610									1.72
5/21/2014	Angel Trujillo	7248209	7328272	80,063	0.080063	7.18	2.610									1.74
5/22/2014	Angel Trujillo	7328272	7405612	77,340	0.07734	7.63	2.610									1.68
5/23/2014	Angel Trujillo	7405612	7484852	79,240	0.07924	7.78	2.610									1.72
5/24/2014	Angel Trujillo	7484852	7565811	80,959	0.080959	7.81	2.610									1.76
5/25/2014	Angel Trujillo	7565811	7641138	75,327	0.075327	7.92	2.610									1.64
5/26/2014	Angel Trujillo	7641138	7729581	88,443	0.088443	7.84	2.610									1.93
5/27/2014	Angel Trujillo	7729581	7805733	76,152	0.0762	7.58	2.610									1.66
5/28/2014	Angel Trujillo	7805733	7881663	75,930	0.07593	7.86	2.610									1.65
5/29/2014	Angel Trujillo	7881663	7960797	79,134	0.079134	7.69	2.610									1.72
5/30/2014	Angel Trujillo	7960797	8039909	79,112	0.079112	7.83	2.610									1.72
5/31/2014	Angel Trujillo	8039909	8123739	83,830	0.08383	7.84	2.610									1.82
TOTAL				2,463,526	2.463526			<5.2	<10		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	88,443											High:	1.93
			Average:	79,469											Average:	1.73

WW

E

JB66860

| | | |

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087-WWE-051314-A		
Lab Sample ID:	JB66860-1	**Date Sampled:**	05/13/14
Matrix:	AQ - Water	**Date Received:**	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	2610	10	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	05/14/14	05/16/14	RR	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	05/16/14	05/16/14	DP	EPA 245.1 [2]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	05/14/14	05/15/14	RR	EPA 200.7 [1]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34018
(2) Instrument QC Batch: MA34034
(3) Instrument QC Batch: MA34036
(4) Prep QC Batch: MP79497
(5) Prep QC Batch: MP79511

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087-WWE-051314-A		
Lab Sample ID:	JB66860-1	**Date Sampled:**	05/13/14
Matrix:	AQ - Water	**Date Received:**	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	6.0	4.0	mg/l	1	05/15/14	RP	SM2540 D-11
pH [a]	7.07		su	1	05/13/14 16:53	IM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087 WWE 051314-A		
Lab Sample ID:	JB66860-1A	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 10	10	mg/l	1	05/14/14 18:53	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087-WWE-051314-B		
Lab Sample ID:	JB66860-2	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2C118845.D	1	05/16/14	TP	n/a	n/a	V2C5462
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.1	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.6	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.1	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.4	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	ND	1.0	0.20	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	49.5	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	105%		71-128%
2037-26-5	Toluene-D8 (SUR)	98%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	91%		81-114%
1868-53-7	Dibromofluoromethane (S)	98%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@798422 09:51 05-Jun-2014

Report of Analysis

Client Sample ID:	087-WWE-051314-B		
Lab Sample ID:	JB66860-2	Date Sampled:	05/13/14
Matrix:	AQ - Water	Date Received:	05/13/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	05/15/14	AA	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area; Update the list of monitoring wells to be abandoned / retained	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead	Submitted to all Parties on May 19, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

8/14/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-07

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from July 1 – July 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: July 2014 SA-6/7 Combined Monthly Progress Report No. 2014-07

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-07

Project SA-6 & 7 Remediation

July 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
07/01/14	Surcharge Monitoring Plan – Monthly Report No. 2 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/03/14	Response to Plaintiff's June 25, 2014 E-Mail Sediment Coring and Cap Thickness Determinations Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/03/14	New Source of Imported Clean Fill Study Area 6m Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/10/14	Design Change Bulletin – 1S Surcharge Pile Geometry Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/10/14	Responses to Comments Provided by Plaintiffs Data Validation for Materials Excavated from Study Area 6 Study Areas 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/10/14	NJPDES Permit NJ0156311: June 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
07/10/14	Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
07/10/14	PVSC - Acoustic Monitoring Report Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/11/14	Combined Monthly Progress/Highlights Report No. 2014-06 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
07/22/14	Special Master All Hands Meeting	N/A
07/24/14	Hydrocarbon-Impacted Soil Summary Study Area 6 South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
07/31/14	Surcharge Monitoring Plan – Monthly Report No. 3 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	07/06/14	07/13/14	07/20/14	07/27/14
Construction Management (AMEC)	12	13	13	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	36	37	37	42
Arecon/US Ecology Subcontractors	1	1	1	0
ERFS In Situ Treatment	0	0	0	2
ENR (SA-6N GWTP Utilities)	0	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Other	0	0	0	2
TOTAL	**55**	**57**	**57**	**64**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected July PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #15 in well 088-IW-01.
- On July 29, met with JCIA and JCRA representatives to discuss demolition and relocation schedule. Conducted pre- bid meetings on July 8th and July 15th for the JCIA structures demolition project.
- On, July 2nd and July 3rd the excavation contractor encountered two additional unknown underground storage tanks while excavating in Cells 114 to 111. The site designated LSRP was notified and observed removal of the tanks and associated sampling. The LSRP is responsible for registering and closing the UST in accordance with NJDEP requirements as part of the non-chromium remedial action being conducted concurrently.

- Initiated In-Situ treatment activities on SA6 South. Site 163. A total of 10 temporary well points were installed during the reporting period.

C. SA-6 N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on June 11, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	07/06/14	07/13/14	07/20/14	07/27/14
Avg. Gallons Treated & Discharged (per day)	74,039	79,231	78,632	78,615
Average Flow (gpm) for Operating Period	50	55	55	57
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	10,541	12,321	11,570	15,509

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 113A-103A, 115B – 106B.
- Continued storm-water management activities.
- Completed UST removal activities. A total of 3 UST were removed and staged on site for registration and disposal.
- Collected an additional soil bottom of excavation sample for hexavalent chromium analysis from the UST area (beneath the second UST). Laboratory data confirmed that the result is less than 20 mg/kg (2.1 mg/kg).
- Collected two additional sidewall soil samples for hexavalent chromium analysis from a visually suspect area along Cell 149. One of the samples was less than 20 mg/kg (4.7 mg/kg); however the second location was greater than 20 mg/kg (42.3 mg/kg) and resulted in minor additional material excavation up to 4 feet below grade. A subsequent sidewall sample was collected and data indicated that the less that 20 mg/kg was met (7.9 mg/kg).
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	0	0	0
Entact/ Montecalvo	Tri-axle Dump	Bayshore Recycling	NA	Non Haz Petroleum Soil	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 113A-103A, 115B – 106B
Excavation Completed	Cell Number(s) 114A-105A, 117B – 106B Volume Excavated - Total for Reporting Period: 11,199 CY/ Total to Date: 88,945 CY
Backfill in Progress	Cell Number(s) 146B – 106B, 152A – 105A

3. BACKFILL MATERIALS USED

Source	Week Ending			
	07/06/14	07/13/14	07/20/14	07/27/14
<20ppm re-use, CY	0	0	1,373	675
Weldon, Import-Tons Screenings	3,337	2,771	3,790	5,915
Tilcon, Import-Tons DGA	0	0	306	932
Tilcon, Import Tons – 1.5” Stone	308	759	30	0
Weldon, Imported Tons - QP	814	1,646	223	1,125
Celgene - Loads	611	946	802	777
Tilcon, Imported Tons – 2.5” Stone	0	0	0	0

E. SURCHARGE OPERATIONS *(see **Attachment 9**)*

- Area 1S: Surcharge subgrade placement continued though the month using soils with hexavalent chromium impacted soils.
- Area 2S: Surcharging continued from 1S into the western portion of 2 S. Settlement Platforms have been placed along the perimeter pools.
- Area 3S: Instrumentation installation is 100% complete as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles in area. No Surcharge initiated.
- Area 1N: Surcharge material placement was completed to the design grade in the southeast quadrant the first week in July. Additional surcharge was placed on the north slope near HS-4 to bring that area to the surcharge design grade the during the week ending August 1st. Results

indicate that surcharge is now complete in Area 1N and fill materials are ready for removal by contractor. Details to be provided in the next Surcharge Monitoring Report.

- Area 2N: Instrumentation Installation 100 % complete. Initial surcharge instrument data to be submitted under separate cover.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- One single sheet driven on the hydraulic barrier wall at Sta 13+30 for the Closure Piece 2, SA-6S. This completes he hydraulic barrier wall installation on SA-6S.

PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

G. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Finalize bidding process for the Above-grade Demolition of the four designated JCIA Structures. Bid opening scheduled for August 13, 2014.
- Complete In-Situ treatment activities at Site 163.
- Continue placement of surcharge materials in SA-6S Area 1S.

- Begin placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 103 to 70.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue surcharge monitoring instrument installation activities on SA-6N and SA-6S.
- Conduct S-3 Injection/Mass Removal Event No.16 in well 088-IW-03.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

ATTACHMENTS:

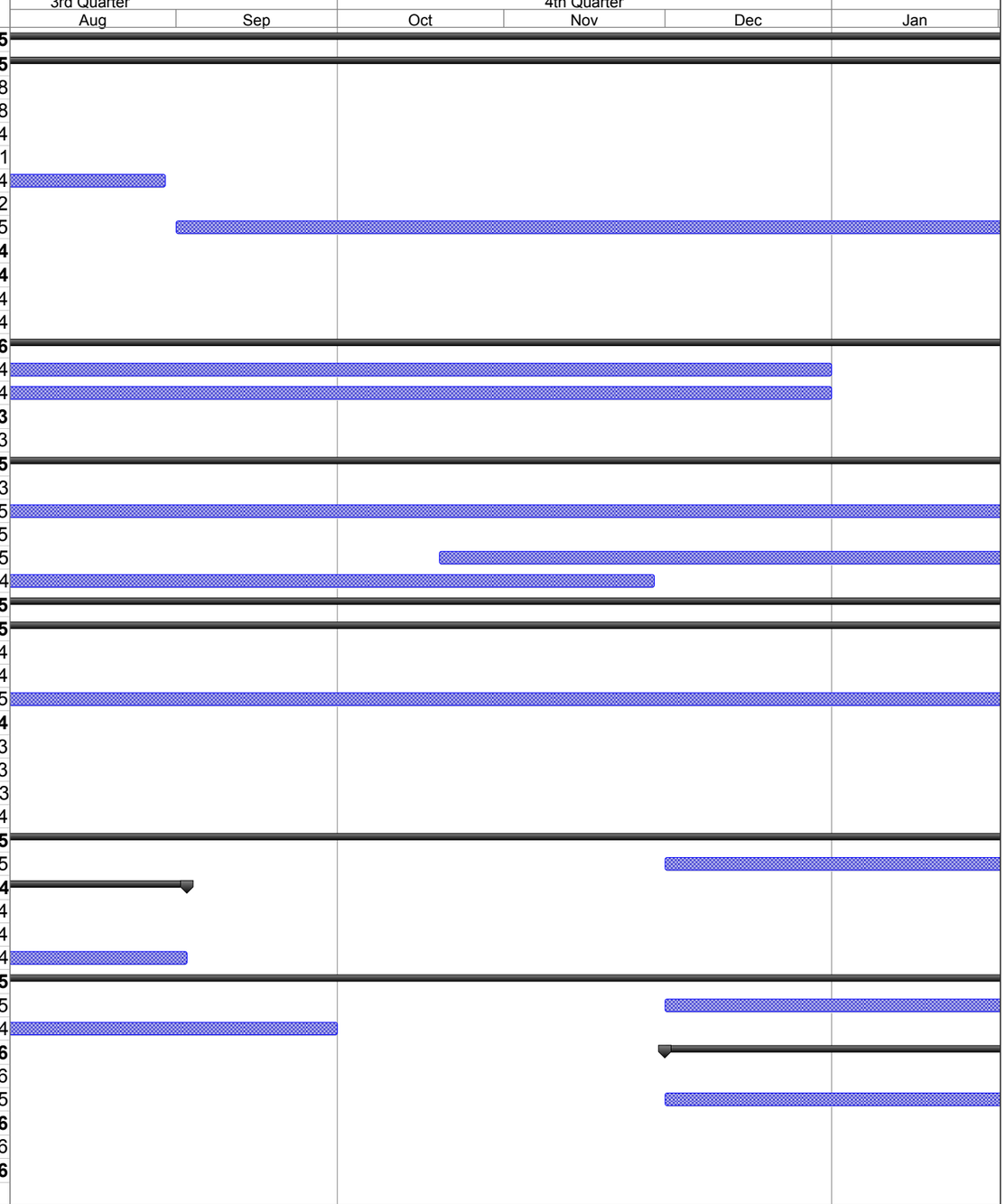
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-4)
   - SA-6 South Deep Well Data (DW-5)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update *(provided on a quarterly basis - not available as of this report date)*
   - Summary of Groundwater Quality Data from GWET Wells
   - Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update
   - Instrumentation Location Plan 1S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports

12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (June 2014)
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (June 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 7/30/14

Task Milestone Summary Critical

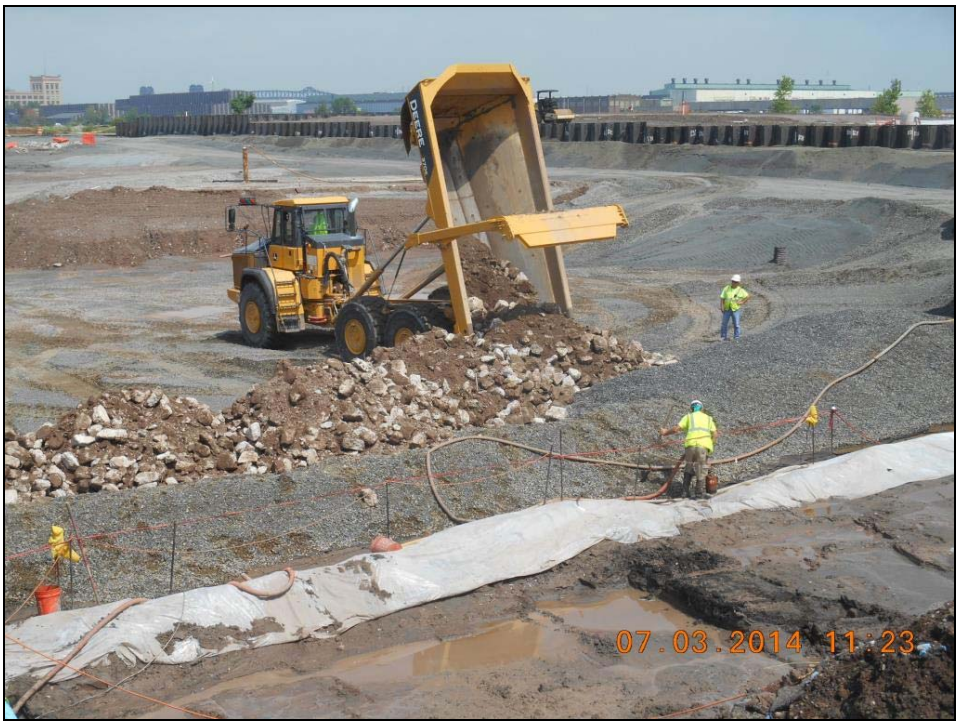
Attachment 2: Site Photographs



Site Photograph 1: Clean backfill is compacted.



Site Photograph 2: Clean backfill is spread.



Site Photograph 3: Clean concrete is reused as backfill.



Site Photograph 4: Excavation progress along Droyers Cove.



Site Photograph 5: Placement of separation fabric.



Site Photograph 6: Placing backfill around instrumentation station.



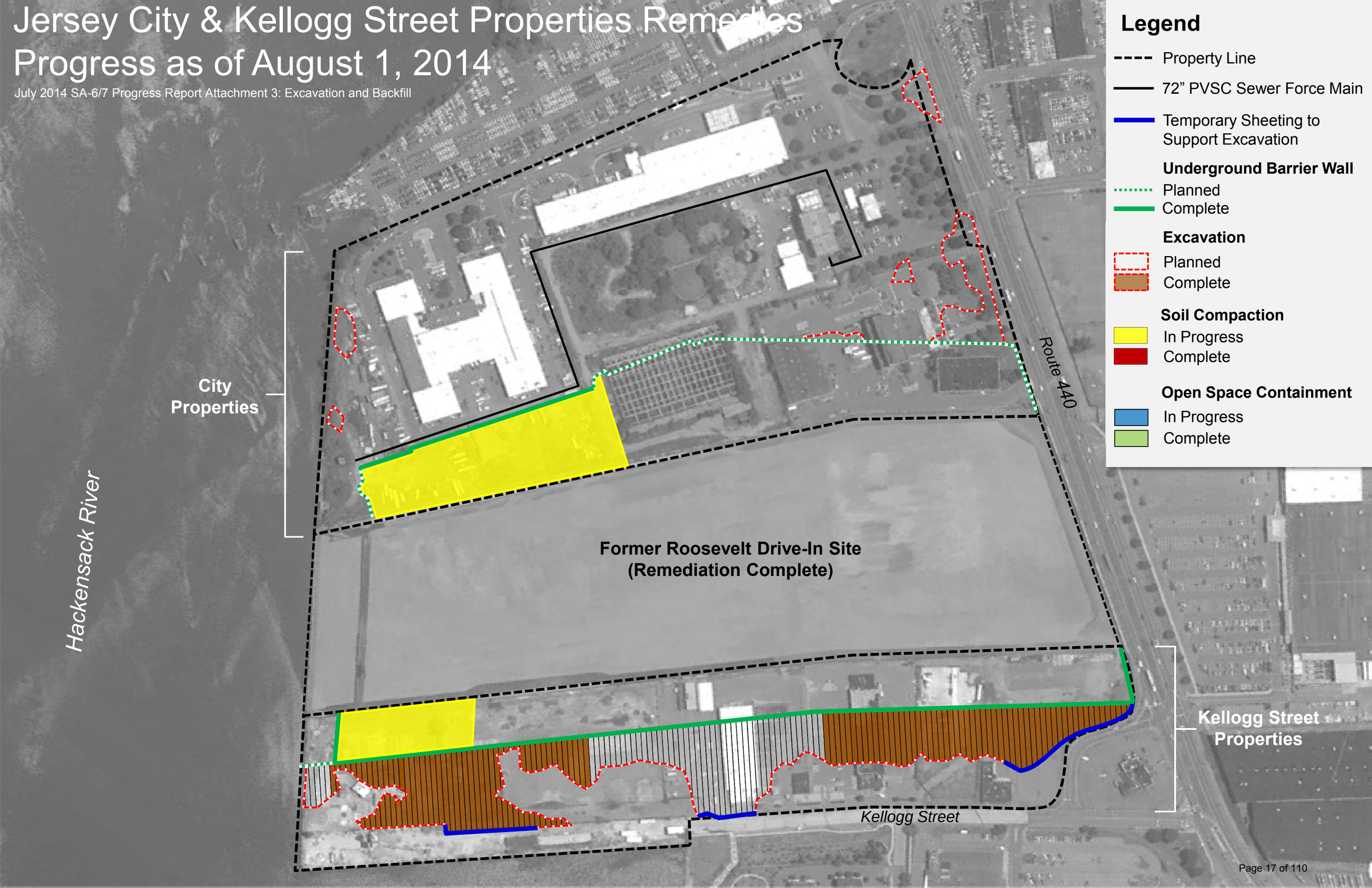
Site Photograph 7: Surcharge material is placed around well MW-1 BR.

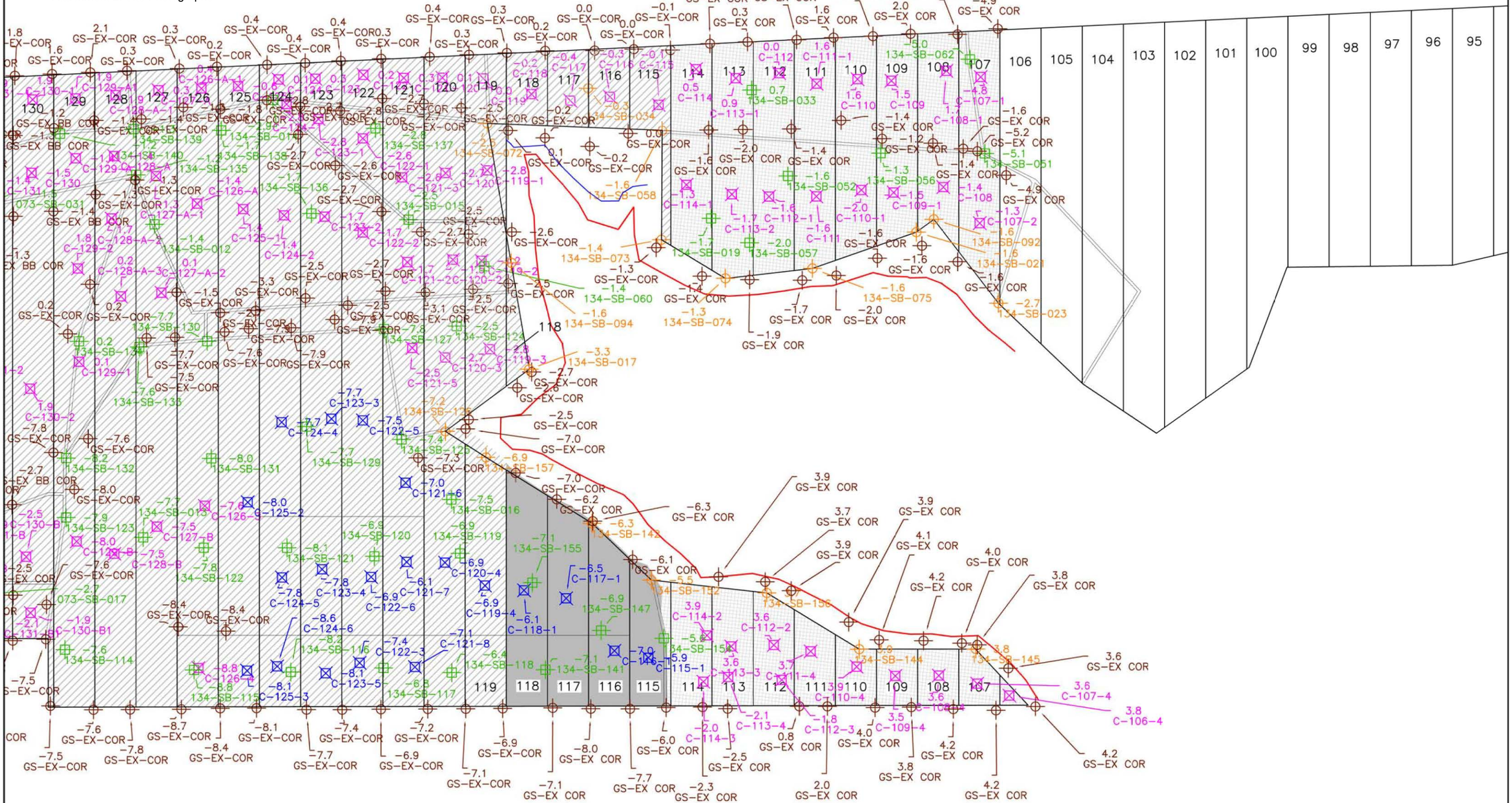
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of August 1, 2014

July 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA
- TOE OF CHLOROBENZENE AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 07-03-14 TO 07-24-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.7	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
685002.7	601764.7	4.2	C-114-3	114B	7/17/2014	-2.0	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
684985.2	601787.3	4.2	C-112-3	112B	7/17/2014	-1.8	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.7	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)	
Sidewall Target Coordinates	As-built Elevations

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 7/28/14

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NEW JERSEY PROFESSIONAL LAND SURVEYOR
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FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19												Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation - Stratum O	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavartion elevation	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (S0)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (S0)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5								Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95		Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95		Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95		Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95		Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

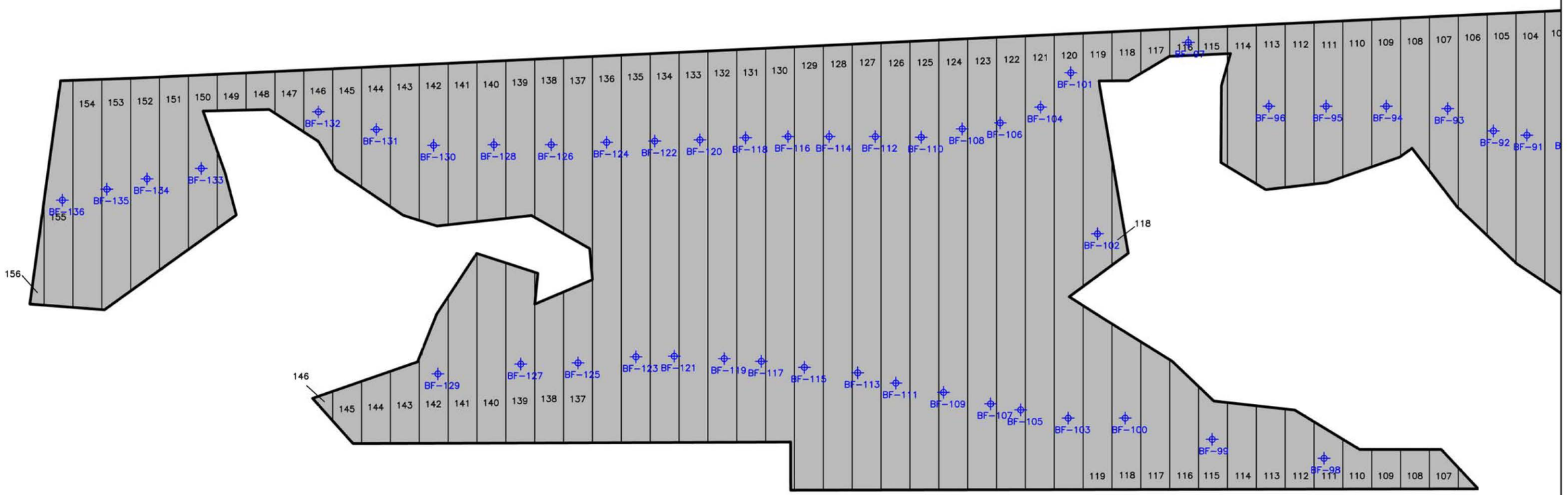
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



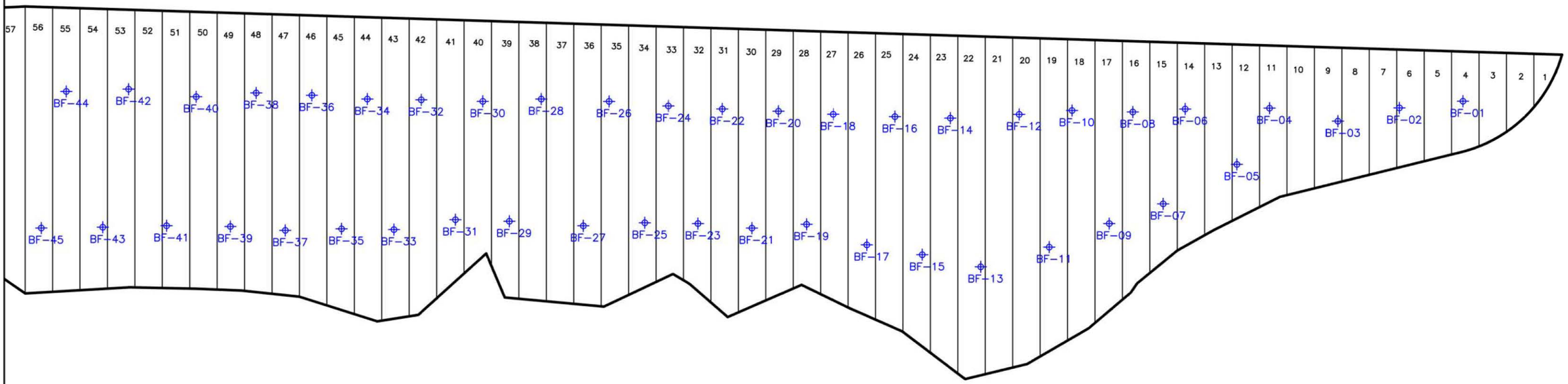
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								25			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3								Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	6.4	98	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.1719	601631.644	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
0	RF-34		685278.423	601673.304	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	6.4	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	6.4	97	95	133	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	6.4	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136			
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

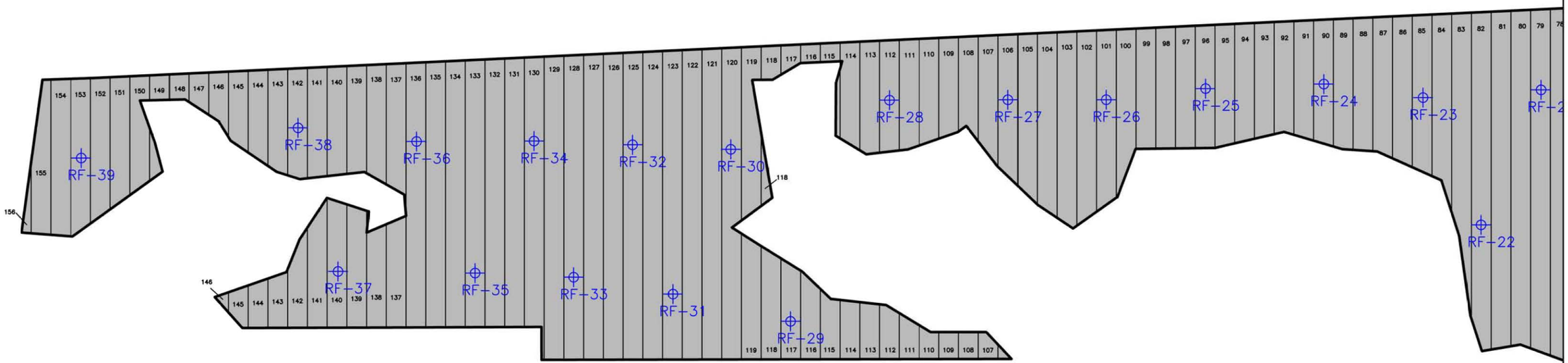
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

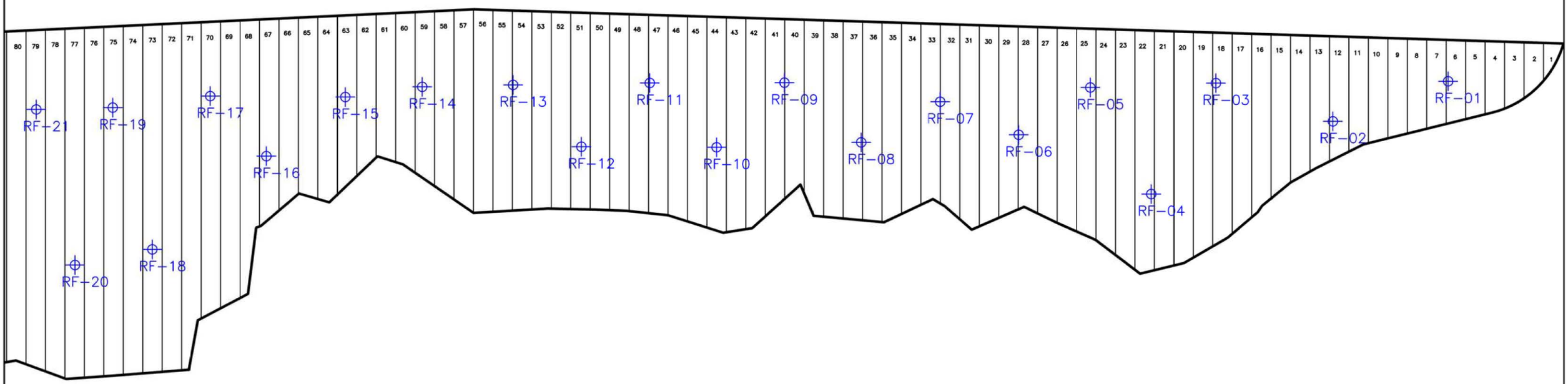
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-4)
- SA-6 South Deep Well Data (DW-5)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
06/04/14	2	24	14, WPS-2	35	0	8,325	8,325	2,040,901	5.8	
06/05/14	2	24	14, WPS-2	35	8,325	13,042	4,717	2,045,618	3.3	
06/06/14	2	24	14, WPS-2	35	13,042	22,720	9,678	2,055,296	6.7	
06/09/14	2	72	14, WPS-2	35	22,720	41,093	18,373	2,073,669	4.3	
06/10/14	2	24	14, WPS-2	35	41,093	54,801	13,708	2,087,377	9.5	
06/11/14	2	24	14, WPS-2	35	54,801	61,975	7,174	2,094,551	5.0	
06/12/14	2	24	14, WPS-2	35	61,975	69,411	7,436	2,101,987	5.2	
06/13/14	2	24	14, WPS-2	35	69,411	75,445	6,034	2,108,021	4.2	
06/16/14	2	72	14, WPS-2	35	75,445	95,783	20,338	2,128,359	4.7	
06/17/14	2	24	14, WPS-2	35	95,783	102,708	6,925	2,135,284	4.8	
06/18/14	2	24	13,14, WPS-2	48	102,708	117,105	14,397	2,149,681	10.0	
06/19/14	2	24	13,14, WPS-2	48	117,105	131,389	14,284	2,163,965	9.9	
06/20/14	2	24	13,14, WPS-2	48	131,389	142,678	11,289	2,175,254	7.8	
06/23/14	2	72	13,14, WPS-2	48	142,678	172,492	29,814	2,205,068	6.9	
06/24/14	2	24	13,14, WPS-2	48	172,492	182,523	10,031	2,215,099	7.0	
06/25/14	2	24	13,14, WPS-2	48	182,523	191,134	8,611	2,223,710	6.0	
06/26/14	2	24	13,14, WPS-2	48	191,134	200,723	9,589	2,233,299	6.7	
06/27/14	2	24	13,14, WPS-2	48	200,723	212,575	11,852	2,245,151	8.2	
06/30/14	2	72	13,14, WPS-2	48	212,575	247,628	35,053	2,280,204	8.1	
07/01/14	2	24	13,14, WPS-2	48	247,628	259,680	12,052	2,292,256	8.4	
07/02/14	2	24	13,14, WPS-2	48	259,680	266,319	6,639	2,298,895	4.6	
03/13/00	2	24	13,14, WPS-2	48	266,319	270,103	3,784	2,302,679	2.6	
07/07/14	2	86	13,14, WPS-2	48	270,103	285,239	15,136	2,317,815	2.9	
07/08/14	2	24	13,14, WPS-2	45	285,239	288,158	2,919	2,320,734	2.0	
07/09/14	2	24	13,14, WPS-2	45	288,158	289,792	1,634	2,322,368	1.1	
07/10/14	2	24	13, WPS-2	27	289,792	292,235	2,443	2,324,811	1.7	
07/11/14	2	24	13, WPS-2	27	292,235	295,728	3,493	2,328,304	2.4	
07/14/14	2	72	13, WPS-2	27	295,728	306,209	10,481	2,338,785	2.4	
07/15/14	2	24	13, WPS-2	27	306,209	309,704	3,495	2,342,280	2.4	
07/16/14	2	24	13, WPS-2	27	309,704	311,299	1,595	2,343,875	1.1	
07/17/14	2	24	13, WPS-2	27	311,299	312,848	1,549	2,345,424	1.1	
07/18/14	2	24	13, WPS-2	27	312,848	313,958	1,110	2,346,534	0.8	
07/21/14	2	72	13, WPS-2	27	313,958	317,809	3,851	2,350,385	0.9	
07/22/14	2	24	13, WPS-2	27	317,809	318,844	1,035	2,351,420	0.7	
07/23/14	2	24	13, WPS-2	27	318,844	319,048	204	2,351,624	0.1	
07/24/14	2	24	13, WPS-2	22	319,048	319,062	14	2,351,638	0.0	
07/25/14	2	24	13, WPS-2	22	N/A	N/A	450	2,352,088	0.3	Flowmeter Blockage - Tank Measured
07/28/14	2	72	13, WPS-2	22	N/A	N/A	1,650	2,353,738	0.4	Flowmeter Blockage - Tank Measured
07/29/14	2	24	13, WPS-2	22	N/A	N/A	550	2,354,288	0.4	Flowmeter Blockage - Tank Measured
07/30/14	2	24	13, WPS-3	22	N/A	N/A	500	2,354,788	0.3	System Disabled or Relocation

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
07/16/14	24	0	4,141	4,141	4,141	2.9	
07/17/14	24	4,141	8,184	4,043	8,184	2.8	
07/18/14	24	8,184	12,120	3,936	12,120	2.7	
07/21/14	72	0	16,253	16,253	28,373	3.8	Flowmeter Reset
07/22/14	24	16,253	19,898	3,645	32,018	2.5	
07/23/14	24	N/A	N/A	4,000	36,018	2.8	Flowmeter Blockage, Tank Measured
07/24/14	24	N/A	N/A	4,200	40,218	2.9	Pump Taken Offline for Excavation

Notes: DW-4 was activated on July 16, 2014.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-5)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
05/30/14	24	4,322	8,634	4,312	148,321	3.0	
06/02/14	72	8,634	20,324	11,690	160,011	2.7	
06/03/14	24	20,324	33,537	13,213	173,224	9.2	
06/04/14	24	33,537	61,661	28,124	201,348	19.5	
06/05/14	24	61,661	83,362	21,701	223,049	15.1	
06/06/14	24	83,362	90,354	6,992	230,041	4.9	
06/09/14	72	90,354	116,742	26,388	256,429	6.1	
06/10/14	24	0	11,717	11,717	268,146	8.1	Flowmeter Reset
06/11/14	24	N/A	N/A	10,500	278,646	7.3	Flowmeter Blockage (Tank Measured)
06/12/14	24	N/A	N/A	11,200	289,846	7.8	Flowmeter Blockage (Tank Measured)
06/13/14	24	N/A	N/A	11,100	300,946	7.7	Flowmeter Blockage (Tank Measured)
06/16/14	72	N/A	N/A	34,500	335,446	8.0	Flowmeter Blockage (Tank Measured)
06/17/14	24	0	12,405	12,405	347,851	8.6	Flowmeter Reset
06/18/14	24	12,405	20,193	7,788	355,639	5.4	
06/19/14	24	N/A	N/A	9,200	364,839	6.4	Flowmeter Blockage (Tank Measured)
06/20/14	24	20,193	23,966	3,773	368,612	2.6	
06/23/14	72	23,966	30,285	6,319	374,931	1.5	
06/24/14	24	N/A	N/A	2,500	377,431	1.7	Flowmeter Blockage (Tank Measured)
06/25/14	24	N/A	N/A	5,000	382,431	3.5	Flowmeter Blockage (Tank Measured)
06/26/14	24	N/A	N/A	5,100	387,531	3.5	Flowmeter Blockage (Tank Measured)
06/27/14	24	0	6,090	6,090	393,621	4.2	Flowmeter Reset
06/30/14	72	6,090	24,309	18,219	411,840	4.2	
07/01/14	24	24,309	30,453	6,144	417,984	4.3	
07/02/14	24	30,453	40,122	9,669	427,653	6.7	
07/03/14	24	40,122	48,137	8,015	435,668	5.6	
07/07/14	86	48,137	80,200	32,063	467,731	6.2	
07/08/14	24	80,200	98,037	17,837	485,568	12.4	
07/09/14	24	98,037	98,557	520	486,088	0.4	
07/10/14	24	98,557	99,431	874	486,962	0.6	Well Taken Offline

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
06/02/14	6:30	12,906.92	13,081.94	175,020	13,081,490	
06/04/14	7:00	13,081.94	13,233.54	151,600	13,233,090	PVSC Compliance Sample Collected
06/05/14	8:30	13,233.54	13,391.28	157,740	13,390,830	
06/06/14	8:00	13,391.28	13,444.66	53,380	13,444,210	
06/08/14	5:00	13,444.66	13,498.28	53,620	13,497,830	
06/09/14	6:15	13,498.28	13,667.07	168,790	13,666,620	
06/10/14	5:40	13,667.07	13,839.23	172,160	13,838,780	
06/11/14	4:50	13,839.23	13,952.75	113,520	13,952,300	
06/12/14	6:50	13,952.75	14,138.23	185,480	14,137,780	
06/13/14	13:15	14,138.23	14,296.51	158,280	14,296,060	
06/14/14	7:50	14,296.51	14,447.78	151,270	14,447,330	
06/16/14	8:20	14,447.78	14,602.88	155,100	14,602,430	
06/17/14	7:55	14,602.88	14,717.27	114,390	14,716,820	
06/18/14	8:00	14,717.27	14,832.09	114,820	14,831,640	
06/19/14	7:20	14,832.09	14,937.60	105,510	14,937,150	
06/20/14	8:20	14,937.60	15,083.23	145,630	15,082,780	
06/21/14	3:00	15,083.23	15,127.76	44,530	15,127,310	
06/23/14	7:50	15,127.76	15,294.76	167,000	15,294,310	
06/24/14	8:30	15,294.76	15,348.15	53,390	15,347,700	
06/25/14	8:15	15,348.15	15,452.33	104,180	15,451,880	
06/26/14	7:50	15,452.33	15,551.63	99,300	15,551,180	
06/27/14	7:45	15,551.63	15,616.53	64,900	15,616,080	
06/30/14	8:00	15,616.53	15,754.00	137,470	15,753,550	
07/02/14	8:30	15,754.00	15,879.17	125,170	15,878,720	PVSC Compliance Sample Collected
07/03/14	5:15	15,879.17	15,995.15	115,980	15,994,700	
07/04/14	7:15	15,995.15	16,174.96	179,810	16,174,510	
07/05/14	7:00	16,174.96	16,354.58	179,620	16,354,130	
07/06/14	5:55	16,354.58	16,443.35	88,770	16,442,900	
07/07/14	9:05	16,443.35	16,582.28	138,930	16,581,830	
07/08/14	8:05	16,582.28	16,719.12	136,840	16,718,670	
07/09/14	7:30	16,719.12	16,813.21	94,090	16,812,760	
07/10/14	7:15	16,813.21	16,861.07	47,860	16,860,620	
07/11/14	6:00	16,861.07	16,927.80	66,730	16,927,350	
07/14/14	7:35	17,039.50	17,039.50	111,700	17,039,050	
07/15/14	8:10	17,151.47	17,151.47	111,970	17,151,020	
07/16/14	7:30	17,151.47	17,277.51	126,040	17,277,060	
07/17/14	5:15	17,277.51	17,369.50	91,990	17,369,050	
07/18/14	7:45	17,369.50	17,470.26	100,760	17,469,810	
07/21/14	8:30	17,470.26	17,603.88	133,620	17,603,430	
07/22/14	8:00	17,603.88	17,697.76	93,880	17,697,310	
07/23/14	7:30	17,697.76	17,756.61	58,850	17,756,160	
07/24/14	7:30	17,756.61	17,794.18	37,570	17,793,730	
07/25/14	7:00	17,794.18	17,849.88	55,700	17,849,430	
07/28/14	8:00	17,849.88	17,964.12	114,240	17,963,670	
07/29/14	8:00	17,964.12	18,017.49	53,370	18,017,040	
07/30/14	7:50	18,017.49	18,060.14	42,650	18,059,690	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

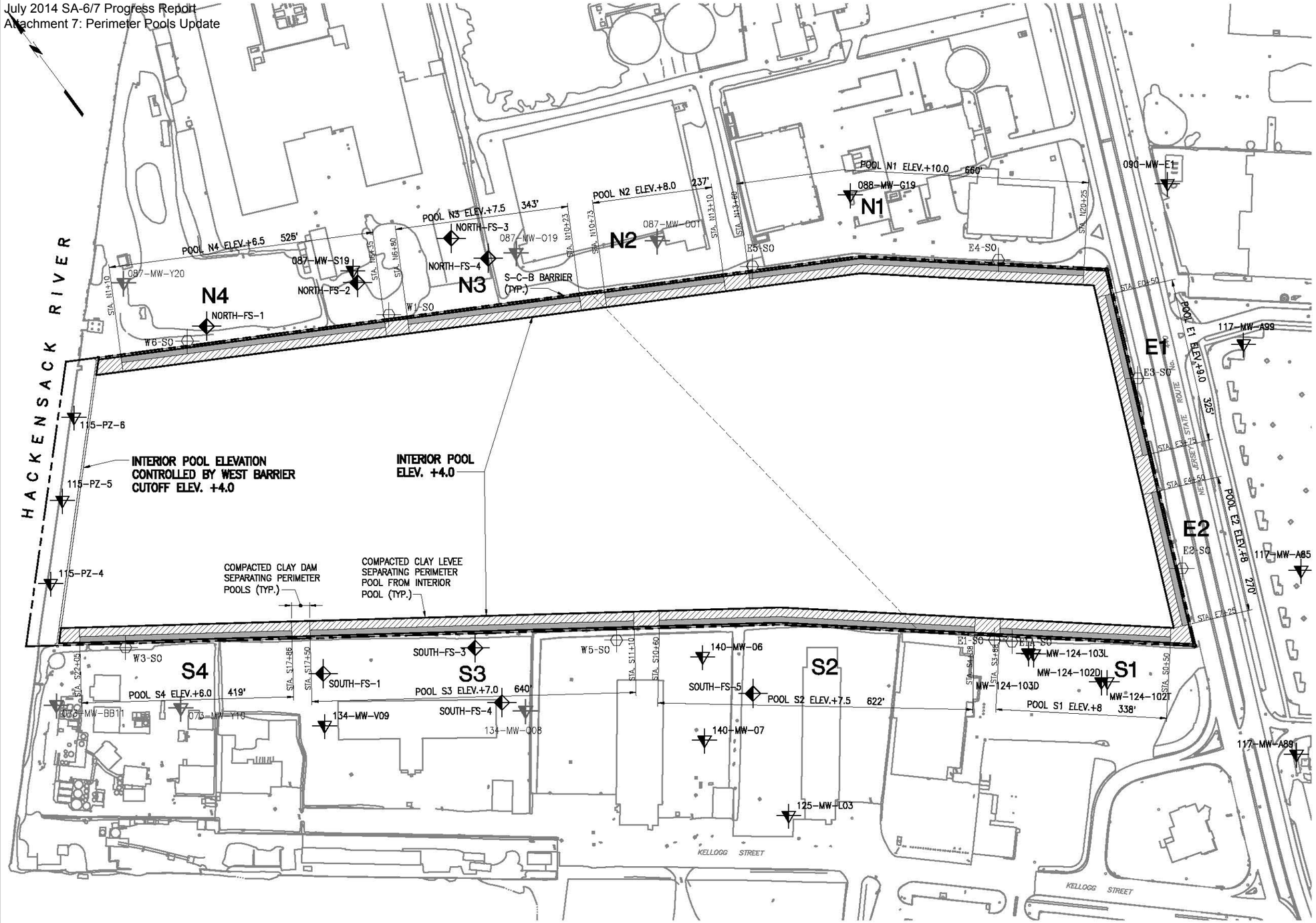
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
139-142B, 131-132A	<20	124-128-20-a	1000	124-128-20-a1	6/3/2014	10:45	32.4		Yes	
				124-128-20-a2	6/3/2014	10:50	38.4		Yes	
				124-128-20-a3	6/3/2014	10:55	17.0	Yes		
				124-128-20-a4	6/3/2014	11:00	45.1		Yes	
124-126	<20	124-126-20-a, b	1450	124-126-20-a1	6/13/2014	11:00	41.1		Yes	
				124-126-20-a2	6/13/2014	11:05	13.9	Yes		
				124-126-20-a3	6/13/2014	11:10	15.0	Yes		
				124-126-20-a4	6/13/2014	11:15	2.9	Yes		
				124-126-20-b1	6/13/2014	11:20	12.9	Yes		
				124-126-20-b2	6/13/2014	11:25	8.6	Yes		
				124-126-20-b3	6/13/2014	11:30	59.4		Yes	
				124-126-20-b4	6/13/2014	11:35	8.0	Yes		
119-124	<20	124-124-20-a, b	2000	124-124-20-a1	6/25/2014	6:40	11.2	Yes		
				124-124-20-a2	6/25/2014	6:45	14.6	Yes		
				124-124-20-a3	6/25/2014	6:50	12.2	Yes		
				124-124-20-a4	6/25/2014	6:55	8.0	Yes		
				124-124-20-b1	6/25/2014	7:00	19.4	Yes		
				124-124-20-b2	6/25/2014	7:05	4.8	Yes		
				124-124-20-b3	6/25/2014	7:10	2.1	Yes		
				124-124-20-b4	6/25/2014	7:15	10.5	Yes		
119-125	>1000	124-125-1000-a	550	124-125-1000-a1	6/25/2014	6:15	42.1		Yes	
				124-125-1000-a2	6/25/2014	6:20	652.0		Yes	
				124-125-1000-a3	6/25/2014	6:25	346.0		Yes	
				124-125-1000-a4	6/25/2014	6:30	400.0		Yes	
115-119	<20	124-119-20-a	1000	124-119-20-a1	6/27/2014	13:00	9.6	Yes		
				124-119-20-a2	6/27/2014	13:05	7.8	Yes		
				124-119-20-a3	6/27/2014	13:10	6.0	Yes		
				124-119-20-a4	6/27/2014	13:15	28.8		Yes	
110-118	<20	124-118-20-a	1000	124-118-20-a1	7/9/2014	13:00	20.3		Yes	
				124-118-20-a2	7/9/2014	13:05	19.7	Yes		
				124-118-20-a3	7/9/2014	13:10	37.1		Yes	
				124-118-20-a4	7/9/2014	13:15	61.1		Yes	

Notes:
*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
05-07-2014

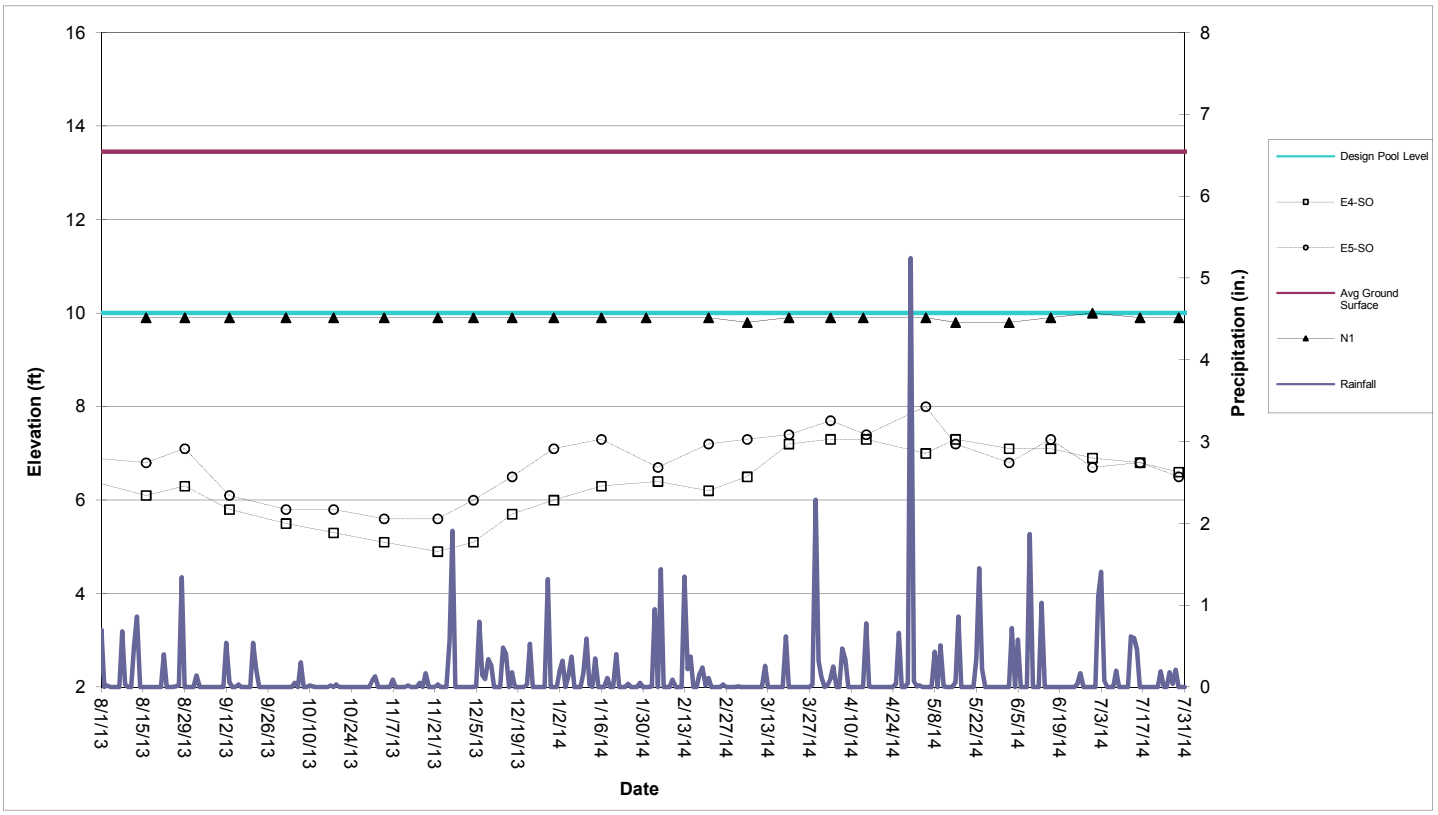
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

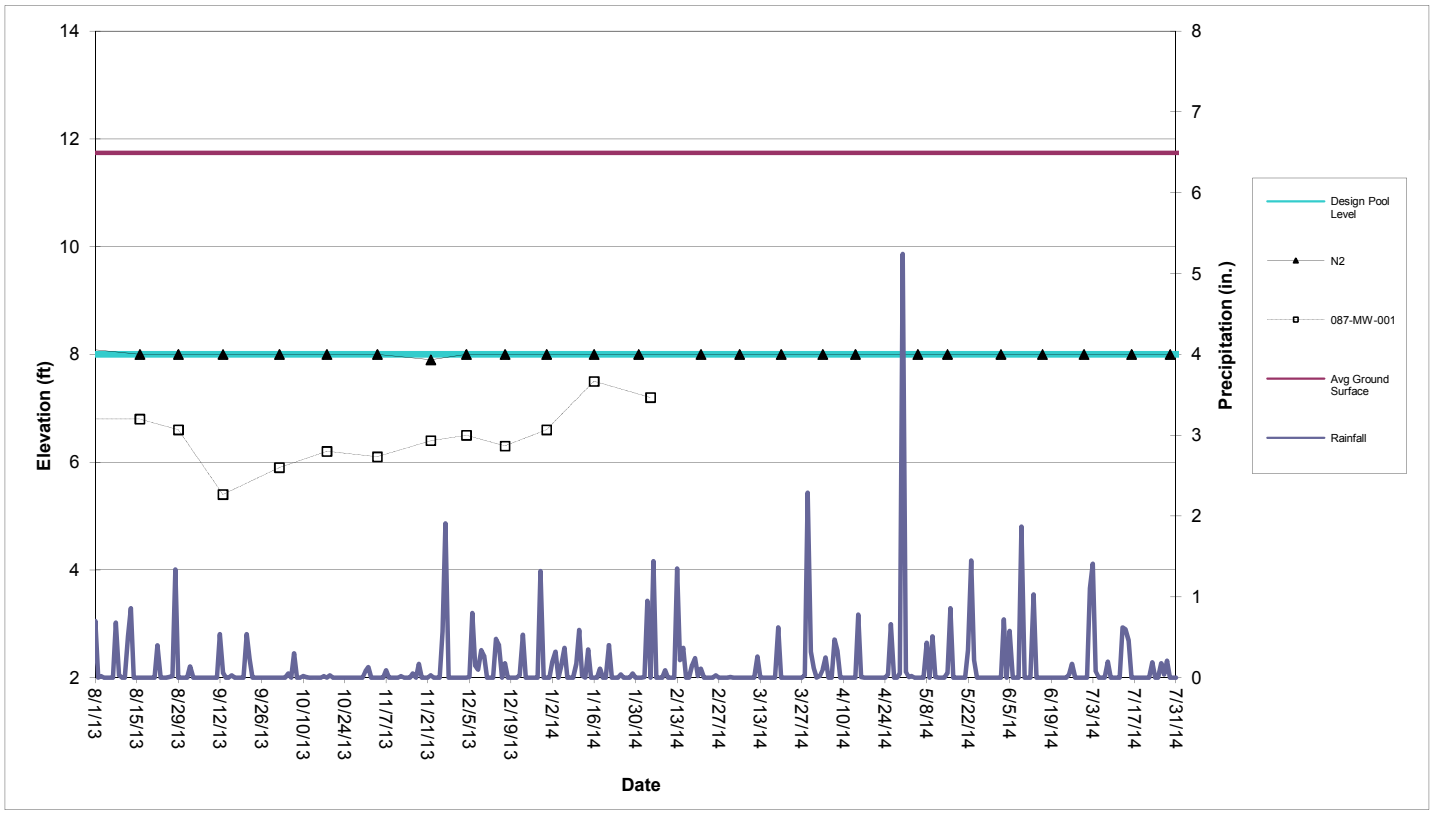
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

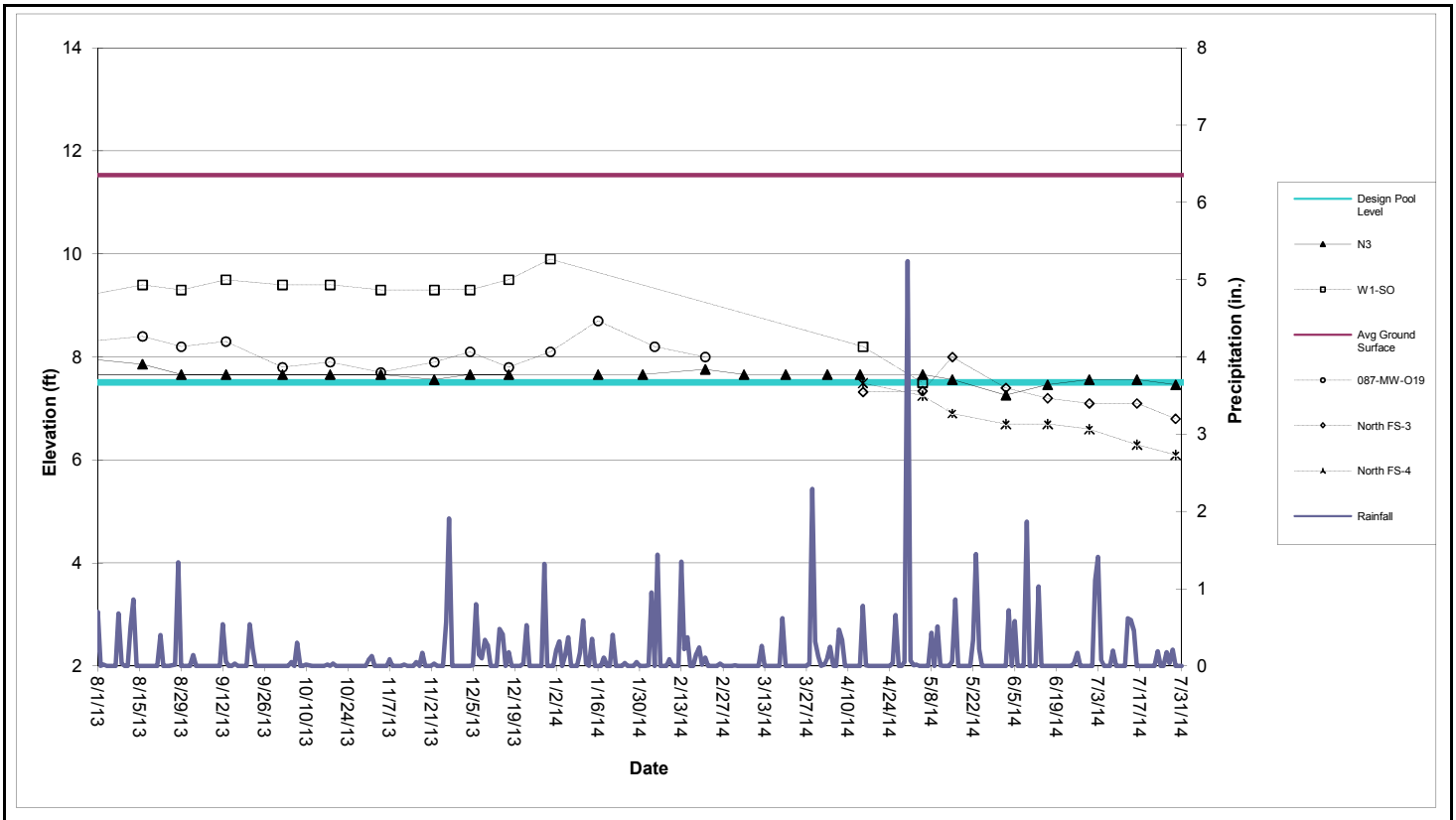
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



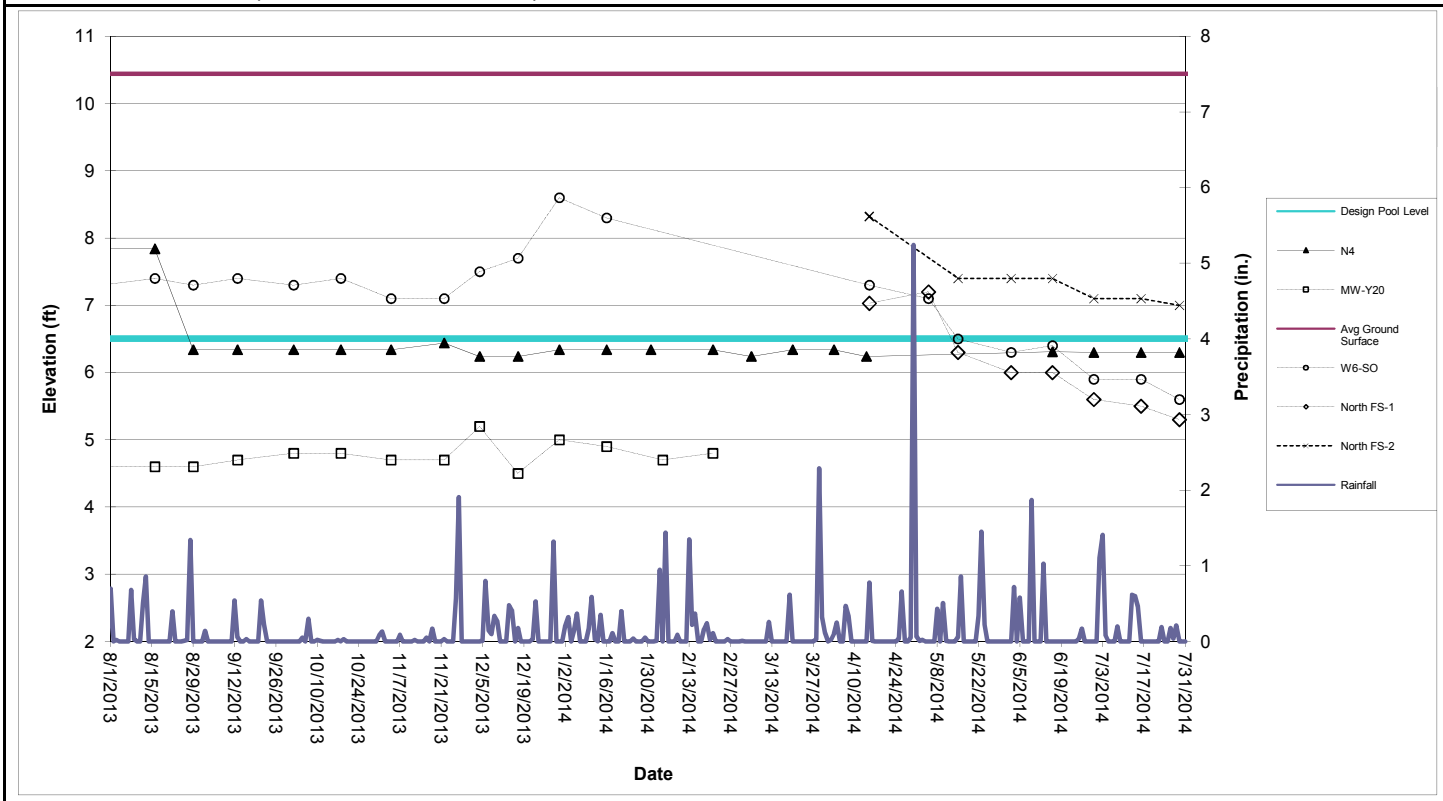
Perimeter Pool N1 (Sta. N13+60 to N20+25)



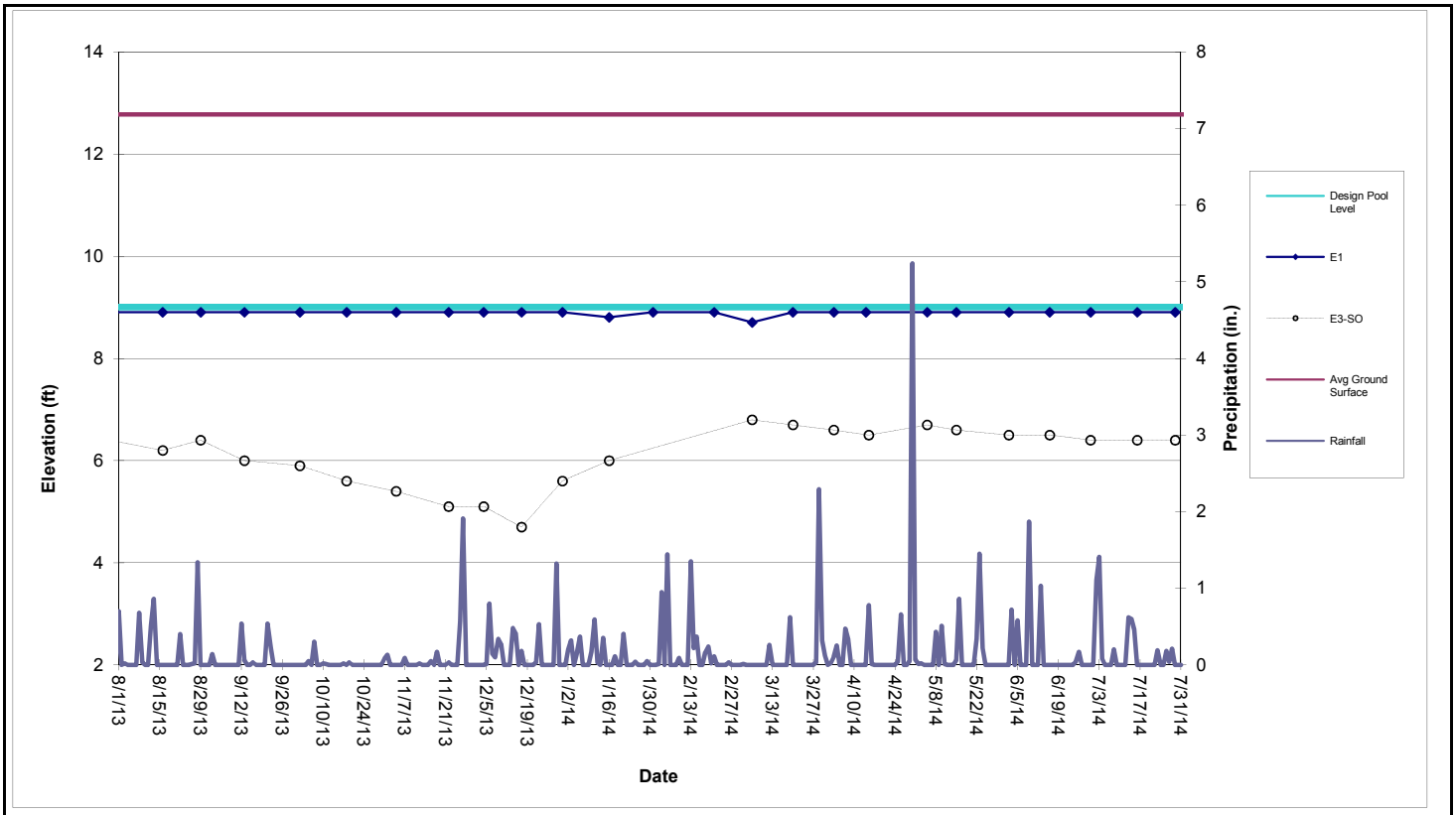
Perimeter Pool N2 (Sta. N10+73 to N13+10)



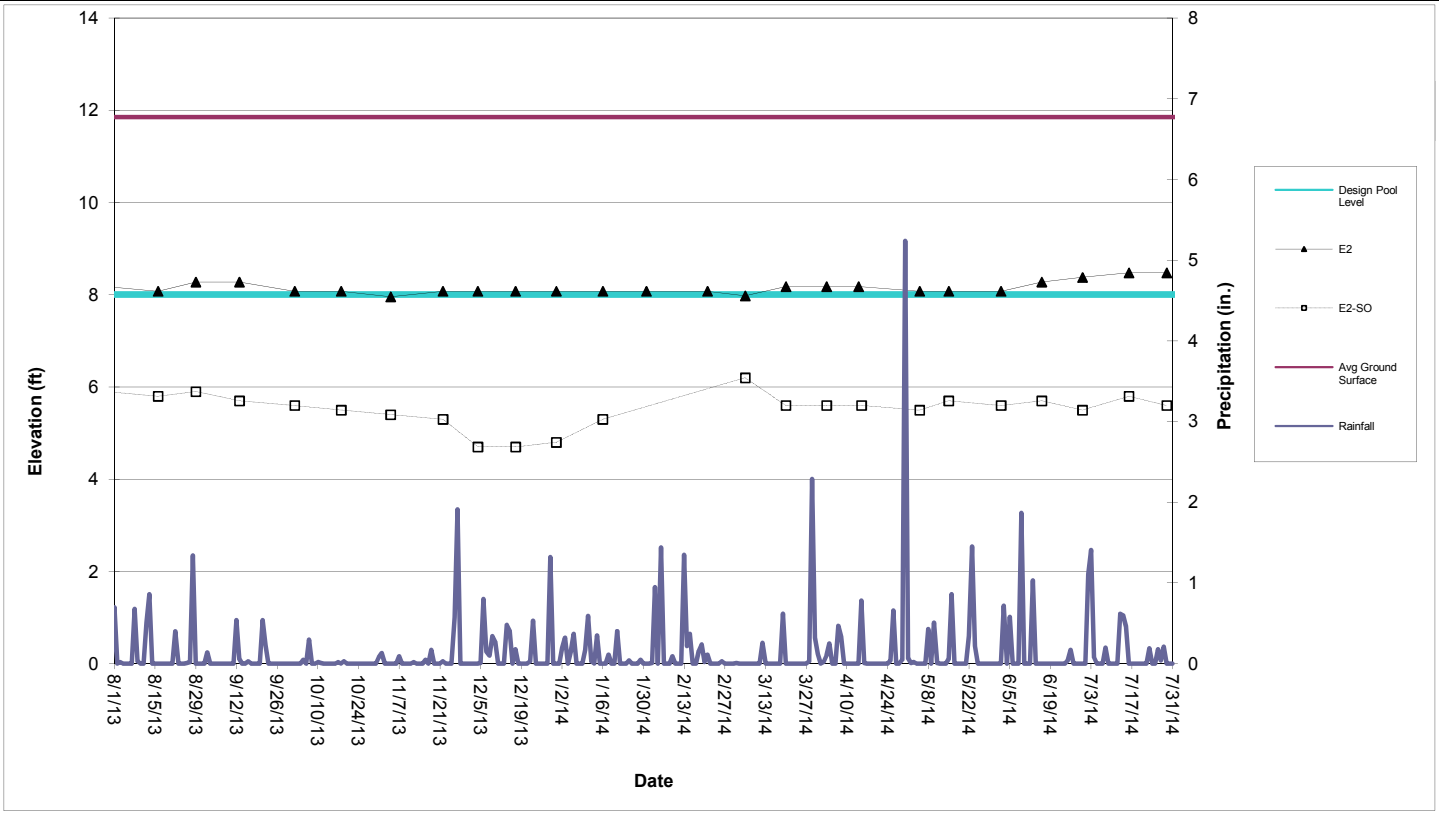
Perimeter Pool N3 (Sta. N6+80 to N10+23)



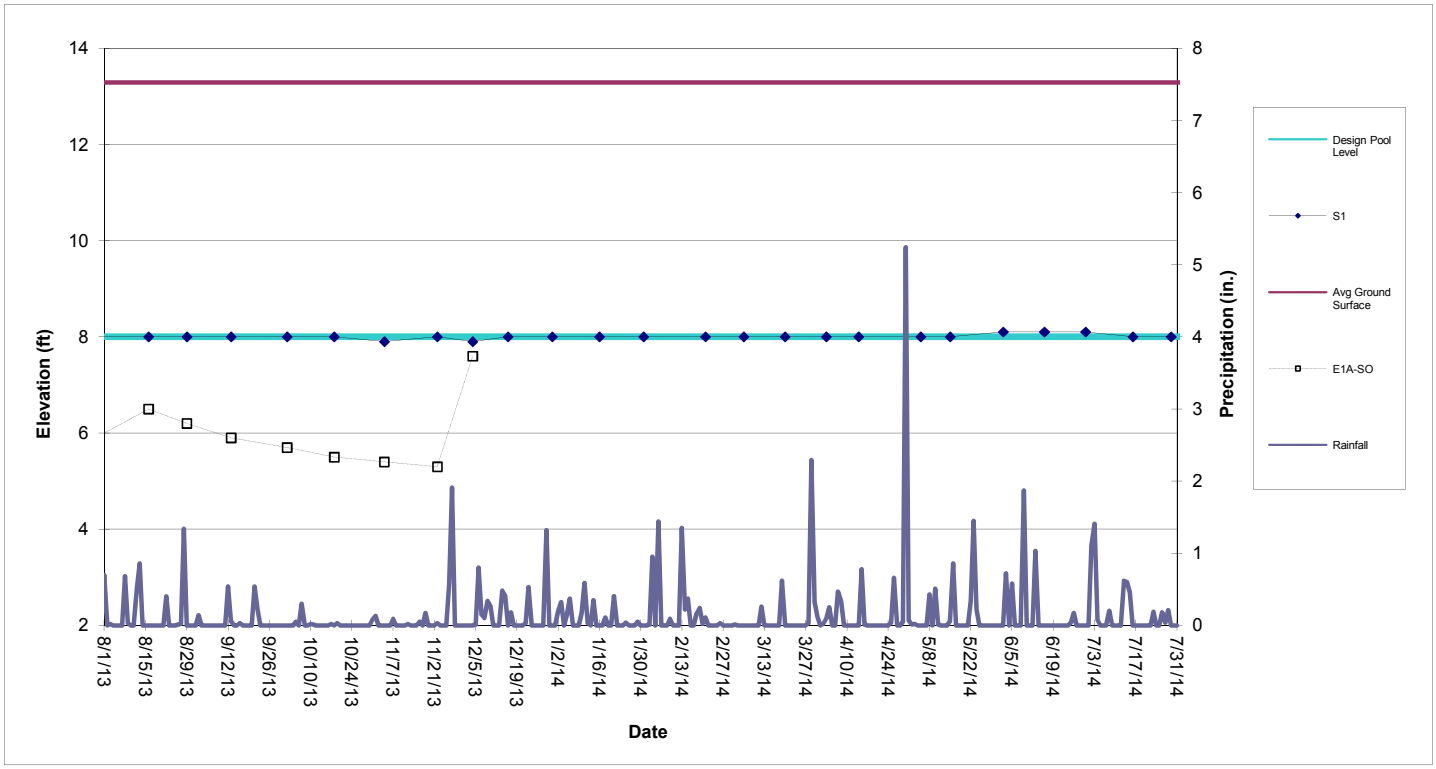
Perimeter Pool N4 (Sta. N6+80 to N10+23)



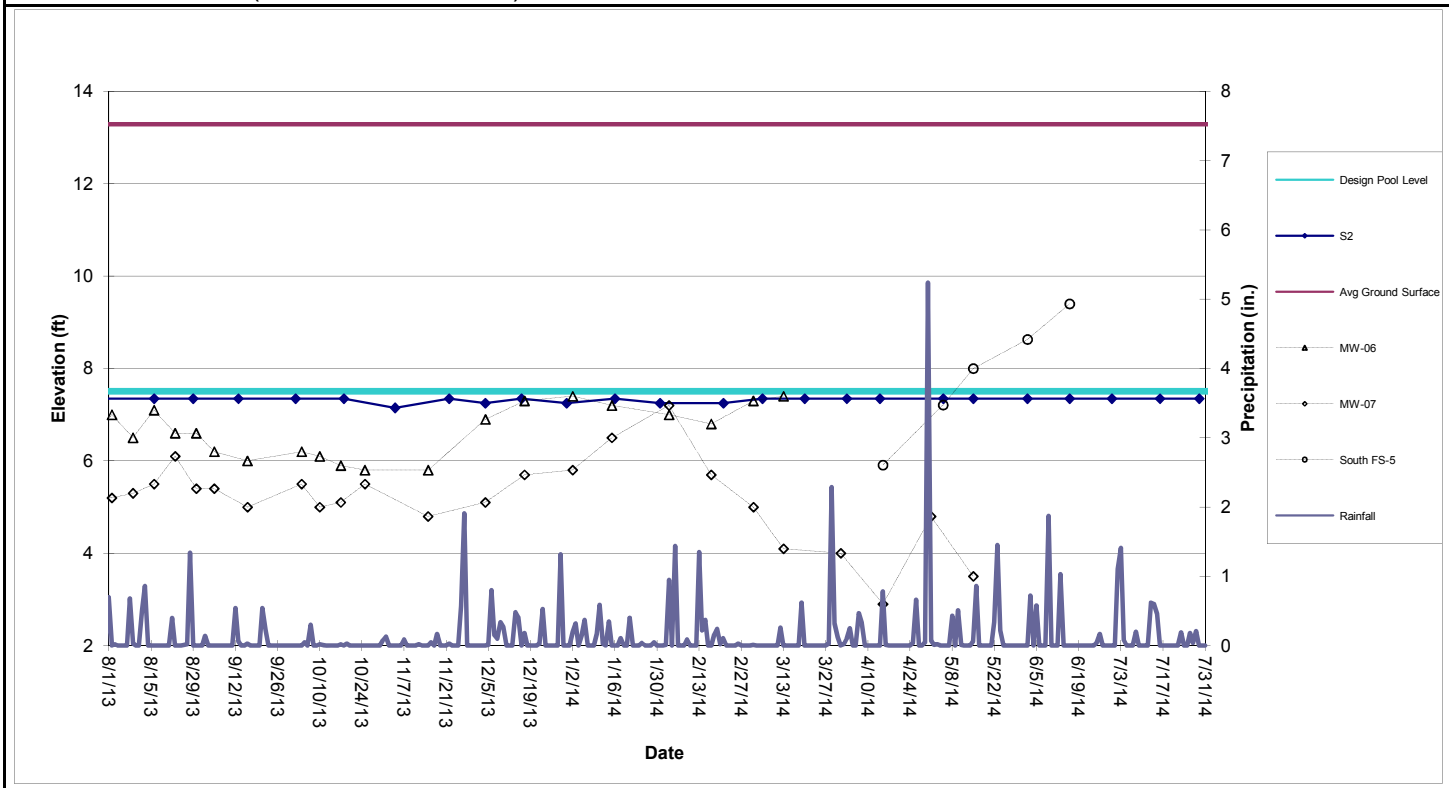
Perimeter Pool E1 (Sta. E0+50 to E3+75)



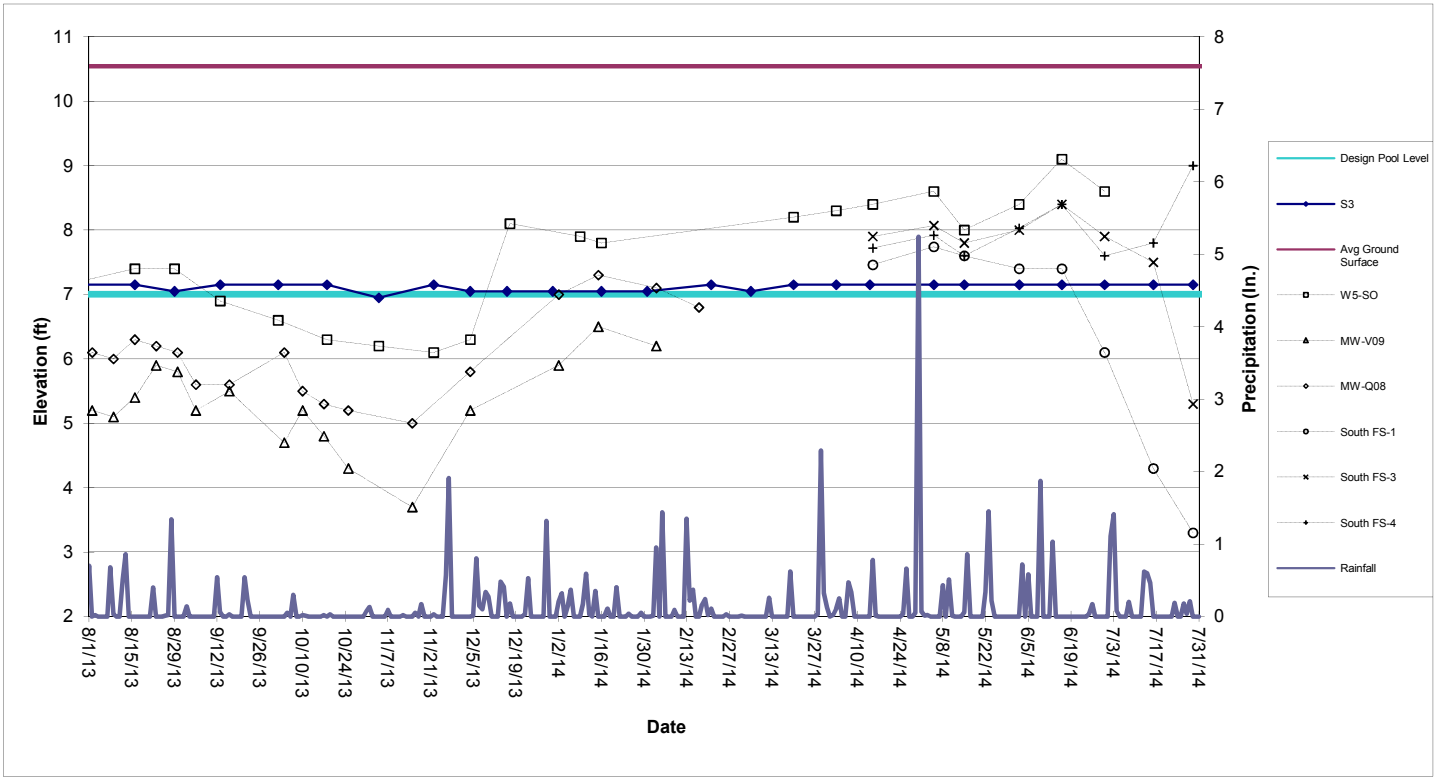
Perimeter Pool E2 (Sta. E4+50 to E7+25)



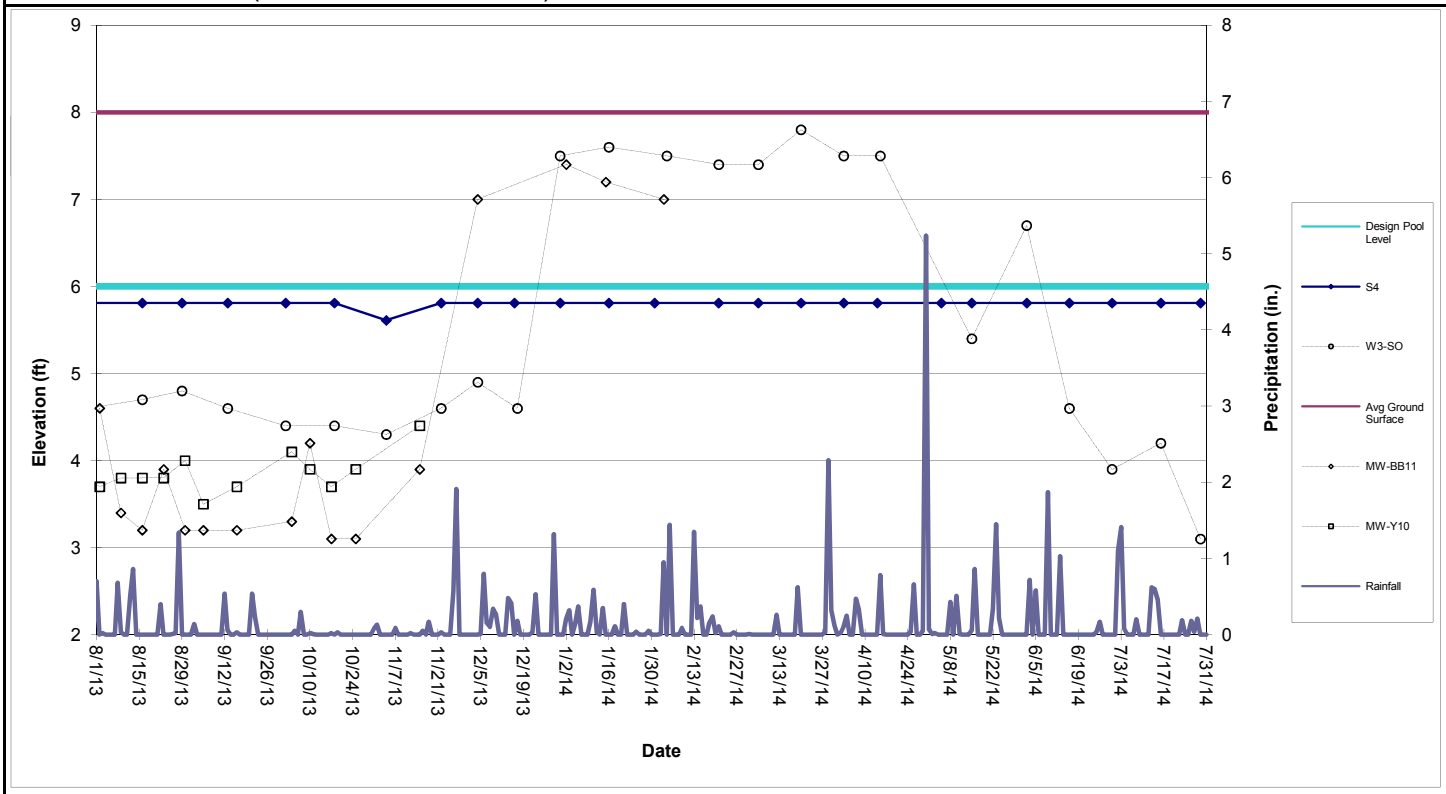
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6	
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3	4.3	7.5	7.8	
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1	3.3	5.3	9.0	

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, W5-SO, South FS-5

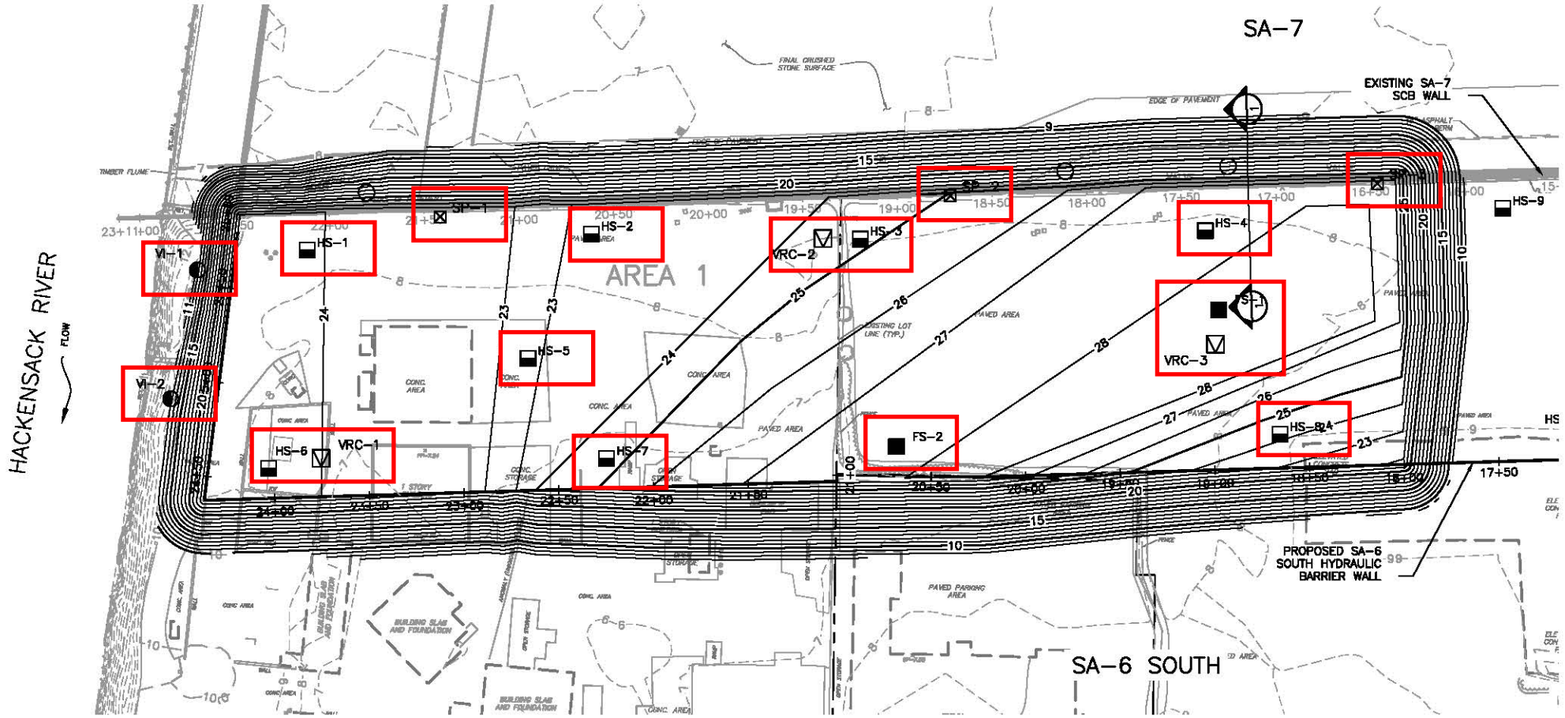
Attachment 8: Quality and Level Data in GWET Wells

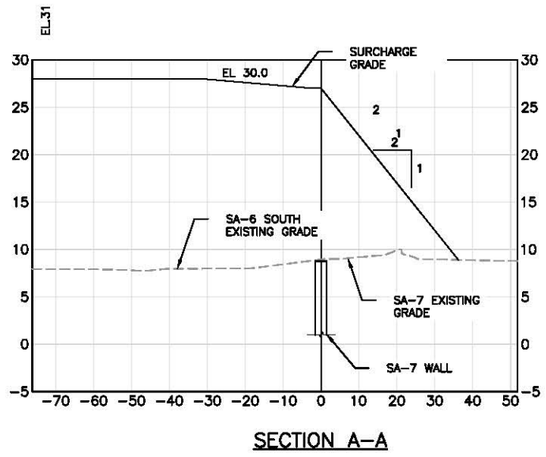
(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

- Instrumentation Location Plan 1S





SECTION A–A

Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–1	685276.02	601927.05
FS–2	685323.86	601748.51
HS–1	685597.02	601567.16
HS–2	685511.42	601690.72
HS–3	685421.98	601800.88
HS–4	685313.18	601947.19
HS–5	685480.23	601623.90
HS–6	685518.78	601480.25
HS–7	685413.06	601624.11
HS–8	685204.27	601911.97
VI–1	685624.44	601515.06
VI–2	685578.58	601462.08
VRC–1	685505.92	601505.39
VRC–2	685434.27	601785.68
VRC–3	685262.85	601914.43
SP–1	685567.71	601633.29
SP–2	685410.62	601852.31
SP–3	685276.93	602033.96

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI–2	INCLINOMETER LOCATION
FS–1–1	SETTLEMENT MONITORING POINT FULL – SET UP
HS–1–1	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Honeywell
101 COLUMBIA RD., BOX 2106
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

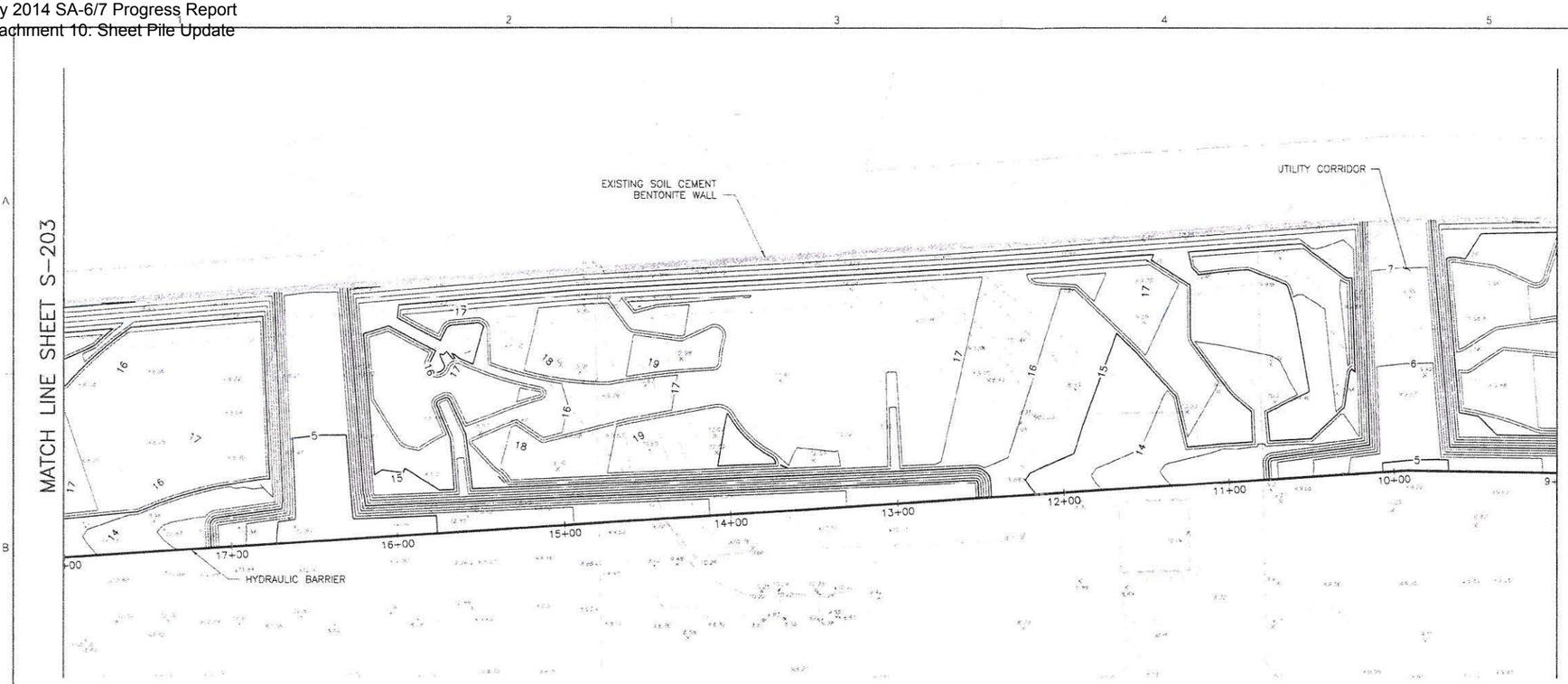
amec

INSTRUMENTATION LOCATION PLAN 1S

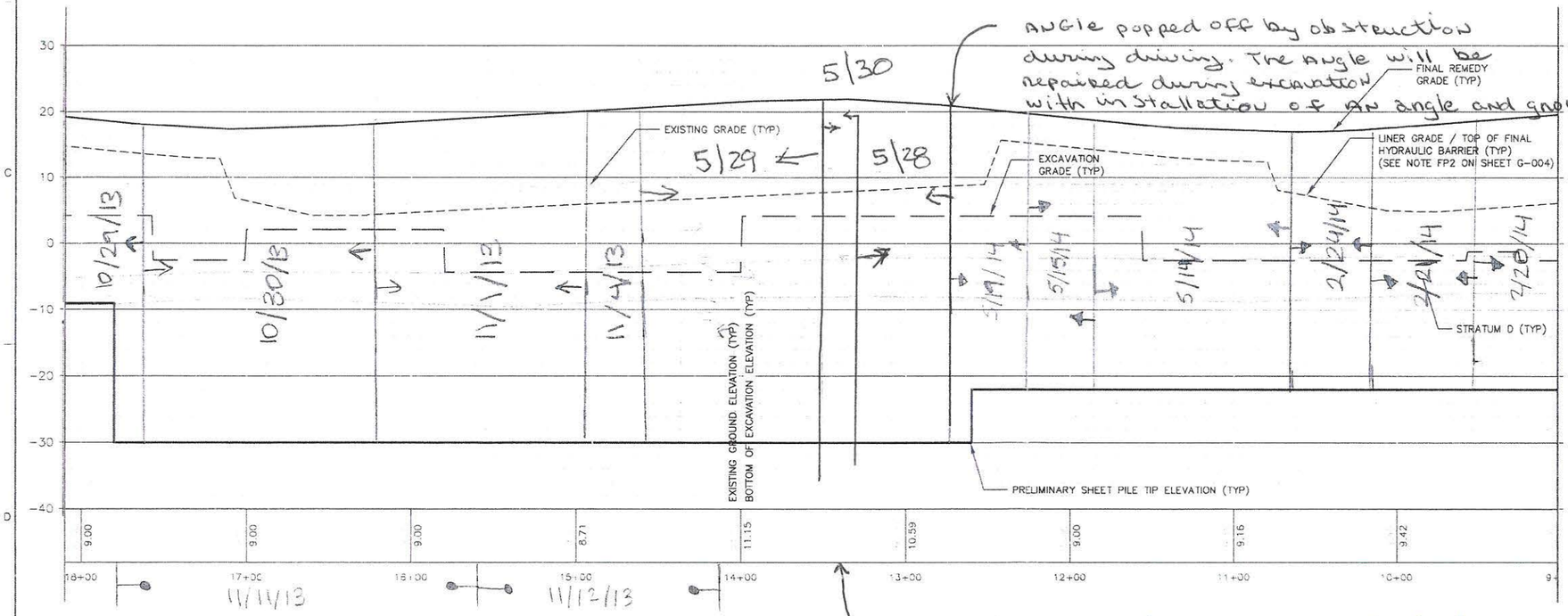
Figure F-1

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+60	-22	AZ 19-700
STRUCTURAL	12+60	17+80	-30	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GH04932400

NO.	DATE	DSGN	DR	CHK	APVD
0	06/07/13	TDD	TDD	RJR	TDD

ISSUED FOR CONSTRUCTION

BY	APVD
TDD	SHM

SHM

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

HYDRAULIC BARRIER
PLAN & PROFILE

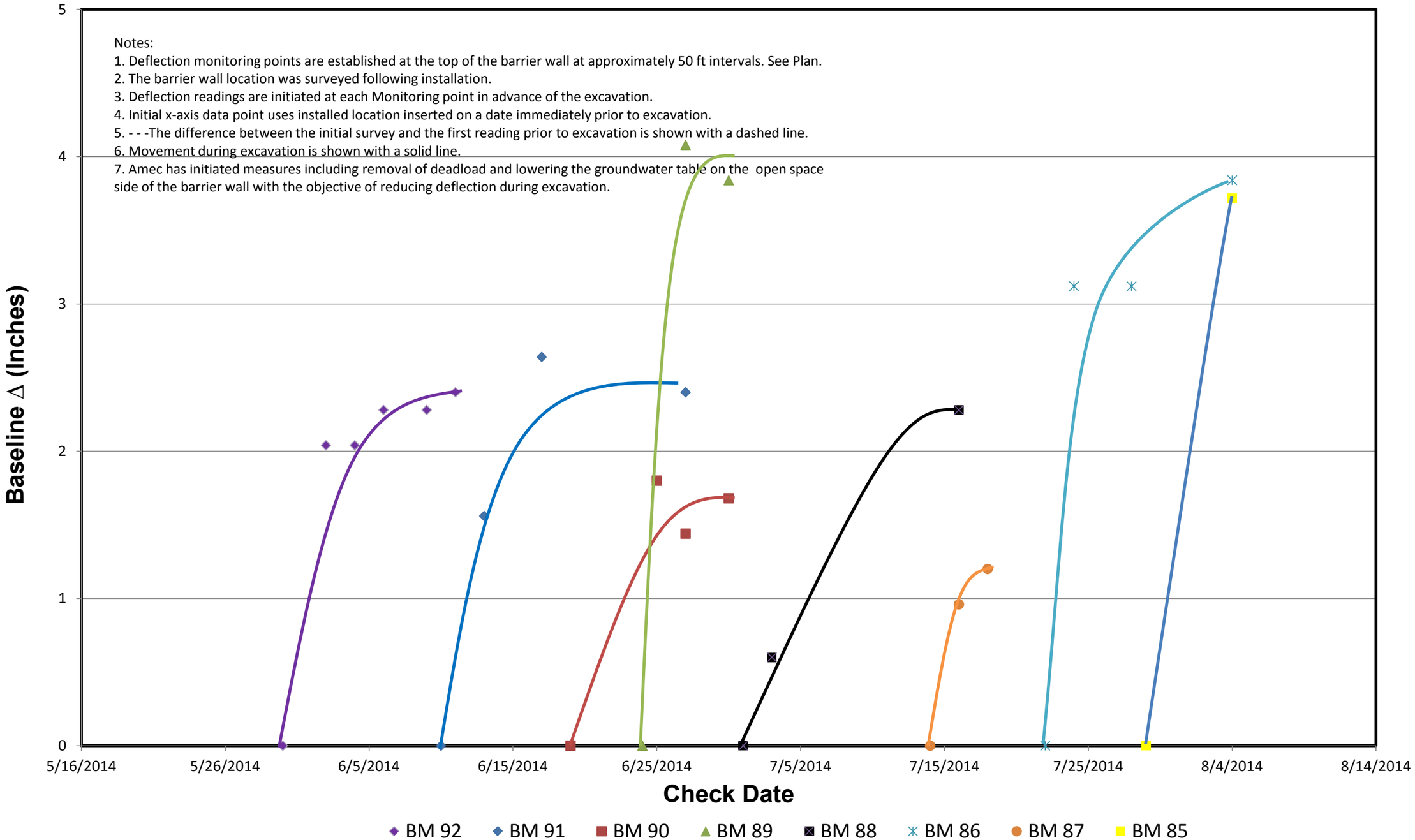
amec
Environment & Infrastructure, Inc
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28018900

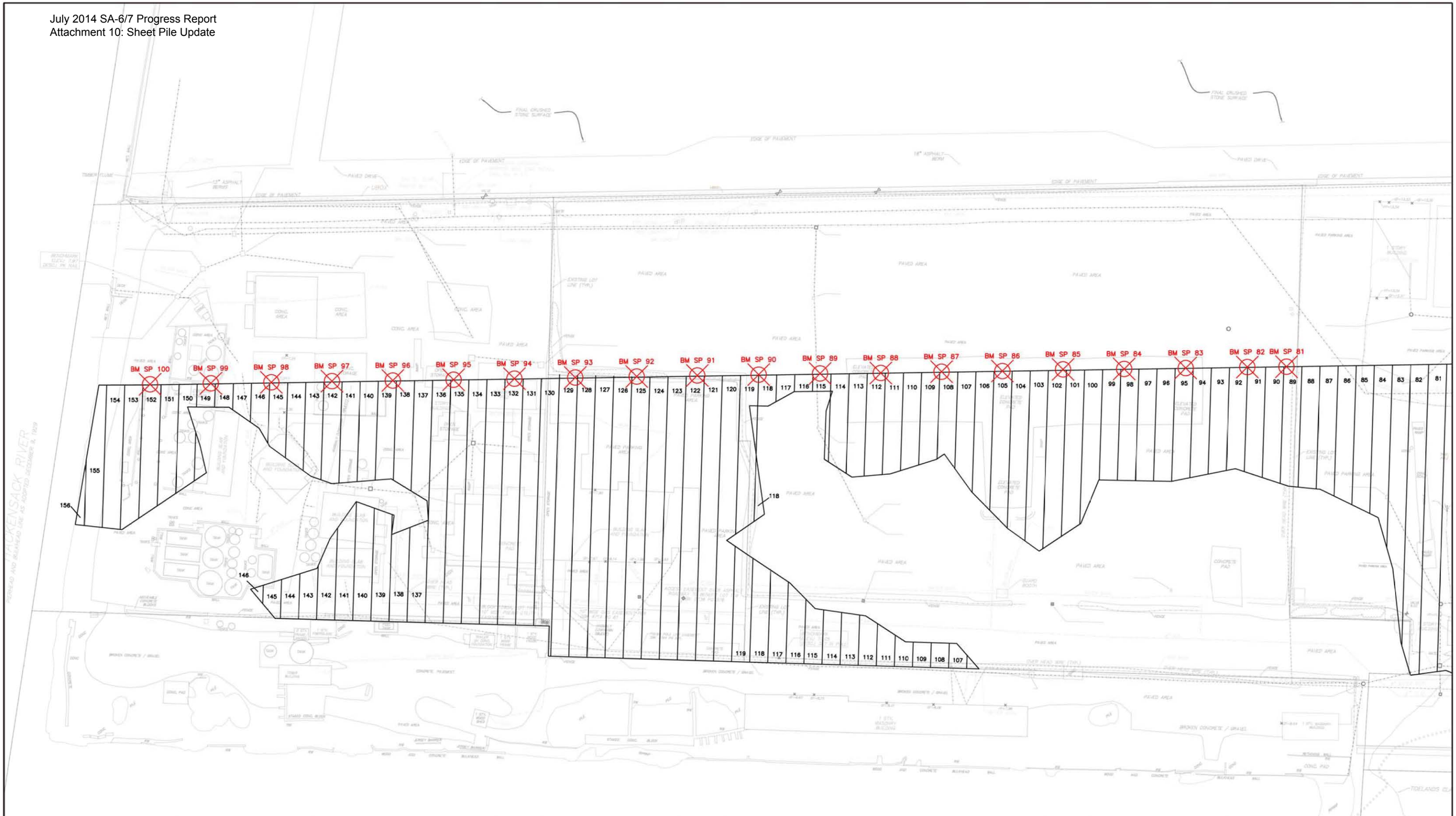
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-202
SHEET	54 OF 66

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-8

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(7) scrapes by Cat 349E excavator bucket - 1/2x4", 1/2"Ø, 1/2x8", 1"Ø, 1x3", 1/2x5", 1/4"x2" - (Cell 114)

Damage Location (ft below top of sheet, inboard side outboard side):
9-15' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, epoxy applied w/ 4" Paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-9

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(28) Scrapes by cat 349E excavator bucket - 1"x14", 1/2x10", 1"x24", 2-1"Ø, 1/2x10", 3"Ø, 2"x6", 1/4x1", 5x14", 1"x6", 1x8", 1x3", 15-1"Ø - Cell 114

Damage Location (ft below top of sheet, inboard side outboard side):
9-16' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, epoxy applied w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-10

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(2) scrapes by the Cat 349E excavator bucket - 2"Ø, 2x4" (Cell 114)

Damage Location (ft below top of sheet, inboard side outboard side):
11-13' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 17P1-11

Entact ID:

Date Exposed: 6/27/14

Describe Damage:
(1) scrape by the Cat 349E excavator bucket - Cell 113 - 84" scrape

Note: Sheet is covered w/ hardened grout from elv. 10.0' to the BOE.

Damage Location (ft below top of sheet, inboard side outboard side):
9'-16' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-1

Entact ID:

Date Exposed: 6/27/14

Describe Damage: (4) scrapes by Cat 349E excavator bucket - 1x30", 1/2x6", 2"Ø, 1/2x10" (Cell 113)

Note: Sheet is covered w/ hardened grout from elv. 8.0' to the BoE.

Damage Location (ft below top of sheet, inboard side outboard side): 10'-7' outboard

Date Repaired: 7/2/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/2/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-3

Entact ID:

Date Exposed: 7/2/14

Describe Damage: (3) Scrapes by the Cat 349E excavator - 1x48", 1"Ø, 1x6". Cell 113/112.

Note: Sheet is covered w/ hardened grout from elv. 5.0' - 0.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 7'-15' outboard

Date Repaired: 7/7/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/7/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-4

Entact ID:

Date Exposed: 7/2/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 2"Ø, 1x3", 1"Ø, 1/2"Ø, 1x12", (2) 1/2x3", 2x4". Cell 112.

Note: Sheet is covered w/ hardened grout from elv. 8.0' to elv. 0.0 (BoE).

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/7/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/7/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-5

Entact ID:

Date Exposed: 7/2/14

Describe Damage: (6) scrapes by the Cat 349E Excavator bucket - 3"Ø, 1"x18", 1"Ø, 1/2"x10", 1"Ø, 1x4". Cell 112.

Note: Sheet is covered w/ hardened grout from elv. 8.0 to the BoE.

Damage Location (ft below top of sheet, inboard side outboard side): 10-13' outboard

Date Repaired: 7/7/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/9/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-6

Entact ID:

Date Exposed: 7/2/14

Describe Damage: (10) scrapes by the cat 349E excavator bucket - (4) 1"Ø, 1x6", (3) 1/2"Ø, 1/2x14", 2"Ø. Cell 112. Note: Sheet covered by hardened grout from elv. 6.0' to the BOE.

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure AMEC Signature: BShea

Date: 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-7

Entact ID:

Date Exposed: 7/7/14

Describe Damage: (12) scrapes by the Cat 349E excavator bucket - (6) 1/2"Ø, 1/2"x12", 1x3", (2) 1"Ø, 1x2", 4"Ø - Cell 111. Note: Sheet is covered by hardened grout from elv. 5.0' to 1.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-8

Entact ID:

Date Exposed: 7/7/14

Describe Damage: (9) scrapes by the cat 349E excavator bucket - 1/2"x6", 1"Ø, 2"Ø, 1/2x4", 1"x3", (4) 1/2"Ø, Cell 111. Note: Sheet is covered by hardened grout from elv. 5.0' to 1.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure AMEC Signature: BShea

Date: 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 17P2-9

Entact ID:

Date Exposed: 7/7/14

Describe Damage: (8) scrapes by Cat 349E excavator bucket - 1"Ø, 1/2x24", 1"Ø, 1x2", 1x4", 1/2x18", 2x4", 1/2x8". Cell 111. Note: Sheet is covered w/ hardened grout from elv. 5.0' to 1.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 8-14' outboard

Date Repaired: 7/9/14

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure AMEC Signature: BShea

Date: 7/9/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-10
Entact ID:
Date Exposed: 7/9/14
Describe Damage: (4) Scrapes by the Cat 349E excavator bucket- 1"ø, 2×6", 1/2×12", 2"ø- cell 110

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/10/14
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: B.Shea
Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-11
Entact ID:
Date Exposed: 7/9/14
Describe Damage: (20) Scrapes by the Cat 349E excavator bucket- 1×18", 1/4×2", 1×6", 1/2"ø, 1/2×36", 1/2×8", 1/4×3", 1"ø, 2×10", 3×12", 4×8", 3×12", 1"ø, (4) 1"ø, 1/2×3", 2"ø, 1/4×1"- Cell 110

Damage Location (ft below top of sheet, inboard side outboard side): 9-13' outboard

Date Repaired: 7/10/14
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: B.Shea
Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-12
Entact ID:
Date Exposed: 7/9/14
Describe Damage: (11) Scrapes by the Cat 349E excavator bucket- 1/4"ø, 1"ø, 3×6", 3×8", 1×4", 2×10", 1/2×24", 1/2×3", 1"ø, 2×8", 1/2×10"- cell 110

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/10/14
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: B.Shea
Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-13
Entact ID:
Date Exposed: 7/9/14
Describe Damage: (15) scrapes by the Cat 349E excavator bucket- 1"ø, 1×6", 1×3", 1/2"ø, 1×5", 8"×18", 2×6", 1"×18", 1/2"ø, 1"ø, 1/2×3", 2"ø, 1/2"ø, 2×36", 3"ø- Cell 110/109.

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 7/10/14
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush
Repair Log Closure: AMEC Signature: B.Shea
Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-14

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - (3) 1"ø, 1x2", 1/2"ø, Cell 109

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 17P2-15

Entact ID:

Date Exposed: 7/9/14

Describe Damage: (14) scrapes by the Cat 349E excavator bucket - 1/2x4, 1/2S, 1"ø, 1/2x2", (4) 1/2"ø, 3x24", 1x12", 2x18", 1/4x3", 2x6", 1"ø. cell 109

Damage Location (ft below top of sheet, inboard side outboard side): 5-12' outboard

Date Repaired: 7/10/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4' paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-1

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"x6", 1"ø, 1x8", 2"ø, 4"ø. Cell 109/108

Note: Sheet is covered w/ hardened epoxy from Elv 6.0' to 1.5'

Damage Location (ft below top of sheet, inboard side outboard side): 6'-12' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-2

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (12) scrapes by the Cat 349E excavator - 1/2x4", 1"ø, 2x4", 3"ø, 1x3", 1"ø, 3"ø, 1x4", 1/2x6", 1"ø, 1/2x3", 2x10", Cell 108

N

Damage Location (ft below top of sheet, inboard side outboard side): 6-12' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4' paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-3

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2x12", 2"ø, 1"x6", 2x8", 1/2x6", 3x10", 1x14", 1"x18". Cell 108

Damage Location (ft below top of sheet, inboard side outboard side): 6-12' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-4

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (7) scrapes by the Cat 349E excavator bucket - 1x6", 3"ø, 1/2x8", 1"ø, 1"ø, 1x3", 1/2x12". Cell 108

Damage Location (ft below top of sheet, inboard side outboard side): 8-17' outboard

Date Repaired: 7/18/18

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-5

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (11) scrapes by the Cat 349E excavator bucket - 1/2 x 24", 1x2", 2"ø, 1/2x4", 1"ø, 1"ø, 2x4", 1/2x 2, 1/2"ø, 1x5", 1"ø. Cell 108

Damage Location (ft below top of sheet, inboard side outboard side): 8-16' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-6

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1/2x18", 1"ø, 1x3", 1/2x6", 1x3" cell 107

Damage Location (ft below top of sheet, inboard side outboard side): 8-16' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-7

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (4) Scrapes by the Cat 349E excavator bucket - 1"x6", 1"Ø, 1/2"Ø, 1/2x3", 1x3", Cell 107

Damage Location (ft below top of sheet, inboard side outboard side): 13-17' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-8

Entact ID:

Date Exposed: 7/16/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1/2x24", 1x5", 2"Ø, 1"Ø, 1/2x12". Cells 107/106

Damage Location (ft below top of sheet, inboard side outboard side): 12-17' outboard

Date Repaired: 7/18/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/18/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-9

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket - 1/2x4", 3"Ø, 1/2x1", 1"Ø, 1/2x2", 1"Ø 1/2x12", 2"Ø, 1/2x18", Cell 106

Damage Location (ft below top of sheet, inboard side outboard side): 12-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG*

Sheet Number/DB ID: 18P-10

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (16) scrapes by the cat 349E excavator bucket - (6) 1"Ø, 1/2x30", 1/2x6", 1x3", 2"Ø, 3x6", 1/2"Ø, 1/2"Ø, 1x8", 2x6", 2"Ø, Cell 106

Damage Location (ft below top of sheet, inboard side outboard side): 12-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-11

Entact ID:

Date Exposed: 7/17/14

Describe Damage: (11) scrapes by the Cat 349E excavator bucket - (5) 1/2"Ø, (3) 1"Ø, 2x10", 1/2x36", 1"x18". Cell 106/105

Damage Location (ft below top of sheet, inboard side outboard side): 13-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-12

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2x12", 2"Ø, 1/2x8", 1/2x30", 1x12", 2x5", 1/2x60", 3"Ø. Cell 105

Damage Location (ft below top of sheet, inboard side outboard side): 11-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-13

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket- 1/2x4", 1"Ø, 1x5", 1x12", 2"Ø, 1/2"Ø. Cell 105. Note: sheet is covered by hardened grout from elv 8.0'-(2.5')

Damage Location (ft below top of sheet, inboard side outboard side): 14-17' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 18P-14

Entact ID:

Date Exposed: 7/21/14

Describe Damage: (7) scrapes by the Cat 349E excavator bucket - 1x8", (3) 1"Ø, 1/2x10", 1/2x24", 1/2x2", 1x4", 2"Ø. Cell 105. Note: Sheet is partially covered w/ hardened epoxy from elv. 1.0'-(4.0')

Damage Location (ft below top of sheet, inboard side outboard side): 14-18' outboard

Date Repaired: 7/24/14

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 7/24/14

* A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 3, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/03/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, July 03, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The haul road to the west of Kellogg Street has several large potholes which accumulate stormwater and mud.
2	IA2Q4A1AL8	Sediment has escaped from the north side of the N-1 surcharge pile onto the DPW roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 07/03/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place stone in the potholes to the west of the Kellogg Street gate to prevent the tracking of mud onto Kellogg Street.	7-7-14 RAD
2	Review/improve erosion control measures along the northern edge of the N-1 surcharge pile.	7-8-14 RAD

Construction Manager: _____ **Date:** 07/08/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 10, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1,2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/11/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, July 10, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The restricted area warning tape along the top of the temporary sheet pile alignment must be extended to the east in order to keep workers a minimum of 6 feet from unprotected sheet pile wall (fall hazard).
2	IA2Q4A1AL8	Sediment must be removed from the asphalt surfaces in the areas of the SA-6 South western excavation which are not being excavated.
3	IA2Q4A1AL8	Sediment along the toes of material stockpiles in eastern SA-6 South is accumulating against the SA-7 SCB wall and must be cast back to prevent overtopping of the SCB wall and migration onto the SA-7 site.
4	IA2Q4A1AL8	Stone in the tracking pad at the truck exit gate is compacted and requires cleaning/reworking
5	IA2Q4A1AL8	A sinkhole has developed along the north side of the ramp which is located at the eastern end of the N-1 surcharge stockpile. This sinkhole requires repairs.
6	IA2Q4A1AL8	A section fo temporary fencing is open to the south of the JCDPW H-building. This opening should be closed off and the perimeter fencing in this area maintained.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 07/11/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Extend the caution tape which runs to the south of the sheetpile alignemnt eastwards to the point where the sheetpile ends.	7-16-14 RAD
2	Clean the asphalt surface with the longstick excavator/blade bucket.	7-11-14 RAD
3	Remove material to assure that storm water runoff from the SA-6 South stockpiles does not run onto SA-7.	7-11-14 RAD
4	Rework or replace the stone in the tracking pad.	7-15-14 RAD
5	Cut out and repair the sinkhole area. Cordon off the area until the work is complete.	7-15-14 RAD
6	Close and resecure the fencing panel.	7-11-14 RAD

Construction Manager: _____ **Date:** 07/16/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 17, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/17/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 17, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The ramp between SA-6 South and SA-7 is muddy and has potholes.
2	IA2Q4A1AL8	Stormwater has ponded on the eastern backfill in SA-6 South.
3	IA2Q4A1AL8	Traffic barrels and orange fencing have blown down at the western edge of the excavation.
4	IA2Q4A1AL8	The ramp between SA-6 North and SA-7 is muddy and has potholes.
5	IA2Q4A1AL8	Erosion/sediment containment measures (hay bales, sediment dams) are damaged or missing along the northern side of the surcharge stockpile area on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 07/17/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install stone or otherwise maintain the roadway to prevent the tracking of sediment onto SA-7.	7/21/14 RAD
2	Pump down the surface water and regrade to prevent ponding in the future.	7/21/14 RAD
3	Re-establish the warning barrier around the drop-off into the excavation.	7/18/14 RAD
4	Install stone or otherwise maintain the roadway to prevent the tracking of sediment onto SA-7	7/18/14 RAD
5	Re-stablish sediment controls along the northern edge of the Novartis/Celgene stockpile area.	7/21/14 RAD

Construction Manager: _____ **Date:** 07/21/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 24, 2014

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact				
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones				
Water Truck Wet- Down Operation				
Truck De-Con Operation				
Flood Protection				
Haul Road Maintenance				
Perimeter Fencing/Windscreen				
Storm Drain Protection				
Ponded Storm Water				
Housekeeping				
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation				
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2, 3
Perimeter Fencing/Windscreen				
Storm Drain Protection			X	
Ponded Storm Water				
Housekeeping				
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4, 5
River Discharge Weir				
Swale Check Dams				
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)				
Stockpile Tarping/Containment				
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation				
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance				
Perimeter Fencing/Windscreen				
Storm Drain Protection				
Ponded Storm Water				
Housekeeping				

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 7-24-14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 24, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
PERMIT CLOSED

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The exclusion zone fencing along Kellogg Street requires repair
2	IA2Q4A1AL8	Silt fence requires repair at the location indicated on the attached drawing
3	IA2Q4A1AL8	Observed build up of stone and sediment adjacent to the SA7 Northern raceway on the east side of the GTWT access ramp.
4	EEPSQUO2YB	Observed a section of hay bails missing at the NW corner of the Celgene stockpile.
5	EEPSQUO2YB	Build up of sediment observed along the southern perimeter of the stockpile.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: ~~Jersey City~~, New Jersey
SWAP Observer: Signature Date: 7/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair fencing as required	7/28/14 RAD
2	Repair silt fence as required	7/28/14 RAD
3	Clean up sediment and remove to opposite side of silt fence	7/29/14 RAD
4	Replace and repair hay bails at Norhwest corner of the Celgene stockpile	7/29/14 RAD
5	Remove sediment from inside of stockpile	7/30/14 RAD

Construction Manager: Date: 07/30/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (June 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (June 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 10, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: June 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the June 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	6	1	2014	To	6	30	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J. Morris HF — 7/9/2014 — 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **DATE** | **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director — John J Morris HF — 7/9/2014 — 973.455.4003

NAME AND TITLE | **SIGNATURE** | **DATE** | **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 4/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 4/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	6/1/2014 TO 6/30/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 4/1/2014

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 10, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the June 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
6	01	14	6	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	79,108	85,552 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	2.10	2.27	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0881	0.0881	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris HG

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

7/8/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
6	01	14	6	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,373,230	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	10,496,969

DATE	BOD (mg/l)	TSS (mg/l)
6/11/2014	4.5	8.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris MF	John J. Morris	(973) 455-4003
		DATE 7/8/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)						MONTH: June 2014					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
6/1/2014	Angel Trujillo	8123739	8202795	79,056	0.079056	7.62	3.180									2.10
6/2/2014	Angel Trujillo	8202795	8281386	78,591	0.078591	7.51	3.180									2.08
6/3/2014	Angel Trujillo	8281386	8348247	66,861	0.066861	7.56	3.180									1.77
6/4/2014	Angel Trujillo	8348247	8426865	78,618	0.078618	7.85	3.180									2.09
6/5/2014	Angel Trujillo	8426865	8504478	77,613	0.077613	7.53	3.180									2.06
6/6/2014	Angel Trujillo	8504478	8583582	79,104	0.079104	7.45	3.180									2.10
6/7/2014	Angel Trujillo	8583582	8663790	80,208	0.080208	7.79	3.180									2.13
6/8/2014	Angel Trujillo	8663790	8744324	80,534	0.080534	7.45	3.180									2.14
6/9/2014	Angel Trujillo	8744324	8820375	76,051	0.076051	7.55	3.180									2.02
6/10/2014	Angel Trujillo	8820375	8899484	79,109	0.079109	7.64	3.180									2.10
6/11/2014	Angel Trujillo	8899484	8978575	79,091	0.079091	7.05	3.180	<5.0	4.5		<0.010	<0.030	<0.010	<0.0002	<0.020	2.10
6/12/2014	Angel Trujillo	8978575	9064127	85,552	0.085552	7.99	3.180									2.27
6/13/2014	Angel Trujillo	9064127	9138884	74,757	0.074757	7.89	3.180									1.98
6/14/2014	Angel Trujillo	9138884	9222821	83,937	0.083937	8.05	3.180									2.23
6/15/2014	Angel Trujillo	9222821	9302595	79,774	0.079774	7.91	3.180									2.12
6/16/2014	Angel Trujillo	9302595	9379187	76,592	0.076592	7.81	3.180									2.03
6/17/2014	Angel Trujillo	9379187	9456705	77,518	0.077518	7.94	3.180									2.06
6/18/2014	Angel Trujillo	9456705	9536842	80,137	0.080137	7.91	3.180									2.13
6/19/2014	Angel Trujillo	9536842	9616176	79,334	0.079334	7.95	3.180									2.10
6/20/2014	Angel Trujillo	9616176	9697349	81,173	0.081173	7.73	3.180									2.15
6/21/2014	Angel Trujillo	9697349	9782475	85,126	0.085126	7.71	3.180									2.26
6/22/2014	Angel Trujillo	9782475	9862491	80,016	0.080016	7.76	3.180									2.12
6/23/2014	Angel Trujillo	9862491	9938998	76,507	0.076507	7.66	3.180									2.03
6/24/2014	Angel Trujillo	9938998	10020677	81,679	0.081679	7.71	3.180									2.17
6/25/2014	Angel Trujillo	10020677	10098524	77,847	0.077847	7.63	3.180									2.06
6/26/2014	Angel Trujillo	10098524	10177699	79,175	0.079175	7.64	3.180									2.10
6/27/2014	Angel Trujillo	10177699	10256990	79,291	0.0793	7.48	3.180									2.10
6/28/2014	Angel Trujillo	10256990	10338087	81,097	0.081097	7.82	3.180									2.15
6/29/2014	Angel Trujillo	10338087	10419275	81,188	0.081188	7.78	3.180									2.15
6/30/2014	Angel Trujillo	10419275	10496969	77,694	0.077694	7.55	3.180									2.06
TOTAL				2,373,230	2.37323			<5.0	4.5		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	85,552											High:	2.27
			Average:	79,108											Average:	2.10

WW

E

JB69043

t Labs
E 130
8910
00

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	41801.64518		
COC#	087-WW-061114		
Lab Proj # (SDG):			
Lab ID	ACID		
Site ID	Hudson Co.		
Lab Job #	HWINJM32815		
Authorized User:	Honeywell		
Text & Excel File Drive	Excel & Text File Drive		

Copyright AESI: Version 5.0 Unauthorized use strictly prohibited.

Privileged & Confidential		Site Name:	Hudson County
EDD To:		Location of Site:	Jersey City, NJ
Sampler:	Frank Schroyer	Phase:	CS
PO #		Sampling Program	087: JCIA
Analysis Turnaround Time (TAT):	3		
Consultant	CH2M		
Full Report TAT:	28 Days		

Co.: Parsons
ntact: (name, co., address)
P: (973) 455-2989 E: helen.fahy@honeywell.com
nternational
a Road Morristown, NJ 07962
Data To
To: Helen Fahy (Honeywell)
Helen Fahy (Honeywell)

Sample Identification: ion ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
										Units		3	3	3	1	2	2	0	0	2						
7-WW			087-WWE-061114-A	6/11/2014	14:50	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					C25
7-WW			087-WWE-061114-B	6/11/2014	14:45	WW	WATER	REG	5	grab	N					X	X				2					V706
7-WW			087-WWI-061114	6/11/2014	15:00	WW	WATER	REG	3	grab	N									X	3					A20
																										M19

ed by	Company	Parsons	Received by	Company	Accutest	Condition		Custody Seals Intact	
royer	Date/Time	6/11/14	Chris Laul	Date/Time	6/11/14/1615	Cooler Temp.	3.0°C		
ed by Chris Laul	Company	Accutest	Received by	Company	ACCUTEST	Condition		Custody Seals Intact	
=7.05 S.U. FCS	Date/Time	6/11/14/1715		Date/Time	6/11/14 1715	Cooler Temp.			

ives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE

pH = 7.20 @ 6/11/14

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-A		
Lab Sample ID:	JB69043-1	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	3180	10	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	06/12/14	06/13/14	RR	EPA 200.7 [2]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	06/13/14	06/13/14	JW	EPA 245.1 [3]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	06/12/14	06/13/14	RR	EPA 200.7 [1]	EPA 200.7 [5]

(1) Instrument QC Batch: MA34228
(2) Instrument QC Batch: MA34234
(3) Instrument QC Batch: MA34237
(4) Prep QC Batch: MP79997
(5) Prep QC Batch: MP80019

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-A		
Lab Sample ID:	JB69043-1	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	8.0	4.0	mg/l	1	06/13/14	RP	SM2540 D-11
pH [a]	7.20		su	1	06/11/14 18:42	JK	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-A		
Lab Sample ID:	JB69043-1A	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.5	3.4	mg/l	1	06/11/14 19:23	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-B		
Lab Sample ID:	JB69043-2	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N235746.D	1	06/14/14	DC	n/a	n/a	VN10001
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.4	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	19.9	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.4	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.55	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	56.7	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.4	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	94%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	106%		81-114%
1868-53-7	Dibromofluoromethane (S)	98%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@801172 13:04 23-Jun-2014 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-061114-B		
Lab Sample ID:	JB69043-2	Date Sampled:	06/11/14
Matrix:	AQ - Water	Date Received:	06/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	06/16/14	CW	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Pending submittal
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to Contractor only.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal
DC 2014	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Pending submittal

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 5 OF 25

- **2014 Monthly Reports Part 5**

9/12/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 12, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-08

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: August 2014 SA-6/7 Combined Monthly Progress Report No. 2014-08

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-08

Project SA-6 & 7 Remediation

August 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
08/14/14	Combined Monthly Progress/Highlights Report No. 2014-07 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/14/14	NJPDES Permit NJ0156311: June 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
08/14/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
08/18/14	Combined Monthly Progress/Highlights Report No. 2014-07 Perimeter Pool Update Correction Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/19/14	Special Master Conference Call	N/A
08/19/14	Design Change Bulletin – Barrier Wall Alignment Sedimentation Basin Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/19/14	SA-6 Chromium Remedy Asphalt Disposition Variance Study Area 6 North and South, Jersey City	Mr. David Doyle, Case Manager New Jersey Department of Environmental Protection
08/20/14	August 06, 2014 NJDEP E-mail Correspondence Accepting the Data Validation Revision (QAPP) Study Area 6, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/20/14	Variance for Consolidation of Asphalt on Study Area 6 (Arnold & Porter Correspondence) Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/20/14	Response to Comments Provided by Plaintiffs, July 28,	Honorable Robert G. Torricelli

Date	Submittal/Meeting	Recipient
	2014 Surcharge Grading Design Change Area 1S Study Area 6 South, Jersey City, NJ	Office of the Special Master
08/21/14	Response to Plaintiffs' July 28, 2014 Comments Long Term Monitoring Program First Five Year Implementation Plan Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/21/14	PVSC - Acoustic Monitoring Report (Report 5 - JULY 08, 2014 TO AUGUST 20, 2014) Study Area 6 North, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/25/14	Surcharge Monitoring Plan – Monthly Report No. 4 Study Area 6 North and South, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/25/14	August 06, 2014 NJDEP E-mail Correspondence Accepting the Data Validation Revision (QAPP) -- CORRECTION Study Area 6, Jersey City, NJ	Upload to LB SharePoint Site
08/28/14	Redevelopment of Injection Well 088-IW-01 Study Area 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
08/29/14	Incident No. 14-08-15-1405-34 Study Area 6 South Chromium Site 163 (aka Colonial Concrete Company) 75 Kellogg Street, Jersey City, NJ NJDEP PI#010374	Ms. Kirstin Pointin-Hahn Mr. David Doyle New Jersey Department of Environmental Protection

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	8/3/14	8/10/14	8/17/14	8/24/14	8/31/14
Construction Management (AMEC)	12	13	12	11	9
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	40	40	45	46	45
Arecon/US Ecology Subcontractors	1	1	1	1	1
ERFS In Situ Treatment	3	4	4	2	0
Summit Drilling	3	2	2	1	0
Siemens	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
Other	0	0	0	1	1
TOTAL	**65**	**66**	**70**	**68**	**62**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected August PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #16 in well 088-IW-03.
- On August 13, 2014, participated in the public bid opening for the JCIA Structures Demolition project.
- Completed In-Situ treatment field implementation activities on SA6 South- Site 163. A total of 57 temporary well points and 119 injection points were installed. Successfully injected 2,228 gallons of stock 29% CAPs solution (62,492 gallons of diluted solution) in the 15 designated areas during the reporting period.
- On August15, 2014, daylighting of CAPs was observed in Droyer's Cove during one in-situ injection in Area F. Injection operations were stopped at this location, and the NJDEP hotline notified.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 2**0**1 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on August 22, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	8/3/14	8/10/14	8/17/14	8/24/14	8/31/14
Avg. Gallons Treated & Discharged (per day)	79,753	78,183	78,219	78,087	78,149
Average Flow (gpm) for Operating Period	55	55	54	55	54
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP InfluentTanks (gal.)	7,677	11,555	10,427	9,852	9,408

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 102-83.
- Continued storm-water management activities.
- On July 30, 2014, we collected a soil sample from a visually anomalous material observed in a thin lens located above Stratum D. Laboratory analysis received on August 18, 2014 indicated the result was 713 mg/kg. On August 19, 2014, Amec collected two additional soil samples for hexavalent chromium analysis from this lens above Stratum D in the southern portion of Cell 105.

Both of the sample results were greater than 20 mg/kg, (230 mg/kg) and (198 mg/kg). Further delineation and sampling of the anomaly is pending.

- Installed 44 pair of temporary sheets for excavation support along Kellogg Street.
- On July 30, 2014 a 12-inch diameter transite pipe was encounter during pre-trenching activities associated with installation of the temporary sheets along Kellogg Street. Excavation activities were suspended and an abatement contractor was mobilized to remove pipe. A total of 115 linear ft. of 12- inch diameter transite pipe was removed, wrapped in poly-sheeting, placed in a roll-off, and staged on site for future disposal.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	20	21.51	430.2
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	8	10.9	87.10

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 102-83
Excavation Completed	Cell Number(s) 102-85 Volume Excavated - Total for Reporting Period: 18,482 CY/ Total to Date: 102,627 CY
Backfill in Progress	Cell Number(s) 129-85

3. BACKFILL MATERIALS USED

Source	Week Ending				
	8/03/14	8/10/14	8/17/14	8/24/14	8/31/14
<20ppm re-use, CY	0	0	0	0	250
Weldon, Import-Tons Screenings	8,166	8,546	7,576	1,396	3,523
Tilcon, Import-Tons DGA	0	0	0	0	656
Tilcon, Import Tons – 1.5” Stone	0	0	259	0	487
Weldon, Imported Tons - QP	590	1,221	825	1,070	0
Weldon, Imported Tons - DGA	0	0	0	0	326
Celgene - Loads	411	724	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	0	309	0	0

E. SURCHARGE OPERATIONS

- Area 1S: Surcharge continued with placement of both chromium impacted soils to the design subgrade and imported Celgene soils between the subgrade and surcharge design grade. Surcharge placement is approximately 85% complete.
- Area 2S: Surcharging continued from 1S into the western portion of 2S. Surcharge placement consisted of subgrade fill and is approximately 15% complete.
- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. No Surcharge has been initiated.
- Area 1N: Surcharge is completed. Surcharge removal is scheduled to commence in September. Details were provided in the August Surcharge Monitoring Report No. 4.
- Area 2N: Instrumentation Installation 100 % complete. Surcharge removed from 1N will be relocated to Area 2N.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- No sheets were driven associated with the hydraulic barrier wall during this reporting period.
- On August 27, 2014, a test pit was excavated to field verify the location of a 90 degree bend in the 72-inch force main. This activity identified that the actual location was approximately 4 feet farther to the east necessitating a design change bulletin to address the needed relocation of the barrier wall.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Pre-construction meeting for the Above-grade Demolition of the four designated JCIA Structures scheduled for September 4, 2014.
- Complete In-Situ treatment injection/temporary monitoring point abandonment activities at Site 163.
- Continue placement of surcharge materials in SA-6S Area 1S and 2S.
- Begin off loading of surcharge materials from SA-6N Area 1N.
- Begin placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system trench on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 83-70.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Conduct S-3 Injection/Mass Removal Event No.17 in well 088-IW-02.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations

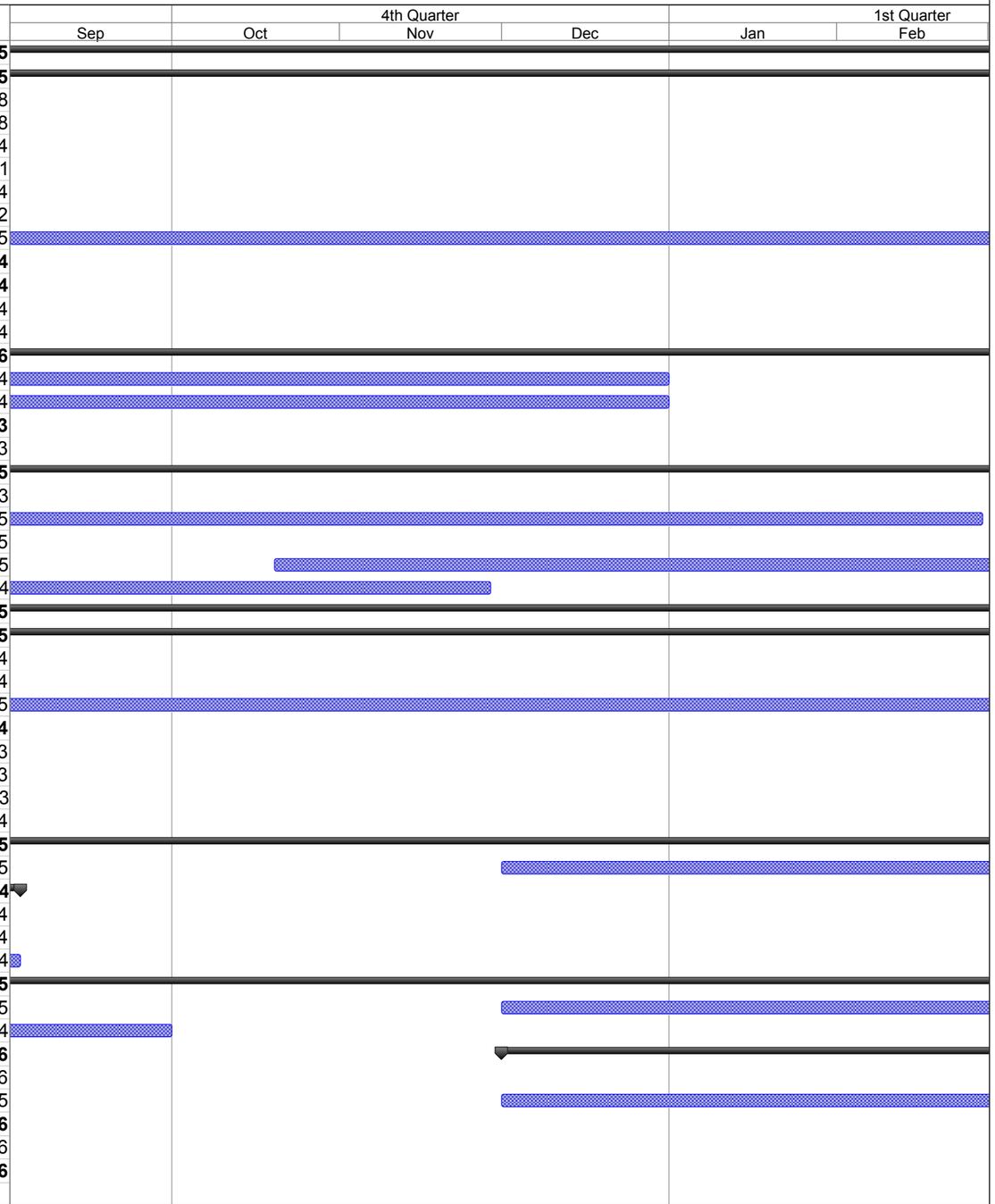
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-3)
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data Surcharge Monitoring Update (provided on a quarterly basis - not available as of this report date)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Sheet Deflection Along Open Excavation
    - Sheet Monitoring Locations
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (July 2014)
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (July 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 9/3/14

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs



Site Photograph 1: Cleaning the steel sheets during excavation.



Site Photograph 2: Construction Water Treatment Plant on Jersey City Properties.



Site Photograph 3: Contractor compacts clean fill on Kellogg St. Properties.



Site Photograph 4: Contractor places surcharge on western area of site.



Site Photograph 5: Contractor processes concrete for reuse.



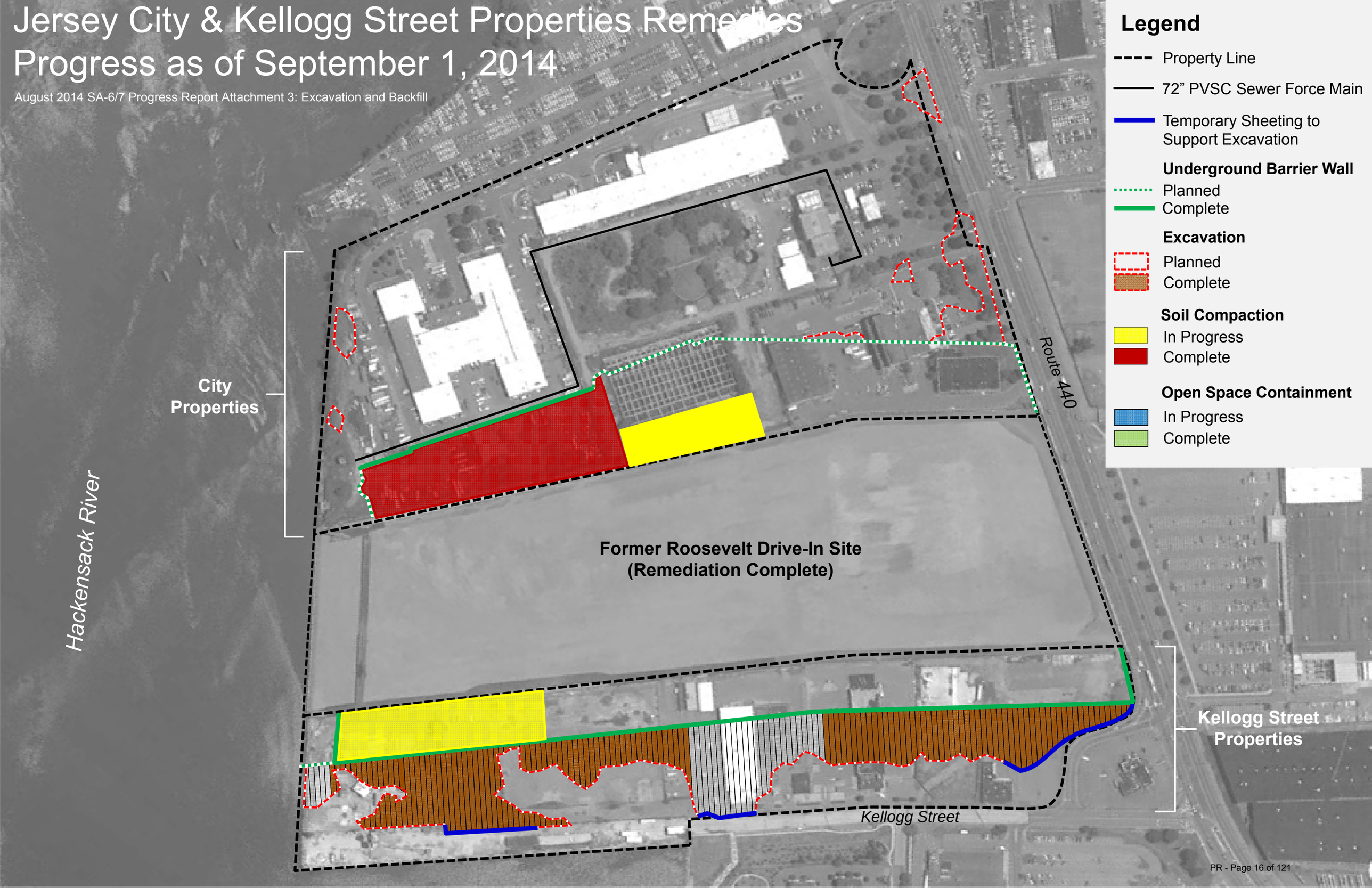
Site Photograph 6: Overview of Excavation and backfill operations.

Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables (SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points)
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of September 1, 2014

August 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Legend

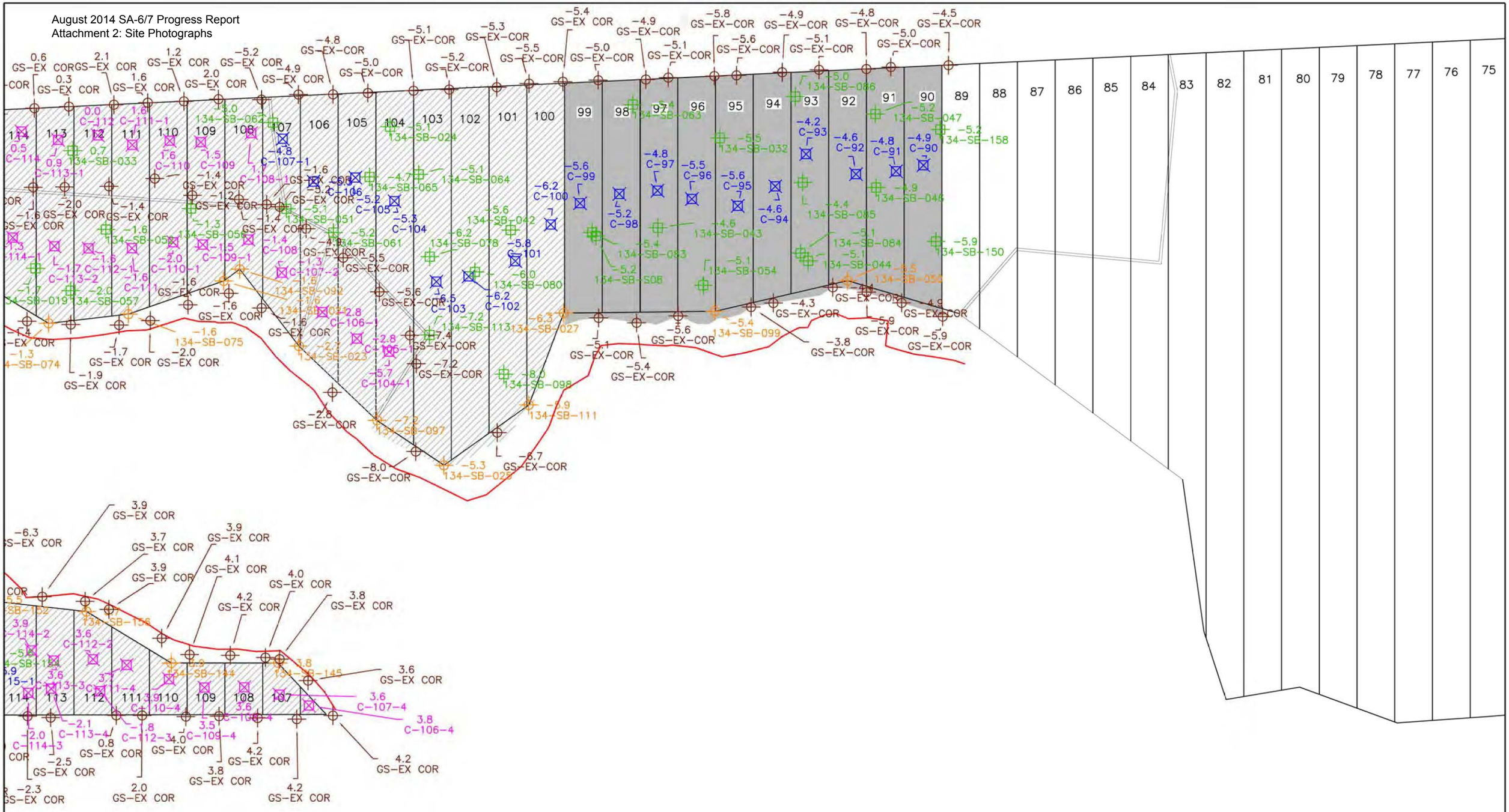
- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete



ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 08-07-14 TO 08-21-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

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Planners
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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 8/22/14

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

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LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

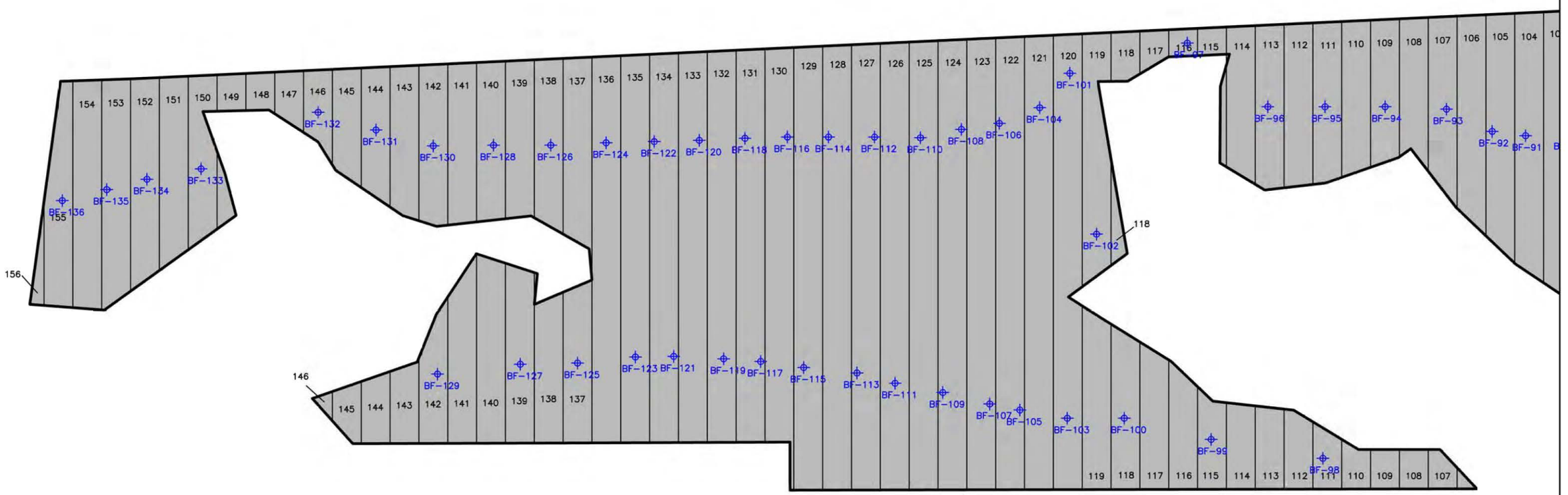
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



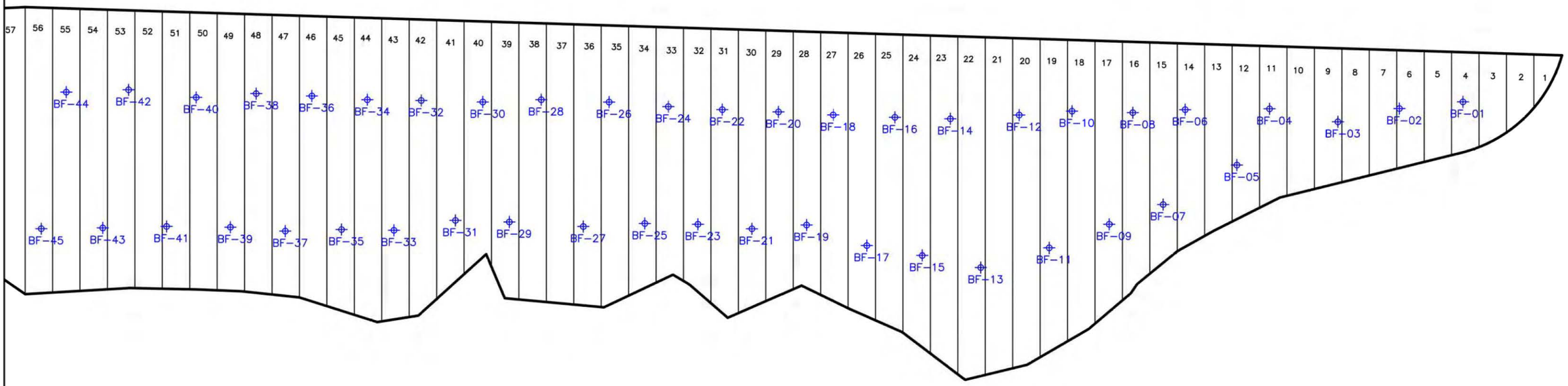
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
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3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
	RF-23		684878.7	602219.3	-5.6							85			
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		
	RF-24		684934.2	602167.2	-4.8							90			
1	RF-24-01	9/2/2014	684298.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602036.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.1719	601631.644	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.423	601673.304	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

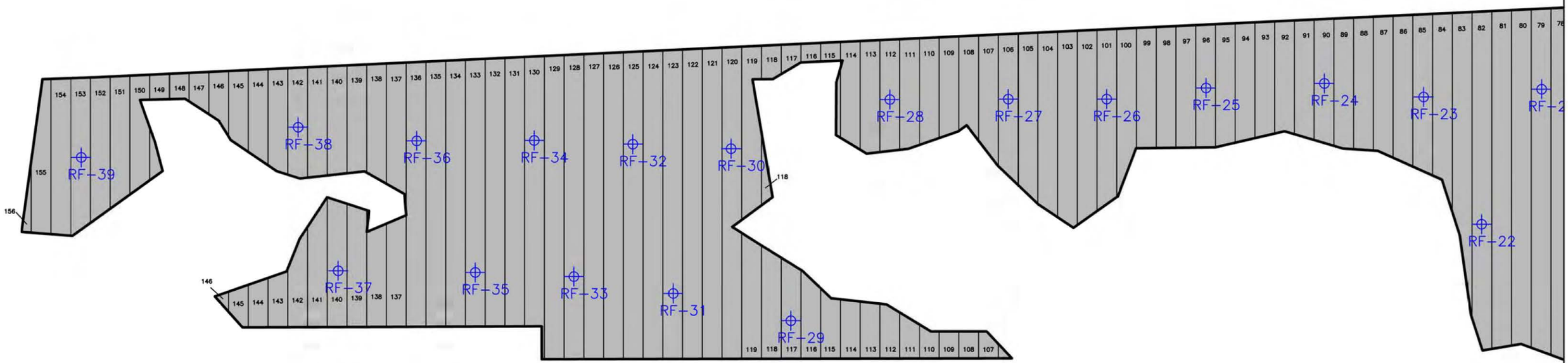
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

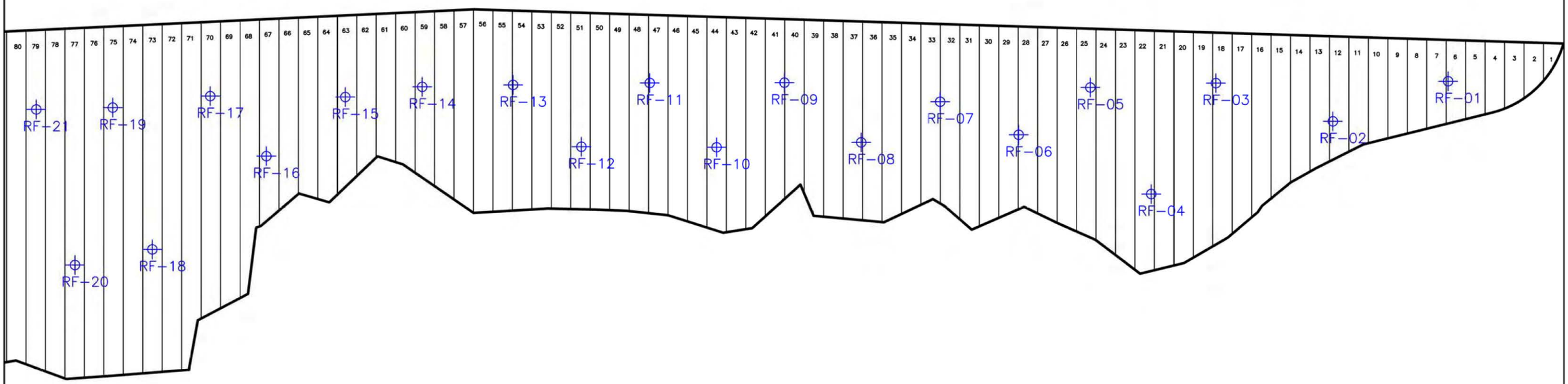
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)
- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
07/01/14	2	24	13,14, WPS-2	48	247,628	259,680	12,052	2,292,256	8.4	
07/02/14	2	24	13,14, WPS-2	48	259,680	266,319	6,639	2,298,895	4.6	
03/13/00	2	24	13,14, WPS-2	48	266,319	270,103	3,784	2,302,679	2.6	
07/07/14	2	86	13,14, WPS-2	48	270,103	285,239	15,136	2,317,815	2.9	
07/08/14	2	24	13,14, WPS-2	45	285,239	288,158	2,919	2,320,734	2.0	
07/09/14	2	24	13,14, WPS-2	45	288,158	289,792	1,634	2,322,368	1.1	
07/10/14	2	24	13, WPS-2	27	289,792	292,235	2,443	2,324,811	1.7	
07/11/14	2	24	13, WPS-2	27	292,235	295,728	3,493	2,328,304	2.4	
07/14/14	2	72	13, WPS-2	27	295,728	306,209	10,481	2,338,785	2.4	
07/15/14	2	24	13, WPS-2	27	306,209	309,704	3,495	2,342,280	2.4	
07/16/14	2	24	13, WPS-2	27	309,704	311,299	1,595	2,343,875	1.1	
07/17/14	2	24	13, WPS-2	27	311,299	312,848	1,549	2,345,424	1.1	
07/18/14	2	24	13, WPS-2	27	312,848	313,958	1,110	2,346,534	0.8	
07/21/14	2	72	13, WPS-2	27	313,958	317,809	3,851	2,350,385	0.9	
07/22/14	2	24	13, WPS-2	27	317,809	318,844	1,035	2,351,420	0.7	
07/23/14	2	24	13, WPS-2	27	318,844	319,048	204	2,351,624	0.1	
07/24/14	2	24	13, WPS-2	22	319,048	319,062	14	2,351,638	0.0	
07/25/14	2	24	13, WPS-2	22	N/A	N/A	450	2,352,088	0.3	Flowmeter Blockage - Tank Measured
07/28/14	2	72	13, WPS-2	22	N/A	N/A	1,650	2,353,738	0.4	Flowmeter Blockage - Tank Measured
07/29/14	2	24	13, WPS-2	22	N/A	N/A	550	2,354,288	0.4	Flowmeter Blockage - Tank Measured
07/30/14	2	24	13, WPS-2	22	N/A	N/A	500	2,354,788	0.3	System Disabled or Relocation
08/05/14	1	4	10, 11, 12, EPS	61	0	1,893	1,893	2,356,681	7.9	
08/06/14	1	24	10, 11, 12, EPS	61	1,893	23,795	21,902	2,378,583	15.2	
08/07/14	1	24	10, 11, 12, EPS	61	23,795	44,386	20,591	2,399,174	14.3	
08/08/14	1	24	10, 11, 12, EPS	61	0	8,014	8,014	2,407,188	5.6	
08/11/14	1	72	10, 11, 12, EPS	61	8,014	32,057	24,043	2,431,231	5.6	
08/12/14	1	24	10, 11, 12, EPS	61	32,057	40,072	8,015	2,439,246	5.6	
08/13/14	1	24	10, 11, 12, EPS	61	40,072	59,407	19,335	2,458,581	13.4	
08/14/14	1	24	10, 11, 12, EPS	61	59,407	89,000	29,593	2,488,174	20.6	
08/18/14	1	72	10, 11, 12, EPS	61	0	47,911	47,911	2,536,085	11.1	Flowmeter Reset
08/19/14	1	24	10, 11, 12, EPS	61	47,911	61,590	13,679	2,549,764	9.5	
08/20/14	1	24	10, 11, 12, EPS	61	61,590	75,268	13,678	2,563,442	9.5	
08/21/14	1	24	10, 11, 12, EPS	50	N/A	N/A	14,000	2,577,442	9.7	Flowmeter Blockage - Tank Measured
08/22/14	1	24	10, 11, 12, EPS	50	75,268	77,640	2,372	2,579,814	1.6	
08/25/14	1	72	10, 11, 12, EPS	50	0	20,218	20,218	2,600,032	4.7	Flowmeter Reset
08/26/14	1	24	10, 11, 12, EPS	50	20,218	42,158	21,940	2,621,972	15.2	
08/27/14	1	24	10, 11, 12, EPS	50	42,158	47,944	5,786	2,627,758	4.0	
08/28/14	1	24	10, 11, 12, EPS	50	47,944	54,589	6,645	2,634,403	4.6	
08/29/14	1	24	10, 11, 12, EPS	50	54,589	61,819	7,230	2,641,633	5.0	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-3)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
08/06/14	24	0	1,340	1,340	1,340	0.9	
08/07/14	24	1,340	2,525	1,185	2,525	0.8	
08/08/14	24	N/A	N/A	5,500	8,025	3.8	Flowmeter blockage - Tank Measured
08/11/14	72	N/A	N/A	17,500	25,525	4.1	Flowmeter blockage - Tank Measured
08/12/14	24	0	3,528	3,528	29,053	2.5	Flowmeter Reset
08/13/14	24	N/A	N/A	5,500	34,553	3.8	Flowmeter blockage - Tank Measured
08/14/14	24	N/A	N/A	5,000	39,553	3.5	Flowmeter blockage - Tank Measured
08/15/14	24	N/A	N/A	5,500	45,053	3.8	Flowmeter blockage - Tank Measured
08/18/14	72	N/A	N/A	16,500	61,553	3.8	Flowmeter blockage - Tank Measured
08/19/14	24	N/A	N/A	6,000	67,553	4.2	Flowmeter Not Installed - Tank Measured
08/20/14	24	N/A	N/A	6,500	74,053	4.5	Flowmeter Not Installed - Tank Measured
08/21/14	24	N/A	N/A	6,000	80,053	4.2	Flowmeter Not Installed - Tank Measured
08/22/14	24	N/A	N/A	6,250	86,303	4.3	Flowmeter Not Installed - Tank Measured
08/25/14	72	N/A	N/A	17,500	103,803	4.1	Flowmeter Not Installed - Tank Measured
08/26/14	24	N/A	N/A	5,750	109,553	4.0	Flowmeter Not Installed - Tank Measured
08/27/14	24	N/A	N/A	5,700	115,253	4.0	Flowmeter Not Installed - Tank Measured
08/28/14	24	N/A	N/A	5,500	120,753	3.8	Flowmeter Not Installed - Tank Measured
08/29/14	24	N/A	N/A	5,500	126,253	3.8	Flowmeter Not Installed - Tank Measured

Note: Well DW-3 was activated on August 6, 2014.

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
07/16/14	24	0	4,141	4,141	4,141	2.9	
07/17/14	24	4,141	8,184	4,043	8,184	2.8	
07/18/14	24	8,184	12,120	3,936	12,120	2.7	
07/21/14	72	0	16,253	16,253	28,373	3.8	Flowmeter Reset
07/22/14	24	16,253	19,898	3,645	32,018	2.5	
07/23/14	24	N/A	N/A	4,000	36,018	2.8	Flowmeter Blockage, Tank Measured
07/24/14	24	N/A	N/A	4,200	40,218	2.9	Pump Taken Offline for Excavation
08/13/14	24	N/A	N/A	6,000	46,218	4.2	Flowmeter Not Installed - Tank Measured
08/14/14	24	N/A	N/A	5,500	51,718	3.8	Flowmeter Not Installed - Tank Measured
08/15/14	24	N/A	N/A	5,500	57,218	3.8	Flowmeter Not Installed - Tank Measured
08/18/14	72	N/A	N/A	5,750	62,968	1.3	Flowmeter Not Installed - Tank Measured
08/19/14	24	N/A	N/A	5,750	68,718	4.0	Flowmeter Not Installed - Tank Measured
08/20/14	24	N/A	N/A	5,500	74,218	3.8	Pump Taken Offline

Notes: DW-4 was activated on July 16, 2014 and taken offline on August 20, 2014.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/02/14	8:30	15,754.00	15,879.17	125,170	15,878,720	PVSC Compliance Sample Collected
07/03/14	5:15	15,879.17	15,995.15	115,980	15,994,700	
07/04/14	7:15	15,995.15	16,174.96	179,810	16,174,510	
07/05/14	7:00	16,174.96	16,354.58	179,620	16,354,130	
07/06/14	5:55	16,354.58	16,443.35	88,770	16,442,900	
07/07/14	9:05	16,443.35	16,582.28	138,930	16,581,830	
07/08/14	8:05	16,582.28	16,719.12	136,840	16,718,670	
07/09/14	7:30	16,719.12	16,813.21	94,090	16,812,760	
07/10/14	7:15	16,813.21	16,861.07	47,860	16,860,620	
07/11/14	6:00	16,861.07	16,927.80	66,730	16,927,350	
07/14/14	7:35	17,039.50	17,039.50	111,700	17,039,050	
07/15/14	8:10	17,151.47	17,151.47	111,970	17,151,020	
07/16/14	7:30	17,151.47	17,277.51	126,040	17,277,060	
07/17/14	5:15	17,277.51	17,369.50	91,990	17,369,050	
07/18/14	7:45	17,369.50	17,470.26	100,760	17,469,810	
07/21/14	8:30	17,470.26	17,603.88	133,620	17,603,430	
07/22/14	8:00	17,603.88	17,697.76	93,880	17,697,310	
07/23/14	7:30	17,697.76	17,756.61	58,850	17,756,160	
07/24/14	7:30	17,756.61	17,794.18	37,570	17,793,730	
07/25/14	7:00	17,794.18	17,849.88	55,700	17,849,430	
07/28/14	8:00	17,849.88	17,964.12	114,240	17,963,670	
07/29/14	8:00	17,964.12	18,017.49	53,370	18,017,040	
07/30/14	7:50	18,017.49	18,060.14	42,650	18,059,690	
08/04/14	2:15	18,060.14	18,144.28	84,140	18,143,830	
08/05/14	8:00	18,144.28	18,237.50	93,220	18,237,050	PVSC Compliance Sample Collected
08/06/14	7:45	18,237.50	18,289.93	52,430	18,289,480	
08/07/14	5:30	18,289.93	18,324.27	34,340	18,323,820	
08/08/14	7:20	18,324.27	18,357.38	33,110	18,356,930	
08/11/14	9:00	18,357.38	18,450.45	93,070	18,450,000	
08/12/14	7:00	18,450.45	18,524.19	73,740	18,523,740	
08/13/14	6:15	18,524.19	18,579.42	55,230	18,578,970	
08/14/14	7:00	18,579.42	18,610.35	30,930	18,609,900	
08/15/14	6:00	18,610.35	18,630.29	19,940	18,629,840	
08/17/14	6:00	18,630.29	18,701.73	71,440	18,701,280	
08/19/14	8:00	18,701.73	18,805.82	104,090	18,805,370	
08/20/14	6:00	18,805.82	18,884.84	79,020	18,884,390	
08/21/14	8:00	18,884.84	18,986.62	101,780	18,986,170	
08/22/14	7:45	18,986.62	19,094.08	107,460	19,093,630	
08/25/14	8:00	19,094.08	19,193.73	99,650	19,193,280	
08/26/14	8:45	19,193.73	19,298.14	104,410	19,297,690	
08/27/14	7:30	19,298.14	19,368.93	70,790	19,368,480	
08/28/14	8:45	19,368.93	19,461.76	92,830	19,461,310	
08/29/14	5:45	19,461.76	19,495.63	33,870	19,495,180	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

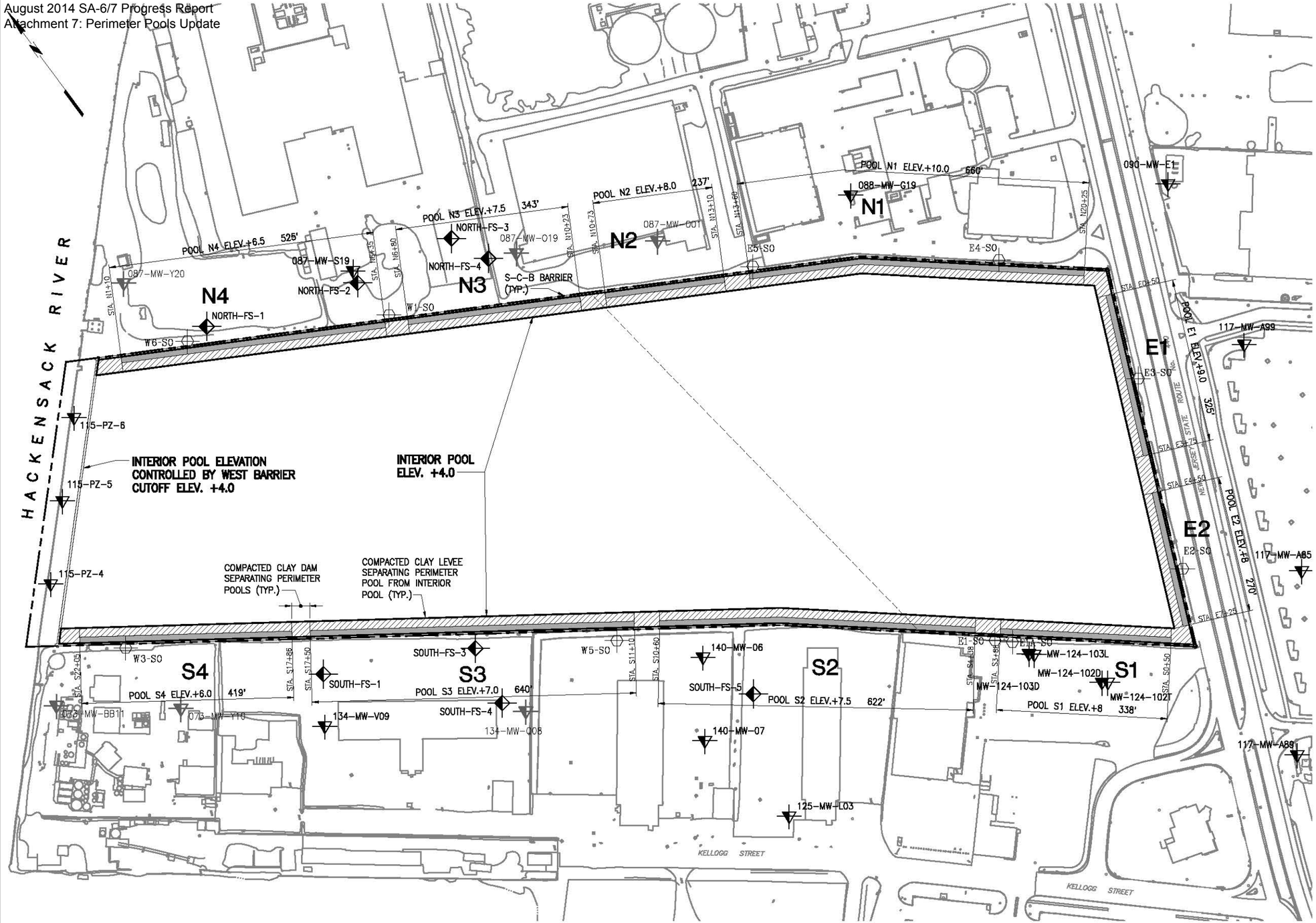
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
110-118	<20	124-118-20-a	1000	124-118-20-a1	7/9/2014	13:00	20.3		Yes	
				124-118-20-a2	7/9/2014	13:05	19.7	Yes		
				124-118-20-a3	7/9/2014	13:10	37.1		Yes	
				124-118-20-a4	7/9/2014	13:15	61.1		Yes	
102-119	>1000	124-119-1000-a	800	124-119-1000-a1	7/29/2014	11:00	174		Yes	
				124-119-1000-a2	7/29/2014	11:05	302		Yes	
				124-119-1000-a3	7/29/2014	11:10	149		Yes	
				124-119-1000-a4	7/29/2014	11:15	2,180			Yes
101-112	<20	124-112-20-a,b,c	2800	124-112-20-a1	7/30/2014	12:45	16.1	Yes		
				124-112-20-a2	7/30/2014	12:50	6.7	Yes		
				124-112-20-a3	7/30/2014	12:55	8.7	Yes		
				124-112-20-a4	7/30/2014	13:00	11.0	Yes		
				124-112-20-b1	7/30/2014	13:05	2.4	Yes		
				124-112-20-b2	7/30/2014	13:10	2.6	Yes		
				124-112-20-b3	7/30/2014	13:15	14.7	Yes		
				124-112-20-b4	7/30/2014	13:20	1.6	Yes		
				124-112-20-c1	7/30/2014	13:25	24.0		*	
				124-112-20-c2	7/30/2014	13:30	3.4	*		
				124-112-20-c3	7/30/2014	13:35	6.0	*		
				124-112-20-c4	7/30/2014	13:40	2.6	*		
92-102	>1000	124-102-1000-a,b	2100	124-102-1000-a1	8/14/2014	12:25	**			
				124-102-1000-a2	8/14/2014	12:30	**			
				124-102-1000-a3	8/14/2014	12:35	**			
				124-102-1000-a4	8/14/2014	12:40	**			
				124-102-1000-b1	8/14/2014	12:45	**			
				124-102-1000-b2	8/14/2014	12:50	**			
				124-102-1000-b3	8/14/2014	12:55	**			
				124-102-1000-b3	8/14/2014	13:00	**			
88-101	<20	124-101-20-a, b, c	2850	124-101-20-a1	8/22/2014	9:35	**			
				124-101-20-a2	8/22/2014	9:40	**			
				124-101-20-a3	8/22/2014	9:45	**			
				124-101-20-a4	8/22/2014	9:50	**			
				124-101-20-b1	8/22/2014	9:55	**			
				124-101-20-b2	8/22/2014	10:00	**			
				124-101-20-b3	8/22/2014	10:05	**			
				124-101-20-b4	8/22/2014	10:10	**			
				124-101-20-c1	8/22/2014	10:15	**			
				124-101-20-c2	8/22/2014	10:20	**			
				124-101-20-c3	8/22/2014	10:25	**			
				124-101-20-c4	8/22/2014	10:30	**			

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
05-07-2014

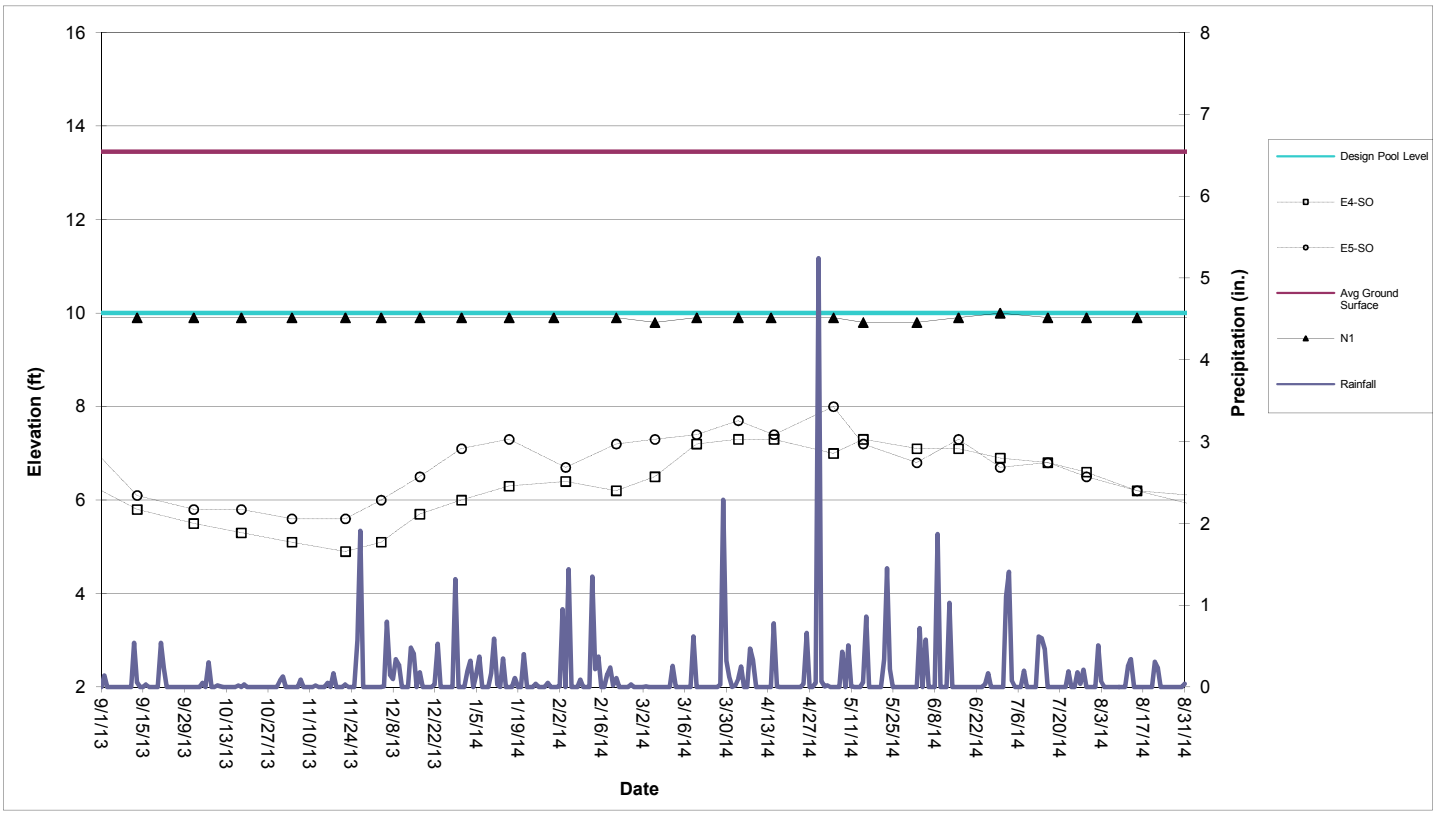
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

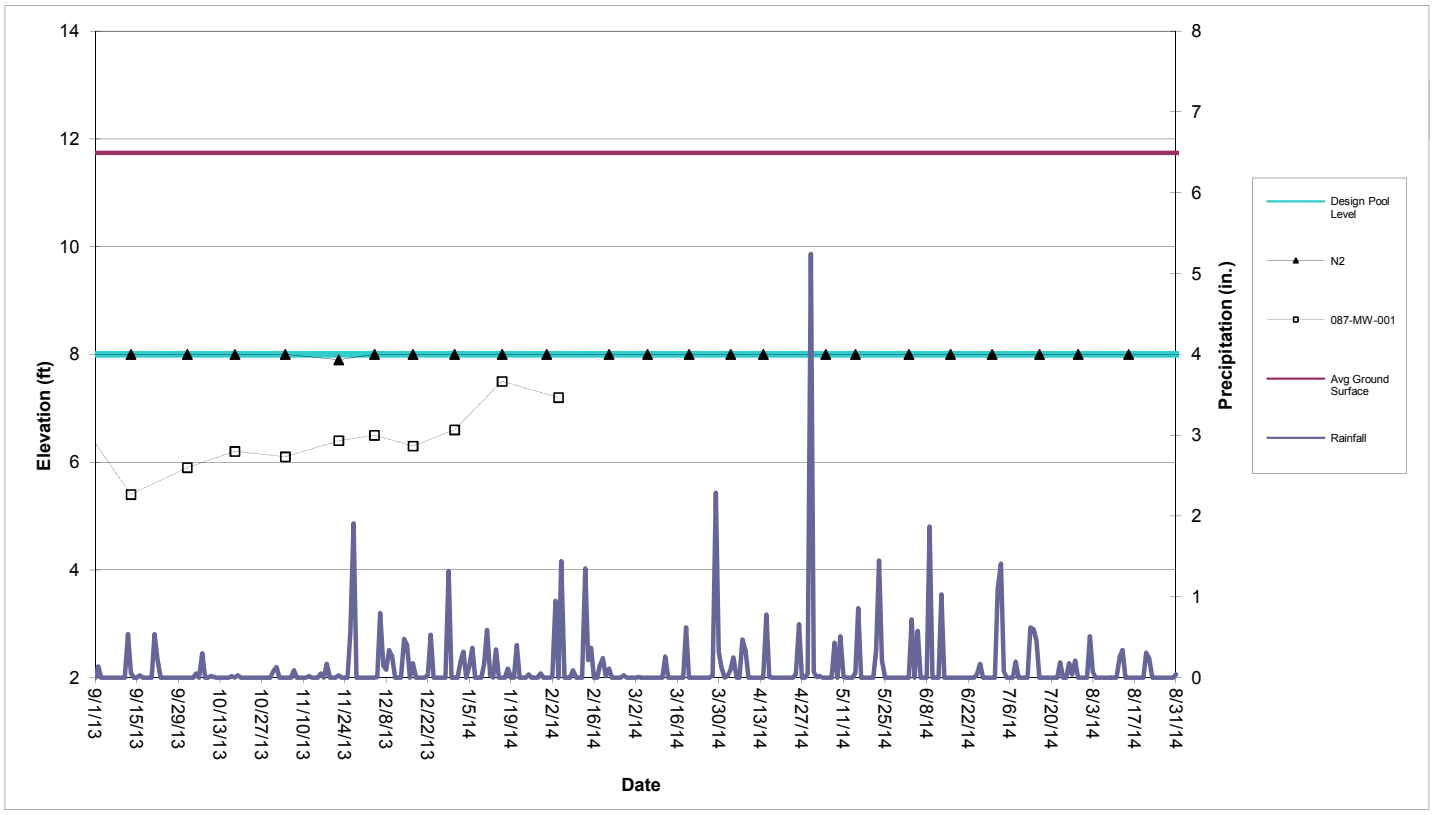
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

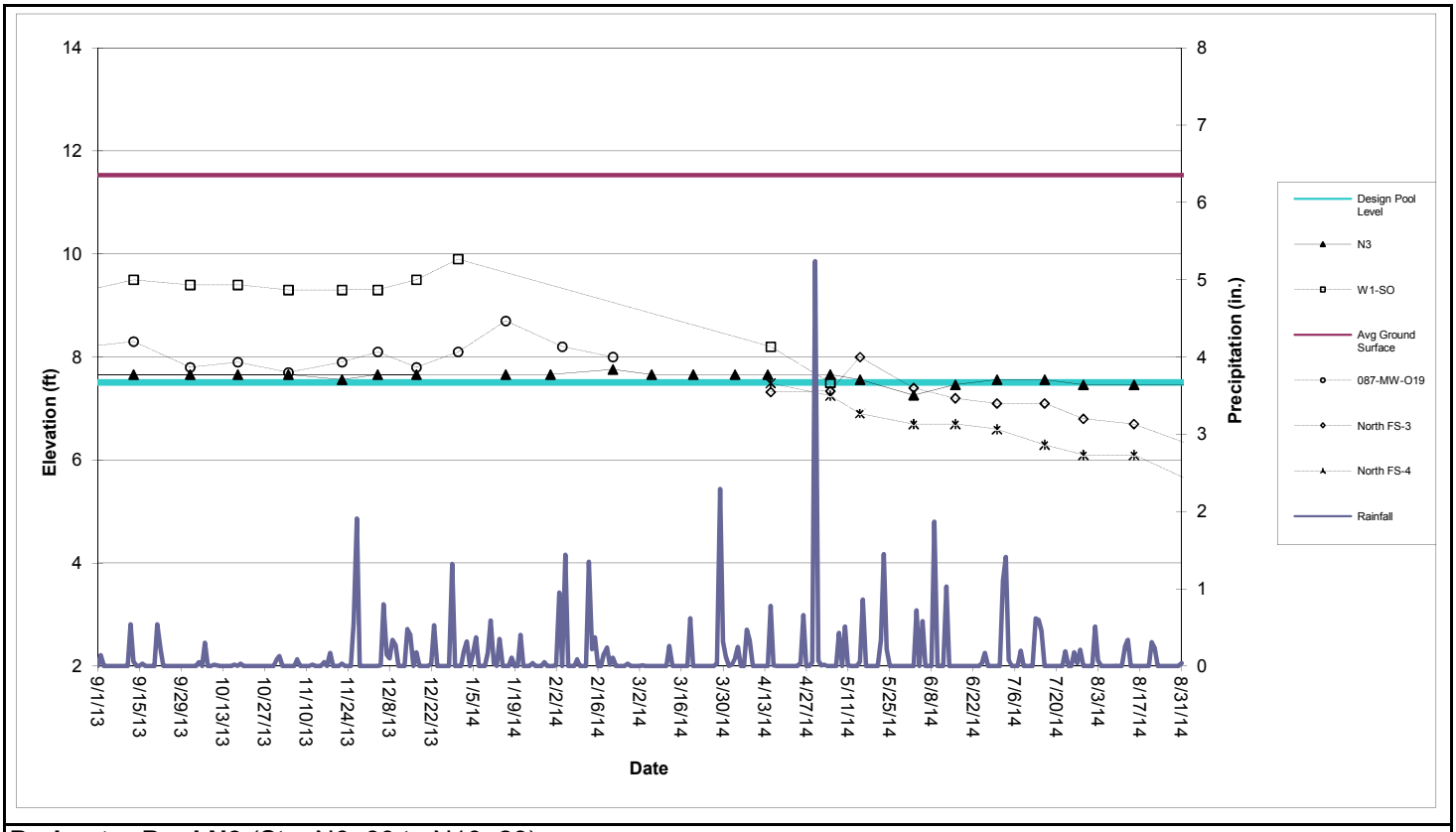
May 07, 2014 at 4:13pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



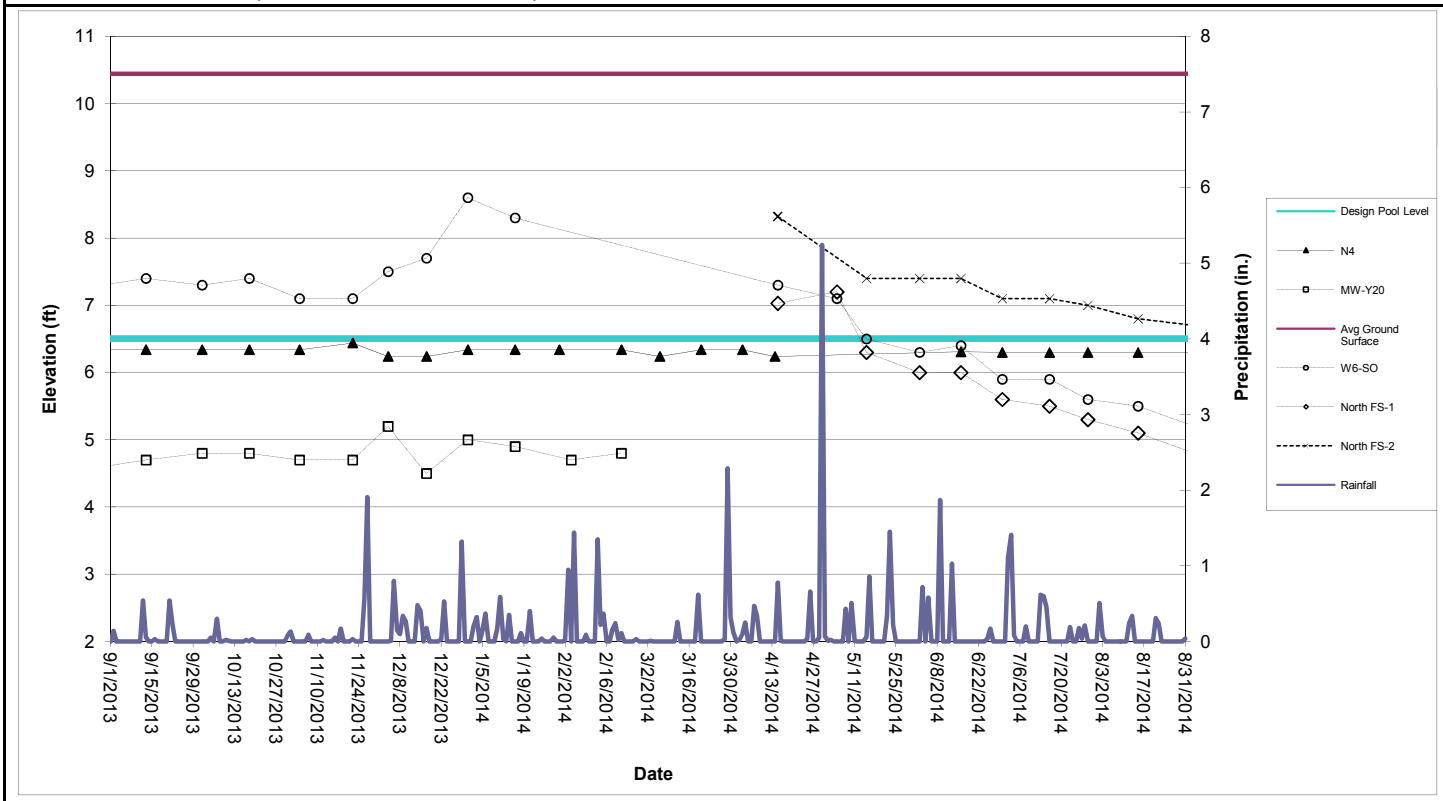
Perimeter Pool N1 (Sta. N13+60 to N20+25)



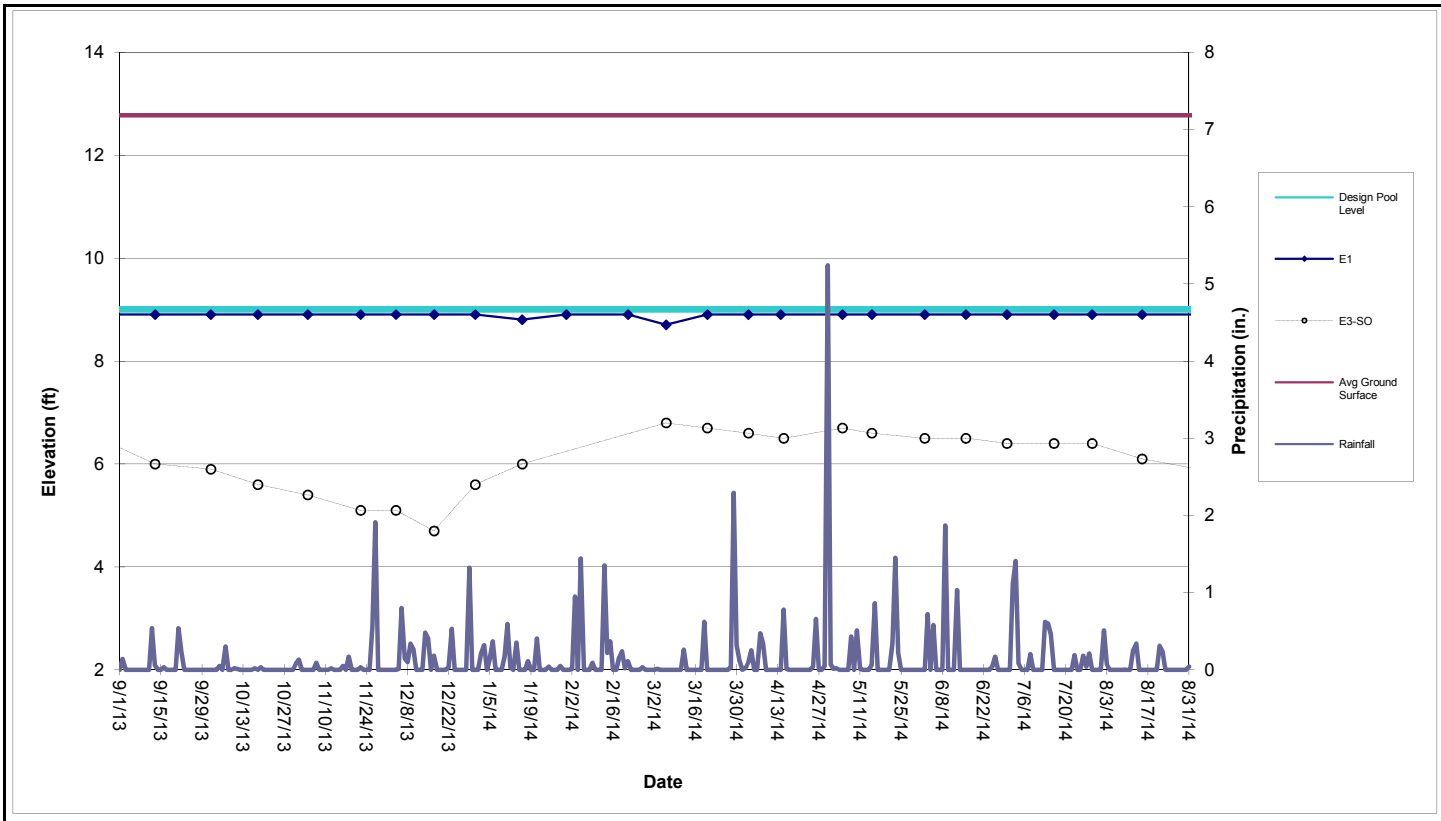
Perimeter Pool N2 (Sta. N10+73 to N13+10)



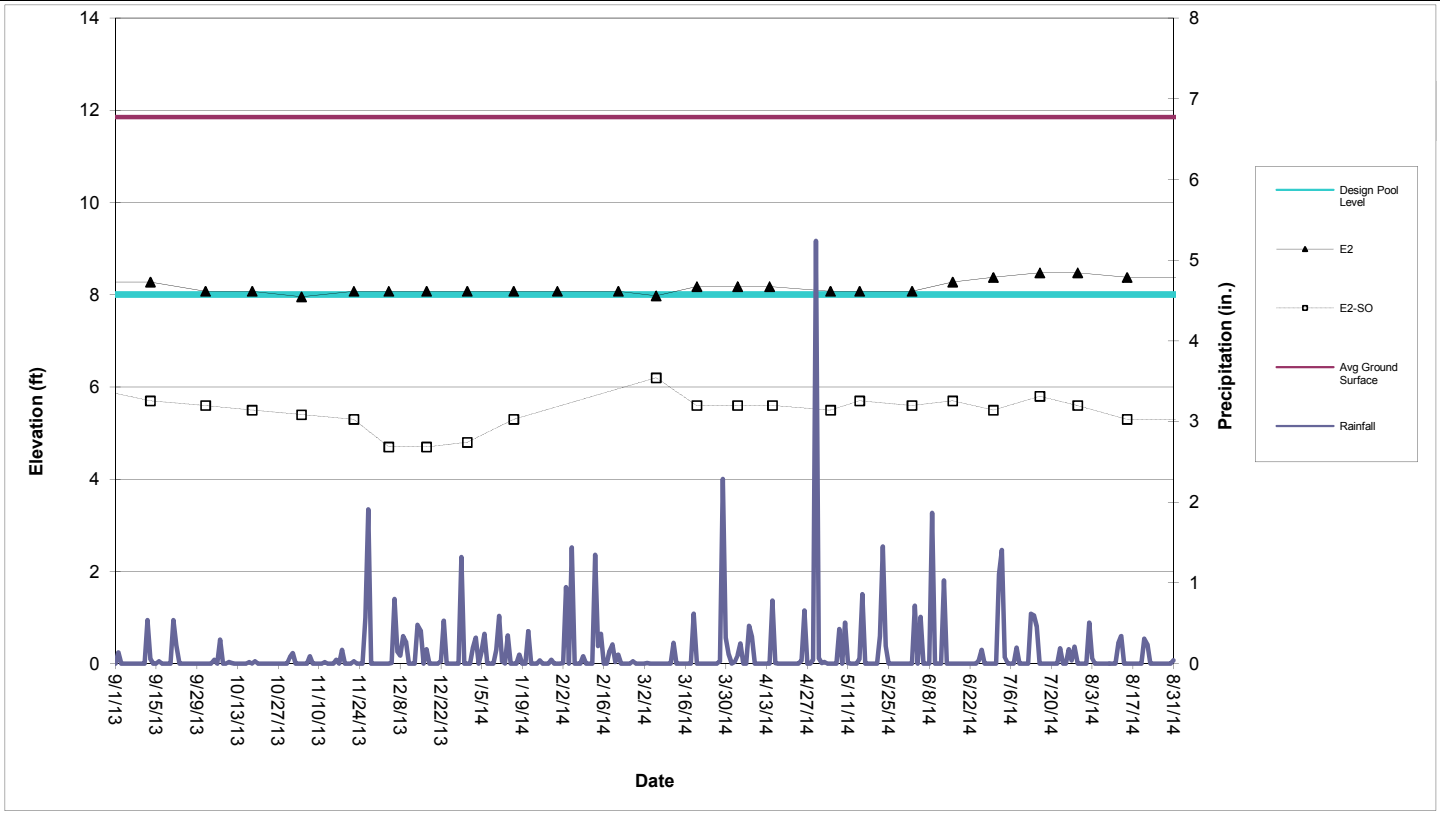
Perimeter Pool N3 (Sta. N6+80 to N10+23)



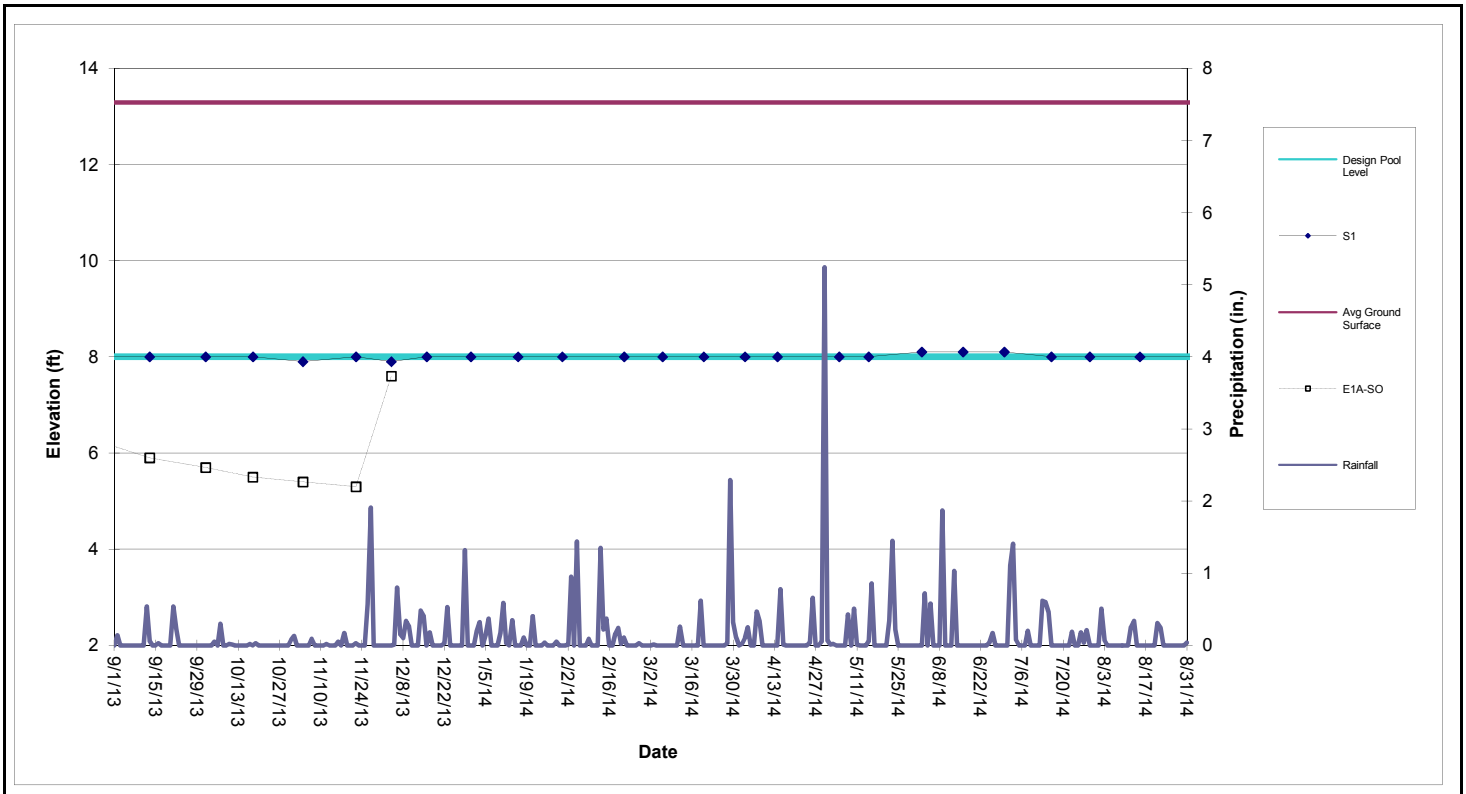
Perimeter Pool N4 (Sta. N6+80 to N10+23)



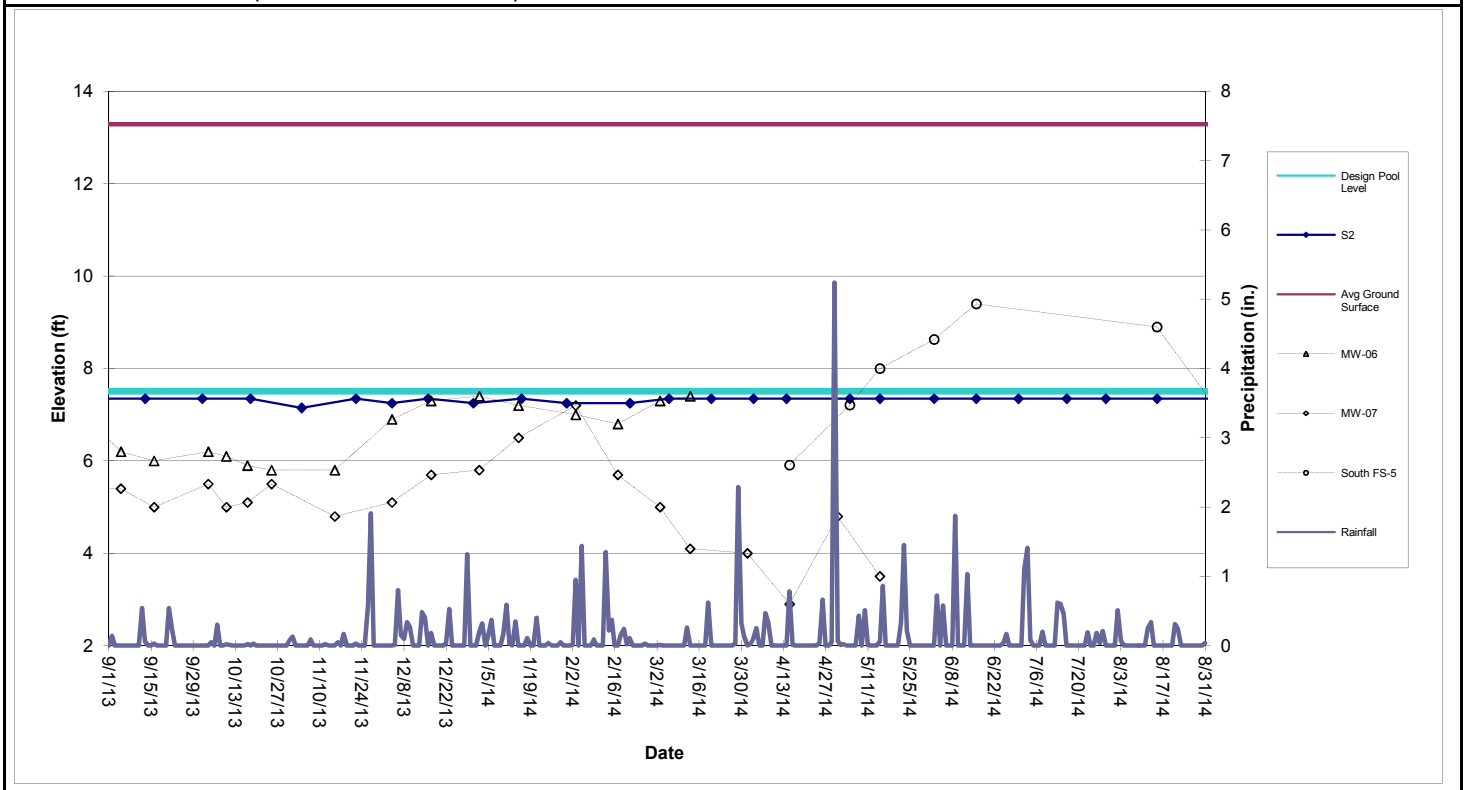
Perimeter Pool E1 (Sta. E0+50 to E3+75)



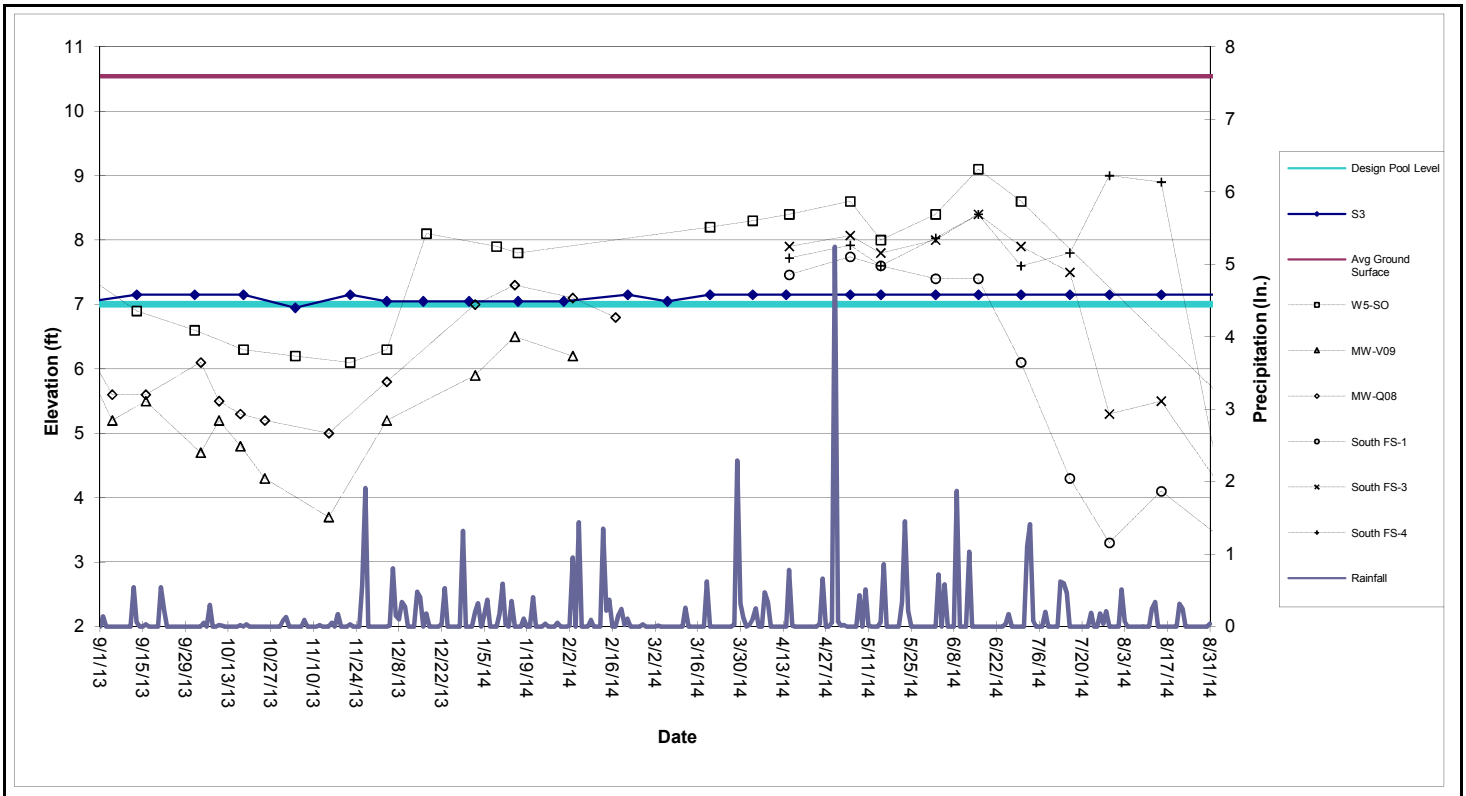
Perimeter Pool E2 (Sta. E4+50 to E7+25)



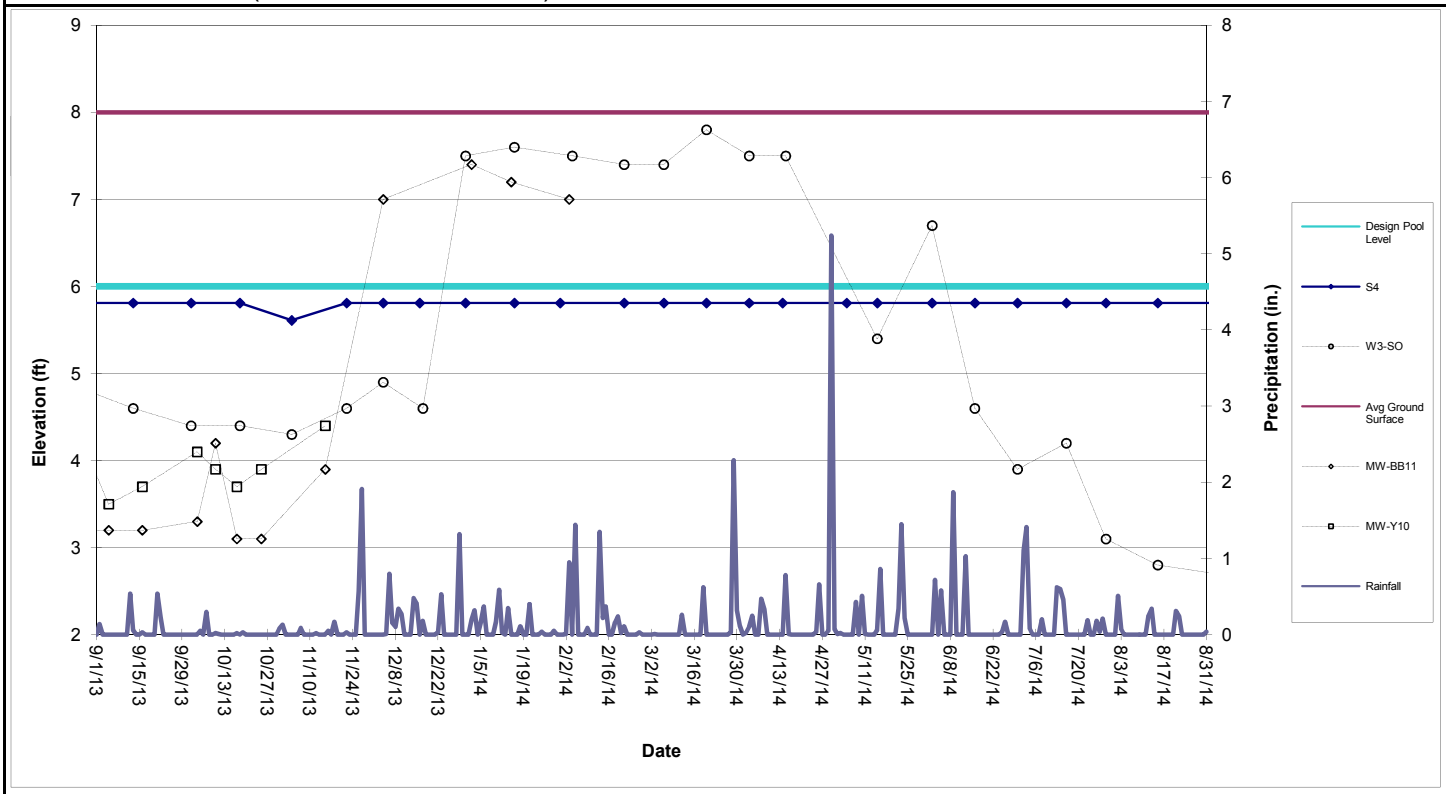
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5
Date																				
3/3/2014											7.3	5.0								
3/6/2014		6.2	6.8	6.5	7.3		7.4													
3/13/2014											7.4	4.1								
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2												
4/1/2014												4.0								
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3												
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9
5/1/2014												4.8								
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6	
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3	4.3	7.5	7.8	
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1	3.3	5.3	9.0	
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1	4.1	5.5	8.9	8.9

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, W5-SO

Attachment 8: Quality and Level Data in GWET Wells

(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

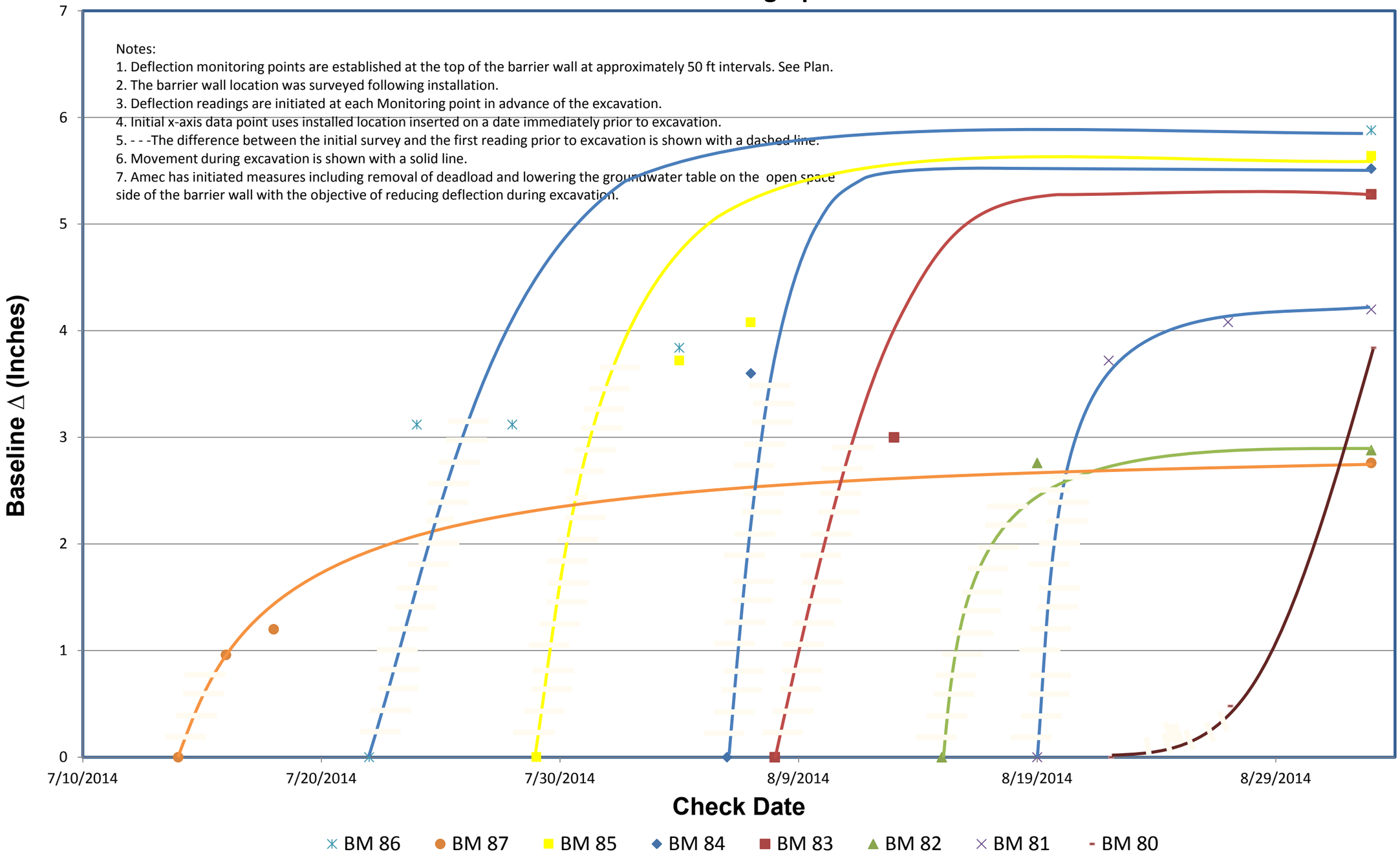
(not included in this reporting period)

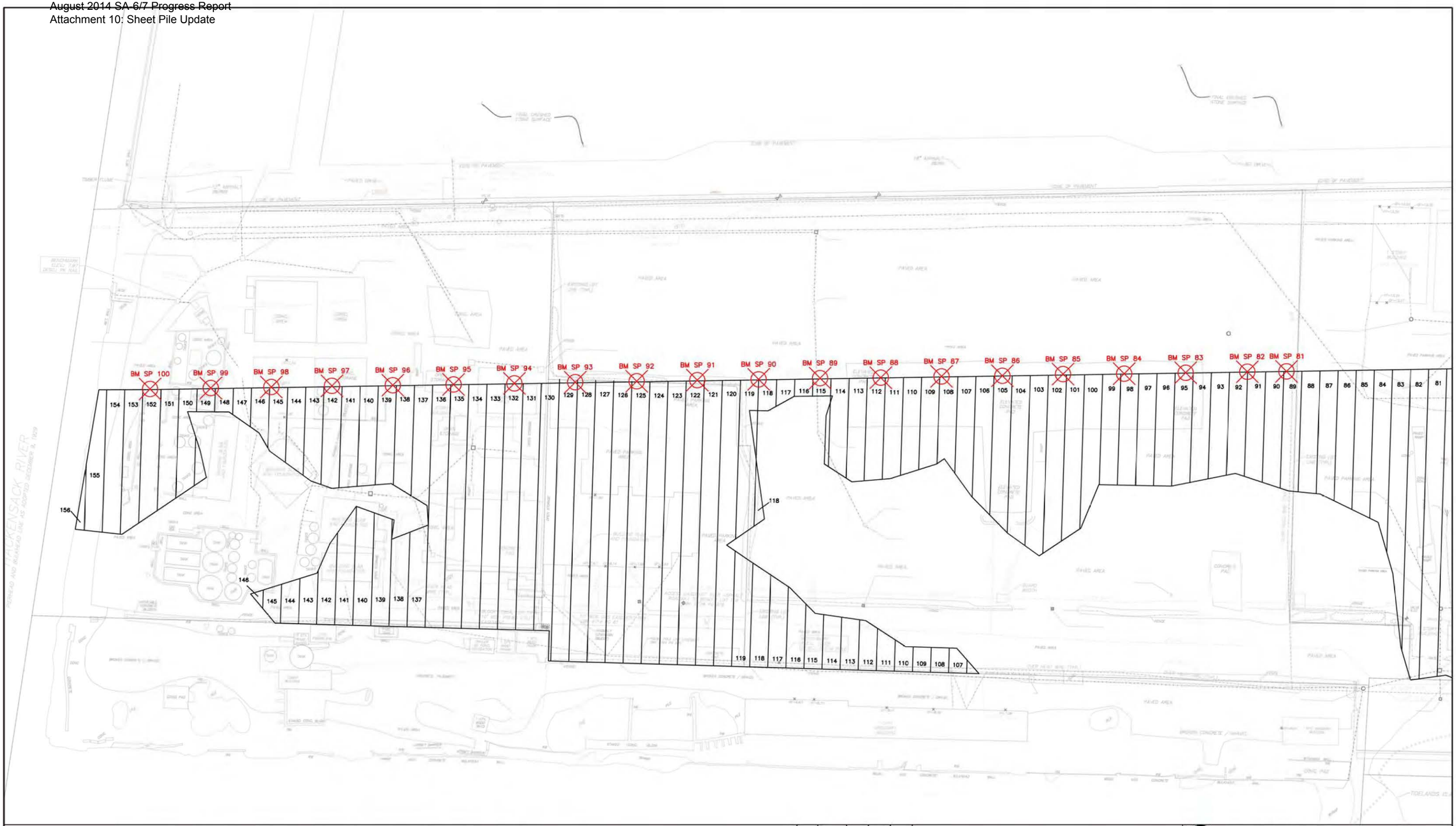
Attachment 10: Sheet Pile Update

- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





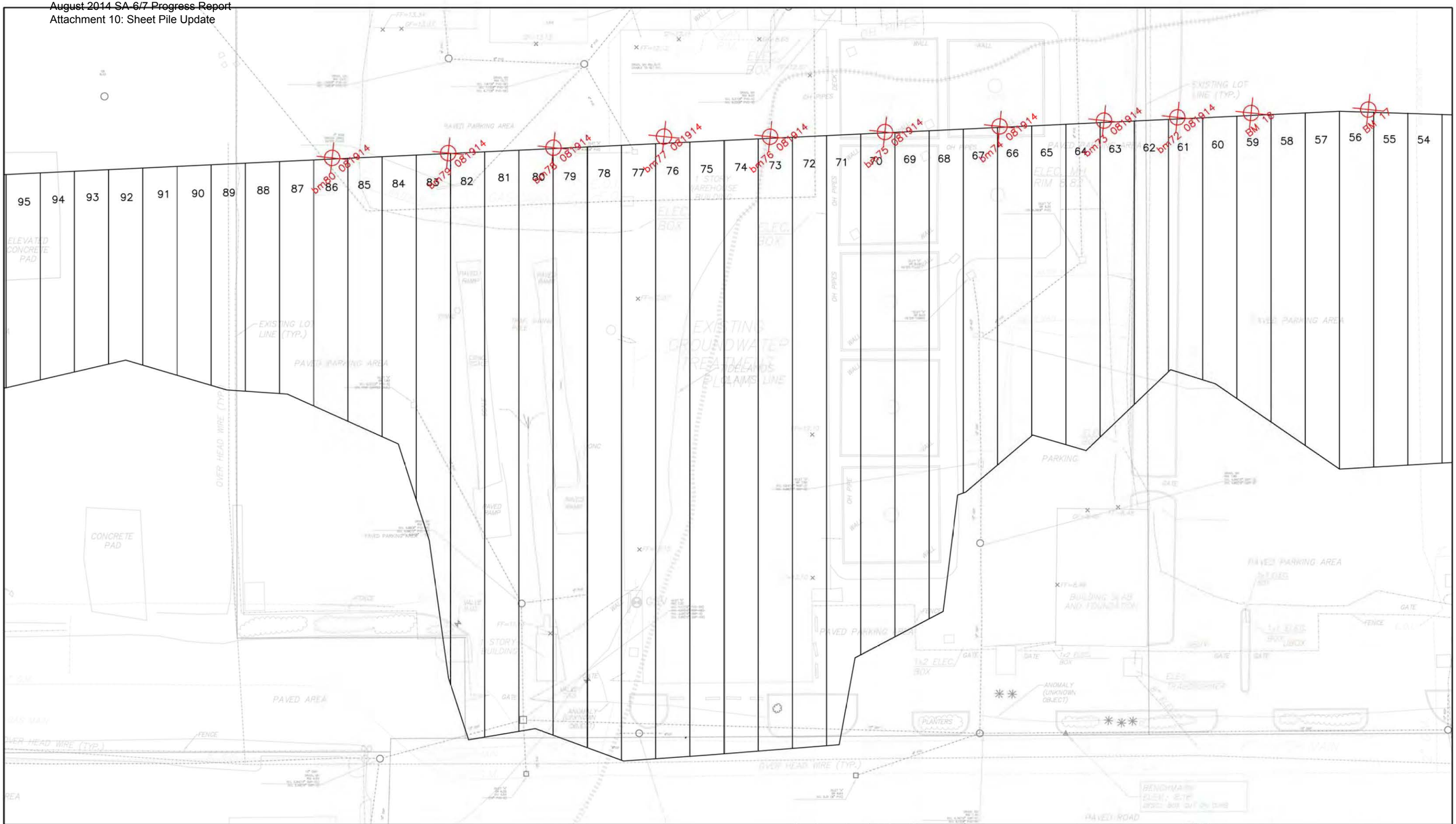
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SHEET MONITORING LOCATIONS
03-20-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SHEET MONITORING LOCATIONS
08-19-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-11
Entact ID:
Date Exposed: 7/17/14
Describe Damage: (11) Scrapes by the Cat 349E excavator bucket - (5) 1/2"Ø, (3) 1"Ø, 2×10", 1/2×36", 1×18". Cell 106/105

Damage Location (ft below top of sheet, inboard side outboard side): 13-18' outboard

Date Repaired: 7/24/14 Partial, 8/5/14 Remaining
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 4" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-12
Entact ID:
Date Exposed: 7/17/14
Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - 1/2×12", 2"Ø, 1/2×8", 1/2×30", 1×12", 2×5", 1/2×60", 3"Ø. Cell 105

Damage Location (ft below top of sheet, inboard side outboard side): 11-18' outboard

Date Repaired: 7/24/14 Partial, 8/5/14 Remaining
Inspected by: Bnan Shea
Describe Repair: Pressure Wash, wire brush, apply epoxy w/ 4" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 18P-13
Entact ID:
Date Exposed: 7/21/14
Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1/2×4", 1"Ø, 1×5", 1×12", 2"Ø, 1/2"Ø. Cell 105. Sheet is covered w/ hardened grout from elv. 8.0' - (2.5')

Damage Location (ft below top of sheet, inboard side outboard side): 14-17' outboard

Date Repaired: 7/24/14
Inspected by: Bnan Shea
Describe Repair: Pressure Wash, wire brush, apply epoxy w/ 4" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 7/24/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID:
Date Exposed:
Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:
Inspected by:
Describe Repair:
Repair Log Closure: AMEC Signature:
Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-1

Entact ID:

Date Exposed: 7/22/14

Describe Damage: (9) scrapes by the Cat 349E excavator bucket- (6) 1/2"Ø, 1/2x36", 1"Ø, 2"Ø. Cell 105/104

Damage Location (ft below top of sheet, inboard side outboard side): 8-12' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/5/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-2

Entact ID:

Date Exposed: 7/22/14

Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1x3", 2"Ø, 1/2x6", 3x12", (2) 1/2"Ø, Cell 104.

Damage Location (ft below top of sheet, inboard side outboard side): 8-14' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-3

Entact ID:

Date Exposed: 7/24/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2x6", 2"Ø, 1/2x36", 1/2x3", 1x36", 1x18", 1/2x6", 1"Ø. Cell 104

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-4

Entact ID:

Date Exposed: 7/24/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2x6", 1"Ø, 1/2x3", 2"Ø, 1/2x24", 1x12", 1x48", 1/2x48". C-104

Damage Location (ft below top of sheet, inboard side outboard side): 3-14' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-5
Entact ID:
Date Exposed: 7/25/14
Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1"Ø, 2"Ø, 1/2x8", 1/2x36", 1/2x2". 104/103.

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-6
Entact ID:
Date Exposed: 7/25/14
Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1"x84", 1x48", 2x12", 1/2x18", 1"Ø. Cell 103
Sheet is covered w/ hardened grout from elv. 8.0' - 0.0'.

Damage Location (ft below top of sheet, inboard side outboard side): 1-10' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining
Inspected by: Brian Shea
Describe Repair: Pressure washed, wire brushed, and applied epoxy w/ a 4" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-7
Entact ID:
Date Exposed: 7/25/14
Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 5x60", (3) 1"Ø, 1/2x48", 1/2x24", 1x2", 1/2"Ø. Cell 103.
Hardened grout covering sheet from elv. 8.0' to (2.0')

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-8
Entact ID:
Date Exposed: 7/28/14
Describe Damage: (6) scrapes by the Cat 349E excavator bucket - 1x24", 1/2x36", 1"Ø, (3) 1x3". Cell 103/102.
Sheet is covered w/ hardened grout from elv. 9.0' to (3.0').

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 7/29/14 Partial, 8/6/14 Remaining
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 4" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-9

Entact ID:

Date Exposed: 7/29/14

Describe Damage: (5) Scrapes by the Cat 349E excavator bucket - 1/2 x 18", 1"Ø, 1"Ø, 1/2 x 6", 1/2"Ø. Cell 102

Note: Sheet is covered w/ hardened grout from elv. 7.0' to (4.0').

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-10

Entact ID:

Date Exposed: 7/29/14

Describe Damage: (6) Scrapes by the Cat 349E excavator bucket - 1/2 x 30", 1x6", 1"Ø, 1/2"Ø, 1/2"Ø, 1x12". Cell 102.

Note: Sheet is covered w/ hardened grout from elv. 0.0' to (4.0').

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-11

Entact ID:

Date Exposed: 7/29/14

Describe Damage: (4) scrapes by the Cat 349E excavator bucket - 1x8", 1/2x12", 1/2x6", 2x4". Cell 102

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-12

Entact ID:

Date Exposed: 7/30/14

Describe Damage: (8) scrapes by the Cat 349E excavator bucket - 1/2x36", 1"Ø, 2x8", 1/2x6", 1/4x3", 2x4", 4"Ø, 1/2x12". Cell 101

Note. Sheet is covered by hardened grout from elv. 5.0' to (5.0').

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/5/14 Partial, 8/6/14 Remaining

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-13
Entact ID:
Date Exposed: 7/30/14
Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - 1x36", (2) 1/2"Ø, 10x14", 1x72", 1/2x3", 1x60", 1x36", and a small leak in the interlock weld. Cell 101

Damage Location (ft below top of sheet, inboard side outboard side): Scrapes 9-15' outboard leak 17' outboard
Date Repaired: 8/5/14 Partial, 8/6/14 Remaining
Inspected by: Bnan Shea
Describe Repair: Scrapes - pressure washed and epoxy painted on w/ a 2" brush. Leak - cleaned, covered/welded by a 5" steel angle, covered w/ epoxy, backfilled, and grouted.
Repair Log Closure: AMEC Signature:
Date: BShea 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-14
Entact ID:
Date Exposed: 7/30/14
Describe Damage: (10) Scrapes by the Cat 349E excavator bucket - 1x60", (3) 1"Ø, 4x8", (2) 1/2"Ø, 1x30", 1x48", 3"Ø, Cell 101

Damage Location (ft below top of sheet, inboard side outboard side): 2-16' outboard
Date Repaired: 8/5/14 Partial, 8/6/14 Remaining
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-15
Entact ID:
Date Exposed: 7/31/14
Describe Damage: (10) scrapes by the Cat349E excavator bucket - (6) 1"Ø, 1/2x24", 1/2x3", 1/2x6", 1/2x48". Cell 101/100. Sheet is covered w/ hardened grout from elv. 8.0' to (4.0').

Damage Location (ft below top of sheet, inboard side outboard side): 2-16' outboard
Date Repaired: 8/5/14 Partial, 8/6/14 Remaining
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-16
Entact ID:
Date Exposed: 7/31/14
Describe Damage: (7) Scrapes by the Cat349E excavator bucket - 1/2x4", 1/2x6", 1/2x24", 1x12", 1"Ø, 1x36", 1x12". Cell 100 Sheet is covered w/ hardened grout from elv. 7.0' to (4.0')

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard
Date Repaired: 8/5/14 Partial, 8/6/14 Remaining
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/6/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-17

Extact ID:

Date Exposed: 8/5/14

Describe Damage: (15) Scrapes by the Cat 349E excavator bucket- (2) 1×60", 1×24", 1×72", (4) 1/2×12", (4) 1" ø, 1/2×8", 1/2×3, 3" ø.

Cell 100

Damage Location (ft below top of sheet, inboard side, outboard side): 2-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and treated as repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-18

Extact ID:

Date Exposed: 8/5/14

Describe Damage: (12) Scrapes by the Cat 349E excavator bucket- 1/4×72", 1/2×24", 1×6", 1×6", 1" ø, 1/2×2", (2) 3" ø, (2) 1/2×12", (2) 1/2" ø.

Cell 100. Sheet is covered w/ hardened grout from elv 5.0' to 1.0'

Damage Location (ft below top of sheet, inboard side, outboard side): 2-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and treated as repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-19

Extact ID:

Date Exposed: 8/5/14

Describe Damage: (11) Scrapes by the Cat 349E excavator bucket- (6) 1/2" ø, 1×8", 1/2×4", (2) 1×60", 3×8".

Cell 99

Sheet is covered w/ hardened grout from elv. 7.0' to 3.0'.

Damage Location (ft below top of sheet, inboard side, outboard side): 1-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and treated as repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-20

Extact ID:

Date Exposed: 8/5/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket- (4) 1" ø, 1×36", 1/2×60", (2) 1×12".

Cell 99

Sheet is covered w/ hardened grout from elv. 6.0' to 1.0'

Damage Location (ft below top of sheet, inboard side, outboard side): 4-15' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and treated as repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-21

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (6) Scrapes by the Cat 349E excavator bucket - 1"ø, 1"x24", 1x36", 1x12", 1/2x6", 3"ø. Cell 99

Damage Location (ft below top of sheet, inboard side outboard side): 2-12' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-22

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket - 1/2x12", 1/2x12", 1/2x8", 1/4x18", 4"ø, 1x6", 1/2"ø, 1/2x3". Cell 98

Damage Location (ft below top of sheet, inboard side outboard side): 2x12' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-23

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (5) scrapes by the Cat 349E excavator bucket - 1x36", 1/2x8", 1x8", 1/2x48", 1/4x24". Cell 98.

Damage Location (ft below top of sheet, inboard side outboard side): 4-10' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-24

Entact ID:

Date Exposed: 8/6/14

Describe Damage: (12) Scrapes by the Cat 349E excavator bucket - (2) 1/2x14", 10"ø, 1/2x3", 1/2x6", 1/2x10", 1"ø, 1/2"ø, 2"ø, 1/2x36", 1"ø, 1/2x6". Cell 98

Damage Location (ft below top of sheet, inboard side outboard side): 2-10' outboard

Date Repaired: 8/6/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-25

Extact ID:

Date Exposed: 8/7/14

Describe Damage: (7) Scrapes by the Cat 349E excavator bucket - 1/2x48", (2) 1"ø, 1/2x12", 2x6", 2"ø, 1x12", Cell 97

Damage Location (ft below top of sheet, inboard side, outboard side): 3-13' outbaard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log shall be completed for each sheet pile section that is exposed and repaired if repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-26

Extact ID:

Date Exposed: 8/7/14

Describe Damage: (6) Scrapes by the Cat 349E excavator bucket - (2) 1"ø, 1/2x18", 1/2x24", 1/2x8", 1x24". Cell 97

Damage Location (ft below top of sheet, inboard side, outboard side): 8-13' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log shall be completed for each sheet pile section that is exposed and repaired if repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-27

Extact ID:

Date Exposed: 8/7/14

Describe Damage: (4) Scrapes by the Cat 349E and Cat 322C excavator buckets - 1/4x3", 1/2x4", 1/2x6", 1"ø. Cell 97. Sheet is covered w/ hardened grout from elv. 7.0' to (4.0')

Damage Location (ft below top of sheet, inboard side, outboard side): 10-14' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, applied epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log shall be completed for each sheet pile section that is exposed and repaired if repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-28

Extact ID:

Date Exposed: 8/7/14

Describe Damage: (8) Scrapes by the Cat 349E and Cat 322C excavator buckets - 1/2x36", 1/2x24", 1"ø, 1x12", 1x12", 2x8", 1x14", 1/2"ø. Cell 96.

Damage Location (ft below top of sheet, inboard side, outboard side): 10-14' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure washed, wire brushed, applied epoxy w/ 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log shall be completed for each sheet pile section that is exposed and repaired if repair

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-29

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (7) Scrapes by the Cat 349E and Cat 322C excavator buckets- 1/2x36", 1"ø, 1x6", 12"ø, 1/2x48", 1x18", 1/2x24". Cell 96.

Damage Location (ft below top of sheet, inboard side outboard side): 10-14' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-30

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (9) scrapes by the Cat 349E and Cat 322C excavator buckets- 2"x60", 1x36", 1x24", 10"ø, 1x30", 2"ø, 1x18", 1/2x36", 1/2x12"! Cell 96

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard.

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-31

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (5) scrapes by the Cat 349E and Cat 322C excavator buckets- 1x36", 1x12", 2"ø, 2x12", 1/2x24", cell 96/95

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: BranShea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 19P-32

Entact ID:

Date Exposed: 8/8/14

Describe Damage: (4) Scrapes by the Cat 349E excavator bucket - 1/2x60", 3"ø, 1x24", 1x12", Cell 95.

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/13/14 Partial, 8/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply, epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/15/14

A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-33

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (8) Scrapes by the Cat 349E and Cat 322C excavator buckets- 1/2×2", 1×8", 1/2×4", 1×48", 3"Ø, 6"Ø, 2"×48", 1×12", Cell 95

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-34

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (16) Scrapes by the Cat 349E and Cat 322C excavator buckets- 1×36", 1×48", 2"Ø, 3×8", 1×3", 1×8", 1/2"Ø, 1"Ø, 1×4", 1/4×6", (2) 2"Ø, 1×2", 1/2×36", 1/2"Ø, 1"Ø. Cell 95

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-35

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets- 4×12", 1×12", 2×48", 1×18", 1/4×12", 3"Ø, 1/2×18", 1"Ø. Cell 94

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-36

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (10) scrapes by the Cat 349E and Cat 322C excavator buckets- 1×6", 1/2×6", 1"Ø, 1/2×36", 1/2×12", 2×5", 2×48", 1×18", 1×24", 2×36". Cell 94

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-37

Entact ID:

Date Exposed: 8/11/14

Describe Damage: (8) scrapes by the Cat 349E and Cat 322C excavator buckets- 2"Ø, 2×48", 1×6", 1"Ø, 1/2×12", 1/2×24", 1/2×3", 1/2×12"; Cell 94

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-38

Entact ID:

Date Exposed: 8/13/14

Describe Damage: (10) scrapes by the Cat 349E and Cat 322C excavator buckets- 2"Ø, (3)1"Ø, 1/2×60", 1/2×6", 3×24", 1/2×12", 1/2"Ø, 1/2×2"; Cell 93

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-39

Entact ID:

Date Exposed: 8/13/14

Describe Damage: (9) Scrapes by the Cat 349E and Cat 322C excavator buckets- 7×24", 2×10", 1×3", (2)1×24", 1/2×48", 2"Ø, 3'Ø, 1/4×4"; Cell 93

Damage Location (ft below top of sheet, inboard side outboard side): 6-14' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-40

Entact ID:

Date Exposed: 8/13/14

Describe Damage: (11) Scrapes by the Cat 349E and Cat 322C excavator buckets- (6)1"Ø, (2)1/2×24", 1/2×14", 1×3", 3'Ø. Cell 93/92

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/15/14 Partial, 8/21/14 total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-41
Entact ID:
Date Exposed: 8/14/14
Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- (5) 1"Ø, 1/2×12", 1/2×18", 2×12", 2×6", 1×36", (2) 3"Ø. Cell 92

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-42
Entact ID:
Date Exposed: 8/14/14
Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- (2) 1/2×3", 1/2×24", (2) 1×48", 1×24", 3×8", 1/2×6". Cell 92

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-43
Entact ID:
Date Exposed: 8/14/14
Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- 1×36", 1/2×6", 1/2×4", 1×2", 1×12", (3) 1"Ø. Cell 92

Damage Location (ft below top of sheet, inboard side outboard side): 1-14' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-44
Entact ID:
Date Exposed: 8/14/14
Describe Damage: (9) Scrapes by the Cat 349E and 322C excavator buckets- (2) 2"Ø, 3"Ø, 1/2×8", (2) 1/2×6", 1×36", 2×5", 1/2×3". Cell 92/91

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-45

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (4) Scrapes by the Cat 349E and 322C excavator buckets - (2) 3"Ø, 1×24", 1/2×12". Cell 91

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: AP-46

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (3) Scrapes by the Cat 349E and 322C excavator buckets - 1×6", 1×12", 1/4"×6". Cell 91

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-47

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets - (5) 1"Ø, 1×8", 1/2×6", 1/2×12". Cell 91

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-48

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (13) Scrapes by the Cat 349E and 322C excavator buckets - (2) 1/2×18", 2×6", 6×12", (5) 1"Ø, (3) 1/2"Ø, 1×8". Cell 90

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-49

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (8) Scrapes by the Cat 349E excavator bucket- (2) 1"Ø, 2x12", 1/2x12", 1/4x4", 1/4"x8", 1x3", 1x12", Cell 90

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-50

Entact ID:

Date Exposed: 8/18/14

Describe Damage: (11) Scrapes by the Cat 349E and 322C excavator buckets- (3) 1"Ø, 1x12", 1x36", 1x18", 1/4x12", (2) 2x4", 1/2x24", 1/2x3", Cell 90

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-51

Entact ID:

Date Exposed: 8/19/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets- 1/4x4", 1/2x12", 1/2x14", 2"Ø, 1"Ø, 1x18", 1/2x3", 1/2x6", 1/2x6", 1"Ø, 1/2"Ø. Cell 90/89.

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-52

Entact ID:

Date Exposed: 8/19/14

Describe Damage: (14) Scrapes by the Cat 349E and 322C excavator buckets- 12"Ø, (4) 1"Ø, 1x36", 1x12", 1/2x36", (4) 1/2x4", 1/4x6", 1/2"Ø. Cell 89

Damage Location (ft below top of sheet, inboard side outboard side): 4-15' outboard

Date Repaired: 8/20/14 Partial, 8/21/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 8/21/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 31, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/31/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 31, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Pretrenching and other activities along the western end of Kellogg Street may result in material or sediment washing into the street during storm events.
2	IA2Q4A1AL8	Exclusion Zone fencing around the Contamination Reduction Zone on SA-6 South requires maintenance.
3	IA2Q4A1AL8	Surcharge material at the west end of the SA-6 South cap area is close to the top of the sheet pile containment and erosion run-off from a storm may result in material washing into the backfill area or onto SA-7.
4	IA2Q4A1AL8	Used PPE is being stockpiled in plastic garbage bags at various locations throughout SA-6 South

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 07/31/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt dams or other erosion control measures along the southern perimeter of the pre-trench work zone to prevent sediment run-off onto Kellogg Street.	
2	Repair EZ fencing around the CRZ.	8-1-14 RAD
3	Install erosion control measures around the cap area EZ on SA-6 south as required to prevent sediment run-off onto the excavation area or SA-7.	8-4-14 RAD
4	Stockpile used PPE bags in one protected location. Dispose of the material as soon as practical.	8-5-14 RAD

Construction Manager: _____ **Date:** 08/05/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 7, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection		X		3
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		6
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/07/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, August 07, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	silt fence installation is not yet complete along the top of Cap Area S-1
2	IA2Q4A1AL8	Exclusion Zone fencing around the Exclusion Zone and the Contamination Reduction Zone at the western end of SA-6 South requires maintenance. The CRZ should be labelled with additional signs.
3	IA2Q4A1AL8	Sections of flood protection for the western excavation were lost when Entact removed te temporary sheet pile in that area.
4	IA2Q4A1AL8	A soil pile associated with the relocation of a Kellogg Street fire hydrant blocks parking spaces in the employee parking area.
5	IA2Q4A1AL8	Roadways and ramps on the N-1 Surcharge Area require additional delineation.
6	IA2Q4A1AL8	Drums and other miscellaneouse debris are located on SA-6 North.
7	IA2Q4A1AL8	Drums and hoses are located near the recently-modified FLUT well on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 08/07/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Complete the silt fence installation to prevent run-off of sediment from the cap area.	8-11-14 RAD
2	Repair/maintain EZ fencing. Reconfigure the CRZ into a well-labelled corridor between the EZ and the support zone.	8-11-14 RAD
3	Evaluate the excavation area for flood protection requirements and determine a procedure for implementation in the event of a major weather event.	8-8-14 RAD
4	Remove the soil pile	8-8-14 RAD
5	Place traffic cones or other forms of delineation along the eastern ramp and along the top of the southern face of Surcharge Area N-1.	8-11-14 RAD
6	Remove the drums to a central staging area.	8-8-14 RAD
7	Remove the drums to a central staging area. Pick up the hoses.	8-8-14 RAD

Construction Manager: _____ **Date:** 08/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 14, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/14/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, August 14, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Water has accumulated in the secondary containment of the Entact waste oil tank.
2	IA2Q4A1AL8	The Entact conex box contains several unlabeled plastic containers dry chemical.
3	IA2Q4A1AL8	Sediment control measures at the Exclusion Zone entrance for the western excavation area are inadequate.
4	IA2Q4A1AL8	Many of the steel drums located in the eastern end of the Exclusion Zone and elsewhere on the site are damaged and no longer servicable.
5	IA2Q4A1AL8	Lengths of lay-flat hose remain on the ground at the SA-7 southwest spillway

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 08/14/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the accumulated storm water from the secondary containment.	8-18-14 RAD
2	Properly label the chemical containers or else remove them from the site.	8-18-14 RAD
3	Instal silt dams or other comperable measures to prevent sediment from leaving the EZ during storm events.	8-20-14 RAD
4	Discard of any drums on site which are no longer used due to damge.	8-15-14 RAD
5	Remove the lengths of hose.	8-18-14 RAD

Construction Manager: _____ **Date:** 08/20/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 22, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☑ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/22/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, August 22, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange Exclusion Zone fencing requires is damaged at several locations around the Study Area 6 South EZ.
2	IA2Q4A1AL8	A 55 gallon drum containing lubricant is improperly stored on a broken pallet in the mechanics area on SA-6 South.
3	IA2Q4A1AL8	Windscreen on the perimeter fence at the Kellogg Street jughandle is detached at the bottom.
4	IA2Q4A1AL8	Following last night's rain event, stormwater has ponded on the western end of Kellogg Street.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 08/22/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the orange EZ fencing as required.	8/25/14 RAD
2	Remove the broken pallet and store the drum properly (on a spill pallet if it is currently in use).	8/25/14 RAD
3	Re-attach the windscreen material along the bottom edge.	8/25/14 RAD
4	Pump the ponded storm water into the site for handling.	8/25/14 RAD

Construction Manager: _____ **Date:** 08/25/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 28, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams		X		1
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		3
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection		X		4
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/29/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, August 28, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	There are insufficient erosion control measures present between the recently-installed surcharge material on the outside of the SA-6 South hydraulic barrier and the swale in the northwestern corner of SA-6 South.
2	IA2Q4A1AL8	Exclusion Zone fencing surrounding the material stockpiles on the south side of the excavation is not continuous and the Exclusion Zone is open on the western perimeter.
3	IA2Q4A1AL8	Storm water has accumulated in the secondary containment of the waste oil storage tank.
4	IA2Q4A1AL8	Flood control measures are inadequate around the excavation and stockpile areas on SA-6 South.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 08/29/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install a sufficient sediment check dam or silt fencing across the top of the SW corner swale which leads to the Hackensack River.	9/2/14 RAD
2	Install EZ fencing to properly delineate the perimeter of the Exclusion Zone.	9/3/14 RAD
3	Remove the accumulated storm water from the secondary containment basin, restoring it's capacity to a full tank volume.	9/3/14 RAD
4	Install/repair/update flood control measures on SA-6 South to meet contract requirements. Perform elevation checks on measures to confirm the they meet specs.	9/3/14 RAD

Construction Manager: _____ **Date:** 09/03/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (July 2014)
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (July 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: July 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the July 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

New Jersey Department of Environmental Protection
Division of Water Quality

PI 234822

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	7	1	2014	To	7	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **GRADE AND REGISTRY NUMBER (IF APPLICABLE)**

John J Morris — 8/14/2014 — 973-455-4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR | **DATE** | **AREA CODE/PHONE NUMBER**

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J. Morris, Remediation Director — John J Morris — 8/14/2014 — 973-455-4003

NAME AND TITLE | **SIGNATURE** | **DATE** | **AREA CODE/PHONE NUMBER**

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Month	COMP24
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	7/1/2014 TO 7/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the July 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
7	01	14	7	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,957	84,291 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.91	0.98	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0941	0.0941	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris
Signature of Principal
Executive or Authorized Agent

John J. Morris
Remediation Portfolio Director
Type Name and Title

8/14/14
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
7	01	14	7	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,416,653 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 12,913,622

DATE	BOD (mg/l)	TSS (mg/l)
7/22/2014	<10	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 8/14/14

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)						MONTH: July 2014					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
7/1/2014	Angel Trujillo	10496969	10575542	78,573	0.078573	7.22	1.400									0.92
7/2/2014	Angel Trujillo	10575542	10654885	79,343	0.079343	7.54	1.400									0.93
7/3/2014	Angel Trujillo	10654885	10732944	78,059	0.078059	7.85	1.400									0.91
7/4/2014	Angel Trujillo	10732944	10816023	83,079	0.083079	7.53	1.400									0.97
7/5/2014	Angel Trujillo	10816023	10871944	55,921	0.055921	7.89	1.400									0.65
7/6/2014	Angel Trujillo	10871944	10941902	69,958	0.069958	7.64	1.400									0.82
7/7/2014	Angel Trujillo	10941902	11015239	73,337	0.073337	7.57	1.400									0.86
7/8/2014	Angel Trujillo	11015239	11094128	78,889	0.078889	7.96	1.400									0.92
7/9/2014	Angel Trujillo	11094128	11173903	79,775	0.079775	7.65	1.400									0.93
7/10/2014	Angel Trujillo	11173903	11250619	76,716	0.076716	7.80	1.400									0.90
7/11/2014	Angel Trujillo	11250619	11331169	80,550	0.08055	7.68	1.400									0.94
7/12/2014	Angel Trujillo	11331169	11414478	83,309	0.083309	7.83	1.400									0.97
7/13/2014	Angel Trujillo	11414478	11492799	78,321	0.078321	7.54	1.400									0.91
7/14/2014	Angel Trujillo	11492799	11569859	77,060	0.07706	7.59	1.400									0.90
7/15/2014	Angel Trujillo	11569859	11650526	80,667	0.080667	7.57	1.400									0.94
7/16/2014	Angel Trujillo	11650526	11728824	78,298	0.078298	7.84	1.400									0.91
7/17/2014	Angel Trujillo	11728824	11805272	76,448	0.076448	7.43	1.400									0.89
7/18/2014	Angel Trujillo	11805272	11883969	78,697	0.078697	7.33	1.400									0.92
7/19/2014	Angel Trujillo	11883969	11965276	81,307	0.081307	7.35	1.400									0.95
7/20/2014	Angel Trujillo	11965276	12044437	79,161	0.079161	7.34	1.400									0.92
7/21/2014	Angel Trujillo	12044437	12120280	75,843	0.075843	7.24	1.400									0.89
7/22/2014	Angel Trujillo	12120280	12198999	78,719	0.078719	7.34	1.400	<5.0	<10		<0.010	<0.015	<0.010	<0.0002	<0.020	0.92
7/23/2014	Angel Trujillo	12198999	12268740	69,741	0.069741	7.28	1.400									0.81
7/24/2014	Angel Trujillo	12268740	12349396	80,656	0.080656	7.39	1.400									0.94
7/25/2014	Angel Trujillo	12349396	12427044	77,648	0.077648	7.24	1.400									0.91
7/26/2014	Angel Trujillo	12427044	12511335	84,291	0.084291	7.31	1.400									0.98
7/27/2014	Angel Trujillo	12511335	12593097	81,762	0.0818	7.37	1.400									0.95
7/28/2014	Angel Trujillo	12593097	12670158	77,061	0.077061	7.38	1.400									0.90
7/29/2014	Angel Trujillo	12670158	12752346	82,188	0.082188	7.64	1.400									0.96
7/30/2014	Angel Trujillo	12752346	12833164	80,818	0.080818	7.30	1.400									0.94
7/31/2014	Angel Trujillo	12833164	12913622	80,458	0.080458	7.32	1.400									0.94
TOTAL				2,416,653	2.416653			<5.0	<10		<0.010	<0.015	<0.010	<0.0002	≤0.020	
			High:	84,291											High:	0.98
			Average:	77,957											Average:	0.91

WW

E

JB72245

Honeywell Chain Of Custody / Analysis Request

...st Labs		AESI Ref:	41842.41914
...UTE 130		COC#	[redacted]
...NJ 8810			
...0200		Lab Proj # (SDG):	
...ng Co.: Parsons		Lab ID	[redacted]
...Contact: (name, co., address)		Site ID	[redacted]
...hy P: (973) 455-2969 E: helen.fahy@honeywell.com		Lab Job #	HWINJM32815
...ll International		Authorized User:	Honeywell
...mble Road Morristown, NJ 07962			
...py To: Helen Fahy (Honeywell)			
...To: Helen Fahy (Honeywell)			

Site Name: Hudson County
Location of Site: Jersey City, NJ
Phase: CS
Sampling Program: 087: JCIA
Privileged & Confidential
EDD To:
Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

Sample Identification: ...ation ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Field Filtered (Sample 2)	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
												3	3	3	1	2	2	0	0	2						
087-WW			087-WWE-072214-A	7/22/2014	14:45	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1				pH = 7.35	
087-WW			087-WWE-072214-B	7/22/2014	14:40	WW	WATER	REG	5	grab	N					X	X				2					
087-WW			087-WWI-072214	7/22/2014	15:00	WW	WATER	REG	3	grab	N									X	3					L27
																										U1217
																										A7
																										G45

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE
JK

...hed by: pH = 7.34 FLS	Company	Parsons	Received by	Company	Acutor	Condition		Custody Seals Intact	✓ #109
...royer	Date/Time	7/22/14	Chris Laud	Date/Time	7/22/14/16W	Cooler Temp.	2.5°C		
...hed by: Chris Laud	Company	Acutest	Received by	Company	Acutest	Condition		Custody Seals Intact	
	Date/Time	7/22/14/16:55		Date/Time	7/22/14 1655	Cooler Temp.			

...tives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

A

JK

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-A		
Lab Sample ID:	JB72245-1	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1400	10	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	07/23/14	07/23/14	JW	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	07/23/14	07/24/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34518
(2) Instrument QC Batch: MA34535
(3) Prep QC Batch: MP80648
(4) Prep QC Batch: MP80810

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-A		
Lab Sample ID:	JB72245-1	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/24/14	KP	SM2540 D-11
pH [a]	7.39		su	1	07/22/14 17:36	MB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-A		
Lab Sample ID:	JB72245-1A	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 10	10	mg/l	1	07/23/14 16:24	KP	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-B		
Lab Sample ID:	JB72245-2	**Date Sampled:**	07/22/14
Matrix:	AQ - Water	**Date Received:**	07/22/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N237060.D	1	07/23/14	DC	n/a	n/a	VN10060
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.7	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	20.2	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.8	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.62	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	60.0	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.6	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	98%		71-128%
2037-26-5	Toluene-D8 (SUR)	98%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	100%		81-114%
1868-53-7	Dibromofluoromethane (S)	101%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@807560 10:06 31-Jul-2014

Report of Analysis

Client Sample ID:	087-WWE-072214-B		
Lab Sample ID:	JB72245-2	Date Sampled:	07/22/14
Matrix:	AQ - Water	Date Received:	07/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	07/23/14	LS	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending August 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to Contractor only.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 6 OF 25

- **2014 Monthly Reports Part 6**

10/14/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

October 14, 2014 ***Via Express Mail***

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-09

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from September 1 – September 30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: September 2014 SA-6/7 Combined Monthly Progress Report No. 2014-09

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-09

Project SA-6 & 7 Remediation

September 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
09/02/14	Droyers Cove Beneficial Environmental Project Pre-Application Meeting Study Area 7 Sediment, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
09/04/14	Design Change Bulletin: Re-align Barrier Wall Due to 72 in. FM Field Verified Location Study Area 6 North/South, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/05/14	Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils (Site 163) Study Area 6 South Chromium Remedy, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/05/14	Incident No. 14-08-15-1405-34 Chromium Site 163 (aka Colonial Concrete Company) NJDEP PI#010374 75 Kellogg Street Study Area 6 South, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/12/14	SA-6 North Treatability – Areas 7 & 8 CAS Injection Test Results Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
09/12/14	Combined Monthly Progress/Highlights Report No. 2014-08 Study Areas 6 and 7, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/15/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
09/15/14	NJPDES Permit NJ0156311: August 2014 Surface Water Discharge Monitoring Report Study Area 7, Jersey City, NJ *(see **Attachment 12**)*	New Jersey Department of Environmental Protection Division of Water Quality
09/15/14	Response to Plaintiffs' Comments on Study Area 6	Honorable Robert G. Torricelli

Date	Submittal/Meeting	Recipient
	North and South Request for Variance for Asphalt Consolidation and Proposed Revisions to Study Area 6 North and South Soil Management Plan (Arnold & Porter Correspondence) Jersey City, NJ	Office of the Special Master
09/16/14	Special Master Meeting	N/A
09/22/14	Study Area 6 South Consent Decree - Excavation Completion of Cells 100-104A Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/24/14	Study Area 6 (SA-6) North Treatability Program Bench Scale System Set Up Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/24/14	New Source of Imported Clean Fill Study Area 6 (SA-6) Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/30/14	Surcharge Monitoring Plan – Monthly Report No. 5 Study Area 6 North/South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	9/7/14	9/14/14	9/21/14	9/28/14
Construction Management (AMEC)	11	11	11	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	47	49	49	47
Arecon/US Ecology Subcontractors	1	0	1	1
ERFS In Situ Treatment	1	0	0	0
Summit Drilling	1	0	0	0
Siemens	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Other	0	0	0	1
TOTAL	**67**	**66**	**67**	**67**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #17 in well 088-IW-02.
- Conducted Pre-construction meeting for the Above-grade Demolition of the four designated JCIA Structures on September 4, 2014.
- Issued Limited Notice to Proceedto the JCRA demolition contractor on September 17, 2014.
- Collected groundwater parameter measurements from 15 selected temporary well points associated with the in situ treatment activities at Site 163.
- Abandoned all 57 temporary well points associated with the in situ treatment activities at Site 163.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 2**0**1 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on September 11, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	9/7/14	9/14/14	9/21/14	9/28/14
Avg. Gallons Treated & Discharged (per day)	77,717	76,980	77,592	76,809
Average Flow (gpm) for Operating Period	55	53	55	54
Avg. Hours of Plant Operation	24	24	24	24
GWTP InfluentTanks (gal.)	10,116	5,760	6,720	5,877

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued excavation activities in cells 83-73.
- Continued storm-water management activities.
- Continued delineation activities associated with anomalous material in the southern portion of Cell 105. A summary of the results and boring locations is presented on attached figure.
- On September 23, 2014, an abatement contractor was mobilized to remove a total of 800 sq. ft.of ceramic and mastic ACM from the former footprint of the concrete plant garage.

- Excavated approximately 100 cubic yards of soil outside the temporary sheets as part of the non-chromium remedy.
- Continued installation of the Contingent Groundwater Extraction System Pipe.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	21.35	21.35
Entact/ Horowith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	20	21.33	426.68
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	3	13.01	39.03

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 83-73
Excavation Completed	Cell Number(s) 84-76 Volume Excavated - Total for Reporting Period: 14,495CY/ Total to Date: 117,122 CY
Backfill in Progress	Cell Number(s) 104-76

3. BACKFILL MATERIALS USED

Source	Week Ending			
	9/7/14	9/14/14	9/21/14	9/28/14
<20ppm re-use, CY	0	68	721	720
Weldon, Import-Tons Screenings	3,245	4,367	2,073	4,666
Tilcon, Import-Tons DGA	608	0	0	0
Tilcon, Import Tons – 1.5” Stone	0	254	0	178
Weldon, Imported Tons - QP	590	1,221	1,999	0
Weldon, Imported Tons - DGA	0	0	0	0
Celgene - Loads	0	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	0	309	0

E. SURCHARGE OPERATIONS

- Area 1S: Surcharge continued with placement of imported Celgene soils between the subgrade and surcharge design grade. Surcharge placement is approximately 95% complete.
- Area 2S: Surcharging continued from 1S into the western portion of 2S. Surcharge placement consisted of both chromium impacted soils to the design subgrade and imported Celgene soils and is approximately 50% complete.
- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. No Surcharge has been initiated.
- Area 1N: Began Surcharge removal activities on 8/29/14. Surcharge removal activities area approximately 50% complete. Details were provided in the September Surcharge Monitoring Report No. 5.
- Area 2N: Instrumentation Installation 100% complete. Surcharge being removed from Area 1N is being relocated to Area 2N. Surcharge placement is approximately 60% complete.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- A total of 14 pair of sheet pile was driven on SA6 North from Sta14+00 to 14+60.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14	Pending	Pending	Pending
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete final walkthrough of the Jersey City Incinerator Authority structures with representatives from JCIA and JCRA.
- Begin mobilization activities for the above grade demolition of the four designated JCIA Structures.
- Continue placement of surcharge materials in SA-6S Area 1S and 2S.
- Continue off loading of surcharge materials from SA-6N Area 1N.
- Continue placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system trench on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Continue excavation activities in SA-6S Cells 71-59.
- Continue stockpiling of presumed <20 mg/kg for additional sampling.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Begin excavation activities associated with Site 163.
- Continue dewatering and storm-water management activities.
- Conduct S-3 Injection/Mass Removal Event No. 18 in injection well to be determined.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Begin cap thickness verification inspections, pore water sampling, bathymetric surveys and biological sampling of SA7 sediments pursuant to Long Term Monitoring Plan.

ATTACHMENTS:

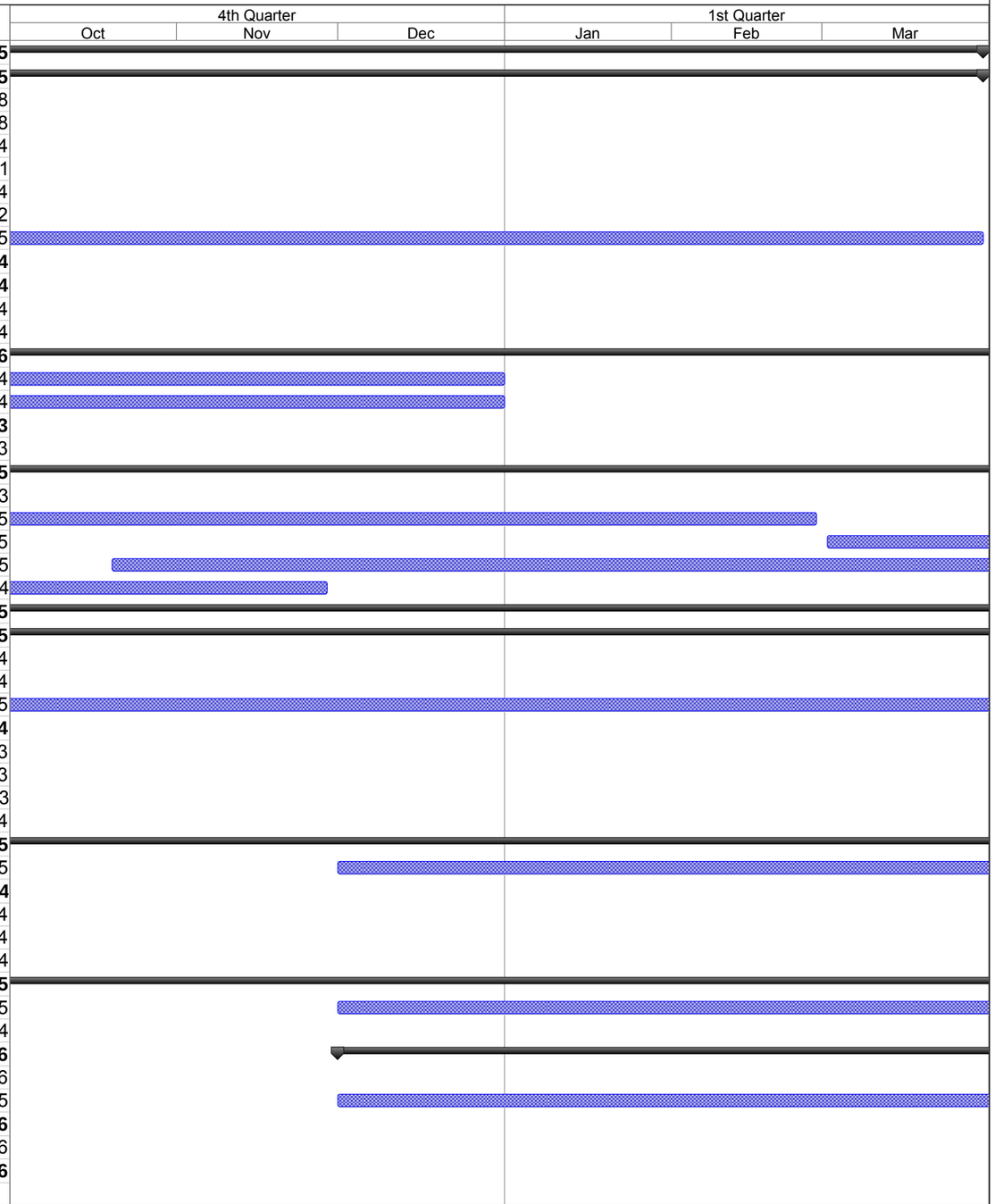
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Lens of Anomalous Material – Supplemental Boring Locations
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-3)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Monitoring Locations
    - Sheet Pile Repair Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (August 2014)
    - 9/15/14 NJDEP Correspondence re: Administrative Revocation NJDPES Permit #NJG0156311
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (August 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

September 2014 SA-6/7 Progress Report
Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Thu 10/2/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Contractor backfilling excavations on Kellogg St. property.



Site Photograph 2: Contractor completing excavation segment on Kellogg St. property.



Site Photograph 3: Contractor Demolishing a foundation on Kellogg St. property 9/17/14.



Photograph 4: Contractor places surcharge soils on Kellogg St Property.



Site Photograph 5: Contractor places surcharge soils on Jersey City Property.



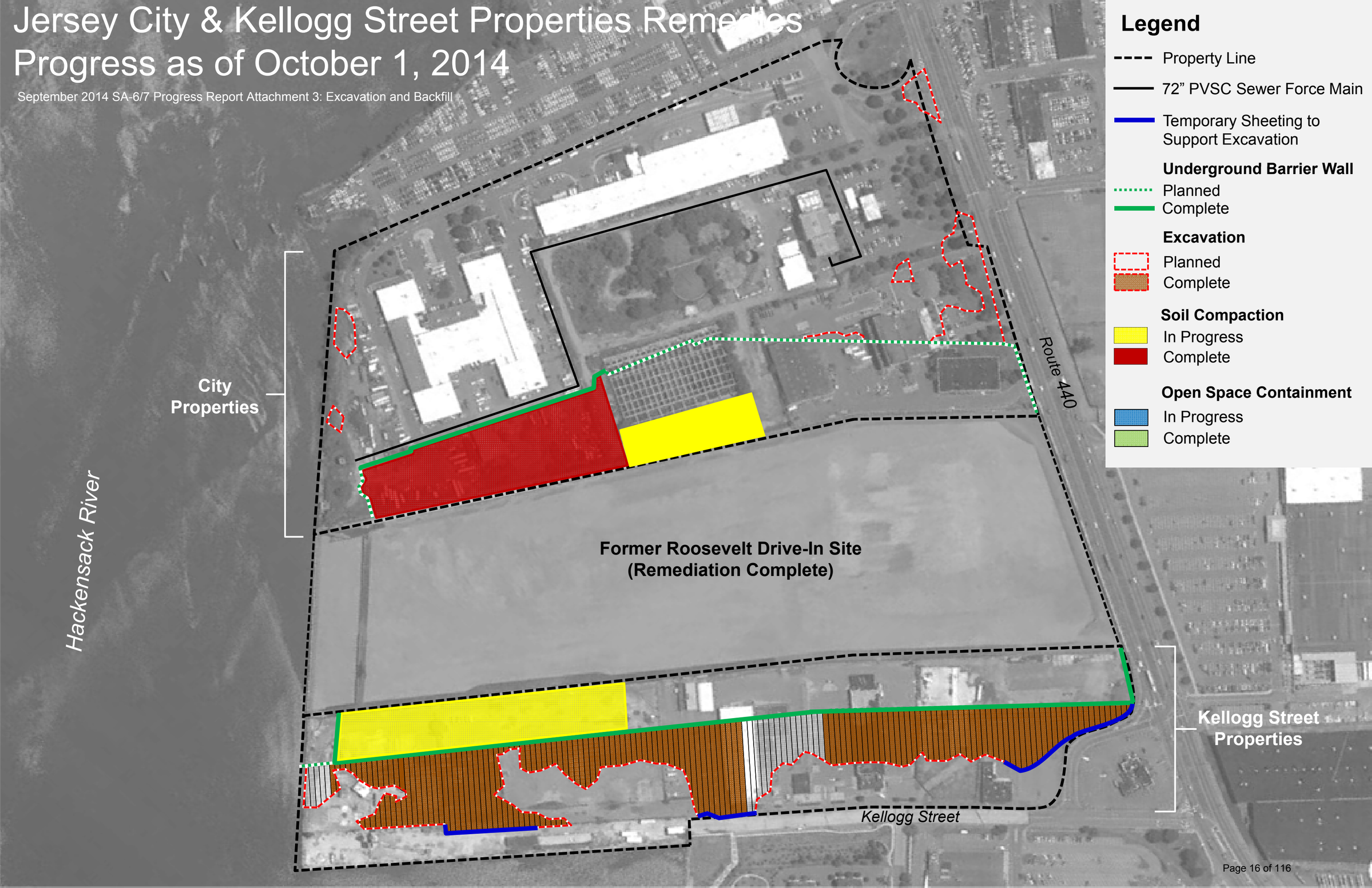
Site Photograph 6: Loading soils for onsite transport.

Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Lens of Anomalous Material – Supplemental Boring Locations
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies
Progress as of October 1, 2014

September 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Legend

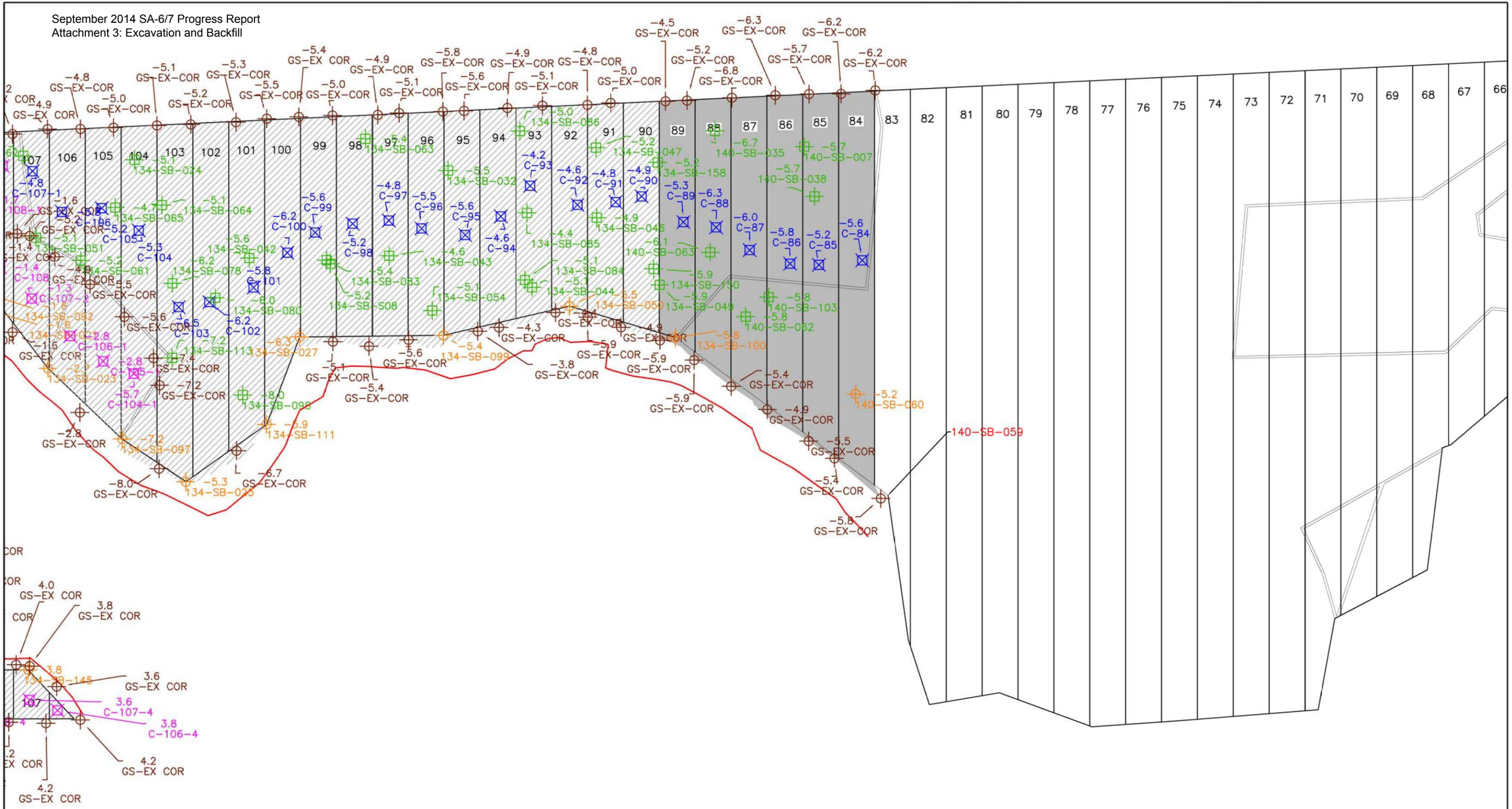
- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA
- TOE OF CHLOROBENZENE AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 08-21-14 TO 09-04-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 9/25/14

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

1 120 119 118 117 116 115 114 113 112 111 110 109 108 107 106 105 104 103 102 101 100

HYDRAULIC BARRIER WALL (TYP)

LIMIT OF EXCAVATION (100 PERCENT DESIGN)

134-SB-021 < 20

134-SB-092 < 20

134-SB-075 < 20

134-SB-174 177.0

134-SB-074 < 20

134-SB-169 175.0

134-SB-161 230.0

134-SB-160 848.0

134-SB-162 198.0

134-SB-173 276.0

134-SB-165 < 0.6J

134-SB-097 < 20

134-SB-172 1220.0

134-SB-171 8.6

134-SB-164 57.0

134-SB-168 403.0

134-SB-167 328.0

134-SB-170 19.6

134-SB-166 114.0

134-SB-175 2.2

LEGEND

134-SB-170 19.6 — SUPPLEMENTAL BORING AND HEX CR RESULTS (PPM)

134-SB-075 < 20 — SIDEWALL SAMPLE COLLECTED DURING PDI DELINEATING LIMIT OF EXCAVATION

Prepared/Date: TDD 10/9/14
Checked/Date: DEN 10/9/14

0 5 10 20
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

LENS OF ANOMALOUS MATERIAL
SUPPLEMENTAL BORING LOCATIONS
FIGURE 1

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
4	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

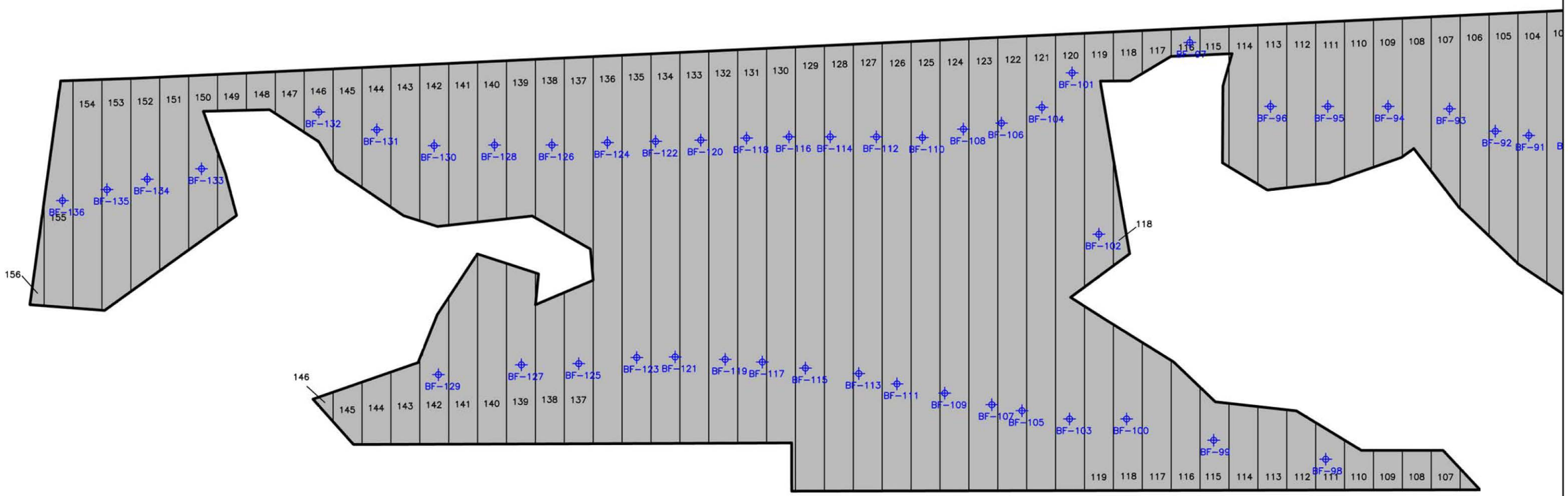
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



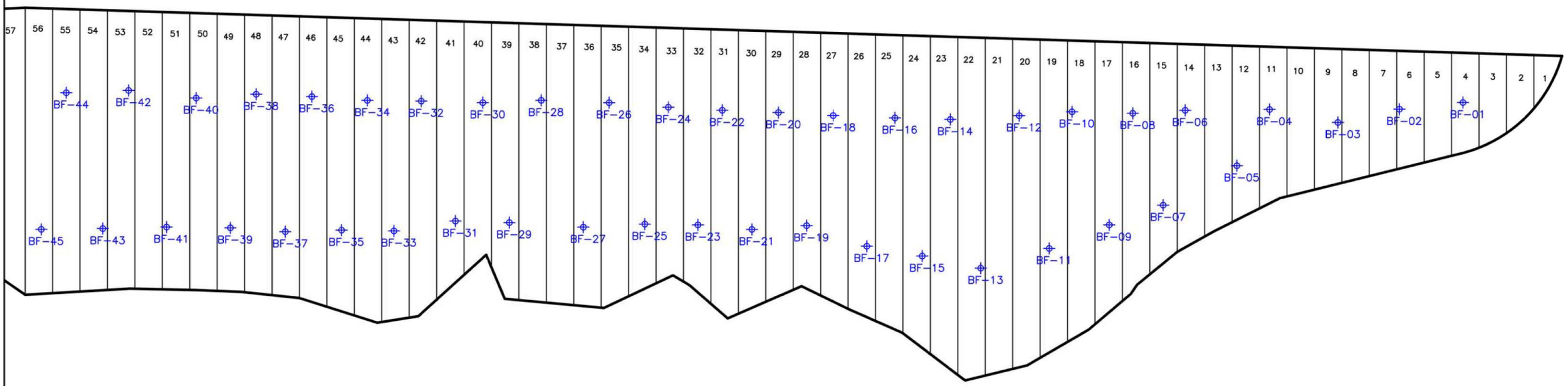
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	PROCTOR OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	PROCTOR OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
1	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	PROCTOR OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
3	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	PROCTOR OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
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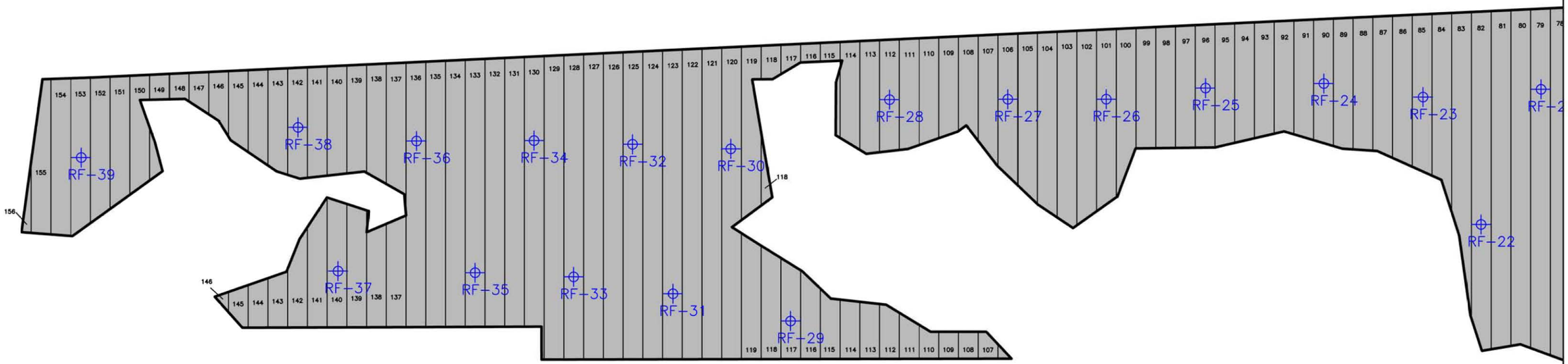
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	PROCTOR OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

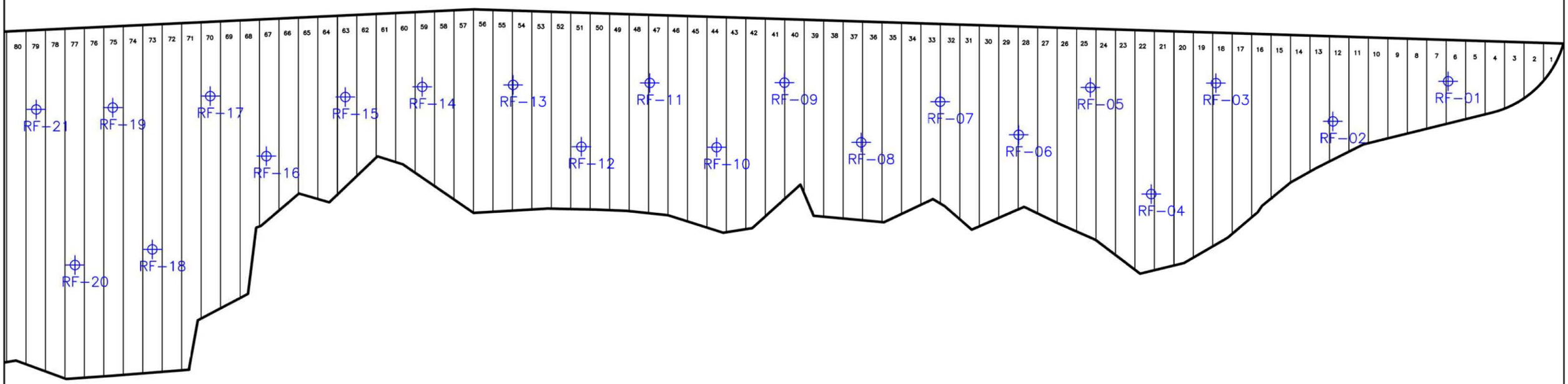
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
08/05/14	1	4	10, 11, 12, EPS	61	0	1,893	1,893	2,356,681	7.9	
08/06/14	1	24	10, 11, 12, EPS	61	1,893	23,795	21,902	2,378,583	15.2	
08/07/14	1	24	10, 11, 12, EPS	61	23,795	44,386	20,591	2,399,174	14.3	
08/08/14	1	24	10, 11, 12, EPS	61	0	8,014	8,014	2,407,188	5.6	
08/11/14	1	72	10, 11, 12, EPS	61	8,014	32,057	24,043	2,431,231	5.6	
08/12/14	1	24	10, 11, 12, EPS	61	32,057	40,072	8,015	2,439,246	5.6	
08/13/14	1	24	10, 11, 12, EPS	61	40,072	59,407	19,335	2,458,581	13.4	
08/14/14	1	24	10, 11, 12, EPS	61	59,407	89,000	29,593	2,488,174	20.6	
08/18/14	1	72	10, 11, 12, EPS	61	0	47,911	47,911	2,536,085	11.1	Flowmeter Reset
08/19/14	1	24	10, 11, 12, EPS	61	47,911	61,590	13,679	2,549,764	9.5	
08/20/14	1	24	10, 11, 12, EPS	61	61,590	75,268	13,678	2,563,442	9.5	
08/21/14	1	24	10, 11, 12, EPS	50	N/A	N/A	14,000	2,577,442	9.7	Flowmeter Blockage - Tank Measured
08/22/14	1	24	10, 11, 12, EPS	50	75,268	77,640	2,372	2,579,814	1.6	
08/25/14	1	72	10, 11, 12, EPS	50	0	20,218	20,218	2,600,032	4.7	Flowmeter Reset
08/26/14	1	24	10, 11, 12, EPS	50	20,218	42,158	21,940	2,621,972	15.2	
08/27/14	1	24	10, 11, 12, EPS	50	42,158	47,944	5,786	2,627,758	4.0	
08/28/14	1	24	10, 11, 12, EPS	50	47,944	54,589	6,645	2,634,403	4.6	
08/29/14	1	24	10, 11, 12, EPS	50	54,589	61,819	7,230	2,641,633	5.0	
09/02/14	1	96	10,11,EPS	41	61,819	95,797	33,978	2,675,611	5.9	
09/03/14	1	24	10,11,EPS	41	95,797	103,042	7,245	2,682,856	5.0	
09/04/14	1	24	10,11,EPS	41	103,042	111,280	8,238	2,691,094	5.7	
09/05/14	1	24	10,11,EPS	41	111,280	120,132	8,852	2,699,946	6.1	
09/08/14	1	72	10,11,EPS	41	120,132	142,954	22,822	2,722,768	5.3	
09/09/14	1	24	10,11,EPS	41	142,954	149,419	6,465	2,729,233	4.5	
09/10/14	1	24	10,11,EPS	41	149,419	155,362	5,943	2,735,176	4.1	
09/11/14	1	24	10,11,EPS	41	155,362	160,305	4,943	2,740,119	3.4	
09/12/14	1	24	10,11,EPS	41	160,305	165,438	5,133	2,745,252	3.6	
09/15/14	1	72	10,11,EPS	41	165,438	182,610	17,172	2,762,424	4.0	
09/16/14	1	24	10,11,EPS	41	182,610	186,925	4,315	2,766,739	3.0	
09/17/14	1	24	10,11,EPS	41	186,925	191,256	4,331	2,771,070	3.0	
09/18/14	1	24	10,11,EPS	41	191,256	196,210	4,954	2,776,024	3.4	
09/19/14	1	24	10,11,EPS	41	196,210	201,455	5,245	2,781,269	3.6	
09/22/14	1	24	10,EPS	20	201,455	216,358	14,903	2,796,172	10.3	
09/23/14	1	24	10,EPS	20	216,358	220,880	4,522	2,800,694	3.1	
09/24/14	1	24	10,EPS	20	220,880	222,951	2,071	2,802,765	1.4	
09/25/14	1	24	10,EPS	20	222,951	226,142	3,191	2,805,956	2.2	
09/26/14	1	24	10,EPS	20	226,142	230,921	4,779	2,810,735	3.3	
09/29/14	1	72	10,EPS	20	230,921	236,427	5,506	2,816,241	1.3	
09/30/14	1	24	10,EPS	11	236,427	238,184	1,757	2,817,998	1.2	

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-3)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
08/06/14	24	0	1,340	1,340	1,340	0.9	
08/07/14	24	1,340	2,525	1,185	2,525	0.8	
08/08/14	24	N/A	N/A	5,500	8,025	3.8	Flowmeter blockage - Tank Measured
08/11/14	72	N/A	N/A	17,500	25,525	4.1	Flowmeter blockage - Tank Measured
08/12/14	24	0	3,528	3,528	29,053	2.5	Flowmeter Reset
08/13/14	24	N/A	N/A	5,500	34,553	3.8	Flowmeter blockage - Tank Measured
08/14/14	24	N/A	N/A	5,000	39,553	3.5	Flowmeter blockage - Tank Measured
08/15/14	24	N/A	N/A	5,500	45,053	3.8	Flowmeter blockage - Tank Measured
08/18/14	72	N/A	N/A	16,500	61,553	3.8	Flowmeter blockage - Tank Measured
08/19/14	24	N/A	N/A	6,000	67,553	4.2	Flowmeter Not Installed - Tank Measured
08/20/14	24	N/A	N/A	6,500	74,053	4.5	Flowmeter Not Installed - Tank Measured
08/21/14	24	N/A	N/A	6,000	80,053	4.2	Flowmeter Not Installed - Tank Measured
08/22/14	24	N/A	N/A	6,250	86,303	4.3	Flowmeter Not Installed - Tank Measured
08/25/14	72	N/A	N/A	17,500	103,803	4.1	Flowmeter Not Installed - Tank Measured
08/26/14	24	N/A	N/A	5,750	109,553	4.0	Flowmeter Not Installed - Tank Measured
08/27/14	24	N/A	N/A	5,700	115,253	4.0	Flowmeter Not Installed - Tank Measured
08/28/14	24	N/A	N/A	5,500	120,753	3.8	Flowmeter Not Installed - Tank Measured
08/29/14	24	N/A	N/A	5,500	126,253	3.8	Flowmeter Not Installed - Tank Measured
09/02/14	96	N/A	N/A	17,000	143,253	3.0	Flowmeter Not Installed - Tank Measured
09/03/14	24	N/A	N/A	5,000	148,253	3.5	Flowmeter Not Installed - Tank Measured
09/04/14	24	N/A	N/A	5,250	153,503	3.6	Flowmeter Not Installed - Tank Measured
09/05/14	24	N/A	N/A	5,500	159,003	3.8	Flowmeter Not Installed - Tank Measured
09/08/14	72	N/A	N/A	16,500	175,503	3.8	Flowmeter Not Installed - Tank Measured
09/09/14	24	N/A	N/A	5,000	180,503	3.5	Flowmeter Not Installed - Tank Measured
09/10/14	24	N/A	N/A	5,250	185,753	3.6	Flowmeter Not Installed - Tank Measured
09/11/14	24	N/A	N/A	5,000	190,753	3.5	Flowmeter Not Installed - Tank Measured
09/12/14	24	N/A	N/A	5,500	196,253	3.8	Flowmeter Not Installed - Tank Measured
09/15/14	72	N/A	N/A	17,500	213,753	4.1	Flowmeter Not Installed - Tank Measured
09/16/14	24	N/A	N/A	5,250	219,003	3.6	Flowmeter Not Installed - Tank Measured
09/17/14	24	N/A	N/A	5,000	224,003	3.5	Flowmeter Not Installed - Tank Measured
09/18/14	24	N/A	N/A	5,500	229,503	3.8	Flowmeter Not Installed - Tank Measured
09/19/14	24	N/A	N/A	5,500	235,003	3.8	Flowmeter Not Installed - Tank Measured
09/22/14	72	N/A	N/A	16,500	251,503	3.8	Flowmeter Not Installed - Tank Measured
09/23/14	24	N/A	N/A	5,250	256,753	3.6	Flowmeter Not Installed - Tank Measured
09/24/14	24	N/A	N/A	4,500	261,253	3.1	Flowmeter Not Installed - Tank Measured
09/25/14	24	N/A	N/A	4,500	265,753	3.1	Flowmeter Not Installed - Tank Measured
09/26/14	24	N/A	N/A	4,500	270,253	3.1	Flowmeter Not Installed - Tank Measured
09/29/14	72	N/A	N/A	12,300	282,553	2.8	Flowmeter Not Installed - Tank Measured
09/30/14	24	N/A	N/A	4,000	286,553	2.8	Flowmeter Not Installed - Tank Measured

Note: Well DW-3 was activated on August 6, 2014.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/30/14	7:50	18,017.49	18,060.14	42,650	18,059,690	
08/04/14	2:15	18,060.14	18,144.28	84,140	18,143,830	
08/05/14	8:00	18,144.28	18,237.50	93,220	18,237,050	PVSC Compliance Sample Collected
08/06/14	7:45	18,237.50	18,289.93	52,430	18,289,480	
08/07/14	5:30	18,289.93	18,324.27	34,340	18,323,820	
08/08/14	7:20	18,324.27	18,357.38	33,110	18,356,930	
08/11/14	9:00	18,357.38	18,450.45	93,070	18,450,000	
08/12/14	7:00	18,450.45	18,524.19	73,740	18,523,740	
08/13/14	6:15	18,524.19	18,579.42	55,230	18,578,970	
08/14/14	7:00	18,579.42	18,610.35	30,930	18,609,900	
08/15/14	6:00	18,610.35	18,630.29	19,940	18,629,840	
08/17/14	6:00	18,630.29	18,701.73	71,440	18,701,280	
08/19/14	8:00	18,701.73	18,805.82	104,090	18,805,370	
08/20/14	6:00	18,805.82	18,884.84	79,020	18,884,390	
08/21/14	8:00	18,884.84	18,986.62	101,780	18,986,170	
08/22/14	7:45	18,986.62	19,094.08	107,460	19,093,630	
08/25/14	8:00	19,094.08	19,193.73	99,650	19,193,280	
08/26/14	8:45	19,193.73	19,298.14	104,410	19,297,690	
08/27/14	7:30	19,298.14	19,368.93	70,790	19,368,480	
08/28/14	8:45	19,368.93	19,461.76	92,830	19,461,310	
08/29/14	5:45	19,461.76	19,495.63	33,870	19,495,180	
08/31/14	5:00	19,495.63	19,566.27	70,640	19,565,820	
09/02/14	8:00	19,566.27	19,626.24	59,970	19,625,790	PVSC Compliance Sample Collected
09/03/14	6:00	19,626.24	19,683.38	57,140	19,682,930	
09/04/14	6:30	19,683.38	19,752.78	69,400	19,752,330	
09/05/14	3:30	19,752.78	19,779.42	26,640	19,778,970	
09/06/14	5:00	19,779.42	19,824.20	44,780	19,823,750	
09/07/14	5:00	19,824.20	19,853.23	29,030	19,852,780	
09/08/14	7:15	19,853.23	19,922.16	68,930	19,921,710	
09/11/14	8:45	19,922.16	20,004.70	82,540	20,004,250	
09/12/14	1:30	20,004.70	20,053.63	48,930	20,053,180	
09/14/14	3:30	20,053.63	20,068.27	14,640	20,067,820	
09/15/14	7:00	20,068.77	20,133.27	65,000	20,132,820	
09/16/14	7:30	20,133.27	20,179.69	46,420	20,179,240	
09/17/14	7:00	20,179.69	20,231.28	51,590	20,230,830	
09/18/14	7:30	20,231.28	20,263.94	32,660	20,263,490	
09/19/14	8:30	20,263.94	20,347.22	83,280	20,346,770	
09/21/14	4:00	20,347.22	20,396.72	49,500	20,396,270	
09/22/14	8:20	20,396.72	20,491.07	94,350	20,490,620	
09/23/14	8:30	20,491.07	20,558.92	67,850	20,558,470	
09/24/14	8:15	20,558.92	20,654.42	95,500	20,653,970	
09/25/14	5:00	20,654.42	20,703.09	48,670	20,702,640	
09/26/14	7:30	20,703.09	20,732.78	29,690	20,732,330	
09/29/14	8:00	20,732.78	20,810.38	77,600	20,809,930	
09/30/14	7:30	20,810.38	20,855.01	44,630	20,854,560	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

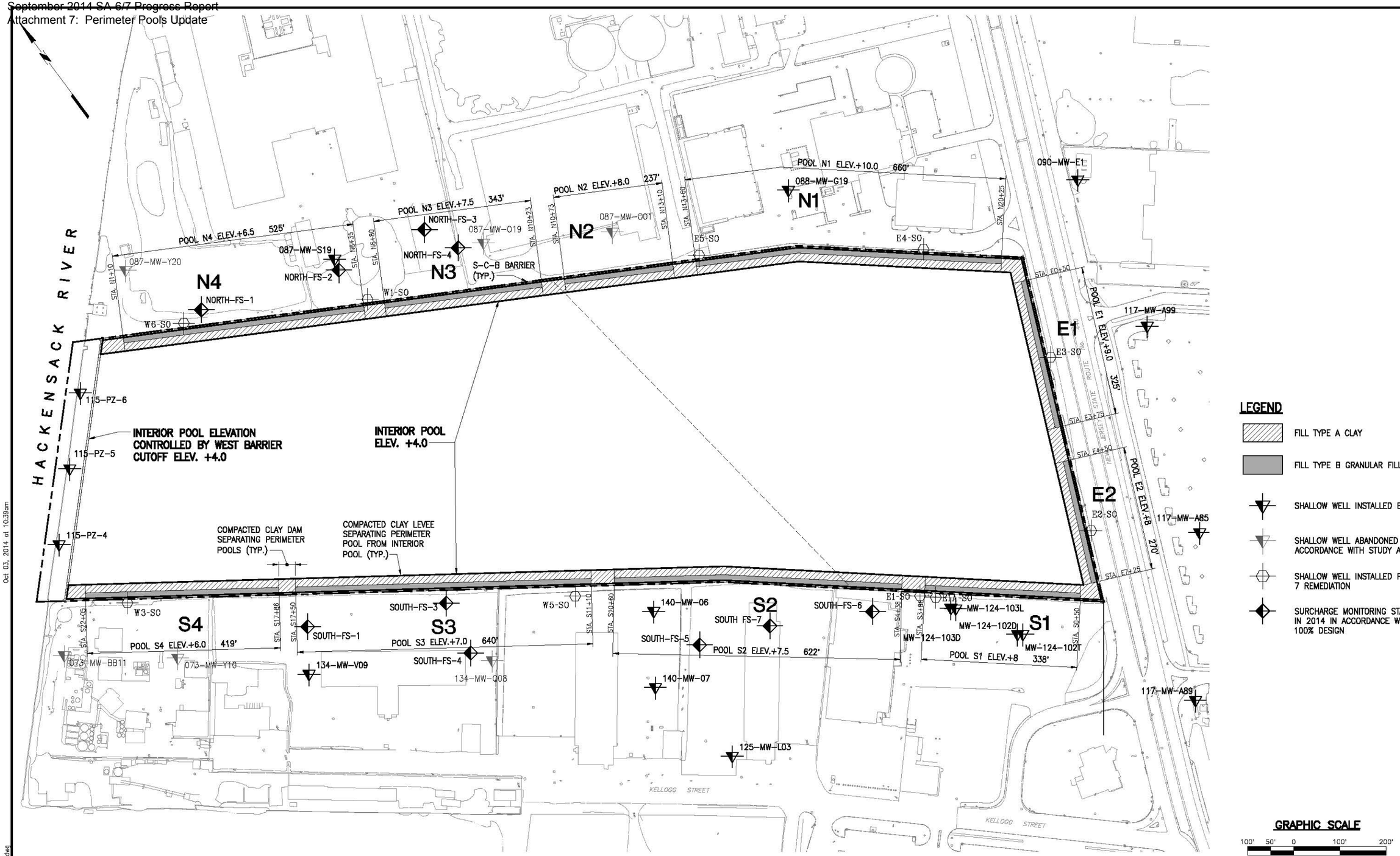
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
92-102	>1000	124-102-1000-a,b	2100	124-102-1000-a1	8/14/2014	12:25	1,680			Yes
				124-102-1000-a2	8/14/2014	12:30	487		Yes	
				124-102-1000-a3	8/14/2014	12:35	446		Yes	
				124-102-1000-a4	8/14/2014	12:40	299		Yes	
				124-102-1000-b1	8/14/2014	12:45	38.4		Yes	
				124-102-1000-b2	8/14/2014	12:50	139		Yes	
				124-102-1000-b3	8/14/2014	12:55	64.8		Yes	
				124-102-1000-b3	8/14/2014	13:00	663		Yes	
88-101	<20	124-101-20-a, b, c	2850	124-101-20-a1	8/22/2014	9:35	22.4		Yes	
				124-101-20-a2	8/22/2014	9:40	13.3	Yes		
				124-101-20-a3	8/22/2014	9:45	23.8		Yes	
				124-101-20-a4	8/22/2014	9:50	24.6		Yes	
				124-101-20-b1	8/22/2014	9:55	22.5		Yes	
				124-101-20-b2	8/22/2014	10:00	17.2	Yes		
				124-101-20-b3	8/22/2014	10:05	11.5	Yes		
				124-101-20-b4	8/22/2014	10:10	21.8		Yes	
				124-101-20-c1	8/22/2014	10:15	6.8	Yes		
				124-101-20-c2	8/22/2014	10:20	25.0		Yes	
				124-101-20-c3	8/22/2014	10:25	13.6	Yes		
				124-101-20-c4	8/22/2014	10:30	4.2	Yes		
83-88	<20	124-88-20-a,b,c (A24)	2800	124-88-20-a1	9/3/2014	7:10	7.1	*		
				124-88-20-a2	9/3/2014	7:15	10.9	*		
				124-88-20-a3	9/3/2014	7:20	15.4	Yes		
				124-88-20-a4	9/3/2014	7:25	3.3	Yes		
				124-88-20-b1	9/3/2014	7:30	9.6	*		
				124-88-20-b2	9/3/2014	7:35	26.6		*	
				124-88-20-b3	9/3/2014	7:40	6.9	Yes		
				124-88-20-b4	9/3/2014	7:45	4.4	Yes		
				124-88-20-c1	9/3/2014	7:50	18.3	Yes		
				124-88-20-c2	9/3/2014	7:55	2.6	Yes		
				124-88-20-c3	9/3/2014	8:00	9.4	Yes		
				124-88-20-c4	9/3/2014	8:05	16.2	Yes		
79-82	<20	124-82-20-a,b,c (A25)	2800	124-82-20-a1	9/17/2014	8:10	23.9		*	
				124-82-20-a2	9/17/2014	8:15	16.8	*		
				124-82-20-a3	9/17/2014	8:20	35.3		*	
				124-82-20-a4	9/17/2014	8:25	12.9	*		
				124-82-20-b1	9/17/2014	8:30	34.6		*	
				124-82-20-b2	9/17/2014	8:35	142.0		*	
				124-82-20-b3	9/17/2014	8:40	25.4		*	
				124-82-20-b4	9/17/2014	8:45	12.8	*		
				124-82-20-c1	9/17/2014	8:50	33.7		*	
				124-82-20-c2	9/17/2014	8:55	16.5	*		
				124-82-20-c3	9/17/2014	9:00	26.8		*	
				124-82-20-c4	9/17/2014	9:05	39.2		*	
73-78	<20	124-78-20-a,b,c (A26)	2300	124-78-20-a1	9/30/2014	7:45	**			
				124-78-20-a2	9/30/2014	7:50	**			
				124-78-20-a3	9/30/2014	7:55	**			
				124-78-20-a4	9/30/2014	8:00	**			
				124-78-20-b1	9/30/2014	8:05	**			
				124-78-20-b2	9/30/2014	8:10	**			
				124-78-20-b3	9/30/2014	8:15	**			
				124-78-20-b4	9/30/2014	8:20	**			
				124-78-20-c1	9/30/2014	8:25	**			
				124-78-20-c2	9/30/2014	8:30	**			
				124-78-20-c3	9/30/2014	8:35	**			
				124-78-20-c4	9/30/2014	8:40	**			

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS
10-02-2014

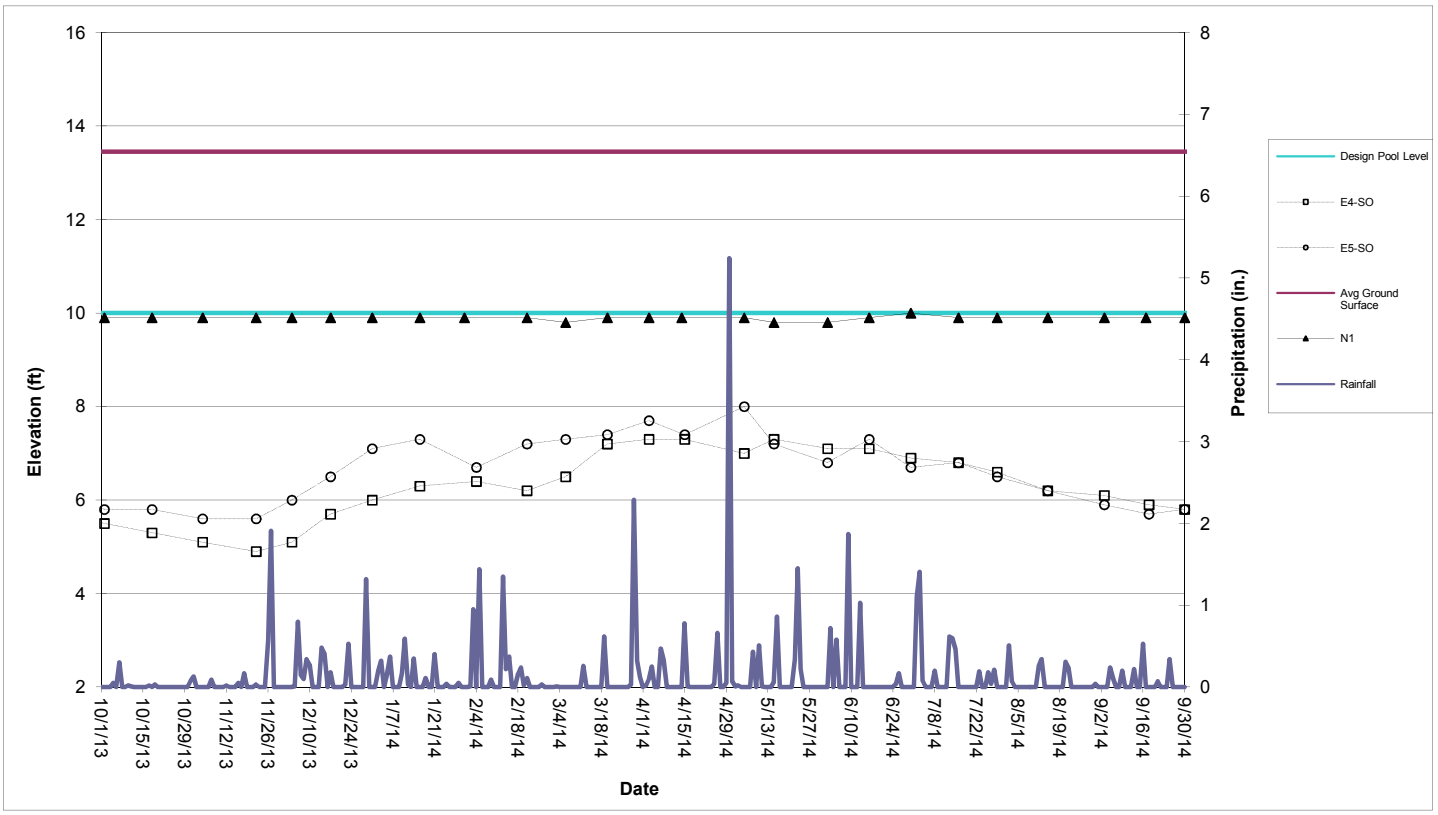
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

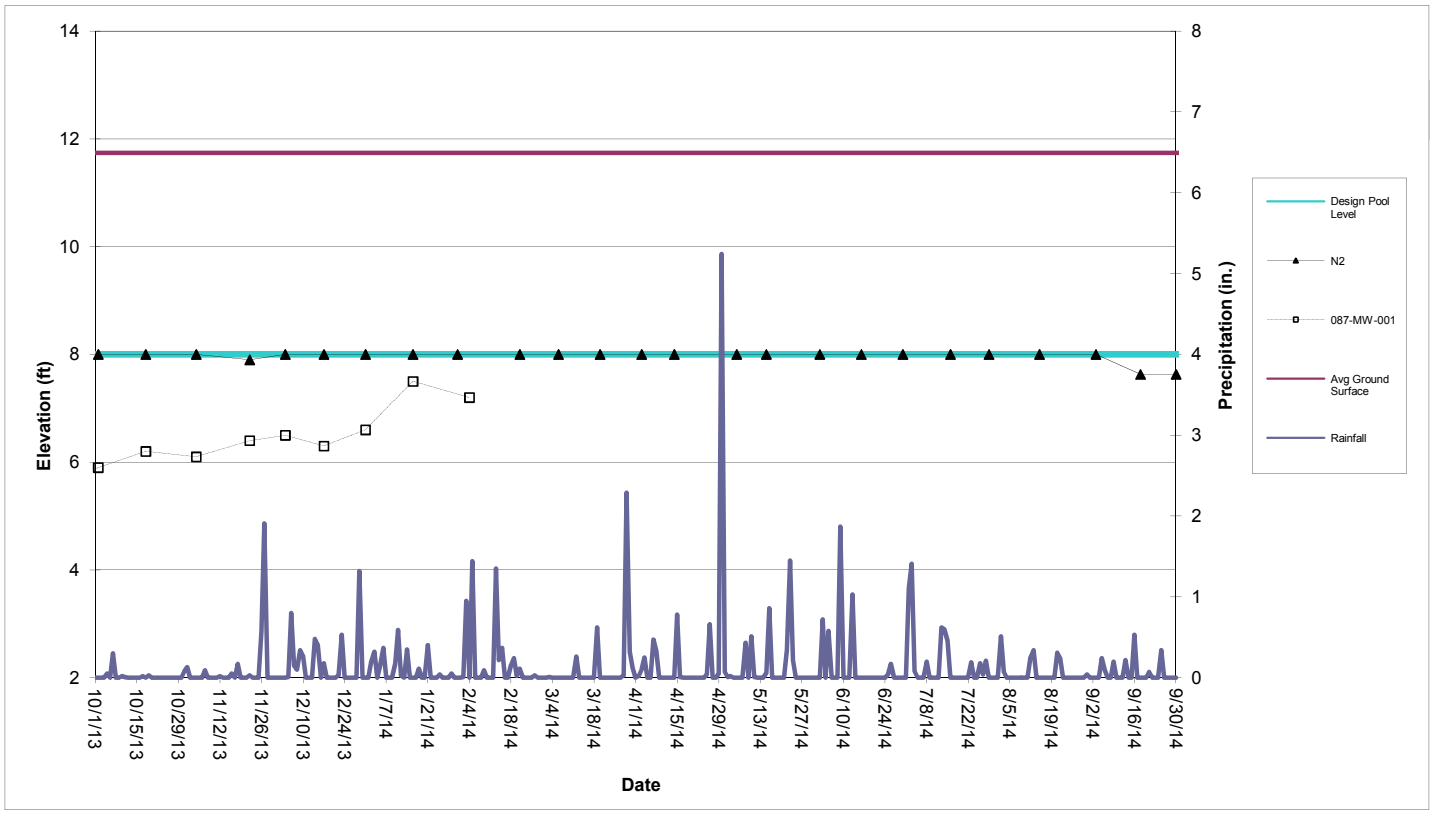
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

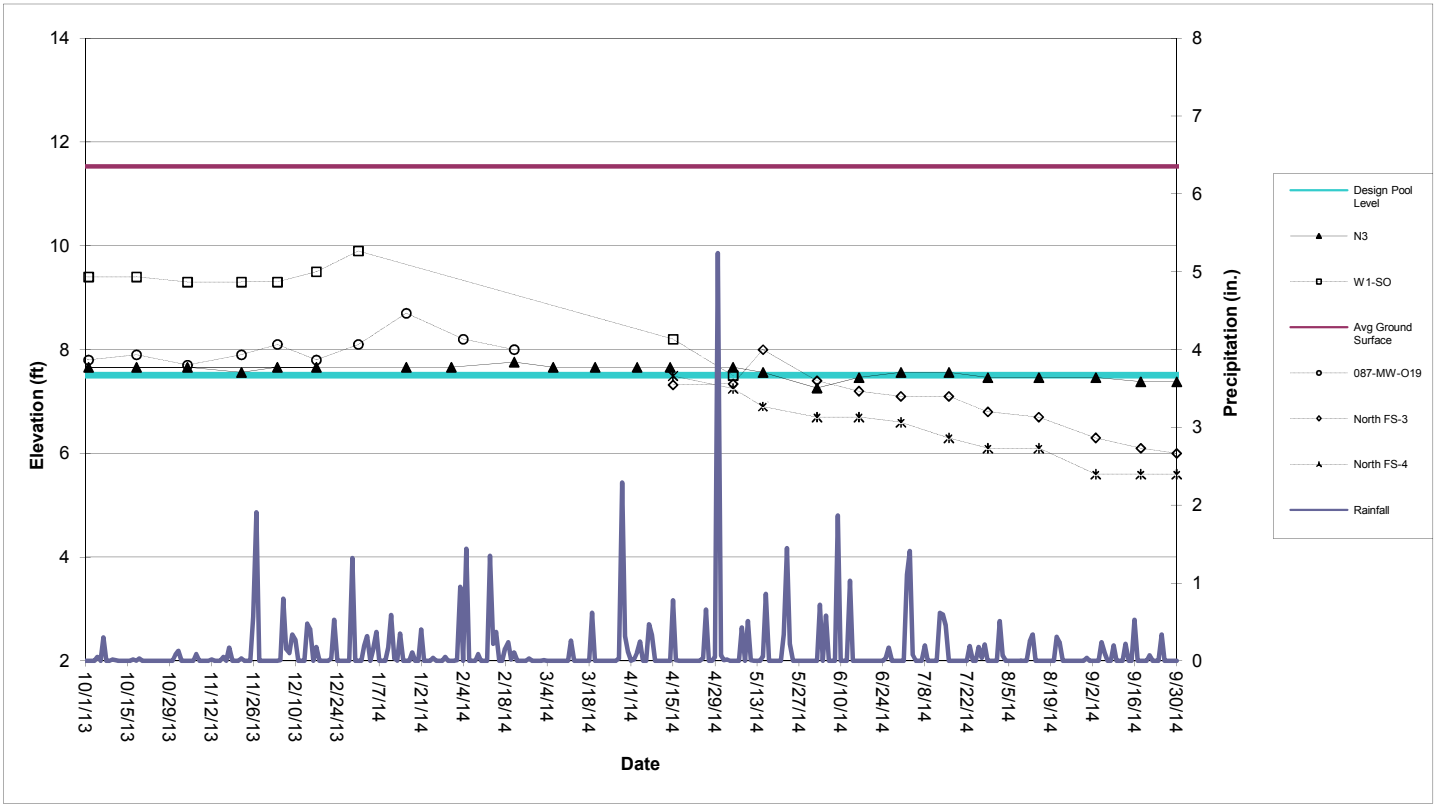
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



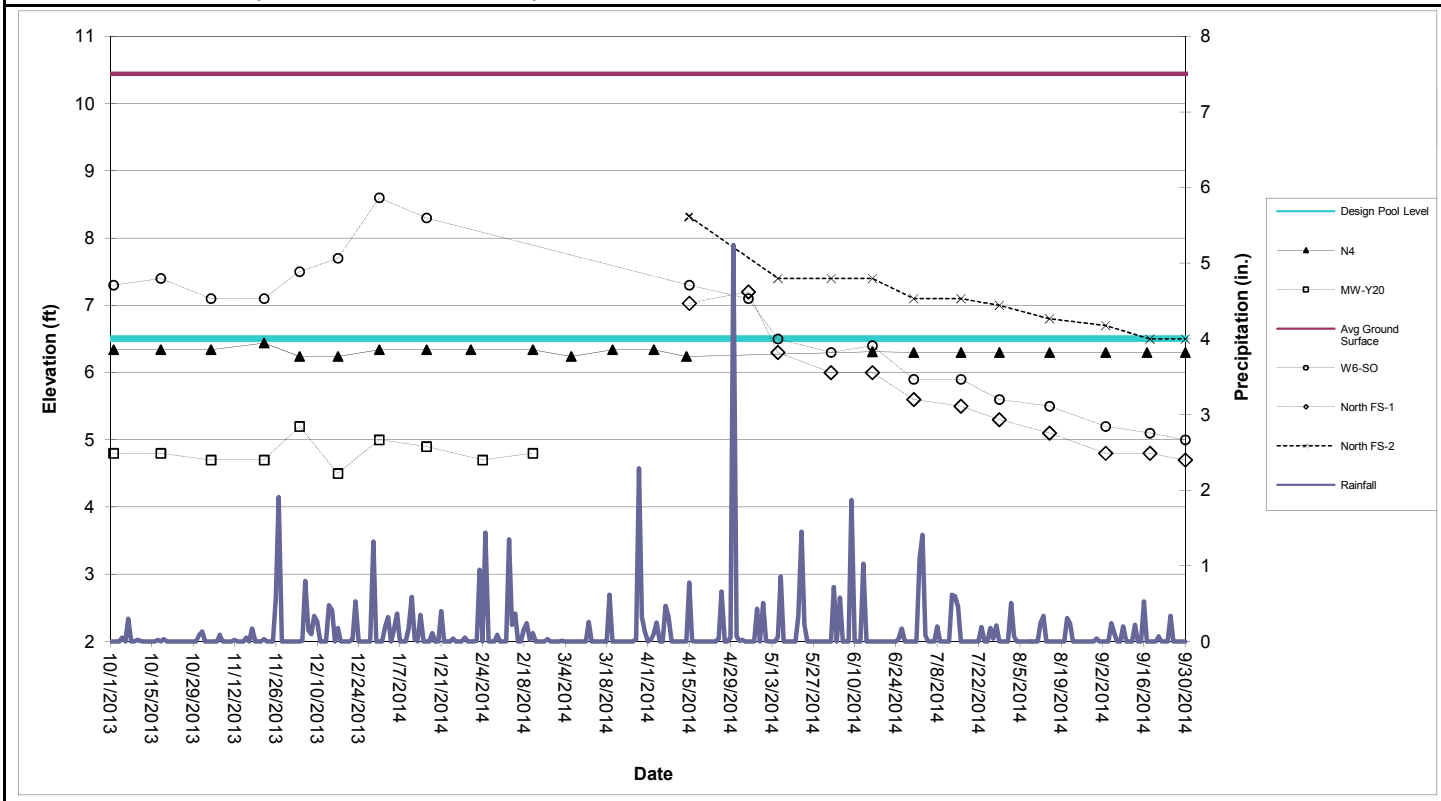
Perimeter Pool N1 (Sta. N13+60 to N20+25)



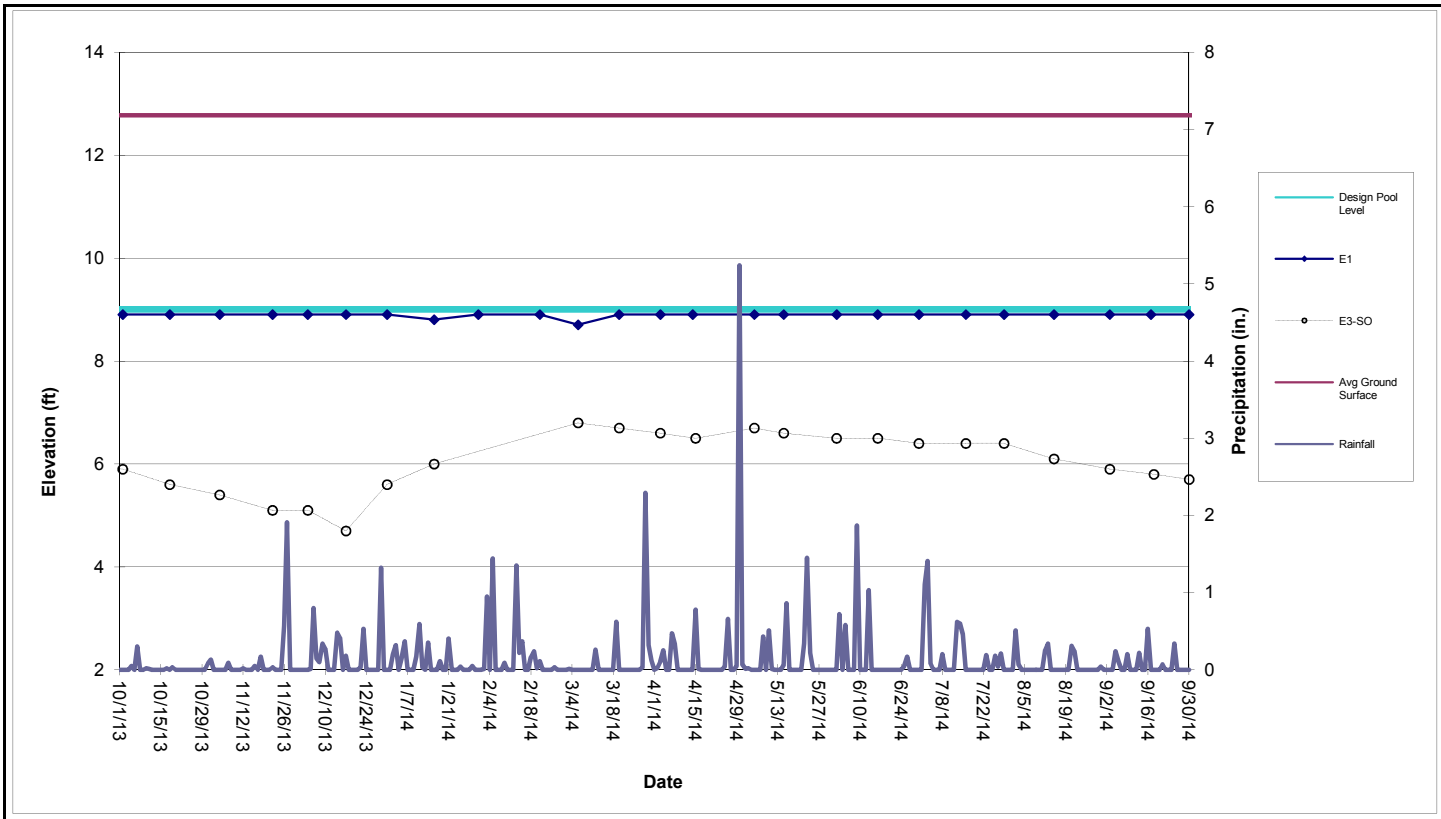
Perimeter Pool N2 (Sta. N10+73 to N13+10)



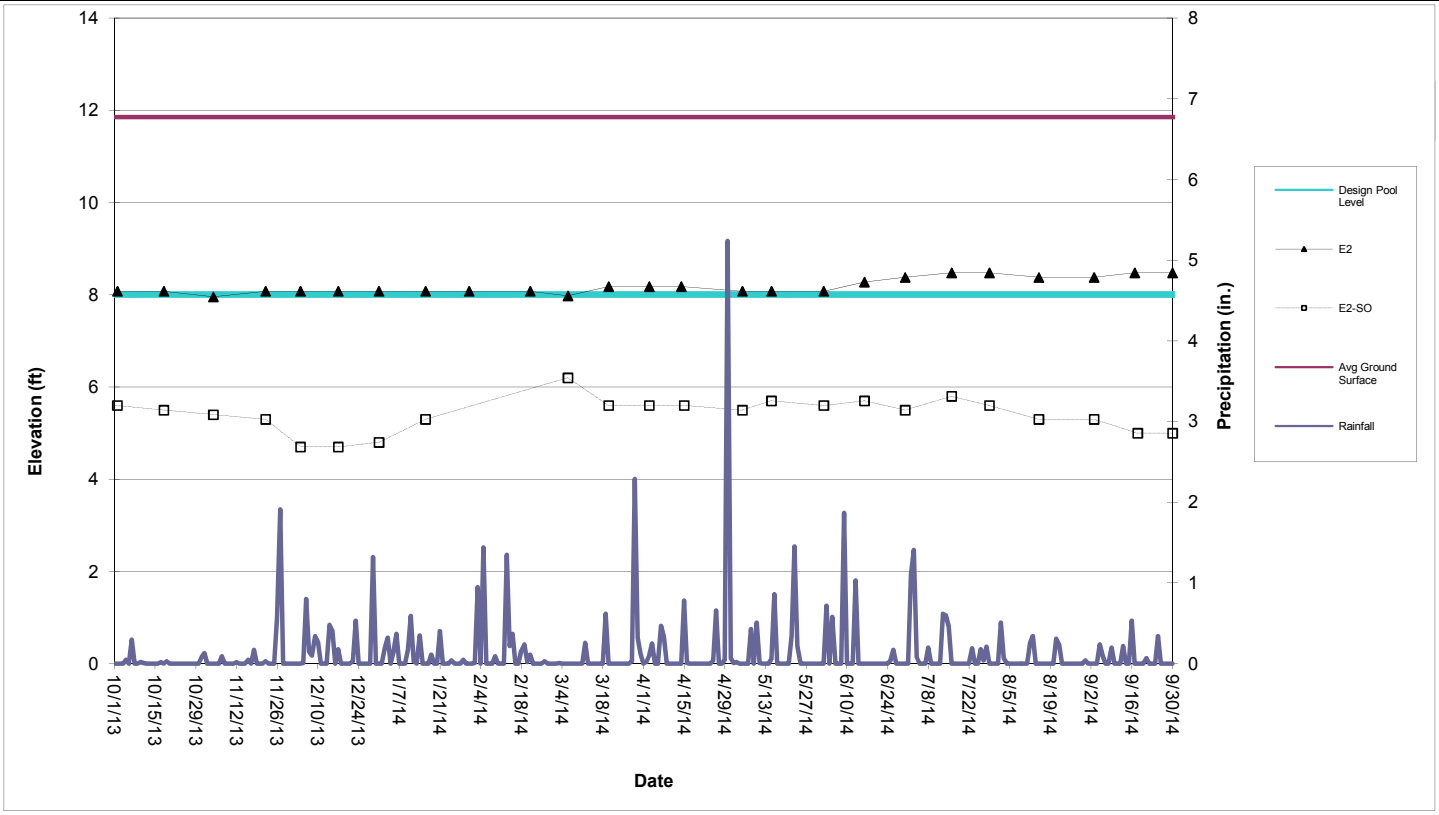
Perimeter Pool N3 (Sta. N6+80 to N10+23)



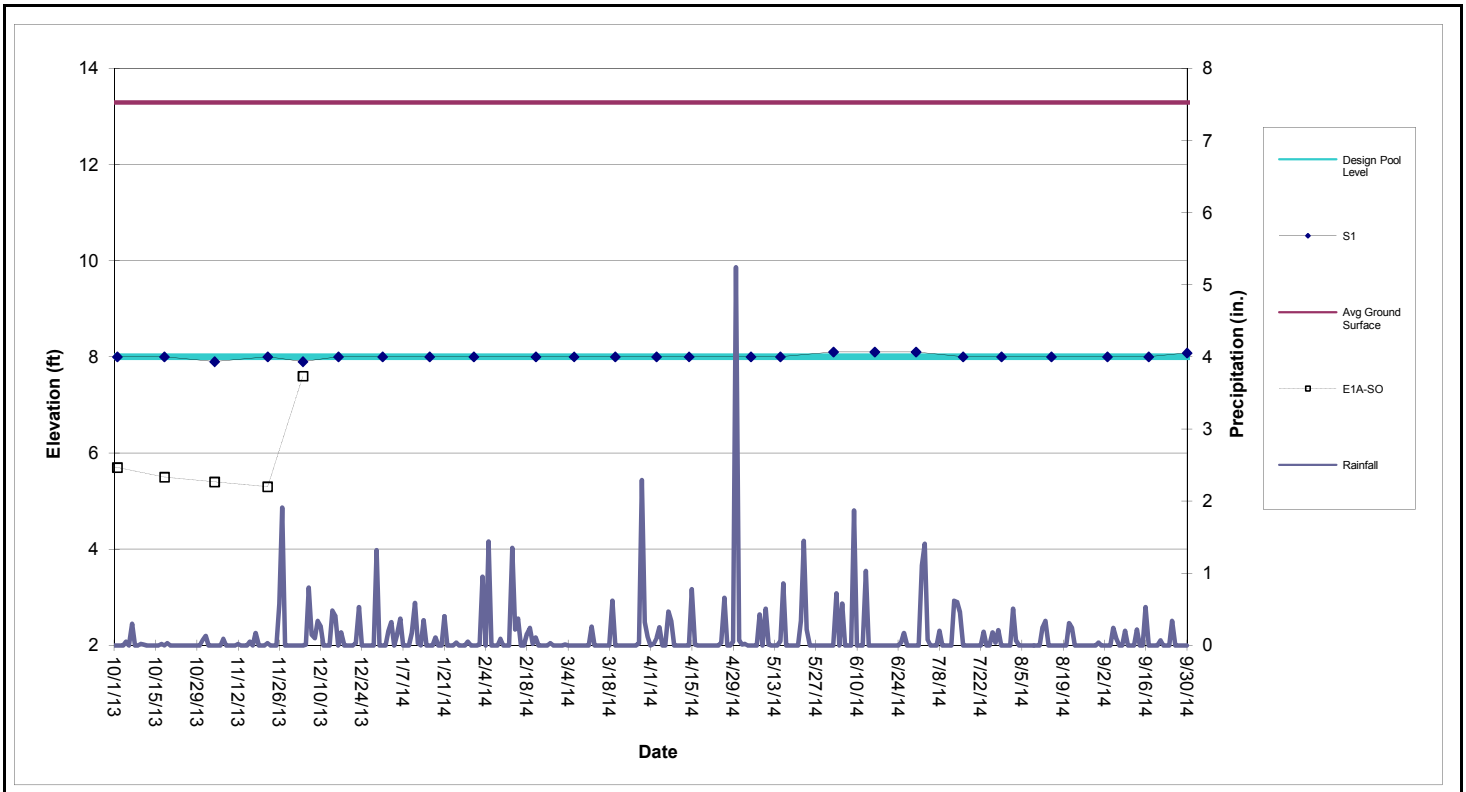
Perimeter Pool N4 (Sta. N6+80 to N10+23)



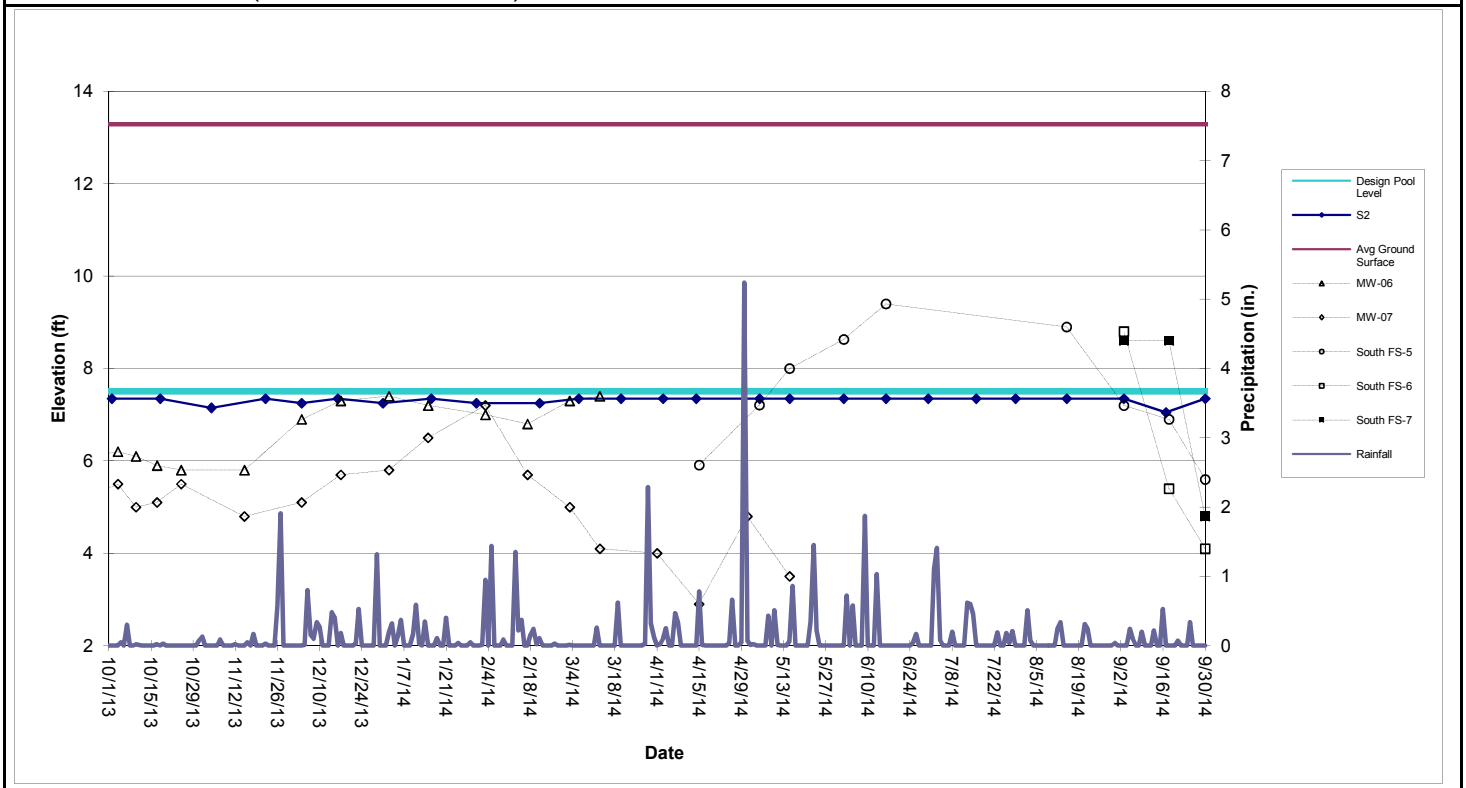
Perimeter Pool E1 (Sta. E0+50 to E3+75)



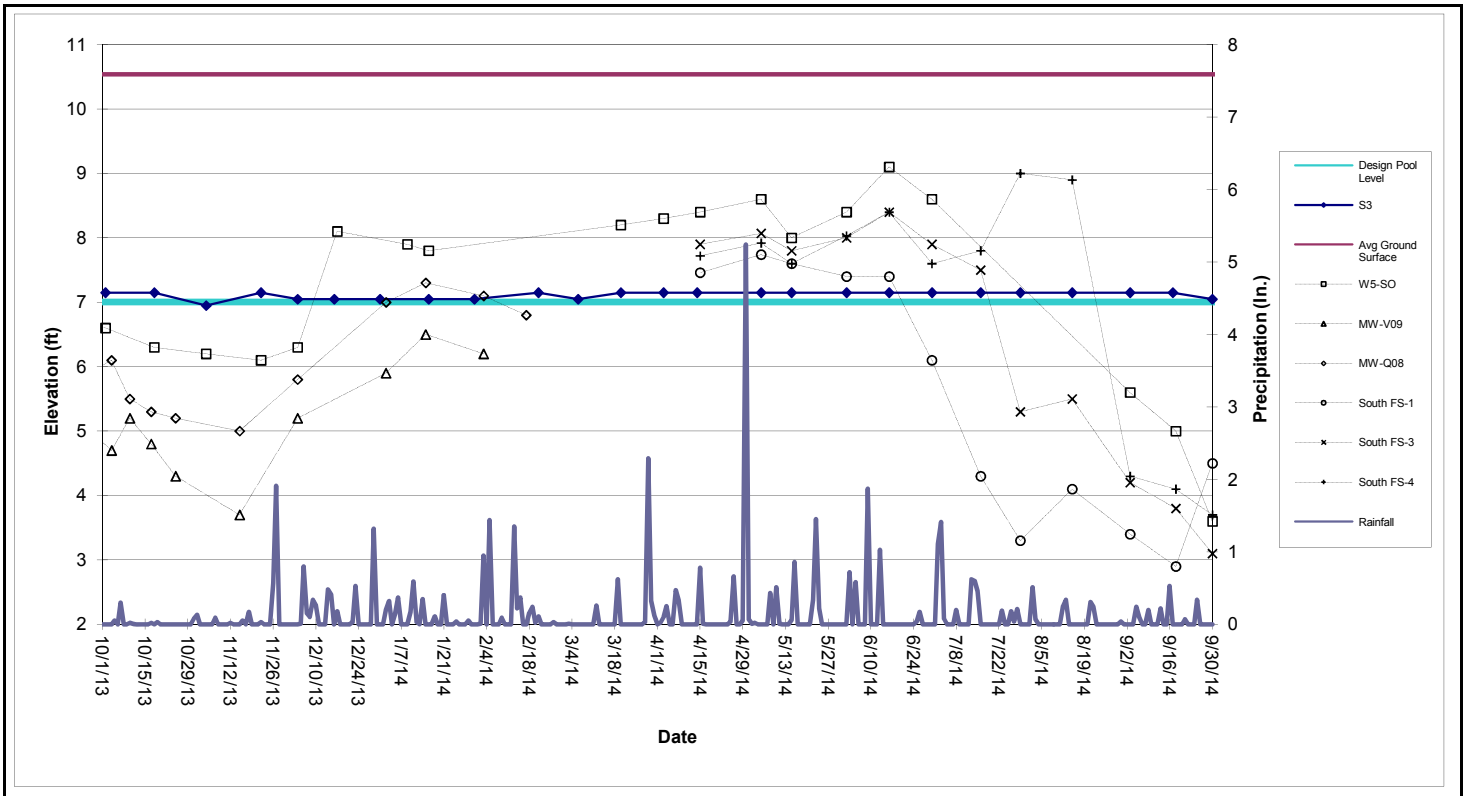
Perimeter Pool E2 (Sta. E4+50 to E7+25)



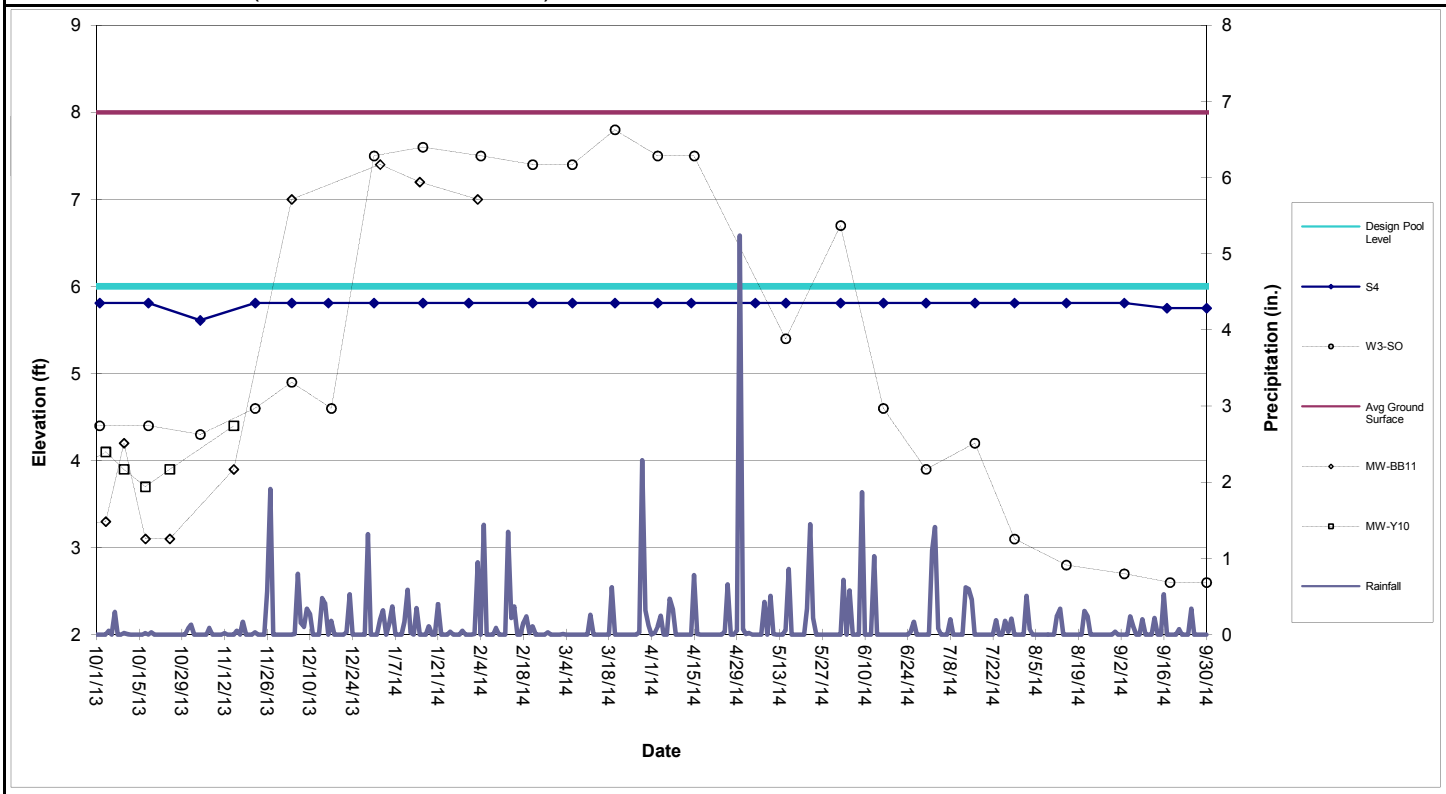
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North				South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
3/3/2014											7.3	5.0										
3/6/2014		6.2	6.8	6.5	7.3		7.4															
3/13/2014											7.4	4.1										
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2														
4/1/2014												4.0										
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3														
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5	7.5	7.9	7.7	5.9		
5/1/2014												4.8										
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3	7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9	7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7	7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7	7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6	6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3	4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1	3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1	4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6	3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6	2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6	4.5	3.1	3.7	5.6	4.1	4.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO

Attachment 8: Groundwater Quality Data Surcharge Monitoring Update

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells
- Quarterly Water Wells

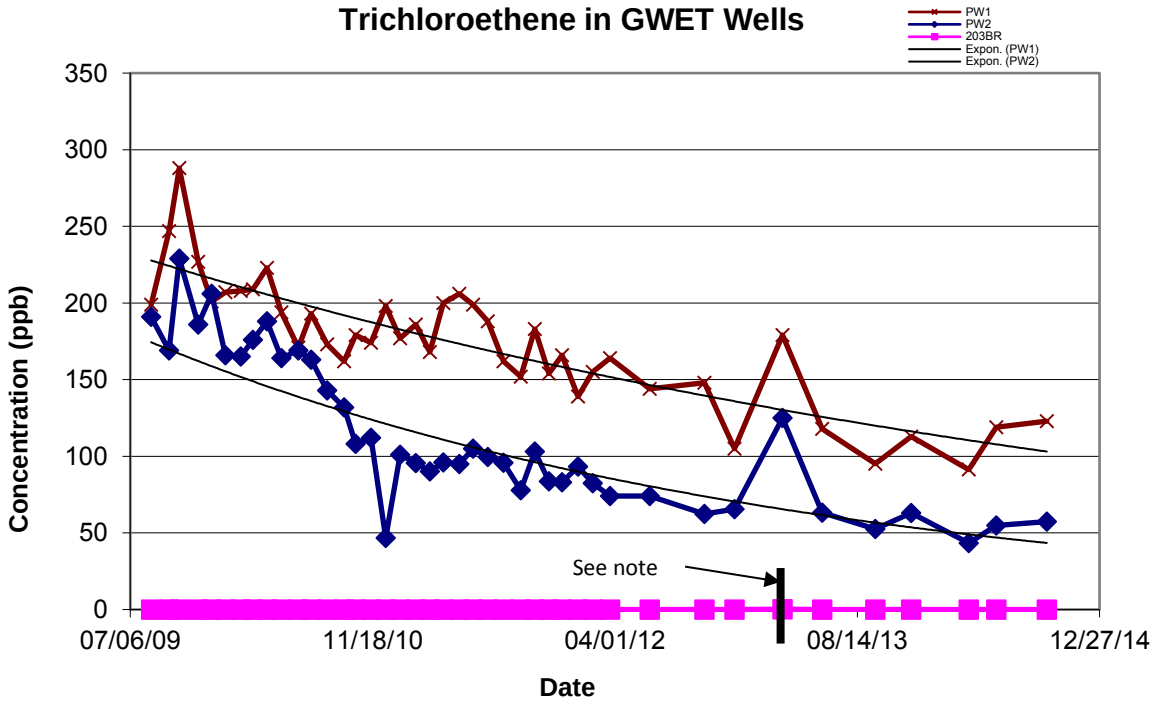
Honeywell

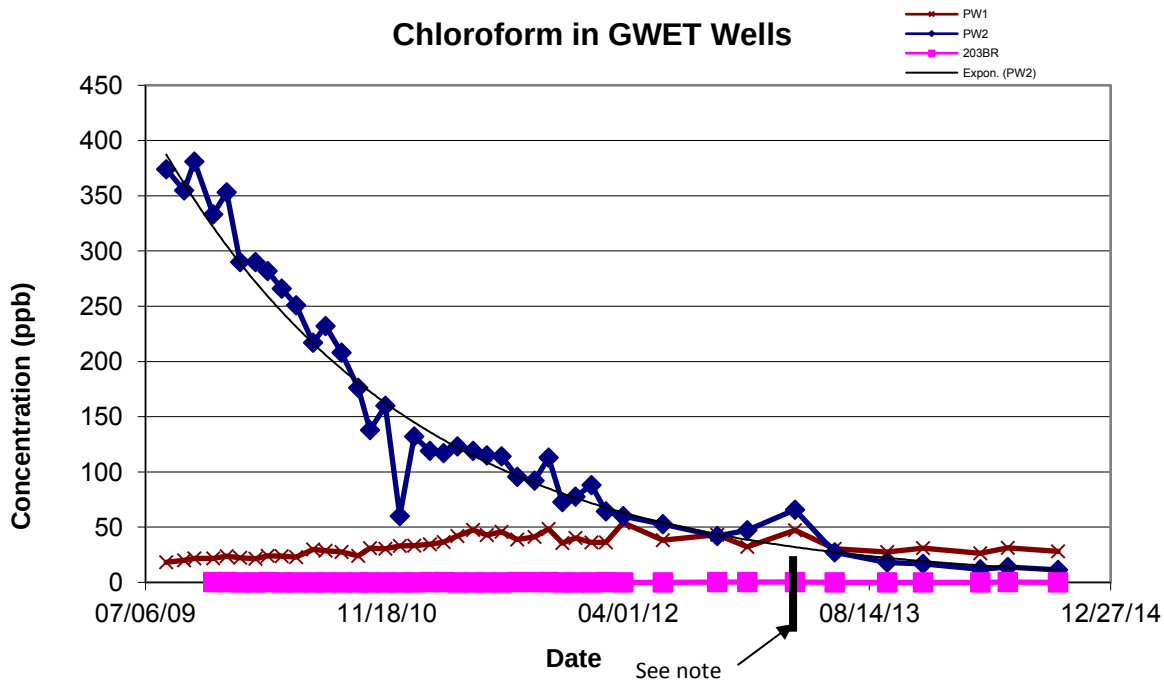
Summary of Groundwater Quality Data from GWET Wells

Parameter	3-Dec-13			1-Apr-14			28-May-14			9-Sep-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-203BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.4	5.2	ND	2.9	4.0	ND	3.4	4.7	ND	3.7	4.7	ND
Carbon Tetrachloride	5.8	4.8	2.5	4.4J	2.8	1.9	7.0	4.3	2.7	7.3	4.8	3.0
Chloroform	31.0	16.8	ND	26.5	12.0	ND	31.3	14.0	0.25J	28.1	11.3	ND
1,1-Dichloroethene	0.07	ND	ND	0.42J	ND	ND	0.77J	ND	ND	0.62J	ND	ND
cis-1,2-Dichloroethene	135	12.3	ND	96	8.1	ND	144	ND	ND	128	9.6	ND
trans-1,2-Dichloroethene	4.9	0.35	ND	3.4	ND	ND	5.3	ND	ND	4.5	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	113.0	63.0	ND	91.3	43.4	ND	119	54.8	ND	123	57.4	ND
1,1-Dichloroethane	0.47	ND	ND	0.45J	ND	ND	0.61J	ND	ND	0.55J	ND	ND
Methylene chloride	0.87	0.31	ND	0.77J	ND	ND	0.92J	ND	ND	0.74J	ND	ND
Vinyl chloride	14.2	4.8	ND	13.5	2.7	ND	21.2	3.8	ND	25.2	3.8	ND
1,2-Dichlorobenzene	0.72	ND	ND	0.72J	ND	ND	0.70J	ND	ND	0.82J	ND	ND
Chlorobenzene	0.39	ND	ND	0.38J	ND	ND	0.40J	ND	ND	0.42J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	39,600	11,300	16,500	33,400	12,500	15,100	34,700	12,700	19,700	34,200	11,100	15,700
Total Chromium	34,200	10,600	14,900	36,900	16,400	16,600	35,500	14,500	19,600	37,600	19,300	17,900

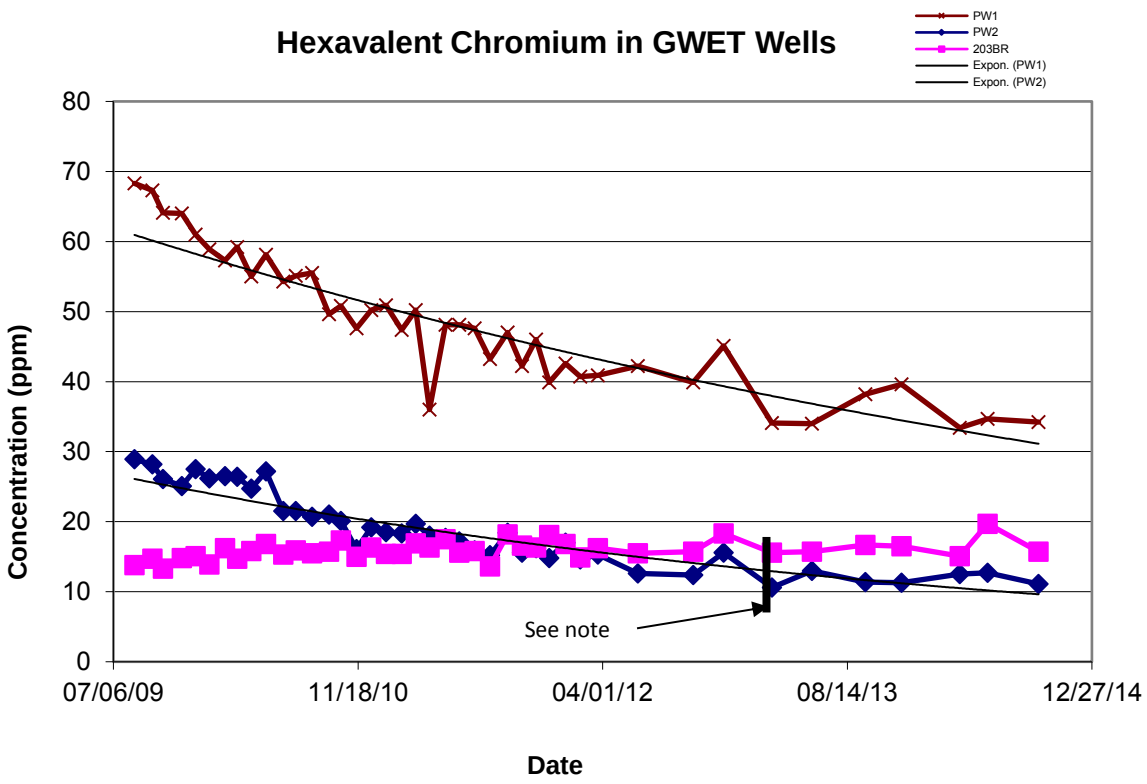
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Honeywell

Quarterly Water Levels
September 2014

Wells Date: June XX, 2014	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
087-MW-25D	18.17	15.07	3.10	GW Elevations are not corrected for tidal influence
087-MW-25T	18.19	15.96	2.23	
087-MW-35	18.29	15.51	2.78	
087-OBS-1D	15.13	11.71	3.42	
087-OBS-1L	15.27	12.66	2.61	
087-OBS-1T	15.23	12.22	3.01	
087-PW-2	13.02	30.15	-17.13	
087-MW-08	12.98	10.76	2.22	
087-OBS-3L	12.88	12.25	0.63	
087-MW-13	12.93	12.78	0.15	
087-OBS-5D	12.72	10.70	2.02	
087-OBS-5T	12.62	11.90	0.72	
087-PW-1	12.66	27.35	-14.69	
087-MW-34	12.73	12.69	0.04	
087-OBS-2D	12.68	13.75	-1.07	
SA6-MW-AA1D	19.36	17.57	1.79	
SA6-MW-AA1T	15.31	13.72	1.59	
SA6-MW-5BR-1	17.06		17.06	
087-OBS-4T	11.6	10.60	1.00	
087-MW-O29D	10.32	8.68	1.64	
087-MW-O29T	9.98	7.82	2.16	
087-MW-03	13.77	N/A	N/A	Well not accessible
087-MW-02	12.57	N/A	N/A	
115-MW-203BR*	8.7	6.81	N/A*	
073-MW-1BR-1	7.58	25.12	N/A*	
073-MW-10BR-1	6.67	22.97	-16.30	
115-MW-215BR*	8.82	11.56	N/A*	

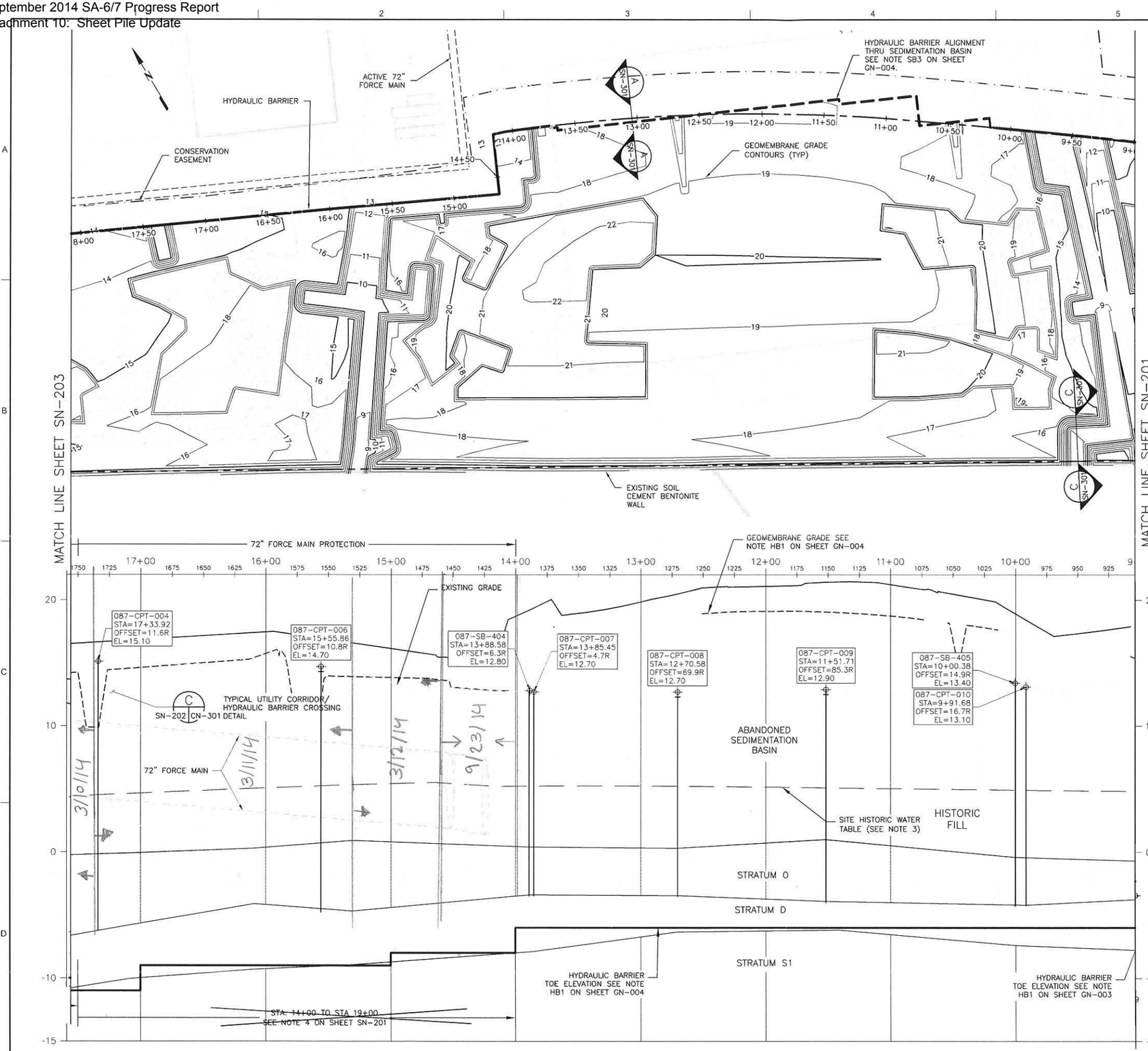
* Reference point elevation to be confirmed.

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS	
		REVISION	BY	APVD	
		TDD	RJR	TDD	BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2245, MORRISTOWN, NJ. 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

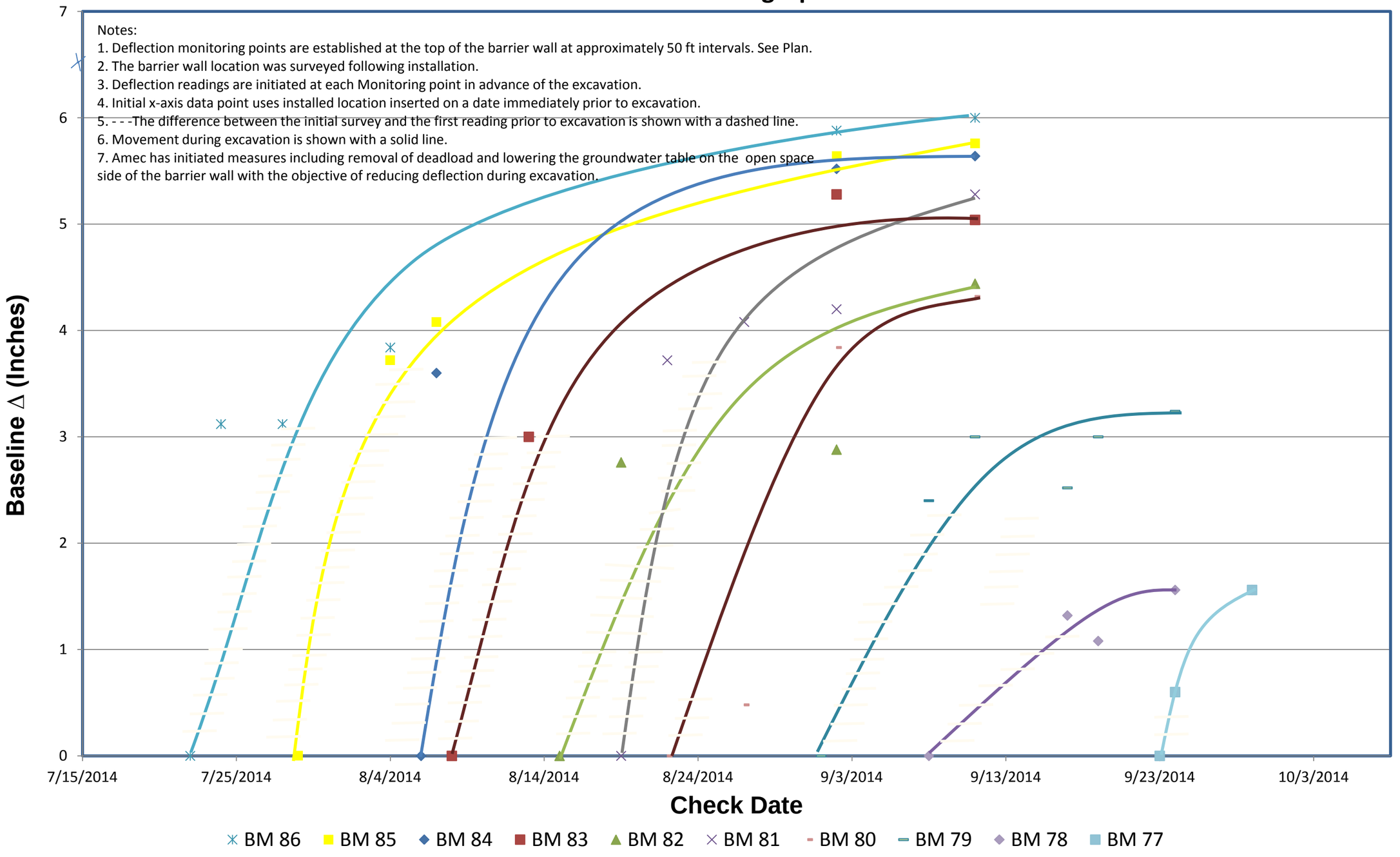
DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

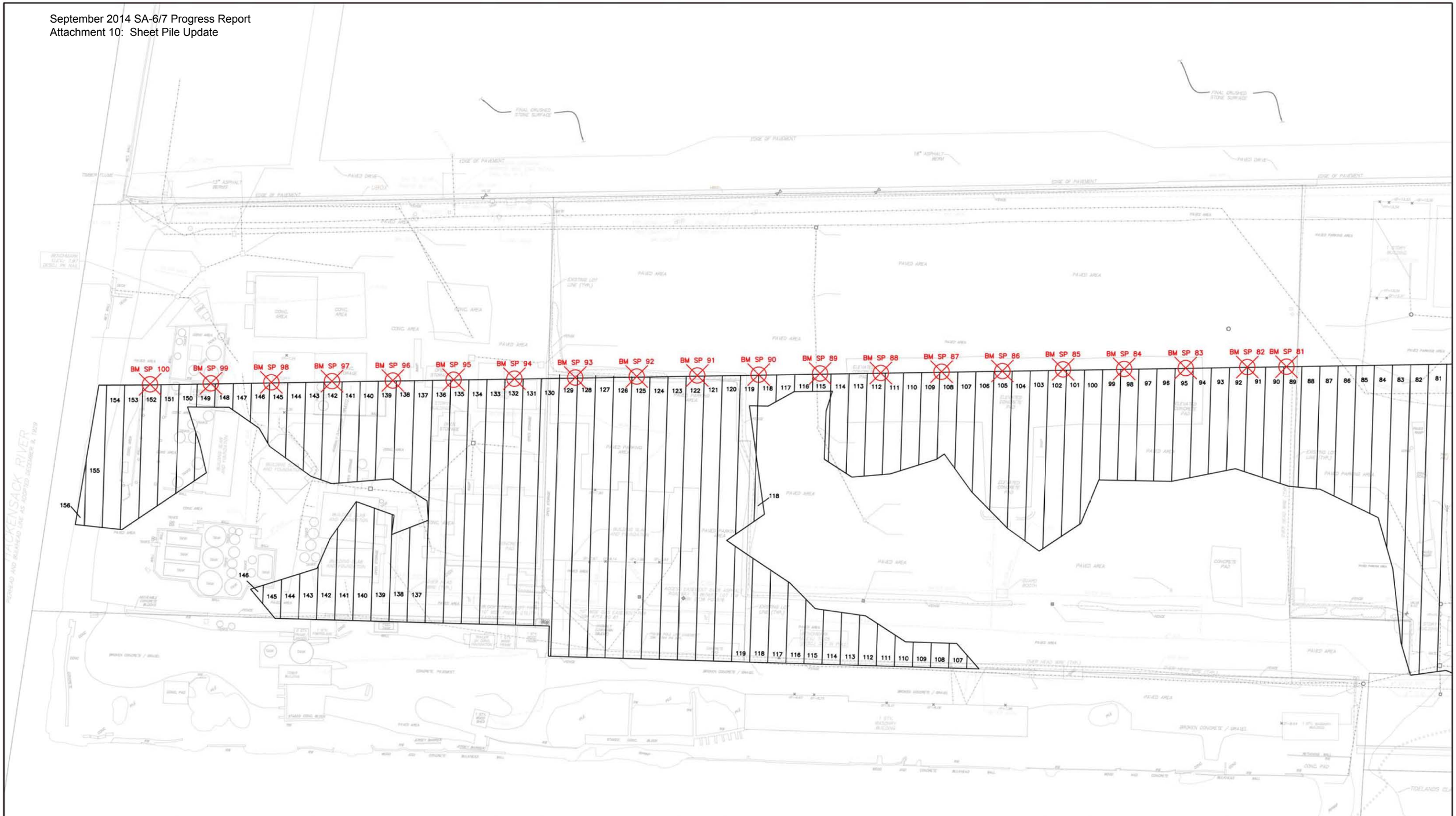
THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





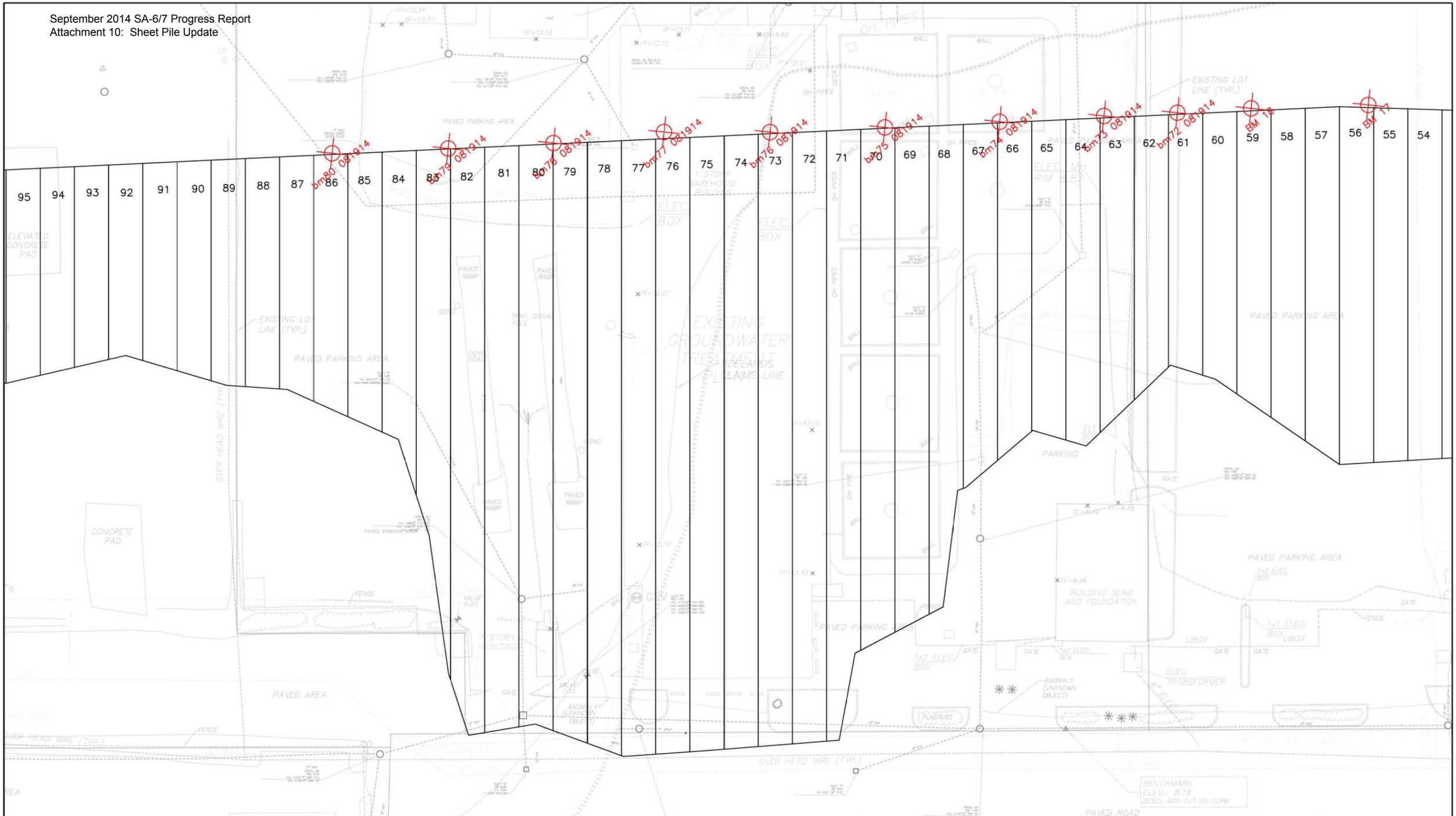
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 08-19-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-53

Entact ID:

Date Exposed: 8/19/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets- (10) 1"Ø, 1/2x24, 1x12", 1x6", 1/2x48", 1/2x3". Cell 89

Damage Location (ft below top of sheet, inboard side outboard side): 3-16' outboard

Date Repaired: 8/26/14, 9/11/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/11/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-54

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (5) scrapes by the Cat 349E and 322C excavator buckets- 1x48", 1x8", 1x6", 1/2x36", 1x36". Cell 88

Damage Location (ft below top of sheet, inboard side outboard side): 2-16' outboard

Date Repaired: 8/26/14, 9/15/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-55

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (5) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x24", 1/4x48", 5"Ø, 2x4", 1x6". Cell 88

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-56

Entact ID:

Date Exposed: 8/22/14

Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- 4x10", (5)1x6", 1x60", (2)1"Ø, 2x36", 1x36", 2x4", 1/2x3", (2)1x12", 1/4x12". Cell 88

Damage Location (ft below top of sheet, inboard side outboard side): 1-14' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-57
Entact ID:
Date Exposed: 8/21/14
Describe Damage: (7) Scrapes by the Cat 349E and 322e excavator buckets- 1x60", 1x36", 1x12", (4) 1"Ø. Cell 88/87

Damage Location (ft below top of sheet, inboard side outboard side): 5-14' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-58
Entact ID:
Date Exposed: 8/22/14
Describe Damage: (7) scrapes by the Cat 349E and 322C excavator buckets - (2)1x8", 3x10", 1x48", 1/4x4", 2"Ø, 1/2x3": Cell 87

Damage Location (ft below top of sheet, inboard side outboard side): 10 - 15' outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-59
Entact ID:
Date Exposed: 8/22/14
Describe Damage: (14) Scrapes by the Cat 349E and 322C excavator buckets- 3x12", 4"x24", 1x60", 3"Ø, 5"Ø, (2)1x3", (3)1x6", 2x10", 1/2x18", 1/2x4", 1"Ø. Cell 87.

Damage Location (ft below top of sheet, inboard side outboard side): 3-14" outboard

Date Repaired: 8/26/14 Partial, 9/15/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-60
Entact ID:
Date Exposed: 8/22/14
Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets- 1/4x24", 1/2x48", (3)1/2x6", 1x48", (2)3"Ø, 1/2x60", 1x24", (3)1"Ø. Cell 87/8886

Damage Location (ft below top of sheet, inboard side outboard side): ~~8/15~~ 8-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-61

Entact ID:

Date Exposed: 8/25/14

Describe Damage: (18) Scrapes by the Cat 349E and 322C excavator buckets - 1x36", 2x60", 1/2x36", 1x24", (2) 1/2x24", (7) 1"Ø, (2) 3"Ø, 1/2x3", 1x5", 12"Ø. Cell 86

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-62

Entact ID:

Date Exposed: 8/26/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets - (6) 1"Ø, 1x18", 1x36", 2x4", 10"Ø, (2) 1x24, 2"x36", 4"Ø, 1/4x84". Cell 86

Damage Location (ft below top of sheet, inboard side outboard side): 6-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-63

Entact ID:

Date Exposed: 8/26/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets - (2) 1/2x6", 2"Ø, 2x18", 1/2"Ø, 10x48", 1x24", 1x5". Cell 86/85

Damage Location (ft below top of sheet, inboard side outboard side): 2-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-64

Entact ID:

Date Exposed: 8/26/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets - (4) 1"Ø, 1x24", 1x4", 2x48", 1x36", (2) 2"Ø, (2) 1x3", 12"Ø. Cell 85

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-65

Entact ID:

Date Exposed: 8/27/14

Describe Damage: (15) scrapes by the Cat 349E excavator bucket- (3) 1/2x12", (2) 1x36", 1x12, 10"Ø, 1x120", 2"Ø, 24"Ø, 1x18", 1/4x60", 1x3", (2) 1/2x6", Cell 85

Damage Location (ft below top of sheet, inboard side outboard side): 4-16' outboard

Date Repaired: 8/29/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14 Total

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-66

Entact ID:

Date Exposed: 8/27/14

Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets - 1x48", 1x36", (4) 1x6", (2) 1x3"), 2"Ø. Cell 85/84

Damage Location (ft below top of sheet, inboard side outboard side): 1-15' outboard

Date Repaired: 9/4/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14 Total

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-67

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets- 1x96", 1x84", 1x36", (2) 2"Ø, 1x6", 1"Ø. Cell 84

Damage Location (ft below top of sheet, inboard side outboard side): 3-15' outboard

Date Repaired: 9/4/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" Paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-68

Entact ID:

Date Exposed: 8/29/14

Describe Damage: (18) scrapes by the Cat 349E and 322C excavator buckets- (3) 1x3", (4) 1"Ø, (2) 12"Ø, 1x6", 2x6", 5"Ø, 3"Ø, 1x120", 1/2x24", 1x48", 1x8", 1/4x18", Cell 84

Damage Location (ft below top of sheet, inboard side outboard side): 6"-15' outboard

Date Repaired: 9/4/14 Partial, 9/15/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/15/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 4, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/04/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, September 04, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing on the south side of the excavation is not continuous and the Exclusion Zone is open on the western perimeter.
2	IA2Q4A1AL8	Windscreen along the perimeter fenceline at the Kellogg Street jughandle is detached along the bottom edge.
3	IA2Q4A1AL8	Sediment has built up along the north side of Kellogg street by the 80 Kellogg slab.
4	IA2Q4A1AL8	Concrete parking space chocks have been pushed out of position outside of the 60 Kellogg building.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 09/04/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install EZ fencing to properly delineate the perimeter of the Exclusion Zone.	9-5-14 RAD
2	Repair and/or re-attach windscreen fabric on the perimeter fence.	9-5-14 RAD
3	Remove sediment from the north side of Kellogg Street.	9-8-14 RAD
4	Reposition parking space chocks.	9-8-14 RAD

Construction Manager: _____ **Date:** 09/09/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 11, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water		X		5
Housekeeping				
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		6
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/11/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, September 11, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs are absent along the sheet pile wall bordering the south side of the 1-S cap area.
2	IA2Q4A1AL8	Tarps have partially blown off of the >1000 PPM material stockpile
3	IA2Q4A1AL8	Sediment and mud are accumulating on the eastern haul road adjacent to Rt. 440.
4	IA2Q4A1AL8	A catch basin on Kellogg Street south of the 80 Kellogg slab does not have sediment protection.
5	IA2Q4A1AL8	Sediment and mud are accumulating along the south side of the western end of Kellogg Street.
6	IA2Q4A1AL8	Safety fencing around the western end of the sedimentation basin overflow structure requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 09/11/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Place Exclusion Zone signs on the hydraulic barrier wall where it borders exposed cap material.	9/15/14 RAD
2	Replace tarps over >1000 PPM material.	9/12/14 RAD
3	Clean up sediment and mud on the eastern SA-6 South haul road and re-cover the area with stone.	9/15/14 RAD
4	Place filter fabric under the catch basin grate for sediment protection.	9/16/14 RAD
5	Clean up all accumulated sediment from the south side of the western end of Kellogg Street	9/17/14 RAD
6	Repair or replace the orange warning fencing surrounding the western end of the sed basin overflow structure.	9/16/14 RAD

Construction Manager: _____ **Date:** 09/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 18, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3,4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance				
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/19/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, September 18, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing is damaged at the eastern end of the EZ adjacent to Rt. 440.
2	IA2Q4A1AL8	Lubricant drums in the mechanics area are not placed on spill pallets.
3	IA2Q4A1AL8	Stone in the tracking pad located on the east side of the 60 Kellogg building has become blinded with backfill material.
4	IA2Q4A1AL8	Sediment which was removed from Kellogg Street has been dumped inside of the site to the north of the western-most Kellogg Street gate.
5	IA2Q4A1AL8	Two catch basins located along the north side of Kellogg Street adjacent to the 80 Kellogg slab do not have silt protection.
6	IA2Q4A1AL8	Silt fencing in the northwestern corner of surcharge area 1-S is not properly toed in.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/19/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair/replace orange fencing and/or the fence post in the northeast corner of the SA-6 South EZ.	9-19-14 RAD
2	Place drums in the mechanic's area on the unused spill pallet which is currentlly located by the Entact C-boxes.	9-22-14 RAD
3	Scarify the stone in the tracking pad at the eastern exit gate to restore the function of the pad.	9-22-14 RAD
4	Relocate the sediment/mud from the area of the western Kellogg Street gate.	9-22-14 RAD
5	Install filter fabric beneath the grates of the two unprotected catch basins to the south of the 80 Kellogg slab.	9-22-14 RAD
6	Completed the installation of silt fence at the northwestern corner of the 1-S surcharge area	9-22-14 RAD

Construction Manager: _____ Date: 09/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 24, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams		X		4
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/24/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, September 24, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence at the western end if the north side of the 1-S surcharge pile is missing in one location.
2	IA2Q4A1AL8	The orange plastic warning fencing on the eastern side of the sedimentation basin requires maintenance/repair
3	IA2Q4A1AL8	The silt fence which runs along the bottom of the chain link perimeter fence in the southeast corner of Study Area 7 has accumulated sediment to within 6 inches of its top.
4	IA2Q4A1AL8	Straw waddle in on the north and south roadways of Study Area 7 is worn out and no longer effective.
5	IA2Q4A1AL8	The containment measures surrounding the Novartis stockpile area on Study Area 7 require maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 09/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace or re-install the missing section of silt fence at the toe of the 1-S surcharge pile.	9/25/14 RAD
2	Replace or repair the orange warning fencing located on the eastern side of the sedimentation basin.	10/1/14 RAD
3	Remove accumulated sediment from against the silt fence in the southeast corner of Study Area 7 (along the Rt. 440 perimeter fence).	9/25/14 RAD
4	Replace straw waddle on the SA-7 roadways and protect with wood dunnage or other material.	9/25/14 RAD
5	Re-install plastic sheeting over the containment hay bales; replace degraded bales.	10/1/14 RAD

Construction Manager: _____ **Date:** 10/01/14

Attachment 12: GWTP Update

- 80 Kellogg Ground Water Treatment Plant Discharge Monitoring Report (August 2014)
- 9/15/14 NJDEP Correspondence re: Administrative Revocation NJDPES Permit #NJG0156311
- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (August 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 15, 2014

New Jersey Department of Environmental Protection
Division of Water Quality
Bureau of Permit Management
P.O. Box 029
Trenton, NJ 08625-0029

RE: NJPDES Permit NJ0156311: August 2014 Surface Water Discharge Monitoring Report
Study Area 7, Jersey City, NJ

To Whom It May Concern:

In accordance with the Honeywell International NJPDES Permit NJ0156311, enclosed please find the August 2014 Surface Water Discharge Monitoring Report for Outfall 001A. Please note that there was no discharge this monitoring period.

Please contact me at 973-455-2989 should you have any questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Program Manager
Fahy Associates
c/o Honeywell International

Enc.

cc: Angle Trujillo - Evoqua
Frank Schroyer - Parsons

New Jersey Department of Environmental Protection
Division of Water Quality

Surface Water Discharge Monitoring Report Submittal Form

NJPDES PERMIT	MONITORING PERIOD							MONITORED LOCATION:
	Month	Day	Year		Month	Day	Year	
NJG0156311	8	1	2014	To	8	31	2014	001A - Remediated Groundwater

PERMITTEE:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

LOCATION OF ACTIVITY:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

REPORT RECIPIENT:
Honeywell International Inc
ATT: HELEN FAHY
101 COLUMBIA ROAD
MORRISTOWN, NJ 07962

REGION / COUNTY: Northern / Hudson County

CHECK IF APPLICABLE: ☒ **No Discharge this Monitoring Period** ☐ **Monitoring Report Comments Attached**

WHO MUST SIGN The highest ranking official having day-to-day managerial and operational responsibilities for the discharging facility shall sign the certification or, in his absence a person designated by that person. For a local agency, the highest ranking operator of the treatment works shall sign the certification. Where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that reponsibility or person designated by that person shall also sign the second certification at the bottom of this page. If the local agency has contracted with another entity to operate the treatment works, the highest-ranking official of the contracted entity shall sign the certification.

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments, and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and/or imprisonment, pursuant to N.J.A.C. 7:14A-6.9(B). The New Jersey Water Pollution Control Act provides for penalties up to $50,000 per violation.

John J Morris, Remediation Director — —

NAME AND TITLE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR — GRADE AND REGISTRY NUMBER (IF APPLICABLE)

John J Morris — 9/4/2014 — 973.455.4003

SIGNATURE OF PRINCIPAL EXECUTIVE OFFICER, AUTHORIZED AGENT, OR *LICENSED OPERATOR — DATE — AREA CODE/PHONE NUMBER

**For a local agency where the highest ranking operator does not have the ability to authorize capital expenditures and hire personnel, a person having that responsibility or person designated by that person shall sign the following certification:*

I certify under penalty of law and in accordance with N.J.S.A. 58:10A-6F(5) that I have received and reviewed the attached discharge monitoring reports.

John J Morris, Remediation Director — John J Morris — 9/4/2014 — 973.455.4003

NAME AND TITLE — SIGNATURE — DATE — AREA CODE/PHONE NUMBER

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Flow, In Conduit or Thru Treatment Plant 50050 1 Effluent Gross Value	SAMPLE MEASUREMENT			GPD	******	******	******	******			
	PERMIT REQUIREMENT	REPORT 01MOAV	REPORT 01DAMX		******	******	******			1/Month	METER
	QL	******	******		******	******	******				
pH 00400 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******		SU			
	PERMIT REQUIREMENT	******	******		6.0 01MOMN	******	9.0 01MOMX			1/Month	GRAB
	QL	******	******		******	******	******				
LC50 Statre 96hr Acu Mysid Bahia TAN3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		50 01RPMN	******	******			1/Year	COMPOS
	RQL	******	******		******	******	******				
IC25 Statre 7day Chr Mysid Bahia TBP3E 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******		******	******	%EFFL			
	PERMIT REQUIREMENT	******	******		REPORT 01RPMN	******	******			1/Year	COMPOS
	QL	******	******		******	******	******				
Petroleum Hydrocarbons 00551 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	10 01MOAV	15 01RPINMX			1/Month	GRAB
	QL	******	******		******	******	******				
Carbon, Tot Organic (TOC) 00680 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			MG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	20 01WKAV			1/Month	GRAB
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Chromium Trivalent (as Cr) Total Recov. *PS06 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX				
	QL	******	******		******	******	******				
Cyanide, Total (as CN) 00720 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	GRAB
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX				
	RQL	******	******		******	40	40				
Nickel, Total Recoverable 01074 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.3 01DAMX				
	RQL	******	******		******	10	10				
Zinc, Total Recoverable 01094 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	100 01MOAV	200 01DAMX				
	RQL	******	******		******	30	30				
Lead, Total Recoverable 01114 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Quarter	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	79 01DAMX				
	RQL	******	******		******	10	10				
Chromium, Total Recoverable 01118 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L		1/Month	COMP24
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX				
	RQL	******	******		******	10	10				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Copper, Total Recoverable 01119 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	50 01MOAV	100 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	10	10				
Chromium, Hexavalent Dissolved (as Cr) 01220 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	REPORT 01DAMX			1/Quarter	COMP24
	QL	******	******		******	******	******				
Mercury Total Recoverable 71901 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	0.025 01DAMX			1/Quarter	COMP24
	RQL	******	******		******	1	1				
Carbon Tetrachloride 32102 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	8.8 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	6	6				
Chloroform 32106 2 Effluent Net Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	46 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				
Trichloroethylene 39180 1 Effluent Gross Value	SAMPLE MEASUREMENT	******	******	******	******			UG/L			
	PERMIT REQUIREMENT	******	******		******	REPORT 01MOAV	54 01DAMX			1/Quarter	GRAB
	RQL	******	******		******	5	5				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

Surface Water Discharge Monitoring Report

PI 234822

PERMIT NUMBER:	MONITORED LOCATION:	MONITORING PERIOD:	FACILITY NAME:
NJG0156311	001A Remediated Groundwat	8/1/2014 TO 8/31/2014	HONEYWELL STUDY AREA 7

PARAMETER		QUANTITY OR LOADING		UNITS	QUALITY OR CONCENTRATION			UNITS	NO. EX.	FREQ. OF ANALYSIS	SAMPLE TYPE
Lab Certification #	SAMPLE MEASUREMENT										
99999 99 Lab	PERMIT REQUIREMENT	REPORT Lab #	REPORT Lab #		REPORT Lab #	REPORT Lab #	REPORT Lab #			Not Applic	NOT AP
	QL	******	******		******	******	******				

Comments: If there are any questions concerning this form, please contact Brian Salvo, Bureau of Point Source Permitting via email at Brian.Salvo@dep.state.nj.us or via phone at (609) 292-4860.

Pre-Print Creation Date: 7/1/2014

REC'D SEP 22 2014

State of New Jersey

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

DEPARTMENT OF ENVIRONMENTAL PROTECTION
Mail Code - 401-02B
Division of Water Quality
Office of Permit Management
P.O. Box 420 – 401 E State St
Trenton, NJ 08625-0420
Phone: (609) 984-4428 / Fax: (609) 777-0432

BOB MARTIN
Commissioner

Notice of Administrative Revocation

September 15, 2014

JOHN MORRIS
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

RE: Administrative Revocation
Discharge Category(s): BGR
NJPDES Permit #NJG0156311
HONEYWELL STUDY AREA 7
Jersey City, Hudson County

Dear Mr. Morris:

Please be advised that the Department has confirmed that you are no longer performing any activities requiring a permit under the New Jersey Pollutant Discharge Elimination System (NJPDES) permitting program. Therefore, your NJPDES permit is administratively revoked effective 04/29/2014.

The Water Pollution Control Act prohibits the discharge of pollutants except as authorized by a NJPDES permit. If you plan to discharge pollutants to the surface or ground waters of the state of New Jersey, you must submit a new application at least 180 days before proposing to discharge.

If you have any questions please contact me at (609) 984-4428 or via email at Terry.Beym@dep.nj.gov.

Sincerely,

Terry Beym

Terry Beym, Acting Section Chief
Office of Permit Management

c: Bureau of Surface Water Permitting, Brian Salvo
Central File-Correspondence – MF: 179223 / PI: 234822

New Jersey is an Equal Opportunity Employer
Recycled Paper

NEW JERSEY POLLUTANT DISCHARGE ELIMINATION SYSTEM

The New Jersey Department of Environmental Protection hereby grants you a NJPDES permit for the facility/activity named in this document. This permit is the regulatory mechanism used by the Department to help ensure your discharge will not harm the environment. By complying with the terms and conditions specified, you are assuming an important role in protecting New Jersey's valuable water resources. Your acceptance of this permit is an agreement to conform with all of its provisions when constructing, installing, modifying, or operating any facility for the collection, treatment, or discharge of pollutants to waters of the state. If you have any questions about this document, please feel free to contact the Department representative listed in the permit cover letter. Your cooperation in helping us protect and safeguard our state's environment is appreciated.

Permit Number: NJG0156311

Final: Surface Water GPA Revocation

Permittee:
HONEYWELL INTERNATIONAL INC
101 COLUMBIA RD
MORRISTOWN, NJ 07962

Co-Permittee:

Property Owner:
ECARG
5 BECKER FARM RD
ROSELAND, NJ 07068

Location Of Activity:
HONEYWELL STUDY AREA 7
441 RT 440 S
JERSEY CITY, NJ 07305

Authorization(s) Covered Under This Approval	Issuance Date	Effective Date	Status
BGR -General Remediation Clean-up (GP)	09/15/2014	04/29/2014	**Revoked**

By Authority of:
Commissioner's Office

DEP AUTHORIZATION
Melisse Carasia Auriti, Section Chief
Bureau of Surface Water Permitting
Division of Water Quality

(Terms, conditions and provisions attached hereto)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 15, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the August 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
8	01	14	8	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,308	87,127 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	1.04	1.16	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.082	0.082	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

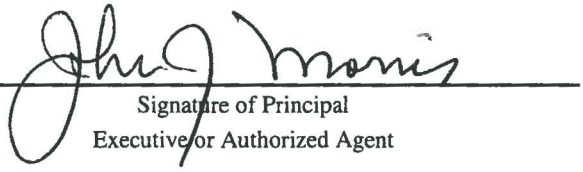
Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

09/04/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
8	01	14	8	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,427,535 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 15,341,157

DATE	BOD (mg/l)	TSS (mg/l)
8/22/2014	8.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 09/04/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)						MONTH: August 2014					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
8/1/2014	Angel Trujillo	12913622	12992582	78,960	0.07896	7.30	1.600									1.05
8/2/2014	Angel Trujillo	12992582	13079709	87,127	0.087127	7.77	1.600									1.16
8/3/2014	Angel Trujillo	13079709	13156390	76,681	0.076681	7.71	1.600									1.02
8/4/2014	Angel Trujillo	13156390	13228426	72,036	0.072036	7.89	1.600									0.96
8/5/2014	Angel Trujillo	13228426	13308624	80,198	0.080198	7.84	1.600									1.07
8/6/2014	Angel Trujillo	13308624	13389741	81,117	0.081117	7.80	1.600									1.08
8/7/2014	Angel Trujillo	13389741	13468385	78,644	0.078644	7.26	1.600									1.05
8/8/2014	Angel Trujillo	13468385	13546827	78,442	0.078442	7.30	1.600									1.05
8/9/2014	Angel Trujillo	13546827	13628240	81,413	0.081413	7.24	1.600									1.09
8/10/2014	Angel Trujillo	13628240	13710561	82,321	0.082321	7.31	1.600									1.10
8/11/2014	Angel Trujillo	13710561	13775706	65,145	0.065145	7.10	1.600									0.87
8/12/2014	Angel Trujillo	13775706	13853562	77,856	0.077856	7.39	1.600									1.04
8/13/2014	Angel Trujillo	13853562	13934782	81,220	0.08122	7.31	1.600									1.08
8/14/2014	Angel Trujillo	13934782	14014289	79,507	0.079507	7.40	1.600									1.06
815/2014	Angel Trujillo	14014289	14091101	76,812	0.076812	7.40	1.600									1.02
8/16/2014	Angel Trujillo	14091101	14171774	80,673	0.080673	7.37	1.600									1.08
8/17/2014	Angel Trujillo	14171774	14253195	81,421	0.081421	7.36	1.600									1.09
8/18/2014	Angel Trujillo	14253195	14323236	70,041	0.070041	7.37	1.600									0.93
8/19/2014	Angel Trujillo	14323236	14401179	77,943	0.077943	7.50	1.600									1.04
8/20/2014	Angel Trujillo	14401179	14478608	77,429	0.077429	7.40	1.600									1.03
8/21/2014	Angel Trujillo	14478608	14556375	77,767	0.077767	7.48	1.600									1.04
8/22/2014	Angel Trujillo	14556375	14634647	78,272	0.078272	7.19	1.600	<5.1	8.0		<0.010	<0.030	<0.010	<0.0002	<0.020	1.04
8/23/2014	Angel Trujillo	14634647	14716994	82,347	0.082347	7.55	1.600									1.10
8/24/2014	Angel Trujillo	14716994	14794455	77,461	0.077461	7.52	1.600									1.03
8/25/2014	Angel Trujillo	14794455	14869844	75,389	0.075389	7.56	1.600									1.01
8/26/2014	Angel Trujillo	14869844	14946336	76,492	0.076492	7.59	1.600									1.02
8/27/2014	Angel Trujillo	14946336	15024505	78,169	0.0782	7.58	1.600									1.04
8/28/2014	Angel Trujillo	15024505	15102734	78,229	0.078229	7.56	1.600									1.04
8/29/2014	Angel Trujillo	15102734	15180860	78,126	0.078126	7.54	1.600									1.04
8/30/2014	Angel Trujillo	15180860	15261008	80,148	0.080148	7.54	1.600									1.07
8/31/2014	Angel Trujillo	15261008	15341157	80,149	0.080149	7.55	1.600									1.07
TOTAL				2,427,535	2.427535			<5.1	8.0		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	87,127											High:	1.16
			Average:	78,308											Average:	1.04

E/

JB74827

est Labs UTE 130 NJ 8810 8200	**Honeywell** Chain Of Custody / Analysis Request	AESI Ref:	41873.63958
		COC#	087-WW-082214
	Privileged & Confidential	Site Name: Hudson County	Phase: CS
ng Co.: Persons	EDD To:	Location of Site: Jersey City, NJ	Sampling Program: 087: JCIA
Contact: (name, co., address)	Sampler: Frank Schroyer		
ny P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #		
l International	Analysis Turnaround Time (TAT): 3		
nbia Road Morristown, NJ 07962	Consultant: CH2M		
y Data To			
ccept			
ecement To			
y To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days		
o: Helen Fahy (Honeywell)			

Lab Proj # (SDG):	
Lab ID	ACID
Site ID	Hudson Co
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Test Report File Name	Service Test File Order

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A23
G48
C32
V375

Sample Identification: ation ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA W624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
										Units		3	3	3	1	2	2	0	0	2		
087-WW			087-WWE-082214-A	8/22/2014	13:45	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			-1
087-WW			087-WWE-082214-B	8/22/2014	13:40	WW	WATER	REG	5	grab	N					X	X					-2
087-WW			087-WWI-082214	8/22/2014	14:00	WW	WATER	REG	3	grab	N									X		-3

ned by: pH=7.19 @ 5.6°C FKS	Company	Persons 1502	Received by	Company		Condition		Custody Seals Intact	
royer	Date/Time	8/22/14		Date/Time 8/22 1502		Cooler Temp.			
ned by	Company		Received by	Company	Accutest	Condition		Custody Seals Intact	
	Date/Time 8-22 1736			Date/Time 8/22/14 1736		Cooler Temp.			

ives: [Other; Specify]:

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

04.5 IP

3NR

D.G.

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-A		
Lab Sample ID:	JB74827-1	**Date Sampled:**	08/22/14
Matrix:	AQ - Water	**Date Received:**	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1600	10	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	08/23/14	08/27/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	08/25/14	08/25/14	JW	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	08/23/14	08/25/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34759
(2) Instrument QC Batch: MA34770
(3) Instrument QC Batch: MA34784
(4) Prep QC Batch: MP81266
(5) Prep QC Batch: MP81440

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-A		
Lab Sample ID:	JB74827-1	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	08/26/14	RP	SM2540 D-11
pH [a]	7.09		su	1	08/22/14 20:20	DG	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-A		
Lab Sample ID:	JB74827-1A	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	8.0	5.0	mg/l	1	08/22/14 20:28	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-B		
Lab Sample ID:	JB74827-2	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	08/27/14	AA	EPA 1664A

RL = Reporting Limit

Accutest LabLink@812392 10:40 02-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-082214-B		
Lab Sample ID:	JB74827-2	Date Sampled:	08/22/14
Matrix:	AQ - Water	Date Received:	08/22/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N238180.D	1	08/25/14	DC	n/a	n/a	VN10108
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.3	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.4	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.3	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.47	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	51.7	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.1	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		71-128%
2037-26-5	Toluene-D8 (SUR)	101%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	99%		78-115%

ND = Not detected MDL = Method Detection Limit J = Indicates an estimated value
RL = Reporting Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending September 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014. Responded on September 11, 2014 to Plaintiffs' September 9, 2014 request for clarification.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

11/14/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

November 14, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-10

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from October 1 – October 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: October 2014 SA-6/7 Combined Monthly Progress Report No. 2014-10

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-10

Project SA-6 & 7 Remediation

October 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
10/09/14	NJDEP Correspondence re: Retraction for the December 20, 2013 Application for Certificate of Authority to Operate (CAO) a Beneficial Use Project for the Use of Concrete from Study Area 6 North and South Sites to be used On-site as Backfill Material located at 60/80 Kellogg Street, Jersey City, NJ 07305. PI No. NJD 002 144 57, CTO 130001 Study Area 6 North/South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/09/14	Response to Special Master Comments Hydrocarbon-Impacted Soil Encountered Study Area 6 South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/14/14	Arnold & Porter Correspondence: ICO v. Honeywell Consolidated Litigation Study Area 6 Financial Assurances	Honorable Robert G. Torricelli Office of the Special Master
10/14/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-09 Study Areas 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/20/14	SA-6 Chromium Remedy - Asphalt Disposition Variance Study Areas 6 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
10/20/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014 *(see **Attachment 12**)*	Andy Caltagirone Passaic Valley Sewerage Commission
10/21/14	Special Master Conference Call	N/A

Date	Submittal/Meeting	Recipient
10/22/14	Long Term Monitoring Program First Five Year Implementation Plan Study Area 7 Sediment Remedy Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	10/5/14	10/12/14	10/19/14	10/26/14	11/2/14
Construction Management (AMEC)	11	11	11	12	12
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	50	48	47	43	44
Arecon/US Ecology Subcontractors	1	1	1	1	1
Evoqua	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
Other	0	0	0	0	0
TOTAL	**68**	**66**	**65**	**62**	**63**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6S and SA-6N.
- Collected October PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed S-3 Injection/Mass Removal Event #18 in well 088-IW-03.
- Issued Unrestricted Notice to Proceed to the JCIA demolition contractor on October 7, 2014.
- Began mobilization activities at the JCIA demolition project on October 9, 2014.
- Environ and Aquasurvey representatives performed long term monitoring activities in accordance with the sediment monitoring plan, including the bathometric survey, cap thickness verifications, sediment profile imaging (SPI), biological sampling, and pore water sampling.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on October 14, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	10/5/14	10/12/14	10/19/14	10/26/14	11/2/14
Avg. Gallons Treated & Discharged (per day)	76,883	75,961	77,733	76,422	77,950
Average Flow (gpm) for Operating Period	55	53	55	53	54
Avg. Hours of Plant Operation	23	24	24	24	24
GWTP Influent Tanks (gal.)	10,900	7,821	12,463	11,147	14,262

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Completed excavation activities in cells 73-59.
- Continued storm-water management activities.
- On October 8, 2014 we collected a soil sample from a visually anomalous material observed in a thin lens located in the southern portion of Cell 70. Laboratory analysis received on October 16, 2014 indicated the result was 6.5 mg/kg. No further action was required.
- Began Site 163 excavation activities.
- Continued installation of the Contingent Groundwater Extraction Trench Pipe.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	20.0	20.0
Entact/ Horwith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	0	0	0
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	3	14.14	42.42

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ FCI	30 cyd roll off	Tullytown, Pa	WM Grows	ACM Tile & Mastic	1	12.0	12.0
Entact/ FCI	Tri-axle Dump	Kearny, NJ	NJ Meadowlands	Dieldrin Stained Concrete	4	21.12	84.5
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	TCE Impacted Soil	9	26.1	235.6
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Mercury Impacted Soil	3	26.36	79.09

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Under Excavation	Cell Number(s) 73-59
Excavation Completed	Cell Number(s) 75-59 Volume Excavated - Total for Reporting Period: 34,191 CY/ Total to Date: 151,313 CY
Backfill in Progress	Cell Number(s) 104-59

3. BACKFILL MATERIALS USED

Source	Week Ending				
	10/5/14	**10/12/14**	**10/19/14**	**10/26/14**	**11/2/14**
<20ppm re-use, CY	878	3,309	2,633	248	270
Weldon, Import-Tons Screenings	103	0	0	0	3,946
Tilcon, Import-Tons DGA	688	1,719	994	1,876	1,229
Tilcon, Import Tons – 1.5” Stone	317	26	0	0	101
Weldon, Imported Tons - QP	0	0	207	0	0
Weldon, Imported Tons - DGA	0	0	0	0	0
–Tilcon, Imported 6”-8” stone	0	0	0	0	92.08
Tilcon, Imported Tons – 2.5” Stone	0	0	0	50	0

E. SURCHARGE OPERATIONS

- Area 1S: Completed placement of imported Celgene soils between the sub-grade and surcharge design grade on the eastern portion. Began offloading western 100 ft. of 1S on October 24, 2014.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 80% complete.

- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. No surcharge has been initiated.
- Area 1N: Continued surcharge removal activities. Surcharge removal activities area approximately 75% complete. Details were provided in the October 2014 Surcharge Monitoring Report No. 5.
- Area 2N: Instrumentation Installation 100% complete. Surcharge being removed from Area 1N is being relocated to Area 2N. Surcharge placement is approximately 95% complete.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Began grouting angles of 19P1 Sheets.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14	Pending	Pending	Pending

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition activities to include site preparation and abatement activities.
- Continue placement of surcharge materials in SA-6S Area 2S.
- Begin placement of surcharge material in SA-6S Area 3S.
- Continue off loading of surcharge materials from SA-6N Area 1N.
- Initiate off loading of surcharge materials from SA-6S Area 1S.
- Complete placement of surcharge materials in SA-6N Area 2N.
- Continue installation of the contingent groundwater system trench on SA-6S.
- Continue dewatering of well points/sumps installed within the SA-6S open space area.
- Complete Site 163 excavation and backfilling activities.
- Complete excavation of standalone Areas 41 and 43.
- Begin excavation of the lens of anomalous material proximate to Cell 104.
- Continue loadout and transportation and disposal activities at SA-6S.
- Continue backfill placement and associated compaction testing activities at SA-6S.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete sediment long term monitoring activities and final report preparation.

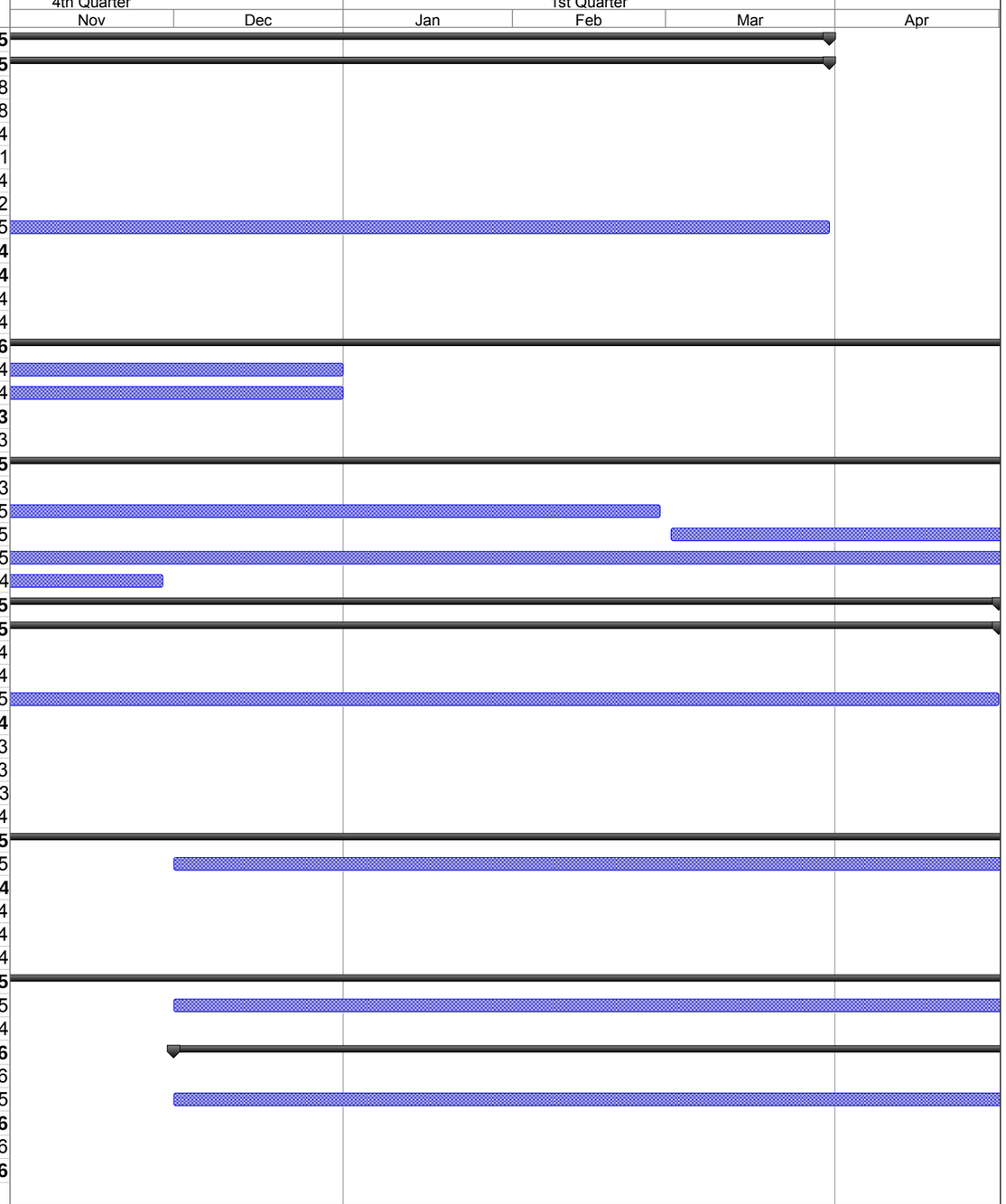
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Dewatering Data (Headers)
   - SA-6 South Deep Well Data (DW-3)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data Surcharge Monitoring Update (not included in this reporting period)*
9. Surcharge Monitoring Update
   - Figure C1: Instrumentation Location Plan 2N
   - Figure G1: Instrumentation Location Plan 2S
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Deflection Along Open Excavation
    - Sheet Monitoring Locations
    - Sheet Pile Repair Log
    - Sheet Pile Angle Grout Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (September 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**	**Mon 3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**	**Mon 3/30/15**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08	Wed 10/1/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09	Mon 6/2/14
22	Relocation Contractor Procurement	392 days	Thu 4/15/10	Thu 10/13/11
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11	Fri 8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11	Mon 4/30/12
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14	Mon 3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**	**Wed 4/30/14**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**	**Wed 4/30/14**
58	New GWTP Construction Completion	502 days	Mon 3/5/12	Thu 1/30/14
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11	Wed 4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**	**Mon 5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13	Wed 12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13	Wed 12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**	**Fri 6/28/13**
61a	Mobilization	87 days	Fri 3/1/13	Fri 6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**	**Fri 10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13	Tue 12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14	Fri 2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15	Fri 10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14	Tue 6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14	Fri 11/28/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**	**Thu 4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**	**Thu 4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13	Fri 2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14	Fri 6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14	Thu 4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**	**Fri 5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13	Thu 8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13	Mon 8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13	Fri 11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13	Fri 5/30/14
64	**Excavation**	**507 days**	**Tue 10/22/13**	**Wed 9/30/15**
64a	SA 6N Excavation	218 days	Mon 12/1/14	Wed 9/30/15
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**	**Tue 9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13	Thu 1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14	Thu 5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14	Tue 9/2/14
65	**Backfill**	**493 days**	**Mon 11/11/13**	**Wed 9/30/15**
65a	SA 6N Backfill	218 days	Mon 12/1/14	Wed 9/30/15
65b	SA 6S Backfill	232 days	Mon 11/11/13	Tue 9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**	**Fri 2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15	Fri 2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14	Wed 12/30/15
67	**Restoration**	**164 days**	**Tue 9/1/15**	**Fri 4/15/16**
67a	Restoration	164 days	Tue 9/1/15	Fri 4/15/16
68	**Demobilization**	**21 days**	**Mon 4/18/16**	**Mon 5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			



Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 11/4/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Compacting backfill north of Kellogg Street.



Site Photograph 2: Contractor begins backfilling with a geotextile.



Site Photograph 3: Contractor constructs a new bermed area.



Photograph 4: Contractor loads surcharge material from the stockpile**.**



Site Photograph 5: Contractor places geotextile on the excavation bottom.



Site Photograph 6: Cutting former wooden pilings.



Site Photograph 7: Excavation continues in Kellogg Street properties.



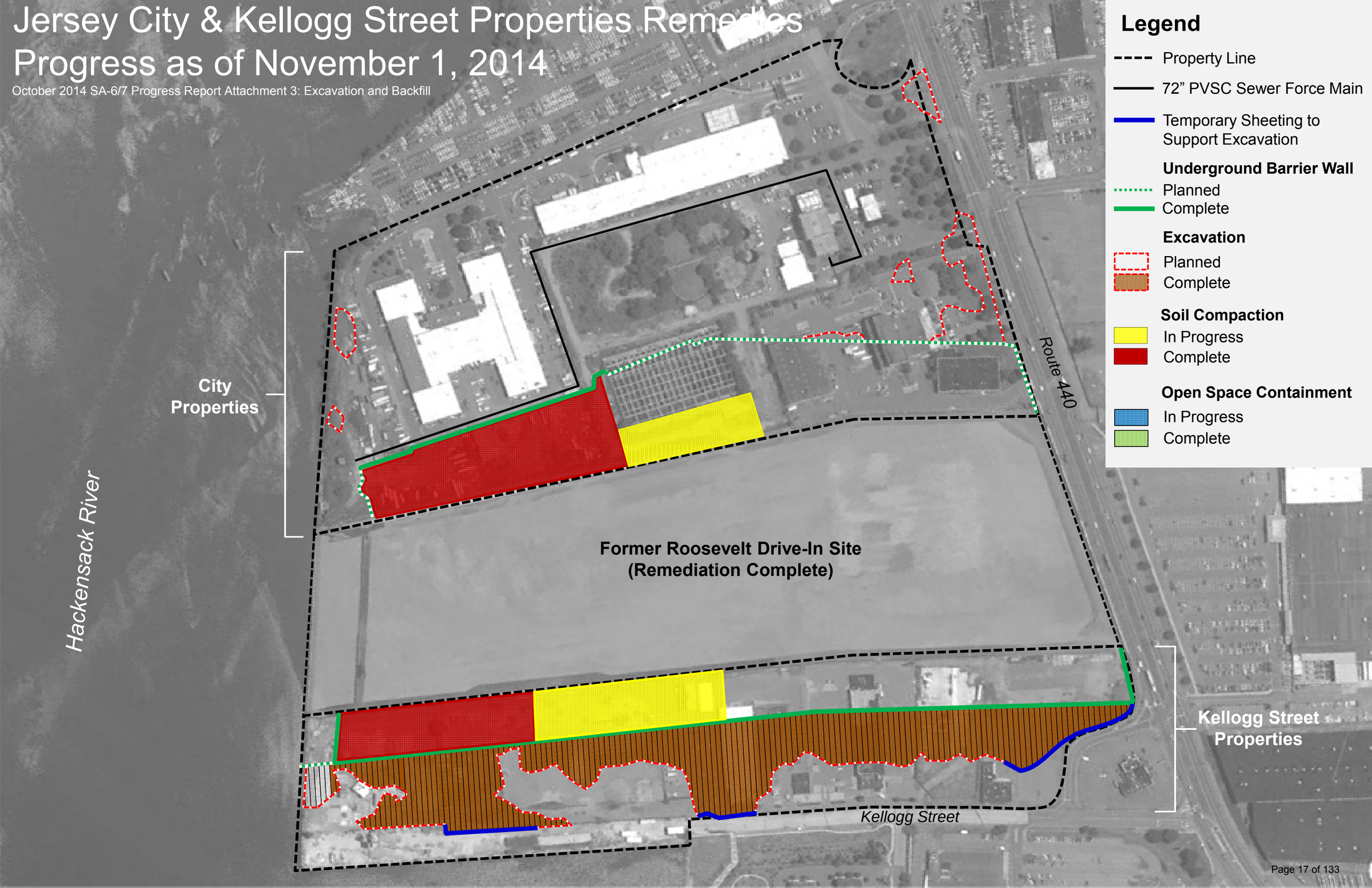
Site Photograph 8: Separation fabric placed for surcharge.

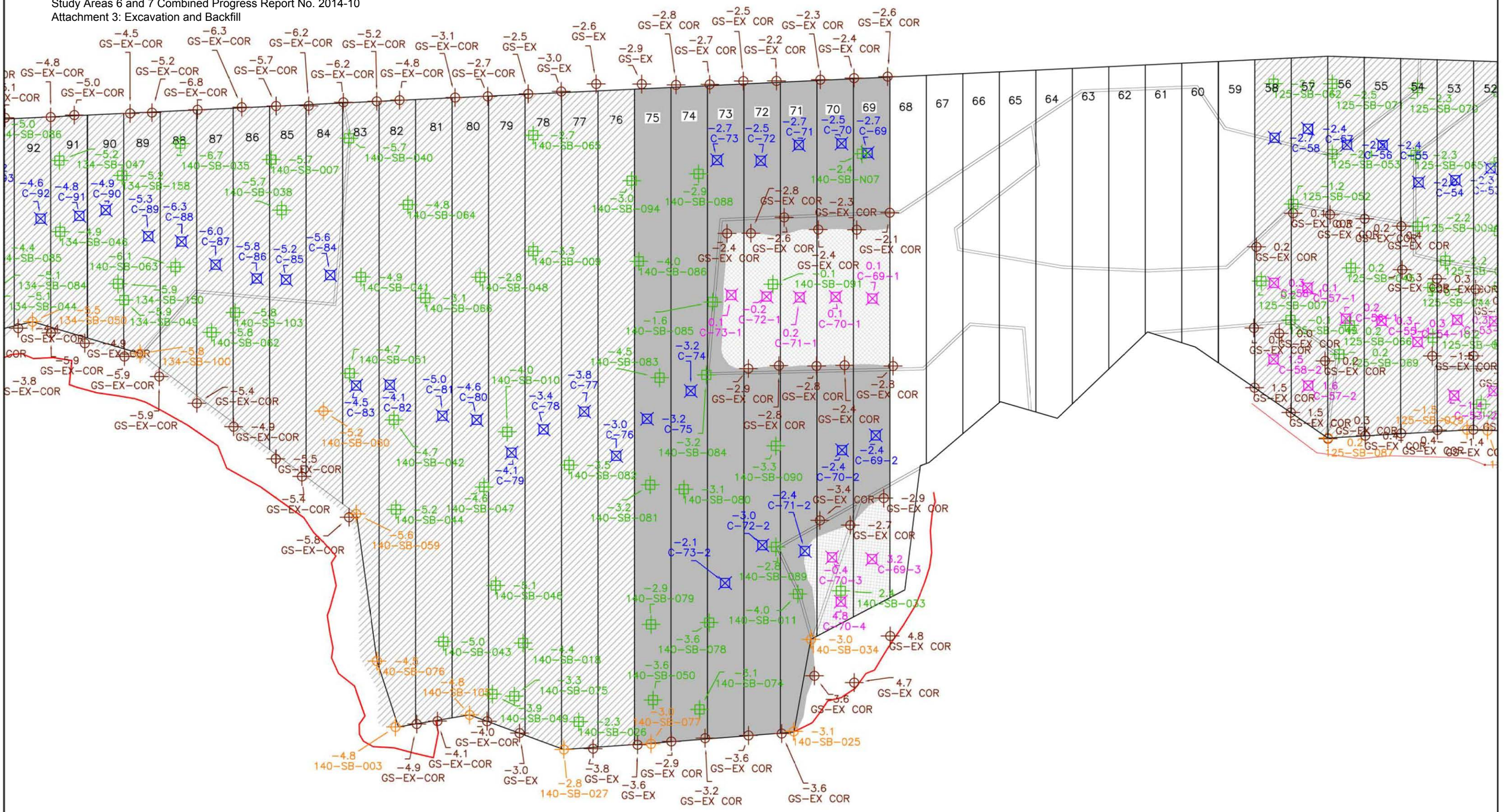
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of November 1, 2014

October 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 10-02-14 TO 10-16-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ENTACT
302 Unity Plaza
Latrobe, PA 15650

ENTACT
www.entact.com

Letter of Transmittal
Honeywell SA6 North and South
Jersey City, New Jersey

To:	Eric Christodoulatis – AMEC
From:	Caroline Panico – ENTACT
CC:	Kurt Gimbel – ENTACT
	Keith Goisse – ENTACT
	Jim Hosgood – ENTACT
Project Number/Title:	E8140C/Honeywell SA6 North and South
Transmittal Title:	Survey Data and Verification
	Cells 75-69
Submission Date:	October 21, 2014

Documents Attached:

1) Excavation Confirmatory Points (Maser Consulting P.A.)
2) Excavation Bottom Elevations
3) Excavation Progress Map

Survey Data Verification:

Entact verifies that Maser Consulting P.A. has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells.

Signature: Caroline Panico **Date:** 10-21-14

Caroline Panico
ENTACT Quality Control

MASER CONSULTING P.A.
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Planners
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Landscape Architects
Environmental Scientists

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	2.1	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

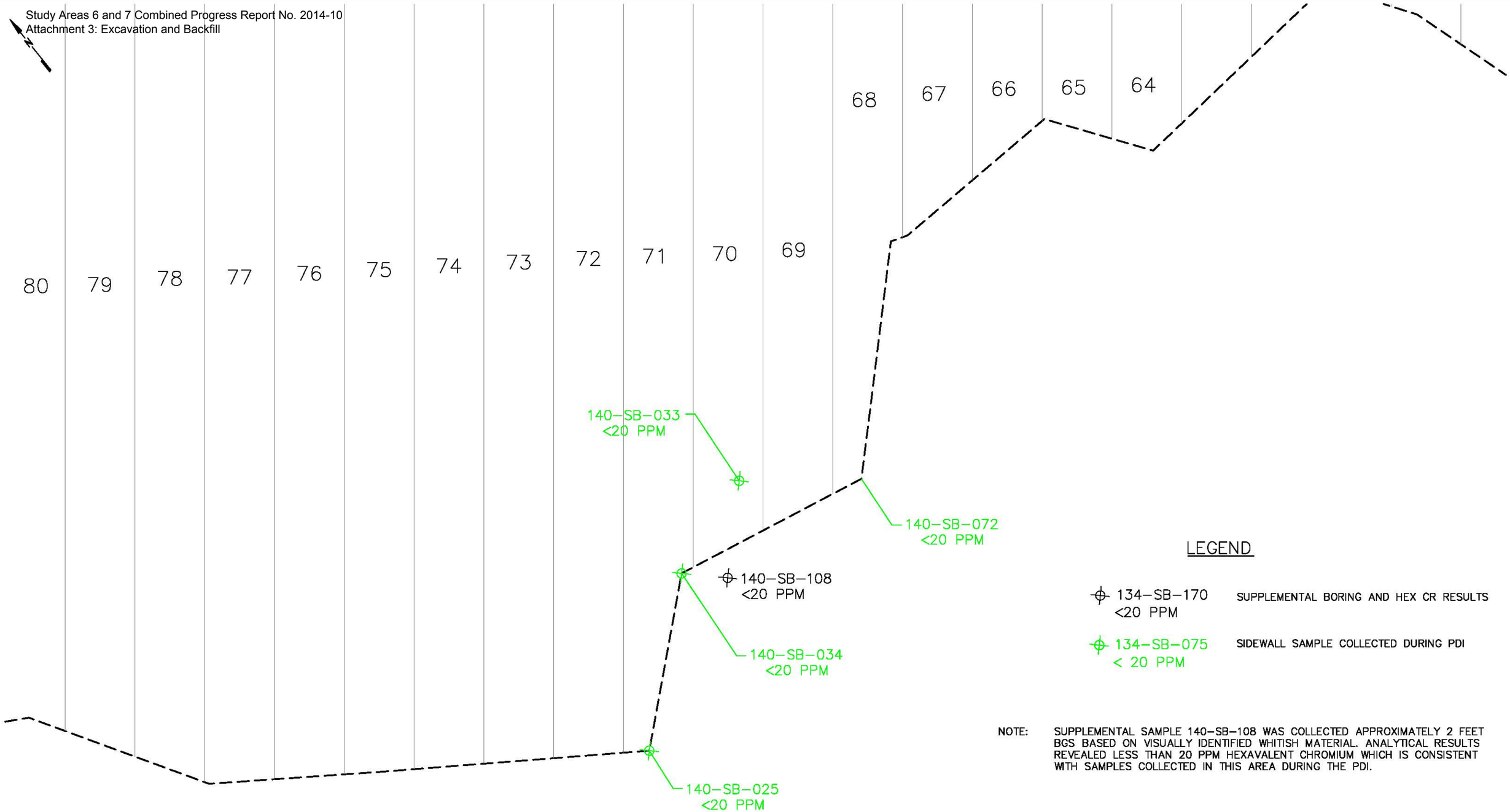
SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.1	Stratum D Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 10/20/14

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737



NOTE: SUPPLEMENTAL SAMPLE 140-SB-108 WAS COLLECTED APPROXIMATELY 2 FEET BGS BASED ON VISUALLY IDENTIFIED WHITISH MATERIAL. ANALYTICAL RESULTS REVEALED LESS THAN 20 PPM HEXAVALENT CHROMIUM WHICH IS CONSISTENT WITH SAMPLES COLLECTED IN THIS AREA DURING THE PDI.

Prepared/Date: TDD 10/24/14
Checked/Date: SGS 10/24/14

0 5 10 20
SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

LENS OF WHITE ANOMALOUS MATERIAL
SUPPLEMENTAL BORING LOCATION
FIGURE 1

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
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JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
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JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.

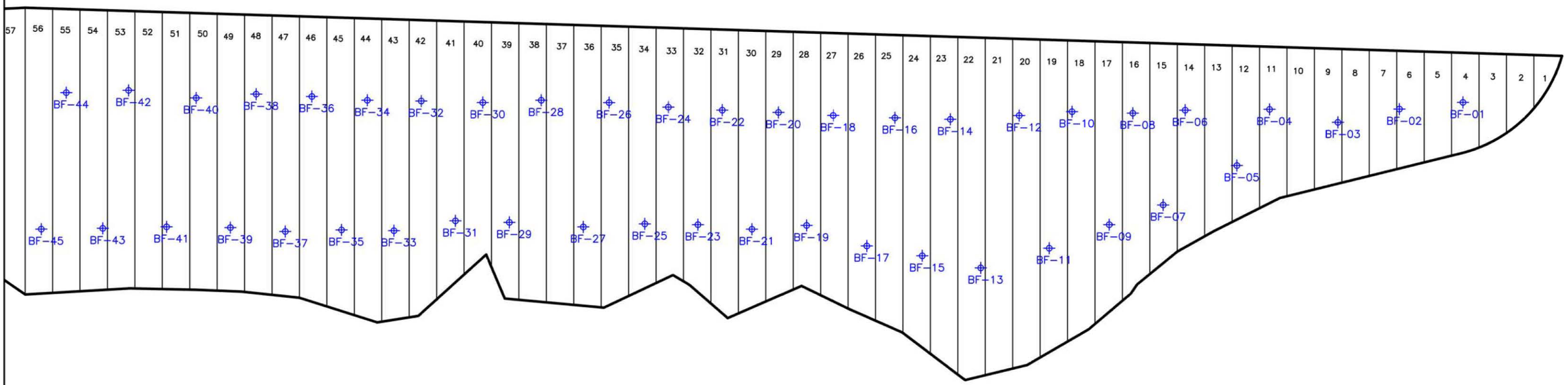
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



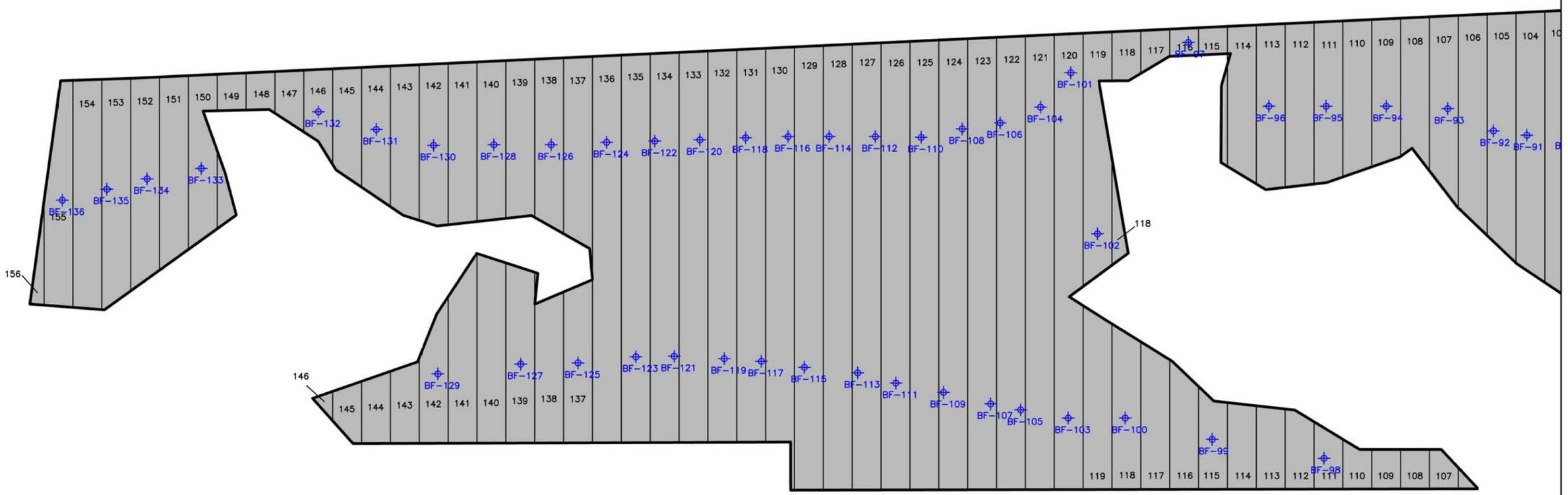
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF
BF-95 TO BF-136

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

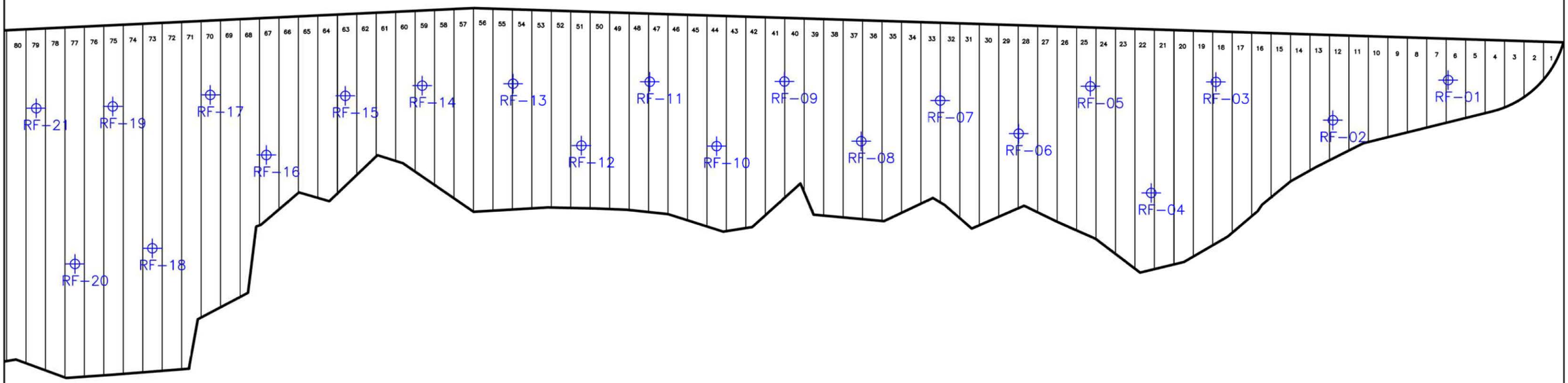
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

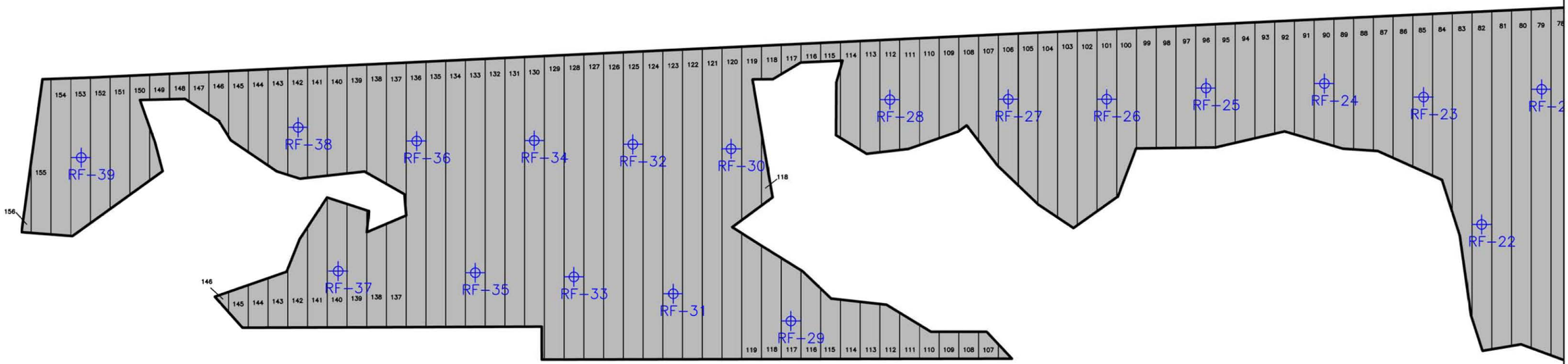
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Dewatering Data (Headers)
- SA-6 South Deep Well Data (DW-3)

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
09/02/14	1	96	10,11,EPS	41	61,819	95,797	33,978	2,675,611	5.9	
09/03/14	1	24	10,11,EPS	41	95,797	103,042	7,245	2,682,856	5.0	
09/04/14	1	24	10,11,EPS	41	103,042	111,280	8,238	2,691,094	5.7	
09/05/14	1	24	10,11,EPS	41	111,280	120,132	8,852	2,699,946	6.1	
09/08/14	1	72	10,11,EPS	41	120,132	142,954	22,822	2,722,768	5.3	
09/09/14	1	24	10,11,EPS	41	142,954	149,419	6,465	2,729,233	4.5	
09/10/14	1	24	10,11,EPS	41	149,419	155,362	5,943	2,735,176	4.1	
09/11/14	1	24	10,11,EPS	41	155,362	160,305	4,943	2,740,119	3.4	
09/12/14	1	24	10,11,EPS	41	160,305	165,438	5,133	2,745,252	3.6	
09/15/14	1	72	10,11,EPS	41	165,438	182,610	17,172	2,762,424	4.0	
09/16/14	1	24	10,11,EPS	41	182,610	186,925	4,315	2,766,739	3.0	
09/17/14	1	24	10,11,EPS	41	186,925	191,256	4,331	2,771,070	3.0	
09/18/14	1	24	10,11,EPS	41	191,256	196,210	4,954	2,776,024	3.4	
09/19/14	1	24	10,11,EPS	41	196,210	201,455	5,245	2,781,269	3.6	
09/22/14	1	24	10,EPS	20	201,455	216,358	14,903	2,796,172	10.3	
09/23/14	1	24	10,EPS	20	216,358	220,880	4,522	2,800,694	3.1	
09/24/14	1	24	10,EPS	20	220,880	222,951	2,071	2,802,765	1.4	
09/25/14	1	24	10,EPS	20	222,951	226,142	3,191	2,805,956	2.2	
09/26/14	1	24	10,EPS	20	226,142	230,921	4,779	2,810,735	3.3	
09/29/14	1	72	10,EPS	20	230,921	236,427	5,506	2,816,241	1.3	
09/30/14	1	24	10,EPS	11	236,427	238,184	1,757	2,817,998	1.2	
10/01/14	1	24	10,EPS	11	238,184	239,452	1,268	2,819,266	0.9	
10/02/14	1	24	10,EPS	11	239,452	240,551	1,099	2,820,365	0.8	
10/03/14	1	24	10,EPS	11	240,551	241,824	1,273	2,821,638	0.9	
10/06/14	1	72	10,EPS	11	241,824	244,358	2,534	2,824,172	0.6	System taken offline for excavation

Notes: Active Header Numbers refer to H-1, H-2, H-3, etc., as shown on Figure 6 Well Point Dewatering System
EPS - East Perimeter System
WPS - West Perimeter System
Vac plant #2 taken out of service in October, 2013

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-3)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
09/02/14	96	N/A	N/A	17,000	143,253	3.0	Flowmeter Not Installed - Tank Measured
09/03/14	24	N/A	N/A	5,000	148,253	3.5	Flowmeter Not Installed - Tank Measured
09/04/14	24	N/A	N/A	5,250	153,503	3.6	Flowmeter Not Installed - Tank Measured
09/05/14	24	N/A	N/A	5,500	159,003	3.8	Flowmeter Not Installed - Tank Measured
09/08/14	72	N/A	N/A	16,500	175,503	3.8	Flowmeter Not Installed - Tank Measured
09/09/14	24	N/A	N/A	5,000	180,503	3.5	Flowmeter Not Installed - Tank Measured
09/10/14	24	N/A	N/A	5,250	185,753	3.6	Flowmeter Not Installed - Tank Measured
09/11/14	24	N/A	N/A	5,000	190,753	3.5	Flowmeter Not Installed - Tank Measured
09/12/14	24	N/A	N/A	5,500	196,253	3.8	Flowmeter Not Installed - Tank Measured
09/15/14	72	N/A	N/A	17,500	213,753	4.1	Flowmeter Not Installed - Tank Measured
09/16/14	24	N/A	N/A	5,250	219,003	3.6	Flowmeter Not Installed - Tank Measured
09/17/14	24	N/A	N/A	5,000	224,003	3.5	Flowmeter Not Installed - Tank Measured
09/18/14	24	N/A	N/A	5,500	229,503	3.8	Flowmeter Not Installed - Tank Measured
09/19/14	24	N/A	N/A	5,500	235,003	3.8	Flowmeter Not Installed - Tank Measured
09/22/14	72	N/A	N/A	16,500	251,503	3.8	Flowmeter Not Installed - Tank Measured
09/23/14	24	N/A	N/A	5,250	256,753	3.6	Flowmeter Not Installed - Tank Measured
09/24/14	24	N/A	N/A	4,500	261,253	3.1	Flowmeter Not Installed - Tank Measured
09/25/14	24	N/A	N/A	4,500	265,753	3.1	Flowmeter Not Installed - Tank Measured
09/26/14	24	N/A	N/A	4,500	270,253	3.1	Flowmeter Not Installed - Tank Measured
09/29/14	72	N/A	N/A	12,300	282,553	2.8	Flowmeter Not Installed - Tank Measured
09/30/14	24	N/A	N/A	4,000	286,553	2.8	Flowmeter Not Installed - Tank Measured
10/01/14	24	N/A	N/A	4,000	290,553	2.8	Flowmeter Not Installed - Tank Measured
10/02/14	24	N/A	N/A	4,000	294,553	2.8	Flowmeter Not Installed - Tank Measured
10/03/14	24	N/A	N/A	4,000	298,553	2.8	Flowmeter Not Installed - Tank Measured
10/06/14	72	N/A	N/A	15,500	314,053	3.6	Flowmeter Not Installed - Tank Measured
10/07/14	24	N/A	N/A	4,000	318,053	2.8	Flowmeter Not Installed - Tank Measured
10/08/14	24	N/A	N/A	4,000	322,053	2.8	Well Taken offline for Excavation

Note: Well DW-3 was activated on August 6, 2014.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
09/02/14	8:00	19,566.27	19,626.24	59,970	19,625,790	PVSC Compliance Sample Collected
09/03/14	6:00	19,626.24	19,683.38	57,140	19,682,930	
09/04/14	6:30	19,683.38	19,752.78	69,400	19,752,330	
09/05/14	3:30	19,752.78	19,779.42	26,640	19,778,970	
09/06/14	5:00	19,779.42	19,824.20	44,780	19,823,750	
09/07/14	5:00	19,824.20	19,853.23	29,030	19,852,780	
09/08/14	7:15	19,853.23	19,922.16	68,930	19,921,710	
09/11/14	8:45	19,922.16	20,004.70	82,540	20,004,250	
09/12/14	1:30	20,004.70	20,053.63	48,930	20,053,180	
09/14/14	3:30	20,053.63	20,068.27	14,640	20,067,820	
09/15/14	7:00	20,068.77	20,133.27	65,000	20,132,820	
09/16/14	7:30	20,133.27	20,179.69	46,420	20,179,240	
09/17/14	7:00	20,179.69	20,231.28	51,590	20,230,830	
09/18/14	7:30	20,231.28	20,263.94	32,660	20,263,490	
09/19/14	8:30	20,263.94	20,347.22	83,280	20,346,770	
09/21/14	4:00	20,347.22	20,396.72	49,500	20,396,270	
09/22/14	8:20	20,396.72	20,491.07	94,350	20,490,620	
09/23/14	8:30	20,491.07	20,558.92	67,850	20,558,470	
09/24/14	8:15	20,558.92	20,654.42	95,500	20,653,970	
09/25/14	5:00	20,654.42	20,703.09	48,670	20,702,640	
09/26/14	7:30	20,703.09	20,732.78	29,690	20,732,330	
09/29/14	8:00	20,732.78	20,810.38	77,600	20,809,930	
09/30/14	7:30	20,810.38	20,855.01	44,630	20,854,560	
10/02/14	8:30	20,855.01	20,938.29	83,280	20,937,840	
10/03/14	6:00	20,938.29	20,977.59	39,300	20,977,140	
10/05/14	4:30	20,977.59	21,023.46	45,870	21,023,010	
10/06/14	7:45	21,023.46	21,102.23	78,770	21,101,780	
10/09/14	8:00	21,102.23	21,182.13	79,900	21,181,680	PVSC Compliance Sample Collected
10/10/14	7:30	21,182.13	21,208.69	26,560	21,208,240	
10/12/14	4:30	21,208.69	21,228.53	19,840	21,228,080	
10/13/14	6:30	21,228.53	21,289.72	61,190	21,289,270	
10/14/14	2:00	21,289.72	21,292.46	2,740	21,292,010	
10/15/14	8:00	21,292.46	21,349.49	57,030	21,349,040	
10/16/14	8:00	21,349.49	21,411.09	61,600	21,410,640	
10/17/14	7:00	21,411.09	21,463.04	51,950	21,462,590	
10/19/14	5:00	21,463.04	21,523.23	60,190	21,522,780	
10/21/14	7:00	21,523.23	21,574.85	51,620	21,574,400	
10/22/14	8:00	21,574.85	21,611.86	37,010	21,611,410	
10/23/14	9:30	21,611.86	21,728.57	116,710	21,728,120	
10/24/14	7:00	21,728.57	21,795.15	66,580	21,794,700	
10/25/14	4:00	21,795.15	21,836.74	41,590	21,836,290	
10/27/14	8:00	21,836.74	21,934.46	97,720	21,934,010	
10/29/14	4:15	21,934.46	21,979.83	45,370	21,979,380	
10/30/14	2:00	21,979.83	21,987.45	7,620	21,987,000	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

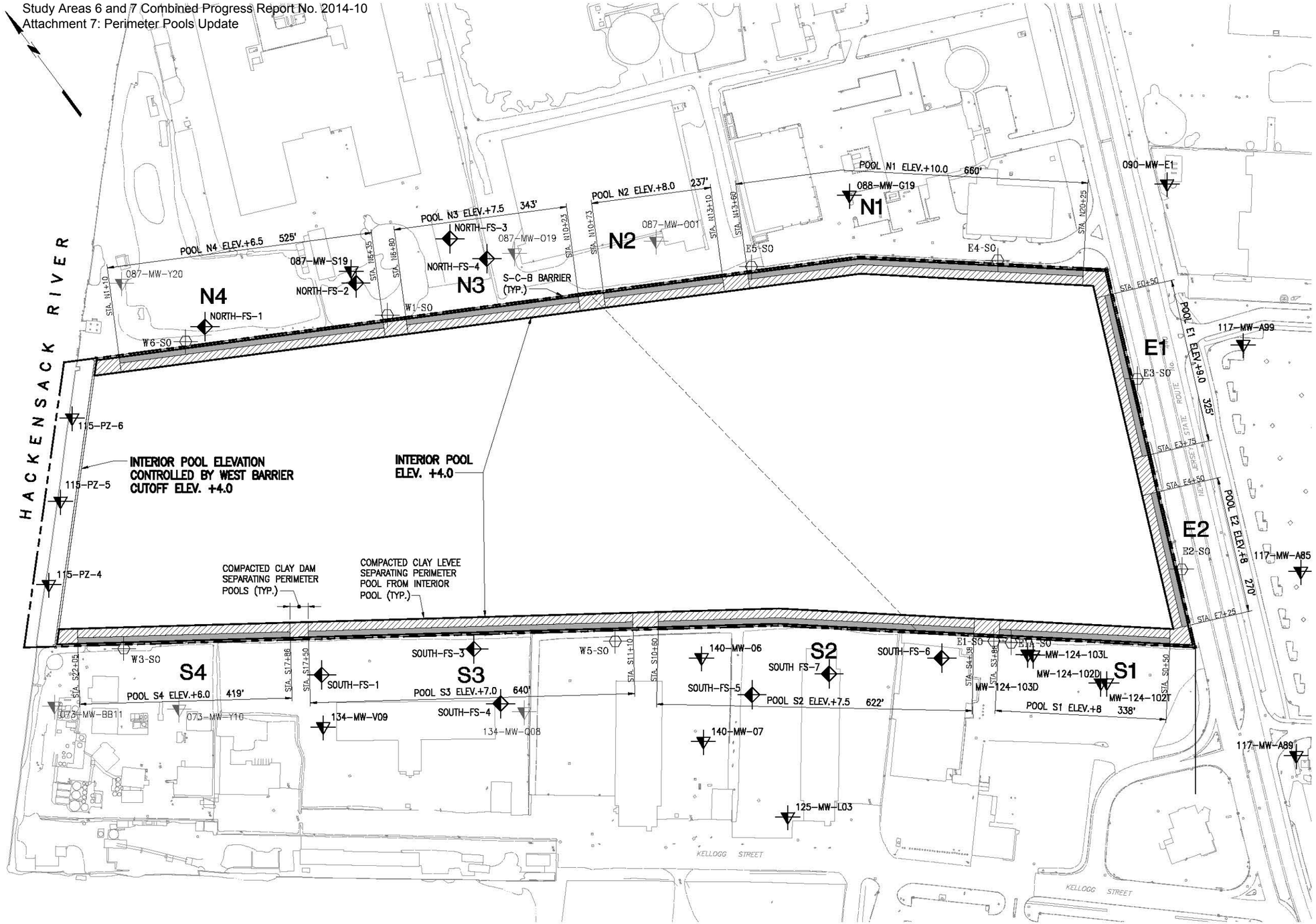
Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
83-88	<20	124-88-20-a,b,c (A24)	2800	124-88-20-a1	9/3/2014	7:10	7.1	Yes		
				124-88-20-a2	9/3/2014	7:15	10.9	Yes		
				124-88-20-a3	9/3/2014	7:20	15.4	Yes		
				124-88-20-a4	9/3/2014	7:25	3.3	Yes		
				124-88-20-b1	9/3/2014	7:30	9.6	Yes		
				124-88-20-b2	9/3/2014	7:35	26.6		Yes	
				124-88-20-b3	9/3/2014	7:40	6.9	Yes		
				124-88-20-b4	9/3/2014	7:45	4.4	Yes		
				124-88-20-c1	9/3/2014	7:50	18.3	Yes		
				124-88-20-c2	9/3/2014	7:55	2.6	Yes		
				124-88-20-c3	9/3/2014	8:00	9.4	Yes		
				124-88-20-c4	9/3/2014	8:05	16.2	Yes		
79-82	<20	124-82-20-a,b,c (A25)	2800	124-82-20-a1	9/17/2014	8:10	23.9		*	
				124-82-20-a2	9/17/2014	8:15	16.8	Yes		
				124-82-20-a3	9/17/2014	8:20	35.3		*	
				124-82-20-a4	9/17/2014	8:25	12.9	Yes		
				124-82-20-b1	9/17/2014	8:30	34.6		*	
				124-82-20-b2	9/17/2014	8:35	142.0		*	
				124-82-20-b3	9/17/2014	8:40	25.4		*	
				124-82-20-b4	9/17/2014	8:45	12.8	Yes		
				124-82-20-c1	9/17/2014	8:50	33.7		*	
				124-82-20-c2	9/17/2014	8:55	16.5	Yes		
				124-82-20-c3	9/17/2014	9:00	26.8		*	
				124-82-20-c4	9/17/2014	9:05	39.2		*	
75-78	<20	124-78-20-a,b,c (A26)	2300	124-78-20-a1	9/30/2014	7:45	9.2	Yes		
				124-78-20-a2	9/30/2014	7:50	23.3		*	
				124-78-20-a3	9/30/2014	7:55	15.3	Yes		
				124-78-20-a4	9/30/2014	8:00	11.9	Yes		
				124-78-20-b1	9/30/2014	8:05	15.7	Yes		
				124-78-20-b2	9/30/2014	8:10	9.3	Yes		
				124-78-20-b3	9/30/2014	8:15	25.8		*	
				124-78-20-b4	9/30/2014	8:20	21.2		*	
				124-78-20-c1	9/30/2014	8:25	19.5	Yes		
				124-78-20-c2	9/30/2014	8:30	20.4		*	
				124-78-20-c3	9/30/2014	8:35	25.4		*	
				124-78-20-c4	9/30/2014	8:40	39.0		*	
67-75	<20	124-75-20-a,b (A27)	1200	124-75-20-a1	10/16/2014	11:20	9.6	*		
				124-75-20-a2	10/16/2014	11:25	7.6	*		
				124-75-20-a3	10/16/2014	11:30	11.0	*		
				124-75-20-a4	10/16/2014	11:35	25.3		*	
				124-75-20-b1	10/16/2014	11:40	17.3	*		
				124-75-20-b2	10/16/2014	11:45	15.6	*		
				124-75-20-b3	10/16/2014	11:50	29.3		*	
				124-75-20-b4	10/16/2014	11:55	65.3		*	

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
58-67	<20	124-67-20-a,b (A28)	1665	124-67-20-a1	10/28/2014	11:30	**			
				124-67-20-a2	10/28/2014	11:35	**			
				124-67-20-a3	10/28/2014	11:40	**			
				124-67-20-a4	10/28/2014	11:45	**			
				124-67-20-b1	10/28/2014	11:50	**			
				124-67-20-b2	10/28/2014	11:55	**			
				124-67-20-b3	10/28/2014	12:00	**			
				124-67-20-b4	10/28/2014	12:05	**			
75-58	>1000	124-75-1000-a,b	1600	124-75-1000-a1	10/29/2014	13:15	**			
				124-75-1000-a2	10/29/2014	13:20	**			
				124-75-1000-a3	10/29/2014	13:25	**			
				124-75-1000-a4	10/29/2014	13:30	**			
				124-75-1000-b1	10/29/2014	13:35	**			
				124-75-1000-b2	10/29/2014	13:40	**			
				124-75-1000-b3	10/29/2014	13:45	**			
				124-75-1000-b4	10/29/2014	13:50	**			

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

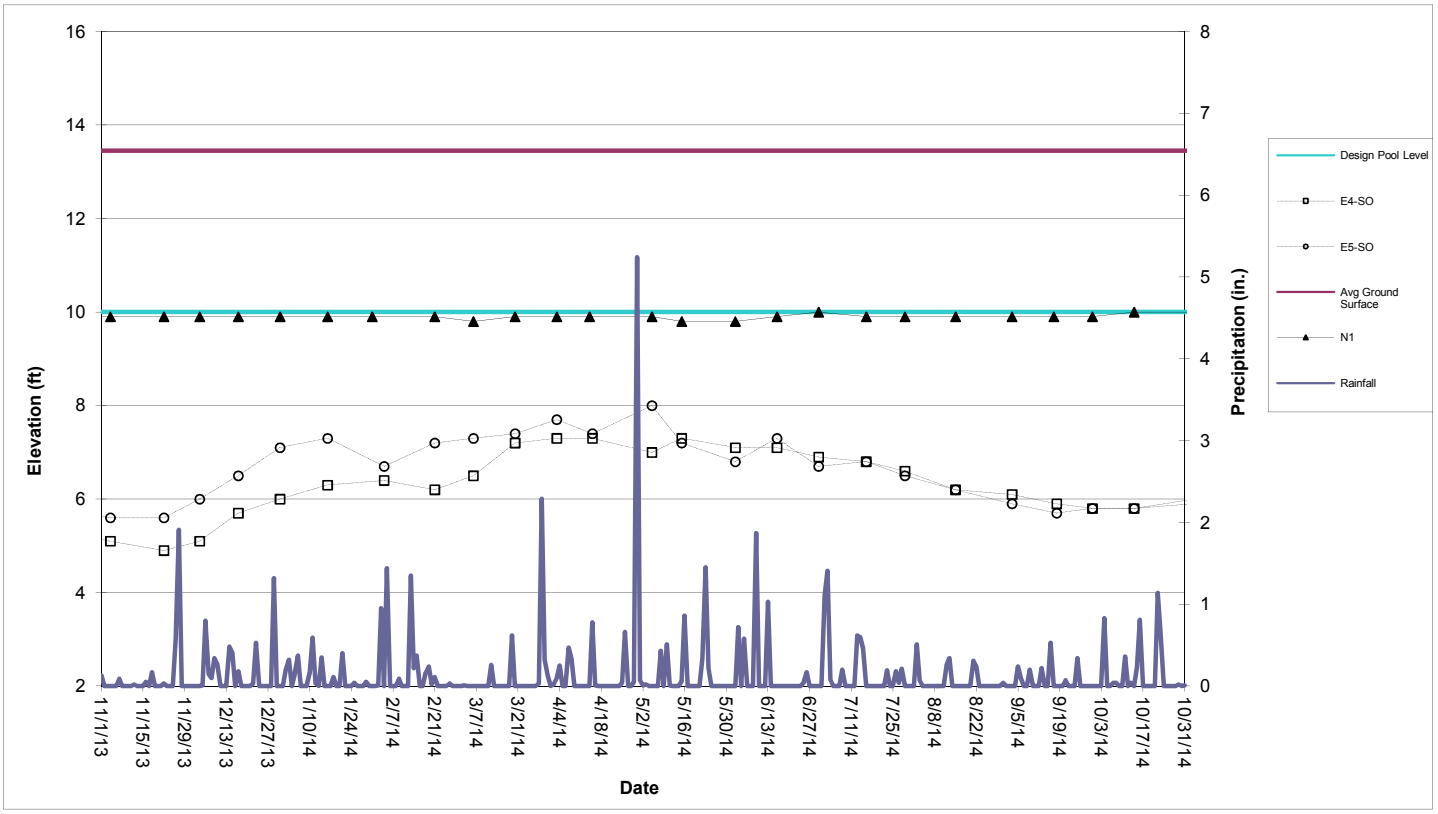
NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

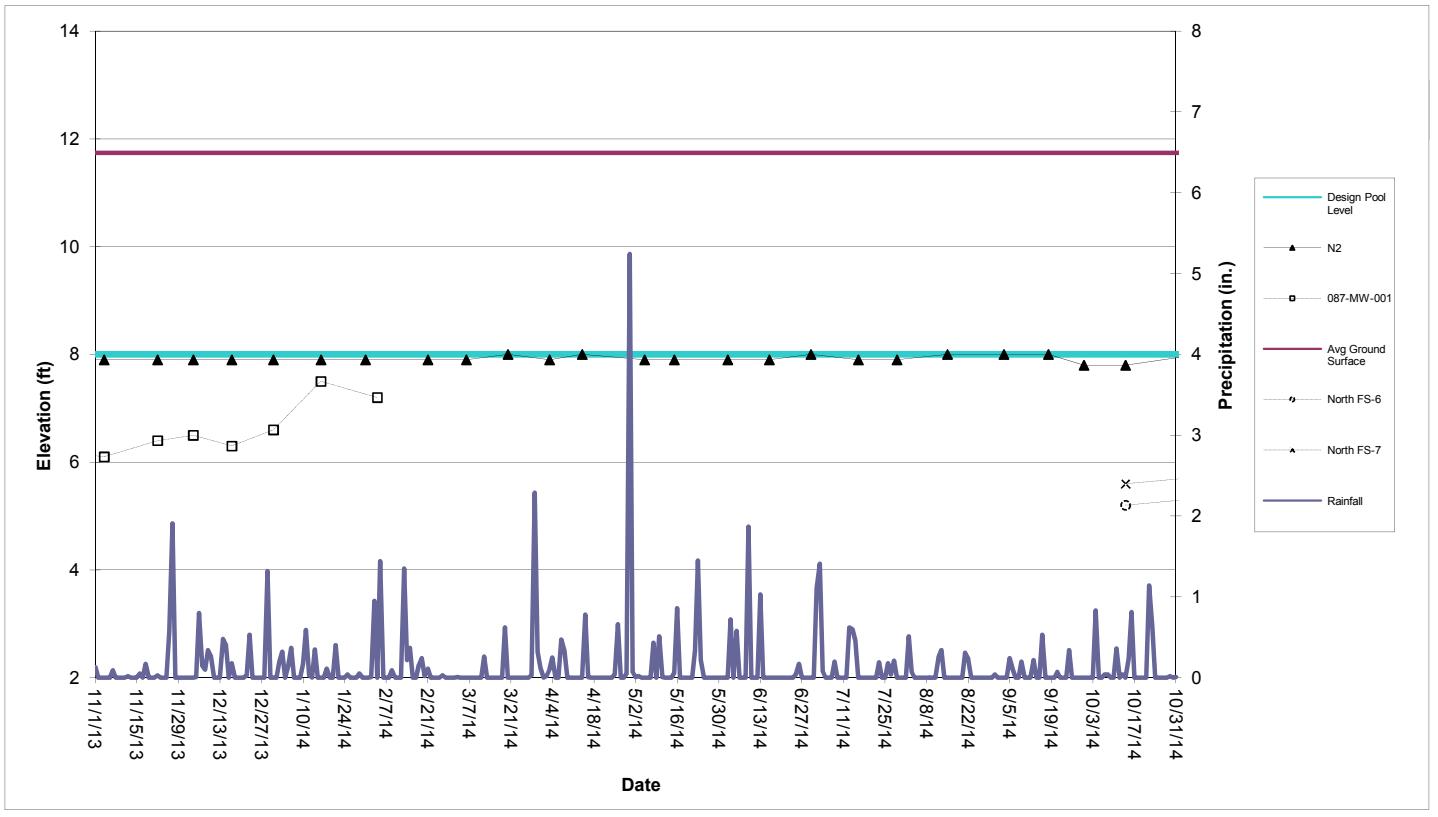
FILE NO. 10210
DRAWING NO. PP-1

Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos

Perimeter Pools

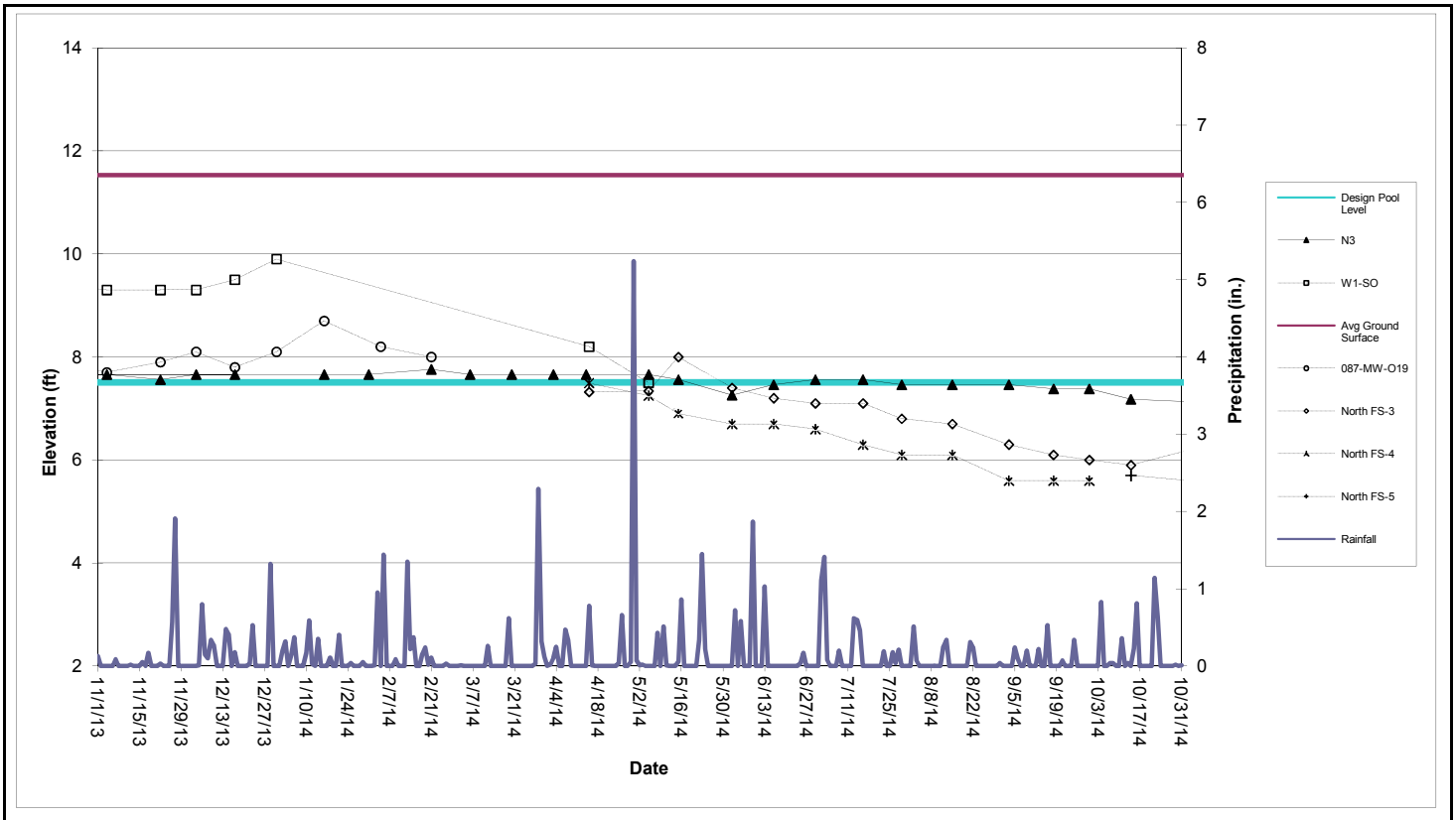


Perimeter Pool N1 (Sta. N13+60 to N20+25)

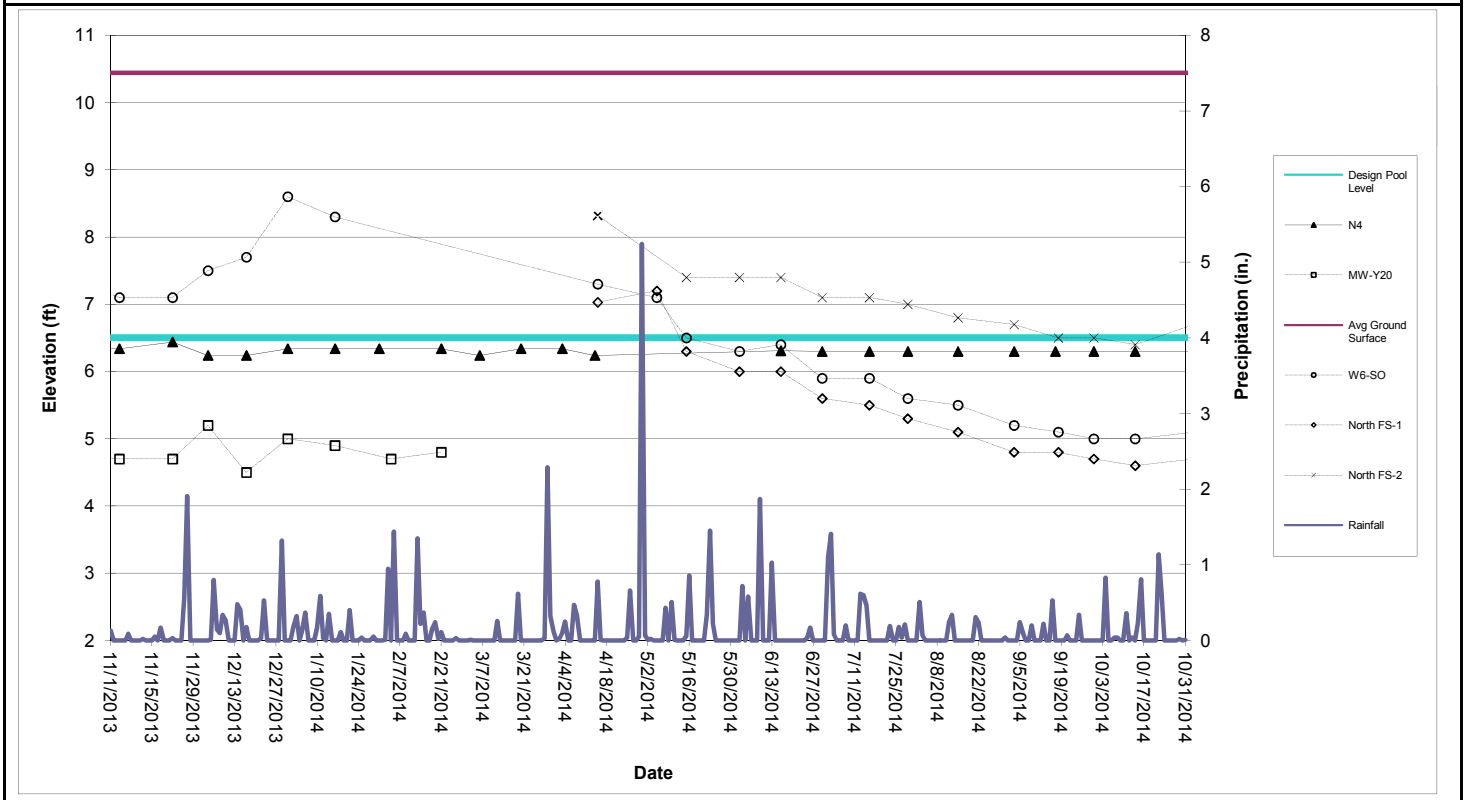


Perimeter Pool N2 (Sta. N10+73 to N13+10)

Perimeter Pools

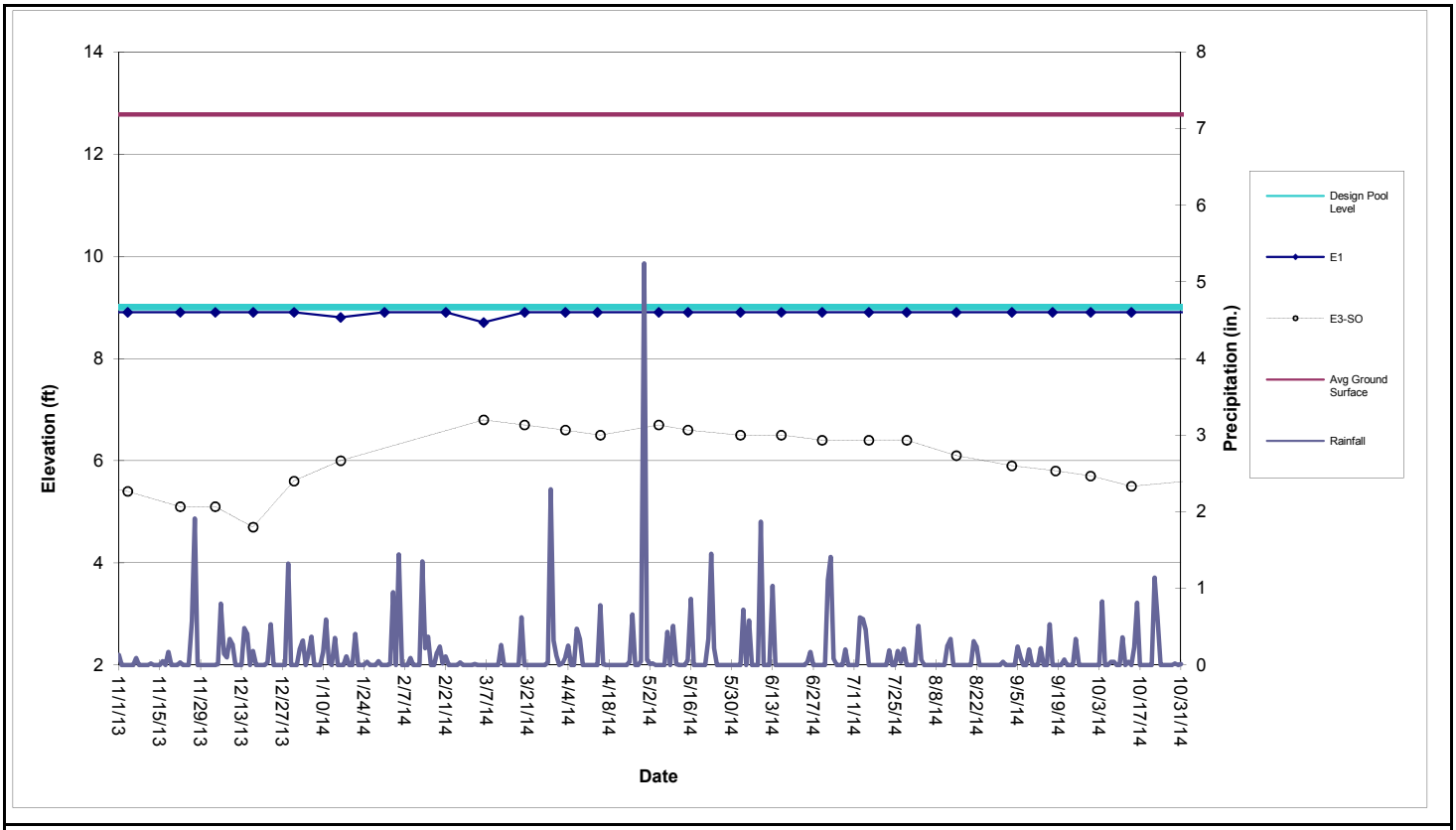


Perimeter Pool N3 (Sta. N6+80 to N10+23)

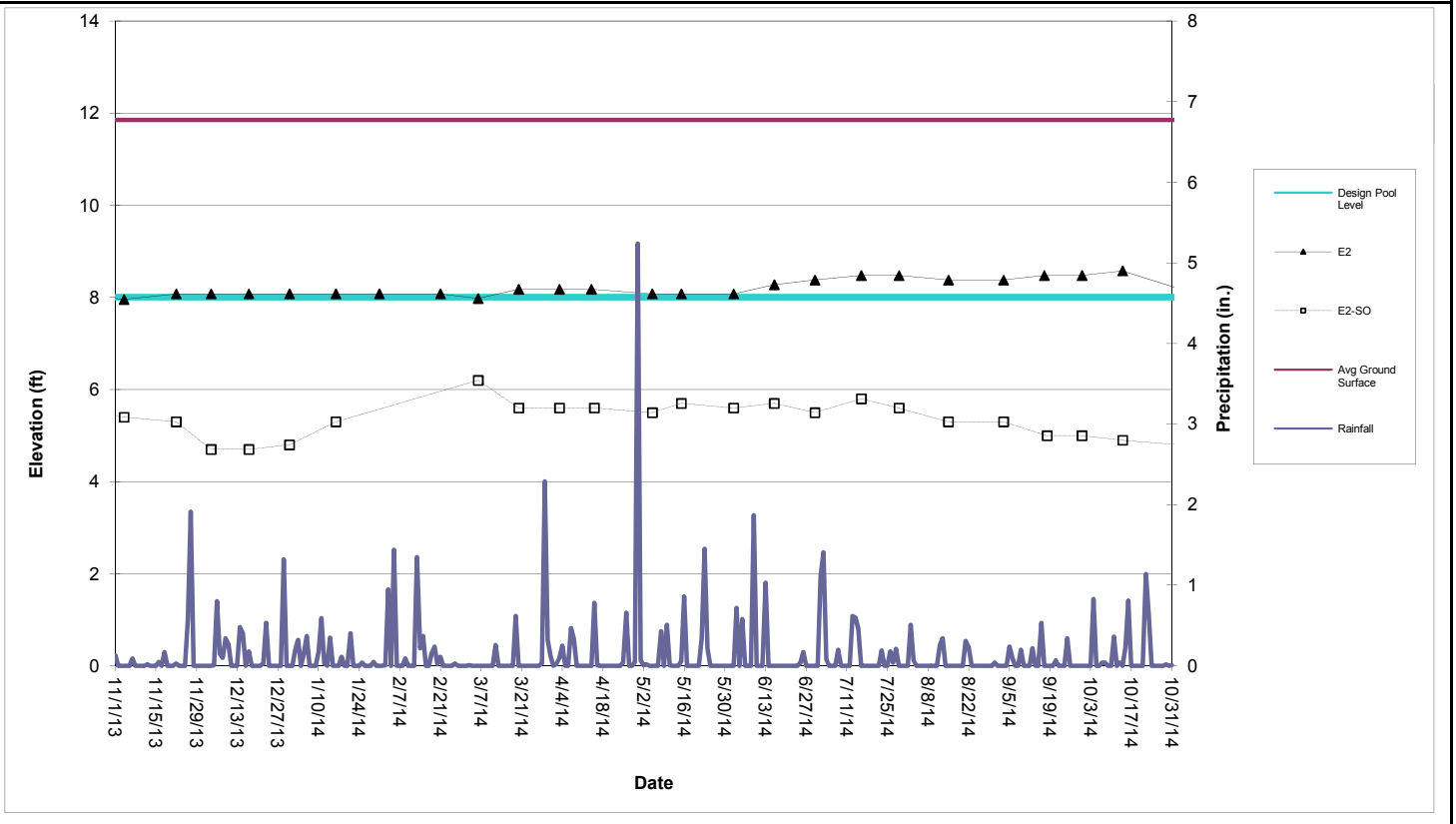


Perimeter Pool N4 (Sta. N6+80 to N10+23)

Perimeter Pools

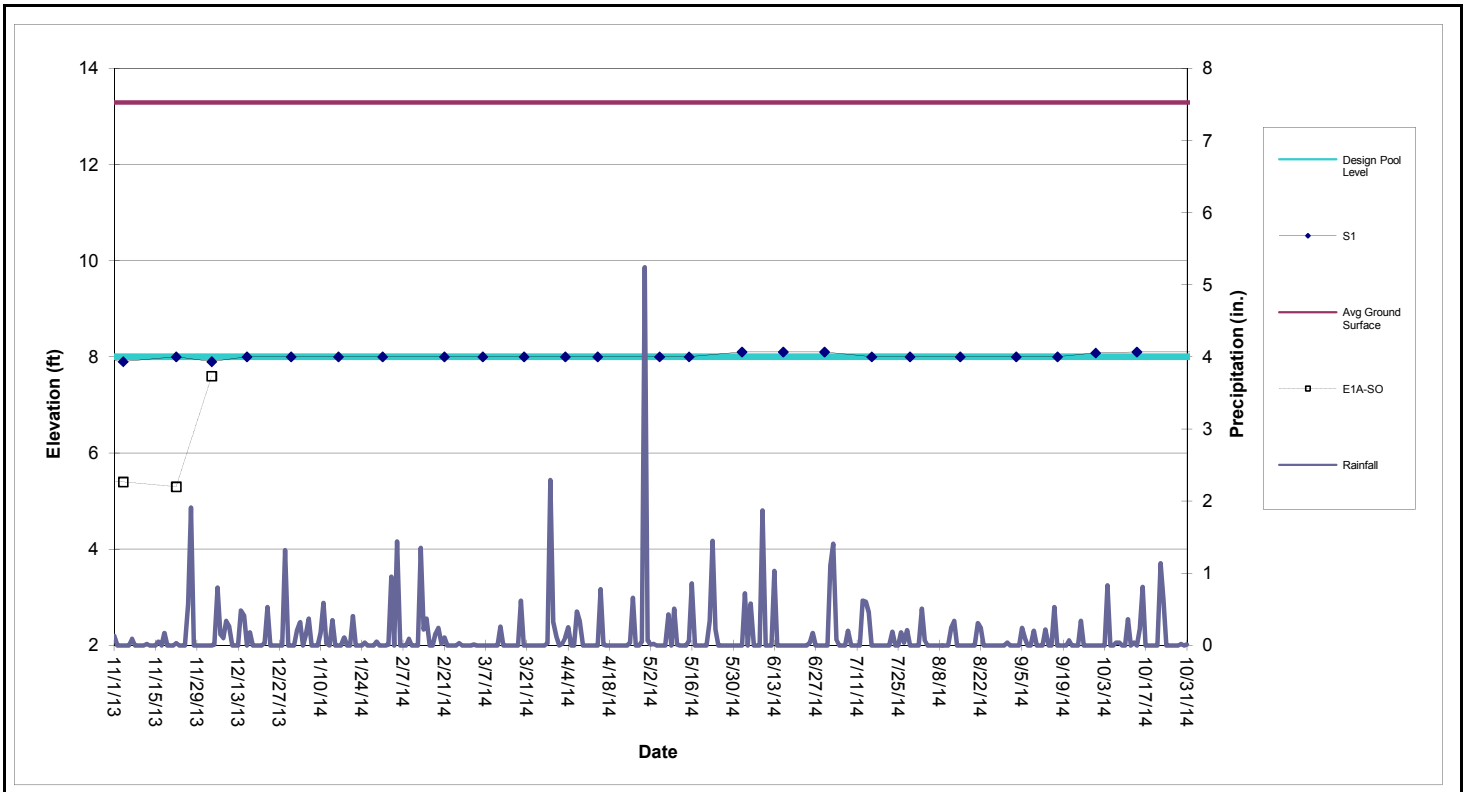


Perimeter Pool E1 (Sta. E0+50 to E3+75)

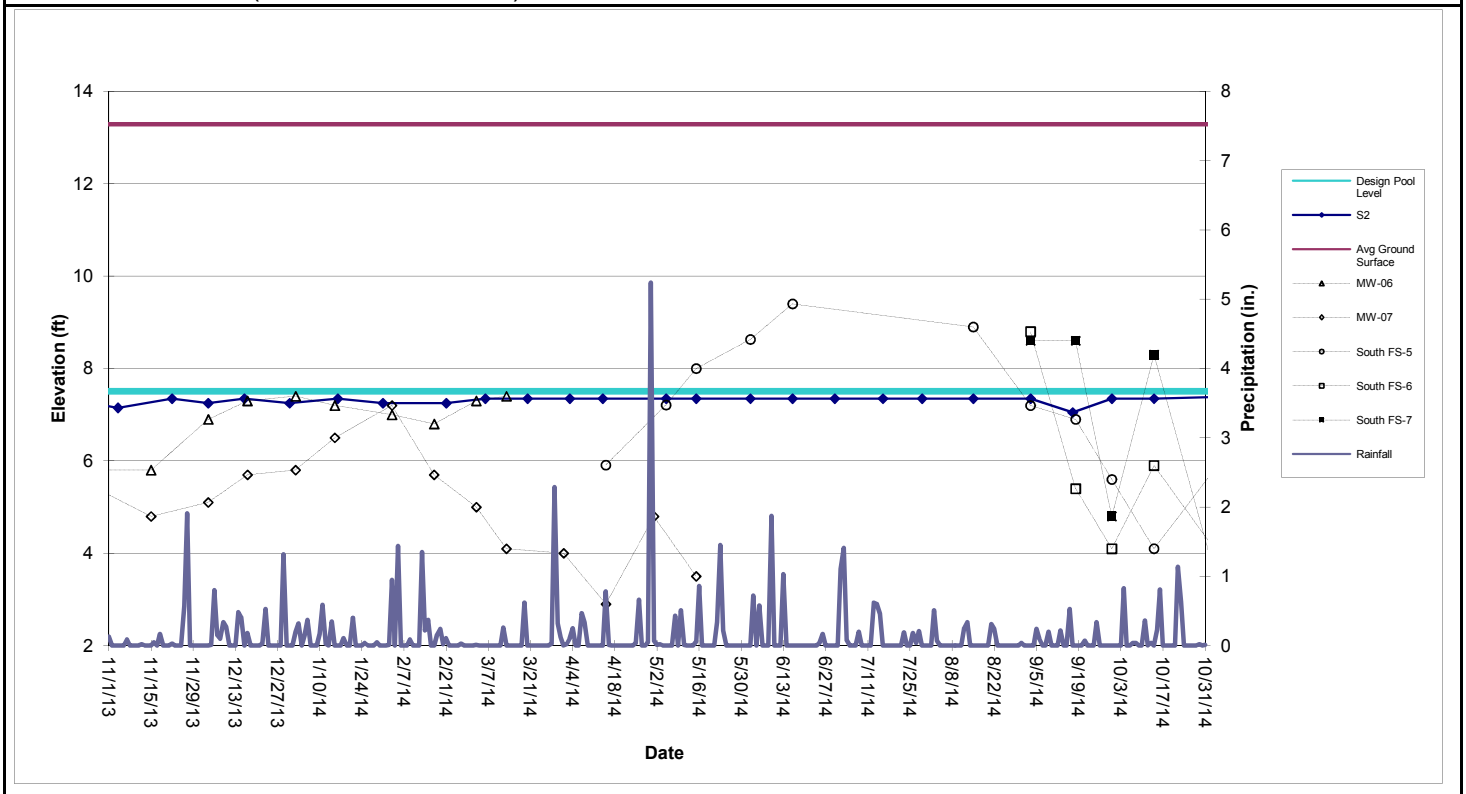


Perimeter Pool E2 (Sta. E4+50 to E7+25)

Perimeter Pools

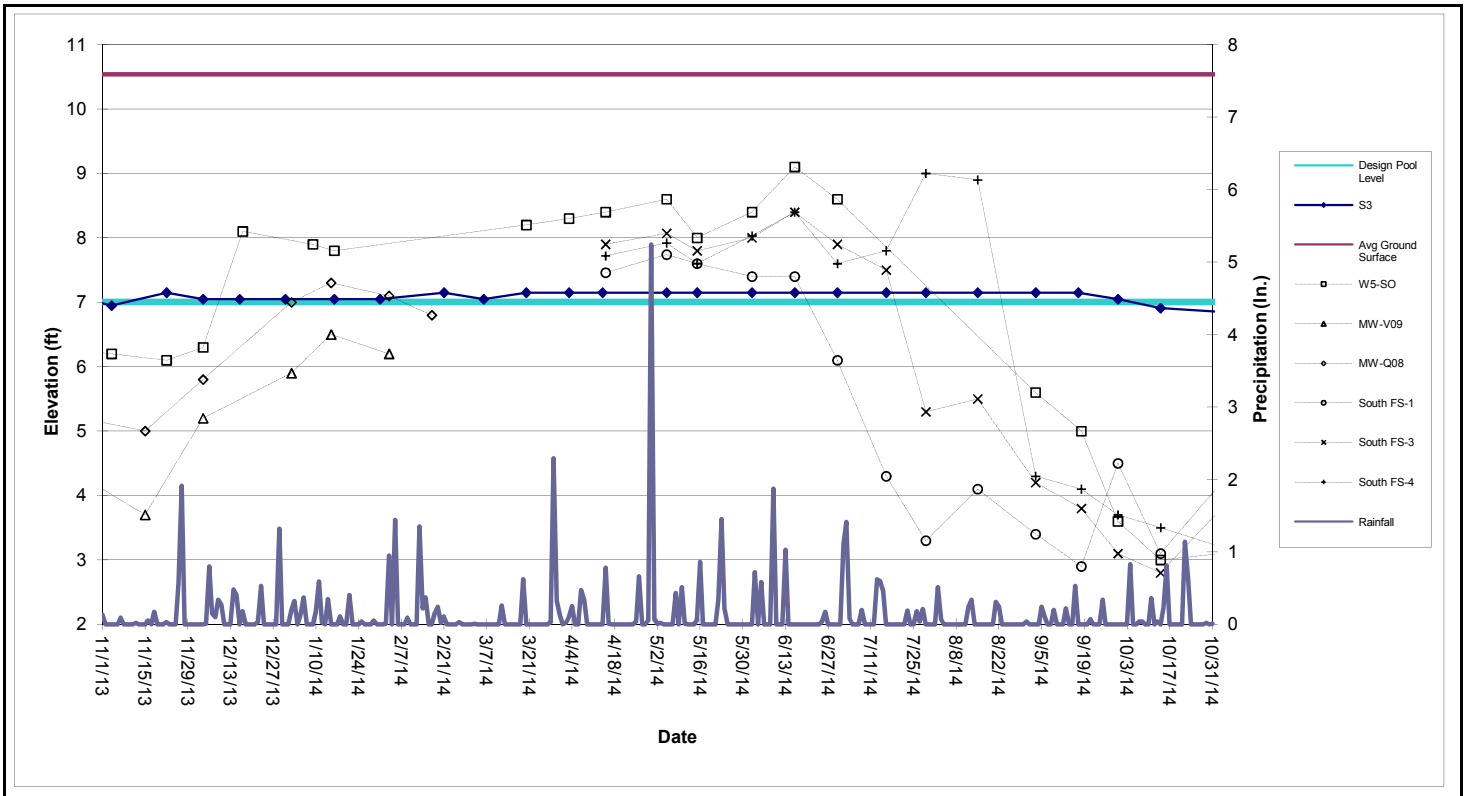


Perimeter Pool S1 (Sta. S0+50 to S3+88)

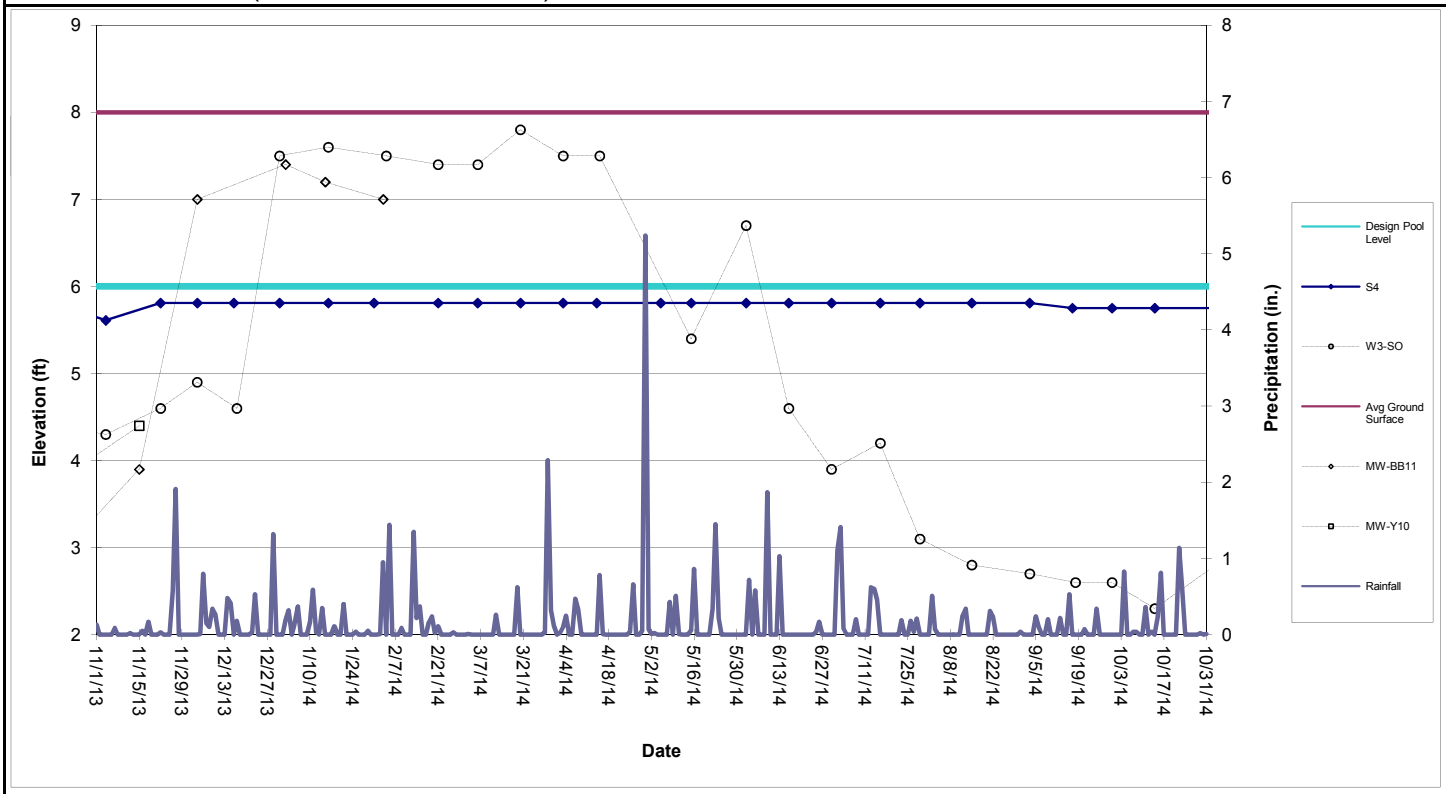


Perimeter Pool S2 (Sta. S4+38 to S10+60)

Perimeter Pools



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, FS-4

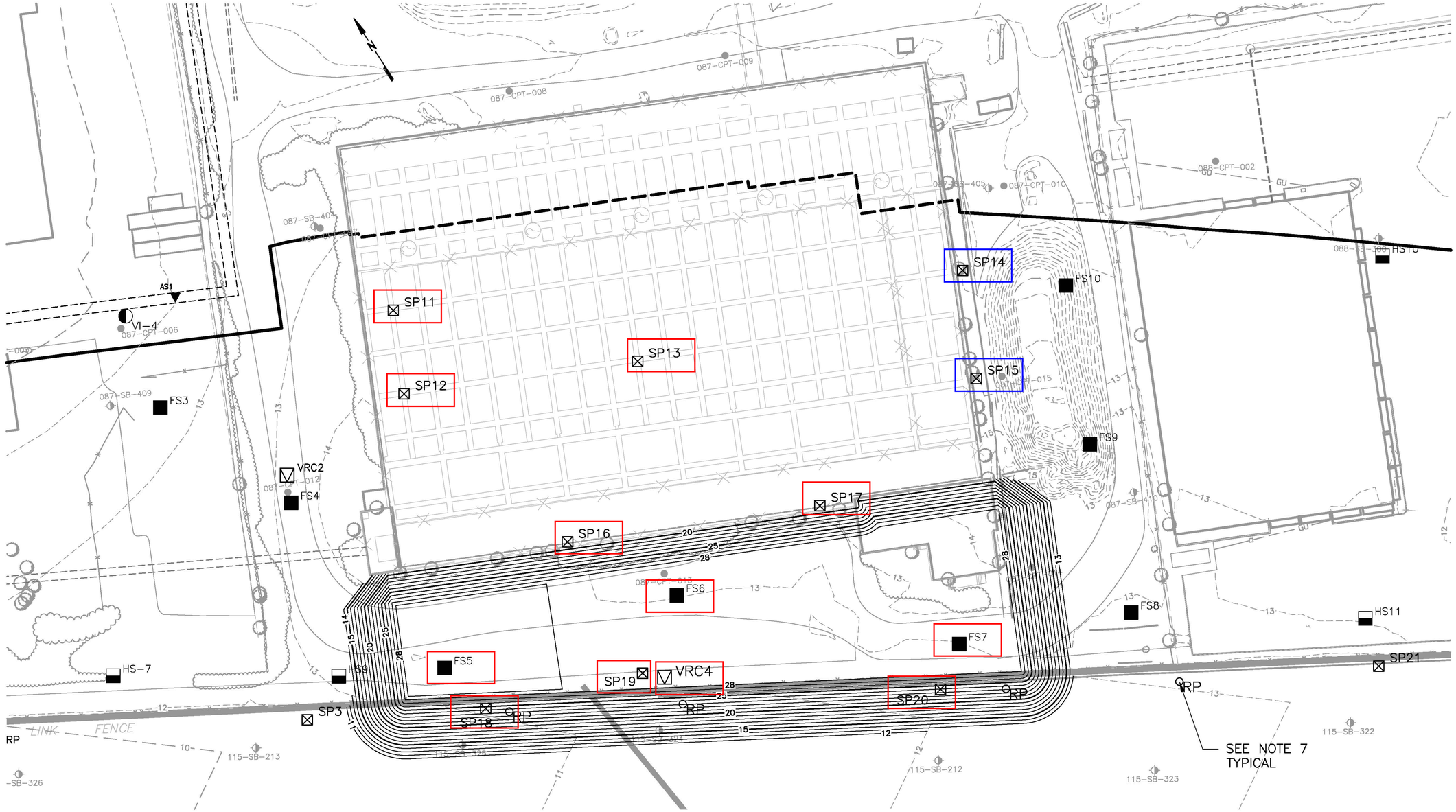
Attachment 8: Quality and Level Data in GWET Wells

(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

- Figure C1: Instrumentation Location Plan 2N
- Figure G1: Instrumentation Location Plan 2S



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685595.33	602744.87
FS6	685557.42	602879.95
FS7	685445.18	603001.32
SP11	685784.33	602832.31
SP12	685740.52	602811.34
SP13	685682.87	602934.55
SP14	685624.73	603120.29
SP15	685568.20	603092.95
SP16	685617.61	602843.89
SP17	685555.82	602977.36
SP18	685562.79	602751.98
SP19	685530.51	602838.96
SP20	685429.14	602978.06
VRC4	685521.71	602848.37

Installed Insturment Locations

Insturment Locations Not Installed

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2 INCLINOMETER LOCATION

FS-1-1 SETTLEMENT MONITORING POINT FULL – SET UP

HS12 SETTLEMENT MONITORING POINT HALF – SET UP

SP12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

Prepared/Date: RJR 08/15/13
Checked/Date: AE 08/15/13

0 15 30 60
SCALE IN FEET

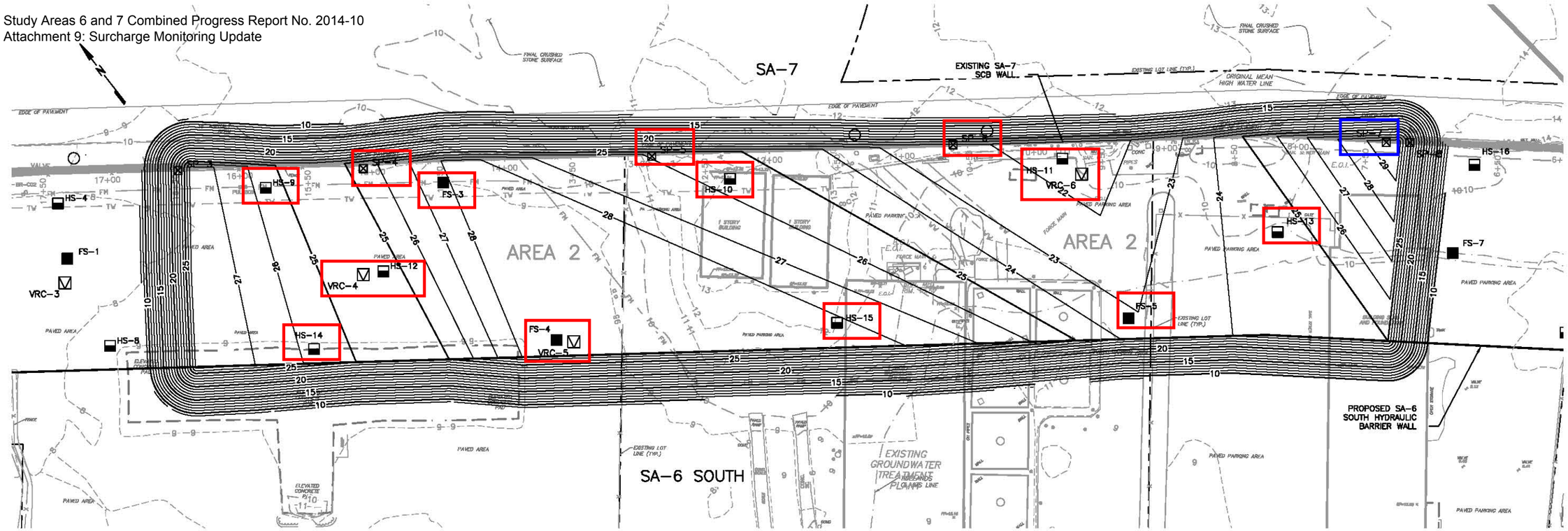
Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 2N
Project 3480-09-0006
Figure C1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C30\CAD\SA6N\100 Percent\Figure 2 Surcharge Settling Monitoring Plan - Area 2.dwg Thu, 15 Aug 2013 - 4:07pm roger.rjquier



Instrumentation Locations Not Installed

Installed Instrumentation Locations

*Settlement Platforms have not been installed.

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA–7 FENCE AND SA–7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA–7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
4. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS–3	685146.51	602186.05
FS–4	685000.10	602180.49
FS–5	684747.04	602531.06
HS–9	685225.80	602078.13
HS–10	685015.29	602358.48
HS–11	684872.76	602565.65
HS–12	685121.52	602109.26
HS–13	684729.05	602659.83
HS–14	685107.56	602031.99
HS–15	684880.03	602355.29
SP–4	685191.86	602145.03
SP–5	685065.13	602322.45
SP–6	684931.76	602507.08
SP–7	684731.82	602765.99
VRC–4	685128.94	602095.79
VRC–5	684991.20	602189.91
VRC–6	684854.69	602569.90

VI–2 INCLINOMETER LOCATION

FS–1 SETTLEMENT MONITORING POINT FULL – SET UP

HS–1 SETTLEMENT MONITORING POINT HALF – SET UP

SP–12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA–7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

VRC1 VIBRATING WIRE PIEZOMETER IN STRATUM RC

0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 07/19/13
Checked/Date: AE 07/19/13

Revised DCB 001 7/29/13

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	INSTRUMENTATION LOCATION PLAN 2S

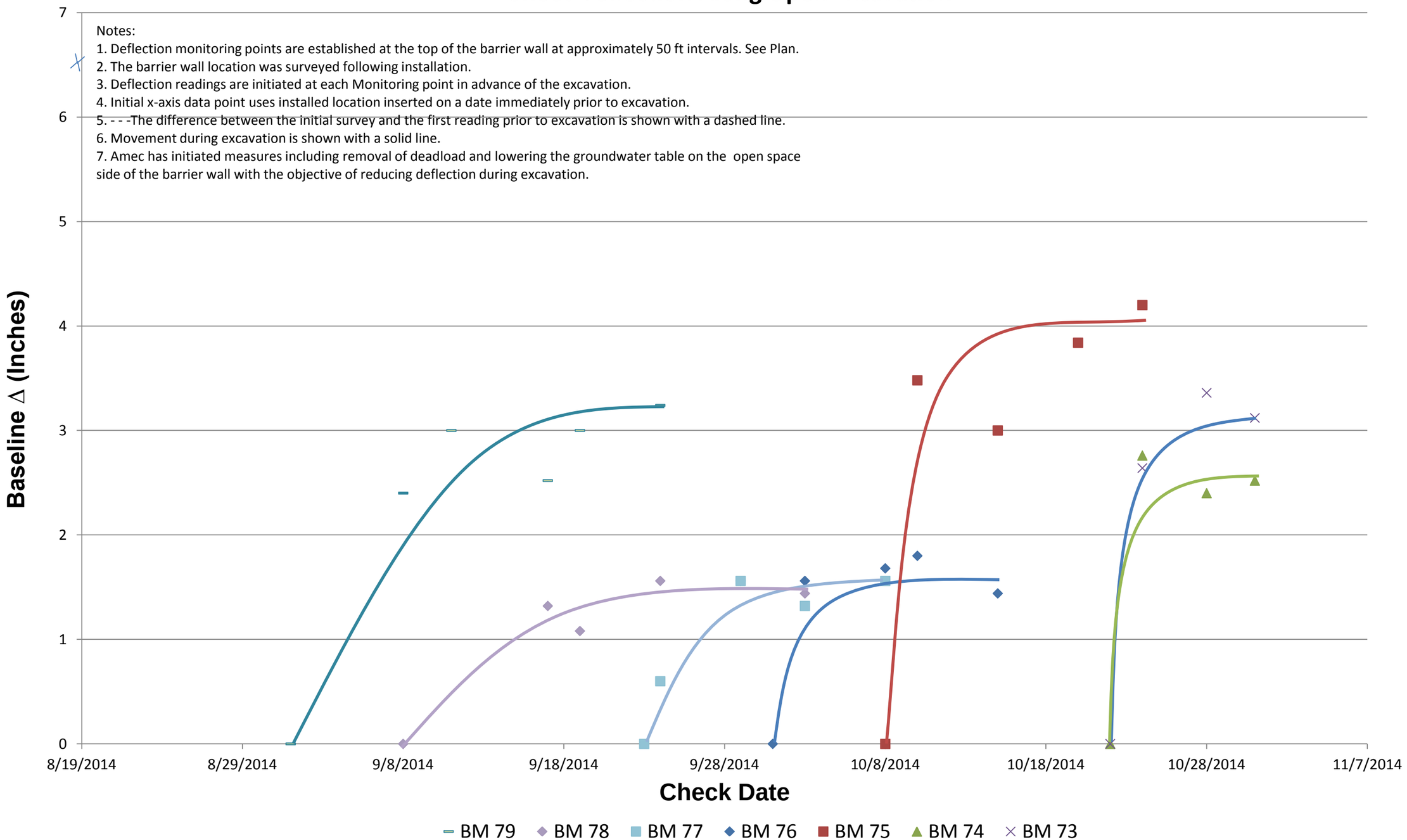
Figure G1

Attachment 10: Sheet Pile Update

- Sheet Deflection Along Open Excavation
- Sheet Monitoring Locations
- Sheet Pile Repair Log
- Sheet Pile Angle Grout Log

Sheet Deflection Along Open Excavation

Notes:
1. Deflection monitoring points are established at the top of the barrier wall at approximately 50 ft intervals. See Plan.
2. The barrier wall location was surveyed following installation.
3. Deflection readings are initiated at each Monitoring point in advance of the excavation.
4. Initial x-axis data point uses installed location inserted on a date immediately prior to excavation.
5. - - -The difference between the initial survey and the first reading prior to excavation is shown with a dashed line.
6. Movement during excavation is shown with a solid line.
7. Amec has initiated measures including removal of deadload and lowering the groundwater table on the open space side of the barrier wall with the objective of reducing deflection during excavation.





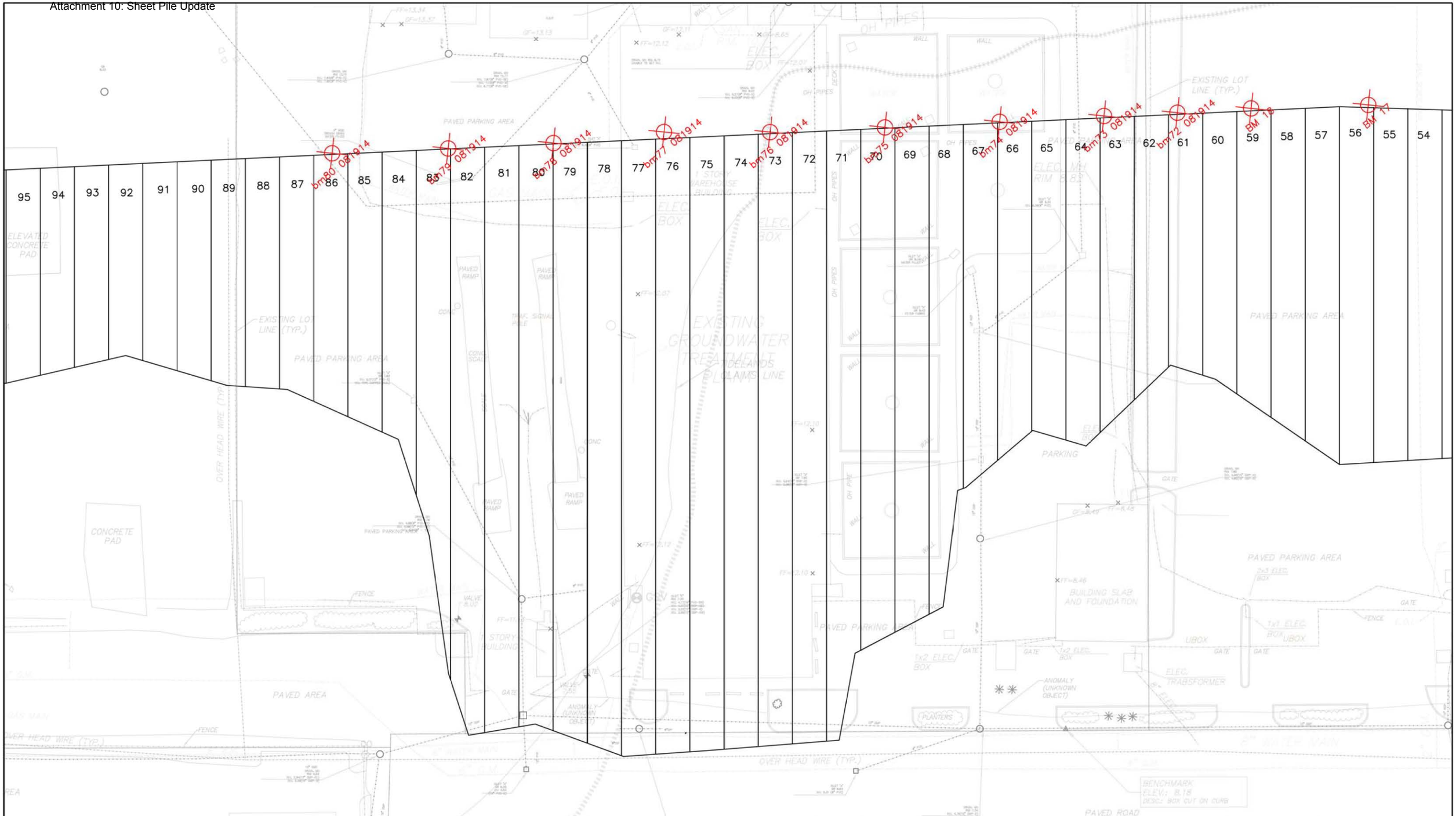
NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 03-20-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTES:

- Survey data collected with Trimble SPS882 and TSC2 Data Collector.
- Horizontal accuracy of 0.026 ft.
- Deflection measured at the top of the sheet.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SHEET MONITORING LOCATIONS 08-19-14

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-69
Entact ID:
Date Exposed: 8/29/14
Describe Damage: (13) Scrapes by the Cat 349E and 322C excavator buckets - 12"x48", (3) 1"ø, 1x8", 1/4x2", 1/2x3", 2"ø, 1x48", 1/2x12", 1/2x6", 1x5", 1/4x8". Cell 84

Damage Location (ft below top of sheet, inboard side outboard side): 9-14' outboard

Date Repaired: 9-4-14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-70
Entact ID:
Date Exposed: 8/29/14
Describe Damage: (9) Scrapes by the Cat 349E & 322C excavator buckets- 1x72", 1x60", (4) 1"ø, 1x3", 1/2x12", 1/2x8". Cell 83

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/4/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-71
Entact ID:
Date Exposed: 8/29/14
Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets - (2) 2"ø, 3"x48", 1x48", 1x8", 1x12", 1/2x36", 1/2x12". Cell 83

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/4/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-72
Entact ID:
Date Exposed: 8/29/14
Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets - 3"ø, 3x12", 1/2x3", 2x24", 2x12", 1x18", 1"ø. Cell 83

Damage Location (ft below top of sheet, inboard side outboard side): 5-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-75
Entact ID:
Date Exposed: 9/2/14
Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets - 1/2 x 48", (4) 1x12", 1x6", 1x60", 1/4x24", 3x24", 2"Ø. Cell 82

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-76
Entact ID:
Date Exposed: 9/2/14
Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets - 12"Ø, 1/4x12", 1x4", 1x18", 1/2x2", 1/2x6", 1"Ø. Cell 82.

Damage Location (ft below top of sheet, inboard side outboard side): 7-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-73
Entact ID:
Date Exposed: 9/2/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets - (3) 1x12", 1x48", (4) 1"Ø, 1/2x24", (2) 2"Ø, 1x4". Cell 83/82

Damage Location (ft below top of sheet, inboard side outboard side): 8-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-74
Entact ID:
Date Exposed: 9/2/14
Describe Damage: (6) scrapes by the Cat 349E and 322C excavator buckets - 1x6", 1x12", 1/2x36", (2) 1/2x24", 1/4x12". Cell 82

Damage Location (ft below top of sheet, inboard side outboard side): 9-15' outboard

Date Repaired: 9/11/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-77
Entact ID:
Date Exposed: 9/9/14
Describe Damage: (9) Scrapes by the Cat 349E and 322C excavator buckets ~ 48x6", (3) 1"Ø, 1x12", 1/2x18", 1x48", 1/2x6", 3"Ø. Cell 81

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/17/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-78
Entact ID:
Date Exposed: 9/9/14
Describe Damage: (3) Scrapes by the Cat 349E and Cat 322C excavator buckets- (2) 1"Ø, 1/2"Ø. Cell 81

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired: 9/17/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-79
Entact ID:
Date Exposed: 9/9/14
Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator Buckets- 1x6", 1/2x36", (3) 1"Ø, 1/2x12", 2"Ø. Cell 81

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/3/14 Total, 9/17/14 Partial
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-80
Entact ID:
Date Exposed: 9/16/14
Describe Damage: (5) Scrapes by the Cat 349E and 322C excavator buckets- (2) 1/2x6", 1"Ø, 1x18", 4"Ø. Cell 80

Damage Location (ft below top of sheet, inboard side outboard side): 6-13' outboard

Date Repaired: 9/17/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-81

Entact ID:

Date Exposed: 9/16/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets - (3) 1"Ø, (3) 1/2 x 12", 1x4", 6x36", 1/2x18", 3"Ø. Cell 80

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 9/17/14 Partial, 9/25/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 9/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-82

Entact ID:

Date Exposed: 9/16/14

Describe Damage: (4) Scrapes by the Cat 349EExcavator bucket - 1/2x72", 1/2x60", 1"x24", 1/2x12". Cell 80.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/17/14 Partial, 9/25/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 9/25/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 19P-83

Entact ID:

Date Exposed: 9/17/14

Describe Damage: (7) Scrapes by the Cat 349E and 322 C excavator buckets - 1/2x60", (3) 1"Ø, 1/2x6", 3"Ø, 1x12". Cell 79

Damage Location (ft below top of sheet, inboard side outboard side): 2-11' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-1

Entact ID:

Date Exposed: 9/18/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets - (4) 1"Ø, 1x24", 8"Ø, 1/2x36", 1/2x6", 2x4", 1/4x12". Cell 79.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-2
Entact ID:
Date Exposed: 9/18/14
Describe Damage: (6) scrapes by the Cat 349E and 322C excavator buckets- 6"Ø, (2) 1/2x12", 1/2x24", 1x4", 1x8". Cell 79

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-3
Entact ID:
Date Exposed: 9/19/14
Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1x12", 1x48", 1/2x6", (3) 1"Ø, 1/4x60", 2x12", 3"Ø, 1x24". Cell 79/78

Damage Location (ft below top of sheet, inboard side outboard side): 5-12' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-4
Entact ID:
Date Exposed: 9/19/14
Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets- (3) 1/2x24", 1/4x12", 1/4x24", 1x36", 5"Ø, 1/2x6". Cell 78

Damage Location (ft below top of sheet, inboard side outboard side): 2-12' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14 * x <

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-5
Entact ID:
Date Exposed: 9/19/14
Describe Damage: (7) scrapes by the Cat 349E and 322C excavator buckets- (2) 1/2x36", (2) 1/2"Ø, 1/2x12", 1x12", 1x6". Cell 78.

Damage Location (ft below top of sheet, inboard side outboard side): 5-12' outboard

Date Repaired: 9/23/14 Partial, 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-6
Entact ID:
Date Exposed: 9/19/14
Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets - (3) 1"Ø, 1×48", 1×6, ½×18", 3×24", 12"Ø. Cell ~~78~~

Damage Location (ft below top of sheet, inboard side outboard side): 1 - 13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: B.Shea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-7
Entact ID:
Date Exposed: 9/23/14
Describe Damage: (12) scrapes by the Cat 349E and 322 C excavator buckets - ½×60", 2×24", ¼×72", (2) ½"Ø, (2) 2Ø", 1×6", 3×6", 12"×36", ¼×12", 3"Ø. Cell 77

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: B.Shea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-8
Entact ID:
Date Exposed: 9/23/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets - ½×48", 1×18", 3"Ø, 1×12", ¼×48", (3) 1"Ø, (3) 2"Ø, 2×10". Cell 77.

Damage Location (ft below top of sheet, inboard side outboard side): 6" - 12' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: B.Shea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-9
Entact ID:
Date Exposed: 9/23/14
Describe Damage: (11) scrapes by the Cat 349E and 322C excavator buckets - 1"Ø, 4"Ø, ½×2", ½×6", 1×36", 1×18", ½×24", 2×6", 2"Ø ¼×3", 3×12". Cell 77/76

Damage Location (ft below top of sheet, inboard side outboard side): 3-12' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: B.Shea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-10

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 6x18", 1/2x48", 1/2x48", 1x24", 1x8", 2"ø, 1"ø, 1/2x72", 2x18", 1"ø,. Cell 76

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-11

Entact ID:

Date Exposed: 9/23/14

Describe Damage: (7) Scrapes by the Cat 349E and 322C excavator buckets- 1/4x84", 1/2x72", 1x8", 4"ø, 1x12", 1/2"ø, 1x2". Cell 76

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-12

Entact ID:

Date Exposed: 9/26/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- 1x18", 1x6", 1x12", 1x2", 1/2x48", (2)1"ø, 1/2x24", (3) 1/2"ø, 2x6", Cell 76

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-13

Entact ID:

Date Exposed: 9/26/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x6", (2) 1/2x8", 1x12", 1x36", 4"ø, 18"ø, 1/4x24". Cell 75

Damage Location (ft below top of sheet, inboard side outboard side): 3-12' outboard

Date Repaired: 9/29/14 Partial, 10/3/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 20P1-14
Entact ID:
Date Exposed: 9/29/14
Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 1/2x2", 1/2x6", (3) 1/2"ø, 2x12", 3x12", 1/2x24", 1/4x96", 1x4". Cell 75

Damage Location (ft below top of sheet, inboard side outboard side): 2-12' outboard

Date Repaired: 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG

Sheet Number/DB ID: 20P1-15
Entact ID:
Date Exposed: 9/29/14
Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1x48", (6) 1"ø, 1x8", 2x8". Cell 75.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/3/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/3/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 23P1A-1
Entact ID:
Date Exposed: 9/29/14
Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets- (5) 1"ø, 1x36", 1/2x12", 1/2x36", 1x6", 2x4", 1/2"ø, 1/4x48", 1/4x6". Cell 75/74

Angle damaged during driving process. New 5x5" angle welded back on and grouted.

Damage Location (ft below top of sheet, inboard side outboard side): 10-16' outboard

Date Repaired: 10/1/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-1
Entact ID:
Date Exposed: 9/30/14
Describe Damage: (21) Scrapes by the Cat 349E excavator bucket - 6x24", (16) 1"ø, 1/2x3", 1x4", 1/2x12", 1/4x84", 2"ø. Cell 74

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/1/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-2
Entact ID:
Date Exposed: 10/1/14
Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets- 3"Ø, (4)1"Ø, 1"x84", 1x36", 2x18", 2x12", 3x6". Cell 74

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/1/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 21P1-3
Entact ID:
Date Exposed: 10/1/14
Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- 1x2", 1x8", 1x36", 1/2x78", 1x72", 1/2x6", 2x12", 1/2x8", 1/2x24", 2"Ø, 1x4", 1x18". Cell 74/73

Damage Location (ft below top of sheet, inboard side outboard side): 5-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-4
Entact ID:
Date Exposed: 10/1/14
Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- (9)1"Ø, 1x2", 1/2x12", 1/2x60", 3"x72", 1x36", 1x72", 2"Ø. Cell 73

Damage Location (ft below top of sheet, inboard side outboard side): 6-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-5
Entact ID:
Date Exposed: 10/2/14
Describe Damage: (6) Scrapes by the Cat 349E and 322C excavator buckets- 1/4x24", 1x8", 1x3", 1x18", 1/4x4", 2x4". Cell 73

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-6
Entact ID:
Date Exposed: 10/2/14
Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1/2x3", 6x18", 1x12", 1/2x12", 1x12", 2x8", 1x8", 1/4x36", 6x24". Cell 73-72

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-7
Entact ID:
Date Exposed: 10/2/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 1/2x84", 1/2x36", 1"Ø, 1x24", 1"Ø, 3x12", 2"x48", (2)1x6", 1x2", 1/4x18", 1/4x12". Cell 72

Damage Location (ft below top of sheet, inboard side outboard side): 7-17 outboard

Date Repaired: 10/7/14 Partial, 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-8
Entact ID:
Date Exposed: 10/2/14
Describe Damage: (14) scrapes by the Cat 349E and 322C excavator buckets- 1x84", 2"Ø, (3)1x2", 1/2x72", 1/2x8", 1"Ø, 1x96", 1/4x24", 1/4x18", 4"Ø, 1x4", 1/4x12". Cell 72

Damage Location (ft below top of sheet, inboard side outboard side): 1-17 outboard

Date Repaired: 10/7/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-9
Entact ID:
Date Exposed: 10/2/14
Describe Damage: (17) scrapes by the Cat 349E and 322 C excavator buckets- 2x6", (3)1"Ø, 1x84", 3x48", 1x12", 6x18", 1x3", 1/2x84", 1/2x36", 1x6", (2)1/2x12", (2)1/4x18", 6"Ø. Cell 72

Damage Location (ft below top of sheet, inboard side outboard side): 2-17 outboard

Date Repaired: 10/7/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-10
Entact ID:
Date Exposed: 10/6/14
Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 1"Ø, 2×18", 1×48", 1/2"Ø, 1×6", (3)1×12", 1/2×84", 12"Ø. Cell 71

Damage Location (ft below top of sheet, inboard side outboard side): 7- 17" outboard

Date Repaired: 10/10/14 Total
Inspected by: BnanShea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG

Sheet Number/DB ID: 21P1-11
Entact ID:
Date Exposed: 10/6/14
Describe Damage: (11) scrapes by the Cat 349E and 322C excavator buckets- 1×120", 2"Ø, 1×36", 3"Ø, 1×18", 2×12", 1/2×60", 1/2×48", 1×6", 3×12", 1/2×4". Cell 71

Damage Location (ft below top of sheet, inboard side outboard side): 5-17' outboard

Date Repaired: 10/10/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire bwsh, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-12
Entact ID:
Date Exposed: 10/6/14
Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- 2"Ø, 10"Ø, 1/2×48", 1"Ø, (3) 1/2"Ø, 1/4×2", 1/4×60", 1×48", 1×8", 1×3", 3"Ø, 6×18". Cell 71

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/10/14 Total
Inspected by: BnanShea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 21P1-13
Entact ID:
Date Exposed: 10/6/14
Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 18"Ø, 3"Ø, 1×18", 1/2×48", 1/4×96", 1/2×18", 1×36", (3)1"Ø. Cell 71-70.

Damage Location (ft below top of sheet, inboard side outboard side): 6-17' outboard

Date Repaired: 10/10/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/10/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-1
Entact ID:
Date Exposed: 10/7/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- (6) 1"Ø, 1/2 x 60", 1 x 8", 1/2 x 12", 2 x 12", 2 x 4", 1/4 x 18". Cell 70

Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard

Date Repaired: 10/10/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-2
Entact ID:
Date Exposed: 10/7/14
Describe Damage: (7) Scrapes by the Cat 349E and 322 C excavator buckets- 1/2 x 60", 1 x 36", (2) 1 x 12", 4 x 36", (2) 1"Ø. Cell 70

Damage Location (ft below top of sheet, inboard side outboard side): 6-16' outboard

Date Repaired: 10/10/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-3
Entact ID:
Date Exposed: 10/8/14
Describe Damage: (13) Scrapes by the Cat 349E and 322C excavator buckets- 1/2 x 24", 1 x 24", 1 x 48", 1 x 8", 1/2 x 6", 1/2 x 36", (2) 1/2 x 12", 1/4 x 6", 1/4 x 24", 2 x 6", 1"Ø, 1/2 x 2". Cell 70/69

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-4
Entact ID:
Date Exposed: 10/8/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 2 x 48", 2 x 6", 1 x 30", 1 x 18", (2) 1"Ø, 1/2 x 36", 1/4 x 12", 1/4 x 4", 1/2 x 8", 3 x 8", 3"Ø. Cell 69.

Damage Location (ft below top of sheet, inboard side outboard side): 7-13' outboard

Date Repaired: 10/14/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-5
Entact ID:
Date Exposed: 10/10/14
Describe Damage: (15) scrapes by the Cat 349E and 322C excavator buckets- 6×84", 2×36", 8"Ø, (3)1"Ø, 1/4×48", 1/2×6", 1×4", 1/4×6", 1×24", 1/2×3", (2)1/2"Ø, 4"Ø. Cell 69.
Damage Location (ft below top of sheet, inboard side outboard side): 6-16' outboard
Date Repaired: 10/14/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-6
Entact ID:
Date Exposed: 10/10/14
Describe Damage: (14) scrapes by the Cat 349E and 322C excavator buckets- (3)1/2"Ø, 2×24", 4"Ø, 1/2×8", 1"Ø, 1×12", 1×36", 1×60", 1/4×60", 1×8", 1×6", 1/2×36". Cell 69.
Damage Location (ft below top of sheet, inboard side outboard side): 4-16' outboard
Date Repaired: 10/14/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-7
Entact ID:
Date Exposed: 10/10/14
Describe Damage: (16) scrapes by the Cat 349E and 322C excavator buckets- 1/4×48", 6"×120", (4)1/2"Ø, (3)1"Ø, 1/2×24", 1×8", 1×18", 1×48", 1/4×4", 1×3", 1×18". Cell 68.
Damage Location (ft below top of sheet, inboard side outboard side): 7-16' outboard
Date Repaired: 10/14/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-8
Entact ID:
Date Exposed: 10/10/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 1×120", 2"Ø, 2×48", 1×6", 1/2×4", (3)1"Ø, 1×108", 1/2×18", 3"Ø, 1"Ø. Cell 68
Damage Location (ft below top of sheet, inboard side outboard side): 6-16' outboard
Date Repaired: 10/14/14 Partial, 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P-9

Entact ID:

Date Exposed: 10/13/14

Describe Damage: (19) Scrapes by the Cat 349E and 322C excavator buckets - (8) 1"Ø, 1x12", 4"Ø, 4x84", 1/2x72", 2x12", 1/2x4", 1x4", (3) 1/2x8", 1/4x60". Cell 68.

Damage Location (ft below top of sheet, inboard side outboard side): 10-16' outboard

Date Repaired: 10/14/14 partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-10

Entact ID:

Date Exposed: 10/13/14

Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets (6) 1"Ø, 1/2x84", (2) 1/2x12", 1x8", 1/4x36", (2) 1x4". Cell 67

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-11

Entact ID:

Date Exposed: 10/14/14

Describe Damage: (15) Scrapes by the Cat 349E and 322C excavator buckets (4) 1/2"Ø, (3) 1"Ø, (2) 1x48", 1x18", 2x10", 1/2x6", 1/2x3", 4"Ø, 2"Ø. Cell 67

Damage Location (ft below top of sheet, inboard side outboard side): 10-17' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P-12

Entact ID:

Date Exposed: 10/14/14

Describe Damage: (10) scrapes by the Cat 349E and 322 C excavator buckets - 1/2x36", 1/2x24", 1x12, (4) 1/2"Ø, (2) 1x6", 1/4x24". Cell 67.

Damage Location (ft below top of sheet, inboard side outboard side): 10-15' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-13
Entact ID:
Date Exposed: 10/21/14
Describe Damage: (13) scrapes by the Cat 349E and 322C excavator buckets- (6) 1/2"Ø, (3) 1/2x12", 2x12", 1/2x18", 1/2x3", 3"Ø. Cell 67/66

Damage Location (ft below top of sheet, inboard side outboard side): 11-15' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-14
Entact ID:
Date Exposed: 10/21/14
Describe Damage: (20) scrapes by the Cat 349E and 322C excavator buckets- (10) 1/2"Ø, 1x12", 1x6", 4"Ø, (3) 1"Ø, 1/2x6", 1/2x3", 1/2x12", 1x4". Cell 66.

Damage Location (ft below top of sheet, inboard side outboard side): 8-14' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-15
Entact ID:
Date Exposed: 10/21/14
Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- (4) 1"Ø, 1/2"Ø, 1x12", 1/2x6", 1/2x24", 3x6", 1x2", 1/4x3", 1x4". Cell 66

Damage Location (ft below top of sheet, inboard side outboard side): 9-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22PI-16
Entact ID:
Date Exposed: 10/21/14
Describe Damage: (9) scrapes by the Cat 349E and 322C excavator buckets- 1x3, 1x4, (3) 1"Ø, (2) 1/2"Ø, 1x36", 1/2x24. Cell 66/65

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-17

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (10) scrapes by the Cat 349E and 322C excavator buckets- 1/2x48", 1x12", 1x8", 1/2x3", 1/2x24", (4) 1"Ø, 6"Ø. Cell 65

Damage Location (ft below top of sheet, inboard side outboard side): 7-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-18

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (8) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x12", 12x24", (2) 1/2x6", 1"Ø, 4"Ø, 1/2x36", 1x8". Cell 65

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-19

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (8) scrapes by the Cat 349E and 322C excavator buckets- 1x18", 4x12", 3"Ø, (3) 1/2"Ø, 1x24, 1/4x24". Cell 65

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 10/21/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-20

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (10) Scrapes by the Cat 349E and 322C excavator buckets- 8"Ø, (5) 1"Ø, 1/2x36", 1/2x8", 1/4x18", 3"Ø. Cell 64

Damage Location (ft below top of sheet, inboard side outboard side): 6-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-21

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (12) scrapes by the Cat 349E and 322C excavator buckets- 1x24", 1x18", 1/2x66", 2x8", 10"Ø, (4) 1"Ø, 1x48", (2) 1/2"Ø. Cell 64

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Presssure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-22

Entact ID:

Date Exposed: 10/21/14

Describe Damage: (11) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x18", 1/2x2", 1/2x6", (2) 1x12", 3x18", 1/4x8, 1/4x12", 3"Ø, (2) 1/2"Ø. Cell 64/63

Damage Location (ft below top of sheet, inboard side outboard side): 5-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-23

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (14) Scrapes by the Cat 349E ~~exc~~ 322 excavator buckets- 1/4x12", 2"Ø, 1x36", 1x18", 1"Ø, 1/2"Ø, (2) 1x6", 1/2x3", 1/4x48", (2) 1x4", 3"Ø, 3x12". Cell 63

Damage Location (ft below top of sheet, inboard side outboard side): 4-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-24

Entact ID:

Date Exposed: 10/24/14

Describe Damage: (14) Scrapes by the Cat 349E and 322C excavator buckets- 1/2x12", (2) 1x36", 1/2x48", 1x6", 1x24", 1x36", 3"Ø, (4) 1"Ø, 1/2x12", 1/2x3". Cell 63

Damage Location (ft below top of sheet, inboard side outboard side): 2-14' outboard

Date Repaired: 10/27/14 Partial, 10/29/14 Total

Inspected by: Bnan Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-25
Entact ID:
Date Exposed: 10/24/14
Describe Damage: (19) scrapes by the Cat 349E and 322C excavator buckets - 1x36", 1x18", (2)3"Ø, 1/2x36", 3x8", 1x6", 1x8", (4)1/2x4", 6x36", (6)1"Ø. Cell 63

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-26
Entact ID:
Date Exposed: 10/24/14
Describe Damage: (15) scrapes by the Cat 349E and 322C excavator buckets - (7)1"Ø, 4x72", (2)1x12", 1x6", 3x12", 1/2"Ø, (2)2"Ø. Cell 63/62.

Damage Location (ft below top of sheet, inboard side outboard side): 3-13' outboard

Date Repaired: 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 22P1-27
Entact ID:
Date Exposed: 10/24/14
Describe Damage: (21) scrapes by the Cat 349E and 322C excavator buckets - (11)1"Ø, 1x48", (2)1/2x36", (2)1x6", 1x3", 1/2x12", (3)2x4". Cell 62.

Damage Location (ft below top of sheet, inboard side outboard side): 4-13' outboard

Date Repaired: 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-1
Entact ID:
Date Exposed: 10/24/14
Describe Damage: (21) scrapes by the Cat 349E and 322C excavator buckets - (10)1"Ø, 1/2x2", 1/2x18", 1x36", 1x24", 1/4x8", 1x12", 2"Ø, 1x6", 1/2x12", 2x6", 1/4x6". Cell 62

Damage Location (ft below top of sheet, inboard side outboard side): 3-12' outboard

Date Repaired: 10/29/14 Total
Inspected by: Brian Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-2
Entact ID:
Date Exposed: 10/24/14
Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets- 1x84", (4) 1"Ø, 1x36", 1/2x4", 1/2x2", 2x12", 1x6", (2) 1/2"Ø. Cell 62

Damage Location (ft below top of sheet, inboard side outboard side): 1-13 outboard

Date Repaired: 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-3
Entact ID:
Date Exposed: 10/28/14
Describe Damage: (19) Scrapes by the Cat 349E and 322C excavator buckets- (9) 1"Ø, 1x72", 1x18", 1/2x36", 1/2"x12", (2) 1x6", (2) 1/2x24", 1x48", 1/4x36". Cell 61

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-4
Entact ID:
Date Exposed: 10/28/14
Describe Damage: (20) Scrapes by the Cat 349E and 322C excavator buckets- (4) 1x36", 1x72", (7) 1"Ø, (3) 1x6", 1/4x24", 1/4x8", 1/2x6", 1/2"3", 1/2"Ø. Cell 61

Damage Location (ft below top of sheet, inboard side outboard side): 1-12' outboard

Date Repaired: 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-5
Entact ID:
Date Exposed: 10/28/14
Describe Damage: (21) scrapes by the Cat 349E and 322C excavator buckets- (8) 1"Ø, (4) 1/2"Ø, (2) 1x6", 1/4x72", 2"Ø, 2x4", 1/2x6", 1/2x10", 2"Ø, 3'Ø. Cell 61

Damage Location (ft below top of sheet, inboard side outboard side): 2-13' outboard

Date Repaired: 10/29/14 Total
Inspected by: Bnan Shea
Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.
Repair Log Closure: AMEC Signature: BShea
Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-6

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (27) scrapes by the Cat 349E and 322C excavator buckets- (4) 1×12", (2) 1×48", 1/2×36", 3×12", (3) 1×6", 3×8", 3"Ø, (3) 2"Ø, (11) 1"Ø. Cell 61/60

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-7

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (27) scrapes by the Cat 349E & 322C excavator buckets- (6) 1×6", 3×18", (6) 1"Ø, 1/2×36", 2×18", 12"Ø, (3) 2"Ø, 1×24", 1/4×36", 1×3", (5) 1/2"Ø. Cell 60

Damage Location (ft below top of sheet, inboard side outboard side): 0 - 13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-8

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (29) Scrapes by the Cat 349E and 322C excavator buckets- (11) 1"Ø, (8) 1×6", (3) 1×24", 3×6", 2×18", 6"Ø, (4) 1/2"Ø. Cell 60.

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-9

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (39) scrapes by the Cat 349E and 322C excavator buckets- 24"Ø, (17) 1"Ø, 6"Ø, (3) 3"Ø, (9) 1×6", 1/2×48", 1/2×24", 1/4×36", 5"Ø, (4) 1/2"Ø. Cell 60/59

Damage Location (ft below top of sheet, inboard side outboard side): 1-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-10

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (35) scrapes by the Cat 349E and 322C excavator buckets - 18×36", (15)1"Ø, (3)1/2"Ø, (2)1×36", (3)1×18", (5)1×6", (2)1/2×12", 2×8", 4"Ø, 2"Ø, 1/2×2". Cell 59.

Damage Location (ft below top of sheet, inboard side outboard side): 0-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: 24P1-11

Entact ID:

Date Exposed: 10/28/14

Describe Damage: (12) Scrapes by the Cat 349E and 322C excavator buckets - 6"Ø, 1×48", (2)1×24", (3)2"Ø, (3)1×6", 1×18", 3×24". Cell 59

Damage Location (ft below top of sheet, inboard side outboard side): 5-13' outboard

Date Repaired: 10/29/14 Total

Inspected by: Brian Shea

Describe Repair: Pressure wash, wire brush, apply epoxy w/ a 2" paint brush.

Repair Log Closure: AMEC Signature: BShea

Date: 10/29/14

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID:

Date Exposed:

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:

Inspected by:

Describe Repair:

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID:

Date Exposed:

Describe Damage:

Damage Location (ft below top of sheet, inboard side outboard side):

Date Repaired:

Inspected by:

Describe Repair:

Repair Log Closure: AMEC Signature:

Date:

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

10/15/2014
SA-6 South Sheet Pile Angle Grout Log

Batch	Time	Sheets
89	9:11	19P1-52
90	9:18	19P1-53
90	9:21	19P1-55*
91	9:28	19P1-55*
91	9:30	19P1-56
92	9:32	19P1-57
92	9:34	19P1-58
92	9:35	19P1-59
92	9:37	19P1-60*
93	9:39	19P1-60*
93	9:41	19P1-61
93	9:42	19P1-62
93	9:43	19P1-66
94	9:52	19P1-68
94	9:55	19P1-69
94	9:56	19P1-70
94	10:00	19P1-71
95	10:10	Top off
		19P1-52 to
		19P1-71
95	10:14	19P1-73
95	10:16	19P1-74
96	13:45	19P1-63

Batch	Time	Sheets
97+98	13:55	Top off
		19P1-52 to
		19P1-74

* Partial Angle

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 3, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2,3,4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		6,7
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams		X		8
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/03/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 03, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on both the northern and the southern slopes of surcharge area 1-S is improperly toed in or requires maintenance.
2	IA2Q4A1AL8	Exclusion Zone signage on the temporary sheet pile at the west end of Kellogg Street is still in place after the area has been excavated and partially backfilled and is no longer considered an EZ.
3	IA2Q4A1AL8	Exclusion Zone fencing requires maintenance or is completely missing at several locations along the northern perimeter of SA-6 South EZ.
4	IA2Q4A1AL8	No Exclusion Zone signage or barrier is present between the clean surcharge area and the consolidated cap material in surcharge area 2-S.
5	IA2Q4A1AL8	No silt dams are present at the toe of the 2-S surcharge area along the north side.
6	IA2Q4A1AL8	An installed well vault in the SA-6 South backfill area sticks up 3"-4" above surrounding grade.
7	IA2Q4A1AL8	The stone on the roadway outside of the eastern exit of the SA-6 South Exclusion Zone is becoming blinded with sediment.
8	IA2Q4A1AL8	Straw wattle at the gaps in the 12" berm along the western SA-7 roadway has degraded and is no longer functional.
9	IA2Q4A1AL8	Sediment is present on the southern and northern SA-7 roadways.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 10/03/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or re-install the missing or damaged sections of silt fence at the toe of the 1-S surcharge pile. Insure that all silt fence is properly toed in.	10-8-14 RAD
2	Remove all Exclusion Zone signage which is no longer required.	10-3-14 RAD
3	Repair or replace any sections of orange warning fencing which surrounds the SA-6 South EZ. Install fencing to eliminate any gaps which may be present.	10-3-14 RAD
4	Install Exclusion Zone signs to delineate the western edge of the EZ in surcharge area 2-S.	10-6-14 RAD
5	Construct silt dams or install acceptable erosion control measures along the northern edge of the 2-S surcharge area.	10-3-14 RAD
6	Install backfill material around the well vault in the western backfill area of SA-6 South, bringing it to grade and protecting the vault and/or vehicles from damage.	10-7-14 RAD
7	Remove and replace any stone containing sediment on the outside of the eastern SA-6 South CRZ.	10-7-14 RAD
8	Replace any degraded straw wattle along the western SA-7 roadway.	10-6-14 RAD
9	Clean the northern and southern SA-7 roadways.	10-8-14 RAD

Construction Manager: _____ **Date:** 10/08/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 9, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/09/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, October 09, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on both the northern and the southern slopes of surcharge area 1-S is improperly toed in or missing and requires maintenance. Silt dams are not present at toe of slope.
2	IA2Q4A1AL8	Erosion control fabric on the western end of surcharge stockpile 1-S his blown loose around the edges and requires maintenance. Additional fabric is required on the northwest corner of the stockpile.
3	IA2Q4A1AL8	Material stockpiles in the eastern end of the SA-6 South exclusion zone are piled to within 6 inches of the top of their containment along the north side abutting SA-7.
4	IA2Q4A1AL8	Silt baskets in the storm water catch basins located on the eastern roadway of SA-7 are accumulating sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 10/09/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair/install the damaged or missing sections of silt fence at the toe of the 1-S surcharge pile. Install stone-filled silt dams along toes as required.	10/10/14 RAD
2	Re-anchor the erosion control fabric on the western end of the 1-S stockpile. Install additional fabric to protect the recently completed northwest corner of the pile.	10/14/14 RAD
3	Remove stockpile material that has accumulated to within 12" of the top of the northern containment wall.	10/14/14 RAD
4	Replace the filter fabric in the storm water catch basins located on the eastern SA-7 roadway.	10/15/14 RAD

Construction Manager: _____ **Date:** 10/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 16, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☑ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/16/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, October 16, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Storm water run-off has created approximately ten rills/gullies in the north face of the 1-S surcharge stockpile.
2	IA2Q4A1AL8	Storm water is ponded at various locations inside the eastern SA-6 South exclusion zone.
3	IA2Q4A1AL8	Silt fence along the toe of the north side of the 1-S surcharge pile has been compromised at several locations.
4	IA2Q4A1AL8	Silt dams along the toe of the 2-S surcharge pile are damaged at several locations.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 10/16/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Fill in the erosions in the northern face of the stockpile and tight-roll or otherwise stabilize the top of the pile and the slope face.	10/20/14 RAD
2	Pump ponded storm water to the Construction Water Treatment Plant for treatment and discharge to PVSC.	10/17/14 RAD
3	Repair/re-install silt fence as required. Install additional erosion control measures as necessary to prevent sediment from breaching protective measures in the area.	10/22/14 RAD
4	Replace or augment the damaged soil-filled sediment check dams at the northern toe of surcharge area 2-S with stone-filled check dams.	10/21/14 RAD

Construction Manager: _____ **Date:** 10/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 23, 2014

Type of Inspection: ☑ Regular ☑ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		8
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen		X		10
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/23/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, October 23, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the southern side of the 1-S surcharge stockpile requires maintenance/repair
2	IA2Q4A1AL8	Exclusion Zone fencing on the north side of the EZ requires maintenance/repair
3	IA2Q4A1AL8	Cover fabric on the western end of the 1-S surcharge stockpile has blown out of place.
4	IA2Q4A1AL8	Storm water is ponded at various locations on the backfill area and in the haul roads.
5	IA2Q4A1AL8	A stone tracking pad is required on the on the haul road which runs between SA-7 and SA-6 to the east of the sedimentation basin.
6	IA2Q4A1AL8	The perimeter fence at the northeastern corner of the sedimentation basin has gaps between fence panels.
7	IA2Q4A1AL8	Silt fence along the northern side of the 1-S surcharge stockpile requires maintenance/repair and the removal of accumulated sediment on the inboard side.
8	IA2Q4A1AL8	REPEAT ITEM: Sediment containment measures along the northern toe of the 1-S surcharge stockpile are inadequat and require substantial improvement.
9	IA2Q4A1AL8	Sediment has accumulated on the SA-7 access roadways.
10	IA2Q4A1AL8	Windscreen on the northern perimeter of SA-7 adjacent to the former JCIA facility requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) Date: 10/23/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Maintain or re-install silt fencing to contract specifications.	10/29/14 RAD
2	Maintain or repair orance EZ fencing. Check daily to confirm the integrity of the fenceline.	10/24/14 RAD
3	Repair/re-install silt fence as required. Install additional erosion control measures as necessary to prevent sediment from breaching protective measures in the area.	10/29/14 RAD
4	Replace or augment the damaged soil-filled sediment check dams at the northern toe of surcharge area 2-S with stone-filled check dams.	10/24/14
5	Install a stone tracking pad to reduce the tracking of sediment from SA-6 North to SA-7	10/23/14 RAD
6	Install additional fencing panels and/or wire the existing panels together to eliminate gaps in the perimeter fenceline.	10/24/14 RAD
7	Maintain/repair the silt fence. Remove accumulated sediment where required.	10/24/14 RAD
8	Install additional erosion control measures as required to prevent sediment from reaching the southern SA-7 roadway.	10/24/14 RAD
9	Remove accumulated sediment from all paved roadways on SA-7 and wash down with the water truck as needed.	10/27/14 RAD
10	Re-attach windscreen material where required.	10/24/14 RAD

Construction Manager: _____ Date: 10/29/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 30, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		6
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/31/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, October 30, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs are still present on the eastern end of the recently completed excavation area.
2	IA2Q4A1AL8	The southwestern corner of the surcharge area 1-S stockpile has no protective fabric over the toe of slope or where it abuts the hydraulic barrier sheetpile wall.
3	IA2Q4A1AL8	The stone in the vehicle tracking pad at the western end of Kellogg Street has become blinded with sediment.
4	IA2Q4A1AL8	The sediment bags in the catch basins along Kellogg Street have become blinded with sediment.
5	IA2Q4A1AL8	Sediment is accumulating along the north side of Kellogg Street by the temporary sheetpile
6	IA2Q4A1AL8	No safety barrier is present between the sedimentation basin cap area and the concrete spill-over chamber to its south.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 10/31/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove Exclusion Zone signs.	11/3/14 RAD
2	Place protective fabric over the material in this area, covering the exposed toe and draping it over the sheetpile wall.	10/31/14 RAP
3	Clean or replace the stone in the tracking pad to restore function.	10/31/14 RAD
4	Replace the filter fabric in the catch basins at the western end of Kellogg Street.	11/4/14 RAD
5	Remove any accumulated sediment from the north side of Kellogg street adjacent to the excavation area.	11/5/14 RAD
6	Install fencing or a warning barrier along the northern edge of the spill-over chamber per OSHA requirements	11/5/14 RAD

Construction Manager: _____ **Date** 11/06/14

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (September 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

October 20, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the September 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
9	01	14	9	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,235	85,068 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.63	0.70	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0824	0.0824	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

10/17/2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
9	01	14	9	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,317,052	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	17,658,209

DATE	BOD (mg/l)	TSS (mg/l)
9/11/2014	<7.0	5.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 10/17/2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)									MONTH: September 2014					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
9/1/2014	Angel Trujillo	15341157	15418889	77,732	0.077732	7.59	0.980									0.64
9/2/2014	Angel Trujillo	15418889	15494305	75,416	0.075416	7.63	0.980									0.62
9/3/2014	Angel Trujillo	15494305	15571551	77,246	0.077246	7.53	0.980									0.63
9/4/2014	Angel Trujillo	15571551	15646502	74,951	0.074951	7.04	0.980									0.61
9/5/2014	Angel Trujillo	15646502	15722895	76,393	0.076393	7.41	0.980									0.62
9/6/2014	Angel Trujillo	15722895	15807963	85,068	0.085068	7.04	0.980									0.70
9/7/2014	Angel Trujillo	15807963	15888130	80,167	0.080167	7.05	0.980									0.66
9/8/2014	Angel Trujillo	15888130	15962908	74,778	0.074778	7.06	0.980									0.61
9/9/2014	Angel Trujillo	15962908	16039741	76,833	0.076833	7.05	0.980									0.63
9/10/2014	Angel Trujillo	16039741	16116938	77,197	0.077197	7.06	0.980									0.63
9/11/2014	Angel Trujillo	16116938	16194384	77,446	0.077446	7.04	0.980	<5.0	<7.0		<0.010	<0.015	<0.010	<0.0002	<0.020	0.63
9/12/2014	Angel Trujillo	16194384	16271780	77,396	0.077396	7.03	0.980									0.63
9/13/2014	Angel Trujillo	16271780	16352187	80,407	0.080407	7.02	0.980									0.66
9/14/2014	Angel Trujillo	16352187	16430616	78,429	0.078429	6.98	0.980									0.64
9/15/2014	Angel Trujillo	16430616	16501766	71,150	0.07115	7.01	0.980									0.58
9/16/2014	Angel Trujillo	16501766	16577681	75,915	0.075915	7.00	0.980									0.62
9/17/2014	Angel Trujillo	16577681	16657169	79,488	0.079488	7.08	0.980									0.65
9/18/2014	Angel Trujillo	16657169	16736120	78,951	0.078951	7.11	0.980									0.65
9/19/2014	Angel Trujillo	16736120	16813598	77,478	0.077478	7.14	0.980									0.63
9/20/2014	Angel Trujillo	16813598	16892980	79,382	0.079382	7.04	0.980									0.65
9/21/2014	Angel Trujillo	16892980	16968566	75,586	0.075586	7.08	0.980									0.62
9/22/2014	Angel Trujillo	16968566	17044907	76,341	0.076341	7.05	0.980									0.62
9/23/2014	Angel Trujillo	17044907	17122232	77,325	0.077325	6.96	0.980									0.63
9/24/2014	Angel Trujillo	17122232	17199357	77,125	0.077125	7.02	0.980									0.63
9/25/2014	Angel Trujillo	17199357	17276081	76,724	0.076724	7.04	0.980									0.63
9/26/2014	Angel Trujillo	17276081	17351830	75,749	0.075749	7.38	0.980									0.62
9/27/2014	Angel Trujillo	17351830	17433664	81,834	0.0818	7.17	0.980									0.67
9/28/2014	Angel Trujillo	17433664	17513139	79,475	0.079475	7.18	0.980									0.65
9/29/2014	Angel Trujillo	17513139	17582573	69,434	0.069434	7.18	0.980									0.57
9/30/2014	Angel Trujillo	17582573	17658209	75,636	0.075636	6.87	0.980									0.62
TOTAL				2,317,052	2.317052			<5.0	<7.0		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	85,068											High:	0.70
			Average:	77,235											Average:	0.63

WW

E

JB76317

Honeywell Chain Of Custody / Analysis Request

...st Labs		AESI Ref:	41893.43398
...TE 130		COC#	087-WW-091114
...U 8610			
...200			
...g Co.:	Parsons	Lab Proj # (SDG):	
...ontact: (name, co., address)		Lab ID	[illegible]
...y P: (973) 455-2989 E. helen.fahy@honeywell.com		Site ID	[illegible]
...International		Lab Job #	HWINJM32815
...bis Road Morristown, NJ 07962		Authorized User:	Honeywell
...y Data To			
...ccept			
...gnment To			
...y To	Helen Fahy (Honeywell)		
...:	Helen Fahy (Honeywell)		

Copyright AESI: Version 3.0 Unauthorized use strictly prohibited.

Site Name:	Hudson County	Phase:	CS
Location of Site:	Jersey City, NJ	Sampling Program	087: JCIA
EDD To:			
Sampler:	Frank Schroyer		
PO #			
Analysis Turnaround Time (TAT):	3		
Consultant	CH2M		
Full Report TAT:	28 Days		

Sample Identification: ...tion ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Units	Field Filtered Sample	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
												3	3	3	1	2	2	0	0	2						
87-WW		PH 3.06	087-WWE-091114-A	9/11/2014	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		-1					
87-WW			087-WWE-091114-B	9/11/2014	14:10	WW	WATER	REG	5	grab	N					X	X				-2					L27
87-WW			087-WWI-091114	9/11/2014	14:20	WW	WATER	REG	3	grab	N									X	-3					U614
																										A14
																										G13

...d by pH=7.04 s.u. @ 7.5°C	Company	Parsons	Received by	Company		Condition		Custody Seals Intact	
[signature]	Date/Time	9/11/14	[signature]	Date/Time	9/11/14 1510	Cooler Temp.			
[signature]	Company		Received by	Company	9/11/14	Condition		Custody Seals Intact	
[signature]	Date/Time	9/11/14 1810	[signature]	Date/Time	1810	Cooler Temp.	4.0 °C-B		

...es (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

9

NY

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-A		
Lab Sample ID:	JB76317-1	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	980	10	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	09/12/14	09/15/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	09/13/14	09/13/14	DP	EPA 245.1 [2]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	09/12/14	09/13/14	ND	EPA 200.7 [1]	EPA 200.7 [4]

(1) Instrument QC Batch: MA34917
(2) Instrument QC Batch: MA34919
(3) Instrument QC Batch: MA34927
(4) Prep QC Batch: MP81875
(5) Prep QC Batch: MP81898

(a) Elevated detection limit due to dilution required for matrix interference.

RL = Reporting Limit

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-A		
Lab Sample ID:	JB76317-1	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	5.0	4.0	mg/l	1	09/12/14	RP	SM2540 D-11
pH [a]	7.06		su	1	09/11/14 19:30	MB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-A		
Lab Sample ID:	JB76317-1A	**Date Sampled:**	09/11/14
Matrix:	AQ - Water	**Date Received:**	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 7.0	7.0	mg/l	1	09/12/14 18:48	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-B		
Lab Sample ID:	JB76317-2	Date Sampled:	09/11/14
Matrix:	AQ - Water	Date Received:	09/11/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T201464.D	1	09/13/14	DC	n/a	n/a	VT8254
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.26	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.8	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.0	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.40	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	53.1	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	100%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@815349 13:04 19-Sep-2014

Report of Analysis

Client Sample ID:	087-WWE-091114-B		
Lab Sample ID:	JB76317-2	**Date Sampled:**	09/11/14
Matrix:	AQ - Water	**Date Received:**	09/11/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	09/16/14	AA	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending October 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 7 OF 25

- **2014 Monthly Reports Part 7**

12/15/2014
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

December 15, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-11

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from November 1 – November 30, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: November 2014 SA-6/7 Combined Monthly Progress Report No. 2014-11

cc: Joe Clifford - AMEC (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-11

Project SA-6 & 7 Remediation

November 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
11/07/14	Treatability Program Bench Scale System Set Up for Treatment Area 10 Study Area 6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
11/11/14	Surcharge Monitoring Plan – Monthly Report No. 6 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
11/13/14	Treatability Program Area 10 Barrier Wall Alignment Study Area 6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
11/14/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-10 Study Areas 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
11/17/14	Arnold & Porter Correspondence Long Term Financial Assurances	Honorable Robert G. Torricelli Office of the Special Master
11/18/14	Special Master Conference Call	N/A
11/19/14	Design Change Bulletin Hydrocarbon Soils in Cap Area Study Area 6 North and South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
11/19/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	11/9/14	11/16/14	11/23/14	11/30/14
Construction Management (AMEC)	12	11	12	11
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	36	36	34	34
Arecon/US Ecology Subcontractors	1	1	1	1
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	21	20	17	22
TOTAL STAFF	**76**	**74**	**70**	**74**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected November PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- PVSC collected yearly compliance samples associated with the Construction Water Treatment Plant and the Ground Water Treatment Plant on November 5, 2014.
- Continued site preparation, universal waste removal and asbestos abatements activities at the JCIA demolition project.
- Environ and Aquasurvey representatives completed long term monitoring activities in accordance with the SA-7 sediment monitoring plan, including the bathometric survey, cap thickness verifications, sediment profile imaging (SPI), biological sampling, and pore water sampling on November 3, 2014.
- Completed bench testing of candidate redevelopment chemicals for use in injections well 088-IW-01.
- Continued to advance permit application and discussions with New Jersey Department of Transportation (NJDOT) regarding Highway Occupancy and Drainage Permits for upcoming SA-6 activities proximate to the Rt. 440 frontage.

- On December 8, 2014, a leaking diesel line was identified on a water truck. This necessitated several yards of surficial soil to be removed and segregated. The incident was called in to the NJDEP hotline and Incident no. for this non-emergency incident is: 14-12-08-1503-35.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on November 12, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	11/9/14	11/16/14	11/23/14	11/30/14
Avg. Gallons Treated & Discharged (per day)	74,758	76,857	76,584	75,300
Average Flow (gpm) for Operating Period	53	53	54	52
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	5,690	7,932	7,078	6,900

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued storm-water management activities.
- Completed Site 163 shallow soil excavation activities on November 12, 2014.
- Collected a post-excavation sidewall sample, 134-SB-177, from the southeast side of the anomalous material excavation on December 2, 2014, results are pending and will be reported when final.
- On November 11 and 12, 2014, encountered and removed a former unidentified 550-gallon underground storage tank in the eastern portion of the Site 163 excavation. Peter Jaran, LSRP was contacted and a representative was onsite to oversee the UST removal and soil sampling in accordance with NJDEP requirements.
- Continued Site 163 backfill activities.
- Began excavation activities associated with the lens of anomalous material on SA-6 South proximate to Cell 104.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0
Entact/ Horwith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	50	21.35	1,067.75
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	NA	Non Haz Creosote Debris	0	0	0
Entact/ FCI	30 cyd roll off	Tullytown, Pa	WM Grows	ACM Tile & Mastic	0	0	0
Entact/ FCI	Tri-axle Dump	Kearny, NJ	NJ Meadowlands	Dieldrin Stained Concrete	12	21.75	261
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	TCE Impacted Soil	0	0	0
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Mercury Impacted Soil	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Cell Number(s) 75-59 Volume Excavated - Total for Reporting Period: 0 CY/ Total to Date: 151,313 CY
Backfill in Progress	Cell Number(s) 104-59

3. BACKFILL MATERIALS USED

Source	Week Ending			
	11/9/14	11/16/14	11/23/14	11/30/14
<20ppm re-use, CY	0	0	0	0
Weldon, Import-Tons Screenings	4,248	4,756	713	0
Tilcon, Import-Tons DGA	884	0	508	451
Tilcon, Import Tons – 1.5” Stone	0	0	0	0
Weldon, Imported Tons - QP	0	0	0	0
Weldon, Imported Tons - DGA	0	0	134	0
Tilcon, Imported 6”-8” stone	61	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	50	50	0

E. SURCHARGE OPERATIONS

- Area 1S: Continue offloading 1S from west to east, approximately 50% complete.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 85% complete.
- Area 3S: Instrumentation installation was completed as of November 6, 2013 and all baseline readings recorded. Temporary stockpiles are located in this area. Surcharge has been initiated and is approximately 10% complete surcharge
- Area 1N: Continued surcharge removal activities. Surcharge removal activities area approximately 75% complete. Details were provided in the November 2014 Surcharge Monitoring Report No. 6.
- Area 2N: Instrumentation Installation 100% complete. Surcharge placement is complete. Surcharge placement is 100% complete.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Continue grouting angles of sheet pile at SA-6 South.
- Excavation proximate to the SA-6 South barrier wall was completed in October 28, 2014 and backfill has been progressed in all areas against the SA-6 South barrier wall. Deflection readings are therefore no longer required.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14	Pending	Pending	Pending
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition activities to include site preparation, abatement activities, and utility disconnect activities.
- Continue placement of surcharge materials in SA-6 South Area 2S and Area 3S.
- Continue off loading of surcharge materials from SA-6 South Area 1S.
- Continue installation of the contingent groundwater system trench on SA-6 South.
- Complete Site 163 excavation and backfilling activities.
- Complete excavation of standalone Areas 41 and 43.
- Complete excavation of the lens of anomalous material proximate to Cell 104.
- Continue loadout and transportation and disposal activities at SA-6 South.
- Continue backfill placement and associated compaction testing activities at SA-6 South.
- Begin accepting delivery of steel sheetpile for SA-6 North barrier wall installation.
- Complete well cleaning of injection well 088-IW-01 on SA-6N.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete sediment long term monitoring activities and final report preparation.

- Obtain NJDOT Highway Occupancy Permit for upcoming SA-6 North activities proximate to Rt. 440 frontage.
- Conduct semi-annual sampling of S-3 mass removal injection and related monitoring wells.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data Surcharge Monitoring Update (not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Sheet Pile Angle Grout Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (October 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Study Areas 6 and 7 Combined Progress Report No. 2014-11
Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**
18	**JCIA/JCDPW Relocation**	**1735 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	753 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	151 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**838 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days
60b	SA-6S (Site 163) In-Situ Treatment	294 days
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**620 days**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	195 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	182 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days
63	**Barrier Wall Install**	**489 days**
63a	**SA 6N Installation of Barrier Wall**	**369 days**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days
63c	SA-6N Stations 23+38 to 14+25	90 days
63d	SA-6N Stations 14+25 to 0+00	224 days
63f	**SA 6S Installation of Barrier Wall**	**250 days**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days
63h	SA-6S Stations 1+54 to 8+37	7 days
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days
63j	SA-6S Stations 8+60 to 14+87	145 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	**SA 6S Excavation**	**226 days**
64c	SA-6S Excavation of Cells 1 - 25	53 days
64d	SA-6S Excavation of Cells 26 - 60	90 days
64e	SA-6S Excavation of Cells 156 - 61	83 days
65	**Backfill**	**493 days**
65a	SA 6N Backfill	218 days
65b	SA 6S Backfill	232 days
66	**Capping and Cover Soil Placement**	**315 days**
66a	SA 6N Capping and Cover Soil Placement	119 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**164 days**
67a	Restoration	164 days
68	**Demobilization**	**21 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	



Project: SA-6 Remediation Schedule
Revision 3
Date: Fri 12/5/14

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Contractor begins abatement activities at former JC buildings.



Site Photograph 2: Contractor begins excavation along Droyers Cove.



Site Photograph 3: Contractor begins restoration of area along Droyers Cove.



Site Photograph 4: Excavation continues along Droyers Cove.



Photograph 5: Droyers Cove excavation backfilled and graded**.**



Site Photograph 6: Excavation continues along Kellogg St. properties.



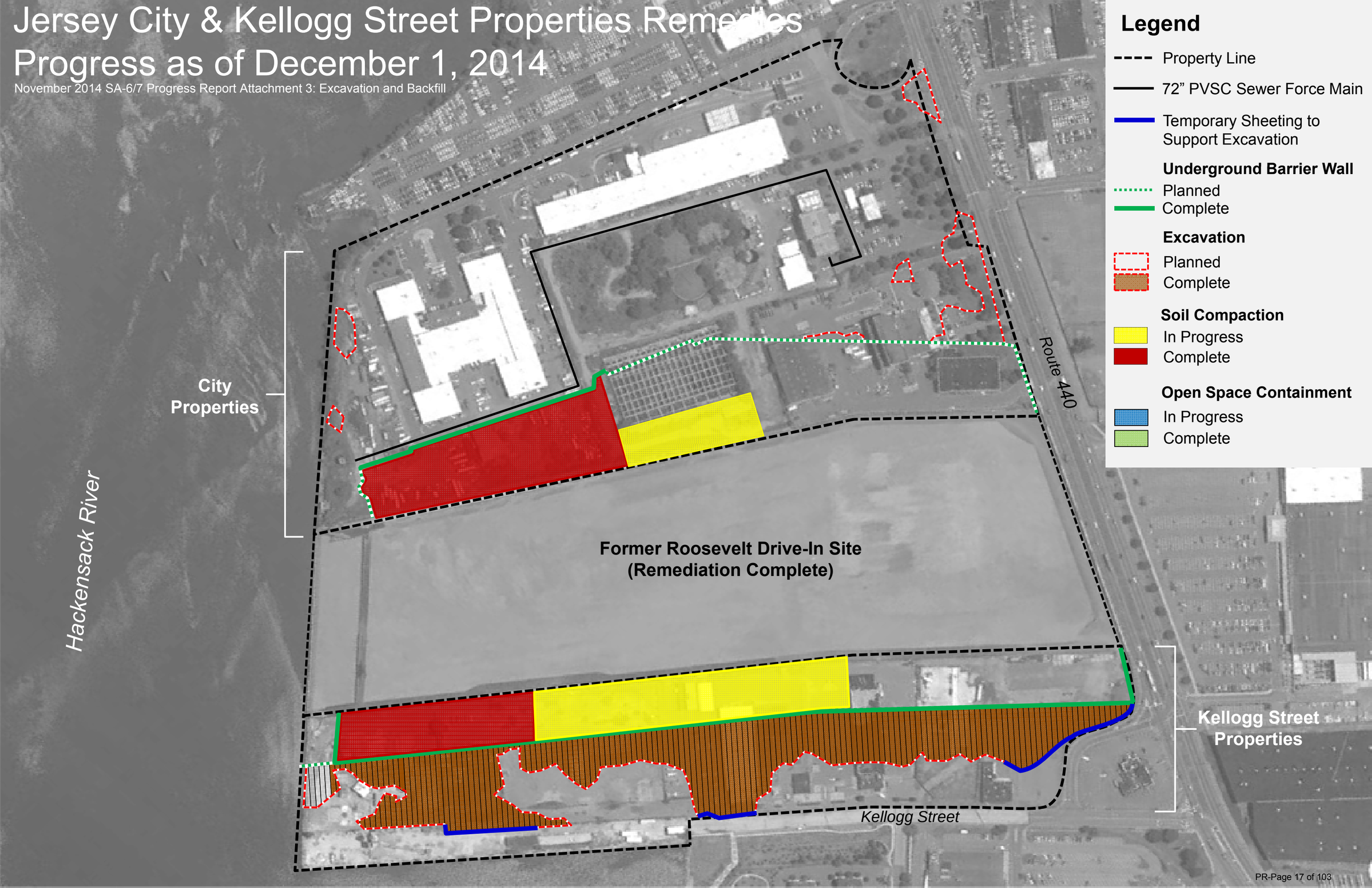
Site Photograph 7: The contractor removes a former tank.

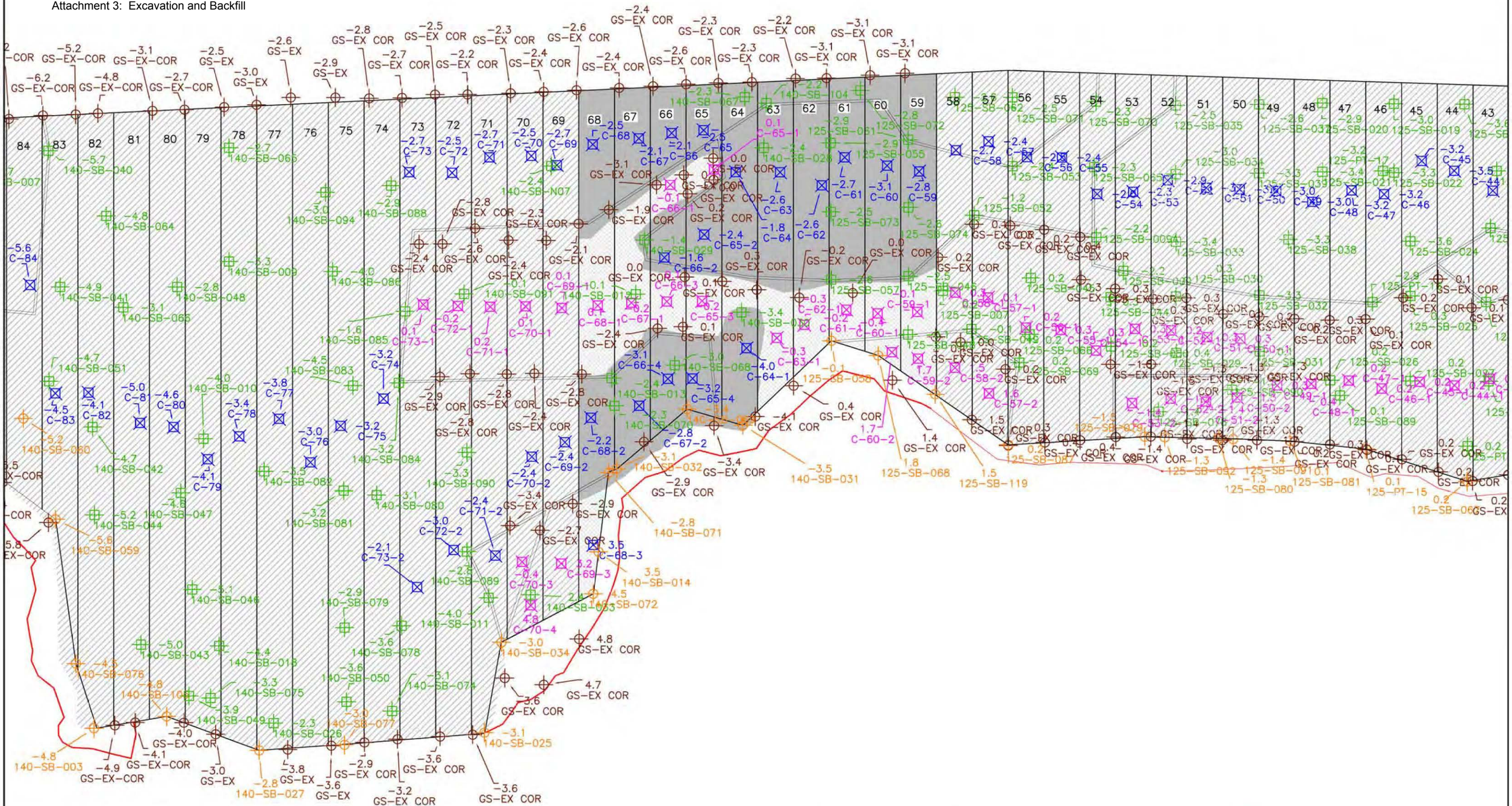
Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies
Progress as of December 1, 2014

November 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill





ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 10-16-14 TO 10-30-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-0.6	134-SB-019	114A	7/3/2014	-1.7	Target Elevation Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.3	601878.4	0.8	134-SB-057	113A	7/3/2014	-2.0	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.5	601974.0	1.2	134-SB-061	106A	7/23/2014	-5.2	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.8	601978.1	-7.5	134-SB-113	103	7/29/2014	-7.2	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached
684669.3	602386.6	-0.6	140-SB-070	68	10/21/2014	-2.3	Stratum D Reached
684679.0	602393.0	0.0	140-SB-013	68	10/14/2014	-2.4	Stratum D Reached
684760.1	602448.4	-1.4	140-SB-083R	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	125-SB-029R	68	10/14/2014	0.1	Target Elevation Reached
684629.6	602343.1	5.8	140-SB-033R	68	10/14/2014	3.5	Target Elevation Reached
684749.9	602465.0	-1.4	140-SB-083R	67	10/21/2014	-2.1	Stratum D Reached
684700.0	602423.0	0.8	140-SB-012	67	10/21/2014	-0.1	Target Elevation Reached
684715.4	602440.1	-1.0	140-SB-029	67	10/21/2014	-1.4	Stratum D Reached
684662.8	602394.7	-1.4	140-SB-083R	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-1.4	140-SB-083R	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	125-SB-029R	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	125-SB-073R	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	125-SB-029R	66	10/21/2014	0.1	Target Elevation Reached
684666.6	602417.0	-2.7	140-SB-068	66	10/21/2014	-3.0	Stratum D Reached
684735.5	602488.2	-1.4	140-SB-083R	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	125-SB-029R	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	125-SB-073R	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	125-SB-029R	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-1.4	140-SB-083R	65	10/21/2014	-3.2	Stratum D Reached
684666.2	602452.6	2.5	140-SB-030	64	10/21/2014	-3.4	Stratum D Reached
684735.4	602510.4	-3.6	140-SB-067	64	10/24/2014	-2.3	Stratum D Reached
684713.8	602503.3	4.3	140-SB-028	63	10/27/2014	-2.4	Stratum D Reached
684727.7	602515.9	-2.0	140-SB-104	63	10/27/2014	-2.2	Stratum D Reached
684648.6	602457.4	0.4	125-SB-029R	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	125-SB-073R	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	125-SB-029R	62	10/21/2014	-0.3	Target Elevation Reached
684653.2	602490.5	0.2	125-SB-057	61	10/24/2014	-2.6	Stratum D Reached
684675.4	602508.2	-1.2	125-SB-073	61	10/27/2014	-2.5	Stratum D Reached
SA-6 South Excavation: Confirmatory Points (Table 1.8)							

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684697.8	602526.3	-2.2	125-SB-055	61	10/28/2014	-2.9	Stratum D Reached
684707.1	602549.9	-3.4	125-SB-072	61	10/28/2014	-2.8	Stratum D Reached
684639.4	602487.5	0.4	125-SB-029R	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	125-SB-073R	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	125-SB-029R	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	125-SB-069R	60	10/21/2014	1.7	Target Elevation Reached
684678.4	602552.4	-2.4	125-SB-061	59	10/28/2014	-2.9	Stratum D Reached
684615.0	602501.1	0.5	125-SB-048	59	10/21/2014	-0.1	Target Elevation Reached
684633.9	602516.6	0.6	125-SB-046	59	10/24/2014	-2.5	Stratum D Reached
684656.3	602534.7	-1.4	125-SB-074	59	10/27/2014	-2.6	Stratum D Reached
684604.5	602498.0	2.1	125-SB-069R	59	10/21/2014	1.7	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	2.1	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached
684760.1	602448.4	-2.5	C-68	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	C-68-1	68	10/14/2014	0.1	Target Elevation Reached
684671.6	602375.8	-2.5	C-68-2	68	10/14/2014	-2.2	Stratum D Reached
684629.6	602343.1	5.7	C-68-3	68	10/14/2014	3.5	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.6)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684749.9	602465.0	-2.5	C-67	67	10/21/2014	-2.1	Stratum D Reached
684698.4	602419.3	0.4	C-67-1	67	10/21/2014	-0.2	Target Elevation Reached
684662.8	602394.7	-2.5	C-67-2	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-2.5	C-66	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	C-66-1	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	C-66-2	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	C-66-3	66	10/21/2014	0.1	Target Elevation Reached
684664.0	602411.1	-2.5	C-66-4	66	10/21/2014	-3.1	Stratum D Reached
684735.5	602488.2	-2.5	C-65	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	C-65-1	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	C-65-2	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	C-65-3	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-2.5	C-65-4	65	10/21/2014	-3.2	Stratum D Reached
684713.4	602487.7	-1.2	C-64	64	10/24/2014	-1.8	Stratum D Reached
684653.2	602444.8	0.4	C-64-1	64	10/21/2014	-4.0	Increased excavation depth - UST location
684701.6	602502.1	-1.2	C-63	63	10/27/2014	-2.6	Stratum D Reached
684648.6	602457.4	0.4	C-63-1	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	C-62	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	C-62-1	62	10/21/2014	-0.3	Target Elevation Reached
684689.4	602527.1	-1.2	C-61	61	10/28/2014	-2.7	Stratum D Reached
684639.4	602487.5	0.4	C-61-1	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	C-60	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	C-60-1	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	C-60-2	60	10/21/2014	1.7	Target Elevation Reached
684665.2	602547.7	-1.2	C-59	59	10/27/2014	-2.8	Stratum D Reached
684620.0	602510.0	0.4	C-59-1	59	10/21/2014	-0.1	Target Elevation Reached
684604.5	602498.0	2.1	C-59-2	59	10/21/2014	1.7	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685094.6	601890.3	2.2	134-SB-075	111A	7/8/2014	-1.6	Target Elevation Reached
685081.0	601928.0	-0.1	134-SB-021	109A	7/10/2014	-1.6	Target Elevation Reached
685080.6	601935.9	3.0	134-SB-092	108A	7/10/2014	-1.6	Target Elevation Reached
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Target Elevation Reached
684999.7	601940.5	-0.5	134-SB-097	104	7/29/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.1	Stratum D Reached
684626.0	602343.0	6.8	140-SB-014	68	10/14/2014	3.5	Target Elevation Reached
684613.7	602330.2	6.1	140-SB-072	68	10/14/2014	4.5	Target Elevation Reached
684649.1	602367.2	-1.0	140-SB-071	68	10/14/2014	-2.8	Stratum D Reached
684648.1	602370.8	-0.8	140-SB-032	67	10/21/2014	-3.1	Stratum D Reached
684649.1	602409.4	-2.3	140-SB-069	65	10/21/2014	-3.4	Stratum D Reached
684629.1	602423.3	1.5	140-SB-031	64	10/21/2014	-3.5	Stratum D Reached
684633.2	602474.4	0.4	125-SB-058	61	10/21/2014	-0.1	Target Elevation Reached
684616.1	602485.8	3.0	125-SB-068	60	10/21/2014	1.8	Target Elevation Reached
684588.4	602494.2	100.0	125-SB-119	59	10/21/2014	1.5	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 11/17/14

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
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LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
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0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

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1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

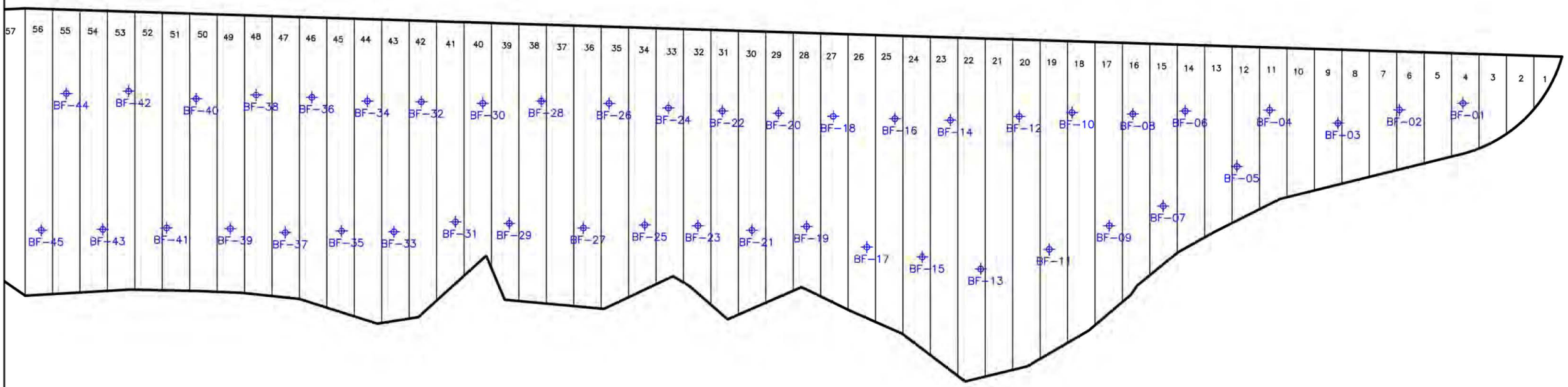
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



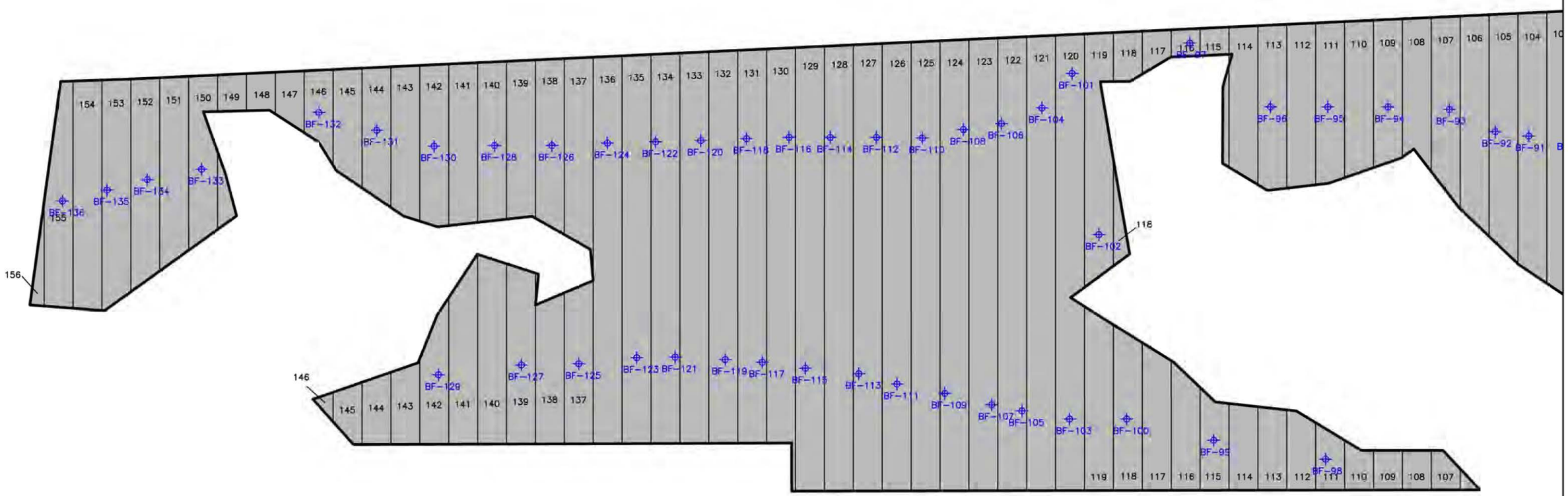
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION		ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
			NORTHING	EASTING											
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION		ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
			NORTHING	EASTING											
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION		ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
			NORTHING	EASTING											
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION		ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
			NORTHING	EASTING											
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION		ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
			NORTHING	EASTING											
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes:

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

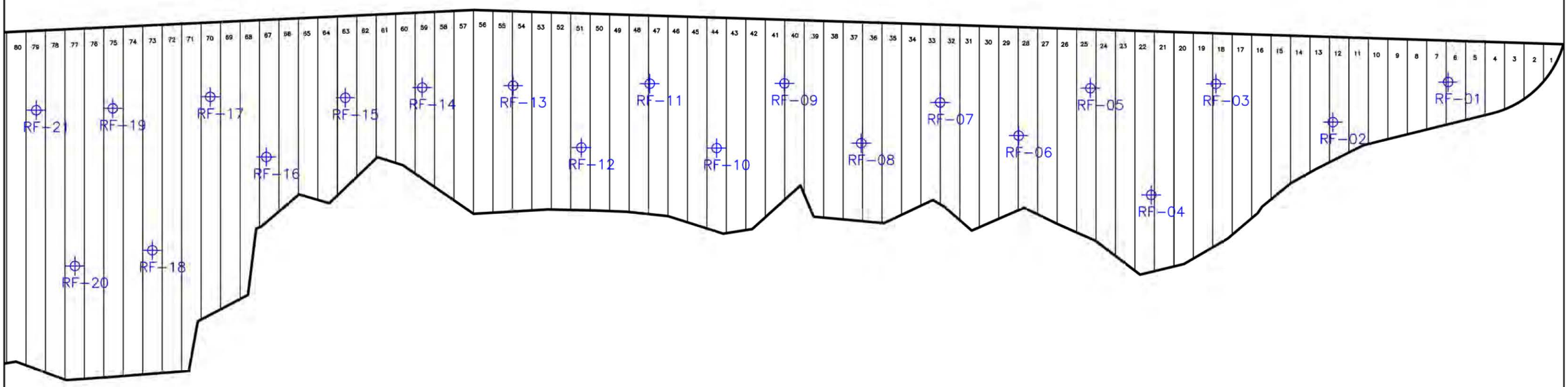
Sample ID RF-01-01 where:

RF = Reduced Frequency

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

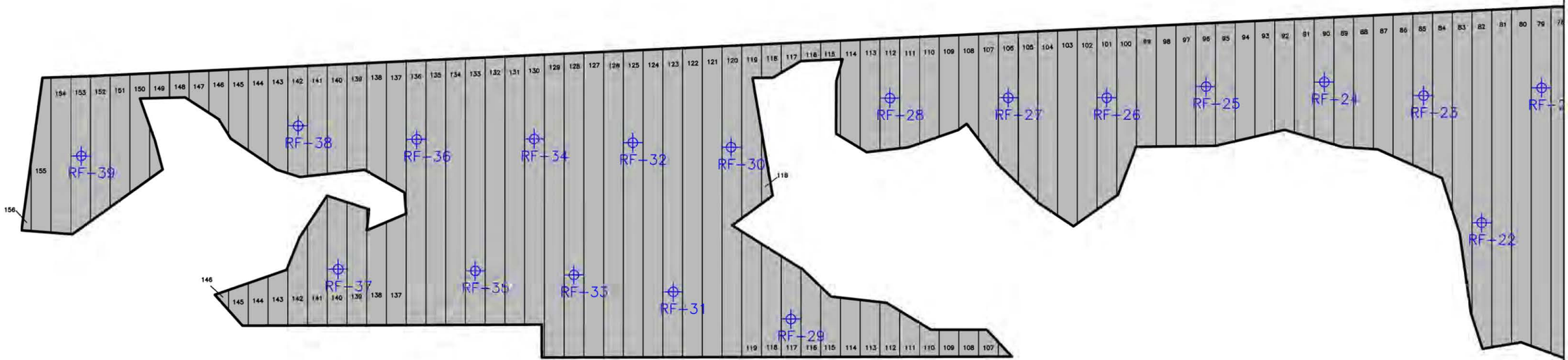
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS 5 TESTS PER ACRE

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/14/14	24	N/A	N/A	6,500	80,718	4.5	Pump Online for LOAM Excavation
11/17/14	72	N/A	N/A	19,500	100,218	4.5	Flow Meter Not Intsalled Tank Measured
11/18/14	24	N/A	N/A	6,500	106,718	4.5	Flow Meter Not Intsalled Tank Measured
11/19/14	24	N/A	N/A	6,500	113,218	4.5	Flow Meter Not Intsalled Tank Measured
11/20/14	24	N/A	N/A	6,500	119,718	4.5	Flow Meter Not Intsalled Tank Measured
11/21/14	24	N/A	N/A	6,500	126,218	4.5	Flow Meter Not Intsalled Tank Measured
11/22/14	24	N/A	N/A	6,500	132,718	4.5	Flow Meter Not Intsalled Tank Measured
11/24/14	48	N/A	N/A	13,000	145,718	4.5	Flow Meter Not Intsalled Tank Measured
11/25/14	24	N/A	N/A	6,500	152,218	4.5	Flow Meter Not Intsalled Tank Measured
11/28/14	72	N/A	N/A	19,500	171,718	4.5	Flow Meter Not Intsalled Tank Measured
11/30/14	48	N/A	N/A	12,500	184,218	4.3	Flow Meter Not Intsalled Tank Measured

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/02/14	8:30	20,855.01	20,938.29	83,280	20,937,840	
10/03/14	6:00	20,938.29	20,977.59	39,300	20,977,140	
10/05/14	4:30	20,977.59	21,023.46	45,870	21,023,010	
10/06/14	7:45	21,023.46	21,102.23	78,770	21,101,780	
10/09/14	8:00	21,102.23	21,182.13	79,900	21,181,680	PVSC Compliance Sample Collected
10/10/14	7:30	21,182.13	21,208.69	26,560	21,208,240	
10/12/14	4:30	21,208.69	21,228.53	19,840	21,228,080	
10/13/14	6:30	21,228.53	21,289.72	61,190	21,289,270	
10/14/14	2:00	21,289.72	21,292.46	2,740	21,292,010	
10/15/14	8:00	21,292.46	21,349.49	57,030	21,349,040	
10/16/14	8:00	21,349.49	21,411.09	61,600	21,410,640	
10/17/14	7:00	21,411.09	21,463.04	51,950	21,462,590	
10/19/14	5:00	21,463.04	21,523.23	60,190	21,522,780	
10/21/14	7:00	21,523.23	21,574.85	51,620	21,574,400	
10/22/14	8:00	21,574.85	21,611.86	37,010	21,611,410	
10/23/14	9:30	21,611.86	21,728.57	116,710	21,728,120	
10/24/14	7:00	21,728.57	21,795.15	66,580	21,794,700	
10/25/14	4:00	21,795.15	21,836.74	41,590	21,836,290	
10/27/14	8:00	21,836.74	21,934.46	97,720	21,934,010	
10/29/14	4:15	21,934.46	21,979.83	45,370	21,979,380	
10/30/14	2:00	21,979.83	21,987.45	7,620	21,987,000	
11/05/14	7:00	21,987.45	22,068.71	81,260	22,068,260	PVSC Compliance Sample Collected
11/07/14	5:00	22,068.71	22,093.24	24,530	22,092,790	
11/10/14	6:30	22,093.24	22,125.00	31,760	22,124,550	CGWES pumped and isolated from 930 to 1530
11/11/14	5:00	22,125.00	22,151.18	26,180	22,150,730	
11/12/14	8:00	22,151.18	22,205.08	53,900	22,204,630	
11/13/14	8:00	22,205.08	22,232.39	27,310	22,231,940	
11/14/14	5:00	22,232.39	22,270.23	37,840	22,269,780	
11/15/14	3:45	22,270.23	22,327.83	57,600	22,327,380	
11/16/14	4:00	22,327.83	22,387.57	59,740	22,387,120	
11/17/14	7:00	22,387.57	22,488.01	100,440	22,487,560	
11/18/14	7:30	22,488.01	22,568.74	80,730	22,568,290	
11/19/14	7:30	22,568.74	22,653.22	84,480	22,652,770	
11/20/14	5:00	22,653.22	22,692.55	39,330	22,692,100	
11/21/14	8:00	22,692.55	22,747.08	54,530	22,746,630	
11/22/14	4:00	22,747.08	22,783.08	36,000	22,782,630	
11/24/14	8:30	22,783.08	22,833.40	50,320	22,832,950	
11/26/14	7:30	22,833.40	22,889.40	56,000	22,888,950	
11/28/14	5:00	22,889.40	22,984.22	94,820	22,983,770	
11/30/14	10:00	22,984.22	23,021.47	37,250	23,021,020	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

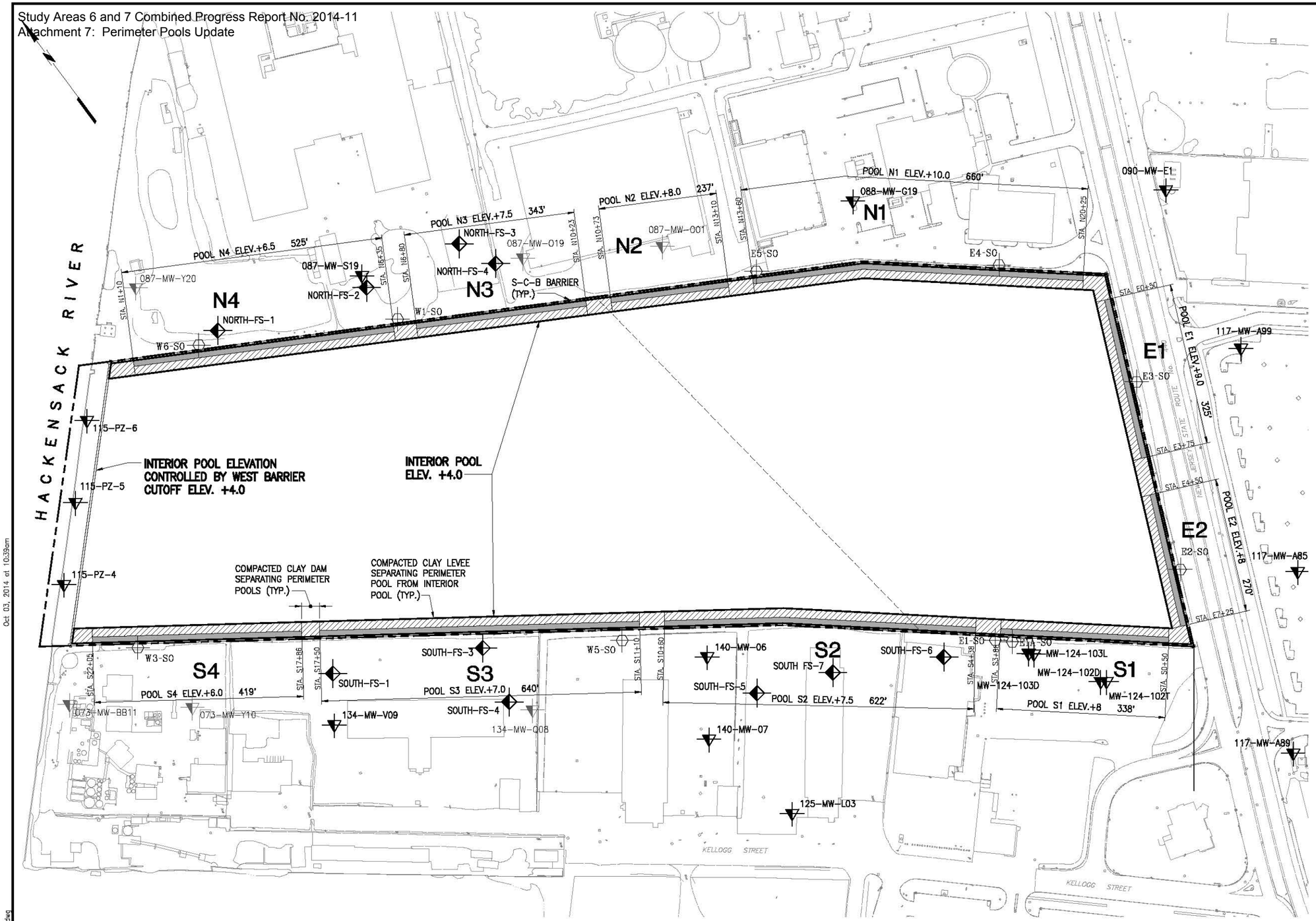
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
67-75	<20	124-75-20-a,b (A27)	1200	124-75-20-a1	10/16/2014	11:20	9.6	Yes		
				124-75-20-a2	10/16/2014	11:25	7.6	Yes		
				124-75-20-a3	10/16/2014	11:30	11.0	Yes		
				124-75-20-a4	10/16/2014	11:35	25.3		Yes	
				124-75-20-b1	10/16/2014	11:40	17.3	*		
				124-75-20-b2	10/16/2014	11:45	15.6	*		
				124-75-20-b3	10/16/2014	11:50	29.3		Yes	
				124-75-20-b4	10/16/2014	11:55	65.3		Yes	
58-67	<20	124-67-20-a,b (A28)	1665	124-67-20-a1	10/28/2014	11:30	0.45	*		
				124-67-20-a2	10/28/2014	11:35	98.2		Yes	
				124-67-20-a3	10/28/2014	11:40	2.6	*		
				124-67-20-a4	10/28/2014	11:45	5.2	*		
				124-67-20-b1	10/28/2014	11:50	71.9		Yes	
				124-67-20-b2	10/28/2014	11:55	340		Yes	
				124-67-20-b3	10/28/2014	12:00	29.6		Yes	
				124-67-20-b4	10/28/2014	12:05	23.3		Yes	
75-58	>1000	124-75-1000-a,b	1600	124-75-1000-a1	10/29/2014	13:15	1,410			*
				124-75-1000-a2	10/29/2014	13:20	750		Yes	
				124-75-1000-a3	10/29/2014	13:25	1,360			*
				124-75-1000-a4	10/29/2014	13:30	2,050			*
				124-75-1000-b1	10/29/2014	13:35	2,060			*
				124-75-1000-b2	10/29/2014	13:40	454		Yes	
				124-75-1000-b3	10/29/2014	13:45	591		Yes	
				124-75-1000-b4	10/29/2014	13:50	2,860			*
Site 163	>1000	163-122-1000-a	850	163-122-1000-a1	11/18/2014	11:00	4.5		Yes	
				163-122-1000-a2	11/12/2014	14:05	4		Yes	
				163-122-1000-a3	11/18/2014	11:05	80.1		Yes	
				163-122-1000-a4	11/12/2014	14:15	38.1		Yes	
103-106	<20	124-106-20-a (A29)	950	124-106-20-a1	11/21/2014	7:55	9.2	*		
				124-106-20-a2	11/21/2014	8:00	12.1	*		
				124-106-20-a3	11/21/2014	8:05	15.6	*		
				124-106-20-a4	11/21/2014	8:10	20		*	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Oct 03, 2014 at 10:39am
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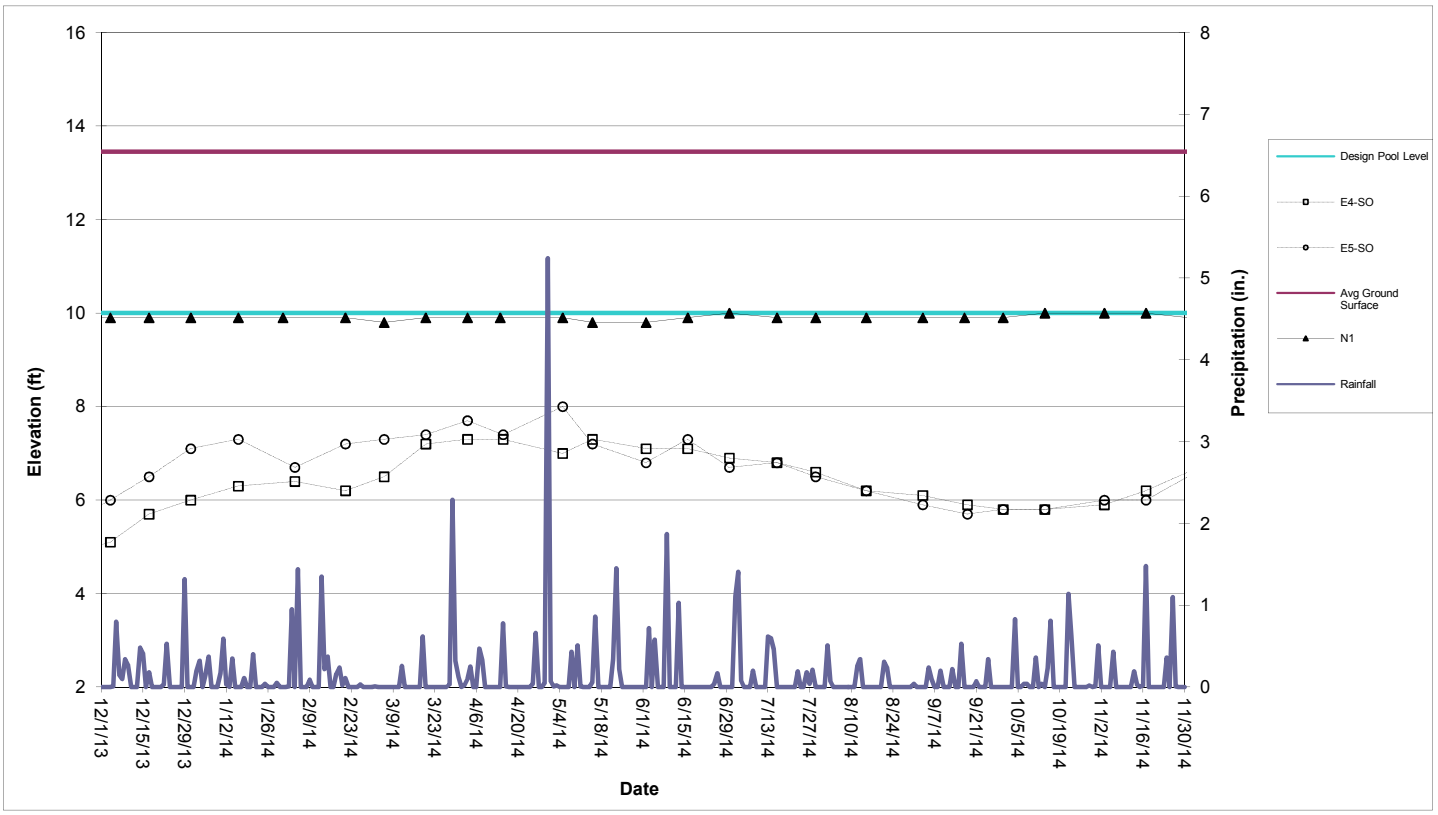
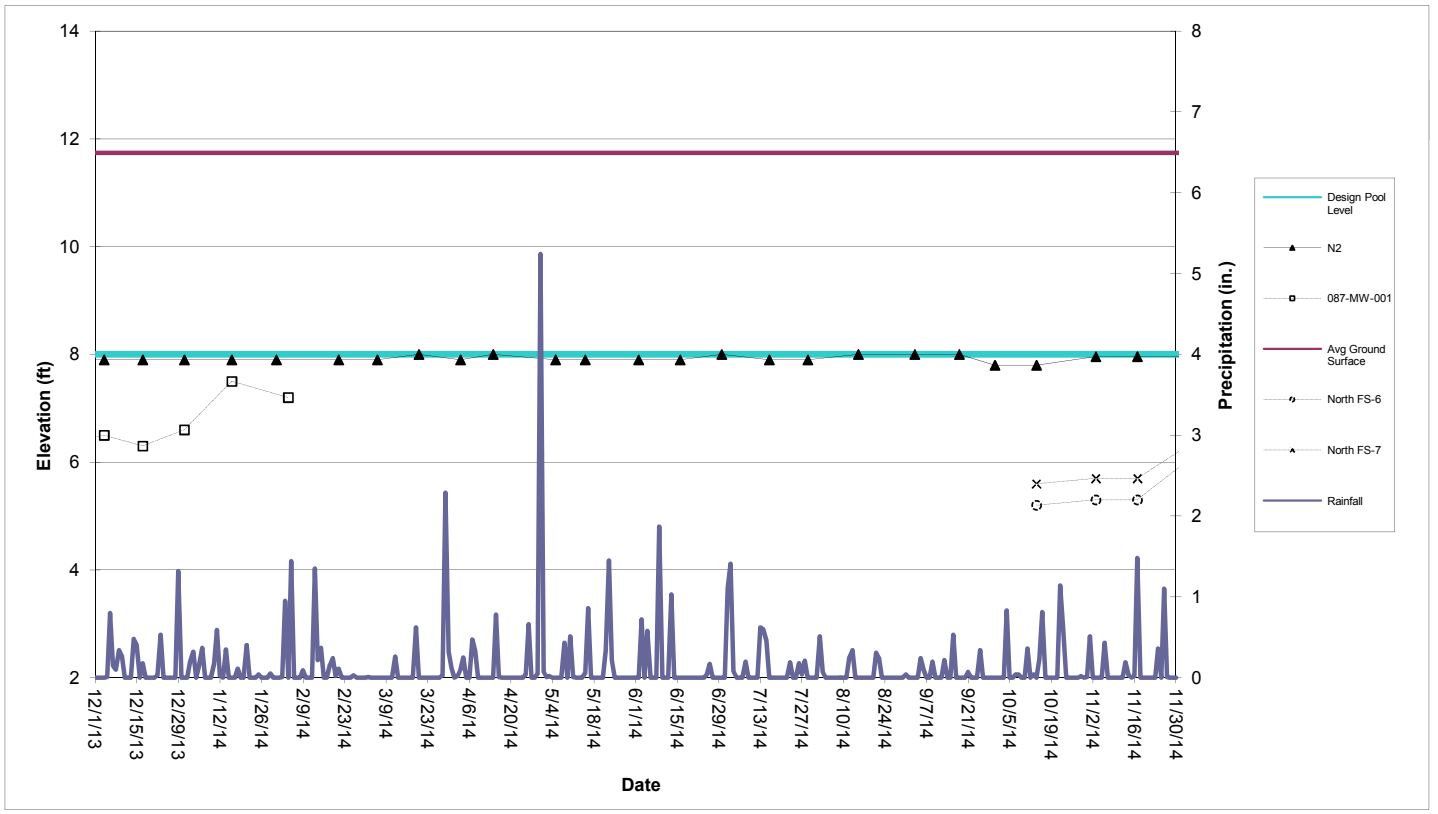
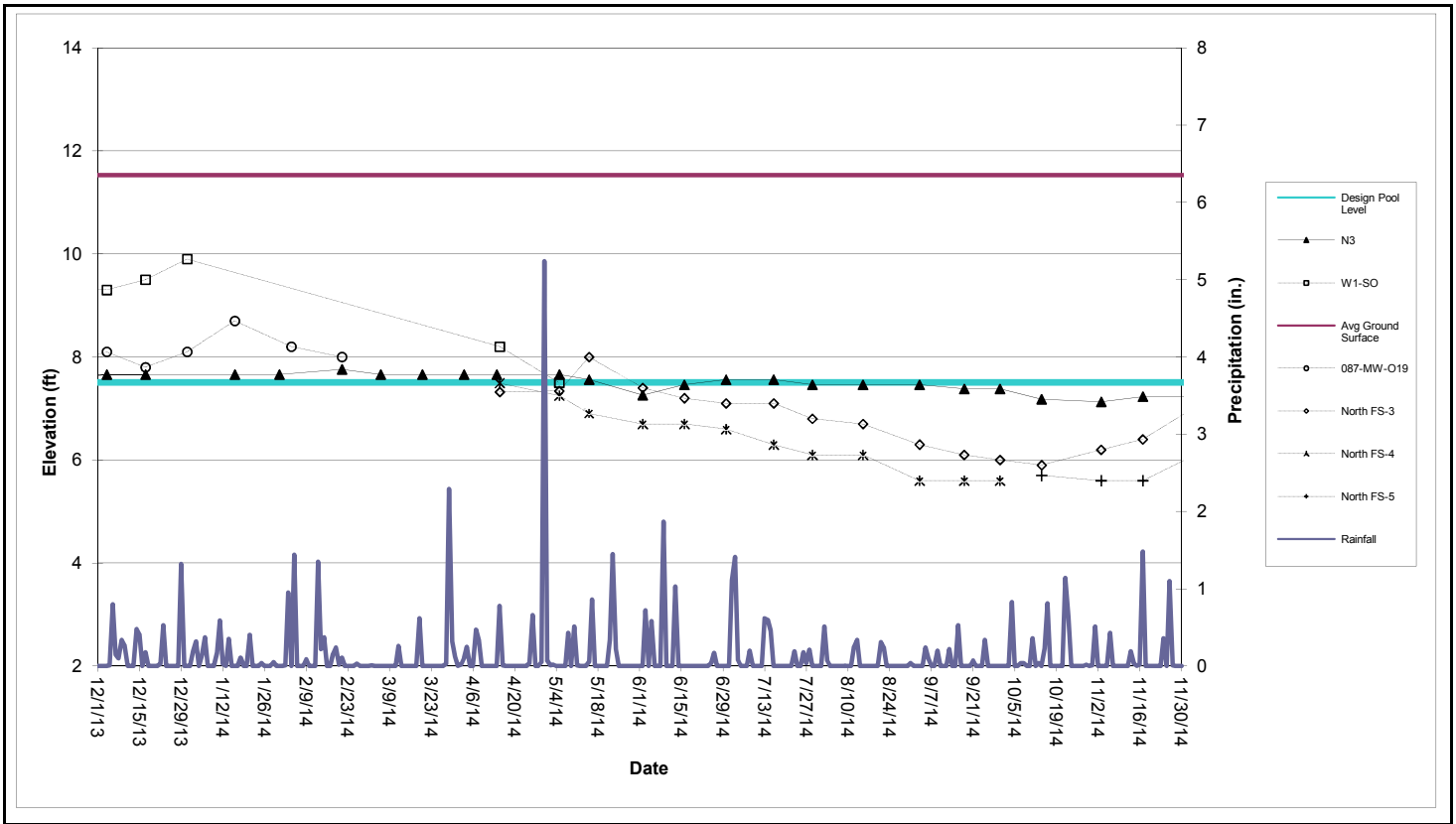
edelossantos



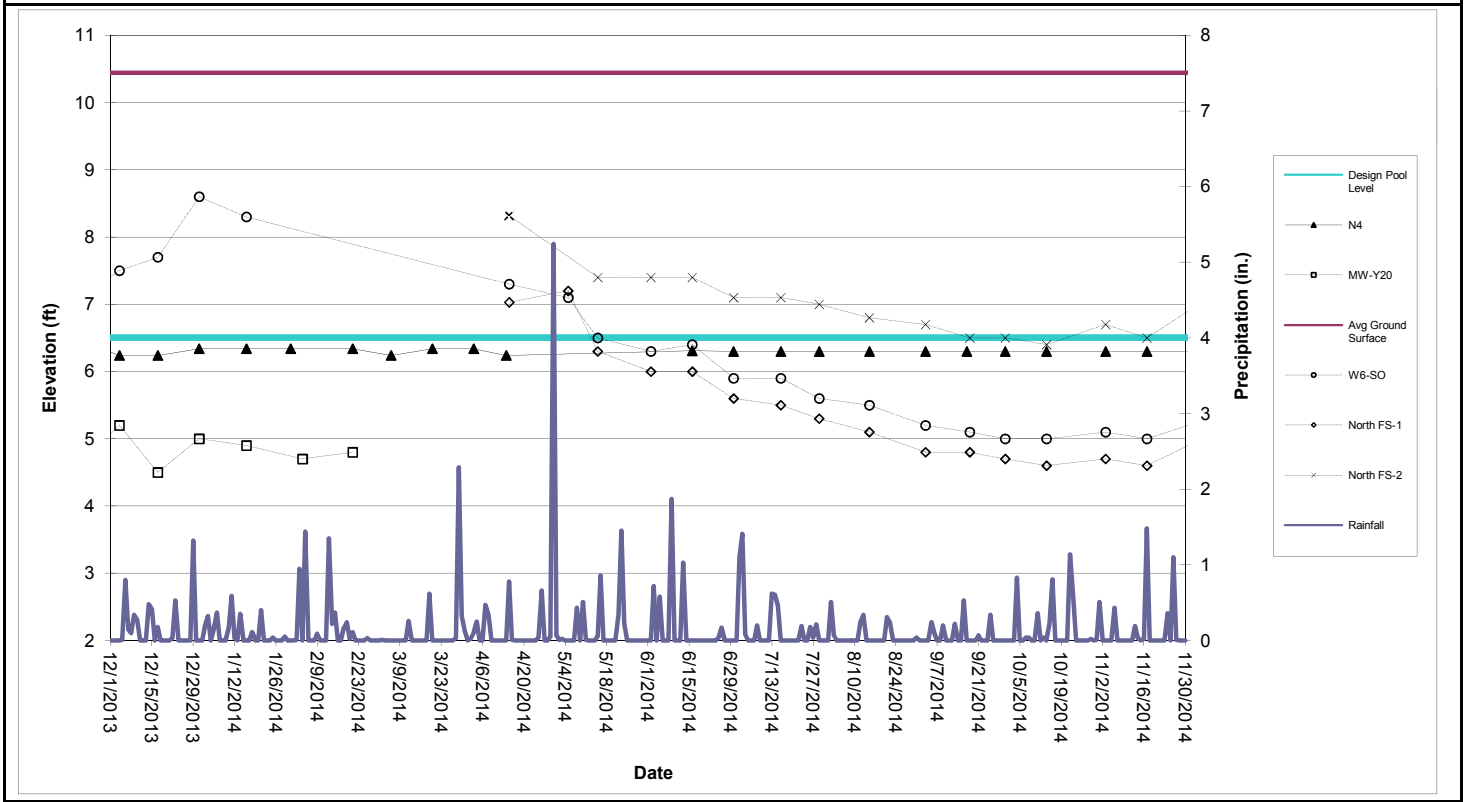
Perimeter Pool N1 (Sta. N13+60 to N20+25)



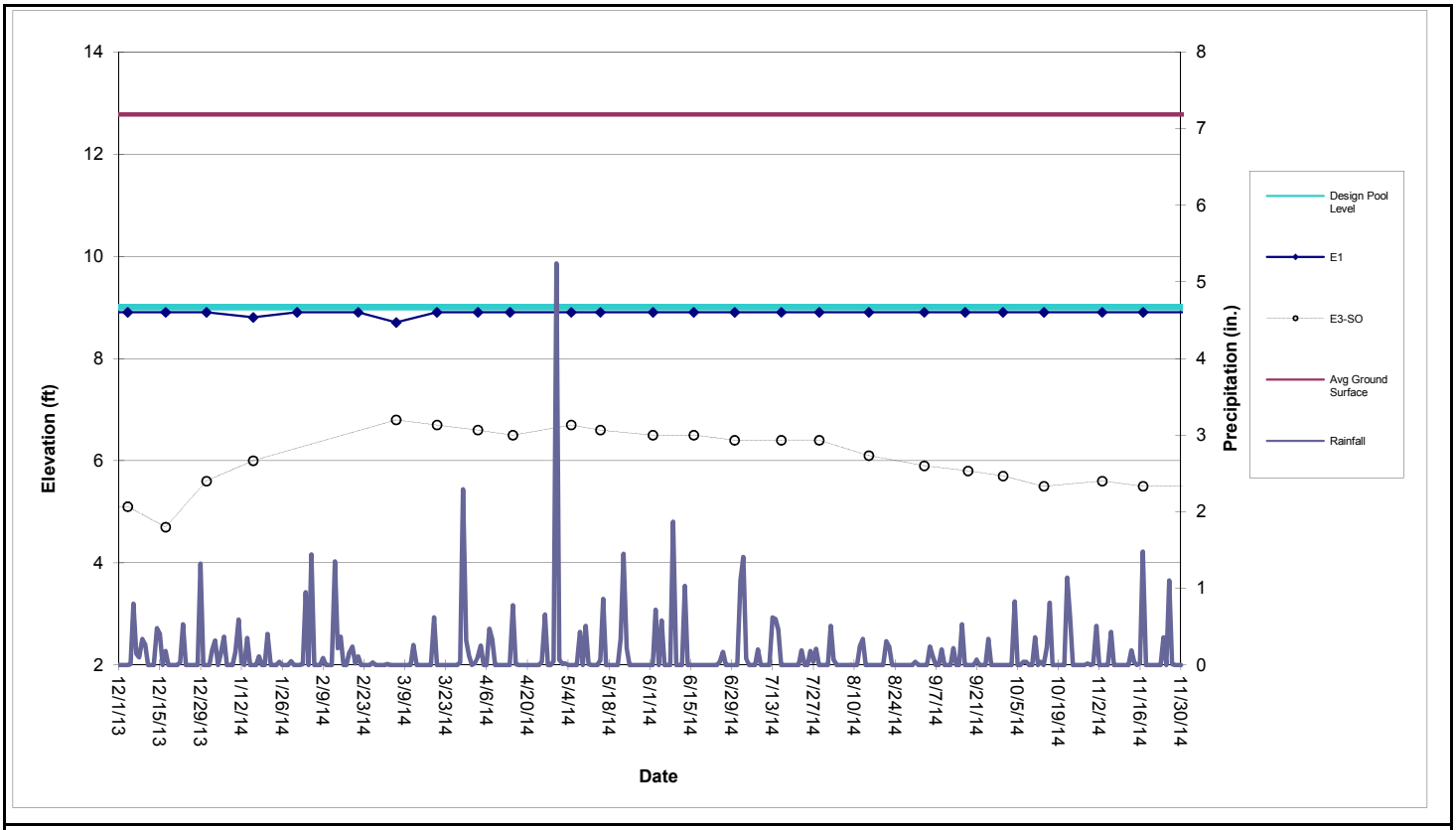
Perimeter Pool N2 (Sta. N10+73 to N13+10)



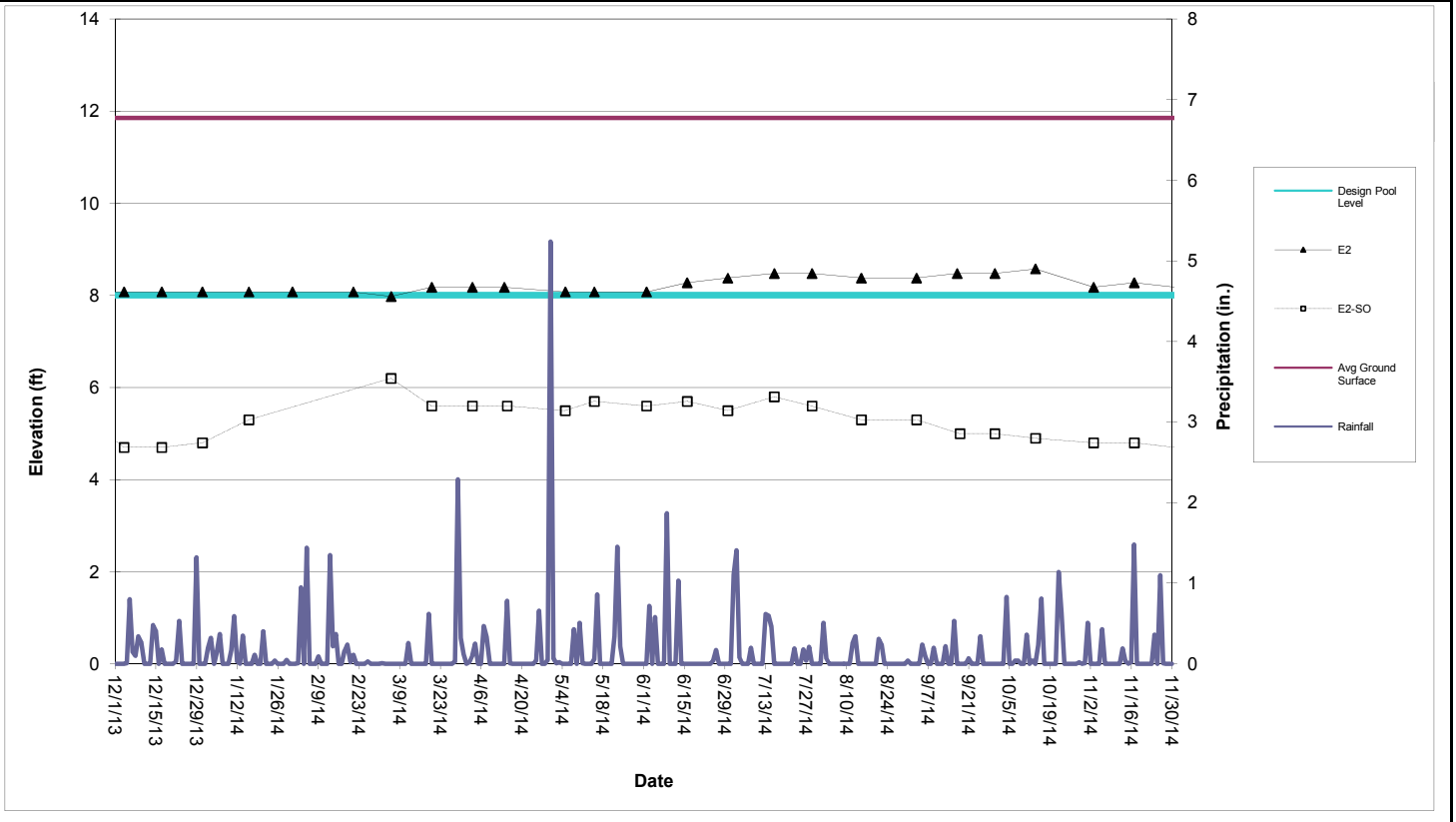
Perimeter Pool N3 (Sta. N6+80 to N10+23)



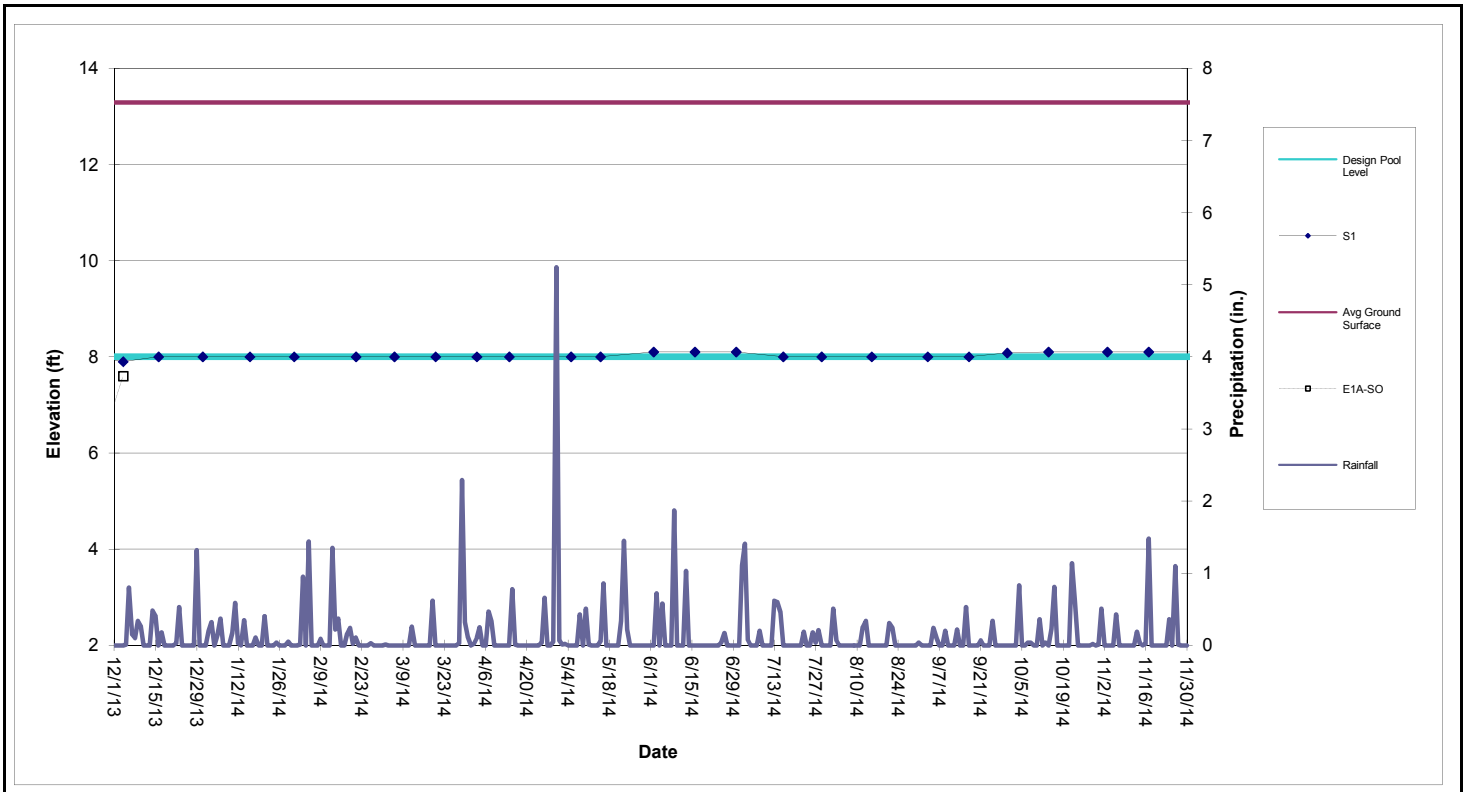
Perimeter Pool N4 (Sta. N6+80 to N10+23)



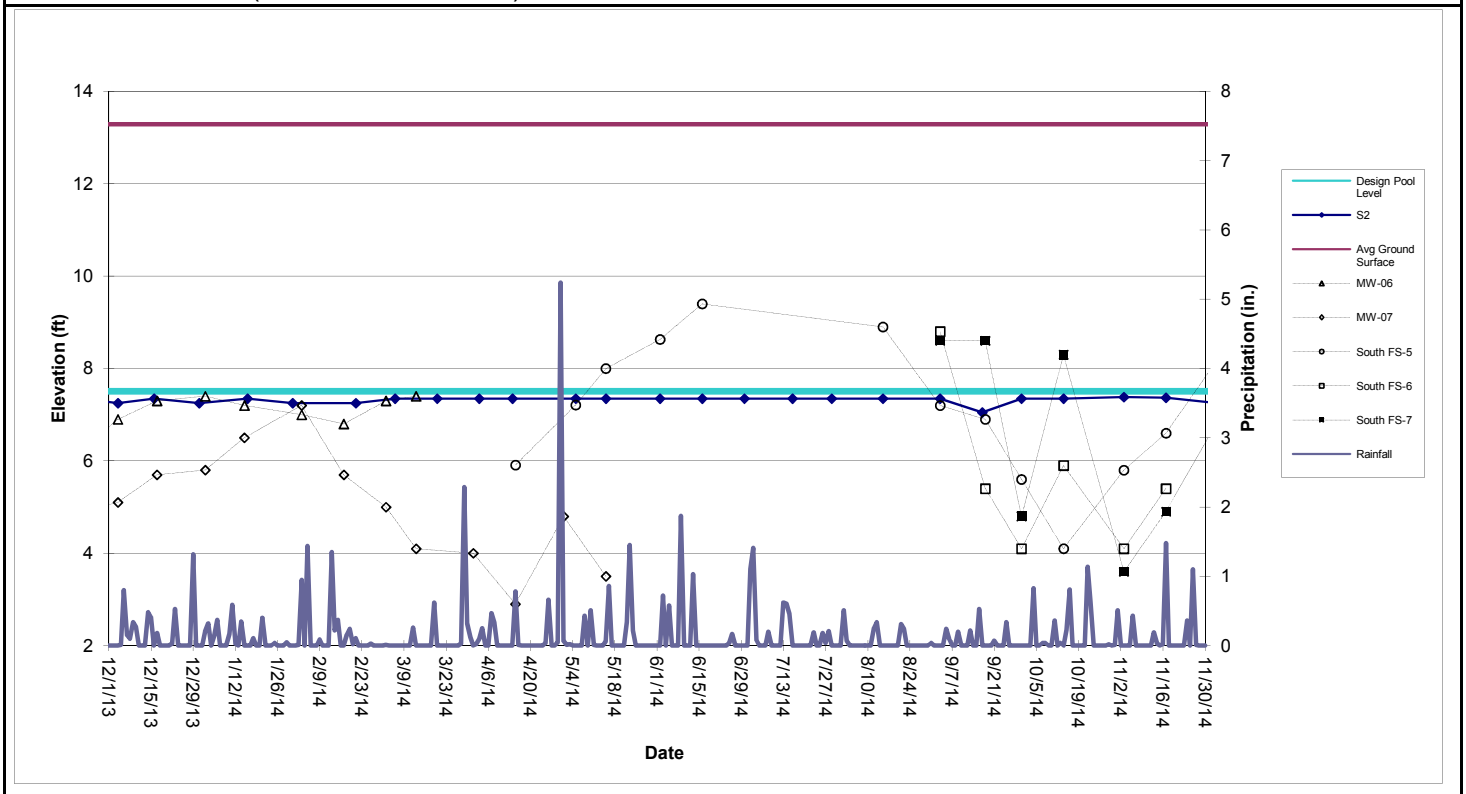
Perimeter Pool E1 (Sta. E0+50 to E3+75)



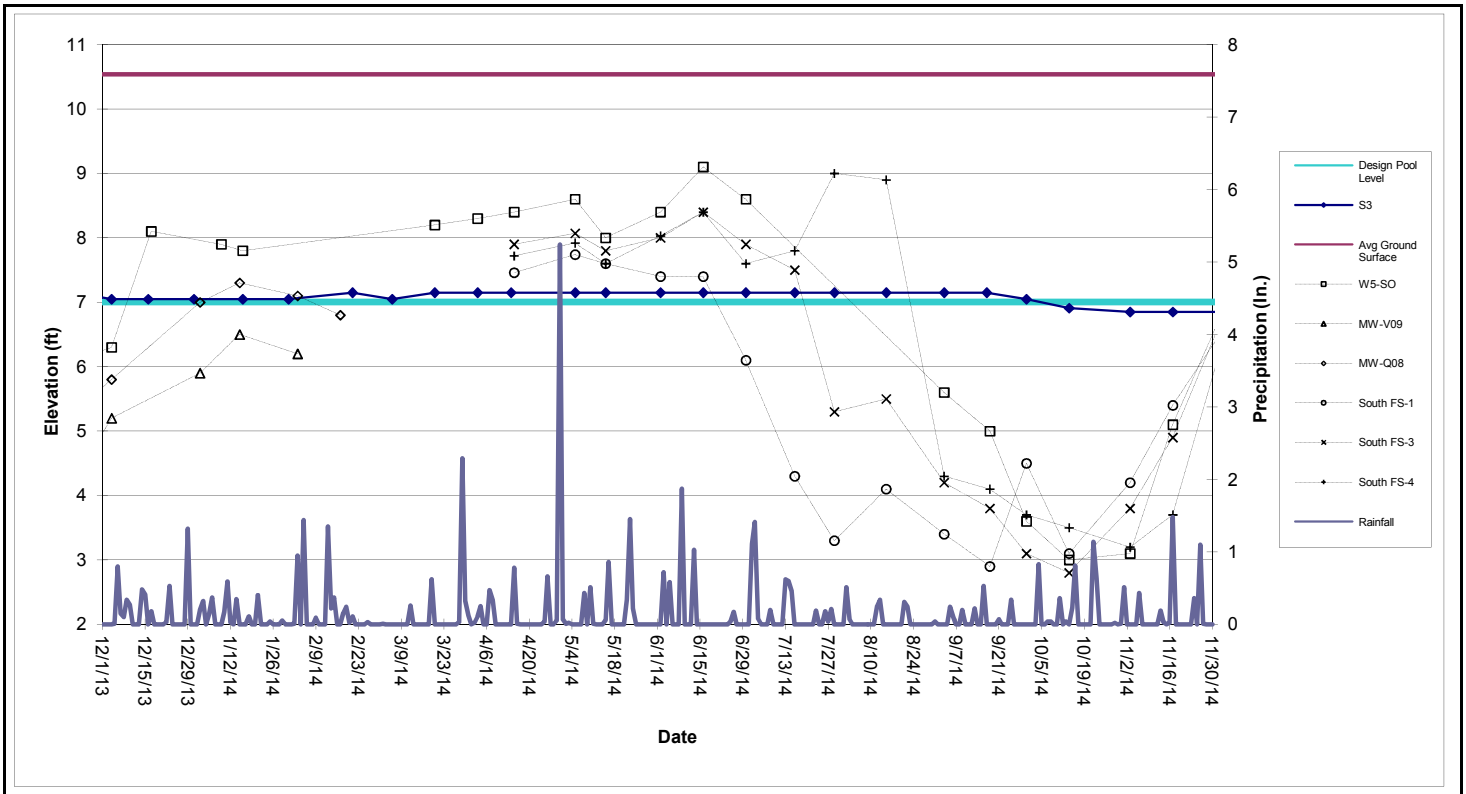
Perimeter Pool E2 (Sta. E4+50 to E7+25)



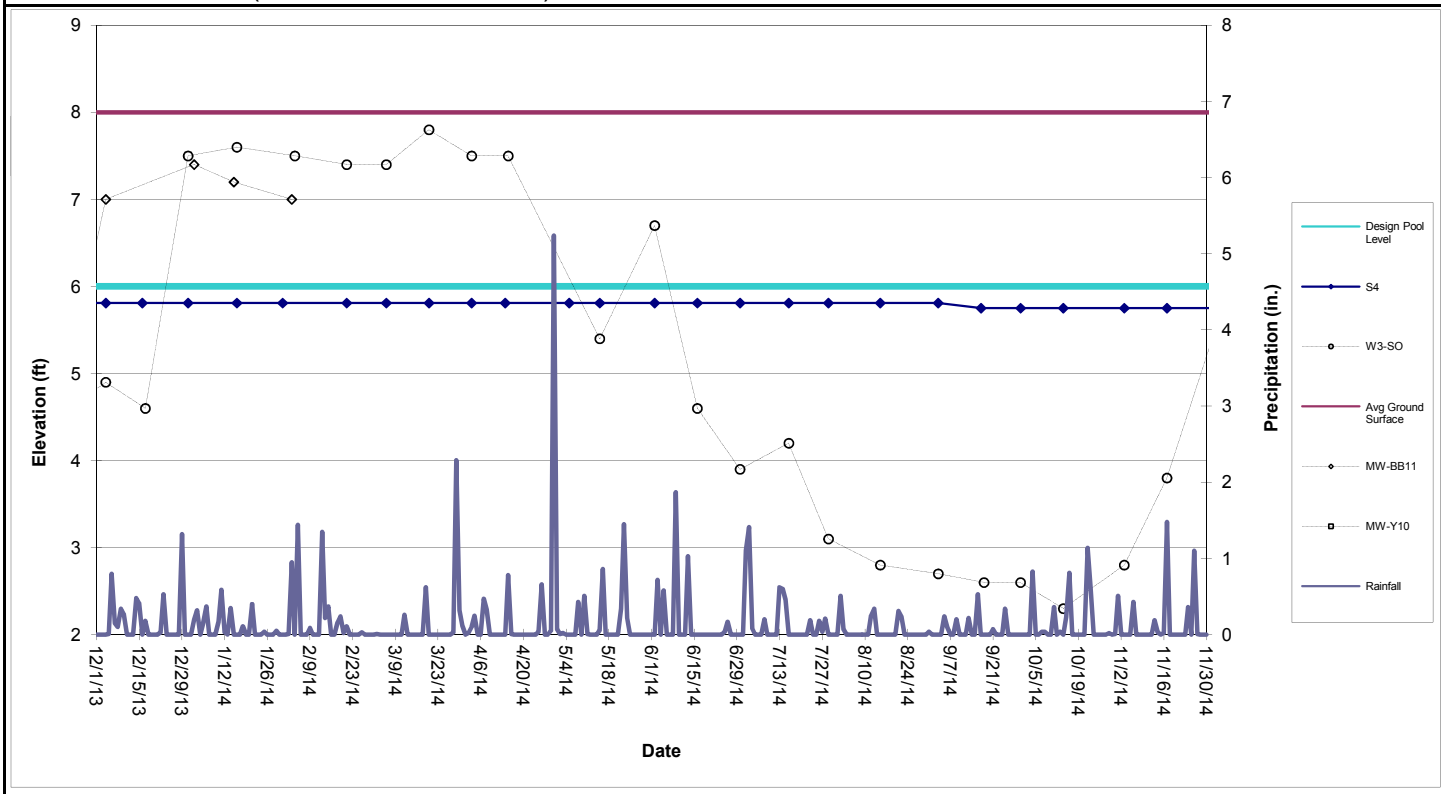
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, FS-4

Attachment 8: Quality and Level Data in GWET Wells

(not available as of this report date - provided on a quarterly basis)

- Summary of Groundwater Quality Data from GWET Wells
- Trichloroethene//Chloroform/Hexavalent Chromium in GWET Wells

Attachment 9: Surcharge Monitoring Update

(not available as of this report date - provided on a quarterly basis)

- ## Attachment 10: Sheet Pile Update

- Sheet Pile Angle Grout Log

Batch: 94# Cement Type II
6.58# Bentonite
8 gal H_2O

Amec
SA-6 South Grouted Angles (5")

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/7/14	99	1:10	SP -21
				SP -22
6.6#		100	1:30	SP -23
				Top off SP 21-22
				SP-24
				SP-25
				SP-26
7#		101	2:00	SP-26
				Top off 21-25
				SP-27
				SP-28
7#		102	2:30	SP-28
				Top off SP 26-27
				SP-29
				Top off SP 23-25
				SP-30
7#	11/10/14	103	9:05	SP-30
				SP-31
				SP-32
				SP-33
7#		104	9:21	Top off SP -32
				SP-33
				SP-34
				SP-35
7#		105	9:43	SP-35
				Top off SP31-34
7#		106	10:05	SP-36
				SP-37
				SP-35
				SP-38
7#		107	10:25	SP-38
				SP-39
				SP-40
7#		108	10:44	SP-40
				SP-41
				SP-42
				SP-43
7#		109	11:03	SP-43
				SP-44
				6P-1
				6P-2
7#		110	11:19	6P-2
				6P-3
				6P-4
7#		111	11:36	6P-5
				6P-3
				6P-6

B	Date	Batch #	Batch Time	Sheetpile ID
7#	11/10/14	111	10:36	Top off 6P2-4
7#		112	1:40	Top off SP21-32
7#		113	1:55	Top off SP32-44
7#		114	2:10	Top off SP42-6P5
				6P-6
				6P-7
7#	11/11/14	115	10:07	Top off 6P-7
				6P-8
				6P-9
7#		116	10:27	6P-9
				6P-10
				6P-11
7#		117	10:42	6P-11
				6P-12
				6P-13
7#		118	11:02	6P-13
				6P-14
				Top off 6P 11-12
7#		119	12:50	Top off 6P8-13
				6P-14
7#		120	1:10	6P-14
7#	11/12/14	121	9:05	6P-14
				6P-15
				6P-16
				6P-17
7#		122		6P-17
				6P18
				6P-19
7#		123		6P-19
				6P-20
				6P-21
7#		124	11:06	6P-21
				6P-22
6.6#		125	12:55	6P-22
				7P-1
				7P-2
6.6#		126		7P-2
				7P-3
				Top off 6P-19-23
6.6#		127	1:42	7P-4
				7P-5
				7P-6
				Top off 7P4-6P1
6.6#		128	1:55	Not Used

Amec
SA-6 South Grouted Angles (5")

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/13/14	129	8:59	Top off 6P14-7P6
				7P-10
6.6#		130	9:29	7P-10
				7P-11
				7P-12
6.6#		131	9:56	7P-12
				7P-13
				Top off 7P10-11
6.6#		132	10:35	7P-4
				7P-7
				7P-8
6.6#		133	10:58	7P-8
				Top off sheets
6.6#		134	1:35	Top off 7P-8
				7P-9
6.6#		135		7P-9
				7P-10
				7P-11
				7P-12
6.6#		136	2:30	7P-12
				7P-13
				8P-1
				Top off 7P9-12
				8P-2
6.6#	11/14/14	137	10:05	Batch twisted
6.6#		138		8P-2
				8P-3
6.6#		139		8P-3
				8P-4
				8P-5
				8P-6
6.6#		140		8P-7
				8P-8
6.6#		141		8P-8
				8P-9
6.6#		142		8P-10
				8P-11
6.6#		143	12:55	8P-12
				8P-13
				8P-14
				8P-15
6.6#		144	1:30	8P-15
				8P-16
				8P-17
				8P-18
6.6#		145	1:48	8P-18
				8P-19

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/14/14	146	2:08	8P-19
				8P-20
6.6#		147	2:25	Top off sheets
6.6#	11/17/14	148	7:52	Top off sheets
				7P-3,8,9,10 8P-10
6.6#		149	9:10	Top off sheets
				8P-11 to 8P-20
6.6#	11/18/14	150	9:30	8P-20
				8P-21
6.6#		151	9:45	8P-21
				8P-22
6.6#		152	10:00	8P-22
				8P-23
6.6#		153	10:12	8P-24
				8P-25
6.6#		154	10:34	8P-26
				8P-27
6.6#		155	10:45	Top off 8P20-27
6.6#		156	11:05	8P-33
				8P-34
6.6#		157	1:03	8P-34
				8P-35
6.6#		158	1:20	8P-36
6.6#		159	1:36	8P-36
				8P-37
				8P-38
6.6#		160	1:50	8P-38
				8P-39
				8P-40
6.6#		161	2:10	8P-40
				8P-41
6.6#		162	2:30	Top off 8P20-27
				8P33-39
6.6#	11/19/14	163	10:20	8P-42
				8P-43
6.6#		164	10.43	8P-43
				8P-44
6.6#		165	11:00	Top off 8P44-33
6.6#		166	12:53	8P-28
				8P-29
6.6#		167	1.16	8P-30
				8P-31
				8P-32
6.6#		168	1:43	Top off 8P28-32,40-44

Batch: 94# Cement Type II
6.58# Bentonite
8 gal H2O

Amec
SA-6 South Grouted Angles (2")

B	Date	Batch #	Batch Time	Sheetpile ID
6.6#	11/20/14	169		25P-28
				25P-27
6.6#		170		25P-27
				25P-26
13.2#		171		25P-25
				25P-24
				25P-23
				25P-22
				25P-21
				25P-20
13.2#		172	9:58	25P-20
				25P-19
				25P-18
				25P-17
				25P-16
				25P-15
				Top off 25P-15-8P40
13.2#		173	1:56	25P-14
				25P-13
				25P-12
				25P-11
				Top off 25P-11 1021
13.2#	11/21/14	174	8:20	25P-10
				25P-9
				25P-6
				Top off sheets
13.2#		175	9:18	25P-5
				25P-4
				25P-2
				24P-18
				24P-17
				Top off sheets
13.2#		176	10:42	25P-8
				25P-7
				25P-3
				25P-1
				24P-16
				24P-15
13.2#		177	12:58	24P-14
				24P-13
				24P-12
				Top off all sheets
				grouted today

	Date	Batch #	Batch Time	Sheetpile ID
13.2#	11/24/14	178	10:02	23P-13
				23P-12
				23P-11
				23P-10
				23P-9
				23P-8
13.2#		179	10:42	23P-8
				23P-7
				23P-6
				23P-5
13.2#		180	11:11	23P-5
				23P-4
				23P-3
				23P-2
				23P-1
				Top off sheets
13.2#		181	1:36	22P-13
				22P-12
				22P-11
13.2#		182	2:01	22P-11
				22P-10
				22P-9
				22P-8
13.6#		183	2:20	Top off sheets
13.2#	11/25/14	184	9:13	Top off sheets
				22P-13-8, all 23Ps
				22P-7
				22P-6
19.8#		185	9:46	22P-5
				22P-4
				22P-3
				22P-2
				22P-1
				21P-12
13.2#		186	10:33	Top off sheets
13.2#	11/26/14	187	8:20	21P-9
				21P-8
				Topped off 22P 1-7
13.2#		188	10:10	21P-8 @ 20'
				21P-6
				21P-5
				21P-4
		189	11:00	21P-2
				21P-1
				Topped off sheets
13.2#		190	—	Batch wasted

Amec
SA-6 South Grouted Angles (2")

B.	Date	Batch #	Batch Time	Sheetpile ID
13.2#	12/1/14	191	9:08	23P1-A
				20P-15
13.2#		192	9:56	20P-15
				20P-14
				20P-13
				20P-12
				20P-11
				20P-10
13.2#		193	10:24	20P-9
				20P-8
				20P-7
				20P-3
				20P-2
				20P-1
				Special 19P E
13.2#		194	12:50	Special 19P W
				Top off SP19-22Ps
13.2#	12/2/14	195	1:45	19P-64
				19P-63
19.8#		196	2:35	19P-64
				19P-63
				19P-66
				Top off 19P63-22P7
13.2#	12/3/14	197	9:33	19P-53
13.2#		198	10:15	19P-53
13.2#		199	11:05	19P-74
13.2#		200	1:00	19P-74
21#	(7#B/batch)	201	2:20	19P-71
				19P-74
				19P-76
14#	12/4/14	202	9:19	19P-75
	(7#B/batch)			Top off 71-76
				19P-77
				19P-78
14#		203	11:20	19P-78
				19P-79
14#		204	2:05	19P-80 @ 18.5
				19P-81
				19P-82
				Top off sheets

Date	Batch #	Batch Time	Sheetpile ID

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 07, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir	X		X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/07/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, November 07, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence at the northwest corner of Surcharge Area 1-S (where it meets the SA-7 SCB wall) requires maintenance.
2	IA2Q4A1AL8	REPEAT- Sediment is accumulating along the north and south sides of Kellogg Street in the area of the temporary sheetpile.
3	IA2Q4A1AL8	Silt fence along the south side of Surcharge Area 2-N requires maintenance.
4	IA2Q4A1AL8	The western section of the southern paved road on Study Area 7 is coated with sediment and the bottom of the ramp which leads from the 2-S surcharge stockpile onto SA-7 has accumulated excess mud.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/07/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the silt fence.	11-11-14 RAD
2	Remove the sediment from both side of the western end of Kellogg Street and dispose of on site.	11-10-14 RAD
3	Repair or replace the silt fence.	11-11-14 RAD
4	Clean the roadway and place stone as needed at the toe of the 2-S ramp	11-10-14 RAD

Construction Manager: _____ Date: 11/12/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 13, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping		X		2
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/13/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, November 13, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The stone tracking pad for the vehicle gate at the west end of Kellogg Street is blinded with sediment and requires maintenance.
2	IA2Q4A1AL8	A drum is located on the western end of surcharge area 1-N.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Date: 11/13/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Rework the tracking pad and add stone as necessary to restore function.	11-14-14 RAD
2	Relocate the drum to the proper storage area.	11-14-14 RAD

Construction Manager: _____ Date: 11/17/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 20, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)				

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/21/14

SWPPP Observer: _____
Signature

Diana Nickens 973 677 4573 HR Fax 630 986 5211

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, November 20, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone signs are not present along the hydraulic barrier wall which borders the south side of the southern cap area.
2	IA2Q4A1AL8	Storm water is ponded in the bottom of the Study Area 6 South excavation
3	IA2Q4A1AL8	Exclusion Zone fencing surrounding the EZ in the sedimentation basin requires maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 11/21/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install Exclusion Zone signs as required	11/24/14 RAD
2	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	11/25/14 RAD
3	Maintain/repair the orange fencing which surrounds the sedimentation basin EZ.	11/21/14 RAD

Construction Manager: _____ Date: 11/26/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 25, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☑ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/25/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Tuesday, November 25, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the southern toe of the 1-S surcharge area requires maintenance.
2	IA2Q4A1AL8	Exclusion Zone fencing surrounding the LOAM excavation area requires maintenance/repair.
3	IA2Q4A1AL8	Ponded storm water is present in the bottom of the main excavation on Study Area 6 South
4	IA2Q4A1AL8	The perimeter fencing adjacent to the JCMUA and the JCIA buildings on Study Area 6 North has openings left from the utility cut-off which took place last night.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) Date: 11/25/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Properly reinstall the silt fence where it has fallen down.	12-1-14 RAD
2	Repair or replace the exclusion zone fencing as required	12-1-14 RAD
3	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	12-2-14 RAD
4	Reinstall fencing panels as required to close the gaps between Study Area 6 North and the JCMUA/JCIA properties.	11-26-14 RAD

Construction Manager: _____ Date: 12/02/14

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (October 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

November 19, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the October 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
10	01	14	10	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,763	81,406 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.52	0.56	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.078	0.078	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

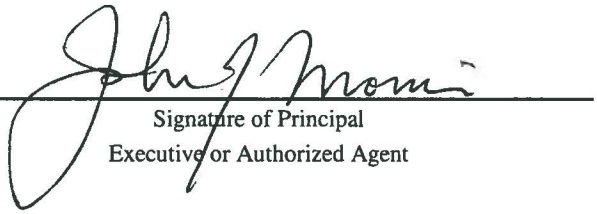
Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Nov. 17, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
10	01	14	10	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,379,666 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 20,037,875

DATE	BOD (mg/l)	TSS (mg/l)
10/14/2014	6.8	<4.0

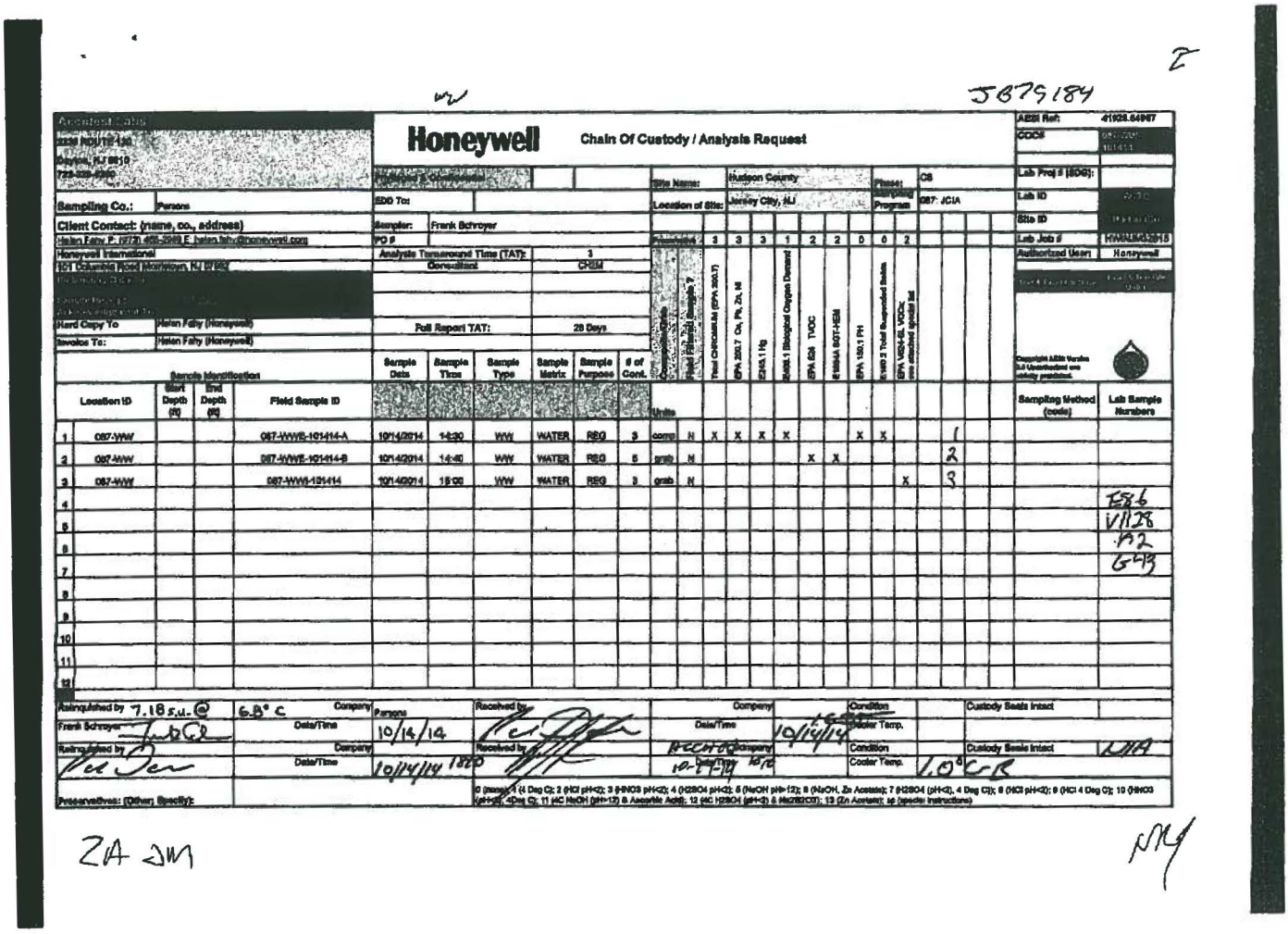
DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE Nov. 17, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)	MONTH: October 2014													
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
10/1/2014	Angel Trujillo	17658209	17737498	79,289	0.079289	7.01	0.819									0.54
10/2/2014	Angel Trujillo	17737498	17809440	71,942	0.071942	6.97	0.819									0.49
10/3/2014	Angel Trujillo	17809440	17889143	79,703	0.079703	7.59	0.819									0.54
10/4/2014	Angel Trujillo	17889143	17969739	80,596	0.080596	7.61	0.819									0.55
10/5/2014	Angel Trujillo	17969739	18048669	78,930	0.07893	7.62	0.819									0.54
10/6/2014	Angel Trujillo	18048669	18120755	72,086	0.072086	7.58	0.819									0.49
10/7/2014	Angel Trujillo	18120755	18197176	76,421	0.076421	7.57	0.819									0.52
10/8/2014	Angel Trujillo	18197176	18273255	76,079	0.076079	7.26	0.819									0.52
10/9/2014	Angel Trujillo	18273255	18351504	78,249	0.078249	7.54	0.819									0.53
10/10/2014	Angel Trujillo	18351504	18428643	77,139	0.077139	7.51	0.819									0.53
10/11/2014	Angel Trujillo	18428643	18503995	75,352	0.075352	7.56	0.819									0.51
10/12/2014	Angel Trujillo	18503995	18579380	75,385	0.075385	7.52	0.819									0.51
10/13/2014	Angel Trujillo	18579380	18652486	73,106	0.073106	7.60	0.819									0.50
10/14/2014	Angel Trujillo	18652486	18732296	79,810	0.07981	7.18	0.819	<5.1	6.8		<0.010	<0.030	<0.010	0.00021	<0.020	0.55
10/15/2014	Angel Trujillo	18732296	18811766	79,470	0.07947	7.64	0.819									0.54
10/16/2014	Angel Trujillo	18811766	18889704	77,938	0.077938	7.54	0.819									0.53
10/17/2014	Angel Trujillo	18889704	18967139	77,435	0.077435	7.54	0.819									0.53
10/18/2014	Angel Trujillo	18967139	19046494	79,355	0.079355	7.59	0.819									0.54
10/19/2014	Angel Trujillo	19046494	19123486	76,992	0.076992	7.59	0.819									0.53
10/20/2014	Angel Trujillo	19123486	19196617	73,131	0.073131	7.60	0.819									0.50
10/21/2014	Angel Trujillo	19196617	19272778	76,161	0.076161	7.64	0.819									0.52
10/22/2014	Angel Trujillo	19272778	19349216	76,438	0.076438	7.60	0.819									0.52
10/23/2014	Angel Trujillo	19349216	19424758	75,542	0.075542	7.57	0.819									0.52
10/24/2014	Angel Trujillo	19424758	19501958	77,200	0.0772	7.57	0.819									0.53
10/25/2014	Angel Trujillo	19501958	19583364	81,406	0.081406	7.20	0.819									0.56
10/26/2014	Angel Trujillo	19583364	19663053	79,689	0.079689	7.35	0.819									0.54
10/27/2014	Angel Trujillo	19663053	19731713	68,660	0.0687	7.41	0.819									0.47
10/28/2014	Angel Trujillo	19731713	19808186	76,473	0.076473	7.36	0.819									0.52
10/29/2014	Angel Trujillo	19808186	19884950	76,764	0.076764	7.61	0.819									0.52
10/30/2014	Angel Trujillo	19884950	19961849	76,899	0.076899	7.60	0.819									0.53
10/31/2014	Angel Trujillo	19961849	20037875	76,026	0.076026	7.53	0.819									0.52
TOTAL				2,379,666	2.379666			<5.1	6.8		<0.010	<0.030	<0.010	0.00021	<0.020	
			High:	81,406											High:	0.56
			Average:	76,763											Average:	0.52



Honeywell — Chain Of Custody / Analysis Request

JB79184

| | | |

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-A		
Lab Sample ID:	JB79184-1	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	819	10	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	10/16/14	10/17/14	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.21	0.20	ug/l	1	10/16/14	10/16/14	JW	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	10/16/14	10/17/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA35182
(2) Instrument QC Batch: MA35183
(3) Instrument QC Batch: MA35192
(4) Prep QC Batch: MP82580
(5) Prep QC Batch: MP82614

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-A		
Lab Sample ID:	JB79184-1	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		



General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	10/17/14	KP	SM2540 D-11
pH [a]	7.79		su	1	10/14/14 08:27	JM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-A		
Lab Sample ID:	JB79184-1A	**Date Sampled:**	10/14/14
Matrix:	AQ - Water	**Date Received:**	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	6.8	2.0	mg/l	1	10/15/14 19:07	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-B		
Lab Sample ID:	JB79184-2	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N240051.D	1	10/16/14	DC	n/a	n/a	VN10187
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.4	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.4	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	18.3	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.2	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.48	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	47.5	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	1.5	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	103%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	101%		81-114%
1868-53-7	Dibromofluoromethane (S)	100%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@821623 17:03 24-Oct-2014

Report of Analysis

Client Sample ID:	087-WWE-101414-B		
Lab Sample ID:	JB79184-2	Date Sampled:	10/14/14
Matrix:	AQ - Water	Date Received:	10/14/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	10/16/14	BM	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending November 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 8 OF 25

- **2015 Monthly Reports Part 1**

1/14/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

January 14, 2015 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
49 Bridge Street, Suite 2
Lambertville, NJ 08530

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2014-12

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from December 1 – December 31, 2014.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: December 2014 SA-6/7 Combined Monthly Progress Report No. 2014-12

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2014-12

Project SA-6 & 7 Remediation

December 2014

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
12/03/14	SA-7 Groundwater Pump & Treat System Performance In-Situ Sampling beneath Hackensack River Sediments Study Area 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/03/14	Deep Overburden Injection Program Redevelopment of Injection Well -088-IW-01 Study Area 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/15/14	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2014-11 Study Areas 6 and 7 Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/16/14	Special Master Conference Call	N/A
12/18/14	Revised In-situ Work Plan for Treatment Area 10 Study Area 6 North Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
12/19/14	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	12/7/14	12/14/14	12/21/14	12/28/14
Construction Management (AMEC)	11	11	12	8
Engineering (AMEC)	1	1	1	0
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	33	33	29	29
Arecon/US Ecology Subcontractors	1	1	1	0
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	22	19	8	7
TOTAL STAFF	**73**	**70**	**56**	**49**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected December PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed universal waste removal and asbestos abatements activities at the JCIA demolition project. Contractor continued site preparation and began trash pit protection activities.
- Conducted a round of quarterly groundwater level measurements. Conducted quarterly groundwater sampling of GWET extraction wells.
- Conducted semi-annual groundwater sampling under the S-3 Mass Removal Injection program.
- Continued to advance permit application and discussions with New Jersey Department of Transportation (NJDOT) regarding Highway Occupancy and Drainage Permits for upcoming SA-6 activities proximate to the Rt. 440 frontage.
- On December 8, 2014, a leaking diesel line was identified on a water truck. This necessitated several yards of surficial soil to be removed and segregated. The incident was called in to the NJDEP hotline, and Incident number for this non-emergency incident is: 14-12-08-1503-35.

- On December 29, 2014, obtained the JCIA Structures Demolition Permit from the City of Jersey City.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on December 9, 2014.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	12/7/14	12/14/14	12/21/14	12/28/14
Avg. Gallons Treated & Discharged (per day)	76,366	76,513	75,612	77,129
Average Flow (gpm) for Operating Period	53	53	53	54
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	6,840	6,916	5,566	10,356

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued storm-water management activities.
- Completed excavation activities associated with the lens of anomalous material on SA-6 South proximate to Cell 104.
- Collected a post-excavation sidewall sample, 134-SB-177, from the southeast side of the anomalous material excavation on December 2, 2014. Laboratory analysis received on December 12, 2014 indicated the result was 2.6 mg/kg. Submitted the certification of excavation complete to the parties with all sampling results on January 7, 2015.
- Completed excavation of locations designated as Area 41 and Area 43. Began backfill activities associated with the anomalous material excavation, Site 163 and Area 41.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued compaction testing associated with imported backfill. Adjusted the frequency of testing in accordance with specifications.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	0	0	0

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/ Horwith	Tri-axle Dump	PA Transload	US Ecology	>1000 mg/kg Soils	65	21.54	1400.5
Entact/ Montecalvo	30 cyd roll-off	Bayshore Recycling	Bayshore	Non Haz Creosote Debris	1	10.46	10.46
Gramercy-(JCIA Demo)	40 cyd roll off	West Babylon, NY	110 Sand Company	Non Friable ACM	6	17.40	104.44
Gramercy-(JCIA Demo)	40 cyd rol off	Newburg, PA	Cumberland County Landfill	Friable ACM	1	*	*
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Petroleum Impacted Soil	20	24.34	486.85
Entact/ Arecon	Tri-axle Dump	Keasbey, NJ	Bayshore	Non-HAZ PAH_PET 124/140	19	25.0	476.41

** Not currently available. To be provided in Progress Report No. 2015-01*

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Anomalous Material near Cell 104, Site 163, Area 41 Volume Excavated - Total for Reporting Period: 10,910CY/ Total to Date: 162,210CY
Backfill in Progress	Cell Number(s) 104-59, Site 163, Area 41

3. BACKFILL MATERIALS USED

Source	Week Ending			
	12/7/14	12/14/14	121/21/14	12/28/14
<20ppm re-use, CY	0	113	1,598	0
Weldon, Import-Tons Screenings	0	0	0	0
Tilcon, Import-Tons DGA	755	0	0	0
Tilcon, Import Tons – 1.5” Stone	0	0	0	0
Weldon, Imported Tons - QP	0	0	0	0
Weldon, Imported Tons - DGA	0	0	0	0
Tilcon, Imported 6”-8” stone	0	0	0	0
Tilcon, Imported Tons – 2.5” Stone	0	0	0	0

E. SURCHARGE OPERATIONS

- Area 1S: Continue offloading Celgene material from 1S and relocating to 2S approximately 75% complete.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 90% complete.
- Area 3S: Surcharge placement continued on Area 3S and is approximately 40% complete.
- Area 1N: Continued surcharge removal activities. Surcharge removal activities are approximately 80% complete. Details were provided in the December 2014 Surcharge Monitoring Report No. 7.
- Area 2N: Surcharge placement is 100% complete. Monitoring data (provided in Surcharge Monitoring Report No. 7) indicates that surcharge has attained the goals per the 100% Design and may be removed.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

F. SHEET PILE OPERATIONS *(see **Attachment 10**)*

- Continue grouting angles of sheet pile at SA-6 South.
- Excavation proximate to the SA-6 South barrier wall was completed on October 28, 2014 and backfill has been progressed in all areas against the SA-6 South barrier wall. Deflection readings are therefore no longer required.

G. PERMIT STATUS

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

PERMIT	SITE	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14	Pending	Pending	Pending
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	Pending	Pending	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition activities to include trash pit protection and initiation of above-grade structure demolition activities.
- Continue placement of surcharge materials in SA-6 South Area 2S and Area 3S.
- Continue off loading of surcharge materials from SA-6 South Area 1S.
- Continue installation of the contingent groundwater system trench on SA-6 South.
- Complete excavation of Area 42 and the remaining soil on the eastern side of Site 163.
- Continue loadout and transportation and disposal activities at SA-6 South.
- Continue backfill placement and associated compaction testing activities at SA-6 South.
- Continue accepting delivery of steel sheetpile for SA-6 North Barrier Wall installation.
- Conduct well development of injection well 088-IW-01 on SA-6 North.
- Conduct well development of GWET extraction well PW-2.
- Conduct acid cleaning of the PW-2 force main.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete sediment long term monitoring activities and final report preparation.

- Obtain NJDOT Highway Occupancy Permit for upcoming SA-6 North activities proximate to Rt. 440 frontage.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
   - Figure 1: Lens of Anomalous Material Supplemental Boring Locations
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. Groundwater Quality Data Surcharge Monitoring Update
   - Summary of Groundwater Quality Data from GWET Wells
   - Quarterly Water Wells
   - Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Hydraulic Barrier Wall Plan & Profile
    - Sheet Pile Angle Grout Log
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (November 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Study Areas 6 and 7 Combined Progress Report No. 2014-12
Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**
18	**JCIA/JCDPW Relocation**	**1735 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	753 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	151 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**838 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days
60b	SA-6S (Site 163) In-Situ Treatment	294 days
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**620 days**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	195 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	182 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days
63	**Barrier Wall Install**	**489 days**
63a	**SA 6N Installation of Barrier Wall**	**369 days**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days
63c	SA-6N Stations 23+38 to 14+25	90 days
63d	SA-6N Stations 14+25 to 0+00	224 days
63f	**SA 6S Installation of Barrier Wall**	**250 days**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days
63h	SA-6S Stations 1+54 to 8+37	7 days
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days
63j	SA-6S Stations 8+60 to 14+87	145 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	**SA 6S Excavation**	**226 days**
64c	SA-6S Excavation of Cells 1 - 25	53 days
64d	SA-6S Excavation of Cells 26 - 60	90 days
64e	SA-6S Excavation of Cells 156 - 61	83 days
65	**Backfill**	**493 days**
65a	SA 6N Backfill	218 days
65b	SA 6S Backfill	232 days
66	**Capping and Cover Soil Placement**	**315 days**
66a	SA 6N Capping and Cover Soil Placement	119 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**164 days**
67a	Restoration	164 days
68	**Demobilization**	**21 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	



Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 1/5/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs



Site Photograph 1: Abatement and removal activities Former JCIA Building.



Site Photograph 2: Contractor completes utility disconnects Former JCIA Property.



Site Photograph 3: Contractor excavates along Kellogg Street.



Site Photograph 4: Contractor removes roofing Former JCIA Salt Dome.



Photograph 5: PSEG removing transformers Former JCIA Buildings.



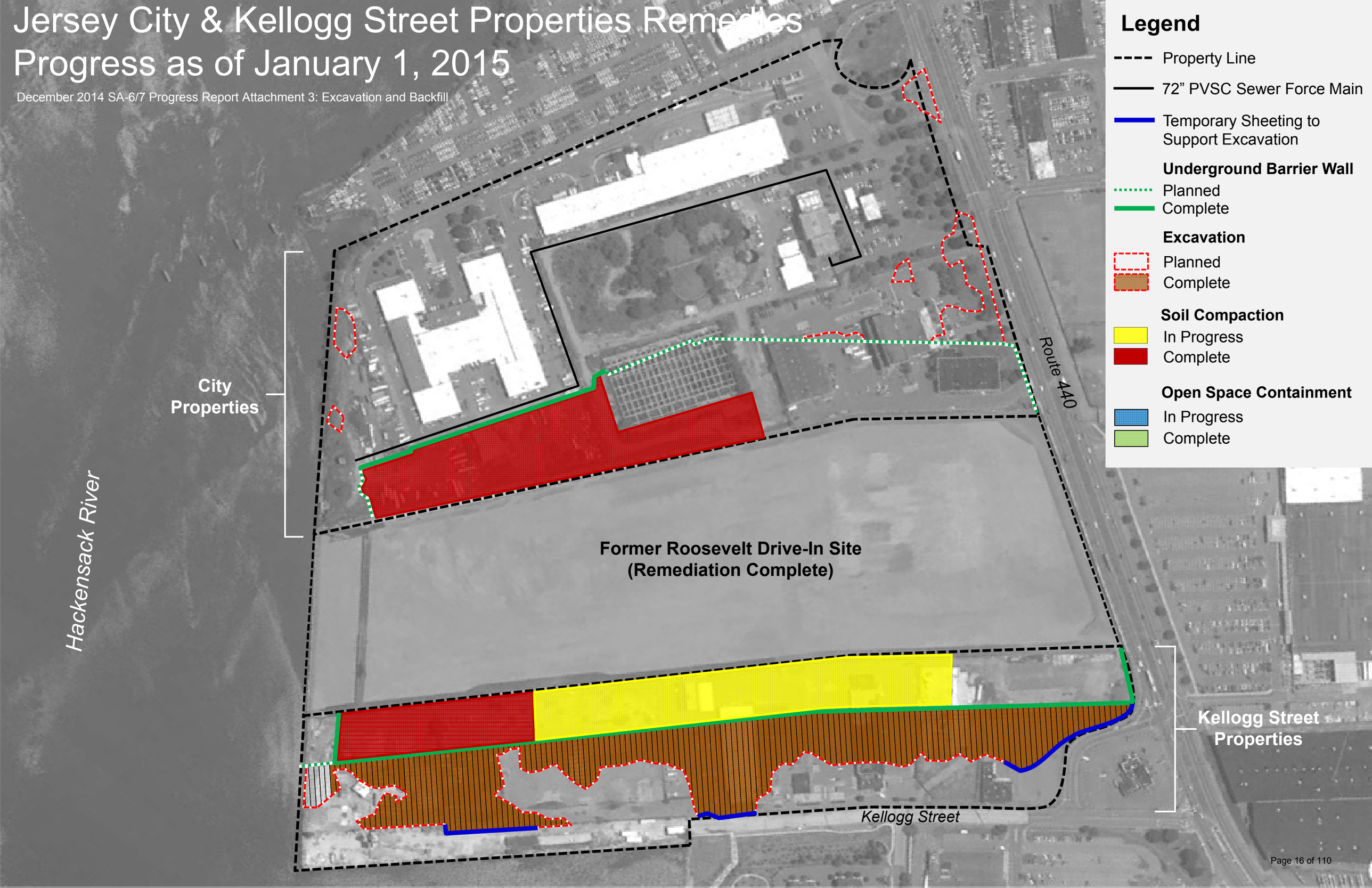
Site Photograph 6: Surcharge placement continues Open Space Areas.

Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory/Center/ Sidewall Confirmatory Points
- Figure 1: Lens of Anomalous Material Supplemental Boring Locations
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies Progress as of January 1, 2015

December 2014 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM O EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS LENS AREA & AREA 41
PERIOD 11-13-14 TO 12-08-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.
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Planners
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Landscape Architects
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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	* Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	* Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	* Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	* Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	* Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	* Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-5.5	134-SB-019	114A	12/8/2014	-5.7	Stratum D (Re-Excavated)
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.4	601974.0	-3.3	134-SB-061	106A	11/20/2014	-5.7	Stratum D Reached (Re-Excavated)
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.7	601978.2	-7.5	134-SB-113	103	11/20/2014	-7.6	Stratum D Reached (Re-Excavated)
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached
684669.3	602386.6	-0.6	140-SB-070	68	10/21/2014	-2.3	Stratum D Reached
684679.0	602393.0	0.0	140-SB-013	68	10/14/2014	-2.4	Stratum D Reached
684760.1	602448.4	-1.4	140-SB-083R	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	125-SB-029R	68	10/14/2014	0.1	Target Elevation Reached
684629.6	602343.1	5.8	140-SB-033R	68	10/14/2014	3.5	Target Elevation Reached
684749.9	602465.0	-1.4	140-SB-083R	67	10/21/2014	-2.1	Stratum D Reached
684700.0	602423.0	0.8	140-SB-012	67	10/21/2014	-0.1	Target Elevation Reached
684715.4	602440.1	-1.0	140-SB-029	67	10/21/2014	-1.4	Stratum D Reached
684662.8	602394.7	-1.4	140-SB-083R	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-1.4	140-SB-083R	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	125-SB-029R	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	125-SB-073R	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	125-SB-029R	66	10/21/2014	0.1	Target Elevation Reached
684666.6	602417.0	-2.7	140-SB-068	66	10/21/2014	-3.0	Stratum D Reached
684735.5	602488.2	-1.4	140-SB-083R	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	125-SB-029R	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	125-SB-073R	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	125-SB-029R	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-1.4	140-SB-083R	65	10/21/2014	-3.2	Stratum D Reached
684666.2	602452.6	2.5	140-SB-030	64	10/21/2014	-3.4	Stratum D Reached
684735.4	602510.4	-3.6	140-SB-067	64	10/24/2014	-2.3	Stratum D Reached
684713.8	602503.3	4.3	140-SB-028	63	10/27/2014	-2.4	Stratum D Reached
684727.7	602515.9	-2.0	140-SB-104	63	10/27/2014	-2.2	Stratum D Reached
684648.6	602457.4	0.4	125-SB-029R	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	125-SB-073R	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	125-SB-029R	62	10/21/2014	-0.3	Target Elevation Reached
684653.2	602490.5	0.2	125-SB-057	61	10/24/2014	-2.6	Stratum D Reached
684675.4	602508.2	-1.2	125-SB-073	61	10/27/2014	-2.5	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.8)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684697.8	602526.3	-2.2	125-SB-055	61	10/28/2014	-2.9	Stratum D Reached
684707.1	602549.9	-3.4	125-SB-072	61	10/28/2014	-2.8	Stratum D Reached
684639.4	602487.5	0.4	125-SB-029R	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	125-SB-073R	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	125-SB-029R	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	125-SB-069R	60	10/21/2014	1.7	Target Elevation Reached
684678.4	602552.4	-2.4	125-SB-061	59	10/28/2014	-2.9	Stratum D Reached
684615.0	602501.1	0.5	125-SB-048	59	10/21/2014	-0.1	Target Elevation Reached
684633.9	602516.6	0.6	125-SB-046	59	10/24/2014	-2.5	Stratum D Reached
684656.3	602534.7	-1.4	125-SB-074	59	10/27/2014	-2.6	Stratum D Reached
684604.5	602498.0	2.1	125-SB-069R	59	10/21/2014	1.7	Target Elevation Reached
684916.0	601955.0	-1.2	134-SB-026	Area 41	12/10/2014	-2.0	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	UST Area
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	UST Area
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	UST Area

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	0.4	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached
684760.1	602448.4	-2.5	C-68	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	C-68-1	68	10/14/2014	0.1	Target Elevation Reached
684671.6	602375.8	-2.5	C-68-2	68	10/14/2014	-2.2	Stratum D Reached
684629.6	602343.1	5.7	C-68-3	68	10/14/2014	3.5	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.6)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684749.9	602465.0	-2.5	C-67	67	10/21/2014	-2.1	Stratum D Reached
684698.4	602419.3	0.4	C-67-1	67	10/21/2014	-0.2	Target Elevation Reached
684662.8	602394.7	-2.5	C-67-2	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-2.5	C-66	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	C-66-1	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	C-66-2	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	C-66-3	66	10/21/2014	0.1	Target Elevation Reached
684664.0	602411.1	-2.5	C-66-4	66	10/21/2014	-3.1	Stratum D Reached
684735.5	602488.2	-2.5	C-65	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	C-65-1	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	C-65-2	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	C-65-3	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-2.5	C-65-4	65	10/21/2014	-3.2	Stratum D Reached
684713.4	602487.7	-1.2	C-64	64	10/24/2014	-1.8	Stratum D Reached
684653.2	602444.8	0.4	C-64-1	64	10/21/2014	-4.0	Increased excavation depth - UST location
684701.6	602502.1	-1.2	C-63	63	10/27/2014	-2.6	Stratum D Reached
684648.6	602457.4	0.4	C-63-1	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	C-62	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	C-62-1	62	10/21/2014	-0.3	Target Elevation Reached
684689.4	602527.1	-1.2	C-61	61	10/28/2014	-2.7	Stratum D Reached
684639.4	602487.5	0.4	C-61-1	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	C-60	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	C-60-1	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	C-60-2	60	10/21/2014	1.7	Target Elevation Reached
684665.2	602547.7	-1.2	C-59	59	10/27/2014	-2.8	Stratum D Reached
684620.0	602510.0	0.4	C-59-1	59	10/21/2014	-0.1	Target Elevation Reached
684604.5	602498.0	2.1	C-59-2	59	10/21/2014	1.7	Target Elevation Reached
685023.9	601966.6	-2.5	C-104L	104	11/20/2014	-6.9	Stratum D Reached
685033.9	601960.1	-2.5	C-105L	105	11/20/2014	-6.6	Stratum D Reached
685039.4	601938.6	-2.5	C-106L	106	11/20/2014	-6.3	Stratum D Reached
685043.6	601927.9	Stratum D	C-107L	Lens Area	11/25/2014	-6.2	Stratum D Reached
685042.9	601906.9	Stratum D	C-108L	Lens Area	11/25/2014	-6.8	Stratum D Reached
685057.6	601895.2	Stratum D	C-109L	Lens Area	12/8/2014	-6.6	Stratum D Reached
685055.4	601873.1	Stratum D	C-110L	Lens Area	12/8/2014	-7.5	Stratum D Reached
685071.5	601867.1	Stratum D	C-111L	Lens Area	12/8/2014	-7.6	Stratum D Reached
685086.2	601861.8	Stratum D	C-112L	Lens Area	12/8/2014	-7.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.7)							
Bottom Target Coordinates					As-built Elevations		
685092.3	601848.6	Stratum D	C-113L	Lens Area	12/8/2014	-7.0	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Target Elevation Reached
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Target Elevation Reached
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Target Elevation Reached
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685081.0	601928.1	-5.5	134-SB-021	109A	11/25/2014	-5.8	Stratum D Reached (Re-Excavated)
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
684999.6	601940.6	-4.5	134-SB-097	104	11/20/2014	-7.2	Stratum D Reached (Re-Excavated)
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.1	Stratum D Reached
684626.0	602343.0	6.8	140-SB-014	68	10/14/2014	3.5	Target Elevation Reached
684613.7	602330.2	6.1	140-SB-072	68	10/14/2014	4.5	Target Elevation Reached
684649.1	602367.2	-1.0	140-SB-071	68	10/14/2014	-2.8	Stratum D Reached
684648.1	602370.8	-0.8	140-SB-032	67	10/21/2014	-3.1	Stratum D Reached
684649.1	602409.4	-2.3	140-SB-069	65	10/21/2014	-3.4	Stratum D Reached
684629.1	602423.3	1.5	140-SB-031	64	10/21/2014	-3.5	Stratum D Reached
684633.2	602474.4	0.4	125-SB-058	61	10/21/2014	-0.1	Target Elevation Reached
684616.1	602485.8	3.0	125-SB-068	60	10/21/2014	1.8	Target Elevation Reached
684588.4	602494.2	100.0	125-SB-119	59	10/21/2014	1.5	Target Elevation Reached
685087.0	601829.1	Stratum D	134-SB-171	Lens Area	12/8/2014	-6.1	Stratum D Reached
685053.5	601827.8	Stratum D	134-SB-170	Lens Area	12/8/2014	-6.8	Stratum D Reached
685029.7	601840.0	Stratum D	134-SB-175	Lens Area	12/8/2014	-6.7	Stratum D Reached
685003.5	601868.2	Stratum D	134-SB-177	Lens Area	12/8/2014	-5.9	Stratum D Reached

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.2)							
Sidewall Target Coordinates					As-built Elevations		
684917.7	601947.9	-1.2	134-SB-087	Area 41	12/10/2014	-2.1	Target Elevation Reached
684936.3	601954.8	-1.2	134-SB-088	Area 41	12/10/2014	-2.4	Target Elevation Reached
684918.0	601975.0	-1.2	134-SB-089	Area 41	12/10/2014	-1.7	Target Elevation Reached
684904.3	601963.0	-1.2	134-SB-090	Area 41	12/10/2014	-1.6	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 12/23/14

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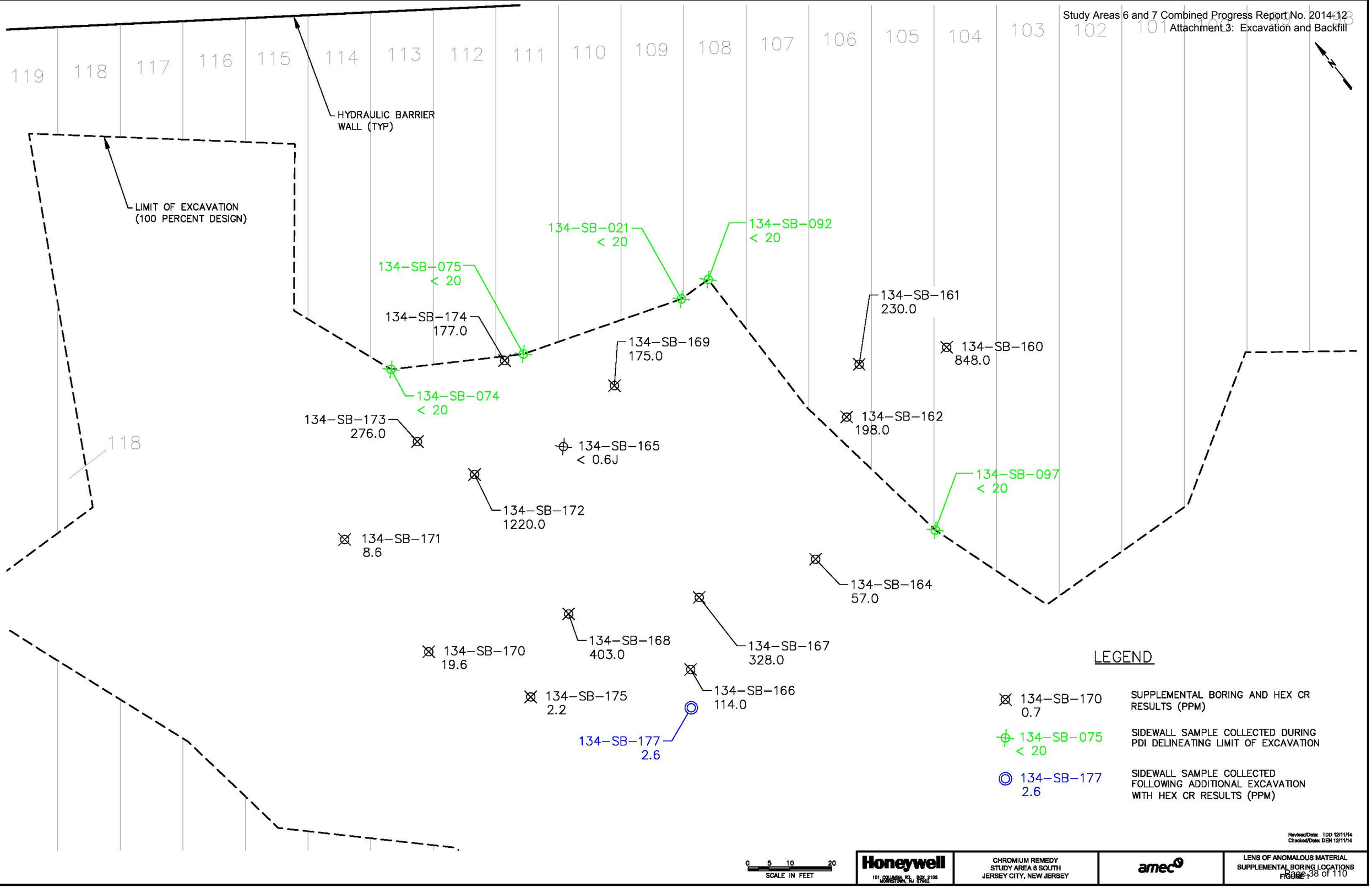


Revised/Date: TDD 12/11/14
Checked/Date: DEN 12/11/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	LENS OF ANOMALOUS MATERIAL SUPPLEMENTAL BORING LOCATIONS FIGURE 1

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

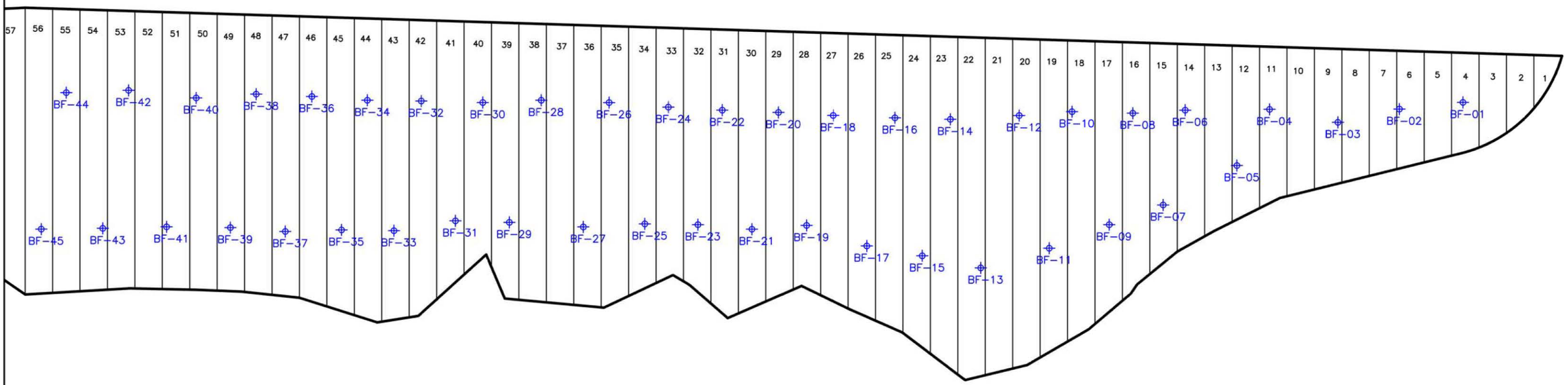
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



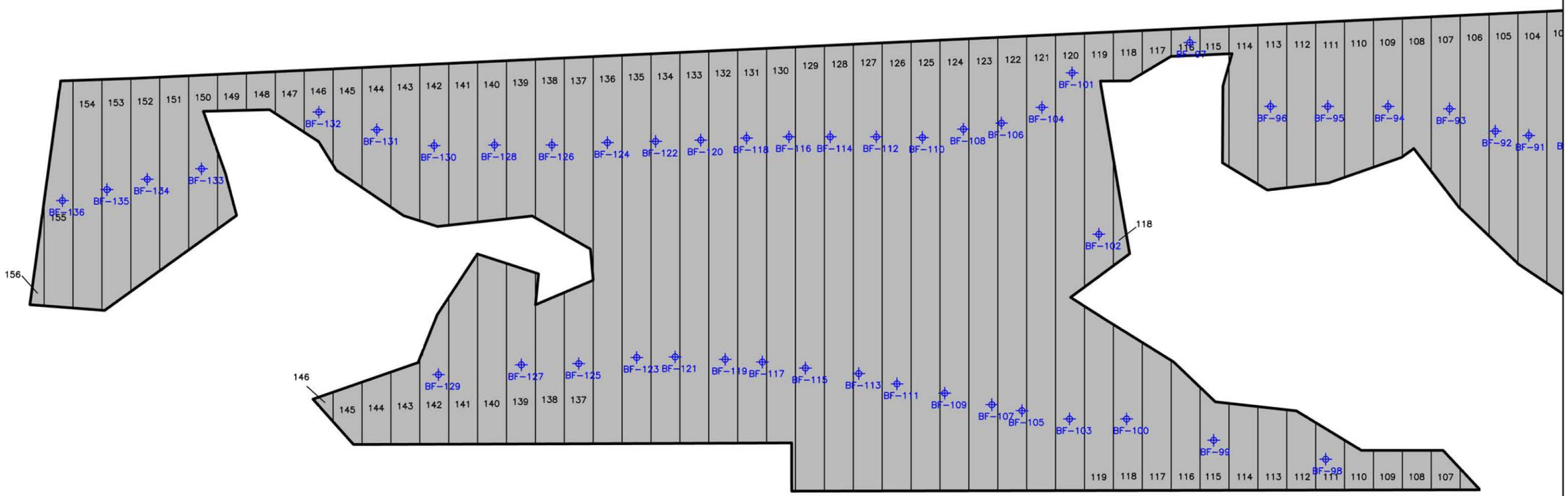
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N

8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	

3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			

2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N

0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes:

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

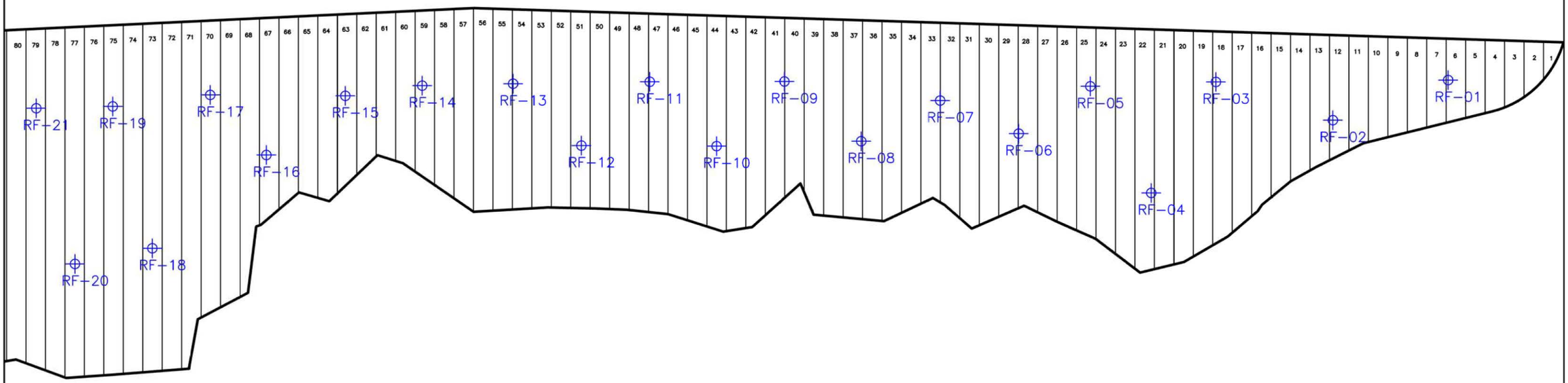
Sample ID RF-01-01 where:

RF = Reduced Frequency

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT

01 = Test Location (as noted on Backfill Compaction Location Figure)

01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

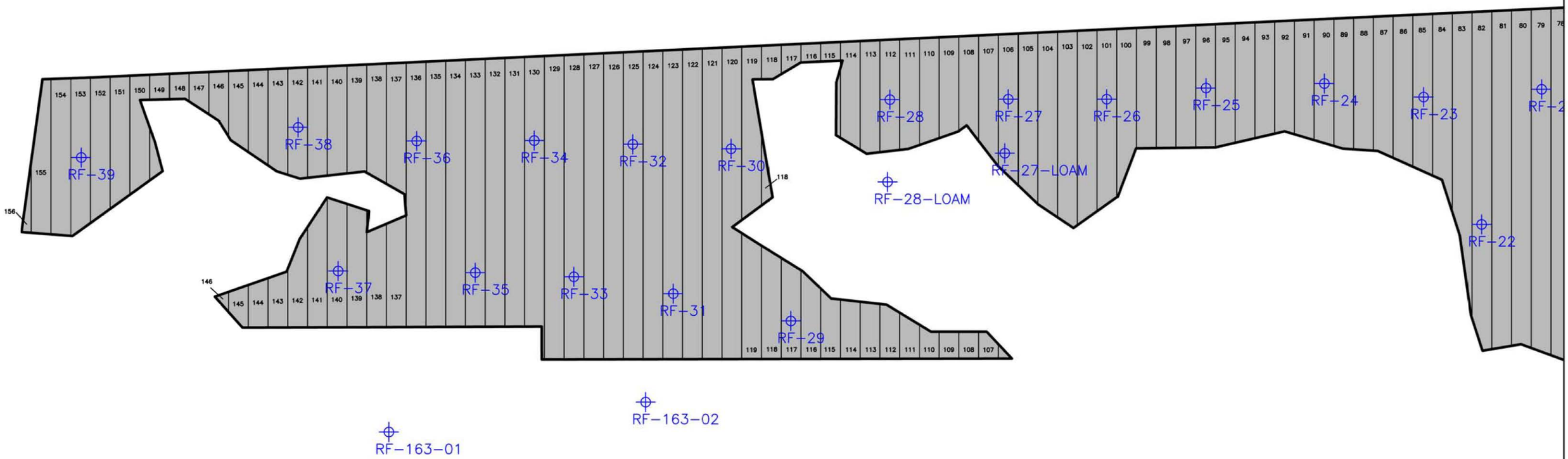
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, RF-163-01. RF-163-02

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/14/14	24	N/A	N/A	6,500	80,718	4.5	Pump Online for LOAM Excavation
11/17/14	72	N/A	N/A	19,500	100,218	4.5	Flow Meter Not Intsalled Tank Measured
11/18/14	24	N/A	N/A	6,500	106,718	4.5	Flow Meter Not Intsalled Tank Measured
11/19/14	24	N/A	N/A	6,500	113,218	4.5	Flow Meter Not Intsalled Tank Measured
11/20/14	24	N/A	N/A	6,500	119,718	4.5	Flow Meter Not Intsalled Tank Measured
11/21/14	24	N/A	N/A	6,500	126,218	4.5	Flow Meter Not Intsalled Tank Measured
11/22/14	24	N/A	N/A	6,500	132,718	4.5	Flow Meter Not Intsalled Tank Measured
11/24/14	48	N/A	N/A	13,000	145,718	4.5	Flow Meter Not Intsalled Tank Measured
11/25/14	24	N/A	N/A	6,500	152,218	4.5	Flow Meter Not Intsalled Tank Measured
11/28/14	72	N/A	N/A	19,500	171,718	4.5	Flow Meter Not Intsalled Tank Measured
11/30/14	48	N/A	N/A	12,500	184,218	4.3	Flow Meter Not Intsalled Tank Measured
12/01/14	24	N/A	N/A	6,500	190,718	4.5	Flow Meter Not Intsalled Tank Measured
12/02/14	24	N/A	N/A	6,500	197,218	4.5	Flow Meter Not Intsalled Tank Measured

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/30/14	9:00	11:00	2:00	21,979.83	21,987.45	7,620	21,987,000	
11/05/14	8:00	15:00	7:00	21,987.45	22,068.71	81,260	22,068,260	PVSC Compliance Sample Collected
11/07/14	10:00	15:00	5:00	22,068.71	22,093.24	24,530	22,092,790	
11/10/14	8:00	14:30	6:30	22,093.24	22,125.00	31,760	22,124,550	CGWES pumped and isolated from 930 to 1530
11/11/14	11:00	16:00	5:00	22,125.00	22,151.18	26,180	22,150,730	
11/12/14	7:15	15:15	8:00	22,151.18	22,205.08	53,900	22,204,630	
11/13/14	7:30	15:30	8:00	22,205.08	22,232.39	27,310	22,231,940	
11/14/14	7:00	12:00	5:00	22,232.39	22,270.23	37,840	22,269,780	
11/15/14	11:00	14:45	3:45	22,270.23	22,327.83	57,600	22,327,380	
11/16/14	10:00	14:00	4:00	22,327.83	22,387.57	59,740	22,387,120	
11/17/14	9:00	16:00	7:00	22,387.57	22,488.01	100,440	22,487,560	
11/18/14	8:00	15:30	7:30	22,488.01	22,568.74	80,730	22,568,290	
11/19/14	8:00	15:30	7:30	22,568.74	22,653.22	84,480	22,652,770	
11/20/14	7:30	12:30	5:00	22,653.22	22,692.55	39,330	22,692,100	
11/21/14	8:00	16:00	8:00	22,692.55	22,747.08	54,530	22,746,630	
11/22/14	8:00	12:00	4:00	22,747.08	22,783.08	36,000	22,782,630	
11/24/14	7:00	15:30	8:30	22,783.08	22,833.40	50,320	22,832,950	
11/26/14	7:30	15:00	7:30	22,833.40	22,889.40	56,000	22,888,950	
11/28/14	11:00	16:00	5:00	22,889.40	22,984.22	94,820	22,983,770	
11/30/14	14:00	16:20	2:20	22,984.22	23,021.47	37,250	23,021,020	
12/01/14	8:30	14:30	6:00	23,021.47	23,125.75	104,280	23,125,300	
12/02/14	7:00	15:00	8:00	23,125.75	23,223.33	97,580	23,222,880	PVSC Compliance Sample Collected
12/03/14	7:30	15:00	7:30	23,223.33	23,306.88	83,550	23,306,430	
12/04/14	7:30	15:15	7:45	23,306.88	23,418.88	112,000	23,418,430	
12/05/14	7:30	15:00	7:30	23,418.88	23,505.57	86,690	23,505,120	
12/06/14	12:30	16:30	4:00	23,505.57	23,547.36	41,790	23,546,910	
12/08/14	6:30	16:45	10:15	23,547.36	23,734.14	186,780	23,733,690	
12/09/14	7:00	17:00	10:00	23,734.14	23,938.58	204,440	23,938,130	
12/10/14	6:30	15:30	9:00	23,938.58	24,127.10	188,520	24,126,650	
12/11/14	7:00	15:00	8:00	24,127.10	24,278.59	151,490	24,278,140	
12/12/14	7:00	14:30	7:30	24,278.59	24,400.95	122,360	24,400,500	
12/13/14	7:00	14:00	7:00	24,400.95	24,465.38	64,430	24,464,930	
12/15/14	7:00	15:30	8:30	24,465.38	24,642.32	176,940	24,641,870	
12/16/14	7:00	16:00	9:00	24,642.32	24,790.34	148,020	24,789,890	
12/17/14	7:00	15:00	8:00	24,790.34	24,891.32	100,980	24,890,870	
12/18/14	7:00	14:30	7:30	24,891.32	24,942.66	51,340	24,942,210	
12/19/14	7:00	14:30	7:30	24,942.66	24,984.39	41,730	24,983,940	
12/22/14	7:00	15:00	8:00	24,984.39	25,135.32	150,930	25,134,870	
12/23/14	8:00	15:45	7:45	25,135.32	25,225.78	90,460	25,225,330	
12/24/14	7:00	14:00	7:00	25,225.78	25,261.74	35,960	25,261,290	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

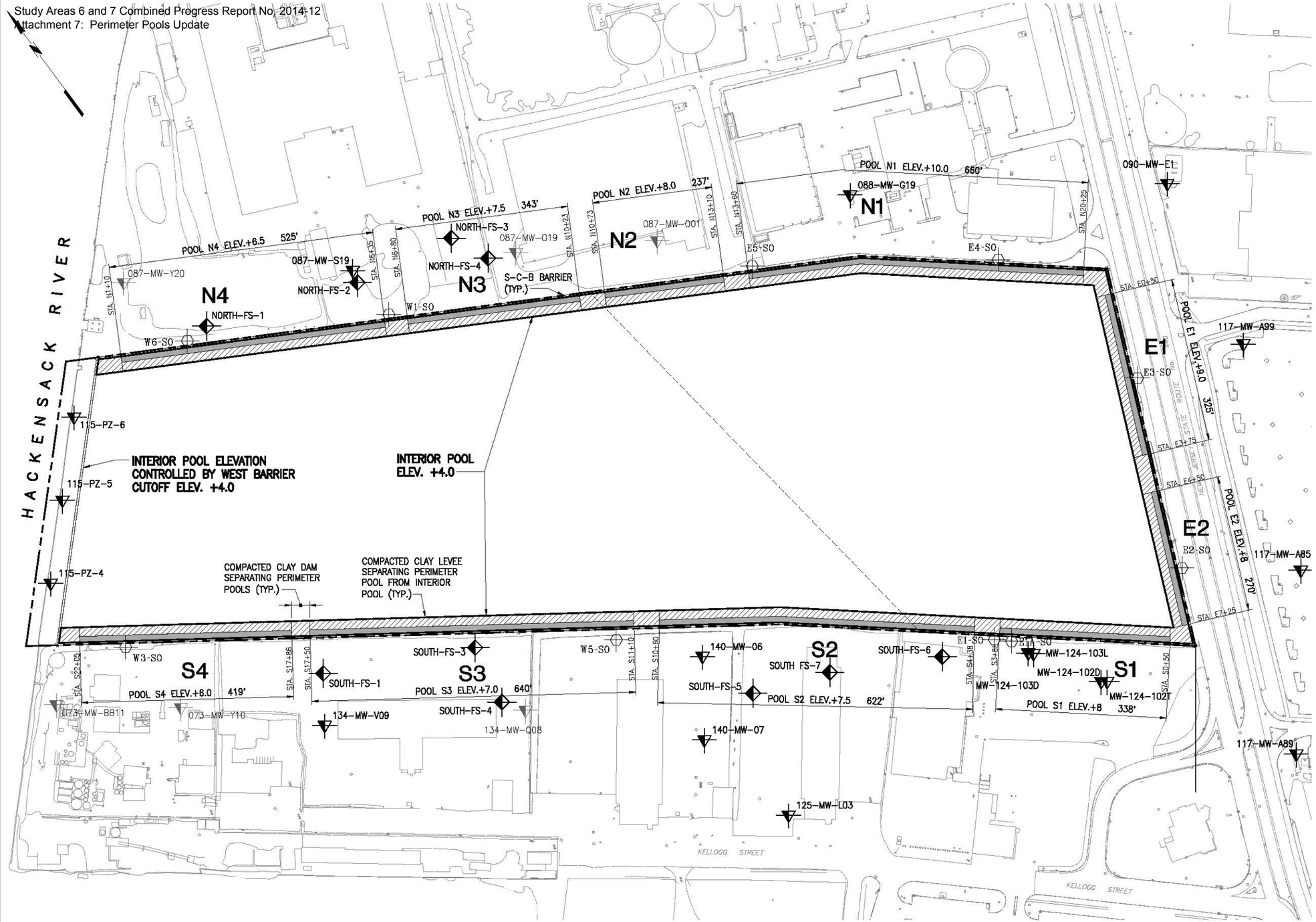
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
Site 163	>1000	163-122-1000-a	850	163-122-1000-a1	11/18/2014	11:00	4.5		*	
				163-122-1000-a2	11/12/2014	14:05	4		*	
				163-122-1000-a3	11/18/2014	11:05	80.1		*	
				163-122-1000-a4	11/12/2014	14:15	38.1		*	
103-106	<20	124-106-20-a (A29)	950	124-106-20-a1	11/21/2014	7:55	9.2	Yes		
				124-106-20-a2	11/21/2014	8:00	12.1	Yes		
				124-106-20-a3	11/21/2014	8:05	15.6	Yes		
				124-106-20-a4	11/21/2014	8:10	20		*	
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	13:00	25		*	
				124-110-20-a2	12/2/2014	13:05	44		*	
				124-110-20-a3	12/2/2014	13:10	29.1		*	
				124-110-20-a4	12/2/2014	13:15	14.8	Yes		
				124-110-20-b1	12/2/2014	13:20	23.1		*	
				124-110-20-b2	12/2/2014	13:25	12.9	Yes		
				124-110-20-b3	12/2/2014	13:30	3	Yes		
				124-110-20-b4	12/2/2014	13:35	1.8	Yes		
				124-110-20-c1	12/2/2014	13:40	12.9	Yes		
				124-110-20-c2	12/2/2014	13:45	15.6	Yes		
				124-110-20-c3	12/2/2014	13:50	29.1		*	
				124-110-20-c4	12/2/2014	13:55	179		*	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	10:40	29.8		*	
				124-114-20-a2	12/16/2014	10:45	34.5		*	
				124-114-20-a3	12/16/2014	10:50	49.3		*	
				124-114-20-a4	12/16/2014	10:55	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	11:00	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	13:15	42.3		Yes	
				124-114-1000-a2	12/16/2014	13:20	65		Yes	
				124-114-1000-a3	12/16/2014	13:25	75.3		Yes	
				124-114-1000-a4	12/16/2014	13:30	16.5		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Oct 03, 2014 at 10:39am
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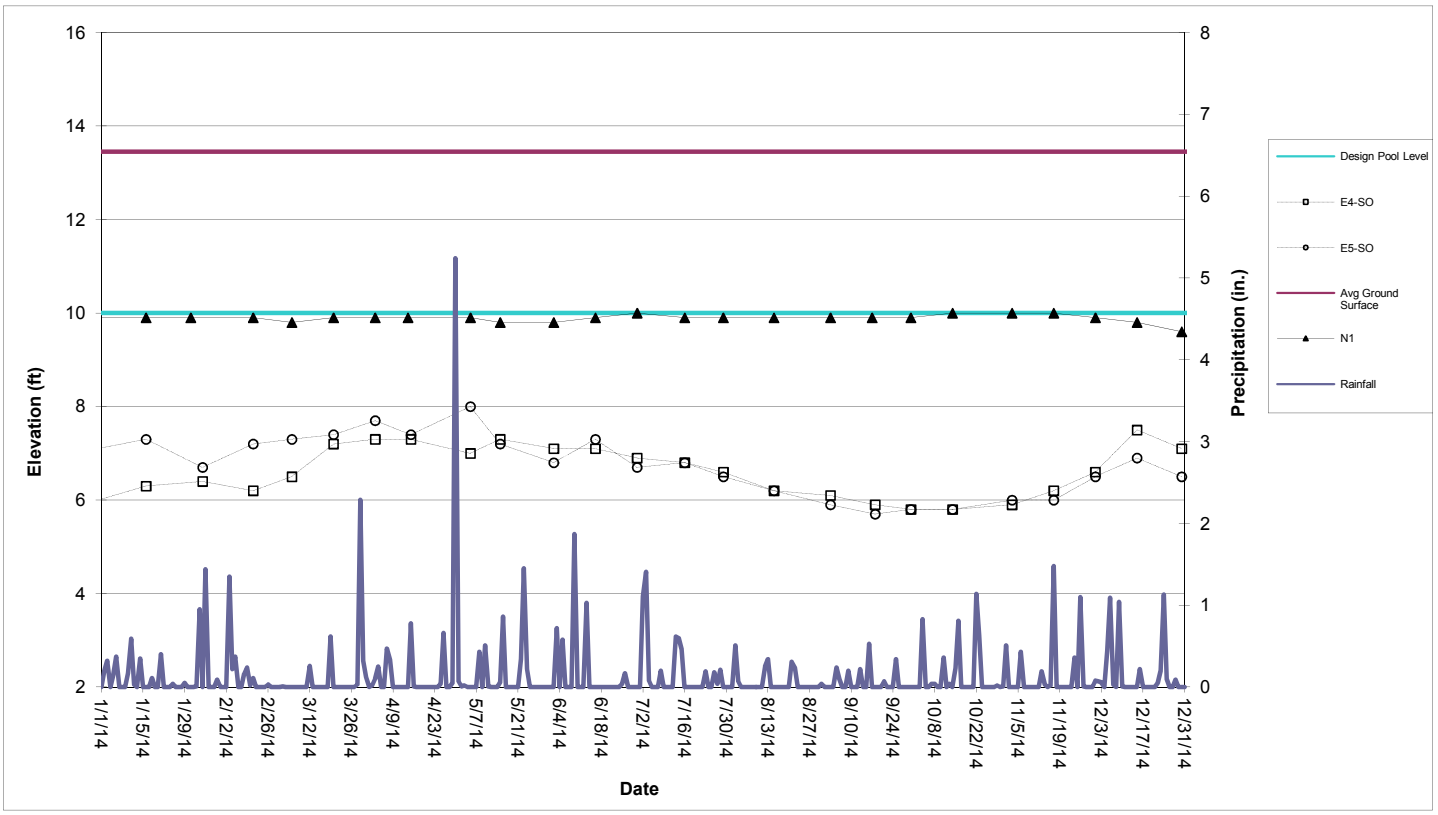
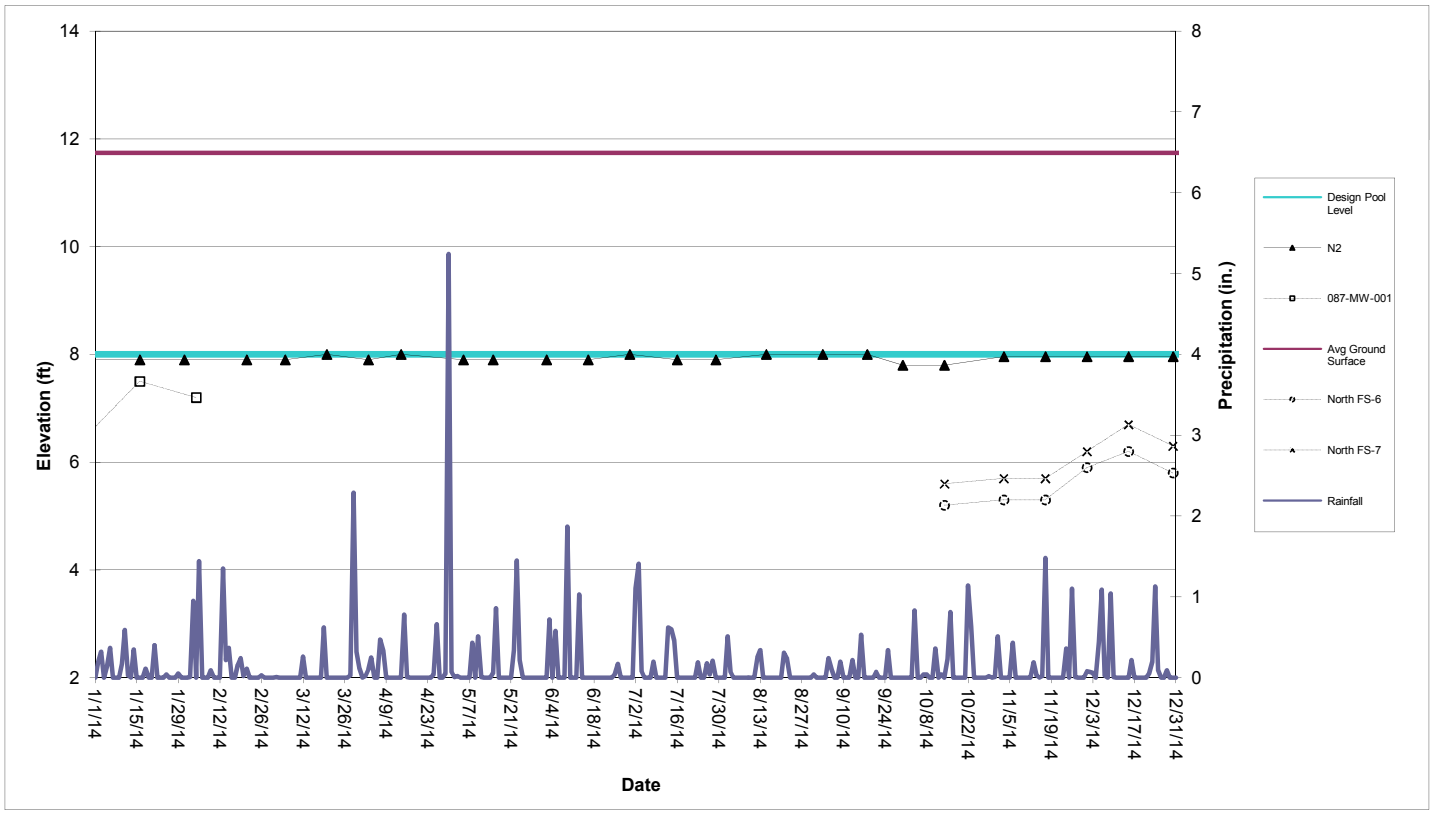
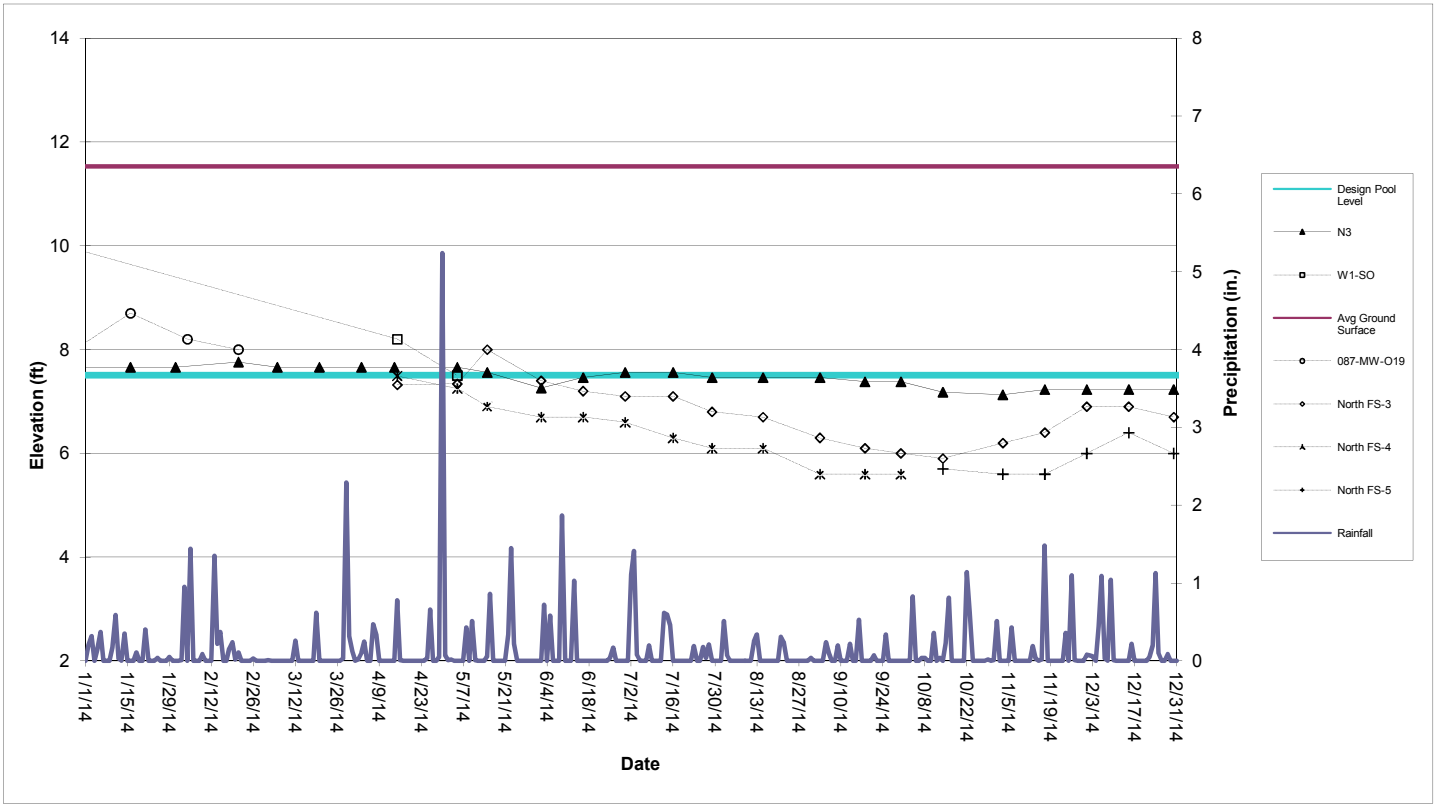
edelossantos



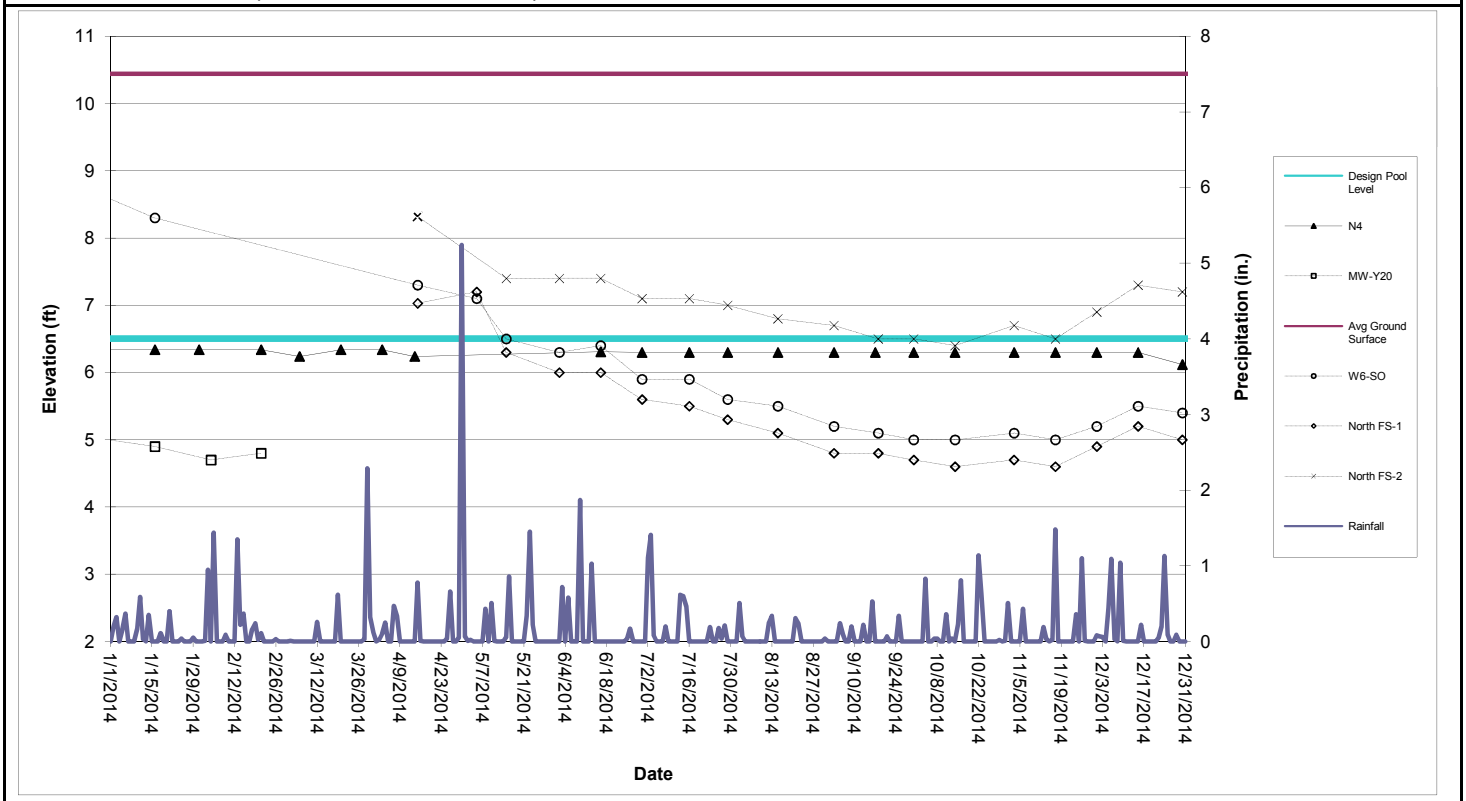
Perimeter Pool N1 (Sta. N13+60 to N20+25)



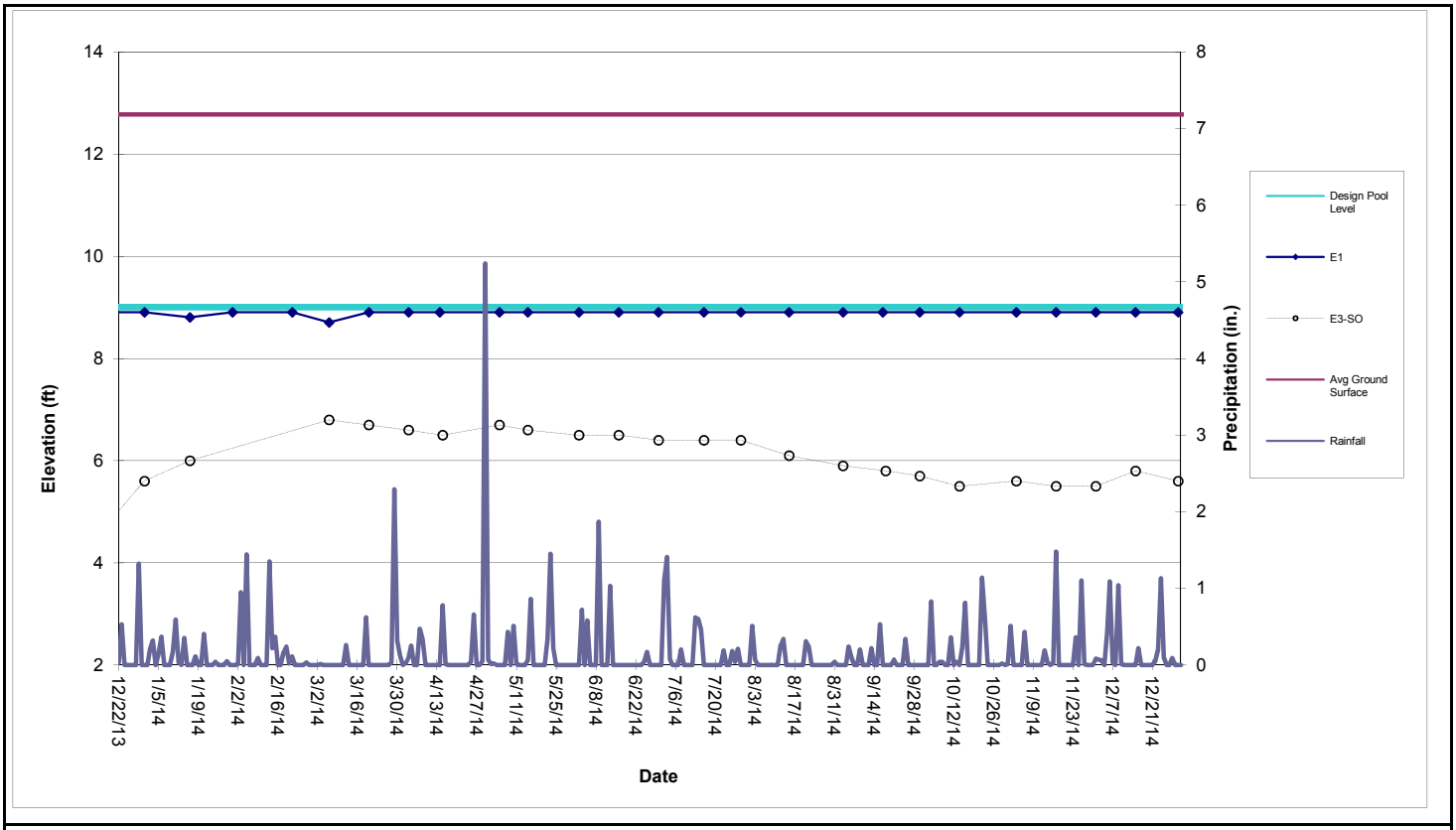
Perimeter Pool N2 (Sta. N10+73 to N13+10)



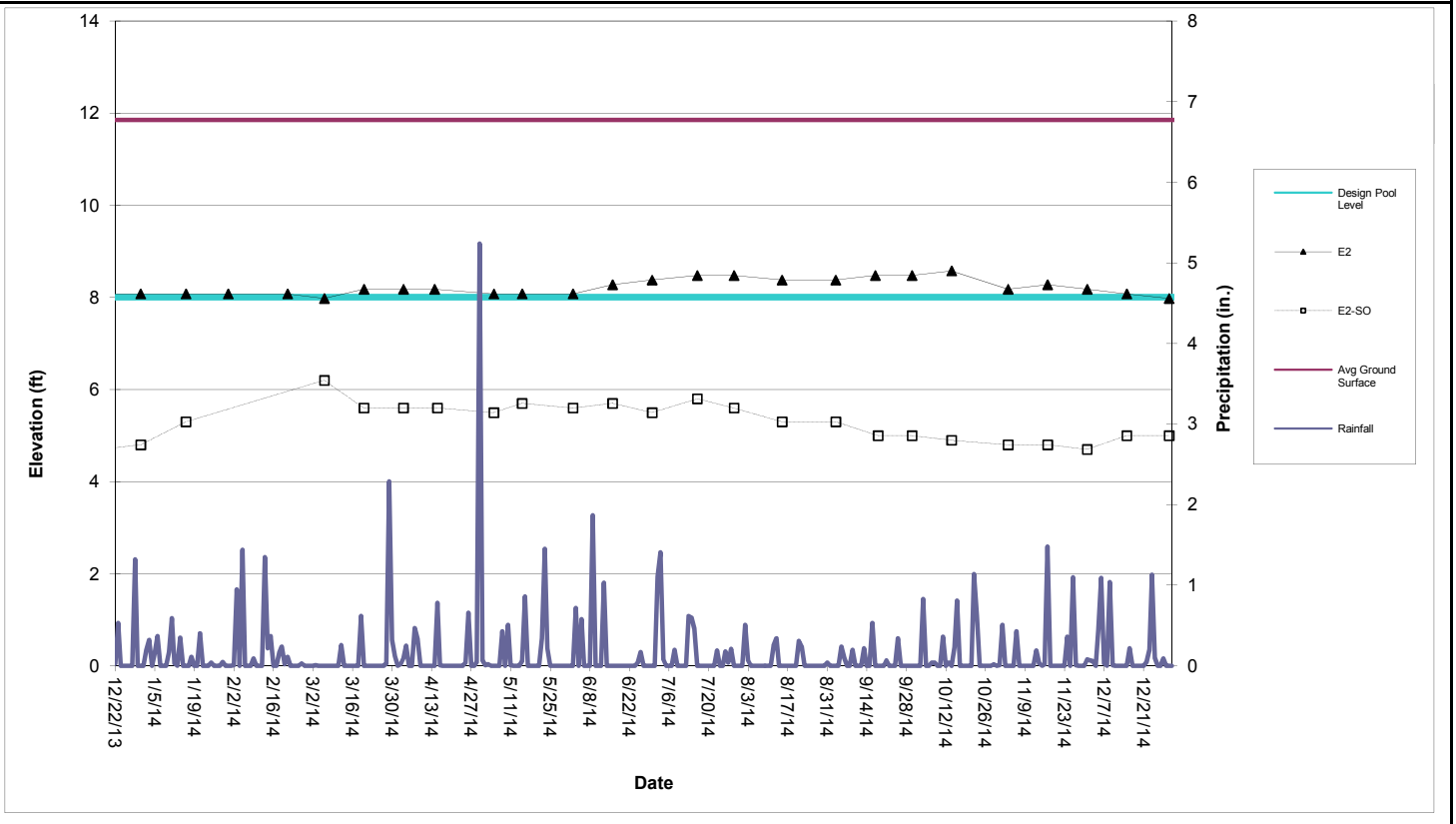
Perimeter Pool N3 (Sta. N6+80 to N10+23)



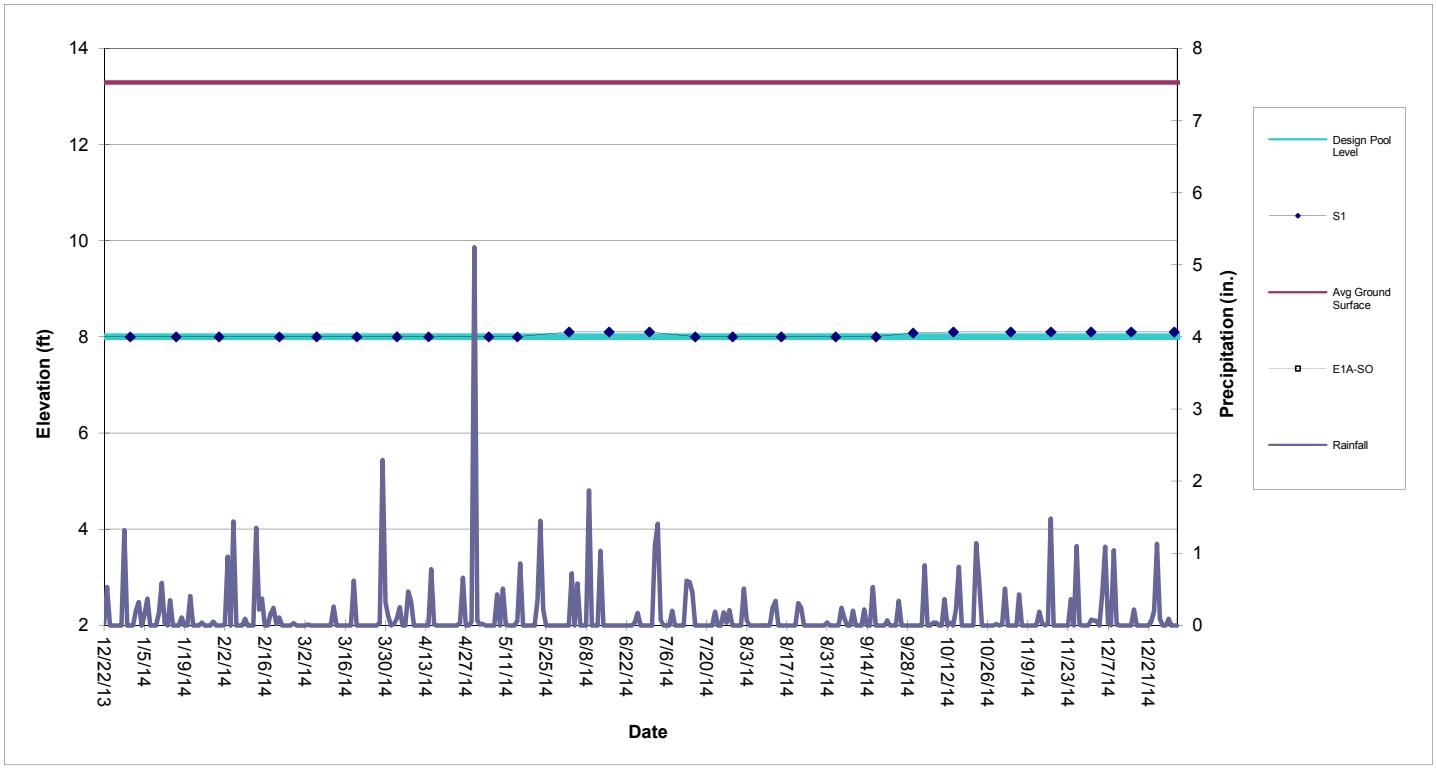
Perimeter Pool N4 (Sta. N6+80 to N10+23)



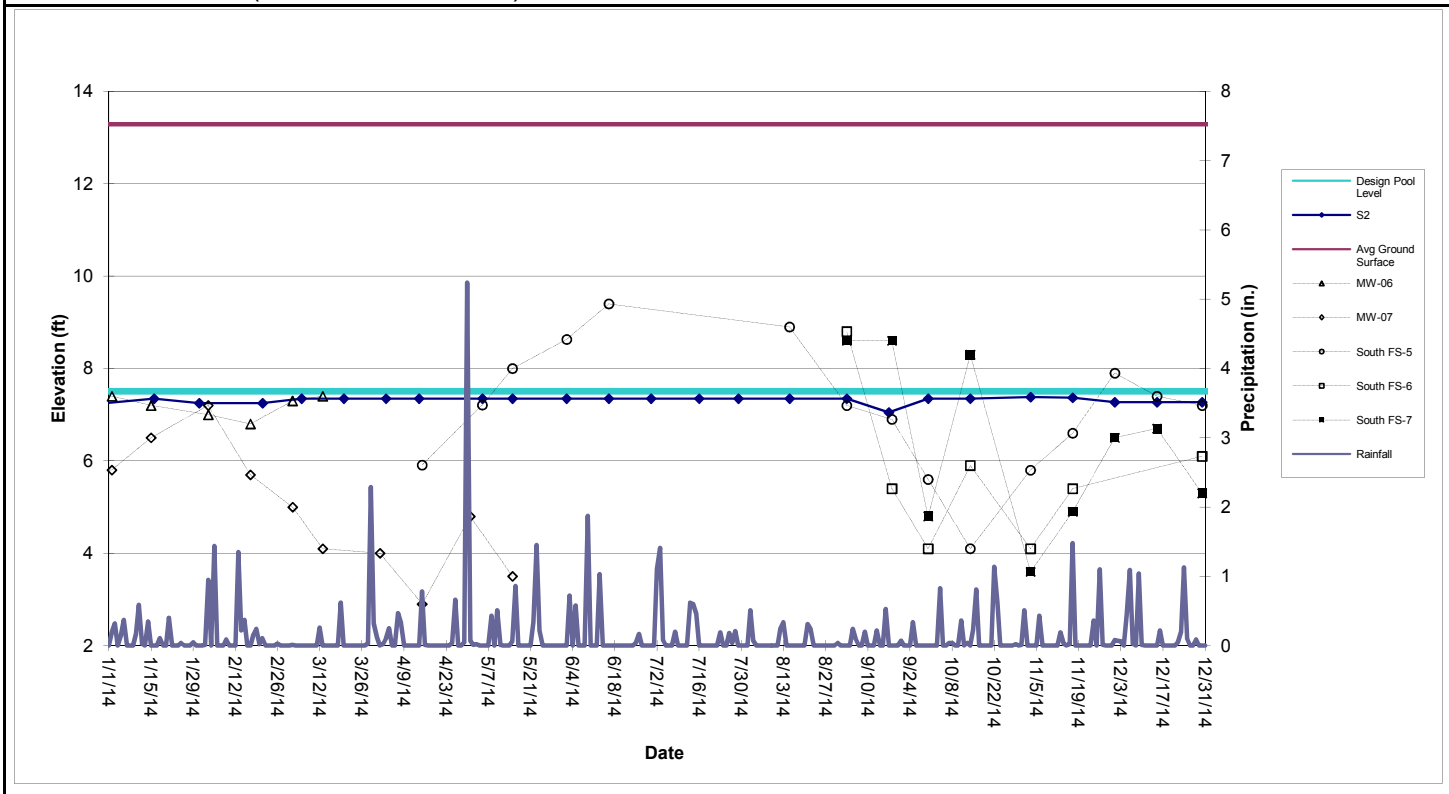
Perimeter Pool E1 (Sta. E0+50 to E3+75)



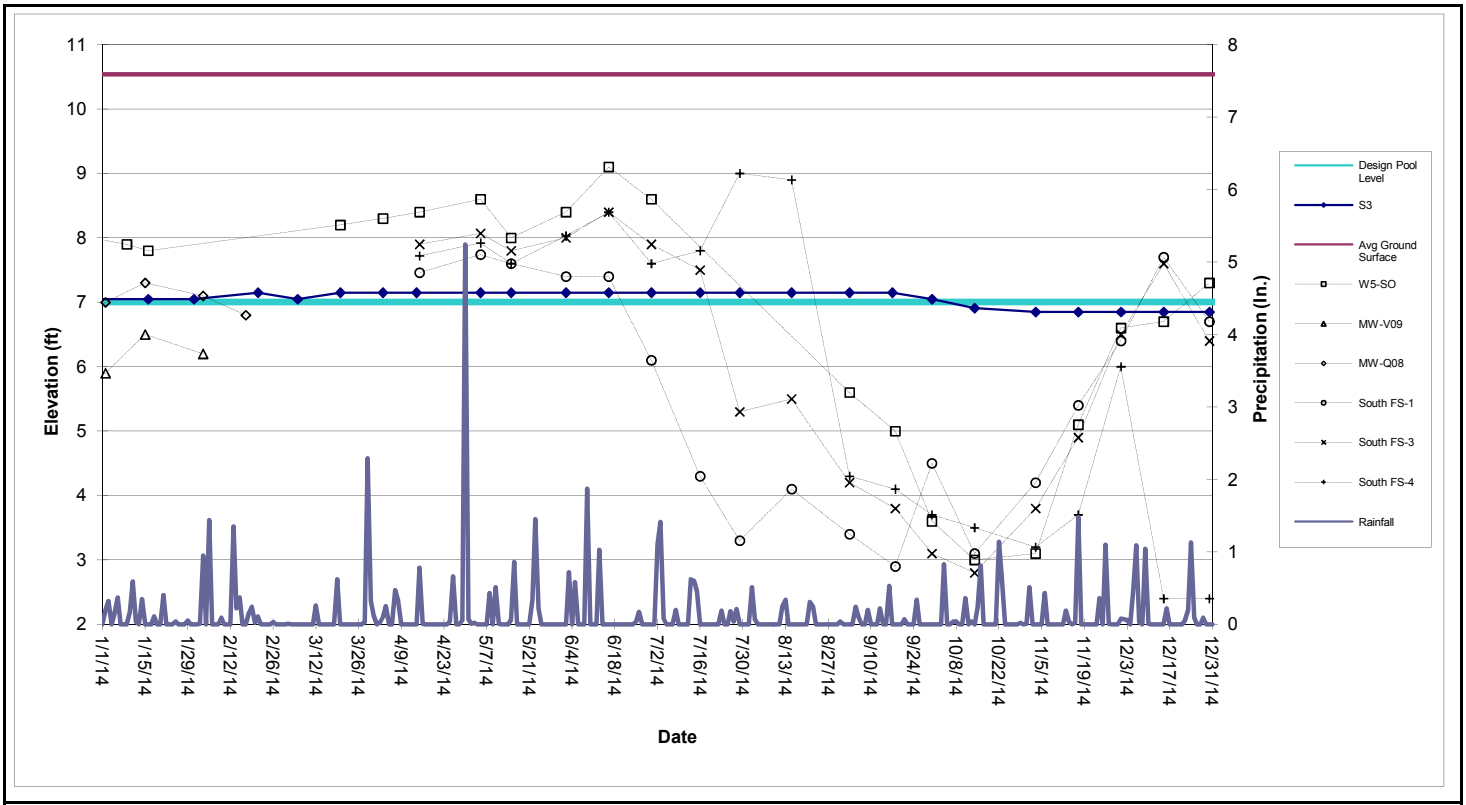
Perimeter Pool E2 (Sta. E4+50 to E7+25)



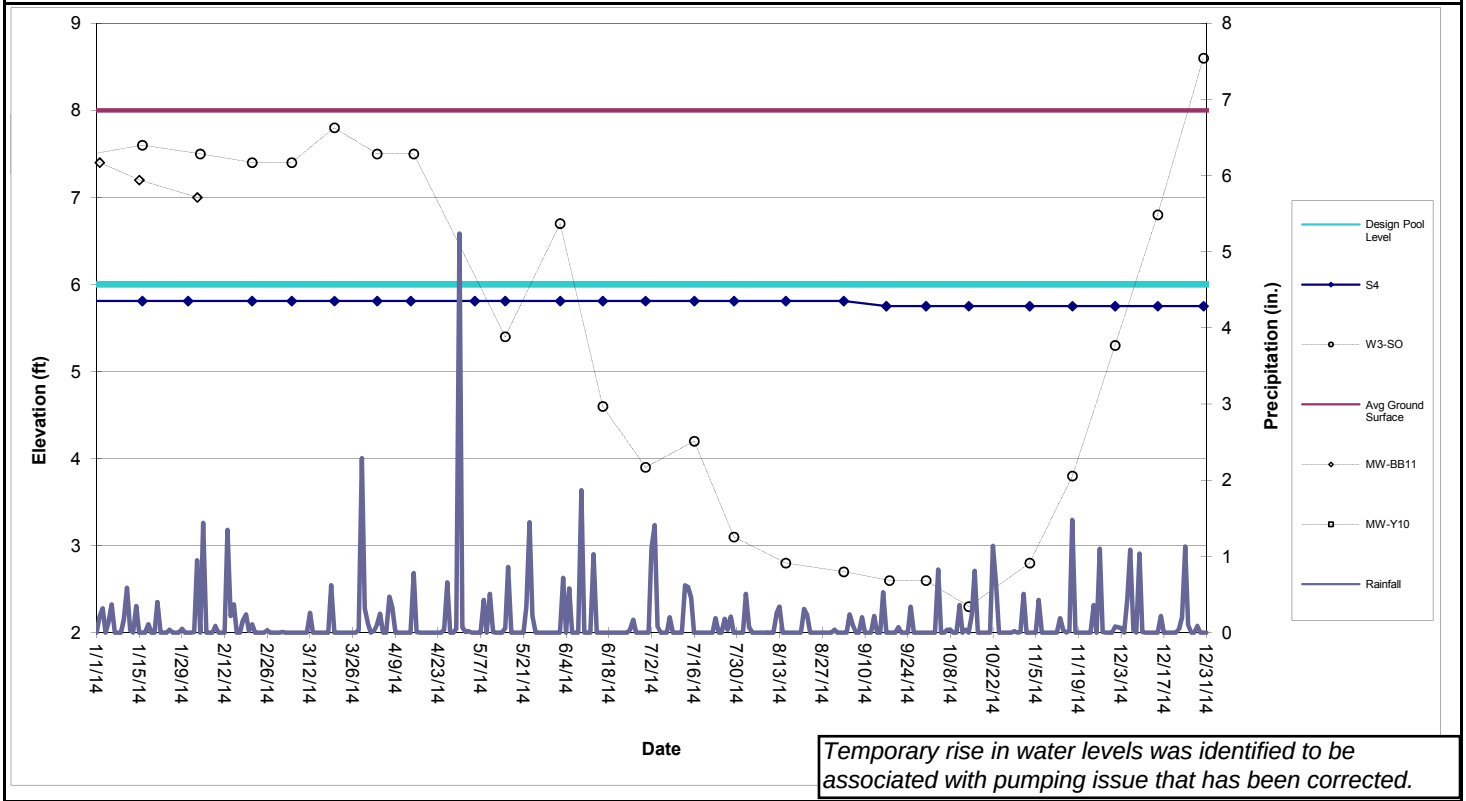
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Temporary rise in water levels was identified to be associated with pumping issue that has been corrected.

Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, North FS-4

Attachment 8: Groundwater Quality Data Surcharge Monitoring Update

- Summary of Groundwater Quality Data from GWET Wells
- Quarterly Water Wells
- Trichloroethene/Chloroform/Hexavalent Chromium in GWET Wells

Table 1
Summary of Groundwater Quality Data from GWET Wells

Honeywell

Parameter	1-Apr-14			28-May-14			9-Sep-14			18-Dec-14		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	2.9	4.0	ND	3.4	4.7	ND	3.7	4.7	ND	3.2	4.0	ND
Carbon Tetrachloride	4.4J	2.8	1.9	7.0	4.3	2.7	7.3	4.8	3.0	5.2	4.2	2.9
Chloroform	26.5	12.0	ND	31.3	14.0	0.25J	28.1	11.3	ND	25.8	9.4	ND
1,1-Dichloroethene	0.42J	ND	ND	0.77J	ND	ND	0.62J	ND	ND	0.57	ND	ND
cis-1,2-Dichloroethene	96	8.1	ND	144	ND	ND	128	9.6	ND	112	8.6	ND
trans-1,2-Dichloroethene	3.4	ND	ND	5.3	ND	ND	4.5	ND	ND	3.5	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	91.3	43.4	ND	119	54.8	ND	123	57.4	ND	97	44.4	ND
1,1-Dichloroethane	0.45J	ND	ND	0.61J	ND	ND	0.55J	ND	ND	0.46	ND	ND
Methylene chloride	0.77J	ND	ND	0.92J	ND	ND	0.74J	ND	ND	0.77	0.20	ND
Vinyl chloride	13.5	2.7	ND	21.2	3.8	ND	25.2	3.8	ND	15.4	2.5	ND
1,2-Dichlorobenzene	0.72J	ND	ND	0.70J	ND	ND	0.82J	ND	ND	0.66	ND	ND
Chlorobenzene	0.38J	ND	ND	0.40J	ND	ND	0.42J	ND	ND	0.37	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	33,400	12,500	15,100	34,700	12,700	19,700	34,200	11,100	15,700	35,900	12,200	15,900
Total Chromium	36,900	16,400	16,600	35,500	14,500	19,600	37,600	19,300	17,900	34,100	12,700	15,900

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

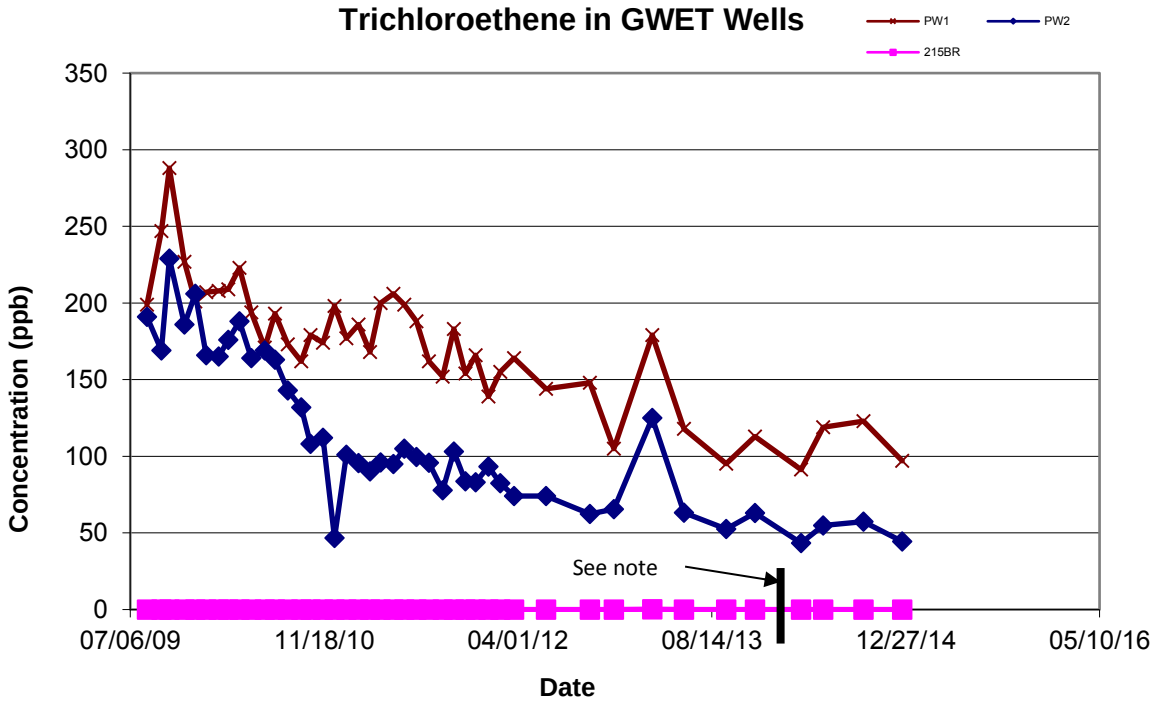
Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.

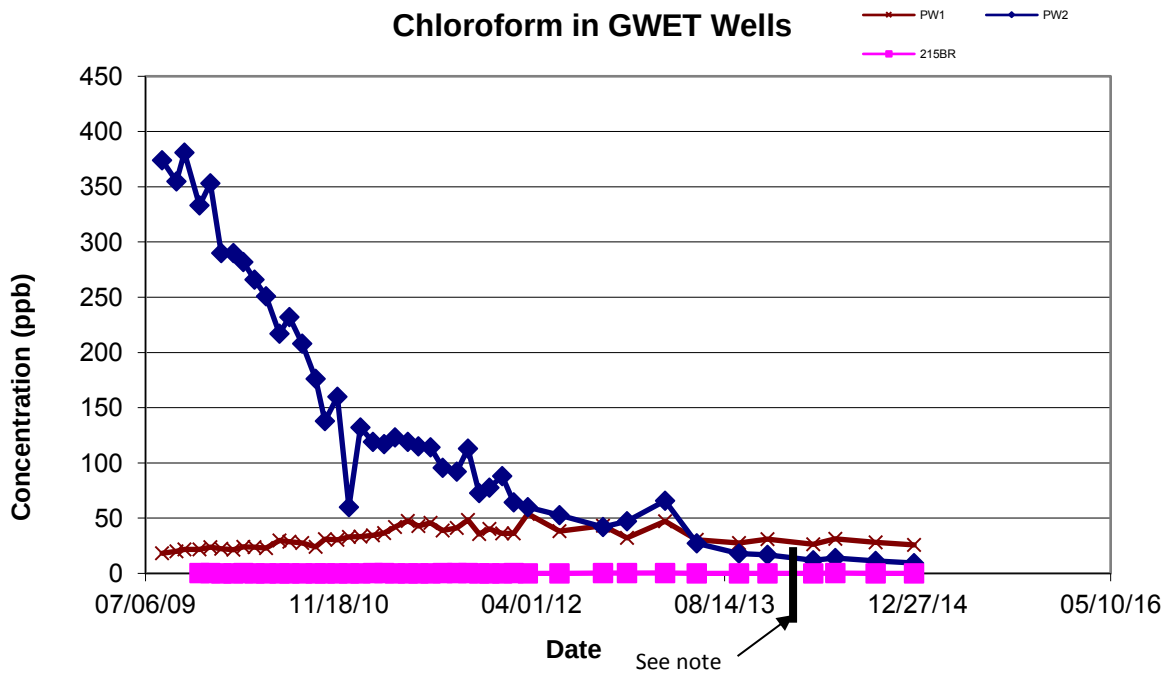
TABLE 2
Quarterly Water Levels
December 2014

Honeywell

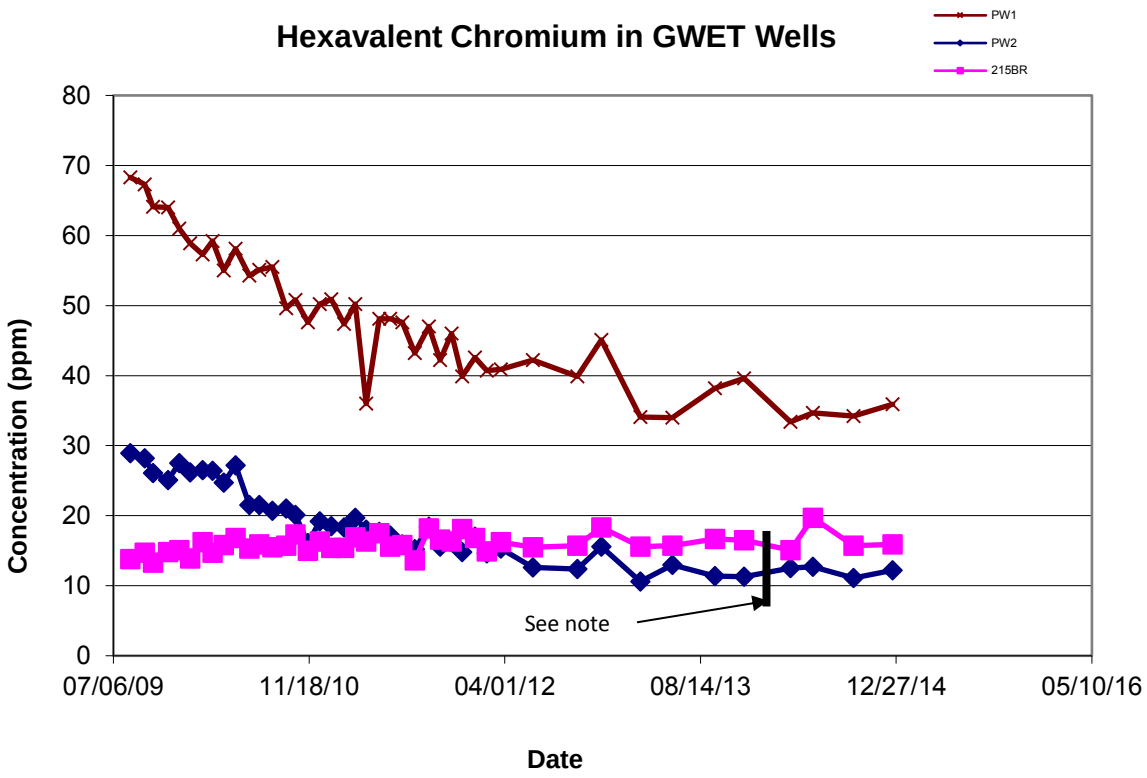
Wells Date: December 15, 2014	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
087-MW-25D	18.17	17.32	0.85	GW Elevations are not corrected for tidal influence
087-MW-25T	18.19	17.37	0.82	
087-MW-35	18.29	17.37	0.92	
087-OBS-1D	15.13	14.19	0.94	
087-OBS-1L	15.27	13.68	1.59	
087-OBS-1T	15.23	14.40	0.83	
087-PW-2	13.02	33.97	-20.95	
087-MW-08	12.98	12.14	0.84	
087-OBS-3L	12.88	13.15	-0.27	
087-MW-13	12.93	12.92	0.01	
087-OBS-5D	12.72	12.33	0.39	
087-OBS-5T	12.62	12.96	-0.34	
087-PW-1	12.66	35.64	-22.98	
087-MW-34	12.73	13.51	-0.78	
087-OBS-2D	12.68	14.68	-2.00	
SA6-MW-AA1D	19.36	18.73	0.63	
SA6-MW-AA1T	15.31	14.58	0.73	
SA6-MW-5BR-1	17.06	NA	NA	Well not accessible
087-OBS-4T	11.6	10.83	0.77	
087-MW-O29D	10.32	8.75	1.57	
087-MW-O29T	9.98	8.32	1.66	
087-MW-03	13.77	NA	N/A	Well not accessible
087-MW-02	12.57	NA	N/A	
115-MW-203BR*	8.7	NA	N/A*	Well not accessible
073-MW-1BR-1	7.58	27.03	N/A*	
073-MW-10BR-1	6.67	5.14	1.53	
115-MW-215BR*	8.82	12.77	N/A*	

* Reference point elevation to be confirmed.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



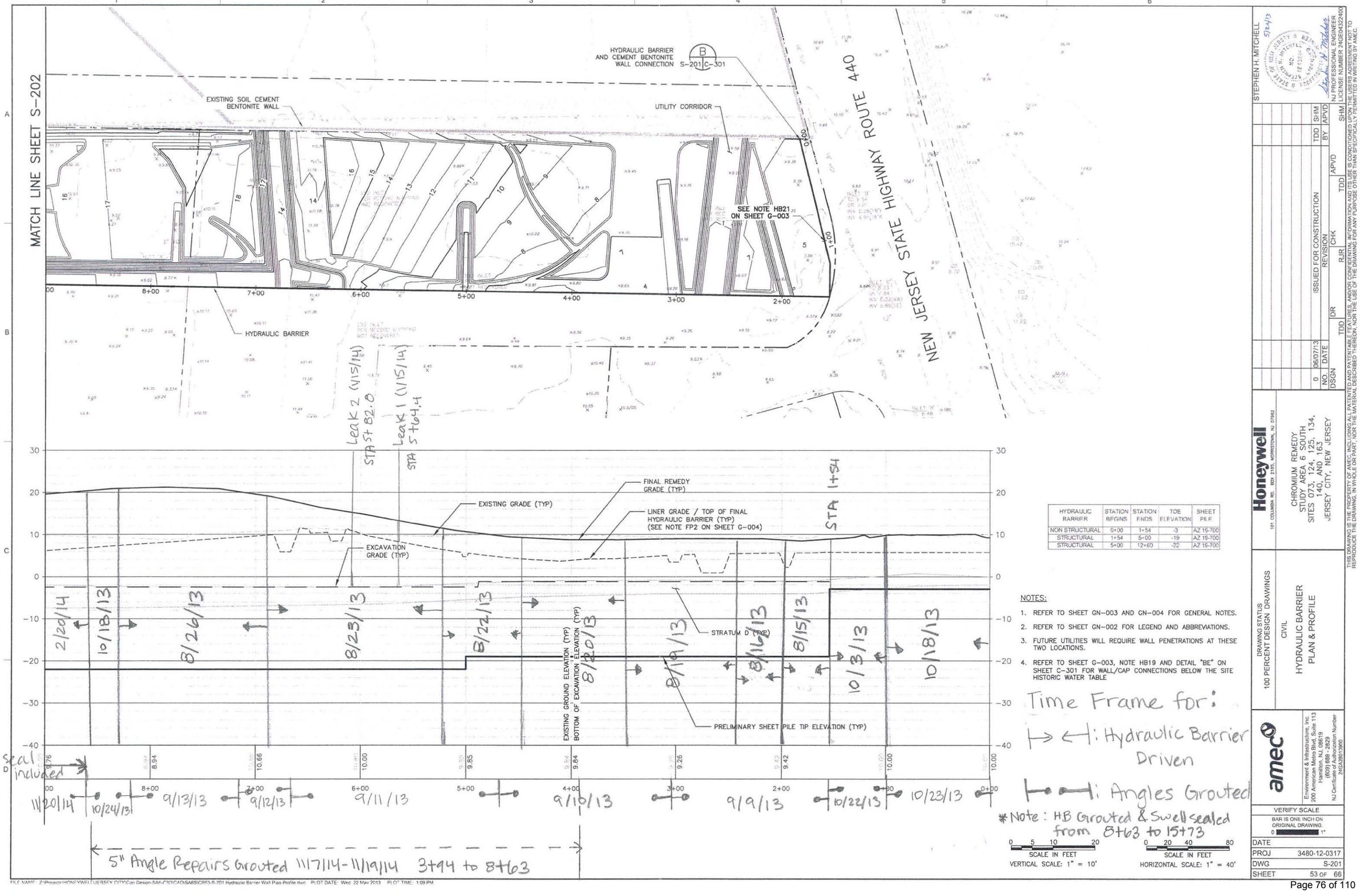
Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

- Hydraulic Barrier Wall Plan & Profile
- Sheet Pile Angle Grout Log



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	1+54	-3	AZ 19-700
STRUCTURAL	1+54	5+00	-19	AZ 19-700
STRUCTURAL	5+00	12+60	-22	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

STEPHEN H. MITCHELL 5/14/13
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	ISSUED FOR CONSTRUCTION / REVISION	BY	APVD
0	06/07/13		TDD	SHM
DSGN	TDD	DR	CHK	APVD
		RJR	TDD	SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 588 - 2629
NJ Certificate of Authorization Number 24GA28013900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-201
SHEET	53 OF 66

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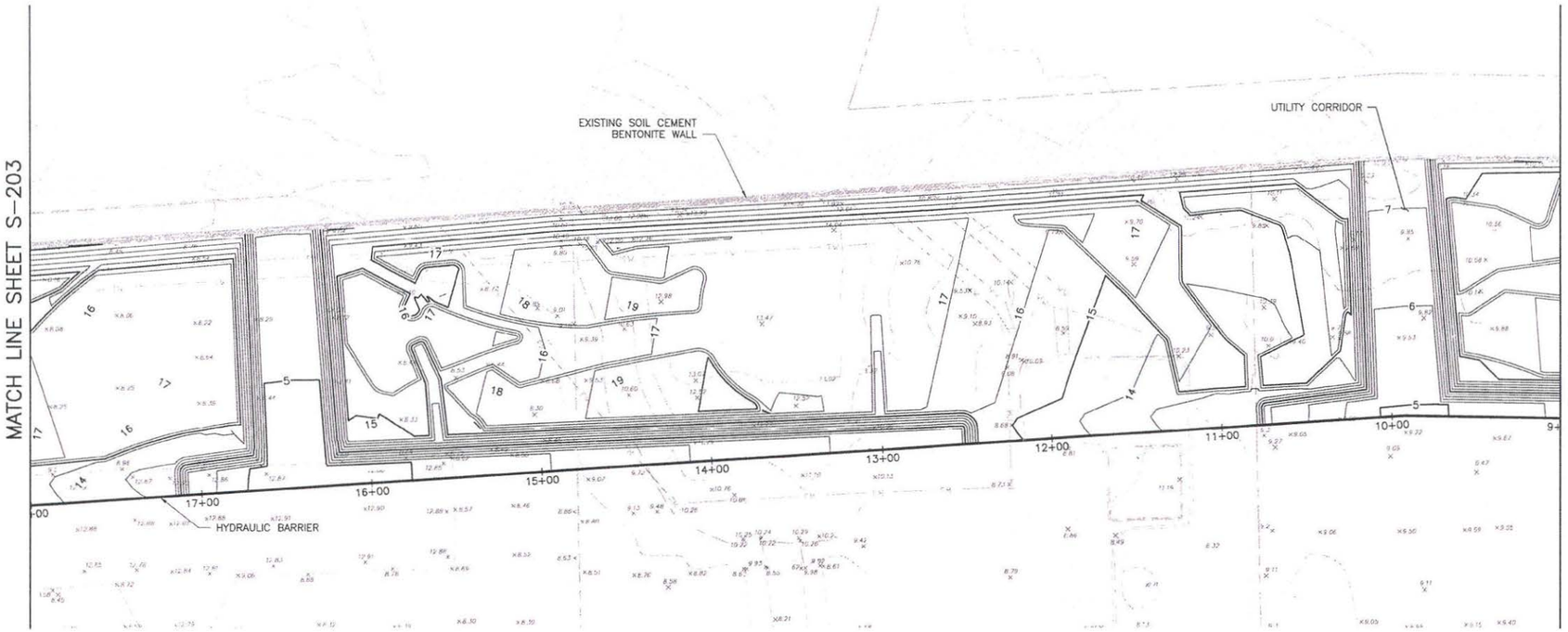
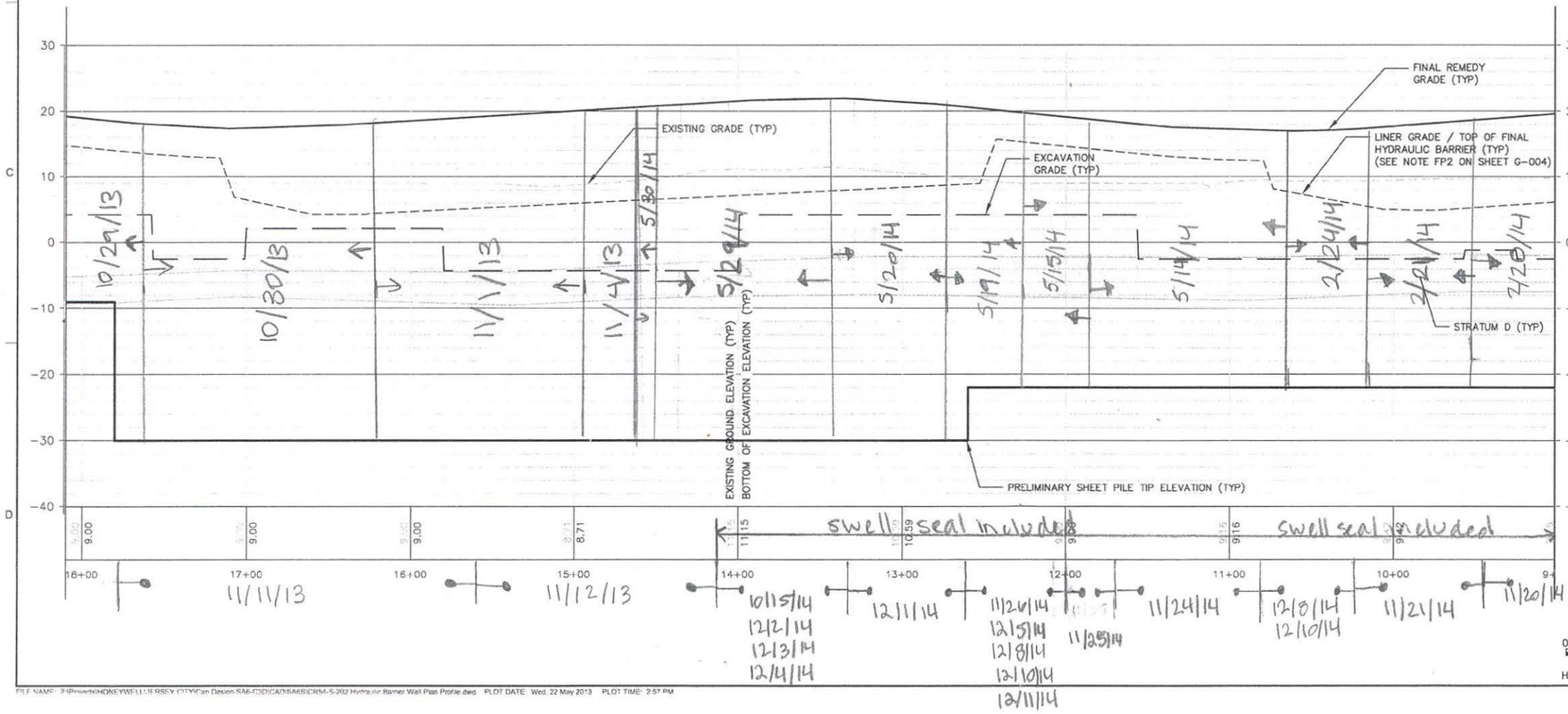
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Can Design-SA6-C3D\CAD\SA6SICR51-S-201 Hydraulic Barrier Wall Pass Profile.dwg PLOT DATE: Wed 22 May 2013 PLOT TIME: 1:09 PM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	5+00	12+60	-22	AZ 19-700
STRUCTURAL	12+60	17+80	-30	AZ 19-700
STRUCTURAL	17+80	19+00	-9	AZ 19-700



NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL 5/21/13
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
0	06/07/13	TDD	TDD	RJR	TDD	TDD	SHM

ISSUED FOR CONSTRUCTION
REVISION

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

HYDRAULIC BARRIER
PLAN & PROFILE

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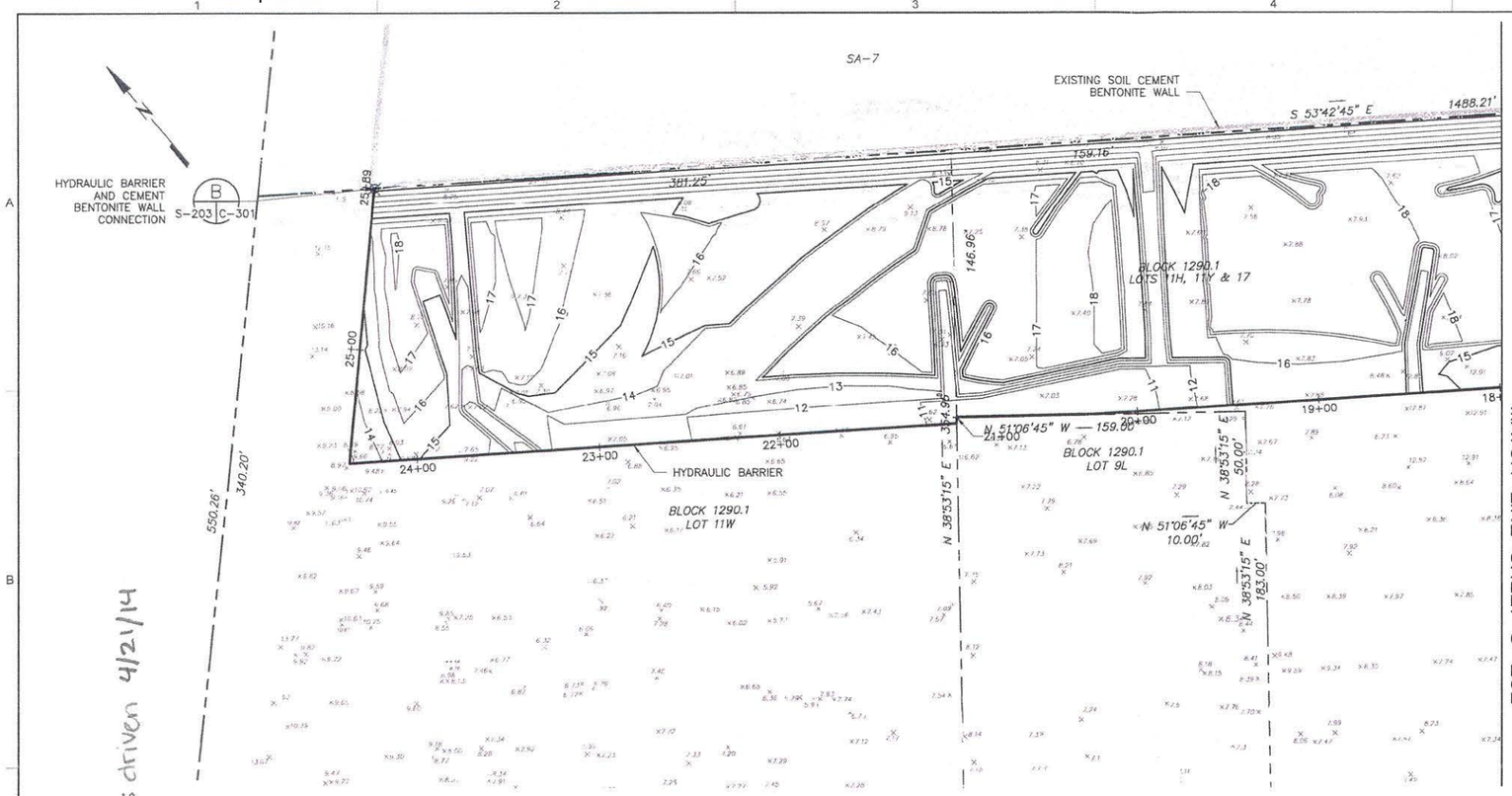
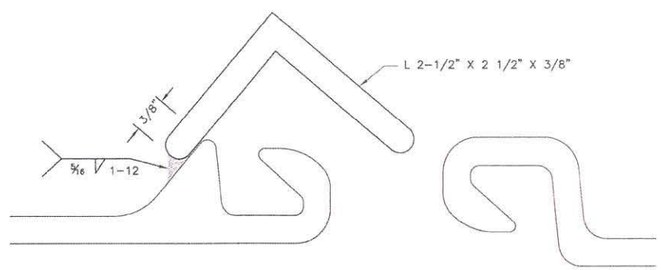
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2333
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

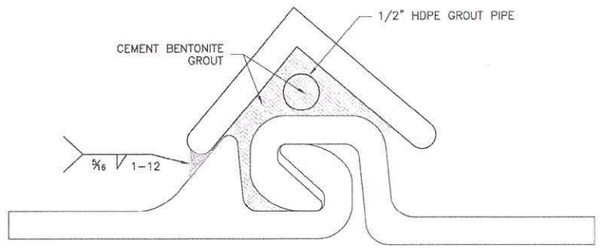
DATE	
PROJ	3480-12-0317
DWG	S-202
SHEET	54 OF 66

FILE NAME: J:\Projects\HONEYWELL\JERSEY CITY\Civil Design\SA6-7\3D\CAD\SA6SCR54-S-202 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 2:57 PM





BEFORE DRIVING SHEETS

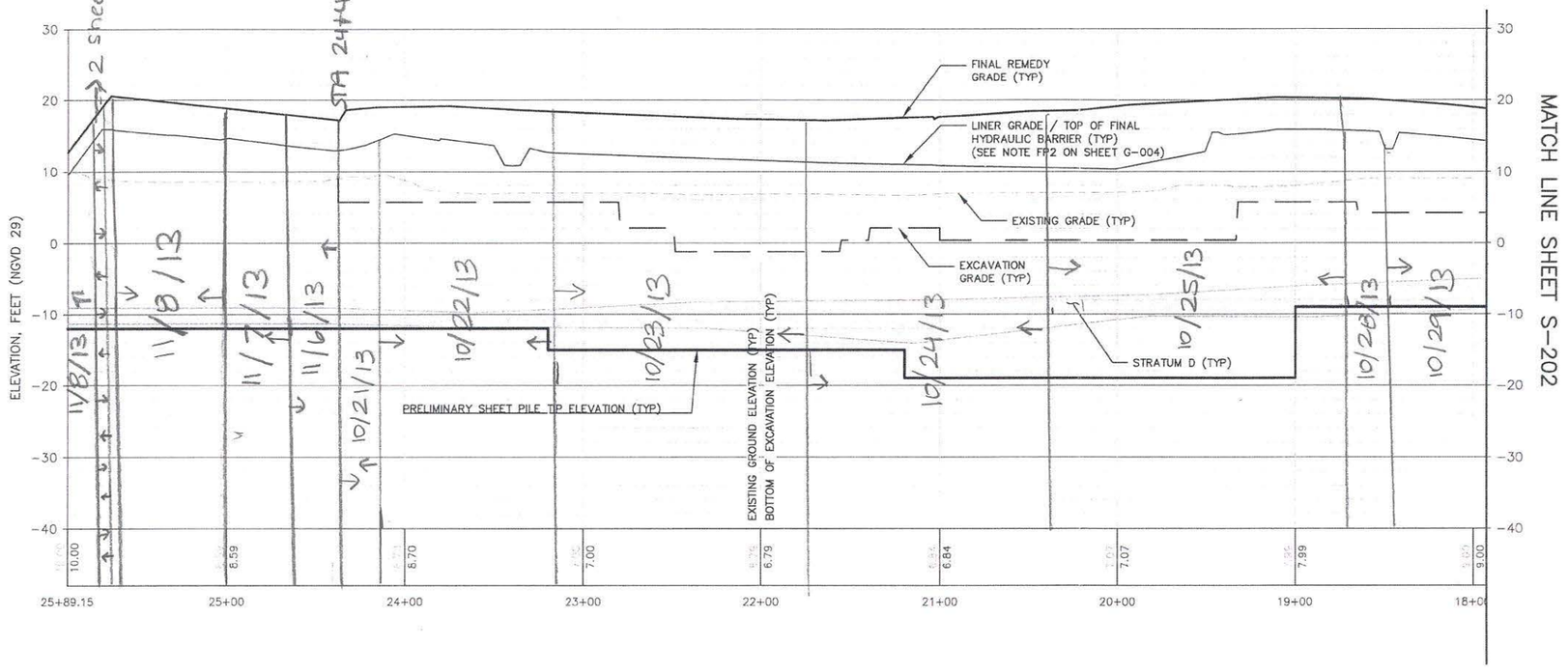


SHEET SEALING DETAIL
NTS
BF
TYP S-203

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	17+80	19+00	-9	AZ 19-700
STRUCTURAL	19+00	21+20	-19	AZ 19-700
STRUCTURAL	21+20	23+20	-15	AZ 19-700
STRUCTURAL	23+20	24+37	-12	AZ 19-700
NON STRUCTURAL	24+37	25+89	-12	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE



0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

STEPHEN H. MITCHELL
5/24/13
STATE OF NEW JERSEY
NO. 24GE04322400
PROFESSIONAL ENGINEER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
0	06/07/13	TDD	TDD	RJR	TDD	TDD	SHM

ISSUED FOR CONSTRUCTION
REVISION

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Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN & PROFILE

amec
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28519500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-203
SHEET	55 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR55-S-203 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Wed, 22 May 2013 PLOT TIME: 3:01 PM

Amec

SA-6 South Grouted Angles (2")

B	Date	Batch #	Batch Time	Sheetpile ID
13.2#	12/1/14	191	9:08	23P1-A
				20P-15
13.2#		192	9:56	20P-15
				20P-14
				20P-13
				20P-12
				20P-11
				20P-10
13.2#		193	10:24	20P-9
				20P-8
				20P-7
				20P-3
				20P-2
				20P-1
				Special 19P E
13.2#		194	12:50	Special 19P W
				Top off SP19-22Ps
13.2#	12/2/14	195	1:45	19P-64
				19P-63
19.8#		196	2:35	19P-64
				19P-63
				19P-66
				Top off 19P63-22P7
13.2#	12/3/14	197	9:33	19P-53
13.2#		198	10:15	19P-53
13.2#		199	11:05	19P-74
13.2#		200	1:00	19P-74
21#	(7#B/batch)	201	2:20	19P-71
				19P-74
				19P-76
14#	12/4/14	202	9:19	19P-75
	(7#B/batch)			Top off 71-76
				19P-77
				19P-78
14#		203	11:20	19P-78
				19P-79
14#		204	2:05	19P-80 @ 18.5
				19P-81
				19P-82
				Top off sheets
14#	12/5/14	205	8:10	20P-6
	(7#B/batch)			20P-5
7#		206	10:17	20P-7
21#		207	2:40	21P1-7
				21P-13

B	Date	Batch #	Batch Time	Sheetpile ID
14#	12/8/14	208	10:35	21P-11
14#		209	11:10	21P-11
14#		210	2:12	24P-1
				24P-3
13.2#	12/10/14	211	8:30	24P-11
				24P-10
				24P-9
				24P-8
19.8#		212	9:30	24P-8
				24P-7
				24P-6
				24P-5
				24P-4
				24P-2
				23P-14
		213	1:14	21P-3
		214	2:00	21P-3
19.8#	12/11/14	215	8:15	21P-10

* No angles were grouted on 12/9/14 23P-14 to 24P-11 were fully jetted

2/2

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 5, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection		X		2
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/05/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 05, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing surrounding the LOAM excavation area requires maintenance/repair
2	IA2Q4A1AL8	Flood protection barriers (jersey barriers, berms, bin blocks) are not either not present or else not staged in locations where they may be required.
3	IA2Q4A1AL8	Ponded storm water is present in the bottom of the main excavation on Study Area 6 South and on the surrounding backfill surface.
4	IA2Q4A1AL8	Garbage and debris have accumulated along Kellogg Street and at the jughandle.
5	IA2Q4A1AL8	Gaps are present in the perimeter fencing by the northeast corner of the sedimentation basin.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Date: 12/05/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the exclusion zone fencing as required.	12-8-14 RAD
2	Confirm that sufficient flood control measures are on hand which can be deployed across haul roads in during a flood event. Install/maintain measures wherever practical.	12-9-14 RAD
3	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	12-9-14 RAD
4	Pick up garbage debris along the SA-6/SA-7 road front.	12-8-14 RAD
5	Repair gaps in the perimeter fenceline on SA-6 North.	12-8-14 RAD

Construction Manager: _____ Date 12/09/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 11, 2014

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/11/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, December 11, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt Fence along the surcharge area requires repair
2	IA2Q4A1AL8	Exclusion zone fencing requires repair at location indicated
3	IA2Q4A1AL8	Ponded water present in areas of backfill on SA6 South
4	EHWG3RTMXR	Silt Fence on the north side of the SA7 raceway requires repair at the locations indicated
5	EHWG3RTMXR	Wind Screen requires repair at the location adjacent to the JCIA property.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: David Rhose (Signature) **Date:** 12/11/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair silt fence as required.	12/15/14 RAD
2	Repair exclusion zone fence at the location indicated on attached drawing.	12/12/14 RAD
3	Pump ponded water to the Construction Water Treatment plant when conditions allow.	12/12/14 RAD
4	Repair Silt fence at location indicated on attached drawing	12/15/14 RAD
5	Repair wind screen at location indicated on attached drawing.	12/12/14 RAD

Construction Manager: [signature] **Date:** 12/15/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 17, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		7
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		8

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/17/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, December 17, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The haul road on the eastern end of SA-6 South has depressions containing ponded storm water
2	IA2Q4A1AL8	Ponded storm water is present in the bottom of the main excavation on Study Area 6 South and on the surrounding backfill surface.
3	IA2Q4A1AL8	Bags containing used PPE and numerous used steel drums are present at the east end of the SA-6 South Exclusion Zone.
4	IA2Q4A1AL8	The orange Exclusion Zone fencing on the western side of the Sedmentation basin requires maintenance.
5	IA2Q4A1AL8	The haul road on the eastern side of the SA-6 North sedimentation basin has depressions containing ponded storm water and mud.
6	IA2Q4A1AL8	**Repeat Item:** The silt fence along the southern perimeter of the 1-N/2-N surcharge stockpile area requires maintenance or replacement in two locations.
7	IA2Q4A1AL8	Pallets of hydrochloric acid are stacked unevenly in the southern frac tank containment area.
8	IA2Q4A1AL8	Sediment has accumulated in the stone to the west of the western haul road on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 12/17/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the ponded water and either fill the depressions with suitable material or else regrade the area to eliminate the low spots.	~~12/22/14~~ RAD
2	Pump the ponded storm water to the Construction Water Treatment plant when conditions permit.	
3	Relocate the garbage bags of used PPE to the D material stockpile for loadout with the material. Crush and dispose of any drums which are no longer suitable for use on site.	12/18/14 RAD
4	Repair or replace the orange EZ fencing as required.	12/18/14 RAD
5	Remove the ponded water and either fill the depressions with suitable material or else regrade the area to eliminate the low spots	
6	Repair or replace the silt fence as required.	12/18/14 RAD
7	Stack the pallets in an orderly fashion to prevent toppling or spillage.	12/18/14 RAD
8	Remove sediment that has accumulated in the surface stone between the paved haul road and the river bulkhead. Regrade the stone following removal of sediment.	12/18/14 RAD

Construction Manager: _____ **Date:** 12/22/14

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 24, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams		X		7
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/24/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, December 24, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Stockpile areas on the western end of Study Area 6 South require containment berm maintenance
2	IA2Q4A1AL8	Material is piled against the containment berm at the eastern end of the SA-6 South Exclusion Zone.
3	IA2Q4A1AL8	The haul road on the eastern side of the SA-6 South backfill area has additional depressions containing ponded storm water and mud.
4	IA2Q4A1AL8	Storm water is ponded in the floor of the Study Area 6 South excavation.
5	IA2Q4A1AL8	Debris and packing materials are present on the ground in the area to the north of Droyer's Cove.
6	IA2Q4A1AL8	There is no silt fence installed along the eastern toe of the 2-N surcharge area.
7	IA2Q4A1AL8	The swale check dams on the Study Area 7 paved roadway require maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 12/24/14

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Reinstall or replace geotextile over Jersey barriers where they are used as stockpile containemnt structures; replace plastic sheeting as required on berms.	12/30/14 RAD
2	Reconfigure stockpiles so that they do not approach the top of containment berms.	12/29/14 RAD
3	Regrade additional sections of the haul road in the Study Area 6 backfill area as required.	12/31/14 RAD
4	Pump ponded storm water to the CWTP as necessary to eliminate surface ponds.	12/29/14 RAD
5	Pick up packing materials and construction debris from the support zone as required.	12/29/14 RAD
6	Install silt fence along the eastern toe of surcharge pile 2-N. Repair/replace other silt fence in the area as required.	12/30/14 RAD
7	Repair fabric/stone swale check dams on the SA-7 roadway as required.	12/31/14 RAD

Construction Manager: _____ **Date:** 12/31/14

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (November 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

December 19, 2014

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the November 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
11	01	14	11	30	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,575	83,081 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.37	0.41	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.003	<0.003	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.0787	0.0787	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Dec 17, 2014

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
11	01	14	11	30	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,297,244	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	22,335,119

DATE	BOD (mg/l)	TSS (mg/l)
11/12/2014	8.7	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris HR	John J. Morris	(973) 455-4003
		DATE Dec 17, 2014

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)						MONTH: November 2014					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
11/1/2014	Angel Trujillo	20037875	20118808	80,933	0.080933	7.51	0.586									0.40
11/2/2014	Angel Trujillo	20118808	20201889	83,081	0.083081	6.92	0.586									0.41
11/3/2014	Angel Trujillo	20201889	20277096	75,207	0.075207	6.97	0.586									0.37
11/4/2014	Angel Trujillo	20277096	20354215	77,119	0.077119	6.98	0.586									0.38
11/5/2014	Angel Trujillo	20354215	20433874	79,659	0.079659	7.00	0.586									0.39
11/6/2014	Angel Trujillo	20433874	20510194	76,320	0.07632	7.00	0.586									0.37
11/7/2014	Angel Trujillo	20510194	20586889	76,695	0.076695	6.69	0.586									0.37
11/8/2014	Angel Trujillo	20586889	20665698	78,809	0.078809	6.98	0.586									0.39
11/9/2014	Angel Trujillo	20665698	20738508	72,810	0.07281	6.96	0.586									0.36
11/10/2014	Angel Trujillo	20738508	20808861	70,353	0.070353	7.00	0.586									0.34
11/11/2014	Angel Trujillo	20808861	20891149	82,288	0.082288	6.95	0.586									0.40
11/12/2014	Angel Trujillo	20891149	20967321	76,172	0.076172	7.10	0.586	<5.0	8.7		<0.010	<0.003	<0.010	<0.0002	<0.020	0.37
11/13/2014	Angel Trujillo	20967321	21042784	75,463	0.075463	7.00	0.586									0.37
11/14/2014	Angel Trujillo	21042784	21118538	75,754	0.075754	6.97	0.586									0.37
11/15/2014	Angel Trujillo	21118538	21199482	80,944	0.080944	7.00	0.586									0.40
11/16/2014	Angel Trujillo	21199482	21275229	75,747	0.075747	6.94	0.586									0.37
11/17/2014	Angel Trujillo	21275229	21347230	72,001	0.072001	6.96	0.586									0.35
11/18/2014	Angel Trujillo	21347230	21426478	79,248	0.079248	6.98	0.586									0.39
11/19/2014	Angel Trujillo	21426478	21501857	75,379	0.075379	7.00	0.586									0.37
11/20/2014	Angel Trujillo	21501857	21576920	75,063	0.075063	7.02	0.586									0.37
11/21/2014	Angel Trujillo	21576920	21656299	79,379	0.079379	6.96	0.586									0.39
11/22/2014	Angel Trujillo	21656299	21731024	74,725	0.074725	7.01	0.586									0.37
11/23/2014	Angel Trujillo	21731024	21809064	78,040	0.07804	6.94	0.586									0.38
11/24/2014	Angel Trujillo	21809064	21883321	74,257	0.074257	6.90	0.586									0.36
11/25/2014	Angel Trujillo	21883321	21957929	74,608	0.074608	6.88	0.586									0.36
11/26/2014	Angel Trujillo	21957929	22033245	75,316	0.075316	7.09	0.586									0.37
11/27/2014	Angel Trujillo	22033245	22111351	78,106	0.0781	7.06	0.586									0.38
11/28/2014	Angel Trujillo	22111351	22186307	74,956	0.074956	7.09	0.586									0.37
11/29/2014	Angel Trujillo	22186307	22261895	75,588	0.075588	7.07	0.586									0.37
11/30/2014	Angel Trujillo	22261895	22335119	73,224	0.073224	7.10	0.586									0.36
TOTAL				2,297,244	2.297244			<5.0	8.7		<0.010	<0.003	<0.010	<0.0002	<0.020	
			High:	83,081											High:	0.41
			Average:	76,575											Average:	0.37

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-A		
Lab Sample ID:	JB81602-1	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	586	10	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 3.0	3.0	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	11/13/14	11/13/14	DP	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	11/14/14	11/15/14	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA35416
(2) Instrument QC Batch: MA35425
(3) Prep QC Batch: MP83238
(4) Prep QC Batch: MP83265

RL = Reporting Limit

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-A		
Lab Sample ID:	JB81602-1	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	11/13/14	KP	SM2540 D-11
pH [a]	6.88		su	1	11/12/14 19:02	AR	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-A		
Lab Sample ID:	JB81602-1A	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	8.7	5.0	mg/l	1	11/12/14 21:46	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-B		
Lab Sample ID:	JB81602-2	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N241119.D	1	11/14/14	DC	n/a	n/a	VN10228
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
71-43-2	Benzene	2.5	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
67-66-3	Chloroform	19.0	1.0	0.14	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.1	1.0	0.24	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.16	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
75-09-2	Methylene chloride	0.58	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	48.8	1.0	0.17	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	97%		71-128%
2037-26-5	Toluene-D8 (SUR)	101%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	98%		81-114%
1868-53-7	Dibromofluoromethane (S)	99%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@827964 11:50 03-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-111214-B		
Lab Sample ID:	JB81602-2	**Date Sampled:**	11/12/14
Matrix:	AQ - Water	**Date Received:**	11/12/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	11/14/14	LS	EPA 1664A

RL = Reporting Limit

WW

E

JB81602

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	41965.44379
2236 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County / Phase: CS	COC#	087-WW-111214
Sampling Co.: Parsons	EDD To:	Location of Site: Jersey City, NJ / Sampling Program: 087: JCIA	Lab Proj # (SDG):	
Client Contact: (name, co., address)	Sampler: Frank Schroyer		Lab ID	ACTD
Helen Fahy P (973) 455-2989 E helen.fahy@honeywell.com	PO #	Preservative: 3	Site ID	HudsonCo
Honeywell International 101 Columbia Road Morristown, NJ 07962	Analysis Turnaround Time (TAT): 3 Consultant: CH2M		Lab Job #	HWINJM32815
Preliminary Data To			Authorized User:	Honeywell
Sample Receipt Acknowledgement To: Frank Schroyer			Text & Excel File Drive	Excel & Text File Order
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

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	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E408.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																	
1	087-WW			087-WWE-111214-A	11/12/2014	14:20	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					L28
2	087-WW			087-WWE-111214-B	11/12/2014	14:30	WW	WATER	REG	5	grab	N					X	X				2					V292
3	087-WW			087-WWI-111214	11/12/2014	14:50	WW	WATER	REG	3	grab	N									X	3					
4																											All
5																											GS
6																											
7																											
8																											
9																											
10																											
11																											
12																											

LES RECEIVED
PRESERVED AS APPLICABLE

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
Frank Schroyer pH=7.10@6.8° C	Parsons				
	Date/Time 11/12/14	Date/Time 11-12-14 1430		Cooler Temp.	
Relinquished by	Company	Received by	Company A.L.N.T	Condition	Custody Seals Intact
	Date/Time 11.12.14 18:10		Date/Time 11/12 1810	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

JM

I 34C

1B/a

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending December 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

2/12/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

February 12, 2015 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
c/o Kate Farley, Rosemont Associates
73 Kingwood Stockton Road
Stockton,NJ 08559

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-01

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from January 1 – January 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: January 2015 SA-6/7 Combined Monthly Progress Report No. 2015-01

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-01

Project SA-6 & 7 Remediation

January 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
01/05/15	Surcharge Monitoring Plan – Monthly Report No. 7 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/07/15	Surcharge Monitoring Plan – Monthly Report No. 8 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
01/14/15	Combined Monthly Progress/Highlights Report No. 2014-12 Study Areas 6 and 7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
01/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission
01/20/15	Special Master Conference Call	N/A
01/23/15	Underground Storage Tank Remedial Action Report 100 Kellogg Street Block 24601/Lots 3 and 4 NJDEP Case No. 14-08-05-0956-44 Study Area 6 South - Site 134 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
01/28/15	Design Change Bulletin Study Area 6 South - Site 163 Shallow Excavation Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	01/04/15	01/11/15	01/18/15	01/25/15	02/01/15
Construction Management (AMEC)	8	10	11	11	9
Engineering (AMEC)	1	1	1	1	0
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	2	2	2	2	2
Entact/Subcontractors	30	29	26	23	29
Arecon/US Ecology Subcontractors	0	0	0	1	1
Evoqua	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
Gramercy	7	6	8	10	11
TOTAL STAFF	**50**	**50**	**50**	**50**	**54**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected January PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed protection of JCIA incinerator building trash pit.
- On January 5, 2015, began demolition and load out of the JCIA structures.
- Fence contractor installed new fence and gate posts at entrance to the Department of Public Works (DPW).
- Received confirmation from New Jersey Department of Transportation (NJDOT) that the Drainage Permit at SA-6 North is no longer needed.
- On December 8, 2014 a leaking diesel line was identified on a water truck. Sampling of the impacted soil was performed and laboratory analysis received on January 5, 2015 indicated the result was Non-Hazardous. On January 15, 2015 the surficial soil was transported off site to non-hazardous disposal facility.

- On January 21, 2015, meeting was held with representatives of the City of Jersey City and DPW to review progress of the remaining relocation activities.
- On February 10, submitted Year 1 Implementation Report for Study Area 7 Sediment Remedy Long-term Monitoring Program.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on January 16. 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	01/04/15	01/11/15	01/18/15	01/25/15	02/01/15
Avg. Gallons Treated & Discharged (per day)	76,532	75,901	75,971	75,238	76,089
Average Flow (gpm) for Operating Period	56	53	53	53	53
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP Influent Tanks (gal.)	11,840	6,556	8,173	10,308	6,256

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart, Weekly Excavation and Survey Data, Backfill Compaction Locations, and Field Density Test Summary Log)*

- Continued storm-water management activities.
- Completed excavation of locations designated as Site 163-1, Area 42 and Area 43.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/ FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	17.31	17.31
Gramercy/ Horwith *	40 Cyd Roll off	Newburg, PA	Cumberland County Landfill	Friable ACM	2	3.61	7.23
Gramercy- (JCIA Demo)	20 cyd rol off	Jersey City, NJ	Sims Metal	Aluminum	1	1.4	1.4
Gramercy- (JCIA Demo)	40 Cyd Roll off	Jersey City, NJ	Sims Metal	Metal	41	9.4	386.1

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	40 Cyd Roll off	North Bergen, NJ	Cardella Waste	C&D	14	12.5	175.2
Gramercy- (JCIA Demo)	30 cyd roll off	Bayonne, NJ	Durable Recycling	Concrete	57	14.1	803.4
Gramercy- (JCIA Demo)	40 Cyd Roll off	Bayonne, NJ	Durable Recycling	Brick/Masonry	2	18.3	36.5
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	121	25.1	3,045.50
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Diesel Impacted Soil	2	14	28

** December 2014 Transport*

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Anomalous Material near Site 163-1, Area 42, Area 43
Backfill in Progress	No backfill occurred during the reporting period

3. BACKFILL MATERIALS USED

No backfill occurred and dropping table this month.

E. SURCHARGE OPERATIONS

- Area 1S: Continue offloading Celgene material from 1S and relocating to 2S approximately 80% complete.
- Area 2S: Surcharging continued on Area 2S. Surcharge placement consisted of both chromium impacted soils to the design sub-grade and both imported Celgene and Novartis soils. Surcharge placement is approximately 95% complete.
- Area 3S: Surcharge placement continued on Area 3S and is approximately 60% complete.
- Area 1N: Continued surcharge removal activities. Surcharge removal activities are approximately 85% complete. Details will be provided in the January 2015 Surcharge Monitoring Report No. 10.
- Area 2N: Surcharge placement is 100% complete. Monitoring data (provided in Surcharge Monitoring Report No. 7) indicates that surcharge has attained the goals per the 100% Design and may be removed.
- Area 3N: No activity in this area pending JCIA Demolition.
- Area 4N: No activity in this area pending JCIA Demolition.

- Active Monitoring for Surcharge is currently limited to Areas 2S and 3S. The combination of snow and temperatures are preventing personnel from taking readings at many locations in these areas at the frequency stated in the Surcharge Monitoring Plan Monitoring will resume at all points when it is feasible and safe to do so.

F. SHEET PILE OPERATIONS

- Excavation proximate to the SA-6 South barrier wall was completed on October 28, 2014 and backfill has been progressed in all areas against the SA-6 South barrier wall. Deflection readings are therefore no longer required.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue JCIA Structures Demolition and load out activities.
- Continue placement of surcharge materials in SA-6 South Area 2S and Area 3S.
- Continue loadout and transportation and disposal activities at SA-6 South.
- Continue accepting delivery of steel sheetpile for remaining SA-6 North Barrier Wall installation.
- Conduct well development of injection well 088-IW-01 on SA-6 North.
- Conduct well development of GWET extraction well PW-2.
- Conduct acid cleaning of the PW-2 force main.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Obtain NJDOT Highway Occupancy Permit for upcoming SA-6 North activities proximate to Rt. 440 frontage.
- Continue the SA-6 North Bench-Scale treatability study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
   - Excavation Bottom Elevations
   - Maser Survey Tables: SA-6 South Excavation: Confirmatory Points
   - Figure 2: Color Coded Excavation Bottom
   - Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
   - Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)
4. Dewatering Operations Update
   - SA-6 South Deep Well Data (DW-4)
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
   - Stockpiled Material Tracking and Sampling Log
7. Perimeter Pools Update
8. *Groundwater Quality Data (sampled quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. *Sheet Pile Update (not included in this reporting period)*
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (December 2014)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15



Project: SA-6 Remediation Schedule
Revision 3
Date: Tue 2/3/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Contractor grades surcharge material after placement.



Site Photograph 2: Contractor loads out soils for off-site disposal.



Site Photograph 3: Contractor loads out surcharge material.



Site Photograph 4: Contractor removes surcharge material.



Photograph 5: JCIA Demo loading scrap steel.



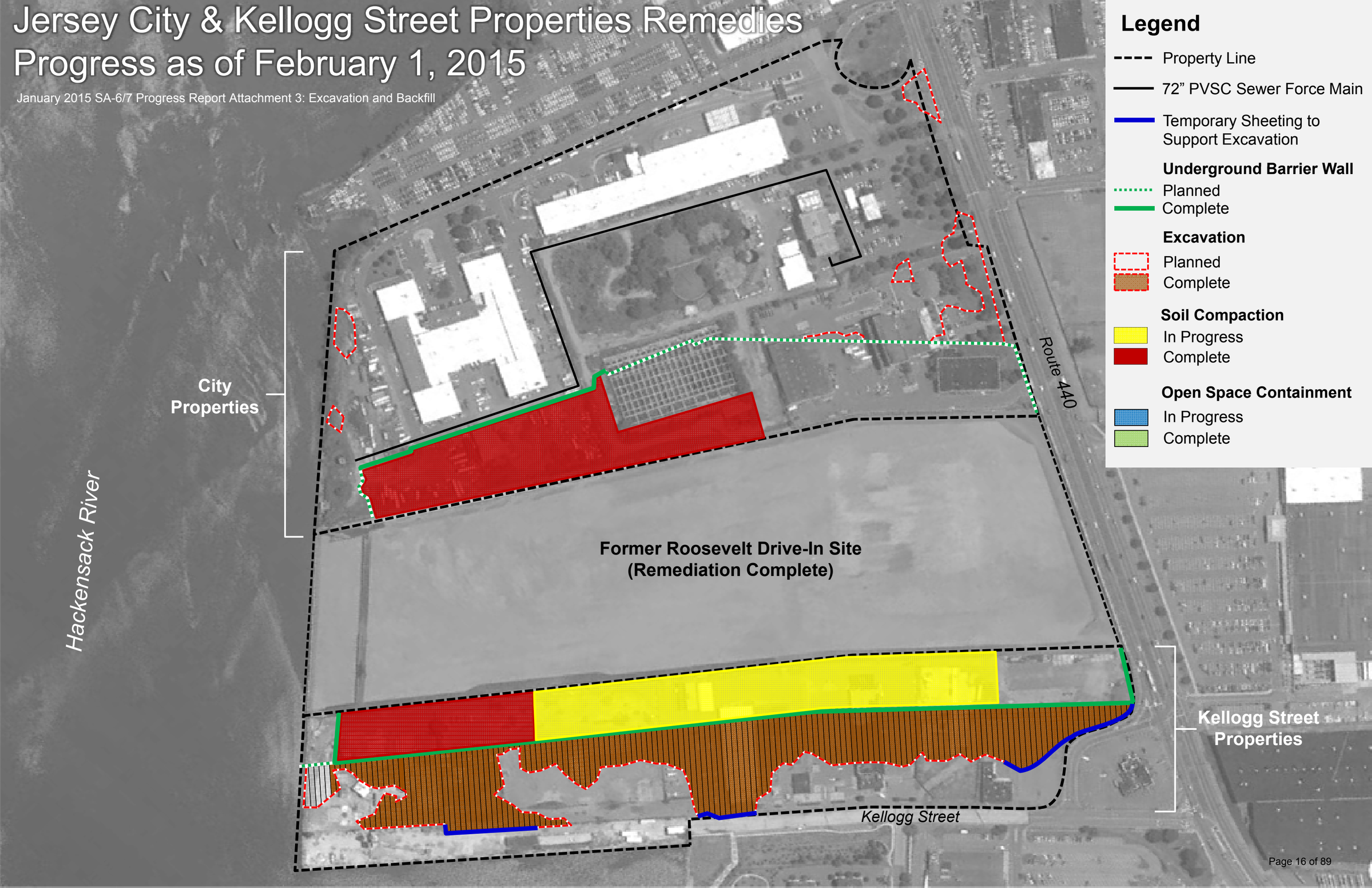
Site Photograph 6: JCIA Demo sorting steel and masonry.

Attachment 3: Excavation and Backfill

- Progression Chart
- Excavation Bottom Elevations
- Maser Survey Tables: SA-6 South Excavation: Confirmatory Points
- Figure 2: Color Coded Excavation Bottom
- Field Density Test Summary Log (Every 2,500SF/5 Tests per Acre)
- Backfill Compaction Locations (Every 2,500SF/5 Tests per Acre)

Jersey City & Kellogg Street Properties Remedies
Progress as of February 1, 2015

January 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Legend

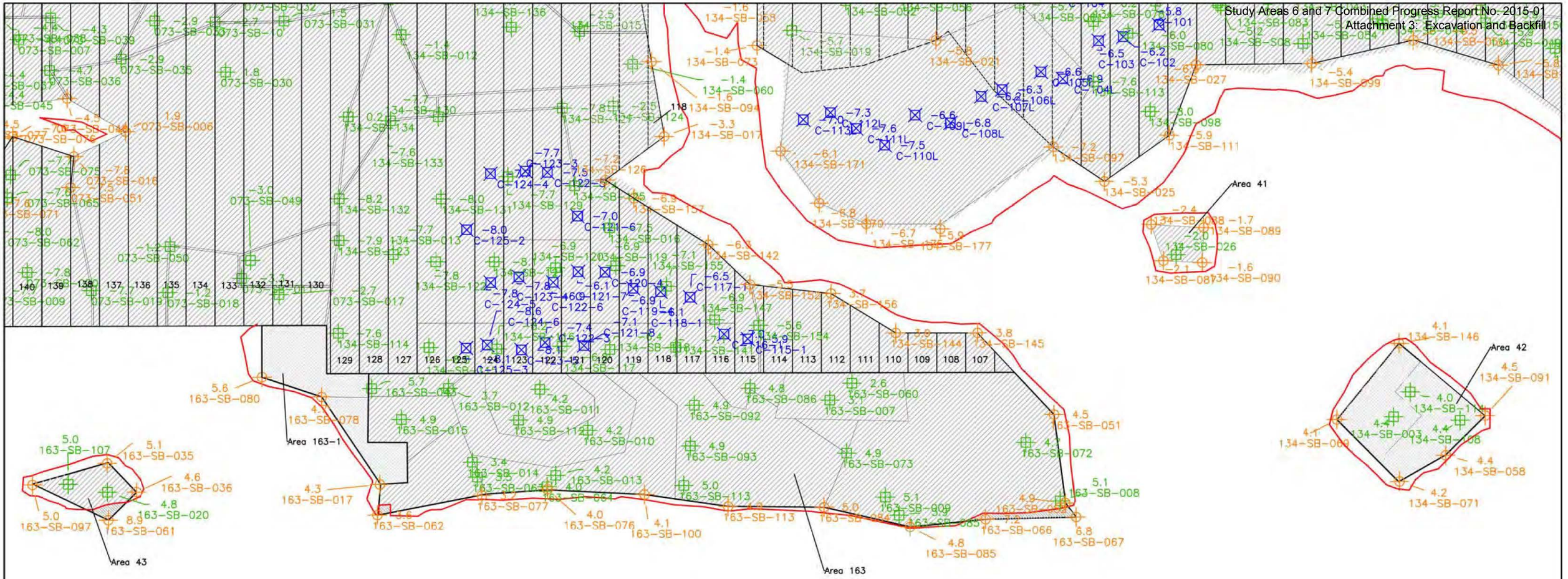
- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM D EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- AREA DEFERRED TO PRESERVE BULKHEAD
- LIMIT OF EXCAVATION AREA
- TOP OF EXCAVATION SLOPE

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS Area 42 & 163-1
PERIOD 12-10-14 TO 12-22-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation (Site 163): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685185.6	601432.8	5.8	163-SB-107	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685169.6	601446.1	6.0	163-SB-020	N/A	10/30/2014	4.8	Area 43 - Target Elevation Reached
685102.9	601588.4	5.2	163-SB-015	N/A	10/30/2014	4.9	Area 163 - Target Elevation Reached
685125.0	601586.5	6.3	163-SB-043	N/A	10/30/2014	5.7	Area 163 - Target Elevation Reached
685037.6	601660.2	4.5	163-SB-010	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685029.9	601632.6	5.2	163-SB-013	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685028.1	601625.3	6.8	163-SB-064	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685064.3	601635.5	4.9	163-SB-112	N/A	11/5/2014	4.9	Area 163 - Target Elevation Reached
685069.7	601654.2	5.0	163-SB-011	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685054.7	601600.3	3.6	163-SB-063	N/A	10/31/2014	3.5	Area 163 - Target Elevation Reached
685062.5	601603.2	4.6	163-SB-014	N/A	10/31/2014	3.4	Area 163 - Target Elevation Reached
685100.1	601617.6	5.3	163-SB-012	N/A	10/31/2014	3.7	Area 163 - Target Elevation Reached
684984.0	601680.9	5.5	163-SB-113	N/A	11/7/2014	5.0	Area 163 - Target Elevation Reached
684997.7	601696.5	5.5	163-SB-093	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685012.8	601711.3	5.6	163-SB-092	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685001.4	601739.4	6.6	163-SB-086	N/A	11/7/2014	4.8	Area 163 - Target Elevation Reached
684854.7	601827.8	5.7	163-SB-008	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684889.4	601833.1	6.2	163-SB-072	N/A	11/12/2014	4.7	Area 163 - Target Elevation Reached
684901.6	601758.2	7.6	163-SB-085	N/A	11/12/2014	4.0	Area 163 - Target Elevation Reached
684913.3	601758.5	5.7	163-SB-009	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684943.7	601757.2	5.9	163-SB-073	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684970.6	601767.7	3.3	163-SB-007	N/A	11/12/2014	3.1	Area 163 - Target Elevation Reached
684970.3	601782.2	3.3	163-SB-060	N/A	11/12/2014	2.6	Area 163 - Target Elevation Reached
684784.2	602004.7	4.9	134-SB-114	N/A	12/12/2014	4.0	Area 42 - Target Elevation Reached
684779.6	601989.9	4.8	134-SB-003	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684756.5	602015.6	5.8	134-SB-108	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Target Reached. Over excavation conducted as directed by engineer.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
685197.1	601418.1	5.2	163-SB-097	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685181.4	601455.3	6.0	163-SB-035	N/A	10/30/2014	5.1	Area 43 - Target Elevation Reached
685158.1	601437.3	7.0	163-SB-061	N/A	10/30/2014	8.9	Area 43 - deferred to preserve Bulk Head
685160.1	601457.8	7.5	163-SB-036	N/A	10/30/2014	4.6	Area 43 - Target Elevation Reached
685026.9	601624.6	7.8	163-SB-076	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685045.9	601596.1	7.9	163-SB-077	N/A	10/31/2014	3.2	Area 163 - Target Elevation Reached
685072.2	601547.5	7.1	163-SB-062	N/A	10/30/2014	3.6	Area 163 - Target Elevation Reached
684993.2	601662.1	6.4	163-SB-100	N/A	11/7/2014	4.2	Area 163 - Target Elevation Reached
684961.1	601691.9	7.3	163-SB-113	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
684871.6	601791.8	5.6	163-SB-066	N/A	11/12/2014	7.2	Area deferred to preserve Bulk Head
684893.3	601758.8	5.6	163-SB-085	N/A	11/12/2014	4.8	Area 163 - Target Elevation Reached
684929.4	601730.4	5.2	163-SB-084	N/A	11/12/2014	5.0	Area 163 - Target Elevation Reached
684891.6	601853.5	6.9	163-SB-051	N/A	11/12/2014	4.5	Area 163 - Target Elevation Reached
684852.1	601829.3	5.6	163-SB-052	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684843.0	601829.0	5.6	163-SB-067	N/A	11/12/2014	6.8	Area 163 (deferred to preserve Bulk Head)
684797.0	601966.1	5.7	134-SB-069	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684807.5	602016.1	5.9	134-SB-146	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684750.1	602027.2	6.4	134-SB-091	N/A	12/12/2014	4.5	Area 42 - Target Elevation Reached
684747.0	601998.4	6.0	134-SB-058	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684751.6	601971.2	5.6	134-SB-071	N/A	12/12/2014	4.2	Area 42 - Target Elevation Reached
685138.0	601563.6	6.2	163-SB-078	N/A	12/22/2014	4.7	Area 163-1 - Target Elevation reached
685083.7	601558.5	6.0	163-SB-017	N/A	12/22/2014	4.3	Area 163-1 - Target Elevation reached
685165.5	601546.0	6.5	163-SB-080	N/A	12/22/2014	5.6	Area 163-1 - Target Elevation reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 1/7/15

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

EXISTING SOIL CEMENT BENTONITE WALL (TYP)

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

NEW JERSEY STATE HIGHWAY ROUTE 440

MATCH LINE SEE BELOW

SOIL RETENTION SYSTEM (TYP)

KELLOGG STREET

HACKENSACK RIVER

CAP AREA (TYP)

EXISTING BULKHEAD (TYP)

MATCH LINE SEE ABOVE

LIMIT OF LOAM EXCAVATION BOT EXC TO STRATUM D

BOT OF EXC AREA 163 VARIES 6.00 TO 3.30

BOT OF EXC AREA 163-1 VARIES 6.00 TO 5.50

- EXCAVATION BOTTOM ELEVATION 5.7
- EXCAVATION BOTTOM ELEVATION 4.2
- EXCAVATION BOTTOM ELEVATION 2.1
- EXCAVATION BOTTOM ELEVATION 0.4
- EXCAVATION BOTTOM ELEVATION (1.2)
- EXCAVATION BOTTOM ELEVATION (2.5)
- EXCAVATION BOTTOM ELEVATION (4.3)
- EXCAVATION BOTTOM ELEVATION (7.5)
- EXCAVATION BOTTOM ELEVATION (8.4)
- EXCAVATION BOTTOM ELEVATION (8.7)
- EXCAVATION BOTTOM ELEVATION (8.9)
- REVISIONS TO ORIGINAL FIGURE (SEE NOTES 3 THRU 4)

NOTES:

1. CONTOURS ON THIS SHEET REPRESENT BOTTOM OF EXCAVATION.
2. THE APPROVED 100% DESIGN DOCUMENTS OUTLINE CONDITIONS WHERE THE FINAL EXCAVATION BOTTOM MAY BE SHALLOWER IF STRATUM D IS ENCOUNTERED.
3. LENS OF ANOMALOUS MATERIAL VISUALLY IDENTIFIED AND FURTHER DELINEATED THROUGH FIELD SAMPLING HAS BEEN ADDED AND IDENTIFIED AS LOAM AREA.
4. EXCAVATION AREAS 163, 163-1, 42, AND 43 HAVE BEEN ADDED TO THE ORIGINAL COLOR CODED EXCAVATION BOTTOM FIGURE.

Revision/Date: TDD 12/16/14
Checked/Date: SGS 12/16/14

0 25 50 100
SCALE IN FEET

Honeywell
101 COLUMBIA RD, BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

SA-6 SOUTH
COLOR CODED EXCAVATION BOTTOM
FIGURE 2

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
	684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
	684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
										9	Type A Material	No compaction testing required	
11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
	684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
										11	Type A Material	No compaction testing required	
12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
	684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
										12	Type A Material	No compaction testing required	
12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
	684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
										14	Crushed concrete	No compaction testing required	
12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
	684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
										15	Crushed concrete	No compaction testing required	
12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
	684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
										16	Crushed concrete	No compaction testing required	
12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
	684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
										17	Crushed concrete	No compaction testing required	
1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
	684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
										18	Crushed concrete	No compaction testing required	
1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
	684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
										19	Crushed concrete	No compaction testing required	
1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
	684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
										20	Crushed concrete	No compaction testing required	
1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
	684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
										22	Crushed concrete	No compaction testing required	
1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
	684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	
										23	Crushed concrete	No compaction testing required	
1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
	684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
										24	Crushed concrete	No compaction testing required	
1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
	684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
										25	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
	684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
										26	Crushed concrete	No compaction testing required	
3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
	684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
										27	Crushed concrete	No compaction testing required	
3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
	684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
										28	Crushed concrete	No compaction testing required	
3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
	684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
										29	Crushed concrete	No compaction testing required	
3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
	684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Bridge Lift	V5N
3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
	684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
										31	Crushed concrete	No compaction testing required	
3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
	684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
										32	Crushed concrete	No compaction testing required	
3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
	684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
										33	Crushed concrete	No compaction testing required	
3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
	684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
										34	Crushed concrete	No compaction testing required	
3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
	684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
										35	Crushed concrete	No compaction testing required	
3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced with DGA	V5N
3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
	684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
										36	Crushed concrete	No compaction testing required	
3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
	684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
	684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
	684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
	684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
	684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
	684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
	684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
	684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
	684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
	684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
	684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
	684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
	684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
	684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N
	684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
	684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
	684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DGA	V5N
	684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
	684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
	684732.5	602221.3	-3.3							79 (So)	Stratum D		
10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
	684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
	684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
	684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
	684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
	684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
	684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
	684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
	684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
	684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
	684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
	684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
	684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
	684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
	685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
	685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
	685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
	685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

				FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
	685084.0	601708.8	-7.5							120 (So)			
7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
	685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
	685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
	685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
	685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N
	685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
	685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
	685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
	685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
	685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
	685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.

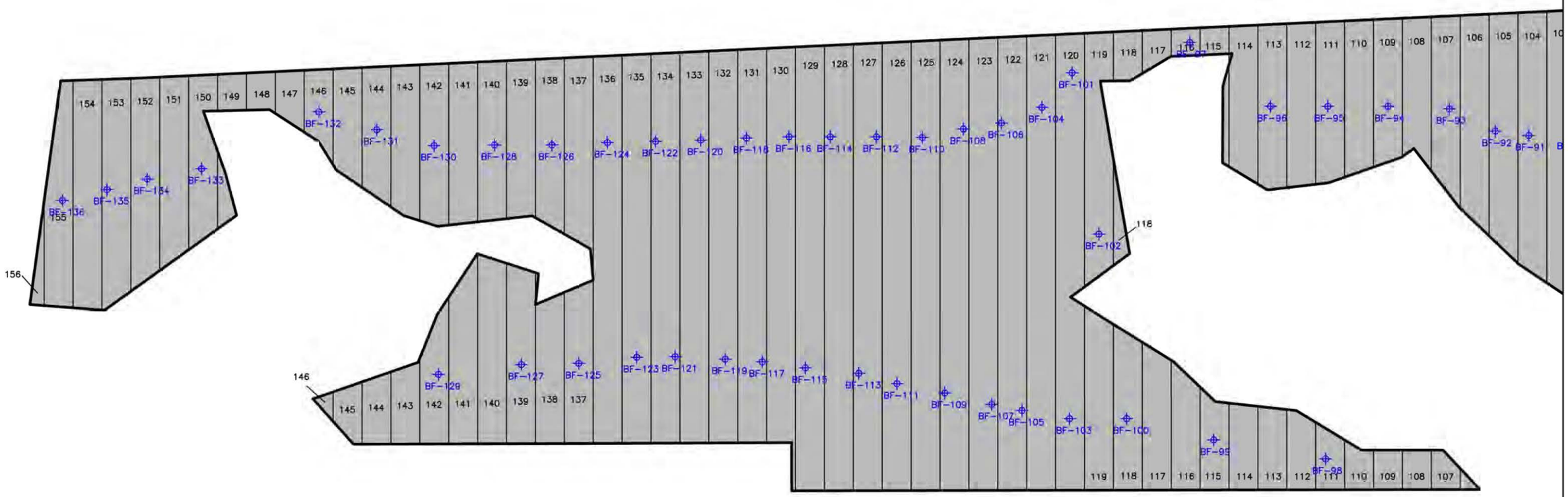
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



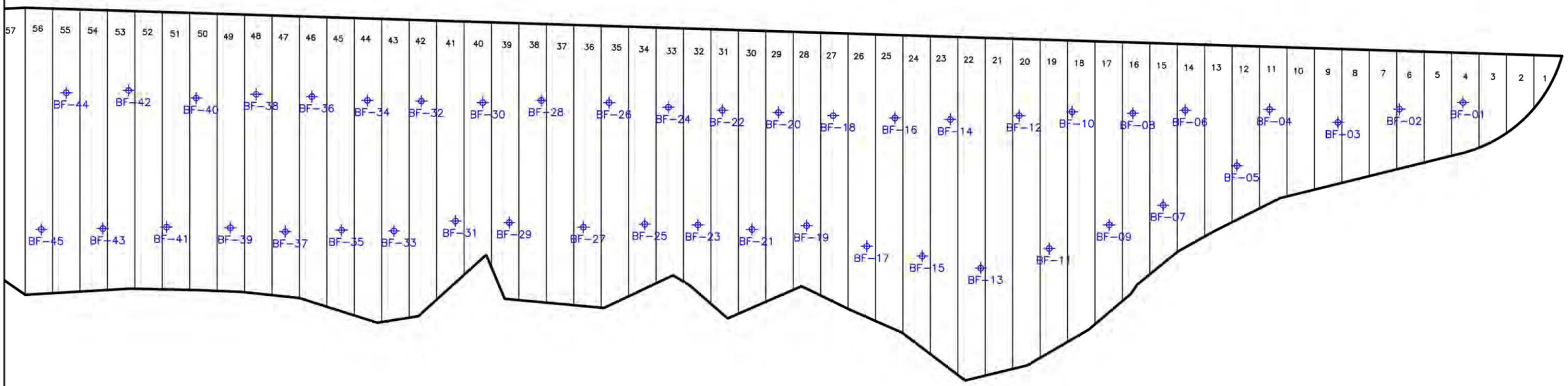
NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
EVERY 2,500 SF
BF-95 TO BF-136

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 2. a.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N

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Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes:

Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.

Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.

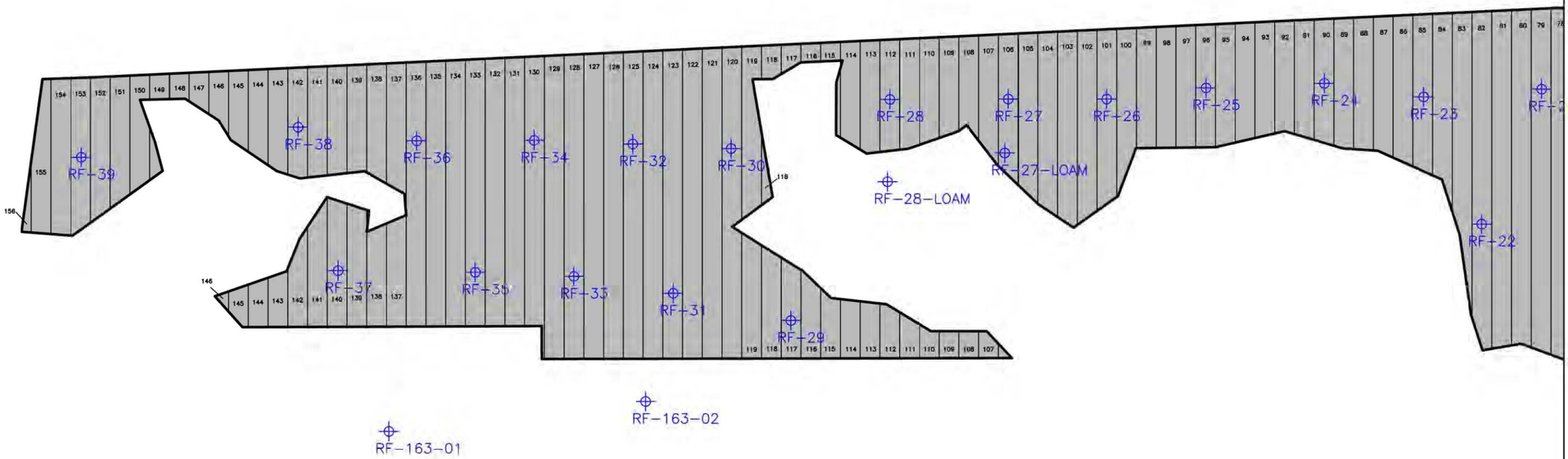
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b

Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C

Bottom of excavation elevation based on Maser survey data (Center Point elevations)

Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again



NOTE:

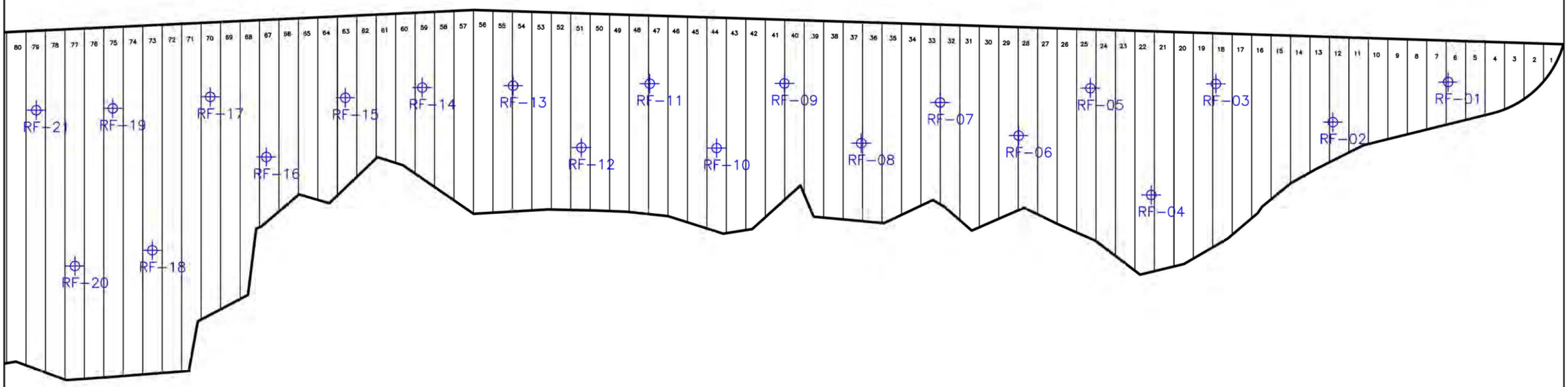
Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, RF-163-01. RF-163-02

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 012315 3.13 A. 3.

Weldon Watchung screenings testing frequency reduced as of 2/11/14.

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 4: Dewatering Operations Update

- SA-6 South Deep Well Data (DW-4)

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-4)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/14/14	24	N/A	N/A	6,500	80,718	4.5	Pump Online for LOAM Excavation
11/17/14	72	N/A	N/A	19,500	100,218	4.5	Flow Meter Not Installed - Tank Measured
11/18/14	24	N/A	N/A	6,500	106,718	4.5	Flow Meter Not Installed - Tank Measured
11/19/14	24	N/A	N/A	6,500	113,218	4.5	Flow Meter Not Installed - Tank Measured
11/20/14	24	N/A	N/A	6,500	119,718	4.5	Flow Meter Not Installed - Tank Measured
11/21/14	24	N/A	N/A	6,500	126,218	4.5	Flow Meter Not Installed - Tank Measured
11/22/14	24	N/A	N/A	6,500	132,718	4.5	Flow Meter Not Installed - Tank Measured
11/24/14	48	N/A	N/A	13,000	145,718	4.5	Flow Meter Not Installed - Tank Measured
11/25/14	24	N/A	N/A	6,500	152,218	4.5	Flow Meter Not Installed - Tank Measured
11/28/14	72	N/A	N/A	19,500	171,718	4.5	Flow Meter Not Installed - Tank Measured
11/30/14	48	N/A	N/A	12,500	184,218	4.3	Flow Meter Not Installed - Tank Measured
12/01/14	24	N/A	N/A	6,500	190,718	4.5	Flow Meter Not Installed - Tank Measured
12/02/14	24	N/A	N/A	6,500	197,218	4.5	Flow Meter Not Installed - Tank Measured
12/03/14	24	N/A	N/A	6,500	203,718	4.5	Flow Meter Not Installed - Tank Measured
12/4/2014	24	N/A	N/A	6,500	210,218	4.5	Flow Meter Not Installed - Tank Measured
12/5/2014	24	N/A	N/A	6,500	216,718	4.5	Flow Meter Not Installed - Tank Measured
12/6/2014	24	N/A	N/A	6,500	223,218	4.5	Flow Meter Not Installed - Tank Measured
12/8/2014	48	N/A	N/A	12,500	235,718	4.3	Pump Taken Offline

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
12/01/14	8:30	14:30	6:00	23,021.47	23,125.75	104,280	23,125,300	
12/02/14	7:00	15:00	8:00	23,125.75	23,223.33	97,580	23,222,880	PVSC Compliance Sample Collected
12/03/14	7:30	15:00	7:30	23,223.33	23,306.88	83,550	23,306,430	
12/04/14	7:30	15:15	7:45	23,306.88	23,418.88	112,000	23,418,430	
12/05/14	7:30	15:00	7:30	23,418.88	23,505.57	86,690	23,505,120	
12/06/14	12:30	16:30	4:00	23,505.57	23,547.36	41,790	23,546,910	
12/08/14	6:30	16:45	10:15	23,547.36	23,734.14	186,780	23,733,690	
12/09/14	7:00	17:00	10:00	23,734.14	23,938.58	204,440	23,938,130	
12/10/14	6:30	15:30	9:00	23,938.58	24,127.10	188,520	24,126,650	
12/11/14	7:00	15:00	8:00	24,127.10	24,278.59	151,490	24,278,140	
12/12/14	7:00	14:30	7:30	24,278.59	24,400.95	122,360	24,400,500	
12/13/14	7:00	14:00	7:00	24,400.95	24,465.38	64,430	24,464,930	
12/15/14	7:00	15:30	8:30	24,465.38	24,642.32	176,940	24,641,870	
12/16/14	7:00	16:00	9:00	24,642.32	24,790.34	148,020	24,789,890	
12/17/14	7:00	15:00	8:00	24,790.34	24,891.32	100,980	24,890,870	
12/18/14	7:00	14:30	7:30	24,891.32	24,942.66	51,340	24,942,210	
12/19/14	7:00	14:30	7:30	24,942.66	24,984.39	41,730	24,983,940	
12/22/14	7:00	15:00	8:00	24,984.39	25,135.32	150,930	25,134,870	
12/23/14	8:00	15:45	7:45	25,135.32	25,225.78	90,460	25,225,330	
12/24/14	7:00	14:00	7:00	25,225.78	25,261.74	35,960	25,261,290	
12/29/14	7:00	16:15	9:15	25,261.74	25,355.68	93,940	25,355,230	
12/30/14	7:00	16:00	9:00	25,355.68	25,472.64	116,960	25,472,190	
12/31/14	7:00	14:00	7:00	25,472.64	25,613.83	141,190	25,613,380	
01/02/15	7:00	14:30	7:30	25,613.83	25,704.93	91,100	25,704,480	
01/05/15	7:00	16:45	9:45	25,704.93	25,803.51	98,580	25,803,060	
01/06/15	7:00	15:15	8:15	25,803.51	25,934.54	131,030	25,934,090	
01/07/15	7:00	15:00	8:00	25,934.54	26,010.92	76,380	26,010,470	
01/11/15	9:00	14:00	5:00	26,010.92	26,076.69	65,770	26,076,240	
01/12/15	13:30	16:00	2:30	26,076.69	26,123.43	46,740	26,122,980	
01/13/15	13:30	16:00	2:30	26,123.43	26,242.94	119,510	26,242,490	PVSC Compliance Sample Collected
01/14/15	10:15	16:00	5:45	26,242.94	26,294.50	51,560	26,294,050	
01/15/15	7:30	15:00	7:30	26,294.50	26,374.46	79,960	26,374,010	
01/16/15	7:30	14:00	6:30	26,374.46	26,431.98	57,520	26,431,530	
01/19/15	7:00	16:00	9:00	26,431.98	26,544.34	112,360	26,543,890	
01/20/15	7:00	16:30	9:30	26,544.34	26,671.53	127,190	26,671,080	
01/21/15	7:00	16:00	9:00	26,671.53	26,795.65	124,120	26,795,200	
01/22/15	7:00	15:30	8:30	26,795.65	26,937.52	141,870	26,937,070	
01/23/15	7:00	15:00	8:00	26,937.52	27,077.78	140,260	27,077,330	
01/28/15	7:00	14:30	7:30	27,077.78	27,127.82	50,040	27,127,370	
01/29/15	7:00	15:00	8:00	27,127.82	27,180.82	53,000	27,180,370	
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

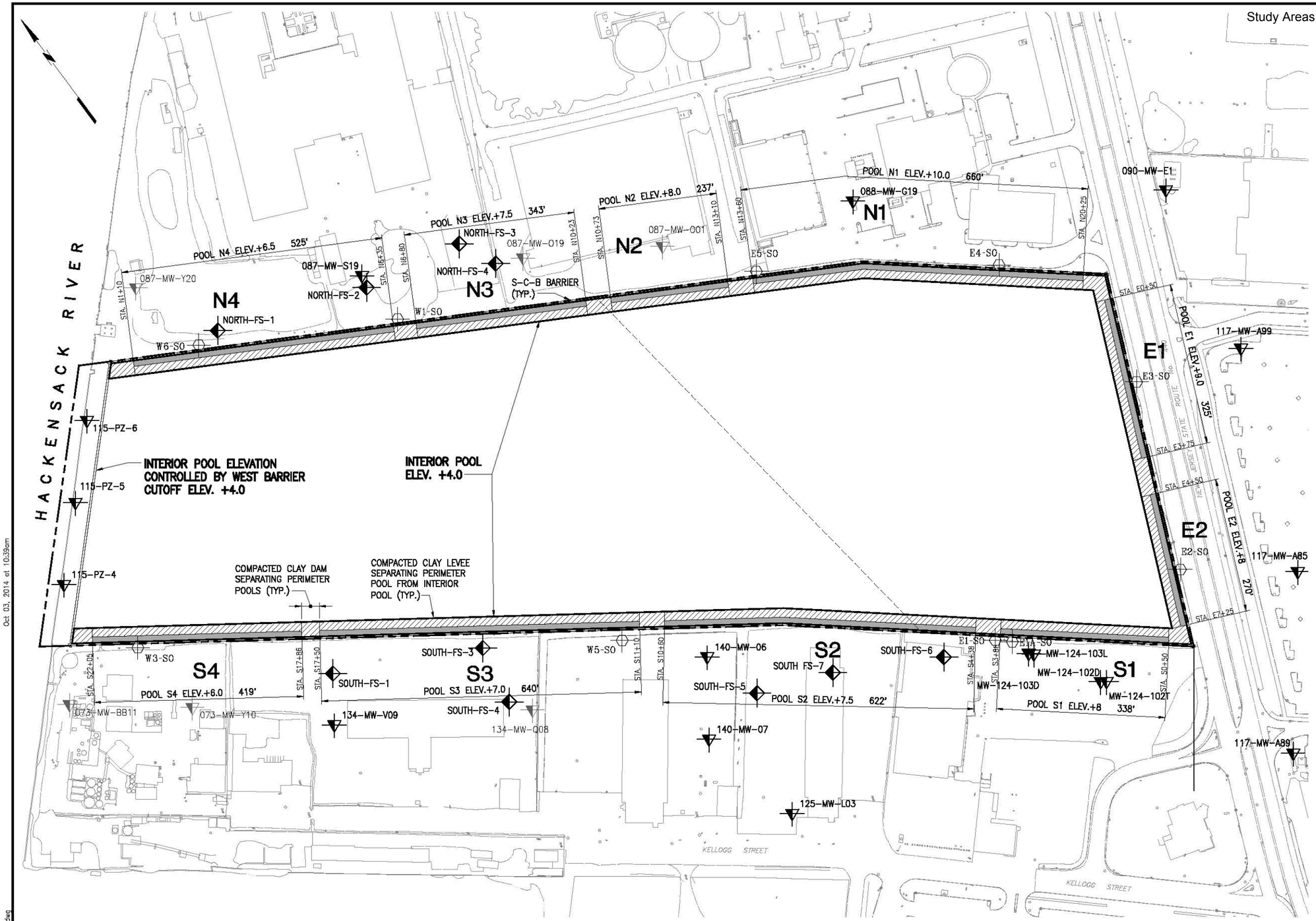
- Stockpiled Material Tracking and Sampling Log

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	13:00	25		Yes	
				124-110-20-a2	12/2/2014	13:05	44		Yes	
				124-110-20-a3	12/2/2014	13:10	29.1		Yes	
				124-110-20-a4	12/2/2014	13:15	14.8	Yes		
				124-110-20-b1	12/2/2014	13:20	23.1		Yes	
				124-110-20-b2	12/2/2014	13:25	12.9	Yes		
				124-110-20-b3	12/2/2014	13:30	3	Yes		
				124-110-20-b4	12/2/2014	13:35	1.8	Yes		
				124-110-20-c1	12/2/2014	13:40	12.9	Yes		
				124-110-20-c2	12/2/2014	13:45	15.6	Yes		
				124-110-20-c3	12/2/2014	13:50	29.1		Yes	
				124-110-20-c4	12/2/2014	13:55	179		Yes	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	10:40	29.8		Yes	
				124-114-20-a2	12/16/2014	10:45	34.5		Yes	
				124-114-20-a3	12/16/2014	10:50	49.3		Yes	
				124-114-20-a4	12/16/2014	10:55	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	11:00	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	13:15	42.3		Yes	
				124-114-1000-a2	12/16/2014	13:20	65		Yes	
				124-114-1000-a3	12/16/2014	13:25	75.3		Yes	
				124-114-1000-a4	12/16/2014	13:30	16.5		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

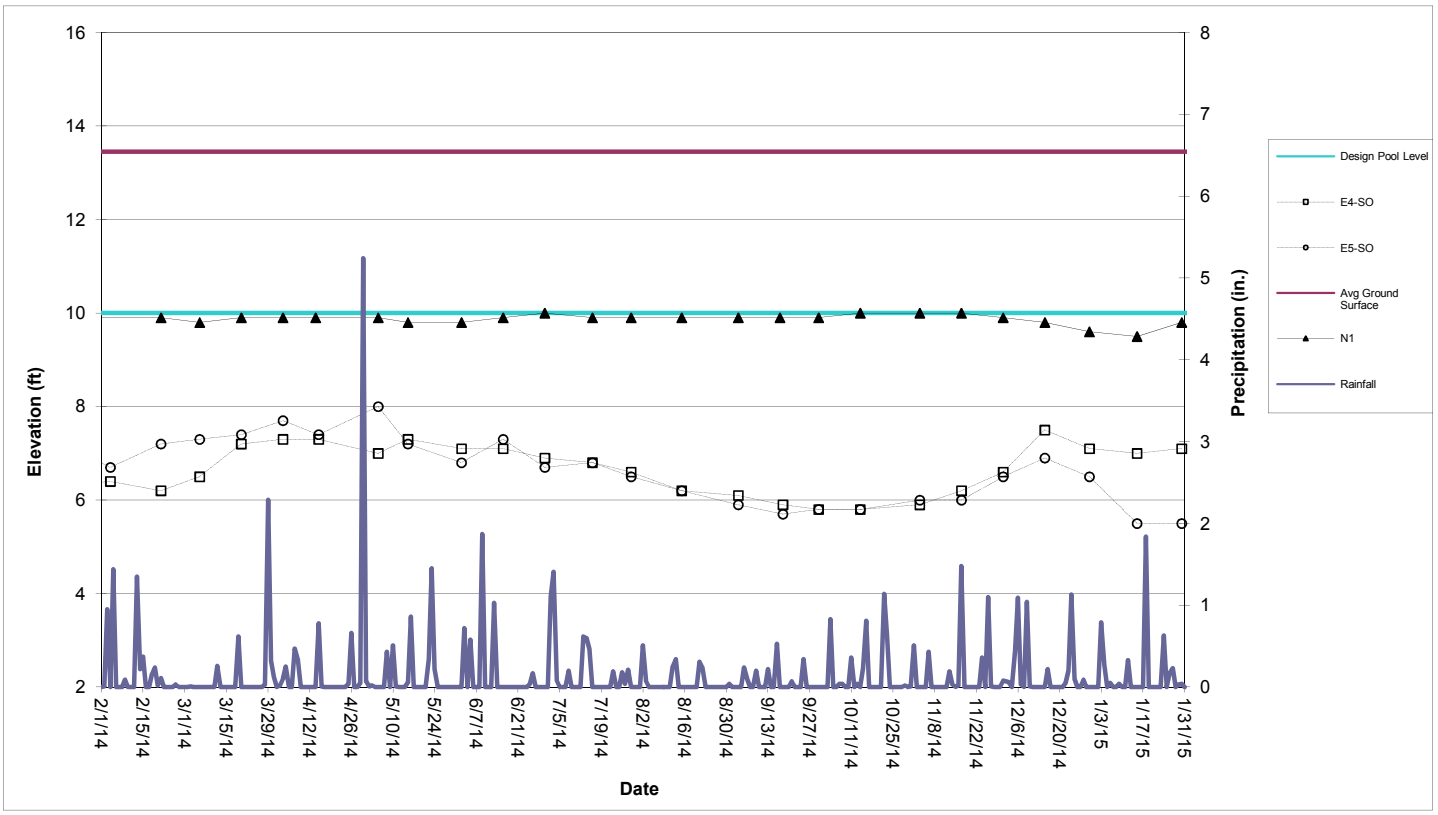
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

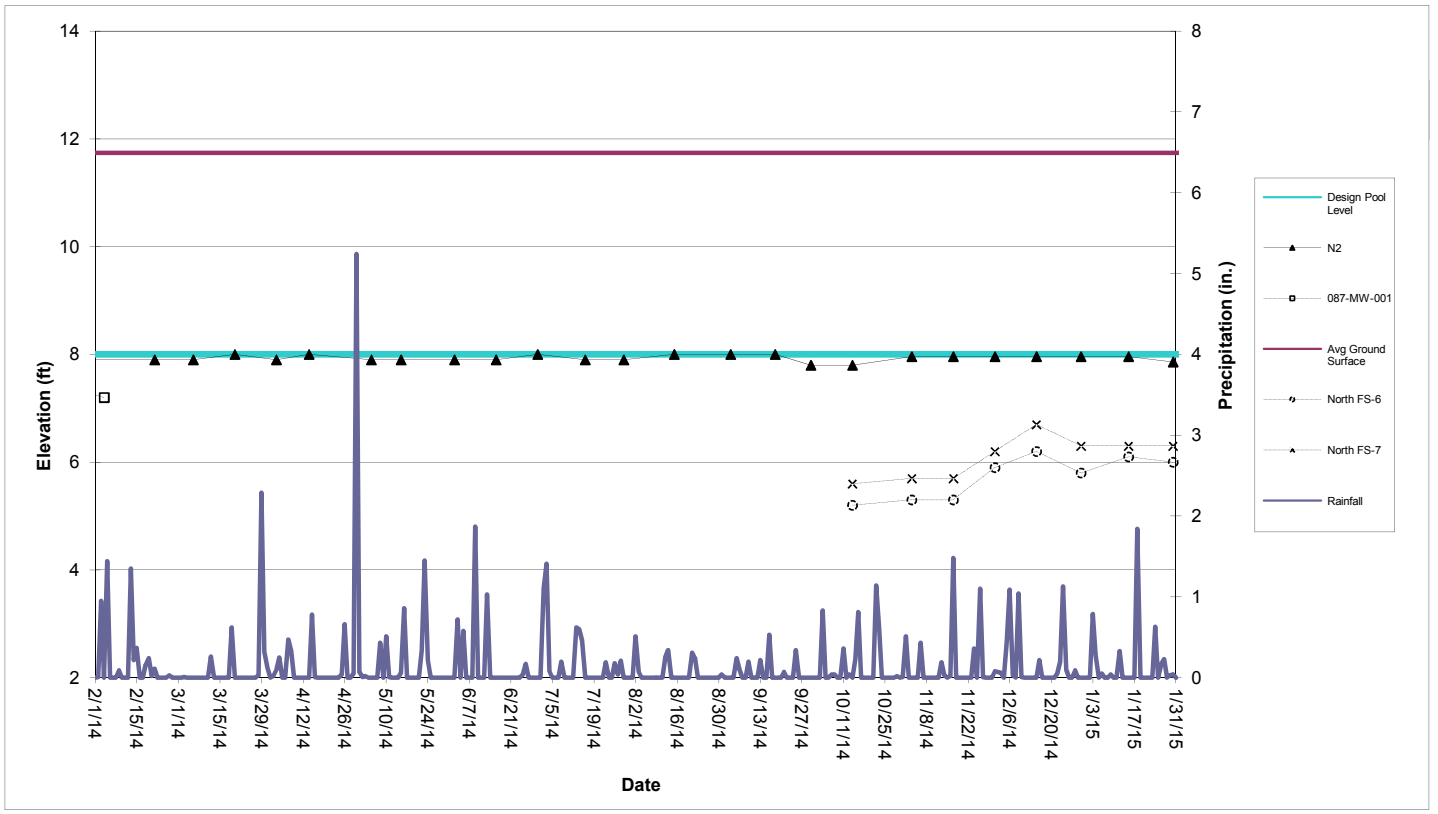
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

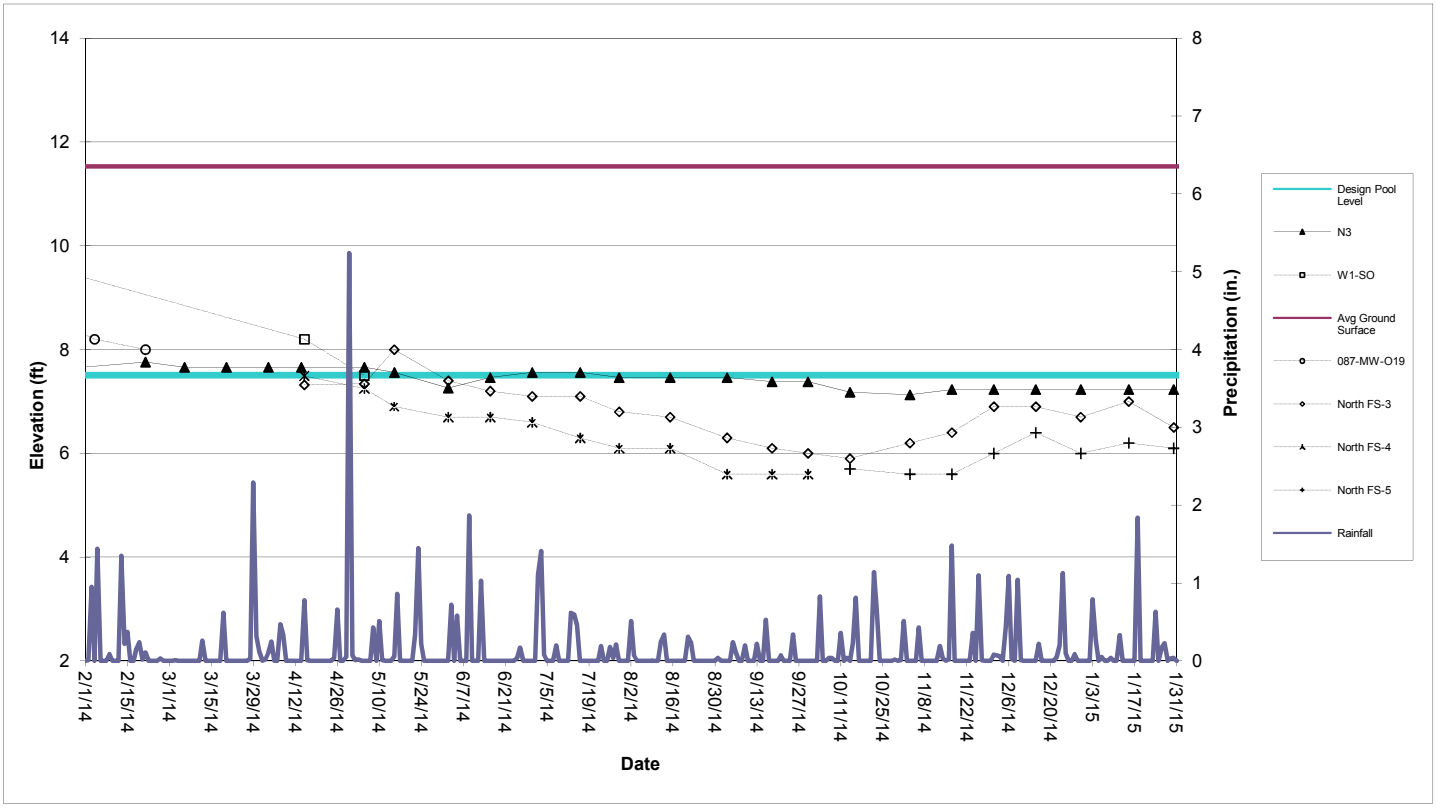
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



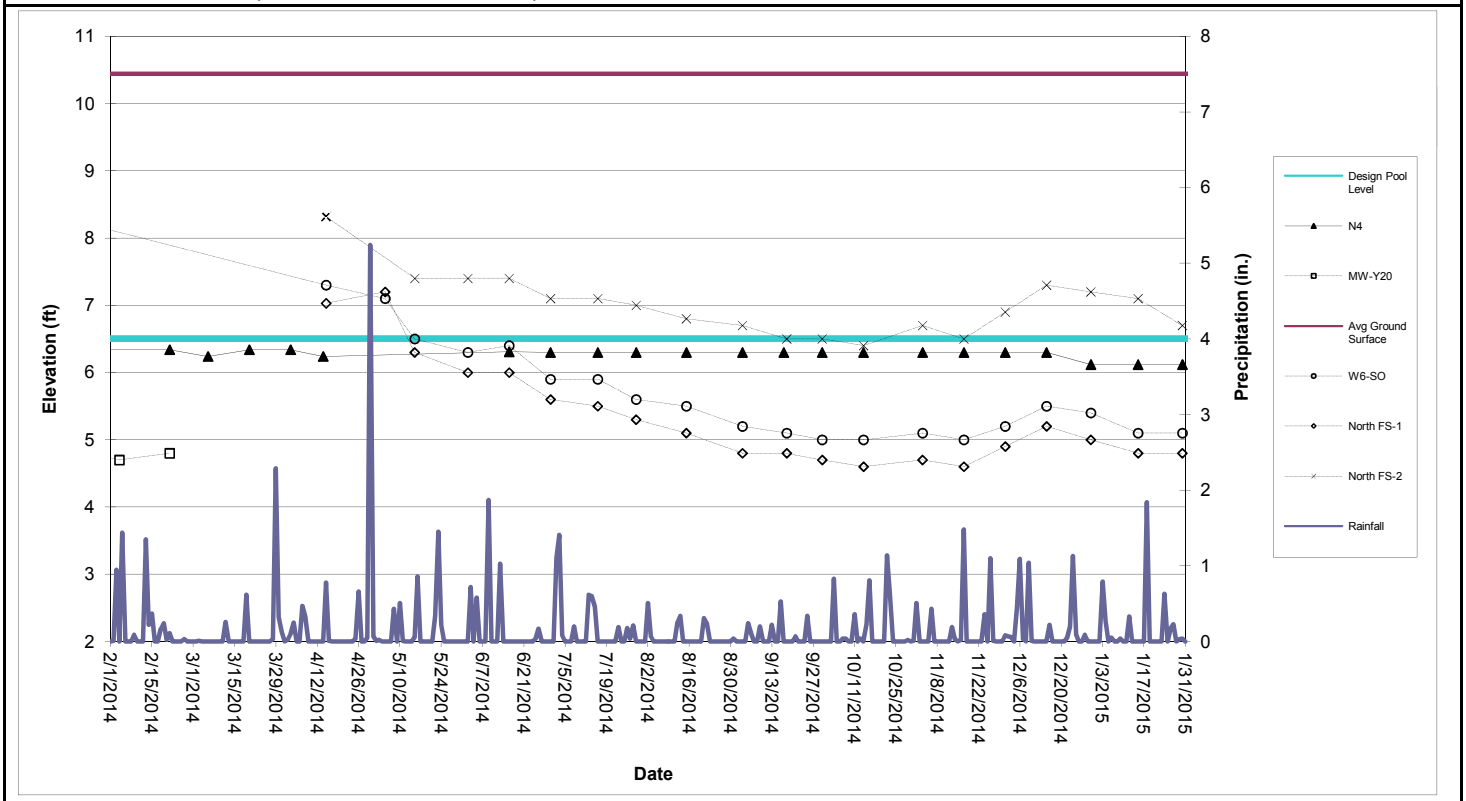
Perimeter Pool N1 (Sta. N13+60 to N20+25)



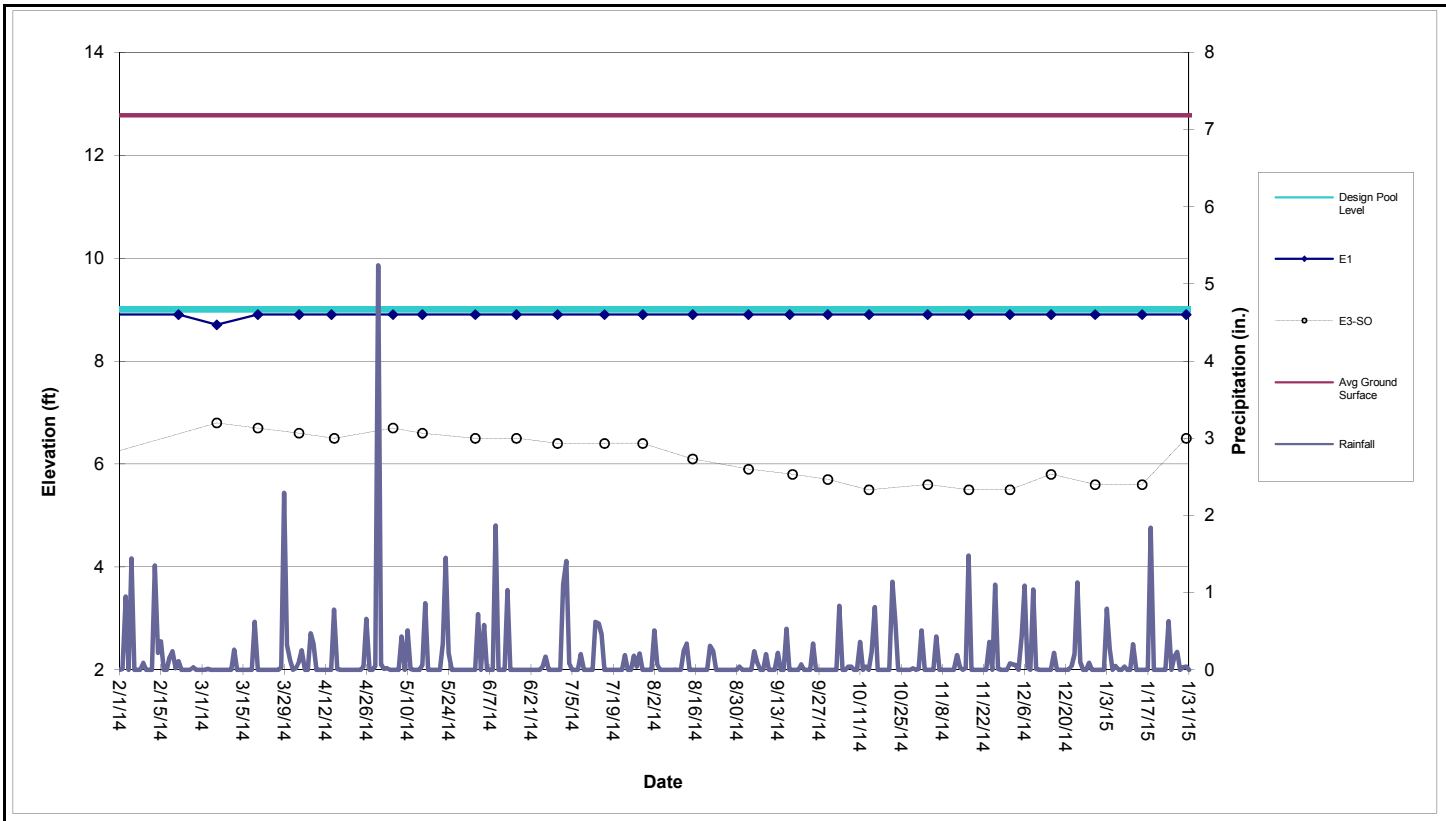
Perimeter Pool N2 (Sta. N10+73 to N13+10)



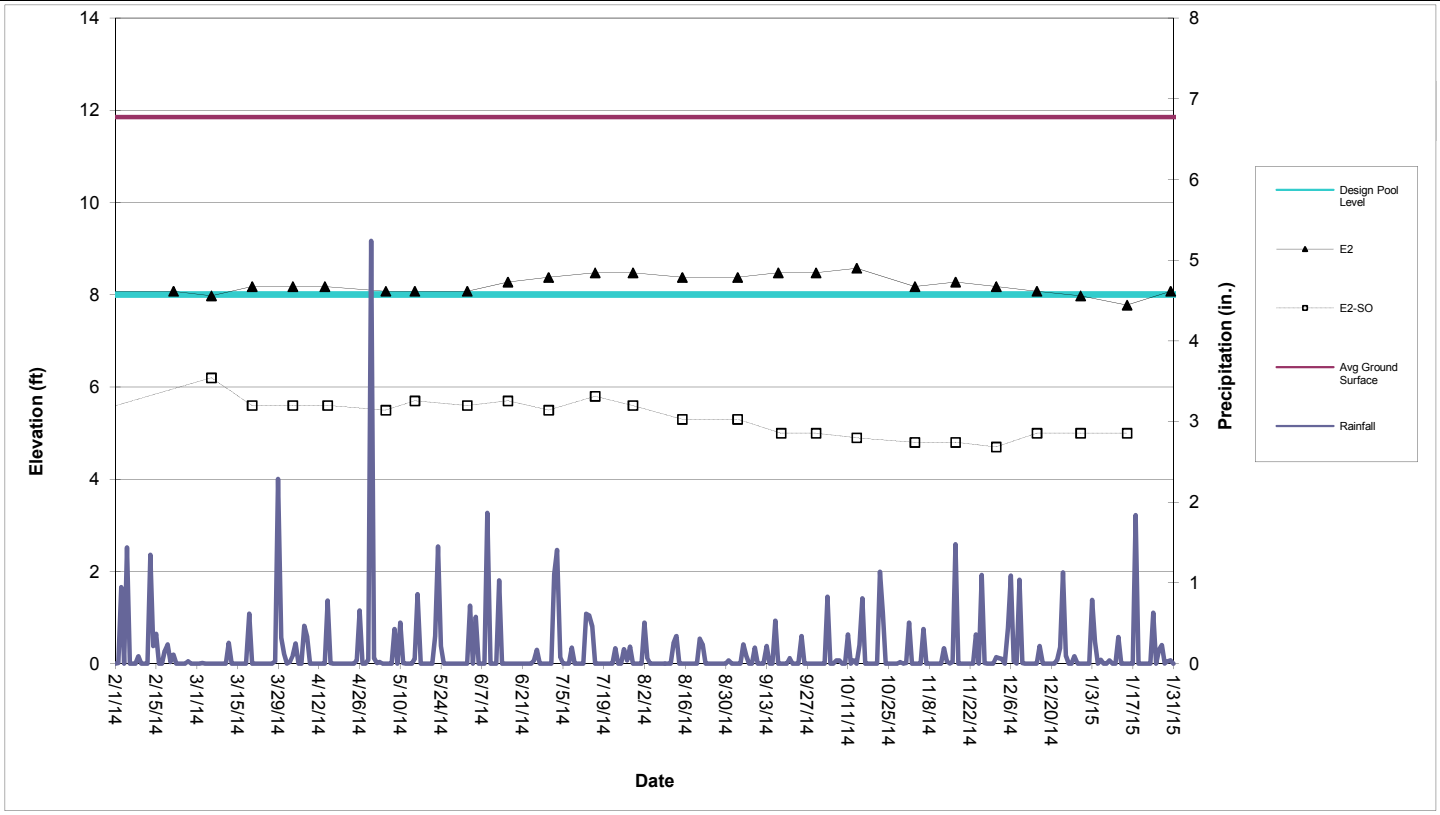
Perimeter Pool N3 (Sta. N6+80 to N10+23)



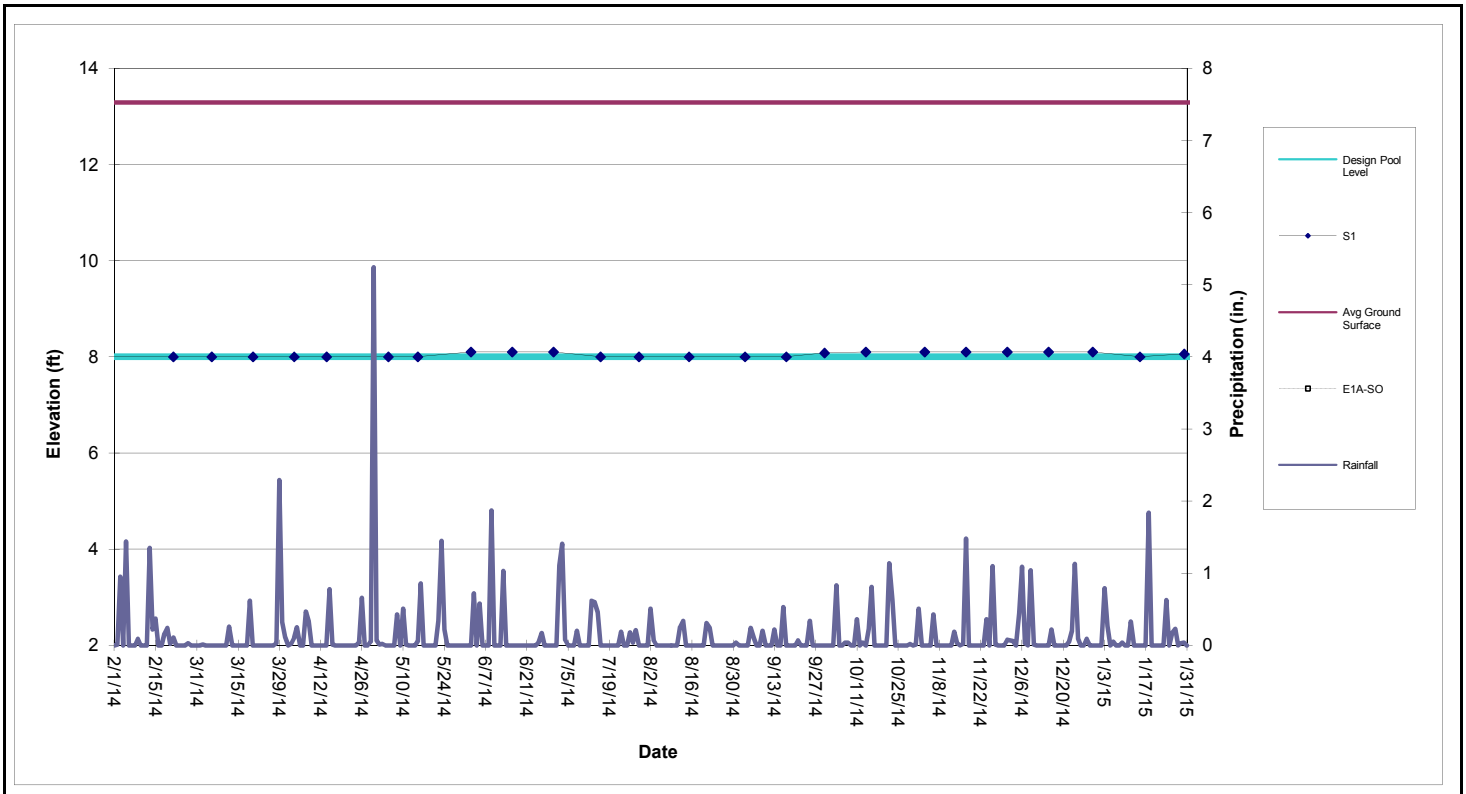
Perimeter Pool N4 (Sta. N6+80 to N10+23)



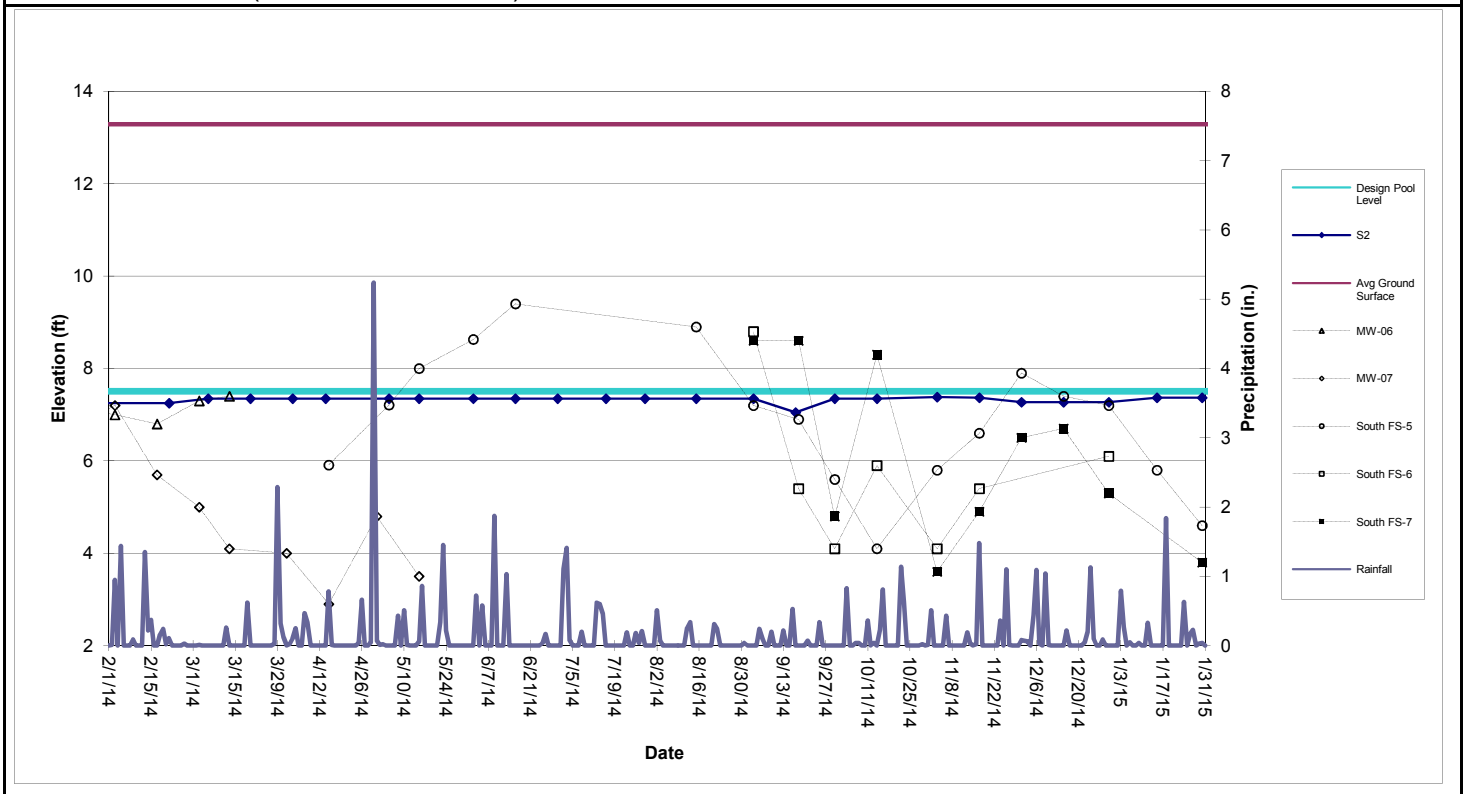
Perimeter Pool E1 (Sta. E0+50 to E3+75)



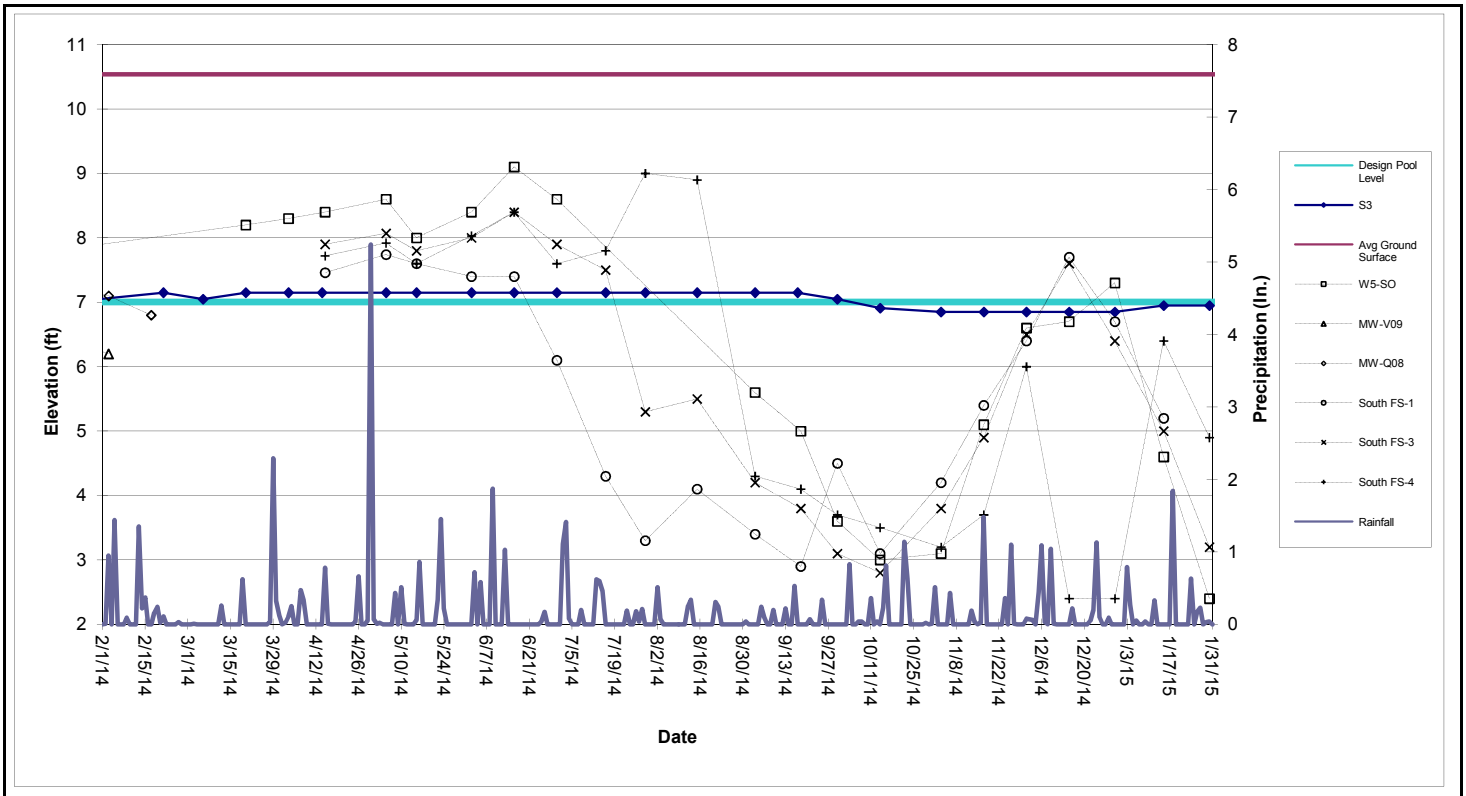
Perimeter Pool E2 (Sta. E4+50 to E7+25)



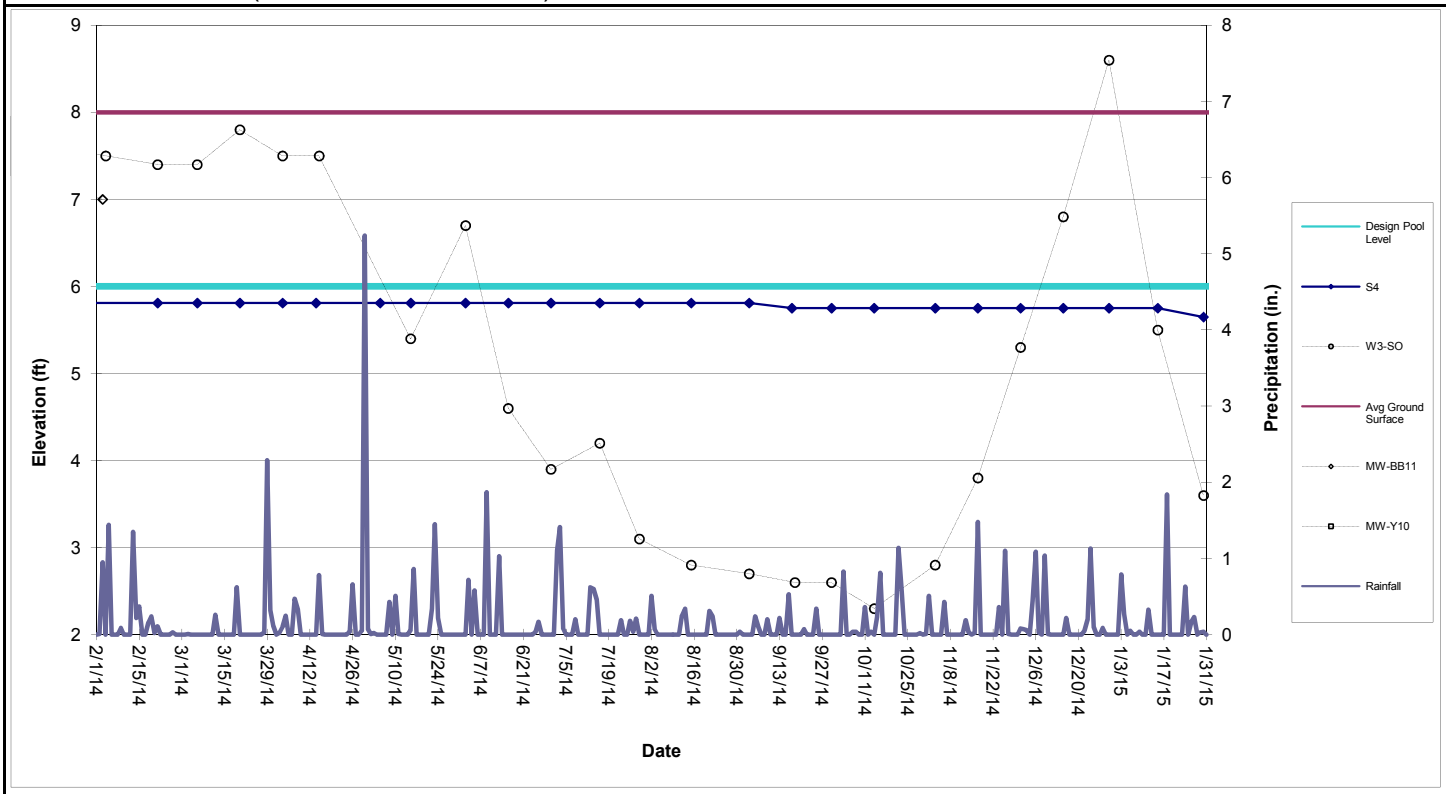
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E1A-SO, W1-SO, North FS-4, North FS-6

Attachment 8: Groundwater Quality Data Surcharge Monitoring Update

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 31, 2014

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		6
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/31/14

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, December 31, 2014

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange safety fencing has fallen over at the western-most excavation in Site 163 on SA-6 South.
2	IA2Q4A1AL8	The containment berm surrounding the western-most material stockpile in the SA-6 South backfill area requires maintenance.
3	IA2Q4A1AL8	The haul road on the eastern side of the SA-6 South backfill area has additional depressions containing ponded storm water and mud.
4	IA2Q4A1AL8	Storm water is ponded in the floor of the Study Area 6 South excavation
5	IA2Q4A1AL8	Trash and debris are accumulating outside of the perimeter fence on Rt.440 and Kellogg Street.
6	IA2Q4A1AL8	Sediment has accumulated on the western and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 12/31/14
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Reinstall and maintain the orange safety fencing surrounding the two shallow excavations on Site 163.	1/5/15 RAD
2	Build up the containment berm surrounding the stockpile area as required and re-cover with plastic sheeting to prevent erosion.	1/5/15 RAD
3	Regrade additional sections of the haul road in the Study Area 6 backfill area as necessary.	1/5/15 RAD
4	Pump ponded storm water to the CWTP as necessary to eliminate surface ponds.	1/5/15 RAD
5	Pick up trash and debris from the roadside and the grass areas along Kellogg Street and the Rt. 440 jughandle.	1/5/15 RAD
6	Remove sediment from the SA-7 haul roads and wash the roadways down.	1/5/15 RAD

Construction Manager: _____ Date: 01/06/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 8, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/08/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, January 08, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	No silt fence is present along the eastern end of the south toe of the 2-S surcharge stockpile.
2	IA2Q4A1AL8	Silt fence along the eastern toe of the 2-N surcharge stockpile has been damaged by wind and vehicle traffic.
3	IA2Q4A1AL8	Sediment has accumulated in the southwestern corner of the SA-7 paved roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 01/08/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence along the southern toe of the 2-S stockpile where it is missing.	ground frozen - both will be
2	Repair or replace the silt fence along the eastern toe of the 2-N stockpile as needed.	completed next week on 1-19-14 RAD
3	Remove the accumulated sediment from the southwestern corner of the SA-7 roadway.	1-9-15 RAD

Construction Manager: _____ **Date:** 01/14/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 16, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		6

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/16/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 16, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT DUE TO FROZEN SITE CONDITIONS:** No silt fence is present along the eastern end of the south toe of the 2-S surcharge stockpile.
2	IA2Q4A1AL8	Sediment has accumulated along the northern edge of the west end of Kellogg Street.
3	IA2Q4A1AL8	Storm water has accumulated on the floor of the SA-6 South main excavation.
4	IA2Q4A1AL8	The silt fence along the southern toe of the 1-S surcharge stockpile area requires maintenance.
5	IA2Q4A1AL8	**REPEAT DUE TO FROZEN SITE CONDITIONS:** Sediment has accumulated in the southwestern corner of the SA-7 paved roadway.
6	IA2Q4A1AL8	Garbage and other debris has accumulated both on and along the inboard side of the eastern SA-7 perimeter fence.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Date: 01/16/15
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence along the southern toe of the 2-S stockpile where it is required.	1-16-15 RAD
2	Remove accumulated sediment from along the street.	1-22-15
3	Pump the accumulated storm water to the Construction Water Treatment Plant.	1-21-15 RAD
4	Repair or replace the damaged silt fence as necessary.	1-21-15 RAD
5	Removed the accumulated sediment from the roadway.	1-21-15 RAD
6	Remove and dispose of any accumulated trash debris from the fenceline. Remove the empty propylene glycol container.	1-21-15 RAD

Construction Manager: _____ Date: 01/22/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 23, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, January 23, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	Potholes have formed on the eastern haul road on SA-6 South
3	IA2Q4A1AL8	Ponded storm water has drained from the westernmost Site 163 open excavation through the Droyer's Cove bulkhead, creating a void.
4	IA2Q4A1AL8	Type B material has accumulated against the northern containment berm in the sedimentation basin, creating the potential for storm water run-off escaping the EZ.
5	IA2Q4A1AL8	Sediment has accumulated around the perimeter pool riser grate on the northern SA-7 roadway by Construction Water Treatment Plant access ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 01/23/15
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required.	Snow covered and frozen conditions
2	Grade out or fill the potholes in the haul road.	are preventing these from
3	Repair the void in the Droyer's Cove bulkhead as per the engineers design.	being completed.
4	Remove accumulated material along the inboard side of the containment berm to allow storm water to flow towards the installed sump or increase the size of the berm.	1-26-15 RMS
5	Remove the accumulated sediment from the area around the perimeter pool grate.	1-23-15 RMS

Construction Manager: _____ Date: 01/28/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 30, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Snow cover on site
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/30/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 30, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	REPEAT: Potholes have formed on the eastern haul road on SA-6 South
3	IA2Q4A1AL8	REPEAT: Ponded storm water has drained from the westernmost Site 163 open excavation through the Droyer's Cove bulkhead, creating a void.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 01/30/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required	———
2	Grade out or fill the potholes in the haul road.	2-4-15 RAD
3	Repair the void in the Droyer's Cove bulkhead as per the engineers design	———
	Items 1 and 3 can not be completed due to site being covered by a sheet of ice	

Construction Manager: _____ **Date:** 02/04/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (December 2014)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

January 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the December 2014 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
12	01	14	12	31	14
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,516	91,665 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.48	0.58	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.6	<5.6	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1299	0.1299	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris IV
Signature of Principal
Executive or Authorized Agent

John J. Morris
Remediation Portfolio Director
Type Name and Title

Jan 13, 2015
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
12	01	14	12	31	14
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,372,010 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 24,707,129

DATE	BOD (mg/l)	TSS (mg/l)
12/9/2014	<3.4	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris HE	John J. Morris	(973) 455-4003
		DATE Jan 13, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)							MONTH: December 2014					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
12/1/2014	Angel Trujillo	22335119	22410123	75,004	0.075004	7.15	0.755									0.47
12/2/2014	Angel Trujillo	22410123	22490599	80,476	0.080476	8.08	0.755									0.51
12/3/2014	Angel Trujillo	22490599	22566499	75,900	0.0759	7.73	0.755									0.48
12/4/2014	Angel Trujillo	22566499	22644015	77,516	0.077516	7.64	0.755									0.49
12/5/2014	Angel Trujillo	22644015	22720870	76,855	0.076855	7.57	0.755									0.48
12/6/2014	Angel Trujillo	22720870	22799524	78,654	0.078654	7.67	0.755									0.50
12/7/2014	Angel Trujillo	22799524	22876176	76,652	0.076652	7.66	0.755									0.48
12/8/2014	Angel Trujillo	22876176	22950558	74,382	0.074382	7.63	0.755									0.47
12/9/2014	Angel Trujillo	22950558	23026014	75,456	0.075456	7.37	0.755	<5.6	<3.4		<0.010	<0.030	<0.010	<0.0002	<0.020	0.48
12/10/2014	Angel Trujillo	23026014	23101942	75,928	0.075928	7.67	0.755									0.48
12/11/2014	Angel Trujillo	23101942	23178600	76,658	0.076658	7.58	0.755									0.48
12/12/2014	Angel Trujillo	23178600	23256990	78,390	0.07839	7.61	0.755									0.49
12/13/2014	Angel Trujillo	23256990	23335980	78,990	0.07899	7.64	0.755									0.50
12/14/2014	Angel Trujillo	23335980	23411354	75,374	0.075374	7.47	0.755									0.47
12/15/2014	Angel Trujillo	23411354	23486154	74,800	0.0748	7.67	0.755									0.47
12/16/2014	Angel Trujillo	23486154	23563690	77,536	0.077536	7.62	0.755									0.49
12/17/2014	Angel Trujillo	23563690	23640367	76,677	0.076677	7.58	0.755									0.48
12/18/2014	Angel Trujillo	23640367	23715804	75,437	0.075437	7.61	0.755									0.48
12/19/2014	Angel Trujillo	23715804	23791334	75,530	0.07553	7.55	0.755									0.48
12/20/2014	Angel Trujillo	23791334	23870759	79,425	0.079425	7.58	0.755									0.50
12/21/2014	Angel Trujillo	23870759	23944230	73,471	0.073471	7.57	0.755									0.46
12/22/2014	Angel Trujillo	23944230	24015436	71,206	0.071206	7.54	0.755									0.45
12/23/2014	Angel Trujillo	24015436	24096377	80,941	0.080941	7.51	0.755									0.51
12/24/2014	Angel Trujillo	24096377	24171160	74,783	0.074783	7.57	0.755									0.47
12/25/2014	Angel Trujillo	24171160	24262825	91,665	0.091665	7.50	0.755									0.58
12/26/2014	Angel Trujillo	24262825	24327099	64,274	0.064274	7.55	0.755									0.40
12/27/2014	Angel Trujillo	24327099	24407222	80,123	0.0801	7.57	0.755									0.50
12/28/2014	Angel Trujillo	24407222	24484406	77,184	0.077184	7.48	0.755									0.49
12/29/2014	Angel Trujillo	24484406	24555341	70,935	0.070935	7.57	0.755									0.45
12/30/2014	Angel Trujillo	24555341	24628602	73,261	0.073261	7.46	0.755									0.46
12/31/2014	Angel Trujillo	24628602	24707129	78,527	0.078527	7.52	0.755									0.49
TOTAL				2,372,010	2.37201			<5.6	<3.4		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	91,665											High:	0.58
			Average:	76,516											Average:	0.48

WW

JB83662

E

Accutest Labs
2225 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	41982.48610		
COC#	087-WW-120914		
Lab Proj # (SDG):			
Lab ID	ACTD		
Site ID	Hudson Co		
Lab Job #	HWINJM32815		
Authorized User:	Honeywell		
Text & Excel File Drive	Excel & Text File Order		

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-120914-A	12/9/2014	14:25	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		-1					L27
2	087-WW			087-WWE-120914-B	12/9/2014	14:40	WW	WATER	REG	5	grab	N					X	X				-2					U605
3	087-WW			087-WWI-120914	12/9/2014	14:55	WW	WATER	REG	3	grab	N									X	-3					M17
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

12-9-14

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE

Relinquished by: 7.37 Su @ 6.9°C	Company	AMEC Foster Wheeler	Received by	Company		Condition		Custody Seals Intact	
Frank Schroyer	Date/Time	12/9/14 1550		Date/Time	12/9/14 1550	Cooler Temp.			
Relinquished by	Company		Received by	Company	ACCTEST	Condition		Custody Seals Intact	N/A
	Date/Time	12/9/14 1655		Date/Time	12/9 1655	Cooler Temp.	0.0°C-B		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

1A

WW

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-120914-A		
Lab Sample ID:	JB83662-1	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	755	10	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	12/10/14	12/12/14	KF	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	12/11/14	12/11/14	JW	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	12/10/14	12/11/14	KF	EPA 200.7 [1]	EPA 200.7 [5]

(1) Instrument QC Batch: MA35632
(2) Instrument QC Batch: MA35636
(3) Instrument QC Batch: MA35643
(4) Prep QC Batch: MP83774
(5) Prep QC Batch: MP83805

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-120914-A		
Lab Sample ID:	JB83662-1	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	12/11/14	JS	SM2540 D-11
pH [a]	7.06		su	1	12/09/14 17:09	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-120914-A		
Lab Sample ID:	JB83662-1A	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 3.4	3.4	mg/l	1	12/10/14 20:21	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-120914-B		
Lab Sample ID:	JB83662-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.6	5.6	mg/l	1	12/12/14	BM	EPA 1664A

RL = Reporting Limit

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-120914-B		
Lab Sample ID:	JB83662-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N241979.D	1	12/11/14	DC	n/a	n/a	VN10263
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.2	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	2.8	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	17.5	1.0	0.14	ug/l	
74-87-3	Chloromethane	ND	1.0	0.16	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	0.39	1.0	0.11	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.11	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.12	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.46	ug/l	
75-34-3	1,1-Dichloroethane	0.29	1.0	0.15	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.7	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.3	1.0	0.24	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
123-91-1	1,4-Dioxane	ND	130	89	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.51	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@831116 10:16 22-Dec-2014

Report of Analysis

Client Sample ID:	087-WWE-120914-B		
Lab Sample ID:	JB83662-2	**Date Sampled:**	12/09/14
Matrix:	AQ - Water	**Date Received:**	12/09/14
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	42.0	1.0	0.17	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	100%		71-128%
2037-26-5	Toluene-D8 (SUR)	100%		79-117%
460-00-4	4-Bromofluorobenzene (SUR)	97%		81-114%
1868-53-7	Dibromofluoromethane (S)	100%		78-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending December 2014

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014	Direction on the handling of petroleum soils under the cap.	Pending submittal to Parties' per request.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

3/13/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 13, 2015 *Via Electronic Delivery*

Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-02

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from February 1 – February 28, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: February 2015 SA-6/7 Combined Monthly Progress Report No. 2015-02

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-02

Project SA-6 & 7 Remediation

February 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
02/04/15	Arnold & Porter Submittal: Study Area 6 North and South -- In Situ Treatment of Hexavalent Chromium Impacted Soils	Honorable Robert G. Torricelli Office of the Special Master
02/04/15	Surcharge Monitoring Plan – Monthly Report No. 9 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/10/15	Long Term Monitoring Program - Year 1 Implementation Report Study Area 7 Sediment Remedy Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/12/15	Public Notification Signs NJDEP Hudson County Chromate Site 087 SA-6N And Sites 073, 124, 125, 134, 140, & 163 SA-6S Jersey City, Hudson County, NJ SA-6 North NJDEP SRP PI NOs: 019985 & 002633 SA-6 South NJDEP SRP PI NOs: G0000000927, G0000008741, G0000008742, 033312, 003846, & 010374	NJ Department of Environmental Protection
02/12/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-01	Honorable Robert G. Torricelli Office of the Special Master
02/17/15	Special Master Conference Call	N/A
02/19/15	New Source of Imported Clean Fill Study Area 6 (SA-6) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
02/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Passaic Valley Sewerage Commission

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	02/8/15	02/15/15	02/22/15	03/1/15
Construction Management (AMEC)	11	11	11	11
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	24	26	25	25
Arecon/US Ecology Subcontractors	1	1	0	1
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	10	10	9	8
TOTAL STAFF	**52**	**54**	**51**	**51**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected February PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed above-grade demolition of the former Waste Management Garage and the JCIA Garage. Continued above-grade demolition and load out of the JCIA Incinerator Building.
- On February 2 and 3, 2015, Cornerstone personnel re-developed GWET extraction well 087-PW-2. The acid flushing of PW-2 force main to the GWTP was also completed at this time.
- On February 4, 2015, Cornerstone personnel re-developed injection well 088-IW-01. Cornerstone performed a follow-up yield test of the well on March 2, 2015.
- On February 10, 2015, the Year 1 Implementation Report for SA-7 Sediment Remedy Long-term Monitoring Program was submitted.
- On February 19, 2015, contractor removed the Site 163 UST from SA-6 South, Facility ID number 010374. The closure report was finalized by the LSRP and submitted to all parties on March 3, 2015.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on February 18, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	02/8/15	02/15/15	02/22/15	03/1/15
Avg. Gallons Treated & Discharged (per day)	65,621	78,547	77,756	78,169
Average Flow (gpm) for Operating Period	55	55	54	54
Avg. Hours of Plant Operation	20	24	24	24
GWTP Influent Tanks (gal.)	9,897	6,876	5,018	5,573

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Completed installation of the contingent groundwater system (collection trench piping and sumps) within the SA-6 South Open Space Area.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	20 cyd roll off	Jersey City, NJ	Sims Metal	Aluminum	1	2.59	2.59
Gramercy- (JCIA Demo)	40 cyd roll off	Jersey City, NJ	Sims Metal	Metal	17	15.5	263.9
Gramercy- (JCIA Demo)	40 cyd roll off	North Bergen, NJ	Cardella Waste	C&D	1	11.03	11.03
Gramercy- (JCIA Demo)	30 cyd roll off	Bayonne, NJ	Durable Recycling	Concrete	21	16.4	344.52
Gramercy- (JCIA Demo)	40 cyd roll off	Bayonne, NJ	Durable Recycling	Brick/Masonry	6	18.42	110.54
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	75	24.7	1,859.72

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	Cell number(s): 77-70

3. BACKFILL MATERIALS USED

Source	Week Ending			
	02/8/15	02/15/15	02/22/15	03/01/15
Tilcon, Import Tons – 1.5" Stone	73.62	204.6	0	0
NJCU Borrow Material, CY	0	0	0	4,942

- Clean borrow material (from NJCU Surcharge Program) was delivered to the site during the week of February 23, 2015 through February 27, 2015. A total of 353 loads were delivered totaling approximately 4,942 cubic yards. Borrow material is stockpiled within the excavation and will be placed weather permitting.

E. SURCHARGE OPERATIONS

- Area 1S: Completed offloading Celgene material from 1S and relocating to 2S and temporary stockpile area.
- Area 2S: Surcharging complete on Area 2S. Began offloading Celgene material on February 23, 2015 from west to east, and offload is approximately 30% complete.
- Area 3S: Surcharge placement continued on Area 3S and isnow fully constructed.
- Area 1N: Surcharge removal activities were discontinued in February in Area 1N. Surcharge removal activities in this area remain at approximately 85% complete.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: No activity in this area pending demobilization of the JCIA Demolition contractor.
- Area 4N: No activity in this area pending demobilization of the JCIA Demolition contractor.
- Active Monitoring for Surcharge is currently limited to Area 3S. The combination of snow and temperatures are preventing personnel from taking readings at the frequency stated in the Surcharge Monitoring Plan Monitoring will resume at all points when it is feasible and safe to do so.

F. SHEET PILE OPERATIONS

- Resumed delivery of sheet pile for the remaining barrier wall at SA-6 North.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete JCIA Structures Demolition and demobilize.
- Continue loadout and transportation and disposal activities of non-hazardous petroleum impacted soils at SA-6 South.
- Complete delivery of steel sheetpile for remaining SA-6 North Barrier Wall installation.
- Complete removal of temporary sheetpile on the south side of the SA-6 south excavation area.
- Resume Vertical Hydraulic Barrier wall installation activities on SA6 North.

- Continue monitoring well abandonment activities on SA6 South.
- Complete installation of utility pole sleeves associated with PSEG overhead line relocation activities.
- Collect round of quarterly groundwater levels.
- Conduct S-3 Mass Removal Injection Event No.19.
- Conduct quarterly GWET well sampling.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue the SA-6 North Bench-Scale Treatability Study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. *Backfill Analytical Data (not included in this reporting period)*
7. Perimeter Pools Update
8. *Groundwater Quality Data (sampled quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. *Sheet Pile Update (not included in this reporting period)*
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (January 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

amec foster wheeler

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15



Project: SA-6 Remediation Schedule
Revision 3
Date: Wed 3/4/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Contractor continues demolition of incinerator building.



Site Photograph 2: Contractor demolishes incinerator trash pit.



Site Photograph 3: Contractor grading on Kellogg St. properties.



Site Photograph 4: Contractor loading stone bedding material.



Photograph 5: Contractor moving surcharge material into place.



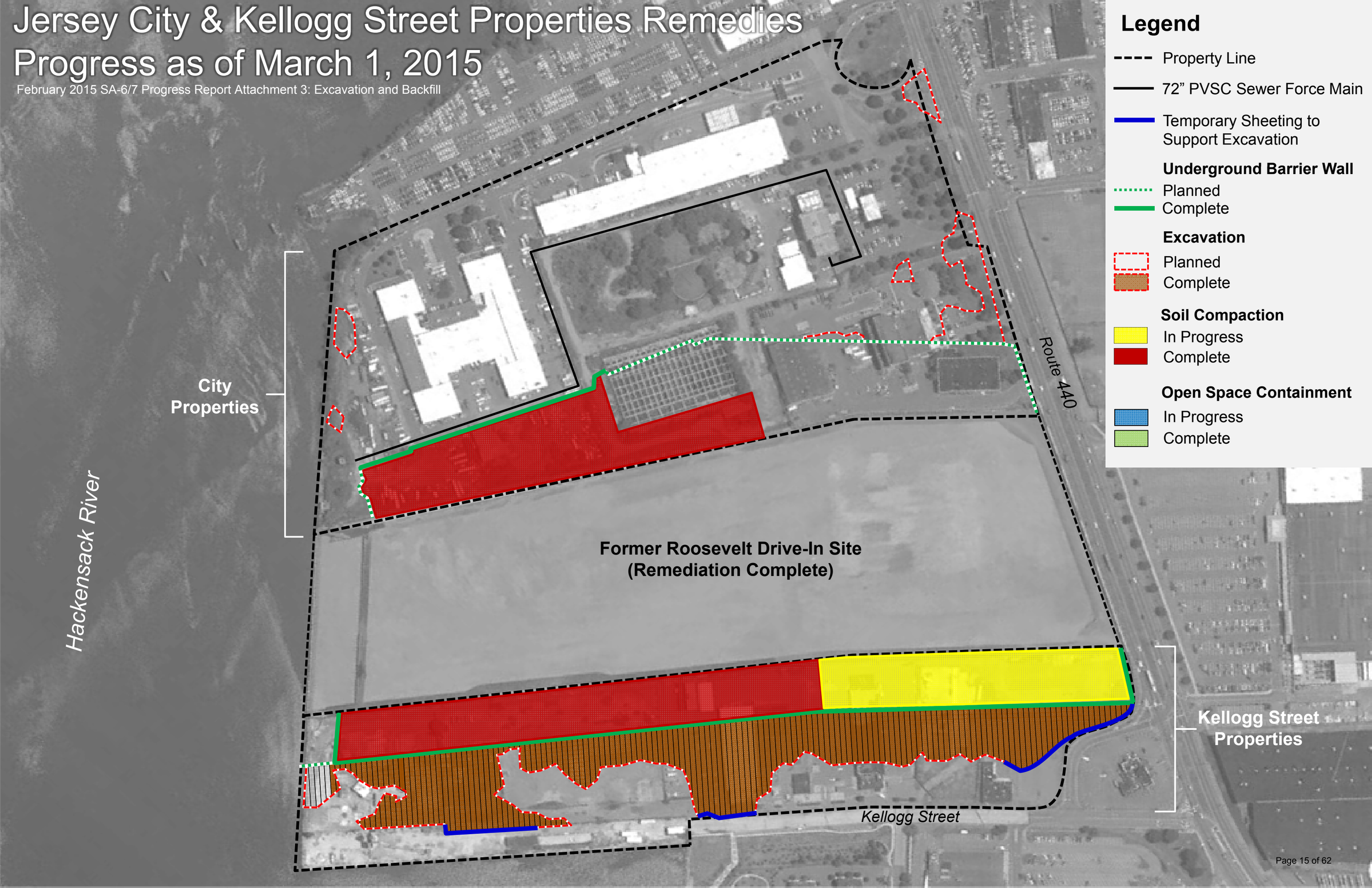
Site Photograph 6: Contractor stockpiling clean backfill material.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of March 1, 2015

February 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

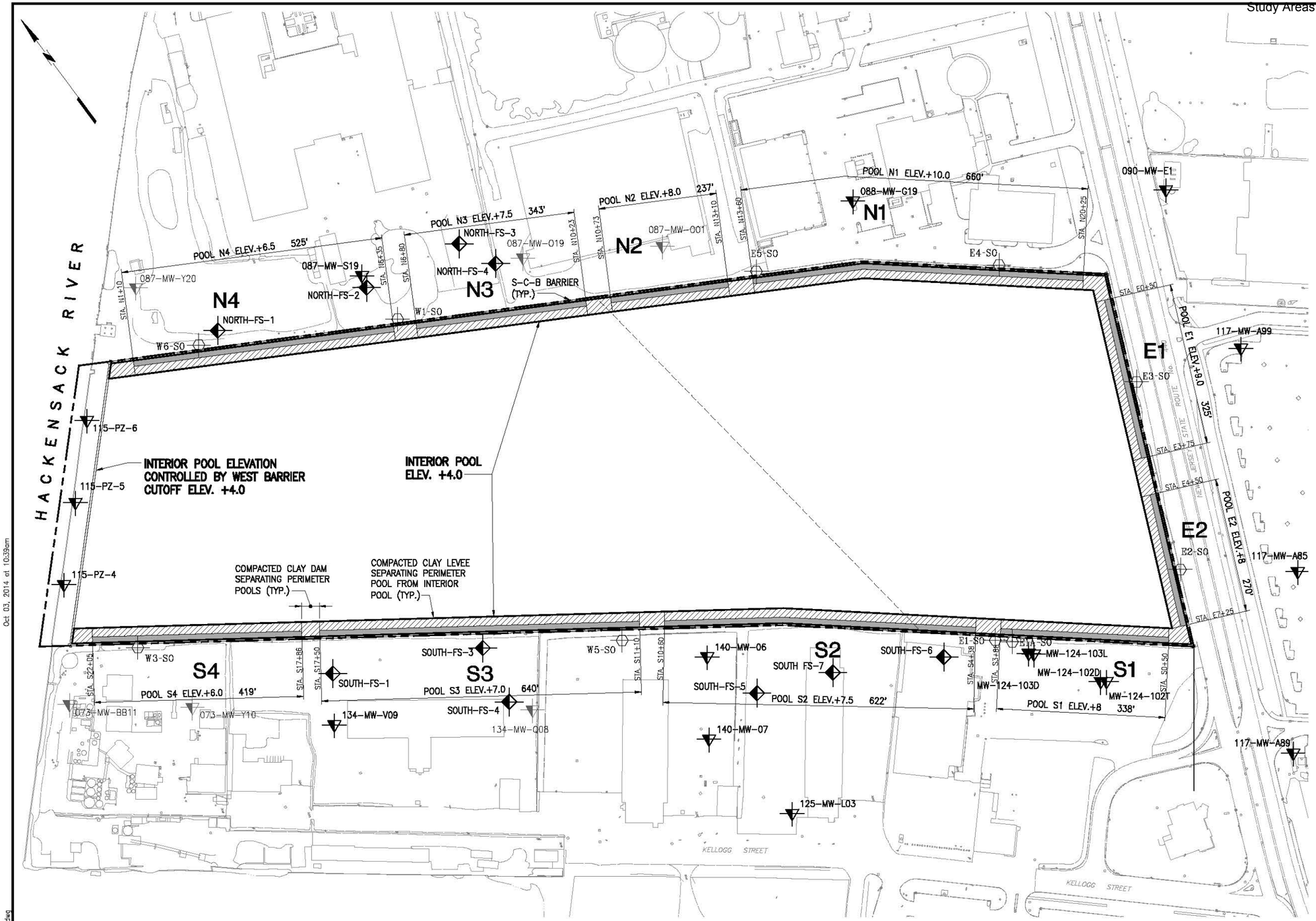
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/02/15	7:00	14:30	7:30	25,613.83	25,704.93	91,100	25,704,480	
01/05/15	7:00	16:45	9:45	25,704.93	25,803.51	98,580	25,803,060	
01/06/15	7:00	15:15	8:15	25,803.51	25,934.54	131,030	25,934,090	
01/07/15	7:00	15:00	8:00	25,934.54	26,010.92	76,380	26,010,470	
01/11/15	9:00	14:00	5:00	26,010.92	26,076.69	65,770	26,076,240	
01/12/15	13:30	16:00	2:30	26,076.69	26,123.43	46,740	26,122,980	
01/13/15	13:30	16:00	2:30	26,123.43	26,242.94	119,510	26,242,490	PVSC Compliance Sample Collected
01/14/15	10:15	16:00	5:45	26,242.94	26,294.50	51,560	26,294,050	
01/15/15	7:30	15:00	7:30	26,294.50	26,374.46	79,960	26,374,010	
01/16/15	7:30	14:00	6:30	26,374.46	26,431.98	57,520	26,431,530	
01/19/15	7:00	16:00	9:00	26,431.98	26,544.34	112,360	26,543,890	
01/20/15	7:00	16:30	9:30	26,544.34	26,671.53	127,190	26,671,080	
01/21/15	7:00	16:00	9:00	26,671.53	26,795.65	124,120	26,795,200	
01/22/15	7:00	15:30	8:30	26,795.65	26,937.52	141,870	26,937,070	
01/23/15	7:00	15:00	8:00	26,937.52	27,077.78	140,260	27,077,330	
01/28/15	7:00	14:30	7:30	27,077.78	27,127.82	50,040	27,127,370	
01/29/15	7:00	15:00	8:00	27,127.82	27,180.82	53,000	27,180,370	
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	
02/04/15	7:00	12:30	5:30	27,268.67	27,317.51	48,840	27,317,060	PVSC Compliance Sample Collected
02/05/15	7:30	15:00	7:30	27,317.51	27,437.11	119,600	27,436,660	
02/09/15	9:30	14:30	5:00	27,437.11	27,484.85	47,740	27,484,400	
02/10/15	9:30	16:15	6:45	27,484.85	27,587.00	102,150	27,586,550	
02/11/15	8:00	14:30	6:30	27,587.00	27,626.34	39,340	27,625,890	
02/12/15	8:00	14:30	6:30	27,626.34	27,687.34	61,000	27,686,890	
02/20/15	10:30	12:15	1:45	27,687.34	27,702.61	15,270	27,702,160	
02/23/15	7:30	15:30	8:00	27,702.61	27,758.65	56,040	27,758,200	
02/25/15	7:30	15:00	7:30	27,758.65	27,788.98	30,330	27,788,530	
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	

Notes: Previous information is trunketed. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

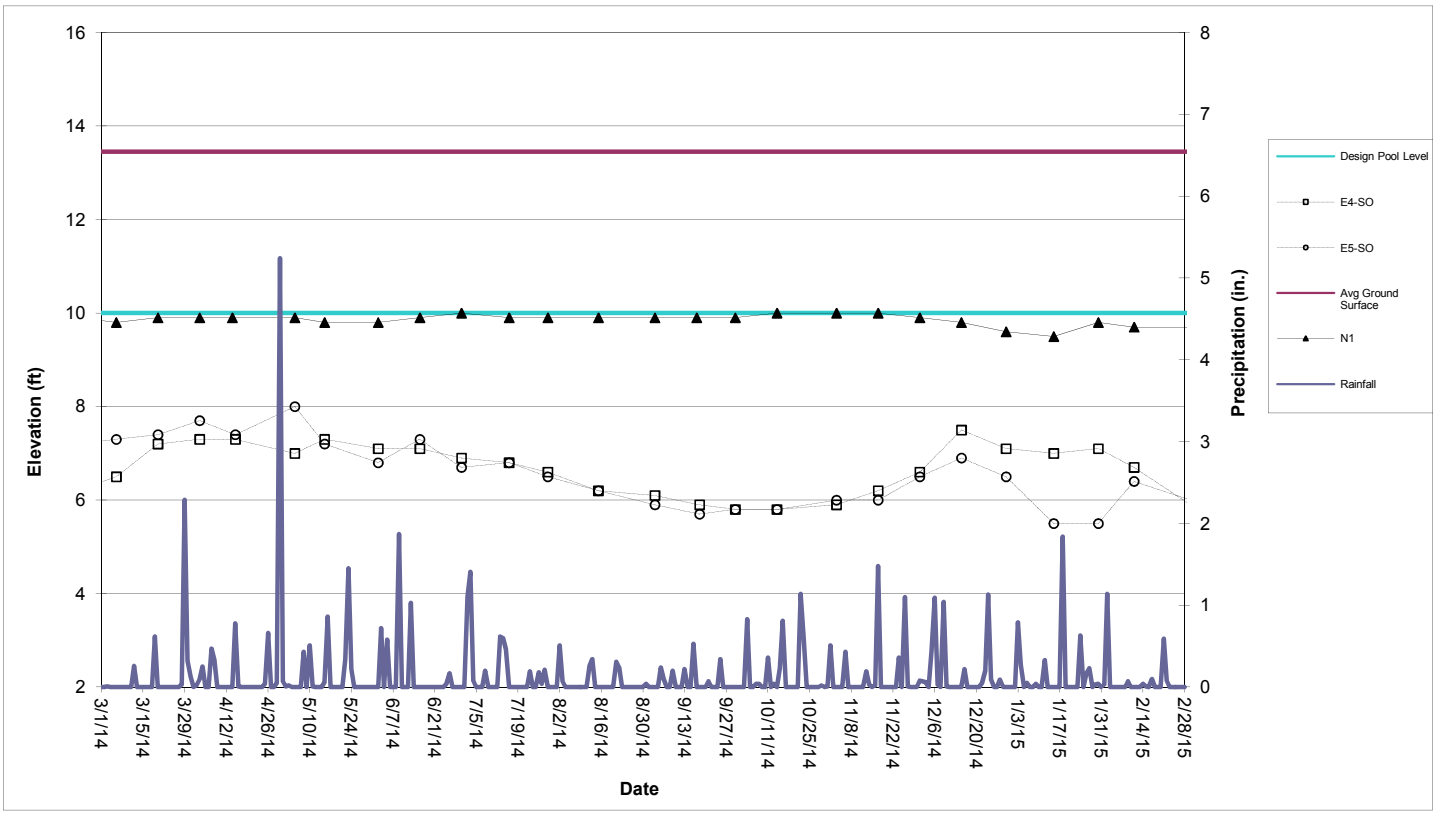
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

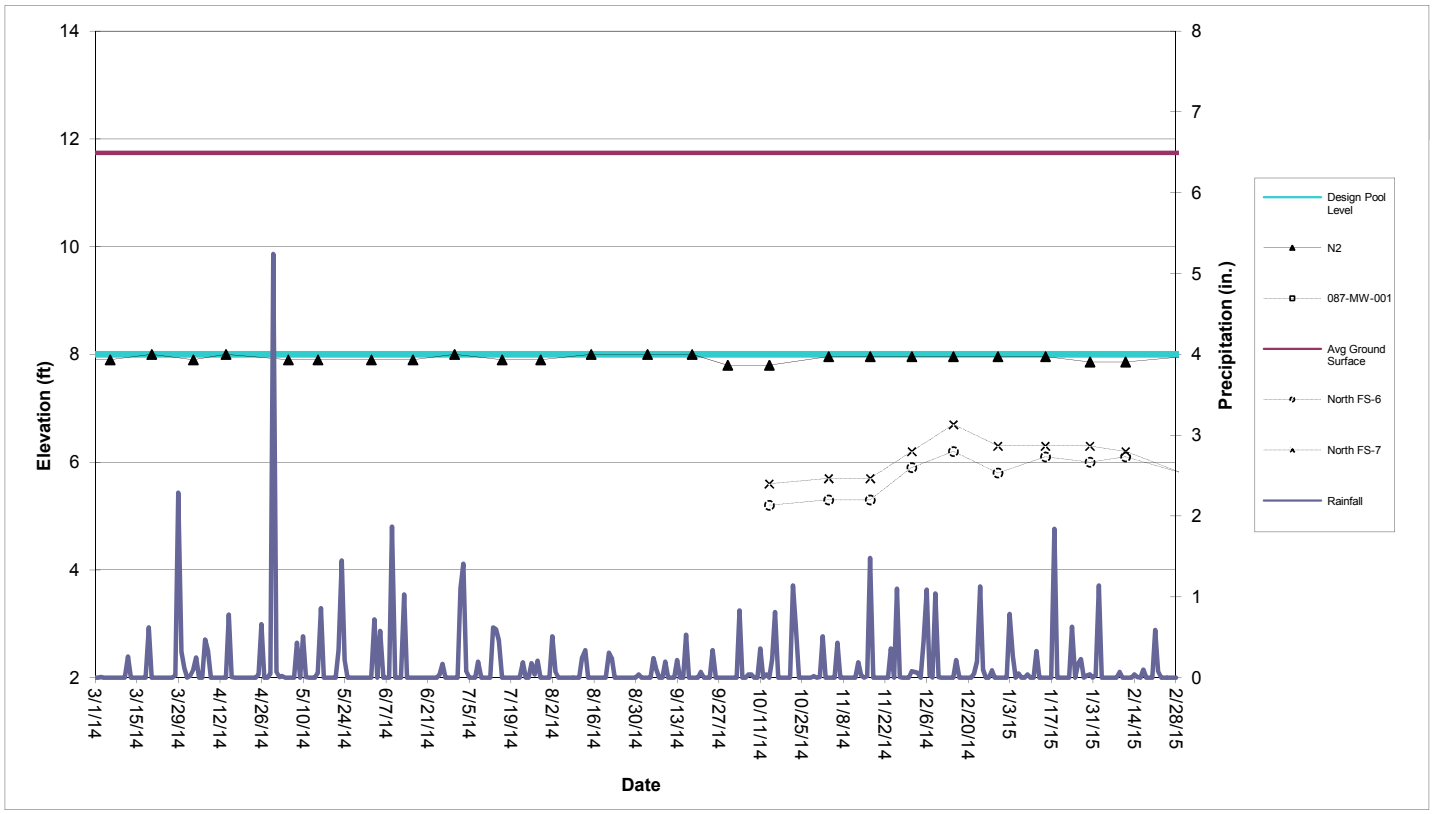
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

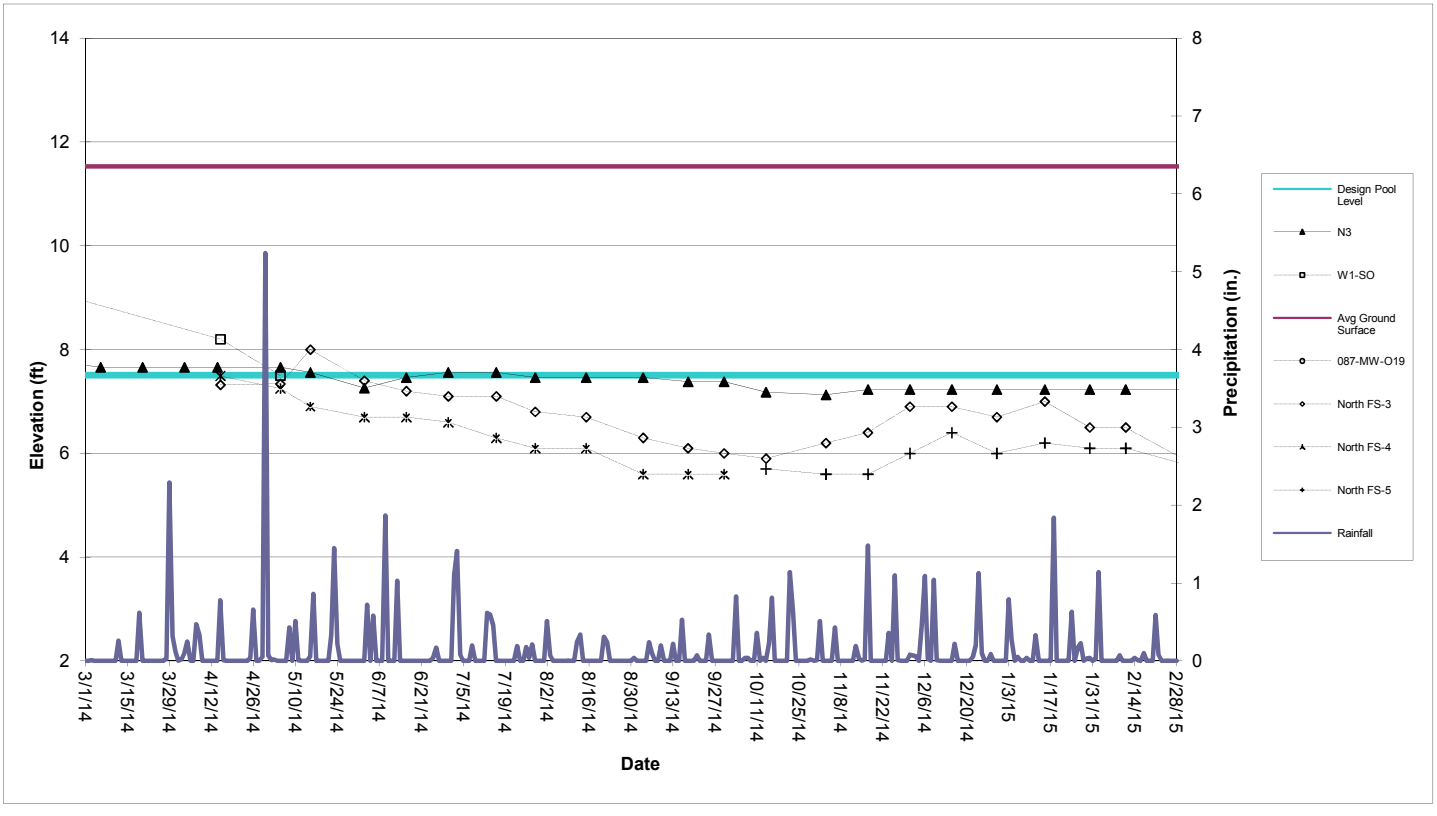
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



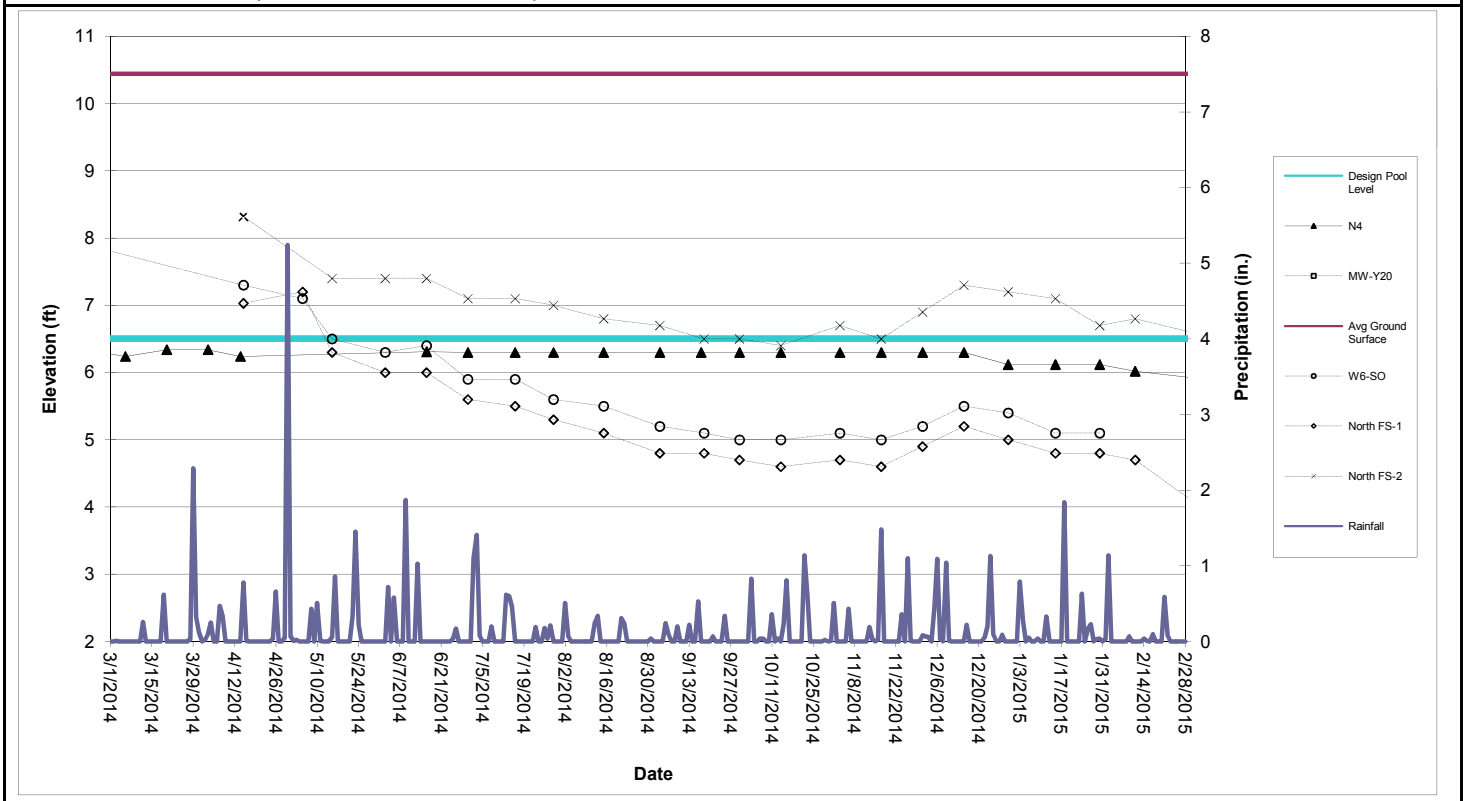
Perimeter Pool N1 (Sta. N13+60 to N20+25)



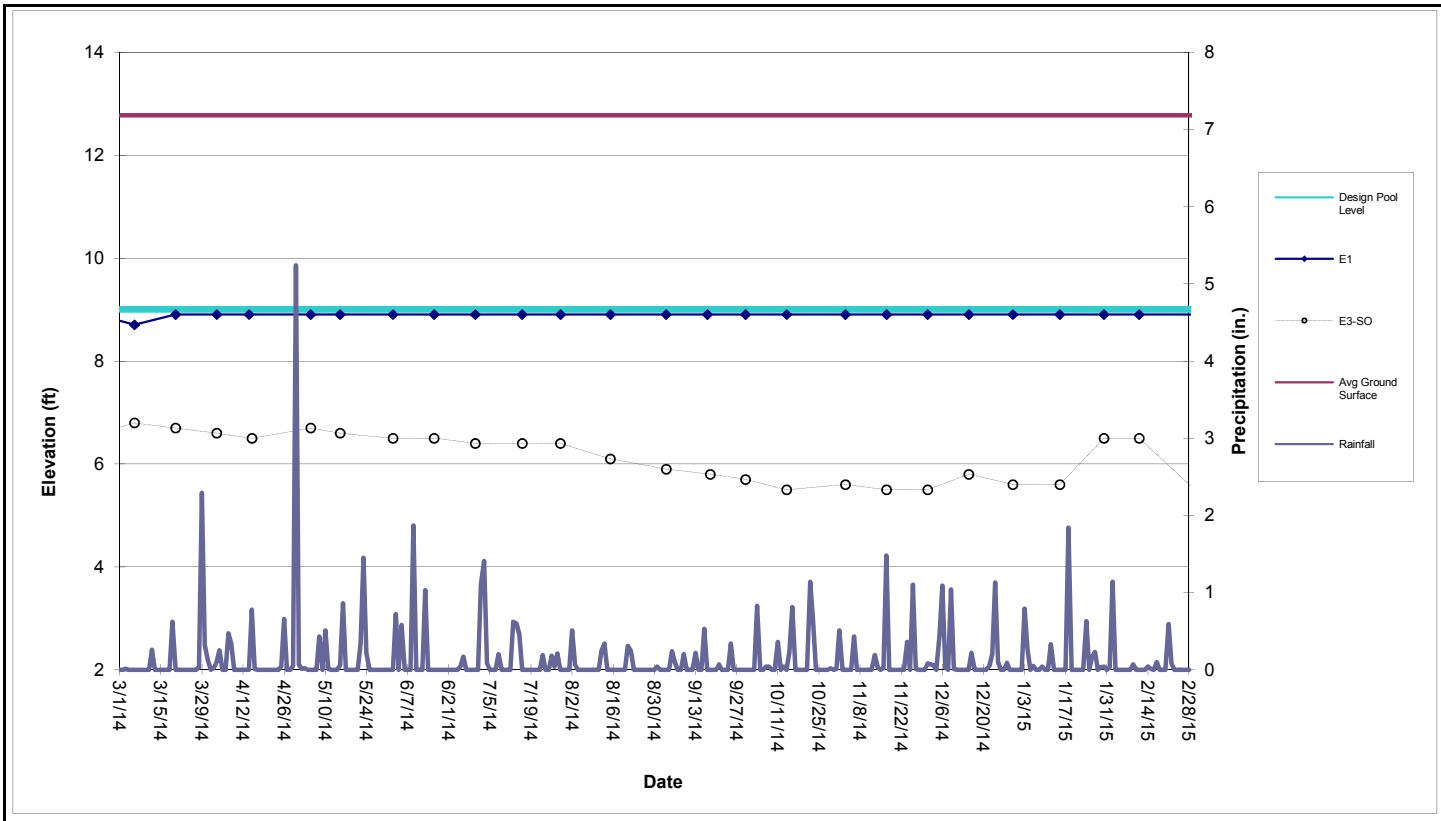
Perimeter Pool N2 (Sta. N10+73 to N13+10)



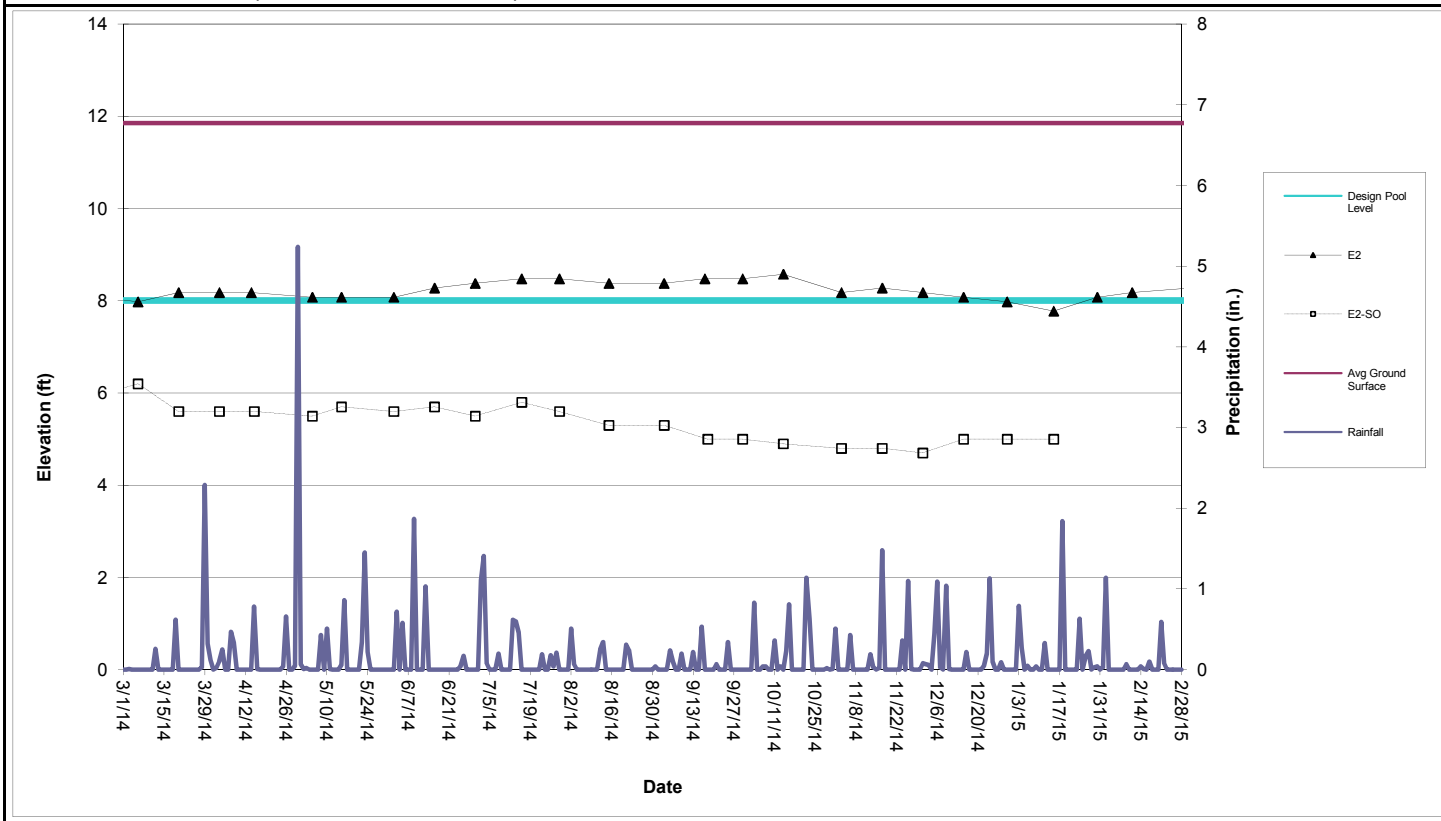
Perimeter Pool N3 (Sta. N6+80 to N10+23)



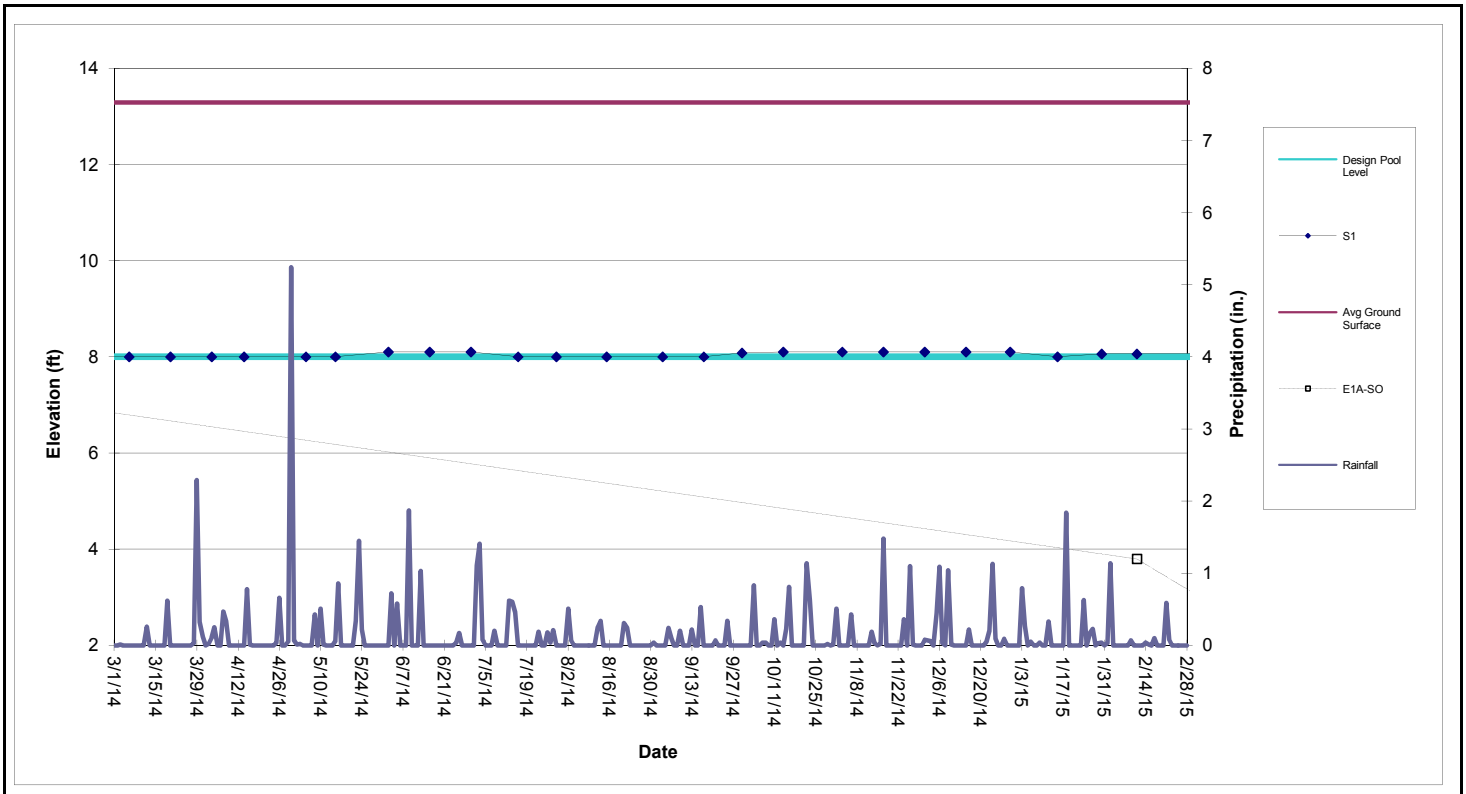
Perimeter Pool N4 (Sta. N6+80 to N10+23)



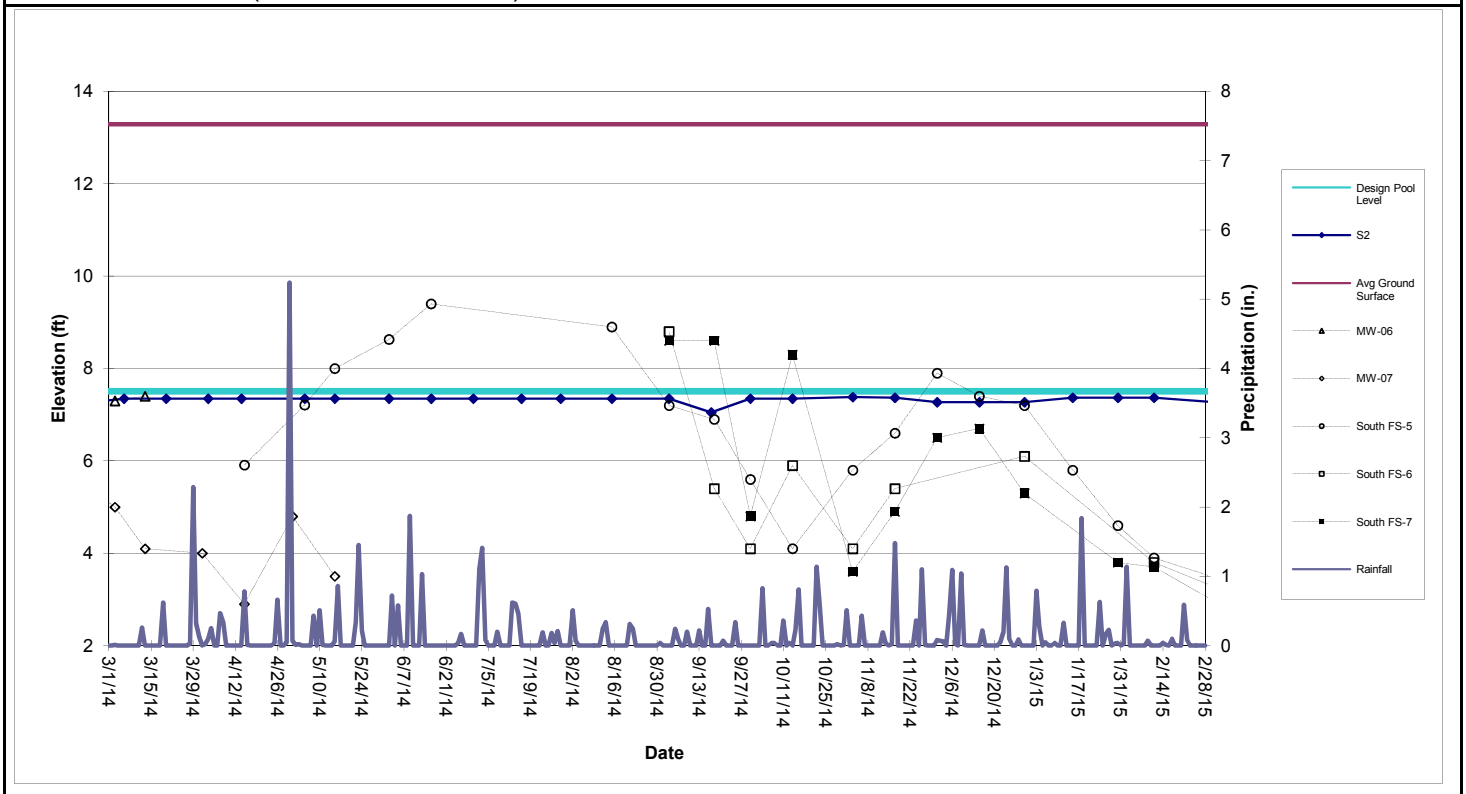
Perimeter Pool E1 (Sta. E0+50 to E3+75)



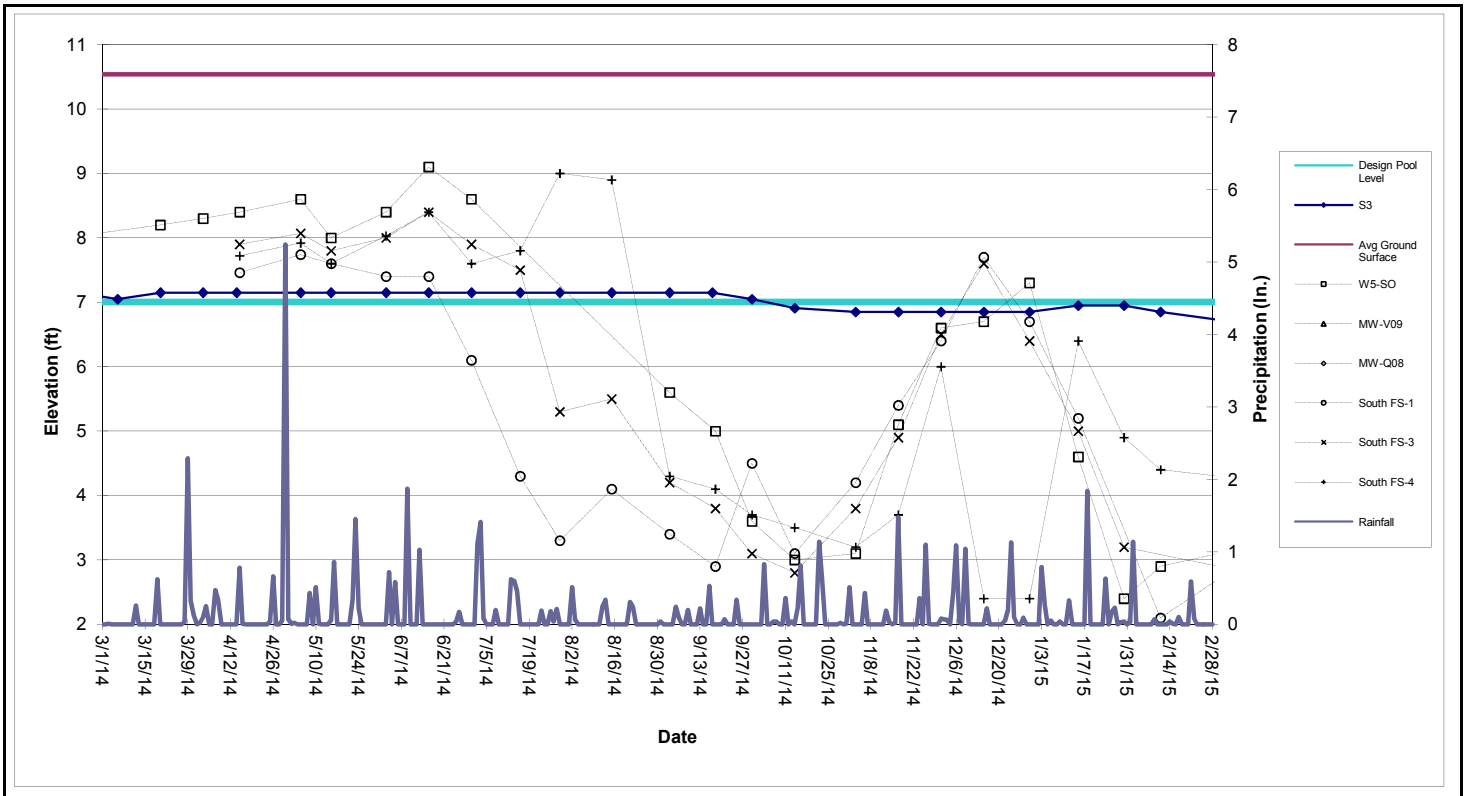
Perimeter Pool E2 (Sta. E4+50 to E7+25)



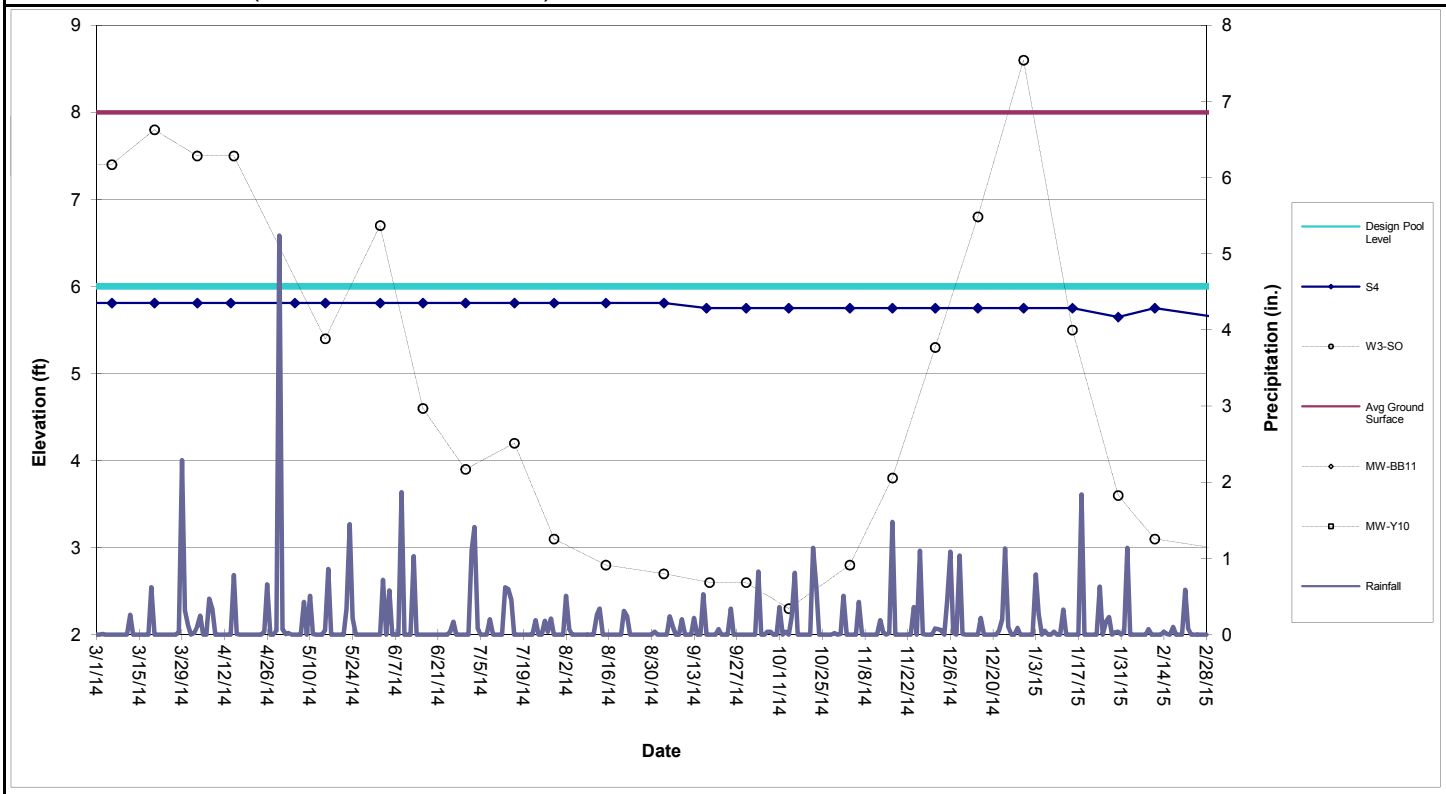
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
3/3/2014											7.3	5.0													
3/6/2014		6.2	6.8	6.5	7.3		7.4																		
3/13/2014											7.4	4.1													
3/20/2014		5.6	6.7	7.2	7.4		7.8	8.2																	
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9					4.7	6.8	6.5		6.1	6.1	6.2	2.1		4.4	3.9	3.8	3.7

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, E2-SO, W1-SO, W6-SO, North FS-4, South FS-3

Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 5, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☑ Other Snow Cover
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/06/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, February 05, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	Windscreen on the Kellogg Street perimeter fence requires maintenance.
3	IA2Q4A1AL8	REPEAT: Ponded storm water has drained from the westernmost Site 163 open excavation through the Dreyer's Cove bulkhead, creating a void.
4	IA2Q4A1AL8	Sediment is present on the southern SA-7 roadway due to off-road dump truck traffic.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature **Date:** 02/06/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required	
2	Re-attach windscreen to the chain link fabric	2-9-15 RAD
3	Repair the void in the Dreyer's Cove bulkhead as per the engineers design.	
4	Clean the sediment from the SA-7 roadway and install erosion control measures (tracking pads, etc.) as required to minimize sediment accumulation on the pavement	2-6-15 RAD
	1 & 3 can not be completed due to site being covered in a sheet of ice	

Construction Manager: _____ **Date:** 02/11/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 13, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

- - 1 - -

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/13/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 13, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 02/13/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required. Silt fence should extend eastwards along the slope of the area recently surcharged.	Site is covered in a sheet of ice and cannot be completed until thawed (RAD)

Silt fence to be installed once ground thaws. RP

Construction Manager: _____ **Date:** 02/18/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 20, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Temps < 20°f
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/20/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 20, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT. Additional silt fence is required along the southern toe of the S stockpile area
2	IA2Q4A1AL8	Windscreen on the Kellogg Street perimeter fence has blown loose in several locations.
3	IA2Q4A1AL8	Windscreen on the perimeter fence between SA and SA-6 North has blown loose in several locations.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: [signature] Date: 02/20/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the S stockpile area as required. Silt fence should extend [illegible] along the slope of the [illegible]	Cannot be completed due to frozen ground
2	Re-attach windscreen fabric to the perimeter fence as required	2-25-15 RAD
3	Re-attach windscreen fabric to the perimeter fence as required	2-25-15 RAD

Construction Manager: [signature] Date: 02/25/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 25, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☑ Other Site Frozen/Snow Covered
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		5
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/25/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, February 25, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Additional silt fence is required along the southern toe of the 2-S stockpile area.
2	IA2Q4A1AL8	The vehicle tracking pad at the site exit to the east of 60 Kellogg Street is blinded with snow/ice/sediment.
3	IA2Q4A1AL8	The storm drain at the site exit to the east of 60 Kellogg Street does not have a sediment filter installed.
4	IA2Q4A1AL8	the orange exclusion zone fencing on the western side of the sedimentation basin is down and requires maintenance.
5	IA2Q4A1AL8	There is a gap in the perimeter fenceline on SA-6 North where the CWTP discharge line exits the containment area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 02/25/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install additional silt fence along the southern toe of the 2-S surcharge area as required. Silt fence should extend eastwards along the slope of the area recently surcharged.	Can not complete ground is frozen
2	Resurface the stone tracking pad as required to restore function.	2-25-15 RAD
3	Install filter fabric in the storm water catch basin located outside of the eastern 60 Kellogg gate.	2-25-15 RAD
4	Repair or replace the orange warning fencing on the western side of the sed basin exclusion zone.	2-25-15 RAD
5	Install a fencing panel in the area where the CWTP discharge line exits the secondary containment area.	2-25-15 RAD

Construction Manager: _____ **Date:** 02/26/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (January 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

February 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the January 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA
Frank Schroyer - Parsons

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
1	01	15	1	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,112	91,413 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.89	1.07	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1628	0.1628	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris HF

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

Feb 17, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
1	01	15	1	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,359,467 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 27,066,596

DATE	BOD (mg/l)	TSS (mg/l)
1/16/2015	6.7	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris IV	John J. Morris	(973) 455-4003
		DATE February 17, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)							MONTH: January 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
1/1/2015	Angel Trujillo	24707129	24791602	84,473	0.084473	7.55	1.400									0.99
1/2/2015	Angel Trujillo	24791602	24865808	74,206	0.074206	7.62	1.400									0.87
1/3/2015	Angel Trujillo	24865808	24942146	76,338	0.076338	7.44	1.400									0.89
1/4/2015	Angel Trujillo	24942146	24999653	57,507	0.057507	7.12	1.400									0.67
1/5/2015	Angel Trujillo	24999653	25091066	91,413	0.091413	7.03	1.400									1.07
1/6/2015	Angel Trujillo	25091066	25165920	74,854	0.074854	7.13	1.400									0.87
1/7/2015	Angel Trujillo	25165920	25240372	74,452	0.074452	7.16	1.400									0.87
1/8/2015	Angel Trujillo	25240372	25317444	77,072	0.077072	7.09	1.400									0.90
1/9/2015	Angel Trujillo	25317444	25395018	77,574	0.077574	7.15	1.400									0.91
1/10/2015	Angel Trujillo	25395018	25472650	77,632	0.077632	7.22	1.400									0.91
1/11/2015	Angel Trujillo	25472650	25553397	80,747	0.080747	7.14	1.400									0.94
1/12/2015	Angel Trujillo	25553397	25622374	68,977	0.068977	7.19	1.400									0.81
1/13/2015	Angel Trujillo	25622374	25698800	76,426	0.076426	7.16	1.400									0.89
1/14/2015	Angel Trujillo	25698800	25774022	75,222	0.075222	7.06	1.400									0.88
1/15/2015	Angel Trujillo	25774022	25850341	76,319	0.076319	7.10	1.400									0.89
1/16/2015	Angel Trujillo	25850341	25924633	74,292	0.074292	7.16	1.400	<5.1	6.7		<0.010	<0.030	<0.010	<0.0002	<0.020	0.87
1/17/2015	Angel Trujillo	25924633	26005981	81,348	0.081348	7.11	1.400									0.95
1/18/2015	Angel Trujillo	26005981	26082830	76,849	0.076849	7.10	1.400									0.90
1/19/2015	Angel Trujillo	26082830	26156177	73,347	0.073347	7.10	1.400									0.86
1/20/2015	Angel Trujillo	26156177	26229773	73,596	0.073596	7.07	1.400									0.86
1/21/2015	Angel Trujillo	26229773	26292737	62,964	0.062964	6.78	1.400									0.74
1/22/2015	Angel Trujillo	26292737	26376215	83,478	0.083478	7.08	1.400									0.97
1/23/2015	Angel Trujillo	26376215	26453039	76,824	0.076824	7.11	1.400									0.90
1/24/2015	Angel Trujillo	26453039	26535988	82,949	0.082949	7.06	1.400									0.97
1/25/2015	Angel Trujillo	26535988	26608368	72,380	0.07238	7.14	1.400									0.85
1/26/2015	Angel Trujillo	26608368	26682845	74,477	0.074477	7.07	1.400									0.87
1/27/2015	Angel Trujillo	26682845	26767908	85,063	0.0851	7.11	1.400									0.99
1/28/2015	Angel Trujillo	26767908	26836053	68,145	0.068145	7.10	1.400									0.80
1/29/2015	Angel Trujillo	26836053	26910845	74,792	0.074792	7.08	1.400									0.87
1/30/2015	Angel Trujillo	26910845	26987499	76,654	0.076654	7.09	1.400									0.90
1/31/2015	Angel Trujillo	26987499	27066596	79,097	0.079097	7.42	1.400									0.92
TOTAL				2,359,467	2.359467			<5.1	6.7		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	91,413											High:	1.07
			Average:	76,112											Average:	0.89

WW

E

JB86591

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42020.66259
2235 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County	Phase: CS	COC# 087-WW-011615
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ	Sampling Program 087: JCIA	Lab Proj # (SDG):
Client Contact: (name, co., address)	Sampler: Frank Schroyer			Lab ID ACTD
Helen Fahy P. (973) 455-2989 E. helen.fahy@honeywell.com	PO #	Preservative 3 3 3 1 2 2 0 0 2		Site ID HudsonCo
Honeywell International	Analysis Turnaround Time (TAT): 3			Lab Job # HWINJM32815
101 Columbia Road Morristown, NJ 07962	Consultant CH2M			Authorized User: Honeywell
Preliminary Data To				Text & Excel File Drive / Excel & Text File Order
Sample Receipt Acknowledgement To: Frank Schroyer				
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units																
1	087-WW			087-WWE-011615-A	1/16/2015	14:20	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-011615-B	1/16/2015	14:35	WW	WATER	REG	5	grab	N					X	X				2					LZ1
3	087-WW			087-WWI-011615	1/16/2015	14:50	WW	WATER	REG	3	grab	N									X	3					V1025
4																												
5																												A14
6																												G21
7																												
8																												
9																												
10																												
11																												
12																												

Relinquished by: pH = 7.16 SU @ 6.8°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:	
Frank Schroyer	Date/Time: 1/16/15		Date/Time: 1/16/14 4:05pm		Cooler Temp.			
Relinquished by:	Company:	Received by:	Company:		Condition:		Custody Seals Intact:	
	Date/Time: 1/16/15 19:10		Date/Time:	1/16/15 1820	Cooler Temp.	0.3 °F		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

JM

3BWM

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-A		
Lab Sample ID:	JB86591-1	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1400	10	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	01/19/15	01/19/15	JW	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	01/19/15	01/20/15	GT	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA35880
(2) Instrument QC Batch: MA35888
(3) Prep QC Batch: MP84483
(4) Prep QC Batch: MP84493

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-A		
Lab Sample ID:	JB86591-1	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	01/17/15	JS	SM2540 D-11
pH [a]	7.06		su	1	01/16/15 18:26	HL	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-A		
Lab Sample ID:	JB86591-1A	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	6.7	3.4	mg/l	1	01/16/15 19:11	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-B		
Lab Sample ID:	JB86591-2	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	U191899.D	1	01/20/15	NH	n/a	n/a	VU8860
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.3	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.4	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	18.1	1.0	0.14	ug/l	
74-87-3	Chloromethane	ND	1.0	0.16	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	0.42	1.0	0.11	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.11	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.12	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.46	ug/l	
75-34-3	1,1-Dichloroethane	0.35	1.0	0.15	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-59-2	cis-1,2-Dichloroethene	85.1	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.3	1.0	0.24	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
123-91-1	1,4-Dioxane	ND	130	89	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.49	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-B		
Lab Sample ID:	JB86591-2	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	48.1	1.0	0.17	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	102%		72-125%
2037-26-5	Toluene-D8 (SUR)	102%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	103%		74-112%
1868-53-7	Dibromofluoromethane (S)	101%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@837523 11:28 06-Feb-2015

Report of Analysis

Client Sample ID:	087-WWE-011615-B		
Lab Sample ID:	JB86591-2	**Date Sampled:**	01/16/15
Matrix:	AQ - Water	**Date Received:**	01/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	01/20/15	JOO	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending February 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

4/15/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 15, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-03

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from March 1 – March 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: March 2015 SA-6/7 Combined Monthly Progress Report No. 2015-03

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-03

Project SA-6 & 7 Remediation

March 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
03/03/15	Underground Storage Tank Remedial Action Report 75 Kellogg Street Jersey City (Hudson County), New Jersey Block 24601/Lot 11 NJDEP PI No. 010374 Study Area 6, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
03/04/15	Response to Comments Provided by Dr. Ben Ross January 9, 2015 In-situ Groundwater Sampling Beneath Riverbed Sediments Study Area 7, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
03/09/15	Response to Comments provided by Terris, Pravlik & Millian, LLP and O'Connell & Lawrence Surcharge Monitoring Plan Reports No. 7, 8 and 9 Study Areas 6 North and South, Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
03/13/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 June 2014	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
03/13/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-02 Study Areas 6 and 7, Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
03/17/15	Special Master Meeting	N/A
03/30/15	SA-6 North Treatment Areas 7 & 8 SA-6 South Site 163 Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils Study Areas 6 North and South, Jersey City, NJ	Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
03/31/15	Plume Pull-Back Presentation	Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	03/8/15	03/15/15	03/22/15	03/22/15
Construction Management (AMEC)	10	10	11	10
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	27	29	27	27
Arecon/US Ecology Subcontractors	1	1	2	2
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
Gramercy	9	9	8	0
TOTAL STAFF	**53**	**55**	**54**	**45**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected March PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On March 18, 2015, Gramercy completed the above-grade demolition of the former JCIA Building Structures. Site cleanup and demobilization activities were completed on March 23, 2015.
- After demobilization of Gramercy, the former JCIA parcel was incorporated into the perimeter fencing to allow for hydraulic barrier installation and subsequent chromium remediation in this portion of SA-6 North.

- On March 22, 23, and 24th, 2015, Cornerstone personnel conducted S-3 Mass Removal Injection Event #19 in Injection Well 088-IW-01.
- Installed three (3) utility pole sleeves along Route 440 for future PSE&G overhead power line relocation.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on March 11, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	03/8/15	03/15/15	03/22/15	03/29/15
Avg. Gallons Treated & Discharged (per day)	76,688	77,070	77,533	76,391
Average Flow (gpm) for Operating Period	54	54	54	53
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	5,532	5,408	4,954	5,078

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed abandonment of Deep wells DW1, DW2 DW3, DW4 and DW5. The Deep Wells were associated with the temporary construction dewatering activities installed by Entact in the SA-6 South Backfill area.
- Began well abandonment activities on SA-6 North.
- Continued loadout of non-hazardous petroleum impacted soils from SA-6 South.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	40 cyd roll off	Jersey City, NJ	Sims Metal	Metal	9	11.0	99.2
Gramercy- (JCIA Demo)	40 cyd roll off	North Bergen, NJ	Cardella Waste	C&D	13	17.2	224.73

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Gramercy- (JCIA Demo)	30 cyd roll off	Bayonne, NJ	Durable Recycling	Concrete	11	15.0	165
Gramercy- (JCIA Demo)	40 cyd roll off	Bayonne, NJ	Durable Recycling	Brick/Masonry	62	17.9	1,112.8
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	534	26.6	14,239

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	No update for the reporting period

3. BACKFILL MATERIALS USED

Source	Week Ending			
	03/8/15	03/15/15	03/22/15	03/29/15
NJCU Borrow Material, CY	3,735	6,765	0	0

- Clean borrow material (from NJCU Surcharge Program) was delivered to the site during the weeks of March 2, 2015 through March 13, 2015. A total of 700 loads were delivered totaling approximately 10,500 cubic yards. Borrow material is stockpiled in the eastern area of SA-6 South and will be placed as backfill weather permitting.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging complete on Area 2S. Continue offloading Celgene and Novartis surcharge material (approximately 65% complete).
- Area 3S: Surcharge placement completed on Area 3S and monitoring ongoing.
- Area 1N: Surcharge removal activities were discontinued in February in Area 1N. Surcharge removal activities in this area remain at approximately 85% complete.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: No activity in this area pending installation of surcharge monitoring instrumentation.
- Area 4N: No activity in this area pending installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed delivery of sheet pile for the remaining barrier wall at SA-6 North with exception of several specialty pieces.
- Completed removal of temporary sheet pile on SA-6 South.
- Continued vertical barrier wall installation activities on SA-6 North. Installed vertical barrier wall sheet pile from west of the sedimentation basin eastward through the sedimentation basin and through a portion of the former JCIA property ending east of the trash pit, STA 14+00 to STA 5+25. Vertical barrier wall was also installed on the western perimeter of the SA-6 North cap area from STA 21+75 to STA 23+42.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete loadout and transportation and disposal activities of non-hazardous petroleum impacted soils at SA-6 South.
- Continue Vertical Hydraulic Barrier wall installation activities on SA6 North.
- Remove standing water within the JCIA trash pit and begin removal and loadout of putrescible trash.
- Resume backfilling placement activities at SA-6 South.
- Complete installation of sleeves for anchors associated with Verizon overhead line relocation activities.
- Conduct S-3 Mass Removal Injection Event No. 20.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue the SA-6 North Bench-Scale Treatability Study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (sampled quarterly, not available for this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Weekly SWPPP Reports

12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (February 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15



Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 3/30/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs



Site Photograph 1: Breaking up concrete for sheet pile installation.



Site Photograph 2: Grading Clean Fill.



Site Photograph 3: Installing Sheet Pile on JC Properties.



Site Photograph 4: Moving surcharge material to stockpile area.



Photograph 5: Relocated surcharge soils stockpile.



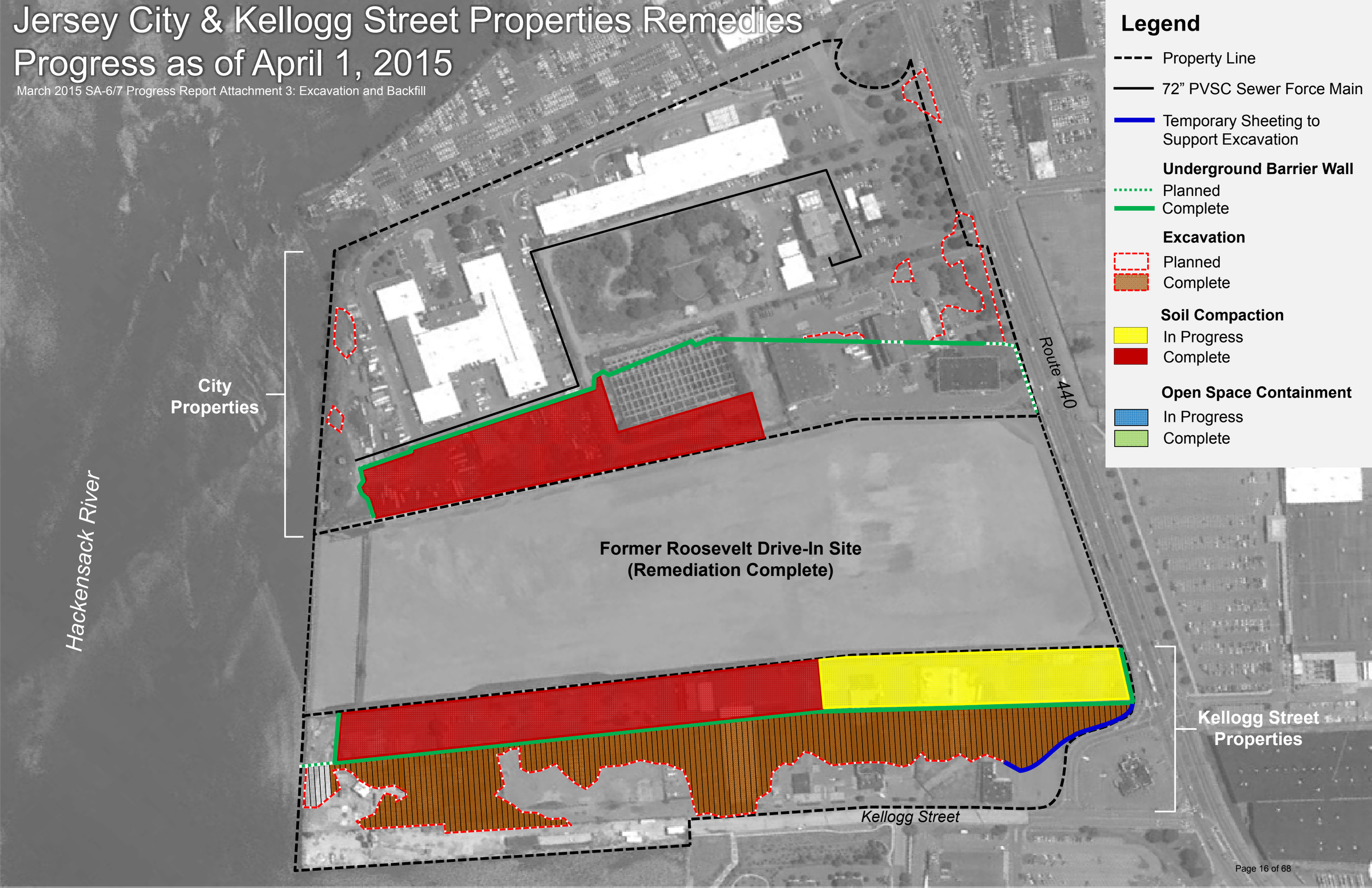
Site Photograph 6: Unloading Clean Fill.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of April 1, 2015

March 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/30/15	7:00	14:00	7:00	27,180.82	27,268.67	87,850	27,268,220	
02/04/15	7:00	12:30	5:30	27,268.67	27,317.51	48,840	27,317,060	PVSC Compliance Sample Collected
02/05/15	7:30	15:00	7:30	27,317.51	27,437.11	119,600	27,436,660	
02/09/15	9:30	14:30	5:00	27,437.11	27,484.85	47,740	27,484,400	
02/10/15	9:30	16:15	6:45	27,484.85	27,587.00	102,150	27,586,550	
02/11/15	8:00	14:30	6:30	27,587.00	27,626.34	39,340	27,625,890	
02/12/15	8:00	14:30	6:30	27,626.34	27,687.34	61,000	27,686,890	
02/20/15	10:30	12:15	1:45	27,687.34	27,702.61	15,270	27,702,160	
02/23/15	7:30	15:30	8:00	27,702.61	27,758.65	56,040	27,758,200	
02/25/15	7:30	15:00	7:30	27,758.65	27,788.98	30,330	27,788,530	
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	
03/04/15	7:30	14:00	6:30	27,853.74	27,955.09	101,350	27,954,640	PVSC Compliance Sample Collected
03/05/15	8:00	14:00	6:00	27,955.09	28,075.85	120,760	28,075,400	
03/06/15	7:30	14:30	7:00	28,075.85	28,200.09	124,240	28,199,640	
03/09/15	7:30	15:00	7:30	28,200.09	28,324.06	123,970	28,323,610	
03/10/15	7:30	15:00	7:30	28,324.06	28,458.25	134,190	28,457,800	
03/11/15	8:00	14:30	6:30	28,458.25	28,520.01	61,760	28,519,560	
03/12/15	9:00	15:00	6:00	28,520.01	28,571.66	51,650	28,571,210	
03/13/15	8:00	15:00	7:00	28,571.66	28,691.97	120,310	28,691,520	
03/14/15	8:00	16:30	8:30	28,691.97	28,827.02	135,050	28,826,570	
03/15/15	10:00	17:00	7:00	28,827.02	28,912.43	85,410	28,911,980	
03/16/15	7:30	15:15	7:45	28,912.43	29,086.98	174,550	29,086,530	
03/17/15	8:00	14:30	6:30	29,086.98	29,181.23	94,250	29,180,780	
03/18/15	7:30	15:00	7:30	29,181.23	29,228.98	47,750	29,228,530	
03/19/15	7:30	15:15	7:45	29,228.98	29,340.87	111,890	29,340,420	
03/20/15	8:00	14:00	6:00	29,340.87	29,436.92	96,050	29,436,470	
03/23/15	8:30	15:00	6:30	29,436.92	29,533.78	96,860	29,533,330	
03/24/15	7:30	15:00	7:30	29,533.78	29,615.04	81,260	29,614,590	
03/25/15	7:30	15:15	7:45	29,615.04	29,748.59	133,550	29,748,140	
03/26/15	7:30	15:30	8:00	29,748.59	29,862.15	113,560	29,861,700	
03/27/15	7:30	15:30	8:00	29,862.15	29,986.08	123,930	29,985,630	
03/28/15	9:00	15:00	6:00	29,986.08	30,091.41	105,330	30,090,960	

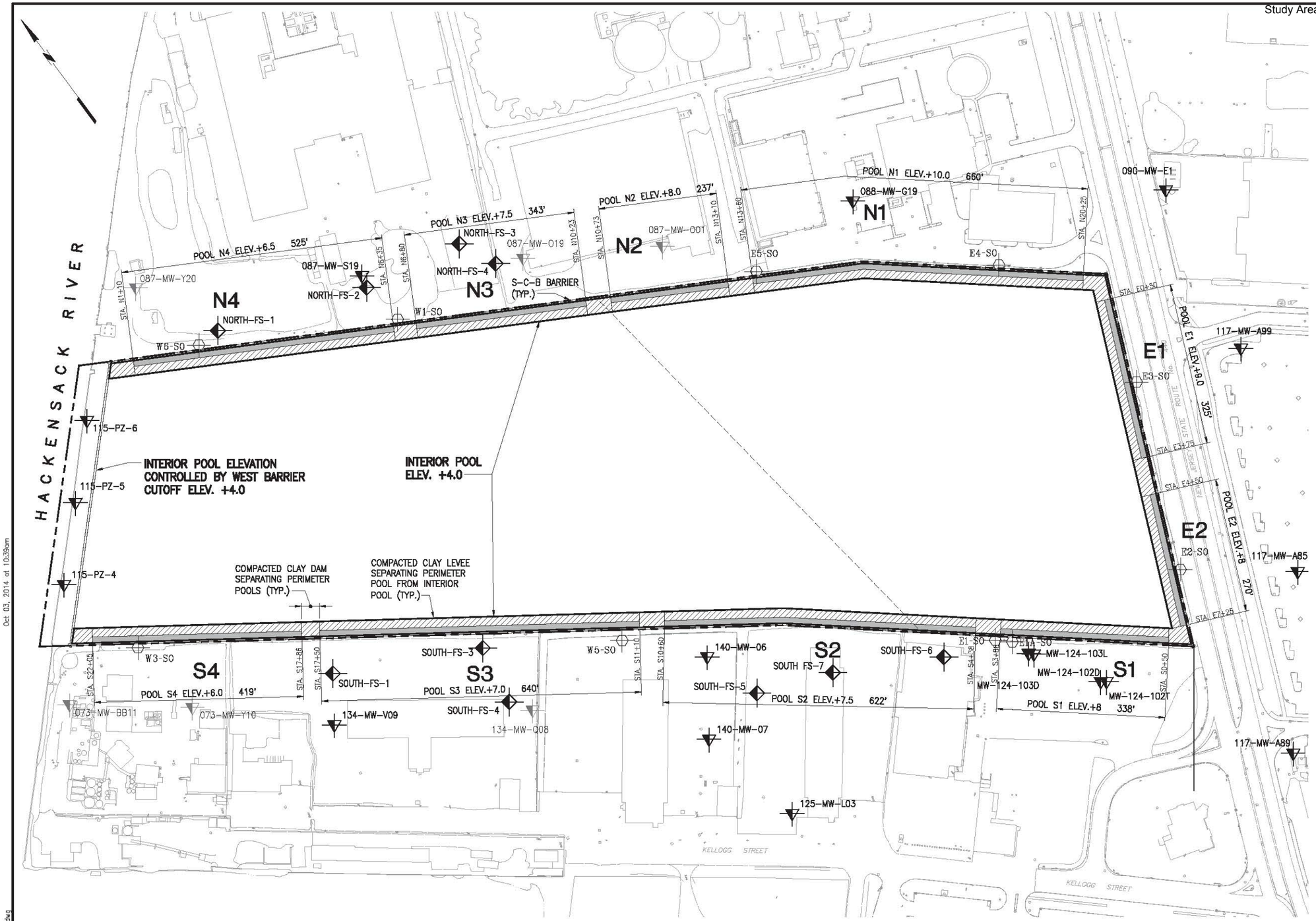
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >1,000)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <1,000 Placed Under Cap	>1,000 Shipped Off Site as Haz
106-110	<20	124-110-20-a,b,c (A30)	2400	124-110-20-a1	12/2/2014	13:00	25		Yes	
				124-110-20-a2	12/2/2014	13:05	44		Yes	
				124-110-20-a3	12/2/2014	13:10	29.1		Yes	
				124-110-20-a4	12/2/2014	13:15	14.8	Yes		
				124-110-20-b1	12/2/2014	13:20	23.1		Yes	
				124-110-20-b2	12/2/2014	13:25	12.9	Yes		
				124-110-20-b3	12/2/2014	13:30	3	Yes		
				124-110-20-b4	12/2/2014	13:35	1.8	Yes		
				124-110-20-c1	12/2/2014	13:40	12.9	Yes		
				124-110-20-c2	12/2/2014	13:45	15.6	Yes		
				124-110-20-c3	12/2/2014	13:50	29.1		Yes	
				124-110-20-c4	12/2/2014	13:55	179		Yes	
110-114	<20	124-114-20-a (A31)	1000	124-114-20-a1	12/16/2014	10:40	29.8		Yes	
				124-114-20-a2	12/16/2014	10:45	34.5		Yes	
				124-114-20-a3	12/16/2014	10:50	49.3		Yes	
				124-114-20-a4	12/16/2014	10:55	19.9	Yes		
Site 41	<20	124-114-20-b	135	124-114-20-b1	12/16/2014	11:00	10.6	Yes		
110-114	>1,000	124-114-1000-a (East D 6)	625	124-114-1000-a1	12/16/2014	13:15	42.3		Yes	
				124-114-1000-a2	12/16/2014	13:20	65		Yes	
				124-114-1000-a3	12/16/2014	13:25	75.3		Yes	
				124-114-1000-a4	12/16/2014	13:30	16.5		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

Oct 03, 2014 at 10:39am
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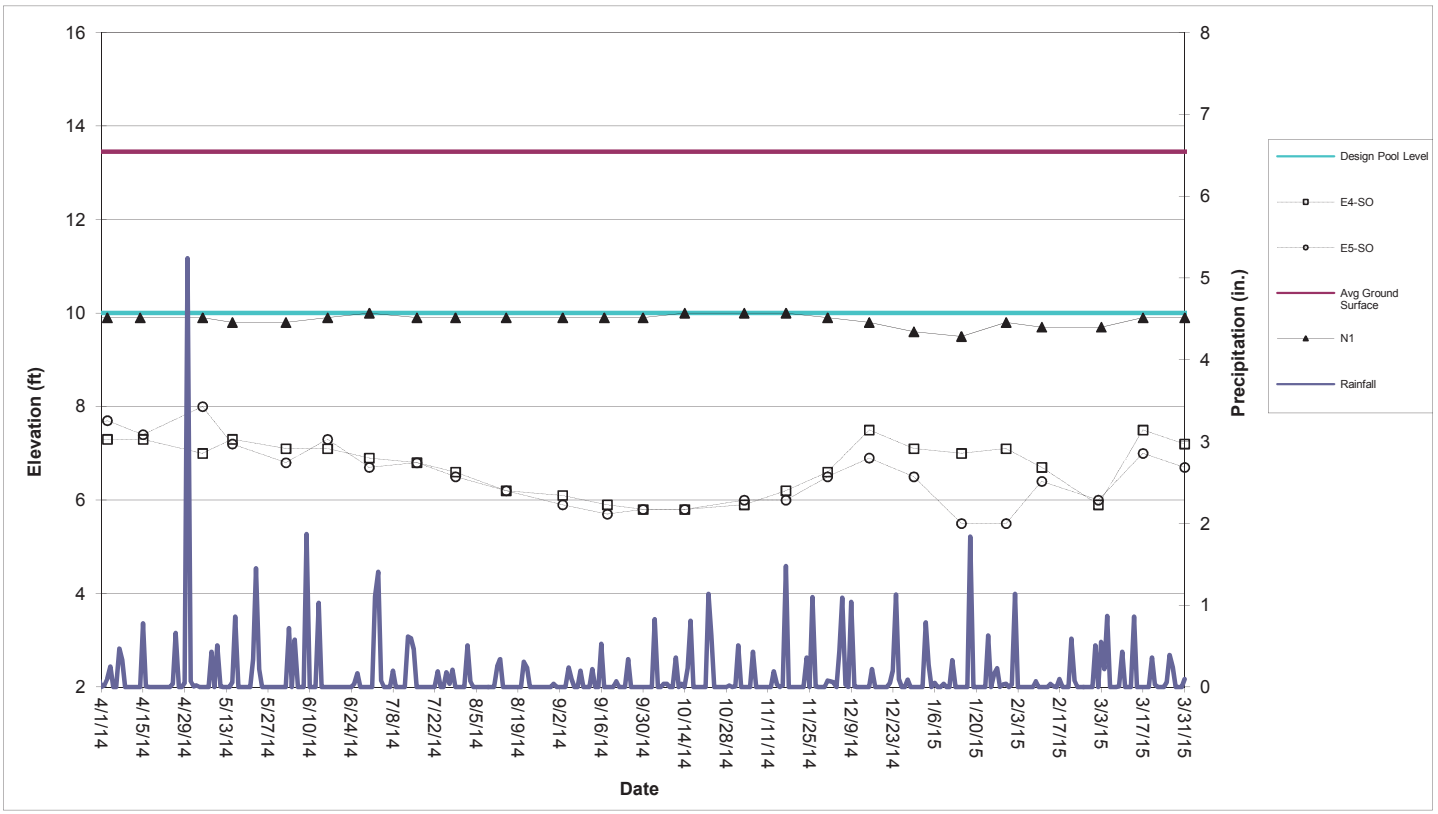
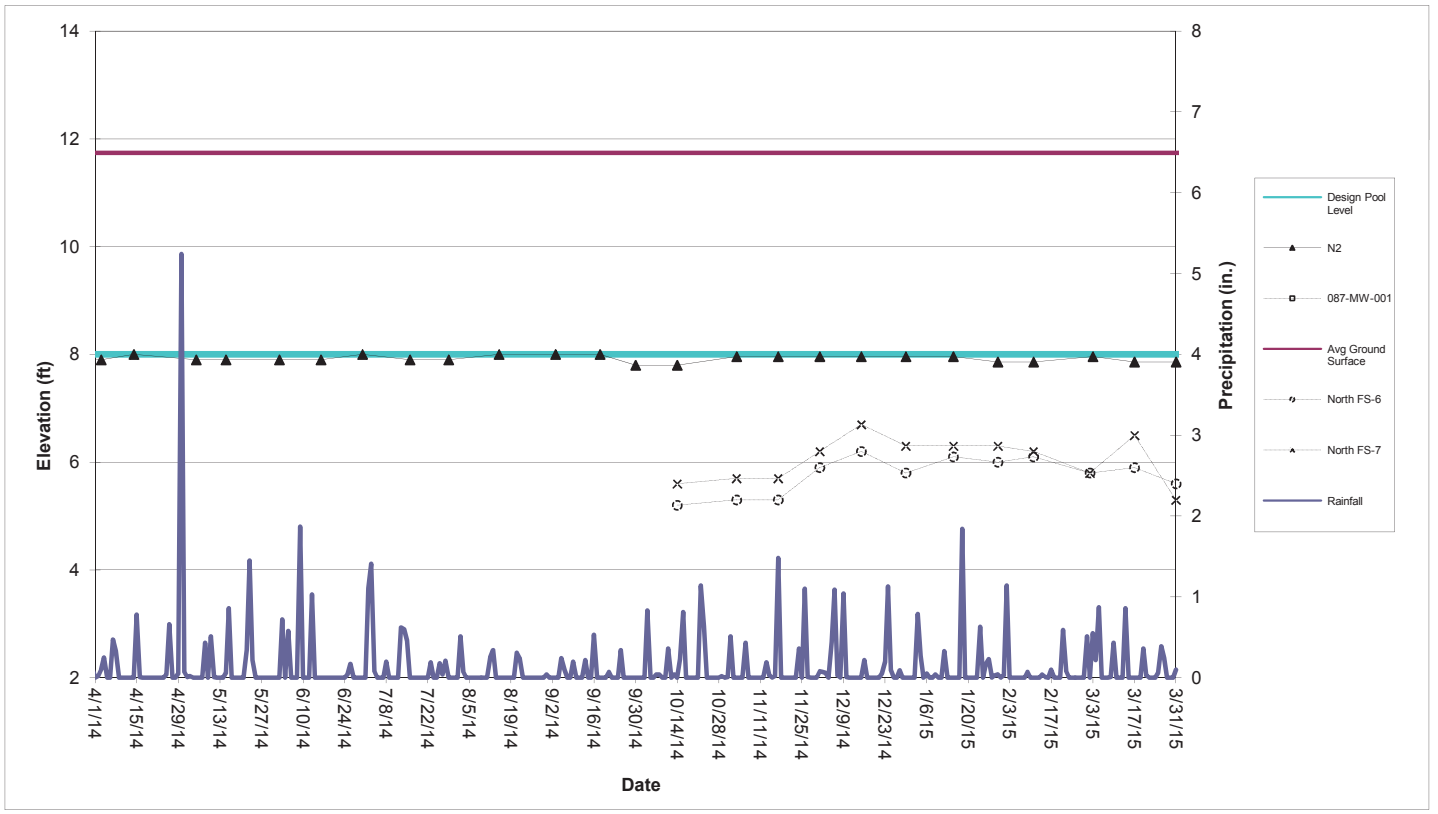
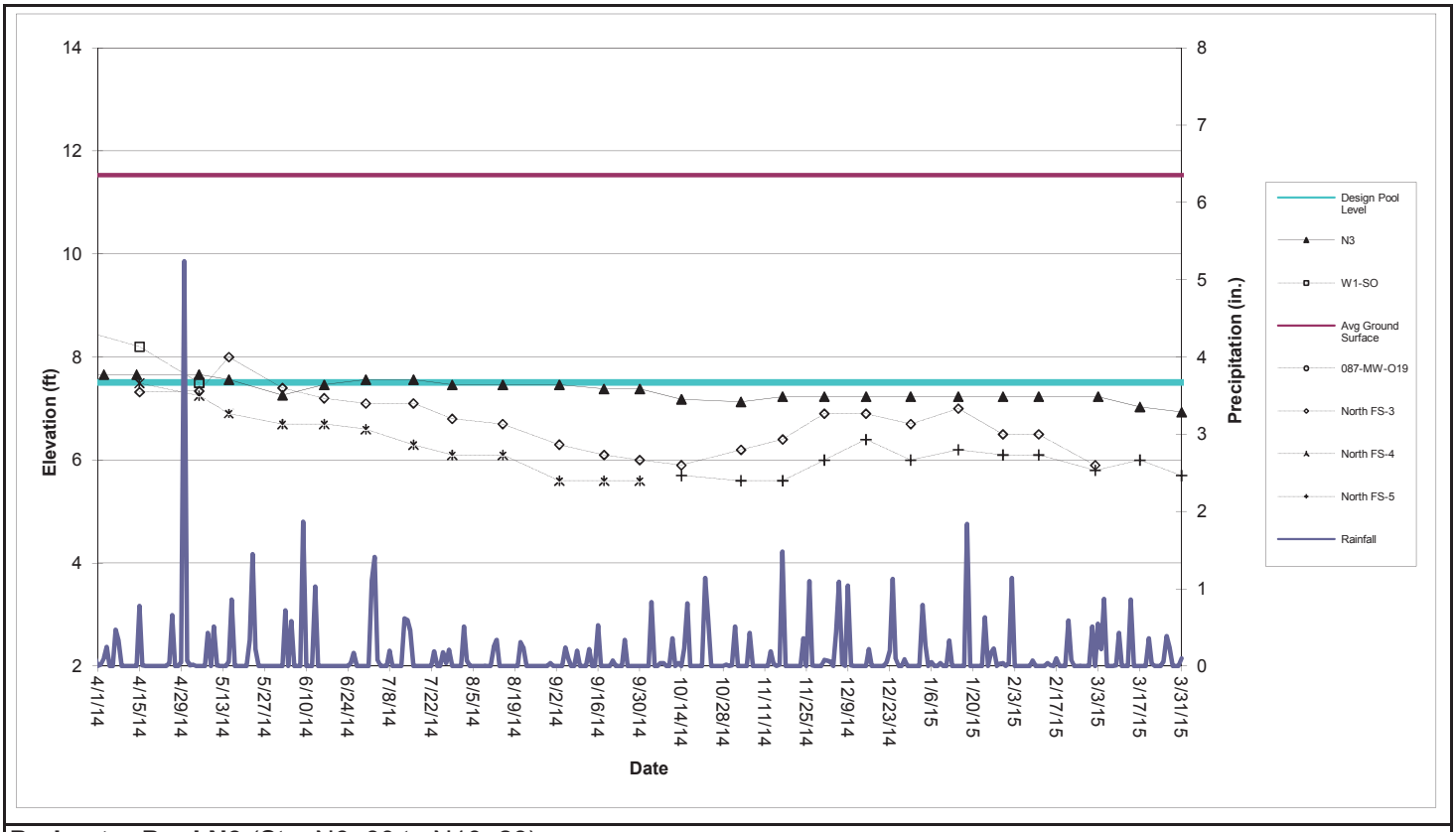
edelossantos



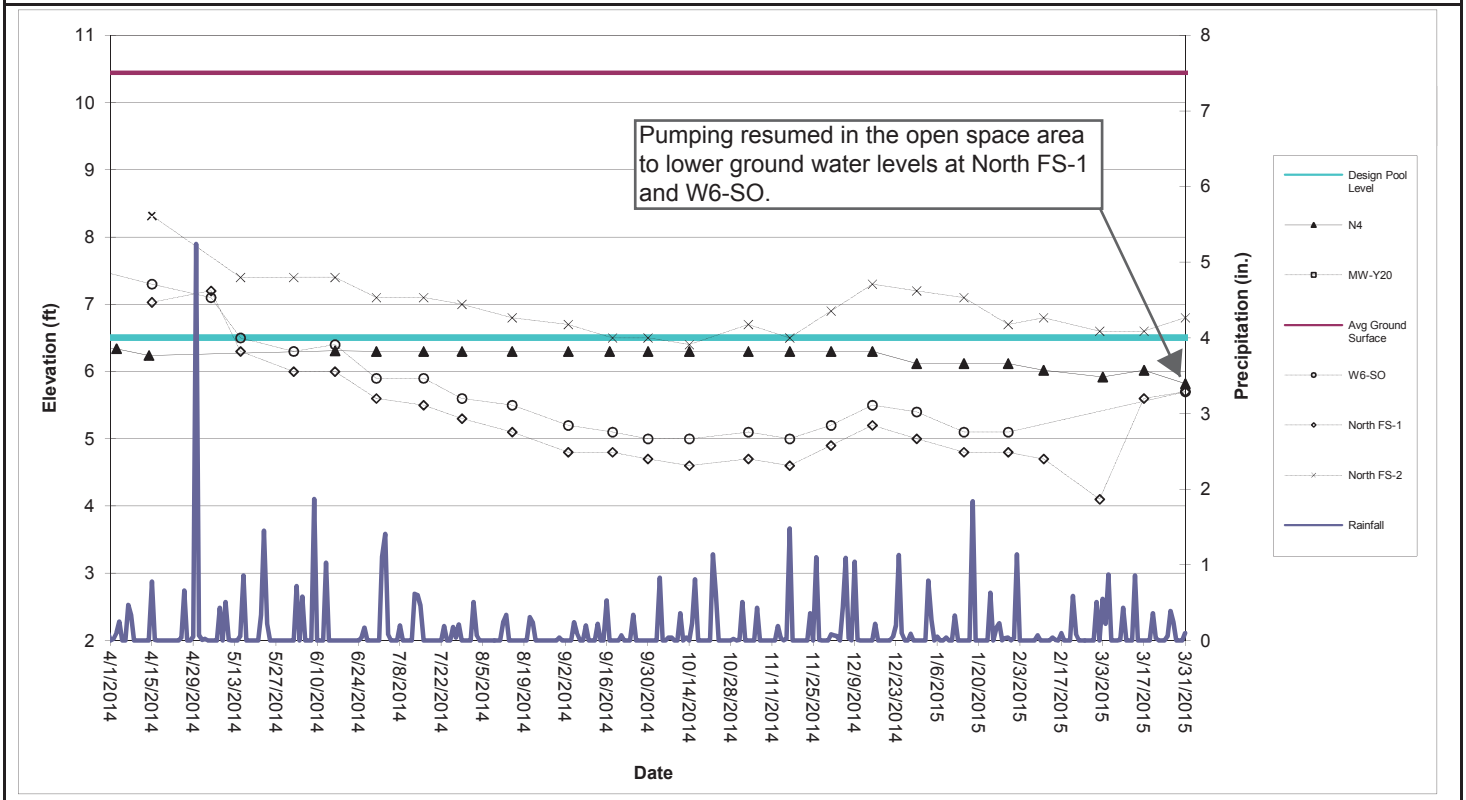
Perimeter Pool N1 (Sta. N13+60 to N20+25)



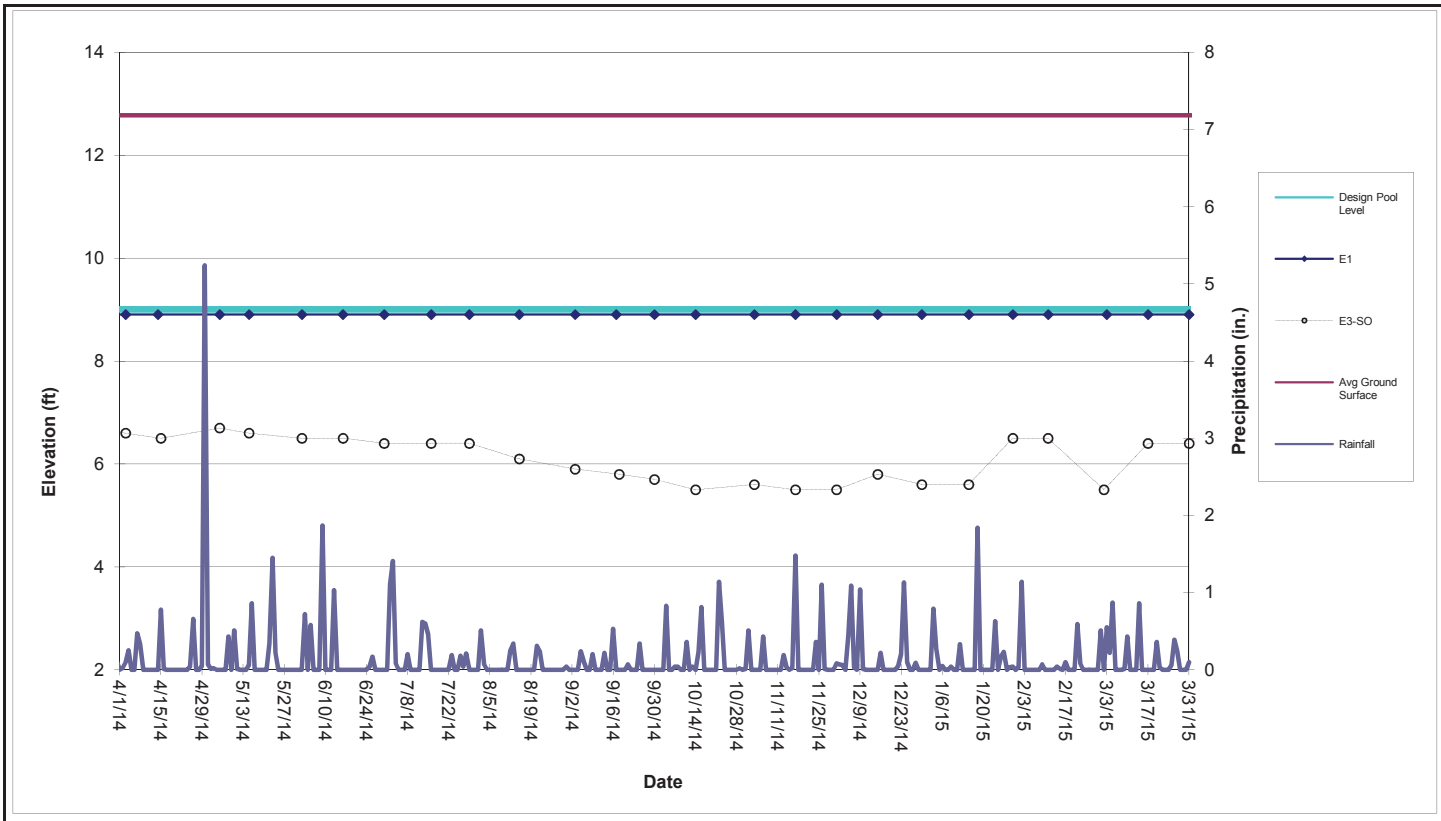
Perimeter Pool N2 (Sta. N10+73 to N13+10)



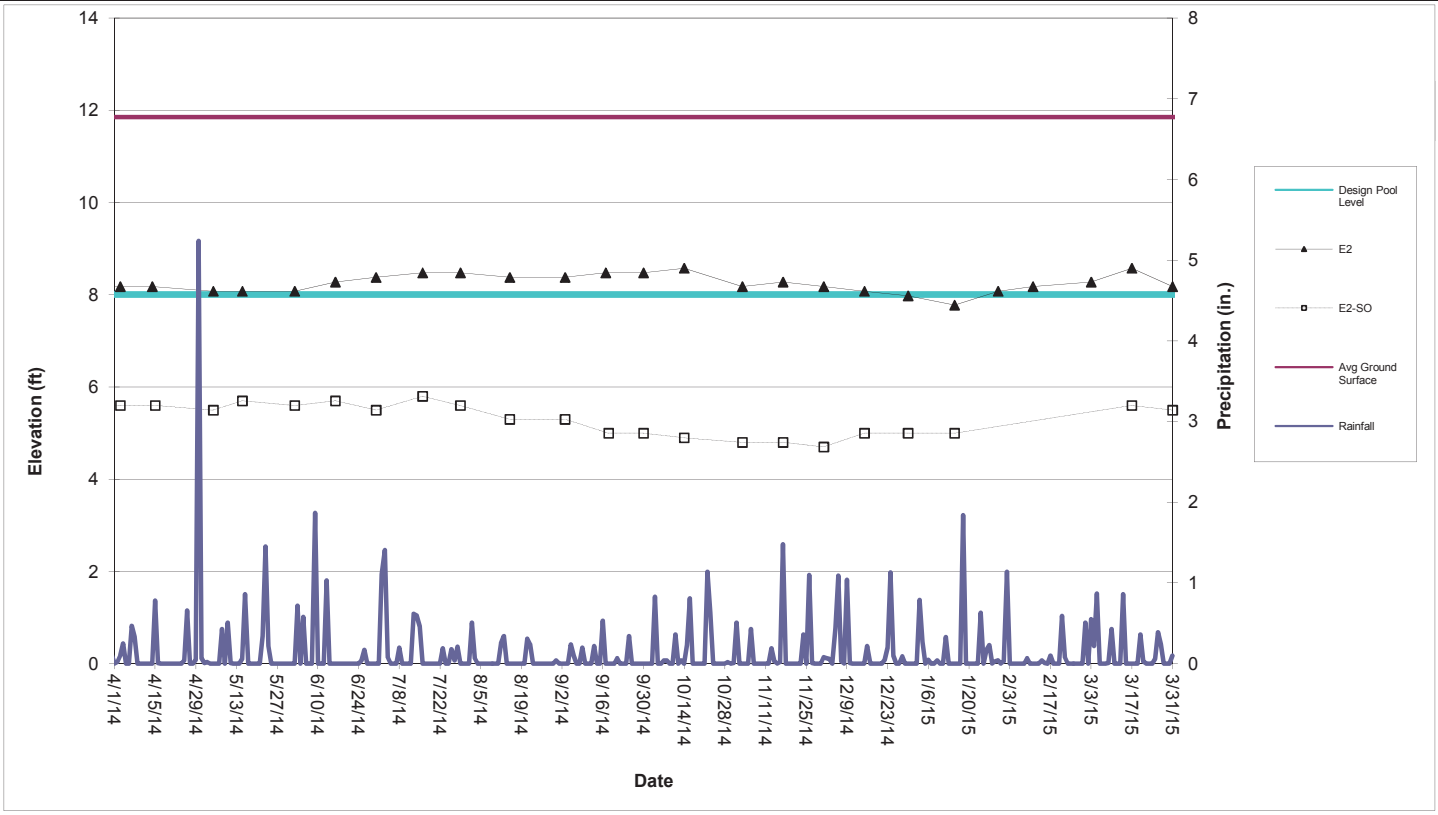
Perimeter Pool N3 (Sta. N6+80 to N10+23)



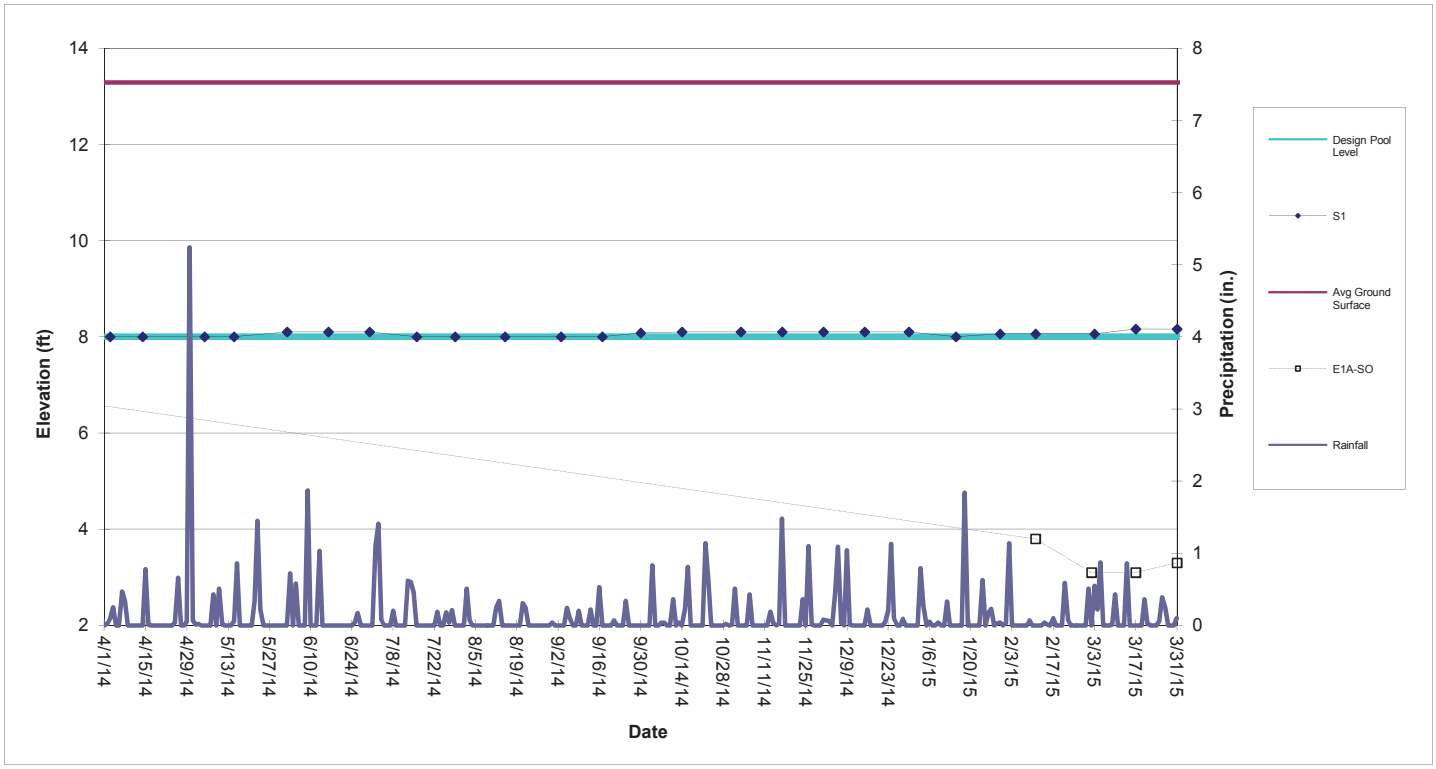
Perimeter Pool N4 (Sta. N6+80 to N10+23)



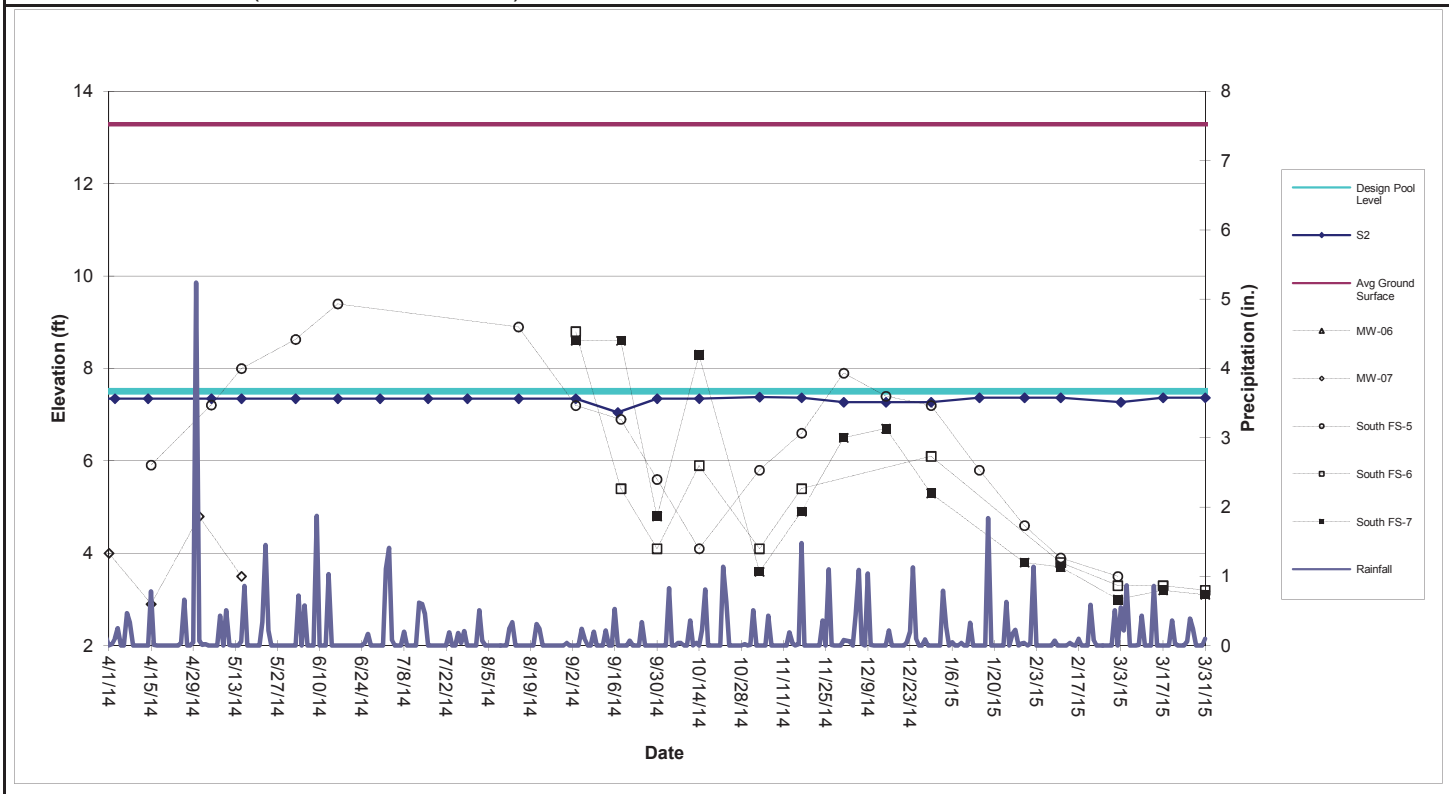
Perimeter Pool E1 (Sta. E0+50 to E3+75)



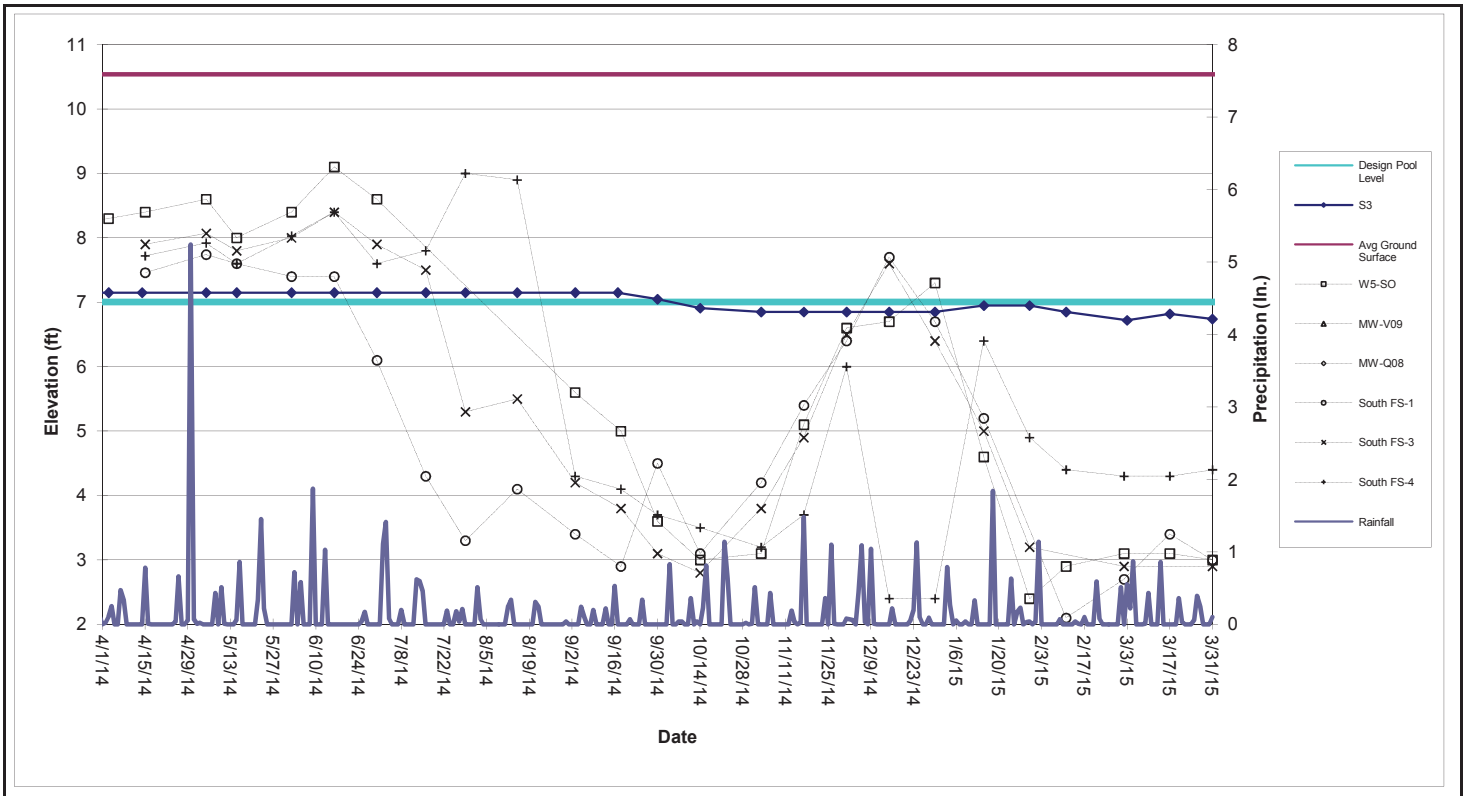
Perimeter Pool E2 (Sta. E4+50 to E7+25)



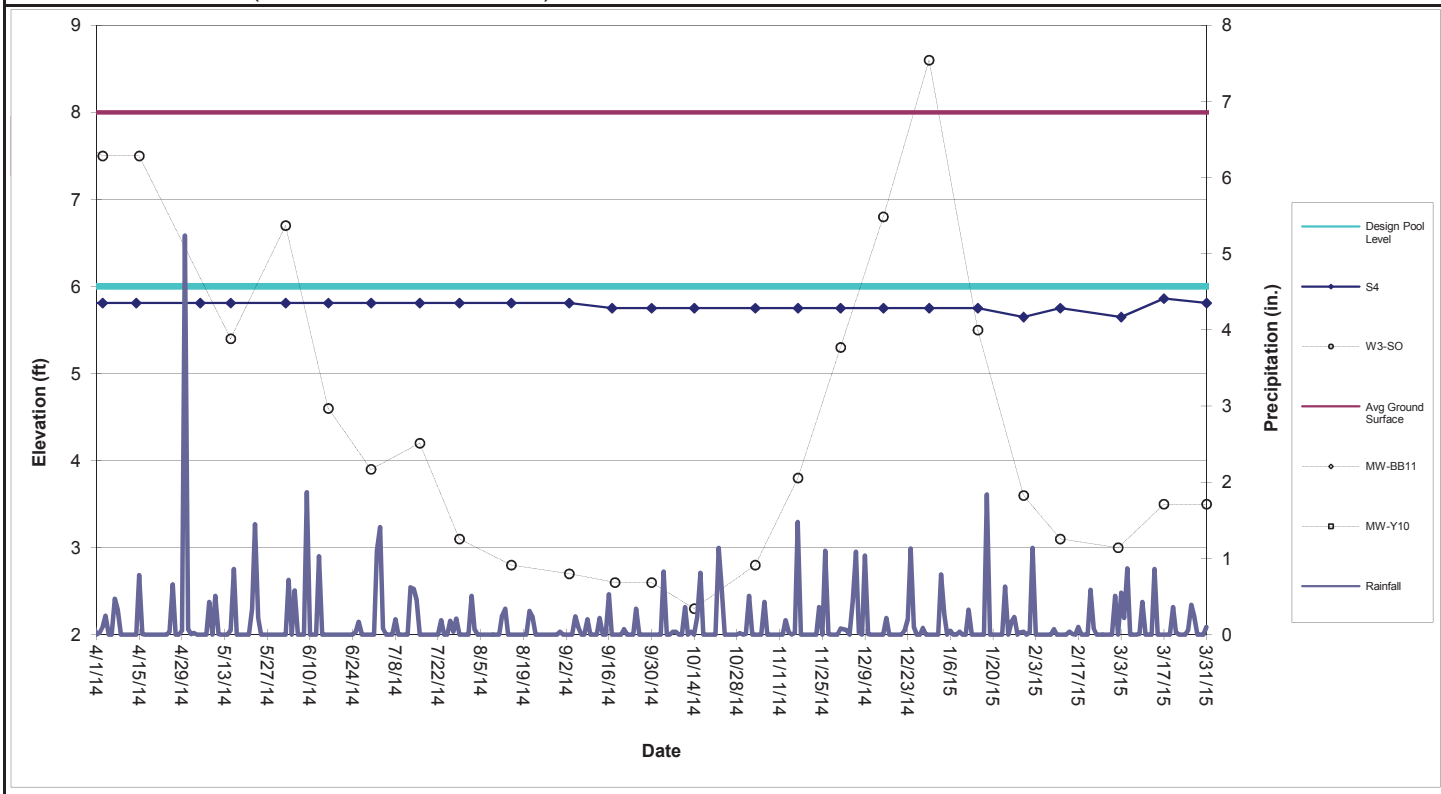
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
4/1/2014												4.0													
4/3/2014		5.6	6.6	7.3	7.7		7.5	8.3																	
4/15/2014		5.6	6.5	7.3	7.4	8.2	7.5	8.4	7.3			2.9	7.0	8.3	7.3	7.5				7.5	7.9	7.7	5.9		
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9					4.7	6.8	6.5		6.1	6.1	6.2	2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1					4.1	6.6	5.9		5.8	5.8	5.8	2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1					5.6	6.6			6.0	5.9	6.5	3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7				5.7	6.8			5.7	5.6	5.3	3.0	2.9	4.4		3.2	3.1

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-3 and FS-4, South FS-5

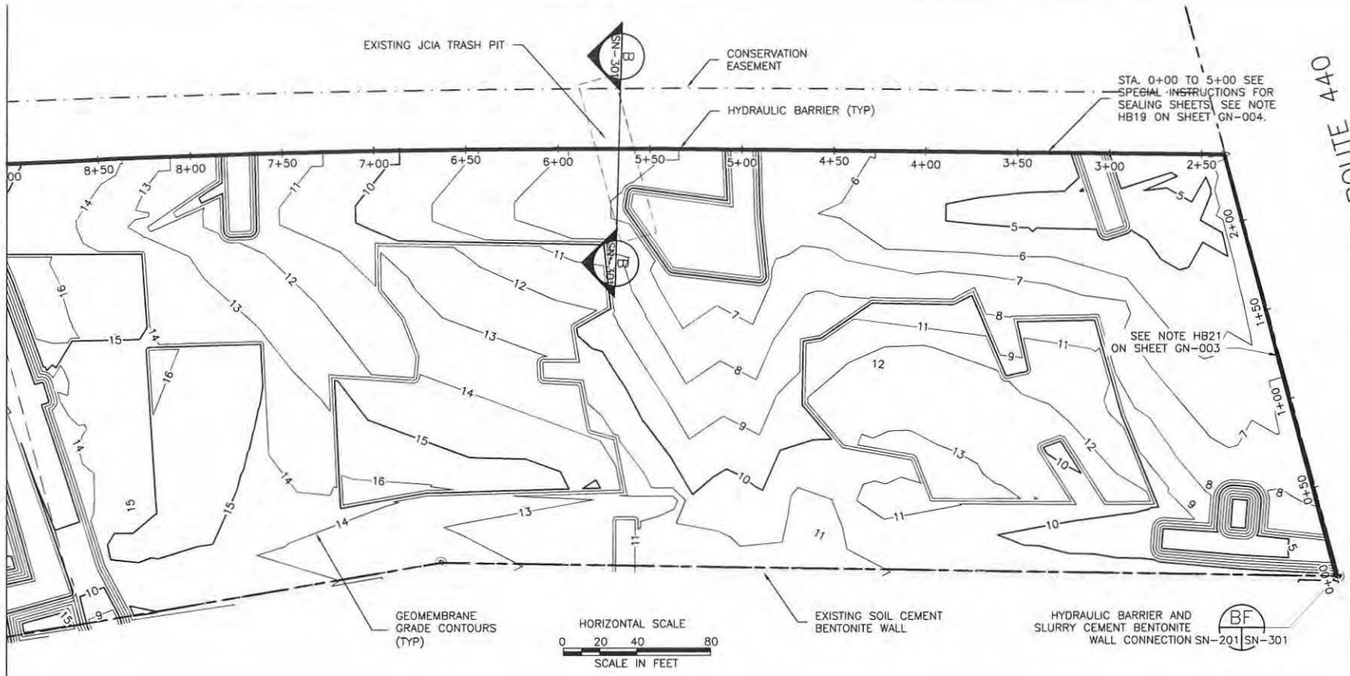
Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

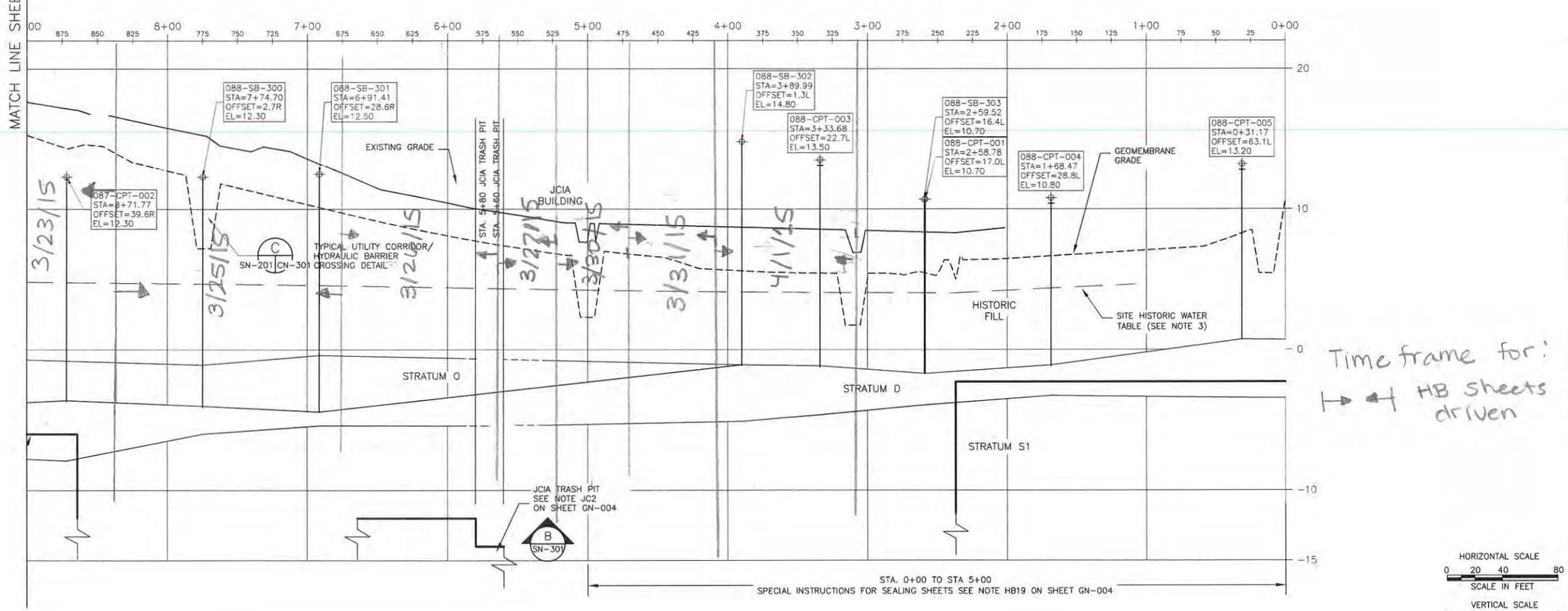
Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700



Time frame for:
→ 4 HB sheets driven

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	10/10/13	TDD	RJR	TDD	SGS	RJR	SGS
0	06/07/13					TDD	SGS

HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2245, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

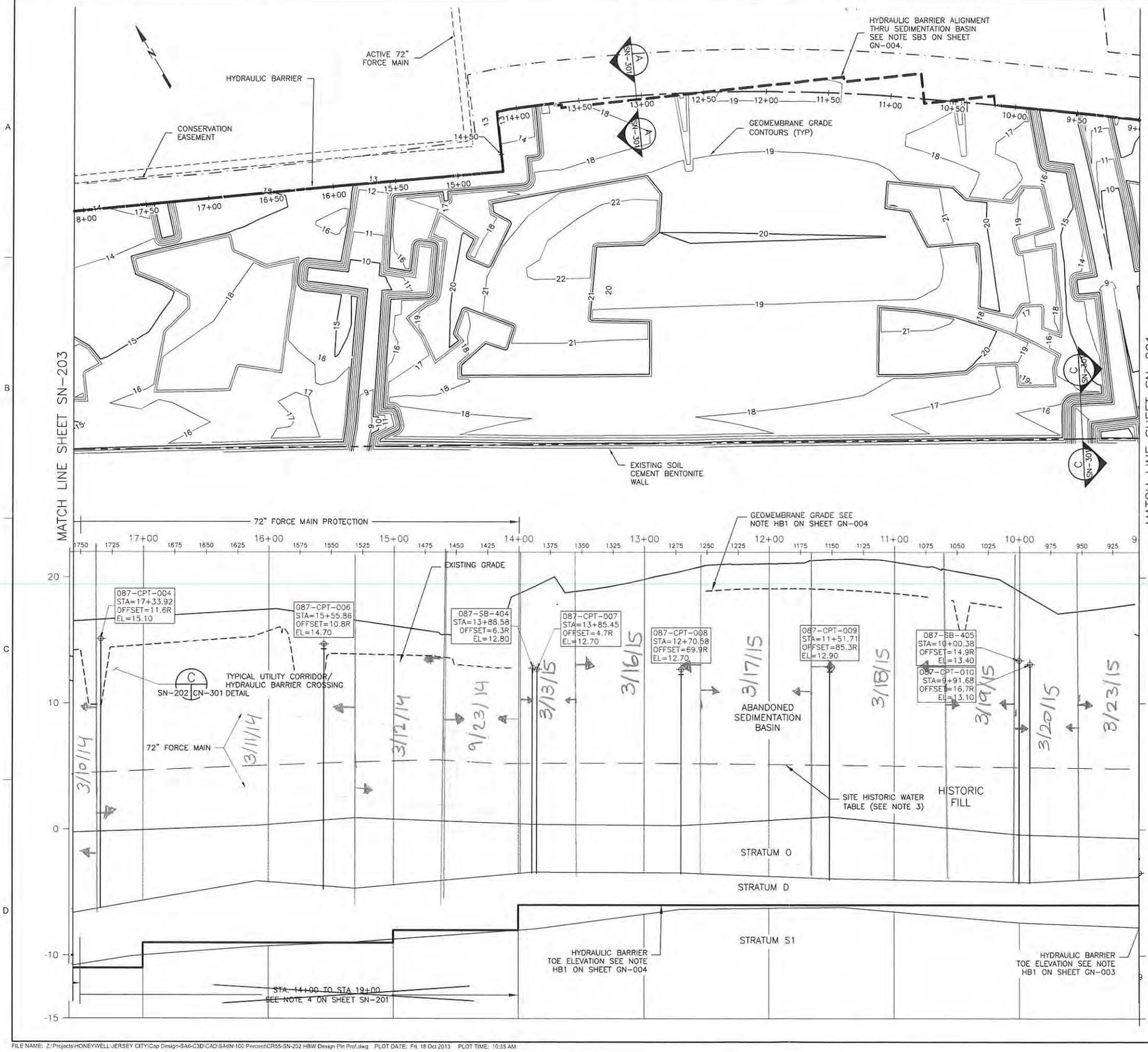
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE			
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		REVISION	BY	APVD
	TDD	DR CHK	TDD	APVD
		RJR		BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

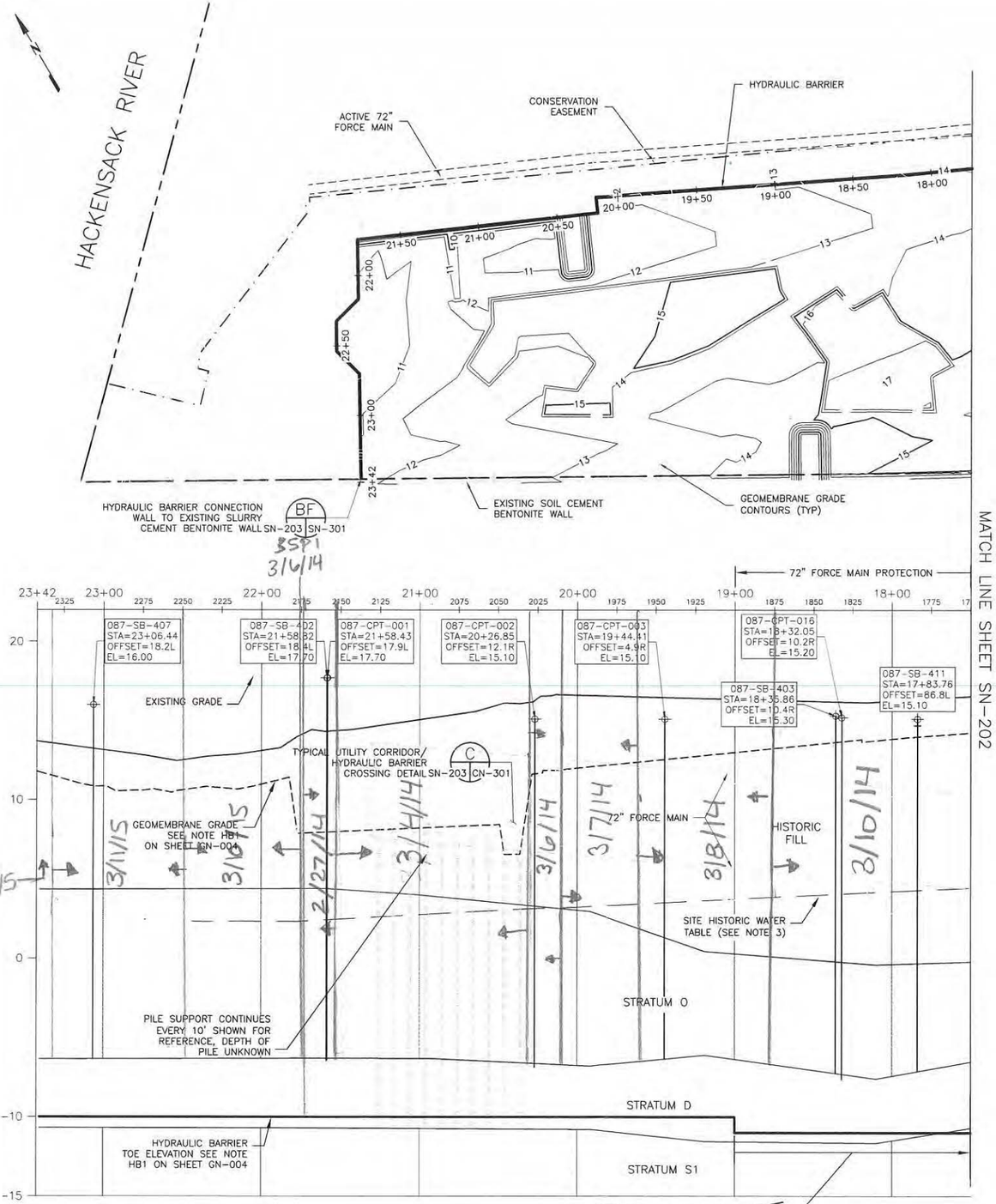
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWINGS, IN WHOLE OR PART, NOR THE INFORMATION THEREON, NOR TITLE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N 100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	09/13/13	TDD	RJR	TDD	RJR	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION				BY	APVD

1 HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 6, 2015

Type of Inspection: ☐ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☒ Other Snow Covered
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 3/6/15

SWPPP Observer: Rich Chase
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 06, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Additional Silt fence required along the southern toe of the 2S and 3S surcharge area.
2	IA2Q4A1AL8	The silt bag within the storm drain at the site exit to 60 Kellogg Street needs to be repaired.
3	IA2Q4A1AL8	Repair silt fence as required along the Northern raceway south of 1N and 2N surcharge areas.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City New Jersey

SWAP Observer: Ed Chase Date: 3/6/15
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence as required.	3/11/15 RAD
2	Repair filter fabric within the catch basin located at the site exit onto 60 Kellogg.	3/11/15 RAD
3	Repair silt fence as required.	3/11/15 RAD

Construction Manager: Date: 03/11/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 11, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other Snow Cover Melting
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage				
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection		X		3
Haul Road Maintenance		X		4,5
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection	X			
Ponded Storm Water		X		7
Housekeeping		X		8
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/11/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Wednesday, March 11, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence is not present along the south side of the excavation area where it borders Kellogg Street
2	IA2Q4A1AL8	Erosion control measures are not present along the southern and northern edges of Surcharge Areas 2-S and 3-S.
3	IA2Q4A1AL8	Flood protection measures are not in place on the western end of the SA-6 South excavation area.
4	IA2Q4A1AL8	The tracking pad at the western end of Kellogg Street is blinded with sediment.
5	IA2Q4A1AL8	The haul road through the bottom of the SA-6 South excavation is not usable.
6	IA2Q4A1AL8	Perimeter fence windscreen to the west of the 60 Kellogg Building requires maintenance.
7	IA2Q4A1AL8	Storm water/snowmelt is ponded in the bottom of the SA-6 South excavation and in the bottom of the LOAM excavation.
8	IA2Q4A1AL8	Garbage and debris has accumulated outside of the perimeter fenceline along Rt. 440 and Kellogg Street.
9	IA2Q4A1AL8	Sediment has accumulated on the SA-7 roadway and on the western SA-7 to SA-6 North access ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 03/11/15
Signature

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence along the southern side of the SA-6 South excavation area as required.	3-12-15 RAD
2	Install fabric-wrapped jersey barriers/bin blocks or hay bales along the toe of the 2-S and 3-S surcharge stockpile areas as required.	3-17-15 RAD
3	Place flood protection measure as necessary to conform to flood protection specifications.	3-18-15 RAD
4	Clean/replace the stone in the tracking pad as necessary to restore function.	3-12-15 RAD
5	Re-establish the roadway in the bottom of the excavation on SA-6 South.	3-18-15 RAD waiting for area to dry prior to building road
6	Repair/replace windscreen material as necessary.	3-16-15 RAD
7	Continue to pump ponded storm water as required	ongoing RAD
8	Pick up garbage/debris on the outside of the SA-6 and SA-7 pereimeter fence.	3-13-15 RAD
9	Clean SA-7 roadways of accumulated sediment.	3-13-15 RAD

Construction Manager: _____ Date: 03/18/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 20, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection		X		3,4
Ponded Storm Water		X		5
Housekeeping		X		6
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		8
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		9

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/20/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 20, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: The haul road in the bottom of the SA-6 South excavation is not usable.
2	IA2Q4A1AL8	A section of temporary fencing is down along the Droyer's Cove bulkhead
3	IA2Q4A1AL8	Sediment is present on the north side of Kellogg Street by the western gate.
4	IA2Q4A1AL8	The catch basin by the 60 Kellogg gate requires replacement of the filter fabric.
5	IA2Q4A1AL8	Ponded storm water is present in the LOAM excavation.
6	IA2Q4A1AL8	Geotextile fabric is lying on the ground to the west of surcharge area 1-S
7	IA2Q4A1AL8	Silt fence at the western SA-7 to SA-6 North ramp requires maintenance.
8	IA2Q4A1AL8	Sediment is present on the southwestern corner of the SA-7 access roadway.
9	IA2Q4A1AL8	Broken pallets and other debris are present along the eastern SA-7 access roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 03/20/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	REPEAT: Re-establish the roadway in the bottom of the excavation on SA-6 South.	Sump installed - waiting for area to dry out
2	Re-establish a continuous fence line along the eastern edge of Droyer's Cove.	3/23/15 RAD
3	Remove the accumulated sediment from the north side of Kellogg Street	3/23/15 RAD
4	Replace protective filter fabric in the catch basin.	3/23/15 RAD
5	Pump the ponded storm water as required	ongoing
6	Remove the unused protective geotextile.	3/25/15 RAD
7	Repair/replace the silt fence as required	3/24/15 RAD
8	Remove accumulated sediment from the access roadway	3/24/15 RAD
9	Remove/dispose of debris.	3/23/15 RAD

Construction Manager: _____ **Date:** 03/25/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 27, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
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Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		5
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/27/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 27, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Orange warning fencing around the open excavation adjacent to Droyers Cove requires maintenance.
2	IA2Q4A1AL8	**REPEAT:** Ponded storm water is present in the LOAM excavation
3	IA2Q4A1AL8	Silt fence on the southern edge of the 1-N and 2-N surcharge areas requires maintenance.
4	IA2Q4A1AL8	Erosion control measures (fabric-wrapped Jersey barriers or bin blocks) are not present along the eastern end of the 2-S surcharge area on the SA-7 paved access roadway.
5	IA2Q4A1AL8	Ponded storm water is present on the access roadway in the southwest corner of SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 03/27/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace orange warning fence as required.	3-27-15 RAD
2	Pump ponded storm water from the LOAM excavation.	3-31-15 RAD
3	Repair or replace silt fence as required.	4-1-15 RAD
4	Relocate erosion control measures from the western roadway areas where it is no longer required to the eastern roadway.	3-30-15 RAD
5	Remove ponded storm water, channel for future drainage.	3-31-15 RAD

Construction Manager: _____ Date: 04/01/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (February 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

March 13, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016

Dear Mr. Caltagirone:

Honeywell is submitting the February 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
2	01	15	2	28	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	75,054	87,385 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.47	0.55	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	0.0112	0.0112	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1693	0.1693	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

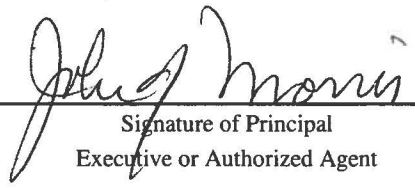
Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

3/6/15

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION**

MONITORING PERIOD

Start			End		
2	01	15	2	28	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,101,522 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 29,168,118

DATE	BOD (mg/l)	TSS (mg/l)
2/18/2015	6.5	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 3/6/15

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)									MONTH: February 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
2/1/2015	Angel Trujillo	27066596	27142124	75,528	0.075528	7.42	0.751									0.47
2/2/2015	Angel Trujillo	27142124	27215472	73,348	0.073348	7.31	0.751									0.46
2/3/2015	Angel Trujillo	27215472	27227935	12,463	0.012463	7.38	0.751									0.08
2/4/2015	Angel Trujillo	27227935	27272073	44,138	0.044138	7.44	0.751									0.28
2/5/2015	Angel Trujillo	27272073	27352314	80,241	0.080241	7.41	0.751									0.50
2/6/2015	Angel Trujillo	27352314	27434128	81,814	0.081814	7.41	0.751									0.51
2/7/2015	Angel Trujillo	27434128	27521513	87,385	0.087385	7.49	0.751									0.55
2/8/2015	Angel Trujillo	27521513	27599346	77,833	0.077833	7.50	0.751									0.49
2/9/2015	Angel Trujillo	27599346	27674819	75,473	0.075473	7.43	0.751									0.47
2/10/2015	Angel Trujillo	27674819	27753945	79,126	0.079126	7.39	0.751									0.50
2/11/2015	Angel Trujillo	27753945	27829513	75,568	0.075568	7.41	0.751									0.47
2/12/2015	Angel Trujillo	27829513	27913271	83,758	0.083758	7.46	0.751									0.52
2/13/2015	Angel Trujillo	27913271	27990053	76,782	0.076782	7.43	0.751									0.48
2/14/2015	Angel Trujillo	27990053	28072622	82,569	0.082569	7.45	0.751									0.52
2/15/2015	Angel Trujillo	28072622	28152936	80,314	0.080314	7.36	0.751									0.50
2/16/2015	Angel Trujillo	28152936	28224652	71,716	0.071716	7.41	0.751									0.45
2/17/2015	Angel Trujillo	28224652	28304897	80,245	0.080245	7.30	0.751									0.50
2/18/2015	Angel Trujillo	28304897	28379729	74,832	0.074832	7.16	0.751	<5.0	6.5		<0.010	<0.030	0.0112	<0.0002	<0.020	0.47
2/19/2015	Angel Trujillo	28379729	28457588	77,859	0.077859	7.42	0.751									0.49
2/20/2015	Angel Trujillo	28457588	28536231	78,643	0.078643	7.46	0.751									0.49
2/21/2015	Angel Trujillo	28536231	28616427	80,196	0.080196	7.46	0.751									0.50
2/22/2015	Angel Trujillo	28616427	28697543	81,116	0.081116	7.27	0.751									0.51
2/23/2015	Angel Trujillo	28697543	28768945	71,402	0.071402	7.35	0.751									0.45
2/24/2015	Angel Trujillo	28768945	28847926	78,981	0.078981	7.40	0.751									0.49
2/25/2015	Angel Trujillo	28847926	28927164	79,238	0.079238	7.45	0.751									0.50
2/26/2015	Angel Trujillo	28927164	29004030	76,866	0.076866	7.42	0.751									0.48
2/27/2015	Angel Trujillo	29004030	29084115	80,085	0.0801	7.47	0.751									0.50
2/28/2015	Angel Trujillo	29084115	29168118	84,003	0.084003	7.49	0.751									0.53
TOTAL				**2,101,522**	**2.101522**			<5.0	6.5		<0.010	<0.030	0.0112	<0.0002	<0.020	
			High:	**87,385**											**High:**	**0.55**
			Average:	**75,054**											**Average:**	**0.47**

E

WW

Implase.

JB88438

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell Chain Of Custody / Analysis Request

AESI Ref:	42053.56541
COC#	087-WW-021815
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Test File Order

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
											Units												
1	087-WW			087-WWE-021815-A	2/18/2015	15:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			
2	087-WW			087-WWE-021815-B	2/18/2015	15:15	WW	WATER	REG	5	grab	N					X	X					
3	087-WW			087-WWI-021815	2/18/2015	15:25	WW	WATER	REG	3	grab	N									X		L22
4																							V59
5																							A27
6																							M18
7																							
8																							
9																							
10																							
11																							
12																							

INITIAL ASESSMENT MB 2A
LABEL VERIFICATION WM

Relinquished by: pH = 7.16 s.u. @ 6.2° C	Company	AMEC Foster Wheeler	Received by	Company	Condition	Custody Seals Intact	
Frank Schroyer	Date/Time	2/18/15	#3	Date/Time 2-18-15 4:03P	Cooler Temp.		
Relinquished by	Company		Received by	Company	Condition	Custody Seals Intact	
#3	2-18-15 Date/Time 3:07pm			Date/Time	Cooler Temp.		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

2.1°C IP

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-A		
Lab Sample ID:	JB88438-1	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	751	10	ug/l	1	02/19/15	02/20/15	GT	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	02/19/15	02/23/15	GT	EPA 200.7 [3]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	02/19/15	02/23/15	GT	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	02/19/15	02/19/15	JW	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	11.2	10	ug/l	1	02/19/15	02/20/15	GT	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	02/19/15	02/20/15	GT	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA36091
(2) Instrument QC Batch: MA36098
(3) Instrument QC Batch: MA36106
(4) Prep QC Batch: MP84931
(5) Prep QC Batch: MP84962

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-A		
Lab Sample ID:	JB88438-1	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	02/19/15 09:50	JS	SM2540 D-11
pH [a]	6.96		su	1	02/18/15 17:37	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-A		
Lab Sample ID:	JB88438-1A	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	6.5	3.4	mg/l	1	02/18/15 18:39	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-B		
Lab Sample ID:	JB88438-2	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T205765.D	1	02/20/15	DC	n/a	n/a	VT8441
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	2.1	ug/l	
107-13-1	Acrylonitrile	ND	10	1.3	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.6	1.0	0.12	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.18	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.32	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.16	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.45	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.78	ug/l	
67-66-3	Chloroform	20.3	1.0	0.14	ug/l	
74-87-3	Chloromethane	ND	1.0	0.16	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.19	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.20	ug/l	
95-50-1	1,2-Dichlorobenzene	0.50	1.0	0.11	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.11	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.12	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.46	ug/l	
75-34-3	1,1-Dichloroethane	0.41	1.0	0.15	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.24	ug/l	
156-59-2	cis-1,2-Dichloroethene	84.2	1.0	0.23	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.7	1.0	0.24	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.20	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
123-91-1	1,4-Dioxane	ND	130	89	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.093	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.71	1.0	0.20	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.13	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-B		
Lab Sample ID:	JB88438-2	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.15	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.12	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.29	ug/l	
79-01-6	Trichloroethene	49.7	1.0	0.17	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.31	ug/l	
75-01-4	Vinyl chloride	2.0	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.12	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	100%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	108%		74-115%
1868-53-7	Dibromofluoromethane (S)	112%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@840803 16:14 03-Mar-2015

Report of Analysis

Client Sample ID:	087-WWE-021815-B		
Lab Sample ID:	JB88438-2	**Date Sampled:**	02/18/15
Matrix:	AQ - Water	**Date Received:**	02/18/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	02/23/15	BM	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending March 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

5/14/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 14, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-04

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from April 1 – April 30, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: April 2015 SA-6/7 Combined Monthly Progress Report No. 2015-04

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-04

Project SA-6 & 7 Remediation

April 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
04/03/15	Site 163 Post-Remediation Sampling Study Area 6 South, Jersey City, New Jersey	Robert G. Torricelli Office of the Special Master
04/06/15	Surcharge Monitoring Plan – Monthly Report No. 10 Study Area 6 North and South, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/09/15	Surcharge Monitoring Plan – Monthly Report No. 11 Study Area 6 North and South, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/15/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-03	Robert G. Torricelli Office of the Special Master
04/17/15	Sediment Remedy Long Term Monitoring Program Year 1 Implementation Report Study Area 7, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/20/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 31630016 (current number) #20630025 (future permit ID number)	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
04/20/15	Deep Overburden Plume Groundwater Extraction and Treatment (GWET) System Study Area 7, Jersey City, NJ	Robert G. Torricelli Office of the Special Master
04/21/15	Special Master Conference Call	N/A

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	4/5/15	4/12/15	4/19/15	4/26/15
Construction Management (AMEC)	10	10	10	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	27	26	26	27
Arecon/US Ecology Subcontractors	1	1	0	0
Evoqua	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0
B&B Drilling	0	0	0	1
TOTAL STAFF	**44**	**43**	**42**	**46**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected April PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On April 26, 27, and 28, 2015, Cornerstone personnel conducted S-3 Mass Removal Injection Event No.20 in Injection Well 088-IW-03.
- Removed standing water from within the JCIA trash pit and discharged to PVSC through CWTP.
- Changed out pump from within the northern sump on SA-7 to increase flow to the perimeter pool system.
- The Fire Department of Jersey City (FDJC) and the Jersey City Police Department (JCPD) K-9 unit completed training activities in the former Jersey City Department of Public Works “H” Building.
- Removed trees and wood debris from south end of the Jersey City Department of Public Works “H” building into Jersey City Incinerator Authority (JCIA) roll-off boxes which were transported off site by JCIA.

- B&B Drilling completed 57 direct push soil borings and Amec Foster Wheeler collected a total of 114 soil samples at Site 163 as part of the 6-month performance assessment to monitor in-situ treatability status. The sampling included 34 borings conducted as originally proposed in the approved Work Plan and an additional 23 borings as requested by Plaintiffs.
- NJDEP visited SA-6 to inspect the location of the former SA-6 South GWTP and the former outfall discharge on April 23, 2015.
- Installed two (2) utility pole sleeves for anchors along Route 440 for future Verizon overhead line relocation activities.
- PSEG began switching power to the North Bound side of Route 440.
- Entact Installed utility pole at the northeast corner of SA-7 to power the northeast 400 amp service panel.
- Celgene soils to be used as protective cover above the geosynthetics is staged at SA-7 awaiting mobilization of screening unit.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on April 9, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	4/5/15	4/12/15	4/19/15	4/26/15
Avg. Gallons Treated & Discharged (per day)	76,197	77,987	78,259	78,438
Average Flow (gpm) for Operating Period	54	54	54	54
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	6,848	6,898	5,004	4,872

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Installed Manhole No. 2 associated with the SA-6 North Contingent Ground Water Extraction System.
- Completed loadout of non-hazardous petroleum impacted soils from SA-6 South.
- Completed compaction testing associated with bridge lift material on SA6-South.
- Began to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.

- Began placement of soils with hexavalent chromium concentrations between 20 and 240 ppm within the sedimentation basin south of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Began placement of historic fill within the sedimentation basin north of the Vertical Hydraulic Barrier Wall on SA-6 North.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-Off	TSDF	Stablex-Canada	WWTP Filter Cake	1	16.79	16.79
Entact/ Arecon	Tri-axle Dump	South Brunswick, NJ	MCUA	Petroleum Impacted Soil	86	26.7	2,302.97

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	NJCU Borrow material - Cells (10-125), Historic Fill - Cells (10-20), (110-125)

3. BACKFILL MATERIALS USED

Source	Week Ending			
	4/5/15	4/12/15	4/19/15	4/26/15
Tilcon Mt Hope DGA	377.87	0	0	0
Tilcon Mt. Hope 1-1.5" Stone	300.13	307.14	0	263.65

- Historic Fill was transferred from 1N surcharge area beginning on April 7, 2015. A total of 279 loads, totaling approximately 5,580 cubic yards was placed as backfill in SA6 South during the reporting period.
- Clean borrow material (from NJCU Surcharge Program) that was stockpiled in the eastern area of SA-6 South was placed as backfill in Cells (10-125).

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging complete on Area 2S. Continue offloading Celgene and Novartis surcharge material (approximately 95% complete).
- Area 3S: Surcharge placement completed on Area 3S. MRCE peer review completed verifying that the surcharge goal had been met.

- Area 1N: Began removal of screened historic fill on April 7, 2015. Surcharge removal activities in this area are approximately 95% complete.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Began installation of surcharge monitoring instrumentation.
- Area 4N: No activity in this area pending installation of surcharge monitoring instrumentation.
- As noted in the transmittal of Surcharge Monitoring Report No. 12, we will not be submitting monthly surcharge monitoring reports until remaining instrumentation is installed in Areas 3N and 4N.

F. SHEET PILE OPERATIONS

- Continued vertical barrier wall installation activities on SA-6 North. Installed vertical barrier wall sheet pile from, STA 5+25 to STA 3+10.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Install Vertical Hydraulic Barrier wall closure pieces associated with the connection to the exterior of the JCIA trash pit concrete walls.
- Complete water supply disconnects to the Department of Public Works "H" Building and the JCIA garage.
- Begin removal and loadout of putrescible trash within the JCIA trash pit.
- Assist JCDPW personnel in the removal of materials and equipment from the Department of Public Works "H" Building.
- Continue backfill placement activities at SA-6 South.
- Begin to install SA-6 North Contingent Ground Water Extraction System piping.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete the SA-6 North Bench-Scale Treatability Study for Treatment Area 10 proximate to force main.
- Continue to coordinate with the JCDPW on their off-site relocation of remaining equipment from SA-6 North.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. *Backfill Analytical Data (not included in this reporting period)*
7. Perimeter Pools Update
8. *Groundwater Quality Data (not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Weekly SWPPP Reports

12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Repot (March 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**Fri 1/4/08**
18	**JCIA/JCDPW Relocation**	**1735 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	753 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	151 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**838 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	294 days	Fri 11/15/13
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**620 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	Mon 6/2/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Mon 3/2/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	Mon 10/20/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	Mon 3/3/14
63	**Barrier Wall Install**	**489 days**	**Mon 6/17/13**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**Mon 12/2/13**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	Mon 12/2/13
63c	SA-6N Stations 23+38 to 14+25	90 days	Mon 2/17/14
63d	SA-6N Stations 14+25 to 0+00	224 days	Mon 6/23/14
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**Mon 6/17/13**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	Mon 6/17/13
63h	SA-6S Stations 1+54 to 8+37	7 days	Fri 8/16/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	Thu 10/3/13
63j	SA-6S Stations 8+60 to 14+87	145 days	Mon 11/11/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	**SA 6S Excavation**	**226 days**	**Tue 10/22/13**
64c	SA-6S Excavation of Cells 1 - 25	53 days	Tue 10/22/13
64d	SA-6S Excavation of Cells 26 - 60	90 days	Fri 1/3/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	Fri 5/9/14
65	**Backfill**	**493 days**	**Mon 11/11/13**
65a	SA 6N Backfill	218 days	Mon 12/1/14
65b	SA 6S Backfill	232 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**315 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	119 days	Tue 9/1/15
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**164 days**	**Tue 9/1/15**
67a	Restoration	164 days	Tue 9/1/15

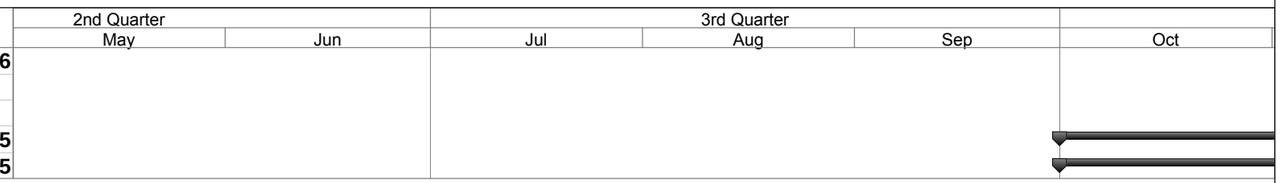


Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 5/4/15

Task Milestone Summary Critical

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
68	**Demobilization**	**21 days**	**Mon 4/18/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead		
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line		
69	**SA-6 North Project Closeout**	**310 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**310 days**	**Thu 10/1/15**



Project: SA-6 Remediation Schedule
Revision 3
Date: Mon 5/4/15

Task | Milestone | Summary | Critical

Attachment 2: Site Photographs



Site Photograph 1: Contractor compacting fill in Kellogg Street properties.



Site Photograph 2: Contractor compacting material within former Sed basin.



Site Photograph 3: Contractor conducts drilling at Site 87.



Site Photograph 4: Contractor installs hydraulic barrier in former JC property.



Photograph 5: Contractor removes tree stumps from former JC property.



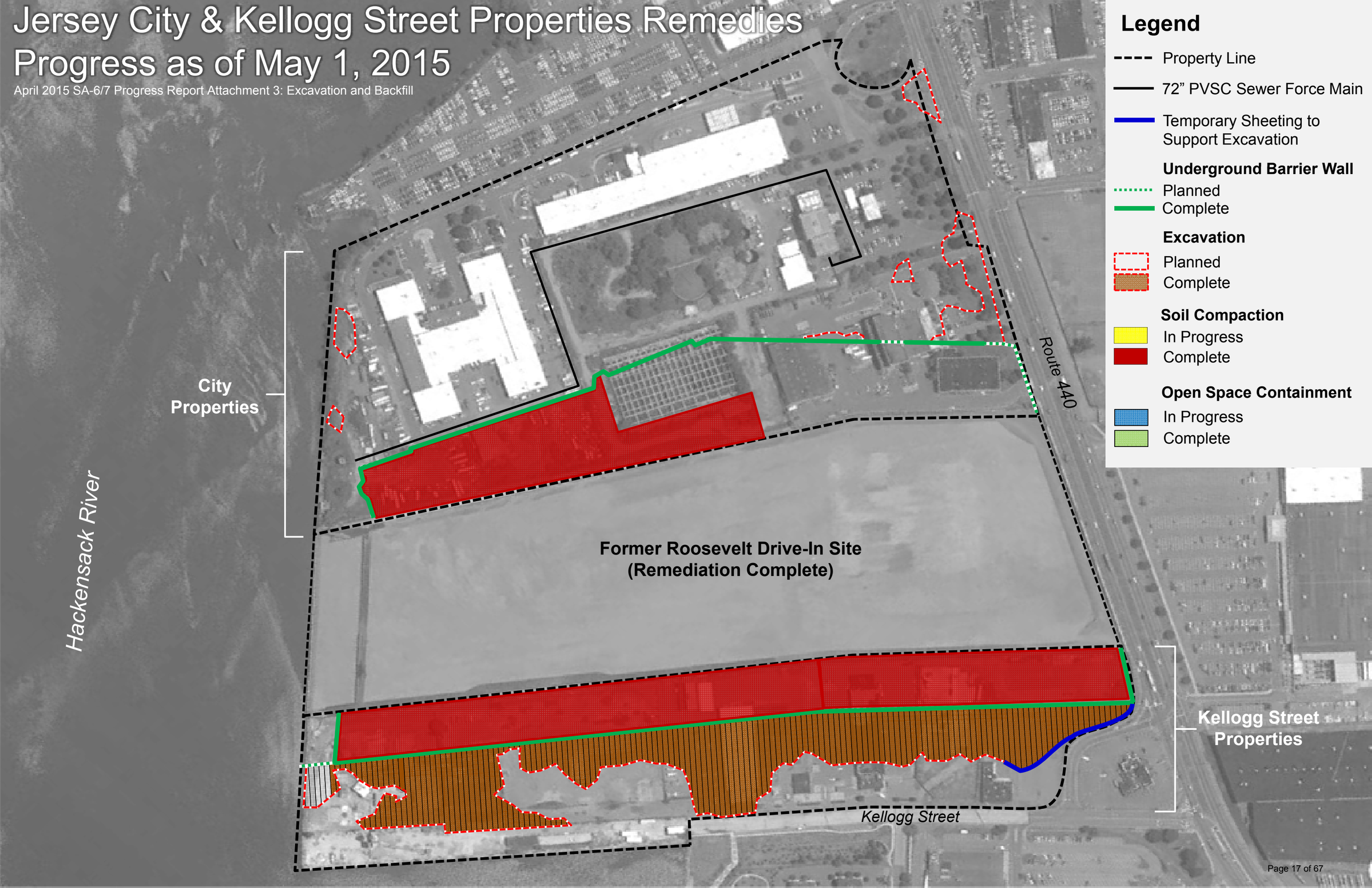
Site Photograph 6: Contractor removing surcharge material.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of May 1, 2015

April 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

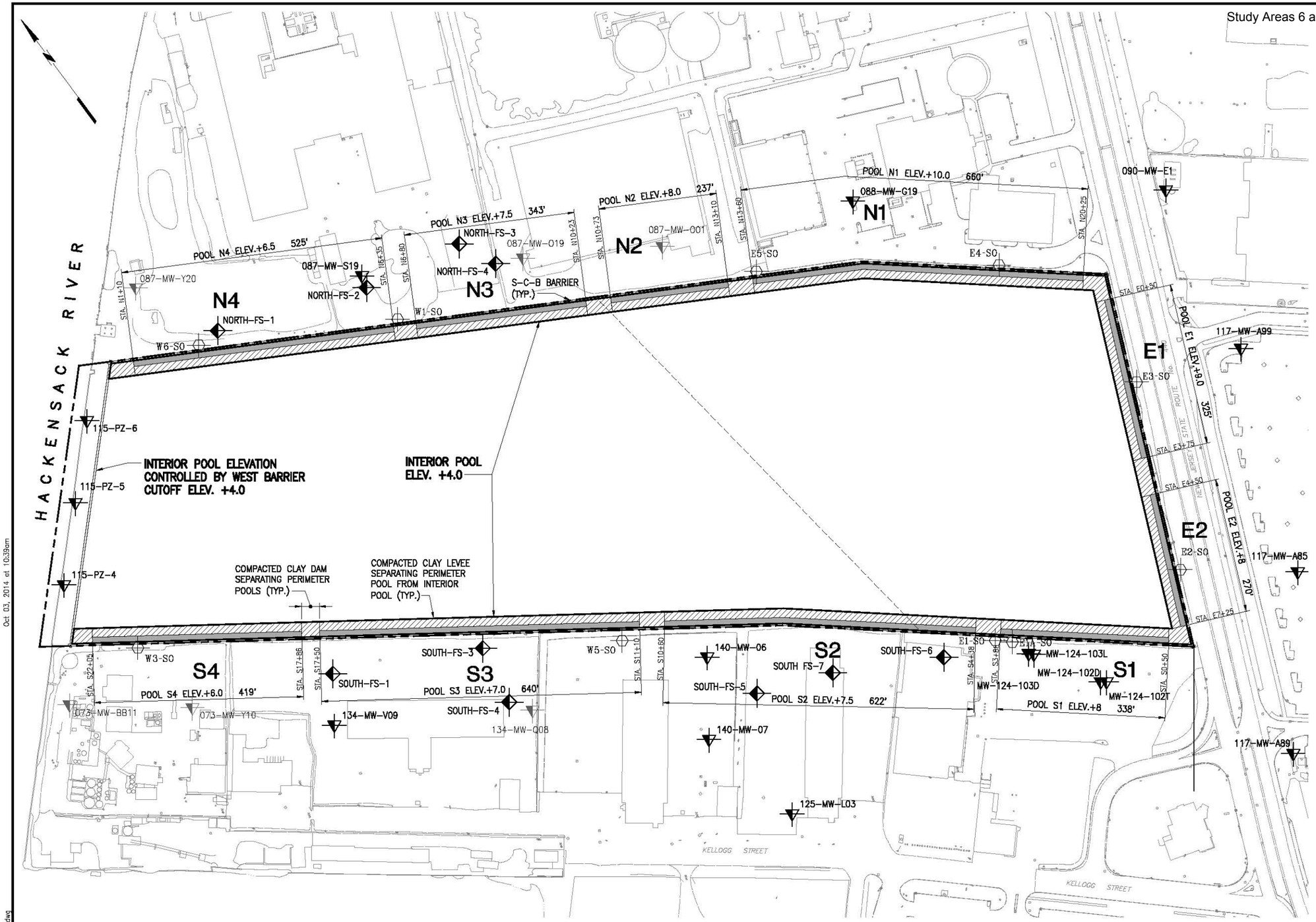
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/26/15	7:30	14:00	6:30	27,788.98	27,806.88	17,900	27,806,430	
03/02/15	10:30	14:30	4:00	27,806.88	27,853.74	46,860	27,853,290	
03/04/15	7:30	14:00	6:30	27,853.74	27,955.09	101,350	27,954,640	PVSC Compliance Sample Collected
03/05/15	8:00	14:00	6:00	27,955.09	28,075.85	120,760	28,075,400	
03/06/15	7:30	14:30	7:00	28,075.85	28,200.09	124,240	28,199,640	
03/09/15	7:30	15:00	7:30	28,200.09	28,324.06	123,970	28,323,610	
03/10/15	7:30	15:00	7:30	28,324.06	28,458.25	134,190	28,457,800	
03/11/15	8:00	14:30	6:30	28,458.25	28,520.01	61,760	28,519,560	
03/12/15	9:00	15:00	6:00	28,520.01	28,571.66	51,650	28,571,210	
03/13/15	8:00	15:00	7:00	28,571.66	28,691.97	120,310	28,691,520	
03/14/15	8:00	16:30	8:30	28,691.97	28,827.02	135,050	28,826,570	
03/15/15	10:00	17:00	7:00	28,827.02	28,912.43	85,410	28,911,980	
03/16/15	7:30	15:15	7:45	28,912.43	29,086.98	174,550	29,086,530	
03/17/15	8:00	14:30	6:30	29,086.98	29,181.23	94,250	29,180,780	
03/18/15	7:30	15:00	7:30	29,181.23	29,228.98	47,750	29,228,530	
03/19/15	7:30	15:15	7:45	29,228.98	29,340.87	111,890	29,340,420	
03/20/15	8:00	14:00	6:00	29,340.87	29,436.92	96,050	29,436,470	
03/23/15	8:30	15:00	6:30	29,436.92	29,533.78	96,860	29,533,330	
03/24/15	7:30	15:00	7:30	29,533.78	29,615.04	81,260	29,614,590	
03/25/15	7:30	15:15	7:45	29,615.04	29,748.59	133,550	29,748,140	
03/26/15	7:30	15:30	8:00	29,748.59	29,862.15	113,560	29,861,700	
03/27/15	7:30	15:30	8:00	29,862.15	29,986.08	123,930	29,985,630	
03/28/15	9:00	15:00	6:00	29,986.08	30,091.41	105,330	30,090,960	
03/30/15	7:30	15:30	8:00	30,091.41	30,203.08	111,670	30,202,630	
03/31/15	7:30	14:30	7:00	30,203.08	30,378.43	175,350	30,377,980	
04/01/15	7:30	15:00	7:30	30,378.43	30,506.05	127,620	30,505,600	PVSC Compliance Sample Collected
04/02/15	7:15	15:15	8:00	30,506.05	30,637.07	131,020	30,636,620	
04/04/15	7:30	15:30	8:00	30,637.07	30,677.37	40,300	30,676,920	
04/06/15	7:00	15:00	8:00	30,677.37	30,776.12	98,750	30,775,670	
04/07/15	7:15	15:00	7:45	30,776.12	30,842.73	66,610	30,842,280	
04/08/15	7:15	15:00	7:45	30,842.73	30,910.48	67,750	30,910,030	
04/09/15	8:30	15:00	6:30	30,910.48	30,974.48	64,000	30,974,030	
04/10/15	7:30	15:00	7:30	30,974.48	31,065.01	90,530	31,064,560	
04/13/15	11:45	16:15	4:30	31,065.01	31,142.89	77,880	31,142,440	
04/14/15	7:30	15:00	7:30	31,142.89	31,231.27	88,380	31,230,820	
04/15/15	7:30	14:00	6:30	31,231.27	31,277.99	46,720	31,277,540	
04/17/15	7:15	12:00	4:45	31,277.99	31,315.22	37,230	31,314,770	
04/20/15	7:30	15:15	7:45	31,315.22	31,405.02	89,800	31,404,570	
04/21/15	7:00	14:00	7:00	31,405.02	31,446.44	41,420	31,445,990	
04/22/15	7:30	13:00	5:30	31,446.44	31,498.34	51,900	31,497,890	
04/23/15	7:00	13:30	6:30	31,498.34	31,544.28	97,840	31,543,830	
04/24/15	7:30	14:00	6:30	31,544.28	31,600.00	153,560	31,599,550	
04/27/15	7:30	14:30	7:00	31,600.00	31,637.05	138,710	31,636,600	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
10-02-2014

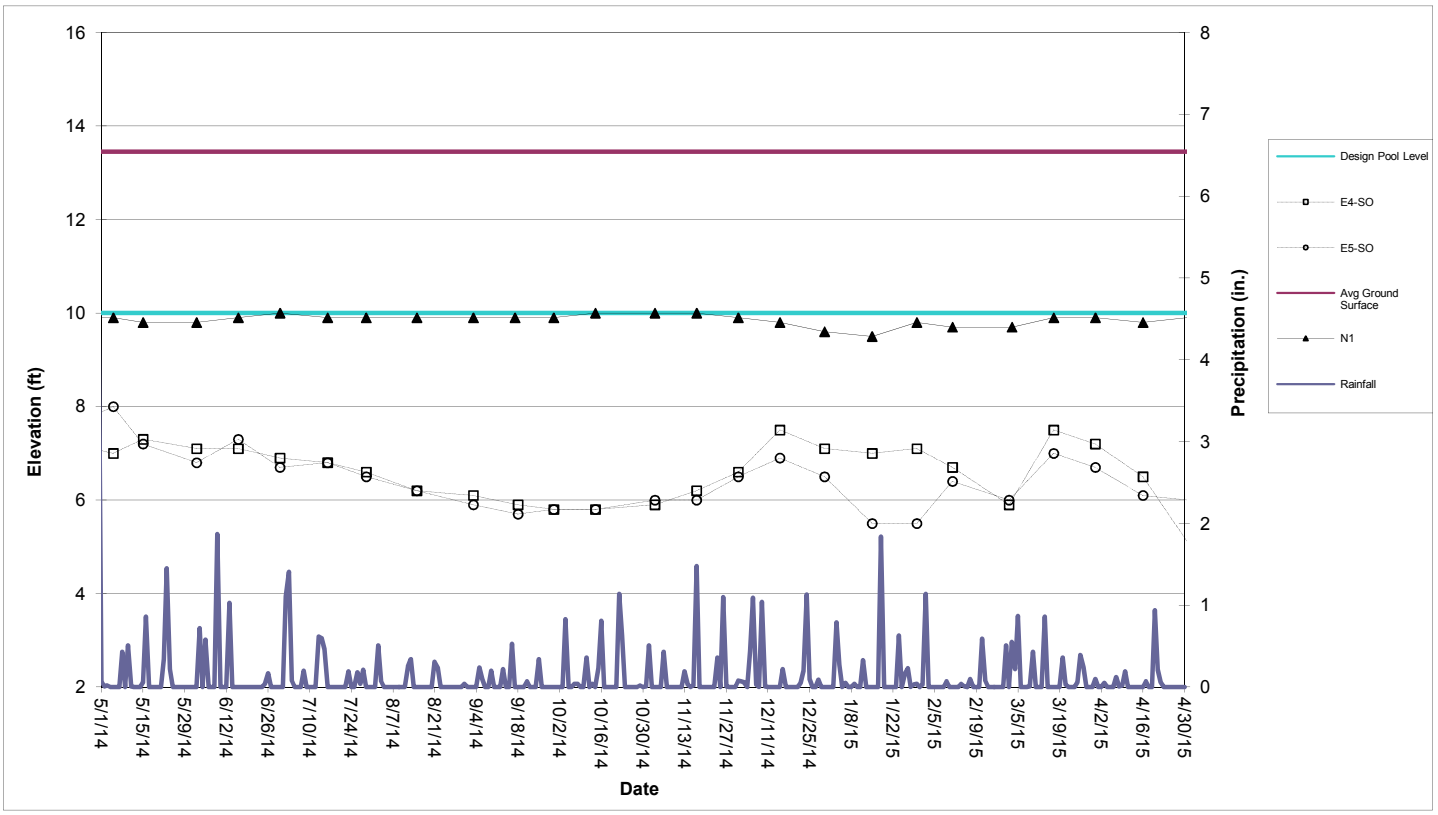
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

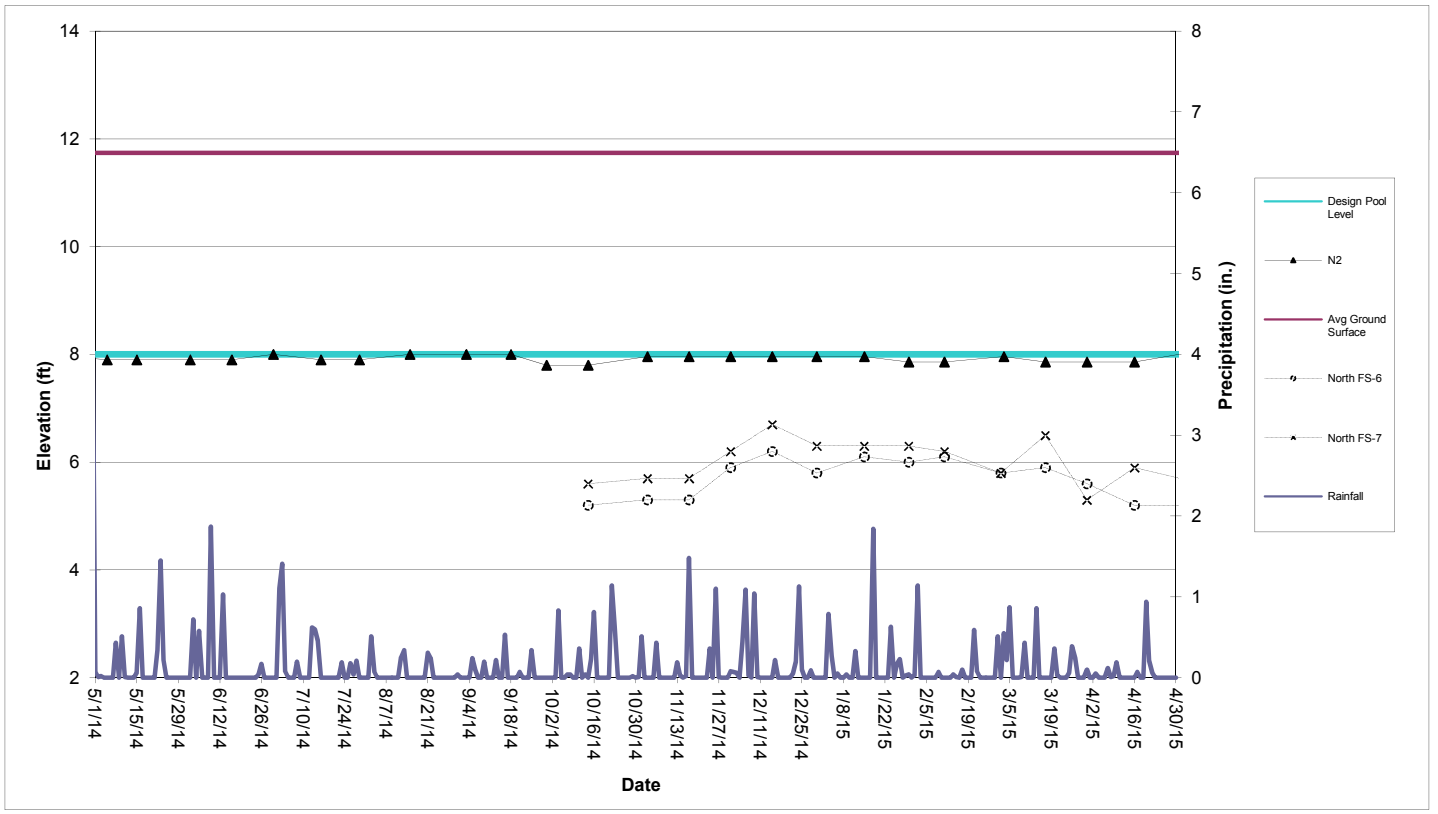
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

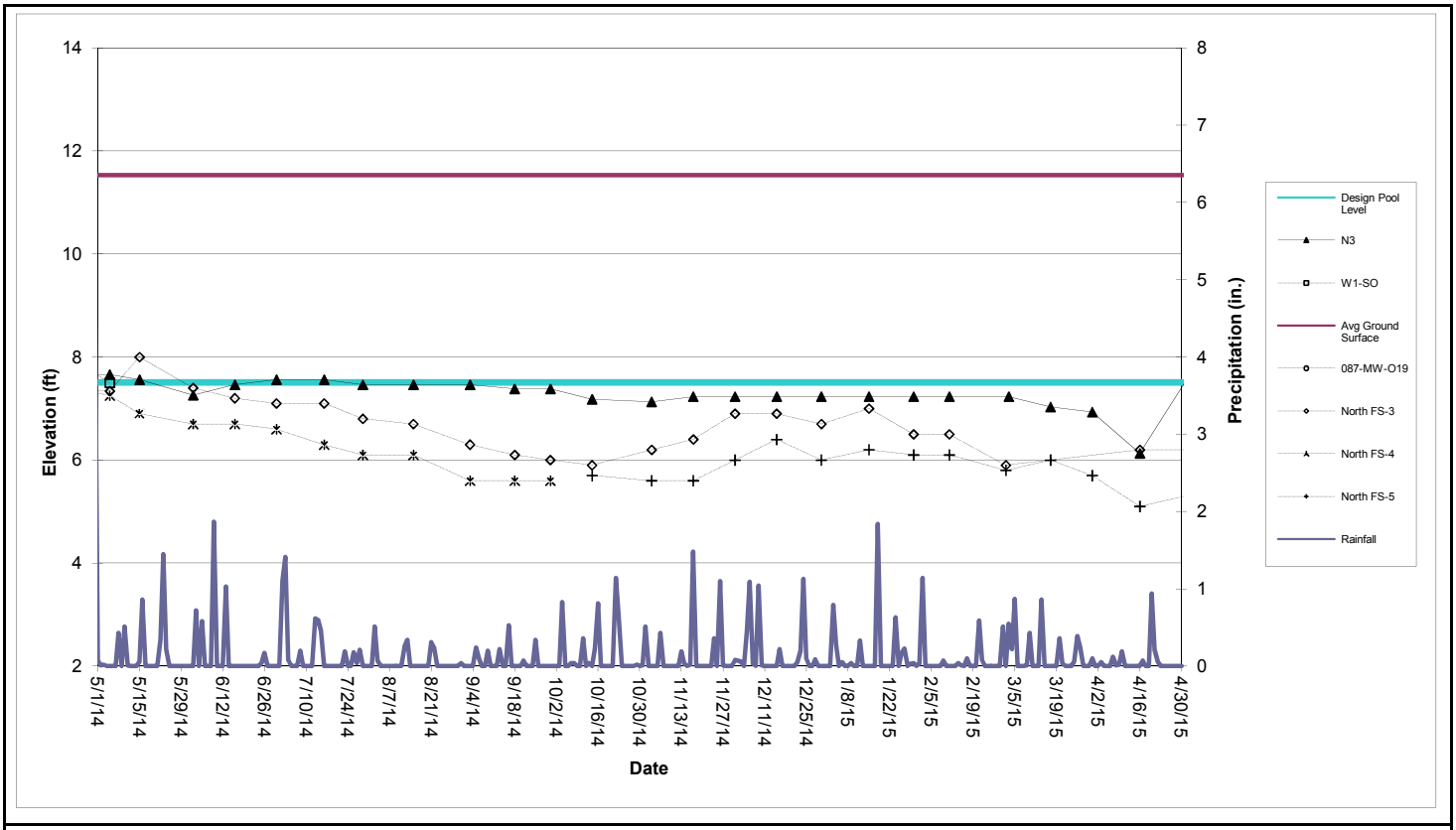
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



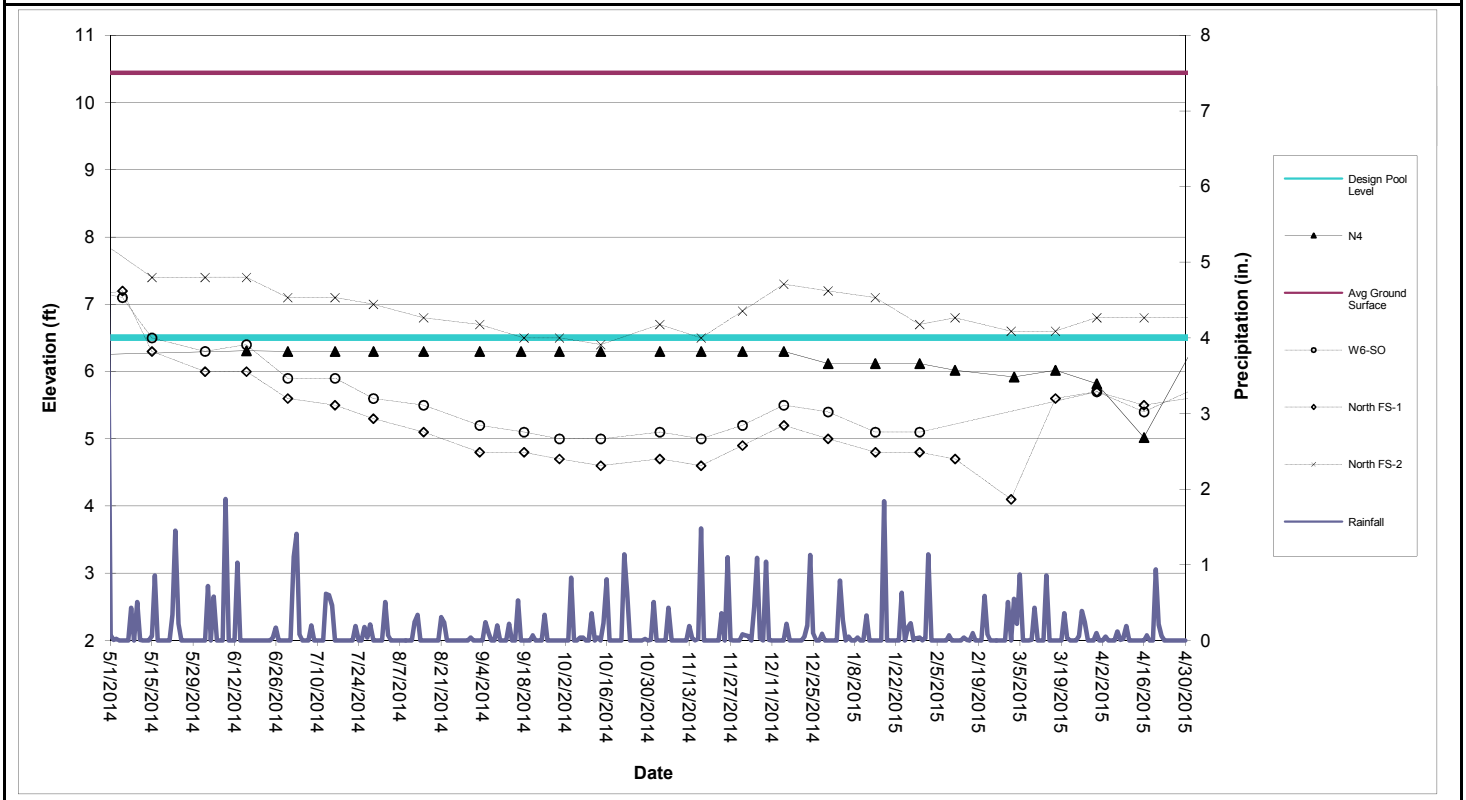
Perimeter Pool N1 (Sta. N13+60 to N20+25)



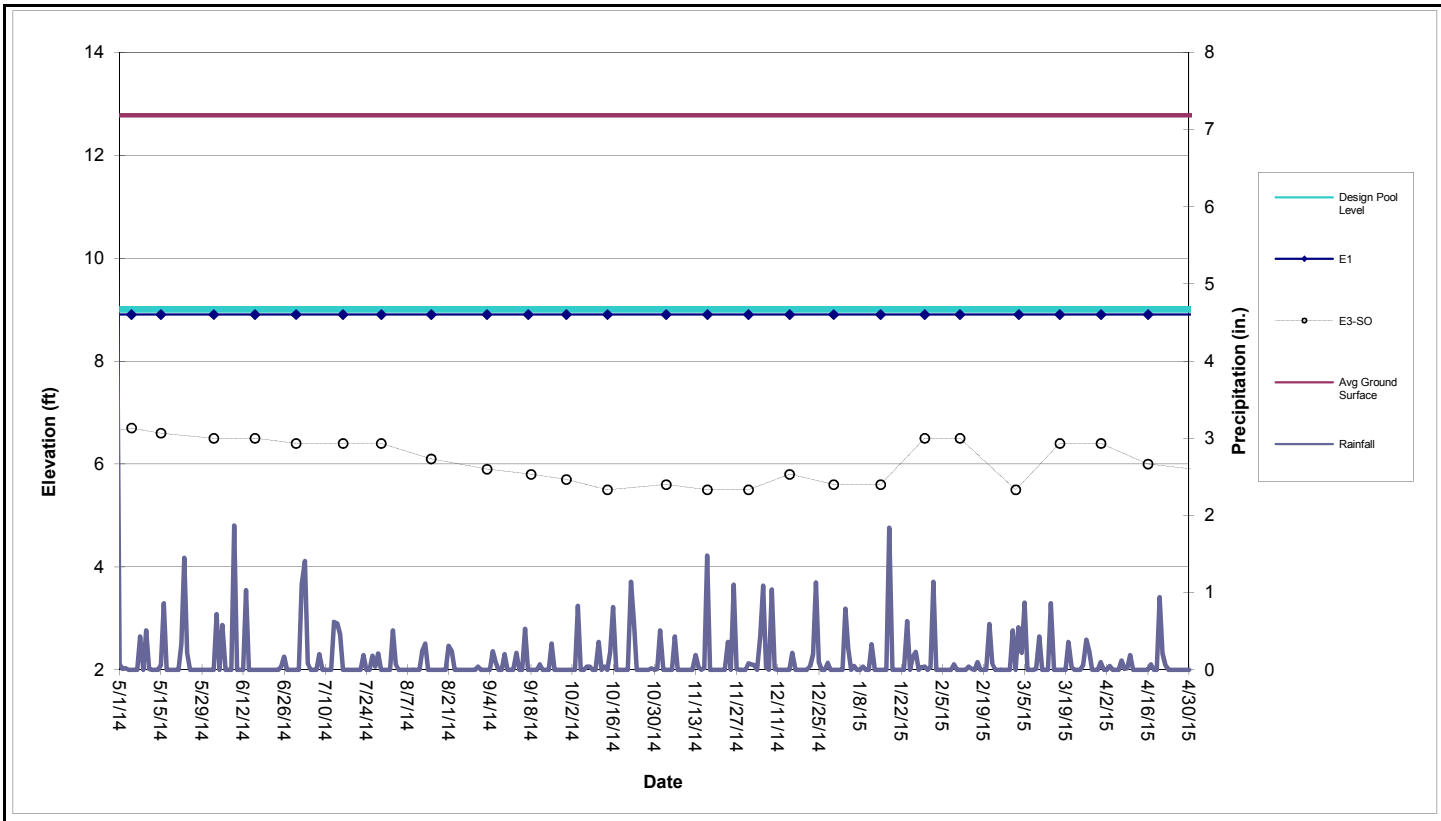
Perimeter Pool N2 (Sta. N10+73 to N13+10)



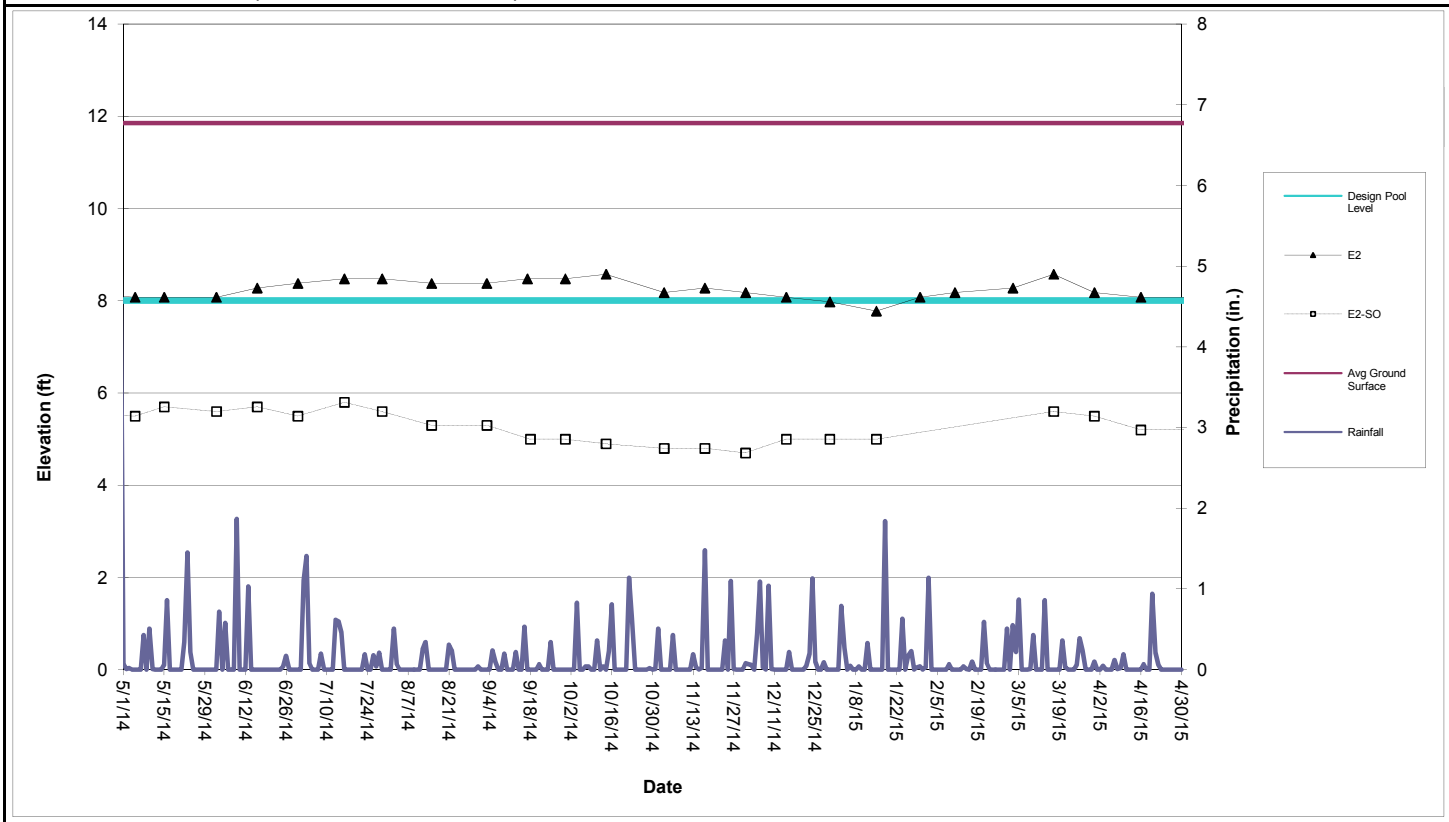
Perimeter Pool N3 (Sta. N6+80 to N10+23)



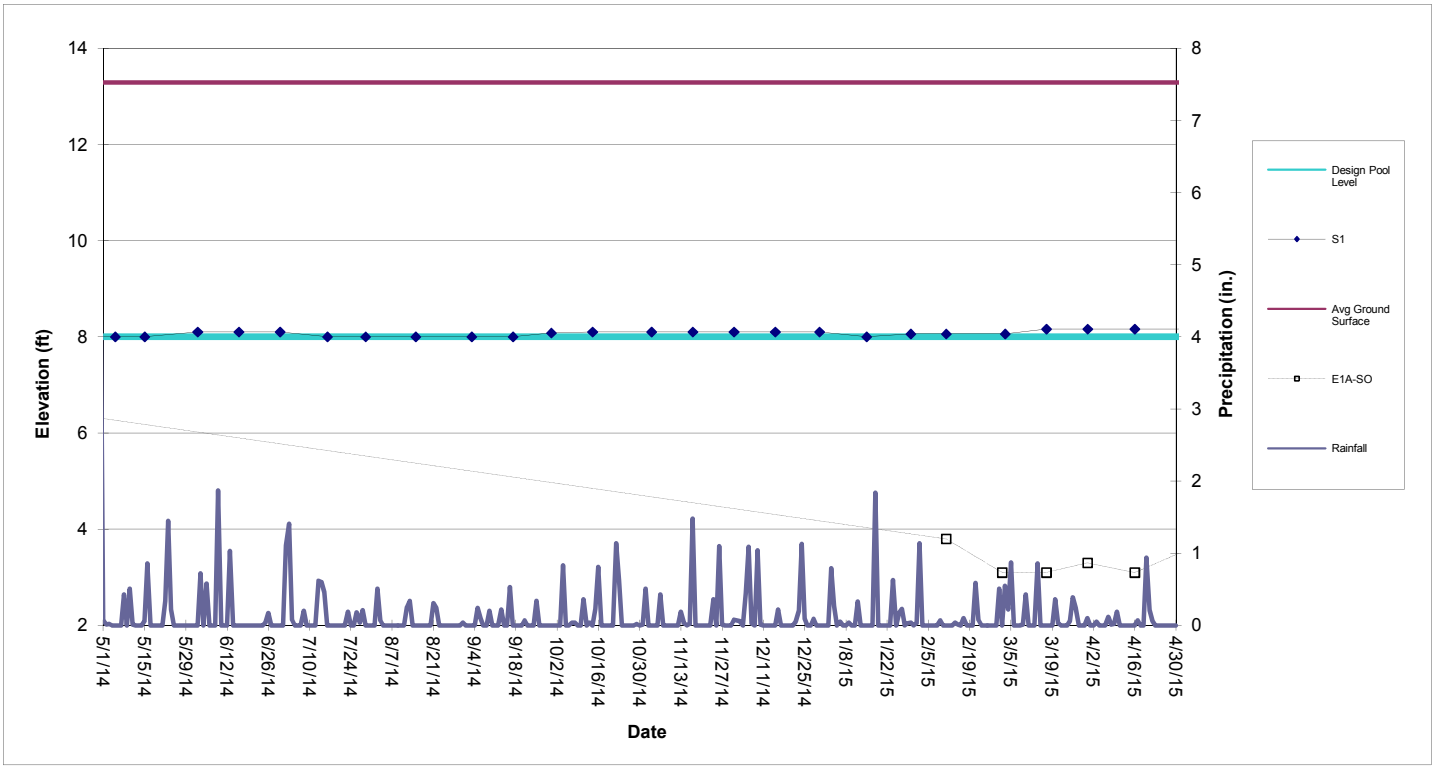
Perimeter Pool N4 (Sta. N6+80 to N10+23)



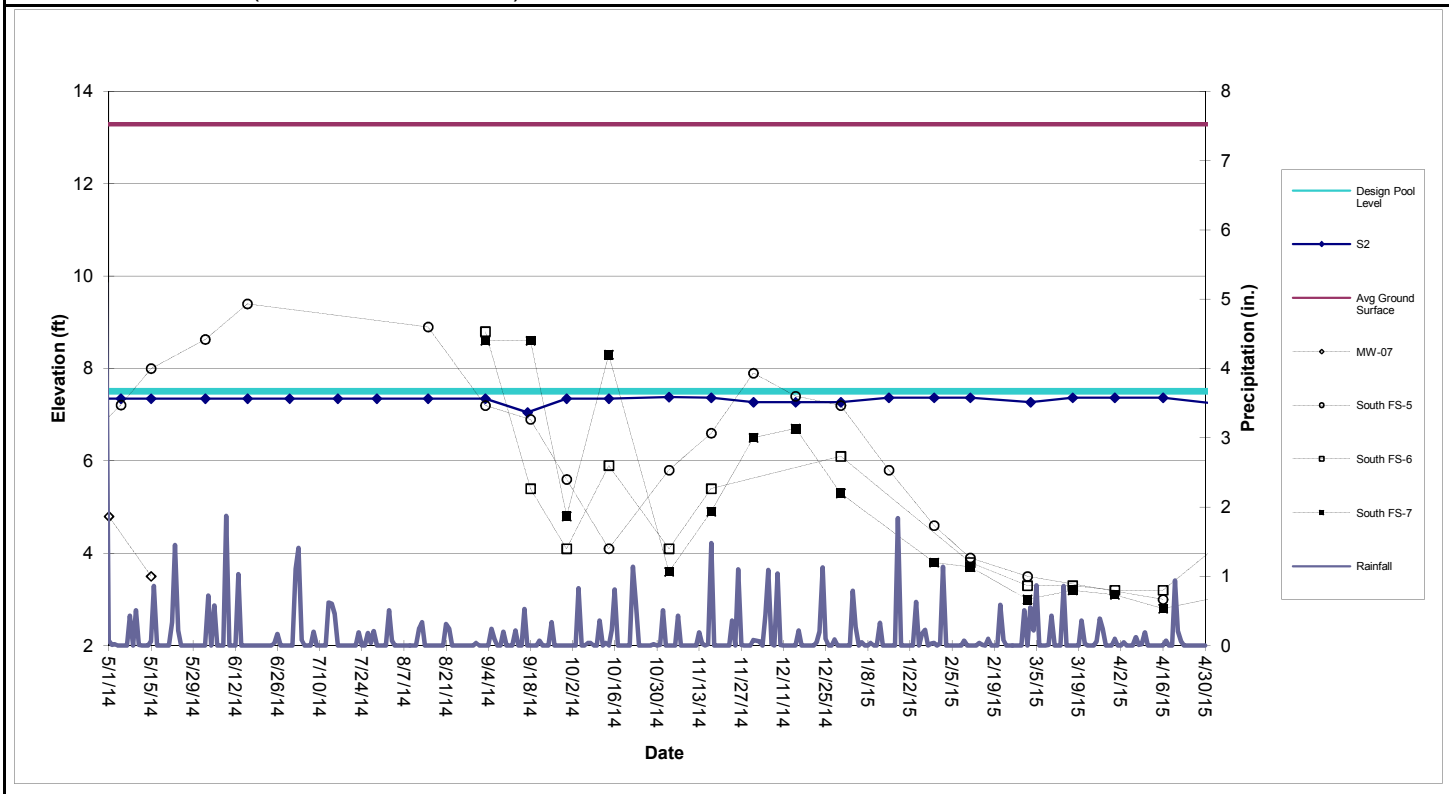
Perimeter Pool E1 (Sta. E0+50 to E3+75)



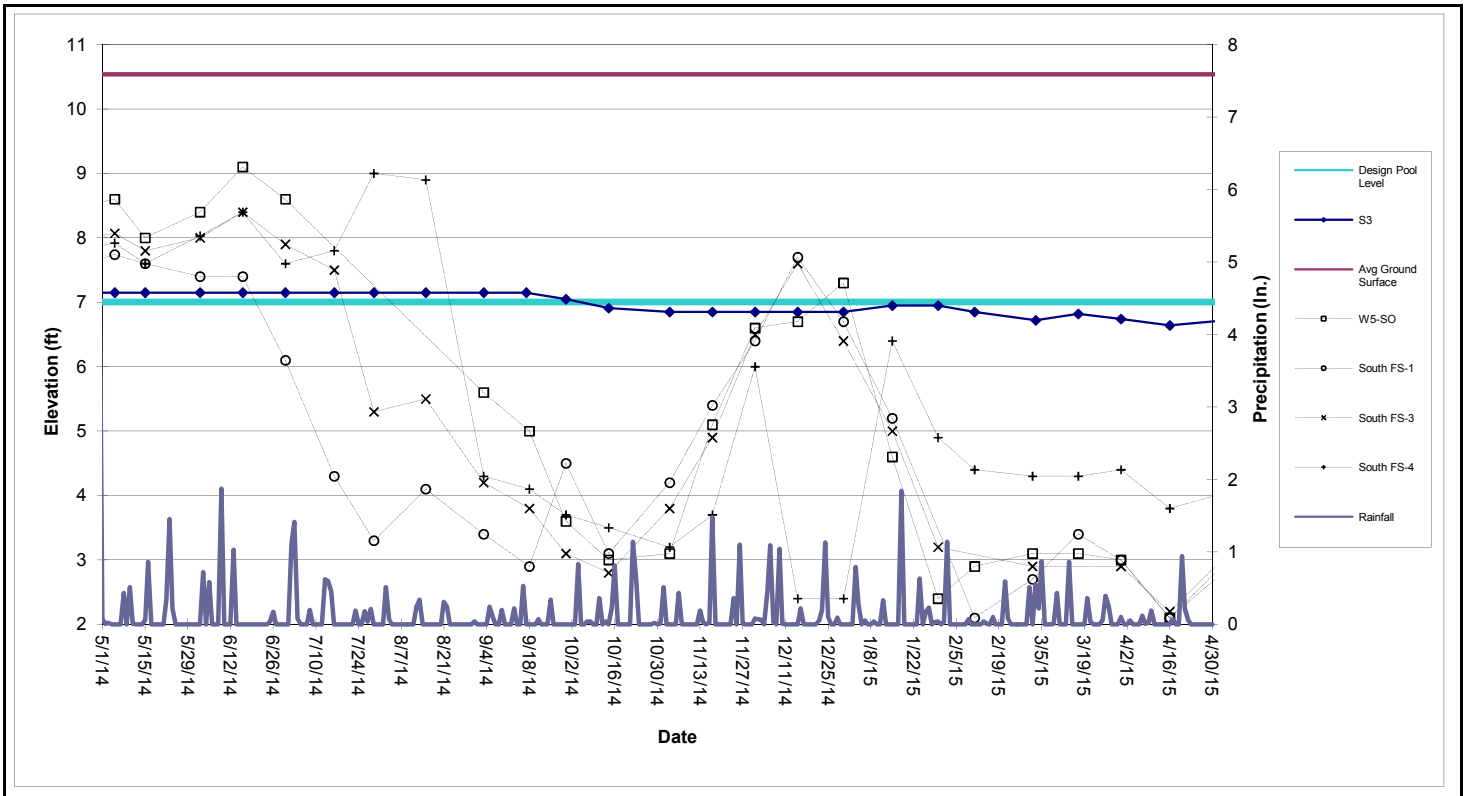
Perimeter Pool E2 (Sta. E4+50 to E7+25)



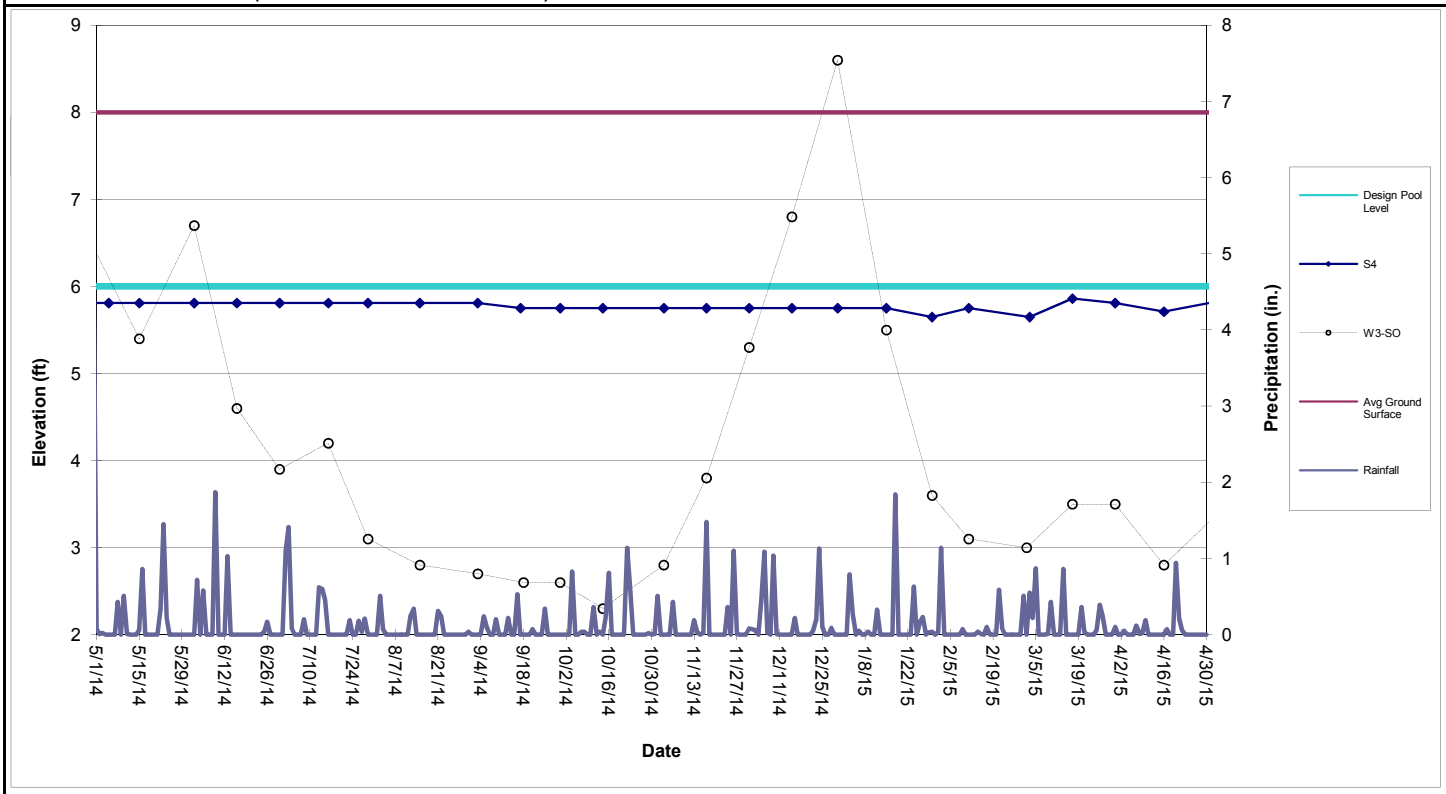
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										134-	140-		North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	MW-V09	MW-06	MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																									
5/1/2014												4.8													
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1				7.2		7.3	7.3				7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5			3.5	6.3	7.4	8.0	6.9				7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3				6.0	7.4	7.4	6.7				7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4				6.0	7.4	7.2	6.7				7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9				5.6	7.1	7.1	6.6				6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9				5.5	7.1	7.1	6.3				4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6				5.3	7.0	6.8	6.1				3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5				5.1	6.8	6.7	6.1				4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2				4.8	6.7	6.3	5.6				3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1				4.8	6.5	6.1	5.6				2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0				4.7	6.5	6.0	5.6				4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0				4.6	6.4	5.9		5.7	5.2	5.6	3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1				4.7	6.7	6.2		5.6	5.3	5.7	4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0				4.6	6.5	6.4		5.6	5.3	5.7	5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2				4.9	6.9	6.9		6.0	5.9	6.2	6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5				5.2	7.3	6.9		6.4	6.2	6.7	7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4				5.0	7.2	6.7		6.0	5.8	6.3	6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1				4.8	7.1	7.0		6.2	6.1	6.3	5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1				4.8	6.7	6.5		6.1	6.0	6.3		3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9					4.7	6.8	6.5		6.1	6.1	6.2	2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1					4.1	6.6	5.9		5.8	5.8	5.8	2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1					5.6	6.6			6.0	5.9	6.5	3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7				5.7	6.8			5.7	5.6	5.3	3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4				5.5	6.8	6.2		5.1	5.2	5.9	2.1	2.2	3.8	3.0	3.2	2.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4, South FS-5

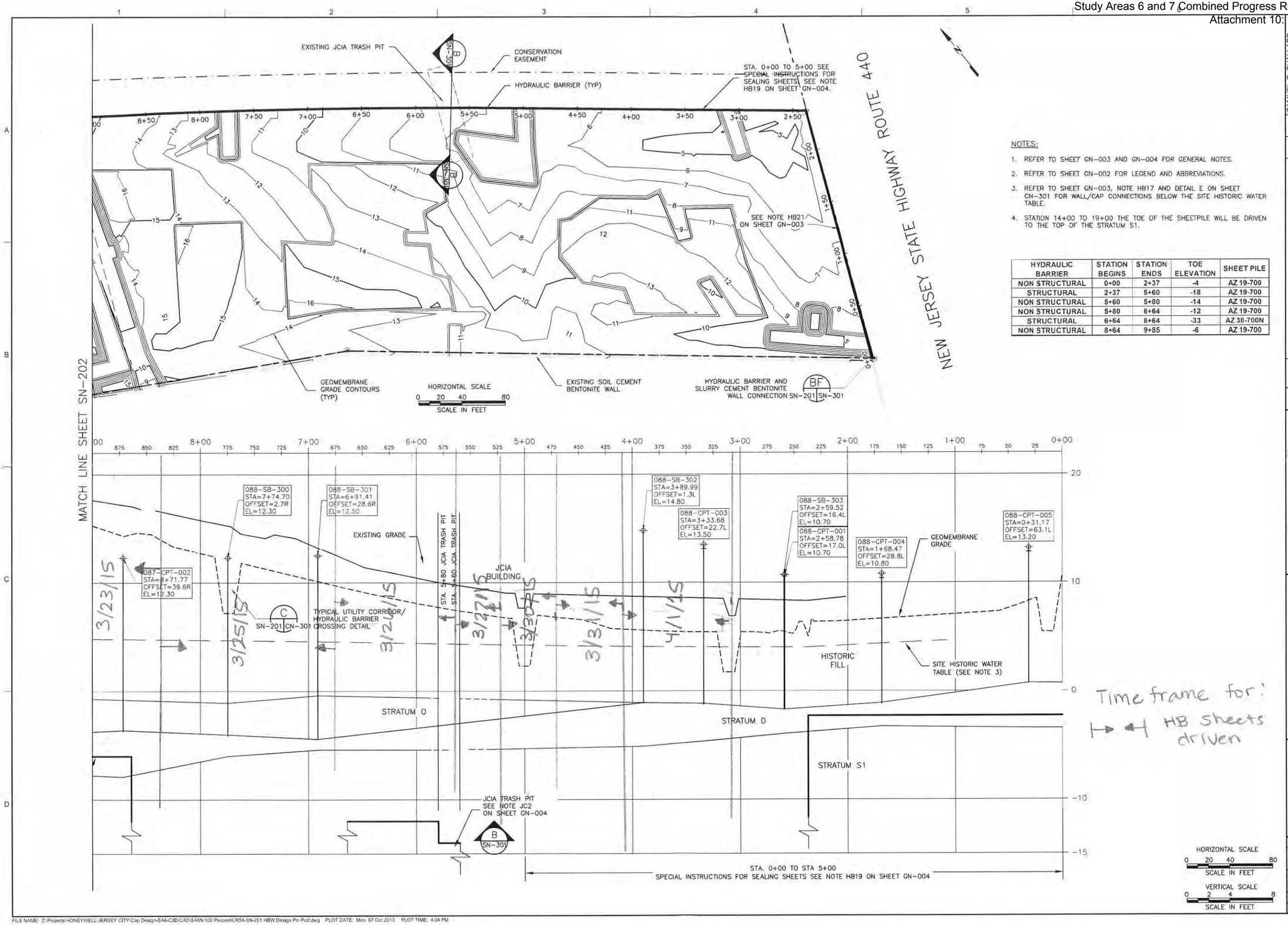
Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

NO.	DATE	REVISION	BY	CHK
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR	APVD	
TDD		TDD	RJR	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

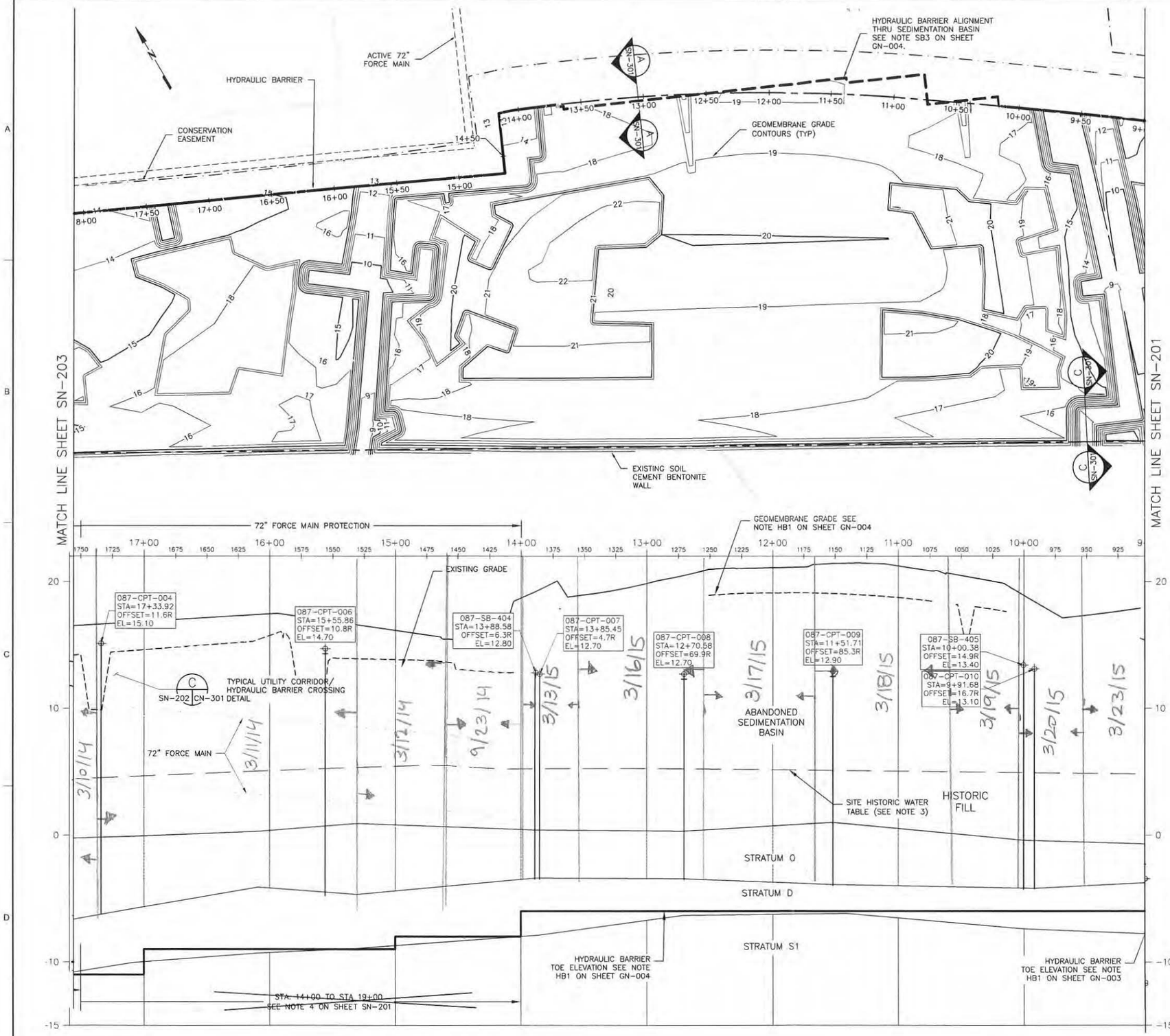
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Plin Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM			RJR SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD SGS
		REVISION			BY APVD

TDD RJR TDD BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

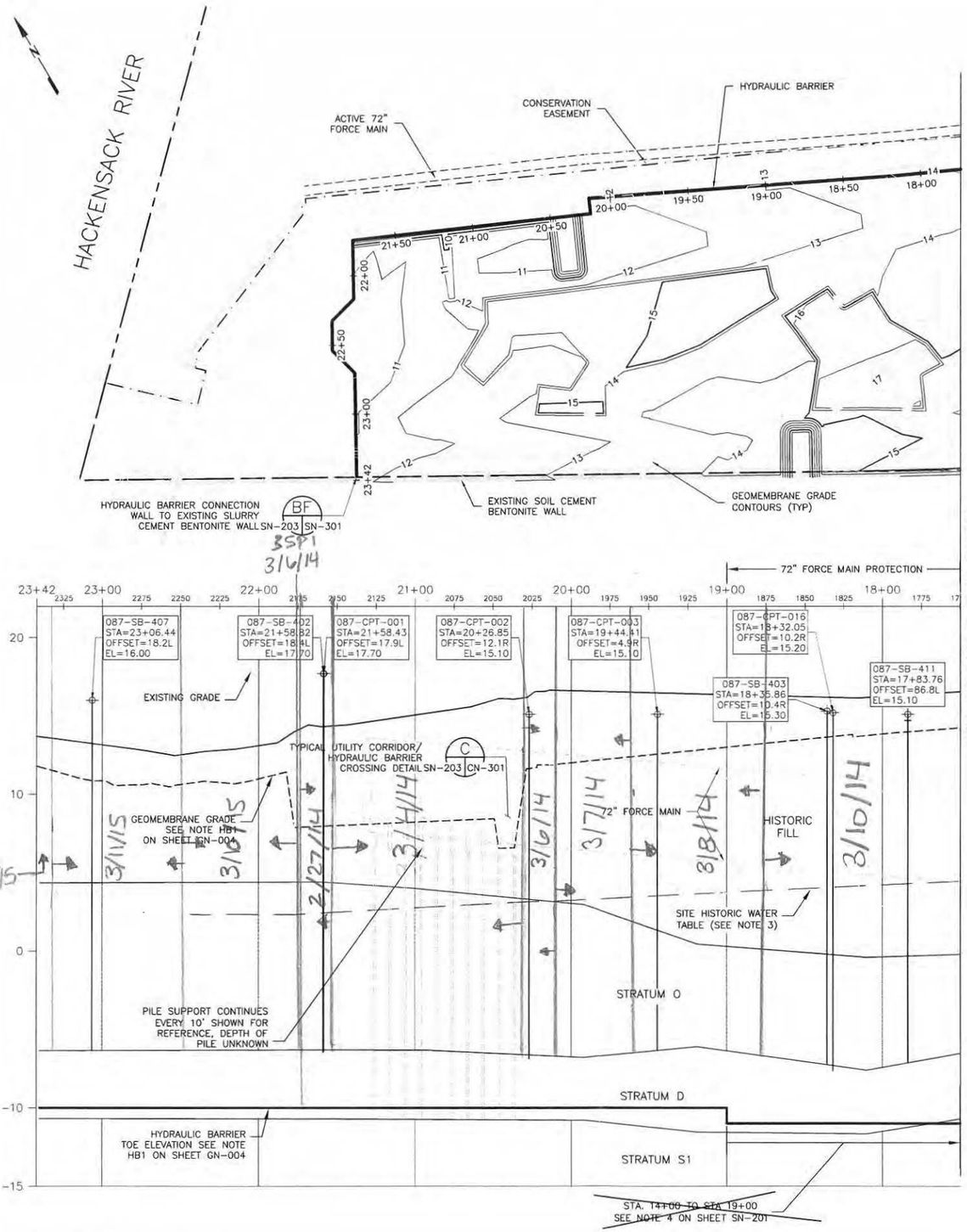
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N-100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR TDD CHK RJR APVD TDD		SGS

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 028
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Ainsworth Metro Blvd, Suite 113
Hasbrouck Heights, NJ 07604
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28910900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 3, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/03/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 03, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt has accumulated against the silt fence in the southeast corner of SA-7 along the Rt. 440 fenceline.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 04/03/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove the accumulated silt, maintain the silt fence as necessary and shovel up any silt which may have gotten past the silt fencing.	4/7/15 RAS

Construction Manager: _____ **Date:** 04/09/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 10, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4,5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/10/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, April 10, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Secondary containment of spill pallets in mechanics area has accumulated storm water.
2	IA2Q4A1AL8	Storm water is ponded on the floor of the LOAM excavation
3	IA2Q4A1AL8	A section of the northern toe of the 2-S stockpile area is missing erosion protection measures.
4	IA2Q4A1AL8	Sediment has accumulated on the southwestern corner of the SA-7 access roadway.
5	IA2Q4A1AL8	Sediment has accumulated on the northeastern corner of the SA-7 access roadway

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 04/10/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Drain the spill pallets as required.	4/16/15 RAD
2	Pump accumulated storm water to the CWTP as required	4/16/15 RAD
3	Install fabric-wrapped Jersey barriers or concrete bin blocks as required	4/16/15 RAD
4	Clean sediment from the roadway.	4/16/15 RAD
5	Clean sediment from the roadway	

Construction Manager: _____ **Date:** 04/17/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 17, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/17/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 17, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the JCIA Rt. 440 fenceline is not toed in properly.
2	IA2Q4A1AL8	Gaps in the trash pit safety fence are not properly protected or labelled.
3	IA2Q4A1AL8	Sediment has accumulated on the western SA-7 access roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature **Date:** 04/17/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Toe in the bottom of the silt fence as required.	4/21/15 RAD
2	Install additional barriers and signage as required to restrict access to the trash pit.	4/21/15 RAD
3	Clean accumulated sediment from the roadway.	4/20/15 RAD

Construction Manager: **Date:** 04/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 24, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection		X		1
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams		X		4
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/24/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 24, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Storm water run off has channeled and created a void in the Droyer's Cove seawall
2	IA2Q4A1AL8	Stone and sediment are present on the west end of Kellogg Street adjacent to the western gate.
3	IA2Q4A1AL8	Silt fence along the northern Study Area 7 roadway requires maintenance.
4	IA2Q4A1AL8	Sediment has accumulated against the swale check dam at the southwestern corner of Study Area 7
5	IA2Q4A1AL8	Sediment has accumulated near the toe of the western SA-6 North to SA-7 access ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) Date: 04/24/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the void in the Droyer's Cove bulkhead as per the engineer's specifications.	4-26-15 RAD
2	Remove the stone and sediment from the western end of Kellogg Street.	4-27-15 RAD
3	Repair or replace the damaged sections of silt fence as required	4-27-15 RAD
4	Remove accumulated sediment from the back side of the southern SA-7 river discharge silt dam	4-29-15 RAD
5	Remove accumulated sediment from the area around the toe of the SA-6N to SA-7 access ramp.	4-29-15 RAD

Construction Manager: _____ Date 04/29/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (March 2015)

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 20, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 31630016 (current number) #20630025 (future permit ID number)

Dear Mr. Caltagirone:

Honeywell is submitting the March 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

You have informed us that our Permit ID number will be changing any day now. Therefore, we have placed the future ID on the MR1 and MR2 forms along with the current ID number.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /SCF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 31630016 (20630025 New) OLD OUTLET DESIGNATION:

MONITORING PERIOD

Start			End		
3	01	15	3	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,700	80,394 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.69	0.72	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.050	<0.050	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1459	0.1459	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

April 16, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 31630016 **OLD OUTLET DESIGNATION** 20630025 new

MONITORING PERIOD

Start			End		
3	01	15	3	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,377,687	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	31,545,805

DATE	BOD (mg/l)	TSS (mg/l)
3/11/2015	<50	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE April 16, 2015

PVSC FORM MR-2 REV.3 6/93

New Permit # 20630025

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #31630016)							MONTH: March 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
3/1/2015	Angel Trujillo	29168118	29242408	74,290	0.07429	7.44	1.080									0.67
3/2/2015	Angel Trujillo	29242408	29316130	73,722	0.073722	7.49	1.080									0.66
3/3/2015	Angel Trujillo	29316130	29392285	76,155	0.076155	7.02	1.080									0.69
3/4/2015	Angel Trujillo	29392285	29471105	78,820	0.07882	7.28	1.080									0.71
3/5/2015	Angel Trujillo	29471105	29548254	77,149	0.077149	7.15	1.080									0.69
3/6/2015	Angel Trujillo	29548254	29626836	78,582	0.078582	7.23	1.080									0.71
3/7/2015	Angel Trujillo	29626836	29706532	79,696	0.079696	7.22	1.080									0.72
3/8/2015	Angel Trujillo	29706532	29783315	76,783	0.076783	7.13	1.080									0.69
3/9/2015	Angel Trujillo	29783315	29852950	69,635	0.069635	7.16	1.080									0.63
3/10/2015	Angel Trujillo	29852950	29929944	76,994	0.076994	7.15	1.080									0.69
3/11/2015	Angel Trujillo	29929944	30005722	75,778	0.075778	6.91	1.080	<5.1	<50		<0.010	<0.015	<0.050	<0.0002	<0.020	0.68
3/12/2015	Angel Trujillo	30005722	30081079	75,357	0.075357	7.10	1.080									0.68
3/13/2015	Angel Trujillo	30081079	30157709	76,630	0.07663	7.15	1.080									0.69
3/14/2015	Angel Trujillo	30157709	30238103	80,394	0.080394	7.16	1.080									0.72
3/15/2015	Angel Trujillo	30238103	30317291	79,188	0.079188	7.06	1.080									0.71
3/16/2015	Angel Trujillo	30317291	30392442	75,151	0.075151	7.20	1.080									0.68
3/17/2015	Angel Trujillo	30392442	30469180	76,738	0.076738	7.15	1.080									0.69
3/18/2015	Angel Trujillo	30469180	30546930	77,750	0.07775	7.45	1.080									0.70
3/19/2015	Angel Trujillo	30546930	30625760	78,830	0.07883	7.25	1.080									0.71
3/20/2015	Angel Trujillo	30625760	30703986	78,226	0.078226	7.24	1.080									0.70
3/21/2015	Angel Trujillo	30703986	30784266	80,280	0.08028	7.21	1.080									0.72
3/22/2015	Angel Trujillo	30784266	30861668	77,402	0.077402	7.21	1.080									0.70
3/23/2015	Angel Trujillo	30861668	30935174	73,506	0.073506	7.27	1.080									0.66
3/24/2015	Angel Trujillo	30935174	31010640	75,466	0.075466	7.21	1.080									0.68
3/25/2015	Angel Trujillo	31010640	31087656	77,016	0.077016	7.25	1.080									0.69
3/26/2015	Angel Trujillo	31087656	31164779	77,123	0.077123	7.22	1.080									0.69
3/27/2015	Angel Trujillo	31164779	31240856	76,077	0.0761	7.17	1.080									0.69
3/28/2015	Angel Trujillo	31240856	31320473	79,617	0.079617	7.20	1.080									0.72
3/29/2015	Angel Trujillo	31320473	31396064	75,591	0.075591	7.21	1.080									0.68
3/30/2015	Angel Trujillo	31396064	31469914	73,850	0.07385	7.13	1.080									0.67
3/31/2015	Angel Trujillo	31469914	31545805	75,891	0.075891	7.13	1.080									0.68
TOTAL				2,377,687	2.377687			<5.1	<50		<0.010	<0.015	<0.050	<0.0002	<0.020	
			High:	80,394											High:	0.72
			Average:	76,700											Average:	0.69

WW

E / X 3/11/15

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

JB89722.

AESI Ref:	42074.49749
COC#	087-WW-031115
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Test & Excel File Drive	Excel & Text File Order

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P. (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-031115-A	3/11/2015	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					C31
2	087-WW			087-WWE-031115-B	3/11/2015	14:15	WW	WATER	REG	5	grab	N					X	X				2					V271
3	087-WW			087-WWI-031115	3/11/2015	14:25	WW	WATER	REG	3	grab	N									X	3					G12
4																											
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

INITIAL ASESSMENT 1A/ce
LABEL VERIFICATION HL

Relinquished by PH = 6.91 s.u. @ 6.6° C	Company	AMEC Foster Wheeler	Received by	Company		Condition		Custody Seals Intact	
Frank Schroyer	Date/Time 3/11/15			Date/Time 3/11/15 1500		Cooler Temp.			
Relinquished by	Company		Received by	Company	ACW7077	Condition		Custody Seals Intact	N/A
	Date/Time 3/11/15 1850			Date/Time 3/11/15 1850		Cooler Temp.	0.0°C-B		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE ce

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-A		
Lab Sample ID:	JB89722-1	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1080	10	ug/l	1	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	03/12/15	03/12/15	DP	EPA 245.1 [1]	EPA 245.1 [3]
Nickel [b]	< 50	50	ug/l	5	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	03/12/15	03/13/15	BS	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA36219
(2) Instrument QC Batch: MA36226
(3) Prep QC Batch: MP85189
(4) Prep QC Batch: MP85244

(a) Elevated detection limit due to dilution required for high interfering element.
(b) Elevated detection limit due to dilution required for matrix interference (indicated by failing internal standard on original analysis).

RL = Reporting Limit

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-A		
Lab Sample ID:	JB89722-1	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	03/13/15	JS	SM2540 D-11
pH [a]	6.84		su	1	03/11/15 19:34	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-A		
Lab Sample ID:	JB89722-1A	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 50	50	mg/l	1	03/12/15 19:03	TT	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-B		
Lab Sample ID:	JB89722-2	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T206121.D	1	03/12/15	DC	n/a	n/a	VT8458
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.2	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.6	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	17.8	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.40	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.6	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.66	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-B		
Lab Sample ID:	JB89722-2	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	44.1	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	1.3	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	98%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	104%		74-115%
1868-53-7	Dibromofluoromethane (S)	102%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@845239 10:54 01-Apr-2015

Report of Analysis

Client Sample ID:	087-WWE-031115-B		
Lab Sample ID:	JB89722-2	**Date Sampled:**	03/11/15
Matrix:	AQ - Water	**Date Received:**	03/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	03/15/15	CW	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending April 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 02 feet of historic fill soils from selected locations throughout the SA6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to Contractor only.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 9 OF 25

- **2015 Monthly Reports Part 2**

6/12/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 12, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-05

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from May 1 – May 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: May 2015 SA-6/7 Combined Monthly Progress Report No. 2015-05

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2015-05
Project SA-6 & 7 Remediation

May 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
05/01/15	Response to Comments provided by Terris, Pravlik & Millian, LLP Surcharge Monitoring Plan Reports No. 7-9 Study Area 6, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/05/15	Surcharge Monitoring Plan – Monthly Report No. 12 Study Area 6, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/05/15	SA-6 North Treatment Area 10 Bench Scale Reactor Summary - 6 Month Reactor Data Study Area 6 North, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/14/15	Draft SA-6 South Declaration Study Area 6 South, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/14/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-04	Honorable Robert G. Torricelli Office of the Special Master
05/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
05/19/15	Special Master Meeting	N/A
05/27/15	SA-6N - Design Change Bulletins MRCE Temporary Support of Excavation Design Barrier Wall Realignment SA-6N Station 8+25 Study Area 6 North, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
05/27/15	Response to Plaintiff May 5, 2015 Comments Honeywell's April 20, 2015 proposal to install a new GWET extraction well (PW-3), in replacement of existing extraction well PW-2 Study Area 7, Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	05/3/2015	05/10/15	05/17/15	05/24/15	05/31/15
Construction Management (AMEC)	9	10	9	10	9
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	35	37	37	38	36
Arecon/US Ecology Subcontractors	0	0	0	0	0
Evoqua	1	1	1	1	1
HBS (SA-6N GWTP Security System)	0	0	0	0	0
B&B Drilling	1	2	2	2	2
TOTAL STAFF	51	55	54	56	53

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected May PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On May 31, June 1, and 2, 2015, Cornerstone personnel conducted S-3 Mass Removal Injection Event No.21 in Injection Well 088-IW-02.
- Cornerstone conducted semi-annual groundwater sampling for the S-3 Mass Removal program and quarterly sampling of the GWET well discharge.
- Completed Removal of standing water and residual municipal waste from within the JCIA trash pit. The water was discharged to PVSC through CWTP and the residual municipal waste was loaded out and transported off site for disposal by JCIA.
- Assisted JCDPW personnel in the removal of materials from within the former Jersey City Department of Public Works “H” building.
- Completed water supply disconnects to the Department of Public Works “H” Building and the maintenance garage. A total of 7 lines were disconnected and capped.

- B&B drilled and grouted columns of the east and west trash pit walls for low permeability connection of the special Hydraulic Barrier Sheets.
- PSEG completed switching overhead electrical power and Cable Vision completed moving overhead telecommunication wires to the North Bound side of Route 440.
- PSEG completed installation of power to the utility pole at the northeast corner of SA-7. Century Electric completed electrical connections from the utility pole to the electrical panel at the Northeast corner of SA-7 which feeds power to the perimeter pool pump and transducer.
- **L**oaded, transported and delivered World Trade Center Beams from SA-6 north to the new Jersey City Municipal Services Complex on Linden Avenue.
- Continued to evaluate Site 163 interim in-situ treatment performance sampling data.
- Continued to stockpile Celgene material for future screening operations.
- Ordered three new Honeywell office trailers to be located at SA-6 North.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on May 18, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	05/3/15	05/10/15	05/17/15	05/24/15	05/31/15
Avg. Gallons Treated & Discharged (per day)	77,624	77,562	77,850	78,263	76,616
Average Flow (gpm) for Operating Period	56	54	54	54	55
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP Influent Tanks (gal.)	7,133	6,600	7,601	9,122	9,738

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued installation of SA-6 North Contingent Ground Water Extraction System piping. A total of 700 linear feet of piping and one access manhole was installed
- Installed Catch Basin 5 in the SA-6 South backfill area along Kellogg Street, to include a total of 200 linear feet of piping.
- Continued to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.

- Continued placement of soils with hexavalent chromium concentrations between 20 and 240 ppm within the sedimentation basin south of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Continued placement of historic fill within the sedimentation basin north of the Vertical Hydraulic Barrier Wall on SA-6 North.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
No update for the reporting period							

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	No update for the reporting period
Backfill in Progress	Historic Fill - SA6 South western backfill area.

3. BACKFILL MATERIALS USED

Source	Week Ending				
	05/3/15	05/10/15	05/17/15	05/24/15	05/31/15
Tilcon Mt Hope DGA	620	0	0	0	0
Tilcon Mt. Hope 3/8" Stone	0	0	182	0	0
Tilcon Mt. Hope 1-1.5" Stone	0	308	0	333	0

- Historic Fill was transferred from 1N surcharge area beginning on April 7, 2015. A total of 118 loads, totaling approximately 2,360 cubic yards was placed as backfill in SA-6 South during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Begin surcharge removal. Offloading Novartis and relocating 20 to 240 ppm material to SA-6 North cap area (approximately 60% complete).
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Continued installation of surcharge monitoring instrumentation.
- Area 4N: Began installation of surcharge monitoring instrumentation.

- As noted in the transmittal of Surcharge Monitoring Report No. 12, we will not be submitting monthly surcharge monitoring reports until remaining instrumentation is installed in Areas 3N and 4N.

F. SHEET PILE OPERATIONS

- Installed Vertical Hydraulic Barrier wall closure pieces associated with the connection to the exterior of the JCIA trash pit concrete walls.

G. CAPPING OPERATIONS

- Continued general Cap Subgrade preparation in Area 1S.
- Continued Utility Corridor and roadway subgrade preparation.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	7/7/2015	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete set up Traffic Controls and Southbound shoulder closure associated with excavations along Route 440 frontage with SA-6 North in accordance with the NJDOT permit.
- Begin excavation of Areas EA-7 and EA-8.
- Begin pre-trenching for installation of temporary shoring related to the excavations along Route 440.
- Begin Soldier Pile installation associated with the temporary shoring along Route 440.
- Continue Cap Subgrade and utility corridor preparation activities.
- Verizon will complete switching communication lines to the North Bound side of Route 440.
- Begin Stratum D repair of the JCIA Trash Pit Area.
- Continue backfill placement activities at SA-6 South.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Develop the revised plan for the SA-6 North Treatment Area 10 proximate to force main.
- Complete the L-Well sampling of locations where geoprobe is required.
- Continue to work with owner on access for the planned PW-3 extraction well installation.

ATTACHMENTS:

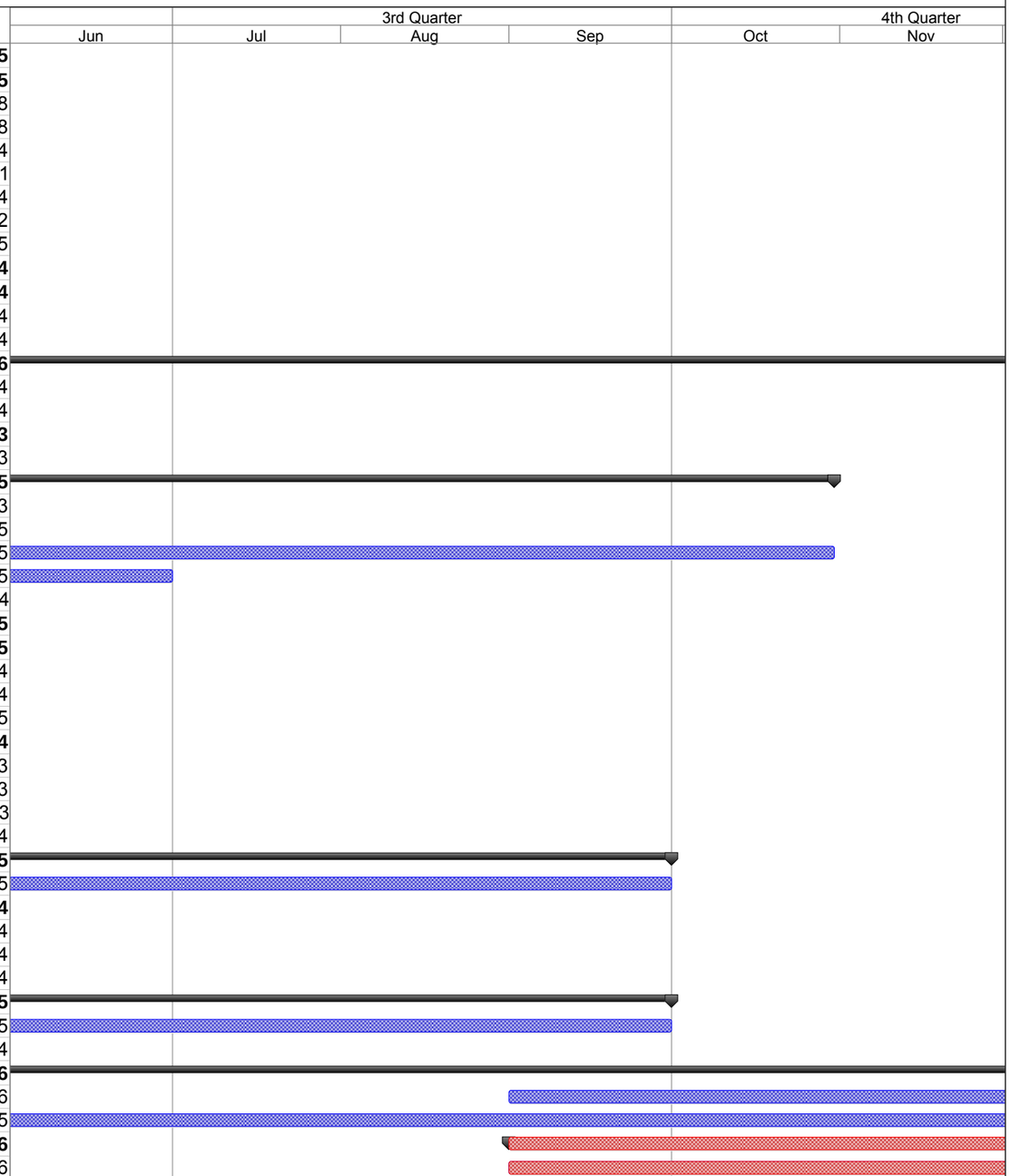
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. *Backfill Analytical Data (not included in this reporting period)*
7. Perimeter Pools Update
8. *Groundwater Quality Data (not included in this reporting period)*
9. Surcharge Monitoring Update
10. Sheet Pile Update

11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (April 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**1/4/08**	**3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**8/11/08**	**3/30/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	753 days	10/17/11	8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	151 days	9/1/14	3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**3/1/13**	**5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	6/17/13	12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	11/15/13	12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**6/17/13**	**10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	6/2/14	2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	3/2/15	10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	10/20/14	6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	3/3/14	11/28/14
63	**Barrier Wall Install**	**489 days**	**6/17/13**	**4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**12/2/13**	**4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	12/2/13	2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	2/17/14	6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	6/23/14	4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**6/17/13**	**5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	6/17/13	8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	8/16/13	8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	10/3/13	11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	11/11/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	**SA 6S Excavation**	**226 days**	**10/22/13**	**9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	10/22/13	1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	1/3/14	5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	5/9/14	9/2/14
65	**Backfill**	**493 days**	**11/11/13**	**9/30/15**
65a	SA 6N Backfill	218 days	12/1/14	9/30/15
65b	SA 6S Backfill	232 days	11/11/13	9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**12/1/14**	**2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	9/1/15	2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**164 days**	**9/1/15**	**4/15/16**
67a	Restoration	164 days	9/1/15	4/15/16



Project: SA-6 Remediation Schedule
Revision 3
Date: 6/2/15

Task Milestone Summary Critical

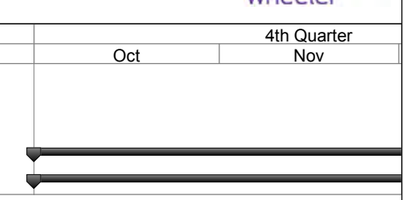
Note: The schedule will be revised following completion of the JCDPW relocation.

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

amec foster wheeler

ID	Task Name	Duration	Start	Finish
68	**Demobilization**	**21 days**	**4/18/16**	**5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**310 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**310 days**	**10/1/15**	**12/7/16**



Project: SA-6 Remediation Schedule
Revision 3
Date: 6/2/15

Task Milestone Summary Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Attachment 2: Site Photographs



Site Photograph 1: Contractor compacting material on former City properties.



Site Photograph 2: Contract removing tree stumps from the former City properties.



Site Photograph 3: Contractor compacting screened historic fill.



Site Photograph 4: Contractor conducts drilling at former JCIA property.



Photograph 5: Contractor installs hydraulic barrier at former JCIA property.



Site Photograph 6: Contractor loading surcharge material.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of June 1, 2015

May 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

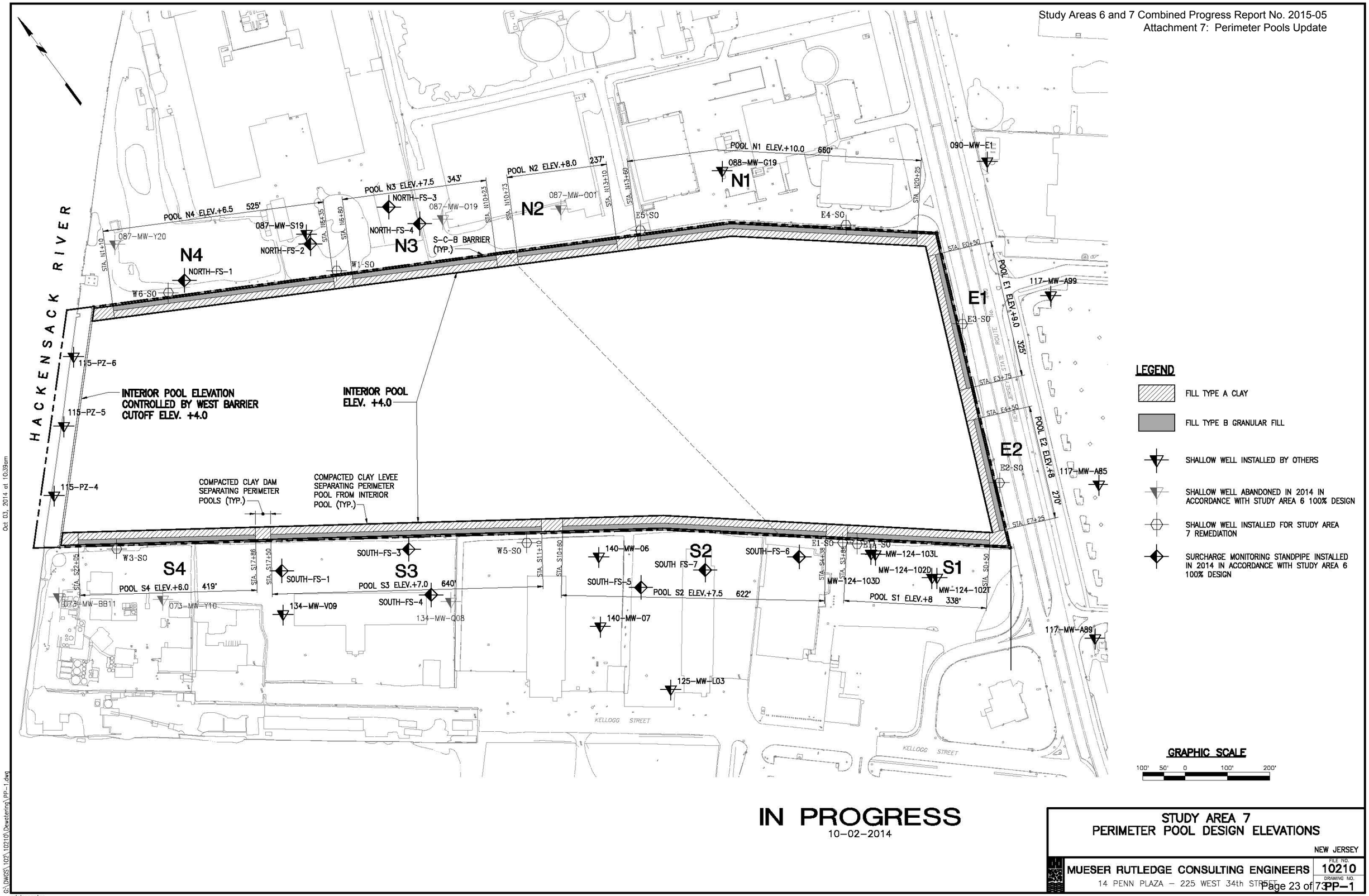
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/01/15	7:30	15:00	7:30	30,378.43	30,506.05	127,620	30,505,600	PVSC Compliance Sample Collected
04/02/15	7:15	15:15	8:00	30,506.05	30,637.07	131,020	30,636,620	
04/04/15	7:30	15:30	8:00	30,637.07	30,677.37	40,300	30,676,920	
04/06/15	7:00	15:00	8:00	30,677.37	30,776.12	98,750	30,775,670	
04/07/15	7:15	15:00	7:45	30,776.12	30,842.73	66,610	30,842,280	
04/08/15	7:15	15:00	7:45	30,842.73	30,910.48	67,750	30,910,030	
04/09/15	8:30	15:00	6:30	30,910.48	30,974.48	64,000	30,974,030	
04/10/15	7:30	15:00	7:30	30,974.48	31,065.01	90,530	31,064,560	
04/13/15	11:45	16:15	4:30	31,065.01	31,142.89	77,880	31,142,440	
04/14/15	7:30	15:00	7:30	31,142.89	31,231.27	88,380	31,230,820	
04/15/15	7:30	14:00	6:30	31,231.27	31,277.99	46,720	31,277,540	
04/17/15	7:15	12:00	4:45	31,277.99	31,315.22	37,230	31,314,770	
04/20/15	7:30	15:15	7:45	31,315.22	31,405.02	89,800	31,404,570	
04/21/15	7:00	14:00	7:00	31,405.02	31,446.44	41,420	31,445,990	
04/22/15	7:30	13:00	5:30	31,446.44	31,498.34	51,900	31,497,890	
04/23/15	7:00	13:30	6:30	31,498.34	31,544.28	45,940	31,543,830	
04/24/15	7:30	14:00	6:30	31,544.28	31,600.00	55,720	31,599,550	
04/27/15	7:30	14:30	7:00	31,600.00	31,637.05	37,050	31,636,600	
04/29/15	9:30	15:00	5:30	31,637.05	31,706.56	69,510	31,706,110	
04/30/15	8:00	15:00	7:00	31,706.56	31,755.10	48,540	31,754,650	
05/01/15	10:00	14:30	4:30	31,755.10	31,779.92	24,820	31,779,470	
05/05/15	7:00	14:00	7:00	31,779.92	31,862.76	82,840	31,862,310	PVSC Compliance Sample Collected
05/08/15	7:30	14:30	7:00	31,862.76	31,923.11	60,350	31,922,660	
05/11/15	10:00	15:00	5:00	31,923.11	31,978.26	55,150	31,977,810	
05/14/15	10:00	15:00	5:00	31,978.26	32,016.71	38,450	32,016,260	
05/18/15	7:30	14:30	7:00	32,016.71	32,102.90	86,190	32,102,450	
05/19/15	7:30	14:00	6:30	32,102.90	32,136.78	33,880	32,136,330	
05/20/15	7:30	15:00	7:30	32,136.78	32,157.02	20,240	32,156,570	
05/21/15	7:00	13:30	6:30	32,157.02	32,194.76	37,740	32,194,310	
05/22/15	8:00	12:00	4:00	32,194.76	32,208.64	13,880	32,208,190	
05/24/15	10:00	14:00	4:00	32,208.64	32,256.26	47,620	32,255,810	
05/27/15	6:30	13:30	7:00	32,256.26	32,322.85	66,590	32,322,400	
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	

Notes: Previous information is trunkated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS

10-02-2014

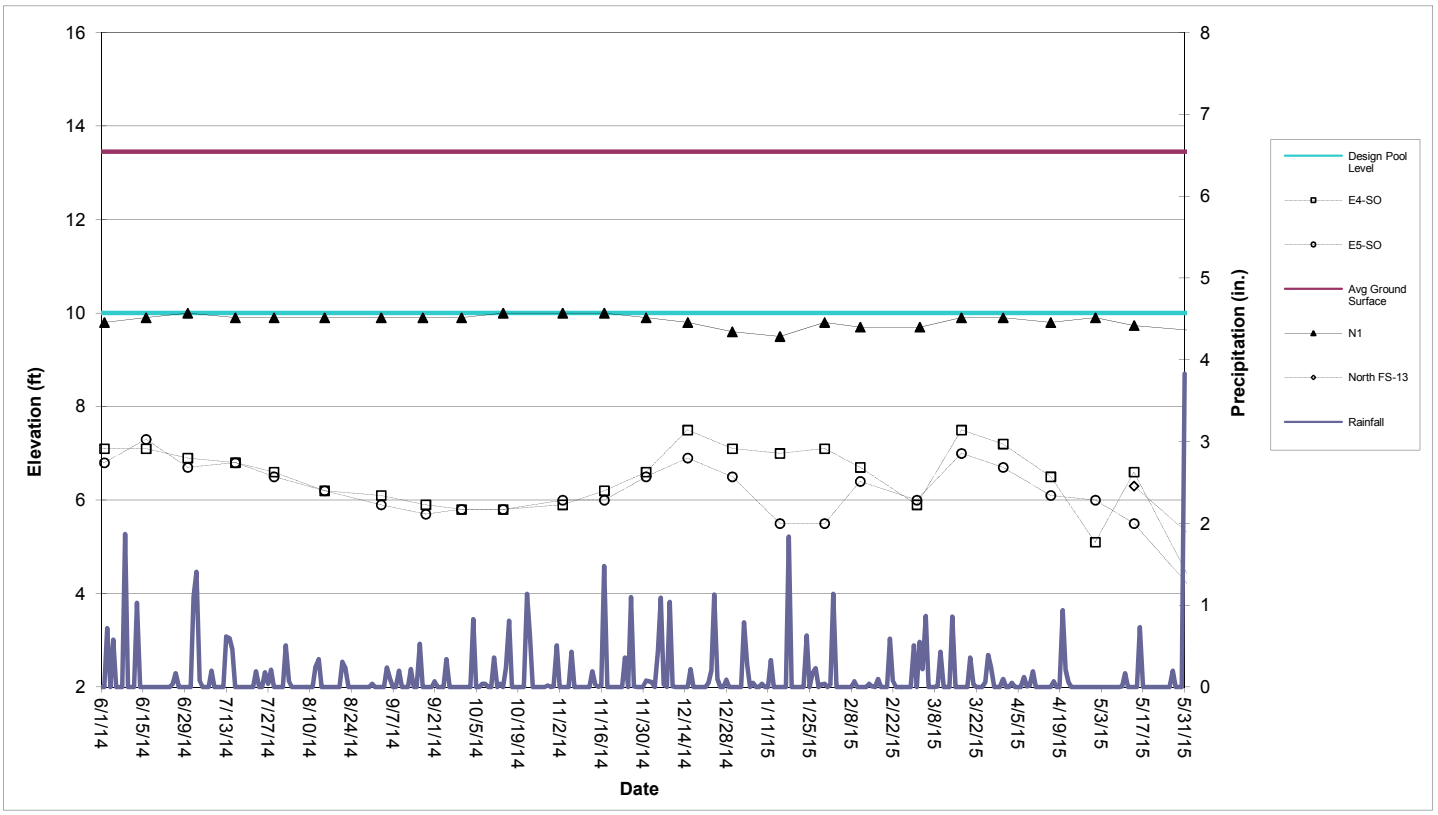
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

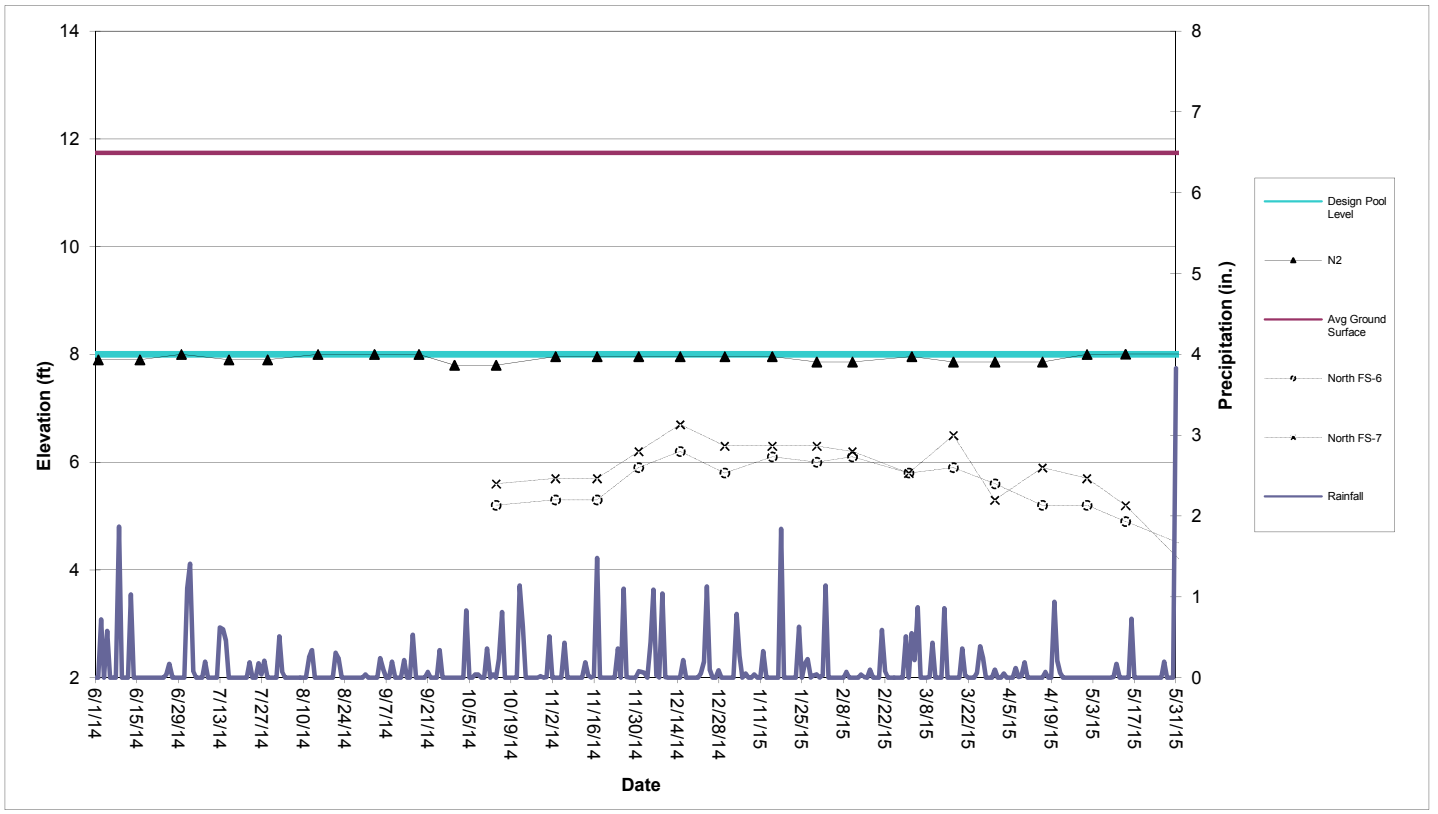
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

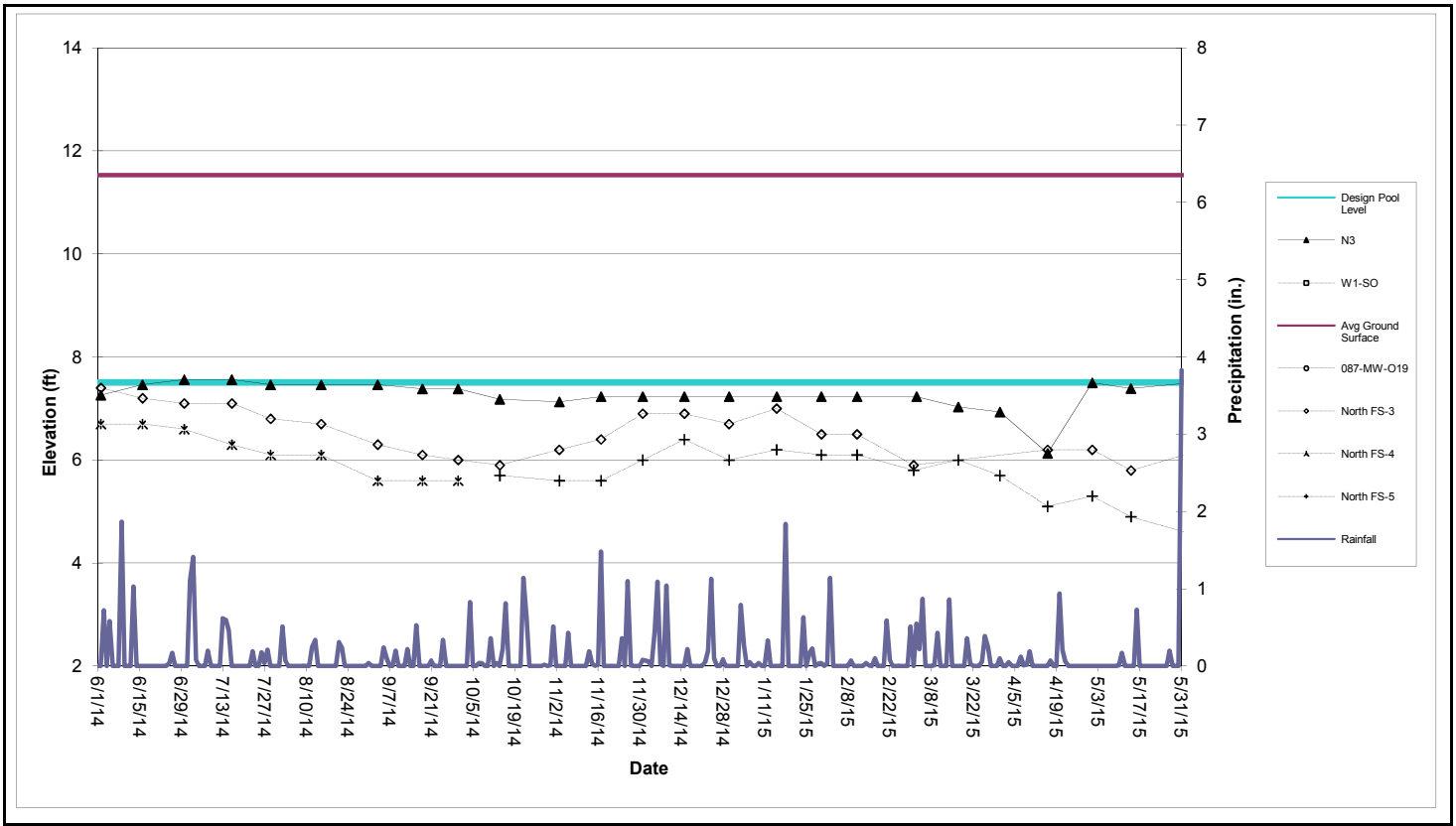
Oct 03, 2014 at 10:39am
G:\DWGS\102\10210\Dewatering\PP-1.dwg
edelossantos



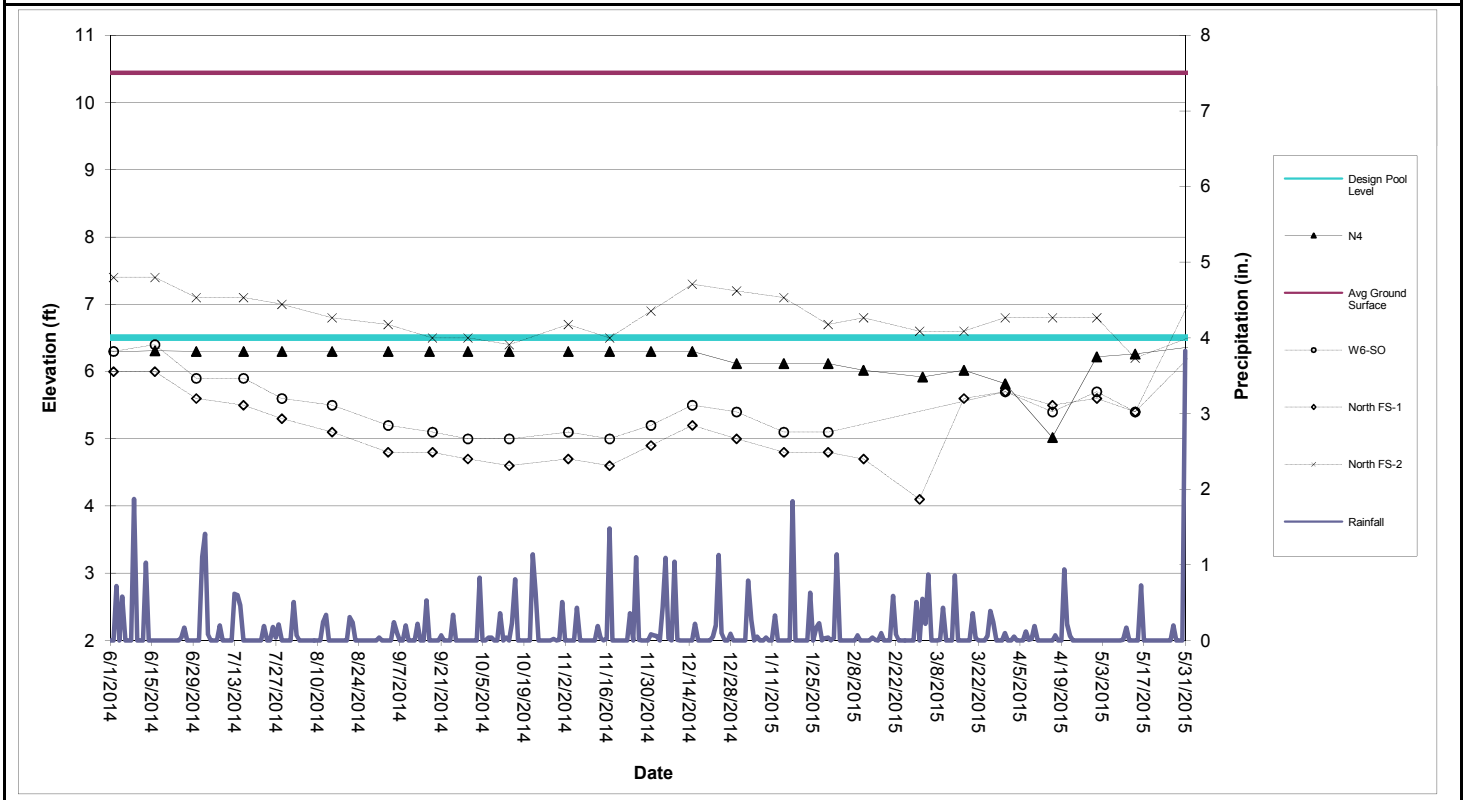
Perimeter Pool N1 (Sta. N13+60 to N20+25)



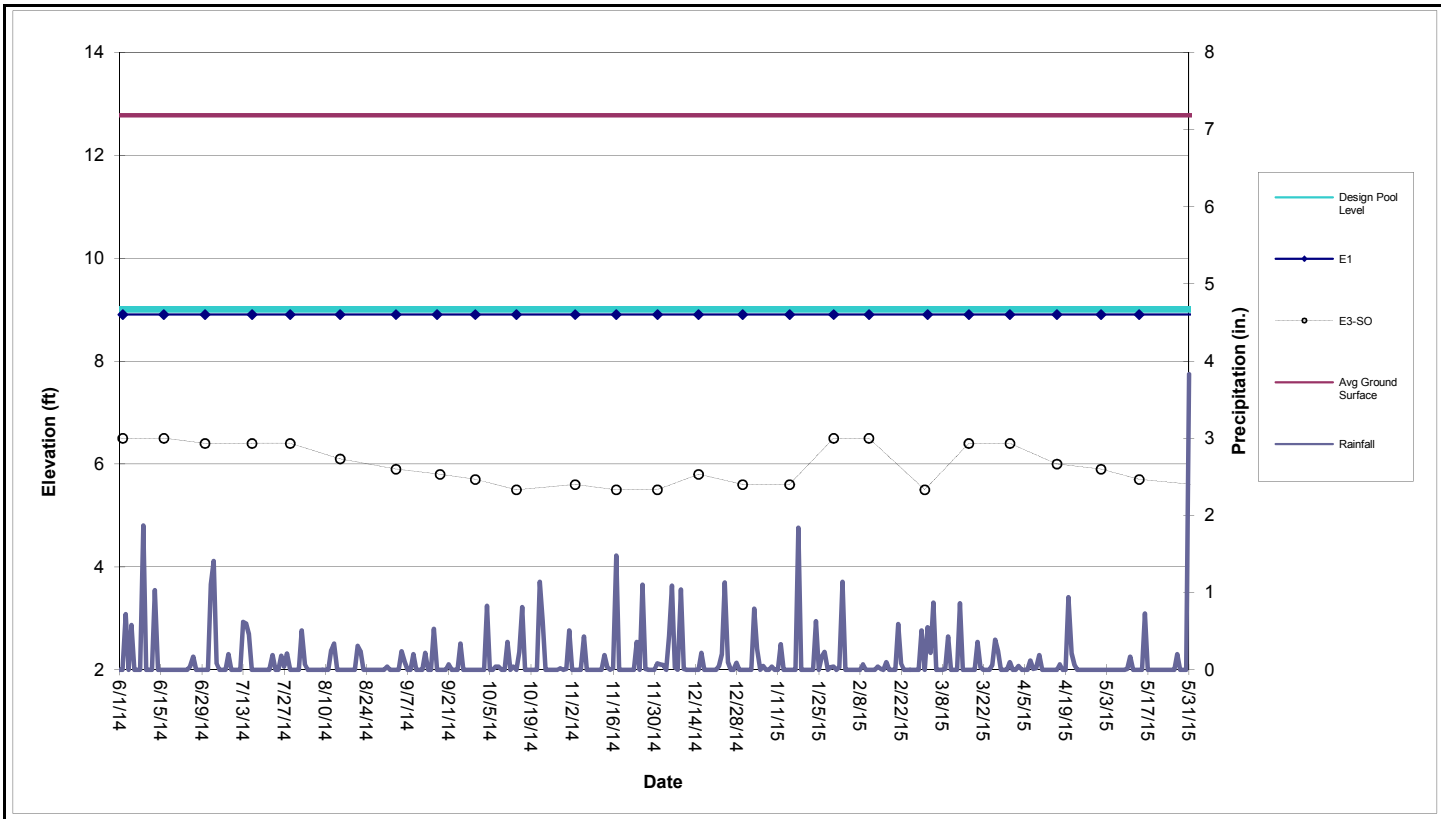
Perimeter Pool N2 (Sta. N10+73 to N13+10)



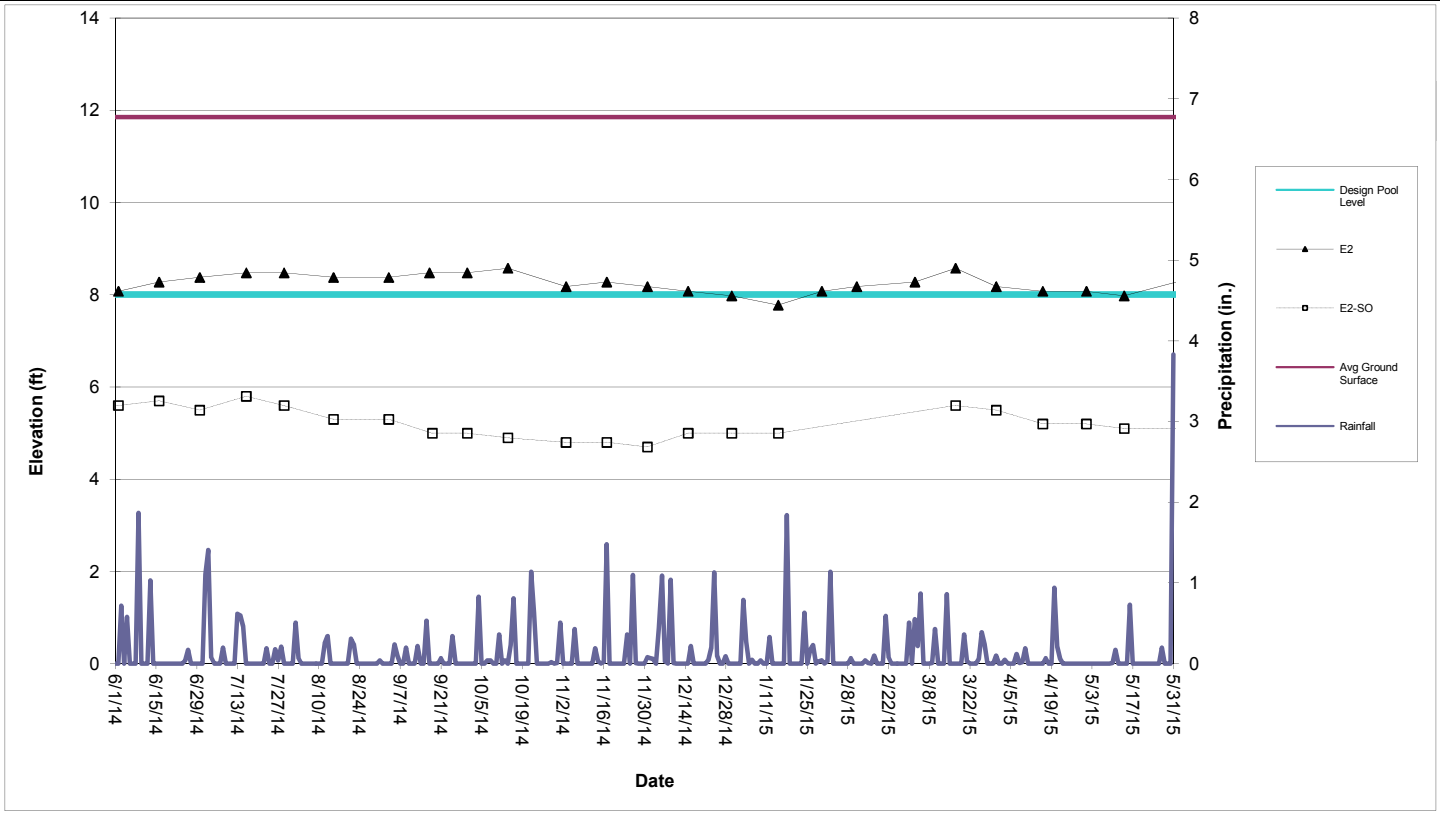
Perimeter Pool N3 (Sta. N6+80 to N10+23)



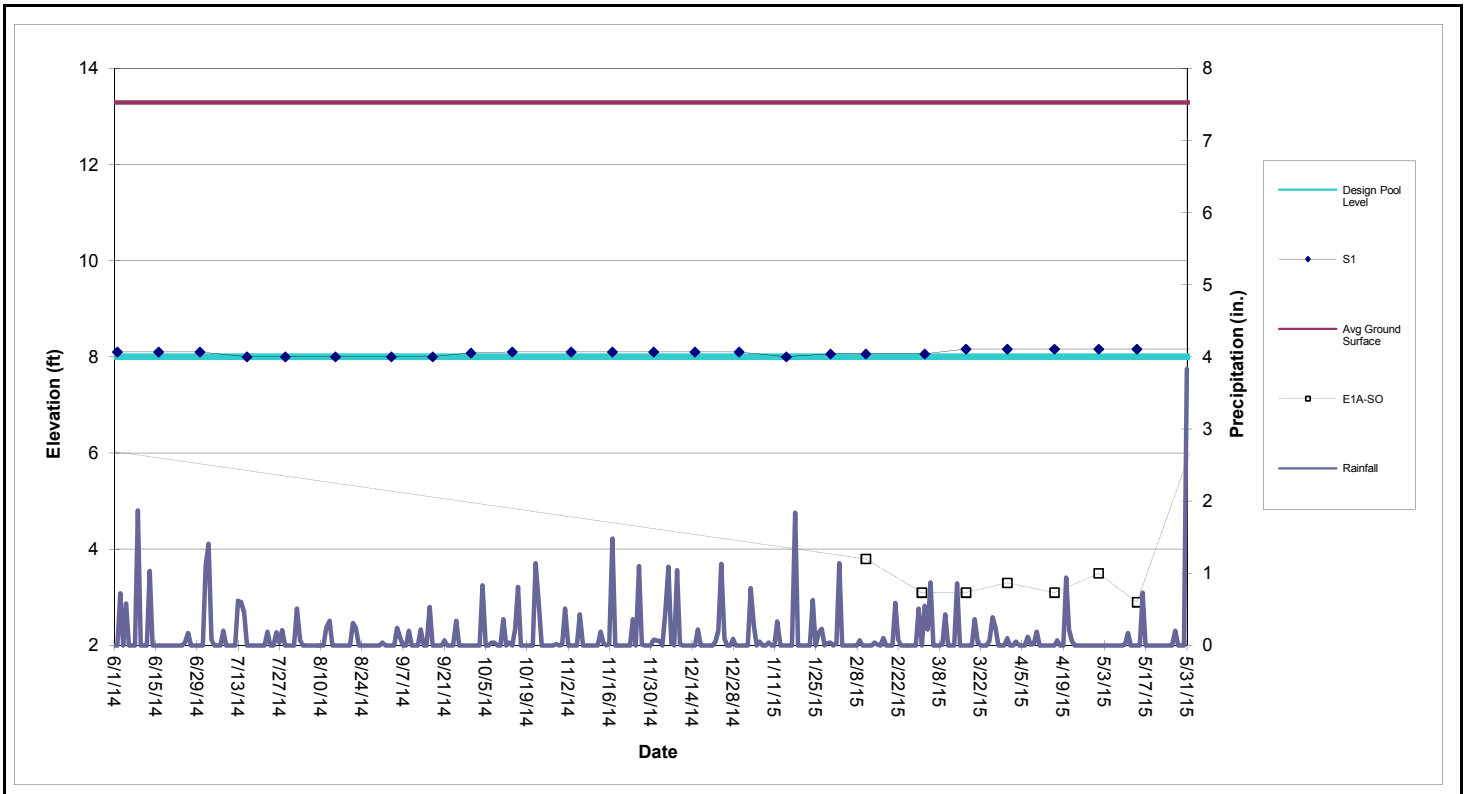
Perimeter Pool N4 (Sta. N6+80 to N10+23)



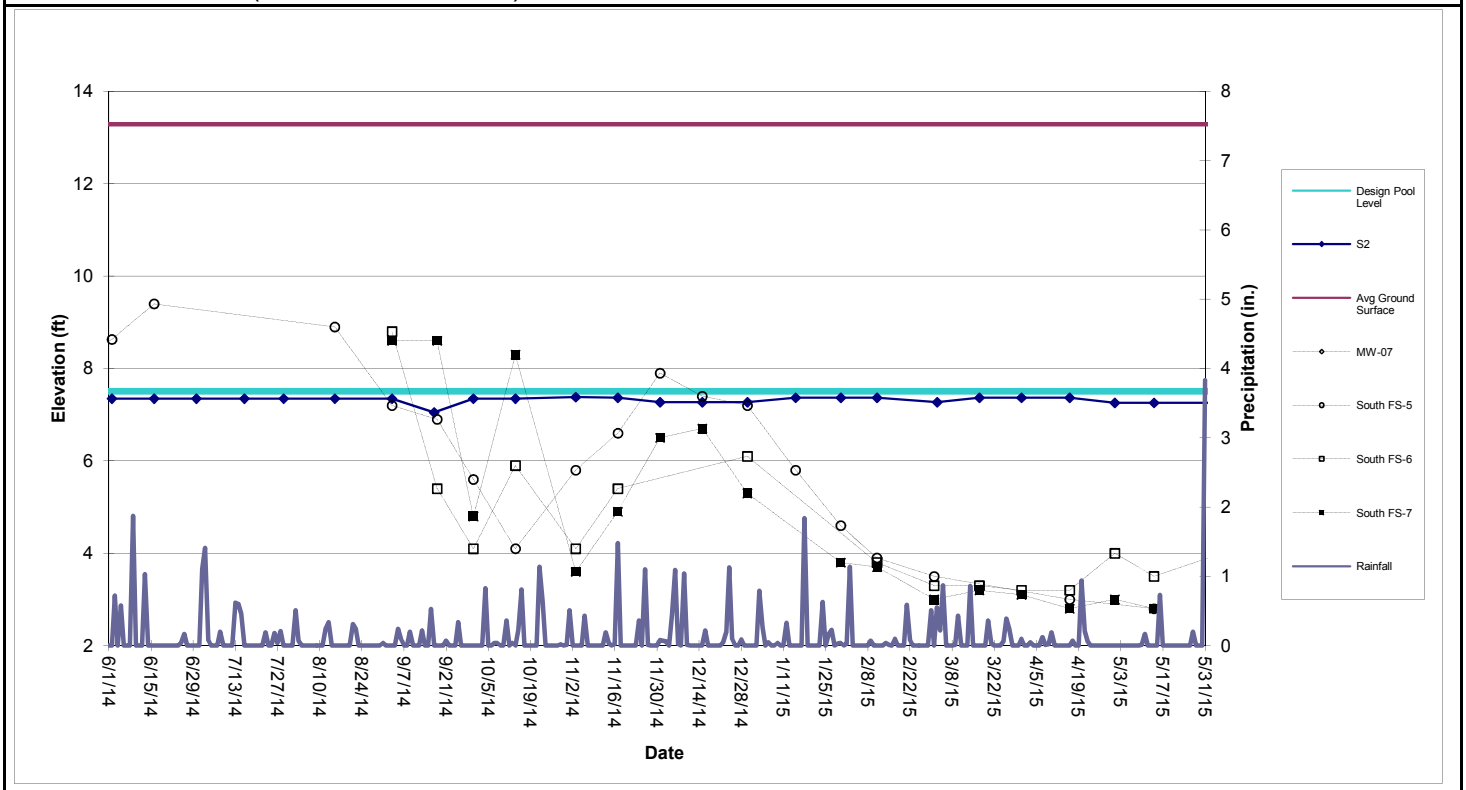
Perimeter Pool E1 (Sta. E0+50 to E3+75)



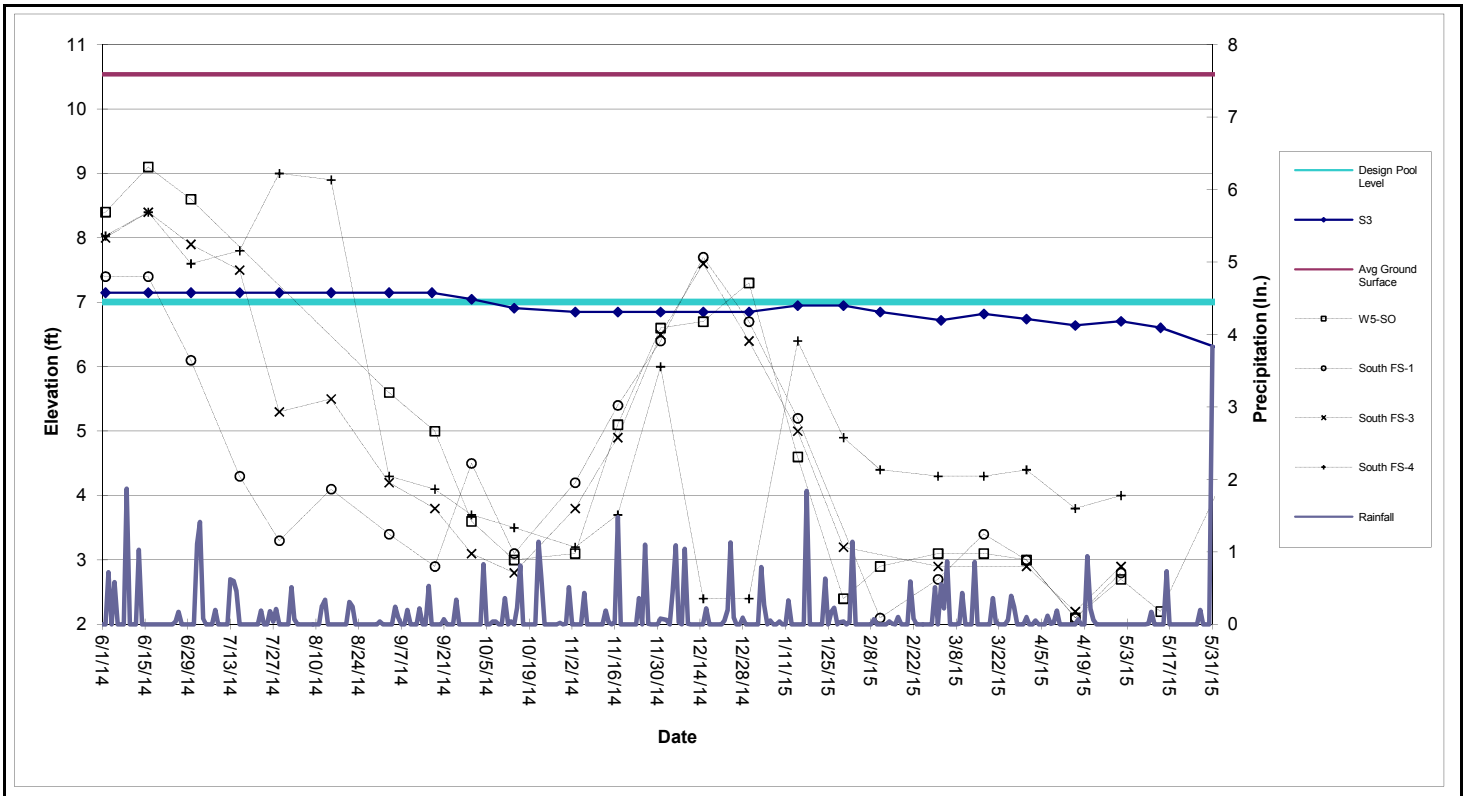
Perimeter Pool E2 (Sta. E4+50 to E7+25)



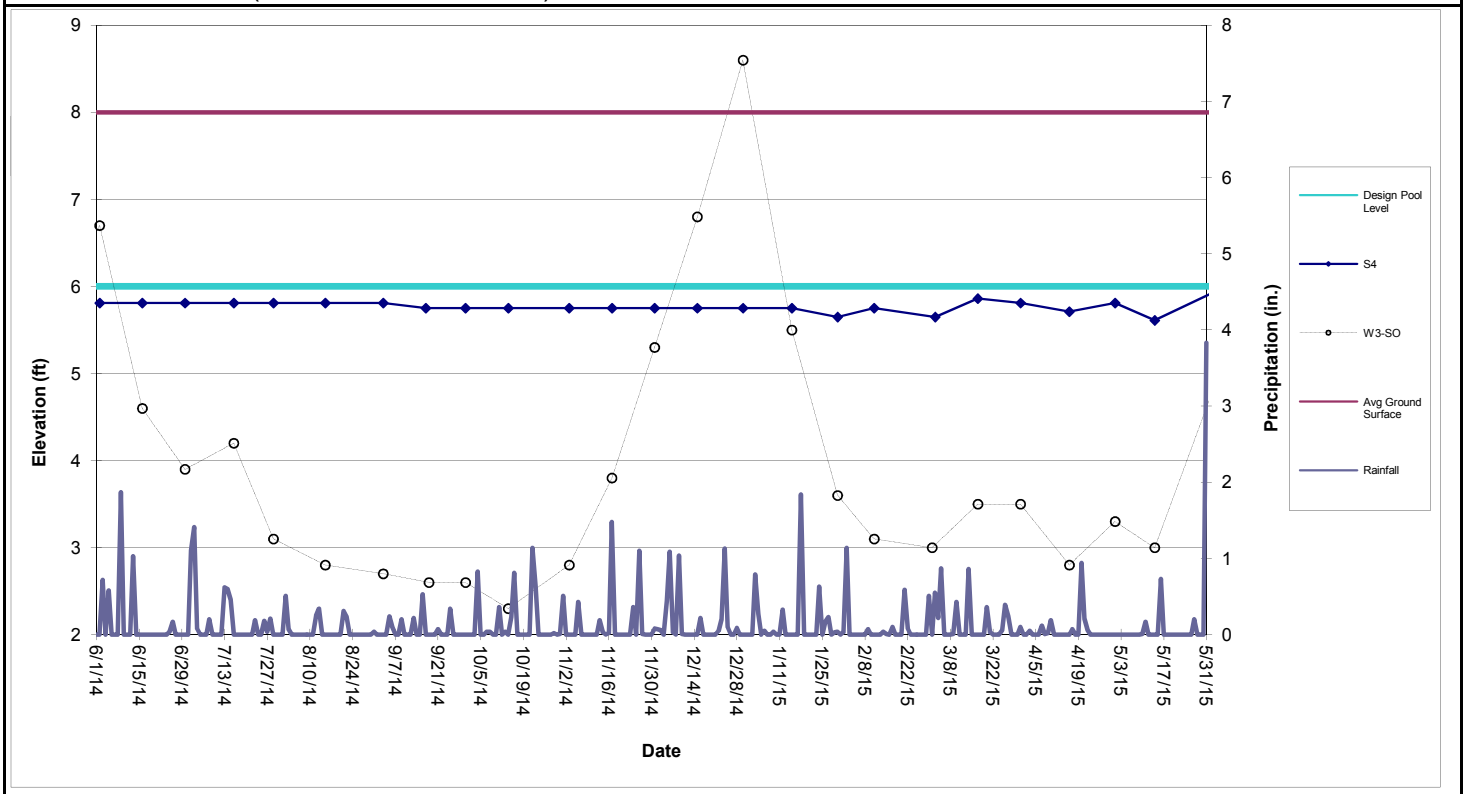
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

											North											South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	140-MW-07	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-8	FS-9	FS-10	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																											
5/1/2014										4.8																	
5/5/2014		5.5	6.7	7.0	8.0	7.5		8.6	7.1		7.2		7.3	7.3								7.7	8.1	7.9	7.2		
5/15/2014		5.7	6.6	7.3	7.2		5.4	8.0	6.5	3.5	6.3	7.4	8.0	6.9								7.6	7.8	7.6	8.0		
6/2/2014		5.6	6.5	7.1	6.8		6.7	8.4	6.3		6.0	7.4	7.4	6.7								7.4	8.0	8.0	8.6		
6/16/2014		5.7	6.5	7.1	7.3		4.6	9.1	6.4		6.0	7.4	7.2	6.7								7.4	8.4	8.4	9.4		
6/30/2014		5.5	6.4	6.9	6.7		3.9	8.6	5.9		5.6	7.1	7.1	6.6								6.1	7.9	7.6			
7/16/2014		5.8	6.4	6.8	6.8		4.2		5.9		5.5	7.1	7.1	6.3								4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5		3.1		5.6		5.3	7.0	6.8	6.1								3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2		2.8		5.5		5.1	6.8	6.7	6.1								4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9		2.7	5.6	5.2		4.8	6.7	6.3	5.6								3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7		2.6	5.0	5.1		4.8	6.5	6.1	5.6								2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8		2.6	3.6	5.0		4.7	6.5	6.0	5.6								4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8		2.3	3.0	5.0		4.6	6.4	5.9		5.7	5.2	5.6					3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1		4.7	6.7	6.2		5.6	5.3	5.7					4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0		4.6	6.5	6.4		5.6	5.3	5.7					5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2		4.9	6.9	6.9		6.0	5.9	6.2					6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5		5.2	7.3	6.9		6.4	6.2	6.7					7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4		5.0	7.2	6.7		6.0	5.8	6.3					6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1		4.8	7.1	7.0		6.2	6.1	6.3					5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1		4.8	6.7	6.5		6.1	6.0	6.3						3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9			4.7	6.8	6.5		6.1	6.1	6.2					2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1			4.1	6.6	5.9		5.8	5.8	5.8					2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1			5.6	6.6			6.0	5.9	6.5					3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7		5.7	6.8			5.7	5.6	5.3					3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4		5.5	6.8	6.2		5.1	5.2	5.9					2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7		5.6	6.8	6.2		5.3	5.2	5.7		1.8		6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4		5.4	6.2	5.8		4.9	4.9	5.2	4.5	2.8	3.0	5.3				2.8	3.5	2.8

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

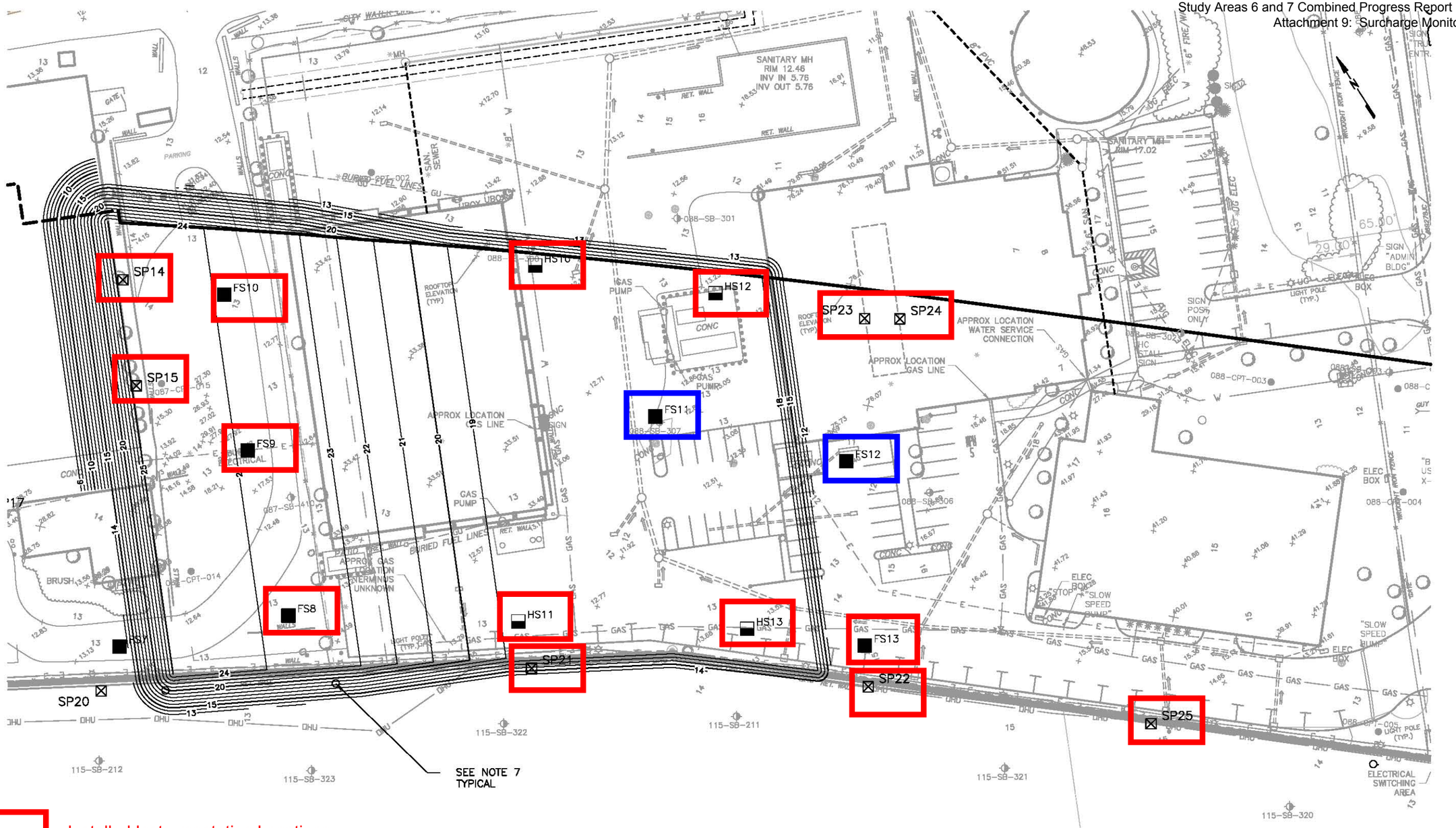
The following wells have been abandoned:
South FS-1, FS-3, FS-4, FS-5.

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4, South FS-5

Attachment 8: Groundwater Quality Data

(not available as of this report date - provided on a quarterly basis)

Attachment 9: Surcharge Monitoring Update



Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685406.37	603094.37
FS9	685500.70	603127.22
FS10	685858.02	603165.50
FS11	685387.04	603338.90
HS10	685499.90	603327.97
HS11	685328.97	603205.81
HS12	685428.53	603407.96
HS13	685253.14	603316.22
SP21	685302.66	603197.35

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

I-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL - SET UP
HS-1-1	SETTLEMENT MONITORING POINT HALF - SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Prepared/Date: RJR 07/19/2013
Checked/Date: AE 07/19/2013

0 15 30 60
SCALE IN FEET

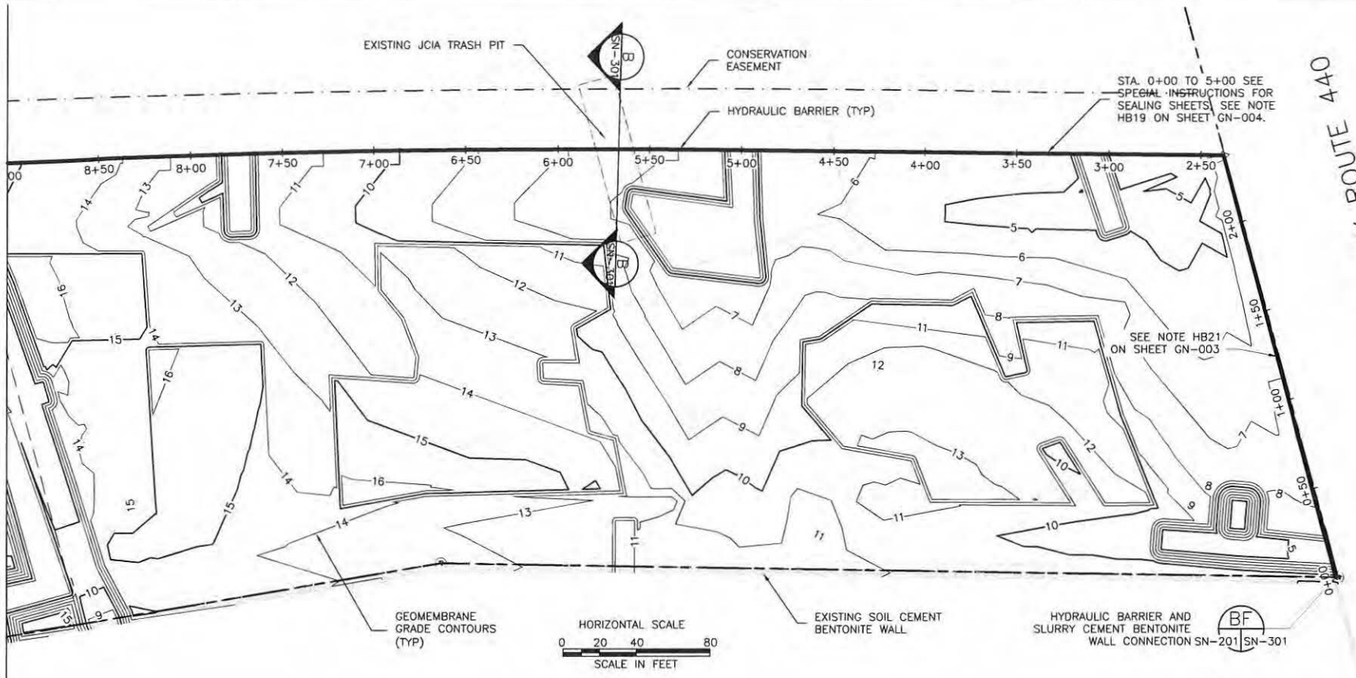
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 3N
Project 3480-09-0068
Figure D1

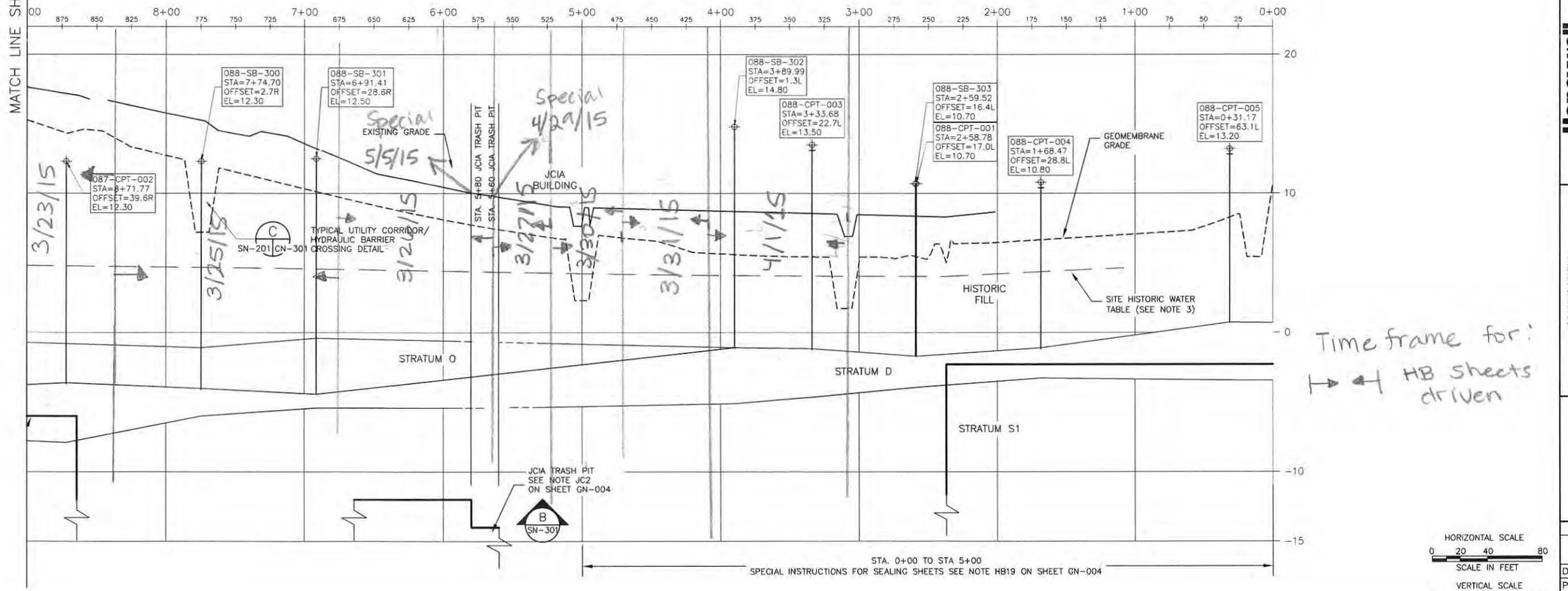
Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700



NO.	DATE	DSGN	DR	CHK	APVD	BY
1	10/10/13	TDD	RJR	TDD	SGS	RJR
0	06/07/13	TDD	RJR	TDD	SGS	TDD

HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

Honeywell
101 COLUMBIA RD. BOX 2100, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

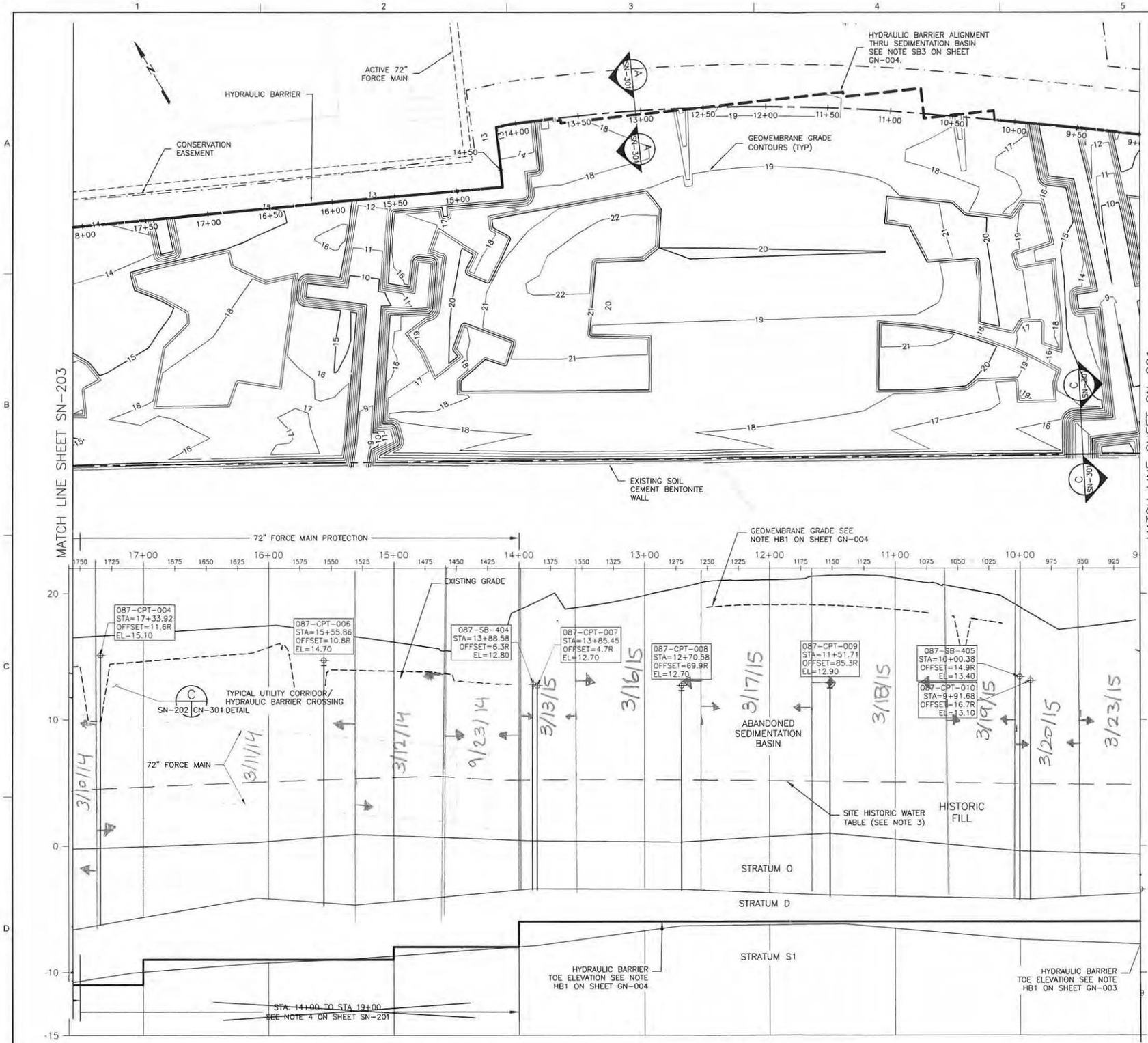
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
1	09/13/13	TDD	RJR	TDD	BCO
0	06/07/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM			
		ISSUED FOR CONSTRUCTION			
		REVISION		BY	APVD

RJR SGS
TDD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTABLE AND PATENTABLE IDEAS, AND/OR COMMERCIAL INFORMATION AND USE IS CONDITIONED UPON THE AGREEMENT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, OR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2100, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

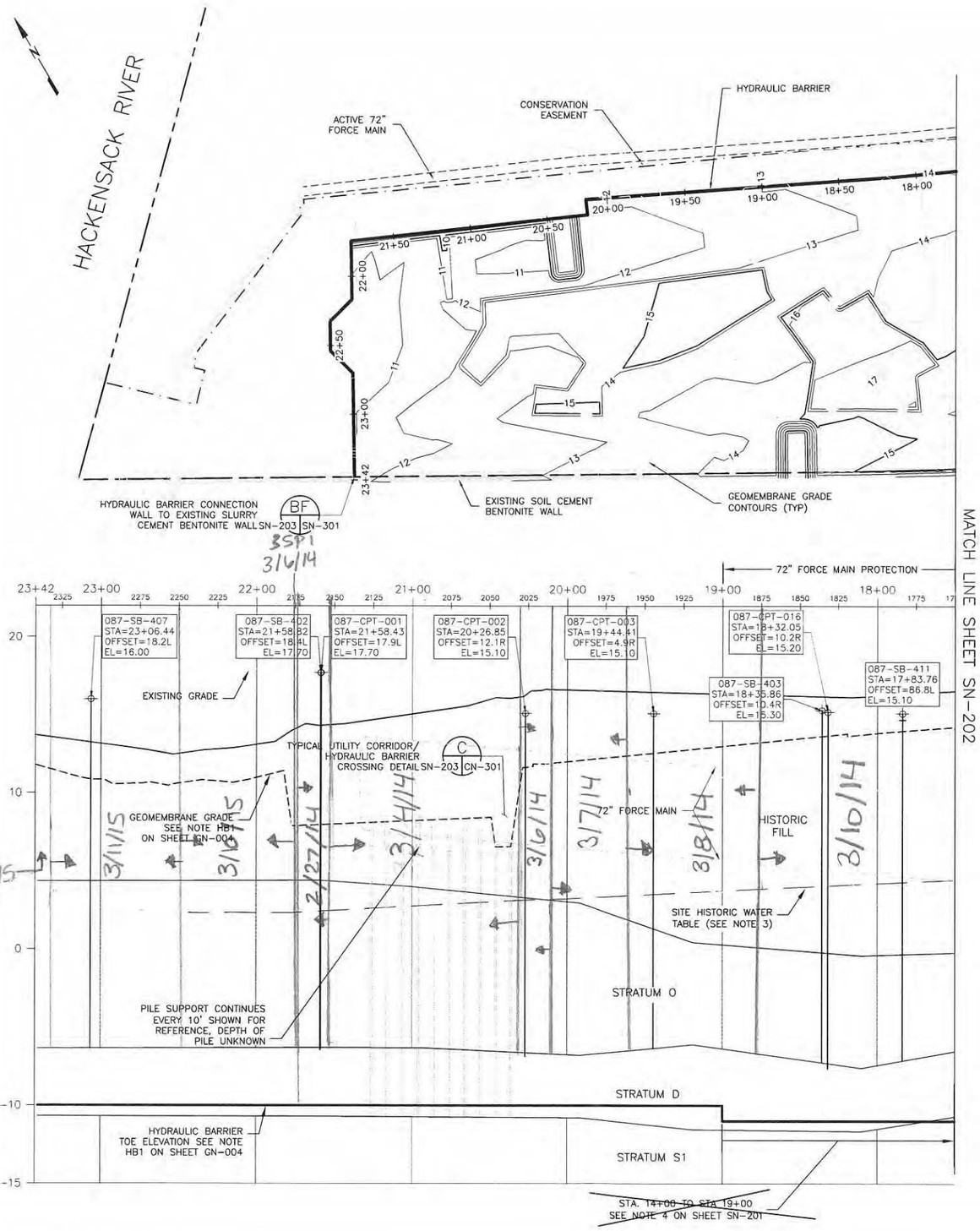
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N-100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
1	09/13/13	TDD	RJR	RJR	TDD
0	06/07/13	ISSUED FOR CONSTRUCTION			

1 HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM — RJR SGS
BY APVD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2629
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE
PROJ 3480-12-0317
DWG SN-203
SHEET 56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 1, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection			X	
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/01/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 01, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The silt fence at the eastern end if SA-6 South adjacent to Route 440 requires maintenance.
2	IA2Q4A1AL8	Erosion protection measures are absent along the northern edge if surcharge area 3-S.
3	IA2Q4A1AL8	Discarded silt fence is piled on the northwest corner if SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 05/01/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence as required.	5-7-15 (240)
2	Install fabric-wrapped Jersey barriers or concrete bin blocks along the toe of the surcharge area as required.	5-6-15 RJD
3	Remove the pile if discarded silt fence.	5-5-15 RJD

Construction Manager: _____ Date: 05/07/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 8, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/08/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 08, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric in the stormwater catch basins located by the southwestern corner of of the trash pit and by the southern JCIA Rt. 440 gate requires changing due to sediment build-up and/or perforation.
2	IA2Q4A1AL8	Sweepings on the eastern Study Area 7 roadway have not been picked up.
3	IA2Q4A1AL8	Filter fabric in the stormwater catch basins located to the north and south of the SA-7 scalehouse have sediment build-up and/or perforation.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature Date 05/08/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace filter fabric in the two catch basins as required	5/11/15 RAD
2	Remove the two piles of sediment/debris sweepings from the eastern SA-7 roadway.	5/12/15 RAD
3	Replace filter fabric in the two catch basins as required	5/13/15 RAD

Construction Manager: _____ Date: 05/14/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 15, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/15/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 15, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence had degraded along the bottom of the perimeter fence to the east of the 60 Kellogg building
2	IA2Q4A1AL8	Windscreen has blown loose from the perimeter fence at the Kellogg Street jughandle.
3	IA2Q4A1AL8	A pile of material left over from the conduit re-routing in the northeastern corner of Study Area 7 has not been removed from the SA-7 paved roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Signature Date: 05/15/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Replace the degraded silt fence on the perimeter fence east of 60 Kellogg.	5-19-15 RAD
2	Re-attach windscreen along the Kellogg Street jughandle as required	5-18-15 RAD
3	Remove the remaining pile of material in the northeast corner of SA-7	5-18-15 RAD

Construction Manager: _____ Date: 05/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 22, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/22/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 22, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing has fallen down at a location on the southern perimeter of Surcharge Area 2-S.
2	IA2Q4A1AL8	Containment measure along the northern perimeter of the Exclusion Zone on Surcharge Area 2-S are inadequate.
3	IA2Q4A1AL8	The perimeter fencing between the SA-6 North work area and the MUA property has several gaps.
4	IA2Q4A1AL8	A pile of debris (old silt fence, etc.) is present on the far northeastern corner of the JCIA property
5	IA2Q4A1AL8	Sediment has overtopped the silt fence on the northern side of the Novartis stockpile area Plastic-wrapped hay bales have degraded on the southern side and are no longer effective for erosion control.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature **Date:** 05/27/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the orange Exclusion Zone fencing as requried.	5/27/15 RAD
2	Install sediment control measures as per contract specifications.	5/27/15 RAD
3	Reposition the fence-topped Jersey barriers or install temporary fence panels as needed to close the gaps in the fenceline.	5/28/15 RAD
4	Remove the debris pile.	5/28/15 RAD
5	Maintain, install or repair erosion control measures as required.	5/29/15 RAD

Construction Manager: **Date:** 05/29/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 29, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/29/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 29, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fencing along the southern perimeter of surcharge area 3-S requires maintenance.
2	IA2Q4A1AL8	Windscreen on the perimeter fenceline at the Kellogg Street jughandle has torn loose and requires maintenance.
3	IA2Q4A1AL8	Exclusion Zone fencing on the western perimeter of the sedimentation basin EZ requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 05/29/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the silt fencing as required.	6/1/15 RAD
2	Repair and re-attach windscreen material as required.	6/2/15 RAD
3	Repair the orange Exclusion Zone fencing as requried.	6/3/15 RAD

Construction Manager: _____ **Date:** 06/03/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (April 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

May 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the April 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
4	01	15	4	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow gal/day~~		
Total Flow-gal/day	77,680	84,026 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.50	0.55	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1378	0.1378	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

5/15/15

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
4	01	15	4	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,330,414 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 33,876,219

DATE	BOD (mg/l)	TSS (mg/l)
4/9/2015	<20	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 5/15/15

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)												MONTH: April, 2015
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
4/1/2015	Angel Trujillo	31545805	31620433	74,628	0.074628	7.14	0.778									0.48
4/2/2015	Angel Trujillo	31620433	31691737	71,304	0.071304	7.64	0.778									0.46
4/3/2015	Angel Trujillo	31691737	31770247	78,510	0.07851	7.60	0.778									0.51
4/4/2015	Angel Trujillo	31770247	31853193	82,946	0.082946	7.52	0.778									0.54
4/5/2015	Angel Trujillo	31853193	31929866	76,673	0.076673	7.48	0.778									0.50
4/6/2015	Angel Trujillo	31929866	32003294	73,428	0.073428	7.53	0.778									0.48
4/7/2015	Angel Trujillo	32003294	32080391	77,097	0.077097	7.57	0.778									0.50
4/8/2015	Angel Trujillo	32080391	32156632	76,241	0.076241	7.41	0.778									0.49
4/9/2015	Angel Trujillo	32156632	32234984	78,352	0.078352	6.93	0.778	<5.0	<20		<0.010	<0.030	<0.010	<0.0002	<0.020	0.51
4/10/2015	Angel Trujillo	32234984	32313569	78,585	0.078585	7.57	0.778									0.51
4/11/2015	Angel Trujillo	32313569	32397270	83,701	0.083701	7.54	0.778									0.54
4/12/2015	Angel Trujillo	32397270	32474170	76,900	0.0769	7.58	0.778									0.50
4/13/2015	Angel Trujillo	32474170	32549207	75,037	0.075037	7.61	0.778									0.49
4/14/2015	Angel Trujillo	32549207	32627564	78,357	0.078357	7.53	0.778									0.51
4/15/2015	Angel Trujillo	32627564	32705759	78,195	0.078195	7.54	0.778									0.51
4/16/2015	Angel Trujillo	32705759	32785297	79,538	0.079538	7.62	0.778									0.52
4/17/2015	Angel Trujillo	32785297	32863528	78,231	0.078231	7.60	0.778									0.51
4/18/2015	Angel Trujillo	32863528	32940401	76,873	0.076873	7.64	0.778									0.50
4/19/2015	Angel Trujillo	32940401	33021305	80,904	0.080904	7.60	0.778									0.52
4/20/2015	Angel Trujillo	33021305	33097022	75,717	0.075717	7.54	0.778									0.49
4/21/2015	Angel Trujillo	33097022	33173755	76,733	0.076733	7.56	0.778									0.50
4/22/2015	Angel Trujillo	33173755	33253928	80,173	0.080173	7.55	0.778									0.52
4/23/2015	Angel Trujillo	33253928	33332479	78,551	0.078551	7.30	0.778									0.51
4/24/2015	Angel Trujillo	33332479	33410332	77,853	0.077853	7.56	0.778									0.51
4/25/2015	Angel Trujillo	33410332	33490031	79,699	0.079699	7.58	0.778									0.52
4/26/2015	Angel Trujillo	33490031	33567787	77,756	0.077756	7.52	0.778									0.50
4/27/2015	Angel Trujillo	33567787	33646091	78,304	0.0783	7.59	0.778									0.51
4/28/2015	Angel Trujillo	33646091	33715172	69,081	0.069081	7.59	0.778									0.45
4/29/2015	Angel Trujillo	33715172	33799198	84,026	0.084026	7.64	0.778									0.55
4/30/2015	Angel Trujillo	33799198	33876219	77,021	0.077021	7.54	0.778									0.50
TOTAL				2,330,414	2.330414			<5.0	<20		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	84,026											High:	0.55
			Average:	77,680											Average:	0.50

WW

JB 92002

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42103.47186
2235 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County	Phase: CS	COC# 087-WW-040915
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ	Sampling Program 087. JCIA	Lab Proj # (SDG):
Client Contact: (name, co., address)	Sampler: Frank Schroyer			Lab ID ACTD
Helen Fahy P (973) 455-2989 F: helen.fahy@honeywell.com	PO #	Preservative 3	3 3 1 2 2 0 0 2	Site ID HudsonCo
Honeywell International 101 Columbia Road Morristown, NJ 07962	Analysis Turnaround Time (TAT): 3 Consultant CH2M			Lab Job # HWINJM32815
Preliminary Data To				Authorized User: Honeywell
Sample Receipt Acknowledgement To: Frank Schroyer				Text & Excel File Drive / Excel & Text File Order
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

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	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units																
1	087-WW			087-WWE-040915-A	4/9/2015	14:15	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					C38
2	087-WW			087-WWE-040915-B	4/9/2015	14:30	WW	WATER	REG	5	grab	N					X	X				2					V683
3	087-WW			087-WWI-040915	4/9/2015	14:40	WW	WATER	REG	3	grab	N									X	3					A10
4																											G13
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 6.93 SH @ 7.7°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:	
Frank Schroyer	Date/Time: 4/9/15 1530		Date/Time: 4/9/15 1530		Cooler Temp:			
Relinquished by:	Company:	Received by:	Company: Accutest		Condition:		Custody Seals Intact:	
	Date/Time: 4/9/15 1640		Date/Time: 4/9/15 1640		Cooler Temp:	2.0°C-B		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2), 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT JF 3B

LABEL VERIFICATION

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE JK

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-A		
Lab Sample ID:	JB92002-1	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	778	10	ug/l	1	04/10/15	04/11/15	VC	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	04/10/15	04/13/15	VC	EPA 200.7 [3]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	04/10/15	04/13/15	VC	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	04/10/15	04/10/15	MA	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	04/10/15	04/11/15	VC	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	04/10/15	04/11/15	VC	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA36404
(2) Instrument QC Batch: MA36406
(3) Instrument QC Batch: MA36416
(4) Prep QC Batch: MP85722
(5) Prep QC Batch: MP85742

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-A		
Lab Sample ID:	JB92002-1	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	04/13/15	KP	SM2540 D-11
pH [a]	7.05		su	1	04/09/15 16:57	JK	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-A		
Lab Sample ID:	JB92002-1A	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 20	20	mg/l	1	04/09/15 20:43	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-B		
Lab Sample ID:	JB92002-2	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N244722.D	1	04/14/15	DC	n/a	n/a	VN10376
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	1.9	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	16.3	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.30	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	66.2	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.57	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-B		
Lab Sample ID:	JB92002-2	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	44.3	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	1.2	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	104%		72-125%
2037-26-5	Toluene-D8 (SUR)	96%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	101%		74-115%
1868-53-7	Dibromofluoromethane (S)	104%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@851976 13:21 08-May-2015

Report of Analysis

Client Sample ID:	087-WWE-040915-B		
Lab Sample ID:	JB92002-2	**Date Sampled:**	04/09/15
Matrix:	AQ - Water	**Date Received:**	04/09/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	04/13/15 19:30	LS	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending May 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending May 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

7/14/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 14, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-06

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from June 1 – June 30, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: June 2015 SA-6/7 Combined Monthly Progress Report No. 2015-06

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Dr. Bruce Bell - Carpenter Environmental Associates, Inc. (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)

Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-06

Project SA-6 & 7 Remediation

June 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
06/10/15	Summary of 6-Month Performance Assessment Soil Sampling of Hexavalent Chromium Impacted Soils Study Area 6 South, Site 163 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/11/15	Sediment Remedy Long Term Monitoring Program Year 1 Implementation Report Study Area 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/12/15	Riverkeeper et al v. Honeywell International Inc. et al Combined Monthly Progress/Highlights Report No. 2015-05 Study Areas 6 and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/18/15	Integrated Annual Groundwater Performance Report for 2014 Study Areas 5, 6, and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/18/15	Design Change Bulletin SA-6 South Open Space Design Utility Corridor Modification Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Summary of Proposed Additional In-Situ Injection of Calcium Polysulfide for Treatment of Chromium Impacted Soils Study Area 6 South, Site 163 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Summary of Proposed In-Situ Injection of Calcium Polysulfide for Treatment of Chromium Impacted Soils – Area 10 North Section Study Area 6 North, Site 087 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Revised Master Schedule Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
06/22/15	Upload to LB SharePoint Site: Ramboll Environ Correspondence: Request for Pre-Application Meeting Waterfront Development Permit SA-7 Beneficial Environmental Project Pedestrian Bridge Element Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/22/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
06/23/15	Special Master Conference Call	N/A

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	7/7/15	7/14/15	7/21/15	7/28/15
Construction Management (AMEC)	9	8	8	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	31	33	33	37
Arecon/US Ecology Subcontractors	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	2	1	0	0
TOTAL STAFF	48	48	47	52

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.

- Collected June PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Verizon continued relocating communication lines to the North Bound side of Route 440.
- On, June 1 and 2, 2015, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 21 in Injection Well 088-IW-02.
- Cornerstone conducted a round of quarterly ground water level measurements.
- Continued to stockpile Celgene material for future screening operations.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on June 11, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	7/7/2015	714/2015	7/21/2015	7/28/2015
Avg. Gallons Treated & Discharged (per day)	77,715	77,015	77,664	75,857
Average Flow (gpm) for Operating Period	54	54	54	53
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	7,092	7,003	8,498	7,336

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed excavation activities associated with Area EA-7.
- Performed excavation of EA-8 to design extents. Completion of the EA-8 excavation is pending post excavation sampling results.
- Completed pre-trenching for installation of temporary shoring related to the excavations along Route 440.
- Completed field verification of the JCMUA 48-inch storm sewer and BMUA 36-inch sewer force main.
- Installed traffic controls for shoulder closing associated with excavation along Route 440 south frontage with SA-6 North in accordance with the NJDOT permit.
- Lindie Griffith mobilized drill rig and equipment for installation of drilled soldier piles associated with temporary shoring for EA-2 and EA-3 along Rt. 440 frontage.

- Continued to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.
- Completed placement of soils with hexavalent chromium concentrations between 20 and 240 ppm within the sedimentation basin south of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Continued placement of historic fill within the sedimentation basin north of the Vertical Hydraulic Barrier Wall on SA-6 North.
- Completed groundwater sampling of four of the L-wells at SA-6 South, Site 124 using geoprobe/temporary well points.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
No update for the reporting period							

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Areas EA-7 and EA-8 Volume Excavated - Total for Reporting Period: 2,843.58 CY / Total to Date: 2,843.58 CY
Backfill in Progress	Historic Fill - SA6 South western backfill area.

- Screened historic Fill was transferred from 1N surcharge area and placed as backfill in SA-6 South. A total of 110 loads, totaling approximately 2,200 cubic yards was placed as backfill in SA-6 South during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- No sheet pile operations occurred during the reporting period.

G. CAPPING OPERATIONS

- Continued general Cap Subgrade preparation in Area 1S and 2S.
- Continued Utility Corridor and roadway subgrade preparation.
- Continued cutting hydraulic barrier sheet of the SA-6 South cap area.
- Began breaking and removing asphalt on top of the SCB wall on the north side of the cap area.
- Began delivery and receiving inspections of geo-synthetic cap materials.
- Held kick-off meeting with Langan Environmental (independent liner QA) and initiated development of the QA Plan.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8 pending post excavation sampling results.
- Complete excavated waste load out for soils with hexavalent chromium concentrations greater than 240 ppm.
- Begin excavation of Area EA-4.
- Complete installation of drilled piles associated with the temporary shoring along Route 440.
- Complete installation of SA-6 South piezometers.
- Continue installation of the vertical hydraulic barrier wall east of the Trash Pit and along Route 440.
- Begin installation of dewatering wells associated with the SA-6 North Excavation Areas EA-2 and EA-3.
- Continue Cap Subgrade and utility corridor preparation activities on SA-6 South.
- Mobilize the geosynthetics crew and independent QA contractor and begin geo-synthetic cap placement activities on SA-6 South Area 1S.
- Mobilize screening equipment and begin screening Celgene material for use as cap cover soils.
- Verizon will complete relocation of communication lines to the North Bound side of Route 440.
- Begin Stratum D repair of the JCIA Trash Pit Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Conduct S-3 Mass Removal injection Event No. 22 in well 088-IW-01.
- Complete PVSC Monthly compliance sampling.
- Submit the revised plan for the SA-6 North Treatment Area 10 proximate to force main.
- Continue to work with owner on access for the planned PW-3 extraction well installation.
- Finalize and submit Surcharge Monitoring Report No. 13 which will include the baseline installation data for Areas 3N and 4N.

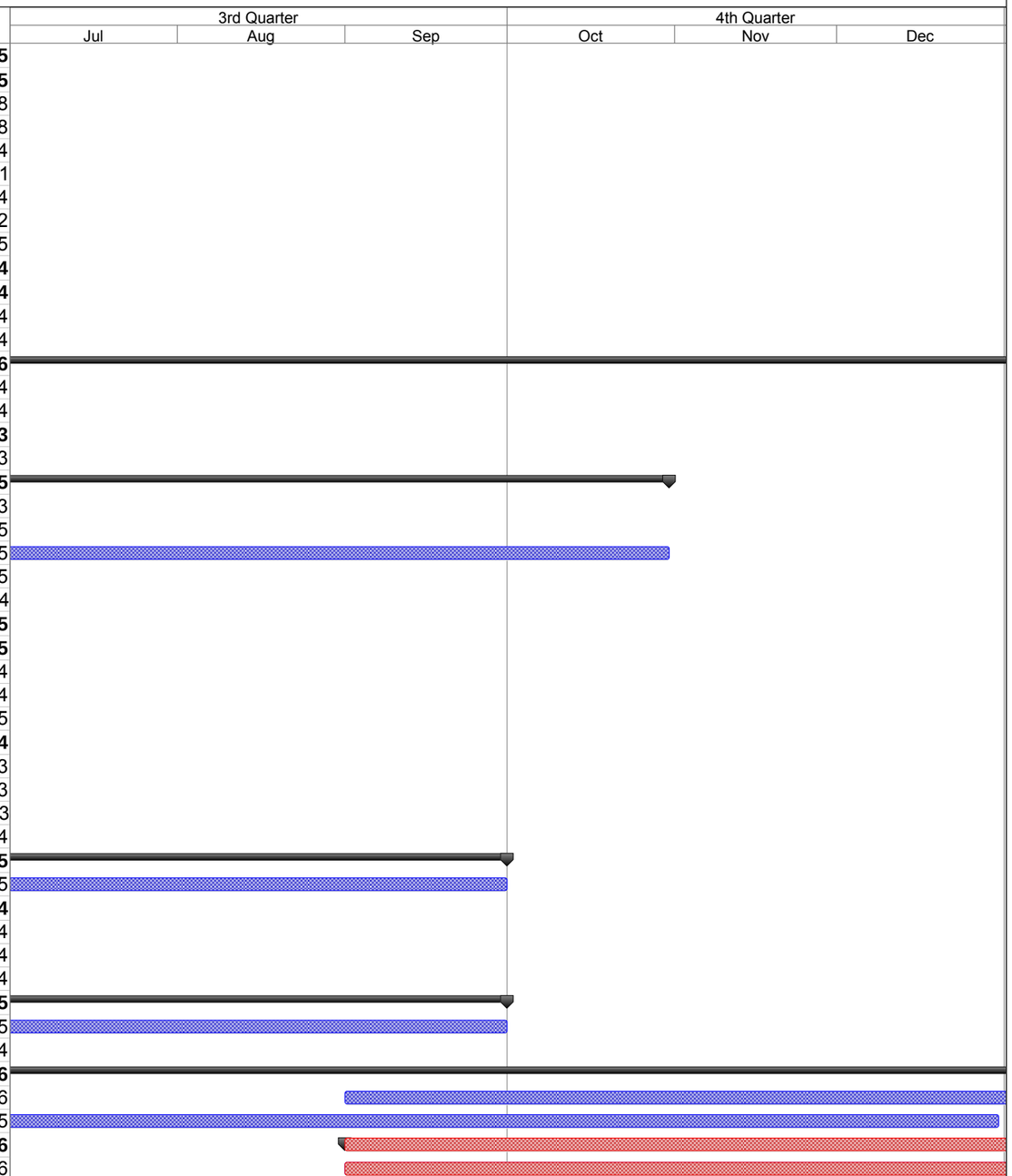
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data
9. Surcharge Monitoring Update
10. *Sheet Pile Update (not included in this reporting period)*
11. Weekly SWPPP Reports
12. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (May 2015)
13. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**1/4/08**	**3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**8/11/08**	**3/30/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	753 days	10/17/11	8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	151 days	9/1/14	3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**3/1/13**	**5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	6/17/13	12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	11/15/13	12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**6/17/13**	**10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	6/2/14	2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	3/2/15	10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	10/20/14	6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	3/3/14	11/28/14
63	**Barrier Wall Install**	**489 days**	**6/17/13**	**4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**12/2/13**	**4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	12/2/13	2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	2/17/14	6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	6/23/14	4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**6/17/13**	**5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	6/17/13	8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	8/16/13	8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	10/3/13	11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	11/11/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	**SA 6S Excavation**	**226 days**	**10/22/13**	**9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	10/22/13	1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	1/3/14	5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	5/9/14	9/2/14
65	**Backfill**	**493 days**	**11/11/13**	**9/30/15**
65a	SA 6N Backfill	218 days	12/1/14	9/30/15
65b	SA 6S Backfill	232 days	11/11/13	9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**12/1/14**	**2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	9/1/15	2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**164 days**	**9/1/15**	**4/15/16**
67a	Restoration	164 days	9/1/15	4/15/16



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/7/15

Task Milestone Summary Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
68	**Demobilization**	**21 days**	**4/18/16**	**5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**310 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**310 days**	**10/1/15**	**12/7/16**



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/7/15

Task | Milestone | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Attachment 2: Site Photographs



Site Photograph 1: Excavation to confirm 36-inch sewer main location on former JC properties.



Site Photograph 2: Excavation to confirm utilities locations along Rt. 440.



Site Photograph 3: Installation of Traffic Controls along Rt. 440.



Site Photograph 4: Loading end dump on plastic at former JC properties.



Site Photograph 5: Offloading remaining surcharge material at Kellogg St properties.



Site Photograph 6: Staging screened historic fill on former JC properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of July 1, 2015

June 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

Former Roosevelt Drive-In Site
(Remediation Complete)

Kellogg Street Properties

Hackensack River

Route 440

Kellogg Street

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/30/15	8:00	15:00	7:00	31,706.56	31,755.10	48,540	31,754,650	
05/01/15	10:00	14:30	4:30	31,755.10	31,779.92	24,820	31,779,470	
05/05/15	7:00	14:00	7:00	31,779.92	31,862.76	82,840	31,862,310	PVSC Compliance Sample Collected
05/08/15	7:30	14:30	7:00	31,862.76	31,923.11	60,350	31,922,660	
05/11/15	10:00	15:00	5:00	31,923.11	31,978.26	55,150	31,977,810	
05/14/15	10:00	15:00	5:00	31,978.26	32,016.71	38,450	32,016,260	
05/18/15	7:30	14:30	7:00	32,016.71	32,102.90	86,190	32,102,450	
05/19/15	7:30	14:00	6:30	32,102.90	32,136.78	33,880	32,136,330	
05/20/15	7:30	15:00	7:30	32,136.78	32,157.02	20,240	32,156,570	
05/21/15	7:00	13:30	6:30	32,157.02	32,194.76	37,740	32,194,310	
05/22/15	8:00	12:00	4:00	32,194.76	32,208.64	13,880	32,208,190	
05/24/15	10:00	14:00	4:00	32,208.64	32,256.26	47,620	32,255,810	
05/27/15	6:30	13:30	7:00	32,256.26	32,322.85	66,590	32,322,400	
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	
06/01/15	9:00	15:45	6:45	32,377.97	32,528.67	150,700	32,528,220	
06/02/15	7:00	14:00	7:00	32,528.67	32,620.67	92,000	32,620,220	
06/04/15	6:30	14:00	7:30	32,620.67	32,756.41	135,740	32,755,960	PVSC Compliance Sample Collected
06/05/15	6:30	13:30	7:00	32,756.41	32,833.26	76,850	32,832,810	
06/08/15	7:00	14:00	7:00	32,833.26	32,958.71	125,450	32,958,260	
06/10/15	10:00	16:00	6:00	32,958.71	33,019.45	60,740	33,019,000	
06/11/15	7:00	16:00	9:00	33,019.45	33,086.57	67,120	33,086,120	
06/12/15	6:30	12:00	5:30	33,086.57	33,146.46	59,890	33,146,010	
06/15/15	6:30	12:15	5:45	33,146.46	33,183.12	36,660	33,182,670	
06/16/15	7:00	14:15	7:15	33,183.12	33,226.73	43,610	33,226,280	
06/17/15	6:30	16:00	9:30	33,226.73	33,276.97	50,240	33,276,520	
06/18/15	6:30	14:30	8:00	33,276.97	33,338.90	61,930	33,338,450	
06/19/15	6:30	14:00	7:30	33,338.90	33,439.40	100,500	33,438,950	
06/21/15	9:30	13:30	4:00	33,439.40	33,485.10	45,700	33,484,650	
06/22/15	6:30	14:00	7:30	33,485.10	33,567.88	82,780	33,567,430	
06/23/15	11:30	14:00	2:30	33,567.88	33,609.80	41,920	33,609,350	
06/24/15	9:00	13:30	4:30	33,609.80	33,646.89	37,090	33,646,440	
06/26/15	8:00	14:00	6:00	33,646.89	33,720.85	73,960	33,720,400	
06/29/15	7:00	14:30	7:30	33,720.85	33,738.82	17,970	33,738,370	

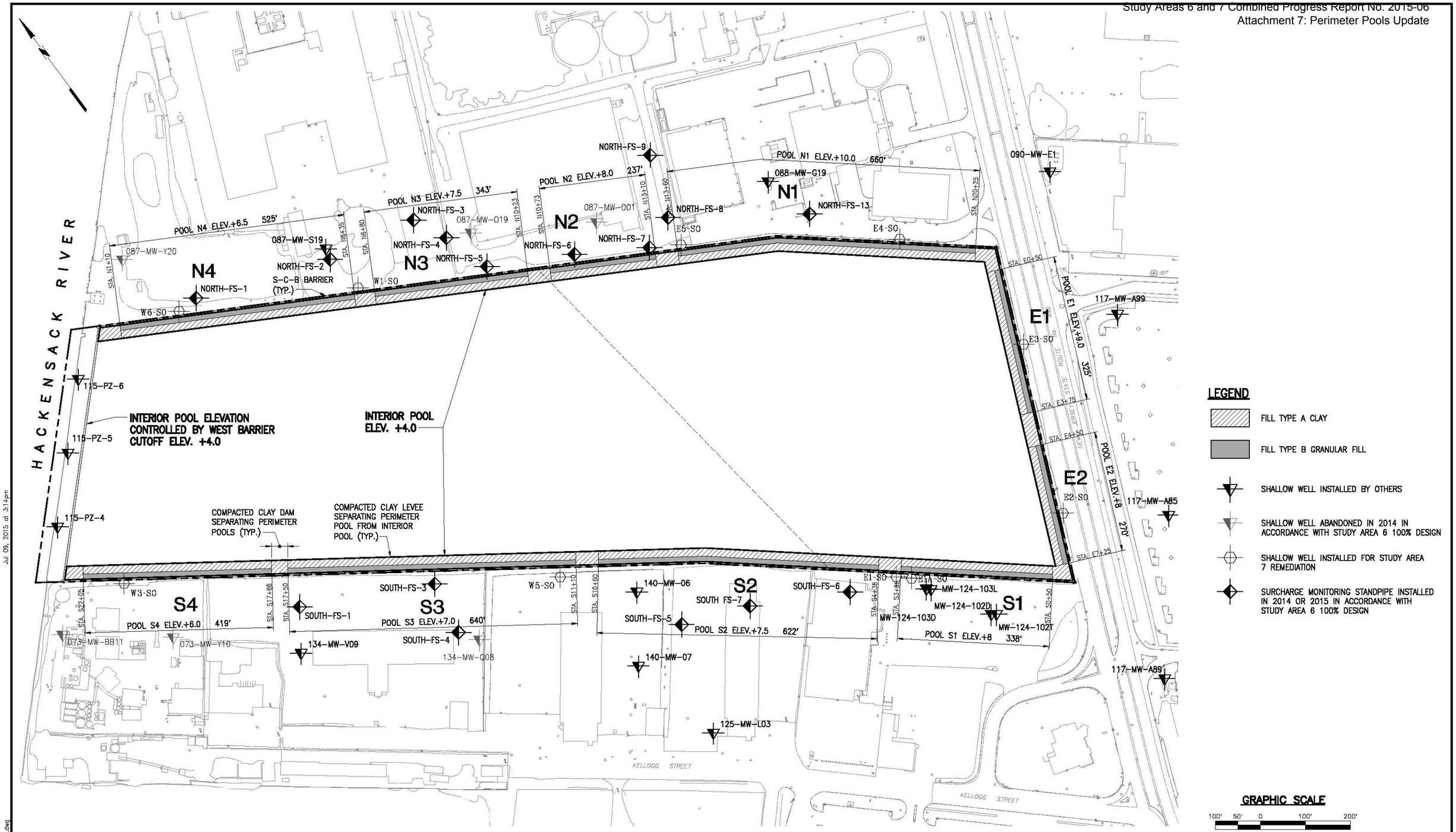
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	**			
				087-EA8-20-a2	6/24/2015	7:40	**			
				087-EA8-20-a3	6/24/2015	7:45	**			
				087-EA8-20-a4	6/24/2015	7:50	**			
				087-EA8-20-b1	6/24/2015	7:55	**			
				087-EA8-20-b2	6/24/2015	8:00	**			
				087-EA8-20-b3	6/24/2015	8:05	**			
				087-EA8-20-b4	6/24/2015	8:10	**			
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	**			
				087-EA8-20-c2	6/24/2015	11:45	**			
				087-EA8-20-c3	6/24/2015	11:50	**			
				087-EA8-20-c4	6/24/2015	11:55	**			

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

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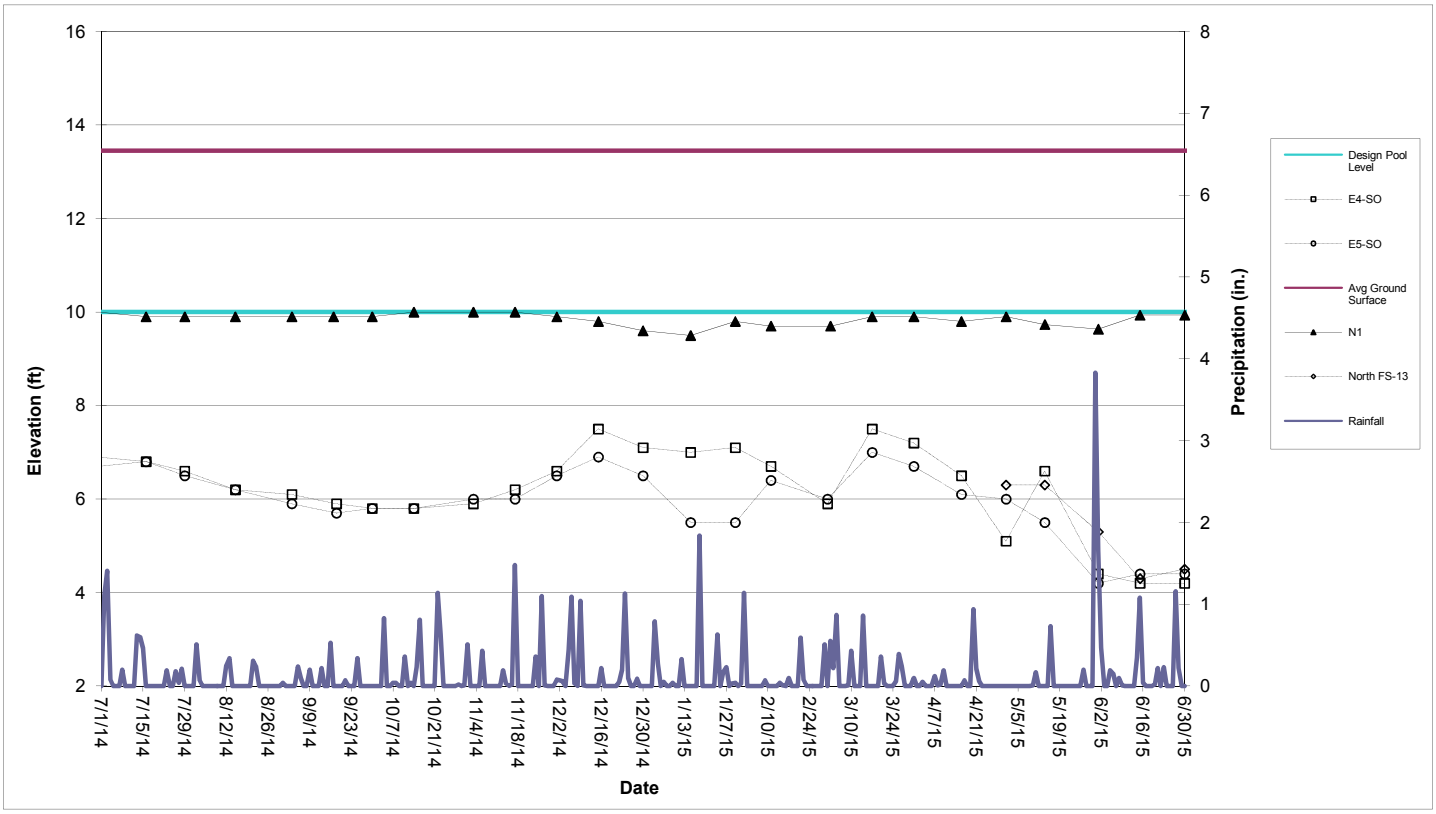
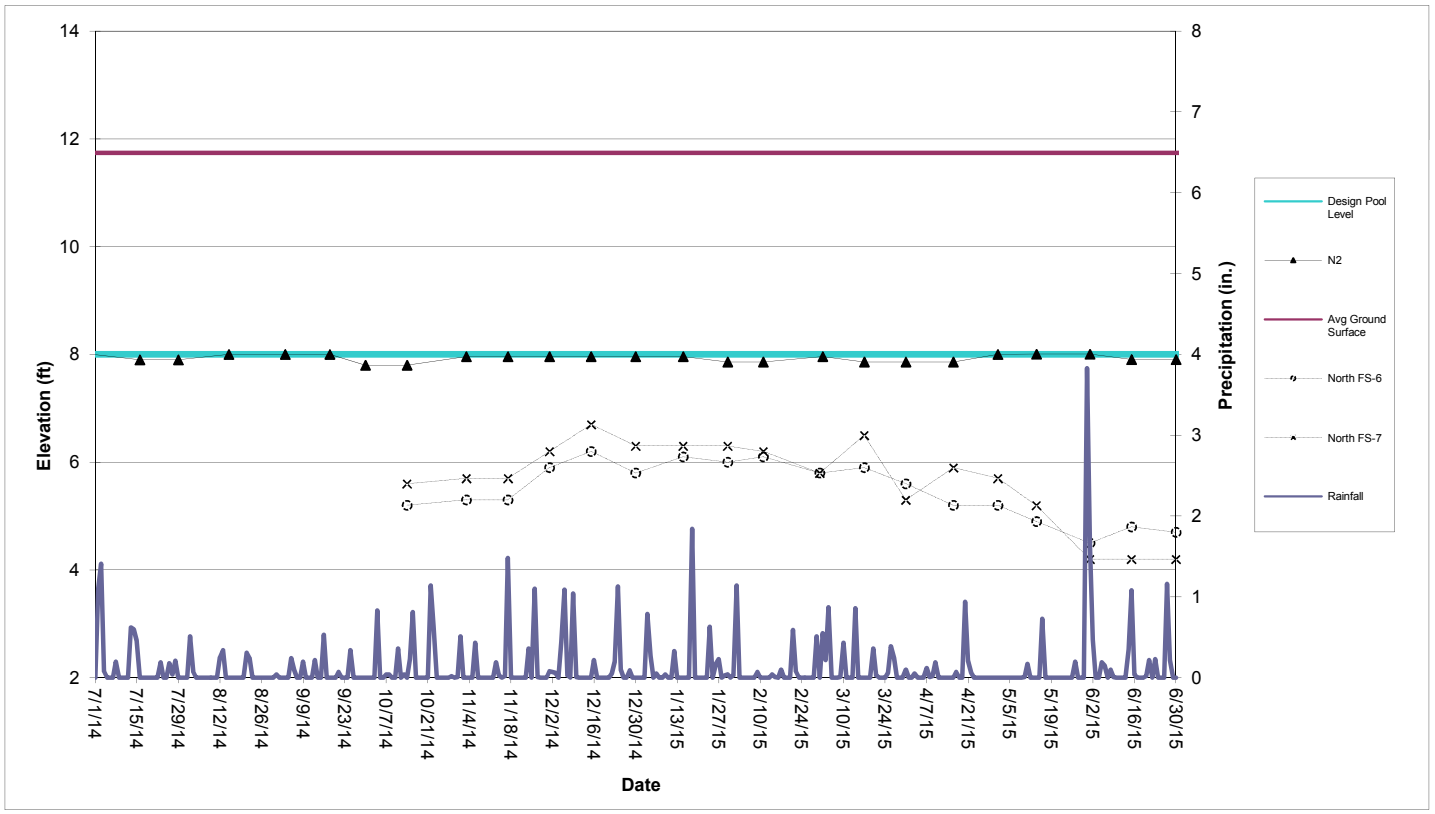
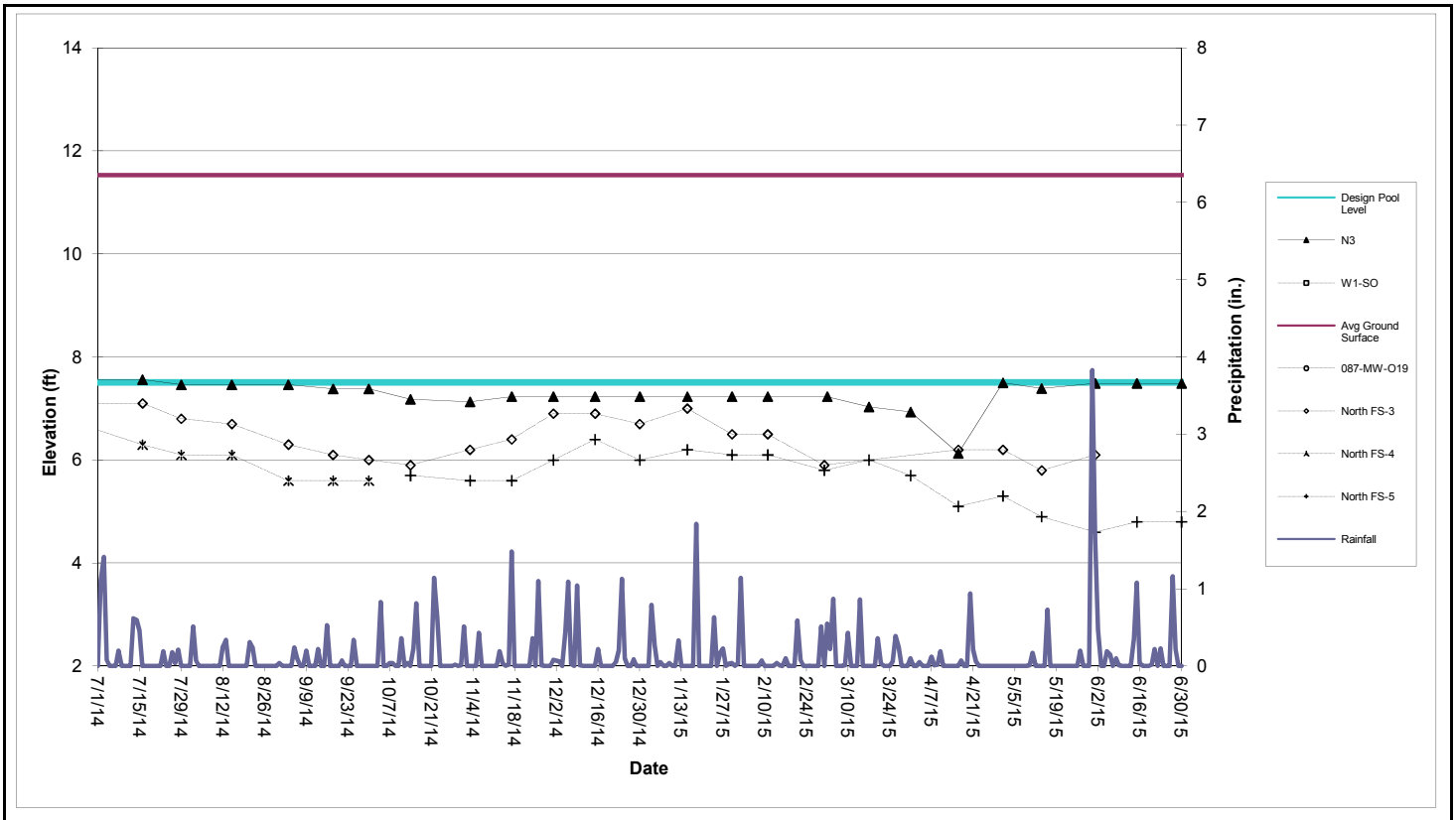
Jul 09, 2015 at 3:14pm
bboscaino



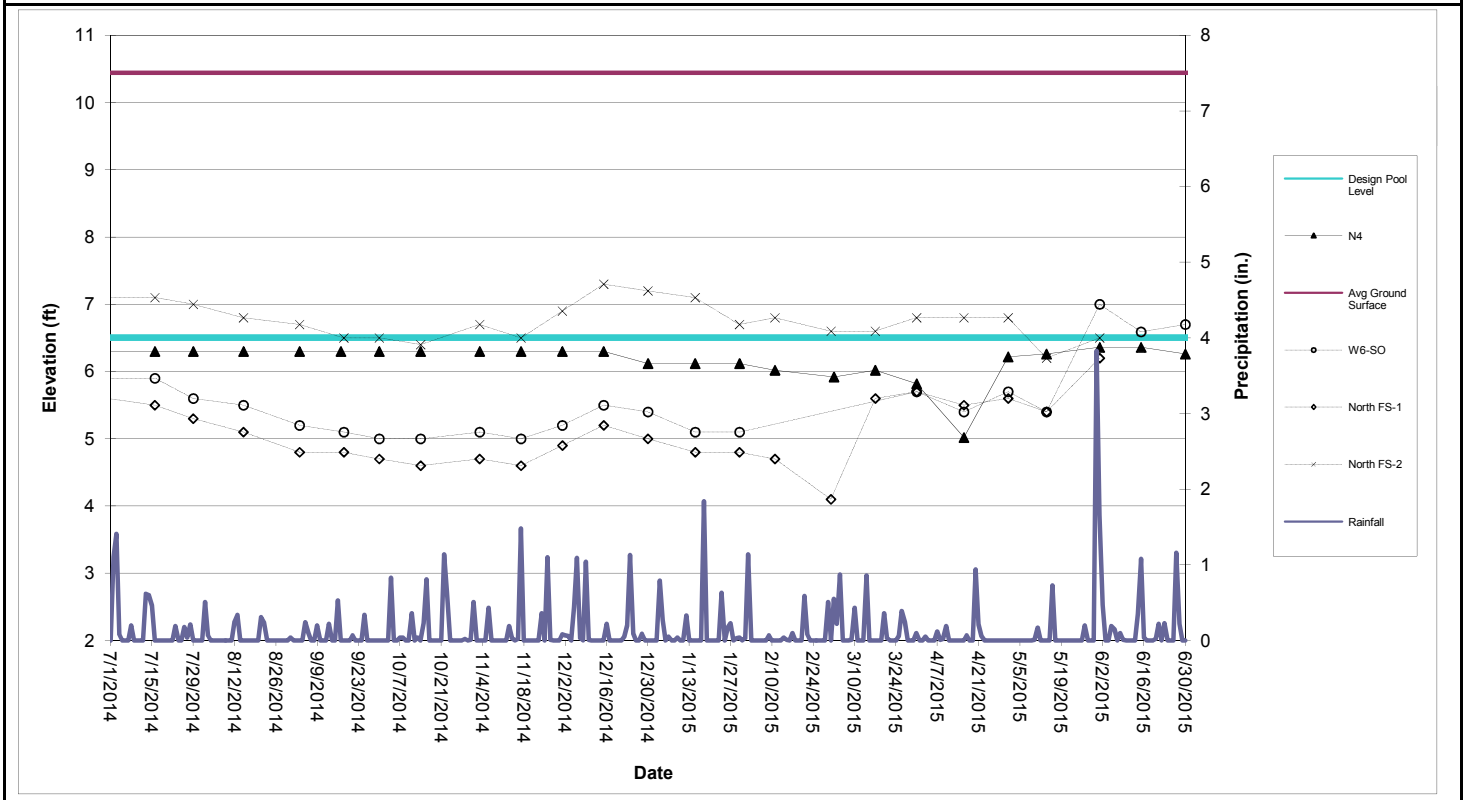
Perimeter Pool N1 (Sta. N13+60 to N20+25)



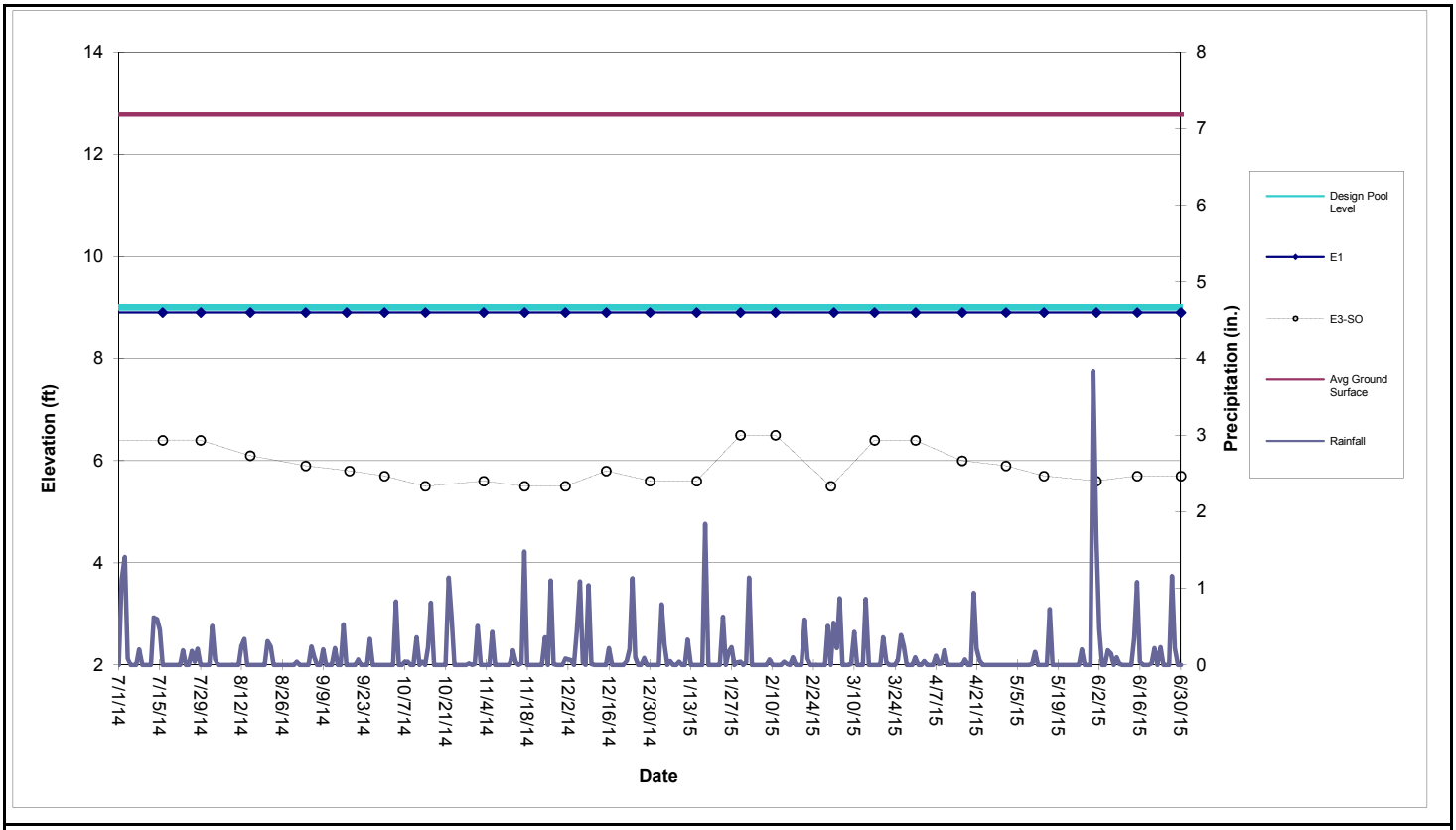
Perimeter Pool N2 (Sta. N10+73 to N13+10)



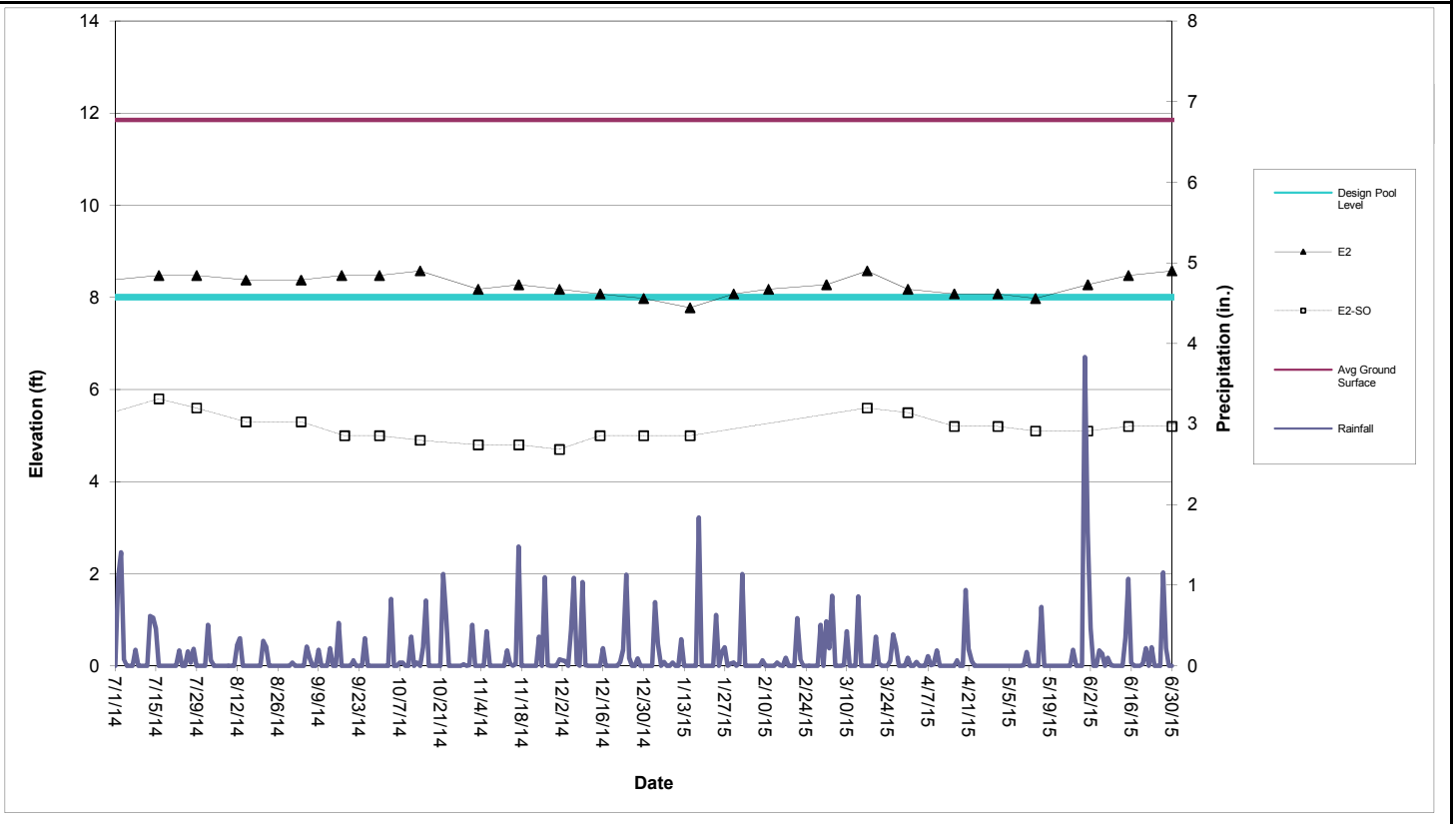
Perimeter Pool N3 (Sta. N6+80 to N10+23)



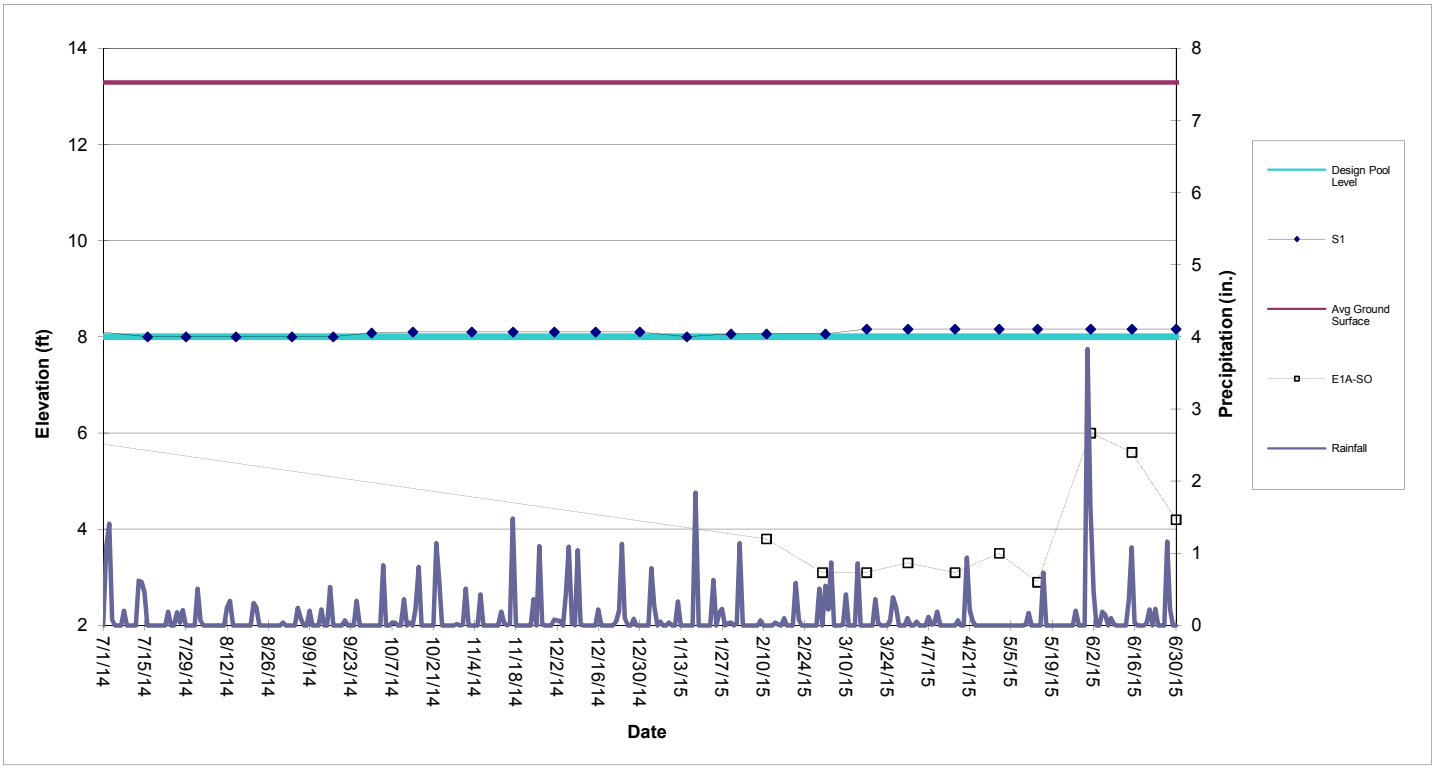
Perimeter Pool N4 (Sta. N6+80 to N10+23)



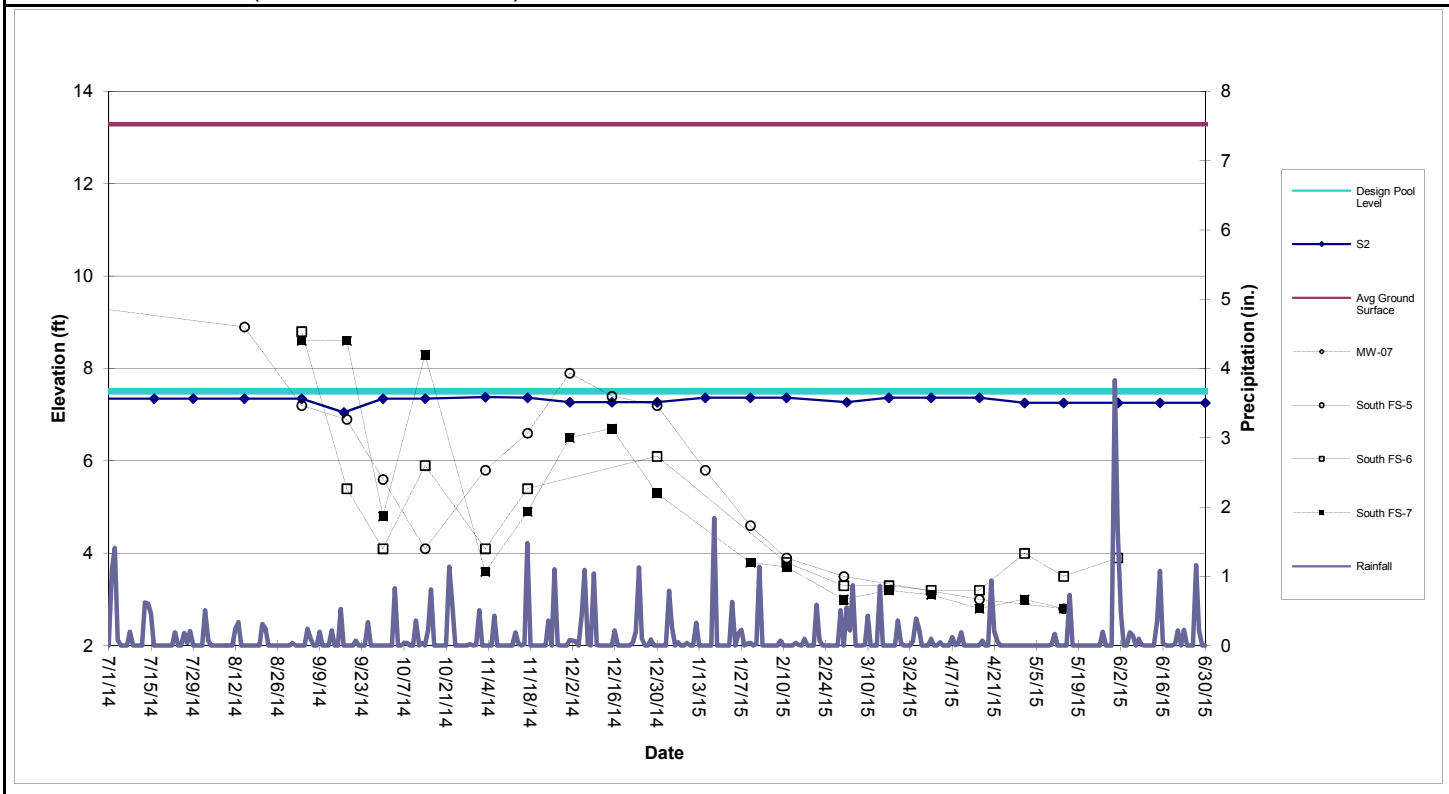
Perimeter Pool E1 (Sta. E0+50 to E3+75)



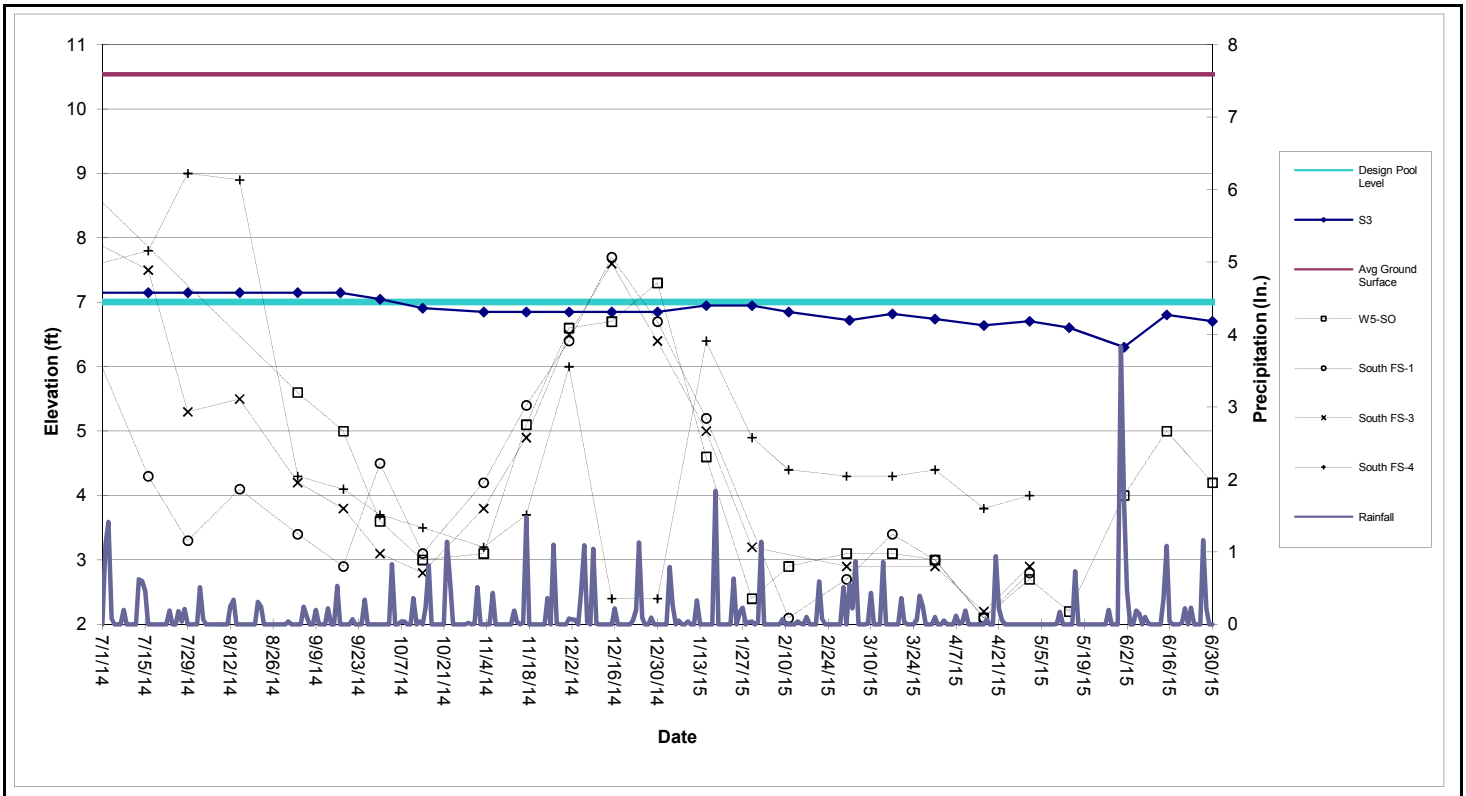
Perimeter Pool E2 (Sta. E4+50 to E7+25)



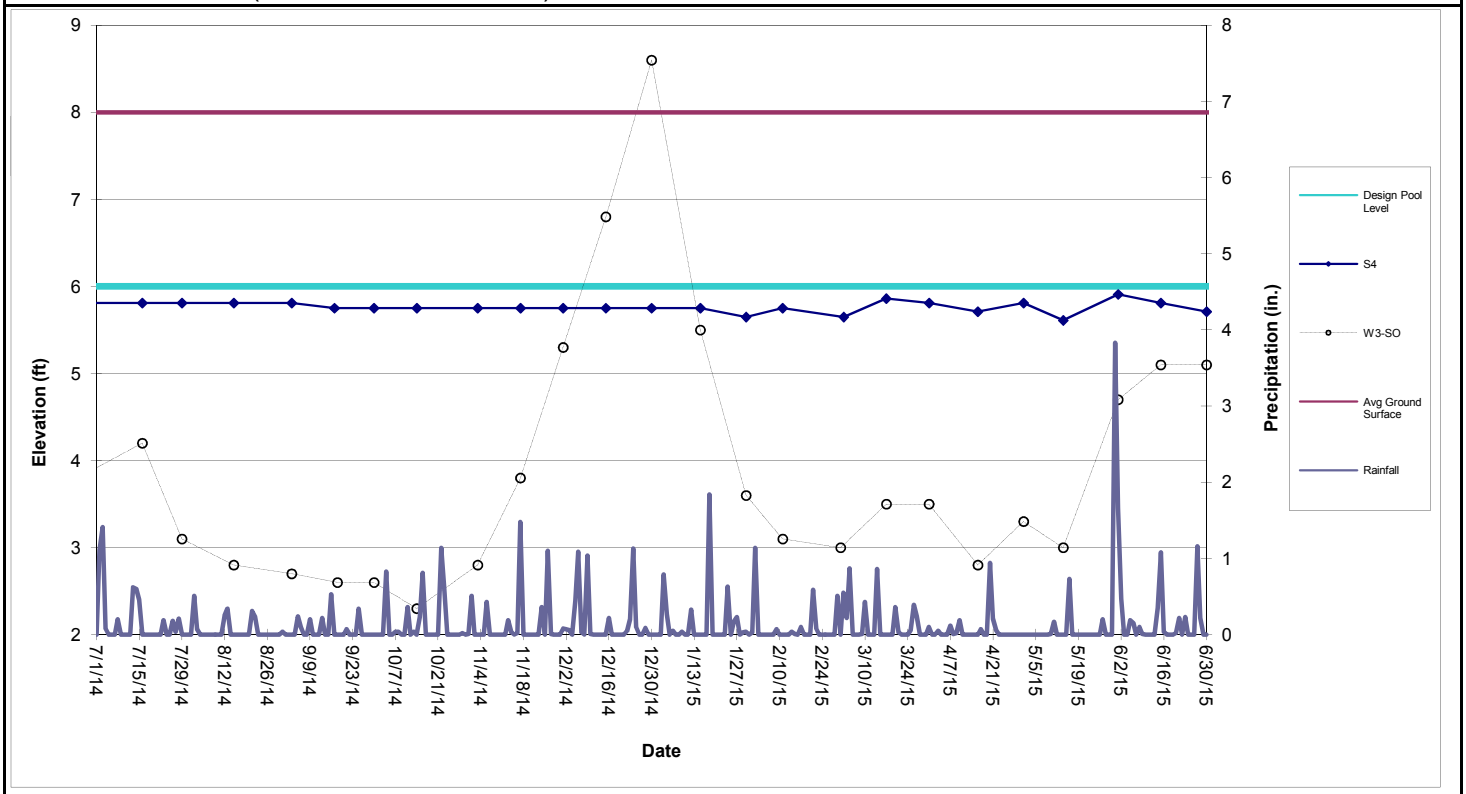
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North								South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
7/16/2014		5.8	6.4	6.8	6.8	4.2		5.9	5.5	7.1	7.1	6.3					4.3	7.5	7.8			
7/29/2014		5.6	6.4	6.6	6.5	3.1		5.6	5.3	7.0	6.8	6.1					3.3	5.3	9.0			
8/15/2014		5.3	6.1	6.2	6.2	2.8		5.5	5.1	6.8	6.7	6.1					4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9	2.7	5.6	5.2	4.8	6.7	6.3	5.6					3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7	2.6	5.0	5.1	4.8	6.5	6.1	5.6					2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8	2.6	3.6	5.0	4.7	6.5	6.0	5.6					4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9		5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2		5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4		5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9		6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9		6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7		6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0		6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5		6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5		6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9		5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6			6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8			5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2		5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2		5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8		4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1		4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6					4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7					4.8	4.7	4.2	4.5						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4

Attachment 8: Groundwater Quality Data

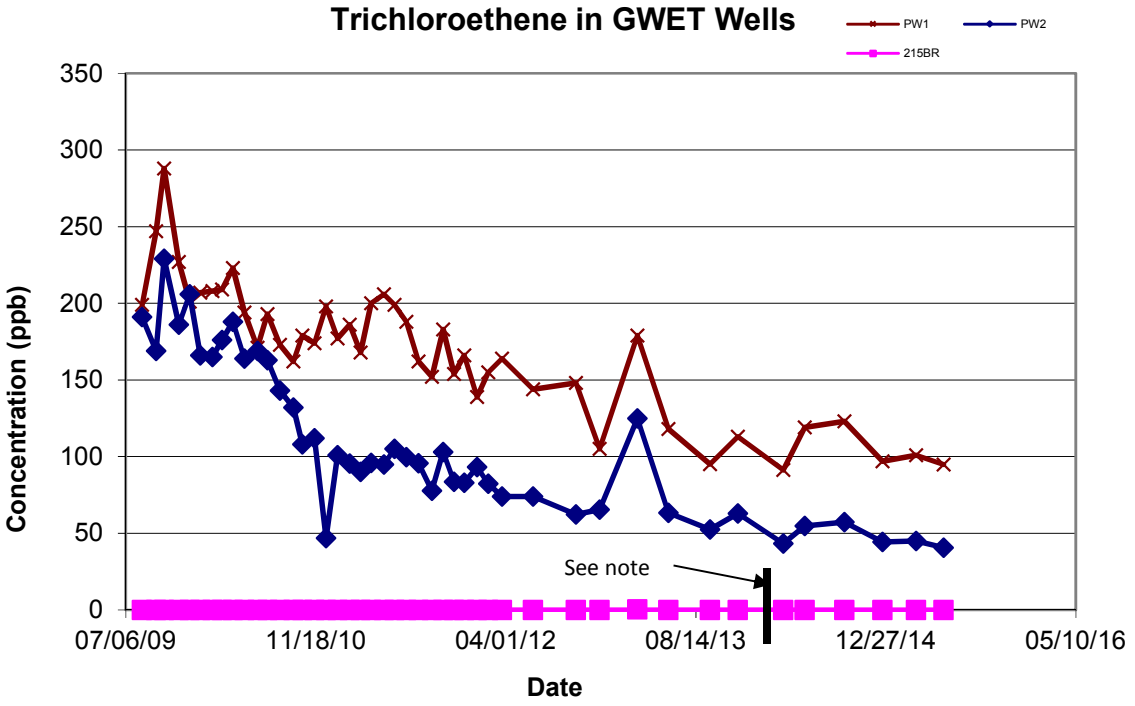
Honeywell

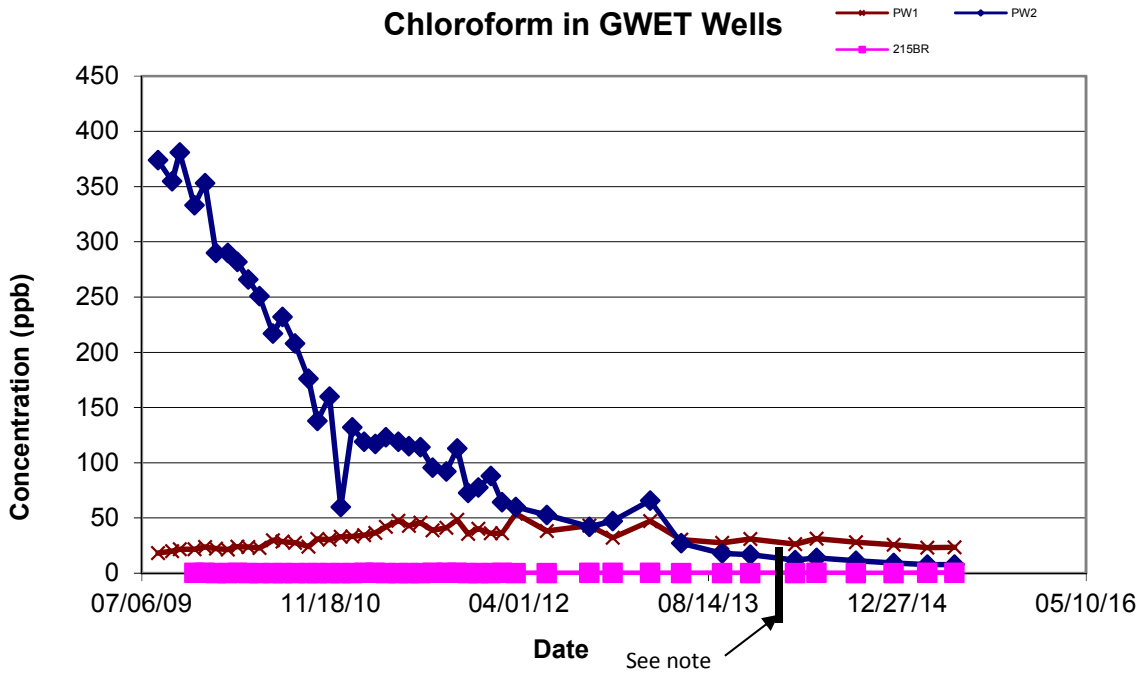
Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	9-Sep-14			18-Dec-14			17-Mar-15			28-May-15		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.7	4.7	ND	3.2	4.0	ND	3.1	3.9	ND	3.1	3.8	ND
Carbon Tetrachloride	7.3	4.8	3.0	5.2	4.2	2.9	5.8	4.6	2.1	5.7	4.5	3.0
Chloroform	28.1	11.3	ND	25.8	9.4	ND	23.1	7.8	0.21	23.5	7.8	0.24J
1,1-Dichloroethene	0.62J	ND	ND	0.57	ND	ND	0.63	ND	ND	0.61J	ND	ND
cis-1,2-Dichloroethene	128	9.6	ND	112	8.6	ND	111	8.1	ND	131	9.6	ND
trans-1,2-Dichloroethene	4.5	ND	ND	3.5	ND	ND	3.8	ND	ND	3.9	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	123	57.4	ND	97	44.4	ND	101	45.0	ND	94.9	40.7	ND
1,1-Dichloroethane	0.55J	ND	ND	0.46	ND	ND	0.51	ND	ND	0.56J	ND	ND
Methylene chloride	0.74J	ND	ND	0.77	0.20	ND	0.71	ND	ND	0.73J	ND	ND
Vinyl chloride	25.2	3.8	ND	15.4	2.5	ND	16.9	2.5	ND	18.1	3.0	ND
1,2-Dichlorobenzene	0.82J	ND	ND	0.66	ND	ND	0.70	ND	ND	0.67J	ND	ND
Chlorobenzene	0.42J	ND	ND	0.37	ND	ND	0.41	ND	ND	0.38J	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	34,200	11,100	15,700	35,900	12,200	15,900	34,700	13,500	15,100	36,100	13,500	16,800
Total Chromium	37,600	19,300	17,900	34,100	12,700	15,900	34,700	15,100	14,800	32,600	15,600	16,700

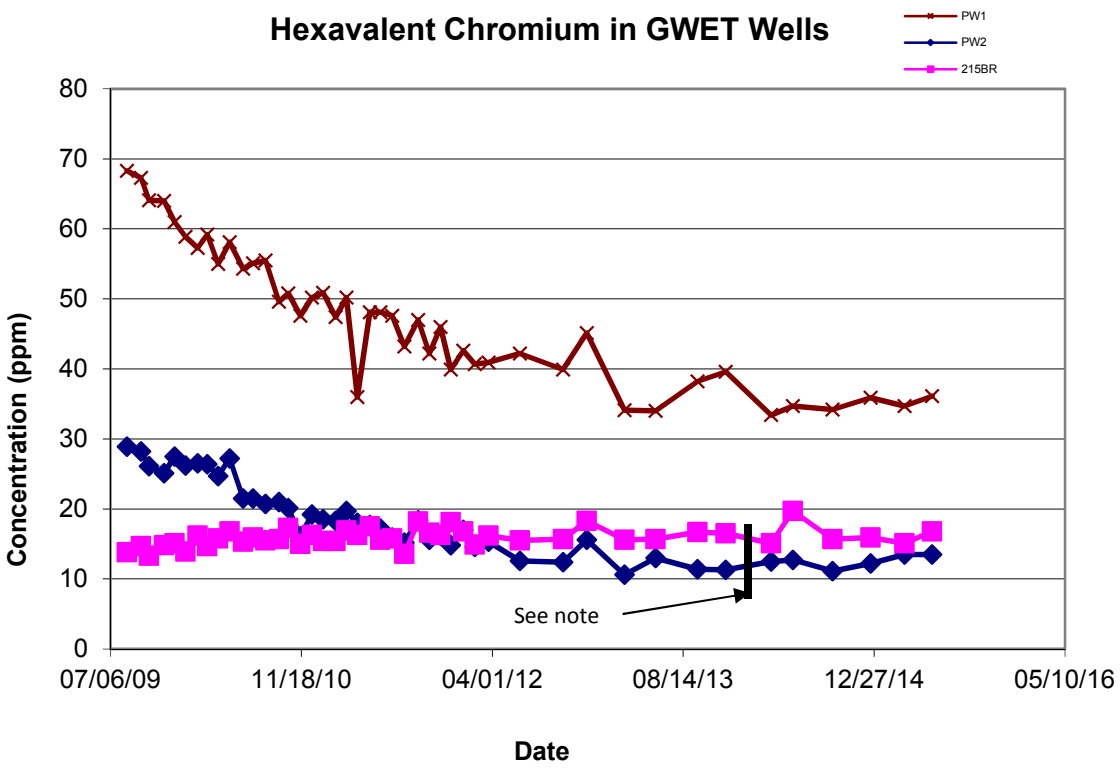
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Note:
Starting with 1st quarter 2014, well 115-MW-215BR is being pumped and sampled.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



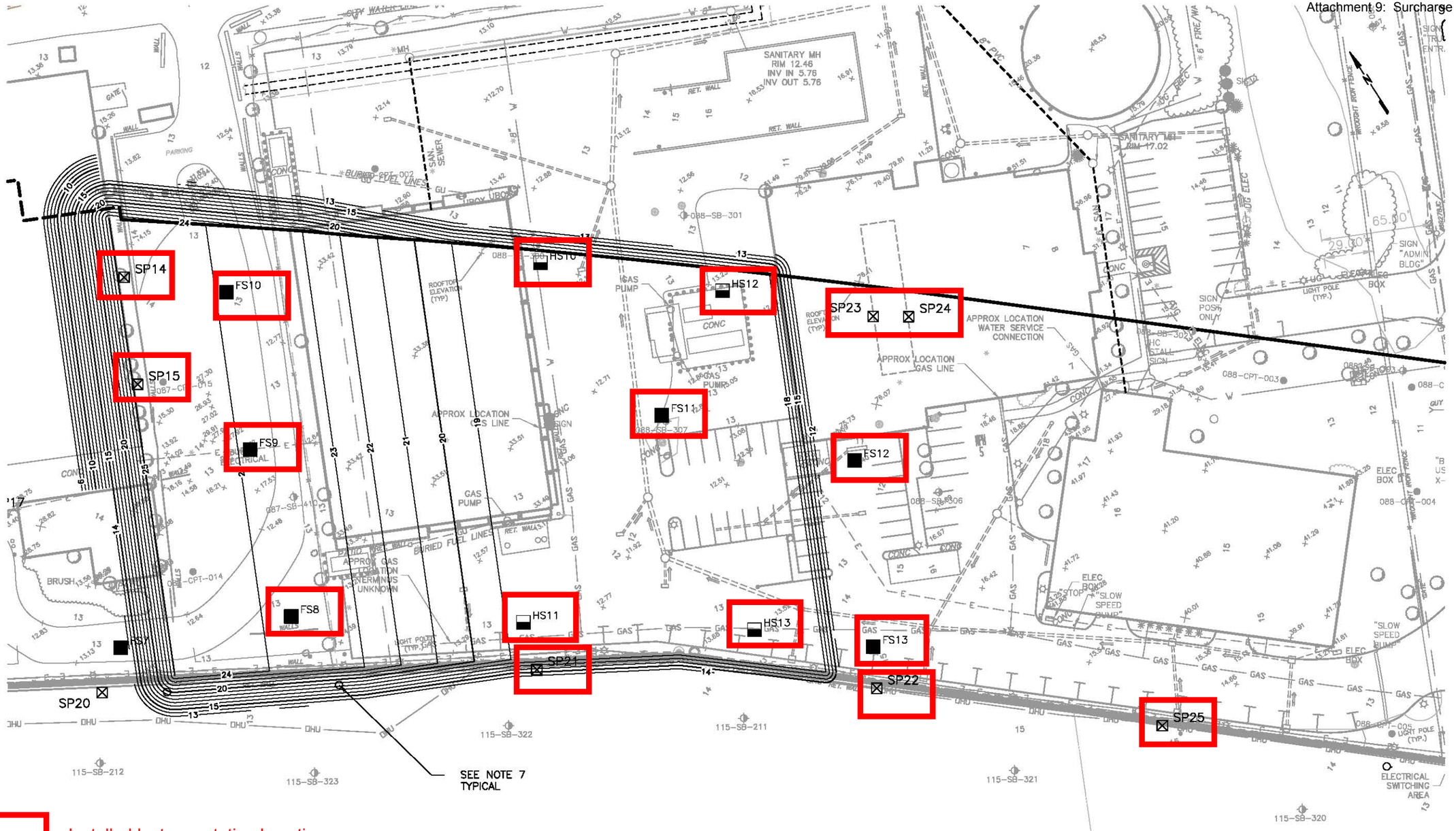
Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

TABLE 2
Quarterly Water Levels
June 2015

Wells Date: June 10, 2015	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments
				GW Elevations are not corrected for tidal influence
087-MW-25D	18.17	18.32	-0.15	
087-MW-25T	18.19	18.22	-0.03	
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	14.92	0.21	
087-OBS-1L	15.27	14.15	1.12	
087-OBS-1T	15.23	15.14	0.09	
087-PW-2	13.02	31.40	-18.38	
087-MW-08	12.98	13.01	-0.03	
087-OBS-3L	12.88	13.34	-0.46	
087-MW-13	12.93	12.59	0.34	
087-OBS-5D	12.72	12.70	0.02	
087-OBS-5T	12.62	13.51	-0.89	
087-PW-1	12.66	37.56	-24.90	
087-MW-34	12.73	13.96	-1.23	
087-OBS-2D	12.68	15.20	-2.52	
SA6-MW-AA1D	19.36	19.18	0.18	
SA6-MW-AA1T	15.31	15.01	0.30	
SA6-MW-5BR-1	17.06	15.30	1.76	
087-OBS-4T	11.60	11.18	0.42	
087-MW-O29D	10.32	9.15	1.17	
087-MW-O29T	9.98	8.77	1.21	
087-MW-03	13.77	NA	N/A	Well not accessible
087-MW-02	12.57	NA	N/A	Well not accessible
115-MW-203BR*	8.70	8.28	0.42	
073-MW-1BR-1	7.58	NA	N/A*	Well not accessible
073-MW-10BR-1	6.67	12.56	-5.89	
115-MW-215BR*	8.82	13.02	N/A*	

* Reference point elevation to be confirmed.

Attachment 9: Surcharge Monitoring Update



Installed Instrumentation Locations

Instrumentation Locations Not Installed

SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685406.37	603094.37
FS9	685500.70	603127.22
FS10	685858.02	603165.50
FS11	685387.04	603338.90
HS10	685499.90	603327.97
HS11	685328.97	603205.81
HS12	685428.53	603407.96
HS13	685253.14	603316.22
SP21	685302.66	603197.35

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. PILE GEOMETRY IS BASED ON THE ASSUMPTION THAT THE SEDIMENTATION BASIN WALLS ARE IN PLACE AT THE TIME OF SURCHARGING.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

$\oplus_{I-2}$	INCLINOMETER LOCATION
$\blacksquare^{FS-1-1}$	SETTLEMENT MONITORING POINT FULL - SET UP
$\blacksquare^{HS-1-1}$	SETTLEMENT MONITORING POINT HALF - SET UP
$\boxtimes^{SP12}$	SETTLEMENT MONITORING PLATFORM
$\bigcirc^{RP}$	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

Prepared/Date: RJR 07/19/2013
Checked/Date: AE 07/19/2013

0 15 30 60
SCALE IN FEET

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN 3N
Project 3480-09-0006
Figure 9a

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 5, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		4
Housekeeping		X		5
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		6
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		7
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		8
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/05/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 05, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on the southern perimeter of the 3-S surcharge area requires maintenance.
2	IA2Q4A1AL8	Spill pallets and secondary containment for storage tanks have accumulated storm water.
3	IA2Q4A1AL8	Novartis/Celgene surcharge material overtops the sheetpile hydraulic barrier at several locations in surcharge areas 1-S and 2-S.
4	IA2Q4A1AL8	Storm water is ponded on SA-6 South to the north of the 60 Kellogg building.
5	IA2Q4A1AL8	Garbage/debris has accumulated on the grass areas outside of the perimeter fenceline at the Kellogg Street jughandle.
6	IA2Q4A1AL8	Several gaps are present between fence panels in the perimeter fence between SA-6 North and the MUA complex.
7	IA2Q4A1AL8	Sediment has overtopped erosion control measures surrounding the Novartis stockpile area on SA-7 Erosion control measures are compromised on the eastern, southern and western sides.
8	IA2Q4A1AL8	Sediment has accumulated on both the northern and the southern SA-7 access roadways

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: Signature **Date:** 06/05/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair/replace silt fence as required.	6/8/15 RAD
2	Drain storm water from secondary containment areas as required.	6/9/15 RAD
3	Remove the surplus surcharge material to bring the grade in the SA-6 South cap area below the top of the HB sheets. Grade to prevent storm water runoff over the sheets.	6/8/15 RAD
4	Pump ponded storm water to the Construction Water Treatment Plant as required.	6/9/15 RAD
5	Pick up and dispose of garbage/debris.	6/8/15 RAD
6	Close gaps in the perimeter fence.	6/8/15 RAD
7	Repair/replace/install erosion control measures as required to provide acceptable containment around the expanding stockpile area.	6/9/15 RAD
8	Remove sediment from the paved roadways and install tracking pads if required to prevent the buildup of sediment during normal work activities.	6/10/15 RAD

Construction Manager: **Date:** 06/10/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 12, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		5
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		7
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		8
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		9
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		10
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		11

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/12/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 12, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing is inadequate at various locations along the southern perimeter of the SA-6 South cap area.
2	IA2Q4A1AL8	Backfill material meets the top of the sheet pile hydraulic barrier wall at several locations along the southern perimeter of the SA-6 South cap area.
3	IA2Q4A1AL8	Windscreen has pulled loose from the perimeter fence at two locations adjacent to the Kellogg Street jughandle.
4	IA2Q4A1AL8	Sections of removed storm drain pipe and other debris are present on the backfill in the western end of SA-6 South.
5	IA2Q4A1AL8	Exclusion Zone fencing around the SA-6 North contingent groundwater system requires maintenance and additional signage.
6	IA2Q4A1AL8	The historic fill stockpile to the south of the MUA building requires additional erosion control measures.
7	IA2Q4A1AL8	Plastic sheeting at the Exclusion Zone truck exit east of the sedimentation basin is inadequate.
8	IA2Q4A1AL8	Empty drums are staged on SA-6 North to the south of the JCIA trash pit.
9	IA2Q4A1AL8	Erosion control measures around the Novartis stockpile area on SA-7 are inadequate or missing.
10	IA2Q4A1AL8	Sediment has accumulated on the SA-7 paved and unpaved haul roads.
11	IA2Q4A1AL8	Pallets and other debris are present on the stoned areas of SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 06/12/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair or amend exclusion zone fencing as required.	
2	Remove material or regrade as needed to prevent sediment from overtopping the hydraulic barrier wall during a rain event.	6-17-15 RAD
3	Re-attach windscreen material as required.	6-17-15RAD
4	Remove debris from the SA-6 South backfill area.	
5	Repair or amend exclusion zone fencing as required.	6-17-15RAD
6	Install berms or silt dams as required.	
7	Replace plastic sheeting in the truck route as needed to maintain a clean surface.	6-17-15RAD
8	Relocate the drums to the meter building garage.	6-17-15RAD
9	Install addional silt fence or other erosion control measures aroundt he Novartis stockpile area to meet erosion control requirements.	
10	Thoroughly clean sediment from all SA-7 roadways.	6-17-15RAD
11	Remove and discard of all debris or trash which is present on the SA-7 stone areas.	6-17-15RAD

1,4,6 and 9 unable to complete at this time

Construction Manager: _____ **Date:** 06/17/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 19, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☑ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		5
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/19/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 19, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Sections of removed storm drain pipe and other debris are present on the backfill in the western end of SA-6 South.
2	IA2Q4A1AL8	REPEAT: Exclusion Zone fencing around the SA-6 North contingent groundwater system requires maintenance and additional signage.
3	IA2Q4A1AL8	REPEAT: The historic fill stockpile to the south of the MUA building requires additional erosion control measures.
4	IA2Q4A1AL8	Erosion control measures on the northern side of the Type C stockpile area on SA-6 north are inadequate.
5	IA2Q4A1AL8	Plastic sheeting at the Exclusion Zone truck exit east of the sedimentation basin is inadequate.
6	IA2Q4A1AL8	REPEAT: Erosion control measures around the Novartis stockpile area on SA-7 are inadequate or missing.
7		
8		
9		
10		
11		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 06/19/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Remove debris from the SA-6 South backfill area.	6/25/15 RAD
2	Repair or amend exclusion zone fencing as required.	6/25/15 RAD
3	Install berms or silt dams as required.	6/25/15 RAD
4	Install containement measures as required.	6/25/15 RAD
5	Replace plastic sheeting in the truck route as needed to maintain a clean surface.	6/25/15 RAD
6	Install addional silt fence or other erosion control measures aroundt he Novartis stockpile area to meet erosion control requirements.	6/25/15 RAD
7		
8		
9		
10		
11		

Construction Manager: _____ **Date:** 06/26/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 26, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		1		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/26/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
~~Friday, June 19, 2015~~ June 26, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencepost down at NE corner of EZ. Additional EZ signs required around the Exclusion Zone perimeter.
2	IA2Q4A1AL8	Windscreen has blown loose from the perimeter fenceline at the Kellogg Street jughandle.
3	IA2Q4A1AL8	Exclusion Zone fencing around the eastern EZ requires more signs.
4	IA2Q4A1AL8	Inadequate sediment control measures are present on the western side of the Sedimentation Basin Exclusion Zone.
5	IA2Q4A1AL8	Silt fence along the western end of the SA-7 northern roadway is not properly toed in.
6	IA2Q4A1AL8	**REPEAT:** Erosion control measures around the Novartis stockpile area on SA-7 are inadequate or missing.
7		
8		
9		
10		
11		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ (Signature) **Date:** 06/26/15

Comment Number	Construction Manager's Comments to Contractor	Date Completed
1	Repair the EZ fencing as necessary and install additional Exclusion Zone signs.	7-1-15 RAD
2	Repair/re-install windscreen as required.	7-1-15 RAD
3	Install additional Exclusion Zone signage as required.	7-1-15 RAD
4	Install erosion control measures and stormwater run-off measures as required.	7-1-15 RAD
5	Reinstall or toe in silt fence as required.	7-1-15 RAD
6	Install addional silt fence or other erosion control measures aroundt he Novartis stockpile area to meet erosion control requirements.	Screening operations prohibited
7		
8		
9		
10		
11		

Construction Manager: _____ **Date:** 07/01/15

Attachment 12: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (May 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

June 22, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the May 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /SEF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
5	01	15	5	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,826	83,031 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.53	0.57	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1337	0.1337	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

June 17, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
5	01	15	5	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,412,594	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	36,288,813

DATE	BOD (mg/l)	TSS (mg/l)
5/19/2015	7.5	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE June 17, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)									MONTH: May 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
5/1/2015	Angel Trujillo	33876219	33953737	77,518	0.077518	7.58	0.822									0.53
5/2/2015	Angel Trujillo	33953737	34035418	81,681	0.081681	7.36	0.822									0.56
5/3/2015	Angel Trujillo	34035418	34113680	78,262	0.078262	7.31	0.822									0.54
5/4/2015	Angel Trujillo	34113680	34189482	75,802	0.075802	7.34	0.822									0.52
5/5/2015	Angel Trujillo	34189482	34268659	79,177	0.079177	7.56	0.822									0.54
5/6/2015	Angel Trujillo	34268659	34342535	73,876	0.073876	7.47	0.822									0.51
5/7/2015	Angel Trujillo	34342535	34419711	77,176	0.077176	7.56	0.822									0.53
5/8/2015	Angel Trujillo	34419711	34502742	83,031	0.083031	7.57	0.822									0.57
5/9/2015	Angel Trujillo	34502742	34579671	76,929	0.076929	7.34	0.822									0.53
5/10/2015	Angel Trujillo	34579671	34657335	77,664	0.077664	7.27	0.822									0.53
5/11/2015	Angel Trujillo	34657335	34732417	75,082	0.075082	7.24	0.822									0.51
5/12/2015	Angel Trujillo	34732417	34810281	77,864	0.077864	7.26	0.822									0.53
5/13/2015	Angel Trujillo	34810281	34889426	79,145	0.079145	7.27	0.822									0.54
5/14/2015	Angel Trujillo	34889426	34967851	78,425	0.078425	7.29	0.822									0.54
5/15/2015	Angel Trujillo	34967851	35045403	77,552	0.077552	7.29	0.822									0.53
5/16/2015	Angel Trujillo	35045403	35126749	81,346	0.081346	7.34	0.822									0.56
5/17/2015	Angel Trujillo	35126749	35200190	73,441	0.073441	7.29	0.822									0.50
5/18/2015	Angel Trujillo	35200190	35277372	77,182	0.077182	7.33	0.822									0.53
5/19/2015	Angel Trujillo	35277372	35354134	76,762	0.076762	7.06	0.822	<5.2	7.5		<0.010	<0.030	<0.010	<0.0002	<0.020	0.53
5/20/2015	Angel Trujillo	35354134	35431944	77,810	0.07781	7.34	0.822									0.53
5/21/2015	Angel Trujillo	35431944	35509187	77,243	0.077243	7.25	0.822									0.53
5/22/2015	Angel Trujillo	35509187	35588761	79,574	0.079574	7.30	0.822									0.55
5/23/2015	Angel Trujillo	35588761	35668683	79,922	0.079922	7.32	0.822									0.55
5/24/2015	Angel Trujillo	35668683	35747027	78,344	0.078344	7.29	0.822									0.54
5/25/2015	Angel Trujillo	35747027	35825211	78,184	0.078184	7.31	0.822									0.54
5/26/2015	Angel Trujillo	35825211	35899798	74,587	0.074587	7.32	0.822									0.51
5/27/2015	Angel Trujillo	35899798	35978906	79,108	0.0791	7.36	0.822									0.54
5/28/2015	Angel Trujillo	35978906	36053442	74,536	0.074536	7.31	0.822									0.51
5/29/2015	Angel Trujillo	36053442	36123270	69,828	0.069828	7.29	0.822									0.48
5/30/2015	Automode	36123270	36206041	82,771	0.082771	7.60	0.822									0.57
5/31/2015	Angel Trujillo	36206041	36288813	82,772	0.082772	7.59	0.822									0.57
TOTAL				2,412,594	2.412594			<5.2	7.5		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	83,031											High:	0.57
			Average:	77,826											Average:	0.53

WW

JB95035

C

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 42142.55886
COC#: 087-WW-051915

Privileged & Confidential			Site Name:	Hudson County	Phase:	CS	Lab Proj # (SDG):
EDD To:			Location of Site:	Jersey City, NJ	Sampling Program	087: JCIA	Lab ID: ACTD
Sampler:	Frank Schroyer						Site ID: HudsonCo
PO #							Lab Job #: HWINJM32815
Analysis Turnaround Time (TAT):	3						Authorized User: Honeywell
Consultant	CH2M						
							Text & Excel File Drive / Excel & Text File Order
Full Report TAT:	28 Days						

Sampling Co.: MACTEC

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Preliminary Data To:
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list						Sampling Method (code)	Lab Sample Numbers
											Units																		
	Preservative												3	3	3	1	2	2	0	0	2							
1	087-WW			087-WWE-051915-A	5/19/2015	9:45	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1							C22
2	087-WW			087-WWE-051915-B	5/19/2015	10:00	WW	WATER	REG	5	grab	N					X	X				2							V1135
3	087-WW			087-WWI-051915	5/19/2015	10:10	WW	WATER	REG	3	grab	N									X	3							A26
4																													G42
5																													
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Relinquished by: 7.06 S.U. @ 9.4°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:
Frank Schroyer	5/19/15 Date/Time		5/19/15 Date/Time: 1340		Cooler Temp.		
Relinquished by:	Company	Received by:	Company: ACCUTEST		Condition:		Custody Seals Intact:
	Date/Time: 5/19/15 1650	1	Date/Time: 5/19/15 1650		Cooler Temp.	4.0°C-E	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE (N)

INITIAL ASESSMENT 2B (N)

LABEL VERIFICATION NL

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-A		
Lab Sample ID:	JB95035-1	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	822	10	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	05/21/15	05/21/15	MA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	05/20/15	05/21/15	BS	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA36709
(2) Instrument QC Batch: MA36710
(3) Prep QC Batch: MP86588
(4) Prep QC Batch: MP86636

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-A		
Lab Sample ID:	JB95035-1	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	05/21/15	KP	SM2540 D-11
pH [a]	7.09		su	1	05/19/15 18:51	AM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-A		
Lab Sample ID:	JB95035-1A	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	7.5	5.0	mg/l	1	05/20/15 18:23	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-B		
Lab Sample ID:	JB95035-2	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T208144.D	1	05/22/15	DC	n/a	n/a	VT8545
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.0	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.093	ug/l	
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	14.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.36	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.34	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	68.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.4	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.42	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-B		
Lab Sample ID:	JB95035-2	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	40.7	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@857275 16:09 10-Jun-2015

Report of Analysis

Client Sample ID:	087-WWE-051915-B		
Lab Sample ID:	JB95035-2	**Date Sampled:**	05/19/15
Matrix:	AQ - Water	**Date Received:**	05/19/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	05/21/15 09:15	BM	EPA 1664A

RL = Reporting Limit

Attachment 13: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor. Submitted to all Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor. Submitted to all Parties on June 18, 2015.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Contractor only.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

8/14/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 14, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-07

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from July 1 – July 31, 2015.

Per prior discussion, Honeywell has included a new section pertaining to liner quality assurance.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: July 2015 SA-6/7 Combined Monthly Progress Report No. 2015-07

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP

Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-07

Project SA-6 & 7 Remediation

July 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
07/02/15	Upload to LBG SharePoint Site: DCB 3S Surcharge Pile Geometry on East End Study Area 6 South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/08/15	Discharge to Groundwater Permit-By-Rule Authorization Request Study Area 6 North, Site 087 PI No. G000008710 Jersey City, New Jersey	New Jersey Department of Environmental Protection Bureau of Case Assignment & Initial Notice Site Remediation Program
7/10/2015	Summary of Interim L-Well Sampling Study Area 6 South, Site 124 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/13/15	Droyers Cove Beneficial Environmental Project 100% Design Report Study Area 7 Sediment Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/14/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-06	Honorable Robert G. Torricelli Office of the Special Master
07/14/15	Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
07/20/15	Summary of Proposed In-Situ Injection of Calcium Polysulfide for Treatment of Chromium Impacted Soils (Addendum) Study Area 6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
07/21/15	Surcharge Monitoring Plan Monthly Report No. 13 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
07/21/15	Arnold & Porter Correspondence: Study Area 6 North In-Situ Treatment -- Response to Plaintiffs' Correspondence of July 1, 2015 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
07/21/15	Special Master Conference Call	N/A
07/29/15	Application for General Permit 24 Droyers Cove Beneficial Environmental Project Study Area 7, Sediment Remedy Jersey City, New Jersey	New Jersey Department of Environmental Protection Division of Land Use Regulation

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	7/5/15	7/12/15	7/19/15	7/26/15	8/2/15
Construction Management (AMEC)	9	10	10	10	11
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	44	39	38	46	49
Arecon/US Ecology Subcontractors	1	0	0	0	0
Evoqua	1	1	1	1	1
B&B Drilling	2	2	2	2	0
TOTAL STAFF	62	57	56	64	66

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected July PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Verizon completed relocating overhead communication lines to the North Bound side of Route 440.

- On July 6 through 8, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 22 in Injection Well 088-IW-01.
- On July17, Summit Drilling conducted soil sampling to a depth of 40 feet at the proposed PW-3 location on the Difeo car dealership property. The drill rig malfunctioned during drilling operations resulting in a demobilization and rescheduling of the work activities.
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on July 16, 2015.
- PVSC collected annual compliance sample from the GWTP and the CWTP.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	7/5/15	7/12/15	7/19/15	7/26/15	8/2/15
Avg. Gallons Treated & Discharged (per day)	76,308	78,678	78,254	77,495	77,502
Average Flow (gpm) for Operating Period	54	54	54	53	54
Avg. Hours of Plant Operation	24	24	24	24	24
GWTP Influent Tanks (gal.)	11,616	7,838	9,276	8,606	7,882

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the EA-8 excavation is pending post excavation sampling results.
- Lindie Griffith completed installation of drilled and driven soldier piles associated with temporary shoring for EA-2 and EA-3 along Route 440 frontage.
- Completed installation of well points for dewatering EA-5 on SA-6 North.
- Continued to haul screened historic fill from N1 and place it as backfill in the west side of SA-6 South backfill area.
- Continued relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Canada	Stablex	WWTP Filter Cake	1	23	15.4
Entact/Horwith	Tri-axle Dump	PA Transload	US Ecology	>1,000 mg/kg soils	25	21.63	540.78

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Areas EA-7 and EA-8 Volume Excavated - Total for Reporting Period: 0 CY / Total to Date: 2,843.58 CY
Backfill in Progress	Historic Fill – SA-6 South western backfill area.

- Screened historic Fill was transferred from 1N surcharge area and placed as backfill in SA-6 South. A total of 75 loads, totaling approximately 1,500 cubic yards was placed as backfill in SA-6 South during the reporting period.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total of 17 loads, totaling approximately 383 cubic yards was placed as backfill in SA-6 South during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed pre-trenching for vertical hydraulic barrier wall alignment along Route 440.
- Began installation of temporary sheet pile along Route 440.
- Continued installation of the vertical hydraulic barrier wall east of the Trash Pit and along Route 440 from STA 0+00 to STA 3+10 (Completed on August 5th 2015). Vibration monitoring was performed during driving activities.

G. CAPPING OPERATIONS

- A total of 121,511 sq. ft. of liner totaling 35% of the total cap area, was deployed during the reporting period.
- Began installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite Drainage layer.
- Continued general liner subgrade preparation in Area 2S and 3S.
- Continued cutting hydraulic barrier sheets to final elevation in SA-6 South Open Space Area.
- Completed installation of piezometers associated with the SA-6 South Open Space Area.
- Continued removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Began installation of gas vent pipe installation.
- Continued delivery and receiving inspections of geosynthetic cap materials.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8 pending post excavation sampling results.
- Begin excavation of Area EA-4 and EA-5.
- Complete installation of the vertical hydraulic barrier wall within the Trash Pit
- Begin installation of dewatering wells associated with the SA-6 North Excavation Areas EA-2 and EA-3.
- Continue liner subgrade and utility corridor preparation activities on SA-6 South.
- Continue screening Celgene material for use as liner protective cover soils.
- Continue Celgene material screening activities.
- Continue dewatering and storm-water management activities.
- Complete installation of Sonic Boring associated with planned PW-3.
- Continue SWPPP inspections.
- Conduct S-3 Mass Removal injection Event No. 23 in well 088-IW-03.
- Complete soil sieve analyses from the PW-3 location on Difeo property.
- Complete PVSC Monthly compliance sampling.
- Implement the in-situ plan for the SA-6 North Treatment Area 10 proximate to force main.
- Continue to work with owner on access for the planned PW-3 extraction well/trench installation.

ATTACHMENTS:

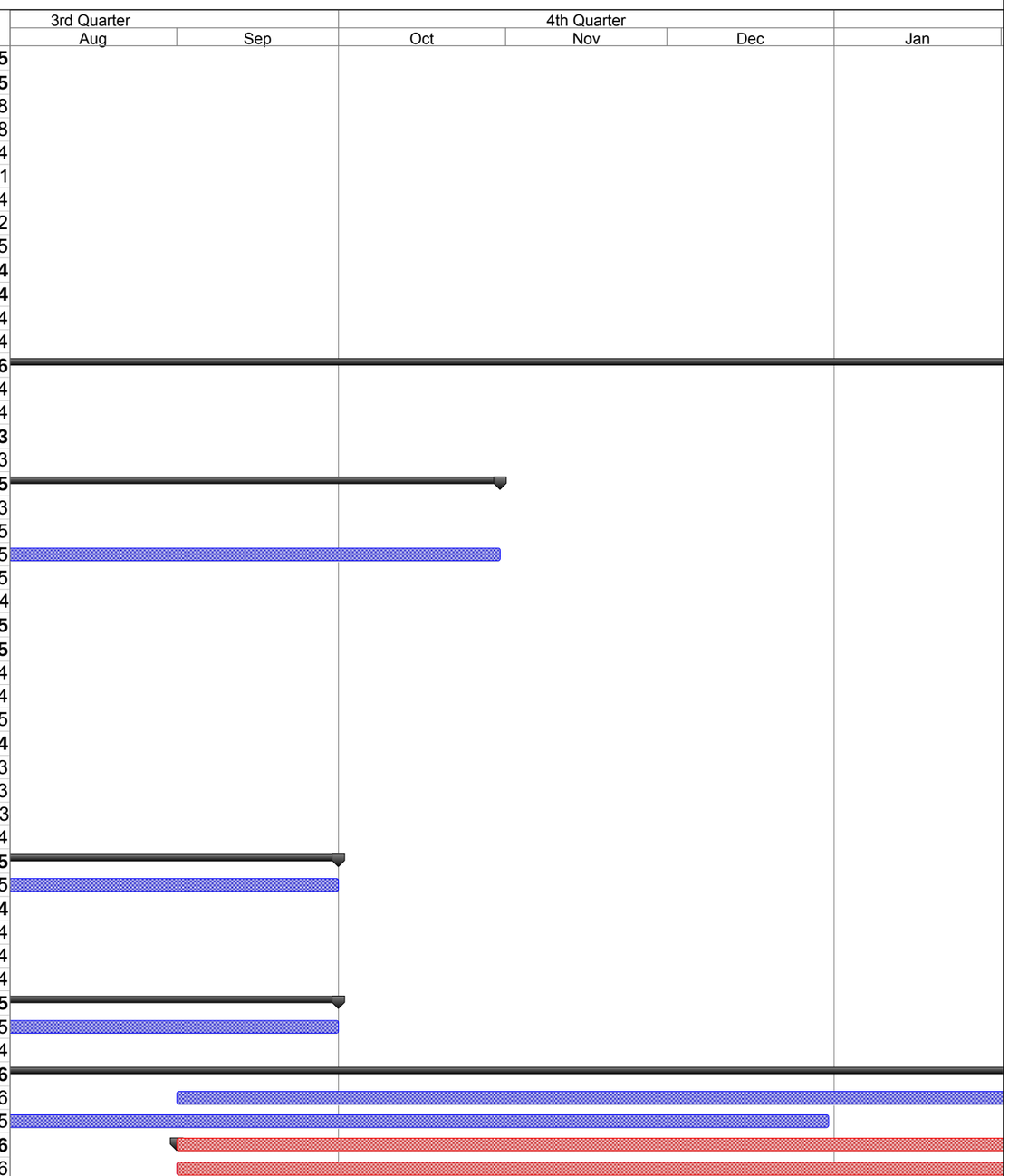
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data (*conducted quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Forms
    - QA Photo Log
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (June 2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1891 days**	**1/4/08**	**3/30/15**
18	**JCIA/JCDPW Relocation**	**1735 days**	**8/11/08**	**3/30/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	753 days	10/17/11	8/29/14
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	151 days	9/1/14	3/30/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**838 days**	**3/1/13**	**5/16/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	403 days	6/17/13	12/31/14
60b	SA-6S (Site 163) In-Situ Treatment	294 days	11/15/13	12/31/14
61	**Mobilization (Inclues new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**620 days**	**6/17/13**	**10/30/15**
62a	Prepare Open Space Areas for Surcharge/Install Instrumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	195 days	6/2/14	2/27/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	3/2/15	10/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	182 days	10/20/14	6/30/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	195 days	3/3/14	11/28/14
63	**Barrier Wall Install**	**489 days**	**6/17/13**	**4/30/15**
63a	**SA 6N Installation of Barrier Wall**	**369 days**	**12/2/13**	**4/30/15**
63b	SA-6N Barrier Wall Delivery and Installation Preparation	55 days	12/2/13	2/14/14
63c	SA-6N Stations 23+38 to 14+25	90 days	2/17/14	6/20/14
63d	SA-6N Stations 14+25 to 0+00	224 days	6/23/14	4/30/15
63f	**SA 6S Installation of Barrier Wall**	**250 days**	**6/17/13**	**5/30/14**
63g	SA-6S Barrier Wall Delivery and Installation Preparation	44 days	6/17/13	8/15/13
63h	SA-6S Stations 1+54 to 8+37	7 days	8/16/13	8/26/13
63i	SA-6S Stations 0+00 to 1+54; 8+37 to 8+60; 24+40 to 14+87; 24+40 to 25+89	27 days	10/3/13	11/8/13
63j	SA-6S Stations 8+60 to 14+87	145 days	11/11/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	**SA 6S Excavation**	**226 days**	**10/22/13**	**9/2/14**
64c	SA-6S Excavation of Cells 1 - 25	53 days	10/22/13	1/2/14
64d	SA-6S Excavation of Cells 26 - 60	90 days	1/3/14	5/8/14
64e	SA-6S Excavation of Cells 156 - 61	83 days	5/9/14	9/2/14
65	**Backfill**	**493 days**	**11/11/13**	**9/30/15**
65a	SA 6N Backfill	218 days	12/1/14	9/30/15
65b	SA 6S Backfill	232 days	11/11/13	9/30/14
66	**Capping and Cover Soil Placement**	**315 days**	**12/1/14**	**2/12/16**
66a	SA 6N Capping and Cover Soil Placement	119 days	9/1/15	2/12/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**164 days**	**9/1/15**	**4/15/16**
67a	Restoration	164 days	9/1/15	4/15/16



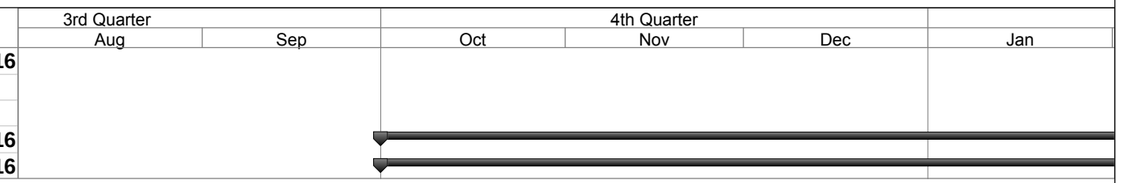
Project: SA-6 Remediation Schedule
Revision 3
Date: 7/31/15

Task Milestone Summary Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
68	**Demobilization**	**21 days**	**4/18/16**	**5/16/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**310 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**310 days**	**10/1/15**	**12/7/16**



Project: SA-6 Remediation Schedule
Revision 3
Date: 7/31/15

Task | Milestone ◆ | Summary | Critical

Note: The schedule will be revised following completion of the JCDPW relocation.

Attachment 2: Site Photographs



Site Photograph 1: Fine grading of soils along slope of open space area Kellogg Street properties.



Site Photograph 2: Fine grading of soils in flatter open space area Kellogg Street Properties.



Site Photograph 3: Finishing the concrete barrier wall with smooth coat.



Site Photograph 4: Fusion Welding liner panels in Area 1S.



Site Photograph 5: Loading materials at Jersey City properties for offsite disposal.



Site Photograph 6: Onsite screening of soils to remove gravel.



Site Photograph 7: Sewing the seam between venting layer panels.



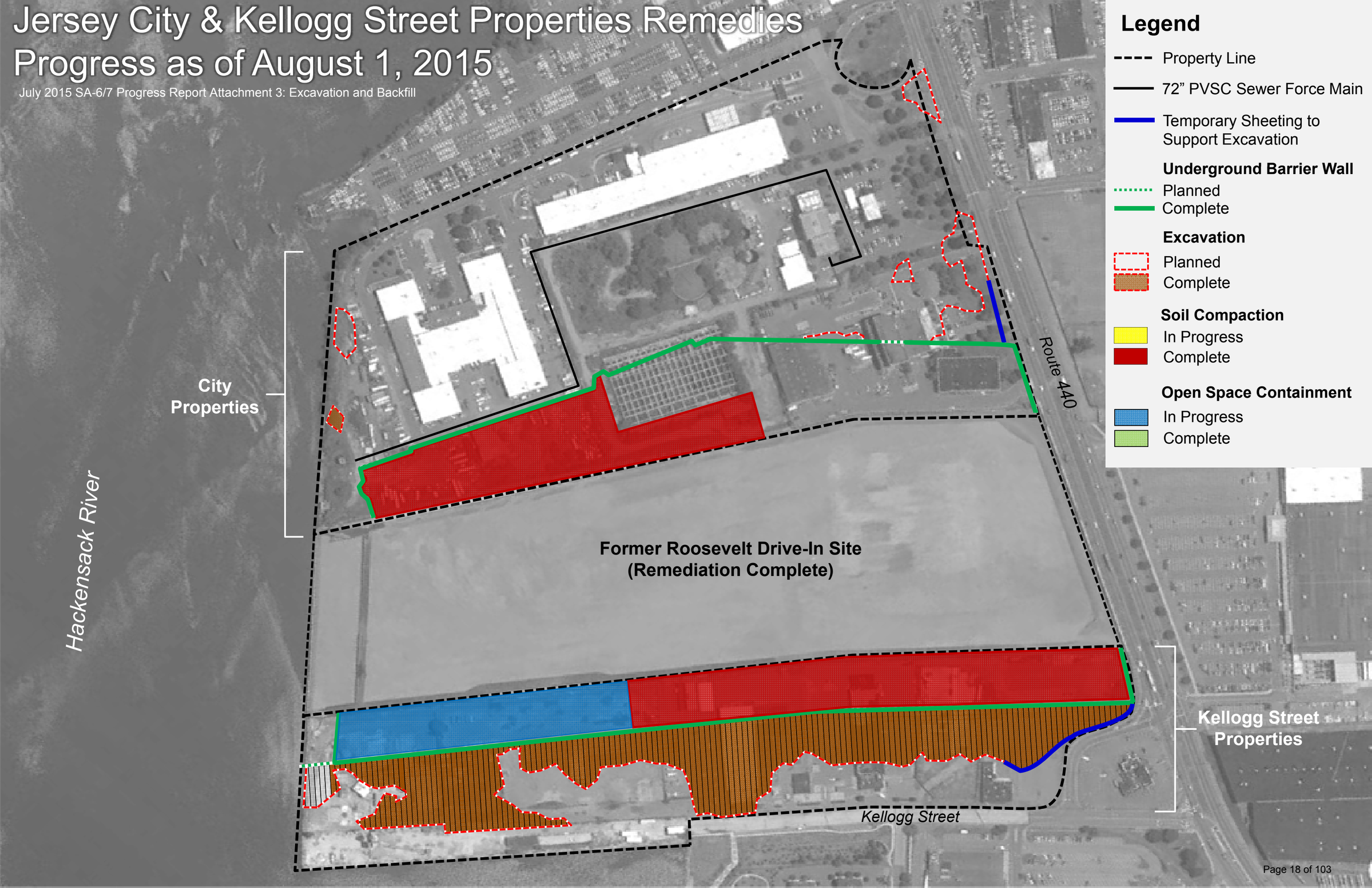
Site Photograph 8: Specialty equipment installs shoring for utility protection.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of August 1, 2015

July 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/29/15	10:00	14:15	4:15	32,322.85	32,377.97	55,120	32,377,520	
06/01/15	9:00	15:45	6:45	32,377.97	32,528.67	150,700	32,528,220	
06/02/15	7:00	14:00	7:00	32,528.67	32,620.67	92,000	32,620,220	
06/04/15	6:30	14:00	7:30	32,620.67	32,756.41	135,740	32,755,960	PVSC Compliance Sample Collected
06/05/15	6:30	13:30	7:00	32,756.41	32,833.26	76,850	32,832,810	
06/08/15	7:00	14:00	7:00	32,833.26	32,958.71	125,450	32,958,260	
06/10/15	10:00	16:00	6:00	32,958.71	33,019.45	60,740	33,019,000	
06/11/15	7:00	16:00	9:00	33,019.45	33,086.57	67,120	33,086,120	
06/12/15	6:30	12:00	5:30	33,086.57	33,146.46	59,890	33,146,010	
06/15/15	6:30	12:15	5:45	33,146.46	33,183.12	36,660	33,182,670	
06/16/15	7:00	14:15	7:15	33,183.12	33,226.73	43,610	33,226,280	
06/17/15	6:30	16:00	9:30	33,226.73	33,276.97	50,240	33,276,520	
06/18/15	6:30	14:30	8:00	33,276.97	33,338.90	61,930	33,338,450	
06/19/15	6:30	14:00	7:30	33,338.90	33,439.40	100,500	33,438,950	
06/21/15	9:30	13:30	4:00	33,439.40	33,485.10	45,700	33,484,650	
06/22/15	6:30	14:00	7:30	33,485.10	33,567.88	82,780	33,567,430	
06/23/15	11:30	14:00	2:30	33,567.88	33,609.80	41,920	33,609,350	
06/24/15	9:00	13:30	4:30	33,609.80	33,646.89	37,090	33,646,440	
06/26/15	8:00	14:00	6:00	33,646.89	33,720.85	73,960	33,720,400	
06/29/15	7:00	14:30	7:30	33,720.85	33,738.82	17,970	33,738,370	
06/30/15	7:00	13:00	6:00	33,738.82	33,791.38	52,560	33,790,930	
07/01/15	6:30	14:00	7:30	33,791.38	33,923.97	132,590	33,923,520	PVSC Compliance Sample Collected
07/02/15	6:30	13:00	6:30	33,923.97	34,000.38	76,410	33,999,930	
07/06/15	7:00	13:30	6:30	34,000.38	34,066.66	66,280	34,066,210	
07/07/15	8:00	14:00	6:00	34,066.66	34,125.32	58,660	34,124,870	
07/08/15	6:30	13:30	7:00	34,125.32	34,199.65	74,330	34,199,200	
07/09/15	6:30	13:30	7:00	34,199.65	34,252.75	53,100	34,252,300	
07/10/15	6:30	12:00	5:30	34,252.75	34,298.94	46,190	34,245,390	
07/13/15	7:00	11:45	4:45	34,298.94	34,325.94	27,000	34,226,200	
07/14/15	6:30	12:30	6:00	34,325.94	34,396.15	70,210	34,269,410	
07/15/15	7:00	14:00	7:00	34,396.15	34,474.85	78,700	34,331,000	
07/16/15	6:30	13:00	6:30	34,474.85	34,526.84	51,990	34,382,990	
07/17/15	12:00	14:00	2:00	34,526.84	34,556.84	30,000	34,412,990	
07/21/15	6:30	14:30	8:00	34,556.84	34,653.22	96,380	34,509,370	
07/23/15	6:30	13:30	7:00	34,653.22	34,690.24	37,020	34,546,390	
07/24/15	10:30	13:30	3:00	34,690.24	34,702.10	11,860	34,558,250	
07/27/15	6:30	14:00	7:30	34,702.10	34,790.64	88,540	34,646,790	
07/31/15	6:30	14:30	8:00	34,790.64	34,908.04	117,400	34,764,190	

Notes: Previous information is truncated. Only last month and current month information is provided.

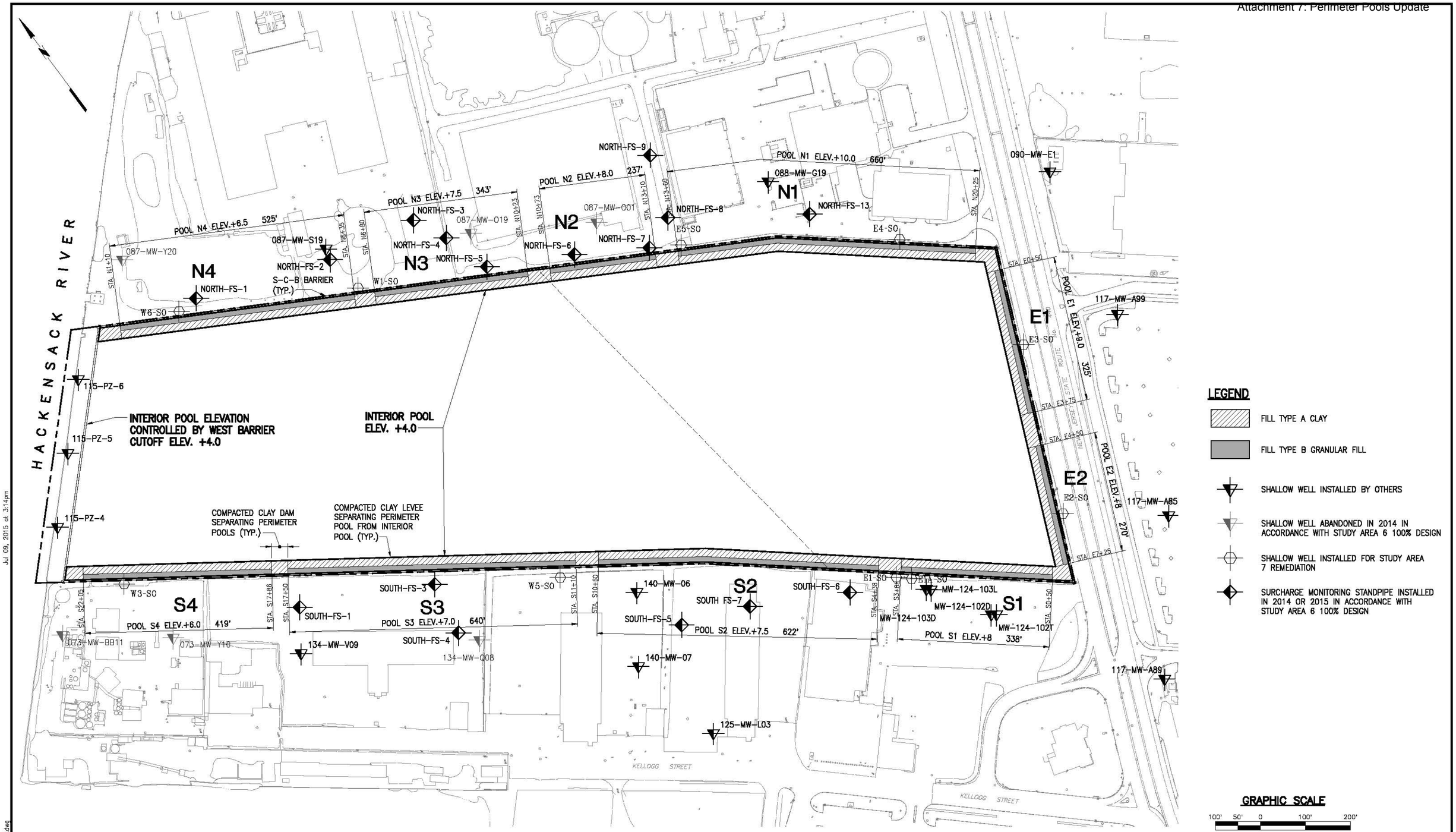
Attachment 6: Backfill Analytical Data

SA-6 NORTH AND SOUTH
Material Tracking and Sampling Log

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	<2.3	*		
				087-EA8-20-a2	6/24/2015	7:40	<2.3	*		
				087-EA8-20-a3	6/24/2015	7:45	<1.9	*		
				087-EA8-20-a4	6/24/2015	7:50	<1.9	*		
				087-EA8-20-b1	6/24/2015	7:55	<2.1	*		
				087-EA8-20-b2	6/24/2015	8:00	0.78	*		
				087-EA8-20-b3	6/24/2015	8:05	2.10	*		
				087-EA8-20-b4	6/24/2015	8:10	<2.0	*		
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	*		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	*		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	*		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	*		
EA7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	13:15	<1.8	*		
				087-EA7-20-a2	6/26/2015	13:20	<1.4	*		
				087-EA7-20-a3	6/26/2015	13:25	<1.4	*		
				087-EA7-20-a4	6/26/2015	13:30	5.50	*		
EA7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	8:52	4:48	*		
				087-EA7-20-b2	7/14/2015	8:56	2.6	*		
				087-EA7-20-b3	7/14/2015	9:00	4.3	*		
				087-EA7-20-b4	7/14/2015	9:03	2.80	*		
EA7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	9:06	<.47	*		
				087-EA7-20-c2	7/14/2015	9:11	<1.6	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

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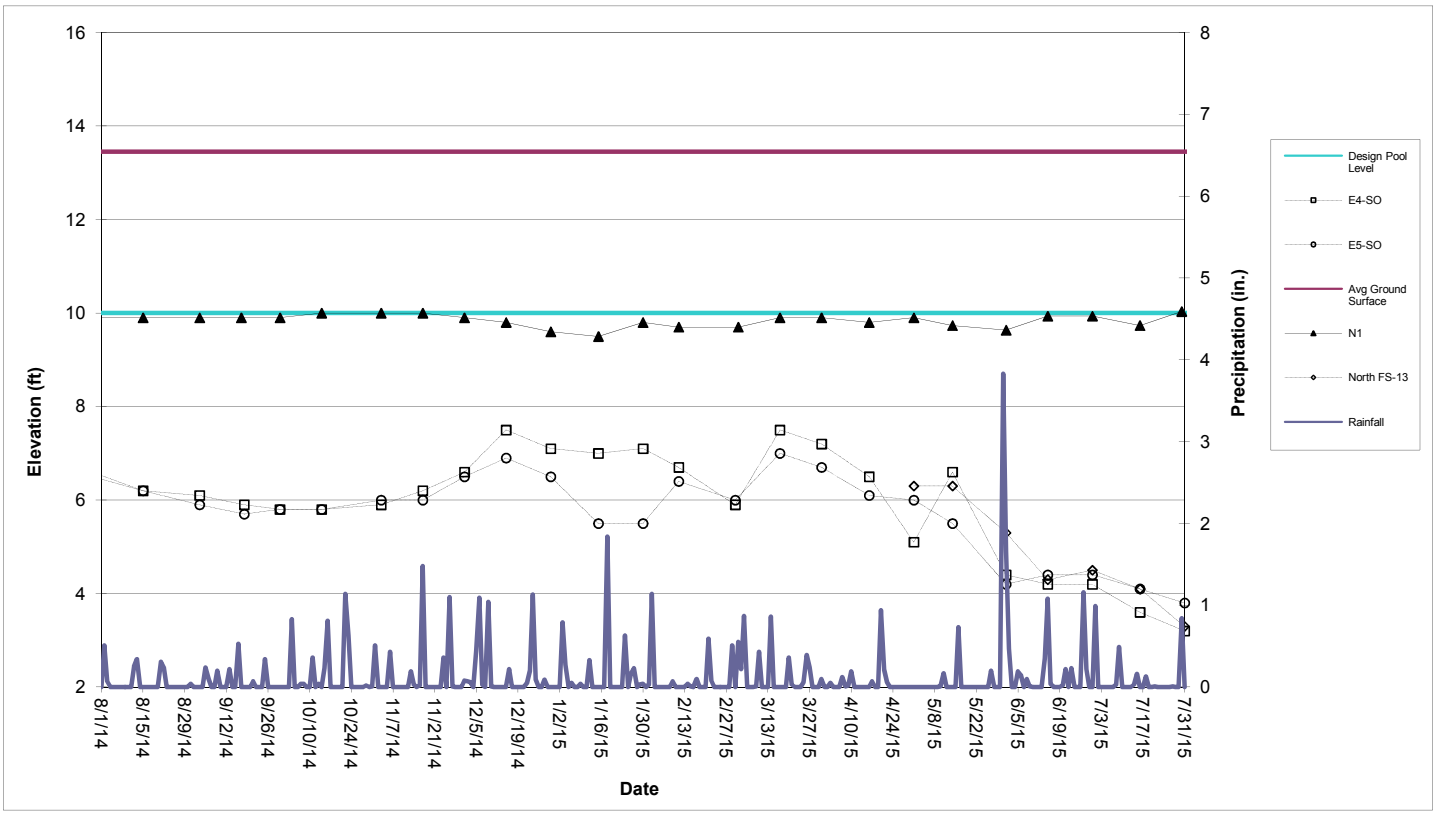
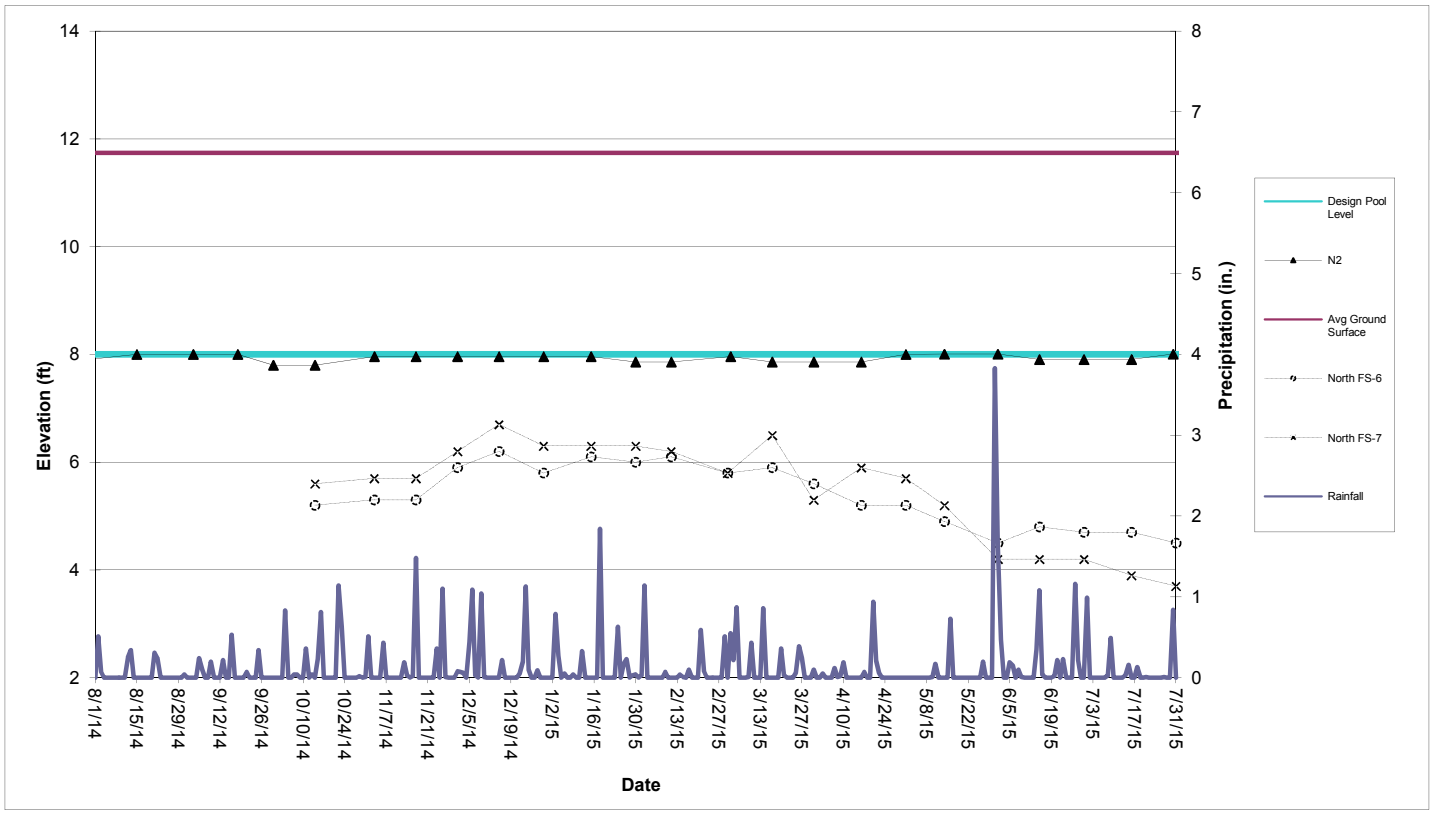
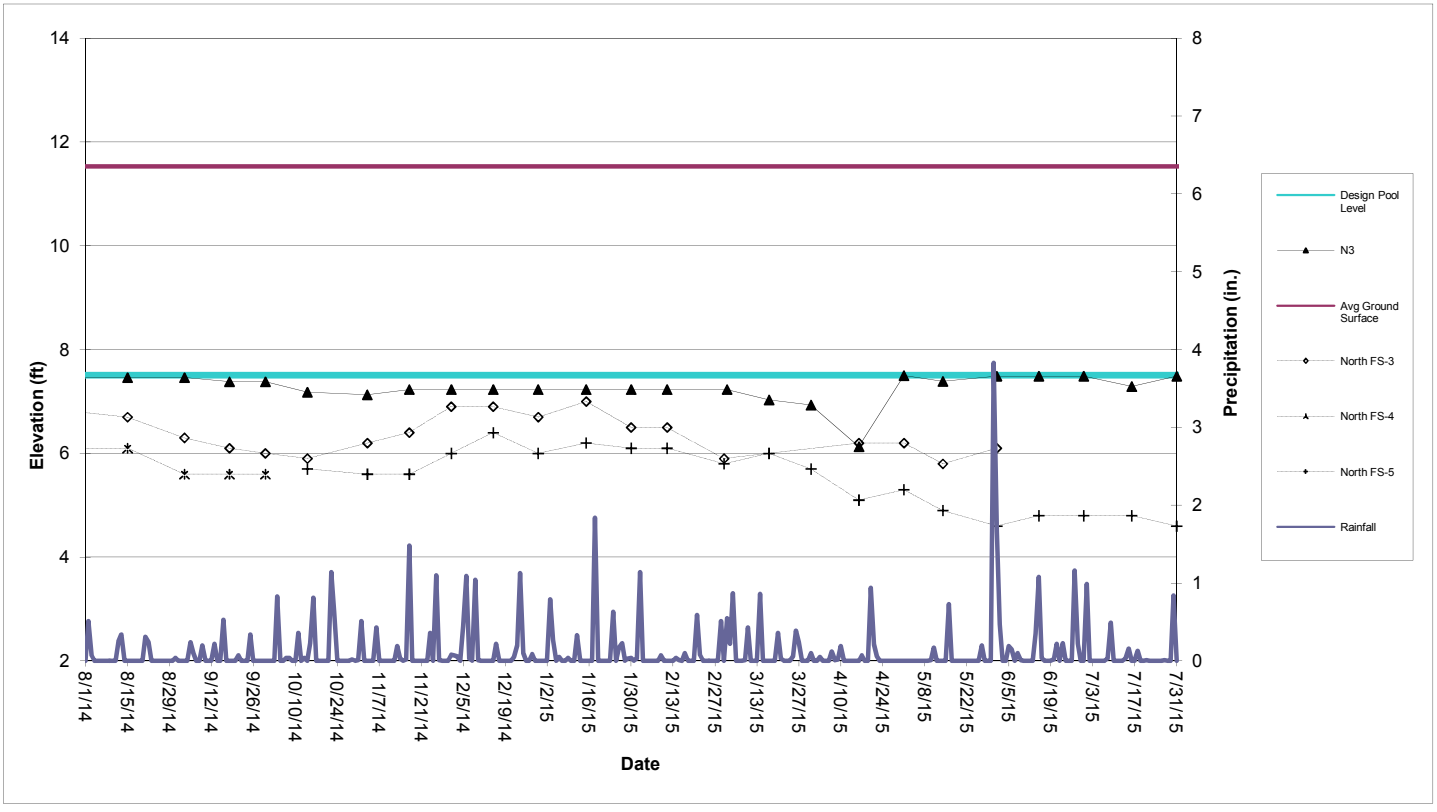
Jul 09, 2015 at 3:14pm
bboscaino



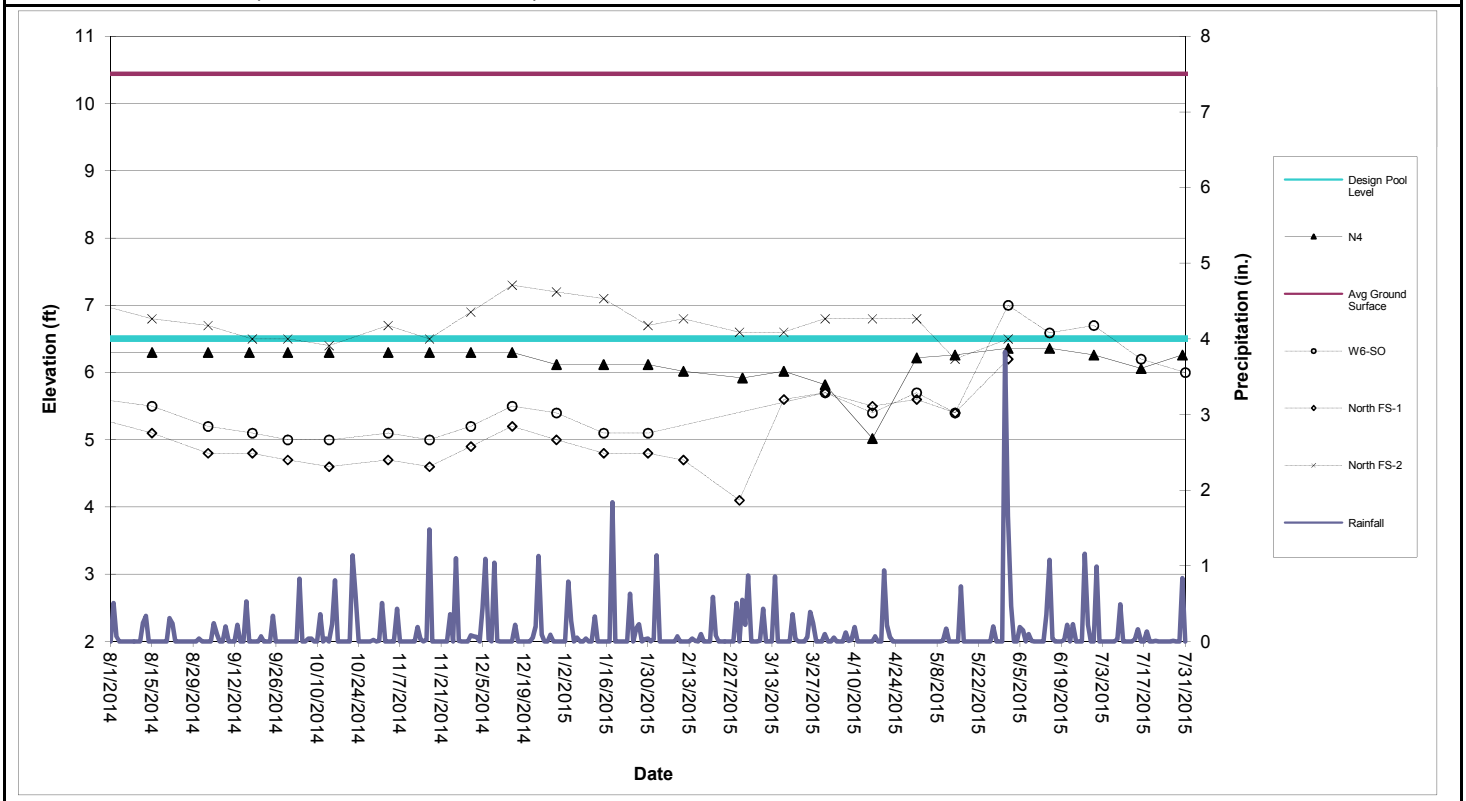
Perimeter Pool N1 (Sta. N13+60 to N20+25)



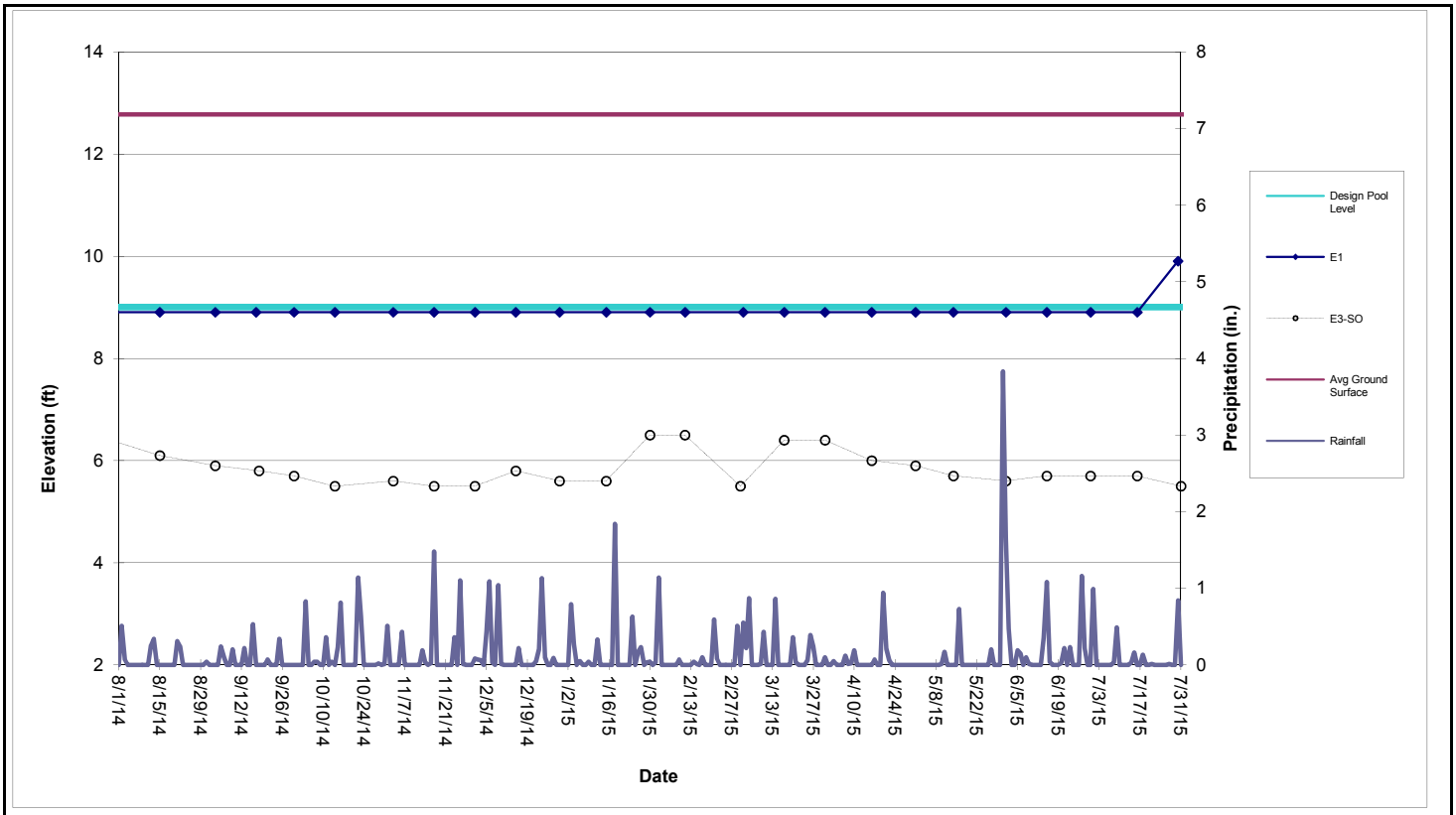
Perimeter Pool N2 (Sta. N10+73 to N13+10)



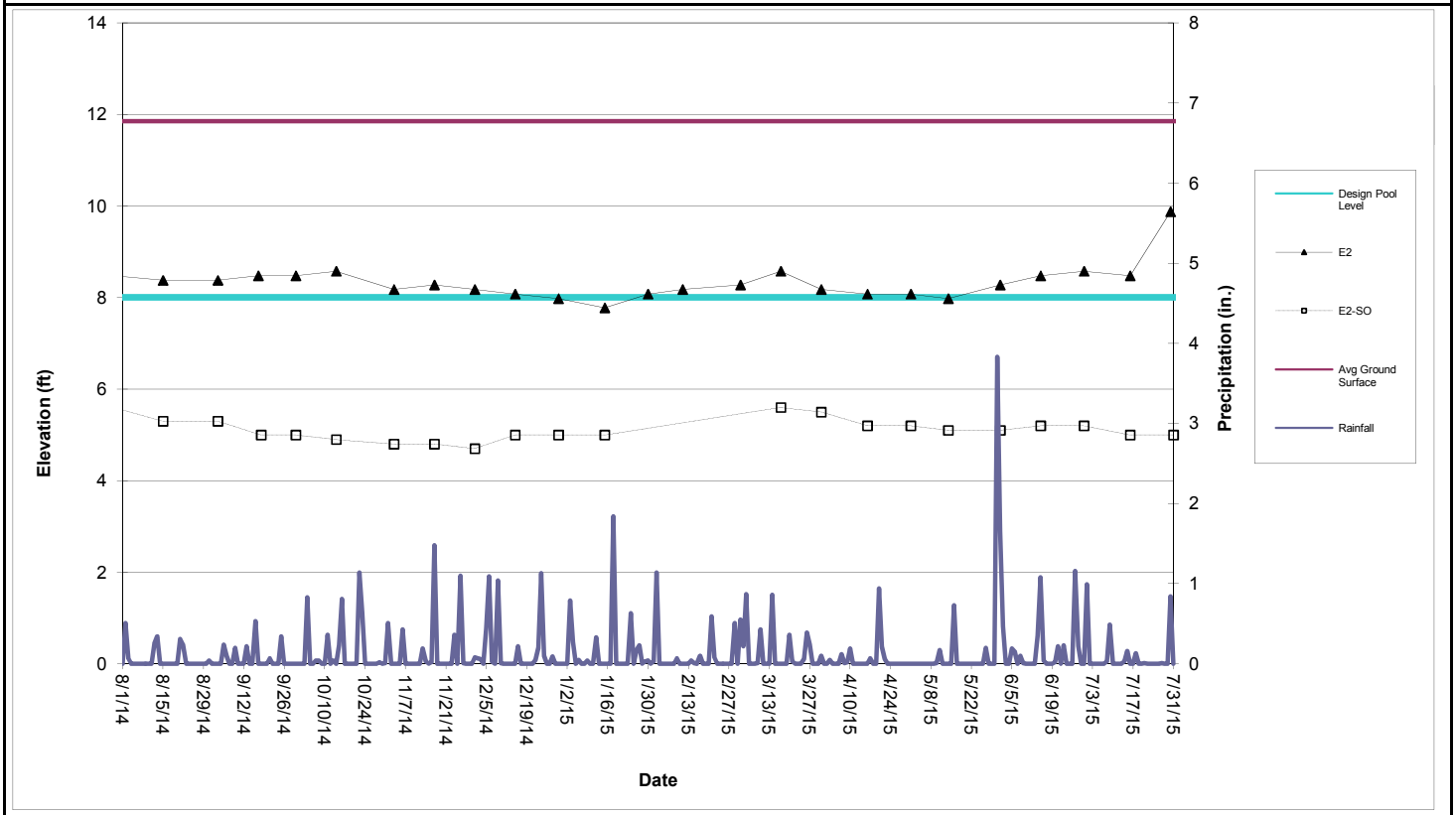
Perimeter Pool N3 (Sta. N6+80 to N10+23)



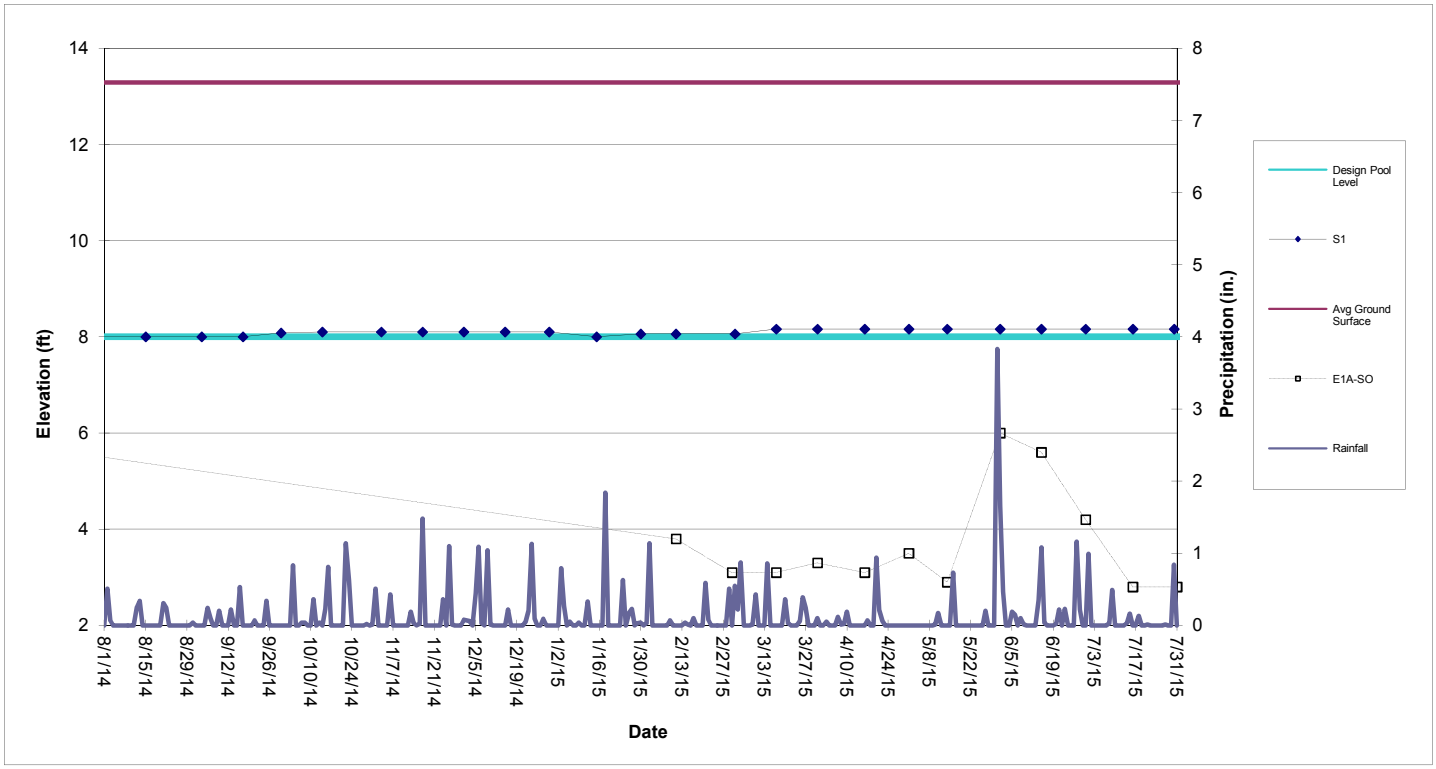
Perimeter Pool N4 (Sta. N6+80 to N10+23)



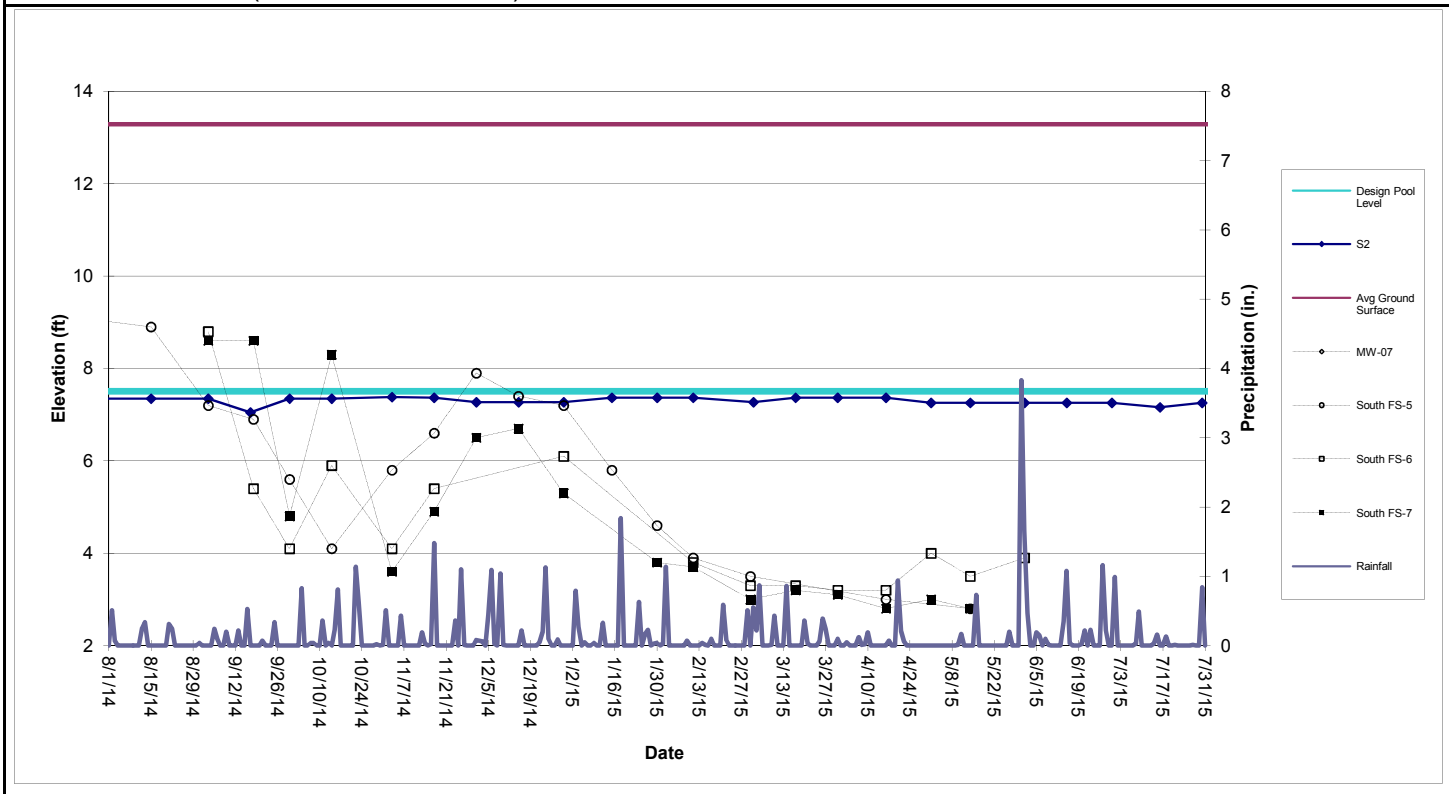
Perimeter Pool E1 (Sta. E0+50 to E3+75)



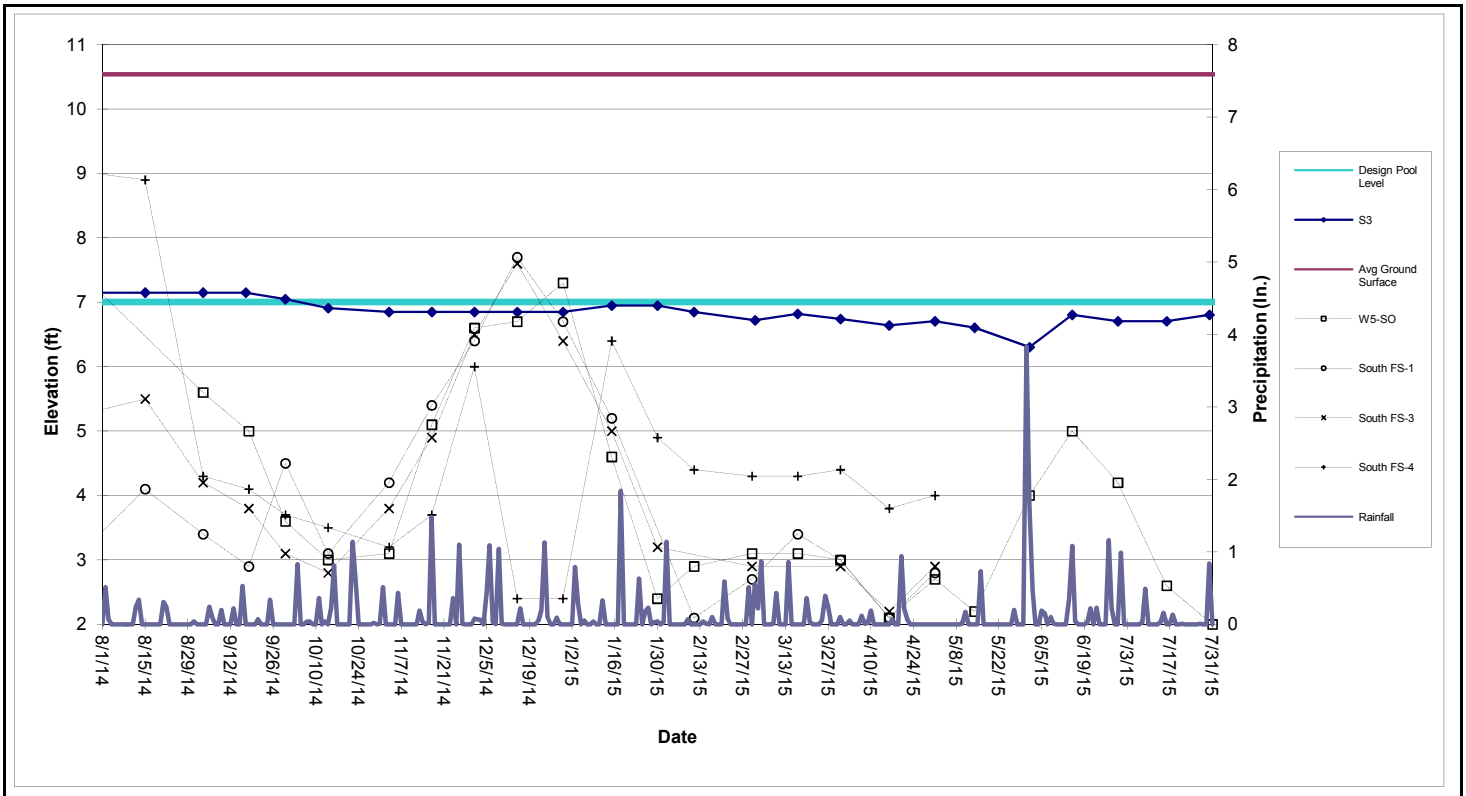
Perimeter Pool E2 (Sta. E4+50 to E7+25)



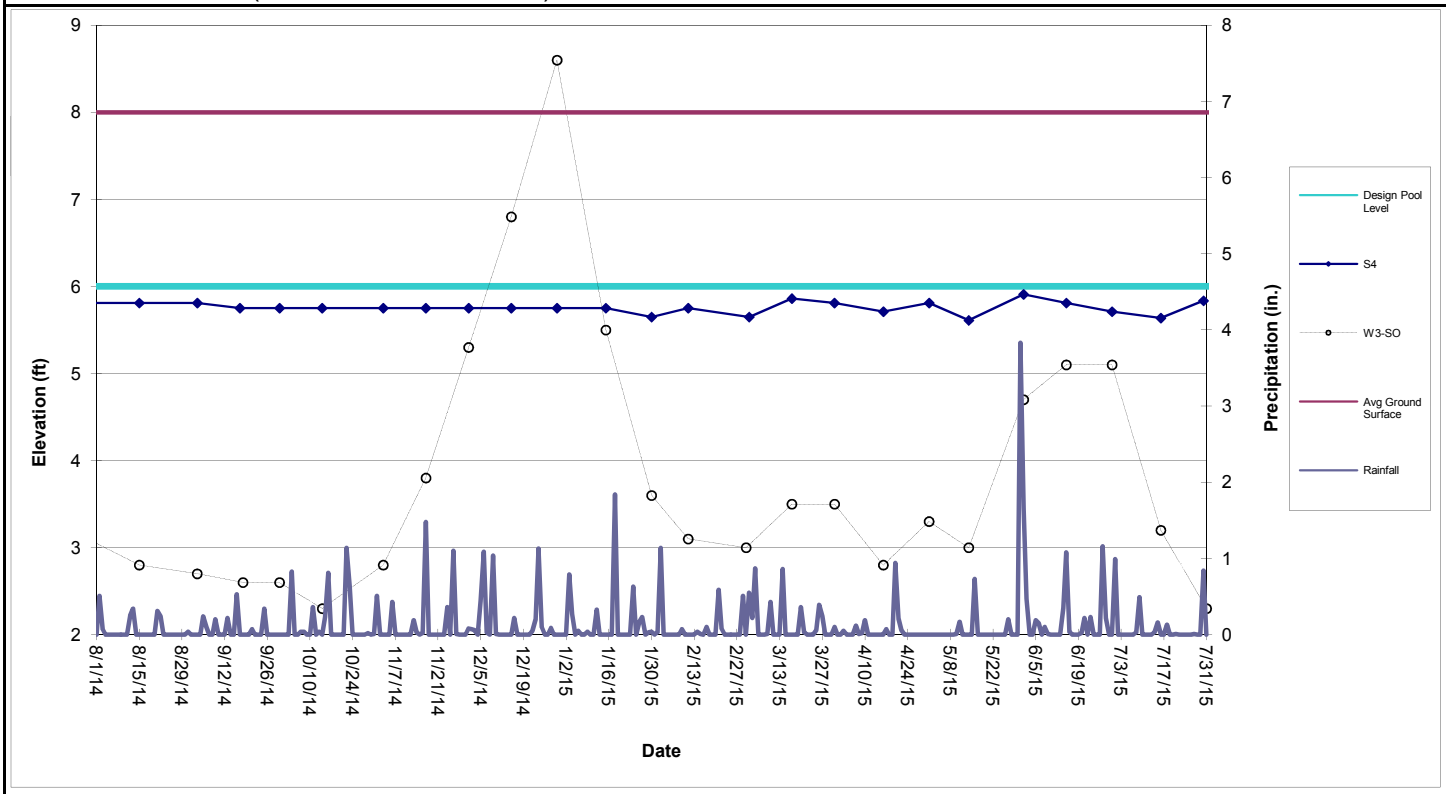
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North								South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
8/15/2014		5.3	6.1	6.2	6.2	2.8		5.5	5.1	6.8	6.7	6.1					4.1	5.5	8.9	8.9		
9/3/2014		5.3	5.9	6.1	5.9	2.7	5.6	5.2	4.8	6.7	6.3	5.6					3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7	2.6	5.0	5.1	4.8	6.5	6.1	5.6					2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8	2.6	3.6	5.0	4.7	6.5	6.0	5.6					4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9		5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2		5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4		5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9		6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9		6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7		6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0		6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5		6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5		6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9		5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6			6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8			5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2		5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2		5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8		4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1		4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6					4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7					4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1	3.2	2.6	6.2					4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8	2.3	2.0	6.0					4.6	4.5	3.7	3.3						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4

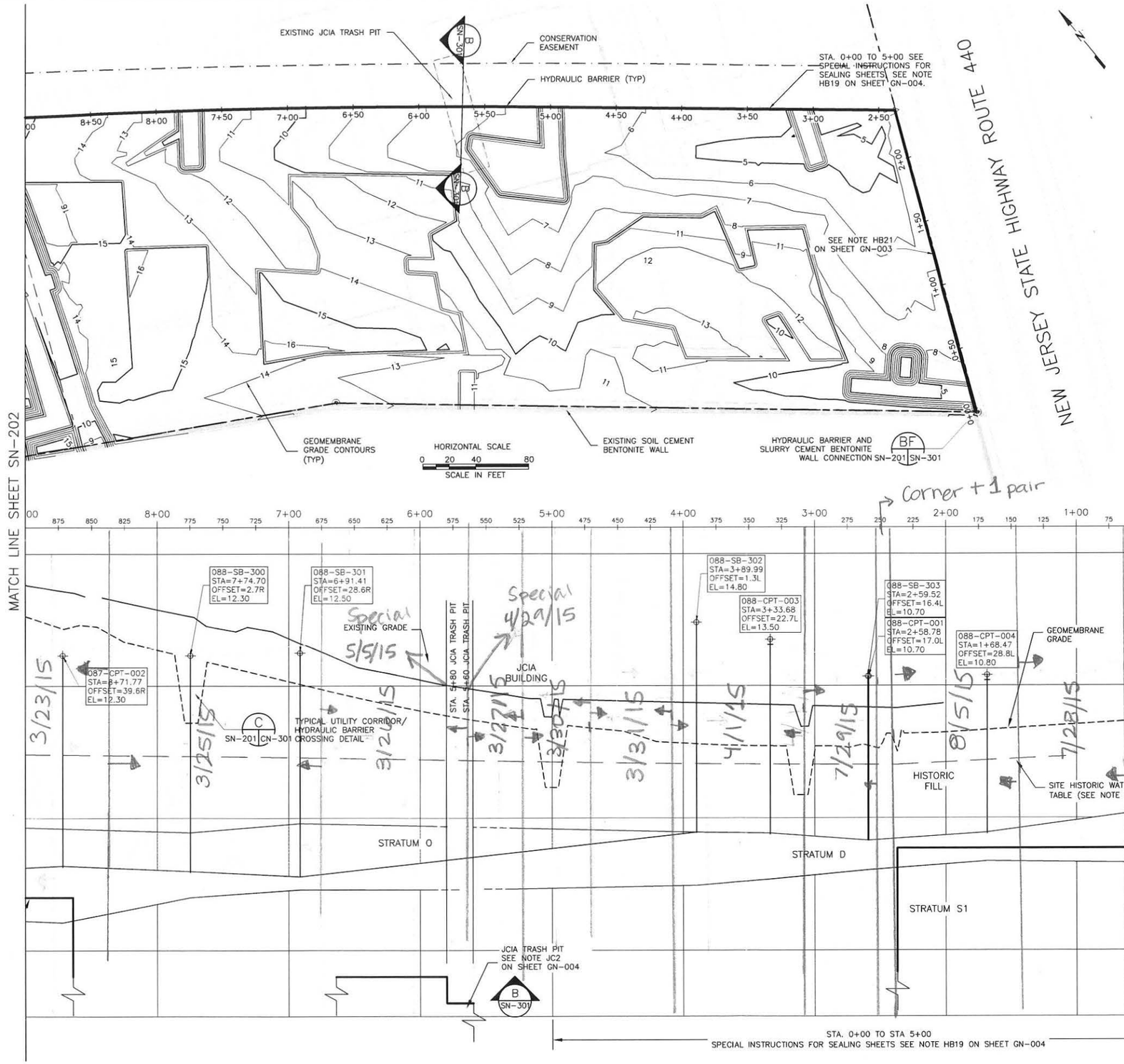
Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	10/10/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR TDD CHK RJR	APVD TDD	SGS

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Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

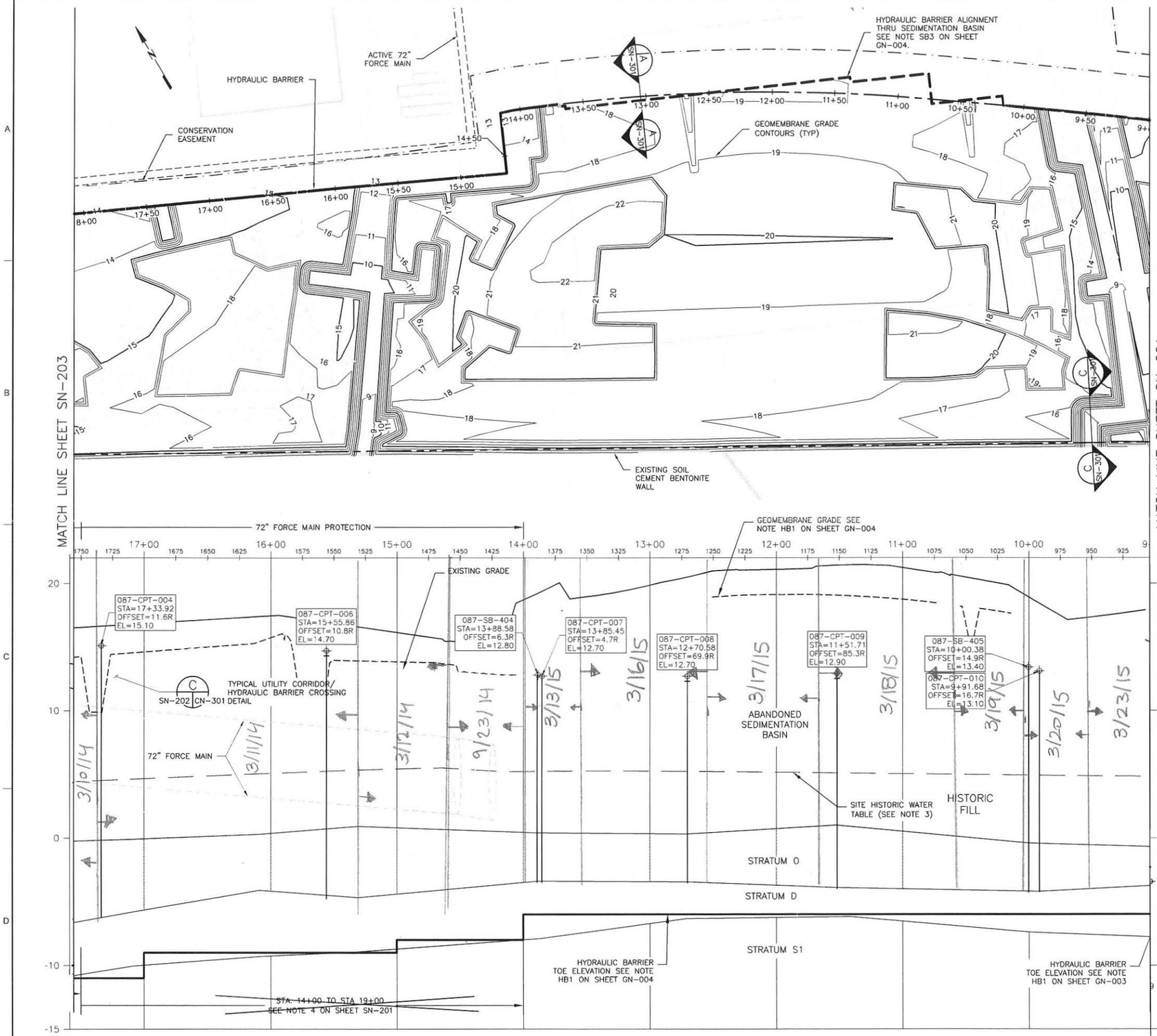
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN	TDD	DR TDD CHK RJR APVD BCO		

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

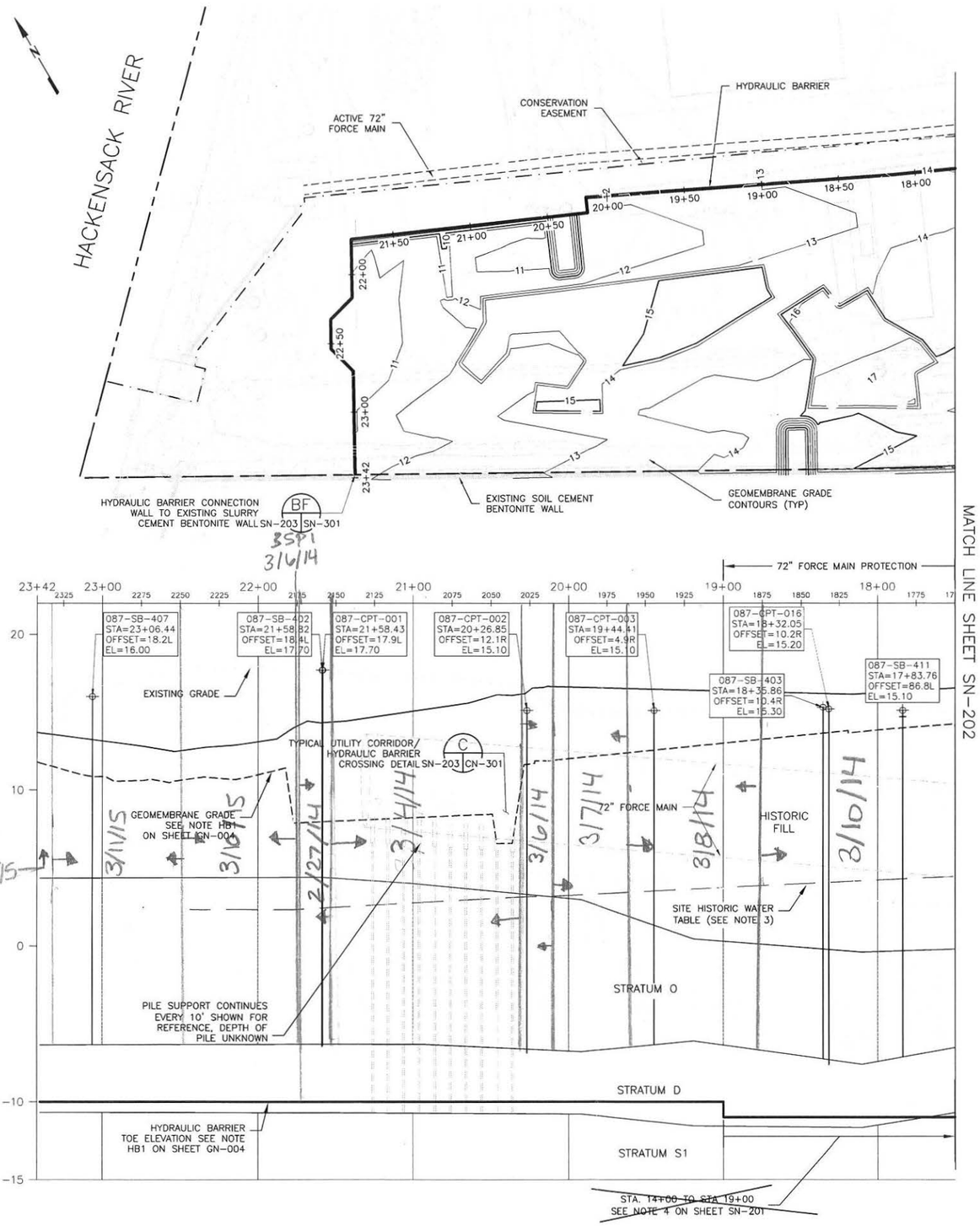
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR CHK APVD		SGS
		TDD RJR TDD		

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PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 890-2329
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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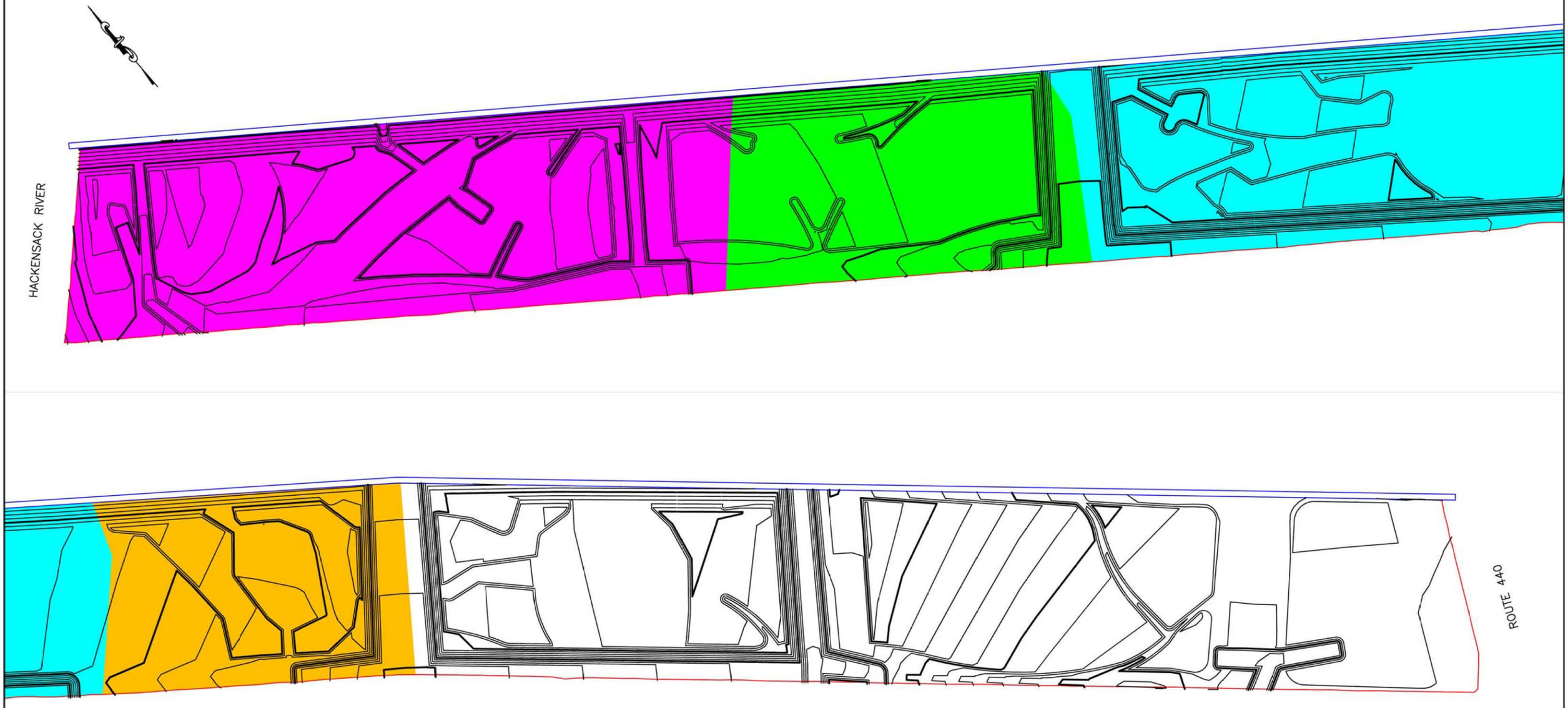
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
07/24/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-1	CF	2/3		98'N OF SEOS (VALLEY DESIGN)	P	2.5	x	63		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-2	WR	3/4		94'N OF SEOS	P	2	x	12		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-3	SI		3	60'N OF 2/3 & 11'E	P	2	x	2.5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-4	DS-1	3/4		18'N OF SEOS	P	2	X	28		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-5	CF		3	140'N OF 2/3 & 6'E	P	2	x	10		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-6	PB	1/2		135'N OF SEOS (6" PB)	P	5	x	5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-7	PB		1	85'N OF 1/2 & 17'W (4" PB)	P	3	x	4		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-8	SI		2	86'N OF 2/3 & 2'W	P	1.5	x	2		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-9	RW	4/5		SEOS	P	1.5	x	3		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-10	SJ	5/6/7		SJ 5/6/7	P	1.5	X	2		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-11	RW	5/7		SEOS	P	2	x	4		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-12	DS-2	6/7		10'E OF WEOS	P	2	x	5.5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-13	FS	7/8		E.S. & COVER OVER SJ 6/7/8	P	2	x	6		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-14	PB		8	147'N OF 6/8 & 4'E (6" PB)	P	5	x	5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-15	BO	9/10		52'N OF SEOS	P	2	x	3		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-16	DS-3	11/12		100'N OF SEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-17	CF	13/14		46'S OF NEOS (VALLEY DESIGN)	P	2	x	42		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-18	DSX-1		13	ON RP-17	P	2	X	6		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-19	DS-4	14/15		16'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-20	CF	14/15	15	57'S OF NEOS	P	2	x	20		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-21	CF	15/16		37'S OF NEOS	P	2	x	16		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes																			
CR	--Crease	FS	--Failed Seam	MatD	--Material Defect	LL	--Lost Lap	CF	--Custom Fit
DS	--Destruct Sample	WR	--Wrinkle	WS	--Welder Restart	MD	--Mechanical Damage	PB	--Pipe Boot
SI	--Subgrade Irregularity	AV	--Airvent	RW	--Roller Wrinkle	DO	--Damage By Others	BO	--Burn Out
SJ	--Seam Joint	AO	--Add On	CS	--Concrete Structure			AT	-Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-22	BO	16/17		23'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX		7/30/15
RP-23	DS-5	17/18		75'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-24	CF	16		80'S OF 16/17 & 13'W (MANHOLE)	P	10	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-25	CF	15/16		78'S OF NEOS	P	2	x	15		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-26	CF		16	100'S OF 16/17 & 15'W	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-27	BO	16/17		80'S OF NEOS (PATCH)& 7'W (EXT)	P	2	x	2	84	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-28	BO	16/17		115'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-29	BO	16/17		130'S OF NEOS	P	2	x	8		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-30	SI		17	110'S OF 17/18 & 4'W	P	2	x	2		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-31	BO	17/18		101'S OF NEOS	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-32	AO		15	SEOP (TRIANGLE)			x		324	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-33	CF		16	134'S OF 16/17 & 6'W	P	2	x	13		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-34	DSX-2	RP-32/15	15	10'E OF RP-32	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-35	WR		17	94'S OF 16/17 & 3'W	P	2	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-36	WR		17	88'S OF 16/17 & 3'W	P	1.5	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-37	WR		17	88'S OF 16/17 & 15'W	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-38	WR		17	101'S OF 16/17 & 10'W	P	2	x	8		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-39	DS-6	20/21		155'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-40	BO	20/21		128'S OF NEOS	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-41	WR		18	75'S OF 18/19 & 11'W	P	2	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-42	CR	17/18		60'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-64	WR		21	BETWEEN RP-63 & RP-65			x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-65	WR		21	20'S OF 21/22 & 18'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-66	WR		22	20'S OF 22/23 & 5'W	P	1.5	x	12		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-67	BO	21/22		84'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-68	BO	22/23		76'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-69	WR		22	130'S OF 21/22 & 6'E	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-70	WR		22	BETWEEN RP-69 & RP-71			x		60	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-71	CR	21/22		137'S OF NEOS	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-72	WR		21	BETWEEN RP-71 & RP-73			x		24	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-73	WR		21	130'S OF 21/22 & 4'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-74	WR		21	BETWEEN RP-73 & RP-75			x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-75	WR		21	129'S OF 21/22 & 9'W	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-76	BO	22/23		97'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-77	WR		23	118'S OF 22/23 & 7'E	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-78	WR		23	BETWEEN RP-77 & RP-79			x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-79	WR		23	124'S OF 22/23 & 7'E	P	2	x	11		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-80	WR		23	BETWEEN RP-79 & RP-81			x		84	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-81	WR		23	134'S 22/23 & 9'E	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-82	DS-7	23/24		87'S OF NEOS	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-83	DSX-3	RP-82/23		RP-82/83(87'S OF NEOS)	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-84	CR	23/24		116'S OF NEOS	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-85	CF		23	125'S OF 23/24 & 3'W	P	2	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-86	CF		23	BETWEEN RP-85 & RP-87			x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-87	CF		23	140'S OF 23/24 & 10'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-88	BO	24/25		127'S OF NEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-89	WR		24	BETWEEN RP-88 & RP-90			x		60	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-90	WR		24	127'S OF 24/25 & 5'W	P	2	x	2.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-91	CF		25	100'N OF 25/26 & 6'W	P	2	x	6		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-92	CF		25	BETWEEN RP-91 & RP-93			X		120	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-93	CF		25	121'N OF 25/26 & 12'W (T-SHAPE)	P	2	x	22		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-94	CF		25	BETWEEN RP-93 & RP-95			x		84	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-95	CF	25/26		110'N TO 129'N OF SEOS	P	2	x	19		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-96	DS-8	26/27		128'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-97	BO	26/27		71'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-98	CF		27	BETWEEN RP-97 & RP-100			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-99	CR	26/27		38'N OF SEOS	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-100	CF		27	55'N OF 26/27 & 13'E	P	2	x	30		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-101	CF		27	BETWEEN RP-100 & RP-102			x		144	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-102	CF		27	87'N OF 26/27 & 7'E	P	2	x	6.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-103	CF	27/28		117'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-104	CF		28	BETWEEN RP-103 & RP-105			x		156	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-105	BO	28/29		120'N OF SEOS	P	2	x	15		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-106	CF		28	BETWEEN RP-105 & RP-107			x		192	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-107	CF		28	134'N OF 27/28 & 4'E	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-108	BO	29/30		125'N OF SEOS	P	2	x	10		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-109	DS-9	29/30		80'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-110	CF		28	85'N OF 28/29 & 3'W	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-111	CF		28	BETWEEN RP-110 & RP-112			x		180	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-112	WR	28/29		68'N OF SEOS	P	2	x	8		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-113	WR		28	BETWEEN RP-112 & RP-114			x		36	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-114	WS	28/29		73'N OF SEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-115	BO	28/29		61'N OF SEOS	P	1.5	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-116	WR		28	29'N OF 27/28 & 1'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-117	WR		28	BETWEEN RP-116 & RP-118			x		72	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-118	WR		28	29'N OF 27/28 &9'E	P	2	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-119	WR		28	BETWEEN RP-118 & RP-120			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-120	WR		28	29'N OF 27/28 & 13'E	P	1	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-121	BO	27/28		34'N OF SEOS	P	2	x	7		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-122	CF		27	BETWEEN RP-121 & RP-123			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-123	CF		27	34'N OF 27/28 & 5'W	P	1.5	x	1.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-124	CF		28	34'N OF 27/28 & 10'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-125	CF		28	BETWEEN RP-124 & RP-126			x		108	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-126	CF		28	45'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
1730.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
2368.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E	P	3	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E	P	3	x	4		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135 (N side)			x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP			x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135 (S side)			x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139			x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141			x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144			x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145							x								
RP-146							x								
RP-147							x								

Summary of Non-Compliance & Corrective Action Forms

SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	7/21/2015	Subgrade Irregularity	RP-3	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
2	7/21/2015	Subgrade Irregularity	RP-8	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
3	7/22/2015	Failed Non-Destruct Test	RP-13	Panel #7 (P-7) & Panel #8 (P-8) seam	Based on length of failed seam (approximately 6 ft.) the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). The patch was overlapped a minimum of 4-inches, with rounded edges, and sealed with an extrusion weld. Vacuum box testing was then conducted in accordance with Section 02372-8 to confirm the weld.
4	7/24/2015	Subgrade Irregularity	RP-30	Panel #17 (P-17)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	10053001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 24+35 TO STA 23+35 (WEST END)		
QA Monitor	LANGAN	Date	7/20/2015		

Description of Soil Surface to be lined: WEST END OF SA-6 SOUTH (~STA. 24+35) TO APPROX. 100 FT. EAST (STA. 23+35) - RUNNING NORTH TO SOUTH THROUGH APPROX. GRID POINT ~~8~~ 13.09. SOIL APPEARS TO BE GRADED, COMPACTED AND FREE OF DEBRIS (> ½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/20/15
Title	~~SENIOR STAFF~~ LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-20-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½") AS OUTLINED IN SECTION 02372-8

Photographs	Number	Location	Orientation	Notes
	1	WEST END	N-S	REFER TO PHOTOGRAPH LOG (11/20/15)
	2	WEST END	N-S	PHOTOS 2, 3, 4 W/ DESCRIPTIONS

1. REFER TO PHOTO LOG (11/20/15) PHOTOS 2, 3, 4 FOR CORRESPONDING PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 2

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.		General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 23+35 TO ~STA. 22+35		
QA Monitor	LANGAN	Date	7/21/2015		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM SUBGRADE APPROVAL ON 7/20/15. LOCATED FROM APPROX. STA. 23+35 TO STA. 22+35 (100 FT. EAST FROM INSTALLED CAP ON 7/20/15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/21/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-22-15
Title	Entrak QC Manager
Representing:	Entrak
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.
GEOMEMBRANE CAP PANELS 5-9 PLACED OVER AREA.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	STA. 23+35	LOOKING EAST	REFER TO PHOTO LOG (7/21/15), PHOTO #9
	2 PHOTO #10	STA 23+35	EAST/SOUTHEAST	REFER TO PHOTO LOG (7/21/15), PHOTO #10
1. REFER TO PHOTO LOG (7/21/15) PHOTOS 9,10 FOR SUPPORTING SUBGRADE PHOTOS.				2.

LANGAN

Certificate of Soil Surface

Sheet # 3

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530601	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	Sta. 22+35 to Sta. 21+40		
QA Monitor	Langan	Date	7/22/15		

Description of Soil Surface to be lined: Area immediately east from previously approved subgrade on 7/21/15. Located from approx. Sta. 22+35 to Sta. 21+40 (approx. 95 ft east of geomembrane installed on 7/21/15. Soil appears to be graded, compacted, and free of debris (1½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/22/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Entrust
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (7 ½")
As outlined in Section 02372-8

Geomembrane Cap Panels 10-13 Placed over Area

Photographs	Number	Location	Orientation	Notes
	1 Photo # 2		Looking East	Refer to Photo Log (7/22/15) Photo # 2
	2 Photo # 3		Looking NE	Refer to Photo Log (7/22/15) Photo # 3

1. Refer to Photo Log (7/22/15)
Photos 2, 3 for Supporting Substrate Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / ANECFW	Cell No.	~STA. 21+40 TO STA. 19+90		
QA Monitor	LANGAN	Date	7/23/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/22/15. LOCATED FROM APPROXIMATE STATION STA. 21+40 (~P-13) TO STA. 19+90 (APPROX 150 FT. EAST OF GEOMEMBRANE INSTALLED ON 7/22/15). SOIL APPEARS TO BE GRADED, COMPACTED + FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/23/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Fiber of Debris (2 ½")
As outlined in Section 023-72-8.

Photographs	Number	Location	Orientation	Notes
	1 Photo #3	Sta 21+40	Looking East	Refer to Photo Log (7/23/15) Photo #3
	2 Photo #5	Sta 22+00	Looking NE	Refer to Photo Log (7/23/15) Photo #5
1. Refer to Photo Log (7/23/15) Photos 3.5 for supporting subgrade photos Additional subgrade details also shown on Photos 4+6				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / ARNEC FW	Cell No.	~STA. 19+90 TO STA. 19+00		
QA Monitor	LANGAN	Date	7/24/15		

Description of Soil Surface to be lined: ADDITIONAL ~90 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/23/15 (P-18). SUBGRADE APPROVED FROM ~STA. 19+90 TO STA. 19+00 (SUBGRADE PREVIOUSLY APPROVED TO STA. 19+90); GEOMEMBRANE INSTALLED TO ~STA. 20+25 ON 7/23/15), SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (≤ ½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/24/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-24-15
Title	QC Manager Entact
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	STA 20+25	LOOKING EAST	REFER TO PHOTO LOG (11/24/15) PHOTO #8
	2 PHOTO #9	STA. 19+80	LOOKING SOUTH	REFER TO PHOTO LOG (11/24/15) PHOTO #9
1. REFER TO PHOTO LOG (11/24/15) PHOTOS 8,9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	N Sta. 19+00 to Sta. 18+20		
QA Monitor	Langan	Date	7/28/15		

Description of Soil Surface to be lined: Additional ~80 ft. Section of Soil Approved East of Geomembrane Panels Installed on 7/24/15 (P-24). No Subgrade Approved on 7/27/15. Subgrade Approved From ~ Sta. 19+00 to Sta. 18+20. Soil Appears to Be Graded, Compacted, And Free of Debris (7½") And In Conformance With Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/28/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-28-15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 023172-8
- ADDITIONAL ~40 FT. OF SOIL APPROVED AT END OF DAY TO ALLOW ESI TO INSTALL EXTRA 2 PANELS OF GEOMEMBRANE SOIL APPROVED TO APPROX. STA 17+80.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~BD 6775-1584	LOOKING NW	REFER TO PHOTO LOG (11/28/15) PHOTO #2
	2 PHOTO #4	~19.00	LOOKING EAST	REFER TO PHOTO LOG (11/28/15) PHOTO #3
1. REFER TO PHOTO LOG (11/28/15) PHOTOS 3, 4, 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 179+80 TO STA. 177+00		
QA Monitor	LANGAN	Date	7/29/15		

Description of Soil Surface to be lined: ~280 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/28/15 (P-30). SUBGRADE APPROVED FROM APPROX. STA. 179+80 TO STA. 177+00, SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½"), AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/29/30
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/29/30
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED UP TO 1ST UTILITY CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	STA. 17+80	LOOKING N	REFER TO 7/29/15 PHOTO LOG PHOTO #5
	2 PHOTO #8	SEND CAP	LOOKING E	REFER TO 7/29/15 PHOTO LOG PHOTO #8
1. REFER TO PHOTO LOG (7/29/15) PHOTOS 5, 8 FOR SUPPORTING SUBGRADE PHOTOS				2.

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PHOTOGRAPHIC LOG
Photo #1 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/20/15

Direction Taken:
Looking north toward Grid Point 11

Description:

Prepared soil subgrade approved for liner placement. Slopes compacted and free of loose debris > ½ inch.



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PHOTOGRAPHIC LOG
Photo #2 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/20/15

Direction Taken:

Looking north near Sta. 24+00

Description:

White plastic fasteners placed at minimum 5 ft. intervals along GVL geonet as outlined in specifications



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PHOTOGRAPHIC LOG
Photo #3(07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east along southern section of SA-6 (from approximate Sta. 23+35)

Description:

Prepared soil subgrade as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking north near Sta. 23+35

Description:

ESI sewing top of geotextile seem on GVL as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #5 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking south along installed geomembrane panels.

Description:

ESI deploying geomembrane panels (P-10 through P-14).



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PHOTOGRAPHIC LOG
Photo #6 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking along geomembrane cap panels P-9 and P-10.

Description:

ESI conducting fusion welding between geomembrane P-9 and P-10 panel seams (as per project specifications).



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PHOTOGRAPHIC LOG
Photo #7 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking along geomembrane panels

Description:

ESI conducting non-destructive air testing as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #8 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/23/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Installed geomembrane cap with GDL visible at far western end.



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PHOTOGRAPHIC LOG
Photo #9 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/24/15

Direction Taken:

Looking along geomembrane cap and extrusion welding RP-15.

Description:

ESI conducting extrusion welding on patches and repairs. Extrusion weld areas to be tested with vacuum box (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #10 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/27/15

Direction Taken:

Looking west along SA-6 (panel 20/21 seam)

Description:

ESI collecting destruct along Panel 23/24 seam (DS-7).



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PHOTOGRAPHIC LOG
Photo #11 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/27/15

Direction Taken:

Looking northwest – collection manhole in background (Sta.21+00)

Description:

ESI conducting vacuum box testing on RP-31 after completion of extrusion welding.



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PHOTOGRAPHIC LOG
Photo #12 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/29/15

Direction Taken:

Looking northeast along SA-6 cap

Description:

Installed geomembrane panels (P-31 & P-32). ESI conducting fusion welding (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #13 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/30/15

Direction Taken:

Looking west along SA-6 cap

Description:

Ramp built up to SA-6 for placement of cover soil over installed GDL.



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PHOTOGRAPHIC LOG
Photo #14 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/30/15

Direction Taken:

Looking southeast along southern end of cap

Description:

ESI conducting booting activities for PZ-18 (located on P-32).



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PHOTOGRAPHIC LOG
Photo #15 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/31/15

Direction Taken:

Looking west along SA-6 (installed GDL)from approximate Sta. 17+20

Description:

Installed GDL up to approximate Sta. 17+20 along SA-6 (from western end).



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PHOTOGRAPHIC LOG
Photo #16 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/31/15

Direction Taken:

Looking south along geomembrane cap (near approx. Sta. 19+90)

Description:

ESI deploying GDL over previously installed geomembrane panels near Sta. 19+90 (over Panels 21 & 22).



Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 2, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		2
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water		X		5
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		7
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		8
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		9
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/02/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, July 02, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Exclusion Zone fencing is missing along the southwestern edge of the cap area.
2	IA2Q4A1AL8	Spill pallets and other secondary containment vessels have accumulated stormwater.
3	IA2Q4A1AL8	The cap area to the north of the 60 Kellogg building is graded to shed stormwater over the sheetpile hydraulic barrier.
4	IA2Q4A1AL8	Gaps are present in the perimeter fence panels at the western end of Kellogg Street.
5	IA2Q4A1AL8	Stormwater is ponded to the south of the hydraulic barrier on SA-6 South.
6	IA2Q4A1AL8	The remaining Type C material stockpile requires a containment berm or tarping.
7	IA2Q4A1AL8	Gaps are present in the perimeter fence to the west of the CWTP
8	IA2Q4A1AL8	Additional erosion control measures are required around the soil screening operation on SA-7.
9	IA2Q4A1AL8	Sediment is present on the southern SA-7 haul road.
10		

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 07/02/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Reinstall Exclusion Zone fencing	7-6-15 RAD
2	Drain stormwater from secondary containment vessels.	7-7-15 RAD
3	Regrade the cap area (shape a swale and/or berm) to divert stormwater run-off to a low area within the EZ.	7-7-15 RAD
4	Install clamps between temporary fence panels to keep them in alignment.	7-7-15 RAD
5	Pump ponded stormwater to the CWTP	7-7-15 RAD
6	Construct a containment berm around or tarp over the remaining Type C stockpile.	7-7-15 RAD
7	Reposition the Jersey barriers/fence panels to close the gaps in the perimeter fence.	7-6-15 RAD
8	Install silt fence or other comperable erosion control measures around the soil screening area and the new stockpiles.	7-8-15 RAD
9	Clean up the remaining sediment on the SA-7 roadway.	7-6-15 RAD
10		

Construction Manager: _____ **Date:** 07/09/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 10, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/10/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 10, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion control measures are not present along the western toe of the SA-6 South cap area outside of the Exclusion Zone.
2	IA2Q4A1AL8	There are gaps in the placement of the Exclusion Zone signs on the fencing surrounding the SA-6 south cap area
3	IA2Q4A1AL8	Mud and silt has accumulated in the stone at the foot of the western SA-6 North to SA-7 ramp.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 07/10/15

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install erosion control measures as required.	7-15-15 RAD
2	Install additional Exclusion Zone signs on the EZ fenceline as required.	7-14-15 RAD
3	Clean accumulated sediment from the stone as needed.	7-13-15 RAD

Construction Manager: _____ **Date:** 07/16/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 17, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		5
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		6
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/17/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 17, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT**: Erosion control measures are not present along the western toe of the SA-6 South cap area outside of the Exclusion Zone.
2	IA2Q4A1AL8	A gap is present in the Exclusion Zone fencing on the western end of the SA-6 South cap area.
3	IA2Q4A1AL8	The three stormwater catchbasins inside of the site at the western end of Kellogg Street require maintenance of silt protection measures.
4	IA2Q4A1AL8	Pieces of removed storm drain pipe and other debris are present on the SA-6 South backfill area.
5	IA2Q4A1AL8	The Exclusion Zone fence located on SA-6 North to the south of the trash pit requires additional signage
6	IA2Q4A1AL8	The tarp covering the stockpile of Type C material on SA-6 North requires maintenance.
7	IA2Q4A1AL8	Debris is present at various locations on the stone surface of SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 07/17/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install erosion control measures at the gap in the bulkhead where the Degen Oil outfall is located.	7-20-15 RAD
2	Install additional Exclusion Zone fencing as required.	7-23-15 RAD
3	Clean accumulated sediment from the stone as needed.	7-23-15 RAD
4	Install filter fabric baskets inside or silt fencing around the three catch basins.	7-23-15 RAD
5	Install additional Exclusion Zone signs as required.	will be done next week
6	Reinstall the cover tarp on the stockpile.	Next week.
7	Pick up and remove the debris (fabric, silt fence, dunnage, etc.) located on the SA-7 stone areas.	7-23-15 RAD

Construction Manager: _____ **Date:** 07/23/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 24, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/24/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 24, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Weeds/vegetation are present around the foundation wall of the 60 Kellogg Building.
2	IA2Q4A1AL8	Silt fence along the western perimeter of the EA-8 excavation on SA-6 North requires maintenance.
3	IA2Q4A1AL8	REPEAT: The Exclusion Zone fence located on SA-6 North to the south of the trash pit requires additional signage.
4	IA2Q4A1AL8	REPEAT: The tarp covering the stockpile of Type C material on SA-6 North requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 07/24/15

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove and dispose of the vegatation.	7-27-15 RAD
2	Re-install/maintain the silt fence as required.	7-29-15 RAD
3	Install additional Exclusion Zone signs as required.	7-27-15 RAD
4	Reinstall the cover tarp on the stockpile.	7-26-15 RAD

Construction Manager: _____ **Date:** 07/30/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (June 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

July 14, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the June 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
6	01	15	6	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,050	82,612 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.43	0.46	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.050	<0.050	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1189	0.1189	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

July 8, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
6	01	15	6	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,311,487	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	38,600,300

DATE	BOD (mg/l)	TSS (mg/l)
6/11/2015	7.8	6.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE July 8, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: June, 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
6/1/2015	Angel Trujillo	36288813	36361522	72,709	0.072709	7.62	0.673									0.41
6/2/2015	Angel Trujillo	36361522	36439287	77,765	0.077765	7.17	0.673									0.44
6/3/2015	Angel Trujillo	36439287	36517346	78,059	0.078059	7.26	0.673									0.44
6/4/2015	Angel Trujillo	36517346	36596563	79,217	0.079217	7.54	0.673									0.44
6/5/2015	Angel Trujillo	36596563	36673355	76,792	0.076792	7.45	0.673									0.43
6/6/2015	Angel Trujillo	36673355	36753779	80,424	0.080424	7.24	0.673									0.45
6/7/2015	Angel Trujillo	36753779	36829655	75,876	0.075876	N/A	0.673									0.43
6/8/2015	Angel Trujillo	36829655	36905531	75,876	0.075876	7.26	0.673									0.43
6/9/2015	Angel Trujillo	36905531	36982499	76,968	0.076968	7.24	0.673									0.43
6/10/2015	Angel Trujillo	36982499	37060139	77,640	0.07764	7.46	0.673									0.44
6/11/2015	Angel Trujillo	37060139	37136537	76,398	0.076398	6.94	0.673	<5.2	7.8		<0.010	<0.015	<0.050	<0.0002	<0.020	0.43
6/12/2015	Angel Trujillo	37136537	37212028	75,491	0.075491	7.60	0.673									0.42
6/13/2015	Angel Trujillo	37212028	37291215	79,187	0.079187	N/A	0.673									0.44
6/14/2015	Angel Trujillo	37291215	37370403	79,188	0.079188	7.64	0.673									0.44
6/15/2015	Angel Trujillo	37370403	37444640	74,237	0.074237	7.55	0.673									0.42
6/16/2015	Angel Trujillo	37444640	37522990	78,350	0.07835	7.61	0.673									0.44
6/17/2015	Angel Trujillo	37522990	37599866	76,876	0.076876	7.59	0.673									0.43
6/18/2015	Angel Trujillo	37599866	37678614	78,748	0.078748	7.56	0.673									0.44
6/19/2015	Angel Trujillo	37678614	37756585	77,971	0.077971	7.54	0.673									0.44
6/20/2015	Angel Trujillo	37756585	37839197	82,612	0.082612	7.57	0.673									0.46
6/21/2015	Angel Trujillo	37839197	37913745	74,548	0.074548	N/A	0.673									0.42
6/22/2015	Angel Trujillo	37913745	37988293	74,548	0.074548	7.62	0.673									0.42
6/23/2015	Angel Trujillo	37988293	38064500	76,207	0.076207	7.58	0.673									0.43
6/24/2015	Angel Trujillo	38064500	38138184	73,684	0.073684	7.49	0.673									0.41
6/25/2015	Angel Trujillo	38138184	38215633	77,449	0.077449	7.61	0.673									0.43
6/26/2015	Angel Trujillo	38215633	38294192	78,559	0.078559	7.58	0.673									0.44
6/27/2015	Angel Trujillo	38294192	38375663	81,471	0.0815	7.61	0.673									0.46
6/28/2015	Angel Trujillo	38375663	38448936	73,273	0.073273	N/A	0.673									0.41
6/29/2015	Angel Trujillo	38448936	38522209	73,273	0.073273	7.53	0.673									0.41
6/30/2015	Angel Trujillo	38522209	38600300	78,091	0.078091	7.64	0.673									0.44
TOTAL				2,311,487	2.311487			<5.2	7.8		<0.010	<0.015	<0.050	<0.0002	<0.020	
			High:	82,612											High:	0.46
			Average:	77,050											Average:	0.43

WW

JB96767

E

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42166.41177
2235 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County / Phase: CS	COC#	087-WW-061115
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ / Sampling Program: 087: JCIA	Lab Proj # (SDG):	
Client Contact: (name, co., address)	Sampler: Frank Schroyer		Lab ID	ACTD
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #	Preservative: 3 / 3 / 3 / 1 / 2 / 2 / 0 / 0 / 2	Site ID	HudsonCo
Honeywell International	Analysis Turnaround Time (TAT): 3		Lab Job #	HWINJM32815
101 Columbia Road Morristown, NJ 07962	Consultant: CH2M		Authorized User:	Honeywell
Preliminary Data To			Text & Excel File Drive	Excel & Text File Order
Sample Receipt Acknowledgement To: Frank Schroyer				
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																	
1	087-WW			087-WWE-061115-A	6/11/2015	15:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1						L23
2	087-WW			087-WWE-061115-B	6/11/2015	15:15	WW	WATER	REG	5	grab	N					X	X				2						V204
3	087-WW			087-WWI-061115	6/11/2015	15:25	WW	WATER	REG	3	grab	N									X	3						G53
4																												
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Relinquished by: Frank Schroyer	pH= 6.94 S.U. @ 10.2° C	Company: AMEC Foster Wheeler	Received by	Company		Condition		Custody Seals Intact	
	Date/Time: 6/11/15			Date/Time: 6-11-15 16:00		Cooler Temp.			
Relinquished by		Company	Received by	Company	6/11/15	Condition		Custody Seals Intact	
	Date/Time: 6/11/15 17:00			Date/Time	1700	Cooler Temp.	3.3 °F		

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 3B (RK)

LABEL VERIFICATION (RK)

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-A		
Lab Sample ID:	JB96767-1	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	673	10	ug/l	1	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 15	15	ug/l	5	06/13/15	06/16/15	ND	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	< 0.20	0.20	ug/l	1	06/13/15	06/13/15	MA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel [b]	< 50	50	ug/l	5	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	06/13/15	06/15/15	BS	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA36869
(2) Instrument QC Batch: MA36875
(3) Instrument QC Batch: MA36885
(4) Prep QC Batch: MP87083
(5) Prep QC Batch: MP87089

(a) Elevated detection limit due to dilution required for high interfering element.
(b) Elevated detection limit due to dilution required for matrix interference (indicated by failing internal standard on original analysis).

RL = Reporting Limit

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-A		
Lab Sample ID:	JB96767-1	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	6.0	4.0	mg/l	1	06/15/15	SP	SM2540 D-11
pH [a]	6.93		su	1	06/11/15 17:06	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-A		
Lab Sample ID:	JB96767-1A	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	7.8	3.4	mg/l	1	06/11/15 20:20	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-B		
Lab Sample ID:	JB96767-2	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T208804.D	1	06/15/15	DC	n/a	n/a	VT8571
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	1.7	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	2.7	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	13.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.44	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.27	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	59.4	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	087-WWE-061115-B		
Lab Sample ID:	JB96767-2	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	38.0	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	96%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	108%		74-115%
1868-53-7	Dibromofluoromethane (S)	96%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@861664 13:47 07-Jul-2015

Report of Analysis

Client Sample ID:	087-WWE-061115-B		
Lab Sample ID:	JB96767-2	**Date Sampled:**	06/11/15
Matrix:	AQ - Water	**Date Received:**	06/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	06/15/15 10:15	BM	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only. Submited to all Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor. Subimtted to all Parties on June 18, 2015.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Contractor only.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Contractor only.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDl and geomembrane terminating at the wall.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 10 OF 25

- **2015 Monthly Reports Part 3**

9/11/2015
MONTHLY REPORT

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

September 11, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Subject: **Riverkeeper et al v. Honeywell International Inc. et al**
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-08

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: August 2015 SA-6/7 Combined Monthly Progress Report No. 2015-08

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)

Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-08

Project SA-6 & 7 Remediation

August 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
08/14/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights - Report No. 2015-07	Honorable Robert G. Torricelli Office of the Special Master
08/18/15	Special Master Conference Call	N/A
08/20/15	Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2, Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
08/21/15	Updated Work Plan for In-Situ Treatment of Chromium-Impacted Soils Treatment Area 10-1 Only Study Area 6 North (Site 087) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/24/15	July 2015 Daily Quality Assurance (QA) Reports Study Area 6 South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/27/15	Design Change Bulletins Response Study Area 6 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/27/15	Requested Design Change Bulletins Study Area 6 Jersey City, New Jersey	Upload to the Louis Berger Group SharePoint Site

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	08/09/15	08/16/15	08/23/15	08/30/15
Construction Management (AMEC)	9	9	9	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	49	48	40	39
Arecon/US Ecology Subcontractors	0	3	3	0
Evoqua	1	1	1	1
B&B Drilling	0	0	0	1
TOTAL STAFF	**64**	**66**	**58**	**55**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected August PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On August 16 through 18, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 23 in Injection Well 088-IW-03.
- On August 5, Summit Drilling completed soil sampling to a depth of 70 feet at the at the proposed PW-3 location on the Difeo car dealership property. Laboratory grain size determinations were completed of selected soil samples from this boring.
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.
- Continued abandonment of monitoring wells on SA-6 North. The wells that where abandoned include the following: 088-MW-002, 088-MW-102, 088-MW-103, 088-MW-115, 088-PZ-001, 088-PZ-002, and 115-E4-DO.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed /refilled the polymer.

- Cleaned upstream process (tank 201 and tank 202) pH probes, and the tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on August 11, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	08/09/15	08/16/15	08/23/15	08/30/15
Avg. Gallons Treated & Discharged (per day)	77,459	77,432	78,222	78,560
Average Flow (gpm) for Operating Period	55	54	54	55
Avg. Hours of Plant Operation	24	24	24	24
GWTP Influent Tanks (gal.)	9,582	7,147	7,000	6,852

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the Excavation Area EA-8 excavation is pending post excavation sampling results.
- Completed excavation of Excavation Area EA-4.
- Completed excavation of relief trench on the cap side of the vertical hydraulic barrier wall adjacent to Excavation Area EA-5 in preparation for excavation.
- Began excavation of Excavation Area EA-5.
- Completed backfill placement in Excavation Area EA-7.
- Continued relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Entact/Horwith	Tri-axle Dump	South Brunswick, NJ	MCUA	AB-10 Material	9	25.91	2,410.37

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Areas EA-4 and EA-5 Volume Excavated - Total for Reporting Period: 899.11CY / Total to Date: 3,742.69 CY
Backfill in Progress	Historic Fill – SA-6 South western backfill area EA-7

3. BACKFILL MATERIALS USED

Source	Week Ending			
	08/09/15	8/16/15	8/23/15	8/30/15
Mt. Hope 3/8" Stone	101.93	0	0	0

- Screened Historic Fill was transferred and placed as backfill in EA-7. A total of 2 loads, totaling approximately 40 cubic yards was placed as backfill in EA-7. In addition, a total of 57 loads of less than 20ppm material, totaling approximately 608 cubic yards was placed as backfill in EA-7.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total approximately 6,000 cubic yards was placed as protective cover soil during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Continued installation of temporary sheet pile along Route 440. On August 4, 2015 the contractor broke an unmarked 6" water service to JCMUA. Repair of the 6" line was completed on August 5, 2015. Installation of the temporary sheet pile has been postponed until utilities are further delineated.
- Continued installation of the vertical hydraulic barrier wall east of the Trash Pit and along Route 440 from STA 0+00 to STA 3+10 (completed on August 5, 2015).

G. CAPPING OPERATIONS

- A total of 111,127 sq. ft. of liner totaling 31% of the total cap area was deployed during the reporting period. The total liner area deployed to date is now 66%.
- Continued installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continued general liner subgrade preparation in Area 2S and 3S.
- Continued cutting hydraulic barrier sheets to final elevation in SA-6 South Open Space Area.

- Continued removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Continued installation of gas vent pipe installation.
- Began placement of protective cover soils and demarcation tape over the geocomposite drainage layer.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2015	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013	Not Specified, Est. 6/11/2014	9/11/2014, 1 yr. extension granted 10/6/14	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Not Specified, Est. 3/31/2014	6/23/2014	11/20/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8.
- Complete excavation of Area EA-5.
- Complete backfilling of excavation area EA-4 and EA-5.
- Initiate installation of the vertical hydraulic barrier wall within the Trash Pit.
- Continue installation of dewatering wells associated with the SA-6 North Excavation Areas EA-2 and EA-3.
- Begin Trash Pit Meadow Mat Repair.
- Continue liner subgrade and utility corridor preparation activities on SA-6 South.
- Continue installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite Drainage layer.
- Continue screening Celgene material for use as liner protective cover soils.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Conduct S-3 Mass Removal injection Event No. 24 in well 088-IW-02.
- Complete PVSC Monthly compliance sampling.
- Implement the in-situ plan for the SA-6 North Treatment Area 10.
- Continue to coordinate the planned PW-3 extraction well/trench installation.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (conducted quarterly, not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Forms
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (July 2015)
14. SA-6 North & South Design Change Tracking Log

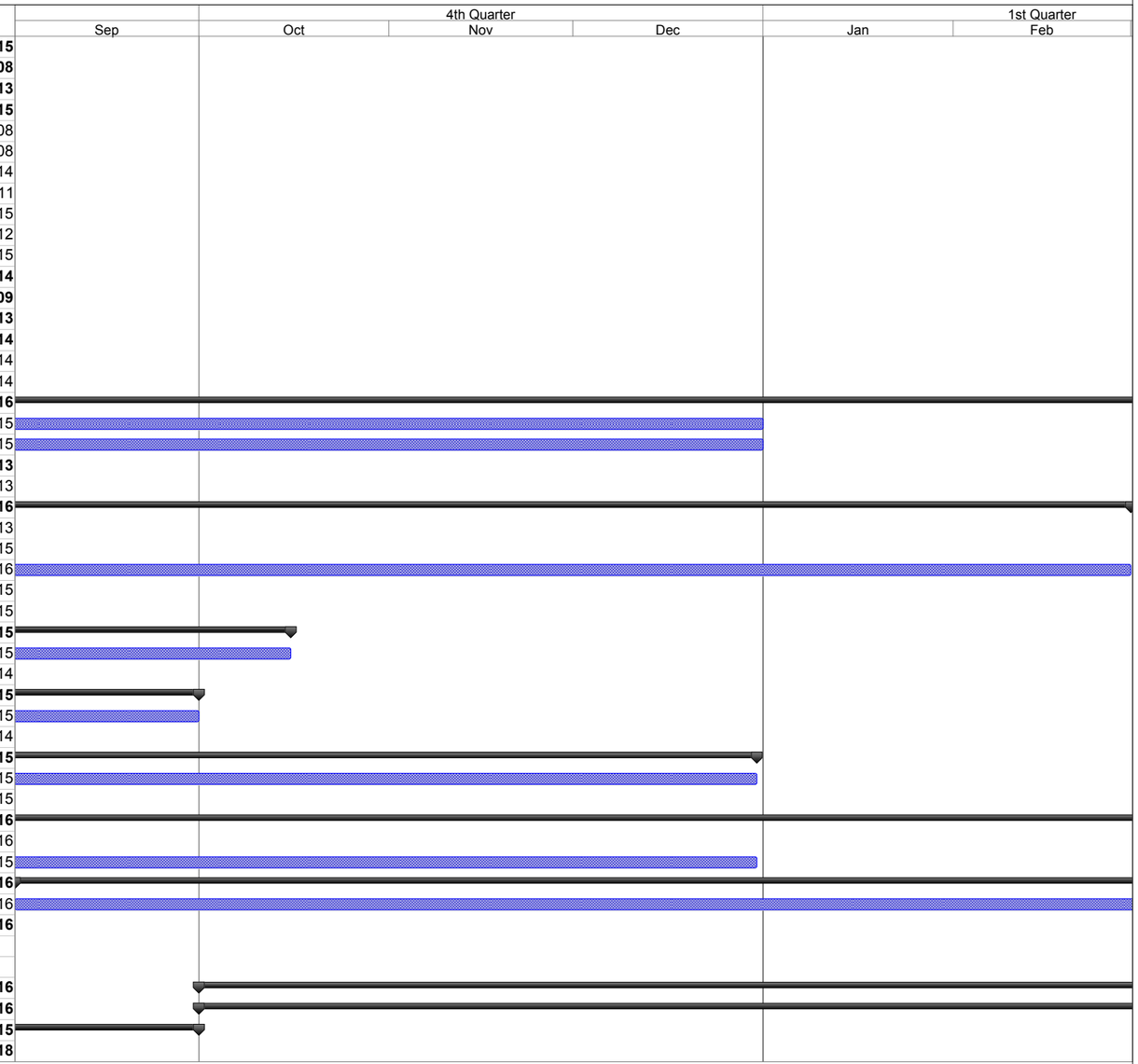
Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

Study Areas 6 and 7 Combined Progress Report No. 2015-08
Attachment 1: Schedule – 6 Month Look Ahead

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/28/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Contractor fine grading along edge of Open Space Area.



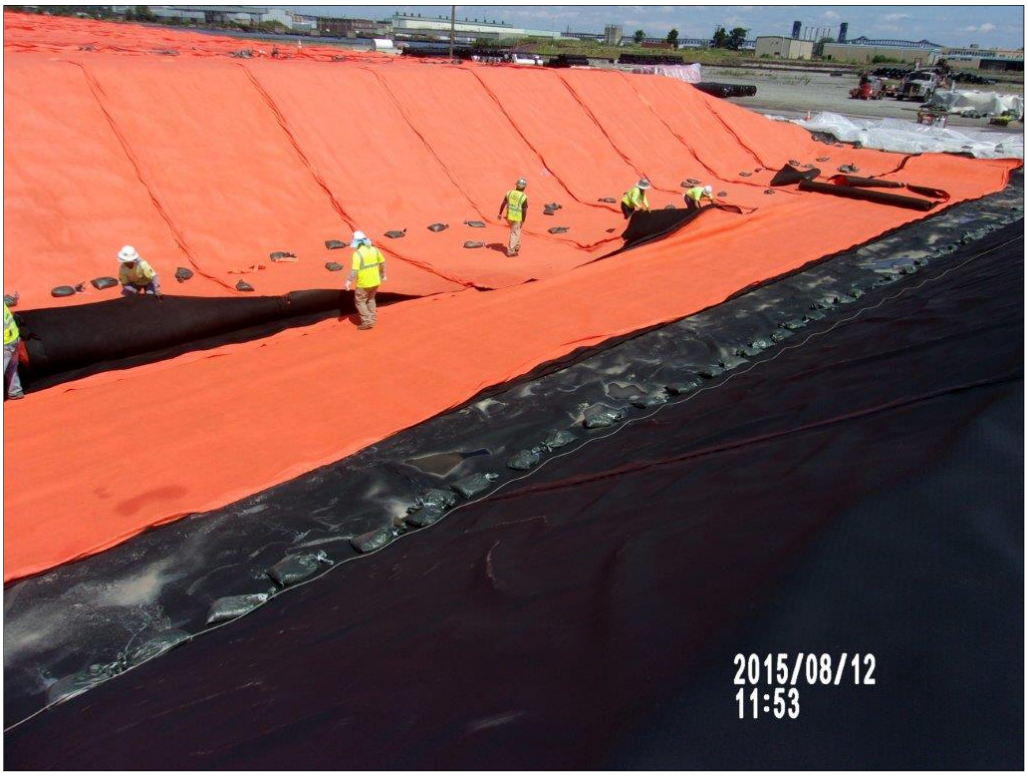
Site Photograph 2: Covering geotextile with screened clean fill Kellogg St. properties.



Site Photograph 3: Fusion-welding two liner panels in Open Space Area.



Site Photograph 4: Installing sheet pile along Route 440 former City properties.



Site Photograph 5: Placement of geotextile along Kellogg St. properties.



Site Photograph 6: Screening of clean fill onsite to remove larger gravel.



Site Photograph 7: Spreading clean fill Kellogg St. properties.



Site Photograph 8: Trimming top elevation of barrier wall Kellogg St. properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of September 1, 2015

August 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

Former Roosevelt Drive-In Site
(Remediation Complete)

Kellogg Street Properties

Hackensack River

Route 440

Kellogg Street

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/01/15	6:30	14:00	7:30	33,791.38	33,923.97	132,590	33,923,520	PVSC Compliance Sample Collected
07/02/15	6:30	13:00	6:30	33,923.97	34,000.38	76,410	33,999,930	
07/06/15	7:00	13:30	6:30	34,000.38	34,066.66	66,280	34,066,210	
07/07/15	8:00	14:00	6:00	34,066.66	34,125.32	58,660	34,124,870	
07/08/15	6:30	13:30	7:00	34,125.32	34,199.65	74,330	34,199,200	
07/09/15	6:30	13:30	7:00	34,199.65	34,252.75	53,100	34,252,300	
07/10/15	6:30	12:00	5:30	34,252.75	34,298.94	46,190	34,245,390	
07/13/15	7:00	11:45	4:45	34,298.94	34,325.94	27,000	34,226,200	
07/14/15	6:30	12:30	6:00	34,325.94	34,396.15	70,210	34,269,410	
07/15/15	7:00	14:00	7:00	34,396.15	34,474.85	78,700	34,331,000	
07/16/15	6:30	13:00	6:30	34,474.85	34,526.84	51,990	34,382,990	
07/17/15	12:00	14:00	2:00	34,526.84	34,556.84	30,000	34,412,990	
07/21/15	6:30	14:30	8:00	34,556.84	34,653.22	96,380	34,509,370	
07/23/15	6:30	13:30	7:00	34,653.22	34,690.24	37,020	34,546,390	
07/24/15	10:30	13:30	3:00	34,690.24	34,702.10	11,860	34,558,250	
07/27/15	6:30	14:00	7:30	34,702.10	34,790.64	88,540	34,646,790	
07/31/15	6:30	14:30	8:00	34,790.64	34,908.04	117,400	34,764,190	
08/03/15	9:00	13:30	4:30	34,908.04	34,940.20	32,160	34,796,350	
08/04/15	10:30	21:30	11:00	34,940.20	35,081.91	141,710	34,938,060	
08/07/15	6:30	12:30	6:00	35,081.91	35,221.03	139,120	35,077,180	PVSC Compliance Sample Collected
08/10/15	6:15	12:00	5:45	35,221.03	35,298.93	77,900	35,155,080	
08/11/15	6:35	14:30	7:55	35,298.93	35,398.03	99,100	35,254,180	
08/12/15	6:30	13:30	7:00	35,398.03	35,457.13	59,100	35,313,280	
08/13/15	7:00	13:30	6:30	35,457.13	35,497.93	40,800	35,354,080	
08/14/15	7:00	13:00	6:00	34,497.93	35,552.43	54,500	35,408,580	
08/17/15	6:30	12:30	6:00	35,552.43	35,618.63	66,200	35,474,780	
08/19/15	8:00	15:00	7:00	35,618.63	35,662.04	43,410	35,518,190	
08/20/15	7:00	14:00	7:00	35,662.04	35,706.84	44,800	35,562,990	
08/21/15	7:00	13:30	6:30	35,706.84	35,724.91	18,070	35,581,060	
08/25/15	8:00	14:00	6:00	35,724.91	35,790.40	65,490	35,646,550	
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	

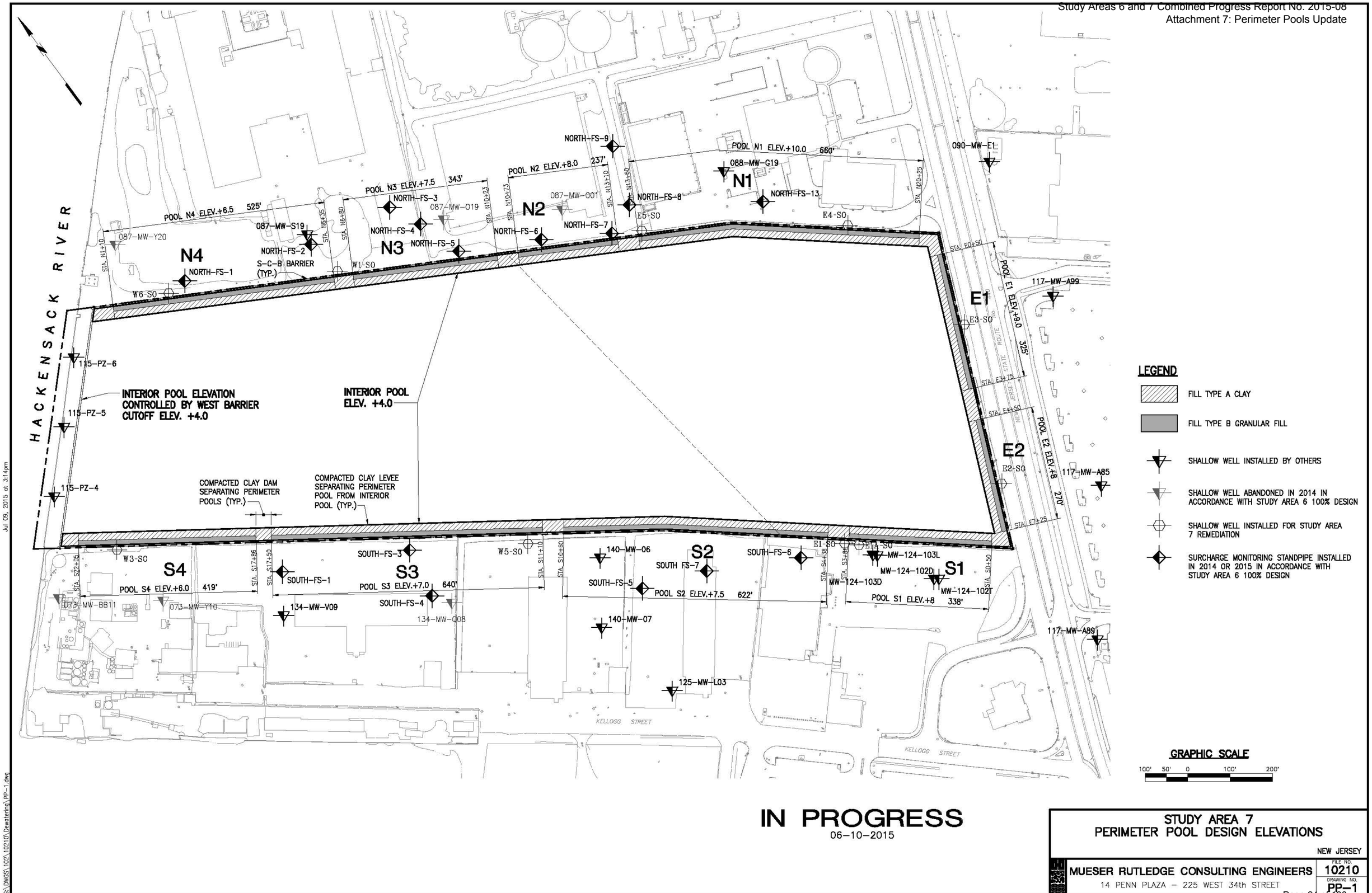
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	<2.3	Yes		
				087-EA8-20-a2	6/24/2015	7:40	<2.3	Yes		
				087-EA8-20-a3	6/24/2015	7:45	<1.9	Yes		
				087-EA8-20-a4	6/24/2015	7:50	<1.9	Yes		
				087-EA8-20-b1	6/24/2015	7:55	<2.1	Yes		
				087-EA8-20-b2	6/24/2015	8:00	0.78	Yes		
				087-EA8-20-b3	6/24/2015	8:05	2.10	Yes		
				087-EA8-20-b4	6/24/2015	8:10	<2.0	Yes		
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	*		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	*		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	*		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	*		
EA7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	13:15	<1.8	Yes		
				087-EA7-20-a2	6/26/2015	13:20	<1.4	Yes		
				087-EA7-20-a3	6/26/2015	13:25	<1.4	Yes		
				087-EA7-20-a4	6/26/2015	13:30	5.5	Yes		
EA7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	8:52	5.2	Yes		
				087-EA7-20-b2	7/14/2015	8:56	2.6	Yes		
				087-EA7-20-b3	7/14/2015	9:00	4.3	Yes		
				087-EA7-20-b4	7/14/2015	9:03	2.8	Yes		
EA7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	9:06	<.47	Yes		
				087-EA7-20-c2	7/14/2015	9:11	<1.6	Yes		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

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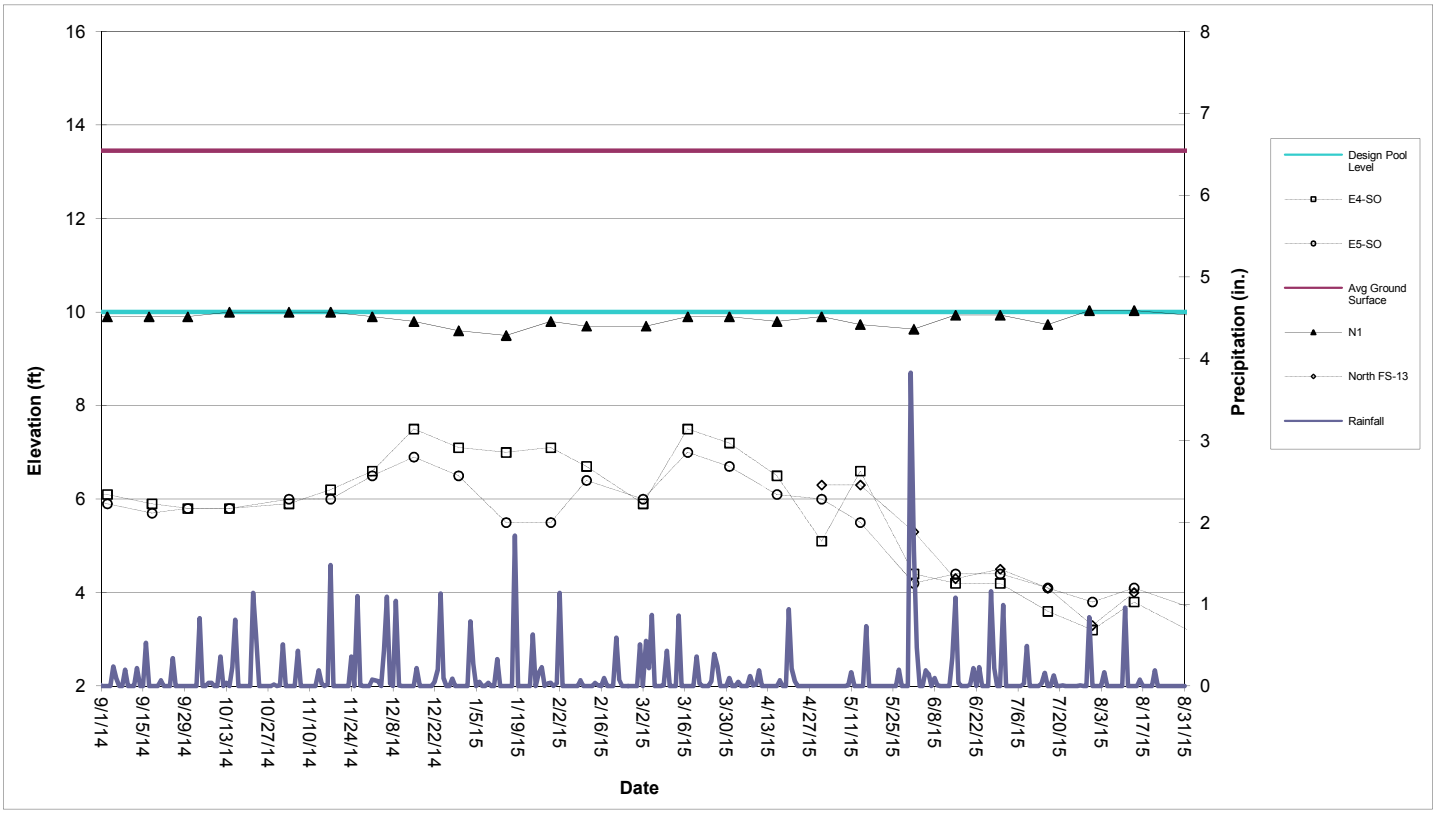
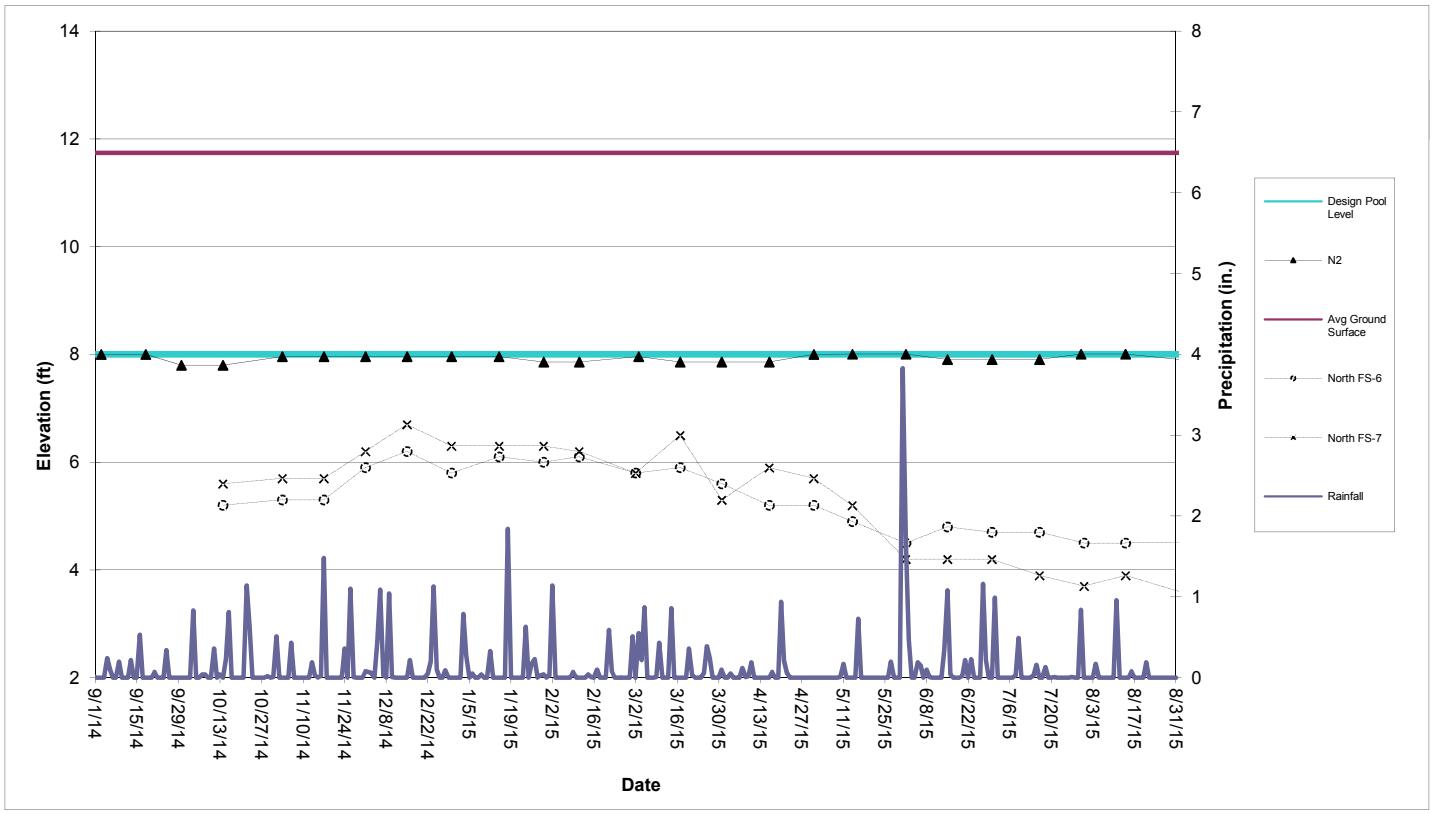
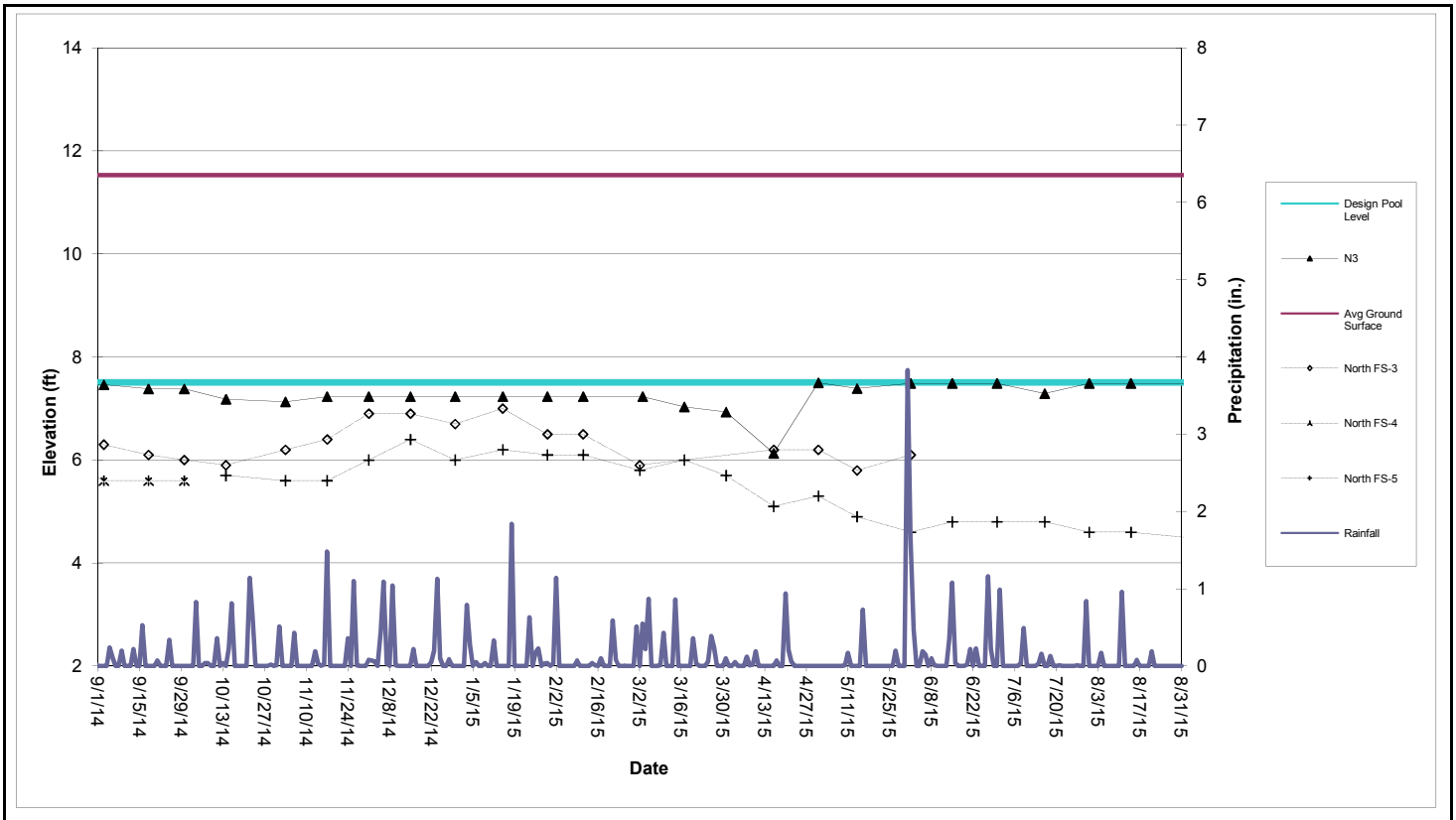
Jul 09, 2015 at 3:14pm
bboscaino



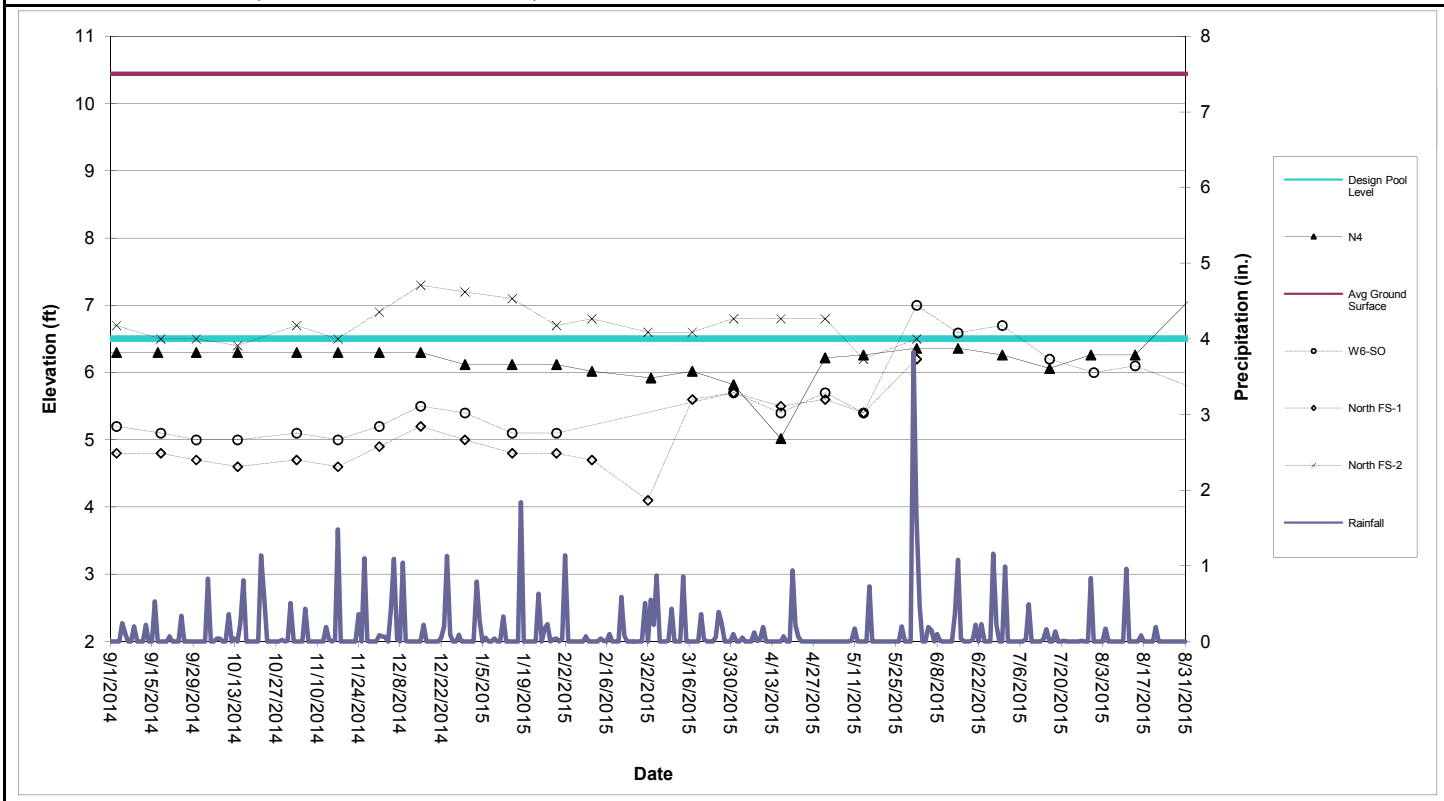
Perimeter Pool N1 (Sta. N13+60 to N20+25)



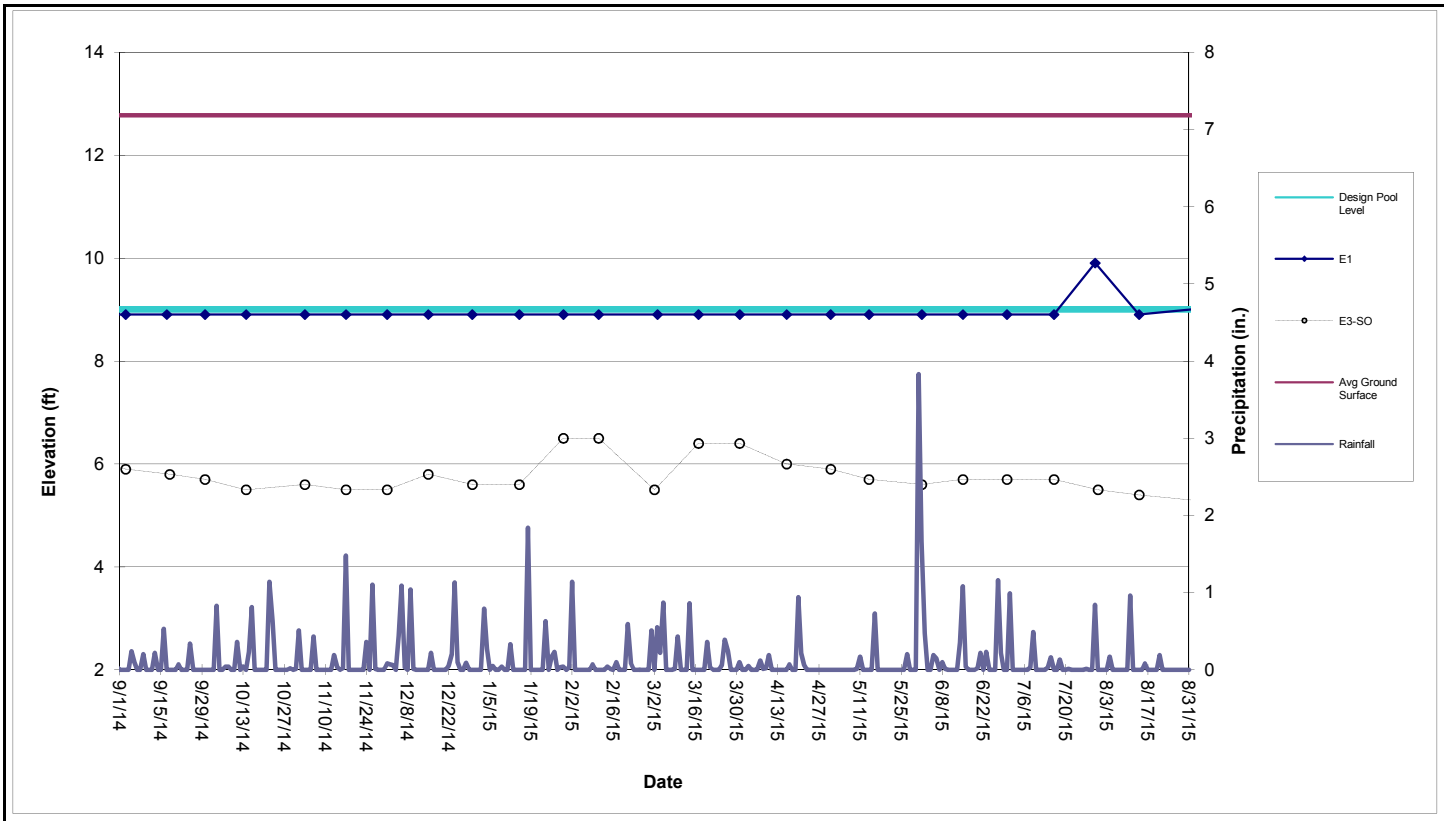
Perimeter Pool N2 (Sta. N10+73 to N13+10)



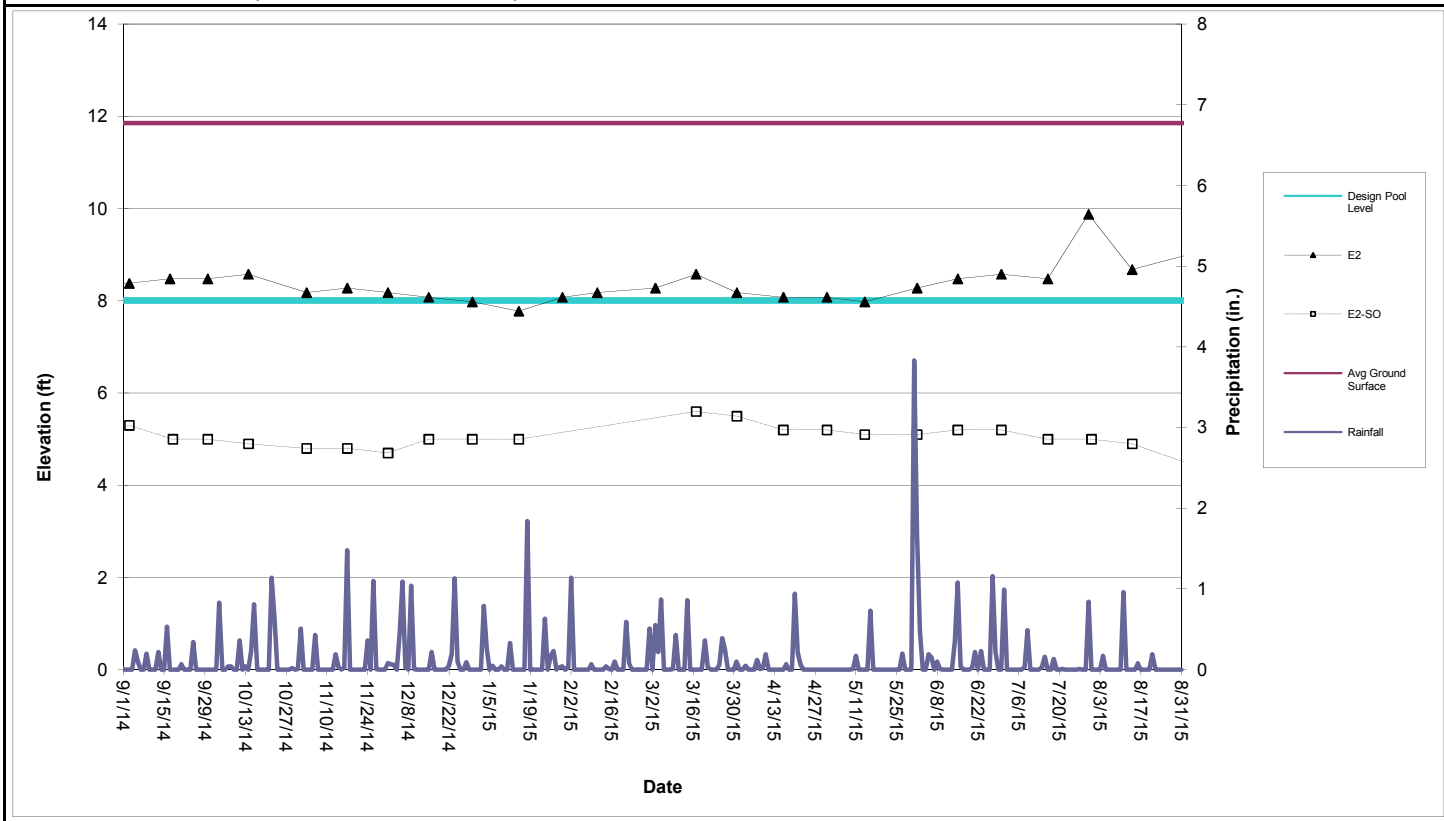
Perimeter Pool N3 (Sta. N6+80 to N10+23)



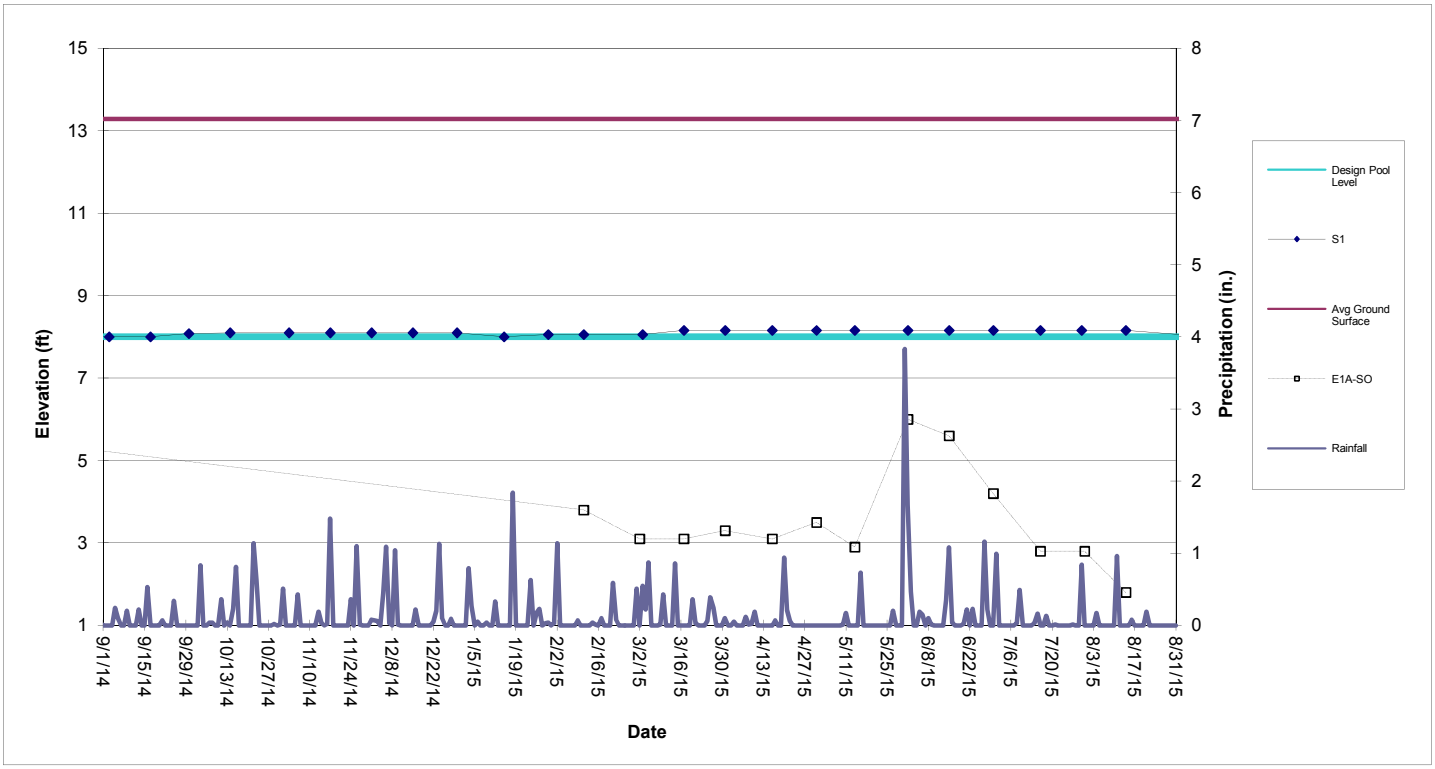
Perimeter Pool N4 (Sta. N6+80 to N10+23)



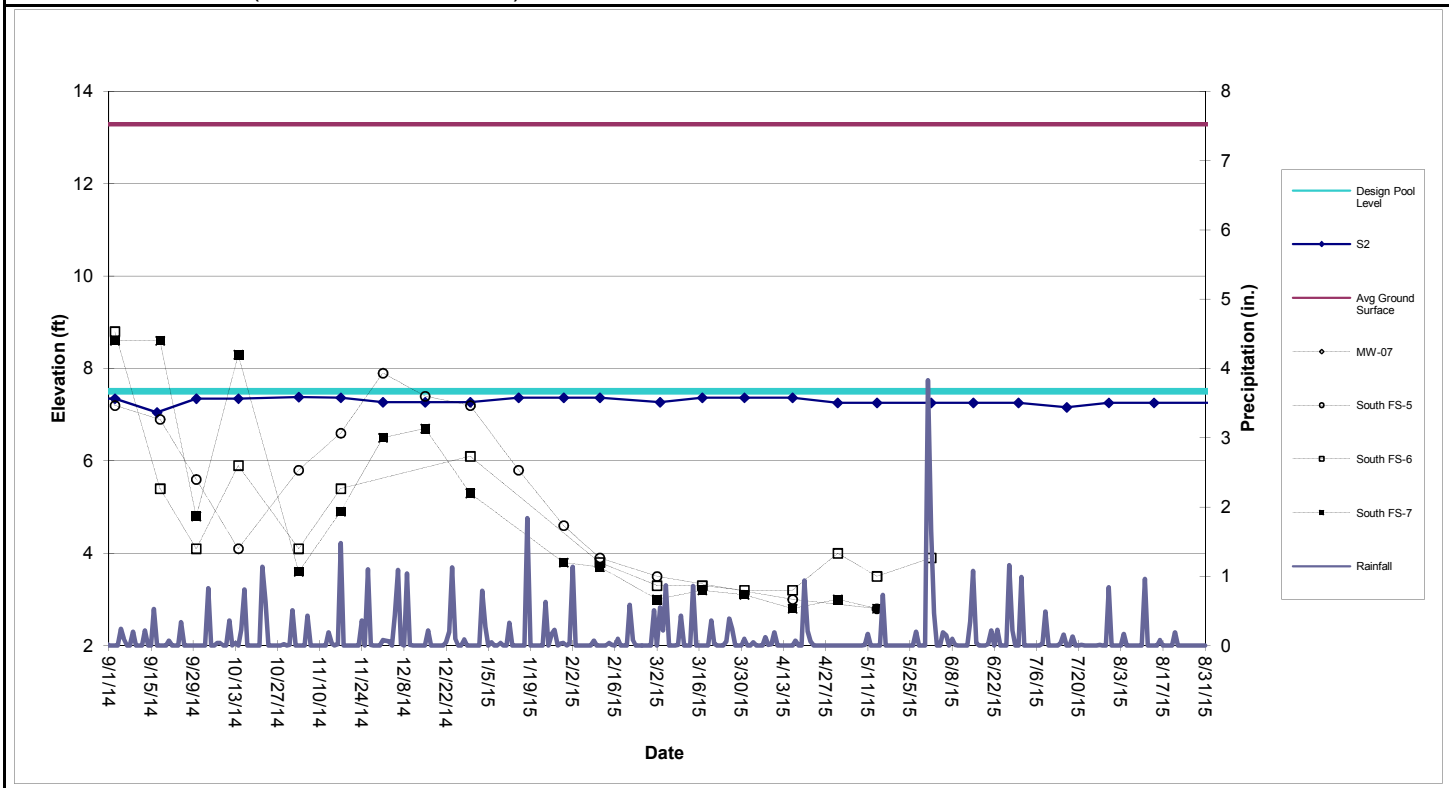
Perimeter Pool E1 (Sta. E0+50 to E3+75)



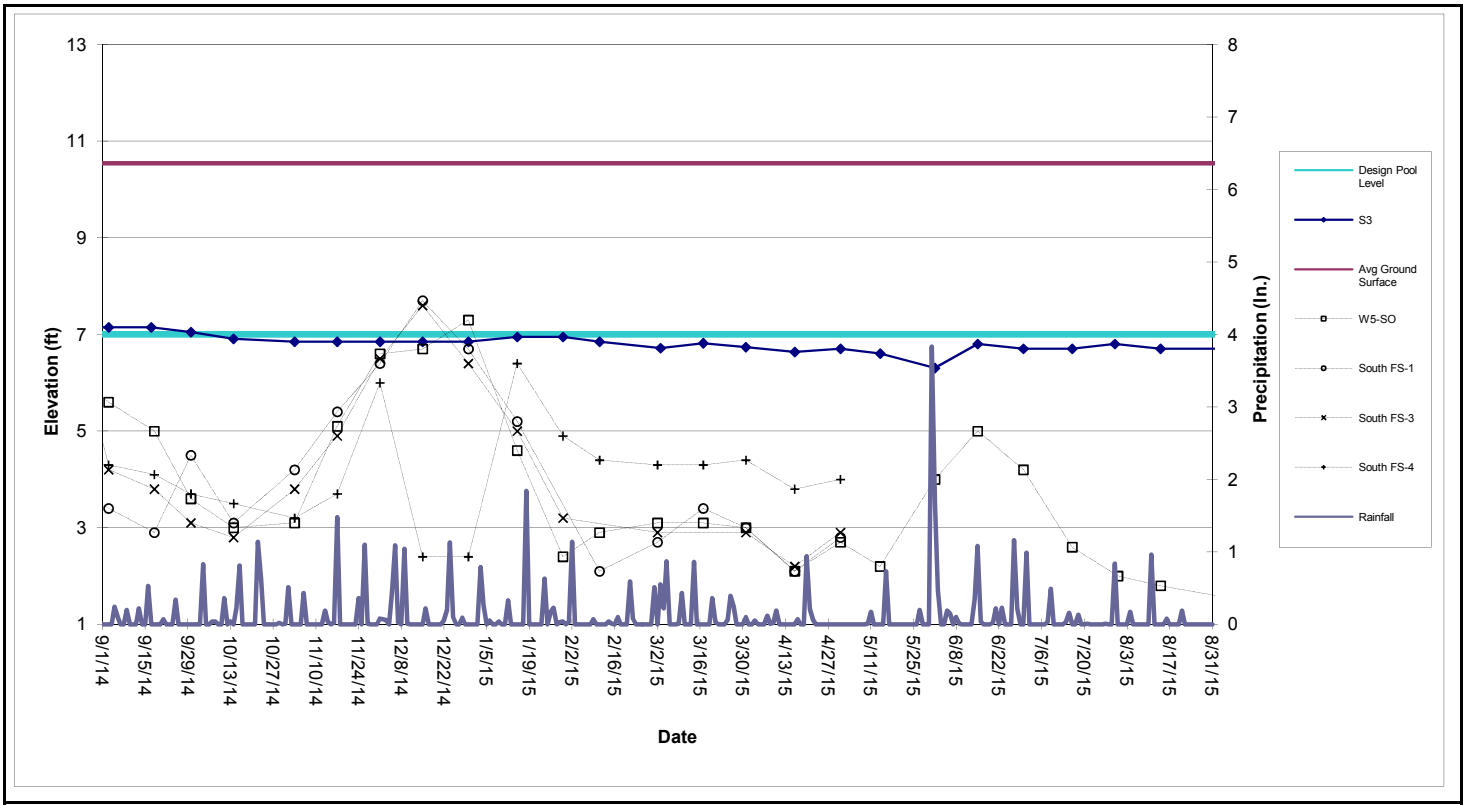
Perimeter Pool E2 (Sta. E4+50 to E7+25)



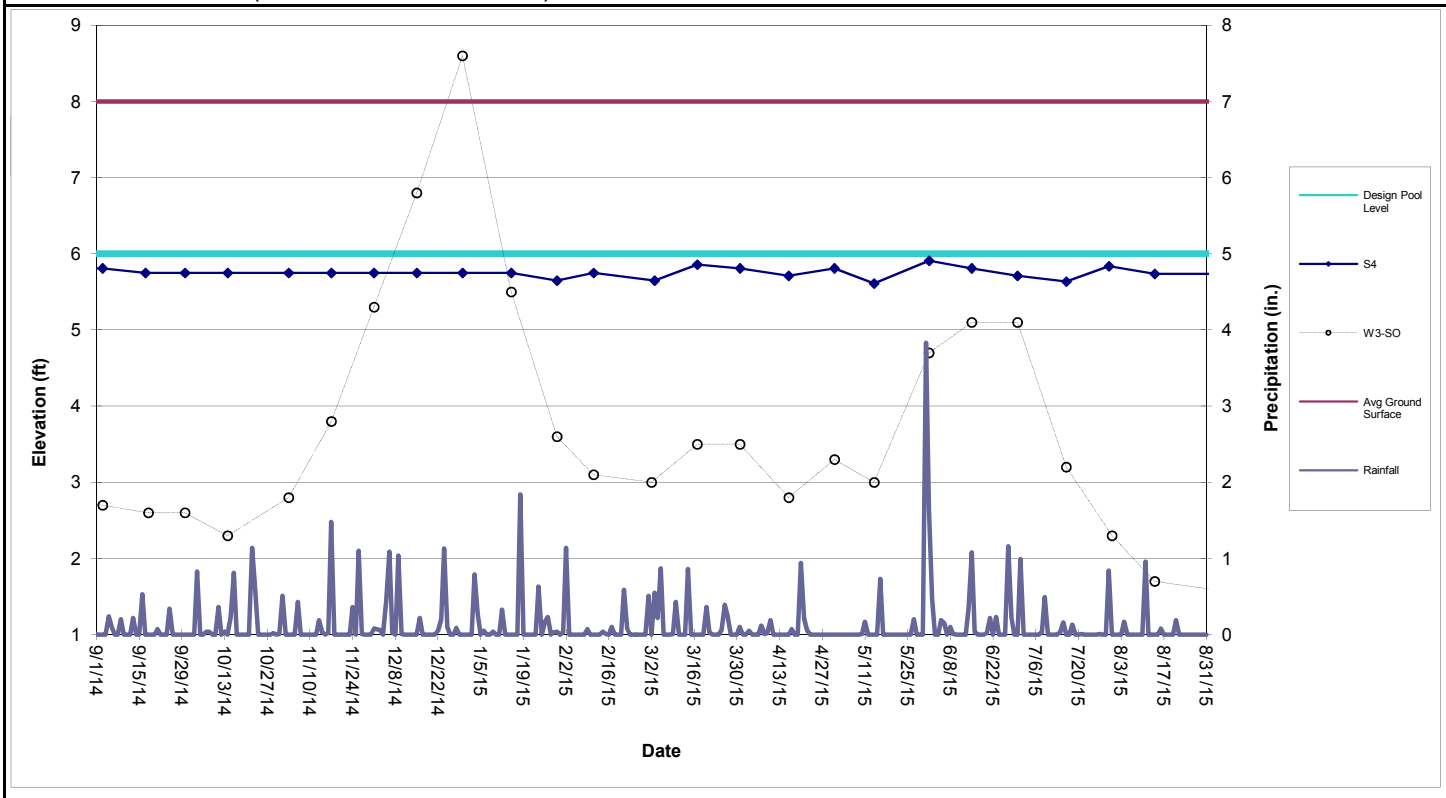
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North								South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-4	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
9/3/2014		5.3	5.9	6.1	5.9	2.7	5.6	5.2	4.8	6.7	6.3	5.6					3.4	4.2	4.3	7.2	8.8	8.6
9/18/2014		5.0	5.8	5.9	5.7	2.6	5.0	5.1	4.8	6.5	6.1	5.6					2.9	3.8	4.1	6.9	5.4	8.6
9/30/2014		5.0	5.7	5.8	5.8	2.6	3.6	5.0	4.7	6.5	6.0	5.6					4.5	3.1	3.7	5.6	4.1	4.8
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9		5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2		5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4		5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9		6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9		6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7		6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0		6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5		6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5		6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9		5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6			6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8			5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2		5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2		5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8		4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1		4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6					4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7					4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1	3.2	2.6	6.2					4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8	2.3	2.0	6.0					4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1	1.7	1.8	6.1					4.6	4.5	3.9	4.0						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO, North FS-4

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

EXISTING JCIA TRASH PIT

CONSERVATION EASEMENT

HYDRAULIC BARRIER (TYP)

STA. 0+00 TO 5+00 SEE SPECIAL INSTRUCTIONS FOR SEALING SHEETS SEE NOTE HB19 ON SHEET GN-004.

SEE NOTE HB21 ON SHEET GN-003

NEW JERSEY STATE HIGHWAY ROUTE 440

GEOMEMBRANE GRADE CONTOURS (TYP)

EXISTING SOIL CEMENT BENTONITE WALL

HYDRAULIC BARRIER AND SLURRY CEMENT BENTONITE WALL CONNECTION SN-201 SN-301

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

MATCH LINE SHEET SN-202

Corner + 1 pair

088-SB-300 STA=7+74.70 OFFSET=2.7R EL=12.30

088-SB-301 STA=6+91.41 OFFSET=28.6R EL=12.50

088-SB-302 STA=3+89.99 OFFSET=1.3L EL=14.80

088-CPT-003 STA=3+33.68 OFFSET=22.7L EL=13.50

088-SB-303 STA=2+59.52 OFFSET=16.4L EL=10.70

088-CPT-001 STA=2+58.78 OFFSET=17.0L EL=10.70

088-CPT-004 STA=1+68.47 OFFSET=28.8L EL=10.80

088-CPT-005 STA=0+31.17 OFFSET=63.1L EL=13.20

087-CPT-002 STA=8+71.77 OFFSET=39.6R EL=12.30

Special EXISTING GRADE 5/5/15

Special 4/29/15

JCIA BUILDING

STA. 5+80 JCIA TRASH PIT
STA. 4+60 JCIA TRASH PIT

3/23/15 3/25/15 3/26/15 3/27/15 3/30/15 3/31/15 4/1/15 7/29/15 8/5/15 7/22/15 SCB-7/20/15 7/21/15

TYPICAL UTILITY CORRIDOR/ HYDRAULIC BARRIER CROSSING DETAIL C SN-201 CN-301

GEOMEMBRANE GRADE

HISTORIC FILL

SITE HISTORIC WATER TABLE (SEE NOTE 3)

STRATUM O

STRATUM D

STRATUM S1

JCIA TRASH PIT SEE NOTE JC2 ON SHEET GN-004

B SN-301

STA. 0+00 TO STA 5+00
SPECIAL INSTRUCTIONS FOR SEALING SHEETS SEE NOTE HB19 ON SHEET GN-004

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	10/10/13	TDD	RJR	TDD	SGS	RJR
0	06/07/13	TDD	RJR	TDD	SGS	TDD

HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

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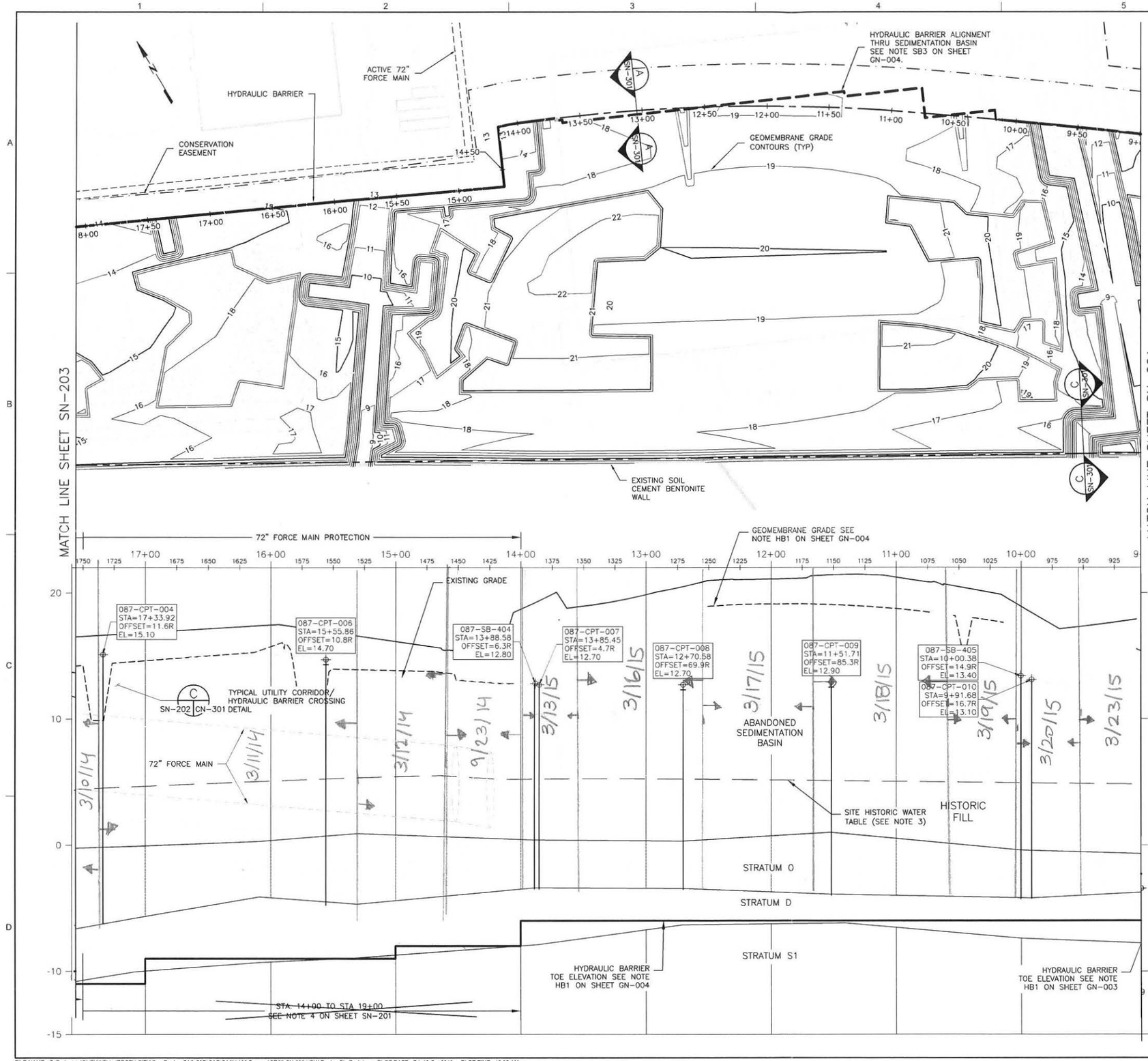
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Mon, 07 Oct 2013 PLOT TIME: 4:04 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN	TDD	DR TDD CHK RJR	APVD	BCO

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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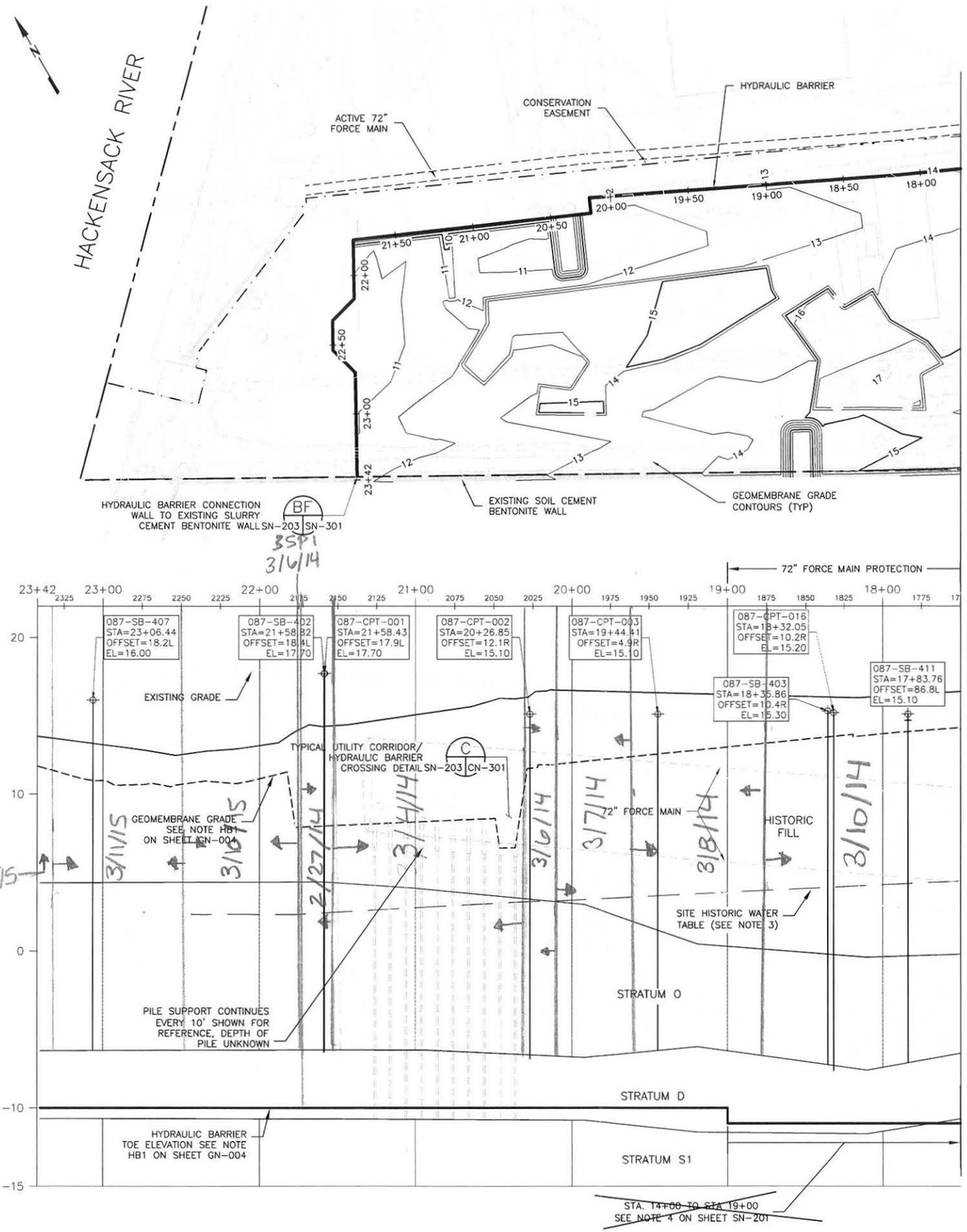
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR	CHK	APVD
	TDD	TDD	RJR	SGS

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SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

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200 American Metro Blvd, Suite 113
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0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

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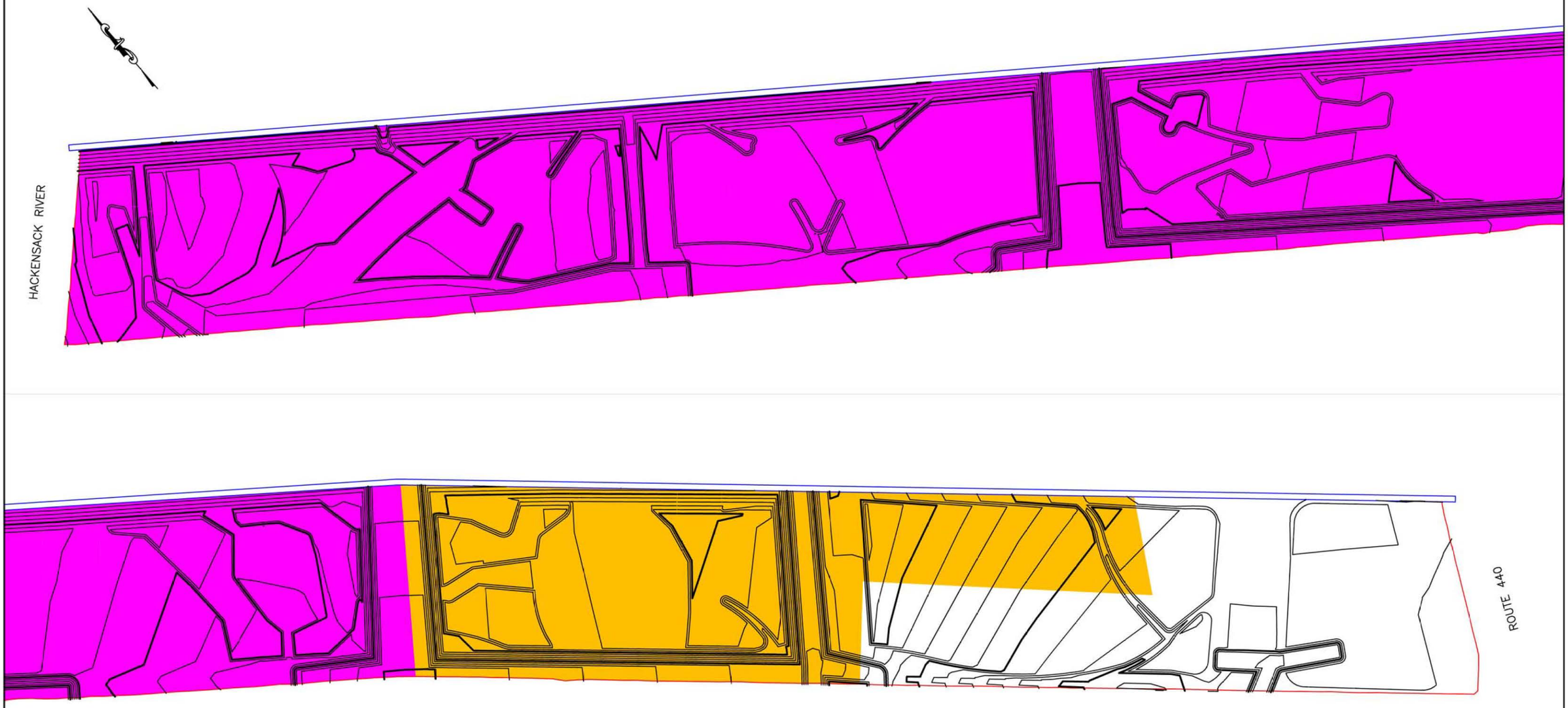
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
08/13/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128			x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E (PB 8")	P	3	x	3	8	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E (PB 8")	P	3	x	4	8	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135(N.SIDE)			x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP			x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135(S.SIDE)			x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139			x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141			x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144			x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145	DS-11	36/37		90'W OF EEOS & SJ 34/36/37	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-146	SJ	41/44/45		SJ 41/44/45	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-147	SJ	44/45/46		SJ 44/45/46	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-148	SJ	40/41/44		SJ 40/41/44	P	2	x	5.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-149	SJ	34/40/41		SJ 34/40/41	P	3	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-150	SJ	34/39/40		SJ 34/39/40	P	1.5	x	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-151	SJ	34/38/39		SJ 34/38/39	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-152	SJ	34/37/38		SJ 34/37/38	P	2	x	2.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-153	BO	35/36		84'W OF EEOS	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-154	WR		36	BETWEEN RP-153 & RP-155			x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-155	WR		36	84'W OF 35/36 & 5'S	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-156	SJ	34/35/36		SJ 34/35/36	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-157	BO	34/35		10'S OF NEOS	P	1.5	X	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-158	WR		35	65'W OF 35/36 & 11'N	P	1.5	X	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-159	WR		35	FROM RP-158 TO N.END OF P-35	P		x		144	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-160	DS-12	42/43		20'N OF SEOS	P	2	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-161	SJ	43/44/46		SJ 43/44/46	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-162	WR	44/46		5'W OF EEOS	P	1.5	X	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-163	WR		44	BETWEEN RP-162 & RP-164			x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-164	WR		44	5'W OF 44/46 & 5'N	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-165	WR		44	BETWEEN RP-162 RP-166			x		216	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-166	WR	40/44		16'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-167	SJ	40/42/43		SJ 40/42/43	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-168	SJ	39/40/42		SJ 39/40/42	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

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Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-169	SJ	38/39/42		SJ 38/39/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-170	SJ	37/38/42		SJ 37/38/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-171	SJ	36/37/42		SJ 36/37/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-172	WR	36/42		6'S OF NEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-173	WR		42	BETWEEN RP-172 & RP-174			x		108	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-174	WR		42	6'S OF 36/42 & 10'E	P	3	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-175	CR	35/42		15'S OF NEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-176	WR		42	BETWEEN RP-174 & RP-175			x		132	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-177	SJ	35/36/42		SJ 35/36/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-178	CR	35/36		15'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-179	WR		35	30'W OF 35/36 & 10'N	P	2	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-180	WR		35	FROM RP-179 TO N.END OF P-35			x		156	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-181	CR	44/45		11'W OF EEOS	P	1.5	x	2.5		8/4/15	PEDRO S.	EXT 512	VBIOX	P	8/4/15
RP-182	WR		44	BETWEEN RP-181 & RP-183			x		204	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-183	CR	40/44		42'W OF EEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-184	BO	40/44		48'W OF EEOS	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-185	SJ	40/43/44		SJ 40/43/44	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-186	DSX-5	RP-160/42		ON RP-160/42	P	2	x	5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-187	WR		42	7'N OF 39/42 &1'E TO 6'E			x		78	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-188	PB		25	74'S OF 24/25 & 5'E (PB 8")	P	3	x	3	8	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-189	WR		35	15'W OF 35/36 & 16'N	P	2	x	7		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15

Environmental Specialties International Inc.

Repair Report

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SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-190	WR		35	BETWEEN RP-189 & RP-191			x		84	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-191	WR		35	15'W OF 35/36 & 6'N	P	1.5	x	1.5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-192	WR		36	10'W OF 36/37 & 7'N	P	1.5	x	2		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-193	WR		36	BETWEEN RP-192 & RP-194			x		180	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-194	WR		36	10'W OF 36/37 & 24'N	P	2	x	4		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-195	BO	47/48		106'S OF NEOS	P	2	x	6.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-196	BO	48/49		86'S OF NEOS	P	2	x	4		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-197	BO	53/54		15'S OF NEOS	P	2	x	7		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-198	WR	48/49		94'S OF NEOS	P	2	x	28		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-199	CR	42/47		50'S OF NEOS	P	2	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-200	CF		47	56'S OF NEOS(SURFACE DESIGN)	P	2	x	38		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-201	CF		47	38'S OF 42/47 & 8'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-202	CF		47	BETWEEN RP-201 & RP-203			x		240	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-203	CF		47	59'S OF 42/47 & 18'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-204	DS-13	47/48		70'S OF NEOS	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-205	CF		47	FROM RP-200 TO MANHOLE			x		216	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-206	WR		48	46'S OF 47/48 & 4'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-207	WR		48	BETWEEN RP-206 & RP-208			x		180	8/7/15	PEDRO S.	EXT 512	VNOX	P	8/7/15
RP-208	WR		48	64'S OF 48/49 & 6'W	P	2	x	11		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-209	WR		48	BETWEEN RP-208 & RP-210			x		36	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-210	WR		48	57'S OF 48/49 & 4'W	P	2.5	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15

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Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-211	DSX-6	RP-198/48		ON W.END OF RP-198/48	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-212	WR	49/50		72'S OF NEOS	P	2	x	9		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-213	WR		50	75'S OF 49/50 & 8'E	P	2	x	7		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-214	WR		50	BETWEEN RP-213 & RP-215			x		24	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-215	WR		50	78'S OF 49/50 & 2'E	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	F	8/10/15
RP-216	SJ	50/51/52		SJ 50/51/52	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-217	SJ	51/52/53		SJ 51/52/53	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-218	PB		47	87'S OF 42/47 & 11'E(MANHOLE)	P	9.5	x	9.5	48	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-219	PB		38	3'W OF 37/38 & 3'S (PB 8")	P	3.5	x	4	8	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-220	BO	55/57		101'N OF SEOS	P	2	x	2.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-221	BO	55/57		120'N OF SEOS	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-222	WR		50	REPAIR LEAK OVER RP-215	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-223	DS-14	50/51		35'S OF NEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-224	WR	51/53		20'S OF NEOS	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-225	WR		53	BETWEEN RP-224 & RP-226			x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-226	WR		53	20'S OF 51/53 & 14'E	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-227	WR		53	30'S OF 53/54 & 5'W	P	1.5	2			8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-228	WR		53	BETWEEN RP-227 & RP-229			x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-229	WR		53	35'S OF 51/53 & 5'W	P	2	x	11		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-230	DS-15	54/55		72'S OF NEOS	P	2	x	4.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-231	SJ	54/55/56		SJ 54/55/56	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-232	SJ	55/56/57		SJ 55/56/57	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-233	CF		55	76'N OF 55/57 & 3'W	P	2	X	13		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-234	CF		55	BETWEEN RP-233 & RP-235			x		24	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-235	CF		55	80'N OF 55/57 & 2'W	P	2	x	3.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-236	CF		58	128'S OF 57/58 7'E	P	3	x	4		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-237	CF		58	BETWEEN RP-236 & RP-238			x		168	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-238	CF		58	140'S OF 57/58 & 20'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-239	CF		58	BETWEEN RP-236 & RP-240			x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-240	CF		58	125'S OF 57/58 & 17'E	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-241	CF		58	BETWEEN RP-239 & RP-242			x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-242	CF		58	128'S OF 57/58 & 15'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-243	PB		58	75'S OF 57/58 & 6'E (PB 8")			x		8						
RP-244	SJ	58/59/60		SJ 58/59/60	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-245	DSX-7	RP-197/53		ON RP-197/53	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-246	PB		62	135'N OF 61/62 & 2'E (PB 8")	P	3	x	4	8	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-247	SJ	59/60/61		SJ 59/60/61	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-248	DS-16	59/61		6'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-249	DS-17	62/63		90'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-250	CR		65	2'N OF 65/66 & 5'E	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-251	SJ	64/65/66		SJ 64/65/66	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-252	BO	65/66		8'N OF SEOS	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap construction **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
2617	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
3766.83	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W	P	5	x	6	4	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")			x								
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB			MANHOLE			x								
RP-263							x								
RP-264							x								
RP-265							x								
RP-266							x								
RP-267							x								
RP-268							x								
RP-269							x								
RP-270							x								
RP-271							x								
RP-272							x								
RP-273							x								

Summary of Non-Compliance & Corrective Action Forms					
SA-6 South Cap Installation					
Notice of Non-Compliance & Corrective Action Sheet Number	**Date**	**Item**	**Associated Repair Number**	**Approx. Location**	**Follow Up Action Taken**
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	10053000.1	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 17+00 to Sta. 15+80		
QA Monitor	Langan	Date	8/3/15		

Description of Soil Surface to be lined: ~120 ft. section of soil approved east of geomembrane panels installed on 7/29/15 (P-34). Subgrade approved from approx. Sta. 17+00 to Sta. 15+80 (to east side of 1st utility corridor) through 1st utility corridor. Soil appears to be graded, compacted, and free of debris (>½") and in conformance w/ project specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - no changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/3/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	Cathleen Parrino - Entech QC Manager

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT WITHIN UTILITY CORRIDOR + GEOMEMBRANE / GVL PLACEMENT OUTSIDE OF CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	CORRIDOR	LOOKING N	REFER TO 8/3/15 PHOTO LOG PHOTO #1
	2 PHOTO #3	CORRIDOR	LOOKING S	REFER TO 8/3/15 PHOTO LOG PHOTO #3
1. REFER TO PHOTO LOG (8/3/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 15+80 TO ~STA. 15+10		
QA Monitor	LANGAN	Date	8/5/15		

Description of Soil Surface to be lined: ~170 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/3/15 (P-42). SUBGRADE APPROVED FROM ~STA. 15+80 TO ~STA. 15+10. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-5-15
Title	QC Manager Entact
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7 ½")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT ABOVE) GROUNDWATER ELEVATION

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	GP 165-15.4	LOOKING W	REFER TO 8/5/15 PHOTO LOG PHOTO #5
	2 PHOTO #6	STA. 15+80	LOOKING S	REFER TO 8/5/15 PHOTO LOG PHOTO #6
1. REFER TO PHOTO LOG (8/5/15) PHOTOS 5, 6 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 10

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 15+10 TO ~STA 14+00		
QA Monitor	LANGAN	Date	8/6/15		

Description of Soil Surface to be lined: ~110 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/5/15 (P-49). SUBGRADE APPROVED FROM ~STA. 15+10 TO ~STA. 14+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/6/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-6-15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	± STA. 15+10	LOOKING E	REFER TO 8/6/15 PHOTO LOG (PHOTO #17)
	2 PHOTO #9	± STA. 15+10	LOOKING S	REFER TO 8/6/15 PHOTO LOG (PHOTO #9)
1. REFER TO PHOTO LOG (8/6/15) PHOTOS 17, 8, AND 9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~ STA. 14+00 TO ~ STA. 13+00		
QA Monitor	LANGAN	Date	8/7/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/6/15 (P-54). SUBGRADE APPROVED FROM ~ STA. 14+00 TO ~ STA. 13+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/7/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/7/15
Title	QC Manager
Representing:	Entech
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (> ½")
As outlined in Section 02317Z-8.
" No GCL Placed As Area Was Above Water Table (~1 ft.)

Photographs	Number	Location	Orientation	Notes
	1 Photo #6	Sta. 14+00	Looking E	Refer to 8/17/15 Photo Log (Photo #6)
	2			
1. Refer to Photo Log (8/17/15) Photo 6 For Supporting Subgrade Photos				2.

LANGAN

Certificate of Soil Surface

Sheet # 12

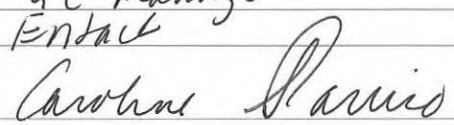
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Anec FW	Cell No.	~Sta. 13+00 to ~Sta. 12+00		
QA Monitor	Langan	Date	8/10/15		

Description of Soil Surface to be lined: ~100 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 8/7/15 (P-60). Subgrade Approved From ~Sta. 13+00 to ~Sta. 12+00 Soil Appears to Be Graded, Compacted, And Free of Debris (> ½") And In Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/10/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Parnio
Date:	8/10/15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (> 1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	25TA. 13+00	LOOKING N	REFER TO 8/10/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	25TA. 13+00	LOOKING E	REFER TO 8/10/15 PHOTO LOG (PHOTO #6)
1. REFER TO PHOTO LOG (8/10/15) PHOTOS #5, 6 FOR SUPPORTING SUBGRADE PHOTOS.				2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 12+00 TO ~STA. 11+00		
QA Monitor	LANGAN	Date	8/13/15		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/10/15 (P-65). SUBGRADE APPROVED FROM ~STA. 12+00 TO ~STA. 11+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/13/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-13-15
Title	QC Manager
Representing:	Entrac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (>1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	@ STA 11+50	LOOKING SW	REFER TO 8/13/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	@ STA 11+50	LOOKING SE	REFER TO 8/13/15 PHOTO LOG (PHOTO #2)

1. REFER TO PHOTO LOG (8/13/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 14

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	Honeywell / AMEC FW	Cell No.	~Sta. 11+00 to ~Sta. 10+20
QA Monitor	Langan	Date	8/14/15

Description of Soil Surface to be lined: ~80 ft. section of soil subgrade approved east of geomembrane panels installed on 8/13/15 (P-171). Subgrade approved from Sta. 11+00 to ~Sta. 10+20. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/14/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-14-15
Title	QC Manager
Representing:	Entrada
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (> ½")
As outlined In Section 02372-8

- Soil Approved For GCL Placement Along Southern Slope (Lower Bench) of Southern Edge of SA-6 Area Below (to 1 ft. Above) Groundwater Table.

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #1 (08/03/2015)

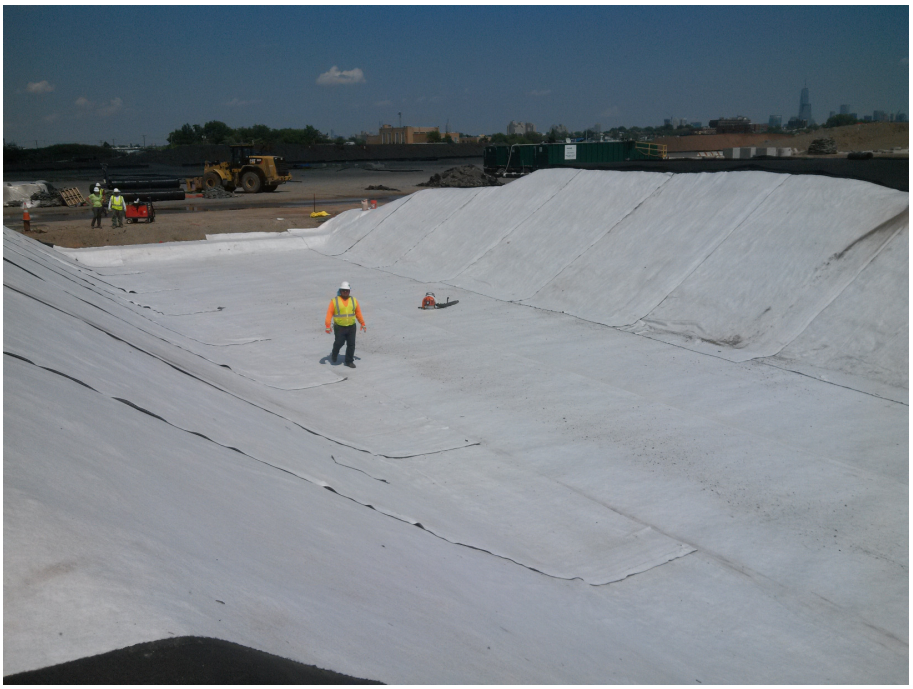
Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/3/15

Direction Taken:
Looking south

Description:

GCL installed throughout utility corridor. ESI preparing to cover GCL with geomembrane cap.



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PHOTOGRAPHIC LOG
Photo #2 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/3/15

Direction Taken:

Looking west

Description:

ESI deploying geomembrane at northern end of utility corridor (oriented east to west)



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PHOTOGRAPHIC LOG
Photo #3(08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking north/northwest along utility corridor

Description:

ESI conducting patch/repair work along utility corridor. Also conducting extrusion welding and vacuum box testing (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #4 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking southwest at (GV-6 location)

Description:

ESI constructing boot and placing sacrificial sheet around GV-6 (as outlined in project specification).



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PHOTOGRAPHIC LOG
Photo #5 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

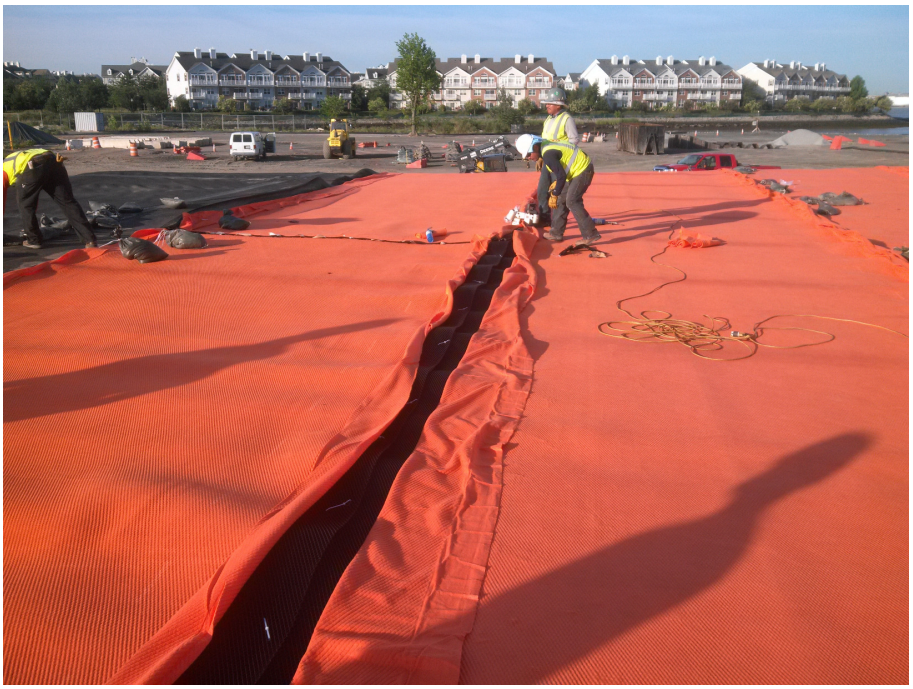
Date:
8/6/15

Direction Taken:

Looking south along SA-6 (approximate Sta 17+00)

Description:

ESI placing GDL over installed geomembrane panels (P-34 & P-35). White plastic fasteners spaced at a maximum of 5 ft. internals and geotextile seam sewn (according to project specifications).



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PHOTOGRAPHIC LOG
Photo #6 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/6/15

Direction Taken:

Looking northwest along western slope of utility corridor (approximately Sta. 16+50)

Description:

Installed GDL along utility corridor (western slope)



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PHOTOGRAPHIC LOG
Photo #7 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/6/15

Direction Taken:

Looking north along western end of SA-6 cap

Description:

Entact covering GDL along western end of cap with protective cover soils.



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PHOTOGRAPHIC LOG
Photo #8 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/6/15

Direction Taken:

Looking northwest along SA-6 cap at approximately Sta. 14+30)

Description:

ESI conducting fusion welding along installed panel seams (Panel 50-54).



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PHOTOGRAPHIC LOG
Photo #9 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/7/15

Direction Taken:

Looking South (RP-216)

Description:

ESI conducting vacuum box testing on seam joint located on southern edge of SA-6 (Panels 50, 51, 52).



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PHOTOGRAPHIC LOG
Photo #10 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/7/15

Direction Taken:

Looking north along SA-6 (approximately Sta. 13+75)

Description:

ESI deploying geomembrane over GVL (at approximately Sta. 13+75)



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PHOTOGRAPHIC LOG
Photo #11 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs



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PHOTOGRAPHIC LOG
Photo #12 (08/10/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

ESI deploying GVL along approved soil subgrade



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PHOTOGRAPHIC LOG
Photo #13 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap (at well 115-W5-SO)

Description:

ESI constructing geomembrane boot around monitoring well 115-W5-SO



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PHOTOGRAPHIC LOG
Photo #14 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (through 1st utility corridor)

Description:

ESI deploying GDL along eastern slope of utility corridor (approximate Sta. 16+50) working from the south end to the north end of the corridor.



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PHOTOGRAPHIC LOG
Photo #15 (08/13/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/13/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 12+00)

Description:

ESI placing geomembrane cap over GVL (at approx. Sta. 12+00)



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PHOTOGRAPHIC LOG
Photo #16 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap (at Panel 74/75 seam)

Description:

ESI collecting destruct sample (DS-21) at Panel 74/75 seam (fusion weld).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	8/3/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0600 – 1945

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #13**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) running through first utility corridor approximately 120 ft. east to Sta. 15+80 (to eastern end of 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing an additional two panels of GDL (moving east from Panel #33) to cover up to geomembrane Panel #34 (P-34). While GDL was being placed, Langan and Entact conducted soil subgrade approval from approximate Sta. 17+00 to Sta. 15+80 (through 1st utility corridor). Refer to *Soil Subgrade Approval* forms from 8/3/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1,2, and 3 of the daily photo log for 8/3/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+00 to Sta. 15+80 (to eastern side of 1st utility corridor).
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the bottom and slopes of the utility corridor (shown in the *8/3/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. Note: Prior to GCL placement, a soil transition slope (approx. 2 ft. by 2 ft. was constructed along the northern slope of the utility corridor to allow the GCL to transition over the slope without having to conform to the 90 deg. turns of the SCB wall). This soil slope modification was approved prior to construction.
- In addition to the GCL (placed within the utility corridor), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.

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GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/3/15 Photo Log* for supporting photographs.

- After installation of GCL and GVL through the utility corridor, geomembrane cap was installed continuing east of previously installed Panel #34 (located at approximate Sta. 17+00) on 7/29/15. Panels were oriented from east to west through the utility corridor (as proposed in the approved Panel Layout) and were installed through the utility corridor (located at approx. Sta. 16+50) running from the top of the western slope to the top of the eastern slope. Additional panels were installed outside of the utility corridor and were T (butt seamed) into the east-west panels from inside the utility corridor (the panels outside of the utility corridor reverted back to the north-south orientation as indicated on the approved panel layout). A total of twelve panel lengths (different dimensions and sizes) were installed (P-35, P-36, P-37, P-38, P-39, P-40, P-41, P-42, P-43, P-44, P-45, and P-46) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/3), *Trial Weld Log.*
- Installation and welding of the geomembrane panels was conducted until approximately 8 pm to ensure that the utility corridor was properly covered and sealed due to expected overnight storms. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/4/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no patch / repair work was conducted on geomembrane cap.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+80 to Sta. 14+80) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/3/15
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/15
A5 – Subgrade Approval	Sheet 8 & ESI (8/3/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/15.
A7 – Panel Placement Log	Page 8	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/3/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/3/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/3/15
A10 – Repair Log		N / A no repairs conducted on 8/3/15
A11 – Conformance COC		N / A for 8/3/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/3/15
A13 – Destruct. Sample Summary		N / A no updates to form (no samples collected on 8/3)
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/3/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/4/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/85° F, AM Rain, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #14**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from east of Panel #42 installed on 8/3/15 (located at approx. Sta. 15+80) moving east approximately 100 ft. to approximate Sta. 14+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Based on the AM storms / rain, ESI could not conduct patch / repair work (i.e. extrusion welding) on the geomembrane panels installed on 8/3/15 due to the inclement weather. Observation of the next section of soil subgrade (approx. Sta. 15+80 to 14+80) was conducted and soft / wet areas were identified with ponding water (due to the storms). As such, soil subgrade was not approved for additional panel placement. Refer to *8/4/15 Photo Log* for subgrade photos. ESI offsite until 12 PM for weather to clear.
- Entact removed the protective plastic layer covering the soil subgrade and conducted drying activities, re-grading, and re-compaction of the soil (as required).
- ESI back onsite at approximately 12 PM to conduct patch / repair work for the panels installed on 8/3/15 (Panels 35-46). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/4/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-one repairs (RP-145 through RP-185) were observed and fixed (according to the project specifications) from Panel #35 through Panel #46 (repair / detailing work conducted on panels installed on 8/3/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- No non-conformance issues were noted as repairs consisted of custom fit design or routine patch / repair work to allow geomembrane to conform to SA-6 contours.

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- A total of two destruct samples, DS-11 and DS-12 (fusion weld samples) were collected for laboratory analysis. DS-11 was collected from panel seam 36/37 and DS-12 was collected from panel seam 42/43

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/4/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory results for DS-11 and DS-12

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 80 ft. run east (approximately from Sta. 15+80 to Sta. 15+00) of 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/4/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 8/4/15
A5 – Subgrade Approval		N / A – no subgrade approval for 8/4/15
A6 – Trial Weld Log	Page 2	Preweld test form for 8/4/15 provided by ESI and confirmed by Langan for prewelds up to 8/4/15
A7 – Panel Placement Log		N / A no panels placed on 8/4/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 8/4/15
A9 – Seam/Non-Destruct. Test Log	Pages 7,8,9	Seam Control Form for 8/4/15 provided by ESI and confirmed by Langan for non-destruct tests completed up to 8/4/15
A10 – Repair Log	Pages 7,8,9	Repair Log for 8/4/15 provided by ESI and confirmed by Langan for repairs completed up to 8/4/15
A11 – Conformance COC		N / A for 8/4/15
A12 – Destructive Seam Field Test	Sheet 2	Destruct Sample Information provided by ESI and confirmed by Langan for destruct samples collected on 8/4/15 (DS-11 and DS-12)
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/4/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	8/5/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #15**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #42 (P-42) installed on 8/3/15 (located at approximate Sta. 15+80) running approximately 70 ft. east to Sta. 15+10.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for three wrinkles (refer to *Repair Log* 8/5/15) that were identified along Panels 35-46 which were placed on 8/3/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/5/15).
- A total of nine repairs (RP-186 through RP-194) were observed and fixed (according to the project specifications) from Panel #35 and Panel #36. As outlined above, these repairs were associated with removing geomembrane wrinkles to allow the cap to conform to the contours of SA-6 South grade. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Note: no repairs of the geomembrane from 8/5/15 were identified as non-compliance issues.
- Additionally, while the geomembrane was being patched / repaired, ESI also installed the penetration boots for the wells, piezometers, and gas vents protruding through the cap (Note: Penetration logs will be completed once final sealant is placed around top of boot). Orange composite (GDL) was also placed over butt seams of the geocomposite and leistered in place. These patching activities were completed (as needed) to allow Entact to continue placing protective cover soil over the installed GDL along the western end of SA6. The final GDL layer was inspected by Entact and Langan to ensure that all repairs / patches were completed prior to soil placement.
- While patch / repair work was being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+80 to Sta. 15+10. Refer to *Soil Subgrade Approval* forms from 8/5/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so

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the surface was free of any loose material. Refer to Photos #5,6 of the daily photo log for 8/5/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+80 to Sta. 15+10.

- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/5/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/5/15 Photo Log* for supporting photographs.
- After installation of GCL and GVL along the SA-6 boundaries, geomembrane cap was installed continuing east of previously installed Panel #42 (located at approximate Sta. 15+80) on 8/3/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GCL layers. A total of three panel lengths were installed (P-47, P-48, P-49) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/5), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/6/15). Note: An extrusion weld sample (DSX-5) was collected from the patch / repair work previously completed on 8/4/15.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as repair work was conducted to remove wrinkles from the cap to allow the geomembrane to properly conform to the contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory data for extrusion destruct sample DSX-5

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, and 8/4/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+10 to Sta. 14+10) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/5/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/5/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/15
A5 – Subgrade Approval	Sheet 9 & ESI (8/5/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/15.
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/5/15
A8 – Destruct Seam Testing COC	Page 1	Updated with information from destruct sample (DSX-5) collected on 8/5/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/5/15
A10 – Repair Log	Pages 9-10	One Repair Log provided by ESI and confirmed by Langan for 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/5/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/5/15
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/5/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/5/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/6/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #16**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #49 (P-49) installed on 8/5/15 (located at approximate Sta. 15+10) running approximately 110 ft. east to Sta. 14+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL over the previously installed geomembrane panels from 8/3/15. A total of 10 panel lengths of GDL were placed along the west side of the utility corridor and along the western slope of the utility corridor with end points of the GDL terminating along the approximate center of the utility corridor (east to west orientation). The GDL was placed north to south outside of the corridor and east to west within the corridor and secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile was sewn (according to the project specs).
- While GDL was being placed over the previously installed geomembrane, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+10 to Sta. 14+00. Refer to *Soil Subgrade Approval* forms from 8/6/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #7,8, and 9 of the daily photo log for 8/6/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+10 to Sta. 14+00.
- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/6/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with granular bentonite.
- Prior to deploying any geomembrane panels over the GCL, it was confirmed that the GCL maintained intimate contact between the material and the HB wall (southern boundary wall). Soil was removed from the top of the sheet piles (as required) by Entact. Refer to Photo #14 of the *Photo Log 8/6/15*.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/6/15 Photo Log* for supporting photographs.
- After installation of GCL, 16 oz. geotextile (along SA-6 boundaries) and GVL, geomembrane cap was installed continuing east of previously installed Panel #49 (located at approximate Sta. 15+10) on 8/5/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of four panel lengths (lengths defined as running the approximate 165 ft. north to south distance of the cap) were installed (P-50, P-51, P-52, P-53, P-54) by ESI. Note: P-51 terminated approximately 6 ft. short of the southern boundary of the SA-6 cap. As such, the remaining section was taken from an additional roll (G15C277060) and labeled as Panel #52 (P-52).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/6), *Trial Weld Log.*
- Upon panel installation and fusion welding, ESI conducted non-destructive seam testing in accordance with the project specs. No patch / repair work was completed, and no destructive samples were collected as work activities were completed after non-destruct testing was completed. These additional activities will be completed tomorrow (8/7/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as non-destruct testing was in conformance with the project specs and no patch / repair work, or vacuum box testing was conducted on 8/6/15.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/6/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, and 8/5/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 14+00 to Sta. 13+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/6/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 8/6/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/6/15
A5 – Subgrade Approval	Sheet 10 & ESI (8/6/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/6/15.
A7 – Panel Placement Log	Page 11	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/6/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/6/15
A9 – Seam/Non-Destruct. Test Log	Pages 11-12	Seam Control Form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/6/15
A10 – Repair Log		N / A no repairs completed on 8/6/15
A11 – Conformance COC		N / A for 8/6/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/6/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/6/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/7/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	68/82° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1530

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #17**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #54 (P-54) installed on 8/6/15 (located at approximate Sta. 14+00) running approximately 100 ft. east to Sta. 13+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 50-54 which were placed on 8/6/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/7/15).
- A total of twenty-three repairs (RP-195 through RP-217) were observed and fixed (according to the project specifications) from Panels #50 through Panel #54 (repair / detailing work conducted on panels installed on 8/6/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No non-conformance issues were observed as patch / repair work consisted of custom fit repairs to allow the geomembrane cap to conform to SA-6 contours.
- A total of three destruct samples were collected (DS-13, DS-14, and DSX-6). DS-13 and DS-14 (fusion) were collected from Panels 47/48 and 50/51, respectively. DSX-6 (extrusion) was collected from Panel #48 on RP-198.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for Collection Manhole #2. Note: The penetration log for Collection Manhole #2 will be completed once the boot has been sealed and covered according to the project specifications (to be completed on 8/10/15), and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 14+00 to Sta. 13+00 while

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/7/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.Refer to Photo #6 of the daily photo log for 8/7/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 14+00 to Sta. 13+00.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 14+00 (east of P-54) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/7/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #54 (located at approximate Sta. 14+00) on 8/6/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-55, P-56, P-57, P-58, P-59, P-60) by ESI. Note:, during placement of Panel #55 and #59, the roll of geomembrane was completed, thus, Panel #56 was placed for the last 11 ft. (from roll G15C283029) to complete the southern end and Panel #60 (P-60) was placed for the last 15 ft. (from roll G15C276053) to complete the northern end of SA-6.
- During installation of the Cap, geomembrane seams were overlapped a minimum of 4-inches for fusion welding (according to project specs). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specs. A total of six 1-inch specimens were collected for peel and shear testing (3 samples/each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/7), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/7/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed. These activities will be completed on Monday (8/10/15).

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/7/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 14+35).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-13, DS-14 and DSX-6

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, and 8/6/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 13+00 to Sta. 12+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/7/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/7/15
A5 – Subgrade Approval	Sheet 11 & ESI (8/7/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/7/15.
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/7/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/7/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/7/15
A10 – Repair Log	Pages 10-12	One Repair Log provided by ESI and confirmed by Langan for 8/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/7/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected for 8/7/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected on 8/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		One Notice of Non-Compliance form created by Langan (Sheet #26) for failed vacuum box test

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/10/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/78° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #60 (P-60) installed on 8/7/15 (located at approximate Sta. 13+00) running approximately 100 ft. east to Sta. 12+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 55-60 which were placed on 8/7/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/10/15).
- A total of thirty-one repairs (RP-218 through RP-248) were observed and fixed (according to the project specifications) from Panels #55 through Panel #60 (repair / detailing work conducted on panels installed on 8/7/15). Refer to 8/10/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-W5-SO, and completed placing the geomembrane patch around Access Manhole #2. Note: The penetration log for well 115-W5-SO will be completed once the boot has been sealed and covered according to the project specifications and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 13+00 to Sta. 12+00 while patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/10/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 8/10/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 13+00 to Sta. 12+00.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 13+00 (east of P-60) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/10/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #60 (located at approximate Sta. 13+00) on 8/7/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-61, P-62, P-63, P-64, and P-65) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/10), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/10/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed.
- A total of three destructive samples were collected (two fusion and one extrusion weld). Fusion weld destruct samples (DS-15, DS-16) were collected from Panel Seams 54/55 and 59/61 respectively. DSX-7 was collected along Panel 53/54 seam. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-15, DS-16, DS-17, and DSX-7

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, and 8/7/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-14, and DSX-1 through DSX-6. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/10/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/15
A5 – Subgrade Approval	Sheet 12 & ESI (8/10/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/15.
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/10/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct samples collected on 8/10/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/10/15
A10 – Repair Log	Pages 10-12	One Repair Log provided by ESI and confirmed by Langan for 8/10/15

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/10/15
A12 – Destructive Seam Field Test	Page 12	One destruct sample information form provided by ESI and confirmed by Langan for 8/10/15
A13 – Destruct. Sample Summary	Page 1	Updated with destruct sample information from 8/10/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted on 8/10/15.

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	8/12/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	71/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #19**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 61-66 which were placed on 8/10/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/12/15).
- A total of four repairs (RP-249 through RP-252) were observed and fixed (according to the project specifications) from Panels #64 through Panel #66 (repair / detailing work conducted on panels installed on 8/10/15). Refer to 8/12/15 *Repair Report* for supporting information. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed / construction penetration boots for well 115-W5-SO and gas vent #5 (GV-5). Note: These penetration logs will be completed once the final clamps and seal (butyl seal) have been completed according to the project specifications and the final sealant is placed around top of boot.
- While ESI was conducting repair / patch work, Langan and Entact conducted soil subgrade observation from approximate Sta. 12+00 to Sta. 11+00. Based on visual inspection, the soil subgrade appeared to contain areas of soft / wet subgrade due to rainstorms from 8/11/15. Based on these soft areas, soil subgrade was not approved for geomembrane placement. Entact conducted additional preparation work (i.e. drying the soil and re-grading and re-compacting) as required, to conform the subgrade to the project specifications (refer to Photo #7 of the daily photo log for 8/12/15)

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- After completing patch / repair work from the panels installed on 8/10/15, ESI began to place GDL continuing east along the utility corridor. GDL was placed along the eastern slope of the utility corridor (located at approximate Sta. 16+50). Panels were oriented east to west within the utility corridor, and reverted back to the north and south orientation outside of the corridor (refer to the *8/12/15 Photo Log* for supporting photos)
- GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/12/15 Photo Log* for supporting photographs.
- No new geomembrane panels were placed as the soil subgrade for the next 100 ft. section was not approved. No destruct samples were collected, as DS-17 was collected on 8/10/15 during panel placement.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 5 ft. spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the patch / repair work conducted on geomembrane cap was in compliance with the project specifications.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, and 8/10/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/12/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/15
A5 – Subgrade Approval		N / A no subgrade approved due to soft / wet conditions observed from storms on 8/11/15
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/15.
A7 – Panel Placement Log		N / A no panels placed on 8/12/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/12/15
A9 – Seam/Non-Destruct. Test Log	Page 14-15	Updated with vacuum box test conducted from 8/12/15 on Panels 64/66
A10 – Repair Log	Pages 11-12	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/12/15
A11 – Conformance COC		N / A for 8/12/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/12/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/12/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/12/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/13/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #20**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 12+00 to Sta. 11+00. Refer to *Soil Subgrade Approval* forms from 8/13/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 8/13/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 12+00 to Sta. 11+00. Note: The soft / wet areas identified on 8/12/15 were allowed to dry and were repaired for geomembrane placement.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 12+00 (east of P-65) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #65 (located at approximate Sta. 12+00) on 8/10/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were

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installed (P-67, P-68, P-69, P-70, and P-71) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/13), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 11+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/13/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, no patch / repair work was conducted, and any associated repairs will be completed on 8/14/15.
- After completing non-destructive testing along the panels installed today (8/13/15), ESI began to place GDL continuing east from the 1st utility corridor (located at approx. Sta. 16+50). Panels were oriented from north to south (as outlined in the proposed GDL layout). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-18, DS-19) were collected from Panel Seams 64/65 and 68/69, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, and DS-19 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, and 8/12/15 as well as reviewed and approved daily ESI form submittals.

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- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 11+00 to Sta. 10+20) to Access Manhole #3 (ESI demobilization point).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/13/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 13 & ESI (8/13/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/15.
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/13/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/13/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log		N / A no repairs completed on 8/13/15
A11 – Conformance COC		N / A for 8/13/15

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By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/13/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/13/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	8/14/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0600 – 1430

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #21**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-71) installed on 8/13/15 (located at approximate Sta. 11+00) running approximately 80 ft. east to Sta. 10+20 (western slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 11+00 to Sta. 10+20. Refer to *Soil Subgrade Approval* forms from 8/14/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 11+00 to Sta. 10+20.
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope below the groundwater table), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 11+00 (east of P-71) moving east (for approximately 80 ft.) to Sta. 10+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/14/15 Photo Log* for supporting photographs.

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- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #71 (located at approximate Sta. 11+00) on 8/13/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-72, P-73, P-74, and P-75) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/14), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 10+20, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/14/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. ESI conducted patch / repair work for the panels installed on 8/13/15 (Panels 66-71) and 8/14/15 (Panels 72-75). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/14/15 for results (extrusion testing identified as EXT. on form).
- A total of ten repairs (RP-253 through RP-262) were observed and fixed (according to the project specifications) from Panel #71 through Panel #75 (repair / detailing work conducted on panels installed on 8/13/15 & 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Upon completion of patch / repair activities, ESI began to pack and load equipment for their 2-week demob from the Site.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-20, DS-21) were collected from Panel Seams 70/71 and 74/75, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, DS-19, DS-20, and DS-21 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, and 8/13/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South after 2-week demobilization is complete.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 14 & ESI (8/14/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/14/15.
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/14/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/14/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/14/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/14/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/14/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 31, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		2
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/31/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 31, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Partially filled drums in the mechanics area on SA-6 South are not on spill pallets
2	IA2Q4A1AL8	Drums and other containers in the mechanics area on SA-6 South are not properly labelled as to content.
3	IA2Q4A1AL8	Remains of drainage pipe and other debris are present on the SA-6 South backfill area.
4	IA2Q4A1AL8	Silt fence along the southern perimter of the Novartis stockpile area on SA-7 is not properly toed in.
5	IA2Q4A1AL8	Sediment is present on the southern SA-7 paved access roadway by the Novartis stockpile area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/31/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Place all drums which are in use on or in secondary spill containment.	8/3/15 RAD
2	Check labelling on all containers for Hazcom compliance and properly label or else remove any containers which are out of compliance.	8/3/15 RAD
3	Place debris in rolloffs for disposal.	8/4/15 RAD
4	Reinstall or replace silt fence as required.	8/4/15 RAD
5	Clean up all sediment from the SA-7 access roadway	8/5/15 RAD

Construction Manager: _____ Date: 08/06/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 7, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2,3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		5
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/07/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 07, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Discarded water bottles and other debris are present in the area of the SA-6 South cap installation.
2	IA2Q4A1AL8	Exclusion Zone fencing around the EZ to the south of the SA-6 North trash pit requires maintenance.
3	IA2Q4A1AL8	Exclusion Zone surrounding the EA-8 excavation requires maintenance.
4	IA2Q4A1AL8	The stockpile of relocated material in the SA-6 North Exclusion Zone requires erosion control measures.
5	IA2Q4A1AL8	Debris is present on the ground in the EA-7/EA-8 excavation areas on SA-6 North.
6	IA2Q4A1AL8	Silt fence along the SA-7 northern roadway requires maintenance.
7	IA2Q4A1AL8	Debris is present on the eastern SA-7 roadway adjacent to Route 440.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 08/07/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of discarded water bottles in the SA-6 South cap area. Place garbage cans as needed for future use.	8-11-15 RAD
2	Repair or maintain EZ fencing as required. Confirm that fencing across access points is closed at the end of every workday.	8-11-15 RAD
3	Repair or maintain the EZ fencing as required	8-11-15 RAD
4	Install silt control measures along the toe of the material stockpile.	8-11-15 RAD
5	Pick up and dispose of debris.	8-11-15 RAD
6	Repair or replace silt fence as required.	8-11-15 RAD
7	Pick up and dispose of debris.	8-11-15 RAD

Construction Manager: _____ **Date:** 08/13/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 14, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		1
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		6

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/14/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 14, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Excluzion Zone fencing at the southeastern corner of the SA-6 South cap area is damaged
2	IA2Q4A1AL8	Cover material is exposed on the eastern end of the SA-6 South cap area adjacent to the Hackensack River
3	IA2Q4A1AL8	Exclusion Zone signage is not adequate on the EZ at the southeastern corner of SA-6 North.
4	IA2Q4A1AL8	Filter fabric in the catch basins on SA-6 North by the trash pit has become blinded and requires maintenance.
5	IA2Q4A1AL8	Sediment is present on the SA-7 access roadway.
6	IA2Q4A1AL8	**REPEAT:** Debris is present on the eastern SA-7 roadway adjacent to Route 440

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 08/14/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Maintain/repair the EZ fencing as required.	8/19/15 RAD
2	Install plastic sheeting over the placed cover material.	
3	Install additional EZ signage on the EZ fenceline.	
4	Replace filter fabric in catch basins as required	
5	Clean the access roadway as required. Clean sediment from around the western cover material ramp.	
6	Pick up and dispose of debris.	

Construction Manager: _____ **Date:** 08/20/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 21, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		4
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/21/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 21, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on the north side of Kellogg Street to the west of the 60 Kellogg building and the filter fabric in the associated catch basins requires maintenance.
2	IA2Q4A1AL8	Discarded filter fabric, old fence posts, and other debris are present on the SA-6 South backfill area adjacent to the western end of Kellogg Street.
3	IA2Q4A1AL8	Silt fence is not properly toed in on the north side of the EA-4 excavation.
4	IA2Q4A1AL8	Containment measures surrounding the Exclusion Zone at the southeastern corner of SA-6 North require upgrading.
5	IA2Q4A1AL8	A catch basin on the north side of the trash pit on SA-6 North requires filter fabric replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/21/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove the accumulated sediment from the north side of Kellogg Street and change catch basin filter fabric as needed.	8/27/15 RAD
2	Remove and properly dispose of all debris in this area.	
3	Toe in the silt fence.	
4	Install silt dams or other approved erosion control measures on the eastern side of the EZ between the excavated area and the sidewalk.	
5	Replace the filter fabric in the catch basin between the trash pit and the EA-4 excavation.	

Construction Manager: _____ Date: 08/27/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 28, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		1
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/28/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 28, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Oxygen tanks are not properly chained/stored in the mechanics area on SA-6 South
2	IA2Q4A1AL8	Sediment is present on the road surface at the western end of Kellogg Street in the areas around the storm drain catch basins.
3	IA2Q4A1AL8	Exclusion Zone fencing is inadequate on the eastern side of the EA-5 excavation zone on SA-6 North
4	IA2Q4A1AL8	A gap is present in the perimeter chain link fencing on SA-6 North, just to the east of the CWTP.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/28/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Chain or strap all compressed gas cylinders as required	9/1/15 RAD
2	Shovel accumulated sediment from the road surface and dispose of properly.	9/1/15 RAD
3	Install additional EZ fencing as required to close off the eastern side of EA-5	8/28/15 RAD
4	Repair the gap in the chain link fabric as required	9/1/15 RAD

Construction Manager: _____ Date: 9/4/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (July 2015)

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

August 20, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the July 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
7	01	15	7	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,469	86,397 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.65	0.72	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.3	<5.3	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1312	0.1312	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

8/18/2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
7	01	15	7	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,401,528 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 41,001,828

DATE	BOD (mg/l)	TSS (mg/l)
7/16/2015	8.3	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris VP	John J. Morris	(973) 455-4003
		DATE 8/18/2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)						MONTH: July 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
7/1/2015	Angel Trujillo	38600300	38673403	73,103	0.073103	7.56	1.000									0.61
7/2/2015	Angel Trujillo	38673403	38752880	79,477	0.079477	7.59	1.000									0.66
7/3/2015	Angel Trujillo	38752880	38828208	75,328	0.075328	7.52	1.000									0.63
7/4/2015	Angel Trujillo	38828208	38907512	79,304	0.079304	N/A	1.000									0.66
7/5/2015	Angel Trujillo	38907512	38986815	79,303	0.079303	7.53	1.000									0.66
7/6/2015	Angel Trujillo	38986815	39056369	69,554	0.069554	7.55	1.000									0.58
7/7/2015	Angel Trujillo	39056369	39138805	82,436	0.082436	7.57	1.000									0.69
7/8/2015	Angel Trujillo	39138805	39218788	79,983	0.079983	6.70	1.000									0.67
7/9/2015	Angel Trujillo	39218788	39297122	78,334	0.078334	6.82	1.000									0.65
7/10/2015	Angel Trujillo	39297122	39371889	74,767	0.074767	6.83	1.000									0.62
7/11/2015	Angel Trujillo	39371889	39457013	85,124	0.085124	6.90	1.000									0.71
7/12/2015	Angel Trujillo	39457013	39530282	73,269	0.073269	N/A	1.000									0.61
7/13/2015	Angel Trujillo	39530282	39603551	73,269	0.073269	6.88	1.000									0.61
7/14/2015	Angel Trujillo	39603551	39683613	80,062	0.080062	6.88	1.000									0.67
7/15/2015	Angel Trujillo	39683613	39761777	78,164	0.078164	6.84	1.000									0.65
7/16/2015	Angel Trujillo	39761777	39839429	77,652	0.077652	6.86	1.000	<5.3	8.3		<0.010	<0.030	<0.010	<0.0002	<0.020	0.65
7/17/2015	Angel Trujillo	39839429	39917383	77,954	0.077954	6.83	1.000									0.65
7/18/2015	Angel Trujillo	39917383	40000664	83,281	0.083281	6.82	1.000									0.69
7/19/2015	Angel Trujillo	40000664	40075996	75,332	0.075332	N/A	1.000									0.63
7/20/2015	Angel Trujillo	40075996	40151328	75,332	0.075332	6.81	1.000									0.63
7/21/2015	Angel Trujillo	40151328	40228223	76,895	0.076895	6.84	1.000									0.64
7/22/2015	Angel Trujillo	40228223	40305044	76,821	0.076821	6.90	1.000									0.64
7/23/2015	Angel Trujillo	40305044	40382213	77,169	0.077169	6.81	1.000									0.64
7/24/2015	Angel Trujillo	40382213	40459781	77,568	0.077568	6.82	1.000									0.65
7/25/2015	Angel Trujillo	40459781	40546178	86,397	0.086397	6.80	1.000									0.72
7/26/2015	Angel Trujillo	40546178	40619985	73,807	0.073807	N/A	1.000									0.62
7/27/2015	Angel Trujillo	40619985	40693793	73,808	0.0738	6.90	1.000									0.62
7/28/2015	Angel Trujillo	40693793	40771316	77,523	0.077523	6.89	1.000									0.65
7/29/2015	Angel Trujillo	40771316	40847941	76,625	0.076625	6.95	1.000									0.64
7/30/2015	Angel Trujillo	40847941	40924300	76,359	0.076359	6.90	1.000									0.64
7/31/2015	Angel Trujillo	40924300	41001828	77,528	0.077528	6.91	1.000									0.65
TOTAL				2,401,528	2.401528			<5.3	8.3		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	86,397											High:	0.72
			Average:	77,469											Average:	0.65

WW

E

TB99282

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42201.55960
2235 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County	Phase: CS	COC# 087-WW-071615
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ	Sampling Program: 087: JCIA	Lab Proj # (SDG):
Client Contact: (name, co., address)	Sampler: Frank Schroyer			Lab ID ACTD
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #			Site ID HudsonCo
Honeywell International 101 Columbia Road Morristown, NJ 07962	Analysis Turnaround Time (TAT): Consultant: 3 CH2M			Lab Job # HWINJM32815
Preliminary Data To				Authorized User: Honeywell
Sample Receipt Acknowledgement To: Frank Schroyer				Text & Excel File Drive / Excel & Text File Order
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Sample Identification: Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																	
											Preservative		3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-071615-A	7/16/2015	15:10	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1						L25
2	087-WW			087-WWE-071615-B	7/16/2015	15:20	WW	WATER	REG	5	grab	N					X	X				2						V6J1
3	087-WW			087-WWI-071615	7/16/2015	15:30	WW	WATER	REG	3	grab	N									X	3						A6
4																												G43
5																												
6																												
7																												
8																												
9																												
10																												
11																												
12																												

Relinquished by: pH = 6.86 s.u. @ 7.6° C	Company: AMEC Foster Wheeler	Received by:	Company: Accutest	Condition: 3.5 ED	Custody Seals Intact:
Frank Schroyer	Date/Time: 7/16/15 16:40		Date/Time: 7/16/15 16:40	Cooler Temp.	
Relinquished by:	Company: Accutest	Received by:	Company: ALNJ	Condition:	Custody Seals Intact:
	Date/Time: 7/16/15 17:46		Date/Time: 7/16/15 1746	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 3B JK

LABEL VERIFICATION JK

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE JK

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-071615-A		
Lab Sample ID:	JB99282-1	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1000	10	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	07/20/15	07/20/15	MA	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	07/17/15	07/20/15	AP	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA37126
(2) Instrument QC Batch: MA37129
(3) Prep QC Batch: MP87721
(4) Prep QC Batch: MP87797

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-071615-A		
Lab Sample ID:	JB99282-1	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/19/15	SP	SM2540 D-11
pH [a]	6.89		su	1	07/16/15 17:59	AL	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-071615-A		
Lab Sample ID:	JB99282-1A	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	8.3	3.4	mg/l	1	07/16/15 20:37	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-071615-B		
Lab Sample ID:	JB99282-2	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	T209724.D	1	07/21/15	DC	n/a	n/a	VT8607
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.2	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.27	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	17.7	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.32	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	59.8	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.3	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.47	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-071615-B		
Lab Sample ID:	JB99282-2	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	42.5	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	0.70	1.0	0.13	ug/l	J
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	106%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	101%		74-115%
1868-53-7	Dibromofluoromethane (S)	99%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@866105 11:11 03-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-071615-B		
Lab Sample ID:	JB99282-2	**Date Sampled:**	07/16/15
Matrix:	AQ - Water	**Date Received:**	07/16/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.3	5.3	mg/l	1	07/18/15 12:00	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending August 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending August 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending August 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

10/15/2015
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 15, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-09

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: September 2015 SA-6/7 Combined Monthly Progress Report No. 2015-09

cc: Joe Clifford - Amec Foster Wheeler (electronic copy)
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-09

Project SA-6 & 7 Remediation

September 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
09/02/15	Revised Combined Chromium Remediation Schedule Study Area 6 North and South Jersey City, Hudson County, NJ	Thomas Cozzi, Assistant Director New Jersey Department of Environmental Protection
09/10/15	Pump Well PW-3 Study Area 7 Groundwater Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
09/11/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-07	Honorable Robert G. Torricelli Office of the Special Master
09/11/15	Responses to Verbal Questions Posed by Dr. Rogers on August 18, 2015 Regarding SA-6 South Geomembrane Boot Installations Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/15/15	Special Master Conference Meeting	N/A
09/16/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2, Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
09/18/15	Interface Friction Evaluation Geomembrane versus Gas Vent Layer Study Area 6 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/23/15	Design Change Bulletin: Planting Soil Specifications Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/29/15	NJDEP Corr re SA-6NS Revised Combined Master Schedule Study Area 6 North and South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/29/15	Boot Installation for Geomembrane Penetrations Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	9/6/2015	9/13/2015	9/20/2015	9/27/2015
Construction Management (AMEC)	8	8	9	10
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	35	40	42	43
Arecon/US Ecology Subcontractors	0	3	3	0
Langan	0	0	1	1
Evoqua	1	1	1	1
B&B Drilling	2	0	0	2
TOTAL STAFF	**51**	**57**	**61**	**62**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- On September 27 through 29, Cornerstone personnel completed S-3 Mass Removal Injection Event No. 24 in Injection Well 088-IW-02.
- On September 17 and 18, Cornerstone conducted a round of regional quarterly groundwater level measurements.
- ERFS/Summit re-mobilized to SA-6 North, Treatment Area 10-1 on September 9 and 10 and completed the proposed injection program in accordance with the Updated Work Plan submitted to all Parties on August 21, 2015.
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on September 10, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	9/6/2015	9/13/2015	9/20/2015	9/27/2015
Avg. Gallons Treated & Discharged (per day)	78,081	78,108	77,991	76,827
Average Flow (gpm) for Operating Period	55	54	56	56
Avg. Hours of Plant Operation	24	24	24	23
GWTP Influent Tanks (gal.)	8,208	4,566	5,253	4,358

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the Excavation Area EA-8 excavation is pending post excavation sampling results.
- Completed installation of dewatering well points and two deep dewatering wells associated with EA-2 and EA-3.
- Completed excavation of Excavation Area EA-5. An unknown UST was encountered during excavation activities. The UST was removed from the excavation on October 1, 2015 due to slope stability concerns. The UST was staged on site for future disposal and closure reporting under the non-chromium project and LSRP.
- Continued relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Canada	Stablex	WWTP Filter Cake	1	16.5	16.5
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	44	26	1,153.71

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Area EA-5 Volume Excavated - Total for Reporting Period: 2,690.CY / Total to Date: 6,432. CY
Backfill in Progress	Celgene Screened fraction above 3/8 inch – EA-5

3. BACKFILL MATERIALS USED

Source	Week Ending			
	9/6/2015	9/13/2015	9/20/2015	9/27/2015
Mt. Hope 3/8" Stone	100.23	0	0	50.89
Mt. Hope DGA	0	0	397.21	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as backfill in EA-5. A total of 36 loads, totaling approximately 810 cubic yards was placed as backfill in EA-5.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total approximately 4,973 cubic yards was placed as protective cover soil during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- No activity to report.

G. CAPPING OPERATIONS

- A total of 117,022 sq. ft. of liner totaling 32% of the total cap area was deployed during the reporting period. The total liner area deployed through September 27, 2015 is 96% for the cap system at SA-6 South.

- Continued installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continued general liner subgrade preparation in Area 3S.
- Continued cutting hydraulic barrier sheets and the SCB wall to final elevation in SA-6 South Open Space Area.
- Continued removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Continued installation of gas vent pipe.
- Modified destructive seam testing interval from 1 test per 500 feet of seam to 1 test per 1,500 feet of seam length according to Specification 02372-3.07.A. (Samples DS-1 to DS-26 had been collected with 0 failures).
- Continued placement of protective cover soils and demarcation tape over the geocomposite drainage layer.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013	Renewal Not Needed	6/23/2014	11/20/2013
PVSC SUP No. 31630016	New GWTP	Obtained 10/1/2013	6/30/2018	9/30/2018	10/29/2013
PVSC SUP No. 31630005	Existing GWTP/SA-7	Obtained 1/1/2014	Renewal Not Needed	12/31/2018	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation of Area EA-8.
- Complete backfilling of excavation areas EA-4 and EA-5.
- Begin Trash Pit area Meadow Mat Repair.
- Complete liner subgrade and utility corridor preparation activities on SA-6 South.
- Complete installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continue screening Celgene material for use as protective cover soils above geosyntethics.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue to coordinate the planned PW-3 extraction well/trench installation.
- Initiate import and placement of Horizon B/C Soils.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Repair Log
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log

- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)

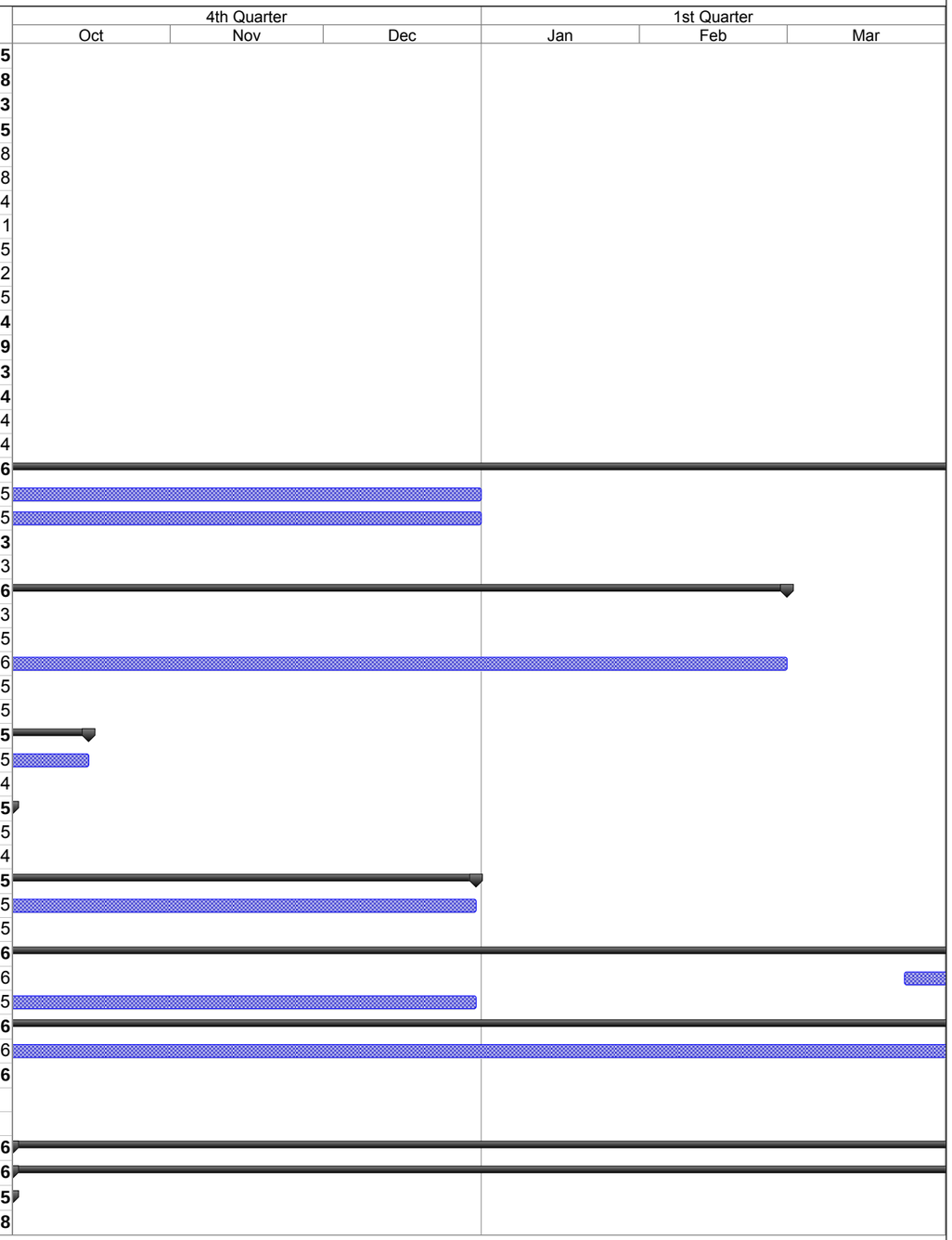
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted September2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 9/30/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Cleaning Barrier Wall prior to backfill former JC Properties.



Site Photograph 2: Completed Concrete Surface on SCB Wall.



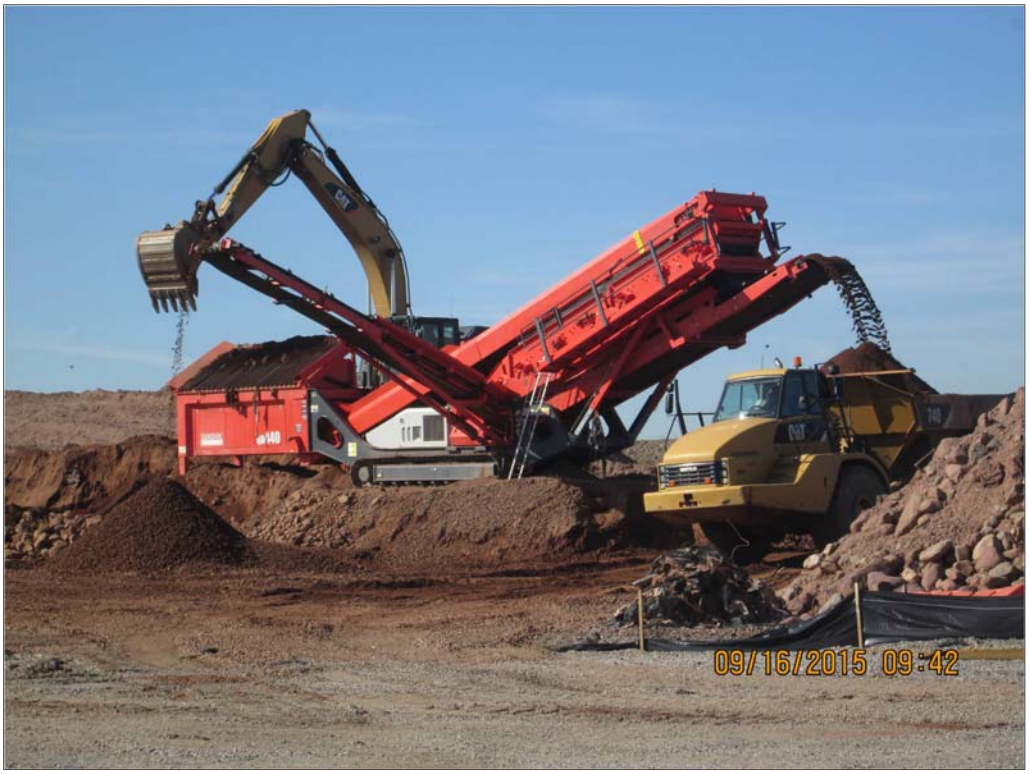
Site Photograph 3: EA-4 Excavation on former JC Properties.



Site Photograph 4: EA-5 Backfilling on former JC Properties.



Site Photograph 5: Placing Orange Geotextile in Open Space.



Site Photograph 6: Screening Imported Soils.



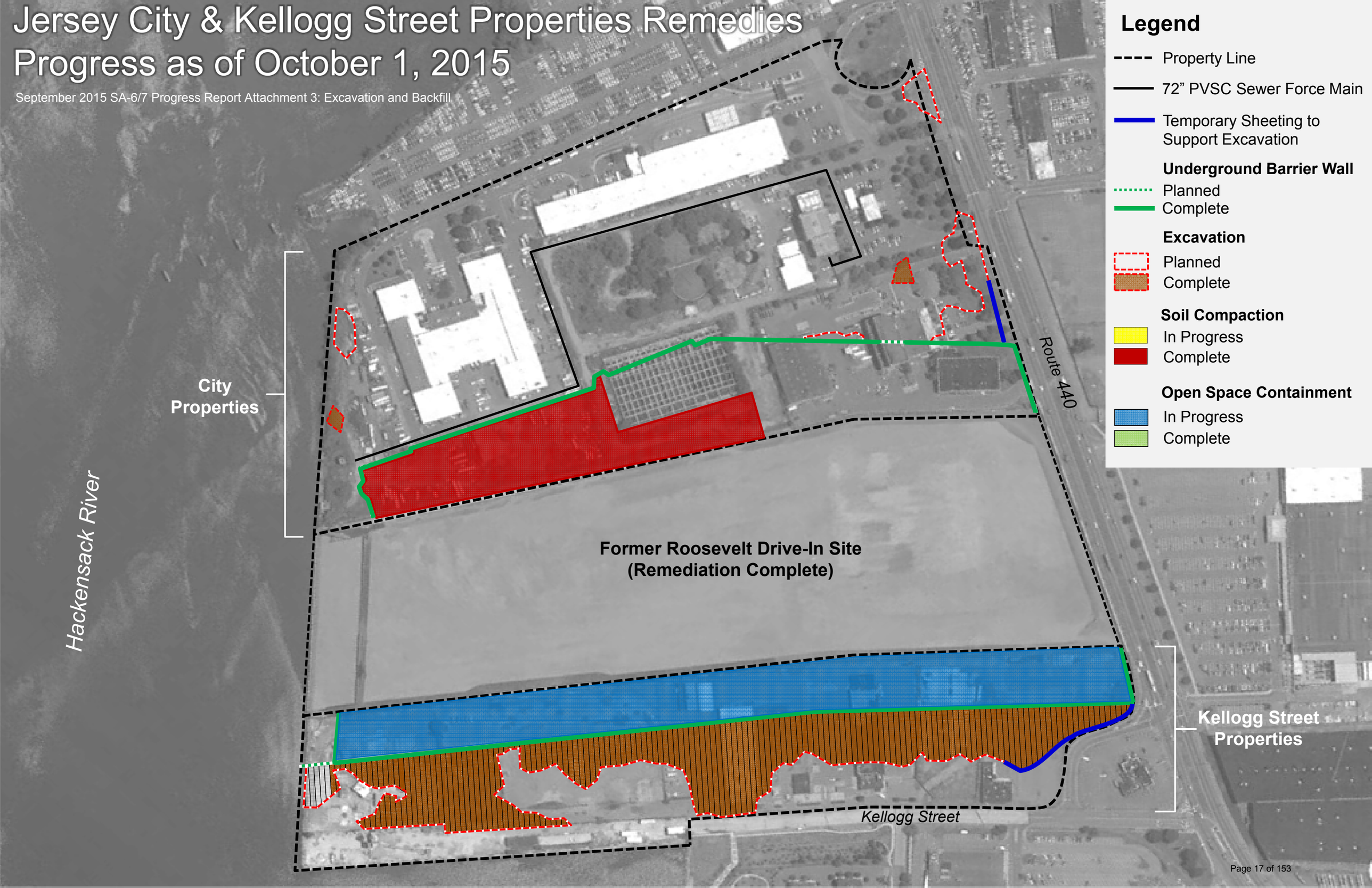
Site Photograph 7: Unloading Clean Cover Soils.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of October 1, 2015

September 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/03/15	9:00	13:30	4:30	34,908.04	34,940.20	32,160	34,796,350	
08/04/15	10:30	21:30	11:00	34,940.20	35,081.91	141,710	34,938,060	
08/07/15	6:30	12:30	6:00	35,081.91	35,221.03	139,120	35,077,180	PVSC Compliance Sample Collected
08/10/15	6:15	12:00	5:45	35,221.03	35,298.93	77,900	35,155,080	
08/11/15	6:35	14:30	7:55	35,298.93	35,398.03	99,100	35,254,180	
08/12/15	6:30	13:30	7:00	35,398.03	35,457.13	59,100	35,313,280	
08/13/15	7:00	13:30	6:30	35,457.13	35,497.93	40,800	35,354,080	
08/14/15	7:00	13:00	6:00	34,497.93	35,552.43	54,500	35,408,580	
08/17/15	6:30	12:30	6:00	35,552.43	35,618.63	66,200	35,474,780	
08/19/15	8:00	15:00	7:00	35,618.63	35,662.04	43,410	35,518,190	
08/20/15	7:00	14:00	7:00	35,662.04	35,706.84	44,800	35,562,990	
08/21/15	7:00	13:30	6:30	35,706.84	35,724.91	18,070	35,581,060	
08/25/15	8:00	14:00	6:00	35,724.91	35,790.40	65,490	35,646,550	
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	
09/01/15	7:00	13:00	6:00	35,841.14	35,929.31	88,170	35,785,460	PVSC Compliance Sample Collected
09/04/15	7:00	13:00	6:00	35,929.31	35,970.92	41,610	35,827,070	
09/09/15	7:00	15:00	8:00	35,970.92	36,046.73	75,810	35,902,880	
09/11/15	7:00	14:00	7:00	36,046.73	36,113.32	66,590	35,969,470	
09/18/15	7:00	15:00	8:00	36,113.32	36,198.63	85,310	36,054,780	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Material Tracking and Sampling Log
SA-6 North and South

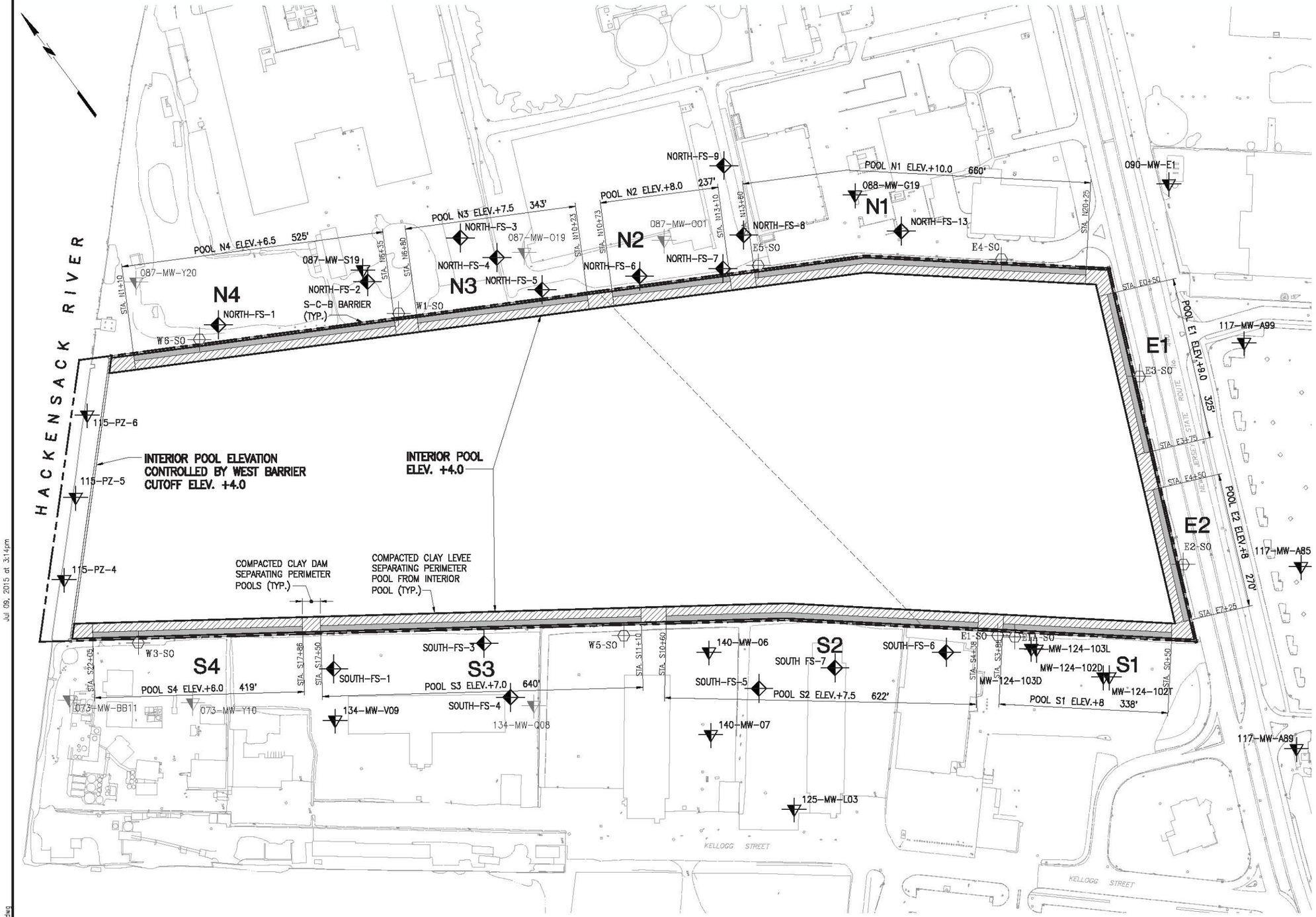
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-a,b	1500	087-EA8-20-a1	6/24/2015	7:35	<2.3	Yes		
				087-EA8-20-a2	6/24/2015	7:40	<2.3	Yes		
				087-EA8-20-a3	6/24/2015	7:45	<1.9	Yes		
				087-EA8-20-a4	6/24/2015	7:50	<1.9	Yes		
				087-EA8-20-b1	6/24/2015	7:55	<2.1	Yes		
				087-EA8-20-b2	6/24/2015	8:00	0.78	Yes		
				087-EA8-20-b3	6/24/2015	8:05	2.10	Yes		
				087-EA8-20-b4	6/24/2015	8:10	<2.0	Yes		
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	*		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	*		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	*		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	*		
EA-7	<20	087-EA7-20-a (bermed/trench material)	900	087-EA7-20-a1	6/26/2015	13:15	<1.8	Yes		
				087-EA7-20-a2	6/26/2015	13:20	<1.4	Yes		
				087-EA7-20-a3	6/26/2015	13:25	<1.4	Yes		
				087-EA7-20-a4	6/26/2015	13:30	5.5	Yes		
EA-7	<20	087-EA7-20-b West Pile	600	087-EA7-20-b1	7/14/2015	8:52	5.2	Yes		
				087-EA7-20-b2	7/14/2015	8:56	2.6	Yes		
				087-EA7-20-b3	7/14/2015	9:00	4.3	Yes		
				087-EA7-20-b4	7/14/2015	9:03	2.8	Yes		
EA-7	<20	087-EA7-20-c East Pile	200	087-EA7-20-c1	7/14/2015	9:06	<.47	Yes		
				087-EA7-20-c2	7/14/2015	9:11	<1.6	Yes		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA-4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	*		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	*		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	*		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	*		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	*		
				087-EA5-20-b2	9/11/2015	11:30	6.8	*		
				087-EA5-20-b3	9/11/2015	11:35	8.3	*		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	*		

Material Tracking and Sampling Log
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP–1

Jul 09, 2015 at 3:14pm
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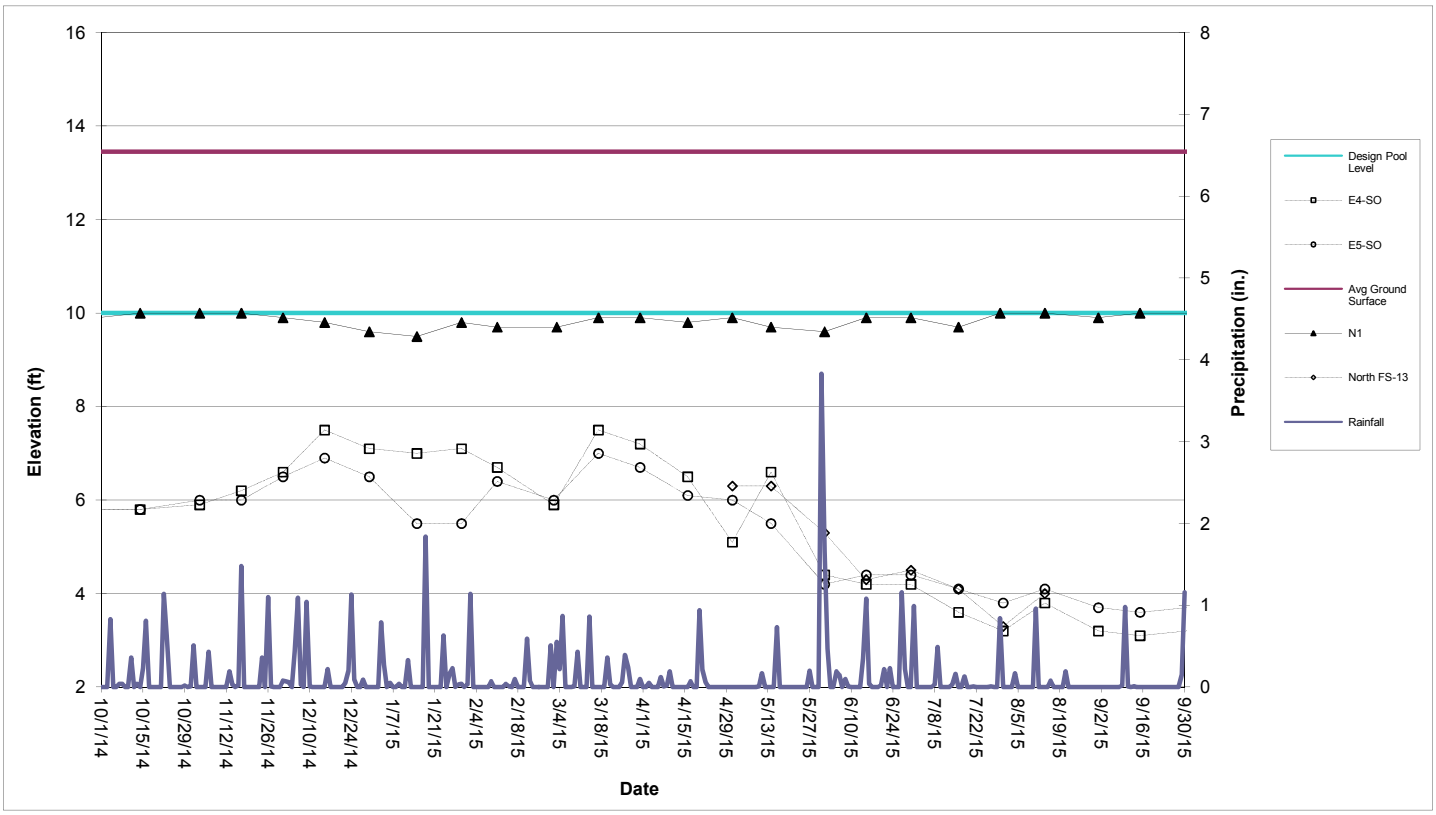
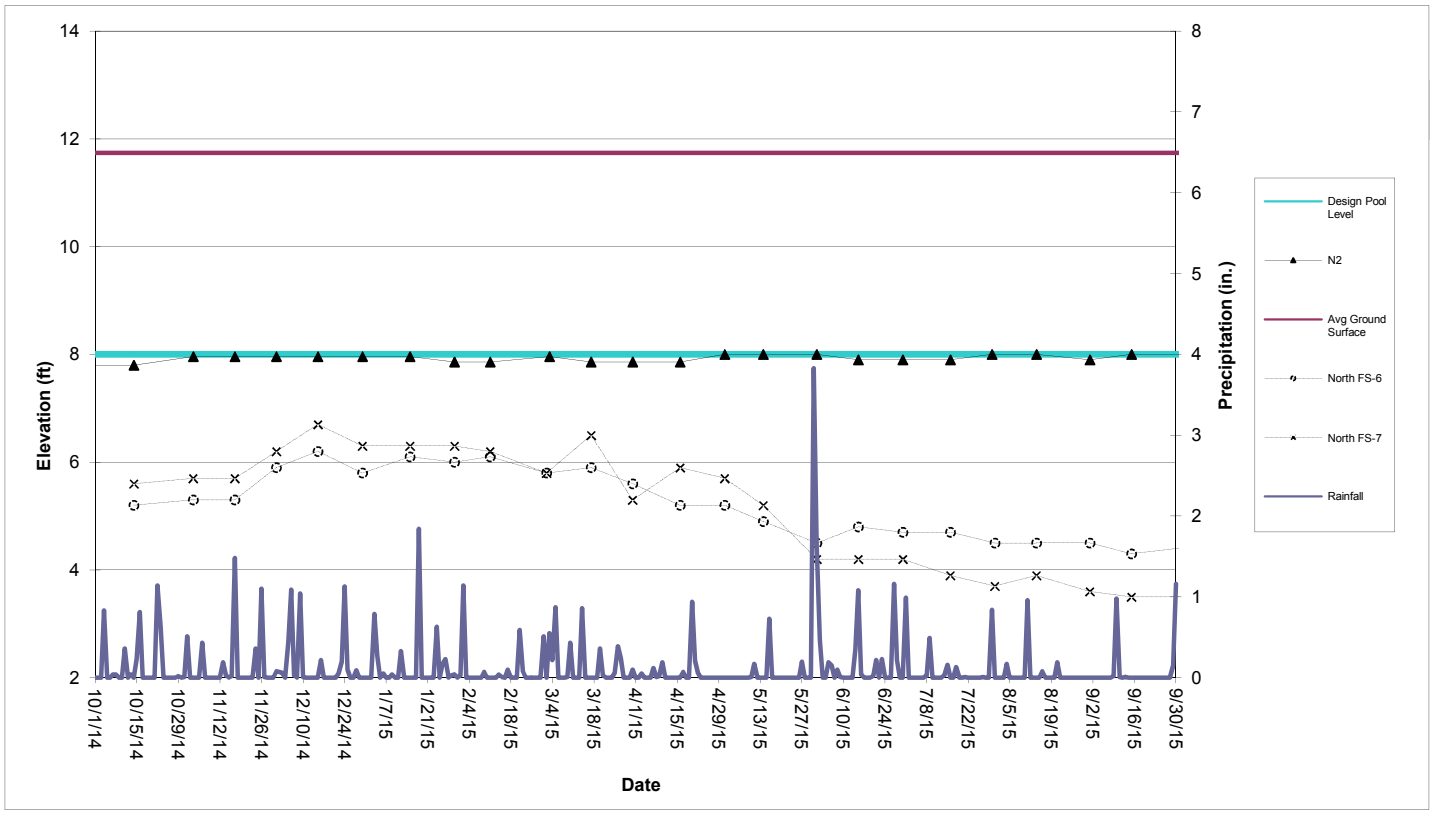
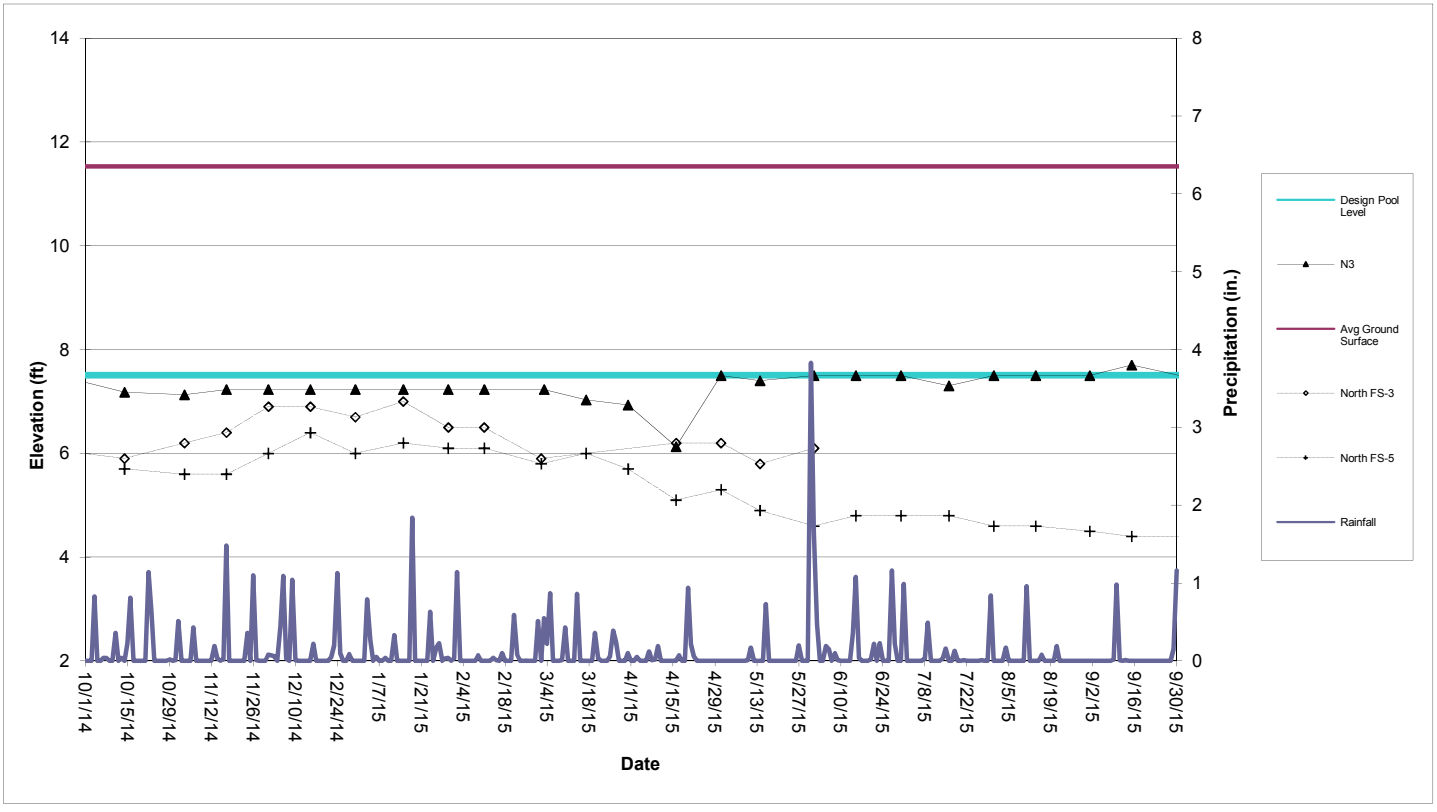
bboscaino



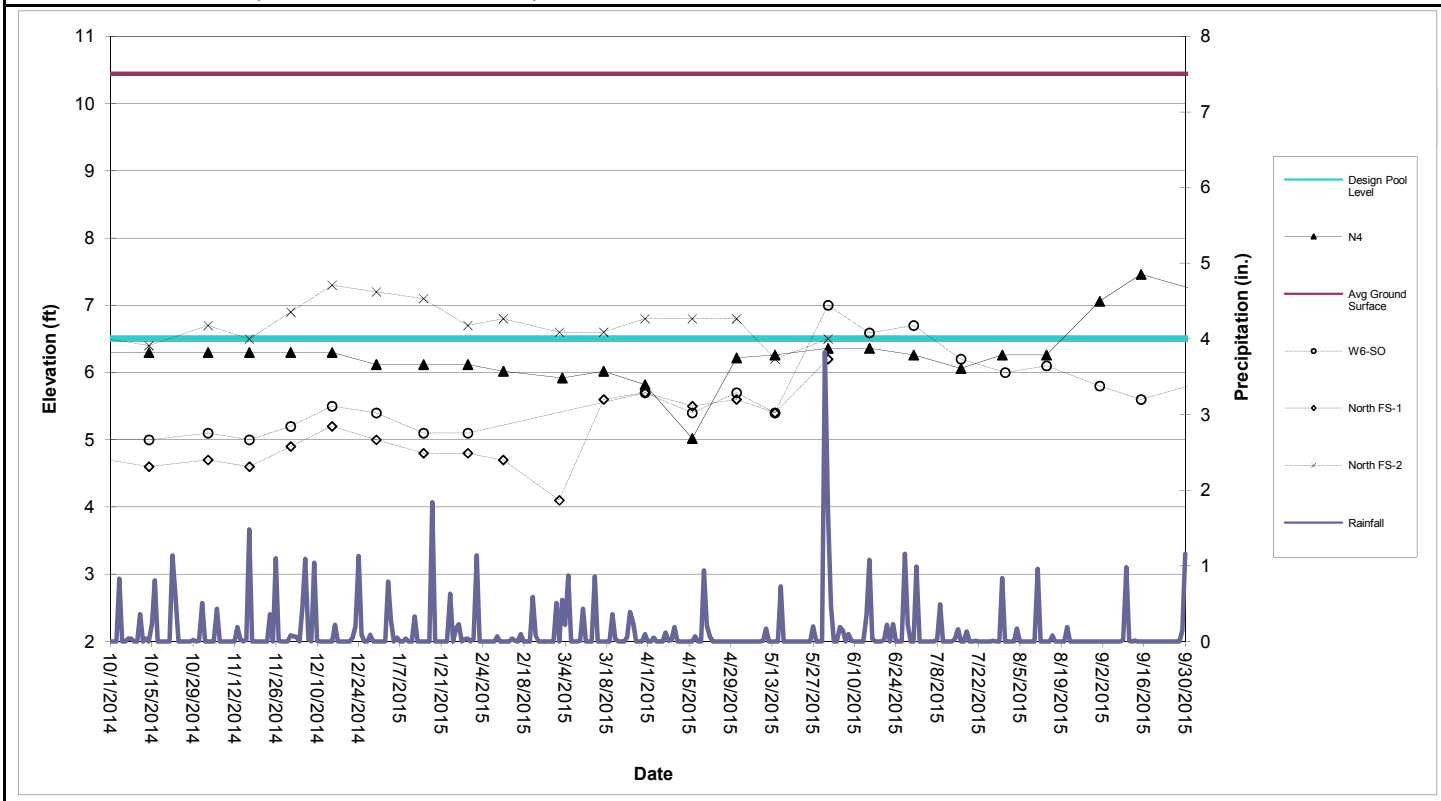
Perimeter Pool N1 (Sta. N13+60 to N20+25)



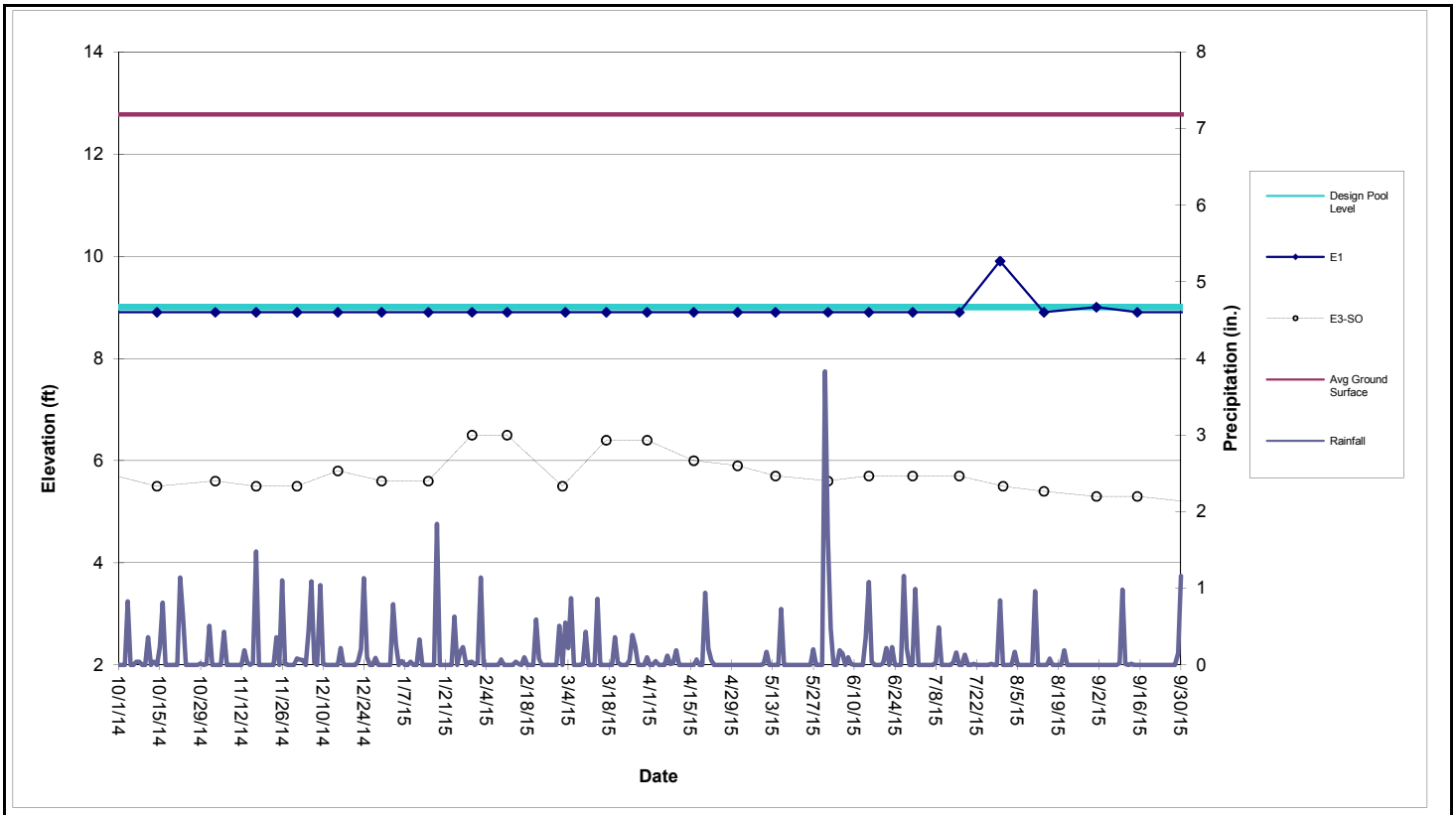
Perimeter Pool N2 (Sta. N10+73 to N13+10)



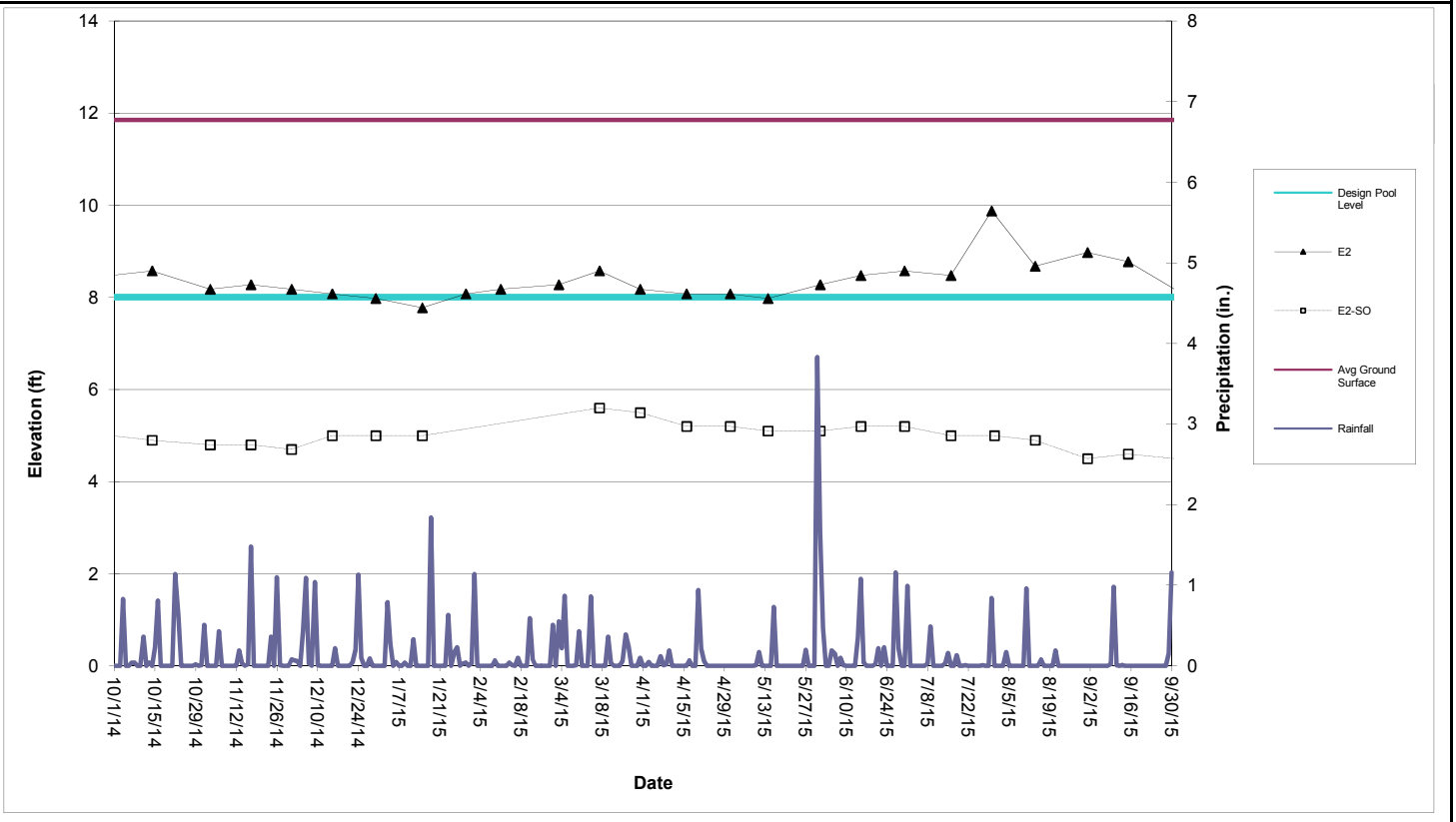
Perimeter Pool N3 (Sta. N6+80 to N10+23)



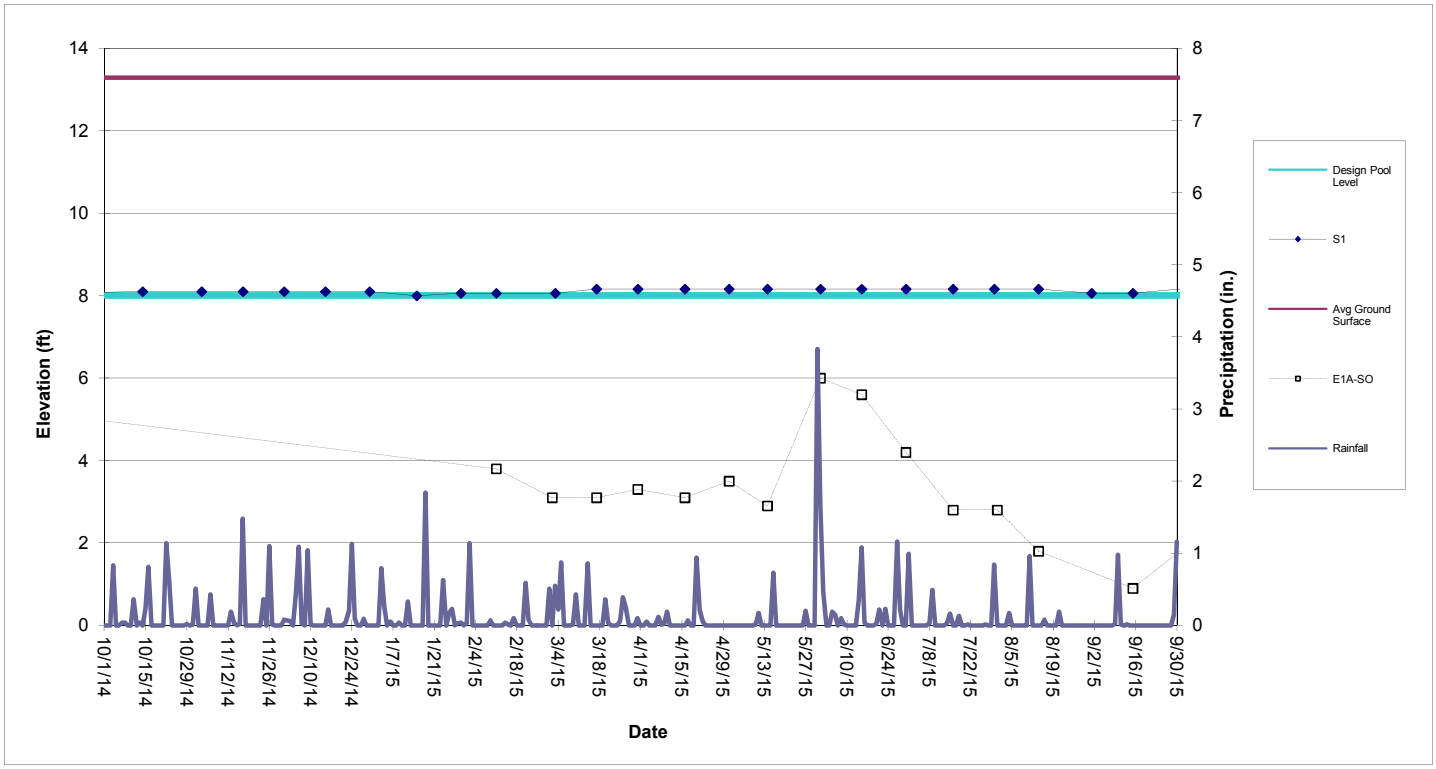
Perimeter Pool N4 (Sta. N6+80 to N10+23)



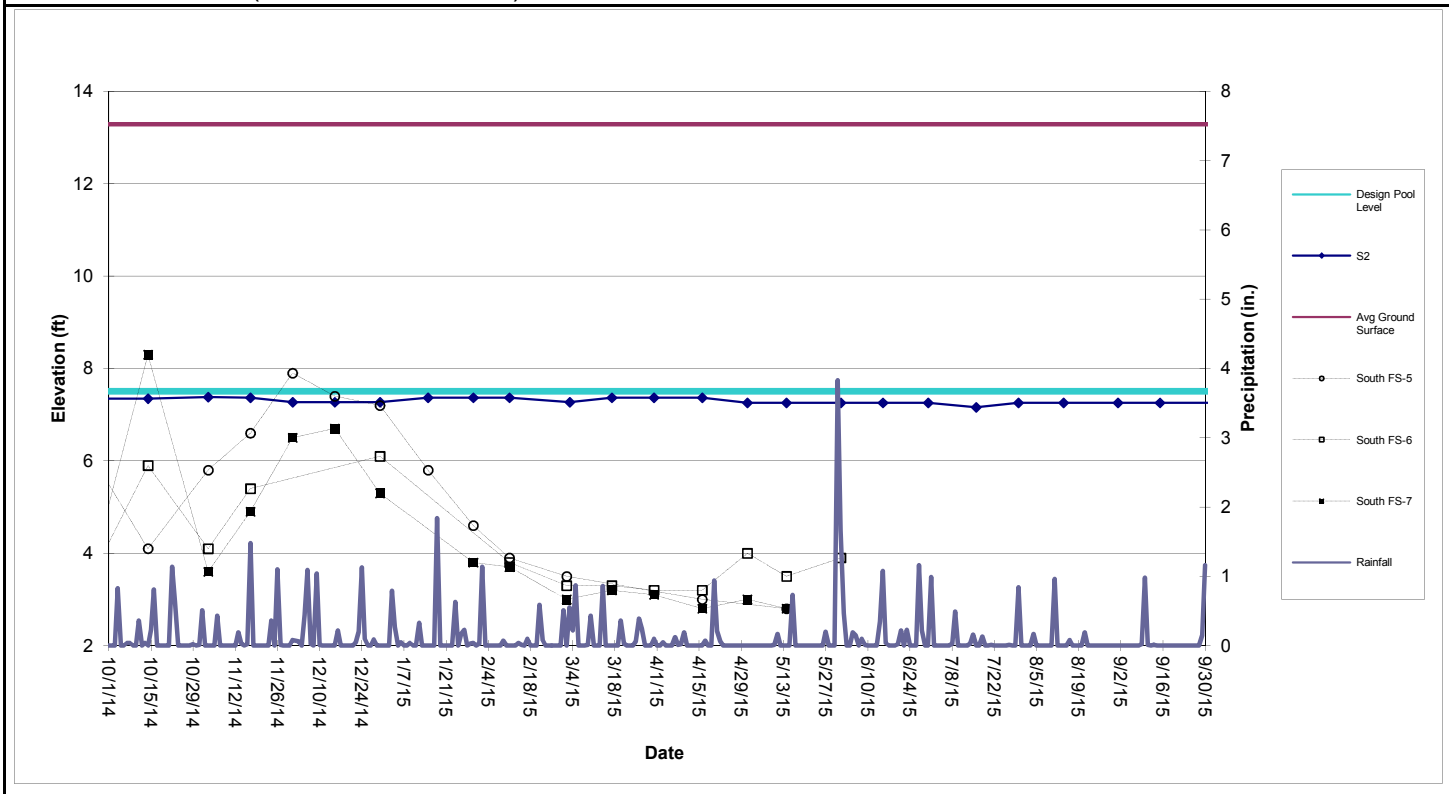
Perimeter Pool E1 (Sta. E0+50 to E3+75)



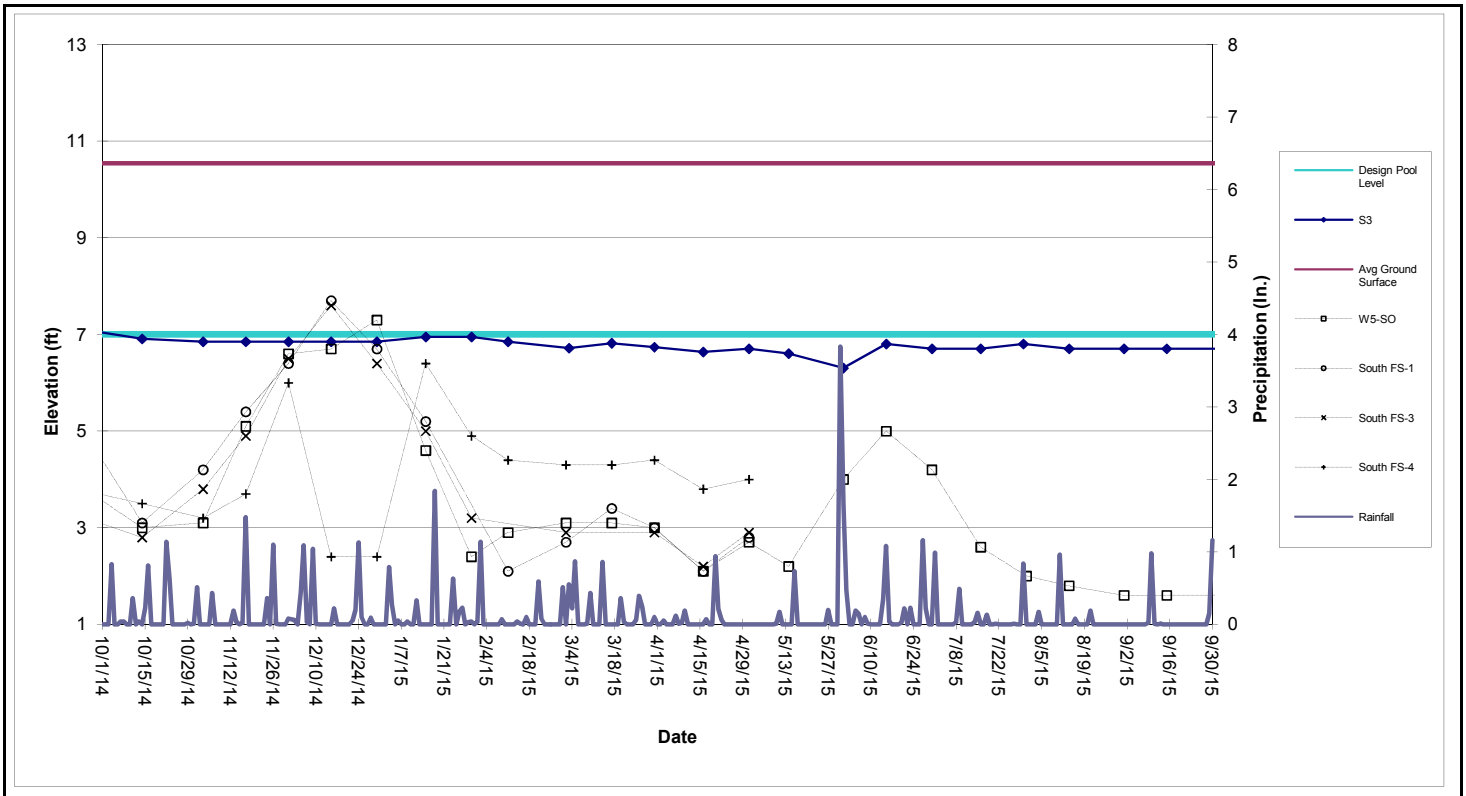
Perimeter Pool E2 (Sta. E4+50 to E7+25)



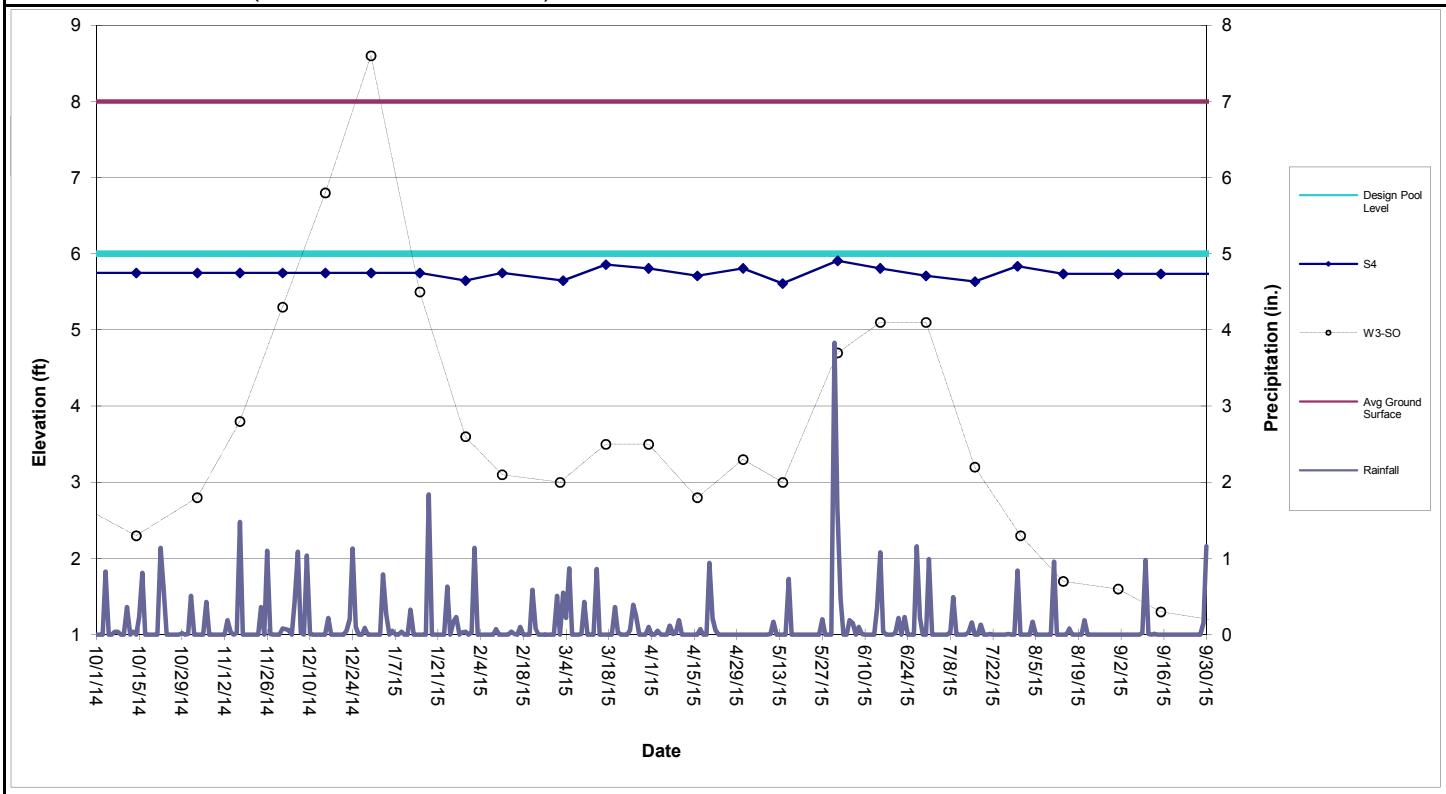
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

									North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																					
10/14/2014		4.9	5.5	5.8	5.8	2.3	3.0	5.0	4.6	6.4	5.9	5.7	5.2	5.6		3.1	2.8	3.5	4.1	5.9	8.3
11/3/2014		4.8	5.6	5.9	6.0	2.8	3.1	5.1	4.7	6.7	6.2	5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0	3.8	5.1	5.0	4.6	6.5	6.4	5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5	5.3	6.6	5.2	4.9	6.9	6.9	6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9	6.8	6.7	5.5	5.2	7.3	6.9	6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5	8.6	7.3	5.4	5.0	7.2	6.7	6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5	5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5	3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4	3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0	3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0	3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7	3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1	2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0	3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5	3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2	4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4	5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4	5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1	3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8	2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1	1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7	1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6	1.3	1.6	5.6				4.4	4.3	3.5							

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, W1-SO,

Attachment 8: Groundwater Quality Data

Honeywell

Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	18-Dec-14			17-Mar-15			28-May-15			23-Sep-15		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.2	4.0	ND	3.1	3.9	ND	3.1	3.8	ND	3.8	3.6	ND
Carbon Tetrachloride	5.2	4.2	2.9	5.8	4.6	2.1	5.7	4.5	3.0	6.7	4.3	2.9
Chloroform	25.8	9.4	ND	23.1	7.8	0.21	23.5	7.8	0.24J	27.4	6.8	0.27
1,1-Dichloroethene	0.57	ND	ND	0.63	ND	ND	0.61J	ND	ND	0.63	ND	ND
cis-1,2-Dichloroethene	112	8.6	ND	111	8.1	ND	131	9.6	ND	129	8.7	0.24
trans-1,2-Dichloroethene	3.5	ND	ND	3.8	ND	ND	3.9	ND	ND	3.9	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	97	44.4	ND	101	45.0	ND	94.9	40.7	ND	105.0	37.3	ND
1,1-Dichloroethane	0.46	ND	ND	0.51	ND	ND	0.56J	ND	ND	0.64	ND	ND
Methylene chloride	0.77	0.20	ND	0.71	ND	ND	0.73J	ND	ND	0.71	ND	ND
Vinyl chloride	15.4	2.5	ND	16.9	2.5	ND	18.1	3.0	ND	17.4	2.0	ND
1,2-Dichlorobenzene	0.66	ND	ND	0.70	ND	ND	0.67J	ND	ND	0.61	ND	ND
Chlorobenzene	0.37	ND	ND	0.41	ND	ND	0.38J	ND	ND	0.35	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	35,900	12,200	15,900	34,700	13,500	15,100	36,100	13,500	16,800	33,900	7,300	14,700
Total Chromium	34,100	12,700	15,900	34,700	15,100	14,800	32,600	15,600	16,700	33,800	8,480	14,000

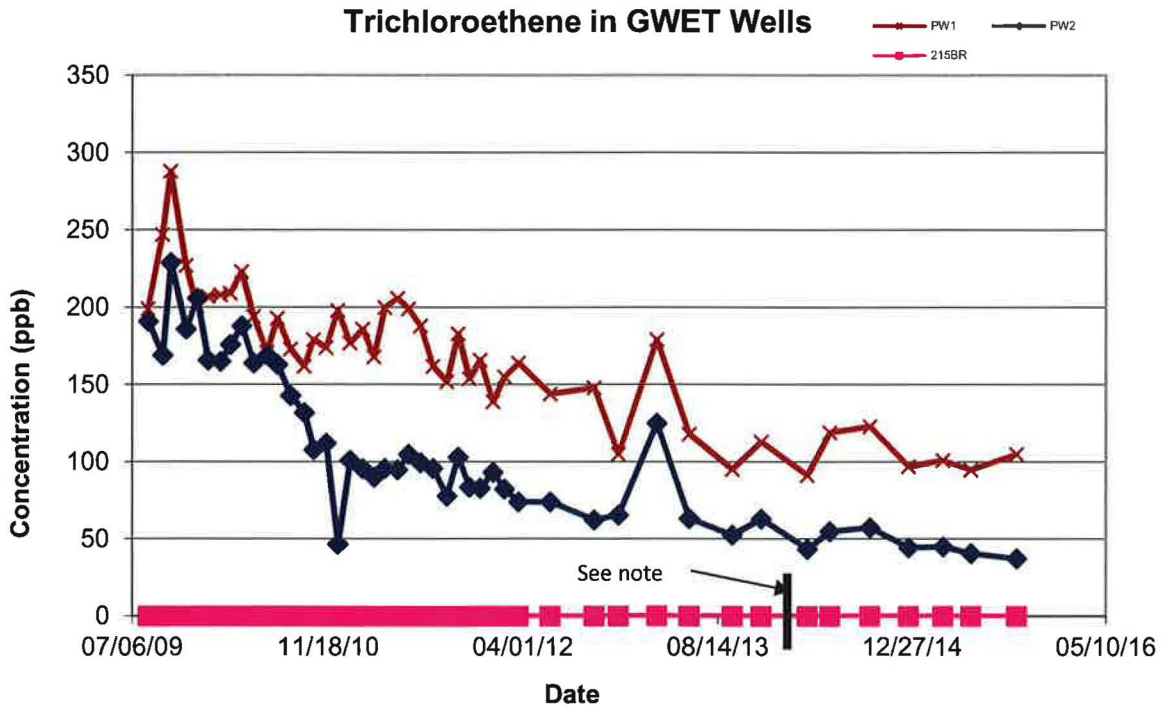
NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

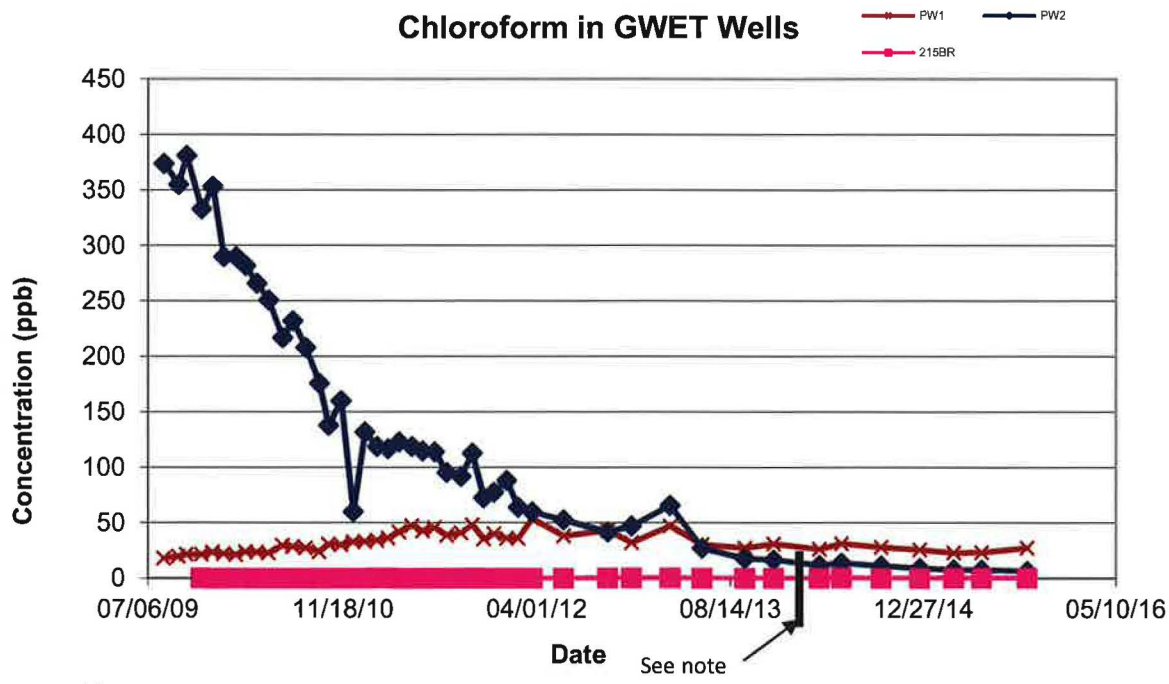
TABLE 2
Quarterly Water Levels
September 2015

Honeywell

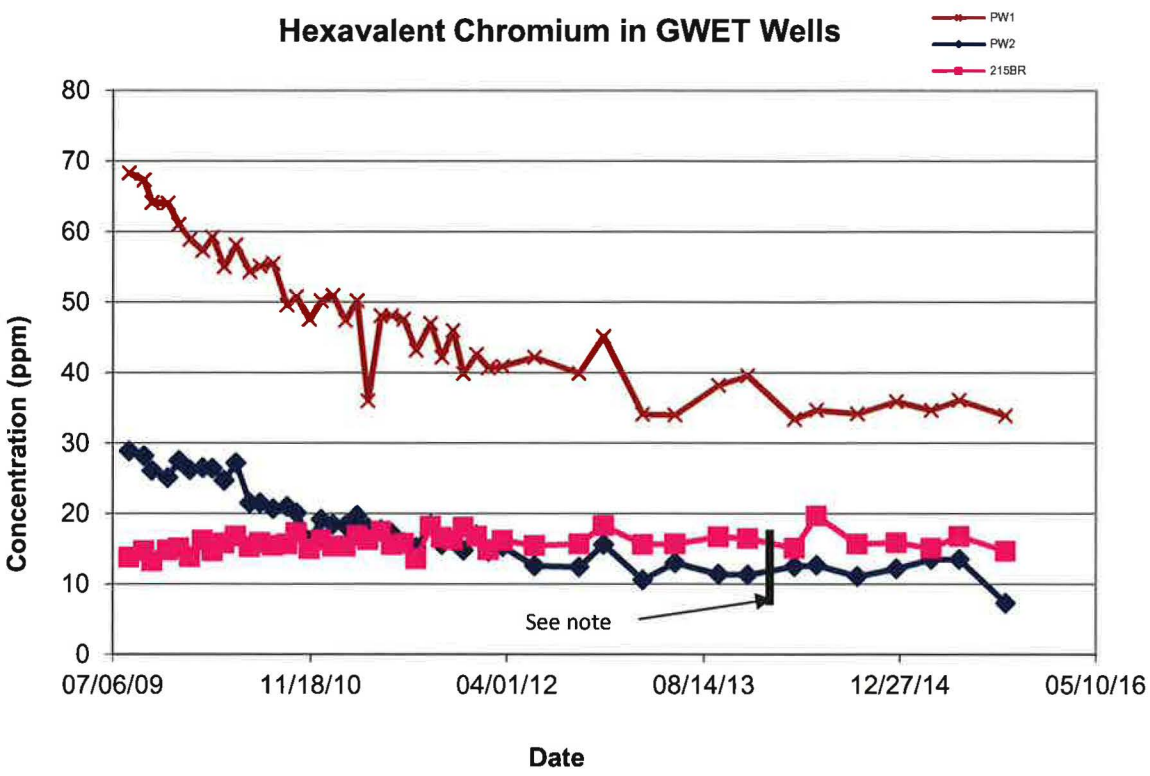
Wells Date: September 18, 2015	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments *GW Elevations are not corrected for tidal influence*
087-MW-25D	18.17	NA	NA	no access
087-MW-25T	18.19	NA	NA	no access
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	13.39	1.74	
087-OBS-1L	15.27	13.90	1.37	
087-OBS-1T	15.23	13.62	1.61	
087-PW-2	13.02	28.35	-15.33	
087-MW-08	12.98	12.16	0.82	
087-OBS-3L	12.88	12.81	0.07	
087-MW-13	12.93	12.91	0.02	
087-OBS-5D	12.72	12.04	0.68	
087-OBS-5T	12.62	13.25	-0.63	
087-PW-1	12.66	39.55	-26.89	
087-MW-34	12.73	13.94	-1.21	
087-OBS-2D	12.68	15.20	-2.52	
SA6-MW-AA1D	19.36	18.56	0.80	
SA6-MW-AA1T	15.31	14.42	0.89	
SA6-MW-5BR-1	17.06	15.07	1.99	
087-OBS-4T	11.60	11.48	0.12	
087-MW-O29D	10.32	9.34	0.98	
087-MW-O29T	9.98	8.58	1.40	
087-MW-03	13.77	NA	N/A	Well not accessible
087-MW-02	12.57	NA	N/A	Well abandoned
115-MW-203BR*	8.70	7.43	1.27	
073-MW-1BR-1	7.58	26.28	-18.70	
073-MW-10BR-1	6.67	7.58	-0.91	
115-MW-215BR*	8.82	12.02	-3.20	

* Reference point elevation to be confirmed.





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-43
Date Exposed: 8/26/15
Describe Damage: Epoxy removed on the edges and face of the sheet while excavator trying to remove soil from belly of the sheets.

Equipment 349E Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 remaining
Inspected by: Ari Eslaminejad
Describe Repair: Clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: [signature]
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-42
Date Exposed: 8/26/15
Describe Damage: Epoxy removed on the edges and face of the sheet while excavator trying to remove soil from belly of the sheets

Equipment 349E Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet pile

Date Repaired: 9/2/15 Partial 9/4/15 remaining
Inspected by: Ari Eslaminejad
Describe Repair: clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: [signature]
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-41
Date Exposed: 8/26/15
Describe Damage: _____

Multiple Scrapes of epoxy coating along the length of the sheets on the edges and face.

.. Equipment 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 remaining
Inspected by: A. Eslaminejad
Describe Repair: Clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: [signature]
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-40
Date Exposed: 8/27/15
Describe Damage: _____

Multiple Scrapes of epoxy coating along the length of the sheets on the edge and face.

Equipment 349E

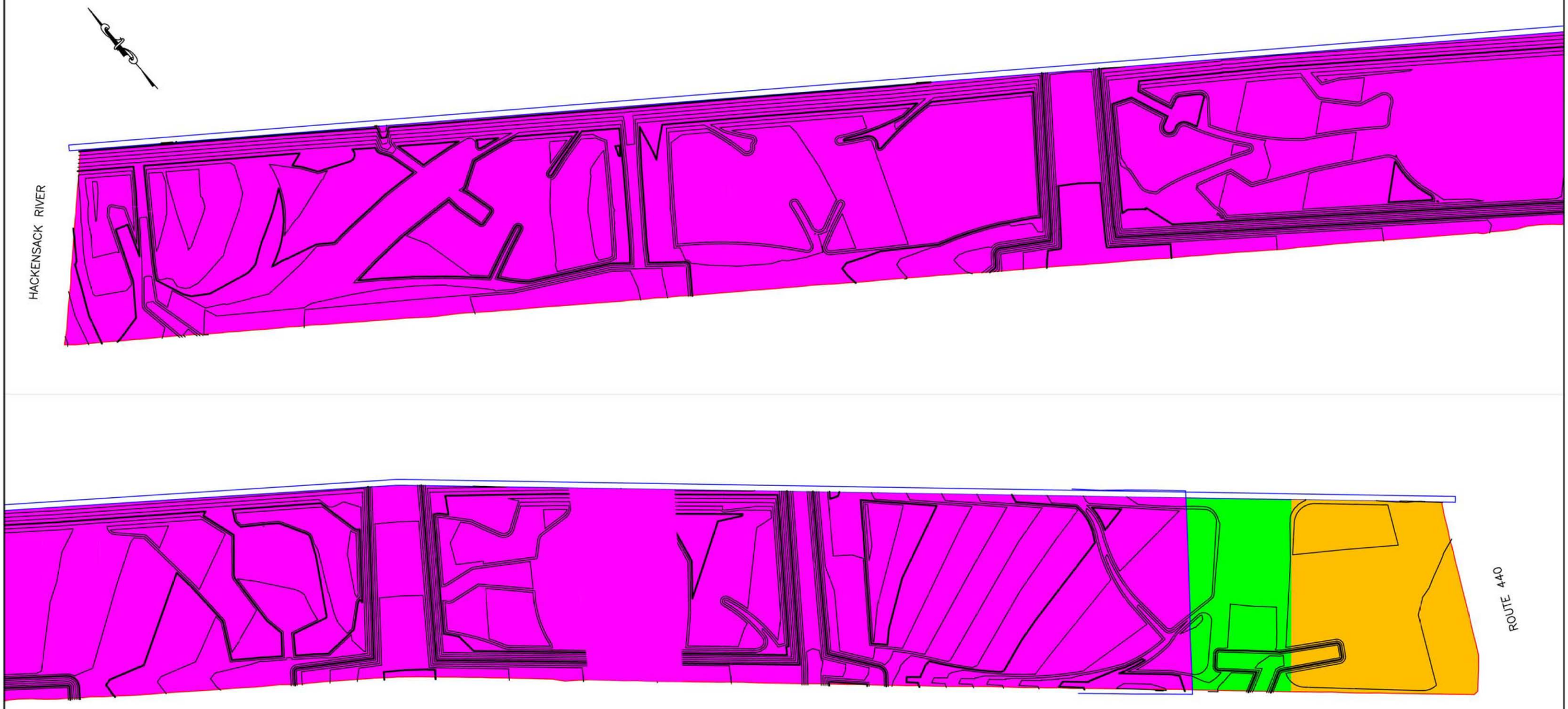
Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 Remaining
Inspected by: A. Eslaminejad
Describe Repair: clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: [signature]
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
09/25/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-274	CF		73	23'N OF 72/73 & 15'E	P	2	x	6		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-275	CF		73	FROM RP-274 TO 5'N	B		x		60	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-276	CF		73	FROM RP-277 TO 12'E	B		x		144	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-277	CF		73	50'N OF 72/73 & 5'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-278	CF		73	46'N OF 73/74 & 5'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-279	CF		73	BETWEEN RP-278 & RP-280	B		x		156	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-280	CF		73	59'N OF 73/74 & 16'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-281	CF		71	137'N OF 71/72 & 2'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-282	CF		71	BETWEEN RP-281 & RP-283	B		x		120	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-283	CF		71	125'N OF 71/72 & 8'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-284	CF		71	164'N OF 71/72 & 8'W	P	2	x	4		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-285	CF		71	BETWEEN RP-284 & RP-286	B		x		132	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-286	CF		71	142'N OF 71/72 & 3'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-287	CF		71	FROM RP-288 TO 8'N	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-288	CF		71	137'N OF 71/72 & 9.5' W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-289	DSX-8	RP-284/71		ON RP-284/71	P	2	x	5		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-290	WR	68/69		132'N OF SEOS	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-291	WR		68	BETWEEN RP-290 & RP-292	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-292	WR		68	126'N OF 68/69 & 10'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-293	SI		57	136'N OF 56/57 & 7'E	P	2	x	2		9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-294	SJ			SJ 75/80/81	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-316	DS-23	88/89		116'N OF SEOS	p	2	x	4.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-317	WR		79	BETWEEN RP-298 & RP-318	B		x		66	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-318	WR		79	78'E OF 79/80 & 7'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-319	BO	81/87		8'N OF SEOS	P	2	x	5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-320	SJ			SJ 80/81/87	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-321	SJ			SJ 79/80/87	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-322	WR	79/87		6'N OF SEOS	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-323	SJ			SJ 78/79/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-324	SJ			SJ 77/78/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-325	SJ			SJ 76/77/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-326	CF	89/90		145'N OF SEOS	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-327	CF		89	145'N OF 89/90 & 6'W	B		x		72	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-328	CF	89/90		81'N OF NEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-329	CF		89	81'N OF 89/90 & 5'W	B		x		60	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-330	DSX-9	RP-316/88		RP-316/88	P	2	x	4.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-331	SI		83	9'S OF 83/84 & 8'W (END OF PANEL)	P	2	x	18		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-332	SJ			SJ 84/86/87	P	3	x	12		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-333	CR		84/86	EEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-334	WR		84	BETWEEN RP-315 & RP-335	B		x		12	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-335	WR		84	7'W OF 81/84 & 3.5'S	P	3	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-336	SJ			SJ 81/84/87	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4163	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
5989.00	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-379	CF		96	101'S OF 96/97 & 17'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-380	CF		96	93'S OF 96/97 & 8'W	P	2.5	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-381	CF		96	BETWEEN RP-380 & RP-382	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-382	CF		96	86.5'S OF 96/97 & 4'W	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-383	BO	103/104		16'W OF EEOS	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-384	BO	97/103		12'S OF NEOS			x			9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-385	SI		94	126'N OF 94/95 & 8'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-386	DSX-10	RP-376/96		RP-376/96 (DSX-10)	P	2	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-387	SJ			SJ 97/103/104	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-388	CF		97	BETWEEN RP-384 & RP-389	B		x		24	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-389	CF		97	12'S OF 97/103 & 3.5'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-390	SJ			SJ 97/102/103	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-391	SJ			SJ 97/101/102	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-392	SJ			SJ 97/100/101	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-393	SJ			SJ 97/99/100	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-394	SJ			SJ 97/98/99	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-395	CF		103	FROM RP-383 TO 5'N	B		x		60	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-396	CF		103	4'N FROM RP-397 & 14'NW	B		x		168	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-397	SJ			SJ 103/104/105	P	2	x	3.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-398	SJ			SJ 103/105/106	P	3	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-399	CF		107	122'S OF 107/108 & 4'W	B		x		192	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Summary of Non-Compliance & Corrective Action Forms

SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	7/21/2015	Subgrade Irregularity	RP-3	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
2	7/21/2015	Subgrade Irregularity	RP-8	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
3	7/22/2015	Failed Non-Destruct Test	RP-13	Panel #7 (P-7) & Panel #8 (P-8) seam	Based on length of failed seam (approximately 6 ft.) the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). The patch was overlapped a minimum of 4-inches, with rounded edges, and sealed with an extrusion weld. Vacuum box testing was then conducted in accordance with Section 02372-8 to confirm the weld.
4	7/24/2015	Subgrade Irregularity	RP-30	Panel #17 (P-17)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.
6	9/11/2015	Subgrade Irregularity	RP-293	Panel #57 (P-57)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
7	9/16/2015	Subgrade Irregularity - Hydrated GCL	RP-331	Panel #83 (P-83)	Geomembrane cap was cut and GCL was exposed. Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. The cut in the geomembrane was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).
8	9/24/2015	Subgrade Irregularity	RP-423	Panel #111 (P-111)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 10+20 TO ~STA. 9+50		
QA Monitor	LANGAN	Date	9/9/15		

Description of Soil Surface to be lined: ~770 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/14/15 (P.175). SUBGRADE APPROVED THROUGH 2ND UTILITY CORRIDOR FROM APPROX. STA. 10+20 TO STA. 9+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/9/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/9/15
Title	QC Manager
Representing:	ENTACT
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 023172-S

- SOIL APPROVED FOR GCL PLACEMENT ALONG EASTERN + WESTERN SLOPES OF UTILITY CORRIDOR + SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN END OF SA-6 AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA 10+00	LOOKING SW	REFER TO 9/9/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA. 10+00	LOOKING NE	REFER TO 9/9/15 PHOTO LOG (PHOTO #3)

1. REFER TO PHOTO LOG (9/9/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL
Project No.	100530001	General Desc.	(Subgrade) Operations LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 9+50 TO ~STA. 8+50
QA Monitor	LANGAN	Date	9/15/15

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/9/15 (P-86). SUBGRADE APPROVED EAST OF 2ND UTILITY CORRIDOR FROM APPROX. STA. 9+50 TO ~STA. 8+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/15/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9-15-15
Title	Entact QC Manager
Representing:	ENTACT
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

~~THE~~ GCL PLACED ALONG SOUTHERN SLOPE OF SA-6 SOUTH (LOWER BENCH) AT AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 9+50	LOOKING S	REFER TO 9/15/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 9+50	LOOKING E	REFER TO 9/15/15 PHOTO LOG

1. REFER TO PHOTO LOG (9/15/15) PHOTOS 1,2 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 8+50 TO ~STA. 7+70		
QA Monitor	LANGAN	Date	9/16/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/15/15 (P-90). SUBGRADE APPROVED FROM APPROXIMATE STA. 8+50 (P-90) TO APPROX STA. 7+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOUCHER
Date:	9/16/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/16/15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8

NO GCL PLACED ALONG SA-6 AS AREAS OUTSIDE OF GROUNDWATER ZONE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	~STA 8+50	LOOKING N/NE	REFER TO 9/16/15 PHOTO LOG (PHOTO #17)
	2			

1. REFER TO PHOTO LOG (9/16/15) PHOTO #17 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane
Project No.	100530001	General Desc.	(Subgrade) Operations LCRS
Owner/ Contr.	Honeywell / Arec FW	Cell No.	~Sta. 7+70 to ~Sta. 7+00
QA Monitor	Langan	Date	9/17/15

Description of Soil Surface to be lined: ~70 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/16/15 (P-94). Subgrade Approved From Approximate Sta. 7+70 (P-94) to Approximate Sta. 7+00 (western slope of 3rd utility corridor). Soil Appears to be Graded, Compacted, and Free of Debris (>1½") and in conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/17/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/17/15
Title	QC Manager
Representing:	Entek
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (1 1/2") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED ALONG SA-6 AS NO AREAS BELOW (TO 1 FT. ABOVE) GROUNDWATER

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 7+00 TO ~STA. 6+40		
QA Monitor	LANGAN	Date	9/18/15		

Description of Soil Surface to be lined: ~60 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/17/15 (P-97). SUBGRADE APPROVED THROUGH 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 7+00 TO ~STA. 6+40 (EASTERN SIDE OF 3RD UTILITY CORRIDOR). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/18/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/18/15
Title:	QC Manager
Representing:	Entek
Signature:	

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 023172-8.

- GCL PLACED ALONG BOTTOM AND SIDE SLOPES (APPROX 2 FT. TO 3FT. EACH BOTTOM) OF 3RD UTILITY CORRIDOR (LOCATED AT APPROX. STA. 6+80). GCL ALSO PLACED ALONG SOUTHERN END OF CORRIDOR (LOWER BENCH) BELOW TO 1 FT. ABOVE WATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA. 6+80	LOOKING S	REFER TO 9/18/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	STA. 6+86	LOOKING N	REFER TO 9/18/15 PHOTO LOG (PHOTO #2)
1 REFER TO PHOTO LOG (9/18/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

Sheet # 20

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	180530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 6+40 TO ~STA. 5+30		
QA Monitor	LANGAN	Date	9/22/15		

Description of Soil Surface to be lined: ~110 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/18/15 (P-98-103 / EAST-WEST ORIENTATION). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 6+40 TO ~STA. 5+30. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/22/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-22-15
Title:	QC manager
Representing:	Entact
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS APPROVED SUBGRADE OUTSIDE OF WATER TABLE INFLUENCE. ONLY GVL REQUIRED

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	25TH. 6+40	LOOKING N	REFER TO 9/22/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	25TH 5+90	LOOKING S	REFER TO 9/22/15 PHOTO LOG (PHOTO #3)
1 REFER TO PHOTO LOG (9/22/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 5+30 TO ~STA. 4+50		
QA Monitor	LANGAN	Date	9/23/15		

Description of Soil Surface to be lined: ~480 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEC-MEMBRANE PANELS INSTALLED ON 9/22/15 (PANEL #110). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 5+30 TO APPROX. STA. 4+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BUSWORTH
Date:	9/23/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9-23-15
Title:	QC Manager
Representing:	Caroline Panico
Signature:	ENTACT

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN AND SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 4+90	LOOKING S	REFER TO 9/23/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 4+70	LOOKING W	REFER TO 9/23/15 PHOTO LOG (PHOTO #2)

1 REFER TO PHOTO LOG (9/23/15) PHOTOS 1, 2 FOR SUPPORTING SUBSURFACE PHOTOS

2

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Certificate of Soil Surface

Sheet # 22

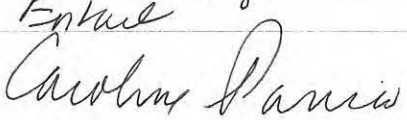
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 4+50 to ~Sta. 3+80		
QA Monitor	Langan	Date	9/24/15		

Description of Soil Surface to be lined: ~480 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/23/15 (Panel N114). Subgrade Approved for Area East of 3rd Utility Corridor From Approximate Sta. 4+50 to Approx. Sta. 3+80. Soil Appears to Be Graded, Compacted, and Free of Debris (>½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bodworth
Date:	9/24/15
Title:	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-24-15
Title:	QC Manager
Representing:	Entrie
Signature:	

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Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG BOTTOM + SLOPES OF UTILITY/DRAINAGE DITCHES RUNNING N-S THROUGH SA-6, AND AS SHOWN ON THE PROJECT DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 4+50	LOOKING S	REFER TO 9/24/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 4+50	LOOKING E	REFER TO 9/24/15 PHOTO LOG (PHOTO #4)

1 REFER TO PHOTO LOG (9/24/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL

2

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PHOTOGRAPHIC LOG
Photo #1 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north / northeast along 2nd utility corridor (approximate Sta. 10+00)

Description:

Prepared soil subgrade through 2nd utility corridor. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking north / northeast along SA-6 Cap (from approximate Sta. 8+50).

Description:

ESI deploying GVL. Approved soil subgrade to the east. Soil compacted, graded, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approx. Sta. 10+00)

Description:

ESi deploying GCL along 2nd utility corridor. GCL placed north to south (along bottom of corridor) and east to west (along slopes of corridor).



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PHOTOGRAPHIC LOG
Photo #4 (09/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/9/15

Direction Taken:

Looking east along 2nd utility corridor

Description:

ESi placing granular bentonite along GCL seams (overlapped a minimum of 1 ft.) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/15/15

Direction Taken:

Looking north along southern slope of SA-6

Description:

Stakes / staples placed along top 6-inches of GCL to secure material.



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PHOTOGRAPHIC LOG
Photo #6 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/16/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 8+20)

Description:

ESI deploying geomembrane panels over placed GVL (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking east along SA-6 cap (through 2nd utility corridor)

Description:

ESI conducting non-destructive testing as outlined in project specs. Pressure testing conducted between Panel Seams 76 / 77.



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PHOTOGRAPHIC LOG
Photo #8 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap (western slope of 2nd utility corridor).

Description:

ESI completed patch / repair over seam joint for non-destruct testing. Patch overlapped, sealed, and extrusion welded as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #9 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/14/15

Direction Taken:

Looking southeast along SA-6 cap (at approximate Sta. 10+20).

Description:

ESI installing geomembrane boot around Access Manhole #3 located along western slope of 2nd utility corridor.



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PHOTOGRAPHIC LOG
Photo #10 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
9/15/15

Direction Taken:

Looking southwest along SA-6 cap (at approximate Sta. 9+20).

Description:

ESI conducting fusion welding along geomembrane seams (P-87 & P-88) as per project specifications



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PHOTOGRAPHIC LOG
Photo #11 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/16/15

Direction Taken:

Looking south along western slope of 2nd utility corridor

Description:

ESI conducting vacuum box testing (as per project specs) for geomembrane boot around Access Manhole #3 (RP-262).



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PHOTOGRAPHIC LOG
Photo #12 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/17/15

Direction Taken:

Looking west along SA-6 cap (at destruct sample location DS-24)

Description:

ESI completing patch / repair work for destruct sample DS-24 collected along Panel 91 / 92 seam.



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PHOTOGRAPHIC LOG
Photo #13 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

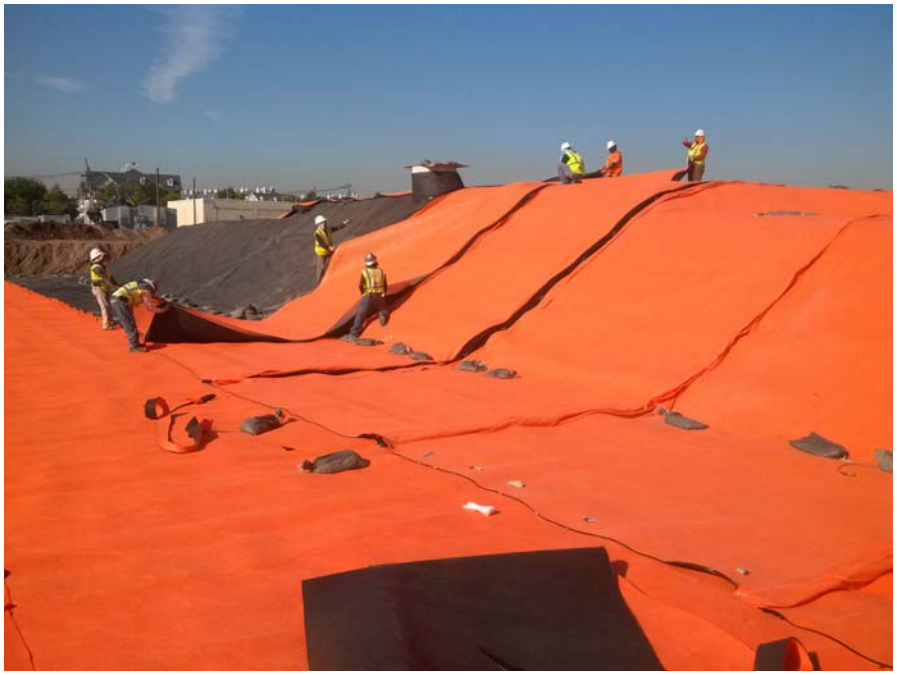
Date: 9/17/15

Direction Taken:

Looking south along SA-6 (through 2nd utility corridor)

Description:

ESI placing GDL panels along western slope of 2nd utility corridor. Panels oriented east to west and secured with white plastic fasteners and sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #14 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

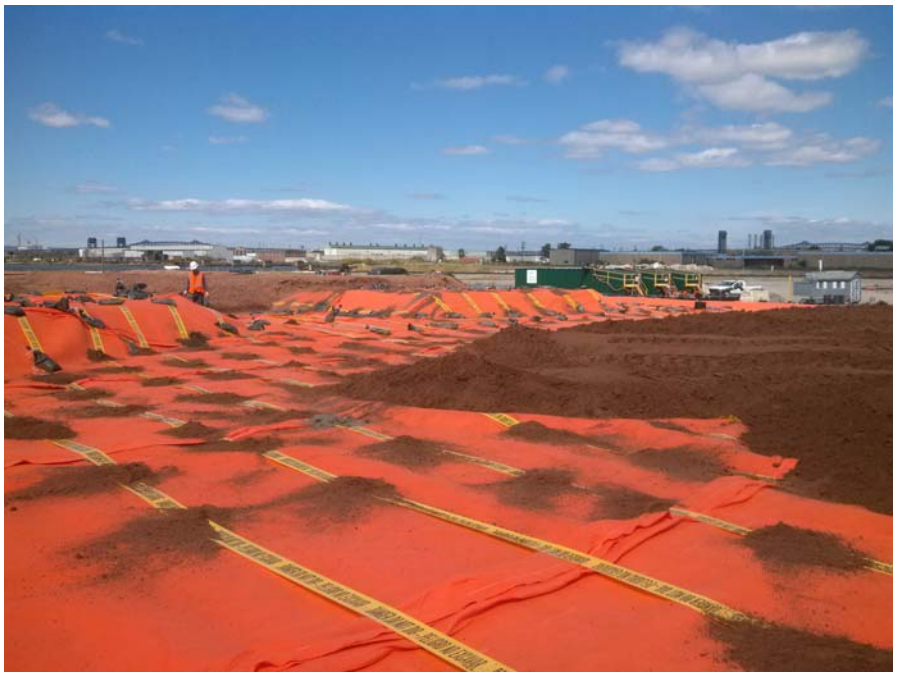
Date: 9/14/15

Direction Taken:

Looking west along SA-6 cap

Description:

Entact spreading protective cover soil over placed GDL. Warning caution tape spaced at maximum 55-inch intervals, as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #15 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking north along 3rd utility corridor (approximate Sta. 6+80)

Description:

ESI placing GDL panels (oriented from east to west) moving north along 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #16 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking east along SA-6 (at approximate Sta. 3+80)

Description:

ESI placing GCL over soil subgrade. GCL placed at locations shown on the project drawings and according to project specs.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	9/9/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	75/86° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #22** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #75 (P-75) installed on 8/14/15 (located at approximate Sta. 10+20 – western slope of utility corridor) running approximately 70 ft. east through 2nd utility corridor to approximate Sta. 9+50 (eastern slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 10+20 to Sta. 9+50. Refer to *Soil Subgrade Approval* forms from 9/9/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 10+20 to Sta. 9+50.
- While subgrade approval was being conducted, ESI completed patch / repair work for cap wrinkles that were observed from panel placement on 8/14/15. A total of thirty repairs (RP-263 through RP-292) were observed and fixed (according to the project specifications) from Panel #71 and Panel #73 (repair / detailing work conducted on panels installed on 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), where wrinkles were observed. These areas were subsequently patched and sealed with extrusion welds. No vacuum box testing was conducted on these repairs, and will be completed tomorrow (9/10).
- No non-conformance issues were recorded as patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- GCL and Cap placement began with ESI placing the GCL along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #75 (located at approximate Sta. 10+20) on 8/14/15 and through the 2nd utility corridor. Panels were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GCL layer. A total of eleven panel lengths (panel lengths identified as the approximate 80 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-76, P-77, P-78, P-79, P-80, P-81, P-82, P-83, P-84, P-85, and P-86) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/9), *Trial Weld Log.*
- No non-destructive testing or patch / repair work was conducted upon completion of geomembrane panel placement to approximate Sta. 9+50, as panel placement and fusion welded activities concluded the work day.
- One destructive sample was collected – DSX-8 (extrusion weld). Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact completed Site preparation activities for expectation of rainstorms tomorrow (9/10).

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DSX-8 (once received).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/9/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/9/15
A5 – Subgrade Approval	Sheet 15 & ESI (9/9/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/9/15.
A7 – Panel Placement Log	Page 16	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 9/9/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 9/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no vacuum box testing conducted on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 9/9/15
A13 – Destruct. Sample Summary	Page 1	Updated with 9/9/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/11/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/77° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #23**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Dave Ambrose **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #56 (located at approximate Sta. 14+20 – location where GDL had previously been placed to along with protective cover soil) running approximately 220 ft. east to Panel #68 (approximate Sta. 12+00)..
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing for the repairs completed on 9/11/15 (as outlined in projecte specs). One vacuum box testing was complete, ESI began placing GDL from approximate Sta. 14+20 (Panel #56) to approximate Sta. 12+00 (Panel #68). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were cut with the first wrap of geocomposite removed prior to use
    - Roll 64021010124 – 10 ft. removed
    - Roll 64021010133 – 8 ft. removed
    - Roll 64021010126 – 10 ft. removed
    - Roll 64021010116- 5 ft. removed
    - Roll 64021010112 – 10 ft. removed
        - Note: this roll was not identified during the GDL inspection, however based on damage to the protective plastic liner observed in the field, the outside layer of GDL was removed.
    - Roll 64021010119 – 10 ft. removed
- Due to the inclement weather from 9/10/15 and potential storms over the weekend, the protective plastic covering the soil subgrade to the east was not removed. As such, no soil subgrade approval was conducted and no additional geomembrane panels were placed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- One non-conformance issues was observed during placement of GDL. A rock was encountered underneath geomembrane panel #57. This non-conformance issue was recorded as RP-293 and will be patched and repaired on Monday (9/14).
- Upon completion of GDL placement to the approved panel location, a visual observation of the top of the western slope of the 2nd utility corridor was conducted by Langan and Entact. The geomembrane panels were pulled back to expose the GCL. Visual observation confirmed that the GCL was dry and no water had drained underneath the panels. The top of the slope was then sealed with a fusion weld "T-seams" along Panel #75 (oriented north to south) and Panel #76 through Panel #81 (oriented east to west).
- Geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/11), *Trial Weld Log.* Note: non-destructive testing was completed on the welded seams (to be completed Monday – 9/14/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #57). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 6 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/11/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 4 gas vents).
- Review laboratory results for DSX-8 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/11/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/11/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/11/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/11/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/11/15
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 9/11/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/11/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/11/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet #6	One non-compliance issue identified on 9/11/15 and recorded on Sheet #6

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/14/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	58/74° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1630

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #24**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #68 (located at approximate Sta. 12+00 – location where GDL had previously been placed to - based on approved as-built drawings) running approximately 170 ft. east to Panel #74 located at top of western slope of 2nd utility corridor (approximate Sta. 10+30).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 12+00 (Panel #68) to approximate Sta. 10+30 (Panel #75). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- While GDL was being placed, ESI conducted non-destructive testing (air pressure testing) of the geomembrane panel seams installed on 9/9/15 in accordance with the project specifications. Refer to *Seam Control Form* (9/14/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI completed patch / repair along the panels previously installed, Panels 76-86 which were placed on 9/9/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/14/15).
- A total of twenty-three repairs (RP-293 through RP-315) were observed and fixed (according to the project specifications) from Panels #76 through Panel #86 (repair / detailing work conducted on panels installed on 9/11/15). Refer to 9/14/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-3, and completed placing the geomembrane patch around Access Manhole #3. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- One destructive sample (DS-22) was collected (fusion) from Panel Seams 79/80. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/14/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-22 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, and 9/11/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/14/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/14/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/14/15
A8 – Destruct Seam Testing COC		Updated with destruct sample information collected on 9/14/15
A9 – Seam/Non-Destruct. Test Log	Pages 17-18	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/14/15
A10 – Repair Log	Pages 14-15	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/14/15
A11 – Conformance COC		N / A for 9/14/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/14/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/14/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/14/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/15/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #25**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panels #76, 77, 78, 79, 80, 81, and 86 (panels running east to west through utility corridor) installed on 9/9/15 (located at approximate Sta. 9+50) running approximately 100 ft. east to Sta. 8+50. Panels installed today (9/15) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 9+50 (eastern end of 2nd utility corridor) to Sta. 8+50. Refer to *Soil Subgrade Approval* forms from 9/15/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/15/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 9+50 to Sta. 8+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 9+50 (east of 2nd utility corridor) moving east (for approximately 100 ft.) to approximate Sta. 8+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/15/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #76-81, and #86 (running east-west through 2nd utility corridor) on 9/9/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL

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layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-87, P-88, P-89, and P-90) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/15), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 8+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/15/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/16/15.
- One destructive sample (DS-23) was collected (fusion) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- ESI pulled back the installed geomembrane panels along the northern and southern ends of the 2nd utility corridor to expose the underlying GCL. The GCL appeared to be hydrated (approximate 10 ft. wide section along southern end of corridor and approximate 4 ft. wide section along northern end of corridor) from rainwater infiltration that washed back underneath the cap due to the soil subgrade outside of the cap which was not yet completed to grade. These sections of GCL were cut and removed and the area was left open to dry overnight. New GCL pieces will be placed (according to the project specs) on 9/16/15.
- With cap activities complete, ESI filled sandbags for the remainder of the work day.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-23 (once received).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, and 9/14/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-22, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/15/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/15/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/15/15
A5 – Subgrade Approval	Sheet 16 & ESI (9/15/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/15/15.
A7 – Panel Placement Log	Page 18	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/15/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/15/15
A9 – Seam/Non-Destruct. Test Log	Pages 19-20	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/15/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A no repairs completed for 9/15/15
A11 – Conformance COC		N / A for 9/15/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/15/15
A13 – Destruct. Sample Summary	Page 4	Destruct Sample Information provided by ESI and confirmed by Langan for 9/15/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/15/15

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/16/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	63/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #26**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #90 (P-90) installed on 9/15/15 and located at approximate Sta. 8+50 running approximately 80 ft. east to Sta. 7+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing on the repairs completed from 9/14/15 (through 2nd utility corridor). ESI also conducted patch / repair work for the panels installed on 9/15/15 (Panels 87-90). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/16/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-four repairs (RP-316 through RP-349) were observed and fixed (according to the project specifications) from Panel #87 through Panel #90 (repair / detailing work conducted on panels installed on 9/15/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Along with the repair work, ESI also placed the new pieces of GCL (refer to Photo Log) for the northern and southern areas along the 2nd utility corridor where the GCL was hydrated. One area along the southern section required the liner to be cut to pull back and expose the GCL. As such, this repair (RP-331) was identified as a non-conformance issue (subgrade irregularity) and is further defined below.
- While patch / repair work was being completed, Langan and Entact conducting soil subgrade approval from approximate Sta. 8+50 (moving east from P-90) to Sta. 7+70. Refer to *Soil Subgrade Approval* forms from 9/16/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed.

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By: Dan Bosworth

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Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photo #6 of the daily photo log for 9/16/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 8+50 to Sta. 7+70.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 8+50 (moving east of P-90) moving east (for approximately 80 ft.) to approximate Sta. 7+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/16/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, the following rolls of GVL were cut with the first wrap of geocomposite removed prior to use
    - Roll 65211010130 – 8 ft. removed
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #90 on 9/15/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-91, P-92, P-93, and P-94) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/16), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 7+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/16/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/17/15.
- One destructive sample (DSX-9) was collected (extrusion weld) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - GCL underneath geomembrane liner along southern end of utility corridor hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. This patch was noted as a subgrade irregularity and was patched/repaired following project specs and is further defined on *Sheet 7 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/16/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DSX-9 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, and 9/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/16/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/16/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/16/15
A5 – Subgrade Approval	Sheet 17 & ESI (9/16/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/16/15.
A7 – Panel Placement Log	Page 19	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/16/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/16/15
A9 – Seam/Non-Destruct. Test Log	Pages 20-21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/16/15
A10 – Repair Log	Pages 16-17	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15
A11 – Conformance COC		N / A for 9/16/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/16/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/16/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issues identified and further defined on Sheet 7

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/17/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	65/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #27**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu, Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #94 (P-94) installed on 9/16/15 and located at approximate Sta. 7+70 running approximately 70 ft. east to Sta. 7+00 (top western slope of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for the panels installed on 9/16/15 (Panels 91-94). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/17/15 for results (extrusion testing identified as EXT. on form).
- A total of seventeen repairs (RP-350 through RP-366) were observed and fixed (according to the project specifications) from Panel #91 through Panel #94 (repair / detailing work conducted on panels installed on 9/16/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Additionally, custom fit repairs were conducted along the top eastern slope of the 2nd utility corridor (Panel #80) to remove observed wrinkles in the geomembrane panels. Vacuum box testing was then completed on the repairs (as per the project specifications) to confirm the integrity of the extrusion welds.
- Once the patch / repair work was completed ESI began placing GDL from approximate Sta. 10+30 (Panel #75) to approximate Sta. 9+60 (Panel #87). GDL was placed through the 2nd utility corridor with the panels oriented east to west, and was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- While GDL placement was being conducted, Langan and Entact completed soil subgrade approval from approximate Sta. 7+70 (moving east from P-94) to Sta. 7+00 (top western slope of 3rd utility corridor). Refer to *Soil Subgrade Approval* forms from 9/17/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+70 to Sta. 7+00.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 7+70 (moving east of P-94) moving east (for approximately 70 ft.) to approximate Sta. 7+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/17/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove first wrap of geocomposite prior to use
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #94 on 9/16/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of three panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-95, P-96, and P-97) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/17), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 7+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/17/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/18/15.
- One destructive sample (DS-24) was collected (fusion weld) from Panel Seams 91/92. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/17/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-24 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, and 9/16/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/17/15
A3 – Photo Log	Pages 1 – 3	Total of 6 photos outlining pertinent daily observations and descriptions for 9/17/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/17/15
A5 – Subgrade Approval	Sheet 18 & ESI (9/17/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/17/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 20	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/17/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/17/15
A9 – Seam/Non-Destruct. Test Log	Pages 21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/17/15
A10 – Repair Log	Pages 16-18	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15 and 9/17/15
A11 – Conformance COC		N / A for 9/17/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/17/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/17/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/17/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/18/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #28**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu, Bills, Geoff Shallard, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), through 3rd utility corridor (located at approximate Sta. 6+80). Material to be placed from Panel #97 (P-97) installed on 9/17/15 and located at approximate Sta. 7+00 running approximately 60 ft. east through 3rd utility corridor to Sta. 6+40 (top eastern side of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 7+00 (P-97 installed on 9/17/15) through the 3rd utility corridor to Sta. 6+40. Refer to *Soil Subgrade Approval* forms from 9/18/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+00 to Sta. 6+40.
- GCL and Cap placement began with ESI placing GVL along the eastern and western slopes of the 3rd utility corridor. GVL was placed at the areas above the groundwater table down the slopes of the corridor (GCL areas comprised the bottom of the utility corridor to approximately 2 ft. to 3 ft. up the side slopes). GVL was secured with white plastic fasteners spaced at a maximum of 5 ft. and was sewn along the top layer of geotextile (as outlined in the project specs).
- GCL was then placed along the bottom of the 3rd utility corridor, and along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. The GVL overlapped the GCL a minimum of 1 ft. along the bottom slopes of the corridor, and the GCL was secured into the side slopes via soil stakes / staples.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #97 (located at approximate Sta. 7+-00) on 9/17/15 and through the 3rd utility corridor. Panels

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were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers.

- A total of nine panel lengths (panel lengths identified as the approximate 68 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-98, P-99, P-100, P-101, P-102, P-103, P-104, P-105, and P-106) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/18), *Trial Weld Log.*
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- Upon completion of geomembrane panel placement to approximate Sta. 6+40, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/18/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/21/15.
- Two destructive samples (DS-25 and DS-26) were collected (fusion welds) from Panel Seams 94/95 and 97/97, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/18/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory results for DS-25 and DS-26 (once received).

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, and 9/17/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-24, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/18/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/18/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/18/15
A5 – Subgrade Approval	Sheet 19 & ESI (9/18/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/18/15.
A7 – Panel Placement Log	Page 21 & 22	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/18/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/18/15
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/18/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A repairs patched and leistered, however, no welding or vacuum box testing completed
A11 – Conformance COC		N / A for 9/18/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/18/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/18/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/18/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/21/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1500

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #29**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing through 2nd utility corridor (located at approximate Sta. 10+00). Material to be placed from eastern slope of 2nd utility corridor (Panels 76-81; running east to west) located at approximate Sta. 10+30) running approximately 250 ft. east to Panel #93 (located at approximate Sta. 7+80).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 10+30 (eastern slope of 2nd utility corridor) to approximate Sta. 7+80 (Panel #93). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- Once GDL was completed to the (based on the approved as-builts) , ESI completed patch / repair along the panels previously installed, Panels 95-106 which were placed on 9/17/15 and 9/18/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/21/15).
- A total of thirty-two repairs (RP-367 through RP-398) were observed and fixed (according to the project specifications) from Panels #95 through Panel #106 (repair / detailing work conducted on panels installed on 9/17/15 and 9/18/15). Refer to 9/21/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-2. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.

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- One destructive sample (DSX-10) was collected (extrusion) from RP-376. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/21/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory data for destruct sample DSX-10 (extrusion) once received

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, and 9/18/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/21/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/21/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/21/15
A5 – Subgrade Approval		N / A no subgrade approval completed for 9/21/15.
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/21/15.
A7 – Panel Placement Log		N / A no panels placed on 9/21/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/21/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/21/15
A10 – Repair Log	Pages 18-19	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/21/15
A11 – Conformance COC		N / A for 9/18/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/21/15
A13 – Destruct. Sample Summary	Page 4	Destruct Sample Information provided by ESI and confirmed by Langan for 9/21/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/21/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/22/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #30**
AmecFW: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #98, 99, 100, 101, 102, 103, and 106 (panels running east to west through 3rd utility corridor) installed on 9/18/15 (located at approximate Sta. 6+40) running approximately 110 ft. east to Sta. 5+30. Panels installed today (9/22) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 6+40 (eastern end of 3rd utility corridor) to Sta. 5+30. Refer to *Soil Subgrade Approval* forms from 9/22/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/22/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 6+40 to Sta. 5+30.
- While subgrade inspection was being conducted, ESI conducted vacuum box testing for the repairs completed on 9/21/15, and also installed the remaining panels of GDL from geomembrane Panel #93 to Panel #96.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, one roll of GDL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #64021010086 (8 ft. cut).
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 6+40 (east of 3rd utility corridor) moving east (for approximately 110 ft.) to approximate Sta. 5+30. GVL was placed according to

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the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/22/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, one roll of GVL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #65211010113 (8 ft. cut)
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #98-103, and #106 (running east-west through 3rd utility corridor) on 9/18/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-107, P-108, P-109, and P-110) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/22), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 5+30, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/22/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI conducted patch / repair along the panels installed, Panels 107-110. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/22/15).
- A total of nineteen repairs (RP-399 through RP-417) were observed and fixed (according to the project specifications) from Panels #107 through Panel #110 (repair / detailing work conducted on panels installed on 9/22/15). Refer to 9/22/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for piezometer PZ-14. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- No destructive samples were collected, as an RFI was submitted to AmecFW, and based on the results of the first 26 destruct samples – the sampling frequency was decreased from 500 LF to 1500 LF as samples yielded zero failures with all 26 exhibited shear and peel results greater than the minimum requirements (as per the project specs).
- During cap placement activities, Entact spread protective cover soil for the area immediately west of the 2nd utility corridor (approximate Sta. 10+20). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 5 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, and 9/21/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/22/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/22/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/22/15
A5 – Subgrade Approval	Sheet 20 & ESI (9/22/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/22/15.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 23	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/22/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/22/15
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/22/15
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 9/22/15
A11 – Conformance COC		N / A for 9/22/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/22/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/22/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/22/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/23/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	58/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #31** **AmecFW**: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #110 installed on 9/22/15 (located at approximate Sta. 5+30) running approximately 80 ft. east to Sta. 4+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #96/97 (approximate Sta. 7+00) through 3rd utility corridor to approximate Sta. 5+30 (Panel #110 placed on 9/22/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL was required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010103 - 5 ft. cut and removed
    - Roll #64021010105 – 8 ft. cut and removed
- Langan and Entact conducting soil subgrade approval from east of Panel #110 (located at approximate Sta. 5+30) to approximate Sta. 4+50. Refer to *Soil Subgrade Approval* forms from 9/23/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/23/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 5+30 to Sta. 4+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 5+30 (east of 3rd utility

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corridor) moving east (for approximately 80 ft.) to approximate Sta. 4+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/23/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- In addition to the GVL, GCL was placed along the northern and southern edges of SA-6 at areas below (to 1 ft. above) the groundwater table (as shown on the drawings and outlined in the project specs). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #110 on 9/22/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-111, P-112, P-113, and P-114) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, a trial weld (smooth to smooth) was conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/23), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/23/15) for non-destructive testing details.
- No patch / repair work was conducted as part of the activities on 9/23/15. Additionally, no destruct samples were collected.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and no patch / repair work was conducted.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, and 9/22/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/23/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 9/23/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/23/15
A5 – Subgrade Approval	Sheet 21 & ESI (9/23/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/23/15.
A7 – Panel Placement Log	Page 24	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/23/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/23/15
A9 – Seam/Non-Destruct. Test Log	Pages 25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/23/15
A10 – Repair Log		N / A no repairs completed for 9/23/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		N / A for 9/23/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/23/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/23/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/23/15

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/24/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	59/80° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #32**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap), continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #114 installed on 9/23/15 (located at approximate Sta. 4+50) running approximately 70 ft. east to Sta. 3+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair along the panels previously installed, Panels 111-114 which were placed on 9/23/15. Prior to repair work, a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/24/15).
- A total of seven repairs (RP-419 through RP-424) were observed and fixed (according to the project specifications) from Panels #111 through Panel #114 (repair / detailing work conducted on panels installed on 9/23/15). Refer to 9/24/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-compliance issue was observed and was noted on *Sheet #8 Notice of Non-Compliance and Corrective Action Form.* This non-compliance was also noted on the Repair Log as a subgrade irregularity and was identified as RP-423. This non-compliance issue was identified based on a rock that was observed underneath the geomembrane cap. The rock was removed from underneath the liner and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #8* for 9/24/15.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-E1A-SO and Access Manhole #4. Note: The penetration logs for all boots to date will be completed once the boots have been sealed with butyl sealant (not yet completed).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- While ESI was completing patch / repair work, Langan and Entact conducted soil subgrade approval from east of Panel #114 (located at approximate Sta. 4+50) to approximate Sta. 3+80. Refer to *Soil Subgrade Approval* forms from 9/24/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 9/24/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 4+50 to Sta. 3+80.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the areas within the SA-6 cap along the bottom and side slopes of the drainage/utility ditches located from approximate Sta. 4+50 to Sta. 3+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After the GCL was placed, GVL was installed from approximate Sta. 4+50 (Panel #114) moving east (for approximately 70 ft.) to approximate Sta. 3+80. GVL was placed along the areas outside of the water GCL (outside of the water table influence) and according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/24/15 Photo Log* for supporting photographs. Note: The GVL was cut along the drainage / utility to expose the GCL as a minimum of 1 ft. of overlap was required along the ditches where the GVL and GCL intersected.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #114 on 9/23/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-115, P-116, P-117, and P-118) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, two trial welds (smooth to smooth and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/24), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/24/15) for non-destructive testing details.
- No patch / repair work was conducted on Panels #115 through #118 as part of the activities on 9/24/15.
- Two destructive samples were collected for laboratory testing. DS-27 (fusion) was collected from Panel Seam 110/111 and is noted as RP-422 on the *Repair Log*. Fusion weld destruct samples collected at 1500 LF intervals (as per the approved RFI to reduce the sampling frequency from 500 LF to 1500 LF). One extrusion weld sample (DSX-11) was also collected from RP-421 and is noted as RP-424 on the *Repair Log*. Extrusion weld samples collected at 500 LF intervals as per the project specs.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as RP-423 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #111). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 8 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/24/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory destruct data for destruct samples DS-27 and DSX-11.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, and 9/23/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/24/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/24/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/24/15
A5 – Subgrade Approval	Sheet 22 & ESI (9/24/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/24/15.
A7 – Panel Placement Log	Page 25	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/24/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information from 9/24/15
A9 – Seam/Non-Destruct. Test Log	Pages 25-26	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/24/15
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/24/15
A11 – Conformance COC		N / A for 9/24/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct sample information from 9/24/15
A13 – Destruct. Sample Summary	Page 3	One destruct sample summary form provided by ESI and confirmed by Langan for 9/24/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 8	One non-compliance issue identified on 9/24/15 and identified on Sheet #8 and the Repair Log as a subgrade irregularity.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 4, 2015

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		1
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation			X	
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

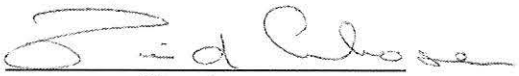
STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 9/4/15

SWPPP Observer: 
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 04, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Blue Poly drums are not properly stored
2	IA2Q4A1AL8	Repair Exclusion Zone Fencing associated with EA4
3	EEPSQUO2YB	Repair Silt Fence on Southern boundary of Novartis Pile

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 9/4/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Place blue poly drums on spill pallets Not an issue or concern	9/8/15 RAD
2	Reestablish exclusion zone fencing at excavation area EA4	↓
3	Repair silt fence on the southern boundary of the Novartis Pile	↓

Construction Manager: Ed Shore **Date:** 9/4/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 11, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/11/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 11, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Secondary containment measures in the mechanic's area contain stormwater
2	IA2Q4A1AL8	Garbage is present along the Kellogg Street jughandle and on the SA-6 cap area.
3	IA2Q4A1AL8	Exclusion Zone fencing is down or requires maintenance in the Sedimentation Basin area on SA-6 North.
4	IA2Q4A1AL8	Stockpile containment measures are failing on the eastern side of the Novartis stockpile area on SA-7
5	IA2Q4A1AL8	Sediment is present on the SA-7 paved haul roadways.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/11/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain accumulated stormwater from the secondary containment structures.	9-17-15 RAD
2	Pick up and dispose of garbage/debris where present.	
3	Maintain/repair Exclusion Zone fencing as required.	
4	Install additional erosion control measures on the eastern side of the Novartis stockpile area as required.	
5	Clean sediment from the SA-7 roadways as required	

Construction Manager: _____ Date 09/17/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 18, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/18/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 18, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage is present along the Kellogg Street jughandle and on the north side of Kellogg Street.
2	IA2Q4A1AL8	Windscreen on the Rt. 440 perimeter fence at the southern end of the pedestrian walkway has pulled loose from the chain-link fabric on SA-6 North.
3	IA2Q4A1AL8	Garbage is present along the entire length of the Rt. 440 pedestrian walkway on SA-6 North.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey
SWAP Observer: 09/18/15 **Date:**

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of garbage/debris where present.	9/18/15 RAV
2	Reinstall or replace windscreen fabric as required	↓
3	Pick up and dispose of garbage/debris where present.	↓

Construction Manager: **Date:** 09/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 25, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping		X		6,7

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/25/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 25, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric in a catch basin on the north side of Kellogg Street to the west of the guard shack has accumualted a significant amount of sediment.
2	IA2Q4A1AL8	Silt fence on along the eastern side of the SA-6 North cap area parallel to Rt. 440 has fallen down and requires maintenance.
3	IA2Q4A1AL8	REPEAT ITEM: Windscreen material has detached from the perimeter fence at the southeastern corner of SA-6 North, by the southern end of the Rt. 440 pedestrian walkway.
4	IA2Q4A1AL8	REPEAT ITEM: Garbage is present in the SA-6 North pedestrian walkway along Rt. 440.
5	IA2Q4A1AL8	Filter fabric in the catch basins on the eastern SA-7 roadway is missing, damaged or blinded by sediment.
6	IA2Q4A1AL8	Discarded plastic sheeting, broken pallets and other debris are present in the laydown area to the west of the SA-7 frac tanks.
7	IA2Q4A1AL8	Garbage and other debris is present on SA-7 at the waterfront.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/25/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric in the storm water catch basin as required.	9/28/13 RAD
2	Replace or re-install the silt fence where it has fallen down.	
3	Re-attach the windscreen fabric as required	
4	Remove all accumulated garbage from the pedestrian walkway	
5	Replace the filter fabric in the storm water catch basins as required	
6	Remove and dispose of garbage/debris as required.	
7	Remove and dispose of garbage/debris as required	

Construction Manager: _____ Date: 09/29/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (Submitted September 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 16, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the August 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
8	01	15	8	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,942	83,635 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.43	0.46	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1384	0.1384	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

9/15/2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
8	01	15	8	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,416,202	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	43,418,030

DATE	BOD (mg/l)	TSS (mg/l)
8/11/2015	4.8	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris VP	John J. Morris	(973) 455-4003
		DATE 9/15/2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)									MONTH: August 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BODs		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
8/1/2015	Angel Trujillo	41001828	41082771	80,943	0.080943	N/A	0.666									0.45
8/2/2015	Angel Trujillo	41082771	41163715	80,944	0.080944	6.78	0.666									0.45
8/3/2015	Angel Trujillo	41163715	41236307	72,592	0.072592	6.79	0.666									0.40
8/4/2015	Angel Trujillo	41236307	41308231	71,924	0.071924	7.59	0.666									0.40
8/5/2015	Angel Trujillo	41308231	41389811	81,580	0.08158	7.56	0.666									0.45
8/6/2015	Angel Trujillo	41389811	41462921	73,110	0.07311	7.51	0.666									0.41
8/7/2015	Angel Trujillo	41462921	41546556	83,635	0.083635	7.53	0.666									0.46
8/8/2015	Angel Trujillo	41546556	41628002	81,446	0.081446	7.52	0.666									0.45
8/9/2015	Angel Trujillo	41628002	41703264	75,262	0.075262	N/A	0.666									0.42
8/10/2015	Angel Trujillo	41703264	41778526	75,262	0.075262	7.52	0.666									0.42
8/11/2015	Angel Trujillo	41778526	41857202	78,676	0.078676	7.02	0.666	<5.0	4.8		<0.010	<0.030	<0.010	<0.0002	<0.020	0.44
8/12/2015	Angel Trujillo	41857202	41933154	75,952	0.075952	7.52	0.666									0.42
8/13/2015	Angel Trujillo	41933154	42010732	77,578	0.077578	7.57	0.666									0.43
8/14/2015	Angel Trujillo	42010732	42089330	78,598	0.078598	7.47	0.666									0.44
8/15/2015	Angel Trujillo	42089330	42171736	82,406	0.082406	7.58	0.666									0.46
8/16/2015	Angel Trujillo	42171736	42246145	74,409	0.074409	N/A	0.666									0.41
8/17/2015	Angel Trujillo	42246145	42320554	74,409	0.074409	7.66	0.666									0.41
8/18/2015	Angel Trujillo	42320554	42399740	79,186	0.079186	7.57	0.666									0.44
8/19/2015	Angel Trujillo	42399740	42477975	78,235	0.078235	7.54	0.666									0.43
8/20/2015	Angel Trujillo	42477975	42556035	78,060	0.07806	7.55	0.666									0.43
8/21/2015	Angel Trujillo	42556035	42633757	77,722	0.077722	7.51	0.666									0.43
8/22/2015	Angel Trujillo	42633757	42717220	83,463	0.083463	7.48	0.666									0.46
8/23/2015	Angel Trujillo	42717220	42792665	75,445	0.075445	N/A	0.666									0.42
8/24/2015	Angel Trujillo	42792665	42868110	75,445	0.075445	7.49	0.666									0.42
8/25/2015	Angel Trujillo	42868110	42948692	80,582	0.080582	7.52	0.666									0.45
8/26/2015	Angel Trujillo	42948692	43023842	75,150	0.07515	7.45	0.666									0.42
8/27/2015	Angel Trujillo	43023842	43104616	80,774	0.0808	7.51	0.666									0.45
8/28/2015	Angel Trujillo	43104616	43183594	78,978	0.078978	7.47	0.666									0.44
8/29/2015	Angel Trujillo	43183594	43266122	82,528	0.082528	7.55	0.666									0.46
8/30/2015	Angel Trujillo	43266122	43342076	75,954	0.075954	N/A	0.666									0.42
8/31/2015	Angel Trujillo	43342076	43418030	75,954	0.075954	7.66	0.666									0.42
TOTAL				2,416,202	2.416202			<5.0	4.8		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	83,635											High:	0.46
			Average:	77,942											Average:	0.43

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-A		
Lab Sample ID:	JC1207-1	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	666	10	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	08/13/15	08/13/15	MA	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	08/12/15	08/13/15	ND	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA37316
(2) Instrument QC Batch: MA37317
(3) Prep QC Batch: MP88321
(4) Prep QC Batch: MP88347

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-A		
Lab Sample ID:	JC1207-1	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	08/13/15	SP	SM2540 D-11
pH [a]	6.90		su	1	08/11/15 16:29	AL	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-A		
Lab Sample ID:	JC1207-1A	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.8	3.4	mg/l	1	08/12/15 18:24	LS	SM5210 B-01

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-B		
Lab Sample ID:	JC1207-2	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N247694.D	1	08/12/15	MM	n/a	n/a	VN10501
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.0	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	2.8	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	17.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.40	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.38	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	67.1	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.7	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.43	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-B		
Lab Sample ID:	JC1207-2	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	42.9	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	0.89	1.0	0.13	ug/l	J
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	102%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	102%		74-115%
1868-53-7	Dibromofluoromethane (S)	102%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWE-081115-B		
Lab Sample ID:	JC1207-2	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3

4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	08/12/15 16:48	LS	EPA 1664A

RL = Reporting Limit

Accutest LabLink@869982 11:58 26-Aug-2015

Report of Analysis

Client Sample ID:	087-WWI-081115		
Lab Sample ID:	JC1207-3	**Date Sampled:**	08/11/15
Matrix:	AQ - Water	**Date Received:**	08/11/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N247714.D	1	08/13/15	MM	n/a	n/a	VN10501
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA PPL List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
71-43-2	Benzene	2.6	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	4.4	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
67-66-3	Chloroform	21.3	1.0	0.091	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	0.38	1.0	0.16	ug/l	J
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
542-75-6	1,3-Dichloropropene (total)	ND	1.0	0.12	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
75-09-2	Methylene chloride	0.55	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	79.2	1.0	0.12	ug/l	
75-01-4	Vinyl chloride	12.5	1.0	0.13	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	112%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	105%		74-115%
1868-53-7	Dibromofluoromethane (S)	104%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

WW

E

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42227.80965
2236 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County	Phase: C9	COC# 087-WW-091115
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ	Sampling Program 087: JCIA	Lab Proj # (SDG):
Client Contact: (name, co., address)	Sampler: Frank Schroyer			Lab ID ACTD
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #			Site ID HudsonCo
Honeywell International	Analysis Turnaround Time (TAT): 3	Preservative 3 3 3 1 2 2 0 0 2		Lab Job # HWINJM32815
101 Columbia Road Morristown, NJ 07962	Consultant CH2M			Authorized User: Honeywell
Preliminary Data To				Excel & Text File Drive / Excel & Text File Order
Sample Receipt Acknowledgement To	Full Report TAT: 28 Days			JC1207
Hard Copy To: Helen Fahy (Honeywell)				
Invoice To: Helen Fahy (Honeywell)				

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-BL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units																
1	087-WW			087-WWE-081115-A	8/11/2015	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X							L23
2	087-WW			087-WWE-081115-B	8/11/2015	14:10	WW	WATER	REG	5	grab	N					X	X									V871
3	087-WW			087-WWI-081115	8/11/2015	14:20	WW	WATER	REG	3	grab	N									X						A37
4																											G50
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 7.02 S.U.@	9.6°C Company	AMEC Foster Wheeler	Received by:	Company		Condition	Custody Seals Intact
Frank Schroyer	Date/Time 1454	8/11/15		Date/Time 8-11 1454	8/11/15	Cooler Temp.	
Relinquished by:	Company		Received by:	Company		Condition	Custody Seals Intact
	Date/Time	8-11 1710		Date/Time	1710	Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

03.9 SP

INITIAL ASESSMENT 4A/ca

LABEL VERIFICATION MB

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE CL

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under th	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending September 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 11 OF 25

- **2015 Monthly Reports Part 4**

11/13/2015
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 13, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-10

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from October 1 – October 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: October 2015 SA-6/7 Combined Monthly Progress Report No. 2015-10

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2015-10
Project SA-6 & 7 Remediation

October 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
10/01/15	Site 163 Chromium-Impacted Soil Excavation Design Change Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/02/15	Spark Testing of Pipe Penetration Boots for Geomembrane Caps	The Honorable Robert G. Torricelli Office of the Special Master
10/5/15	Arnold & Porter E-mail Communication: Draft Form of Order - Consolidated Study Area 6 Revised Schedule	The Honorable Robert G. Torricelli - Office of the Special Master Jeremy Farrell – City Hall Jason Watson – City Hall Agnieszka Antonian – Connell Foley LLP Kevin Coakley, Esq. – Connell Foley LLP Liza Walsh – Connell Foley LLP Frank Borin – DeCotiis, Fitzpatrick & Cole, LLP Kevin Kinsella – DeCotiis, Fitzpatrick & Cole, LLP David Isabel – Golub & Isabel PC Eric Tomaszewski - Golub & Isabel PC Alicia Clark Alcorn – Terris, Pravlik & Millian, LLP Ben Davis – Terris, Pravlik & Millian, LLP
10/08/15	Surcharge Monitoring Plan Monthly Report No. 12 Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/08/15	Warning Tape above Root Barrier Design Change Study Area 6 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/09/15	Long Term Monitoring Plan Study Area 6 North & South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
10/12/15	Summary of In-Situ Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Only Study Area 6 North (Site 087) Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
10/15/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-09	The Honorable Robert G. Torricelli Office of the Special Master
10/20/15	Special Master Conference Call	N/A
10/20/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
10/20/15	PW-3 Capture Zone Study Area 7 Groundwater Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
10/20/15	New Source of Imported Clean Fill Study Area 6 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	10/4/15	10/11/15	10/18/15	10/25/15	11/1/15
Construction Management (AMEC)	8	9	8	9	10
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	31	38	25	26	27
Arecon/US Ecology Subcontractors	0	0	0	0	0
Langan	0	0	1	1	0
Evoqua	1	1	1	1	1
B&B Drilling	2	0	0	2	0
TOTAL STAFF	**47**	**53**	**40**	**44**	**43**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Continued screening of Celgene material for use as protective cover soils above geosynthetics.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on October 13, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	10/4/15	10/11/15	10/18/15	10/25/15	11/1/15
Avg. Gallons Treated & Discharged (per day)	74,923	76,936	76,739	77,013	76,591
Average Flow (gpm) for Operating Period	57	56	54	57	57
Avg. Hours of Plant Operation	22	23	24	23	22
GWTP Influent Tanks (gal.)	7,488	4,836	5,381	4,258	5,498

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completion of the Excavation Area EA-8 excavation is pending post excavation sampling results.
- Began pumping/dewatering well points associated with Excavation Areas EA-2 and EA-3.
- Completed backfilling of EA-4 Excavation and began backfilling EA-5 Excavation.
- Began trash pit meadow mat repair activities as identified in the 100% Design, which consisted of the removal of concrete slabs and the excavation of historic fill. In addition, the contractor installed vinyl sheeting around the Stratum D repair area that included placement of the sand-bentonite plug.
- Began excavating surficial historic fill in N1 area. A total of 6,375 cubic yards was removed and stockpiled east of the Department of Public Works "H" building.
- Completed relocating soils from Area 3S to the SA-6 North Cap Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
No update for the reporting period							

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Area N1 Volume Excavated - Total for Reporting Period: 6,375CY / Total to Date: 12,807CY
Backfill in Progress	Celgene Screened fraction above 3/8 inch – EA-5 , EA-8

3. BACKFILL MATERIALS USED

Source	Week Ending				
	10/4/15	10/11/15	10/18/15	10/25/15	11/1/15
Liberty I-5	0	0	0	801.7	2,164.97

- Screened Celgene materials greater than 3/8 inch were transferred and placed as backfill in EA-8. A total of 25 loads, totaling approximately 563 cubic yards was placed as backfill in EA-8. In addition, 17 loads of crushed concrete totaling 383 yards were placed as backfill in EA-8.
- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area. A total of approximately 5,333 cubic yards was placed as protective cover soil during the reporting period.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading not yet scheduled by contractor.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed installation of temporary sheet pile along 440 to support the EA2/EA3 excavation.

G. CAPPING OPERATIONS

- A total of 22,040 sq. ft. of liner totaling 4% of the total cap area was deployed during the reporting period.
- Completed installation of geosynthetic cap components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer for SA-6 South.
- On October 12, 2015 the results of the laboratory testing for destruct sample DSX-13 indicated 1 of 5 specimens exhibited a peel value less than the 66 lb/in minimum value. Based on this one failure anomaly, the repair associated with DSX-13 (RP-477) was covered with a new patch, welded, and vacuum box tested in accordance with the specifications. A new destruct sample DSX-15 was collected to confirm the integrity of the new welds and subsequent analysis indicated a passing result.
- Completed general liner subgrade preparation in Area 3S.
- Completed cutting hydraulic barrier sheets and the SCB wall to final elevation in SA-6 South Open Space Area.
- Completed removing asphalt on top of the SCB wall and smooth coating as necessary for geosynthetics installation detail.
- Completed installation of gas vent pipe on SA-6 South.
- Continued placement of protective cover soils and demarcation tape over the geocomposite drainage layer.
- Began fine grading of GDL cover soils to include associated compaction testing on the west side of the SA-6 South Cap area.
- Began placement of root barrier on the west side of the SA-6 South Cap.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Revision Pending	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Pending	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation and backfilling of Excavation Area EA-8.
- Complete backfilling of Excavation Area EA-5.
- Complete Trash Pit area Meadow Mat Repair.
- Complete installation of sheet pile barrier wall on the interior of the trash pit.
- Complete removal of surficial historic fill in N1 area.
- Begin EA-2/EA-3 excavation activities.
- Complete screening Celgene material for use as protective cover soils above geosyntethics.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South.
- Begin import and placement of Horizon C soils on the SA-6 South open space area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 25 in well 088-IW-03 (completed November 4, 2015).

- Begin PW-3 extraction well/trench installation activities.
- Initiate preparation activities for planned Site 163 excavation within the residential footprint.

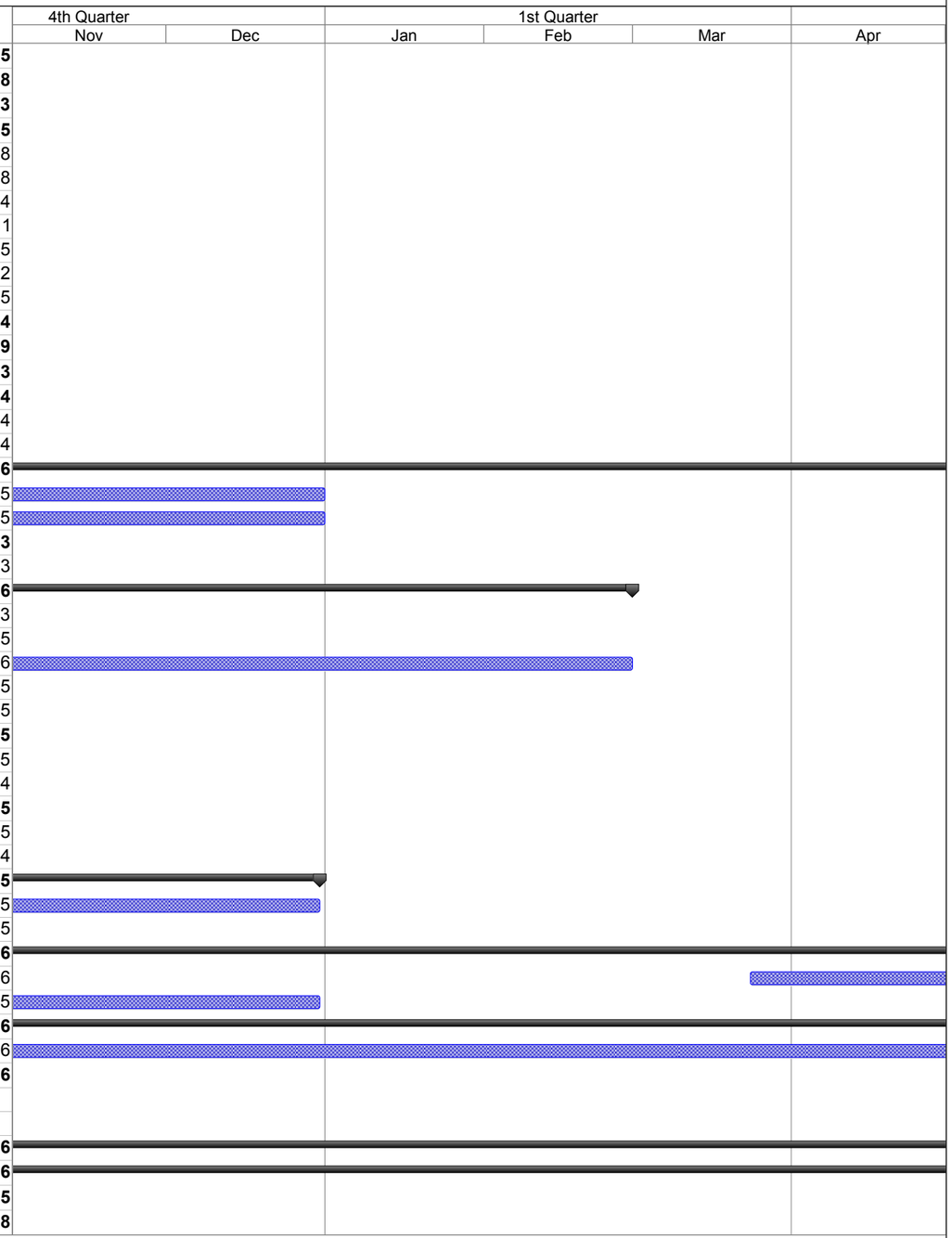
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. *Dewatering Operations Update (not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (conducted quarterly; not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Repair Log
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Forms
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted October 2015)
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 10/31/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Breaking up concrete at former JCIA building.



Site Photograph 2: Driving in vinyl sheeting near former JCIA building.



Site Photograph 3: Excavating near sheeting with small back hoe.



Site Photograph 4: Fine grading of utility corridors.



Site Photograph 5: Placing clean fill in utility corridor.



Site Photograph 6: Stockpiling of Historic Fill on former city properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of November 1, 2015

October 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

Former Roosevelt Drive-In Site
(Remediation Complete)

Kellogg Street Properties

Hackensack River

Route 440

Kellogg Street

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
08/28/15	7:00	13:00	6:00	35,790.40	35,841.14	50,740	35,697,290	
09/01/15	7:00	13:00	6:00	35,841.14	35,929.31	88,170	35,785,460	
09/04/15	7:00	13:00	6:00	35,929.31	35,970.92	41,610	35,827,070	
09/09/15	7:00	15:00	8:00	35,970.92	36,046.73	75,810	35,902,880	
09/11/15	7:00	14:00	7:00	36,046.73	36,113.32	66,590	35,969,470	
09/18/15	7:00	15:00	8:00	36,113.32	36,198.63	85,310	36,054,780	
09/28/15	8:00	11:00	3:00	36,198.63	36,238.88	40,250	36,095,030	
09/30/15	7:30	15:00	7:30	36,238.88	36,367.55	128,670	36,223,700	
10/01/15	7:00	13:30	6:30	36,367.55	36,413.58	46,030	36,269,730	PVSC Compliance Sample Collected
10/02/15	7:00	15:00	8:00	36,413.58	36,458.01	44,430	36,314,160	
10/03/15	8:00	13:00	5:00	36,458.01	36,558.18	100,170	36,414,330	
10/04/15	9:30	13:00	3:30	36,558.18	36,598.54	40,360	36,454,690	
10/05/15	7:30	12:00	4:30	36,598.54	36,653.18	54,640	36,509,330	
10/06/15	7:30	11:30	4:00	36,653.18	36,704.47	51,290	36,560,620	
10/09/15	7:30	14:00	6:30	36,704.47	36,777.92	73,450	36,634,070	
10/15/15	8:00	15:00	7:00	36,777.92	36,888.81	110,890	36,744,960	
10/21/15	8:00	15:00	7:00	36,888.81	36,951.56	62,750	36,807,710	
10/23/15	11:00	14:30	3:30	36,951.56	36,973.34	21,780	36,829,490	
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	

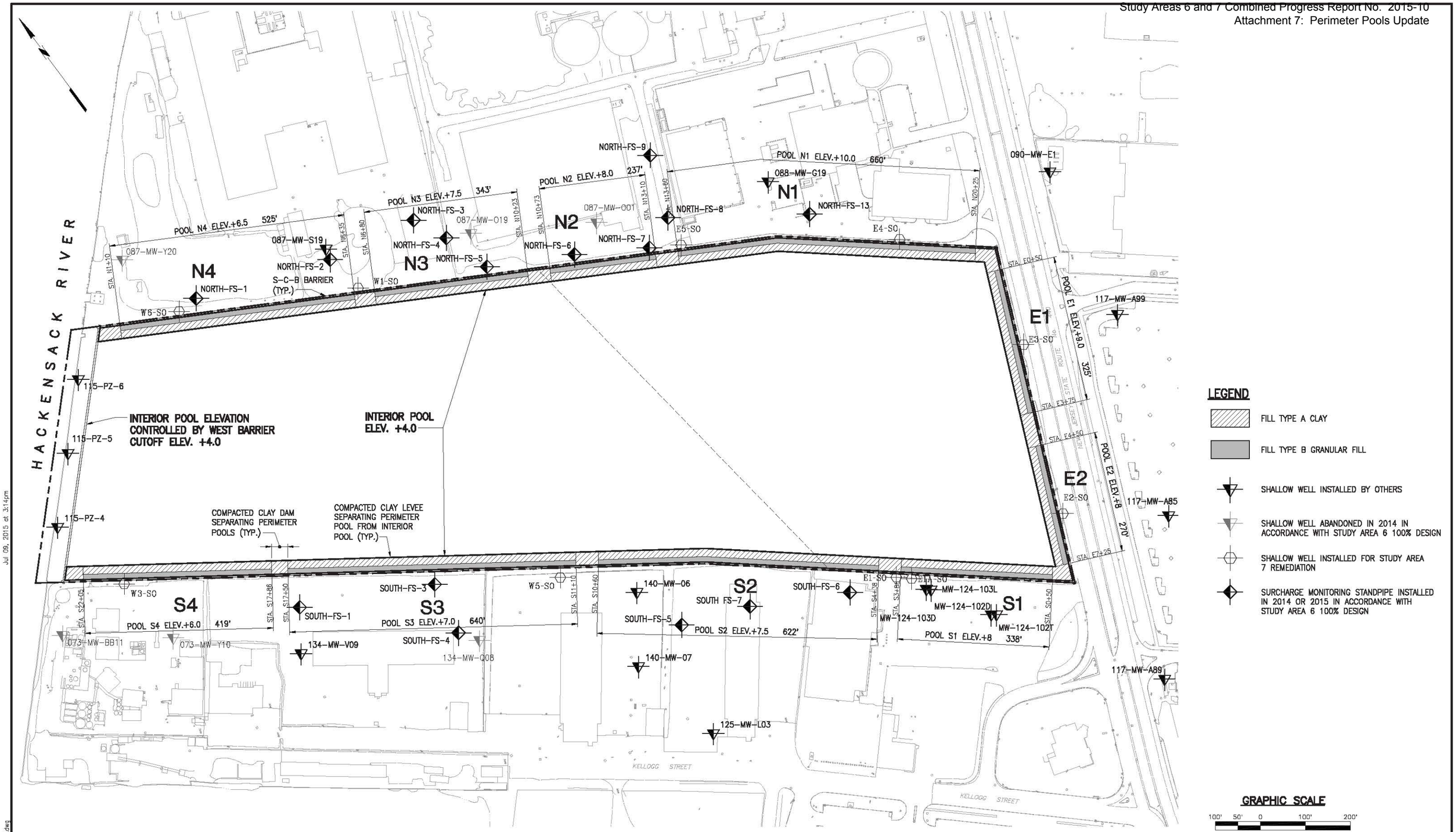
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA-8	<20	087-EA8-20-c (bermed / trench material)	250	087-EA8-20-c1	6/24/2015	11:40	<1.9	Yes		
				087-EA8-20-c2	6/24/2015	11:45	<2.1	Yes		
				087-EA8-20-c3	6/24/2015	11:50	<2.1	Yes		
				087-EA8-20-c4	6/24/2015	11:55	<1.9	Yes		
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	Yes		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	Yes		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	Yes		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	Yes		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	Yes		
				087-EA5-20-b2	9/11/2015	11:30	6.8	Yes		
				087-EA5-20-b3	9/11/2015	11:35	8.3	Yes		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	Yes		
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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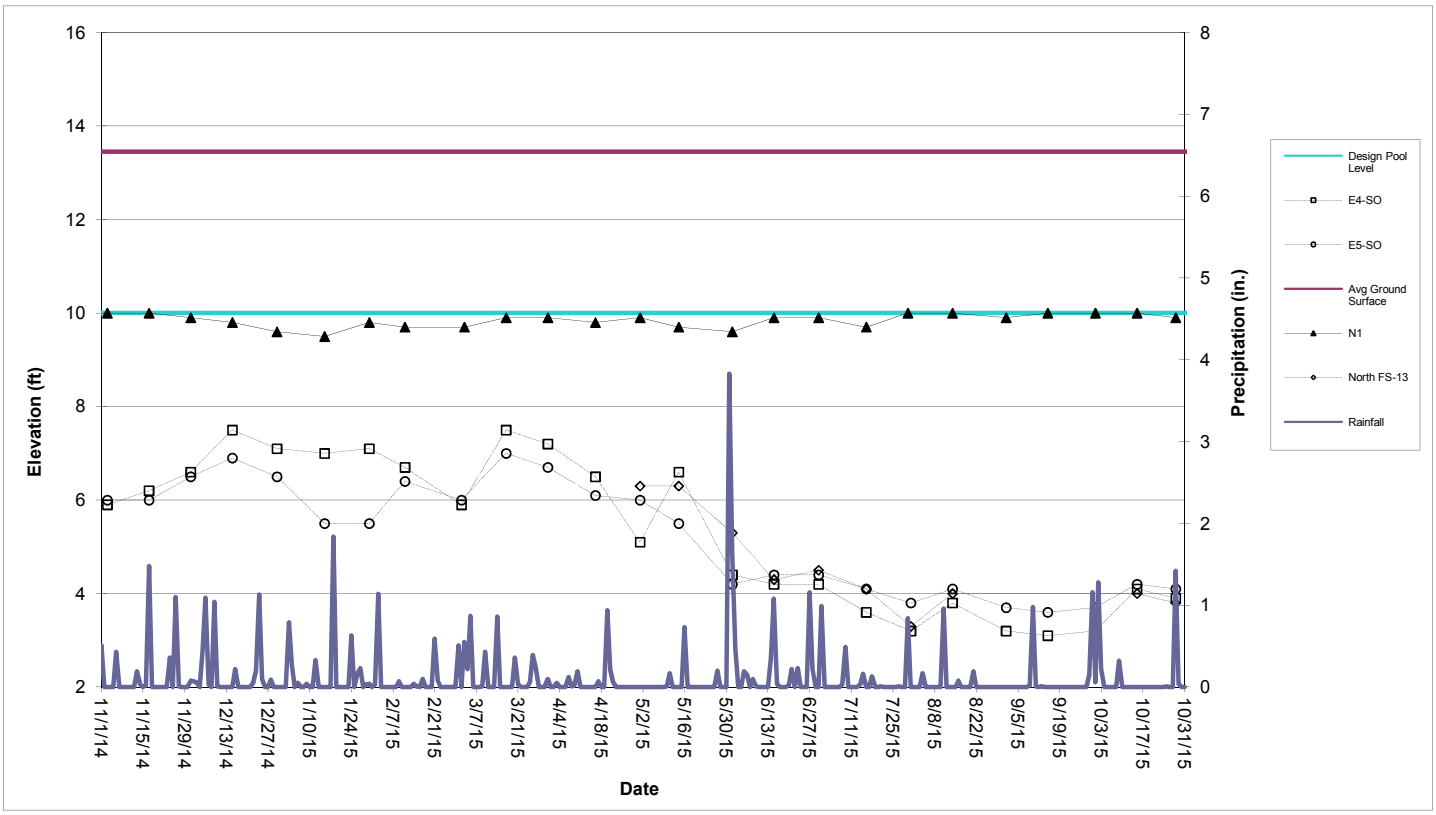
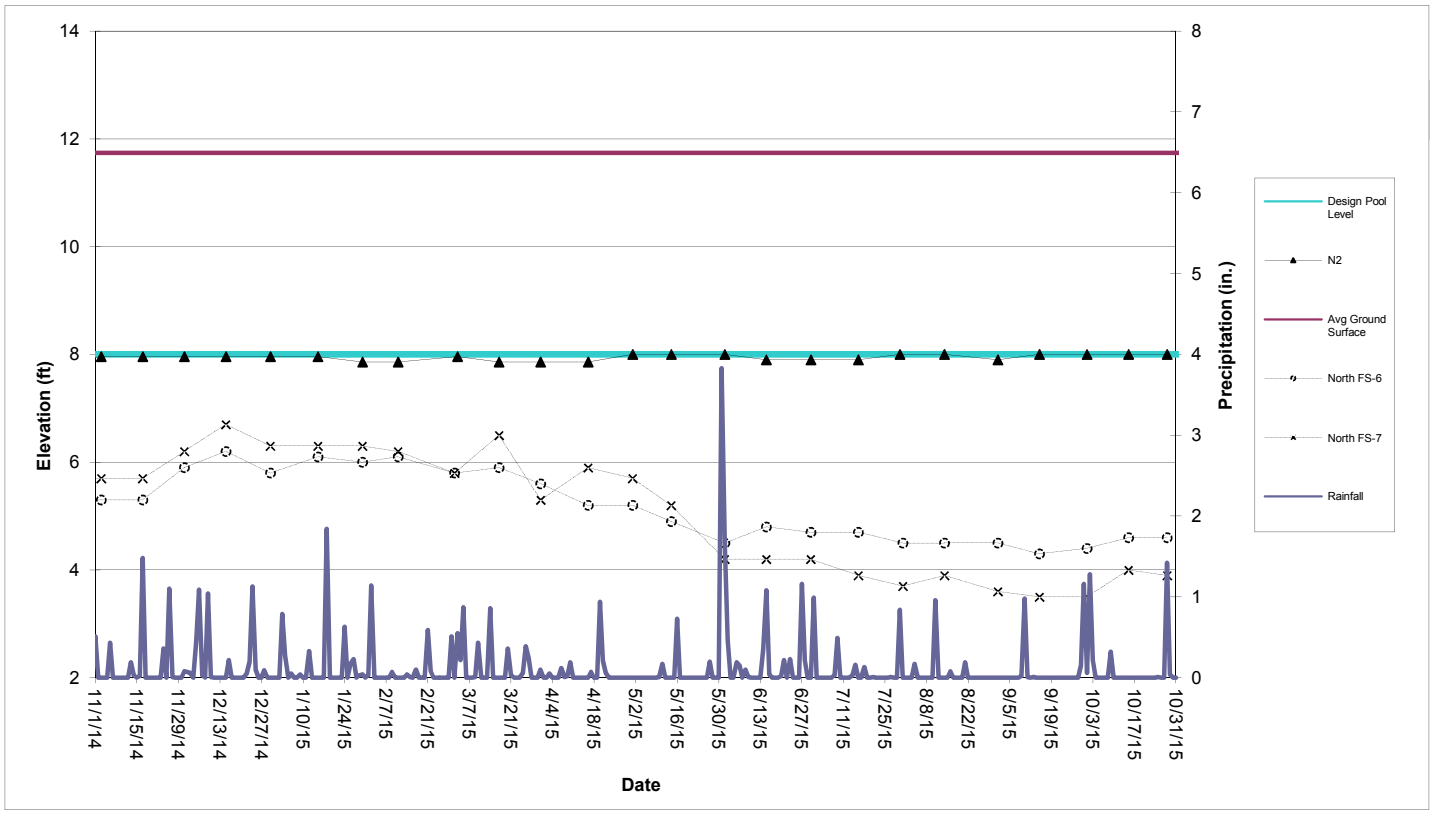
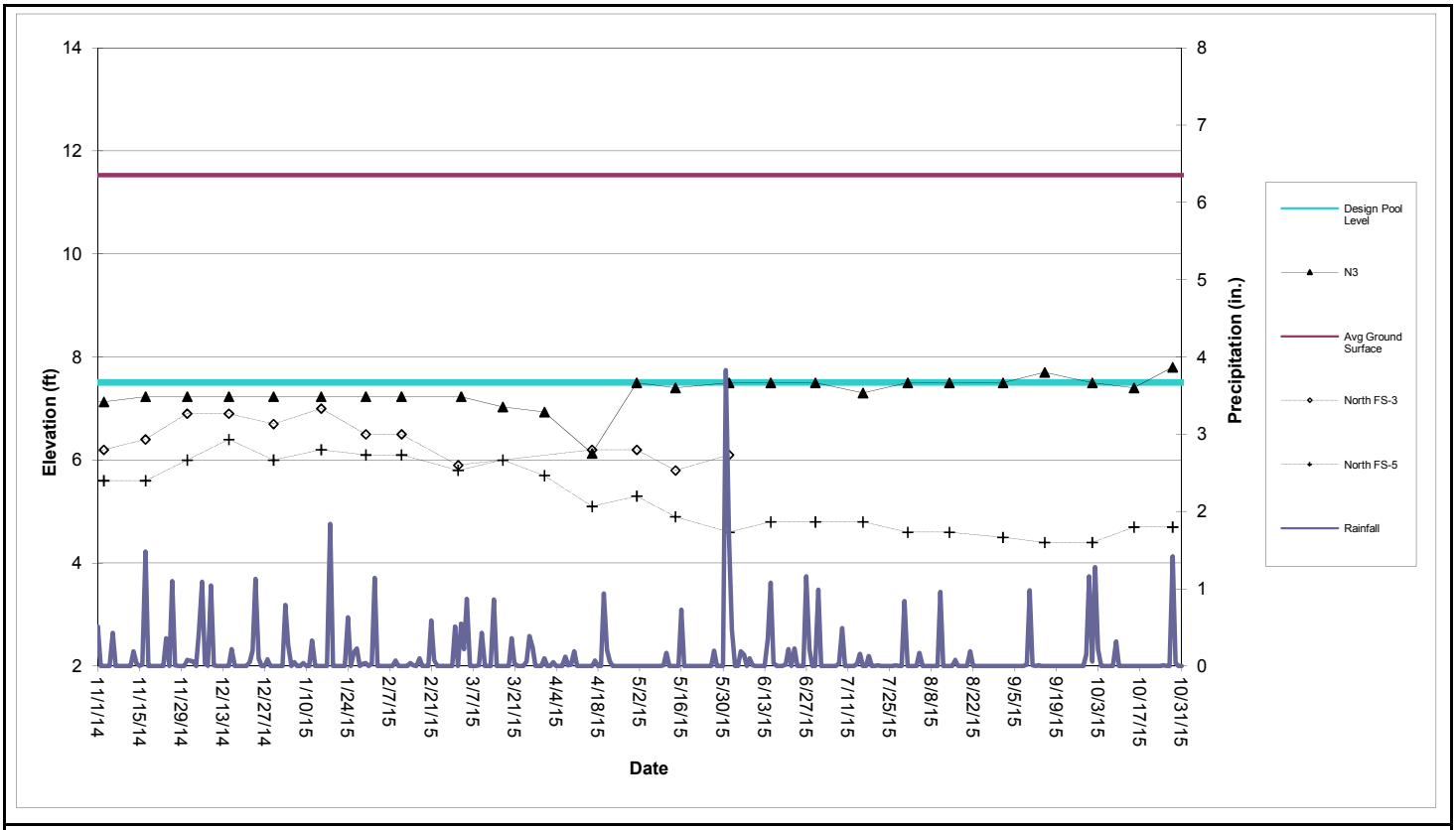
bboscaino



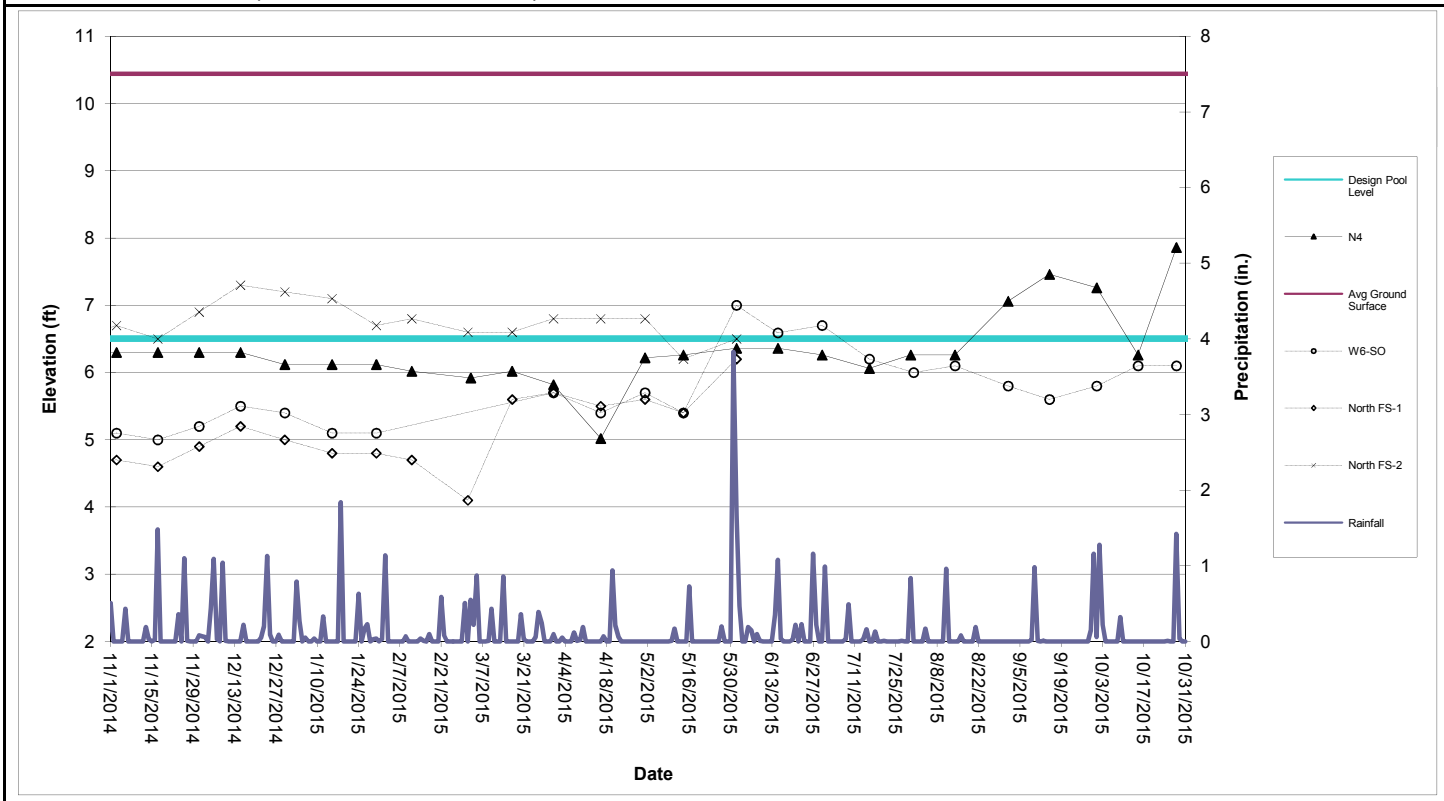
Perimeter Pool N1 (Sta. N13+60 to N20+25)



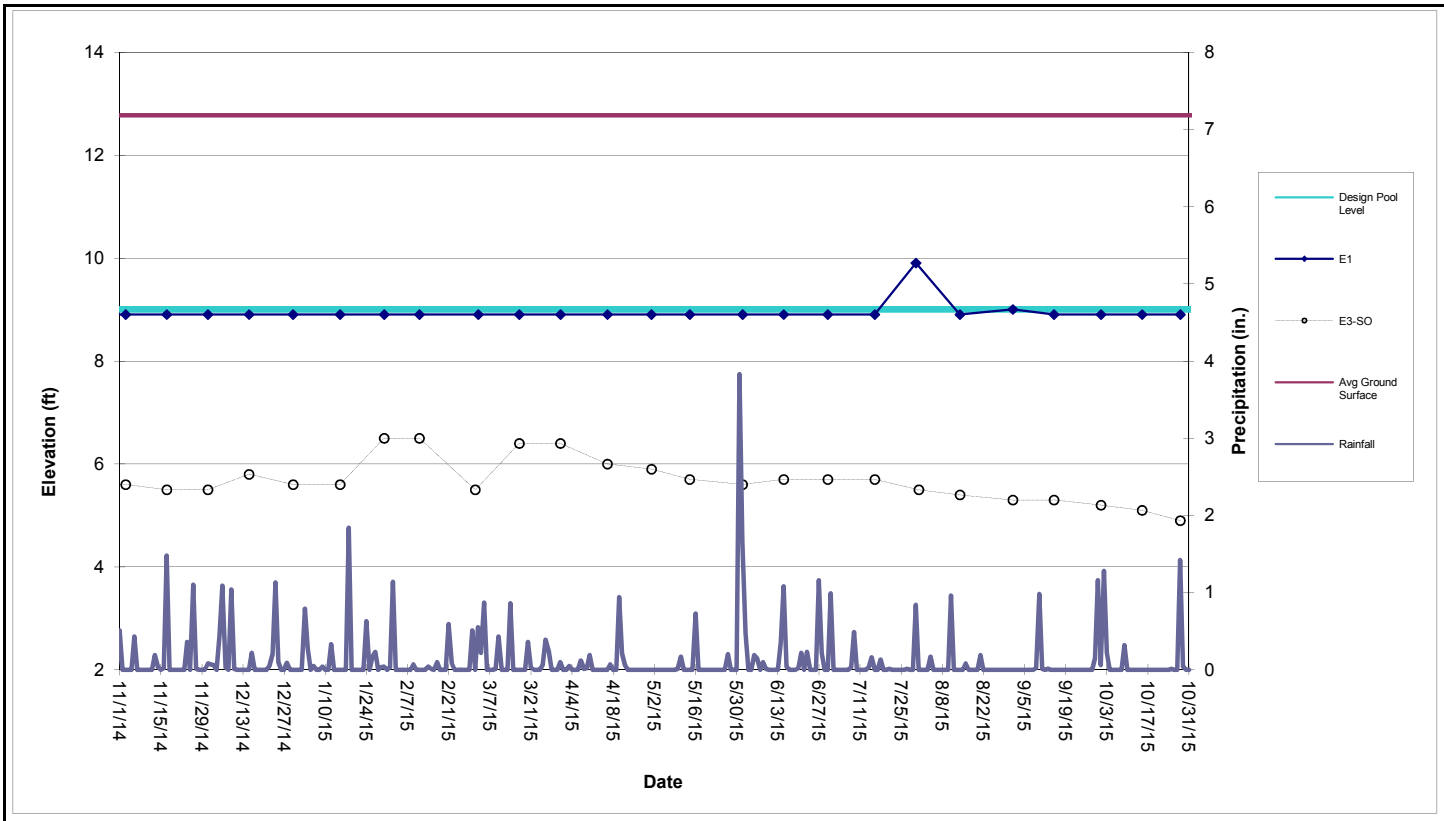
Perimeter Pool N2 (Sta. N10+73 to N13+10)



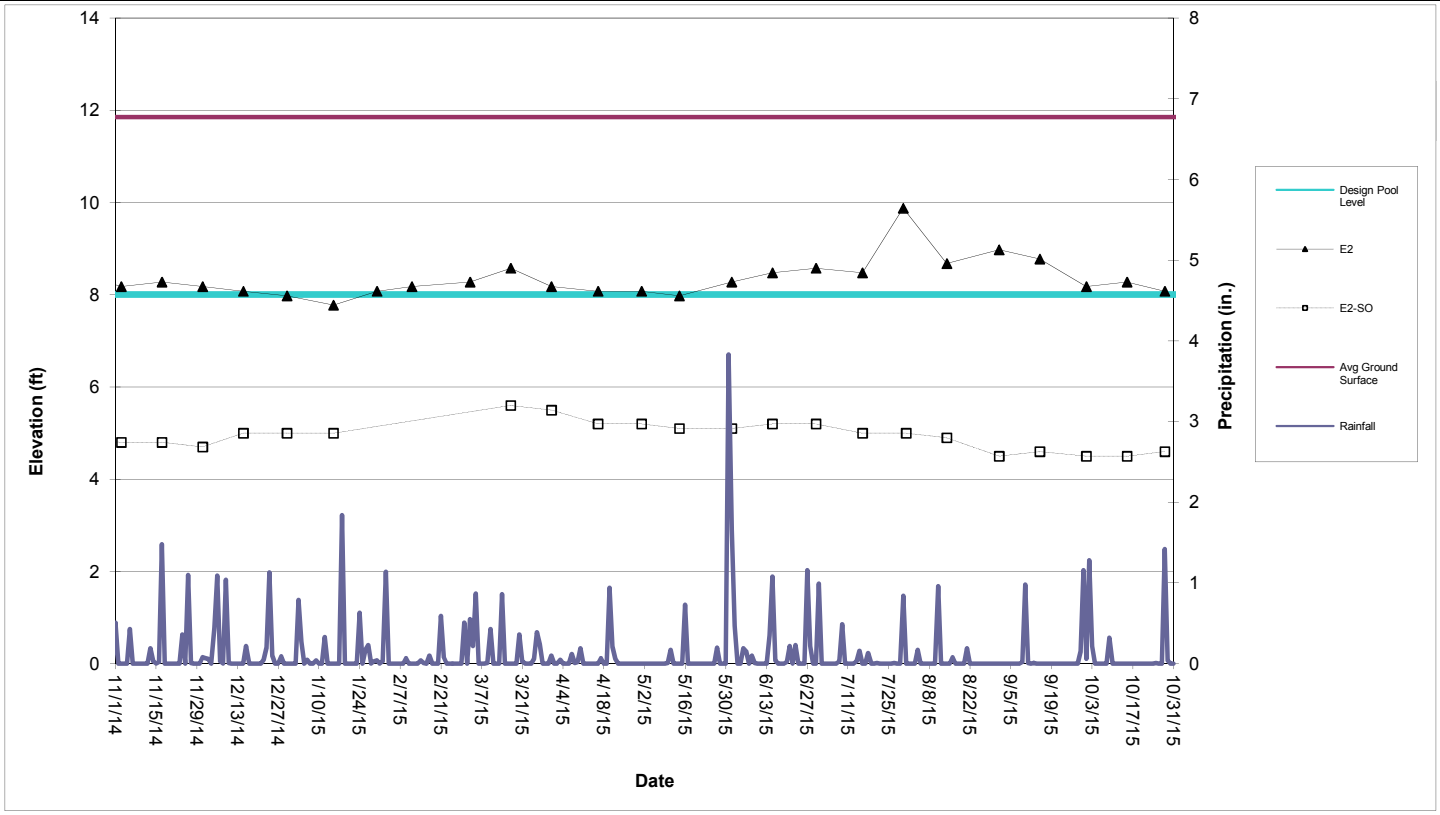
Perimeter Pool N3 (Sta. N6+80 to N10+23)



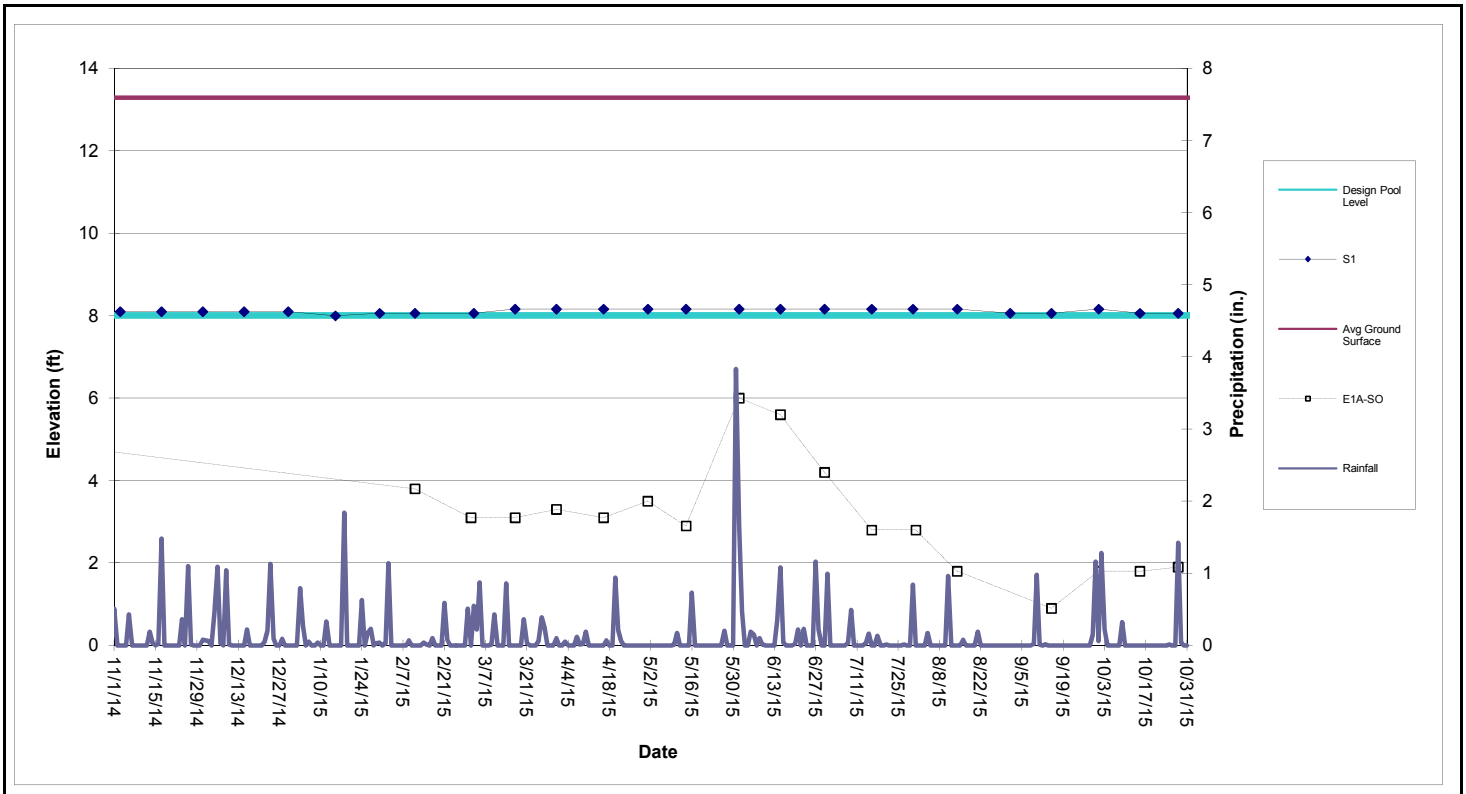
Perimeter Pool N4 (Sta. N6+80 to N10+23)



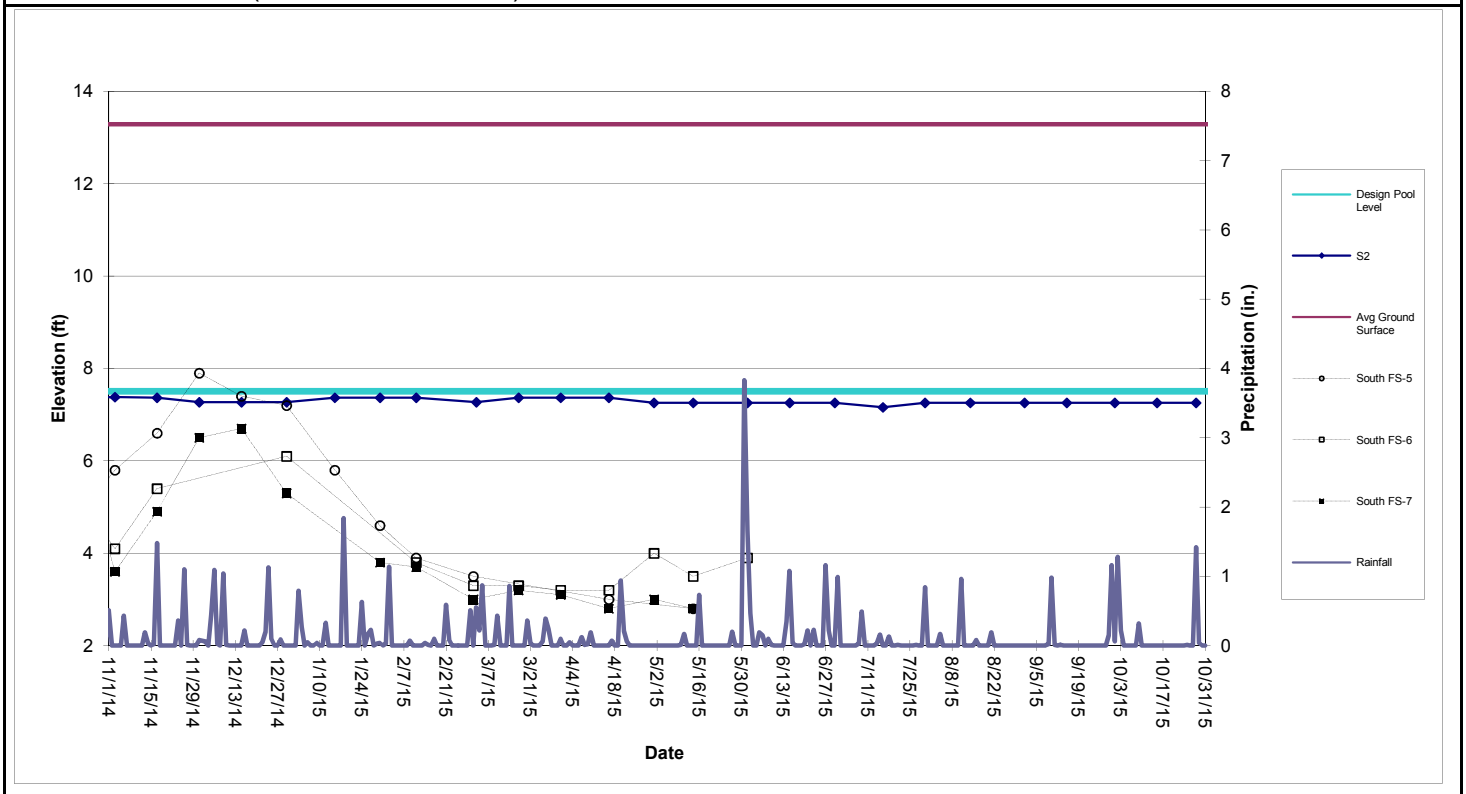
Perimeter Pool E1 (Sta. E0+50 to E3+75)



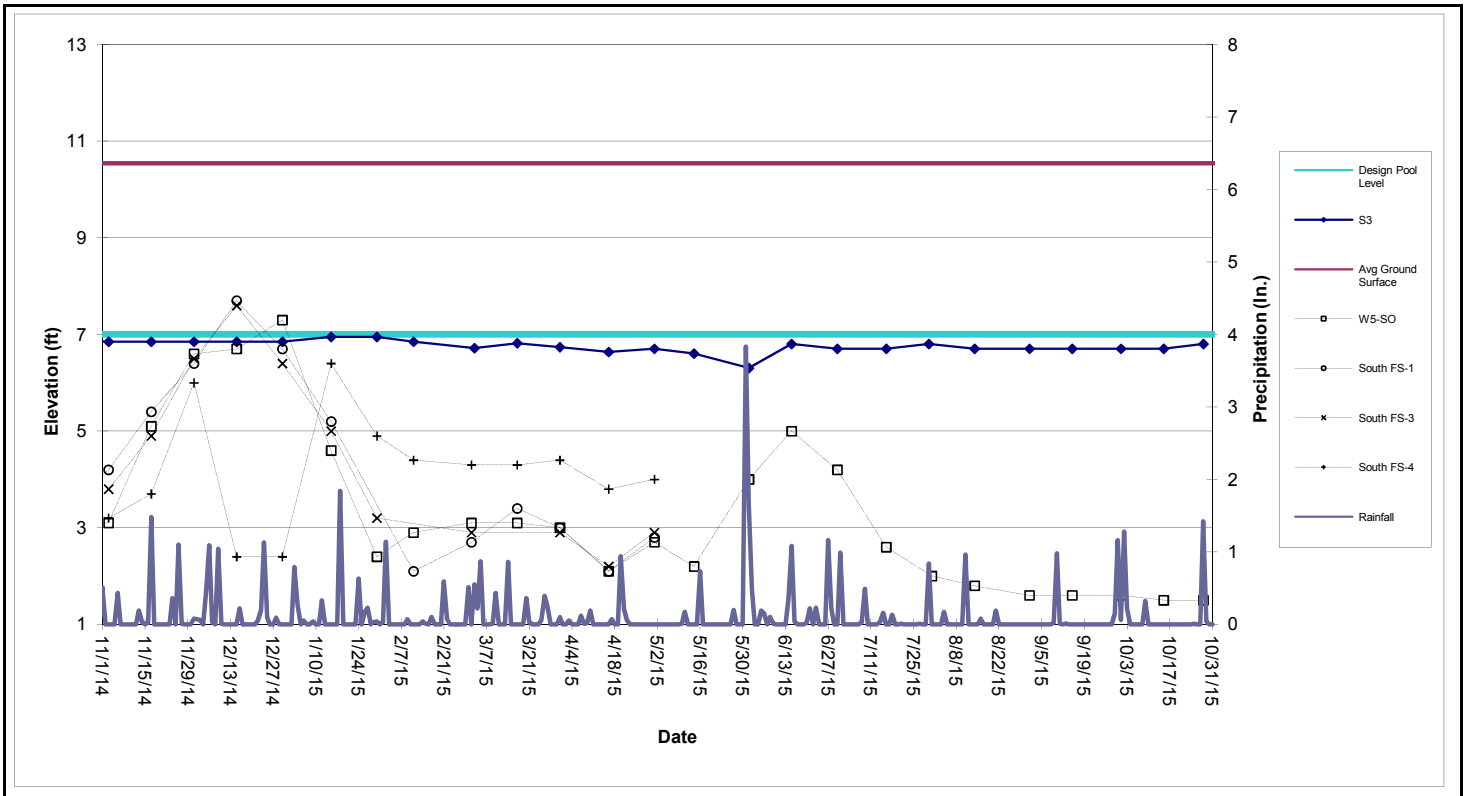
Perimeter Pool E2 (Sta. E4+50 to E7+25)



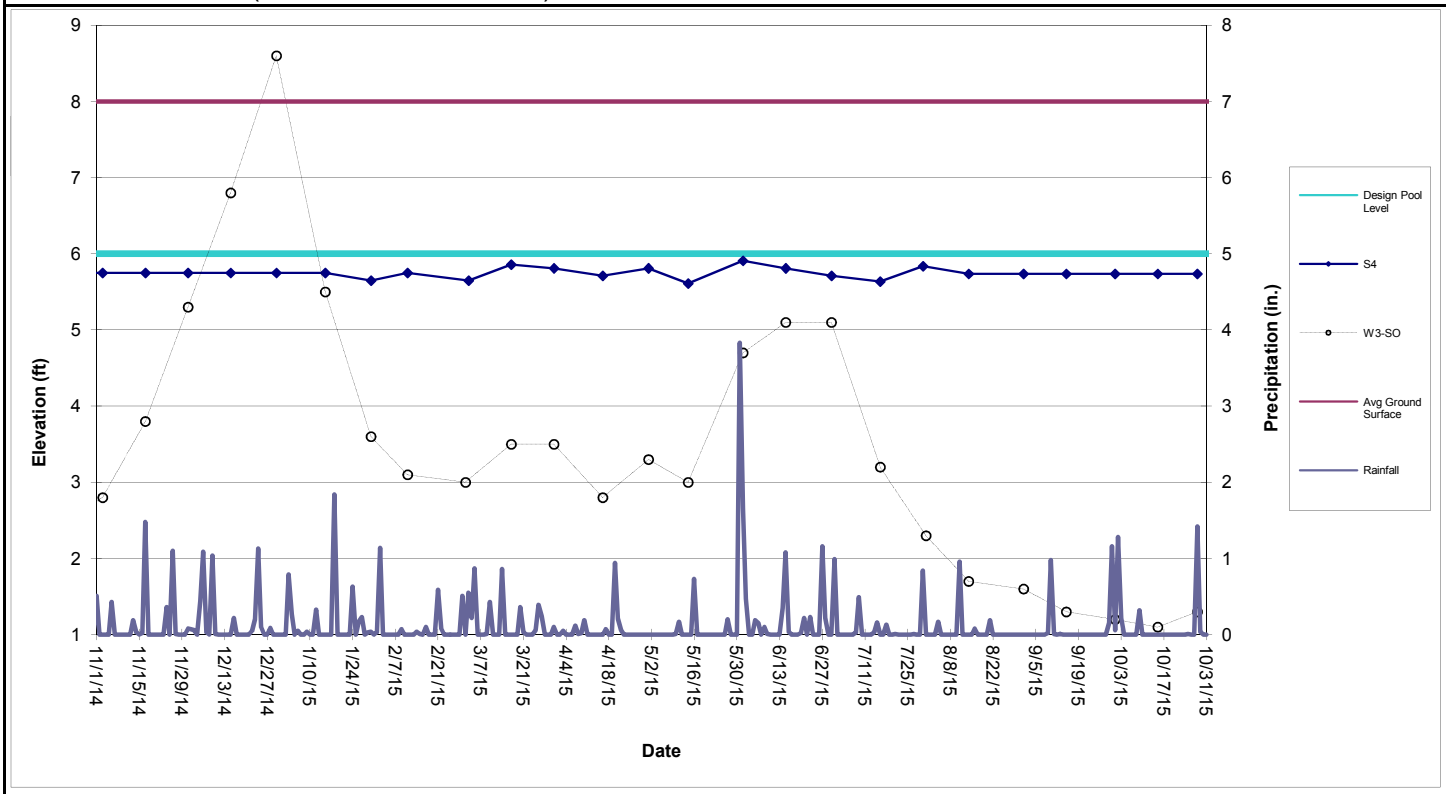
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
11/3/2014		4.8	5.6	5.9	6.0		2.8	3.1	5.1	4.7	6.7	6.2	5.6	5.3	5.7		4.2	3.8	3.2	5.8	4.1	3.6
11/17/2014		4.8	5.5	6.2	6.0		3.8	5.1	5.0	4.6	6.5	6.4	5.6	5.3	5.7		5.4	4.9	3.7	6.6	5.4	4.9
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2	4.9	6.9	6.9	6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5	5.2	7.3	6.9	6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4	5.0	7.2	6.7	6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-3

Date Exposed: 9/9/15

Describe Damage: Multiple Scrapes due to CAT 349E bucket along the face of the sheet

Damage Location (ft below top of sheet, inboard side outboard side): Along the Lngth of the Sheet from existing ground to BOE

Date Repaired: 9/11/15, 10/22/15, 10/27/15

Inspected by: A. Eslamiezad

Describe Repair: clean, wirebrush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-7

Date Exposed: 9/8/15

Describe Damage: Multiple Scrapes along the face of the sheet, from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE.

Date Repaired: 9/11/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-6

Date Exposed: 9/9/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/11/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-5

Date Exposed: 9/9/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/11/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-4

Date Exposed: 9/9/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/11/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-11
Date Exposed: 9/4/15
Describe Damage: Multiple Scrapes along the face of the sheet, from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE.
Date Repaired: 9/9/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-10
Date Exposed: 9/4/15
Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE
Date Repaired: 9/9/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-9
Date Exposed: 9/8/15
Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE
Date Repaired: 9/9/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-8
Date Exposed: 9/8/15
Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE
Date Repaired: 9/9/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-15

Date Exposed: 9/3/15

Describe Damage: Multiple Scrapes along the face of the sheet, from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/9/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-14

Date Exposed: 9/4/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/9/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-13

Date Exposed: 9/4/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/9/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-12

Date Exposed: 9/4/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/9/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-19

Date Exposed: 9/2/15

Describe Damage: Multiple Scrapes along the face of the sheet, from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE.

Date Repaired: 9/9/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-18

Date Exposed: 9/3/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/9/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-17

Date Exposed: 9/3/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/9/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 54P-16

Date Exposed: 9/3/15

Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE

Date Repaired: 9/4/15, 10/22/15, 10/27/15

Inspected by: A. Eskaminejad

Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-23
Date Exposed: 9/2/15
Describe Damage: Multiple Scrapes along the face of the sheet, from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE.
Date Repaired: 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-22
Date Exposed: 9/2/15
Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE
Date Repaired: 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-21
Date Exposed: 9/2/15
Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE
Date Repaired: 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-20
Date Exposed: 9/2/15
Describe Damage: Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to BOE
Date Repaired: 9/4/15, 10/27/15, 10/22/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, wire brush, coat

Repair Log Closure: AMEC Signature: _____
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-27
Date Exposed: 9/1/15
Describe Damage:

Multiple Scrapes along the face of the sheet, from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to BOE.
Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-26
Date Exposed: 9/1/15
Describe Damage:

Multiple Scrapes along the face of the sheet from the CAT 349E bucket.

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to BOE
Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-25
Date Exposed: 9/1/15
Describe Damage:

Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to BOE
Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

125

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-24
Date Exposed: 9/1/15
Describe Damage:

Multiple Scrapes along the face of the sheet from the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to BOE
Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslaminejad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 54P-31
Date Exposed: 8/31/15
Describe Damage:

Multiple scrapes along the face of the sheetpile, from the CAT 349 E bucket

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to the ~~surface~~ BOE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamineyad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 54P-30
Date Exposed: 8/31/15
Describe Damage:

Multiple scrapes from the CAT 349 E bucket, along the face of the sheetpile.

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to the BOE.

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamineyad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 54P-29
Date Exposed: 8/31/15
Describe Damage:

Multiple Scrapes along the face of the sheet from the CAT 349 E bucket.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from existing ground to the BOE.

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamineyad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:
Entact ID: 54P-28
Date Exposed: 9/1/15
Describe Damage:

Multiple scrapes from the bucket of the 349 E along the face of the sheetpile

Damage Location (ft below top of sheet, inboard side outboard side):
Along the length of the sheet from existing ground to BOE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamineyad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-35
Date Exposed: 8/28/15
Describe Damage:

Multiple scrapes from the CAT 349 E bucket along the face of the sheet

Damage Location (ft below top of sheet, inboard side outboard side):

Along the length of the sheet from ground surface to BOE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamingad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-34
Date Exposed: 8/28/15
Describe Damage:

Multiple scrapes along the face of the sheet with the CAT 349E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from ground surface to BOE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamingad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-33
Date Exposed: 8/28/15
Describe Damage:

Multiple scrapes along the face of the sheet by the CAT 349 E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from ground surface to the BOE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamingad
Describe Repair:

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-32
Date Exposed: 8/31/15
Describe Damage:

Multiple scrapes along the face of the sheet from the CAT 349 E bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of sheet from ground surface to the BOE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15
Inspected by: A. Eslamingad
Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:
Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-~~46~~ 39

Date Exposed: 8/27/15

Describe Damage:

Multiple scrapes from the bucket of the CAT 349E. Defects are along the face of the sheet

Damage Location (ft below top of sheet, inboard side outboard side):

Along the length from ground surface to BoE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-38

Date Exposed: 8/27/15

Describe Damage:

Multiple scrapes from the CAT 349E bucket, along the face of the sheet.

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet from ground surface to BoE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-~~[illegible]~~ 37

Date Exposed: 8/27/15

Describe Damage:

Multiple scrapes from the CAT 349E bucket, along the face of the sheet

Damage Location (ft below top of sheet, inboard side outboard side):

Along the length of the sheet from ground surface to BoE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID:

Entact ID: 54P-36

Date Exposed: 8/28/15

Describe Damage:

Multiple scrapes from the CAT 349E bucket, along the face of the sheet

Damage Location (ft below top of sheet, inboard side outboard side):

Along the length of the sheet from ground surface to BoE

Date Repaired: 9/2/15, 9/4/15, 10/22/15, 10/27/15

Inspected by: A. Eslaminejad

Describe Repair: clean, wire brush, coat

Repair Log Closure: AMEC Signature:

Date: 10/27/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-43
Date Exposed: 8/26/15
Describe Damage: Epoxy removed on the edges and face of the sheet while excavator trying to remove soil from belly of the sheets.

Equipment 349E Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 remaining
Inspected by: Ari Eslaminejad
Describe Repair: Clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: _____
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-42
Date Exposed: 8/26/15
Describe Damage: Epoxy removed on the edges and face of the sheet while excavator trying to remove soil from belly of the sheets

Equipment 349E Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet pile

Date Repaired: 9/2/15 Partial 9/4/15 remaining
Inspected by: Ari Eslaminejad
Describe Repair: clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: _____
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-41
Date Exposed: 8/26/15
Describe Damage: _____

Multiple Scrapes of epoxy coating along the length of the sheets on the edges and face.

Equipment 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 remaining
Inspected by: A. Eslaminejad
Describe Repair: clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: _____
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 54P-40
Date Exposed: 8/27/15
Describe Damage: _____

Multiple Scrapes of epoxy coating along the length of the sheets on the edge and face.

Equipment 349E

Damage Location (ft below top of sheet, inboard side outboard side): Along the length of the sheet

Date Repaired: 9/2/15 Partial 9/4/15 Remaining
Inspected by: A. Eslaminejad
Describe Repair: clean & coat sheets wire brush
Repair Log Closure: AMEC Signature: _____
Date: 9/4/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 52P1-25
Date Exposed: _____
Describe Damage: Multiple scrapes caused by excavator bucket during the meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to elev +4

Date Repaired: 10/30/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 52P-24
Date Exposed: _____
Describe Damage: Multiple scrapes caused by the excavator bucket during meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15
Inspected by: A. Eslaminejad as
Describe Repair: Clean, grind, ~~repair~~ coat

Repair Log Closure: AMEC Signature: [signature]
Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 52P1-23
Date Exposed: _____
Describe Damage: Multiple scrapes along the face of the sheet during meadow mat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15
Inspected by: A. Eslaminejad
Describe Repair: ~~Cl~~ clean, grind, coat as

Repair Log Closure: AMEC Signature: [signature]
Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 52P1-22
Date Exposed: _____
Describe Damage: Multiple scrapes caused by the excavator bucket during the meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15
Inspected by: A. Eslaminejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

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SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: S2P1-21

Date Exposed: _____

Describe Damage: Multiple scrapes caused by excavator bucket in meadowmat repair.

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: S2P-20

Date Exposed: _____

Describe Damage: Multiple scrapes caused by excavator bucket in meadow mat repair.

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: S2P-19

Date Exposed: _____

Describe Damage: Multiple scrapes caused by excavator bucket in meadow mat repair

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: S2P-18

Date Exposed: _____

Describe Damage: Multiple scrape caused by excavator bucket in meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-1

Date Exposed: _____

Describe Damage: Multiple scrapes caused by excavator bucket during meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-2

Date Exposed: _____

Describe Damage: Multiple scrapes along the face caused by the excavator bucket during meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-3

Date Exposed: _____

Describe Damage: Multiple scrapes caused by excavator bucket during meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SPI-4

Date Exposed: _____

Describe Damage: Multiple scrapes caused by excavator bucket during meadowmat repair

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to ele +4

Date Repaired: 10/30/15

Inspected by: A. Eslaminejad

Describe Repair: clean, grind, coat

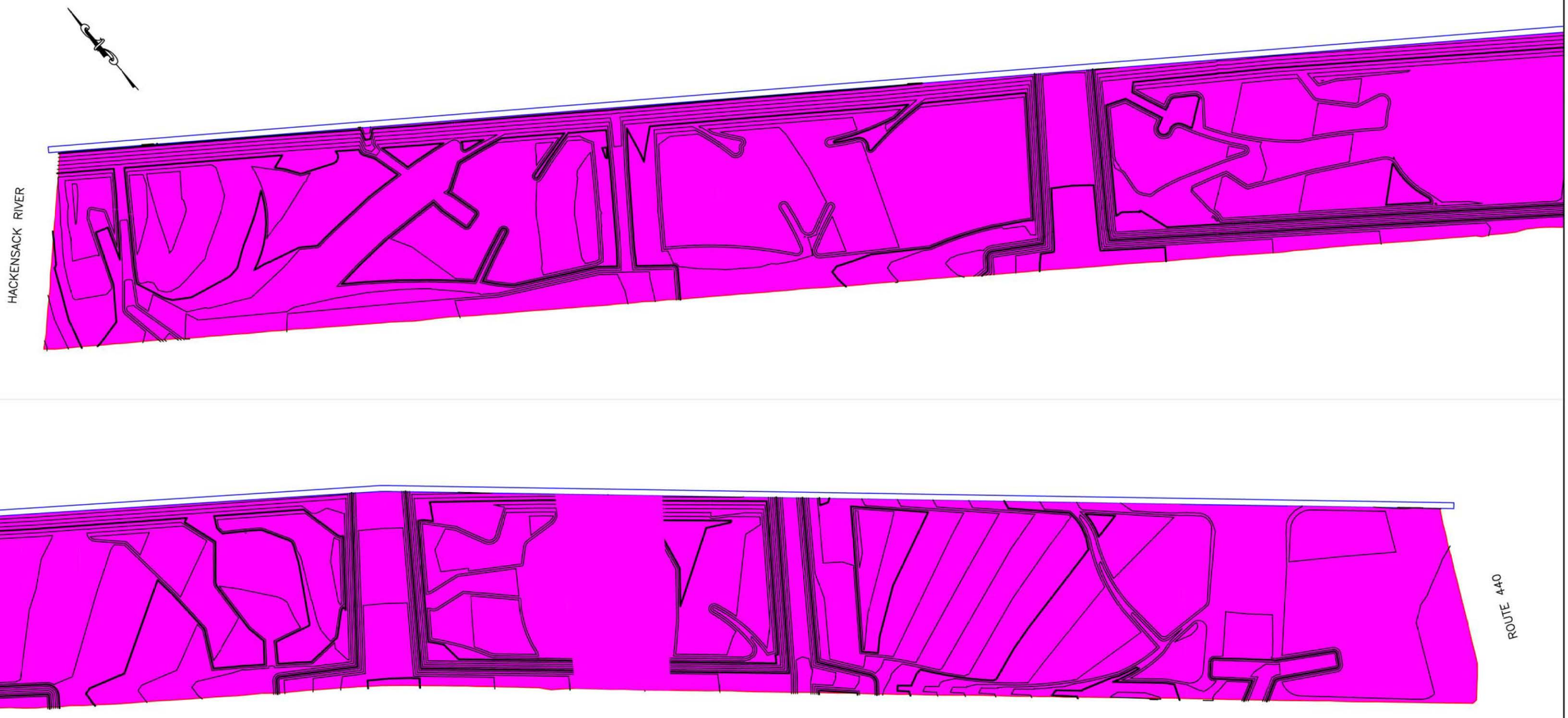
Repair Log Closure: AMEC Signature: _____

Date: 10/30/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports



LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP SUBGRADE PROGRESS MAP
10/09/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes												SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit								4977	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot									Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out								LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test								6915.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445	AO	RP-445		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-446	AO	RP-446		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456	DS-28	123/125		90'N OF SEOS	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-457	PB		125	68'S OF P125/126 & 4'W (PB 8")	P	3	x	3.5	52.5	10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-458	SI		125	ON RP-453 & RP-455	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-459	SI	120,121,122,	&123	BETWEEN RP-454 TO RP-473	P	2	x	91		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-460	DSX-12	RP-459/123		N.SIDE OF RP-459 (DSX-12)	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-461	SI		122	BETWEEN RP-450 & RP-459	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-462	SI		122	FROM RP-461 TO 3'NW	B		x		36	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	4977	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6915.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-463	SI		122	FROM RP-459 TO 5'S	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-464	SI			SJ 121/122/RP-459	P	2	x	4		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-465	SI		121	BETWEEN RP-459 & RP-468	B		x		6	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-466	SI	121/122		FROM RP-467 TO RP-465 & RP-468	B		x		108	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-467	SI		121	9'SE OF RP-465 , RP-466 & RP-468	P	2	x	2.5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-468	SI		121	BETWEEN RP-465 & RP-469	B		x		42	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-469	SI		121	BETWEEN RP-468 & RP-470	B		x		132	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-470	SI		121	11'SW OF RP-468	P	2	x	3		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-471	SI		121	BETWEEN RP-468 & RP-472	B		x		12	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-472	SI		121	FROM RP-471 TO SEOP	P	2	x	23		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-473	SI	119/120		BETWEEN RP-439,RP-444& RP-440	P	2	x	17		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-474	SI	119/120		NEOS TO 16'S	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-475	SI		117	NEOP & 5'W OF 117/118	P	2	x	14		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-476	PB	128/132	132	81'N OF SEOS & 3'E (PB 4")	P	3	x	6	36.6	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/9/15
RP-477	SI	125/126	125	159'S OF NEOS & 13' W	P	2	x	13		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-478	SJ			P 127/128/129	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-479	SJ			P 128/129/132	P	2	x	3		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-480	DS-29	128/132		25'N OF SEOS	P	2	x	7		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-481	SJ			P 128/131/132	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-482	SJ			P 128/130/131	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-483	DSX-13	RP-477/125		N.SIDE OF RP-477 (DSX-13)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15

Environmental Specialties International Inc.
Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ]

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ]

Reported by : Lyssa Tran **Cap** [x]

Other: Cap construction

Damage Codes				
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4977	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6915.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-484	DSX-14	RP-480/132		E.SIDE OF RP-480 (DSX-14)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-485	SJ			P 132/133/143	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-486	DSX-15	RP-487/125		N.SIDE OF RP-487 (DSX-15)	P	2	x	5		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-487	FS		125	DS-13 FAIL (CAP OVER RP-483)	P	5	x	15		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
488							x								
489							x								
490							x								
491							x								
492							x								
493							x								
494							x								
495							x								
496							x								
497							x								
498							x								
499							x								
500							x								
501							x								
502							x								
503							x								
504							x								

Summary of Non-Compliance & Corrective Action Forms
SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	7/21/2015	Subgrade Irregularity	RP-3	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
2	7/21/2015	Subgrade Irregularity	RP-8	Panel #2 (P-2)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2.5 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
3	7/22/2015	Failed Non-Destruct Test	RP-13	Panel #7 (P-7) & Panel #8 (P-8) seam	Based on length of failed seam (approximately 6 ft.) the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). The patch was overlapped a minimum of 4-inches, with rounded edges, and sealed with an extrusion weld. Vacuum box testing was then conducted in accordance with Section 02372-8 to confirm the weld.
4	7/24/2015	Subgrade Irregularity	RP-30	Panel #17 (P-17)	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
5	8/7/2015	Failed Vacuum Box Test	RP-215	Panel #50 (P-50)	Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld. Vacuum box testing was conducted along the seams to confirm the seams were properly patched and repaired.
6	9/11/2015	Subgrade Irregularity	RP-293	Panel #57 (P-57)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
7	9/16/2015	Subgrade Irregularity - Hydrated GCL	RP-331	Panel #83 (P-83)	Geomembrane cap was cut and GCL was exposed. Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. The cut in the geomembrane was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).
8	9/24/2015	Subgrade Irregularity	RP-423	Panel #111 (P-111)	Rock was removed from underneath geomembrane and hole was then patched with approximate 1.5 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
9	10/7/2015	Subgrade Irregularity - Hydrated GCL	RP-458 through RP-473	Panels #121-125 (P-121 to P-125)	Geomembrane cap was cut and GCL was exposed (southern swale of SA-6). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired with geomembrane patches. The patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cuts were properly patched (as outlined in Section 02372).
10	10/7/2015	Subgrade Irregulairty - Hydrated GCL	RP-474 & RP-475	Panels #117 and Panel #119/120	Geomembrane cap was cut and GCL was exposed (northern end of SA-6 at SCB wall). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired (RP-474 & RP-475) with geomembrane patches. The patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cuts were properly patched (as outlined in Section 02372).

Summary of Non-Compliance & Corrective Action Forms
SA-6 South Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
11	10/12/2015	Failed Destruct Sample	RP-477	Panel #125 (P-125)	Geomembrane patch was placed over RP-477 (failed one of five specimens during destruct testing), and was overlapped a minimum of 4-inches beyond the edges of the repair, conformed so the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the patch was properly sealed (as outlined in Section 02372). Additionally, once the new patch (RP-486) was completed, an additional destruct sample (DSX-15) was collected to confirm the integrity of the new weld. Subsequent testing of DSX-15 yielded laboratory results that were in complinace with the project specs.

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Certificate of Soil Surface

Sheet # 23

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 3+80 to ~Sta. 3+30
QA Monitor	Langan	Date	9/25/15

Description of Soil Surface to be lined: ~ 50 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/24/15 (Panel #118). Subgrade Approved for Area East of 3rd Utility Crossing From Approximate Sta. 3+80 to Approx. Sta. 3+30. Soil Appears to Be Graded, Compacted, and Free of Debris (>½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/25/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-25-15
Title	QC Manager
Representing:	Entuck
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8
- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AND AT AREAS BELOW (TO 1 FT. ABOVE) THE GROUNDWATER TABLE, AS DEFINED ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 3+50	LOOKING E	REFER TO 9/25/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	~STA. 3+40	LOOKING N	REFER TO 9/25/15 PHOTO LOG (PHOTO #6)

1 REFER TO PHOTO LOG (9/25/15) PHOTOS 5,6 FOR SUPPORTING SUBGRADE PHOTOS (WITH GCL).

2

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Certificate of Soil Surface

Sheet # 24

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL
Project No.	10053000	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 3+30 TO ~STA. 2+50
QA Monitor	LANGAN	Date	9/29/15

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/25/15 (PANEL #120). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 3+30 TO APPROX. STA. 2+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified	N - NO CHANGES

Independent CQA Monitor	
Name	DANIEL BOSWORTH
Date	9/29/15
Title	LEAD QA ENGINEER
Representing	LANGAN
Signature	

Geosynthetic Installer Representative	
Name	Carolina Panico
Date	9-29-15
Title	QC Manager
Representing	Entact
Signature	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.
- GCL PLACED ALONG NORTHERN & SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW, (TO 1 FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA. 3+30	LOOKING S	REFER TO 9/29/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA. 2+90	LOOKING E	REFER TO 9/29/15 PHOTO LOG (PHOTO #3)

1 REFER TO PHOTO LOG (9/29/15) PHOTOS 2, 3 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL.

2

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Certificate of Soil Surface

Sheet # 25

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 2+50 TO ~STA 1+50		
QA Monitor	LANGAN	Date	10/8/2015		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/29/15 (PANEL # 125). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 2+50 TO APPROX. STA. 1+50 (EASTERN END OF SA-6, ROUTE 440). SOIL APPROVED TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (1½") AND IN CONFORMANCE W/ SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	10/8/2015
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	10/8/15
Title	QC Manager
Representing:	ENTACT
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW, (TO LFT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 1+70	LOOKING N/NW	REFER TO 10/8/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 2+00	LOOKING S	REFER TO 10/8/15 PHOTO LOG (PHOTO #4)

1 REFER TO PHOTO LOG (10/8/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR SUPPORTING PHOTOS OF GVL + GCL

2

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PHOTOGRAPHIC LOG
Photo #1 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

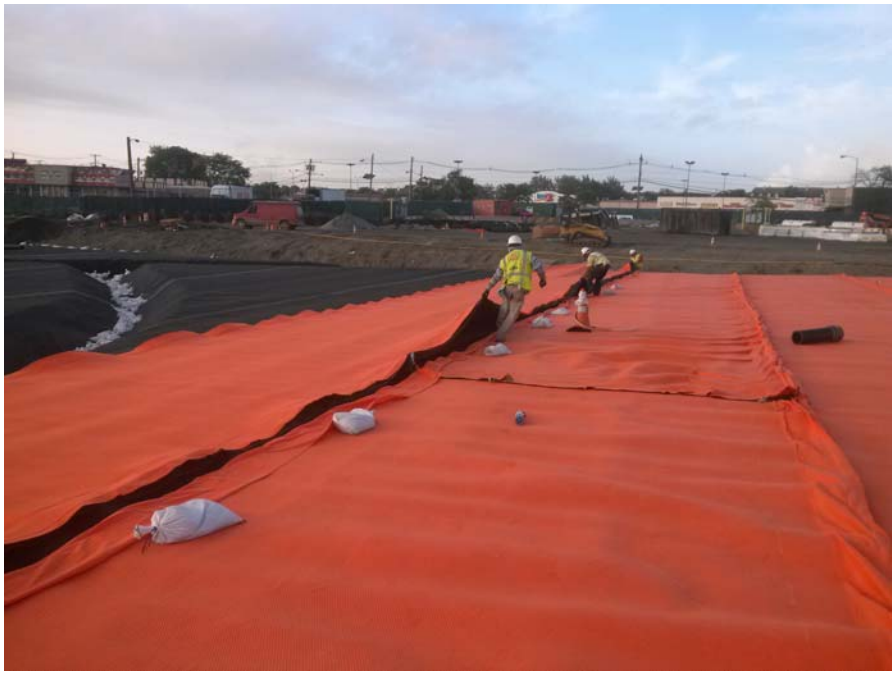
Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+00)

Description:

ESI deploying GDL over installed geomembrane panels. GDL placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #2 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta.3+30)

Description:

Soil subgrade east of Panel #120 prepared for panel placement. Subgrade prepared according to project specs (graded, compacted, and free of debris >1/2").



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PHOTOGRAPHIC LOG
Photo #3 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 2+90)

Description:

GVL and GCL placed over approved subgrade prior to placement of geomembrane panels. GCL placed at areas below (to 1 ft. above) the groundwater table (as shown on project drawings) with GVL placed on the upper bench above water table areas.



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PHOTOGRAPHIC LOG
Photo #4 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/7/15

Direction Taken:

Looking east along SA-6 cap (Panel 123 / 125 seam

Description:

ESI collecting destruct sample DS-28 (fusion) along Panel 123 / 125 seam as per project specs



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PHOTOGRAPHIC LOG
Photo #5 (10/8/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/8/15

Direction Taken:

Looking northeast toward eastern end of SA-6

Description:

ESI deploying geomembrane panels over GVL and GCL (as per project specs).



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PHOTOGRAPHIC LOG
Photo #6 (10/8/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/8/15

Direction Taken:

Looking east at eastern end of SA-6 (along Route 440).

Description:

ESI conducting fusion welding along Panel Seams 132/133 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #7 (10/8/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

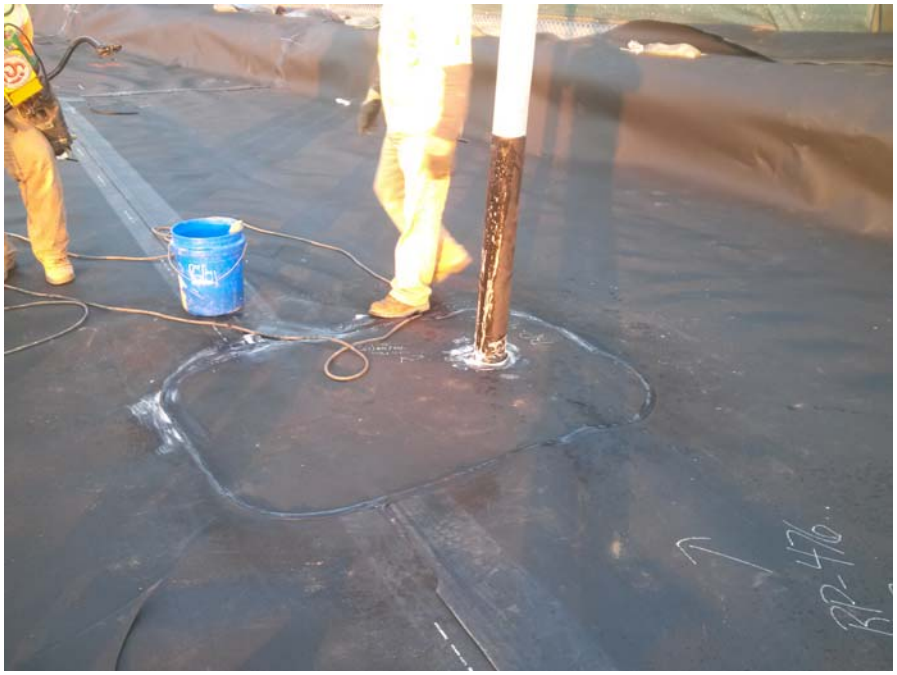
Date:
10/8/15

Direction Taken:

Looking northeast along SA-6

Description:

Pipe boot PZ-12 completed with extrusion welds and vacuum box tested to confirm integrity (as per project specs).



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PHOTOGRAPHIC LOG
Photo #8 (10/9/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6 (at piezometer PZ-12)

Description:

ESI placing final butyl seal around piezometer PZ-12



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PHOTOGRAPHIC LOG
Photo #9 (10/9/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/9/15

Direction Taken:

Looking south along SA-6

Description:

ESI placing final 1-inch band clamp around Manhole #4 with final butyl seal applied (as per project specs).



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PHOTOGRAPHIC LOG
Photo #10 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
10/12/15

Direction Taken:

Looking south along SA-6 (at RP-487)

Description:

ESI conducting extrusion welding (as per project specs).



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PHOTOGRAPHIC LOG
Photo #11 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI conducting vacuum box testing (as per project specs) for RP-487



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PHOTOGRAPHIC LOG
Photo #12 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI cutting destruct sample DSX-15 from RP-487 to confirm integrity of welds.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/29/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #34**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #120 installed on 9/25/15 (located at approximate Sta. 3+30) running approximately 80 ft. east to Sta. 2+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #114 (approximate Sta. 4+50) to approximate Sta. 3+80 (Panel #118 placed on 9/24/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010072 – Approximately 8 ft. removed
    - Roll #64021010064 – Roll not on inspection list. Approximately 30 ft. removed due to damage observed from forklift
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #120 (located at approximate Sta. 3+30) to approximate Sta. 2+50. Refer to *Soil Subgrade Approval* forms from 9/29/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/29/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 3+30 to Sta. 2+50.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
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- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 3+30 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.
- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #120 on 9/25/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-120, P-121, P-122, P-123, P-124, and P-125) by ESI. Note: During placement of geomembrane panel P-123, the roll of geomembrane terminated within the SA-6 approximately 20 ft. from the southern end of the cap. Thus an additional panel (P-124) was required to complete the geomembrane run from north to south.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/29), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 2+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/29/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted patch/ repair work for the panels installed.
- A total of eleven repairs (RP-445 through RP-455) were observed and fixed (according to the project specifications) from Panels #121 through Panel #125 (repair / detailing work conducted on panels installed on 9/24/15). Refer to 9/29/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. No non-compliance issues were identified as patch / repair work completed was custom fit repairs to allow geomembrane to conform to SA-6 contours.
- No destructive samples were collected from 9/29/15
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of custom fit repairs to allow the geomembrane to conform to the SA-6 contours.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/29/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, and 9/25/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/29/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 9/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/29/15
A5 – Subgrade Approval	Sheet 24 & ESI (9/29/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/29/15.
A7 – Panel Placement Log	Page 27	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/29/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected for 9/29/15
A9 – Seam/Non-Destruct. Test Log	Pages 27-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/29/15
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/29/15
A11 – Conformance COC		N / A for 9/29/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected from 9/29/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected from 9/29/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered from 9/29/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/07/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	60/72° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #35**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and patch / repair work associated with panels placed from 9/29/15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for minor wrinkles from panels previously placed on 9/29/15 (Panels 121 – 125). During the patch / repair work it was observed that the GCL underlying the geomembrane panels was hydrated with standing water present at two areas:
    - Area 1 was comprised of the drainage / utility swale located along the southern end of SA-6 (approximate Sta. 3+50 to Sta. 2+60). At this area, a sump pump pit was located immediately outside of SA-6 cap to the south. During the storm events over the weekend, this pump at one point shut down thus causing a build-up (ponding) of water that extended laterally into the swale and hydrating the GCL.
    - Area 2 was located along the northern end of the cap (approximate Sta. 4+00 to Sta. 3+40) along the SCB wall. During the storm events water from the adjacent roadway (higher elevation than the SA-6 cap as final grading has not yet been completed) ran along the edges of SA-6 causing some soil washout, which allowed the water to infiltrate laterally over the SCB wall and onto the lower portion of SA-6.
- For both of these areas, the geomembrane cap was pulled back to expose the hydrated GCL. The GCL was then cut and removed to expose the underlying soil subgrade. Visual observation of the subgrade showed that the soil was in good condition (firm and unyielding) with no wet or wash out areas observed. New GCL was then placed in these areas with minimum of 1 ft. of overlap and granular bentonite placed along the seams as per project specifications. Refer to *10/7/15 Photograph Log* for supporting Site photos.
- Once the new GCL was placed, the geomembrane panels were patch / repaired (as required) over these areas.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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- A total of twenty repairs (RP-456 through RP-475) were observed and fixed (according to the project specifications) from Panels #119 through Panel #122 (repair / detailing work for replaced GCL on panels installed from 9/29/15). Refer to 10/7/15 *Repair Report.* The majority of these repairs were patch / repairs associated with the removal and replacing of the hydrated GCL. These repairs were identified as subgrade irregularities on the *Repair Report,* and were identified as non-compliance issues on *Sheet #9* and *Sheet #10 Notice of Non-Compliance* forms, respectively. Note: RP-457 which consisted of a pipe boot for GV-0 was marked in the field and noted on the Repair Report (as RP-457), however the boot and repair itself has not yet been completed.
- Two destructive samples were collected from 10/7/15. Destruct sample DS-28 (fusion) was collected from Panel #123/125, and sample DSX-12 was collected from RP-459 (Panel #123).
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Subgrade irregularity (hydrated GCL) identified as repairs RP-458 through RP-473 on *Repair Log*
    - GCL underneath geomembrane liner along southern end SA-6 (swale) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final) and failure of sump pump in area during storm. Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were completed following project specs and are further defined on *Sheet 9 Notice of Non-Compliance*
- Non-Conformance No. 10 (Sheet #10) – Subgrade irregularity (hydrated GCL) identified as RP-474 and RP-475 on *Repair Log*
    - GCL underneath geomembrane liner along northern end of SA-6 cap (along SCB wall) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were patched/repaired following project specs as further defined on *Sheet 10 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 7 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-28 and DSX-12.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, and 9/29/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/7/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 10/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/7/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/7/15
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/7/15.
A7 – Panel Placement Log		N / A no panels placed on 10/7/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected form 10/7/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 10/7/15
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/7/15
A11 – Conformance COC		N / A for 10/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A12 – Destructive Seam Field Test	Page 3	Updated with destruct sample information from 10/7/15
A13 – Destruct. Sample Summary	Page 3	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance	Sheet #9 and Sheet #10	Two non-compliance forms completed (Sheet #9 and Sheet #10) for cutting and removal of hydrated GCL

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	10/08/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/77° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #36**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #125 installed on 9/29/15 (located at approximate Sta. 2+50) running approximately 100 ft. east to Sta. 1+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #118 (approximate Sta. 3+80) to approximate Sta. 2+50 (Panel #125). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #125 (located at approximate Sta. 2+50) to approximate Sta. 1+50. Refer to *Soil Subgrade Approval* forms from 10/08/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 10/08/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 2+50 to Sta. 1+50.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 2+50 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project

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specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.

- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #125 on 9/29/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of ten varying panel lengths were placed by ESI (Panels #126-134). Note: the dimensions of these panel lengths varied as the geomembrane panels were conformed to fit along the eastern end of the SA-6 cap.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (10/8), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 1+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (10/08/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted minor patch/ repair work for the panels installed (pipe boots PZ-12).
- A total of one repair (RP-476) was completed (according to the project specifications) for Panel #132 (pipe boot PZ-12). Refer to 10/8/15 *Repair Report* for additional details on the pipe boot. Note: no non-compliance issues were observed during the geomembrane placement and testing conducted on 10/8/15.
- One destructive sample was collected from 10/8/15. Destruct sample DS-29 (fusion) was collected from Panel #128/132 seam.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of pipe boot installations around PZ-12.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/8/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-29.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, and 10/07/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-28, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/8/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/8/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval	Sheet 25 & ESI (10/8/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/8/15.
A7 – Panel Placement Log	Pages 28-29	One panel placement log provided by ESI and confirmed by Langan for prewelds completed on 10/8/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/8/15
A9 – Seam/Non-Destruct. Test Log	Pages 28-30	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 10/8/15
A10 – Repair Log	Page 23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 10/8/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/8/15
A13 – Destruct. Sample Summary	Page 3	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/8/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/09/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/75° F, Clear, Overcast, PM T'Storm
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1730

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #37**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and to eastern end of SA-6, and patch / repair work associated with panels placed from 10/8/15 (Panels #126-134).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for panels previously placed on 10/8/15 (Panels #126-134). A total of nine repairs (RP-477 through RP-485) were observed and fixed (according to the project specifications) from Panels #126 through Panel #134. Refer to 10/9/15 *Repair Report* for additional details. The majority of these repairs were custom fit details (allow the geomembrane to conform to the SA-6 contours) or seam joint repairs (joints where non-destructive testing was completed). Repairs were patched, sealed with an extrusion weld, and vacuum box tested (according to project specs).
- Two destructive samples were collected from 10/9/15. Destruct sample DSX-13 (extrusion) was collected from RP-477 (Panel #125) and DSX-14 (extrusion) was collected from RP-480 (Panel #132).
- Upon completion of the patch / repair work, ESI completed the final monitoring well, piezometer, and gas vent boots by placing the final butyl sealant around the top of the boot. Additionally, 1-inch pipe bands were placed around the conical Access Manholes (as per project specs).
- With the pipe boots completed, ESI deployed GDL from Panel #125 to Panel #134 (panels placed on 10/9/15). GDL was placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.
- Note: As per the AmecFW GDL Cover Soil Siltation Evaluation and Mitigation Measures Memo (Memo) submitted October 2015, three areas in the field were identified where GDL was exposed and silts were deposited directly onto the GDL. In response to the protective cover soil siltation, three new pieces of GDL were placed directly over the potentially impacted areas to assist in drainage. Additional details of these areas and mitigation measures are further described in the AmecFW Memo, with supporting photographs provided.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.
- Upon completion of the daily activities, ESI demobilized from the Site, as SA-6 capping activities were completed.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as patch / repair work completed consisted of custom fit repairs and seam joint patches to allow the geomembrane to conform to the SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1, and Manhole #2, Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DSX-13 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, and 10/08/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue with protective cover soil placement along eastern end of SA-6.
- Ensure destruct samples are in compliance with project specs and complete associated paperwork and construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/9/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/9/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/9/15.
A7 – Panel Placement Log		N / A no panels placed on 10/9/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/9/15
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/9/15
A11 – Conformance COC		N / A for 10/9/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/9/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/9/15
A14 – Penetration & Edge Form	Sheets #1-18	Final penetration & edge forms completed for piezometers, wells, gas vents, and access manholes.
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/12/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	72° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	1520 – 1720

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #38** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with a failed destruct test (DSX-13) for RP-477 located on Panel #125.
- Based on results of the laboratory destruct testing, 1 of 5 specimens exhibited a peel value less than the 66 lb/in value allotted (as per the project specs) for destruct sample DSX-13. Based on this one failure anomaly, the repair associated with DSX-13 (RP-477) was covered with a new patch, welded, and vacuum box tested (as per project specs). In addition, a new destruct sample DSX-15 was collected to confirm the integrity of the new welds associated with the new patch. Note: the average of the 5 peel specimens complied with the project specs (total of 92 lb/in).
- Site activities commenced with ESI completing patch / repair work for RP-477. A new 5 ft. by 15 ft. patch was placed over the repair, sealed with an extrusion weld, and vacuum box tested as per project specs. Once the new repair (RP-487) was complete, a new destruct sample, DSX-15, was collected to confirm the integrity of the weld.
- One destructive sample was collected from 10/12/15. Destruct sample DSX-15 (extrusion) was collected from RP-487 (placed over RP-477). Subsequent laboratory testing yielded peel and shear values that were in compliance with the project specs.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed destruct sample (DSX-13) collected from RP-477 from Panel #125 (failed one of the five specimens for peel testing)
    - Geomembrane patch was placed over RP-477, welded, and vacuum box tested (as per project specs). Additionally, a new destruct sample (DSX-15) was collected from the new patch (RP-487) to confirm the integrity of the new weld. This repair was noted as a failed destruct sample and was completed following project specs and as further defined on *Sheet 11 Notice of Non-Compliance.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 10/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, and 10/09/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-14. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13. Subsequent patch / repair work defined within this report for the failed destruct sample.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Ensure new destruct sample (DSX-15) adheres to project specifications. Subsequent review of the data yielded peel and shear values that were in compliance with the project specs.
- Complete associated paperwork and begin construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/12/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 10/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/12/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/12/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/12/15.
A7 – Panel Placement Log		N / A no panels placed on 10/12/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/12/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/12/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/12/15
A11 – Conformance COC		N / A for 10/12/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/12/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/12/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 10/12/15
A16 – Notice of Non-Compliance	Sheet #11	One non-compliance issue encountered on 10/12/15 and documented on *Sheet #11 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 2, 2015

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☒ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☒ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance		X		
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/1/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 02, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Scrap white fabric on the ground
2	IA2Q4A1AL8	Screenings berm requires maintenance
3	IA2Q4A1AL8	Silt fence around EA-8 requires maintenance. Barrels and orange fencing should be secured or relocated.
4	IA2Q4A1AL8	Sediment has accumulated on the EA-5 roadway. King berm requires maintenance or removal. Catch basin filter fabric requires replacement
5	IA2Q4A1AL8	Silt fence is required around the EA-4 excavation. Wind screen fence posts needs to be fixed, it has been dislodged.
6	IA2Q4A1AL8	Silt fence requires maintenance
7	IA2Q4A1AL8	Silt fence laying on the ground
8	IA2Q4A1AL8	Silt fence requires maintenance
9	IA2Q4A1AL8	Silt fence requires maintenance, rolls of GDL/GVL scattered along the roadway, celgene screenings requires sediment control
10	IA2Q4A1AL8	Silt has overtopped the berms along the eastern section of the Surcharge stockpiles on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 10/1/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	DONE	10/2/15 (RA1)

Construction Manager: _____ **Date:** 10/08/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 9, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/09/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 09, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Several spill pallets in the SA-6 South mechanics area have filled with storm-water.
2	IA2Q4A1AL8	Exclusion Zone fencing at on the western side of the SA-6 North trash pit is down and is not adequately marked.
3	IA2Q4A1AL8	Orange warning fencing around the EA-5 excavation is down and requires repair
4	IA2Q4A1AL8	Filter fabric in the catch basin to the north of the SA-6 North trash pit is blinded.
5	IA2Q4A1AL8	Silt fence along the northern access road on SA-7 requires maintenance/repair.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/09/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain the accumulated storm-water from the spill pallets as required.	RAD 10/13/15
2	Reinstall or repair the orange EZ fencing and install additional signage as needed.	
3	Re-establish the warning fencing around the open excavation.	
4	Replace the catch basin filter fabric as required.	
5	Repair the silt fencing as needed.	

Construction Manager: _____ Date: 10/14/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 16, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		3
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/16/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 16, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and other debris is present along the north side of Kellogg Street and along the Kellogg Street jughandle
2	IA2Q4A1AL8	The hazardous material pile in the SA-6 North cap area is not covered
3	IA2Q4A1AL8	Due to sediment build-up, stormwaler in the northeast corner of the sedimentation basin Exclusion Zone no longer flows to the sump in that area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/16/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up garbage/debris as required.	10/19/15 RHS
2	Tarp the hazardous material pile as required.	↓
3	Re-establish a swale to direct stormwater run-off to the sump	↓

Construction Manager: _____ Date: 10/21/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 23, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 23, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence surroundinng the SA-6 South cap area is down in some locations and requires maintenance or replacement.
2	IA2Q4A1AL8	Site sediment has accumulated on the Rt. 440 sidewalk outside of SA-6 South.
3	IA2Q4A1AL8	Silt dams in the area of SA-6 North where water main work was recently completed have been damaged and are no longer functional.
4	IA2Q4A1AL8	Garbage is present in the Rt. 440 pedestrian walkway on SA-6 North
5	IA2Q4A1AL8	Silt fence on the southern side of the SA-6 North cap area is down in some locations and requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: 10/23/15 Signature Date:

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the silt fence as needed to restore function.	berms are present no need for silt fence RAD
2	Shovel up and remove all site-related sediment on the Rt. 440 sidewalk.	next week
3	Repair or replace the silt dams as needed to restore function. Shovel up and remove any soil material between the new silt dams and the pedestrian walkway.	RAD 10/28/15
4	Pick up and remove accumulated refuse from the walkway	↓
5	Repair or replace the silt fence as needed to restore function.	

Construction Manager: Date: 10/29/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 30, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/30/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 30, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
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GWTP (SA-6 North)
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RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fabric in a storm drain catch basin on the western end of Kellogg Street is torn.
2	IA2Q4A1AL8	**REPEAT:** Site sediment has accumulated on the Rt. 440 sidewalk outside of SA-6 South.
3	IA2Q4A1AL8	Silt fence along the JCMUA perimeter, due north of the EA-5 excavation, has been overtopped with historic fill material and requires maintenance or replacement.
4	IA2Q4A1AL8	Exclusion Zone fencing is absent along the southern side of the EA-5 excavation area.
5	IA2Q4A1AL8	Silt fence surrounding the Novartis stockpile area requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 10/30/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric in the catch basin as required.	MM 11-9-15
2	Shovel up and remove all site-related sediment on the Rt. 440 sidewalk.	MM 11-9-15
3	Remove the historic fill material from the installed silt fence, repair or replace as required.	MM 11-9-15
4	Install Exclusion Zone fencing and signage as required.	Completed 11/05/15
5	Repair or replace the silt fence as needed to restore function.	MM 11-9-15

Construction Manager: _____ **Date:** 11/09/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (Submitted October 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 20, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the September 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
9	01	15	9	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,610	85,210 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.75	0.82	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.132	0.132	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris HF

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

10/19/2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
9	01	15	9	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,328,298 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 45,746,328

DATE	BOD (mg/l)	TSS (mg/l)
9/10/2015	5.1	6.6

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris VP	John J. Morris	(973) 455-4003
		DATE 10/19/2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: September, 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
9/1/2015	Angel Trujillo	43418030	43497868	79,838	0.079838	7.54	1.160									0.77
9/2/2015	Angel Trujillo	43497868	43574466	76,598	0.076598	7.52	1.160									0.74
9/3/2015	Angel Trujillo	43574466	43650460	75,994	0.075994	7.20	1.160									0.74
9/4/2015	Angel Trujillo	43650460	43731984	81,524	0.081524	7.17	1.160									0.79
9/5/2015	Angel Trujillo	43731984	43812906	80,922	0.080922	7.12	1.160									0.78
9/6/2015	Angel Trujillo	43812906	43888751	75,845	0.075845	N/A	1.160									0.73
9/7/2015	Angel Trujillo	43888751	43964596	75,845	0.075845	7.23	1.160									0.73
9/8/2015	Angel Trujillo	43964596	44044350	79,754	0.079754	7.12	1.160									0.77
9/9/2015	Angel Trujillo	44044350	44122725	78,375	0.078375	7.17	1.160									0.76
9/10/2015	Angel Trujillo	44122725	44196996	74,271	0.074271	6.75	1.160	<5.2	5.1		<0.010	<0.015	<0.010	0.00021	<0.020	0.72
9/11/2015	Angel Trujillo	44196996	44278070	81,074	0.081074	7.23	1.160									0.78
9/12/2015	Angel Trujillo	44278070	44361752	83,682	0.083682	7.17	1.160									0.81
9/13/2015	Angel Trujillo	44361752	44436554	74,802	0.074802	N/A	1.160									0.72
9/14/2015	Angel Trujillo	44436554	44511356	74,802	0.074802	7.20	1.160									0.72
9/15/2015	Angel Trujillo	44511356	44588584	77,228	0.077228	7.12	1.160									0.75
9/16/2015	Angel Trujillo	44588584	44667980	79,396	0.079396	7.18	1.160									0.77
9/17/2015	Angel Trujillo	44667980	44745836	77,856	0.077856	7.08	1.160									0.75
9/18/2015	Angel Trujillo	44745836	44822084	76,248	0.076248	7.08	1.160									0.74
9/19/2015	Angel Trujillo	44822084	44907294	85,210	0.08521	7.10	1.160									0.82
9/20/2015	Angel Trujillo	44907294	44982294	75,000	0.075	N/A	1.160									0.73
9/21/2015	Angel Trujillo	44982294	45057294	75,000	0.075	7.07	1.160									0.73
9/22/2015	Angel Trujillo	45057294	45135636	78,342	0.078342	7.09	1.160									0.76
9/23/2015	Angel Trujillo	45135636	45212786	77,150	0.07715	7.15	1.160									0.75
9/24/2015	Angel Trujillo	45212786	45289888	77,102	0.077102	7.07	1.160									0.75
9/25/2015	Angel Trujillo	45289888	45368271	78,383	0.078383	7.15	1.160									0.76
9/26/2015	Angel Trujillo	45368271	45452107	83,836	0.083836	N/A	1.160									0.81
9/27/2015	Angel Trujillo	45452107	45535943	83,836	0.0838	6.95	1.160									0.81
9/28/2015	Angel Trujillo	45535943	45595082	59,139	0.059139	7.08	1.160									0.57
9/29/2015	Angel Trujillo	45595082	45673047	77,965	0.077965	7.05	1.160									0.75
9/30/2015	Angel Trujillo	45673047	45746328	73,281	0.073281	7.07	1.160									0.71
TOTAL				2,328,298	2.328298			<5.2	5.1		<0.010	<0.015	<0.010	0.00021	<0.020	
			High:	85,210											High:	0.82
			Average:	77,610											Average:	0.75

WW

JC3544

| Accutest Labs | | |

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-A		
Lab Sample ID:	JC3544-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1160	10	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	0.21	0.20	ug/l	1	09/11/15	09/11/15	VM	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	09/11/15	09/14/15	AP	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA37530
(2) Instrument QC Batch: MA37552
(3) Prep QC Batch: MP88942
(4) Prep QC Batch: MP88958

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-A		
Lab Sample ID:	JC3544-1	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	6.6	4.0	mg/l	1	09/11/15	KP	SM2540 D-11
pH [a]	7.00		su	1	09/10/15 19:30	HFM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-A		
Lab Sample ID:	JC3544-1A	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	5.1	3.4	mg/l	1	09/10/15 20:50	LS	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-B		
Lab Sample ID:	JC3544-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T211133.D	1	09/15/15	DC	n/a	n/a	VT8660
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.0	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	2.7	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	16.9	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.44	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.36	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	63.2	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.7	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.41	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Draft: 4 of 8

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-B		
Lab Sample ID:	JC3544-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	42.1	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		72-125%
2037-26-5	Toluene-D8 (SUR)	102%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	103%		74-115%
1868-53-7	Dibromofluoromethane (S)	104%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@873300 09:58 17-Sep-2015 Preliminary Data

Report of Analysis

Client Sample ID:	087-WWE-091015-B		
Lab Sample ID:	JC3544-2	**Date Sampled:**	09/10/15
Matrix:	AQ - Water	**Date Received:**	09/10/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	09/11/15 09:45	BM	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending October 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

12/11/2015
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 11, 2015

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-11

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from November 1 – November 30, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: November 2015 SA-6/7 Combined Monthly Progress Report No. 2015-11

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2015-11

Project SA-6 & 7 Remediation

November 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
11/13/15	Riverkeeper et al v. Honeywell International Inc. et al Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-10	The Honorable Robert G. Torricelli Office of the Special Master
11/17/15	E-mail from William Hague: S-3 Injection Event #25 Summary with Data	Ben Ross Kim Hosea Steve Egnaczyk
11/17/15	Special Master Meeting	N/A
11/19/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
11/24/15	Summary of Site 163, Additional Area G Sample SA-6 South, Site 163 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	11/8/15	11/15/15	11/22/15	11/29/15
Construction Management (AMEC)	8	9	9	6
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	27	28	28	29

Arecon/US Ecology Subcontractors	2	2	0	0
Langan	1	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	0	4	0
Century Electric	0	0	2	0
TOTAL STAFF	**44**	**45**	**49**	**41**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed screening of Celgene material for use as protective cover soils above geosynthetics.
- Conducted S-3 Mass Removal Injection Event No. 25 in well 088-IW-03.
- Completed installation of PW-3 extraction well and observation well OBS-7.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on November 12, 2015.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	11/8/15	11/15/15	11/22/15	11/29/15
Avg. Gallons Treated & Discharged (per day)	76,371	76,957	77,338	77,033
Average Flow (gpm) for Operating Period	55	56	56	53
Avg. Hours of Plant Operation	23	23	23	24
GWTP Influent Tanks (gal.)	4,430	5,186	4,953	4,856

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.

- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed cleaning and decommissioning of frac tanks, piping, and valves that were used at SA-6 South for collection and transfer of construction water to the treatment system located at SA-6 North.
- Continue pumping/dewatering of well points associated with Excavation Areas EA-2 and EA-3.
- Began excavation and backfilling of Excavation Areas EA-2 and EA-3. Contractor temporarily relocated the JCMUA water meter concrete vault within the EA-2/EA-3 excavation area. The vault was staged outside the limits of the EA-2/EA-3 excavation area.
- Completed backfilling EA-5 Excavation.
- Completed trash pit meadow mat repair activities to include installation of the sand-bentonite plug in the SA-6 North Stratum D repair area on the interior side to the vinyl sheets and placement of GCL.
- Completed excavating surficial historic fill in N1 area. A total of ~5,000 cubic yards was removed and stockpiled east of the Department of Public Works "H" building for subsequent sampling.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	150	21.72	3,258.35

2. EXCAVATION & BACKFILL PROGRESS

Description	Cells
Excavation Completed	Excavation Area N1, EA-2/EA-3 Volume Excavated - Total for Reporting Period: N1(4,964 CY) EA-2/EA-3(6,840 CY) / Total to Date: 24,611CY
Backfill in Progress	EA-5

3. BACKFILL MATERIALS USED

Source	Week Ending			
	11/8/15	11/15/15	11/22/15	11/29/15
Liberty I-5	1,787	1,399	71	504
Horizon C soils	1,600	1,209	3,501	0
Tilcon 1.5"	0	0	251.11	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in EA-2/EA-3. A total of 18 loads, totaling approximately 406 cubic yards was placed as temporary fill for bridge lift in EA-2/EA-3.

- Screened Celgene material was removed from the east side of the SA-6 South open space area during final grading of the protective cover soils. Approximately 1,530 cubic yards was removed from the cap area and transferred to the Celgene stockpile area.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Continued off-loading of remaining screened historic fill.
- Area 2N: Surcharging is 100% complete. Offloading is anticipated to be begin in December 2015.
- Area 3N: Completed installation of surcharge monitoring instrumentation.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Begin installation of wales to the temporary sheet pile along Route 440.

G. CAPPING OPERATIONS

- On November 4, 2014, liner crew was on site to address the remaining repair area identified near the SCB wall on the east side of the SA-6 Southopen space area.
- Completed placement of protective cover soils and demarcation tape over the geocomposite drainage layer.
- Continued fine grading of protective cover soils to include associated compaction testing on the SA-6 South open space area.
- Continued placement of root barrier and demarcation tape on the SA-6 Southopen space area.
- Began placement and grading of Horizon C soils (within future vegetated areas) and structural fill (within future roadway areas) of the SA-6 South open space area.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Pending	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete excavation and backfilling of Excavation Area EA-8.
- Complete Trash Pit Interior work activities.
- Continue EA-2/EA-3 excavation and backfilling activities.
- Begin Area 3N Surcharge material placement.
- Begin installation of the Contingent Groundwater Extraction System piping in Area 1N.

- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Continue placement of Horizon C soils on the SA-6 South open space area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 26 in well 088-IW-01 (completed December 7-9, 2015).
- Complete PW-3 force main/trench installation and associated piping connections back to GWTP
- Begin dewatering and excavation activities associated with Site 163 excavation within the residential footprint.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill
   - Progression Chart
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (conducted quarterly; not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update
    - Repair Log
11. Capping Update
    - SA-6 South Cap Subgrade Progress Map
    - Repair Log
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
    - 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted November 2015)
    - 12/2/15 PVSC Correspondence: Revisions to Sewer Use Permit #20630025
14. SA-6 North & South Design Change Tracking Log

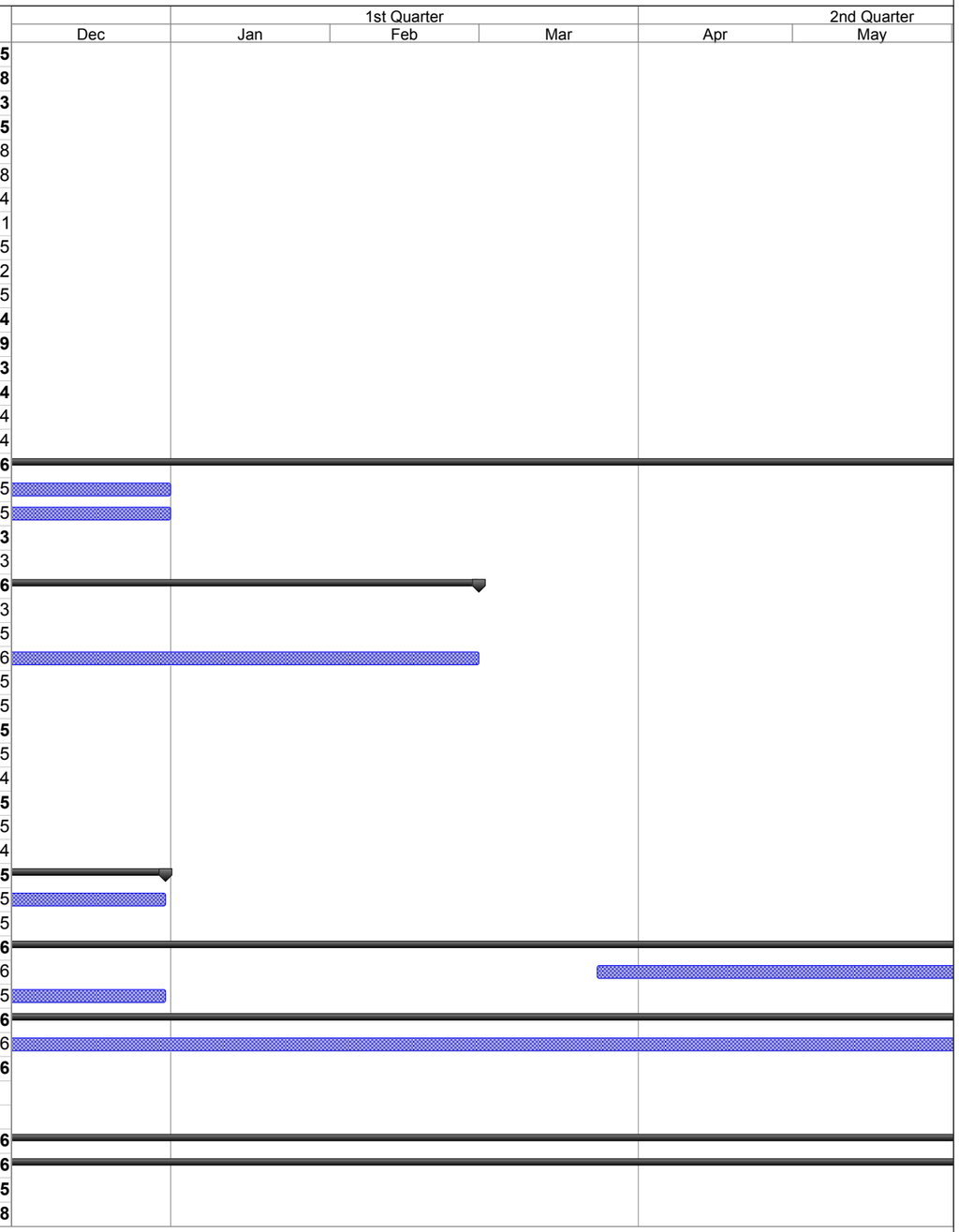
Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

Study Areas 6 and 7 Combined Progress Report No. 2015-11
Attachment 1: Schedule – 6 Month Look Ahead

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 11/30/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Grading slopes in open space area.



Site Photograph 2: Grading utility corridor soils in open space area.



Site Photograph 3: Loading of material for offsite disposal.



Site Photograph 4: Loading of materials for onsite reuse.



Site Photograph 5: Placing clean fill over white root barrier.



Site Photograph 6: Screener removes larger stone material.



Site Photograph 7: Unloading clean imported soils.



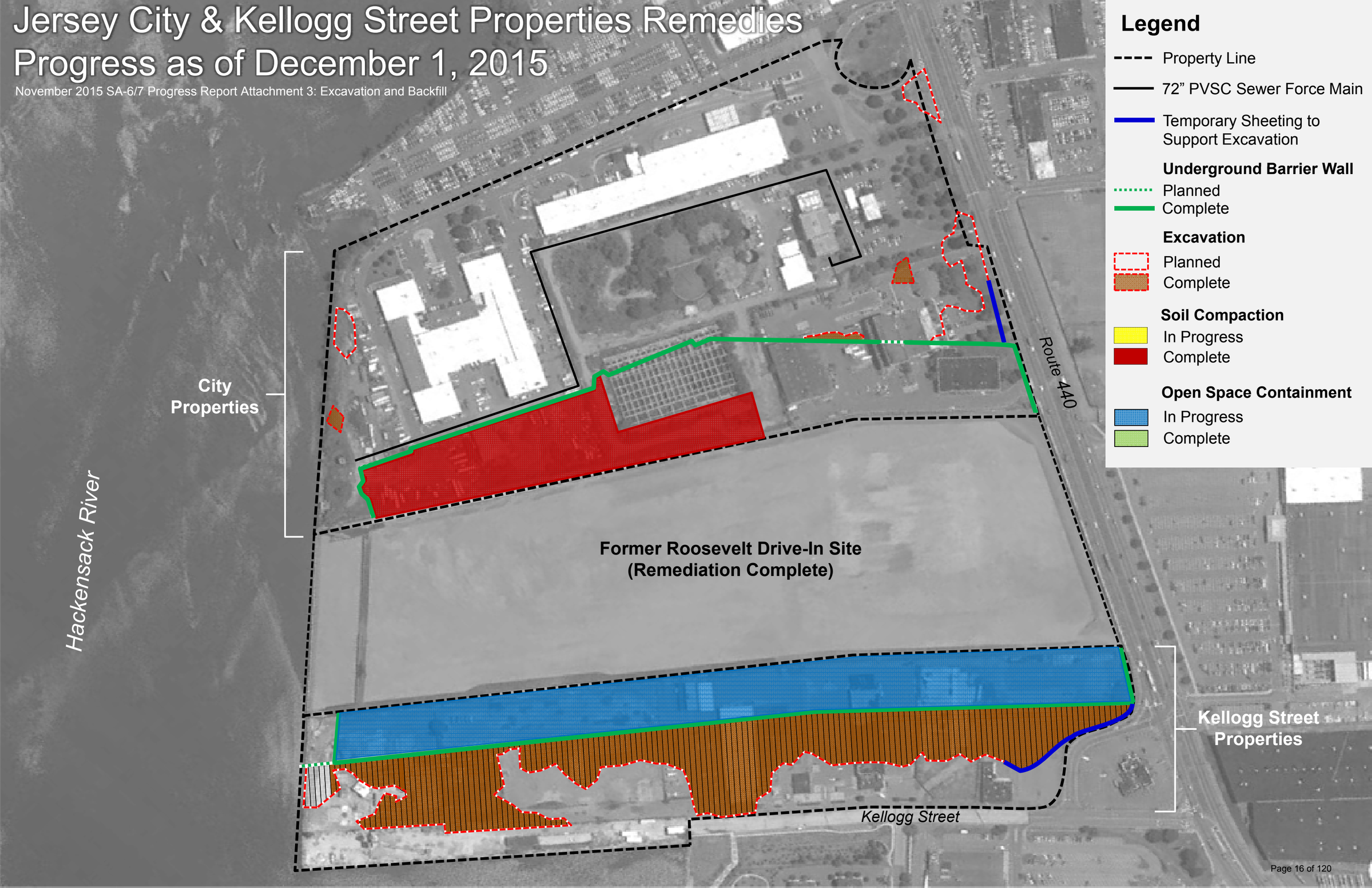
Site Photograph 8: White geotextile placed as root barrier.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of December 1, 2015

November 2015 SA-6/7 Progress Report Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEEP WELL DATA (DW-7)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
11/18/15	24	N/A	N/A	11,500	11,500	8.0	Flow meter not installed, tank measured
11/19/15	24	N/A	N/A	11,000	22,500	7.6	
11/20/15	24	N/A	N/A	11,000	33,500	7.6	
11/22/15	48	N/A	N/A	11,000	44,500	3.8	
11/23/15	24	N/A	N/A	11,000	55,500	7.6	
11/24/15	24	N/A	N/A	10,500	66,000	7.3	
11/25/15	24	N/A	N/A	10,500	76,500	7.3	
11/29/15	96	N/A	N/A	40,000	116,500	6.9	
11/30/15	24	N/A	N/A	10,500	127,000	7.3	

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
09/30/15	7:30	15:00	7:30	36,238.88	36,367.55	128,670	36,223,700	
10/01/15	7:00	13:30	6:30	36,367.55	36,413.58	46,030	36,269,730	
10/02/15	7:00	15:00	8:00	36,413.58	36,458.01	44,430	36,314,160	
10/03/15	8:00	13:00	5:00	36,458.01	36,558.18	100,170	36,414,330	
10/04/15	9:30	13:00	3:30	36,558.18	36,598.54	40,360	36,454,690	
10/05/15	7:30	12:00	4:30	36,598.54	36,653.18	54,640	36,509,330	
10/06/15	7:30	11:30	4:00	36,653.18	36,704.47	51,290	36,560,620	
10/09/15	7:30	14:00	6:30	36,704.47	36,777.92	73,450	36,634,070	
10/15/15	8:00	15:00	7:00	36,777.92	36,888.81	110,890	36,744,960	
10/21/15	8:00	15:00	7:00	36,888.81	36,951.56	62,750	36,807,710	
10/23/15	11:00	14:30	3:30	36,951.56	36,973.34	21,780	36,829,490	
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	
11/02/15	8:00	13:00	5:00	37,092.42	37,158.61	66,190	37,014,760	PVSC Compliance Sample Collected
11/04/15	8:30	14:30	6:00	37,158.61	37,207.47	48,860	37,063,620	
11/06/15	12:00	15:00	3:00	37,207.47	37,237.70	30,230	37,093,850	
11/18/15	8:00	15:00	7:00	37,237.70	37,375.84	138,140	37,231,990	
11/22/15	9:00	13:00	4:00	37,375.84	37,440.68	64,840	37,296,830	
11/23/15	9:30	14:30	5:00	37,440.68	37,505.15	64,470	37,361,300	
11/25/15	7:15	13:45	6:30	37,505.15	37,566.11	60,960	37,422,260	
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

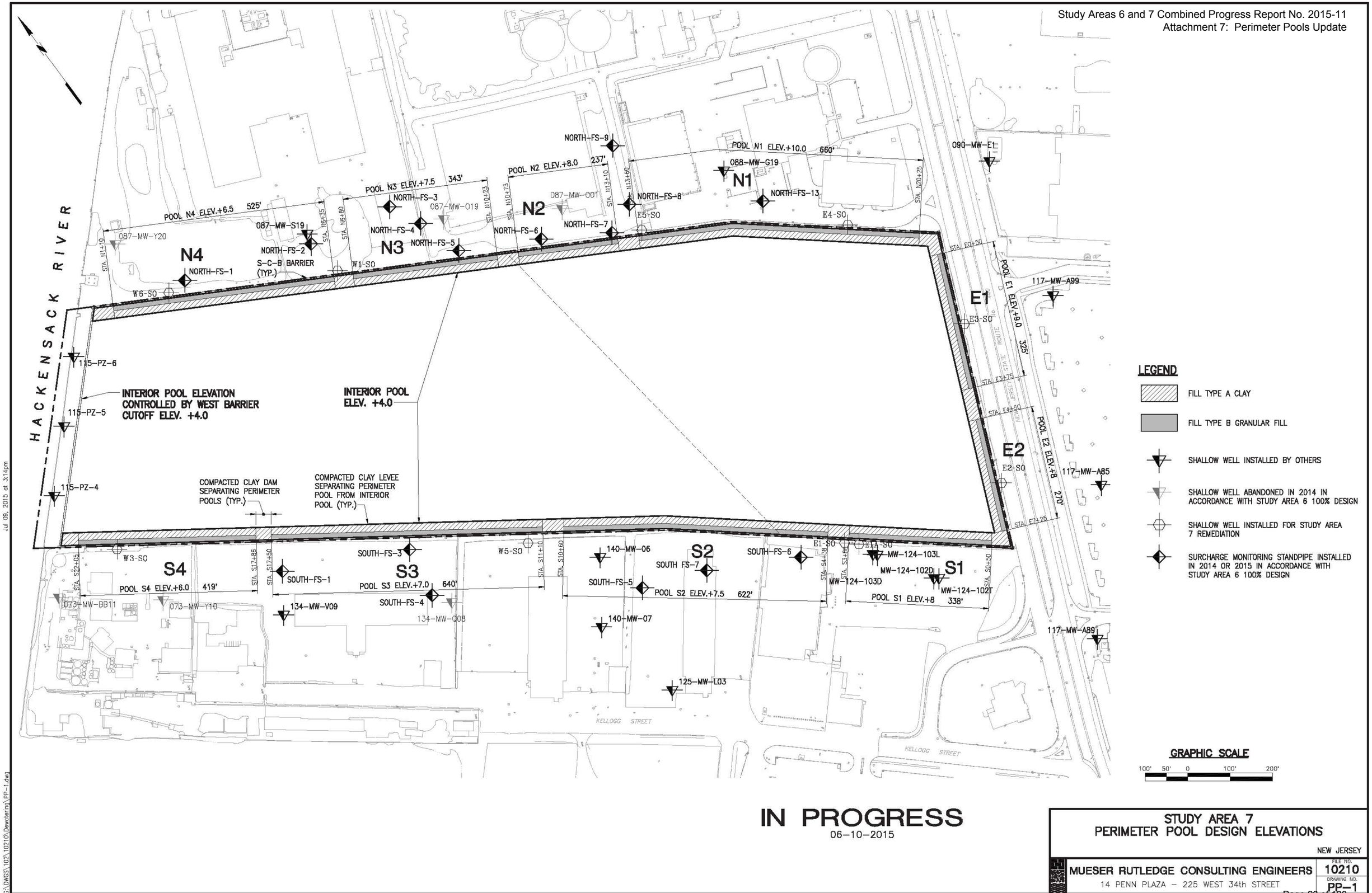
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	Yes		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	Yes		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	Yes		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	Yes		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	Yes		
				087-EA5-20-b2	9/11/2015	11:30	6.8	Yes		
				087-EA5-20-b3	9/11/2015	11:35	8.3	Yes		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	Yes		
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		
3S cap material	<240	124-3S-EX2-a	780	124-3S-EX2-a1	9/28/2015	--	50		Yes	
				124-3S-EX2-a2	9/28/2015	--	48.5		Yes	
				124-3S-EX2-a3	9/28/2015	--	82.3		Yes	
				124-3S-EX2-a4	9/28/2015	--	785			Yes
3S Cap Material (under asphalt roadway)	<240	124-3S-Roadway-a	525	124-3S-Roadway-a1	9/28/2015	--	327			Yes
				124-3S-Roadway-a2	9/28/2015	--	2100			Yes
				124-3S-Roadway-a3	9/28/2015	--	1970			Yes
				124-3S-Roadway-a4	9/28/2015	--	5900			Yes
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		
3S cap material	<240	124-3S-EX3-a	1000	124-3S-EX3-a1	10/21/2015	--	3120			Yes
				124-3S-EX3-a2	10/21/2015	--	6820			Yes
				124-3S-EX3-a3	10/21/2015	--	5690			Yes
				124-3S-EX3-a4	10/21/2015	--	4300			Yes

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	--	<.5	*		
				087-1N-20-a2	10/28/2015	--	2.1	*		
				087-1N-20-a3	10/28/2015	--	<.48	*		
				087-1N-20-a4	10/28/2015	--	5.4	*		
				087-1N-20-b1	10/28/2015	--	1.0	*		
				087-1N-20-b2	10/28/2015	--	<2.0	*		
				087-1N-20-b3	10/28/2015	--	0.65	*		
				087-1N-20-b4	10/28/2015	--	<1.9	*		
				087-1N-20-c1	10/28/2015	--	<2.0	*		
				087-1N-20-c2	10/28/2015	--	<1.8	*		
				087-1N-20-c3	10/28/2015	--	<1.8	*		
				087-1N-20-c4	10/28/2015	--	<.51	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	--	<1.4	*		
				087-1N-20-d2	11/17/2015	--	9.5	*		
				087-1N-20-d3	11/17/2015	--	19.9	*		
				087-1N-20-d4	11/17/2015	--	<1.5	*		
				087-1N-20-e1	11/17/2015	--	<1.3	*		
				087-1N-20-e2	11/17/2015	--	<1.4	*		
				087-1N-20-e3	11/17/2015	--	<1.4	*		
				087-1N-20-e4	11/17/2015	--	<1.4	*		
				087-1N-20-f1	11/17/2015	--	<1.5	*		
				087-1N-20-f2	11/17/2015	--	<.93	*		
				087-1N-20-f3	11/17/2015	--	<.90	*		
				087-1N-20-f4	11/17/2015	--	<1.5	*		
				087-1N-20-g1	11/17/2015	--	<.95	*		
				087-1N-20-g2	11/17/2015	--	<.86	*		
				087-1N-20-g3	11/17/2015	--	<.96	*		
				087-1N-20-g4	11/17/2015	--	<1.3	*		
				087-1N-20-h1	11/17/2015	--	1.9	*		
				087-1N-20-h2	11/17/2015	--	<.92	*		
				087-1N-20-h3	11/17/2015	--	<1.4	*		
				087-1N-20-h4	11/17/2015	--	<.92	*		
				087-1N-20-i1	11/17/2015	--	<1.3	*		
				087-1N-20-i2	11/17/2015	--	<2.0	*		
				087-1N-20-i3	11/17/2015	--	<1.9	*		
				087-1N-20-i4	11/17/2015	--	<2.1	*		
				087-1N-20-j1	11/17/2015	--	<1.8	*		
				087-1N-20-j2	11/17/2015	--	<1.4	*		
				087-1N-20-j3	11/17/2015	--	<1.9	*		
				087-1N-20-j4	11/17/2015	--	<1.8	*		
				087-1N-20-k1	11/17/2015	--	<1.6	*		

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-k2	11/17/2015	--	<2.0	*		
				087-1N-20-k3	11/17/2015	--	<2.1	*		
				087-1N-20-k4	11/17/2015	--	<1.4	*		
				087-1N-20-l1	11/17/2015	--	<1.4	*		
				087-1N-20-l2	11/17/2015	--	<1.9	*		
				087-1N-20-l3	11/17/2015	--	<2.0	*		
				087-1N-20-l4	11/17/2015	--	<2.1	*		
				087-1N-20-m1	11/17/2015	--	<1.9	*		
				087-1N-20-m2	11/17/2015	--	<1.9	*		
				087-1N-20-m3	11/17/2015	--	<1.4	*		
				087-1N-20-m4	11/17/2015	--	<1.4	*		
				087-1N-20-n1	11/17/2015	--	<1.4	*		
				087-1N-20-n2	11/17/2015	--	<1.4	*		
				087-1N-20-n3	11/17/2015	--	<1.3	*		
				087-1N-20-n4	11/17/2015	--	<1.5	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

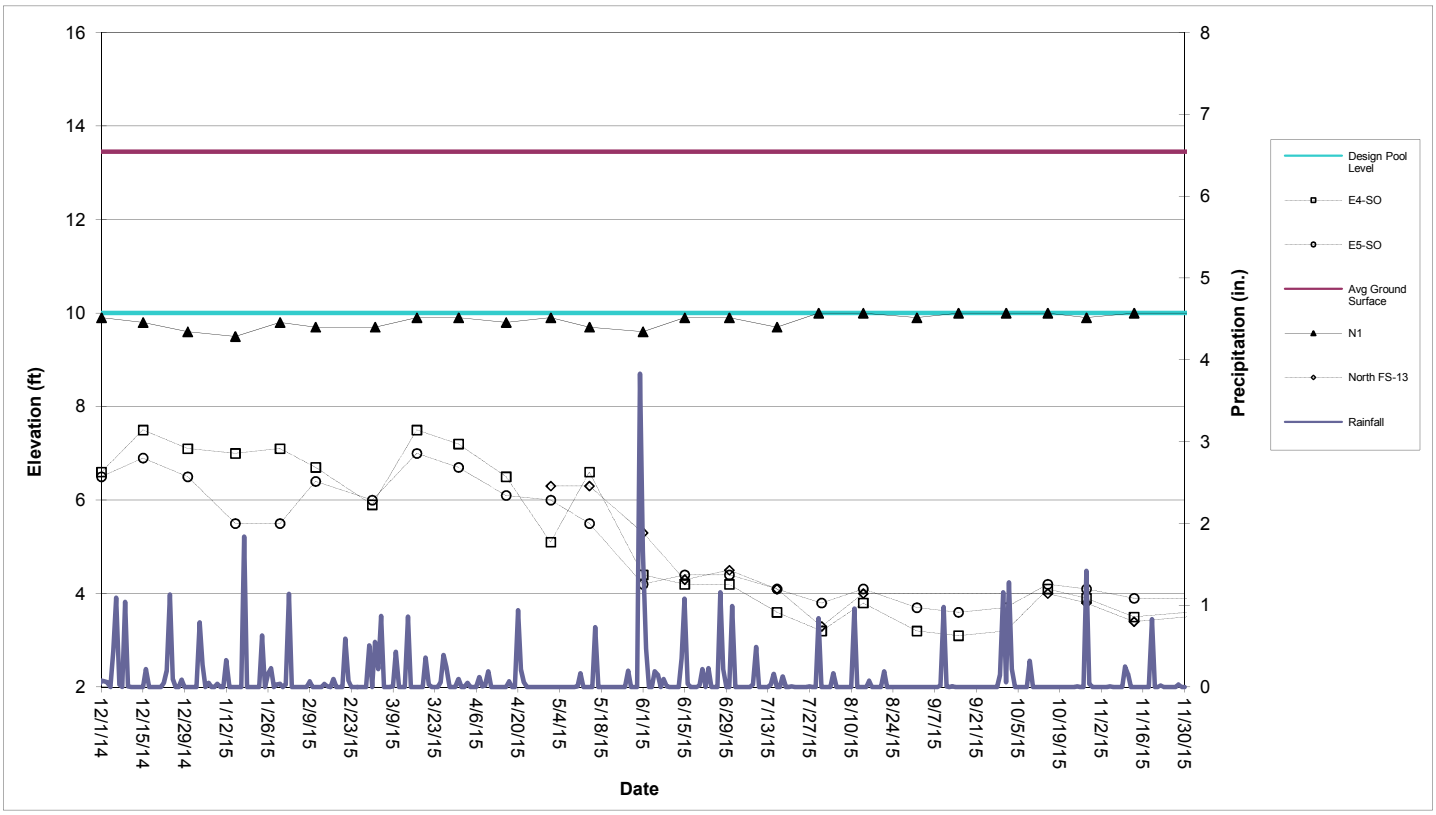
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

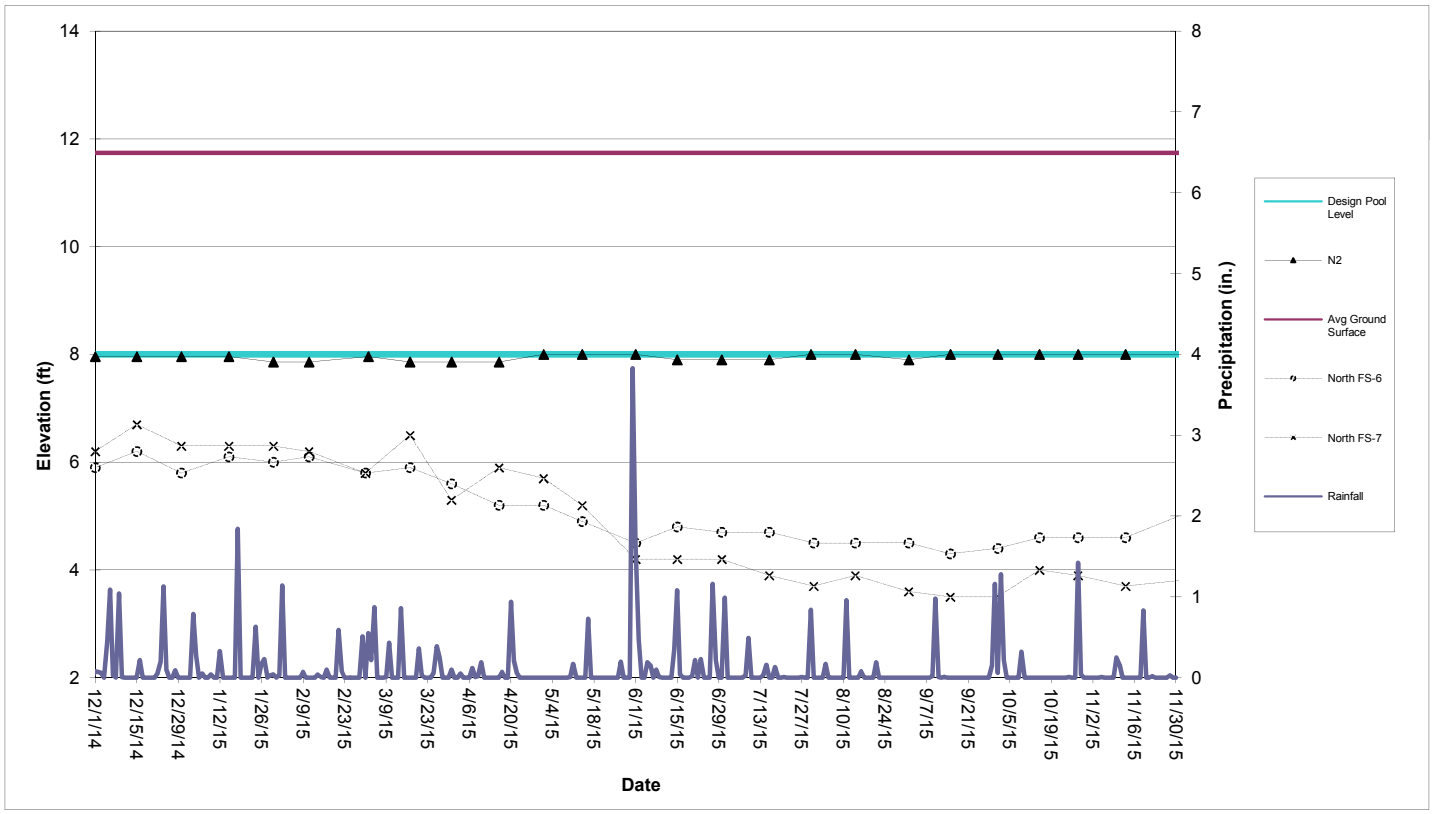
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

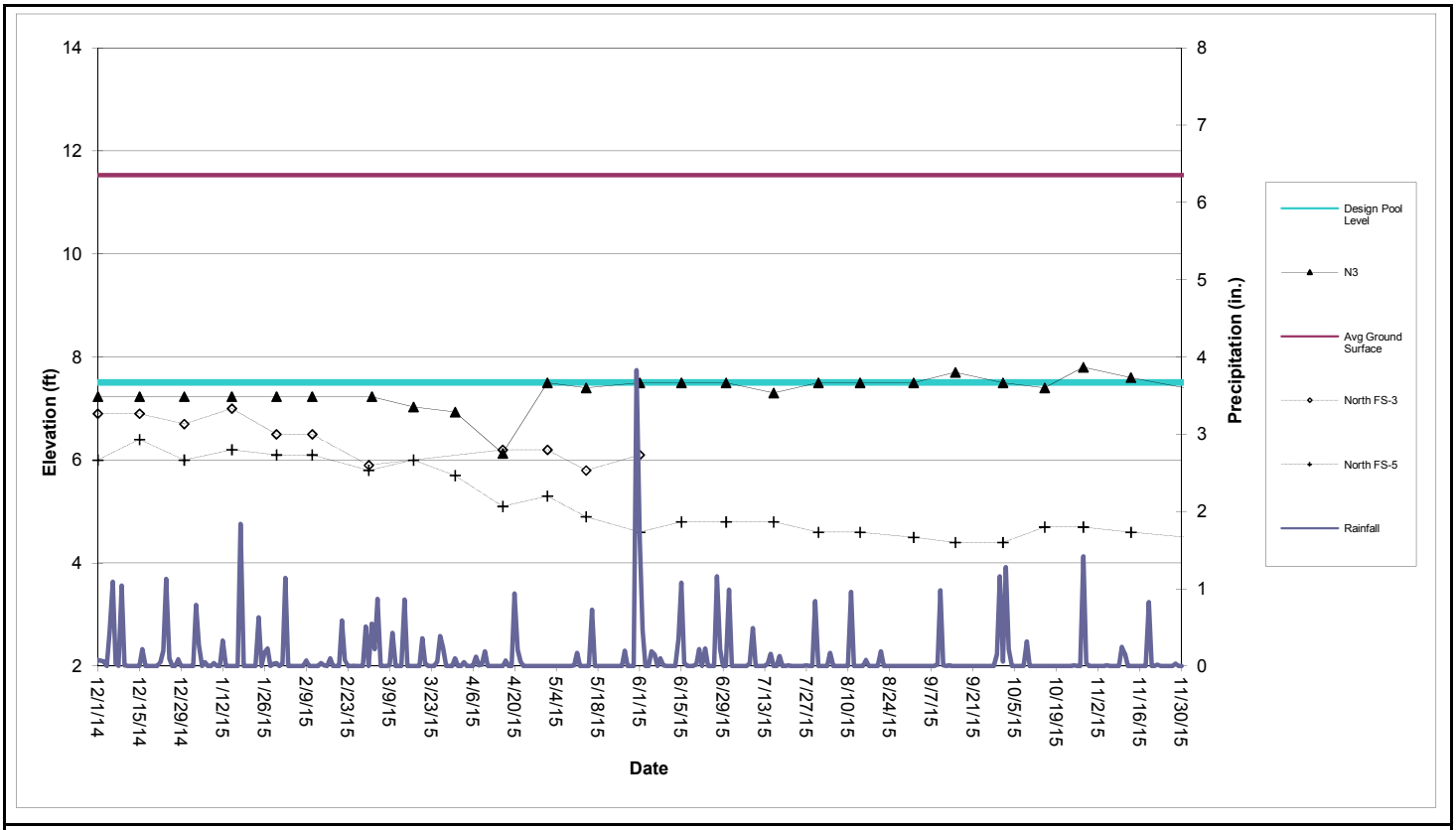
G:\DWGS\102\10210\Dewatering\PP-1.dwg
Jul 09, 2015 at 3:14pm
bboscaino



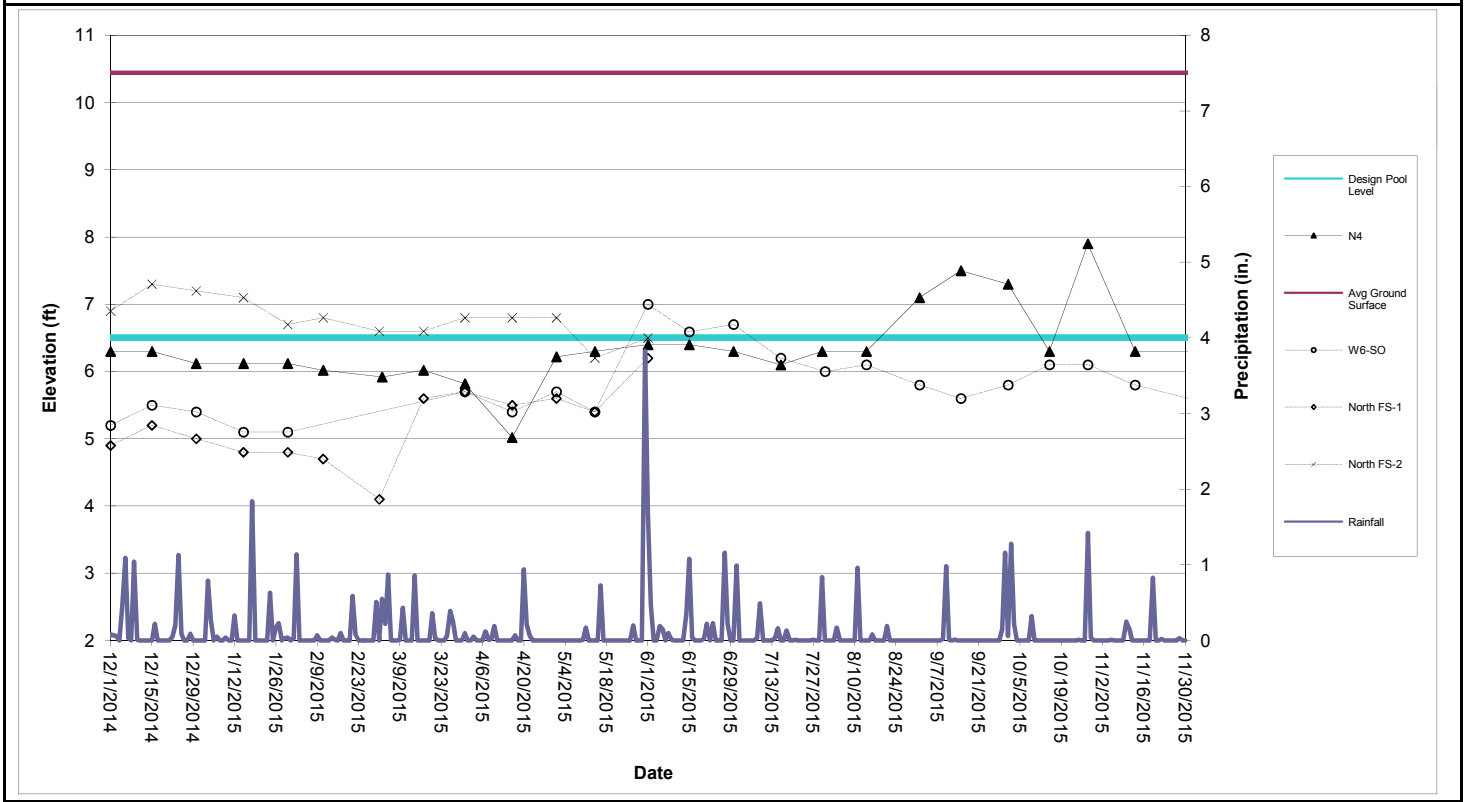
Perimeter Pool N1 (Sta. N13+60 to N20+25)



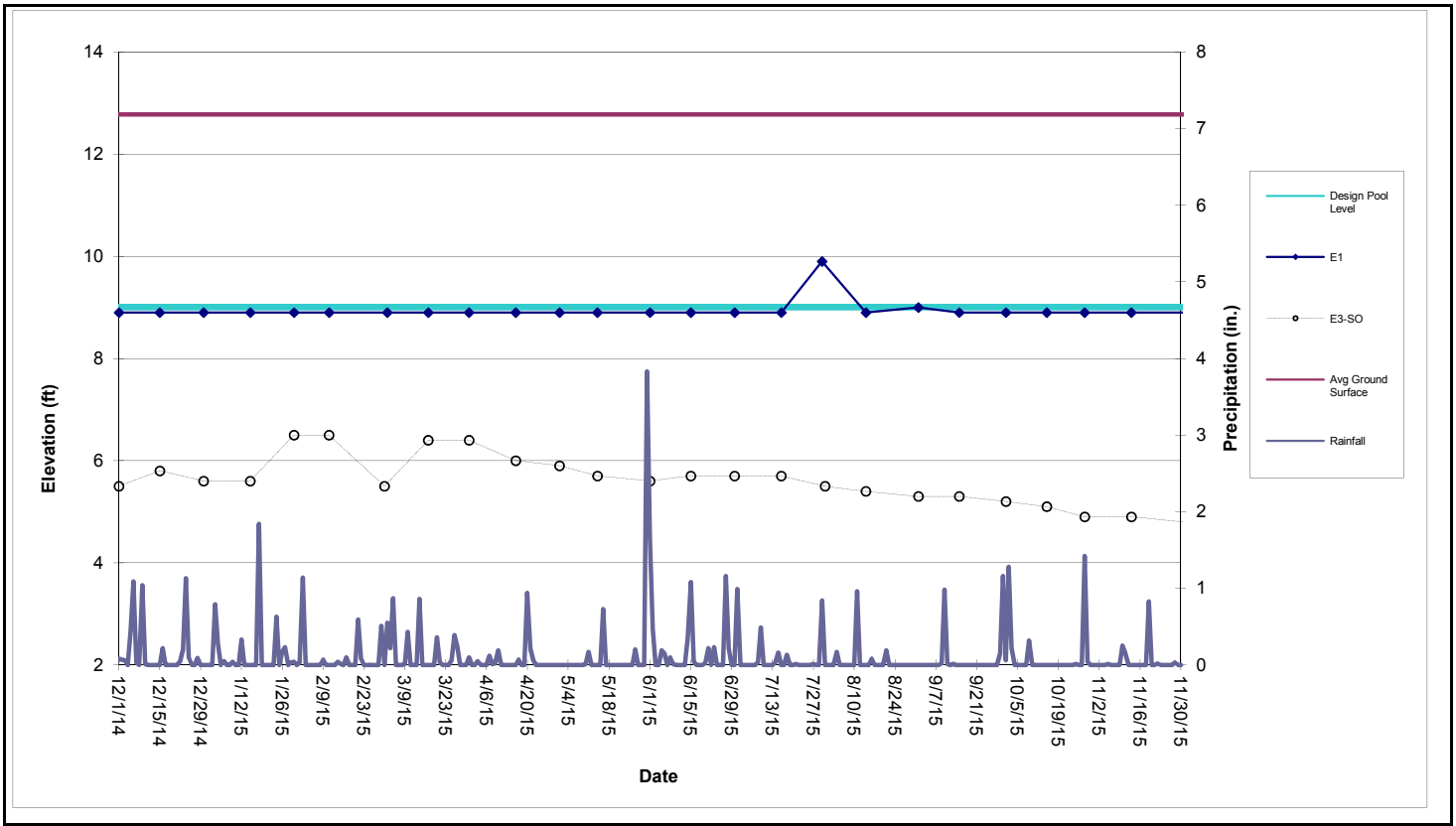
Perimeter Pool N2 (Sta. N10+73 to N13+10)



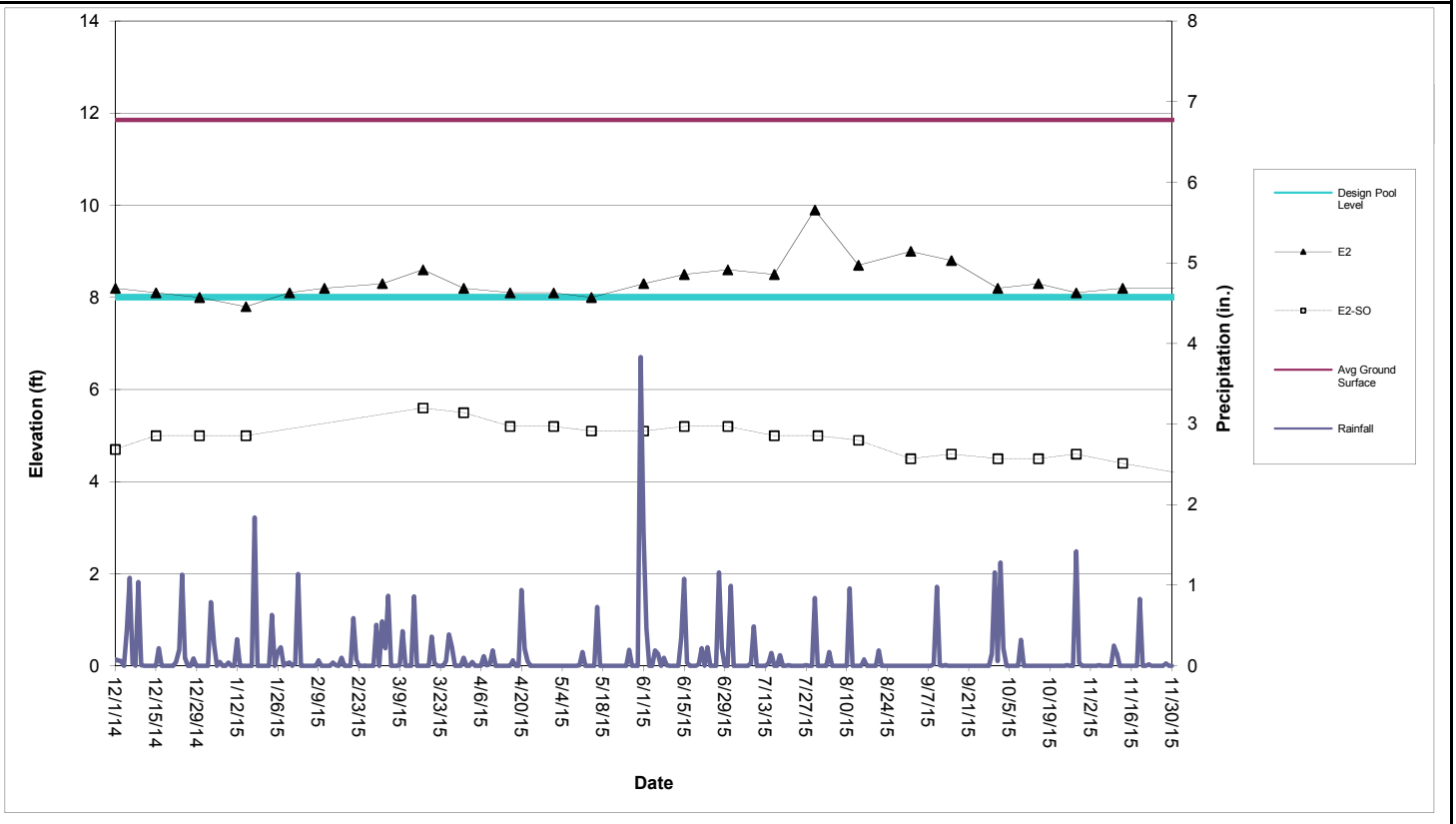
Perimeter Pool N3 (Sta. N6+80 to N10+23)



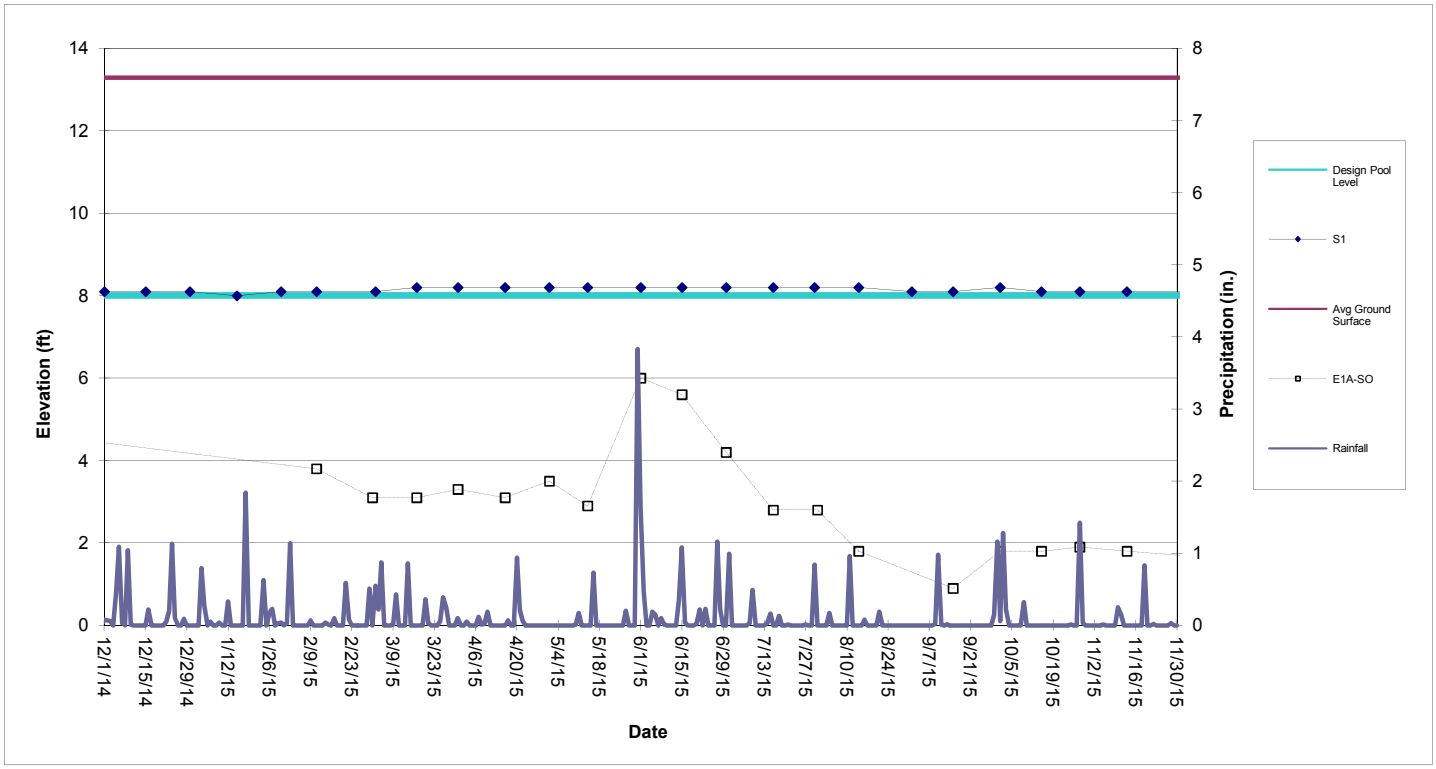
Perimeter Pool N4 (Sta. N6+80 to N10+23)



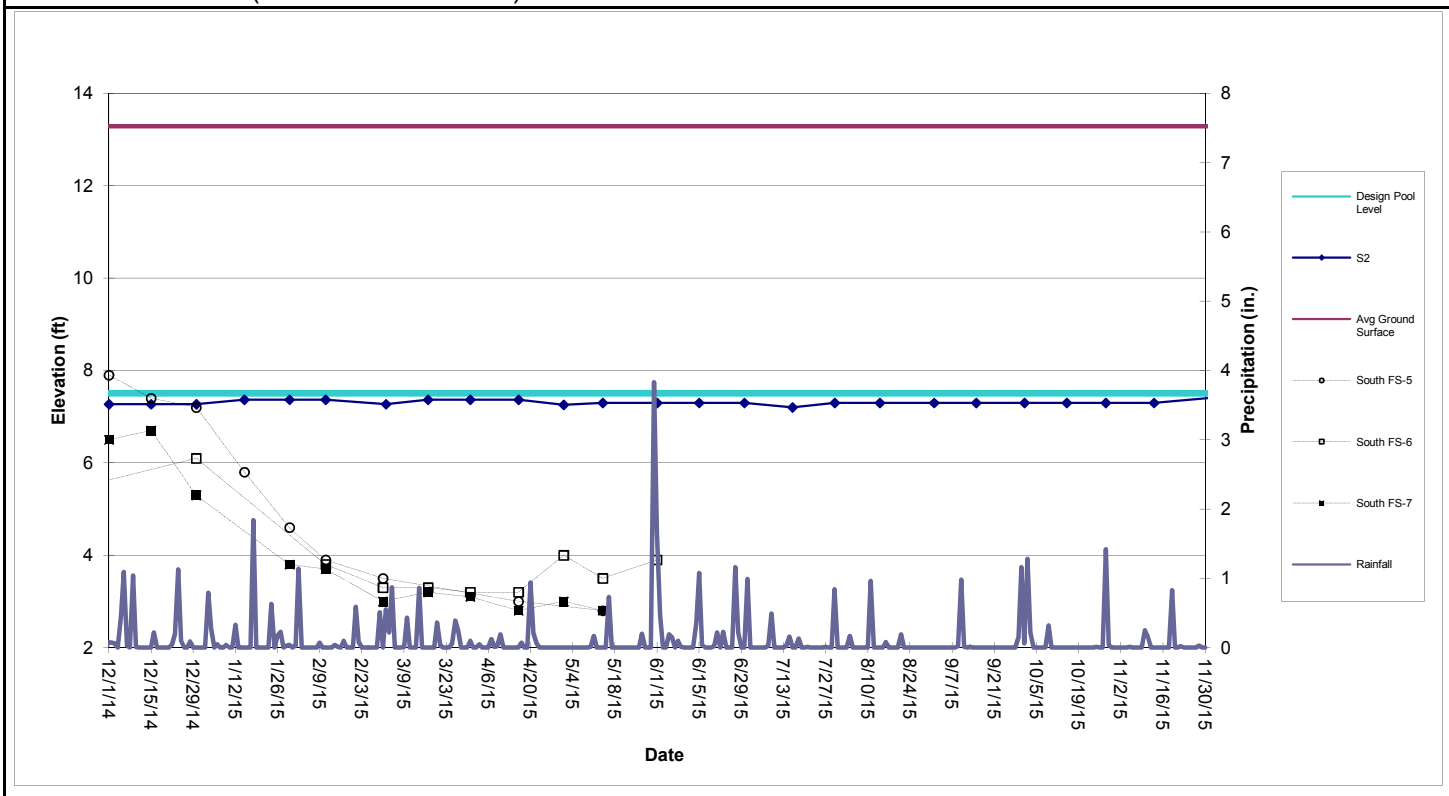
Perimeter Pool E1 (Sta. E0+50 to E3+75)



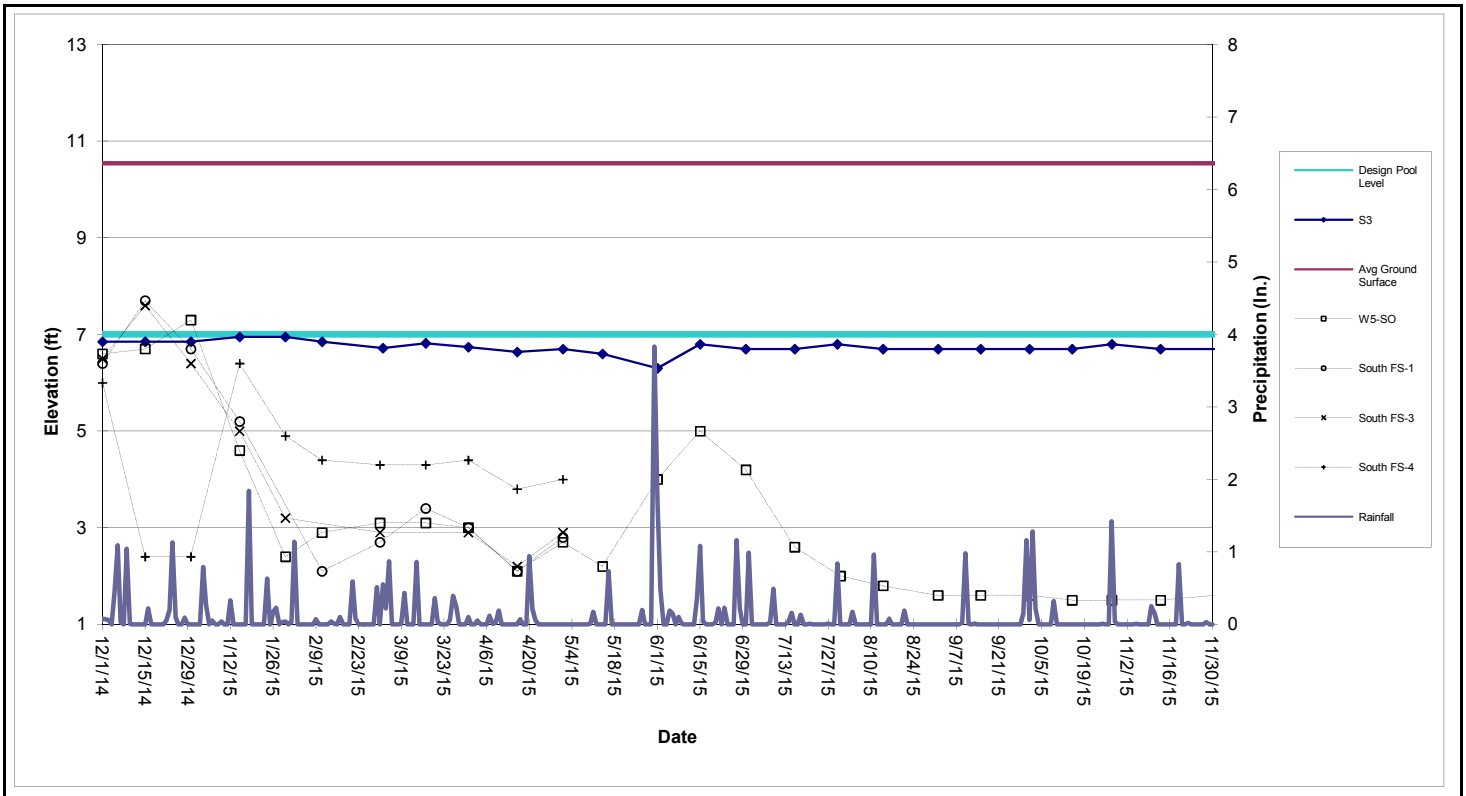
Perimeter Pool E2 (Sta. E4+50 to E7+25)



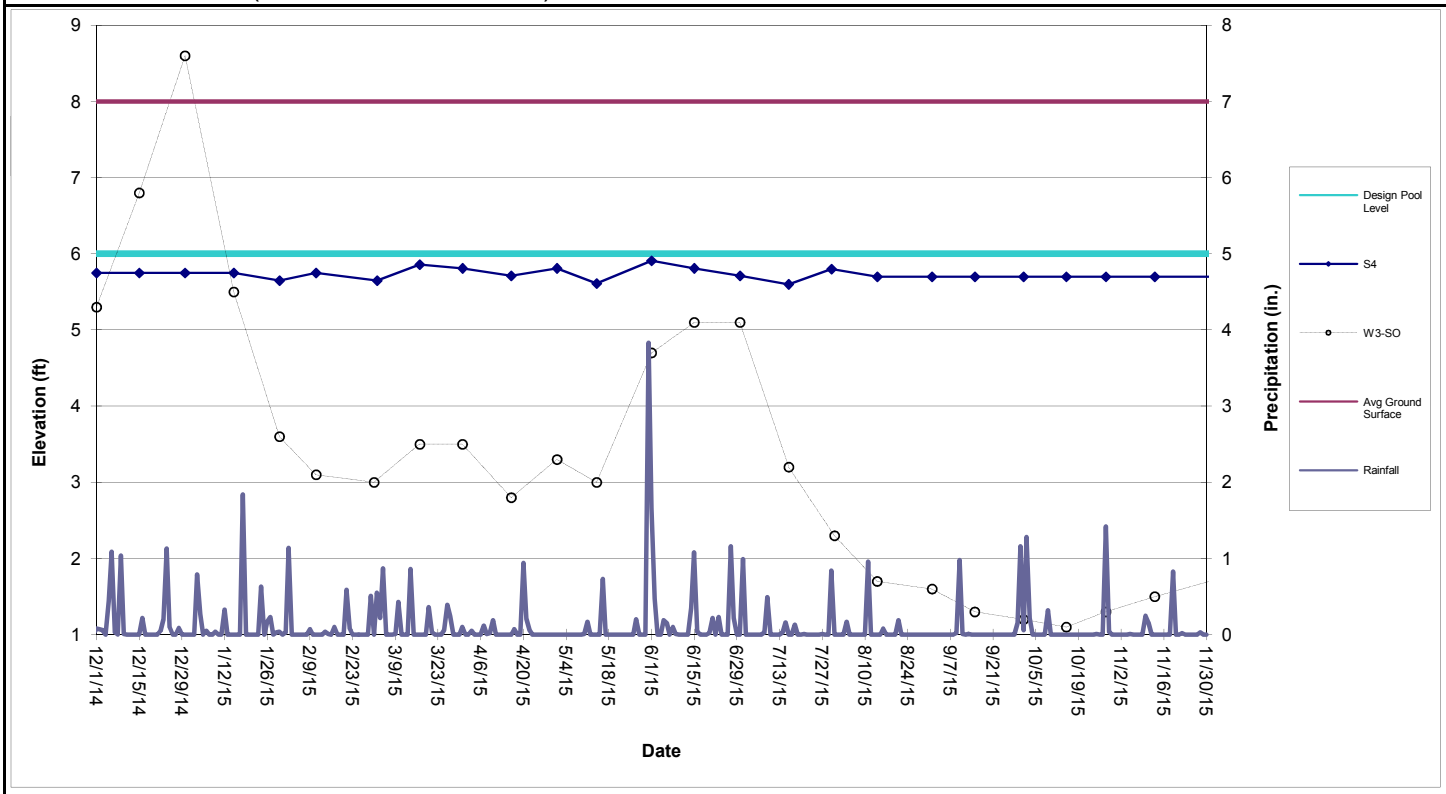
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
12/1/2014		4.7	5.5	6.6	6.5		5.3	6.6	5.2	4.9	6.9	6.9	6.0	5.9	6.2		6.4	6.5	6.0	7.9		6.5
12/15/2014		5.0	5.8	7.5	6.9		6.8	6.7	5.5	5.2	7.3	6.9	6.4	6.2	6.7		7.7	7.6	2.4	7.4		6.7
12/30/2014		5.0	5.6	7.1	6.5		8.6	7.3	5.4	5.0	7.2	6.7	6.0	5.8	6.3		6.7	6.4	2.4	7.2	6.1	5.3
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: SAP-9
Date Exposed: 11/16/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: SAP-10
Date Exposed: 11/16/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: SAP-11
Date Exposed: 11/16/15
Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: SAP-12
Date Exposed: 11/16/15
Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: SAP-13

Date Exposed: 11/16/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-1

Date Exposed: 11/16/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-2

Date Exposed: 11/16/15

Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-3

Date Exposed: 11/16/15

Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-4
Date Exposed: 11/16/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-5
Date Exposed: 11/16/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-6
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-7
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-8
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-9
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-10
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-11
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-12
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamingad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-13
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the Sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamingad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-14
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamingad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-15
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamingad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-16
Date Exposed: 11/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/19/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/19/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-17
Date Exposed: 11/19/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-18
Date Exposed: 11/19/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-19
Date Exposed: 11/19/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15
Inspected by: A. Eslamineyad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-20

Date Exposed: 11/19/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-21

Date Exposed: 11/19/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-22

Date Exposed: 11/19/15

Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-23

Date Exposed: 11/19/15

Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 11/24/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

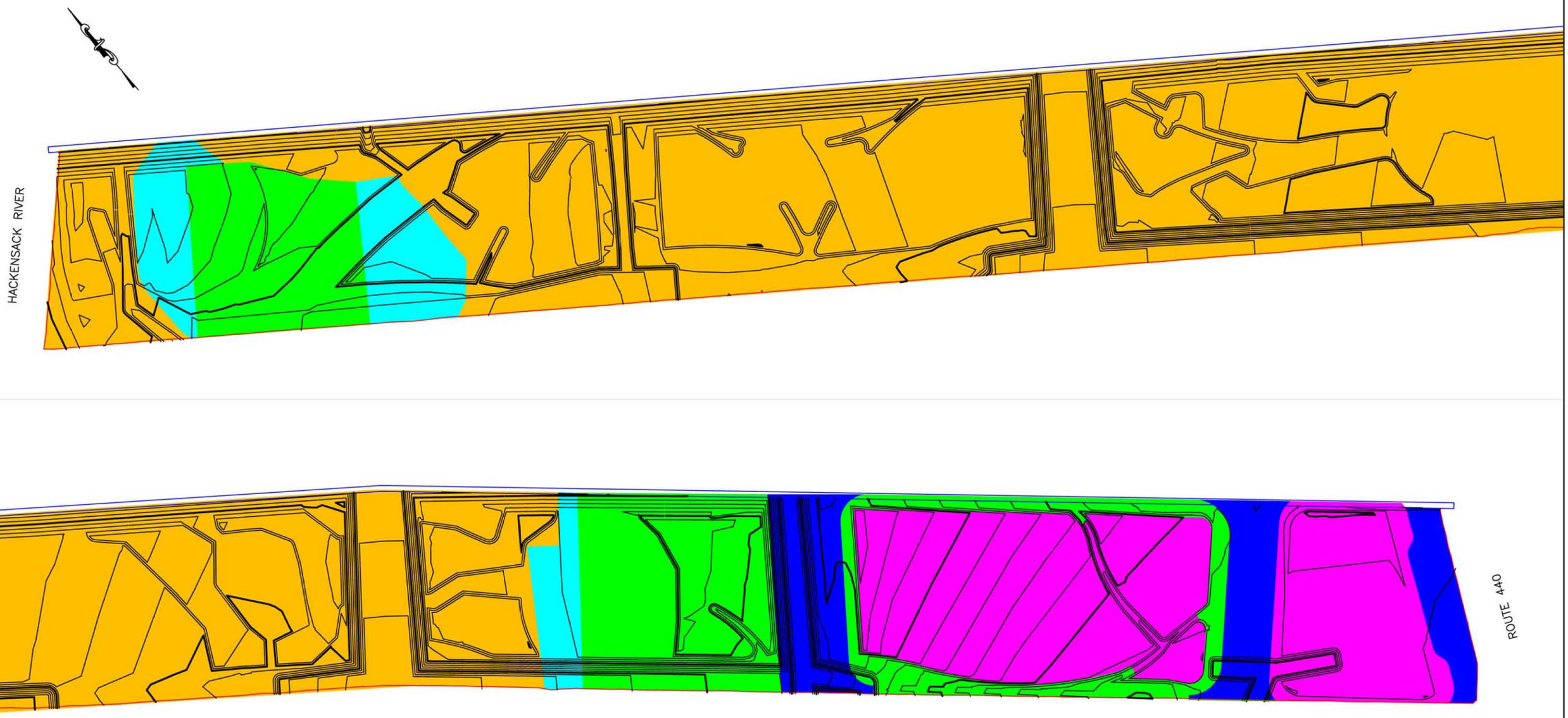
Repair Log Closure: AMEC Signature: _____

Date: 11/24/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map
- Repair Log
- QA Photo Log
- Daily QA Reports



LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- HORIZON C PLACED TO FINAL HORIZON C GRADE
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
12/03/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-1	CF	2/3		98'N OF SEOS (VALLEY DESIGN)	P	2.5	x	63		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-2	WR	3/4		94'N OF SEOS	P	2	x	12		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-3	SI		3	60'N OF 2/3 & 11'E	P	2	x	2.5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-4	DS-1	3/4		18'N OF SEOS	P	2	X	28		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-5	CF		3	140'N OF 2/3 & 6'E	P	2	x	10		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-6	PB	1/2		135'N OF SEOS (PB 8")	P	5	x	5	52.5	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-7	PB		1	85'N OF 1/2 & 17'W (PB 4")	P	3	x	4	36.58	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-8	SI		2	86'N OF 2/3 & 2'W	P	1.5	x	2		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-9	RW	4/5		SEOS	P	1.5	x	3		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-10	SJ	5/6/7		SJ 5/6/7	P	1.5	X	2		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-11	RW	5/7		SEOS	P	2	x	4		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-12	DS-2	6/7		10'E OF WEOS	P	2	x	5.5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-13	FS	7/8		E.S. & COVER OVER SJ 6/7/8	P	2	x	6		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-14	PB		8	147'N OF 6/8 & 4'E (PB 8")	P	5	x	5	52.5	7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-15	BO	9/10		52'N OF SEOS	P	2	x	3		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-16	DS-3	11/12		100'N OF SEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-17	CF	13/14		46'S OF NEOS (VALLEY DESIGN)	P	2	x	42		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-18	DSX-1		13	ON RP-17	P	2	X	6		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-19	DS-4	14/15		16'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-20	CF	14/15	15	57'S OF NEOS	P	2	x	20		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-21	CF	15/16		37'S OF NEOS	P	2	x	16		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-22	BO	16/17		23'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX		7/30/15
RP-23	DS-5	17/18		75'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-24	PB	16		80'S OF 16/17 & 13'W (MH 48")	P	10	x	10	174.7	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-25	CF	15/16		78'S OF NEOS	P	2	x	15		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-26	CF		16	100'S OF 16/17 & 15'W	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-27	BO	16/17		80'S OF NEOS (PATCH)& 7'W (EXT)	P	2	x	2	84	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-28	BO	16/17		115'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-29	BO	16/17		130'S OF NEOS	P	2	x	8		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-30	SI		17	110'S OF 17/18 & 4'W	P	2	x	2		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-31	BO	17/18		101'S OF NEOS	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-32	AO		15	SEOP (TRIANGLE)	B		x		324	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-33	CF		16	134'S OF 16/17 & 6'W	P	2	x	13		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-34	DSX-2	RP-32/15	15	10'E OF RP-32	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-35	WR		17	94'S OF 16/17 & 3'W	P	2	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-36	WR		17	88'S OF 16/17 & 3'W	P	1.5	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-37	WR		17	88'S OF 16/17 & 15'W	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-38	WR		17	101'S OF 16/17 & 10'W	P	2	x	8		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-39	DS-6	20/21		155'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-40	BO	20/21		128'S OF NEOS	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-41	WR		18	75'S OF 18/19 & 11'W	P	2	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-42	CR	17/18		60'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-64	WR		21	BETWEEN RP-63 & RP-65	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-65	WR		21	20'S OF 21/22 & 18'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-66	WR		22	20'S OF 22/23 & 5'W	P	1.5	x	12		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-67	BO	21/22		84'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-68	BO	22/23		76'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-69	WR		22	130'S OF 21/22 & 6'E	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-70	WR		22	BETWEEN RP-69 & RP-71	B		x		60	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-71	CR	21/22		137'S OF NEOS	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-72	WR		21	BETWEEN RP-71 & RP-73	B		x		24	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-73	WR		21	130'S OF 21/22 & 4'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-74	WR		21	BETWEEN RP-73 & RP-75	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-75	WR		21	129'S OF 21/22 & 9'W	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-76	BO	22/23		97'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-77	WR		23	118'S OF 22/23 & 7'E	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-78	WR		23	BETWEEN RP-77 & RP-79	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-79	WR		23	124'S OF 22/23 & 7'E	P	2	x	11		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-80	WR		23	BETWEEN RP-79 & RP-81	B		x		84	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-81	WR		23	134'S 22/23 & 9'E	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-82	DS-7	23/24		87'S OF NEOS	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-83	DSX-3	RP-82/23		ON RP-82/83(87'S OF NEOS)	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-84	CR	23/24		116'S OF NEOS	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-85	CF		23	125'S OF 23/24 & 3'W	P	2	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-86	CF		23	BETWEEN RP-85 & RP-87	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-87	CF		23	140'S OF 23/24 & 10'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-88	BO	24/25		127'S OF NEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-89	WR		24	BETWEEN RP-88 & RP-90	B		x		60	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-90	WR		24	127'S OF 24/25 & 5'W	P	2	x	2.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-91	CF		25	100'N OF 25/26 & 6'W	P	2	x	6		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-92	CF		25	BETWEEN RP-91 & RP-93	B		X		120	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-93	CF		25	121'N OF 25/26 & 12'W (T-SHAPE)	P	2	x	22		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-94	CF		25	BETWEEN RP-93 & RP-95	B		x		84	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-95	CF	25/26		110'N TO 129'N OF SEOS	P	2	x	19		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-96	DS-8	26/27		128'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-97	BO	26/27		71'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-98	CF		27	BETWEEN RP-97 & RP-100	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-99	CR	26/27		38'N OF SEOS	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-100	CF		27	55'N OF 26/27 & 13'E	P	2	x	30		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-101	CF		27	BETWEEN RP-100 & RP-102	B		x		144	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-102	CF		27	87'N OF 26/27 & 7'E	P	2	x	6.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-103	CF	27/28		117'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-104	CF		28	BETWEEN RP-103 & RP-105	B		x		156	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-105	BO	28/29		120'N OF SEOS	P	2	x	15		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-106	CF		28	BETWEEN RP-105 & RP-107	B		x		192	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-107	CF		28	134'N OF 27/28 & 4'E	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-108	BO	29/30		125'N OF SEOS	P	2	x	10		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-109	DS-9	29/30		80'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-110	CF		28	85'N OF 28/29 & 3'W	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-111	CF		28	BETWEEN RP-110 & RP-112	B		x		180	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-112	WR	28/29		68'N OF SEOS	P	2	x	8		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-113	WR		28	BETWEEN RP-112 & RP-114	B		x		36	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-114	WS	28/29		73'N OF SEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-115	BO	28/29		61'N OF SEOS	P	1.5	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-116	WR		28	29'N OF 27/28 & 1'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-117	WR		28	BETWEEN RP-116 & RP-118	B		x		72	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-118	WR		28	29'N OF 27/28 &9'E	P	2	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-119	WR		28	BETWEEN RP-118 & RP-120	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-120	WR		28	29'N OF 27/28 & 13'E	P	1	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-121	BO	27/28		34'N OF SEOS	P	2	x	7		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-122	CF		27	BETWEEN RP-121 & RP-123	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-123	CF		27	34'N OF 27/28 & 5'W	P	1.5	x	1.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-124	CF		28	34'N OF 27/28 & 10'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-125	CF		28	BETWEEN RP-124 & RP-126	B		x		108	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-126	CF		28	45'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E (PB 8")	P	3	x	3	52.5	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E (PB 4")	P	3	x	4	36.6	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135(N.SIDE)	B		x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP	B		x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135(S.SIDE)	B		x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139	B		x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141	B		x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144	B		x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145	DS-11	36/37		90'W OF EEOS & SJ 34/36/37	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-146	SJ	41/44/45		SJ 41/44/45	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-147	SJ	44/45/46		SJ 44/45/46	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-148	SJ	40/41/44		SJ 40/41/44	P	2	x	5.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-149	SJ	34/40/41		SJ 34/40/41	P	3	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-150	SJ	34/39/40		SJ 34/39/40	P	1.5	x	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-151	SJ	34/38/39		SJ 34/38/39	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-152	SJ	34/37/38		SJ 34/37/38	P	2	x	2.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-153	BO	35/36		84'W OF EEOS	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-154	WR		36	BETWEEN RP-153 & RP-155	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-155	WR		36	84'W OF 35/36 & 5'S	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-156	SJ	34/35/36		SJ 34/35/36	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-157	BO	34/35		10'S OF NEOS	P	1.5	X	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-158	WR		35	65'W OF 35/36 & 11'N	P	1.5	X	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-159	WR		35	FROM RP-158 TO N.END OF P-35	P		x		144	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-160	DS-12	42/43		20'N OF SEOS	P	2	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-161	SJ	43/44/46		SJ 43/44/46	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-162	WR	44/46		5'W OF EEOS	P	1.5	X	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-163	WR		44	BETWEEN RP-162 & RP-164	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-164	WR		44	5'W OF 44/46 & 5'N	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-165	WR		44	BETWEEN RP-162 RP-166	B		x		216	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-166	WR	40/44		16'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-167	SJ	40/42/43		SJ 40/42/43	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-168	SJ	39/40/42		SJ 39/40/42	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-190	WR		35	BETWEEN RP-189 & RP-191	B		x		84	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-191	WR		35	15'W OF 35/36 & 6'N	P	1.5	x	1.5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-192	WR		36	10'W OF 36/37 & 7'N	P	1.5	x	2		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-193	WR		36	BETWEEN RP-192 & RP-194	B		x		180	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-194	WR		36	10'W OF 36/37 & 24'N	P	2	x	4		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-195	BO	47/48		106'S OF NEOS	P	2	x	6.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-196	BO	48/49		86'S OF NEOS	P	2	x	4		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-197	BO	53/54		15'S OF NEOS	P	2	x	7		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-198	WR	48/49		94'S OF NEOS	P	2	x	28		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-199	CR	42/47		50'S OF NEOS	P	2	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-200	CF		47	56'S OF NEOS(SURFACE DESIGN)	P	2	x	38		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-201	CF		47	38'S OF 42/47 & 8'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-202	CF		47	BETWEEN RP-201 & RP-203	B		x		240	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-203	CF		47	59'S OF 42/47 & 18'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-204	DS-13	47/48		70'S OF NEOS	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-205	CF		47	FROM RP-200 TO MANHOLE	B		x		216	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-206	WR		48	46'S OF 47/48 & 4'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-207	WR		48	BETWEEN RP-206 & RP-208	B		x		180	8/7/15	PEDRO S.	EXT 512	VNOX	P	8/7/15
RP-208	WR		48	64'S OF 48/49 & 6'W	P	2	x	11		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-209	WR		48	BETWEEN RP-208 & RP-210	B		x		36	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-210	WR		48	57'S OF 48/49 & 4'W	P	2.5	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-211	DSX-6	RP-198/48		ON W.END OF RP-198/48	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-212	WR	49/50		72'S OF NEOS	P	2	x	9		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-213	WR		50	75'S OF 49/50 & 8'E	P	2	x	7		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-214	WR		50	BETWEEN RP-213 & RP-215	B		x		24	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-215	WR		50	78'S OF 49/50 & 2'E	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	F	8/10/15
RP-216	SJ	50/51/52		SJ 50/51/52	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-217	SJ	51/52/53		SJ 51/52/53	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-218	PB		47	87'S OF 42/47 & 11'E(MH 48")	P	9.5	x	9.5	175	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-219	PB		38	3'W OF 37/38 & 3'S (PB 8")	P	3.5	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-220	BO	55/57		101'N OF SEOS	P	2	x	2.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-221	BO	55/57		120'N OF SEOS	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-222	WR		50	REPAIR LEAK OVER RP-215	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-223	DS-14	50/51		35'S OF NEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-224	WR	51/53		20'S OF NEOS	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-225	WR		53	BETWEEN RP-224 & RP-226	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-226	WR		53	20'S OF 51/53 & 14'E	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-227	WR		53	30'S OF 53/54 & 5'W	P	1.5	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-228	WR		53	BETWEEN RP-227 & RP-229	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-229	WR		53	35'S OF 51/53 & 5'W	P	2	x	11		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-230	DS-15	54/55		72'S OF NEOS	P	2	x	4.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-231	SJ	54/55/56		SJ 54/55/56	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-232	SJ	55/56/57		SJ 55/56/57	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-233	CF		55	76'N OF 55/57 & 3'W	P	2	X	13		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-234	CF		55	BETWEEN RP-233 & RP-235	B		x		24	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-235	CF		55	80'N OF 55/57 & 2'W	P	2	x	3.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-236	CF		58	128'S OF 57/58 7'E	P	3	x	4		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-237	CF		58	BETWEEN RP-236 & RP-238	B		x		168	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-238	CF		58	140'S OF 57/58 & 20'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-239	CF		58	BETWEEN RP-236 & RP-240	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-240	CF		58	125'S OF 57/58 & 17'E	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-241	CF		58	BETWEEN RP-239 & RP-242	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-242	CF		58	128'S OF 57/58 & 15'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-243	PB		58	75'S OF 57/58 & 6'E (PB 8")	p	4	x	4	52.5	9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-244	SJ	58/59/60		SJ 58/59/60	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-245	DSX-7	RP-197/53		ON RP-197/53	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-246	PB		62	135'N OF 61/62 & 2'E (PB 8")	P	3	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-247	SJ	59/60/61		SJ 59/60/61	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-248	DS-16	59/61		6'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-249	DS-17	62/63		90'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-250	CR		65	2'N OF 65/66 & 5'E	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-251	SJ	64/65/66		SJ 64/65/66	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-252	BO	65/66		8'N OF SEOS	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W (PB 4")	P	5	x	6	36.6	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")	P	3.5	x	4	52.5	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/14/15
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB	78/79		WEOS (MH 48")	P	10	x	11	175	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-263	CF		73	FROM RP-264 TO 4'N	B		x		48	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-264	CF		73	23'N OF 72/73 & 5'E	P	2.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-265	CF		73	BETWEEN RP-264 & RP-266	B		x		84	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-266	CF		73	14'N OF 72/73 & 7'E	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-267	CF		73	BETWEEN RP-266 & RP-272	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-268	CF		73	FROM RP-269 TO 3'W	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-269	CF		73	14'N OF 72/73 &18'E	P	2	x	9		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-270	CF		73	BETWEEN RP-269 & RP-271	B		x		108	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-271	CF		73	4'N OF 72/73 & 9'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-272	CF		73	15'N OF 72/73 & 15'E	P	2	x	10		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-273	CF		73	BETWEEN RP-272 & RP-274	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-274	CF		73	23'N OF 72/73 & 15'E	P	2	x	6		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-275	CF		73	FROM RP-274 TO 5'N	B		x		60	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-276	CF		73	FROM RP-277 TO 12'E	B		x		144	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-277	CF		73	50'N OF 72/73 & 5'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-278	CF		73	46'N OF 73/74 & 5'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-279	CF		73	BETWEEN RP-278 & RP-280	B		x		156	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-280	CF		73	59'N OF 73/74 & 16'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-281	CF		71	137'N OF 71/72 & 2'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-282	CF		71	BETWEEN RP-281 & RP-283	B		x		120	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-283	CF		71	125'N OF 71/72 & 8'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-284	CF		71	164'N OF 71/72 & 8'W	P	2	x	4		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-285	CF		71	BETWEEN RP-284 & RP-286	B		x		132	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-286	CF		71	142'N OF 71/72 & 3'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-287	CF		71	FROM RP-288 TO 8'N	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-288	CF		71	137'N OF 71/72 & 9.5' W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-289	DSX-8	RP-284/71		ON RP-284/71	P	2	x	5		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-290	WR	68/69		132'N OF SEOS	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-291	WR		68	BETWEEN RP-290 & RP-292	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-292	WR		68	126'N OF 68/69 & 10'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-293	SI		57	136'N OF 56/57 & 7'E	P	2	x	2		9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-294	SJ			SJ 75/80/81	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-295	SJ			SJ 75/79/80	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-296	SJ			SJ 75/77/78	P	2	x	3		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-297	SJ			SJ 75/76/77	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-298	DS-22	79/80		78'E OF WEOS	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-299	SJ			SJ 75/81/82	P	2.5	x	14		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-300	SJ			SJ 81/82/83	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-301	SJ			SJ 81/83/84	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-302	SJ			SJ 83/84/85	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-303	SJ			SJ 84/85/86	P	1	x	1		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-304	WR	84/85		7'W OF EEOS	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-305	WR		84	BETWEEN RP-304 & RP-306	B		x		204	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-306	WR		84	7'W OF 84/85 & 17'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-307	WR		84	FROM RP-308 TO 12'SW	B		x		144	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-308	WR		84	20'E OF 81/84 & 13'S	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-309	WR	75/82		14'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-310	WR		82	BETWEEN RP-309 & RP-311	B		x		240	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-311	WR	82/83		15'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-312	WR		82	6'N OF 82/83 & 6.5' W	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-313	WR		82	BETWEEN RP-312 & RP-314	B		x		132	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-314	WR		82	19'N OF 82/83 & 6'W	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-315	BO	81/84		24'E OF WEOS			x			9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-316	DS-23	88/89		116'N OF SEOS	p	2	x	4.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-317	WR		79	BETWEEN RP-298 & RP-318	B		x		66	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-318	WR		79	78'E OF 79/80 & 7'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-319	BO	81/87		8'N OF SEOS	P	2	x	5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-320	SJ			SJ 80/81/87	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-321	SJ			SJ 79/80/87	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-322	WR	79/87		6'N OF SEOS	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-323	SJ			SJ 78/79/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-324	SJ			SJ 77/78/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-325	SJ			SJ 76/77/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-326	CF	89/90		145'N OF SEOS	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-327	CF		89	145'N OF 89/90 & 6'W	B		x		72	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-328	CF	89/90		81'N OF NEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-329	CF		89	81'N OF 89/90 & 5'W	B		x		60	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-330	DSX-9	RP-316/88		RP-316/88	P	2	x	4.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-331	SI		83	9'S OF 83/84 & 8'W (END OF PANEL)	P	2	x	18		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-332	SJ			SJ 84/86/87	P	3	x	12		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-333	CR		84/86	EEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-334	WR		84	BETWEEN RP-315 & RP-335	B		x		12	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-335	WR		84	7'W OF 81/84 & 3.5'S	P	3	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-336	SJ			SJ 81/84/87	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-337	CF	84/87		BETWEEN RP-332 & RP-336	B		x		216	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-338	WR	81/84		24'E TO EEOS	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-339	WR		81	11'N OF 81/87 & 4'W	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-340	WR		81	BETWEEN RP-339 & RP-341	B		x		138	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-341	WR		81	13'W OF 81/84 & 3'N	P	2	x	3.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-342	AO		76	ADD ON NORTH SIDE OF P-76	P	8	x	16		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-343	CF	76/77		66'E OF WEOS	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-344	CF		77	BETWEEN RP-343 & RP-345	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-345	CF		77	66'E OF 76/77 & 5'S	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-346	CF		77	BETWEEN RP-345 & RP-347	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-347	CF		77	66'E OF 76/77 & 10'S	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-348	WR		85	4'W OF 84/85 & 4'S	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-349	WR		84	4'W OF 84/85 & 8'N	B		x		96	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-350	DS-24	91/92		45'N OF SEOS	P	2	x	5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-351	CF	91/92		151'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-352	CF		91	BETWEEN RP-351 & RP-353	B		x		216	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-353	CF		91	151'N OF 91/92 & 19.5'W	P	3	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-354	CF	93/94		144'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-355	CF		94	BETWEEN RP-354 & RP-356	B		x		72	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-356	CF		94	144'N OF 93/94 & 10'E	P	2	x	4.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-357	CF		90	29'N OF 90/91 & 4'W	P	2	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-358	CF		90	BETWEEN RP-357 & RP-359	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-359	CF		90	31'N OF 90/91 & 9'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-360	CF		90	BETWEEN RP-359 & RP-361	B		x		24	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-361	CF		90	31'N OF 90/91 & 13'W	P	2	x	2.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-362	WR		80	11'S OF 80/87 & 5'W	P	1	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-363	WR		80	BETWEEN RP-362 & RP-365	B		x		54	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-364	WR	79/80		8.5'W OF EEOS	P	2	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-365	WR		8O	5'S OF 80/87 & 10'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-366	WR		80	BETWEEN RP-364 & RP-365	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-367	DS-25	94/95		100'N OF SEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-368	CF	94/95		125'N OF SEOS	P	2	x	6		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-369	PB		95	95'N OF 94/95 & 6'E (PB 8")	P	4	x	4.5	52.5	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-370	CF	94/95		33'N OF SEOS	P	2.5	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-371	CF		95	BETWEEN RP-370 & RP-372	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-372	CF		95	33'N OF 94/95 & 6.5'E	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-373	BO	95/96		128'S OF NEOS	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-374	DS-26	96/97		33'S OF NEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-375	CF	96/97		95'S OF NEOS	P	2	x	8		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-376	CF	96/97		FROM RP-377 TO 117'S	P	2	x	14		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-377	CF		96	101'S OF 96/97 TO 15'W	P	4	x	15		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-378	CF		96	105'S OF OF 96/97 & 13'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-379	CF		96	101'S OF 96/97 & 17'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-380	CF		96	93'S OF 96/97 & 8'W	P	2.5	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-381	CF		96	BETWEEN RP-380 & RP-382	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-382	CF		96	86.5'S OF 96/97 & 4'W	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-383	BO	103/104		16'W OF EEOS	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-384	BO	97/103		12'S OF NEOS			x			9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-385	SI		94	126'N OF 94/95 & 8'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-386	DSX-10	RP-376/96		RP-376/96 (DSX-10)	P	2	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-387	SJ			SJ 97/103/104	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-388	CF		97	BETWEEN RP-384 & RP-389	B		x		24	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-389	CF		97	12'S OF 97/103 & 3.5'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-390	SJ			SJ 97/102/103	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-391	SJ			SJ 97/101/102	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-392	SJ			SJ 97/100/101	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-393	SJ			SJ 97/99/100	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-394	SJ			SJ 97/98/99	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-395	CF		103	FROM RP-383 TO 5'N	B		x		60	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-396	CF		103	4'N FROM RP-397 & 14'NW	B		x		168	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-397	SJ			SJ 103/104/105	P	2	x	3.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-398	SJ			SJ 103/105/106	P	3	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-399	CF		107	122'S OF 107/108 & 4'W	B		x		192	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-400	SJ			SJ 103/106/107	P	2	x	2.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-401	SJ			SJ 102/103/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-402	SJ			SJ 101/102/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-403	SJ			SJ 100/101/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-404	SJ			SJ 99/100/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-405	SJ			SJ 98/99/107	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-406	CF		98	FROM RP-412 TO N.E. CORNER	B		x		144	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-407	CF		98	FROM RP-412 TO N.W. CORNER	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-408	CF		107	13'S OF 107/108 & 4.5'W	P	1.5	x	3		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-409	CF		107	BETWEEN RP-408 & RP-411	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-410	CF		107	6'S OF 107/108 & 5'W	B		x		60	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-411	CF		107	5'S OF 98/107 & 4'E	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-412	CF		98	BETWEEN RP-406 & RP-407	P	2	x	22		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-413	CF		108	143'S OF 108/109 & 3'E	P	1.5	x	1.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-414	CF		108	FROM RP-413 TO 17'S	B		x		204	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-415	CF		107	FROM RP-416 TO 4'W	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-416	CF		107	154'S OF 107/108 & 6'W	P	2	x	4		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-417	CF		107	FROM RP-416 TO 4'E	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-418	PB		109	152'S OF 108/109 & 2.5'E (PB 4")	P	4	x	6	36.6	9/23/15	EMMANUEL V.	EXT 512	VBOX	P	9/23/15
RP-419	PB	111/112		15'S OF NEOS (PB 8")	P	3.5	x	4.5	52.5	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-420	PB		113	82'S OF 112/113 & 14' (MH 48")	P	9	x	11	175	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-421	BO	113/114		28'S OF NEOS	P	2	x	4.5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-422	DS-27	110/111		120'S OF NEOS	P	2	x	5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-423	SI		111	15'S OF 111/112 & 6'E	P	1.5	x	2		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-424	DSX-11	RP-421/114		RP-421/114 (DSX-11)	P	2	x	6		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-425	PB	114/115		68'S OF NEOS (PB 8")	P	3	x	3.5	52.5	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/8/15
RP-426	CF	115/116		28'S OF NEOS	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-427	CF	117/118		121'S OF NEOS	P	2	x	13		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-428	WR		115	12'S OF 114/115 & 3'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-429	WR		115	BETWEEN RP-428 & RP-430	B		x		120	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-430	WR		115	12'S OF 114/115 &15.5'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-431	CF		115	BETWEEN RP-426 & RP-432	B		x		48	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-432	CF		115	FROM RP-431 TO 15'NW	P	2	x	15		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-433	DO		117	123'S OF 117/118 & 6'E	P	1.5	x	1.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-434	CF		118	BETWEEN RP-427 & RP-435	B		x		12	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-435	CF		118	FROM RP-436 TO 5'N	B		x		60	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-436	CF		118	BETWEEN RP-434 & RP-435	P	2	x	14		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-437	CF	119/120		94'S OF NEOS	P	2	x	3		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-438	CF	119/120		22'S OF NEOS	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-439	CF	119/120		127'S OF NEOS	P	2	x	9		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-440	CF	119/120		139'S OF NEOS	P	2.5	x	4		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-441	CF		119	FROM RP-437 TO 14'W	B		x		168	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445	AO	RP-445		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-446	AO	RP-446		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456	DS-28	123/125		90'N OF SEOS	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-457	PB		125	68'S OF P125/126 & 4'W (PB 8")	P	3	x	3.5	52.5	10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-458	SI		125	ON RP-453 & RP-455	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-459	SI	120,121,122,	&123	BETWEEN RP-454 TO RP-473	P	2	x	91		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-460	DSX-12	RP-459/123		N.SIDE OF RP-459 (DSX-12)	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-461	SI		122	BETWEEN RP-450 & RP-459	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-462	SI		122	FROM RP-461 TO 3'NW	B		x		36	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-463	SI		122	FROM RP-459 TO 5'S	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-464	SI			SJ 121/122/RP-459	P	2	x	4		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-465	SI		121	BETWEEN RP-459 & RP-468	B		x		6	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-466	SI	121/122		FROM RP-467 TO RP-465 & RP-468	B		x		108	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-467	SI		121	9'SE OF RP-465 , RP-466 & RP-468	P	2	x	2.5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-468	SI		121	BETWEEN RP-465 & RP-469	B		x		42	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-469	SI		121	BETWEEN RP-468 & RP-470	B		x		132	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-470	SI		121	11'SW OF RP-468	P	2	x	3		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-471	SI		121	BETWEEN RP-468 & RP-472	B		x		12	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-472	SI		121	FROM RP-471 TO SEOP	P	2	x	23		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-473	SI	119/120		BETWEEN RP-439,RP-444& RP-440	P	2	x	17		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-474	SI	119/120		NEOS TO 16'S	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-475	SI		117	NEOP & 5'W OF 117/118	P	2	x	14		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-476	PB	128/132	132	81'N OF SEOS & 3'E (PB 4")	P	3	x	6	36.6	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/9/15
RP-477	SI	125/126	125	159'S OF NEOS & 13' W	P	2	x	13		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-478	SJ			P 127/128/129	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-479	SJ			P 128/129/132	P	2	x	3		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-480	DS-29	128/132		25'N OF SEOS	P	2	x	7		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-481	SJ			P 128/131/132	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-482	SJ			P 128/130/131	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-483	DSX-13	RP-477/125		N.SIDE OF RP-477 (DSX-13)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		4984.5	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-484	DSX-14	RP-480/132		E.SIDE OF RP-480 (DSX-14)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-485	SJ			P 132/133/143	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-486	DSX-15	RP-487/125		N.SIDE OF RP-487 (DSX-15)	P	2	x	5		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-487	FS		125	DS-13 FAIL (CAP OVER RP-477/RP-483)	P	5	x	15		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-488	DO		123	6' S OF NEOS ON SCB WALL EDGE	P	3	x	2.5		11/4/15	EDFY E.	EXT 512	NA		
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
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							x								

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PHOTOGRAPHIC LOG
Photo #1 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking north along northern end of SA-6 cap (SCB wall) at approximate Sta. 2+95

Description:

Minor puncture along SCB wall from excavator bucket. Tooth of bucket penetrated through GDL and into underlying geomembrane layer.



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PHOTOGRAPHIC LOG
Photo #2 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Area around puncture cleared to allow ESI to complete patch / repair work (as per project specs).



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PHOTOGRAPHIC LOG
Photo #3 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking south along SCB wall

Description:

ESI replacing GCL underneath puncture at SCB wall.



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PHOTOGRAPHIC LOG
Photo #4 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall (northern end of SA-6)

Description:

New geomembrane patch leistered over puncture



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PHOTOGRAPHIC LOG
Photo #5 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking east along SA-6 (at SCB wall)

Description:

ESI conducting extrusion welding over new patch / repair (RP-488).



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PHOTOGRAPHIC LOG
Photo #6 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Extrusion welding along patch completed (as per project specs). Vacuum box testing unable to be conducted based on the location of the patch (on edge of SCB wall). Weld visually inspected by Entact / Langan.



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PHOTOGRAPHIC LOG
Photo #7 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking east along SCB wall

Description:

GDL patched and repaired and covered with fabric (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	11/04/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	55 / 70° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0845 – 1215

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #39**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with an equipment puncture that was observed along the northern end of SA-6 (at SCB wall) at approximate Sta. 2+95.
- Based on conversations with the project team, it is understood that during final grading of the area, the tooth of an excavator bucket punctured the GDL and underlying geomembrane cap. This error was attributed to malfunctioning GPS equipment, as the SCB wall (outside of the Cap) was not programmed into the GPS.
- Site activities commenced with ESI completing patch / repair work at the puncture location (along edge of SCB wall at approximate Sta. 2+95. A new piece of GCL was initially placed over the puncture area and a 2 ft. by 1.5 ft. geomembrane patch was then placed over the puncture, and sealed with an extrusion weld (as per project specs). Vacuum box testing could not be completed by ESI, as the patch / repair was located right on the edge of the SCB wall (refer to supporting photo log from 11/4/15). As such, the welds were visually observed by Langan and Entact / ESI to confirm uniformity.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 12 (Sheet #12) – Equipment puncture through geomembrane cap.
    - Geomembrane patch was placed over equipment puncture along SCB wall (at approximate Sta. 2+95) and extrusion welded (as per project specs). Prior to patch / repair work, a new piece of GCL was placed over the puncture. This repair was noted as an equipment puncture and was completed following the project specs and as further defined on *Sheet 12 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 11/04/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, 10/09/15, and 10/12/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-15. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13 (details previously defined in *10/12/15 Daily Report*).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Complete associated paperwork and begin construction certification report.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 11/04/15
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 11/04/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 11/4/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 11/4/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 11/4/15.
A7 – Panel Placement Log		N / A no panels placed on 11/4/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 11/4/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 11/4/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 11/4/15
A11 – Conformance COC		N / A for 11/4/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 11/4/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A13 – Destruct. Sample Summary		N / A no destruct samples collected on 11/4/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 11/4/15
A16 – Notice of Non-Compliance	Sheet #12	One non-compliance issue encountered on 11/4/15 and documented on *Sheet #12 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 6, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

NOTE: All comments are numbered for reference and included on the included comment section.

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/09/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 06, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material is pulling loose from the perimeter fence by the mechanics area on Kellogg Street on SA-6 South.
2	IA2Q4A1AL8	Garbage and other debris is present on the grass area at the Kellogg Street jughandle on SA-6 South
3	IA2Q4A1AL8	Erosion control measures are not in place on SA-6 North along the sidewalk where Guarini Plumbing installed the new water valves.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 11/09/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen material as required.	11-12-15 MM
2	Pick up and dispose of garbage and debris as required.	11-12-15 MM
3	Re-install silt fence or construct silt dams along the sidewalk adjacent to the Rt. 440 pedestrian walkway.	11-11-15 MM

Construction Manager: _____ **Date** 11/12/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 13, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓		X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection	✓			
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	✓			
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones	✓			
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection			X	
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓			
Swale Check Dams	✓			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/12/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November ~~13~~ 12, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Material on ramp to SA-6 North
2	IA2Q4A1AL8	Material on on the south runway of SA-7 and at the outlet of the structural fill crossing on the west side
3	IA2Q4A1AL8	No safety fencing along the excavation of the 2' cut in 1N.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** _____

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Scrape the ramp	11/17/15
2	Scrape the south run way	11/18/15
3	Install safety fencing along cut faces of 1N	11/17/15

Construction Manager: _____ **Date:** 11/18/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 20, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		1
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 20, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The tracking pad at the truck exit gate on SA-6 South is blinded with sediment.
2	IA2Q4A1AL8	Filter fabric in the catch basins at the western end of Kellogg Street is blinded with sediment and/or perforated.
3	IA2Q4A1AL8	The fire truck access roadway on the eastern side of the H Building on SA-6 North is blocked with historic fill material from the stockpile in that area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 11/23/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-work the stone in the tracking pad or replace it to make it functional.	11-25-15 MM.
2	Replace the filter fabric in the three catch basins as required.	11-23-15 MM.
3	Remove the material which is blocking the emergency vehicle accessway between the eastern side of the H Building and the historic fill stockpile.	ONGOING MM.

Construction Manager: _____ **Date:** 11/25/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 25, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/30/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, November 25, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage is present along the Kellogg Street jughandle outside of the perimeter site fence.
2	IA2Q4A1AL8	**REPEAT:** The fire truck access roadway on the eastern side of the H Building on SA-6 North is blocked with historic fill material from the stockpile in that area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/30/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up garbage and other debris along the outside of the SA-6 South perimeter fence.	12-2-15 MM
2	Remove the material which is blocking the emergency vehicle accessway between the eastern side of the H Building and the historic fill stockpile.	12-3-15 MM

Construction Manager: _____ Date: 12/03/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (Submitted October 2015)
- 12/2/15 PVSC Correspondence: Revisions to Sewer Use Permit #20630025

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 19, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the October 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
10	01	15	10	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,506	86,317 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF SAMPLES	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS		COMP/GRAB
Chromium	Sample Measurement	0.48	0.54	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1576	0.1576	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

November 19, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
10	01	15	10	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,371,680	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	48,118,008

DATE	BOD (mg/l)	TSS (mg/l)
10/13/2015	<33	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris HF	John J. Morris	(973) 455-4003
		DATE November 19, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)															MONTH: October 2015
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
10/1/2015	Angel Trujillo	45746328	45829794	83,466	0.083466	7.07	0.749									0.52
10/2/2015	Angel Trujillo	45829794	45905736	75,942	0.075942	7.44	0.749									0.47
10/3/2015	Angel Trujillo	45905736	45976242	70,506	0.070506	N/A	0.749									0.44
10/4/2015	Angel Trujillo	45976242	46046748	70,506	0.070506	7.51	0.749									0.44
10/5/2015	Angel Trujillo	46046748	46119544	72,796	0.072796	7.53	0.749									0.45
10/6/2015	Angel Trujillo	46119544	46195518	75,974	0.075974	7.36	0.749									0.47
10/7/2015	Angel Trujillo	46195518	46273544	78,026	0.078026	7.39	0.749									0.49
10/8/2015	Angel Trujillo	46273544	46350538	76,994	0.076994	7.47	0.749									0.48
10/9/2015	Angel Trujillo	46350538	46426069	75,531	0.075531	7.50	0.749									0.47
10/10/2015	Angel Trujillo	46426069	46512386	86,317	0.086317	7.49	0.749									0.54
10/11/2015	Angel Trujillo	46512386	46585241	72,855	0.072855	N/A	0.749									0.46
10/12/2015	Angel Trujillo	46585241	46658096	72,855	0.072855	7.52	0.749									0.46
10/13/2015	Angel Trujillo	46658096	46733444	75,348	0.075348	7.05	0.749	<5.1	<33		<0.010	<0.015	<0.010	0.00021	<0.020	0.47
10/14/2015	Angel Trujillo	46733444	46808816	75,372	0.075372	7.53	0.749									0.47
10/15/2015	Angel Trujillo	46808816	46886626	77,810	0.07781	7.52	0.749									0.49
10/16/2015	Angel Trujillo	46886626	46964342	77,716	0.077716	7.49	0.749									0.49
10/17/2015	Angel Trujillo	46964342	47049248	84,906	0.084906	7.44	0.749									0.53
10/18/2015	Angel Trujillo	47049248	47122258	73,010	0.07301	N/A	0.749									0.46
10/19/2015	Angel Trujillo	47122258	47195268	73,010	0.07301	7.33	0.749									0.46
10/20/2015	Angel Trujillo	47195268	47272370	77,102	0.077102	7.81	0.749									0.48
10/21/2015	Angel Trujillo	47272370	47348190	75,820	0.07582	7.54	0.749									0.47
10/22/2015	Angel Trujillo	47348190	47425246	77,056	0.077056	7.40	0.749									0.48
10/23/2015	Angel Trujillo	47425246	47504328	79,082	0.079082	7.47	0.749									0.49
10/24/2015	Angel Trujillo	47504328	47588942	84,614	0.084614	7.53	0.749									0.53
10/25/2015	Angel Trujillo	47588942	47661650	72,708	0.072708	N/A	0.749									0.45
10/26/2015	Angel Trujillo	47661650	47734358	72,708	0.072708	7.48	0.749									0.45
10/27/2015	Angel Trujillo	47734358	47809676	75,318	0.0753	7.44	0.749									0.47
10/28/2015	Angel Trujillo	47809676	47887866	78,190	0.07819	7.53	0.749									0.49
10/29/2015	Angel Trujillo	47887866	47958382	70,516	0.070516	7.47	0.749									0.44
10/30/2015	Angel Trujillo	47958382	48032990	74,608	0.074608	7.29	0.749									0.47
10/31/2015	Angel Trujillo	48032990	48118008	85,018	0.085018	7.51	0.749									0.53
TOTAL				**2,371,680**	**2.37168**			<5.1	<33		<0.010	<0.015	<0.010	0.00021	<0.020	
			High:	**86,317**											**High:**	**0.54**
			Average:	**76,506**											**Average:**	**0.48**

WW

E

JC 6107

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42290.45854
2235 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County	Phase: CS	COC# 087-WW-101315
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ	Sampling Program 087: JCIA	Lab Proj # (SDG):
Client Contact: (name, co., address)	Sampler: Frank Schroyer			Lab ID ACTD
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #			Site ID HudsonCo
Honeywell International	Analysis Turnaround Time (TAT): 3			Lab Job # HWINJM32815
101 Columbia Road Morristown, NJ 07962	Consultant CH2M			Authorized User: Honeywell
Preliminary Data To				Text & Excel File Drive: Excel & Text File Order
Sample Receipt Acknowledgement To: Frank Schroyer				
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

Copyright AESI; Version 8.0 Unauthorized use strictly prohibited

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units																
1	087-WW			087-WWE-101315-A	10/13/2015	13:15	WW	WATER	REG	3	comp	N	X	X	X	X			X	X		1					L19
2	087-WW			087-WWE-101315-B	10/13/2015	13:20	WW	WATER	REG	5	grab	N					X	X				2					U448
3	087-WW			087-WWI-101315	10/13/2015	13:25	WW	WATER	REG	3	grab	N									X	3					A5
4																											G16
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
Frank Schroyer pH = 7.05 s.u. @ 8.8°C	AMEC Foster Wheeler				
Date/Time 1500 10/13/15		Date/Time 10-13 1500		Cooler Temp.	
Relinquished by	Company	Received by	Company	Condition	Custody Seals Intact
Date/Time 10-13 1701			Date/Time 10/13 1701	Cooler Temp.	

Preservatives: (Other; Specify): 1

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

03.5 SP

ALL SAMPLES RECEIVED PRESERVED AS APPLICABLE

INITIAL ASESSMENT NL38

LABEL VERIFICATION

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

Client Sample ID: 087-WWE-101315-A
Lab Sample ID: JC6107-1
Matrix: AQ - Water
Project: PESNJP: Hudson County, Jersey City, NJ

Date Sampled: 10/13/15
Date Received: 10/13/15
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	749	10	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead	< 15	15	ug/l	5	10/15/15	10/16/15	GT	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.21	0.20	ug/l	1	10/14/15	10/14/15	MA	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	10/15/15	10/15/15	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA37773
(2) Instrument QC Batch: MA37787
(3) Instrument QC Batch: MA37798
(4) Prep QC Batch: MP89591
(5) Prep QC Batch: MP89597

RL = Reporting Limit

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

Client Sample ID:	087-WWE-101315-A		
Lab Sample ID:	JC6107-1	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	10/15/15	LA	SM2540 D-11
pH [b]	6.91		su	1	10/13/15 17:10	HL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 520 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

Client Sample ID:	087-WWE-101315-A		
Lab Sample ID:	JC6107-1A	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2 4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 33	33	mg/l	1	10/14/15 16:10	LS	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

Client Sample ID:	087-WWE-101315-B		
Lab Sample ID:	JC6107-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N249107.D	1	10/14/15	WO	n/a	n/a	VN10560
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	50	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.6	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.1	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.25	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	20.6	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.45	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.47	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	75.3	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.7	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.66	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

Client Sample ID:	087-WWE-101315-B		
Lab Sample ID:	JC6107-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	49.5	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	101%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	103%		74-115%
1868-53-7	Dibromofluoromethane (S)	101%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@881656 10:36 06-Nov-2015

Report of Analysis

Client Sample ID:	087-WWE-101315-B		
Lab Sample ID:	JC6107-2	**Date Sampled:**	10/13/15
Matrix:	AQ - Water	**Date Received:**	10/13/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	10/15/15	LS	EPA 1664A

RL = Reporting Limit

THOMAS TUCCI, JR.
Chairman

KENNETH J. LUCIANIN
Vice Chairman

ELIZABETH CALABRESE
DAVID S. CATUOGNO
MILDRED C. CRUMP
SCOTT M. HECK
LUIS A. QUINTANA
Commissioners

"Protecting Public Health and the Environment"
600 Wilson Avenue
Newark, New Jersey 07105
P (973) 344-1800
www.nj.gov/pvsc
Fax: (973) 344-4876

GREGORY A. TRAMONTOZZI
Executive Director and General Counsel

JOSEPH F. KELLY
Acting Clerk

December 2, 2015

CERTIFIED RECEIPT
91 7190 0943 0010 0008 2910

Maria Kaouris, Remediation Manager
Honeywell International Inc.
101 Columbia Road, Solvay#4
Morristown, NJ 07962

RE: REVISIONS TO SEWER USE PERMIT # 20630025

Dear Ms. Kaouris,

Enclosed is a revised Sewer Use Permit for your facility. This revised permit will replace your presently active permit. The revisions are stated on page 3 of 8, special conditions or remarks.

In addition, Section B, conditions applicable to all permits (pages1-13) was sent with your permit. This section should be attached to the final permit.

If you have any questions, please contact Laura Marchitto at (973) 817-5905.

Very truly yours,
PASSAIC VALLEY SEWERAGE COMMISSION

Anthony Gammaro
Assistant Manager, User Charge & Permit Management

AG/lm
Enclosure

c: Gregory A. Tramontozzi, Executive Director
Herbert Skinner, Director, Inspection & Compliance Bureau
Andrew Caltagirone, Assistant Director, Inspection & Compliance Bureau
Laura Marchitto, Operations Coordinator, User Charge and Permit Management
Rich Haytas, Senior Engineer, Jersey City Municipal Utilities Authority

Passaic Valley Sewerage Commission
600 Wilson Ave
NEWARK NJ 07105



91 7190 0943 0010 0008 2910

HONEYWELL INTERNATIONAL INC.
ATTN: MARIA KAOURIS
115 Tabor Raod (4D-8)
Morrris Plains NJ 07950

17966

PASSAIC VALLEY SEWERAGE COMMISSION

SEWER USE PERMIT

Permit # 20630025

(Please use the Permit Number on any correspondence with PVSC)
In compliance with the provisions of the Federal Water Pollution Control Act, its amendments, the Clean Water Act and Rules and Regulations of the Passaic Valley Sewerage Commission

HONEYWELL INTERNATIONAL INC.

BAYFRONT REDEVELOPMENT

(herein, after referred to as the Permittee)
is authorized to discharge from a facility located at

525 & 575 ROUTE 440

JERSEY CITY, NEW JERSEY 07305

to the Passaic Valley Sewerage Commission Treatment Works in accordance with discharge limitations, monitoring requirements and other conditions set forth herein.

EFFECTIVE DATE 10/01/2013

EXPIRATION DATE 09/30/2018

PASSAIC VALLEY SEWERAGE COMMISSION

BY Gregory A. Tramontozzi

Gregory A. Tramontozzi
Executive Director

REV: 04/2015
REV: 12/2015

SECTION A

CONDITION SPECIFIC TO THIS PERMIT

1. **Sampling**

1.1 Samples and measurements taken as required under this permit shall be representative of the monitored activity. All samples shall be taken at the monitoring points approved by the PVSC and specified in this permit. Unless other wise specified, all samples shall be drawn by a 24-hour composite sampler acceptable to the PVSC which shall be equipped with attachments appropriate for affixing seals. During and after collection, the sample shall be maintained between $1^0C - 4^0C$.

1.2 In addition to the other sample requirements set forth in SECTION A, PART 2 of this permit, the Permittee shall comply with the following:

(a) Samples that are taken for heavy metal analysis must be drawn by an automatic 24-hour composite sampler. A grab sample is not acceptable for metals compliance determination.

PASSAIC VALLEY SEWERAGE COMMISSION
600 WILSON AVENUE
NEWARK, NEW JERSEY 07105

SIU FACT SHEET

Sewer Use Permit to discharge into Passaic Valley Sewerage Commission Treatment Plant

Honeywell International Incorporated has submitted a completed Contractual Indirect Discharger Application for a Sewer Use Permit Revision to discharge into the treatment works.

NAME & ADDRESS OF APPLICANT	NAME AND ADDRESS OF FACILITY WHERE DISCHARGE OCCURS
Honeywell International Inc. 101 Columbia Road, Solvay 4 Morristown, New Jersey 07962	Honeywell International Inc. Bayfront Redevelopment 525 & 575 Route 440 Jersey City, New Jersey 07305

Description of Facility Operations: Groundwater discharger

Million Gallons per Day (MGD) Industrial Wastewater: Approx. - .094 MGD

Number of Outlets: – 1: This outlet is used for compliance

Sample Point Location: The Sample points for 24hr. composite & grab sampling are located within the Groundwater Treatment Plant (GWTP) Building. The sample point for 24hr. composite sampling (Metals & BOD) is located at the effluent surge tank and the sample point for the grab samples (SGT-HEM, TVOC) is located upstream of the effluent flow meter.

Basis for Permit Conditions: Groundwater

Type of Pretreatment Equipment Installed: Equalization Tank, Chemical Precipitation System and a Solids Handling System

Duration of Sewer Use Permit: 5 Years

Special Conditions or Remarks: Revision. Amended to 70gpm. This company is covered under PVSC Local Limits

REV: 04/2015
REV: 12/2015

2. **MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS**

(a) Beginning (10/01/2013) and lasting through (09/30/2018) the Permittee is authorized to discharge from outlet # (20630025-1). Such discharge shall be monitored as specified below. The table lists the limitations or procedures applicable to this outlet. The volume shall be determined from flowmeter readings. The Permittee shall submit volume in accordance with PVSC User Charge Self-Monitoring Report Form MR-2.

EFFLUENT CHARACTERISTIC	DISCHARGE LIMITATIONS			MONITORING REQUIREMENTS	
PARAMETER	MONTHLY AVERAGE	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE	REPORTING PERIOD
Volume	XXXXX	XXXXX	XXXXX	XXXXX	Monthly

2. MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS

(b) Beginning (10/01/2013) and lasting through (09/30/2018) the Permittee is authorized to discharge from outlet # (20630025-1). Such discharge shall be monitored as specified below. The table lists the limitations or procedures applicable to this outlet. The volume shall be determined from flowmeter readings. The Sample points for 24hr. composite & grab sampling are located within the Groundwater Treatment Plant (GWTP) Building. The sample point for 24hr. composite sampling (Metals & BOD) is located at the effluent surge tank and the sample point for the grab samples (SGT-HEM, TVOC) is located upstream of the effluent flow meter. The Permittee shall submit volume and analysis results in accordance with PVSC Pretreatment Discharge Monitoring Form MR-1.

	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
PARAMETER	MONTHLY AVERAGE	DAILY MAX	MEASUREMENT FREQUENCY	SAMPLE TYPE	REPORTING PERIOD
SGT-HEM (Non-Polar Material)	100 mg/l	150 mg/l	Monthly	Grab*	Monthly
Chromium	XXXXX	23 lbs/day	Monthly	24 hr. Comp.	Monthly
TVOC	XXXXX	XXXXX	Monthly	Grab**	Monthly
BOD	XXXXX	XXXXX	Monthly	24 hr. Comp	Monthly
Volume	XXXXX	XXXXX	XXXXX	XXXXX	Monthly

* Sampling procedure must be in accordance with those specified by N.J.D.E.P.. Analysis procedure as defined by E.P.A. Method 1664A.

** Sampling procedure must be in accordance with those specified by N.J.D.E.P.. Analysis procedure as defined by E.P.A. Method 624.

REV: 04/2015

2. MONITORING REQUIREMENTS AND DISCHARGE LIMITATIONS

(b) Beginning (10/01/2013) and lasting through (09/30/2018) the Permittee is authorized to discharge from outlet # (20630025-1). Such discharge shall be monitored as specified below. The table lists the limitations or procedures applicable to this outlet. The volume shall be determined from flowmeter readings. The Sample points for 24hr. composite & grab sampling are located within the Groundwater Treatment Plant (GWTP) Building. The sample point for 24hr. composite sampling (Metals & BOD) is located at the effluent surge tank and the sample point for the grab samples (SGT-HEM, TVOC) is located upstream of the effluent flow meter The Permittee shall submit volume and analysis results in accordance with PVSC Pretreatment Discharge Monitoring Report Form MR-1.

PVSC LOCAL LIMITS	DISCHARGE LIMITATIONS		MONITORING REQUIREMENTS		
PARAMETER	mg/l MONTHLY AVERAGE	mg/l THRESHOLD VALUE	MEASUREMENT FREQUENCY	SAMPLE TYPE	REPORTING PERIOD
Cu	3.6	0.18	Monthly	24 hr. comp.	Monthly
Pb	1.0	0.05	Monthly	24 hr. comp.	Monthly
Hg	0.080	0.004	Monthly	24 hr. comp.	Monthly
Ni	3.9	0.2	Monthly	24 hr. comp.	Monthly
Zn	4.2	0.21	Monthly	24 hr. comp.	Monthly
Volume	XXXXX	XXXXX	XXXXX	XXXXX	Monthly

HONEYWELL INTERNATIONAL INC. – BAYFRONT REDEVELOPMENT - ID# 20630025

3. SCHEDULE OF COMPLIANCE

The Permittee is required to meet the following schedule of compliance:

A. Analysis of wastewater parameters shall be performed by a laboratory that has been certified by the State of New Jersey. Perittee is required to submit all certified analyses as an attachment to the monthly MR-1 report.

B. The Permittee is required to submit as an attachment to the MR-1 and/or MR-2 report monthly, a water balance showing meter readings used to calculate the reported volume discharged.

C. Permittee to submit a periodic compliance monitoring report MR-2 form for monthly reporting requirements within twenty-one (21) days after the end date of each preceding month.

D. Permittee to be in compliance with PVSC Local Limits.

Permittee to submit a periodic compliance monitoring report MR-1 form for monthly reporting requirements within thirty-five (35) days after the end date of each preceding month in accordance with General Pretreatment Regulations 40 CFR 403.12 section (e).

E. If the Permittee has been authorized by the PVSC to certify for non-use for one or more heavy metals, the Permittee must sample the discharge in March and September of each year in order to prove continued compliance. If any analytical results exceed the Threshold Value, but not the Local Limit, the Permittee shall analyze a sample each succeeding month until three successive monthly results are at or below the Threshold Value stated in the PVSC Rules and Regulations Section B-103.3 Table B-2.

F. Be certain that you do not surcharge any sewer lines. The rate of discharge must not exceed a maximum average daily flow rate of 70 gpm over the course of a sample date. Please note all discharges will automatically cease in the event the liquid level in the Emergency Outflow Structure Standpipe rises to a level 12 inches from the top of this pipe as detected by a float switch.

G. Permittee must operate in accordance with its 6/4/14 approved Slug Control Plan.

H. All discharge must pass through a non-resettable flow meter.

I. All discharge shall cease 5 years from the start of discharge. If additional time is needed, you must request an extension from PVSC 90 days prior to the expiration date of the Agreement and this Sewer Use Permit.

REV: 04/2015
REV: 12/2015

HONEYWELL INTERNATIONAL INC. - BAYFRONT REDEVELOPEMENT – ID# 20630025

SECTION A-3 SCHEDULE OF COMPLIANCE CONTINUED

J. All PVSC Rules & Regulations must be adhered to. (www.nj.gov/pvsc)

K. This Sewer Use Permit will run concurrent with a said contract executed by both Honeywell International Inc. and PVSC.

L. Honeywell International Incorporated must abide with the Memorandum of Understanding (MOU) executed both by Honeywell International Inc. and PVSC on 1/29/13.

M. PVSC reserves the right to require toxicity evaluation and/or to change the condition of this Permit, including discontinuing the discharge if it deems necessary.

N. The Permittee shall notify in writing, all agencies as directed by 40 CFR 403.12 (p) of any discharges classified hazardous waste under 40 CFR 261.

REV: 04/2015

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending November 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 12 OF 25

- **2016 Monthly Reports Part 1**

1/14/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

January 14, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2015-12

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from December 1 – December 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:jtc/sgf

Attachment: December 2015 SA-6/7 Combined Monthly Progress Report No. 2015-12

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2015-12
Project SA-6 & 7 Remediation

December 2015

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
12/11/15	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-11	Honorable Robert G. Torricelli Office of the Special Master
12/15/15	Special Master Conference Call	n/a
12/17/15	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, JC MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
12/23/15	SA-6 Horizon C Cover Soils Study Area 6 Chromium Remedy Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	12/6/15	12/13/15	12/20/15	12/27/15
Construction Management (AMEC)	8	10	9	8
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	30	31	32	36
Arecon/US Ecology Subcontractors	2	0	2	2
Langan	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	1	2	2
Cornerstone	0	2	2	1
TOTAL STAFF	**46**	**50**	**53**	**55**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected December PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Conducted S-3 Mass Removal Injection Event No. 26 in well 088-IW-01.
- Completed installation of dual walled piping and electrical conduit to PW-3 extraction well.
- Completed startup and pumping of PW-3 extraction well.
- Conducted round of quarterly groundwater level measurements.
- Conducted biennial LTMP groundwater quality sampling event.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on December 8, 2015.
- From December 23, 2015 to December 28, 2015, the GWTP was offline due to a faulty control card. Trouble shooting was attempted on December 26, 2015 which included replacement of a communication cable and the input and output boards. These actions did not restore the system. On December 28, 2015 the problem was diagnosed as being a faulty scanner and module card and cards were replaced. The system was fully restarted on December 28, 2015 at 1:25 pm.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	12/6/15	12/13/15	12/20/15	12/27/15
Avg. Gallons Treated & Discharged (per day)	76,813	67,192	62,438	61,634
Average Flow (gpm) for Operating Period	55	53	54	49
Avg. Hours of Plant Operation	23	21	23	20
GWTP Influent Tanks (gal.)	4,080	4,157	4,560	5,424

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continue pumping/dewatering of well points associated with Excavation Areas EA-2 and EA-3.

- Completed excavation of EA-8.
- Completed installation of shallow well points and dewatering well at Site 163.
- Began dewatering and excavation activities of Site 163. Completed installation of temporary 40 mil geomembrane liner in bermed containment areas.
- Initiated excavation of Excavation Areas EA-2 and EA-3 and placed ramp and bridge lift to protect work in the southern portion.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	154	21.56	3,321
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	65	26.1	1,701

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation, EA-2/EA-3 Volume Excavated - Total for Reporting Period: EA-2/EA-3(9,945 CY) / Total to Date: 34,556 CY
Backfill in Progress	EA-8, EA2/3

3. BACKFILL MATERIALS USED

Source	Week Ending			
	12/6/15	12/13/15	12/20/15	12/27/15
Liberty I-5	940	2,337	1,427	0
Horizon C soils	1,133	0	0	0
Tilcon 2.5”	182	0	0	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in EA-2/EA-3.
- Screened Celgene material was removed from the east side of the SA-6 South open space area during final grading of the protective cover soils. Approximately 203 cubic yards was removed from the cap area and transferred to the Celgene stockpile area.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.

- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Began offloading of area 2N.
- Area 3N: Began placing surcharge material, approximately 80% of the design volume to be placed is complete.
- Area 4N: Completed installation of surcharge monitoring instrumentation.

F. SHEET PILE OPERATIONS

- Completed the installation of lagging to the EA-2/EA-3 temporary excavation support system.
- Completed installation of sheeting within the Trash Pit interior (grout sealing to concrete walls still to be completed).

G. CAPPING OPERATIONS

- Continued fine grading of protective cover soils and associated compaction testing on the SA-6 South open space area.
- Continued placement of root barrier and demarcation tape on the SA-6 South open space area.
- Continued placement and grading of Horizon C soils (within future vegetated areas) and structural fill (within future roadway areas) of the SA-6 South open space area.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Pending	12/2/15	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue Trash Pit Interior sheeting, grouting and backfilling activities.
- Complete EA-2/EA-3 excavation and backfilling activities.
- Complete EA-1 excavation and backfilling activities.
- Continue Site 163 dewatering and excavation activities.
- Complete Area 3N Surcharge material placement and begin to place material in Area 4N. Prepare next monthly Surcharge Monitoring Report for data collected in December 2015.
- Begin installation of the Contingent Groundwater Extraction System piping in Area 1N.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Pending identification of new source(s), resume import and placement of Horizon C Soils on the Study Area 6 South open space area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Complete placement of asphalt associated with the PW-3 force main trench.

- Continue dewatering and excavation activities associated with Site 163 excavation within the residential footprint including installation of temporary sheeting as needed.

ATTACHMENTS:

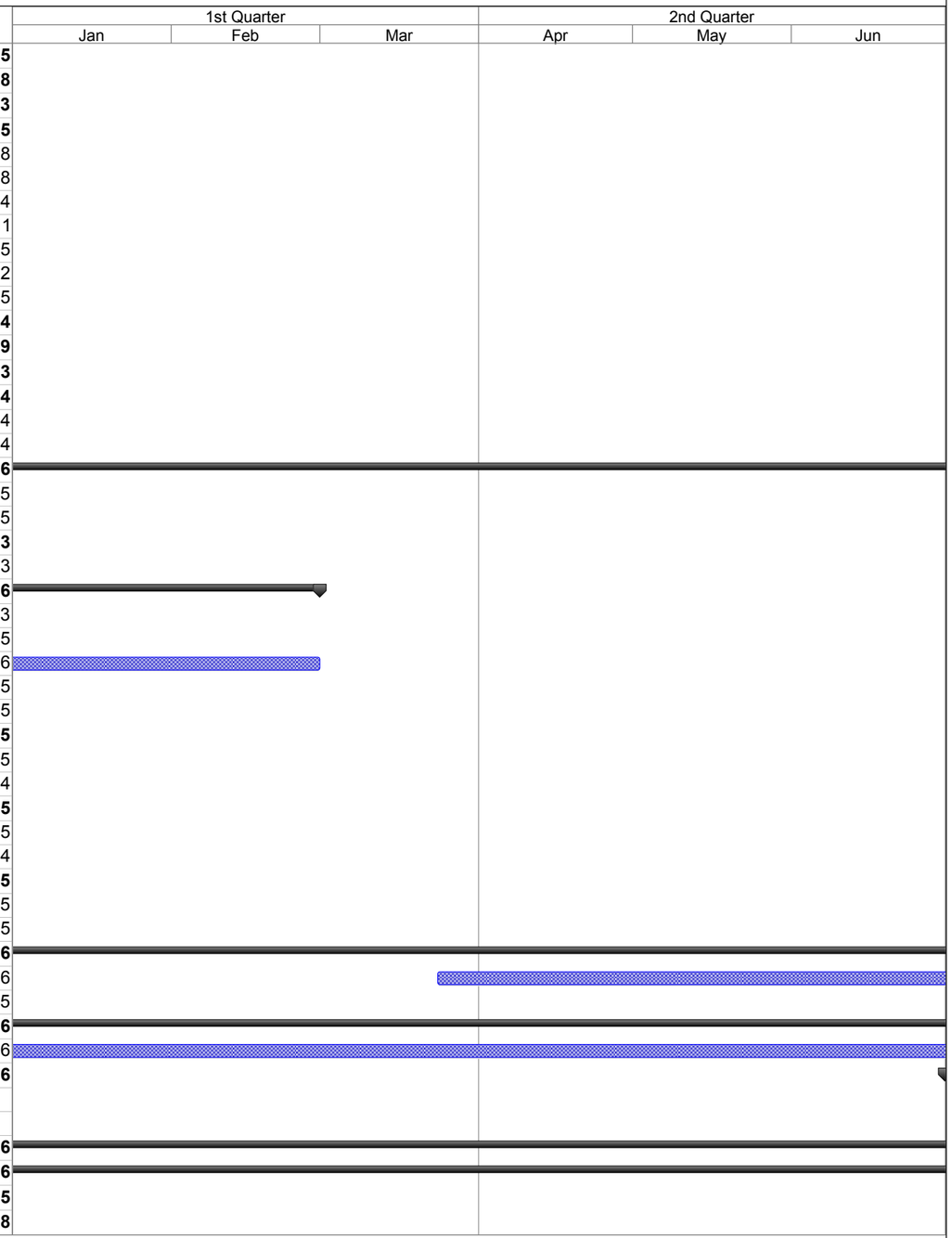
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. *Groundwater Quality Data (not included in this reporting period)*
9. *Surcharge Monitoring Update (not included in this reporting period)*
10. Sheet Pile Update (Repair Log)
11. Capping Update (SA-6 South Cap Subgrade Progress Map)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 12/29/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Continuing Excavation Areas 2 and 3.



Site Photograph 2: Placement of clean fill in Excavation Areas 2 and 3.



Site Photograph 3: Placement of surcharge soils at former city properties Area 3N.



Site Photograph 4: Installing root barrier in open space area utility corridor.



Site Photograph 5: Loading clean fill for use in utility corridor.



Site Photograph 6: Spreading clean fill in utility corridor.



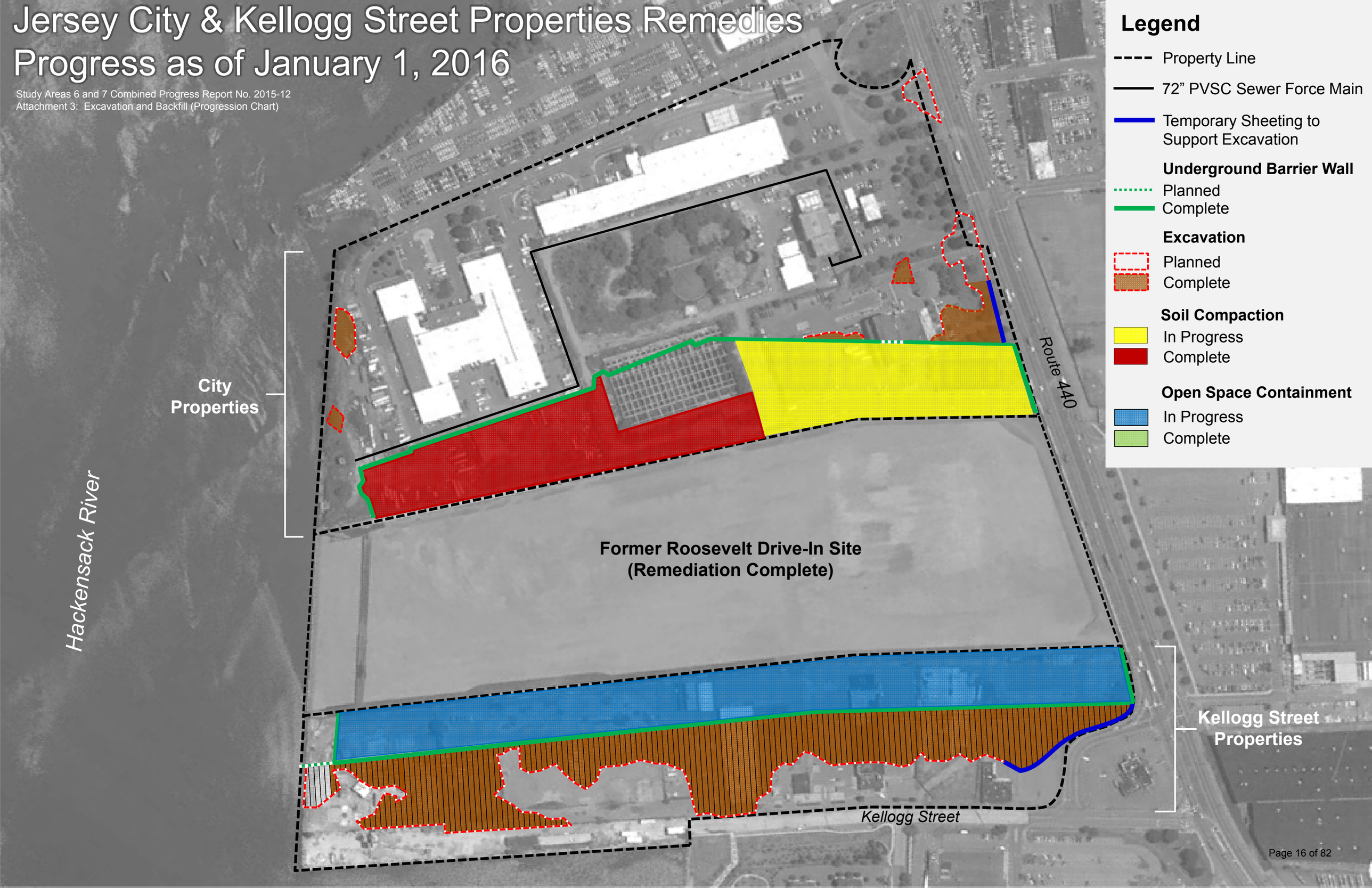
Site Photograph 7: Placement of clean fill in open space area utility corridor.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of January 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2015-12
Attachment 3: Excavation and Backfill (Progression Chart)



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

Attachment 4: Dewatering Operations Update

STUDY AREA 6 NORTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
10/30/15	1	24	19,20	26	N/A	N/A	7,750	2,962,922	5.4	
11/02/15	1	72	19,20	26	N/A	N/A	21,000	2,983,922	4.9	
11/03/15	1	24	19,20	26	N/A	N/A	7,750	2,991,672	5.4	
11/04/15	1	24	19,20	26	N/A	N/A	7,750	2,999,422	5.4	
11/05/15	1	24	19,20	26	N/A	N/A	7,750	3,007,172	5.4	
11/06/15	1	24	19,20	26	N/A	N/A	7,750	3,014,922	5.4	
11/09/15	1	72	19,20	26	N/A	N/A	20,500	3,035,422	4.7	
11/10/15	1	24	19,20	26	N/A	N/A	7,750	3,043,172	5.4	
11/11/15	1	24	19,20	26	N/A	N/A	3,500	3,046,672	2.4	
11/12/15	1	24	19,20	26	N/A	N/A	3,500	3,050,172	2.4	
11/13/15	1	24	19,20	26	N/A	N/A	3,000	3,053,172	2.1	
11/16/15	1	72	19,20	26	N/A	N/A	6,000	3,059,172	1.4	
11/17/15	1	24	19,20	26	N/A	N/A	2,200	3,061,372	1.5	
11/18/15	1	24	19,20	26	N/A	N/A	2,000	3,063,372	1.4	
11/19/15	1	24	19,20	22	N/A	N/A	2,000	3,065,372	1.4	
11/20/15	1	24	19,20	22	N/A	N/A	2,000	3,067,372	1.4	
11/22/15	1	48	19,20	22	N/A	N/A	4,000	3,071,372	1.4	
11/23/15	1	24	19,20	22	N/A	N/A	2,000	3,073,372	1.4	
11/24/15	1	24	19,21	23	N/A	N/A	2,000	3,075,372	1.4	
11/25/15	1	24	19,20	18	N/A	N/A	1,500	3,076,872	1.0	
11/29/15	1	96	19,20	18	N/A	N/A	6,000	3,082,872	1.0	
11/30/15	1	24	19,20	18	N/A	N/A	2,000	3,084,872	1.4	
12/01/15	1	24	19,20	14	N/A	N/A	1,800	3,086,672	1.3	
12/02/15	1	24	19,20	14	N/A	N/A	1,800	3,088,472	1.3	
12/03/15	1	24	19,20	14	N/A	N/A	1,800	3,090,272	1.3	
12/04/15	1	24	19,20	14	N/A	N/A	1,800	3,092,072	1.3	
12/06/15	1	48	19,20	14	N/A	N/A	3,000	3,095,072	1.0	
12/07/15	1	24	19,20	14	N/A	N/A	1,800	3,096,872	1.3	
12/08/15	1	24	19,20	14	N/A	N/A	1,800	3,098,672	1.3	
12/09/15	1	24	19,20	14	N/A	N/A	1,800	3,100,472	1.3	
12/10/15	1	24	19,20	14	N/A	N/A	1,800	3,102,272	1.3	
12/13/15	1	48	19,20	11	N/A	N/A	1,700	3,103,972	0.6	
12/14/15	1	24	19,20	11	N/A	N/A	1,700	3,105,672	1.2	
12/15/15	1	24	19,20	11	N/A	N/A	1,700	3,107,372	1.2	
12/16/15	1	24	19,20	11	N/A	N/A	1,700	3,109,072	1.2	
12/17/15	1	24	19,20	11	N/A	N/A	1,700	3,110,772	1.2	
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline

Note: Previous information is trunketed. Only last month and current month information is provided.
Dewatering is associated with EA2/EA3 Excavation.

STUDY AREA 6 NORTH DEEP WELL DATA (DW-6)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
12/06/15	48	N/A	N/A	10,000	10,000	3.5	
12/07/15	24	N/A	N/A	8,000	18,000	5.6	
12/08/15	24	N/A	N/A	8,000	26,000	5.6	
12/09/15	24	N/A	N/A	8,000	34,000	5.6	
12/10/15	24	N/A	N/A	10,000	44,000	6.9	
12/13/15	48	N/A	N/A	20,000	64,000	6.9	
12/14/15	24	N/A	N/A	10,000	74,000	6.9	
12/15/15	24	N/A	N/A	10,000	84,000	6.9	
12/16/15	24	N/A	N/A	10,000	94,000	6.9	
12/17/15	24	N/A	N/A	10,000	104,000	6.9	
12/18/15	24	N/A	N/A	10,000	114,000	6.9	
12/20/15	48	N/A	N/A	20,000	134,000	6.9	
12/21/15	24	N/A	N/A	10,000	144,000	6.9	
12/23/15	24	N/A	N/A	10,000	154,000	6.9	
12/24/15	24	N/A	N/A	10,000	164,000	6.9	
12/26/15	48	N/A	N/A	20,000	184,000	6.9	

STUDY AREA 6 NORTH DEEP WELL DATA (DW-7)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/18/15	24	N/A	N/A	11,500	11,500	8.0	Flow meter not installed, tank measured
11/19/15	24	N/A	N/A	11,000	22,500	7.6	
11/20/15	24	N/A	N/A	11,000	33,500	7.6	
11/22/15	48	N/A	N/A	11,000	44,500	3.8	
11/23/15	24	N/A	N/A	11,000	55,500	7.6	
11/24/15	24	N/A	N/A	10,500	66,000	7.3	
11/25/15	24	N/A	N/A	10,500	76,500	7.3	
11/29/15	96	N/A	N/A	40,000	116,500	6.9	
11/30/15	24	N/A	N/A	10,500	127,000	7.3	
12/01/15	24	N/A	N/A	10,000	137,000	6.9	
12/02/15	24	N/A	N/A	10,000	147,000	6.9	
12/03/15	24	N/A	N/A	10,000	157,000	6.9	
12/04/15	24	N/A	N/A	12,000	169,000	8.3	
12/06/15	48	N/A	N/A	20,000	189,000	6.9	
12/07/15	24	N/A	N/A	8,000	197,000	5.6	
12/08/15	24	N/A	N/A	8,000	205,000	5.6	
12/09/15	24	N/A	N/A	8,000	213,000	5.6	
12/10/15	24	N/A	N/A	10,000	223,000	6.9	
12/13/15	48	N/A	N/A	20,000	243,000	6.9	
12/14/15	24	N/A	N/A	10,000	253,000	6.9	
12/15/15	24	N/A	N/A	10,000	263,000	6.9	
12/16/15	24	N/A	N/A	10,000	273,000	6.9	
12/17/15	24	N/A	N/A	10,000	283,000	6.9	
12/18/15	24	N/A	N/A	10,000	293,000	6.9	
12/20/15	48	N/A	N/A	20,000	313,000	6.9	
12/21/15	24	N/A	N/A	10,000	323,000	6.9	Offline for Excavation/Backfill

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
10/29/15	9:00	15:00	6:00	36,973.34	37,092.42	119,080	36,948,570	
11/02/15	8:00	13:00	5:00	37,092.42	37,158.61	66,190	37,014,760	PVSC Compliance Sample Collected
11/04/15	8:30	14:30	6:00	37,158.61	37,207.47	48,860	37,063,620	
11/06/15	12:00	15:00	3:00	37,207.47	37,237.70	30,230	37,093,850	
11/18/15	8:00	15:00	7:00	37,237.70	37,375.84	138,140	37,231,990	
11/22/15	9:00	13:00	4:00	37,375.84	37,440.68	64,840	37,296,830	
11/23/15	9:30	14:30	5:00	37,440.68	37,505.15	64,470	37,361,300	
11/25/15	7:15	13:45	6:30	37,505.15	37,566.11	60,960	37,422,260	
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	
12/01/15	8:00	15:15	7:15	37,667.64	37,743.44	75,800	37,599,590	
12/02/15	7:00	15:00	8:00	37,743.44	37,805.70	62,260	37,661,850	
12/03/15	9:00	15:15	6:15	37,805.70	37,863.53	57,830	37,719,680	
12/04/15	7:00	12:30	5:30	37,863.53	37,912.70	49,170	37,768,850	
12/06/15	12:00	14:00	2:00	37,912.70	37,958.66	45,960	37,814,810	
12/07/15	10:30	15:15	4:45	37,958.66	37,984.16	25,500	37,840,310	
12/08/15	11:00	14:30	3:30	37,984.16	38,016.05	31,890	37,872,200	
12/09/15	10:30	15:00	4:30	38,016.05	38,051.66	35,610	37,907,810	
12/10/15	8:00	15:15	7:15	38,051.66	38,176.63	124,970	38,032,780	PVSC Compliance Sample Collected
12/13/15	9:00	12:15	3:15	38,176.63	38,243.45	66,820	38,099,600	
12/14/15	13:45	15:30	1:45	38,243.45	38,278.63	35,180	38,134,780	
12/15/15	7:00	12:30	5:30	38,278.63	38,398.71	120,080	38,254,860	
12/16/15	11:30	15:30	4:00	38,398.71	38,456.74	58,030	38,312,890	
12/17/15	7:00	11:00	4:00	38,456.74	38,495.28	38,540	38,351,430	
12/18/15	8:00	15:15	7:15	38,495.28	38,587.27	91,990	38,443,420	
12/20/15	8:45	12:00	3:15	38,587.27	38,637.00	49,730	38,493,150	
12/21/15	7:30	13:00	5:30	38,637.00	38,700.54	63,540	38,556,690	
12/23/15	7:30	13:45	6:15	38,700.54	38,805.80	105,260	38,661,950	
12/24/15	8:00	15:00	7:00	38,805.80	38,835.49	29,690	38,691,640	
12/26/15	8:00	14:00	6:00	38,835.49	38,889.27	53,780	38,745,420	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

MATERIAL TRACKING AND SAMPLING LOG
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA4	<20	087-EA4-20-a (bermed/trench material)	225	087-EA4-20-a1	9/11/2015	10:35	2	Yes		
				087-EA4-20-a2	9/11/2015	10:40	<1.4	Yes		
				087-EA4-20-a3	9/11/2015	10:45	<1.8	Yes		
				087-EA4-20-a4	9/11/2015	10:50	5.0	Yes		
EA-5	<20	087-EA5-20-a1:b4 (stockpile of A material)	1300	087-EA5-20-a1	9/11/2015	11:05	0.7	Yes		
				087-EA5-20-a2	9/11/2015	11:10	<1.7	Yes		
				087-EA5-20-a3	9/11/2015	11:15	<0.46	Yes		
				087-EA5-20-a4	9/11/2015	11:20	<1.1	Yes		
				087-EA5-20-b1	9/11/2015	11:25	<2.0	Yes		
				087-EA5-20-b2	9/11/2015	11:30	6.8	Yes		
				087-EA5-20-b3	9/11/2015	11:35	8.3	Yes		
				087-EA5-20-b4	9/11/2015	11:40	<0.55	Yes		
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	*		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	*		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	*		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	*		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	*		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	*		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	*		
				087-EA5-20-d4	9/11/2015	12:45	9.6	*		
3S cap material	<240	124-3S-EX2-a	780	124-3S-EX2-a1	9/28/2015	--	50		Yes	
				124-3S-EX2-a2	9/28/2015	--	48.5		Yes	
				124-3S-EX2-a3	9/28/2015	--	82.3		Yes	
				124-3S-EX2-a4	9/28/2015	--	785			Yes
3S Cap Material (under asphalt roadway)	<240	124-3S-Roadway-a	525	124-3S-Roadway-a1	9/28/2015	--	327			Yes
				124-3S-Roadway-a2	9/28/2015	--	2100			Yes
				124-3S-Roadway-a3	9/28/2015	--	1970			Yes
				124-3S-Roadway-a4	9/28/2015	--	5900			Yes
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		
3S cap material	<240	124-3S-EX3-a	1000	124-3S-EX3-a1	10/21/2015	--	3120			Yes
				124-3S-EX3-a2	10/21/2015	--	6820			Yes
				124-3S-EX3-a3	10/21/2015	--	5690			Yes
				124-3S-EX3-a4	10/21/2015	--	4300			Yes

MATERIAL TRACKING AND SAMPLING LOG
SA-6 North and South

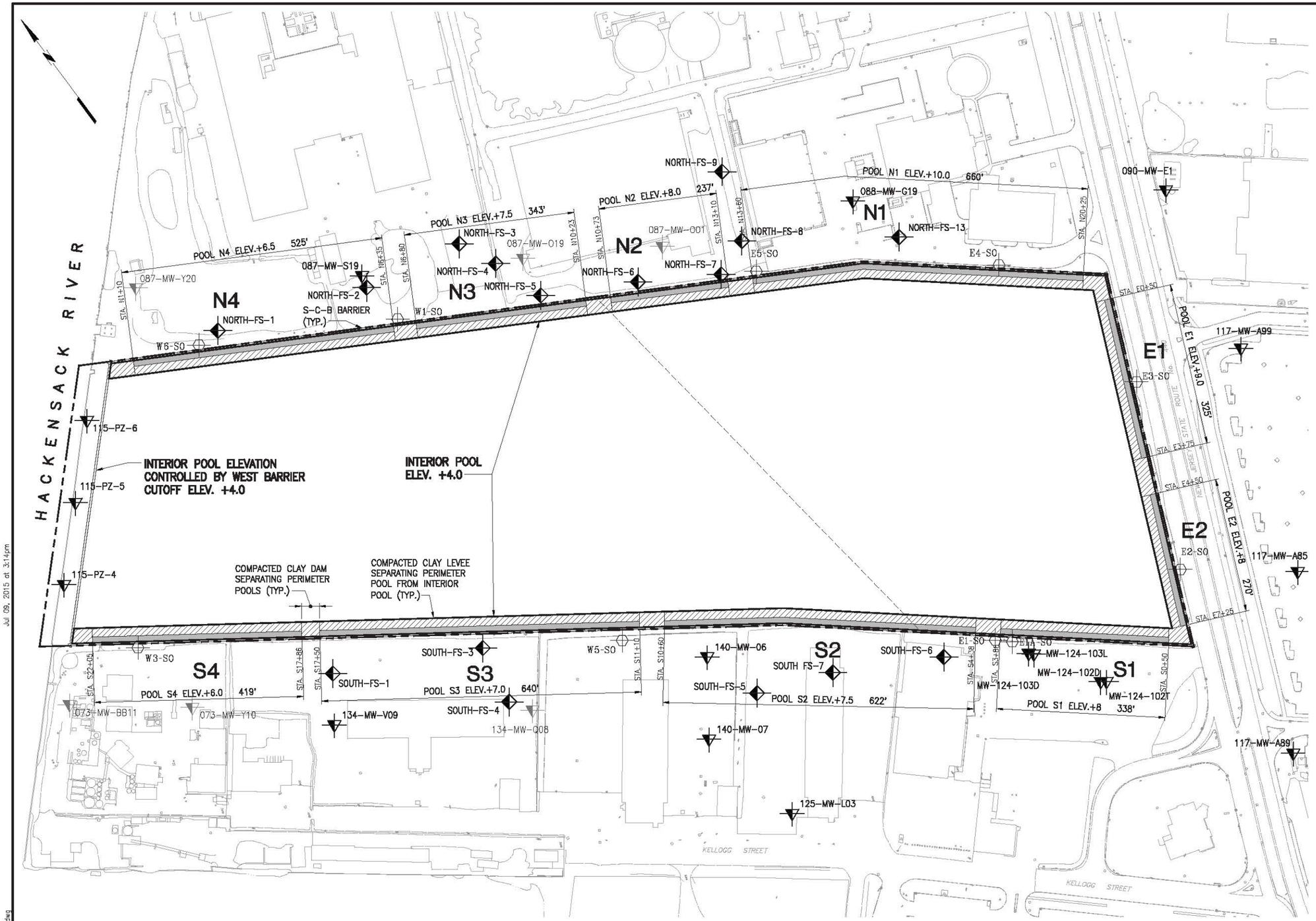
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	--	<.5	*		
				087-1N-20-a2	10/28/2015	--	2.1	*		
				087-1N-20-a3	10/28/2015	--	<.48	*		
				087-1N-20-a4	10/28/2015	--	5.4	*		
				087-1N-20-b1	10/28/2015	--	1.0	*		
				087-1N-20-b2	10/28/2015	--	<2.0	*		
				087-1N-20-b3	10/28/2015	--	0.65	*		
				087-1N-20-b4	10/28/2015	--	<1.9	*		
				087-1N-20-c1	10/28/2015	--	<2.0	*		
				087-1N-20-c2	10/28/2015	--	<1.8	*		
				087-1N-20-c3	10/28/2015	--	<1.8	*		
				087-1N-20-c4	10/28/2015	--	<.51	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	--	<1.4	*		
				087-1N-20-d2	11/17/2015	--	9.5	*		
				087-1N-20-d3	11/17/2015	--	19.9	*		
				087-1N-20-d4	11/17/2015	--	<1.5	*		
				087-1N-20-e1	11/17/2015	--	<1.3	*		
				087-1N-20-e2	11/17/2015	--	<1.4	*		
				087-1N-20-e3	11/17/2015	--	<1.4	*		
				087-1N-20-e4	11/17/2015	--	<1.4	*		
				087-1N-20-f1	11/17/2015	--	<1.5	*		
				087-1N-20-f2	11/17/2015	--	<.93	*		
				087-1N-20-f3	11/17/2015	--	<.90	*		
				087-1N-20-f4	11/17/2015	--	<1.5	*		
				087-1N-20-g1	11/17/2015	--	<.95	*		
				087-1N-20-g2	11/17/2015	--	<.86	*		
				087-1N-20-g3	11/17/2015	--	<.96	*		
				087-1N-20-g4	11/17/2015	--	<1.3	*		
				087-1N-20-h1	11/17/2015	--	1.9	*		
				087-1N-20-h2	11/17/2015	--	<.92	*		
				087-1N-20-h3	11/17/2015	--	<1.4	*		
				087-1N-20-h4	11/17/2015	--	<.92	*		
				087-1N-20-i1	11/17/2015	--	<1.3	*		
				087-1N-20-i2	11/17/2015	--	<2.0	*		
				087-1N-20-i3	11/17/2015	--	<1.9	*		
				087-1N-20-i4	11/17/2015	--	<2.1	*		
				087-1N-20-j1	11/17/2015	--	<1.8	*		
				087-1N-20-j2	11/17/2015	--	<1.4	*		
				087-1N-20-j3	11/17/2015	--	<1.9	*		
				087-1N-20-j4	11/17/2015	--	<1.8	*		
				087-1N-20-k1	11/17/2015	--	<1.6	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-k2	11/17/2015	--	<2.0	*		
				087-1N-20-k3	11/17/2015	--	<2.1	*		
				087-1N-20-k4	11/17/2015	--	<1.4	*		
				087-1N-20-l1	11/17/2015	--	<1.4	*		
				087-1N-20-l2	11/17/2015	--	<1.9	*		
				087-1N-20-l3	11/17/2015	--	<2.0	*		
				087-1N-20-l4	11/17/2015	--	<2.1	*		
				087-1N-20-m1	11/17/2015	--	<1.9	*		
				087-1N-20-m2	11/17/2015	--	<1.9	*		
				087-1N-20-m3	11/17/2015	--	<1.4	*		
				087-1N-20-m4	11/17/2015	--	<1.4	*		
				087-1N-20-n1	11/17/2015	--	<1.4	*		
				087-1N-20-n2	11/17/2015	--	<1.4	*		
				087-1N-20-n3	11/17/2015	--	<1.3	*		
				087-1N-20-n4	11/17/2015	--	<1.5	*		

MATERIAL TRACKING AND SAMPLING LOG
SA-6 North and South

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	*		
				087-EA2-20-a2	12/11/2015	--	6.7	*		
				087-EA2-20-a3	12/11/2015	--	<1.9	*		
				087-EA2-20-a4	12/11/2015	--	3.8	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

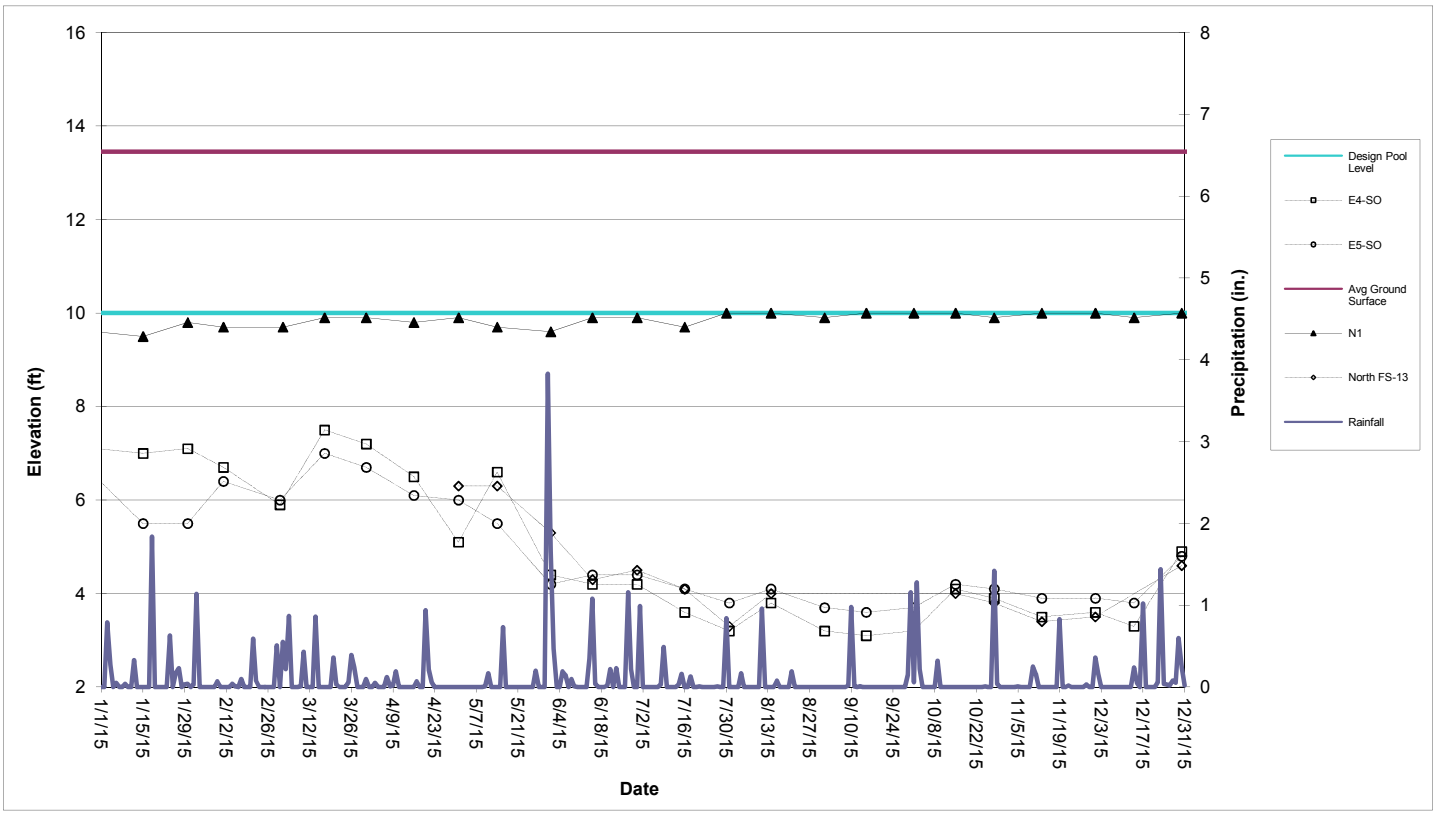
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

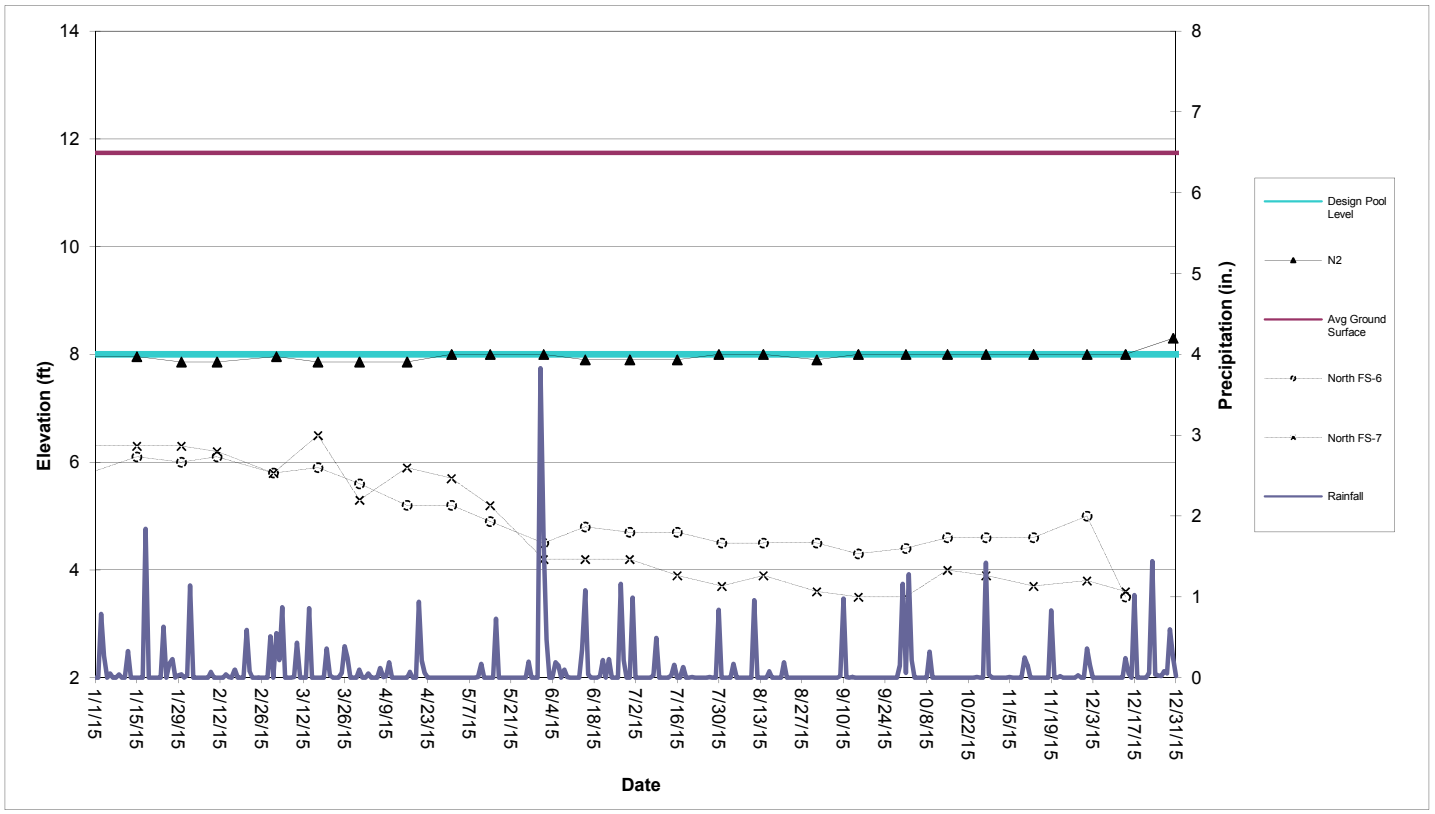
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

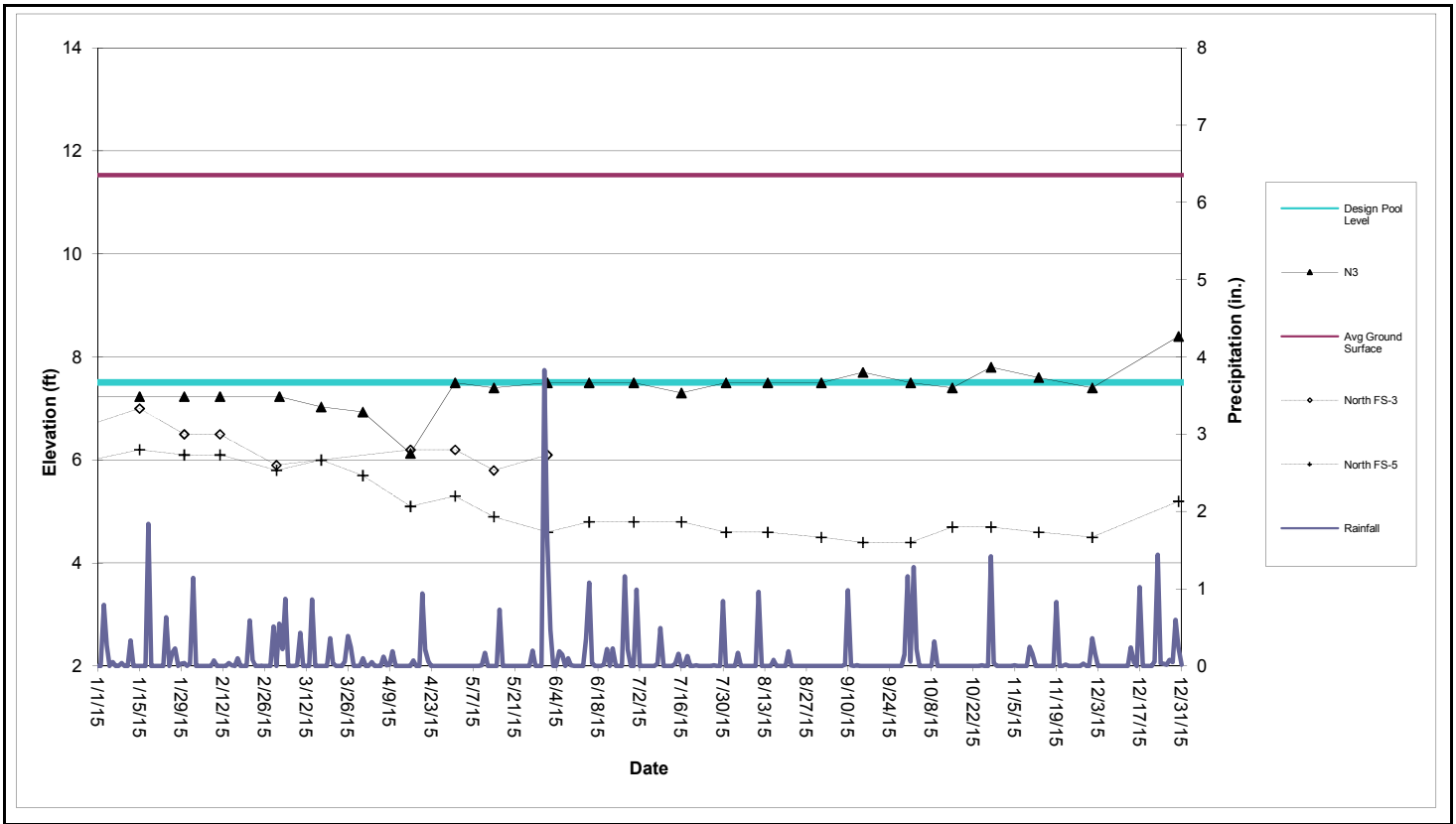
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



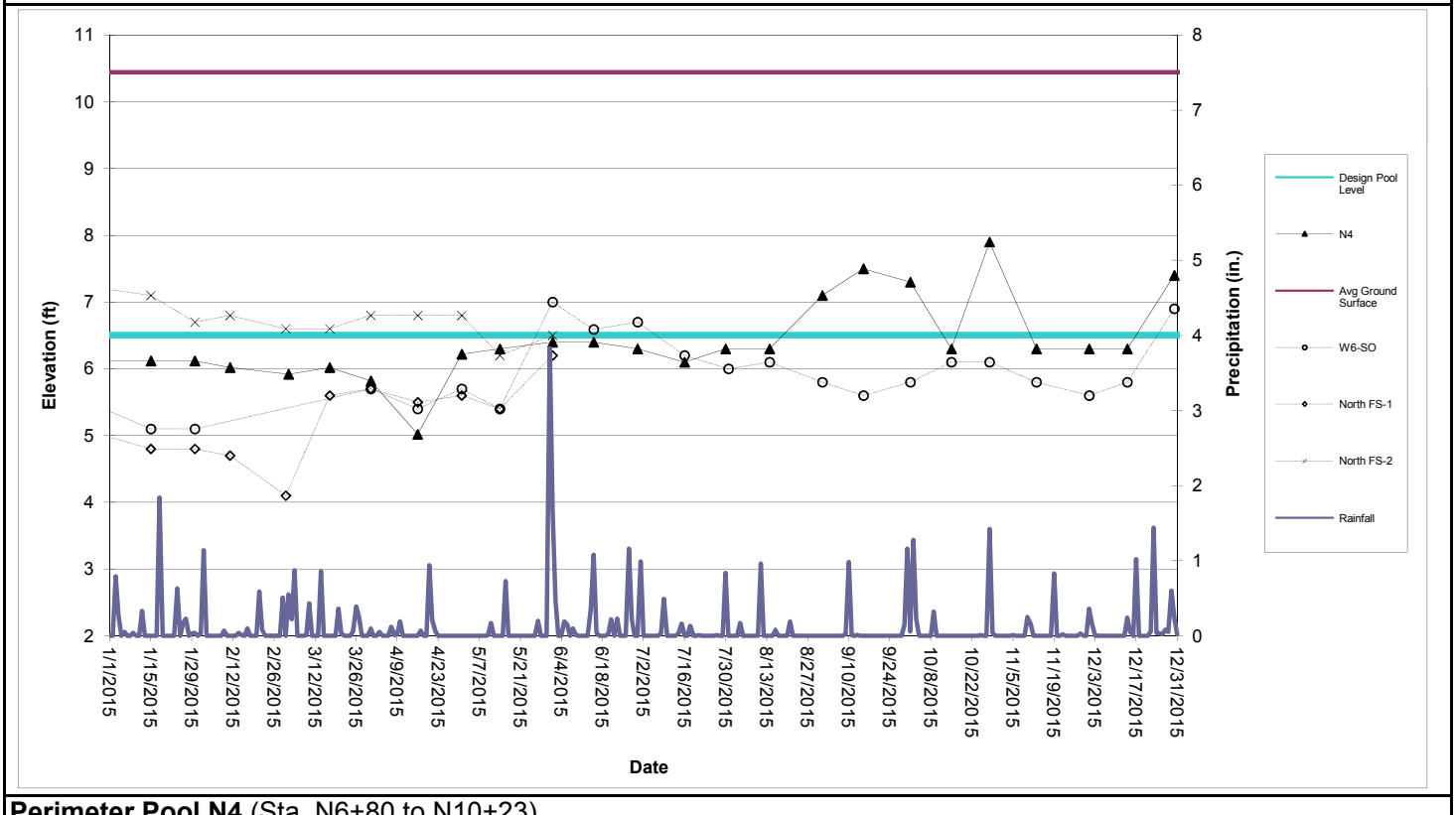
Perimeter Pool N1 (Sta. N13+60 to N20+25)



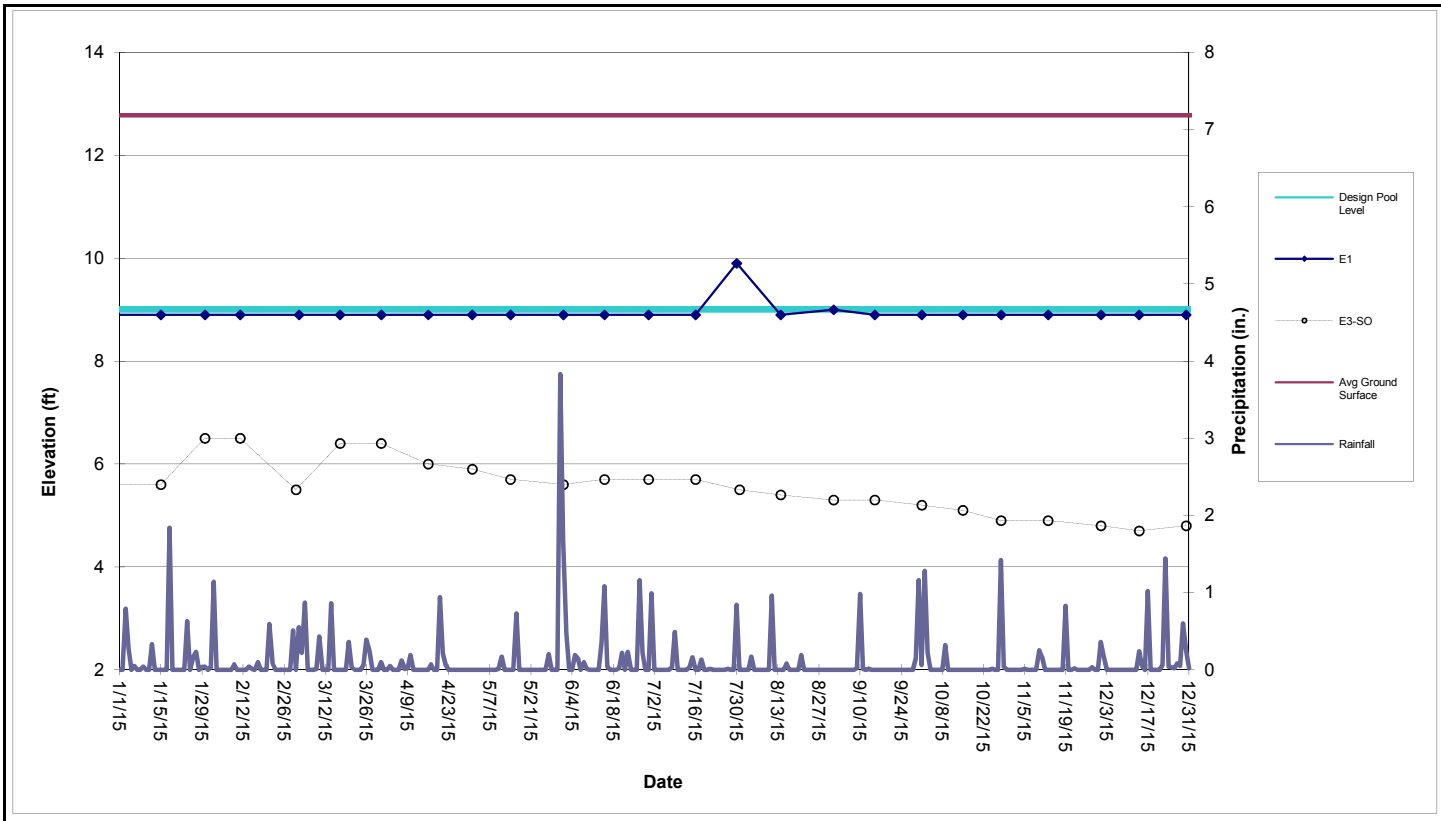
Perimeter Pool N2 (Sta. N10+73 to N13+10)



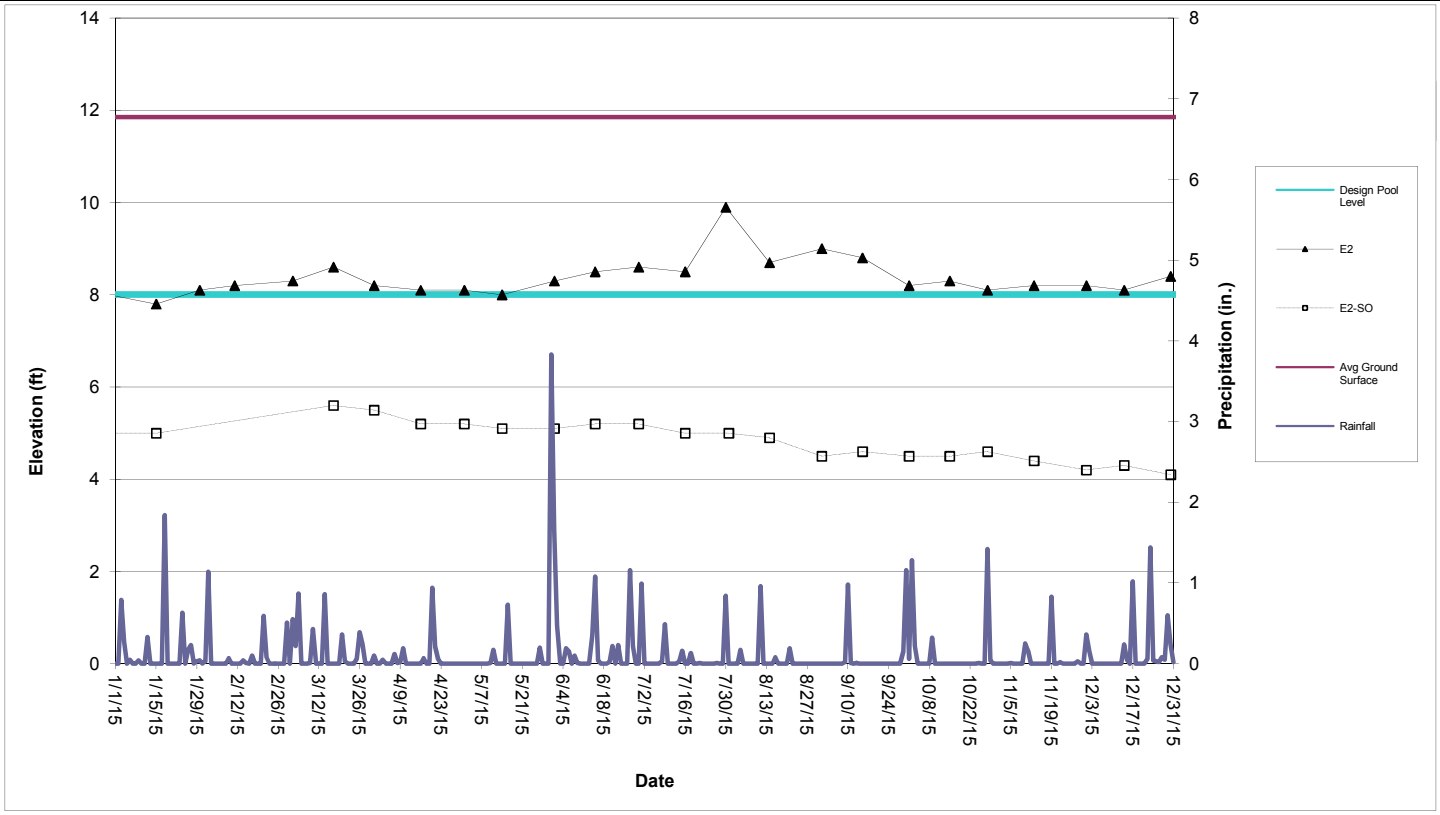
Perimeter Pool N3 (Sta. N6+80 to N10+23)



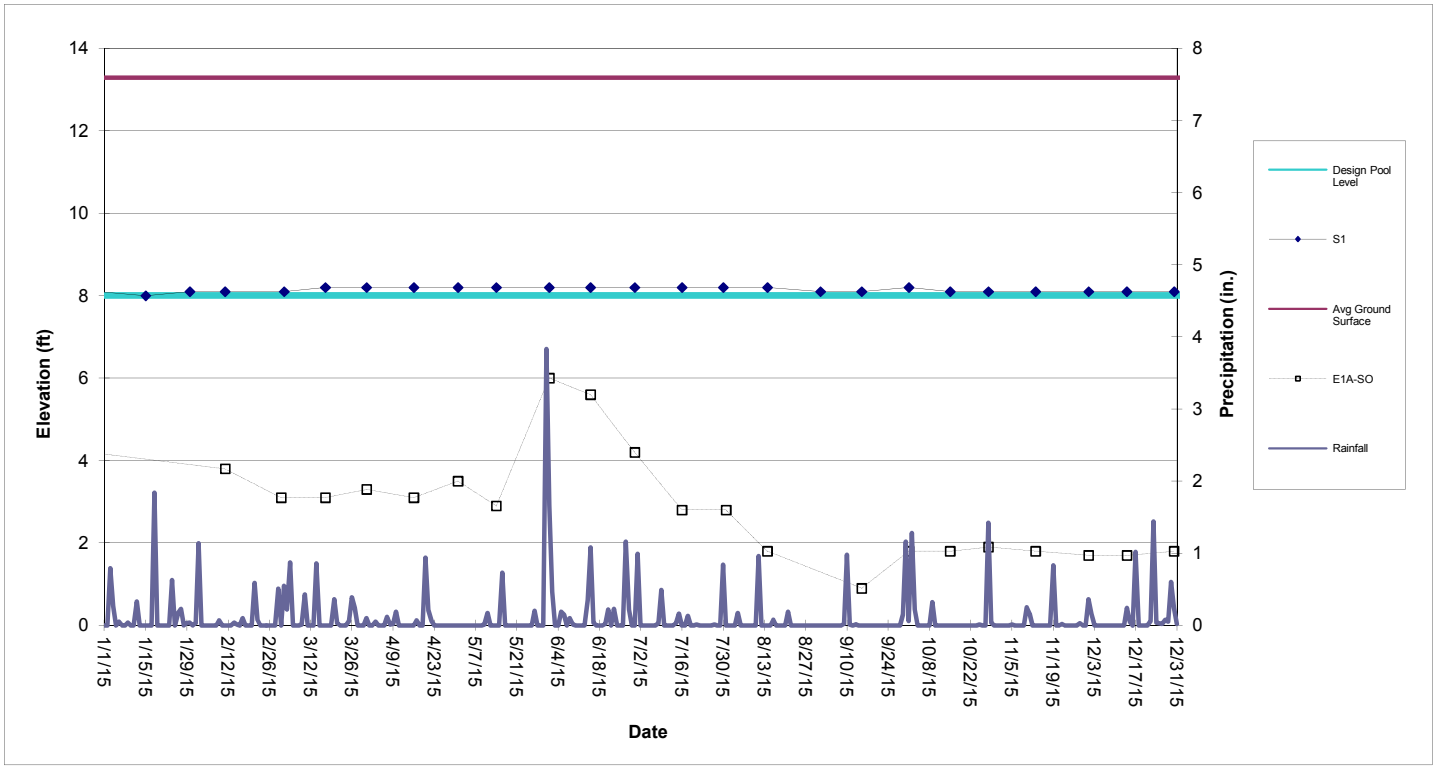
Perimeter Pool N4 (Sta. N6+80 to N10+23)



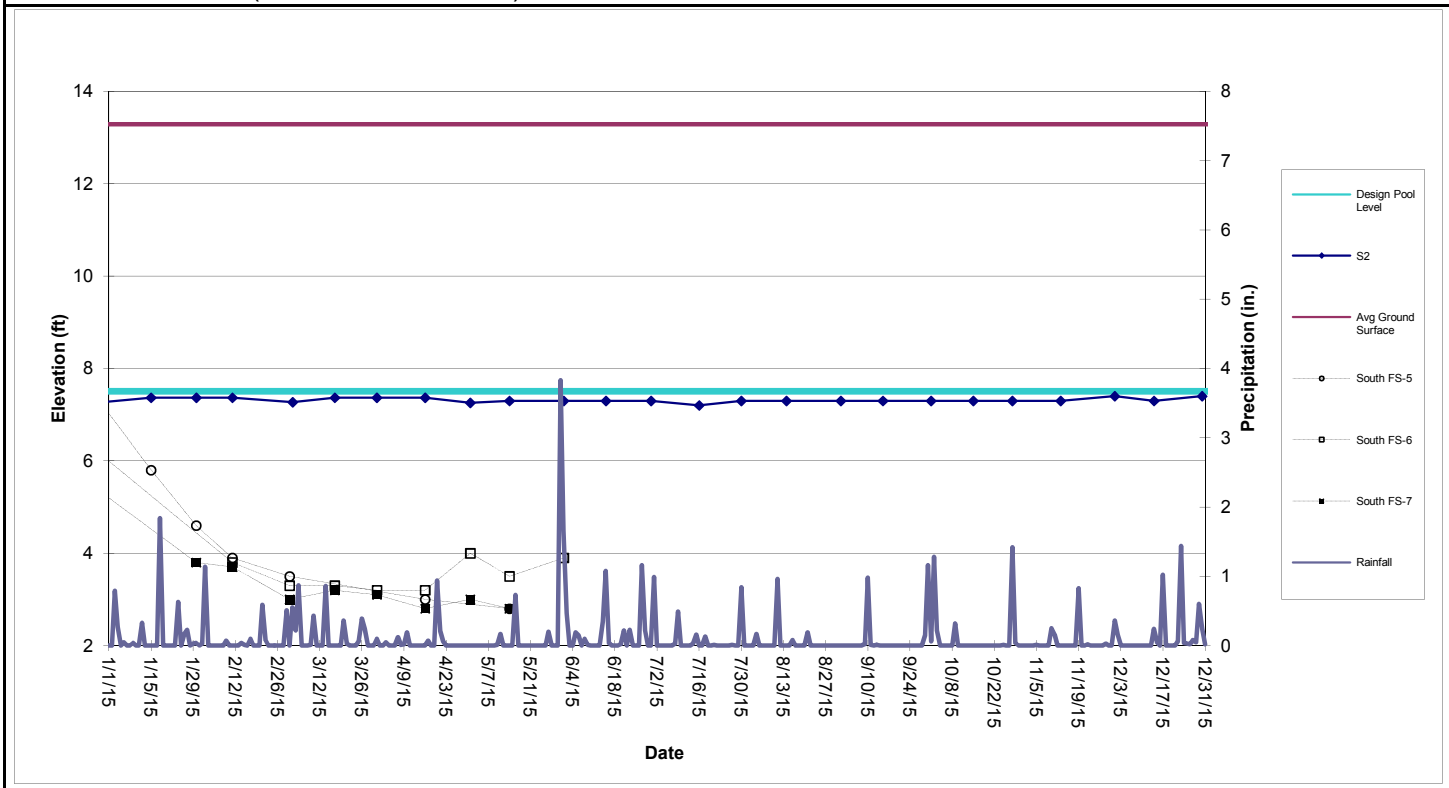
Perimeter Pool E1 (Sta. E0+50 to E3+75)



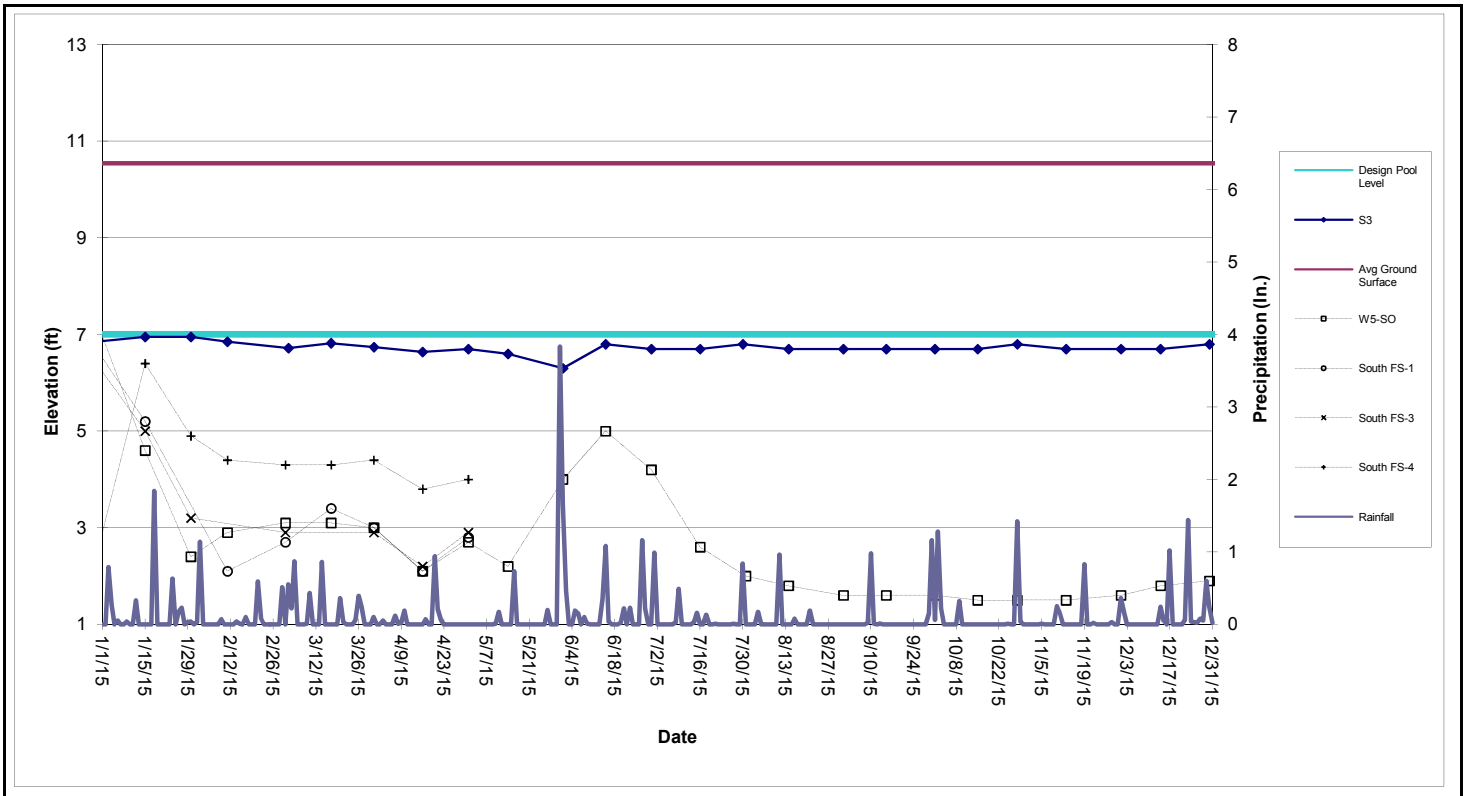
Perimeter Pool E2 (Sta. E4+50 to E7+25)



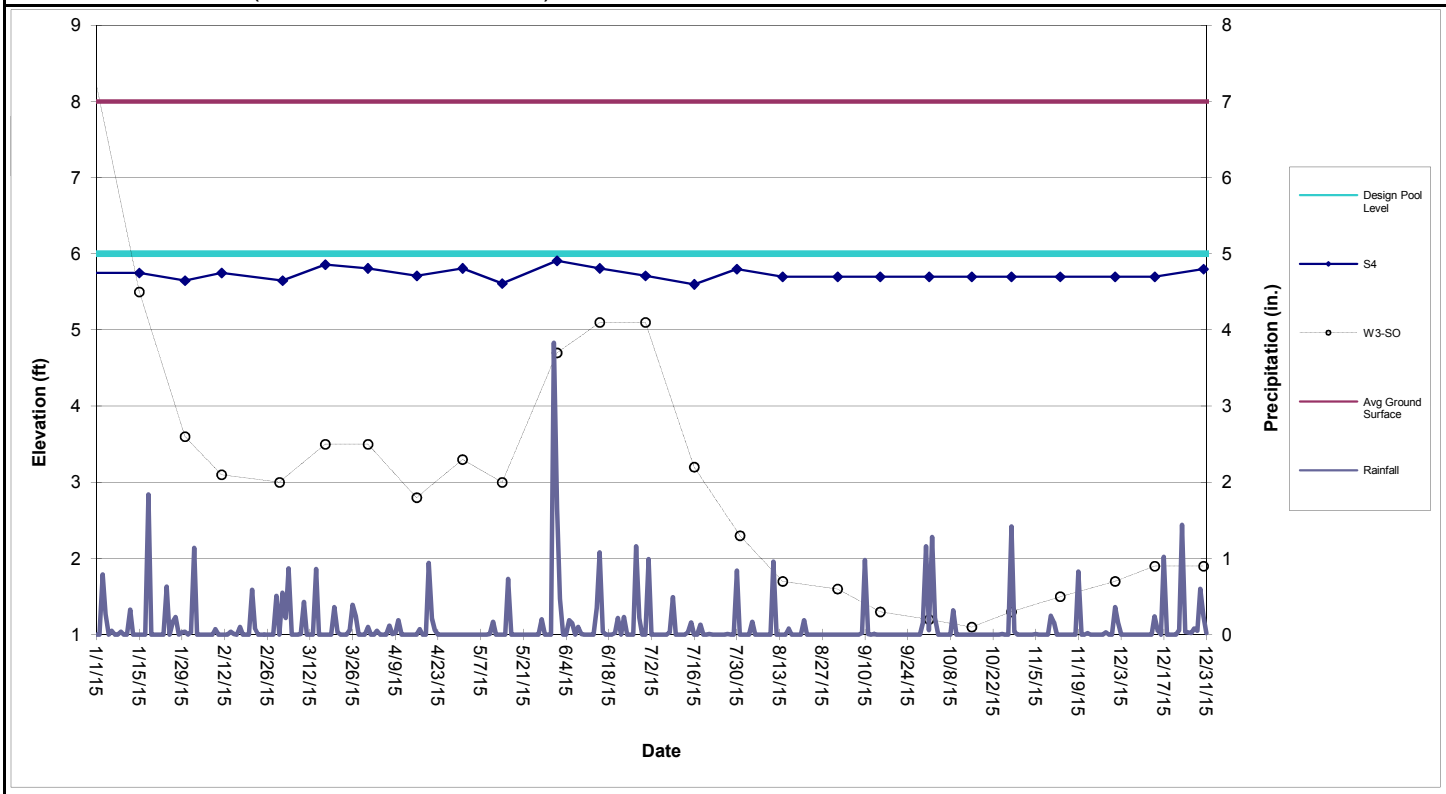
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
1/15/2015		5.0	5.6	7.0	5.5		5.5	4.6	5.1	4.8	7.1	7.0	6.2	6.1	6.3		5.2	5.0	6.4	5.8		
1/30/2015			6.5	7.1	5.5		3.6	2.4	5.1	4.8	6.7	6.5	6.1	6.0	6.3			3.2	4.9	4.6		3.8
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-28
Date Exposed: 12/1/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/3/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-29
Date Exposed: 12/1/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/3/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-30
Date Exposed: 12/4/15
Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-31
Date Exposed: 12/4/15
Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6OP-32

Date Exposed: 12/4/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6OP-33

Date Exposed: 12/4/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the Sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6OP-34

Date Exposed: 12/4/15

Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 6OP-35

Date Exposed: 12/4/15

Describe Damage: Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/11/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____

Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-36
Date Exposed: 12/14/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/11/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/11/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-37
Date Exposed: 12/14/15
Describe Damage:

Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-38
Date Exposed: 12/14/15
Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-39
Date Exposed: 12/14/15
Describe Damage:

Epoxy scrapes along the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15
Inspected by: A. Eslaminejad
Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-40
Date Exposed: 12/14/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/17/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-41
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of excavation

Date Repaired: 12/17/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-42
Date Exposed: 12/14/15
Describe Damage: Epoxy scrapes on the face of the sheet. Caused by the CAT 349 excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 12/17/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-43
Date Exposed: 12/14/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 12/17/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-44
Date Exposed: 12/14/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket
Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation
Date Repaired: 12/17/15
Inspected by: A. Eslamiejad
Describe Repair: clean, grind, coat
Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-45
Date Exposed: 12/14/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the CAT 349 Excavator bucket
Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of excavation
Date Repaired: 12/17/15
Inspected by: A. Eslamiejad
Describe Repair: clean, grind, coat
Repair Log Closure: AMEC Signature: _____
Date: 12/17/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-46
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes on the face of the sheet. Caused by the CAT 349 excavator bucket
Damage Location (ft below top of sheet, inboard side outboard side): _____
Date Repaired: 12/22/15
Inspected by: A. Eslamiejad
Describe Repair: clean, grind, coat
Repair Log Closure: AMEC Signature: _____
Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-47
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket
Damage Location (ft below top of sheet, inboard side outboard side): _____
Date Repaired: 12/22/15
Inspected by: A. Eslamiejad
Describe Repair: clean, grind, coat
Repair Log Closure: AMEC Signature: _____
Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-48
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/22/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-49
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes along the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of excavation

Date Repaired: 12/22/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-50
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes on the face of the sheet. Caused by the CAT 349 excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 12/22/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____
Entact ID: 60P-51
Date Exposed: 12/17/15
Describe Damage: Epoxy scrapes on the face of the sheet, caused by the CAT 349 Excavator bucket

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: 12/22/15
Inspected by: A. Eslamnejad
Describe Repair: clean, grind, coat

Repair Log Closure: AMEC Signature: _____
Date: 12/22/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-24

Date Exposed: 12/1/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to bottom of excavation

Date Repaired: 12/3/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: 60P-25

Date Exposed: 12/1/15

Describe Damage: Epoxy scrapes on the face of the sheet, caused by the bucket of the 349 Excavator

Damage Location (ft below top of sheet, inboard side outboard side): Along the face of the sheet to the bottom of the excavation

Date Repaired: 12/3/15

Inspected by: A. Eslaminejad

Describe Repair: Clean, grind, coat

Repair Log Closure: AMEC Signature: [signature]

Date: 12/3/15

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

amec

SHEET PILE REPAIR LOG[1]

Sheet Number/DB ID: _____

Entact ID: _____

Date Exposed: _____

Describe Damage: _____

Damage Location (ft below top of sheet, inboard side outboard side): _____

Date Repaired: _____

Inspected by: _____

Describe Repair: _____

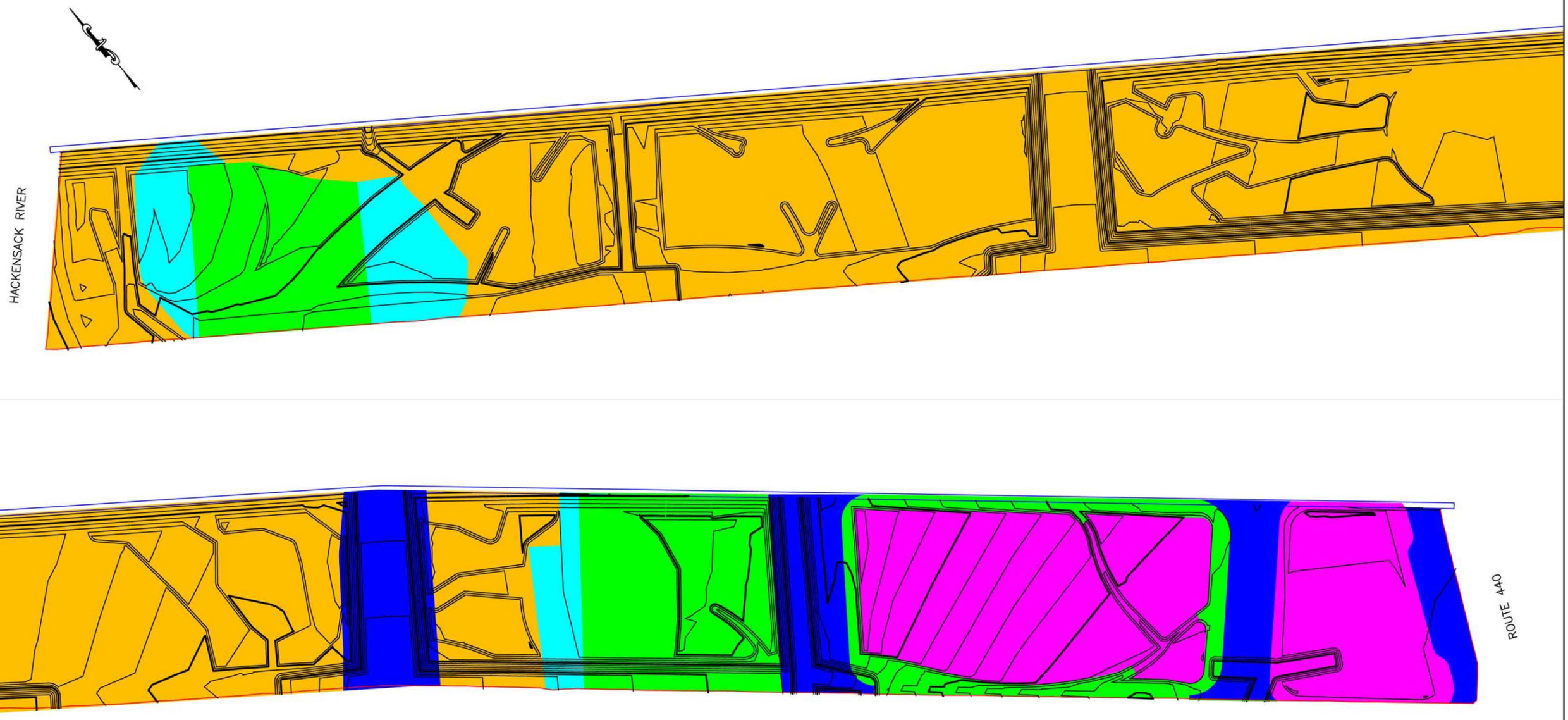
Repair Log Closure: AMEC Signature: _____

Date: _____

[1] A repair log is to be completed for each sheet pile section that is exposed and in need of repair.

Attachment 11: Capping Update

- SA-6 South Cap Subgrade Progress Map



LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- HORIZON C PLACED TO FINAL HORIZON C GRADE
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
12/28/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 04, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment		X		3
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/04/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 04, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Storm water has accumulated in the secondary containment structures in the mechanic's work area on SA-6 South.
2	IA2Q4A1AL8	Exclusion Zone fencing is inadequate at several locations around the EA-2/EA-3 excavations
3	IA2Q4A1AL8	The Type A stockpile to the north of the EA-5 excavation area has overtopped the installed silt fencing to the north and to the west.
4	IA2Q4A1AL8	The haul road to the north of the trash pit on SA-6 North is heavily coated with sediment and other material.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 12/04/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain accumulated storm water from secondary containment structures.	12-11-15 MM
2	Maintain or replace EZ fencing as required to meet site requirements.	12-11-15 MM
3	Re-install silt fence as required.	12-11-15 MM
4	Clean the haul road and confirm that all catch basins in the area are properly protected from sediment run-off.	12-7-15 MM

Construction Manager: _____ **Date:** 12/11/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 11, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/14/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, December 11, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has built up along the north side of Kellogg Street, west of the old guard shack
2	IA2Q4A1AL8	REPEAT: The haul road to the north of the trash pit on SA-6 North is heavily coated with sediment and other material.
3	IA2Q4A1AL8	Sediment and vehicle-tracked material has accumulated on the western SA-7 paved access roadway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 12/14/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove accumulated sediment with flat shovels and/or brooms as required.	12/15/15 R4D
2	Clean the haul road and confirm that all catch basins in the area are properly protected from sediment run-off.	
3	Remove accumulated sediment as required.	

Construction Manager: _____ Date: 12/16/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 18, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/21/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, December 18, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline is partially detached at several locations and requires maintenance.
2	IA2Q4A1AL8	Trash and other debris has accumulated outside of the perimeter fence at the Kellogg Street jughandle.
3	IA2Q4A1AL8	Some of the temporary fence panels between SA-6 North and the JCMUA property require stabilization or additional bracing.
4	IA2Q4A1AL8	Sediment has accumulated on the SA-7 northern haul road.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 12/21/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach windscreen fabric to the perimeter fence as required	12/23/15 RAD
2	Pick up and dispose of trash and other refuse as required.	
3	Re-enforce the temporary fence panels as required.	
4	Remove accumulated sediment as required.	

Construction Manager: _____ **Date:** 12/23/15

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 23, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/23/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, December 23, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Temporary fence panels in the perimeter fenceline along the Kellogg Street jughandle are loose and require maintenance and/or reinforcement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 12/23/15
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-secure temporary fence panels as required	12/29/15 RAD

Construction Manager: _____ **Date:** 12/30/15

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted December 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 17, 2015

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the November 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
11	01	15	11	30	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,879	84,187 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYP
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAI
Chromium	Sample Measurement	0.63	0.69	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1603	0.1603	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

December 16, 2015

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
11	01	15	11	30	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,306,384	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	50,424,392

DATE	BOD (mg/l)	TSS (mg/l)
11/12/2015	4.9	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003

DATE December 16, 2015

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)											MONTH: November, 2015
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
11/1/2015	Angel Trujillo	48118008	48194250	76,242	0.076242	7.40	0.987									0.63
11/2/2015	Angel Trujillo	48194250	48270492	76,242	0.076242	7.46	0.987									0.63
11/3/2015	Angel Trujillo	48270492	48346040	75,548	0.075548	7.01	0.987									0.62
11/4/2015	Angel Trujillo	48346040	48422186	76,146	0.076146	7.02	0.987									0.63
11/5/2015	Angel Trujillo	48422186	48500024	77,838	0.077838	7.01	0.987									0.64
11/6/2015	Angel Trujillo	48500024	48577670	77,646	0.077646	7.04	0.987									0.64
11/7/2015	Angel Trujillo	48577670	48657202	79,532	0.079532	7.16	0.987									0.65
11/8/2015	Angel Trujillo	48657202	48731146	73,944	0.073944	6.95	0.987									0.61
11/9/2015	Angel Trujillo	48731146	48805090	73,944	0.073944	6.98	0.987									0.61
11/10/2015	Angel Trujillo	48805090	48883394	78,304	0.078304	6.99	0.987									0.64
11/11/2015	Angel Trujillo	48883394	48959110	75,716	0.075716	7.08	0.987									0.62
11/12/2015	Angel Trujillo	48959110	49034698	75,588	0.075588	6.70	0.987	<5.0	4.9		<0.010	<0.030	<0.010	0.00021	<0.020	0.62
11/13/2015	Angel Trujillo	49034698	49112107	77,409	0.077409	7.32	0.987									0.64
11/14/2015	Angel Trujillo	49112107	49196294	84,187	0.084187	7.00	0.987									0.69
11/15/2015	Angel Trujillo	49196294	49270042	73,748	0.073748	6.95	0.987									0.61
11/16/2015	Angel Trujillo	49270042	49343790	73,748	0.073748	7.04	0.987									0.61
11/17/2015	Angel Trujillo	49343790	49421208	77,418	0.077418	7.17	0.987									0.64
11/18/2015	Angel Trujillo	49421208	49496880	75,672	0.075672	7.28	0.987									0.62
11/19/2015	Angel Trujillo	49496880	49575270	78,390	0.07839	7.08	0.987									0.65
11/20/2015	Angel Trujillo	49575270	49652858	77,588	0.077588	7.06	0.987									0.64
11/21/2015	Angel Trujillo	49652858	49732407	79,549	0.079549	7.00	0.987									0.65
11/22/2015	Angel Trujillo	49732407	49811956	79,549	0.079549	7.02	0.987									0.65
11/23/2015	Angel Trujillo	49811956	49885156	73,200	0.0732	7.08	0.987									0.60
11/24/2015	Angel Trujillo	49885156	49959637	74,481	0.074481	7.09	0.987									0.61
11/25/2015	Angel Trujillo	49959637	50035893	76,256	0.076256	7.02	0.987									0.63
11/26/2015	Angel Trujillo	50035893	50116296	80,403	0.080403	6.95	0.987									0.66
11/27/2015	Angel Trujillo	50116296	50196699	80,403	0.0804	7.00	0.987									0.66
11/28/2015	Angel Trujillo	50196699	50277614	80,915	0.080915	6.97	0.987									0.67
11/29/2015	Angel Trujillo	50277614	50351003	73,389	0.073389	6.98	0.987									0.60
11/30/2015	Angel Trujillo	50351003	50424392	73,389	0.073389	6.95	0.987									0.60
TOTAL				**2,306,384**	**2.306384**			<5.0	4.9		<0.010	<0.030	<0.010	0.00021	<0.020	
			High:	**84,187**											**High:**	**0.69**
			Average:	**76,879**											**Average:**	**0.63**

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

Client Sample ID:	087-WWE-111215-A		
Lab Sample ID:	JC8421-1	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	987	10	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	11/13/15	11/16/15	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.21	0.20	ug/l	1	11/14/15	11/14/15	MA	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	11/13/15	11/15/15	GT	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA38049
(2) Instrument QC Batch: MA38050
(3) Instrument QC Batch: MA38068
(4) Prep QC Batch: MP90316
(5) Prep QC Batch: MP90345

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

Client Sample ID:	087-WWE-111215-A		
Lab Sample ID:	JC8421-1	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	11/13/15	LA	SM2540 D-11
pH [b]	6.82		su	1	11/12/15 17:13	HL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 540 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

Client Sample ID:	087-WWE-111215-A		
Lab Sample ID:	JC8421-1A	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.9	3.4	mg/l	1	11/12/15 21:27	TT	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

Client Sample ID:	087-WWE-111215-B		
Lab Sample ID:	JC8421-2	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U200844.D	1	11/17/15	NH	n/a	n/a	VU9247
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.5	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.2	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	19.8	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.42	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	78.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	4.2	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.54	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

Client Sample ID:	087-WWE-111215-B		
Lab Sample ID:	JC8421-2	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	50.4	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	97%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	102%		74-115%
1868-53-7	Dibromofluoromethane (S)	99%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@885056 10:46 01-Dec-2015

Report of Analysis

Client Sample ID:	087-WWE-111215-B		
Lab Sample ID:	JC8421-2	**Date Sampled:**	11/12/15
Matrix:	AQ - Water	**Date Received:**	11/12/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	11/16/15 17:40	LS	EPA 1664A

RL = Reporting Limit

WW

JC8421

Honeywell — Chain Of Custody / Analysis Request

| Accutest Labs | | |

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the lIDPE up and over the SCB Wall. The prior detail showed both the GDI and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.

SA-6 North/South Field Change Log - Month Ending December 2015

Changed Item Identifier	Description of Change	Comments
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

2/9/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

February 11, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-01

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from January 1 – January 31, 2015.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: January 2015 SA-6/7 Combined Monthly Progress Report No. 2016-01

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
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Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-01

Project SA-6 & 7 Remediation

January 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
01/14/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2015-12	Honorable Robert G. Torricelli Office of the Special Master
01/14/16	SA-6 North Chrome Remedy Spark Testing of Liner Boots Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
01/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, JC MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
01/19/16	Special Master Conference Call	n/a
01/25/16	Honeywell correspondence re: Surcharge Monitoring Plan – Monthly Report No. 14, Study Area 6 North and South	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
Construction Management (AMEC)	7	7	9	7	7
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	33	34	34	30	33
Arecon/US Ecology Subcontractors	1	1	1	0	0
Langan	0	0	0	0	0
Evoqua	1	1	1	1	1

Team	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
B&B Drilling	0	0	1	1	0
Cornerstone	0	1	0	0	0
TOTAL STAFF	**47**	**49**	**51**	**44**	**46**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected January PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Completed placement of asphalt associated with the PW-3 force main trench restoration.
- Completed acid cleaning of PW-3 line.
- Sampled discharge from PW-3 extraction well for analysis of selected indicator parameters (results will be reported when validated).

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on January 20, 2016. From January 24, 2016 to January 27, 2016 to, the GWTP was offline due to a faulty main service breaker. The system was fully restarted on January 27, 2016 at 3:40PM.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
Avg. Gallons Treated & Discharged (per day)	77,236	78,455	68,614	79,663	80,596
Average Flow (gpm) for Operating Period	53	56	56	57	60
Avg. Hours of Plant Operation	24	23	20	23	23
GWTP Influent Tanks (gal.)	4,555	7,620	6,483	5,346	5,682

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.

- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued pumping/dewatering of well points associated with Excavation Areas EA-2 and EA-3.
- Continued dewatering and excavation activities of Site 163.
- Completed excavation of Excavation Areas EA-2 and EA-3.
- Continued backfilling of EA-2/EA-3 and the trash pit area.
- Began excavation of trench for installation of the Contingent Groundwater Extraction System piping in Area 1N.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	28	22.3	625
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	59	25	1462

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation: EA-2/EA-3, Site 163 Volume Excavated - Total for Reporting Period (EA-2/EA-3): 3,847.5 CY/ Total to Date (SA-6 North): 38,403CY; Total for Reporting period (Site 163): 4,342.5 CY/ Total to Date : 4,342.5 CY
Backfill in Progress	EA-2/EA-3

3. BACKFILL MATERIALS USED

Source	Week Ending				
	01/03/16	01/10/16	01/17/16	01/24/16	01/31/16
Clayton Sand	0	0	0	0	202
Tilcon 2.5”	0	0	0	255	0

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in EA-2/EA-3 and Site 163. In addition historic fill soils were transferred and placed as backfill in EA-2/EA-3.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.

- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Completed offloading of area 2N.
- Area 3N: Completed placement of surcharge material.
- Area 4N: Completed placement of surcharge material.

F. SHEET PILE OPERATIONS

- Completed installation of remaining hydraulic barrier sheeting on SA-6 North along Route 440. The subcontractor technician was on site for vibration monitoring over the sewer/water line during driving operations and no action levels were exceeded.
- Completed installation of sheeting within the former Trash Pit interior to include placement of Aqua Block bags to seal along bottom of sheeting and pit floor.
- Completed installation of grout tubes and bentonite at the connection of the former Trash Pit interior walls and the sheeting.
- Completed breaching of the pit concrete sidewalls in accordance with 100% Design.
- Completed removing temporary sheeting used along 440 and began installing these temporary sheets as needed for the Site 163 excavation.

G. CAPPING OPERATIONS

- Continued evaluations of potential alternative fill source(s), of Horizon C Soils for the SA-6 South open space area.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete EA-2/EA-3 backfilling activities.
- Complete EA-1 excavation and backfilling activities.
- Continue dewatering and excavation activities associated with Site 163 excavation within the residential footprint including installation of temporary sheeting as needed.
- Continue installation of the Contingent Groundwater Extraction System piping in Area 1N.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.

- Pending identification of acceptable alternative fill source(s), resume import and placement of Horizon C Soils on the SA-6 South open space area.
- Continue routine surcharge monitoring in Areas 3N and 4N.
- Complete installation and grouting of the last special sheet pile barrier wall piece at the connection point of the SA-6 North barrier wall and the SCB wall at the southwestern portion of Area 1N.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.

ATTACHMENTS:

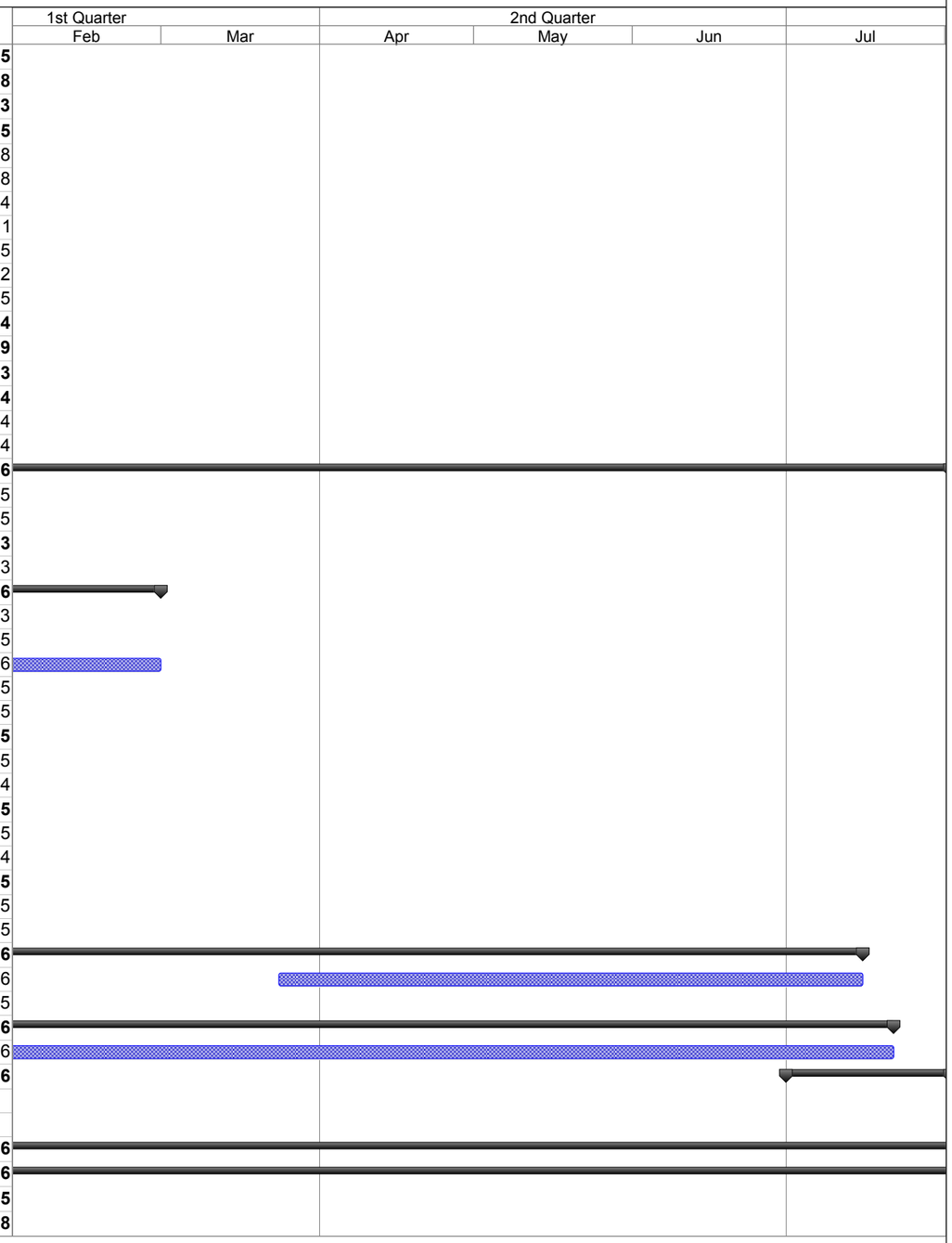
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update *(not included in this reporting period)*
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 1/31/16

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Breaking up former JCIA building pad.



Site Photograph 2: Excavating along Kellogg St. Site 163.



Site Photograph 3: Placement of bridge lift in excavation area.



Site Photograph 4: Removing portion of former trash pit walls.



Site Photograph 5: Sheet piling across former trash pit.



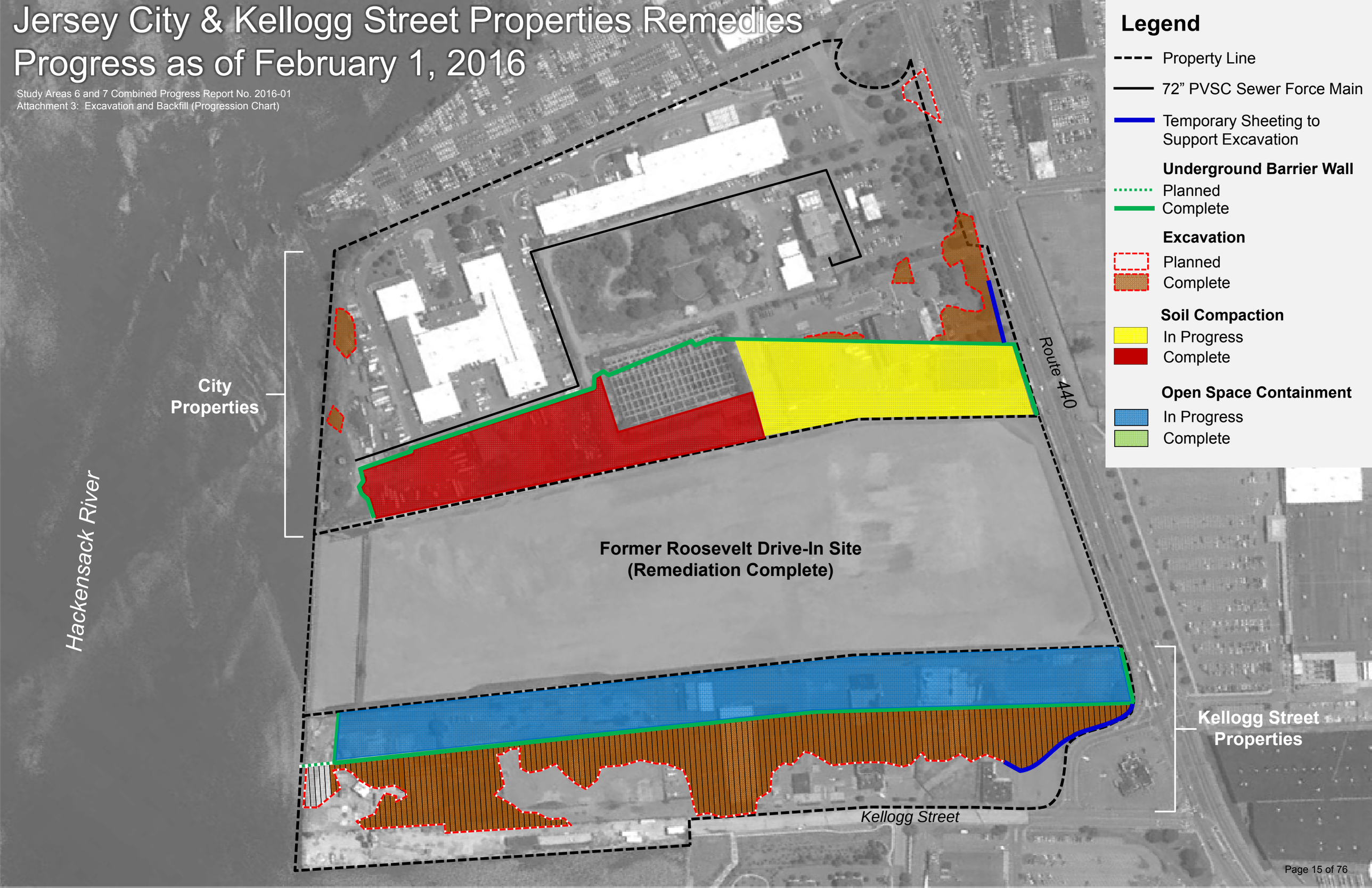
Site Photograph 6: Sheeting and Excavation along Kellogg St. Site 163.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of February 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-01
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) Daily	EXTRACTED VOLUME (Gal) Total	AVERAGE FLOW RATE (gpm)	COMMENTS
11/30/15	1	24	19,20	18	N/A	N/A	2,000	3,084,872	1.4	EA-2/EA-3 Excvation
12/01/15	1	24	19,20	14	N/A	N/A	1,800	3,086,672	1.3	EA-2/EA-3 Excvation
12/02/15	1	24	19,20	14	N/A	N/A	1,800	3,088,472	1.3	EA-2/EA-3 Excvation
12/03/15	1	24	19,20	14	N/A	N/A	1,800	3,090,272	1.3	EA-2/EA-3 Excvation
12/04/15	1	24	19,20	14	N/A	N/A	1,800	3,092,072	1.3	EA-2/EA-3 Excvation
12/06/15	1	48	19,20	14	N/A	N/A	3,000	3,095,072	1.0	EA-2/EA-3 Excvation
12/07/15	1	24	19,20	14	N/A	N/A	1,800	3,096,872	1.3	EA-2/EA-3 Excvation
12/08/15	1	24	19,20	14	N/A	N/A	1,800	3,098,672	1.3	EA-2/EA-3 Excvation
12/09/15	1	24	19,20	14	N/A	N/A	1,800	3,100,472	1.3	EA-2/EA-3 Excvation
12/10/15	1	24	19,20	14	N/A	N/A	1,800	3,102,272	1.3	EA-2/EA-3 Excvation
12/13/15	1	48	19,20	11	N/A	N/A	1,700	3,103,972	0.6	EA-2/EA-3 Excvation
12/14/15	1	24	19,20	11	N/A	N/A	1,700	3,105,672	1.2	EA-2/EA-3 Excvation
12/15/15	1	24	19,20	11	N/A	N/A	1,700	3,107,372	1.2	EA-2/EA-3 Excvation
12/16/15	1	24	19,20	11	N/A	N/A	1,700	3,109,072	1.2	EA-2/EA-3 Excvation
12/17/15	1	24	19,20	11	N/A	N/A	1,700	3,110,772	1.2	EA-2/EA-3 Excvation
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline
01/14/16	1	24	22,23,24	27	N/A	N/A	5,000	3,117,472	3.5	Site 163
01/15/16	1	24	22,23,24	23	N/A	N/A	5,000	3,122,472	3.5	Site 163
01/18/16	1	72	22,23,24	23	N/A	N/A	15,000	3,137,472	3.5	Site 163
01/19/16	1	24	22,23,24	23	N/A	N/A	5,000	3,142,472	3.5	System Offline for Excavationn

Notes: Previous information is truncated. Only last month and current month information is provided.

STUDY AREA 6 NORTH DEEP WELL DATA (DW-6)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
12/06/15	48	N/A	N/A	10,000	10,000	3.5	
12/07/15	24	N/A	N/A	8,000	18,000	5.6	
12/08/15	24	N/A	N/A	8,000	26,000	5.6	
12/09/15	24	N/A	N/A	8,000	34,000	5.6	
12/10/15	24	N/A	N/A	10,000	44,000	6.9	
12/13/15	48	N/A	N/A	20,000	64,000	6.9	
12/14/15	24	N/A	N/A	10,000	74,000	6.9	
12/15/15	24	N/A	N/A	10,000	84,000	6.9	
12/16/15	24	N/A	N/A	10,000	94,000	6.9	
12/17/15	24	N/A	N/A	10,000	104,000	6.9	
12/18/15	24	N/A	N/A	10,000	114,000	6.9	
12/20/15	48	N/A	N/A	20,000	134,000	6.9	
12/21/15	24	N/A	N/A	10,000	144,000	6.9	
12/23/15	24	N/A	N/A	10,000	154,000	6.9	
12/24/15	24	N/A	N/A	10,000	164,000	6.9	
12/26/15	48	N/A	N/A	20,000	184,000	6.9	
12/28/15	48	N/A	N/A	20,000	204,000	6.9	
12/29/15	24	N/A	N/A	10,000	214,000	6.9	
12/30/15	24	N/A	N/A	10,000	224,000	6.9	
12/31/16	24	N/A	N/A	10,000	234,000	6.9	
01/04/16	96	N/A	N/A	40,000	274,000	6.9	
01/05/16	24	N/A	N/A	10,000	284,000	6.9	Taken offline for excavation

STUDY AREA 6 NORTH DEEP WELL DATA (DW-7)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) Daily	VOLUME (Gal) Total	FLOW RATE (GPM)	COMMENTS
11/18/15	24	N/A	N/A	11,500	11,500	8.0	Flow meter not installed, tank measured
11/19/15	24	N/A	N/A	11,000	22,500	7.6	
11/20/15	24	N/A	N/A	11,000	33,500	7.6	
11/22/15	48	N/A	N/A	11,000	44,500	3.8	
11/23/15	24	N/A	N/A	11,000	55,500	7.6	
11/24/15	24	N/A	N/A	10,500	66,000	7.3	
11/25/15	24	N/A	N/A	10,500	76,500	7.3	
11/29/15	96	N/A	N/A	40,000	116,500	6.9	
11/30/15	24	N/A	N/A	10,500	127,000	7.3	
12/01/15	24	N/A	N/A	10,000	137,000	6.9	
12/02/15	24	N/A	N/A	10,000	147,000	6.9	
12/03/15	24	N/A	N/A	10,000	157,000	6.9	
12/04/15	24	N/A	N/A	12,000	169,000	8.3	
12/06/15	48	N/A	N/A	20,000	189,000	6.9	
12/07/15	24	N/A	N/A	8,000	197,000	5.6	
12/08/15	24	N/A	N/A	8,000	205,000	5.6	
12/09/15	24	N/A	N/A	8,000	213,000	5.6	
12/10/15	24	N/A	N/A	10,000	223,000	6.9	
12/13/15	48	N/A	N/A	20,000	243,000	6.9	
12/14/15	24	N/A	N/A	10,000	253,000	6.9	
12/15/15	24	N/A	N/A	10,000	263,000	6.9	
12/16/15	24	N/A	N/A	10,000	273,000	6.9	
12/17/15	24	N/A	N/A	10,000	283,000	6.9	
12/18/15	24	N/A	N/A	10,000	293,000	6.9	
12/20/15	48	N/A	N/A	20,000	313,000	6.9	
12/21/15	24	N/A	N/A	10,000	323,000	6.9	Offline for Excavation/Backfill

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
11/30/15	7:30	14:30	7:00	37,566.11	37,667.64	101,530	37,523,790	
12/01/15	8:00	15:15	7:15	37,667.64	37,743.44	75,800	37,599,590	
12/02/15	7:00	15:00	8:00	37,743.44	37,805.70	62,260	37,661,850	
12/03/15	9:00	15:15	6:15	37,805.70	37,863.53	57,830	37,719,680	
12/04/15	7:00	12:30	5:30	37,863.53	37,912.70	49,170	37,768,850	
12/06/15	12:00	14:00	2:00	37,912.70	37,958.66	45,960	37,814,810	
12/07/15	10:30	15:15	4:45	37,958.66	37,984.16	25,500	37,840,310	
12/08/15	11:00	14:30	3:30	37,984.16	38,016.05	31,890	37,872,200	
12/09/15	10:30	15:00	4:30	38,016.05	38,051.66	35,610	37,907,810	
12/10/15	8:00	15:15	7:15	38,051.66	38,176.63	124,970	38,032,780	PVSC Compliance Sample Collected
12/13/15	9:00	12:15	3:15	38,176.63	38,243.45	66,820	38,099,600	
12/14/15	13:45	15:30	1:45	38,243.45	38,278.63	35,180	38,134,780	
12/15/15	7:00	12:30	5:30	38,278.63	38,398.71	120,080	38,254,860	
12/16/15	11:30	15:30	4:00	38,398.71	38,456.74	58,030	38,312,890	
12/17/15	7:00	11:00	4:00	38,456.74	38,495.28	38,540	38,351,430	
12/18/15	8:00	15:15	7:15	38,495.28	38,587.27	91,990	38,443,420	
12/20/15	8:45	12:00	3:15	38,587.27	38,637.00	49,730	38,493,150	
12/21/15	7:30	13:00	5:30	38,637.00	38,700.54	63,540	38,556,690	
12/23/15	7:30	13:45	6:15	38,700.54	38,805.80	105,260	38,661,950	
12/24/15	8:00	15:00	7:00	38,805.80	38,835.49	29,690	38,691,640	
12/26/15	8:00	14:00	6:00	38,835.49	38,889.27	53,780	38,745,420	
12/28/15	7:00	15:30	8:30	38,889.27	39,029.27	140,000	38,885,420	
12/30/15	7:15	14:30	7:15	39,029.27	39,125.05	95,780	38,981,200	
12/31/16	7:00	13:45	6:45	39,125.05	39,167.86	42,810	39,024,010	
01/04/16	7:30	16:15	8:45	39,167.86	39,269.10	101,240	39,125,250	
01/07/16	8:00	16:15	8:15	39,269.10	39,354.16	85,060	39,210,310	
01/11/16	7:30	14:00	6:30	39,354.16	39,425.93	71,770	39,282,080	
01/12/16	8:00	13:00	5:00	39,425.93	39,510.66	84,730	39,366,810	PVSC Compliance Sample Collected
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

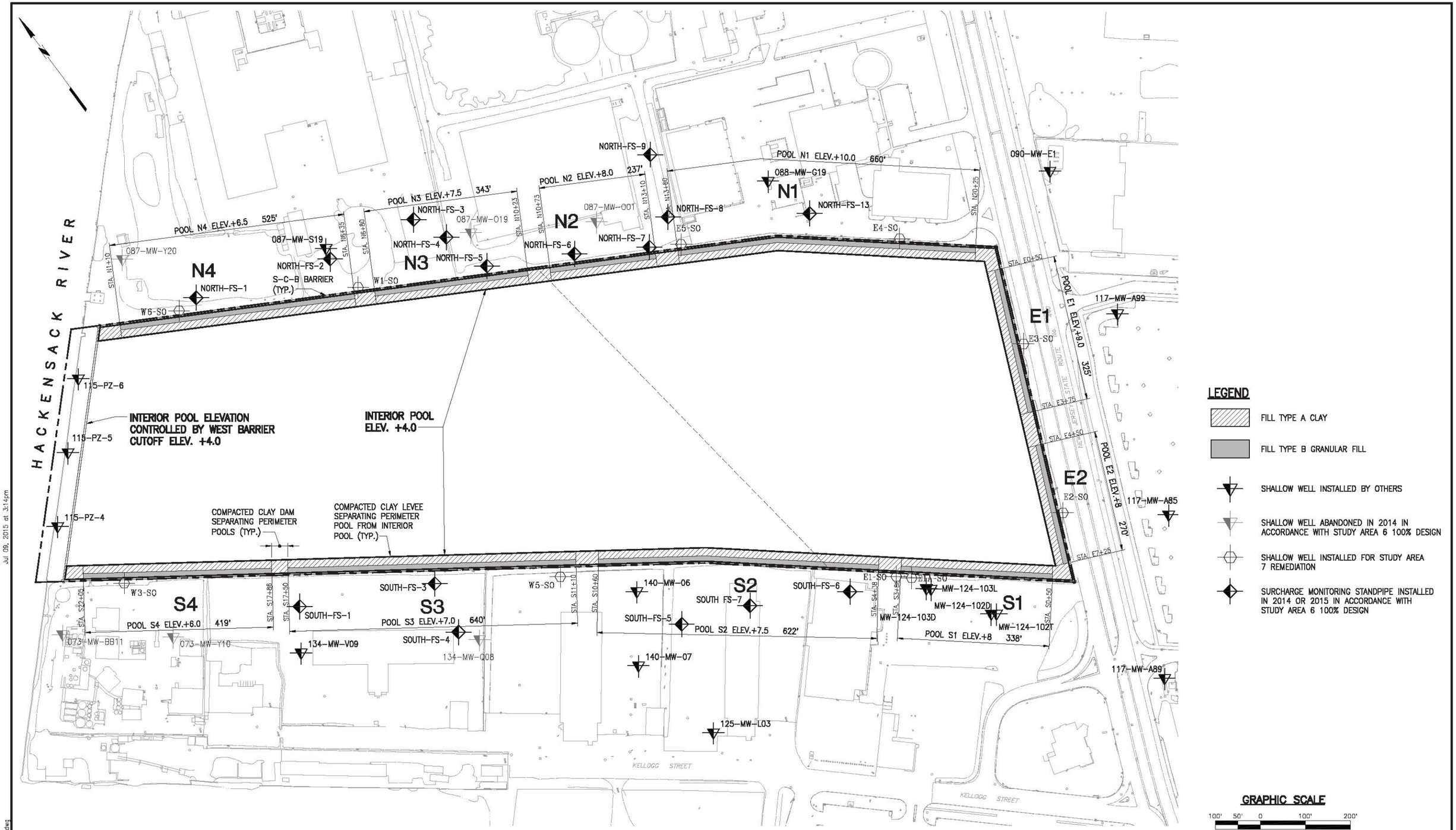
Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
3S cap material	<240	124-3S-EX-a,b,c,d (Excess 3S material)	3500	124-3S-EX-a1	8/10/2015	12:10	51.6		Yes	
				124-3S-EX-a2	8/10/2015	12:15	18.6	*		
				124-3S-EX-a3	8/10/2015	12:18	37.1		Yes	
				124-3S-EX-a4	8/10/2015	12:20	18.9	*		
				124-3S-EX-b1	8/10/2015	12:21	24.8		Yes	
				124-3S-EX-b2	8/10/2015	12:22	49.3		Yes	
				124-3S-EX-b3	8/10/2015	12:23	37.9		Yes	
				124-3S-EX-b4	8/10/2015	12:24	40.4		Yes	
				124-3S-EX-c1	8/10/2015	12:25	24.7		Yes	
				124-3S-EX-c2	8/10/2015	12:26	36.3		Yes	
				124-3S-EX-c3	8/10/2015	12:27	46.7		Yes	
				124-3S-EX-c4	8/10/2015	12:28	8.1	*		
				124-3S-EX-d1	8/10/2015	12:29	25.6		Yes	
				124-3S-EX-d2	8/10/2015	12:30	32.1		Yes	
				124-3S-EX-d3	8/10/2015	12:31	74.6		Yes	
				124-3S-EX-d4	8/10/2015	12:32	34.7		Yes	
EA-5	<20	087-EA5-20-c1:d4 (stockpile of A material)	2000	087-EA5-20-c1	9/11/2015	12:10	<1.8	Yes		
				087-EA5-20-c2	9/11/2015	12:15	<1.9	Yes		
				087-EA5-20-c3	9/11/2015	12:20	<0.56	Yes		
				087-EA5-20-c4	9/11/2015	12:25	<0.60	Yes		
				087-EA5-20-d1	9/11/2015	12:30	<0.56	Yes		
				087-EA5-20-d2	9/11/2015	12:35	<0.44	Yes		
				087-EA5-20-d3	9/11/2015	12:40	<0.5	Yes		
				087-EA5-20-d4	9/11/2015	12:45	9.6	Yes		
JCMUA Water Main Break (EA-2)	<20	087-EA2-waterline	50	087-EA2-waterline-092815	9/28/2015	NA	13.5	*		
1N (2 foot cut material)	<20	087-1N-20-a, b, c	3000	087-1N-20-a1	10/28/2015	--	<.5	*		
				087-1N-20-a2	10/28/2015	--	2.1	*		
				087-1N-20-a3	10/28/2015	--	<.48	*		
				087-1N-20-a4	10/28/2015	--	5.4	*		
				087-1N-20-b1	10/28/2015	--	1.0	*		
				087-1N-20-b2	10/28/2015	--	<2.0	*		
				087-1N-20-b3	10/28/2015	--	0.65	*		
				087-1N-20-b4	10/28/2015	--	<1.9	*		
				087-1N-20-c1	10/28/2015	--	<2.0	*		
				087-1N-20-c2	10/28/2015	--	<1.8	*		
				087-1N-20-c3	10/28/2015	--	<1.8	*		
				087-1N-20-c4	10/28/2015	--	<.51	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-d1	11/17/2015	--	<1.4	*		
				087-1N-20-d2	11/17/2015	--	9.5	*		
				087-1N-20-d3	11/17/2015	--	19.9	*		
				087-1N-20-d4	11/17/2015	--	<1.5	*		
				087-1N-20-e1	11/17/2015	--	<1.3	*		
				087-1N-20-e2	11/17/2015	--	<1.4	*		
				087-1N-20-e3	11/17/2015	--	<1.4	*		
				087-1N-20-e4	11/17/2015	--	<1.4	*		
				087-1N-20-f1	11/17/2015	--	<1.5	*		
				087-1N-20-f2	11/17/2015	--	<.93	*		
				087-1N-20-f3	11/17/2015	--	<.90	*		
				087-1N-20-f4	11/17/2015	--	<1.5	*		
				087-1N-20-g1	11/17/2015	--	<.95	*		
				087-1N-20-g2	11/17/2015	--	<.86	*		
				087-1N-20-g3	11/17/2015	--	<.96	*		
				087-1N-20-g4	11/17/2015	--	<1.3	*		
				087-1N-20-h1	11/17/2015	--	1.9	*		

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
				087-1N-20-h2	11/17/2015	--	<.92	*		
				087-1N-20-h3	11/17/2015	--	<1.4	*		
				087-1N-20-h4	11/17/2015	--	<.92	*		
				087-1N-20-i1	11/17/2015	--	<1.3	*		
				087-1N-20-i2	11/17/2015	--	<2.0	*		
				087-1N-20-i3	11/17/2015	--	<1.9	*		
				087-1N-20-i4	11/17/2015	--	<2.1	*		
				087-1N-20-j1	11/17/2015	--	<1.8	*		
				087-1N-20-j2	11/17/2015	--	<1.4	*		
				087-1N-20-j3	11/17/2015	--	<1.9	*		
				087-1N-20-j4	11/17/2015	--	<1.8	*		
				087-1N-20-k1	11/17/2015	--	<1.6	*		
1 N (2 foot cut material)	<20	087-1N-20-d1:n4	11,160	087-1N-20-k2	11/17/2015	--	<2.0	*		
				087-1N-20-k3	11/17/2015	--	<2.1	*		
				087-1N-20-k4	11/17/2015	--	<1.4	*		
				087-1N-20-l1	11/17/2015	--	<1.4	*		
				087-1N-20-l2	11/17/2015	--	<1.9	*		
				087-1N-20-l3	11/17/2015	--	<2.0	*		
				087-1N-20-l4	11/17/2015	--	<2.1	*		
				087-1N-20-m1	11/17/2015	--	<1.9	*		
				087-1N-20-m2	11/17/2015	--	<1.9	*		
				087-1N-20-m3	11/17/2015	--	<1.4	*		
				087-1N-20-m4	11/17/2015	--	<1.4	*		
				087-1N-20-n1	11/17/2015	--	<1.4	*		
				087-1N-20-n2	11/17/2015	--	<1.4	*		
				087-1N-20-n3	11/17/2015	--	<1.3	*		
				087-1N-20-n4	11/17/2015	--	<1.5	*		
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	Yes		
				087-EA2-20-a2	12/11/2015	--	6.7	Yes		
				087-EA2-20-a3	12/11/2015	--	<1.9	Yes		
				087-EA2-20-a4	12/11/2015	--	3.8	Yes		
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	--	3.0	Yes		
				087-EA2-20-b2	12/30/2015	--	3.0	Yes		
				087-EA2-20-b3	12/30/2015	--	0.55	Yes		
				087-EA2-20-b4	12/30/2015	--	0.97	Yes		
				087-EA2-20-c1	12/30/2015	--	4.3	Yes		
				087-EA2-20-c2	12/30/2015	--	1.5	Yes		
				087-EA2-20-c3	12/30/2015	--	1.6	Yes		
				087-EA2-20-c4	12/30/2015	--	0.53	Yes		
				087-EA2-20-d1	12/30/2015	--	0.60	Yes		
				087-EA2-20-d2	12/30/2015	--	15.9	Yes		
				087-EA2-20-d3	12/30/2015	--	5.4	Yes		
				087-EA2-20-d4	12/30/2015	--	1.7	Yes		
				087-EA2-20-e1	12/30/2015	--	0.53	Yes		
				087-EA2-20-e2	12/30/2015	--	12.3	Yes		
				087-EA2-20-e3	12/30/2015	--	3.1	Yes		
				087-EA2-20-e4	12/30/2015	--	0.57	Yes		
				087-EA2-20-f1	12/30/2015	--	0.52	Yes		
				087-EA2-20-f2	12/30/2015	--	0.53	Yes		
				087-EA2-20-f3	12/30/2015	--	0.57	Yes		
				087-EA2-20-f4	12/30/2015	--	0.54	Yes		
				087-EA2-20-g1	12/30/2015	--	0.53	Yes		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	--	0.7	*		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	--	0.54	Yes		

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	--	24.1		*	
				087-EA2-20-h3	1/8/2016	--	<1.4	Yes		
				087-EA2-20-h4	1/8/2016	--	19	Yes		
				087-EA2-20-i2	1/8/2016	--	0.66	Yes		
				087-EA2-20-i3	1/8/2016	--	<1.9	Yes		
				087-EA2-20-i4	1/8/2016	--	<1.4	Yes		
				087-EA2-20-j1	1/8/2016	--	<2.0	Yes		
				087-EA2-20-j2	1/8/2016	--	8.9	Yes		
				087-EA2-20-j3	1/8/2016	--	<1.9	Yes		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	--	7	Yes		
				087-EA2-20-k2	1/8/2016	--	10	Yes		
				087-EA2-20-k3	1/8/2016	--	8	Yes		
				087-EA2-20-k4	1/8/2016	--	<1.9	Yes		
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	--	8.1	*		
				163-20-a2	1/19/2016	--	4.0	*		
				163-20-a3	1/19/2016	--	1.7	*		
				163-20-a4	1/19/2016	u	5.0	*		

*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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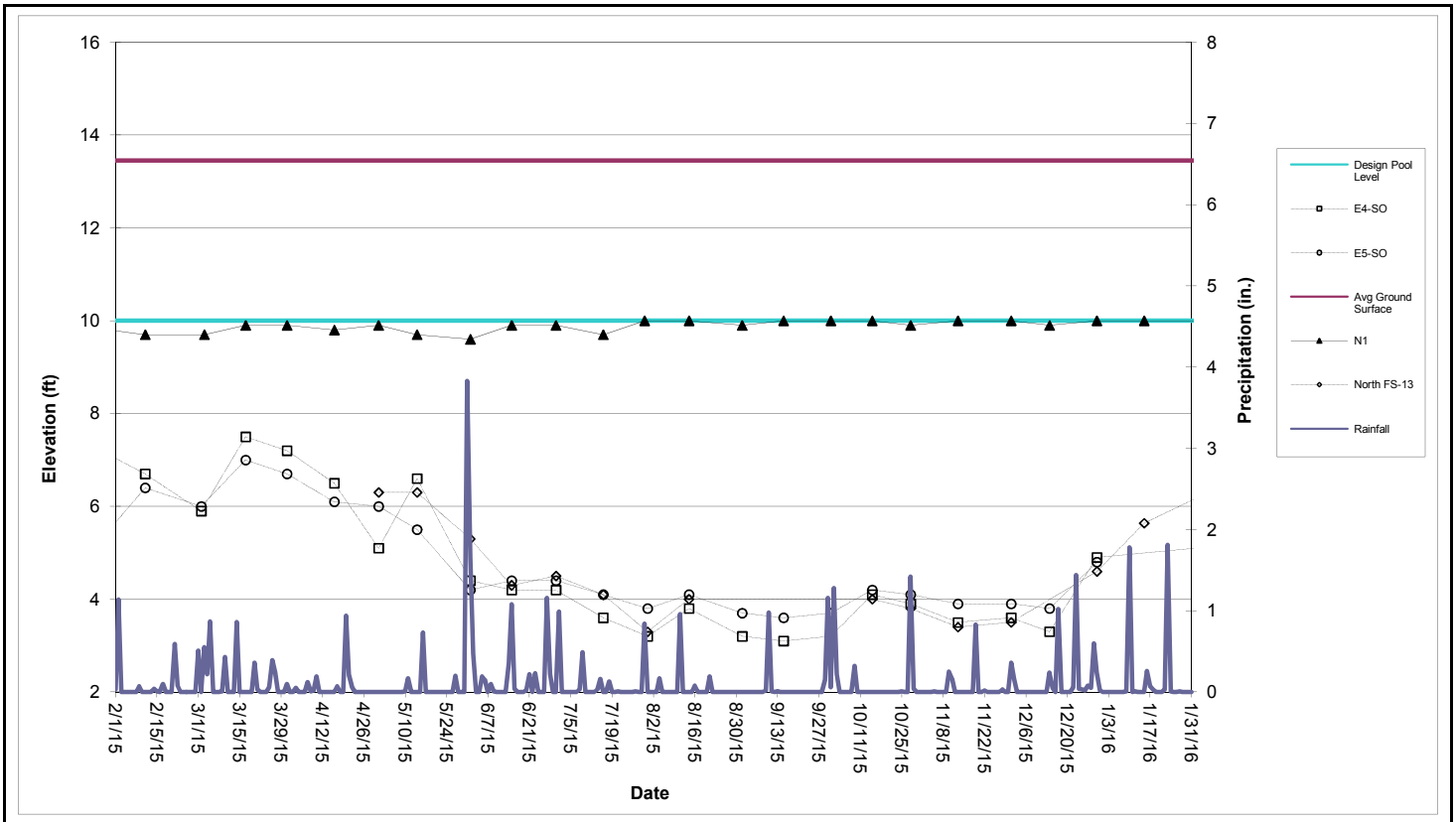
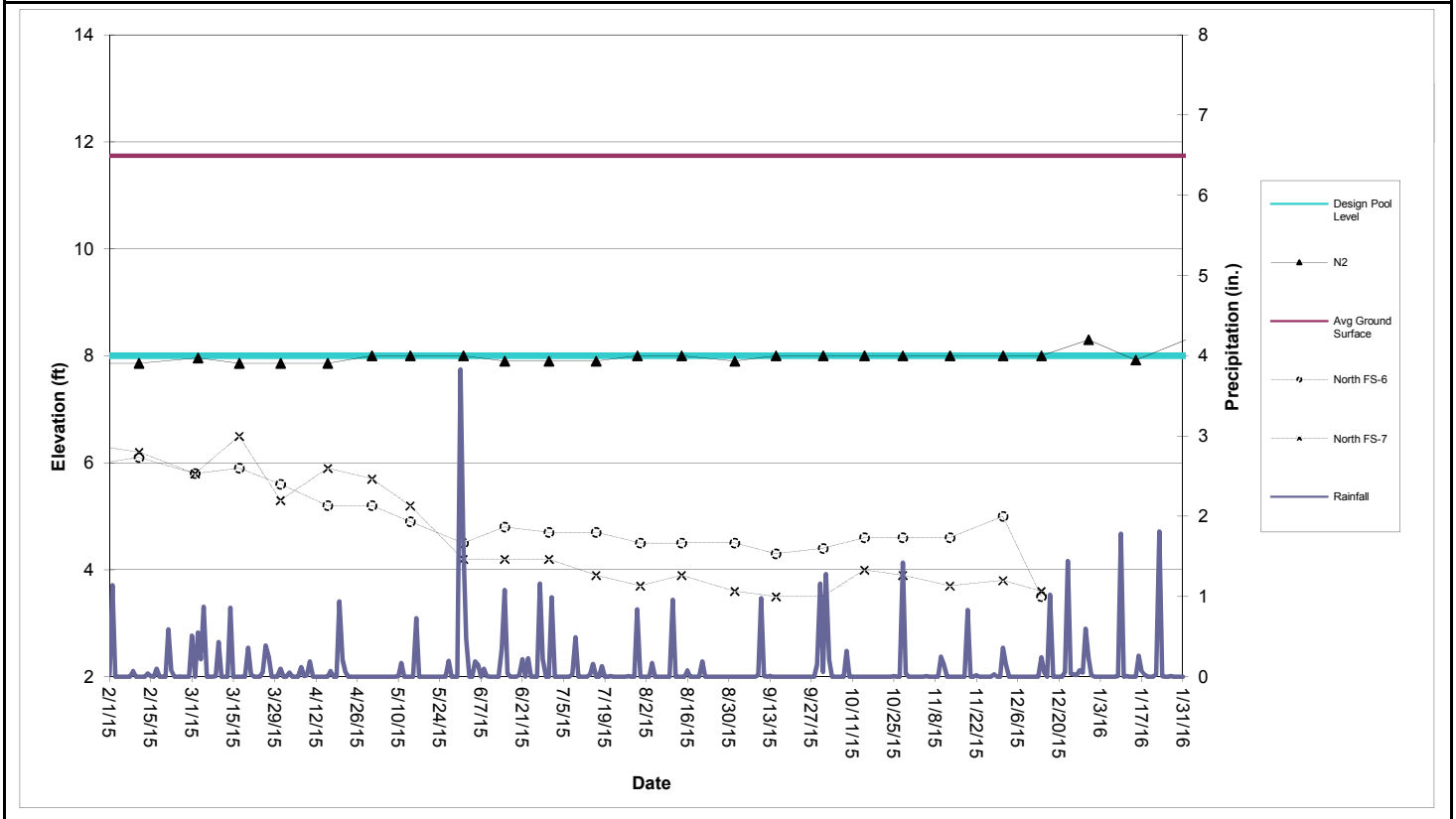
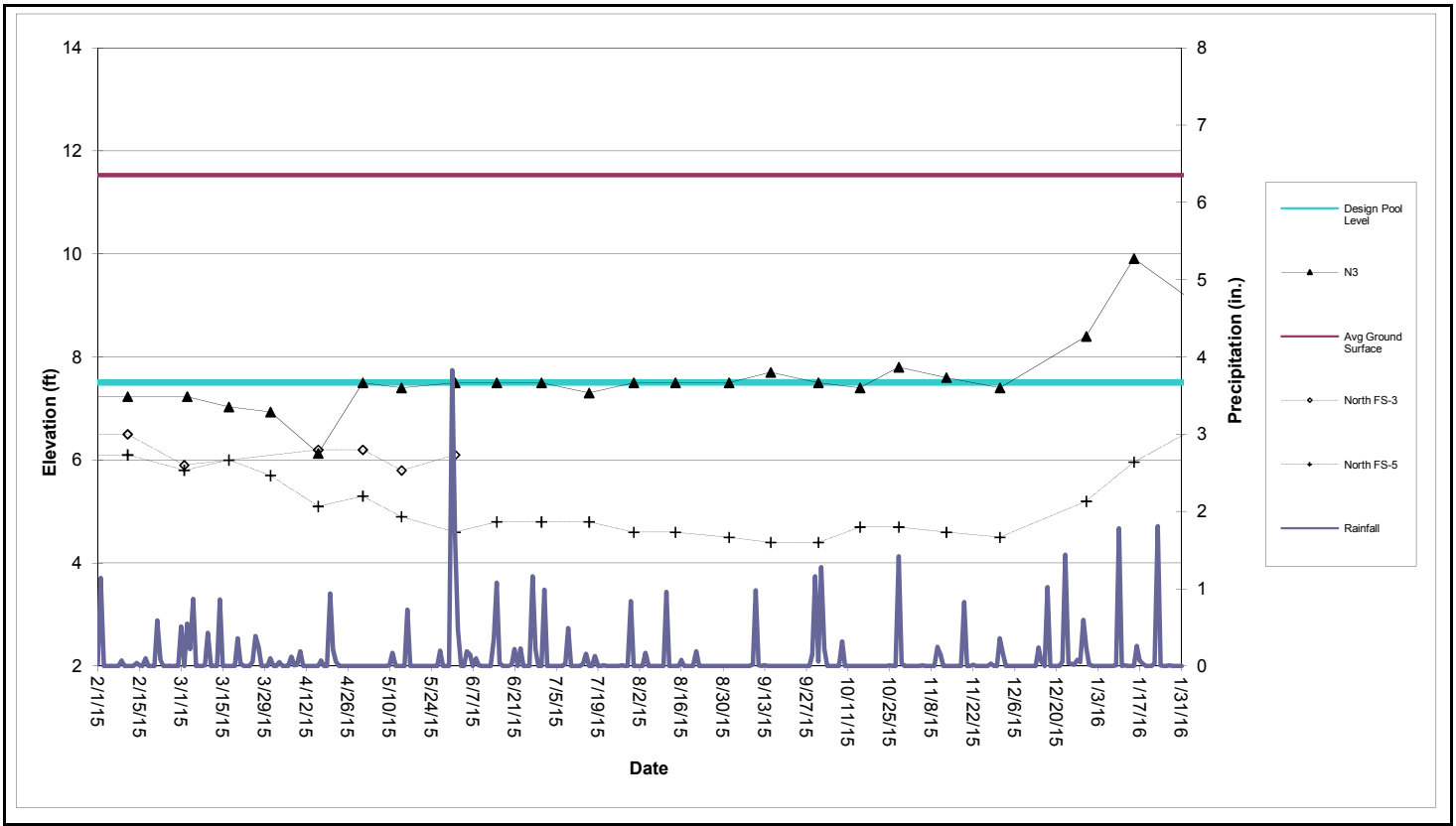
bboscaino



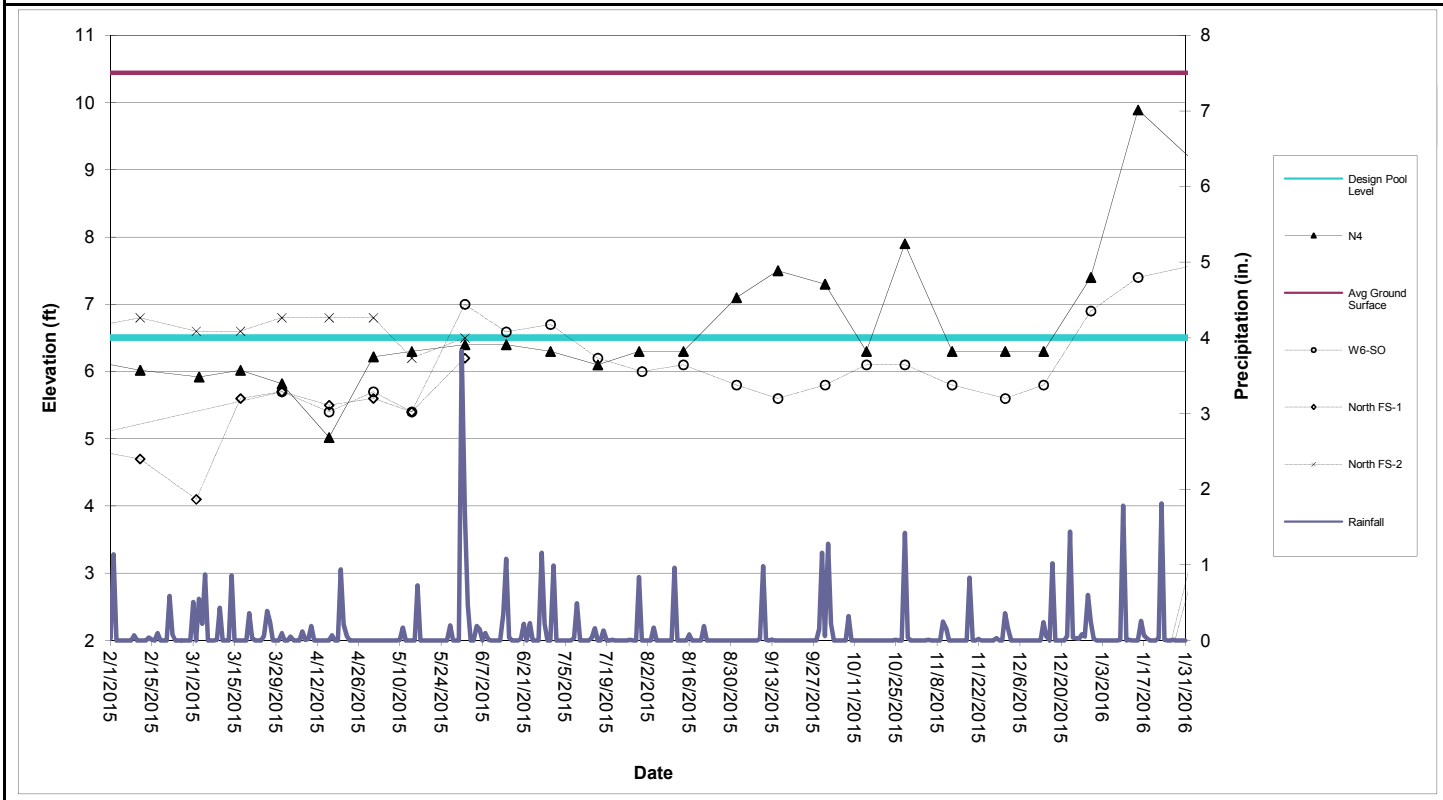
Perimeter Pool N1 (Sta. N13+60 to N20+25)



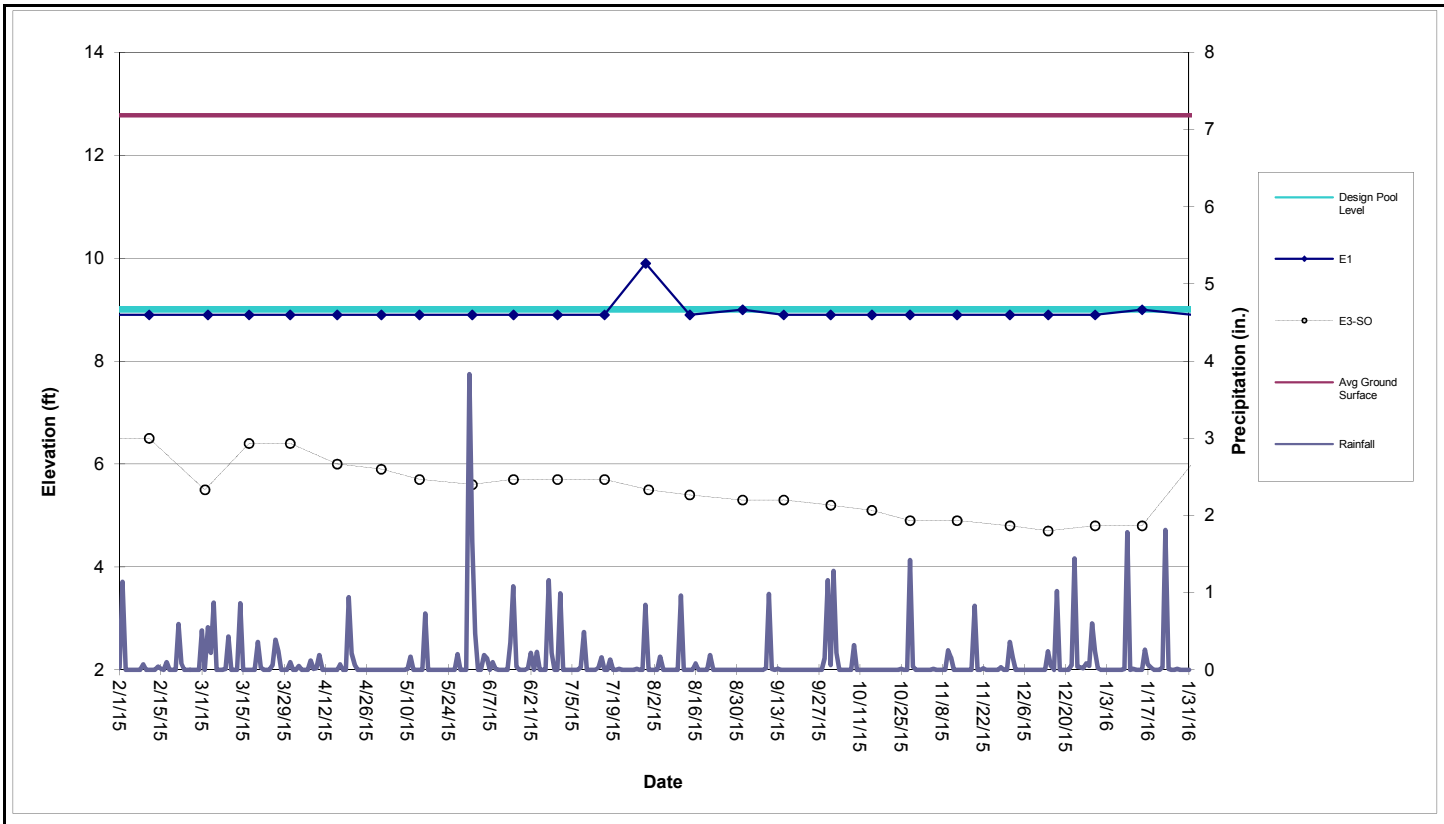
Perimeter Pool N2 (Sta. N10+73 to N13+10)



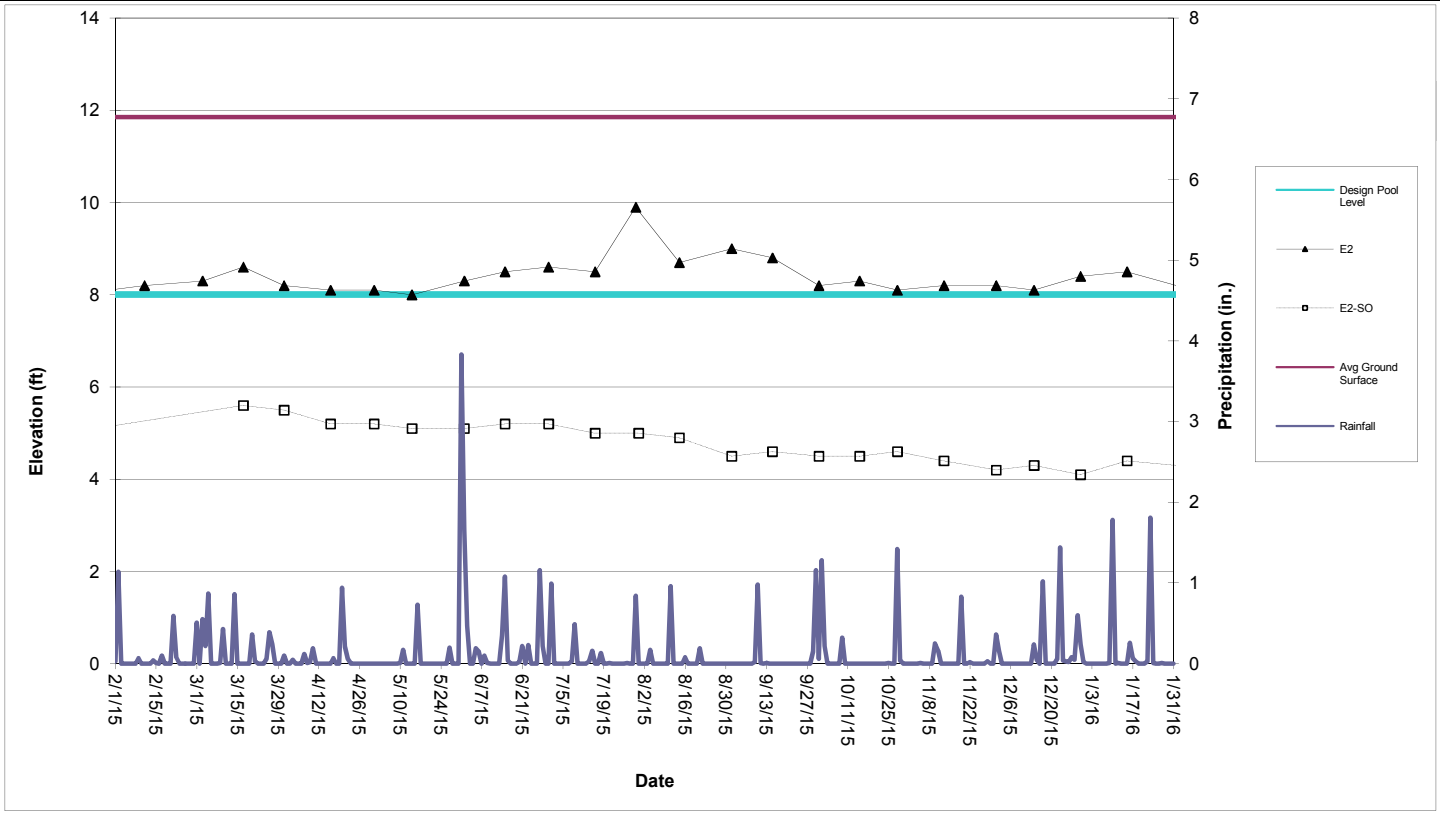
Perimeter Pool N3 (Sta. N6+80 to N10+23)



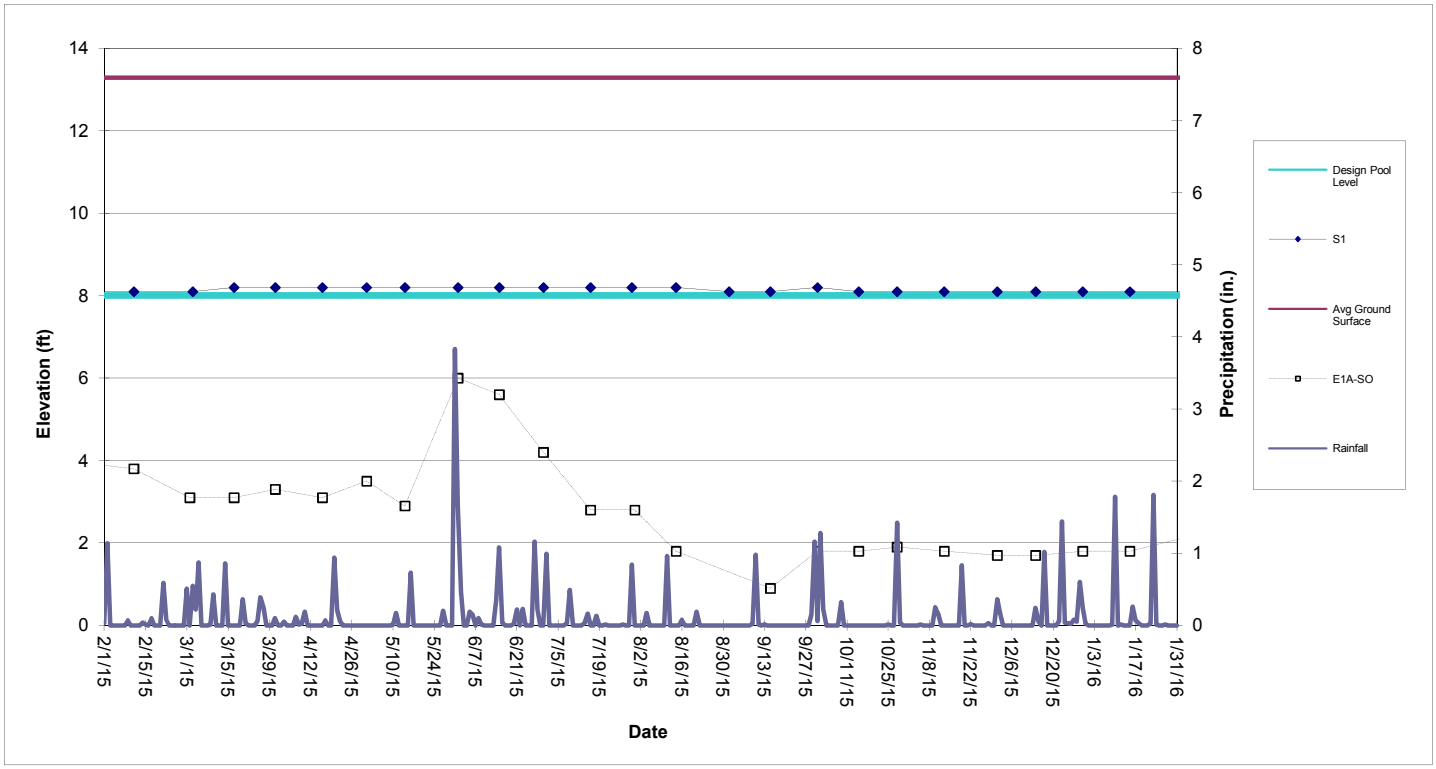
Perimeter Pool N4 (Sta. N6+80 to N10+23)



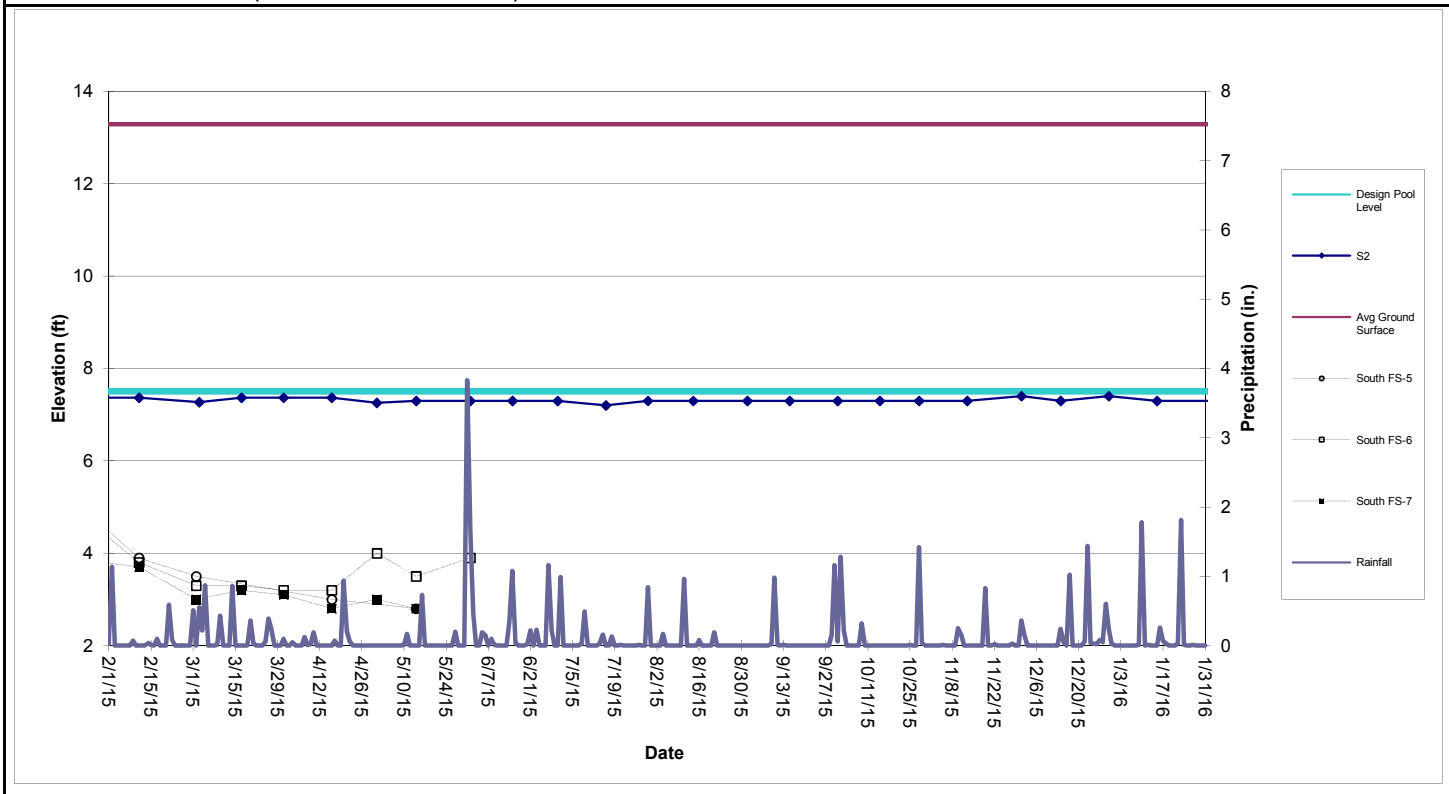
Perimeter Pool E1 (Sta. E0+50 to E3+75)



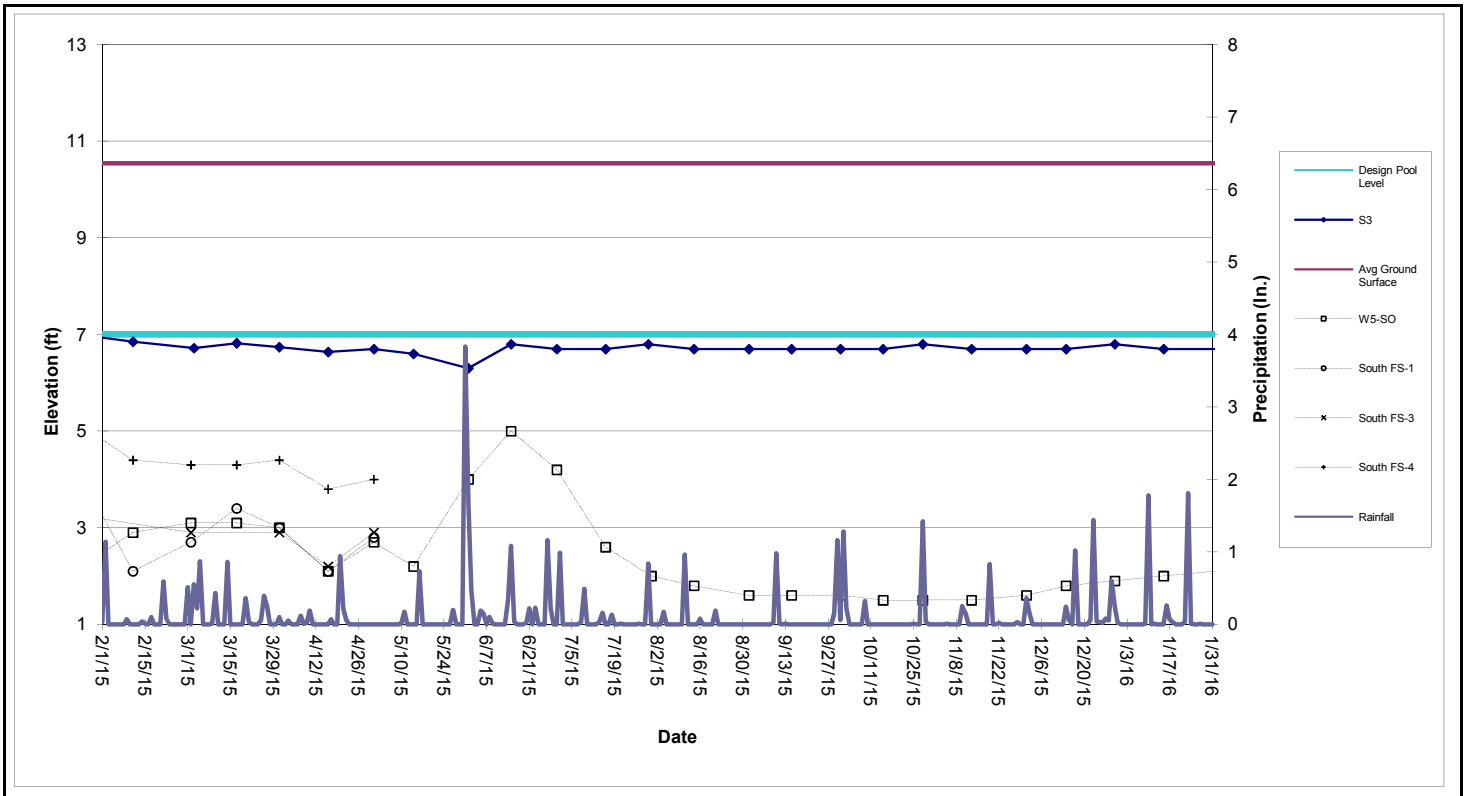
Perimeter Pool E2 (Sta. E4+50 to E7+25)



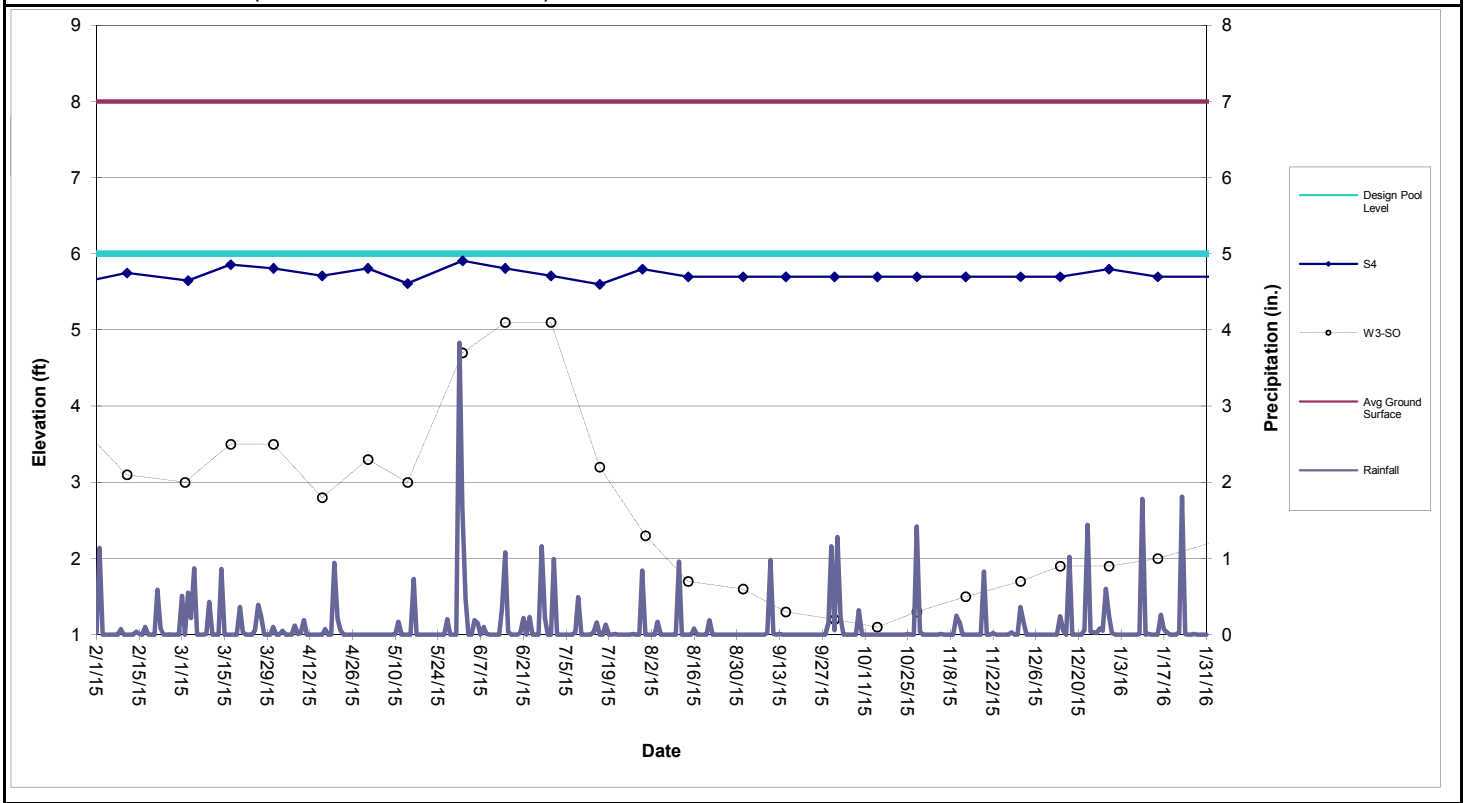
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
2/11/2015	3.8		6.5	6.7	6.4		3.1	2.9		4.7	6.8	6.5	6.1	6.1	6.2		2.1		4.4	3.9	3.8	3.7
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

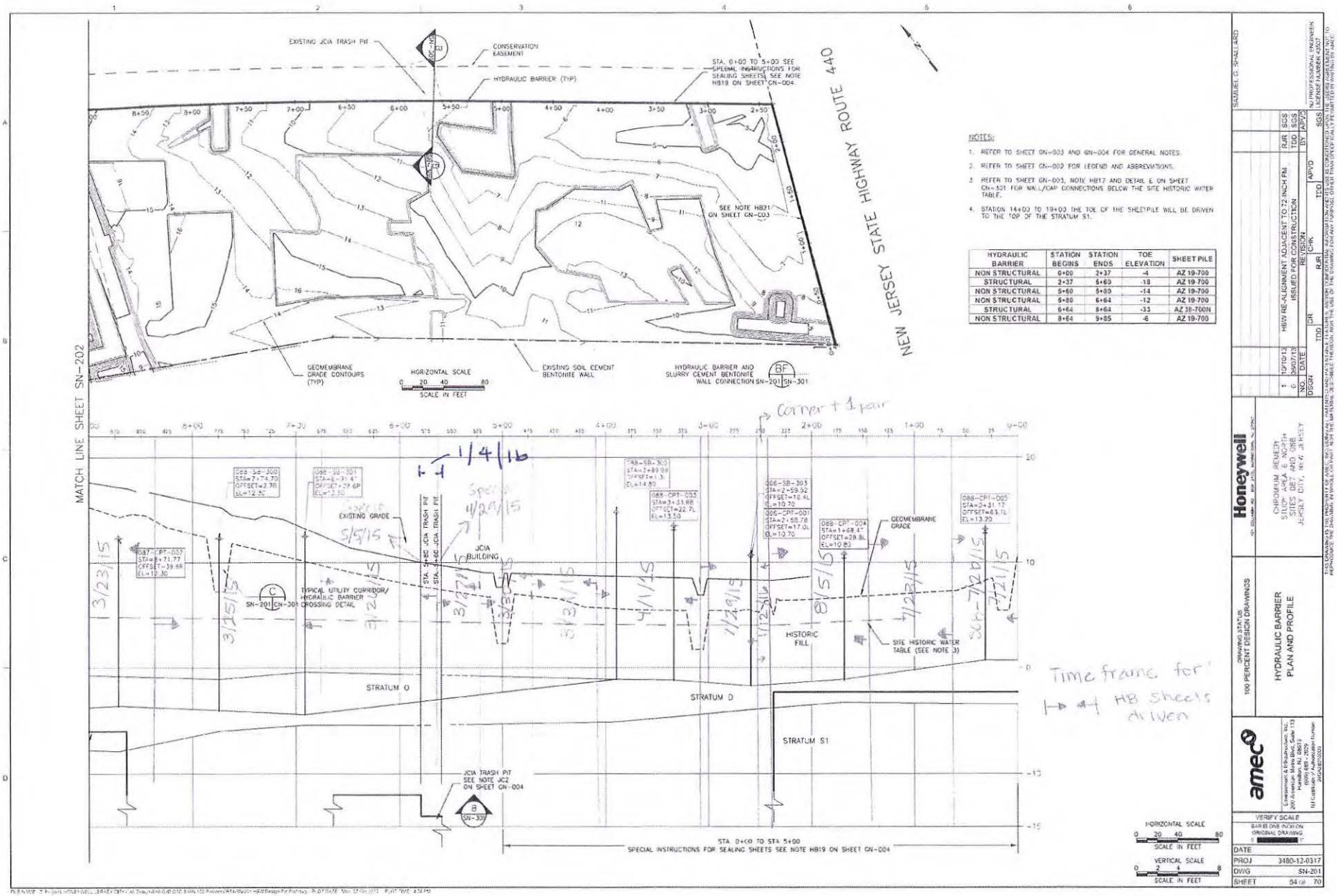
Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	10/10/13	HB/W RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	08/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

Honeywell

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

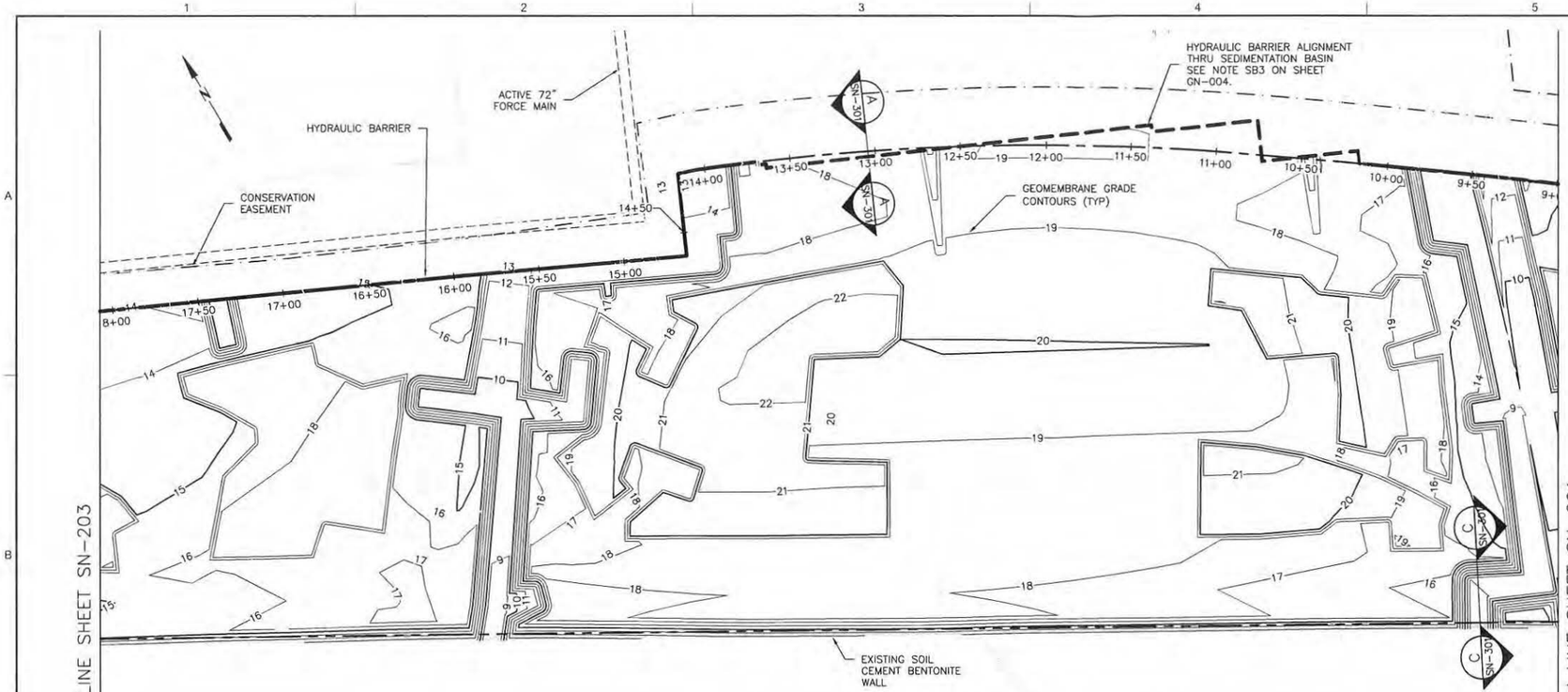
DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

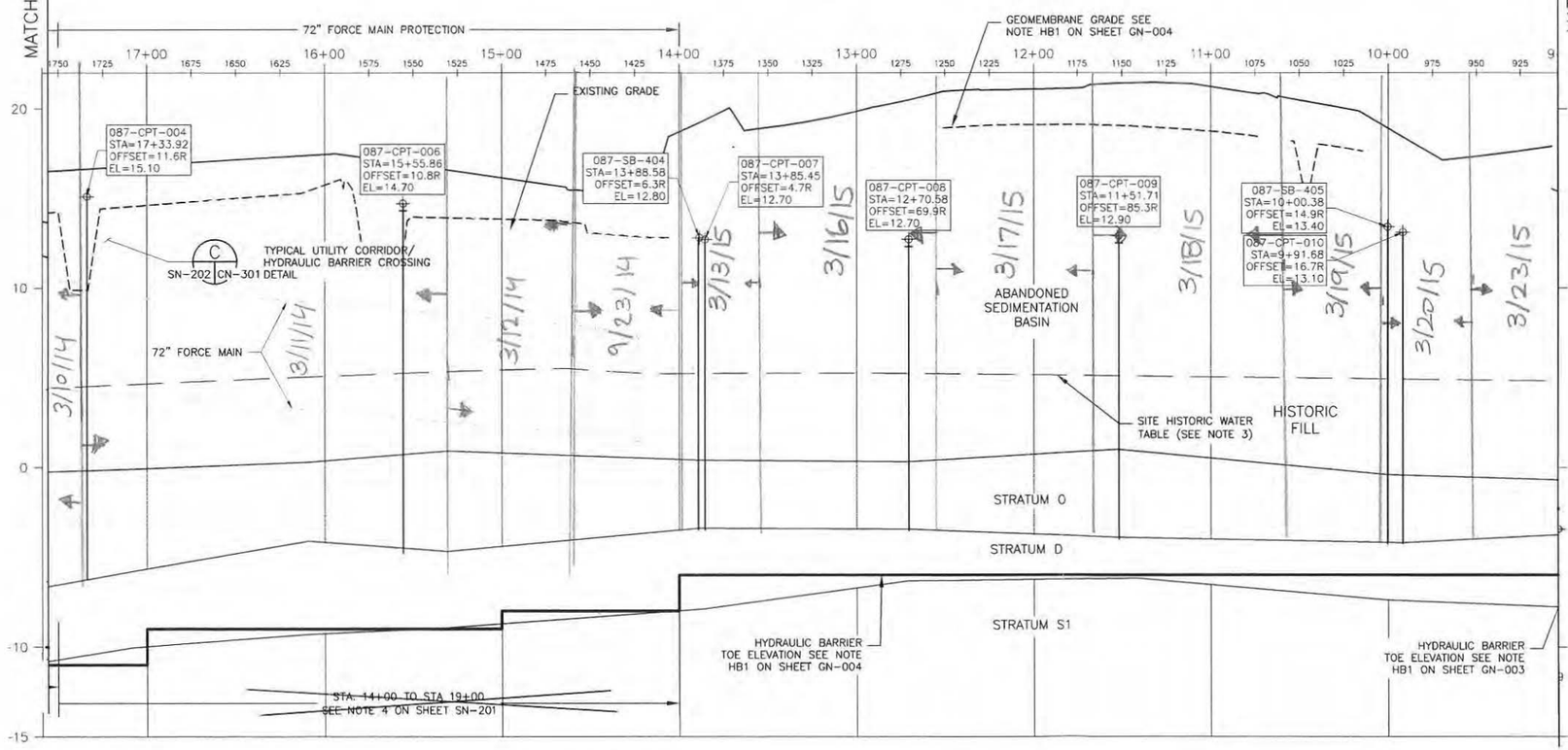
HYDRAULIC BARRIER
PLAN AND PROFILE

amec

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING

DATE
PROJ 3480-12-0317
DWG SN-201
SHEET 54 OF 70





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	09/13/13	TDD	RJR	TDD	BCO
0	06/07/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM		RJR	SGS
		ISSUED FOR CONSTRUCTION		TDD	SGS
		REVISION		BY	APVD

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

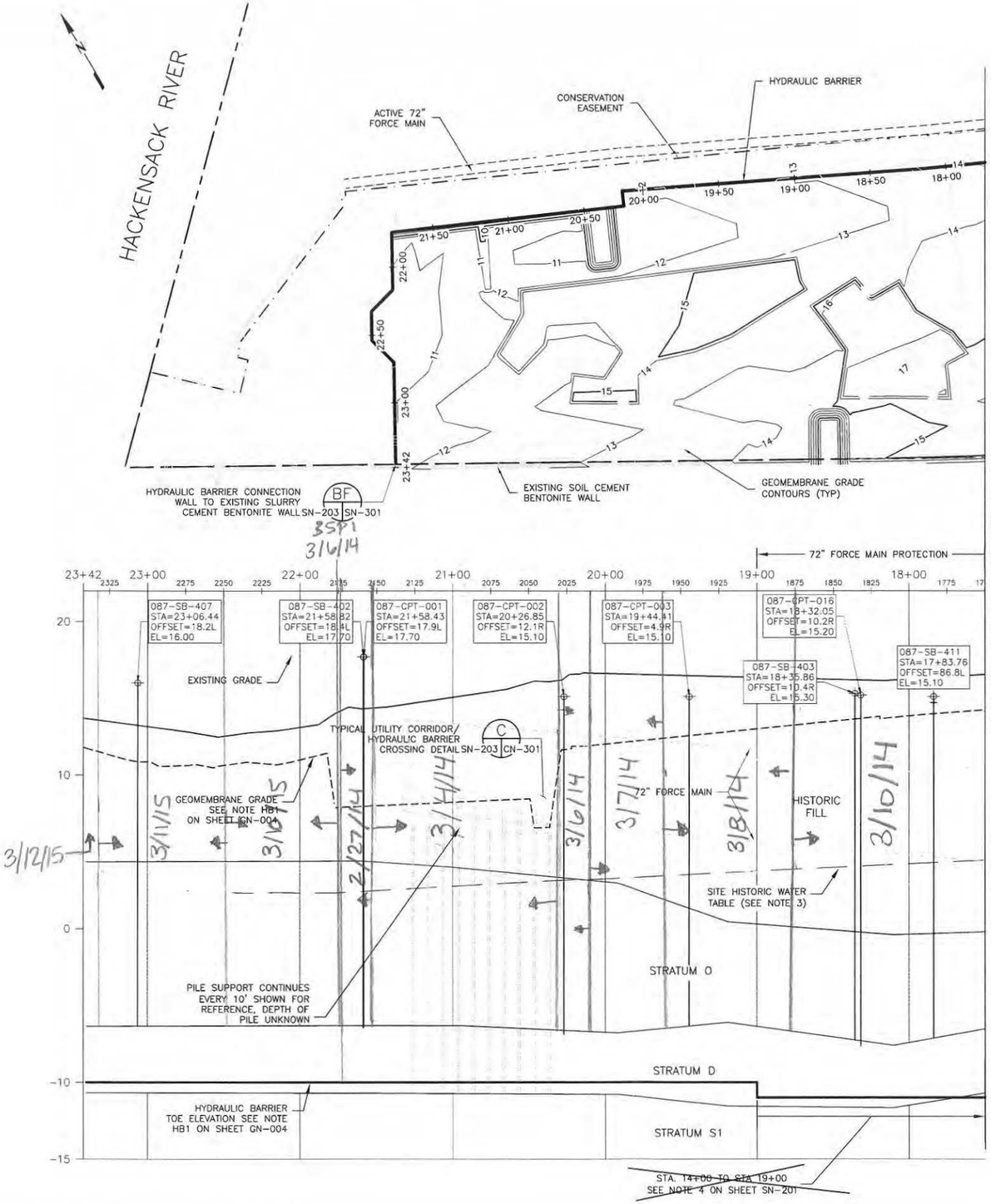
HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

FILE NAME: Z:\Projects\HONEYWELL JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N-100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN	TDD	DR RJR CHK TDD	APVD	SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USER'S AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA27915600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

(not included in this reporting period)

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: December 31, 2015

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		1
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 12/7/15

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, December 31, 2015

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Secondary containment structures in the mechanic's area have accumulated stormwater.
2	IA2Q4A1AL8	Ponded stormwater is present at several locations across SA-6 South.
3	IA2Q4A1AL8	Ponded stormwater is present at several locations across SA-6 North.
4	IA2Q4A1AL8	The northern SA-7 access roadway has accumulated mud and sediment from the surcharge operation.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 12/31/15

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Drain stormwater from the secondary containment structures.	
2	Pump ponded stormwater as required.	Frozen
3	Pump ponded stormwater as required.	
4	Clean the access roadway and remove all accumulated sediment.	RAD 1/6/16

Construction Manager: _____ Date: 01/07/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 8, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/11/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 08, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the northern SA-7 access roadway requires maintenance.
2	IA2Q4A1AL8	Repeat: The northern SA-7 access roadway has accumulated mud and sediment from the surcharge operation.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 01/11/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence as required.	will be completed when ground is not frozen
2	Clean the access roadway and remove all accumulated sediment.	1/12/16 and daily activity

Construction Manager: _____ Date: 01/14/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 15, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/15/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 15, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence on Study Area 6 South has become detached.
2	IA2Q4A1AL8	The silt bag at the west end of Kellogg Street which filters sediment from the diesel pump has become blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 01/15/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the perimeter fenceline windscreen where it has become detached from the fence.	1/20/16 (AD)
2	Replace the silt bag on the diesel pump hose on Study Area 6 South.	1/20/16 (AD)

Construction Manager: _____ Date: 01/20/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: January 22, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 01/22/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, January 22, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence on Study Area 6 South has become detached

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 01/22/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the perimeter fenceline windscreen where it has become detached from the fence.	1/26/16 RAM

Construction Manager: _____ Date: 01/26/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted January 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

January 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the December 2015 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
12	01	15	12	31	15
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	59,770	78,659 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.47	0.61	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.00020	<0.00020	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1486	0.1486	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris
Signature of Principal
Executive or Authorized Agent

John J. Morris
Remediation Portfolio Director
Type Name and Title

01/19/2016
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
12	01	15	12	31	15
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
1,852,869 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 52,277,261

DATE	BOD (mg/l)	TSS (mg/l)
12/8/2015	<13	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 01/19/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: December 2015					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
12/1/2015	Angel Trujillo	50424392	50500018	75,626	0.075626	7.02	0.935									0.59
12/2/2015	Angel Trujillo	50500018	50577106	77,088	0.077088	7.34	0.935									0.60
12/3/2015	Angel Trujillo	50577106	50652921	75,815	0.075815	7.39	0.935									0.59
12/4/2015	Angel Trujillo	50652921	50731580	78,659	0.078659	7.40	0.935									0.61
12/5/2015	Angel Trujillo	50731580	50809695	78,115	0.078115	7.30	0.935									0.61
12/6/2015	Angel Trujillo	50809695	50887810	78,115	0.078115	7.43	0.935									0.61
12/7/2015	Angel Trujillo	50887810	50962084	74,274	0.074274	7.42	0.935									0.58
12/8/2015	Angel Trujillo	50962084	51038112	76,028	0.076028	6.78	0.935	<5.1	<13		<0.010	<0.030	<0.010	<0.00020	<0.020	0.59
12/9/2015	Angel Trujillo	51038112	51114910	76,798	0.076798	7.42	0.935									0.60
12/10/2015	Angel Trujillo	51114910	51176568	61,658	0.061658	7.22	0.935									0.48
12/11/2015	Angel Trujillo	51176568	51231814	55,246	0.055246	7.41	0.935									0.43
12/12/2015	Angel Trujillo	51231814	51287230	55,416	0.055416	7.39	0.935									0.43
12/13/2015	Angel Trujillo	51287230	51359830	72,600	0.0726	7.30	0.935									0.57
12/14/2015	Angel Trujillo	51359830	51432430	72,600	0.0726	7.42	0.935									0.57
12/15/2015	Angel Trujillo	51432430	51466202	33,772	0.033772	7.64	0.935									0.26
12/16/2015	Angel Trujillo	51466202	51519186	52,984	0.052984	7.63	0.935									0.41
12/17/2015	Angel Trujillo	51519186	51589110	69,924	0.069924	7.84	0.935									0.55
12/18/2015	Angel Trujillo	51589110	51657980	68,870	0.06887	7.58	0.935									0.54
12/19/2015	Angel Trujillo	51657980	51730250	72,270	0.07227	7.61	0.935									0.56
12/20/2015	Angel Trujillo	51730250	51799873	69,623	0.069623	7.40	0.935									0.54
12/21/2015	Angel Trujillo	51799873	51869497	69,624	0.069624	7.54	0.935									0.54
12/22/2015	Angel Trujillo	51869497	51937069	67,572	0.067572	7.59	0.935									0.53
12/23/2015	Angel Trujillo	51937069	52013772	76,703	0.076703	7.57	0.935									0.60
12/24/2015	Angel Trujillo	52013772	52054400	40,628	0.040628	7.82	0.935									0.32
12/25/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/26/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/27/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/28/2015	Angel Trujillo	52054400	52054400	0	0	N/A	0.935									0.00
12/29/2015	Angel Trujillo	52054400	52125809	71,409	0.071409	7.52	0.935									0.56
12/30/2015	Angel Trujillo	52125809	52202753	76,944	0.076944	7.47	0.935									0.60
12/31/2015	Angel Trujillo	52202753	52277261	74,508	0.074508	7.56	0.935									0.58
TOTAL				1,852,869	1.852869			<5.1	<13		<0.010	<0.030	<0.010	<0.00020	<0.020	
			High:	78,659											High:	0.61
			Average:	59,770											Average:	0.47

WW

Impulse

E

JC10089

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	42346.39172
COC#	087-WW-120815
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

L23 A18
V1077 G42

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

Privileged & Confidential	
EDD To:	
Sampler:	Frank Schroyer
PO #	
Analysis Turnaround Time (TAT):	3
Consultant	CH2M
Full Report TAT:	28 Days
Site Name:	Hudson County
Location of Site:	Jersey City, NJ
Phase:	CS
Sampling Program	087: JCIA

Sampling Co.:	MACTEC
Client Contact: (name, co., address)	
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	
Honeywell International	
101 Columbia Road Morristown, NJ 07962	
Preliminary Data To	
Sample Receipt Acknowledgement To	Frank Schroyer
Hard Copy To	Helen Fahy (Honeywell)
Invoice To:	Helen Fahy (Honeywell)

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list	Sampling Method (code)	Lab Sample Numbers
											Units												
1	087-WW			087-WWE-120815-A	12/8/2015	15:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X			-1
2	087-WW			087-WWE-120815-B	12/8/2015	15:05	WW	WATER	REG	5	grab	N					X	X					-2
3	087-WW			087-WWI-120815	12/8/2015	15:15	WW	WATER	REG	3	grab	N									X		-3
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

Preservative: 3, 3, 3, 1, 2, 2, 0, 0, 2

INITIAL ASESSMENT 3A JK
LABEL VERIFICATION JV

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE
JK

Relinquished by	pH = 6.78 s.u. @ 7.9°C	Company	AMEC Foster Wheeler	Received by	Company	Condition	Custody Seals Intact
Frank Schroyer	Date/Time	12/8/15	Robert Chambers	Date/Time 12-8-15 16:26		Cooler Temp. 1.5°C	
Relinquished by	Company		Received by	Company		Condition	Custody Seals Intact
Robert Chambers	Date/Time 12-8-15 16:26			Date/Time 12-8-15 16:26		Cooler Temp.	

Preservatives: (Other; Specify): 0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

Relinquished by [signature] 12-8-15 18:34 Received by [signature] 12/8/15 18:34

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-A		
Lab Sample ID:	JC10089-1	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	935	10	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	12/11/15	12/11/15	MA	EPA 245.1 [2]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	12/09/15	12/10/15	ND	EPA 200.7 [1]	EPA 200.7 [3]

(1) Instrument QC Batch: MA38252
(2) Instrument QC Batch: MA38262
(3) Prep QC Batch: MP90841
(4) Prep QC Batch: MP90894

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-A		
Lab Sample ID:	JC10089-1	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	12/09/15	LA	SM2540 D-11
pH [b]	6.92		su	1	12/08/15 19:38	JK	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 500 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-A		
Lab Sample ID:	JC10089-1A	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 13	13	mg/l	1	12/09/15 19:54	LS	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-B		
Lab Sample ID:	JC10089-2	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T213774.D	1	12/09/15	DC	n/a	n/a	VT8773
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.3	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	3.0	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	20.3	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.42	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.44	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.2	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.57	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-B		
Lab Sample ID:	JC10089-2	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	46.6	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	105%		72-125%
2037-26-5	Toluene-D8 (SUR)	98%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	98%		74-115%
1868-53-7	Dibromofluoromethane (S)	106%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@891489 18:36 14-Jan-2016

Report of Analysis

Client Sample ID:	087-WWE-120815-B		
Lab Sample ID:	JC10089-2	**Date Sampled:**	12/08/15
Matrix:	AQ - Water	**Date Received:**	12/08/15
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	12/09/15	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	May 6, 2014 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending January 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

3/10/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

March 10, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-02

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from February 1 – February 29, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: February 2016 SA-6/7 Combined Monthly Progress Report No. 2016-02

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2016-02
Project SA-6 & 7 Remediation

February 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
02/04/16	Updated Declarations Schedule for Performance Certifications Study Area 6 North and South Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
02/05/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, JC MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
02/11/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-01	Honorable Robert G. Torricelli Office of the Special Master
02/16/16	Special Master Conference Call	n/a
02/22/16	2015 Annual Hazardous Waste Export Report For USEPA Id No.: NJD986581437 EPA Notice No.: 009557/4E/14 and 011562/3E/15	US Environmental Protection Agency International Compliance Assurance Division
02/23/16	PW-3 Startup Monitoring Study Area 7 Groundwater Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
02/24/16	Surcharge Monitoring Report Study Area 6 North and South	Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Construction Management (AMEC)	10	10	9	7
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	30	27	29	30

Team	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Arecon/US Ecology Subcontractors	2	1	1	0
Eglentowicz (Demolition)	0	0	1	1
Langan	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	2	1	1
Cornerstone	0	1	0	0
TOTAL STAFF	**48**	**47**	**47**	**45**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected February PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Installed 11 new shallow monitoring wells in the SA-6 South Development AOC in accordance with the 100% Design and Long Term Monitoring Plan and 1 new/replacement shallow monitoring well in a non-chromium AOC at SA-6 South in accordance with the NJDEP-approved Remedial Action Work Plan for Non-Chromium Contaminants of Concern.
- Began pre-demolition activities associated with 60/72 Kellogg to include disconnecting the water and sewer lines to 60 Kellogg, removal of the gas meters from 60 and 72 Kellogg, removal of the electric meter from 60 Kellogg, and installation of temporary construction fence.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on February 10, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Avg. Gallons Treated & Discharged (per day)	79,597	79,365	78,708	79,077
Average Flow (gpm) for Operating Period	58	57	57	57
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	3,701	3,636	3,774	4,332

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed installation of temporary well points at Site 163.
- Continued dewatering and excavation activities of Site 163 and began placing backfill in surveyed portions of Site 163.
- Completed excavation of Excavation Areas EA-2 and EA-3.
- Continued backfilling of EA-2/EA-3 excavation area.
- Completed abandonment of the two deep wells in EA-2/EA-3 (designated DW-6 and DW-7) and 88-MW-113 near EA-5.
- Continued EA-1 excavation and backfilling activities. After completion of the original excavation to the limits identified in the approved 100% Design, a lens of anomalous material less than 10 foot in width was observed on the northern face of the excavation at ~2 to 3 feet below grade near Culver Circle. Honeywell requested that the property line limits be laid out in the field and that removal of this observed anomalous material be completed up to this property line and the excavation limits resurveyed for the asbuilt documentation.
- Continued excavation of trench for installation of the Contingent Groundwater Extraction System piping in Area 1N. A total of 578 linear feet of pipe were installed.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	55	22.3	1,229
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz Cr	30	22.4	675

- See Attachment 15 for the Final February 1, 2016 truck incident report.

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation: EA-1, Site 163 Volume Excavated - Total for Reporting Period (EA-1): 1,040 CY/ Total to Date (SA-6 North): 39,443 CY; Total for Reporting period (Site 163): 2,565 CY/ Total to Date: 6,907.5 CY
Backfill in Progress	EA-2/EA-3, EA-1, Site 163

3. BACKFILL MATERIALS USED

Source	Week Ending			
	02/07/16	02/14/16	02/21/16	02/28/16
Tilcon 1.5" Stone	0	758.6	0	200.6

- Screened Celgene materials greater than 3/8 inch were transferred and placed as bridge lift in the Site 163 residential footprint excavation areas.
- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill in Site 163.
- In addition historic fill soils previously identified to be < 20 mg/kg hexavalent chromium were transferred and placed as backfill in EA-2/EA-3.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Completed placement of surcharge material. Surcharging appears to be complete in the majority of this area and peer review of the calculations is underway by MRCE.
- Area 4N: Completed placement of surcharge material.

F. SHEET PILE OPERATIONS

- Completed installation and grouting of the last special sheet pile barrier wall piece at the connection point of the SA-6 North barrier wall and the SA-7 SCB wall at the southwestern portion of Area 1N.
- Installed sheet pile for temporary excavation support at Site 163.

G. CAPPING OPERATIONS

- Continued evaluations of potential alternative fill source(s), of Horizon C Soils for the SA-6 South open space area. Short list of potential Horizon B and C soil source vendors which may need relief on physical parameters (gradations, pH or organic matter content ranges in current specifications) were submitted to Dr. Jason Grabosky of Rutgers University for review.
- Continued to install additional panels of temporary plastic sheeting on the SA-6 South Cap.

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete EA-2/EA-3 backfilling activities.
- Complete EA-1 excavation and backfilling activities.
- Complete excavation and backfill activities associated with Site 163 excavation including removal of temporary sheeting.
- Continue installation of the Contingent Groundwater Extraction System piping in Area 1N.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Pending identification of acceptable alternative fill source(s), resume import and placement of Horizon C Soils on the SA-6 South open space area.
- Continue routine surcharge monitoring in Areas 3N and 4N.
- Continue demolition of 60 and 72 Kellogg above-grade buildings to include asbestos abatement, universal waste removal, rodent abatement, and termination of the gas and electric service.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal injection event no. 27 in well 088-IW-02.
- Cornerstone will conduct round of quarterly LTMP groundwater level measurements.
- Conduct 6-month performance assessment soil sampling in the in-situ treatment area TA-10-1 in accordance with the updated Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated August 2015.

ATTACHMENTS:

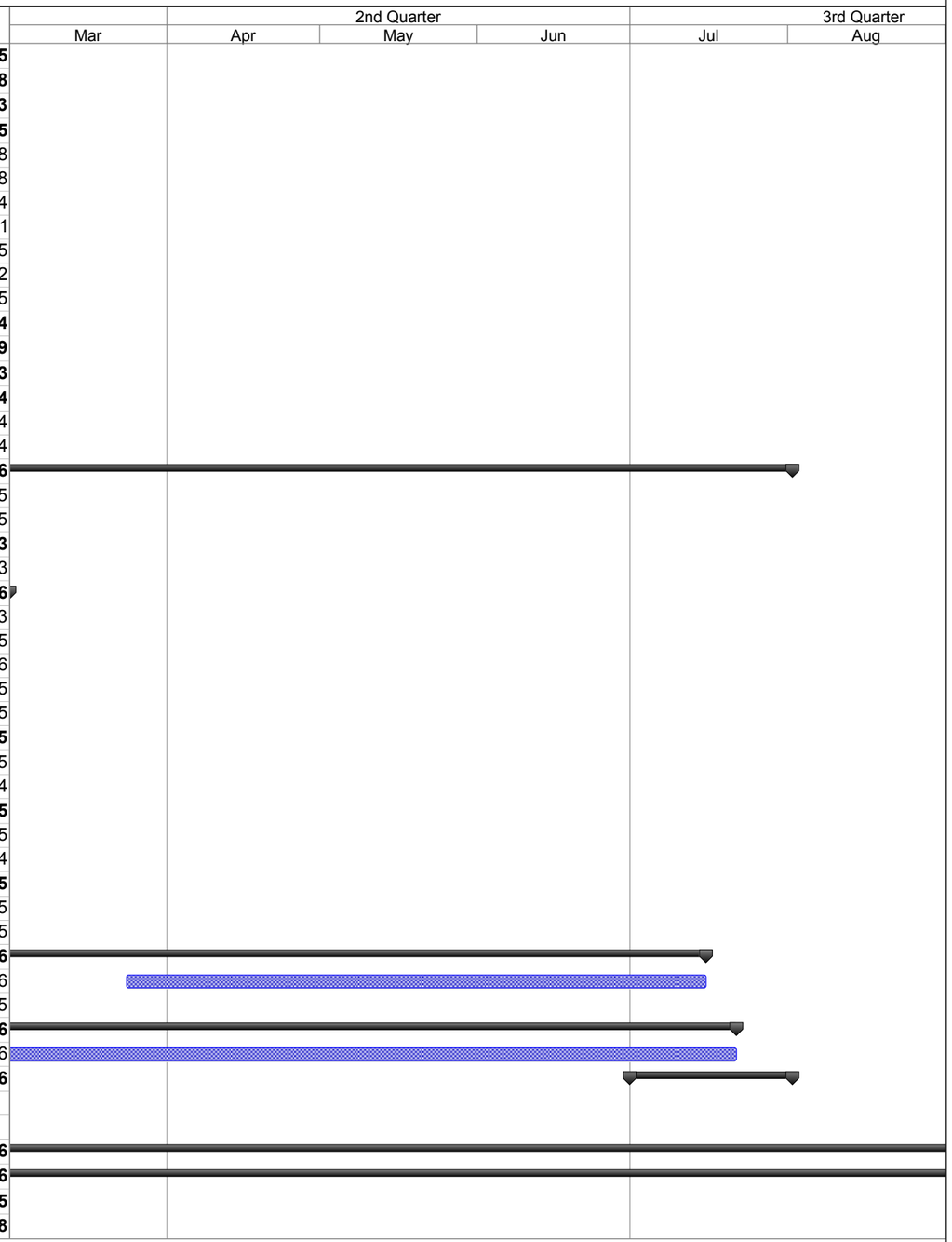
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update
11. Capping Update *(not included in this reporting period)*
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
15. Horwith Accident RollOver

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 3/01/16

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Continuing Contingent GWES Trenching in Area 1N.



Site Photograph 2: EA-1 Survey activities.



Site Photograph 3: Excavation activities at Site 163 Kellogg Street properties.



Site Photograph 4: Hand digging to locate utility lines at EA-1.



Site Photograph 5: Loading of excavated soils from EA-1.



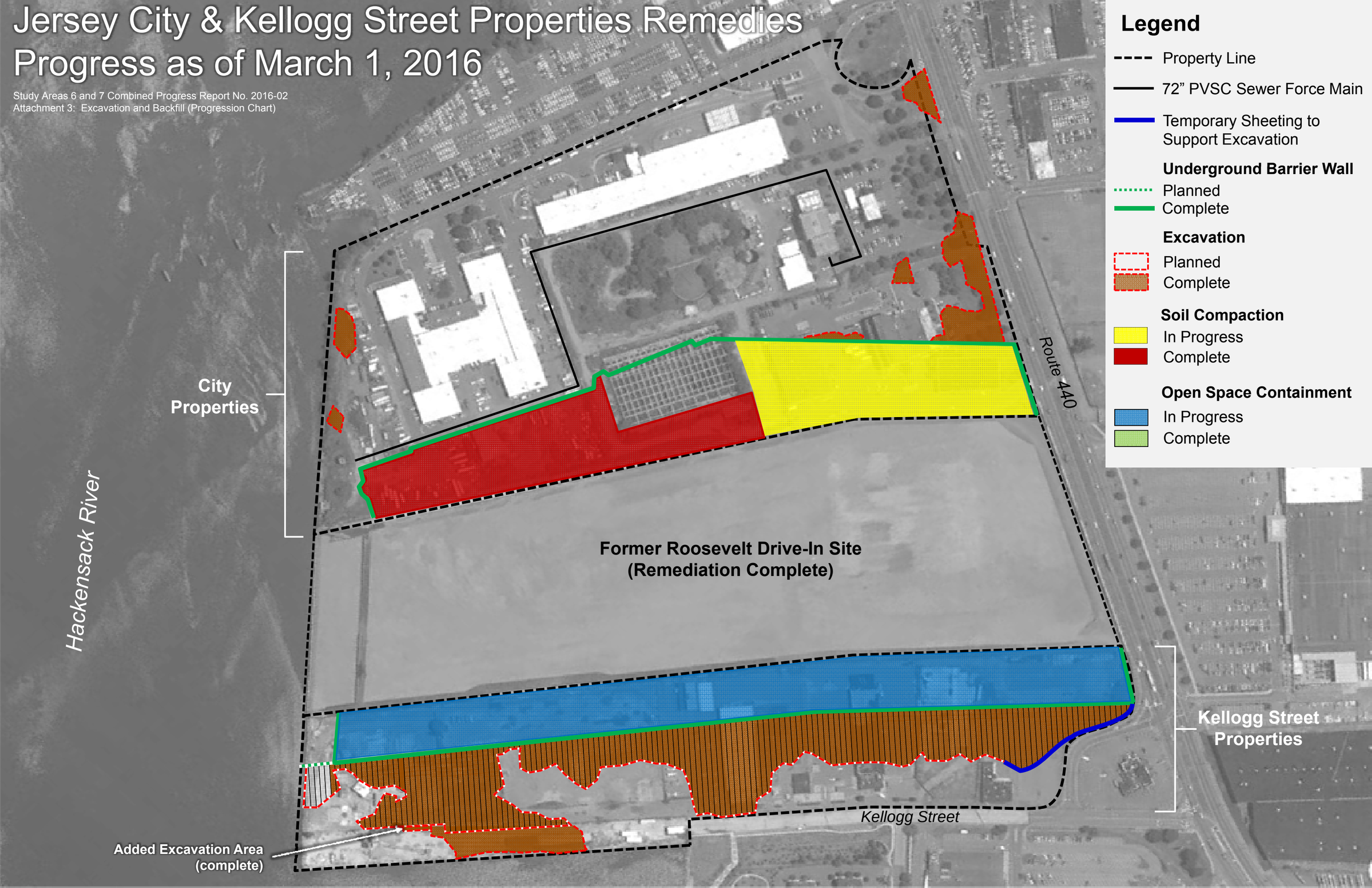
Site Photograph 6: Loading of excavated soils from Site 163.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of March 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-02
Attachment 3: Excavation and Backfill (Progression Chart)



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline
01/14/16	1	24	22,23,24	27	N/A	N/A	5,000	3,117,472	3.5	
01/15/16	1	24	22,23,24	23	N/A	N/A	5,000	3,122,472	3.5	
01/18/16	1	72	22,23,24	23	N/A	N/A	15,000	3,137,472	3.5	
01/19/16	1	24	22,23,24	23	N/A	N/A	5,000	3,142,472	3.5	System Offline for Excavation
02/05/16	1	24	22,23,24	23	N/A	N/A	5,000	3,147,472	3.5	
02/08/16	1	72	22,23,24	23	N/A	N/A	15,000	3,162,472	3.5	
02/09/16	1	24	22,23,24	27	N/A	N/A	5,000	3,167,472	3.5	
02/10/16	1	24	22,23,24	27	N/A	N/A	3,000	3,170,472	2.1	
02/11/16	1	24	22,23,24	27	N/A	N/A	3,000	3,173,472	2.1	
02/12/16	1	24	22,23,24	21	N/A	N/A	3,000	3,176,472	2.1	
02/16/16	1	96	22,23,24	21	N/A	N/A	2,000	3,178,472	0.3	
02/17/16	1	24	22,23,24	15	N/A	N/A	1,000	3,179,472	0.7	
02/18/16	1	24	22,23,24	8	N/A	N/A	1,000	3,180,472	0.7	
02/19/16	1	24	22,23,24	8	N/A	N/A	1,500	3,181,972	1.0	
02/22/16	1	72	22,23,24	3	N/A	N/A	4,000	3,185,972	0.9	
02/23/16	1	24	22,23,24	3	N/A	N/A	1,000	3,186,972	0.7	
02/24/16	1	24	22,23,24	3	N/A	N/A	1,000	3,187,972	0.7	
02/25/16	1	24	22,23,24	3	N/A	N/A	1,000	3,188,972	0.7	
02/26/16	1	24	22,23,24	3	N/A	N/A	1,000	3,189,972	0.7	

Notes: Previous information is truncated. Only last month and current month information is provided.
Dewatering is associated with EA2/EA3 Excavation.

STUDY AREA 6 NORTH (EA2/3) DEEP WELL DATA (DW-6)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
12/06/15	48	N/A	N/A	10,000	10,000	3.5	
12/07/15	24	N/A	N/A	8,000	18,000	5.6	
12/08/15	24	N/A	N/A	8,000	26,000	5.6	
12/09/15	24	N/A	N/A	8,000	34,000	5.6	
12/10/15	24	N/A	N/A	10,000	44,000	6.9	
12/13/15	48	N/A	N/A	20,000	64,000	6.9	
12/14/15	24	N/A	N/A	10,000	74,000	6.9	
12/15/15	24	N/A	N/A	10,000	84,000	6.9	
12/16/15	24	N/A	N/A	10,000	94,000	6.9	
12/17/15	24	N/A	N/A	10,000	104,000	6.9	
12/18/15	24	N/A	N/A	10,000	114,000	6.9	
12/20/15	48	N/A	N/A	20,000	134,000	6.9	
12/21/15	24	N/A	N/A	10,000	144,000	6.9	
12/23/15	24	N/A	N/A	10,000	154,000	6.9	
12/24/15	24	N/A	N/A	10,000	164,000	6.9	
12/26/15	48	N/A	N/A	20,000	184,000	6.9	
12/28/15	48	N/A	N/A	20,000	204,000	6.9	
12/29/15	24	N/A	N/A	10,000	214,000	6.9	
12/30/15	24	N/A	N/A	10,000	224,000	6.9	
12/31/16	24	N/A	N/A	10,000	234,000	6.9	
01/04/16	96	N/A	N/A	40,000	274,000	6.9	
01/05/16	24	N/A	N/A	10,000	284,000	6.9	Taken offline for excavation

STUDY AREA 6 SOUTH (SITE 163) DEEP WELL DATA (DW-8)

DATE	HOURS OF OPERATION	FLOW METER START (Gal)	FLOW METER FINISH (Gal)	VOLUME (Gal) DAILY	VOLUME (Gal) TOTAL	FLOW RATE (GPM)	COMMENTS
02/09/16	24	N/A	N/A	10,000	10,000	6.9	Flow meter not installed, tank measured
02/10/16	24	N/A	N/A	8,000	18,000	5.6	
02/11/16	24	N/A	N/A	8,000	26,000	5.6	
02/12/16	24	N/A	N/A	6,000	32,000	4.2	
02/16/16	96	N/A	N/A	12,000	44,000	2.1	
02/17/16	24	N/A	N/A	6,000	50,000	4.2	
02/18/16	24	N/A	N/A	4,000	54,000	2.8	System Taken Offline for Ecavation

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
12/31/15	7:00	13:45	6:45	39,125.05	39,167.86	42,810	39,024,010	
01/04/16	7:30	16:15	8:45	39,167.86	39,269.10	101,240	39,125,250	
01/07/16	8:00	16:15	8:15	39,269.10	39,354.16	85,060	39,210,310	
01/11/16	7:30	14:00	6:30	39,354.16	39,425.93	71,770	39,282,080	
01/12/16	8:00	13:00	5:00	39,425.93	39,510.66	84,730	39,366,810	PVSC Compliance Sample Collected
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	
02/02/16	7:00	11:30	4:30	39,632.04	39,691.51	59,470	39,547,660	PVSC Compliance Sample Collected
02/03/16	7:30	15:30	8:00	39,691.51	39,789.38	97,870	39,645,530	
02/04/16	8:00	15:30	7:30	39,789.38	39,869.34	79,960	39,725,490	
02/05/16	8:00	15:30	7:30	39,869.34	39,962.83	93,490	39,818,980	
02/06/16	8:00	14:00	6:00	39,962.83	40,010.68	47,850	39,866,830	
02/08/16	7:15	15:15	8:00	40,010.68	40,119.75	109,070	39,975,900	
02/09/16	8:30	15:30	7:00	40,119.75	40,195.00	75,250	40,051,150	
02/10/16	9:30	15:30	6:00	40,195.00	40,313.68	118,680	40,169,830	
02/11/16	10:30	15:30	5:00	40,313.68	40,407.45	93,770	40,263,600	
02/16/16	10:00	16:00	6:00	40,407.45	40,472.48	65,030	40,328,630	
02/17/16	7:00	15:30	8:30	40,472.48	40,635.48	163,000	40,491,630	
02/18/16	9:30	14:30	5:00	40,635.48	40,695.00	59,520	40,551,150	
02/22/16	7:30	13:00	5:30	40,695.00	40,767.90	72,900	40,624,050	
02/23/16	7:30	15:00	7:30	40,767.90	40,847.01	79,110	40,703,160	
02/24/16	8:30	15:00	6:30	40,847.01	40,947.06	100,050	40,803,210	
02/25/16	9:00	16:00	7:00	40,947.06	41,052.04	104,980	40,908,190	
02/26/16	7:30	15:00	7:30	41,052.04	41,114.52	62,480	40,970,670	

Notes: Previous information is truncated. Only last month and current month information is provided.

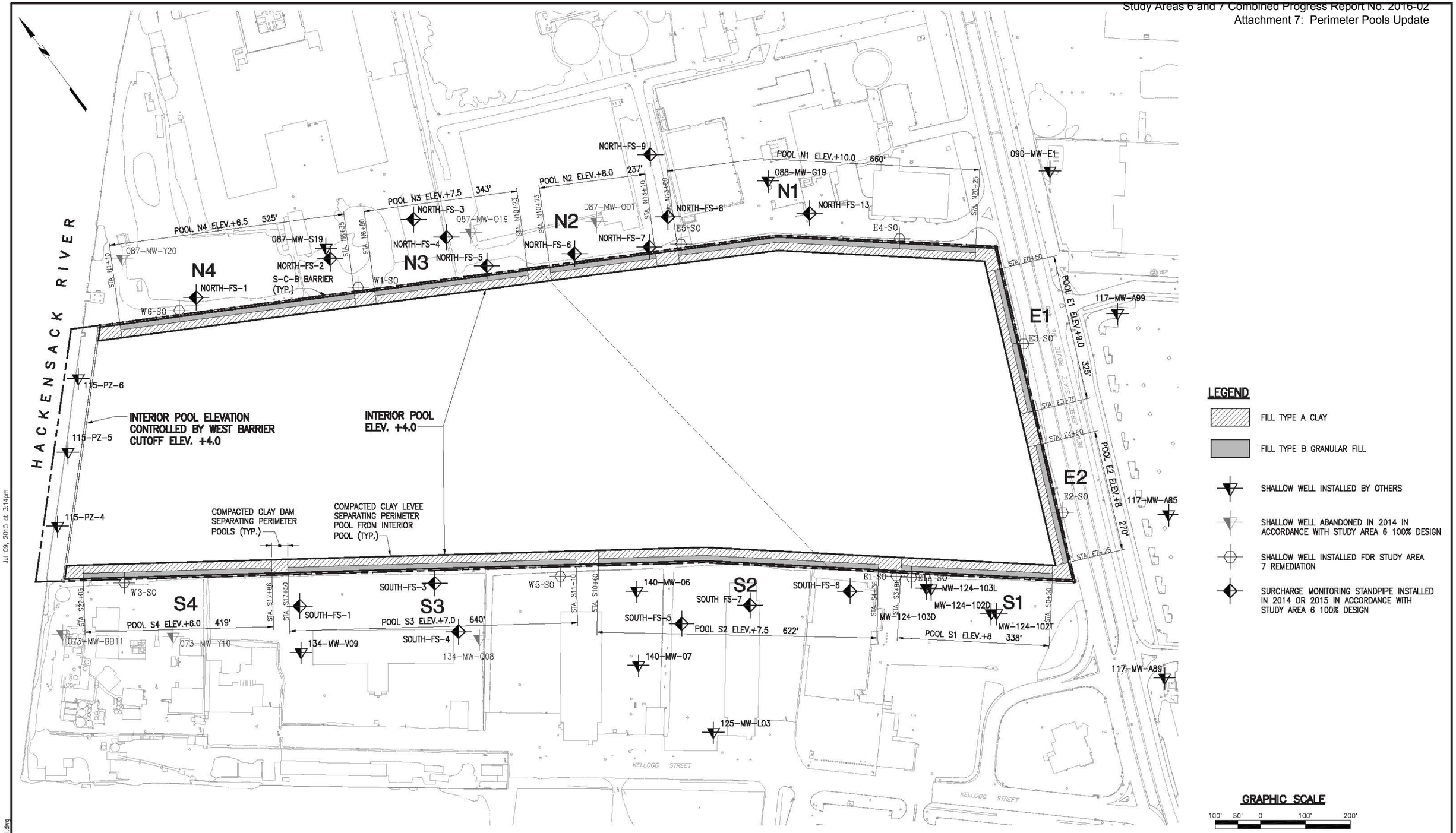
Attachment 6: Backfill Analytical Data

MATERIAL TRACKING AND SAMPLING LOG
SA-6 NORTH AND SOUTH

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	Yes		
				087-EA2-20-a2	12/11/2015	--	6.7	Yes		
				087-EA2-20-a3	12/11/2015	--	<1.9	Yes		
				087-EA2-20-a4	12/11/2015	--	3.8	Yes		
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	--	3.0	Yes		
				087-EA2-20-b2	12/30/2015	--	3.0	Yes		
				087-EA2-20-b3	12/30/2015	--	0.55	Yes		
				087-EA2-20-b4	12/30/2015	--	0.97	Yes		
				087-EA2-20-c1	12/30/2015	--	4.3	Yes		
				087-EA2-20-c2	12/30/2015	--	1.5	Yes		
				087-EA2-20-c3	12/30/2015	--	1.6	Yes		
				087-EA2-20-c4	12/30/2015	--	0.53	Yes		
				087-EA2-20-d1	12/30/2015	--	0.60	Yes		
				087-EA2-20-d2	12/30/2015	--	15.9	Yes		
				087-EA2-20-d3	12/30/2015	--	5.4	Yes		
				087-EA2-20-d4	12/30/2015	--	1.7	Yes		
				087-EA2-20-e1	12/30/2015	--	0.53	Yes		
				087-EA2-20-e2	12/30/2015	--	12.3	Yes		
				087-EA2-20-e3	12/30/2015	--	3.1	Yes		
				087-EA2-20-e4	12/30/2015	--	0.57	Yes		
				087-EA2-20-f1	12/30/2015	--	0.52	Yes		
				087-EA2-20-f2	12/30/2015	--	0.53	Yes		
				087-EA2-20-f3	12/30/2015	--	0.57	Yes		
				087-EA2-20-f4	12/30/2015	--	0.54	Yes		
				087-EA2-20-g1	12/30/2015	--	0.53	Yes		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	--	0.7	*		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	--	0.54	Yes		
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	--	24.1		*	
				087-EA2-20-h3	1/8/2016	--	<1.4	Yes		
				087-EA2-20-h4	1/8/2016	--	19	Yes		
				087-EA2-20-i2	1/8/2016	--	0.66	Yes		
				087-EA2-20-i3	1/8/2016	--	<1.9	Yes		
				087-EA2-20-i4	1/8/2016	--	<1.4	Yes		
				087-EA2-20-j1	1/8/2016	--	<2.0	Yes		
				087-EA2-20-j2	1/8/2016	--	8.9	Yes		
				087-EA2-20-j3	1/8/2016	--	<1.9	Yes		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	--	7	Yes		
				087-EA2-20-k2	1/8/2016	--	10	Yes		
				087-EA2-20-k3	1/8/2016	--	8	Yes		
				087-EA2-20-k4	1/8/2016	--	<1.9	Yes		
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	--	8.1	*		
				163-20-a2	1/19/2016	--	4.0	*		
				163-20-a3	1/19/2016	--	1.7	*		
				163-20-a4	1/19/2016	--	5.0	*		
Site 163	<20	163-20-a	840	163-20-a5	2/22/2016	--	2.7	*		
				163-20-a6	2/22/2016	--	3.6	*		
				163-20-a7	2/22/2016	--	1.0	*		
				163-20-a8	2/22/2016	--	5.1	*		

Previous information is truncated. Only last two months and current month information is provided.
*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

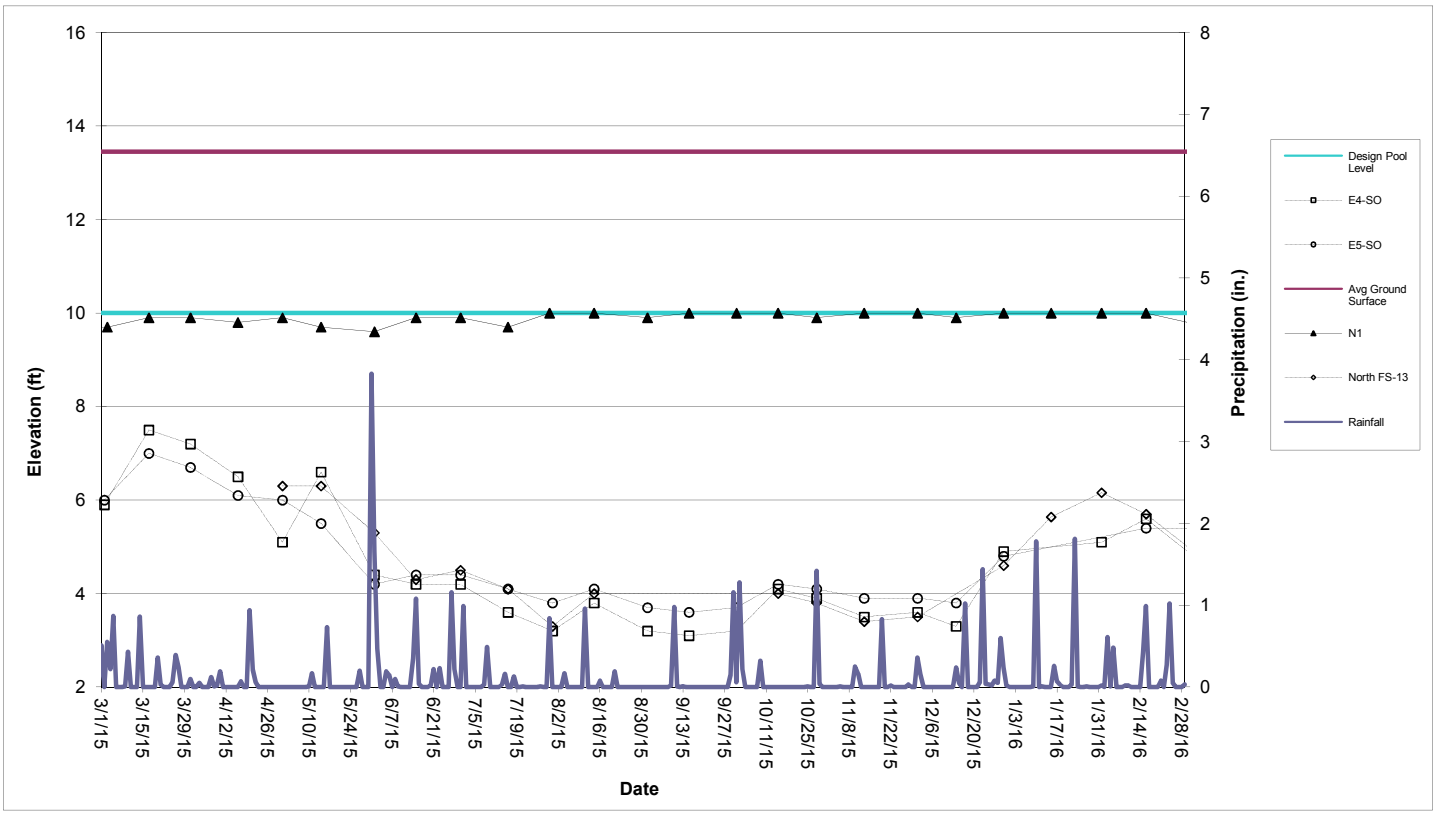
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

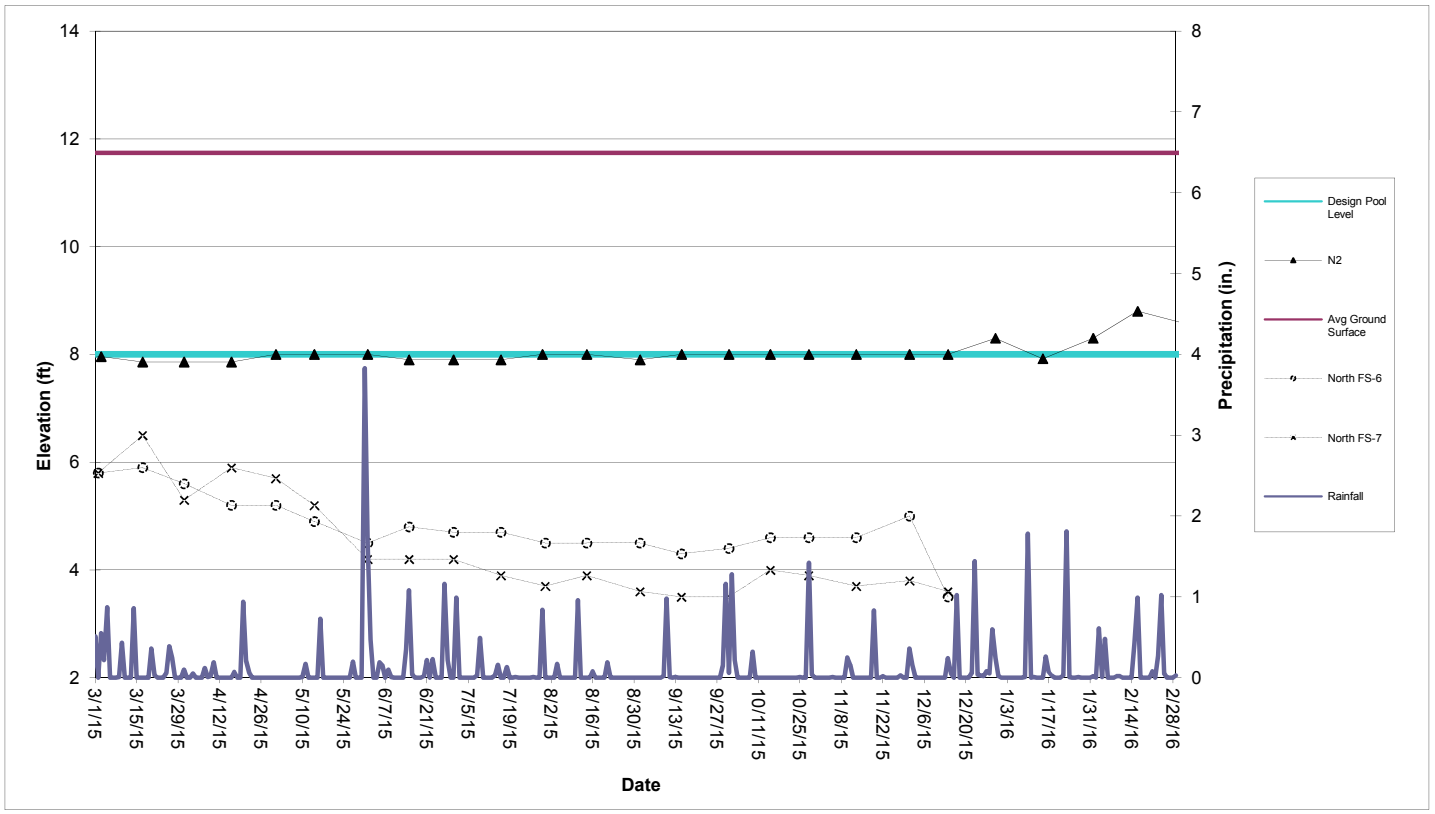
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

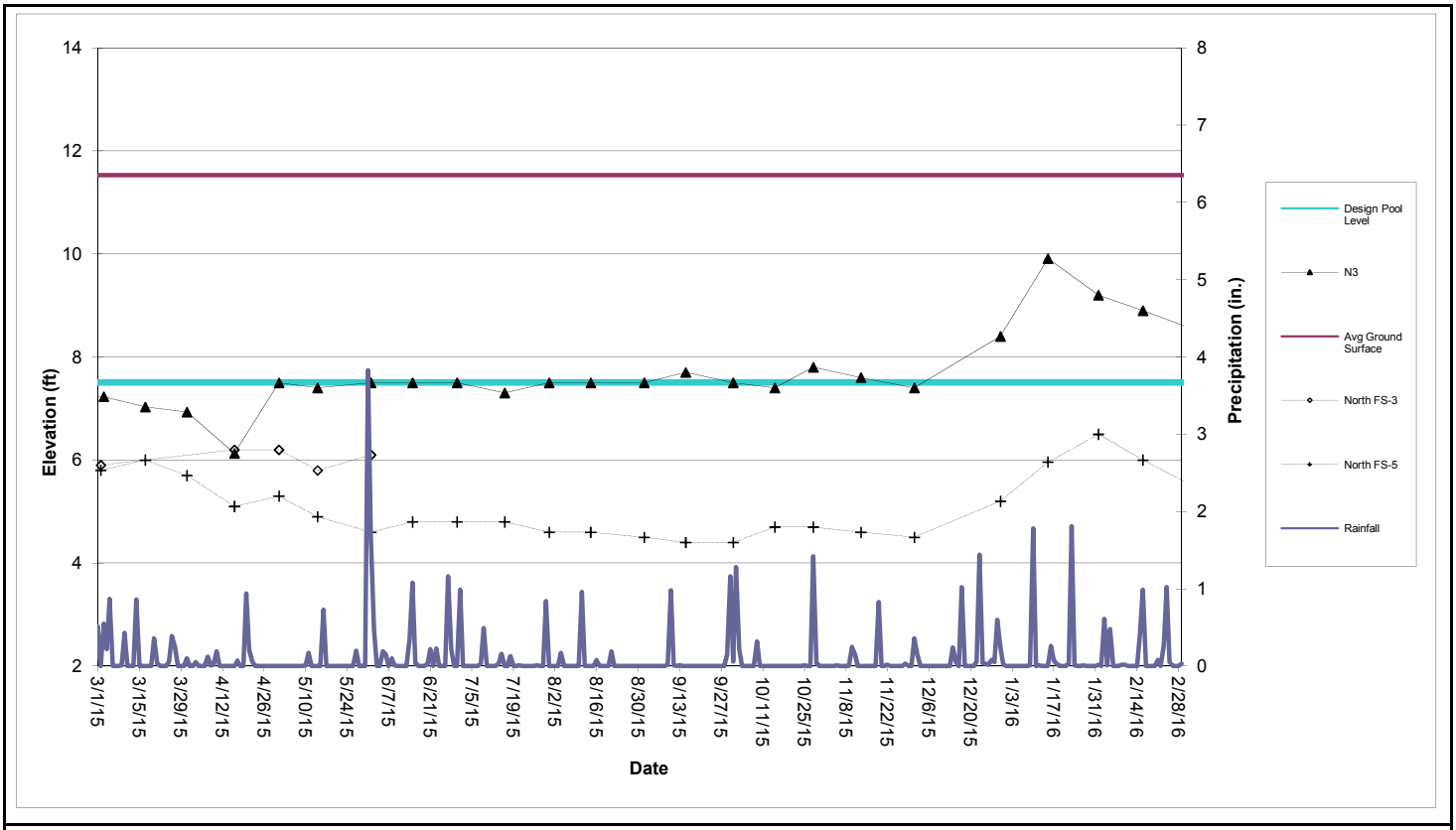
G:\DWGS\102\10210\Dewatering\PP-1.dwg
Jul 09, 2015 at 3:14pm
bboscaino



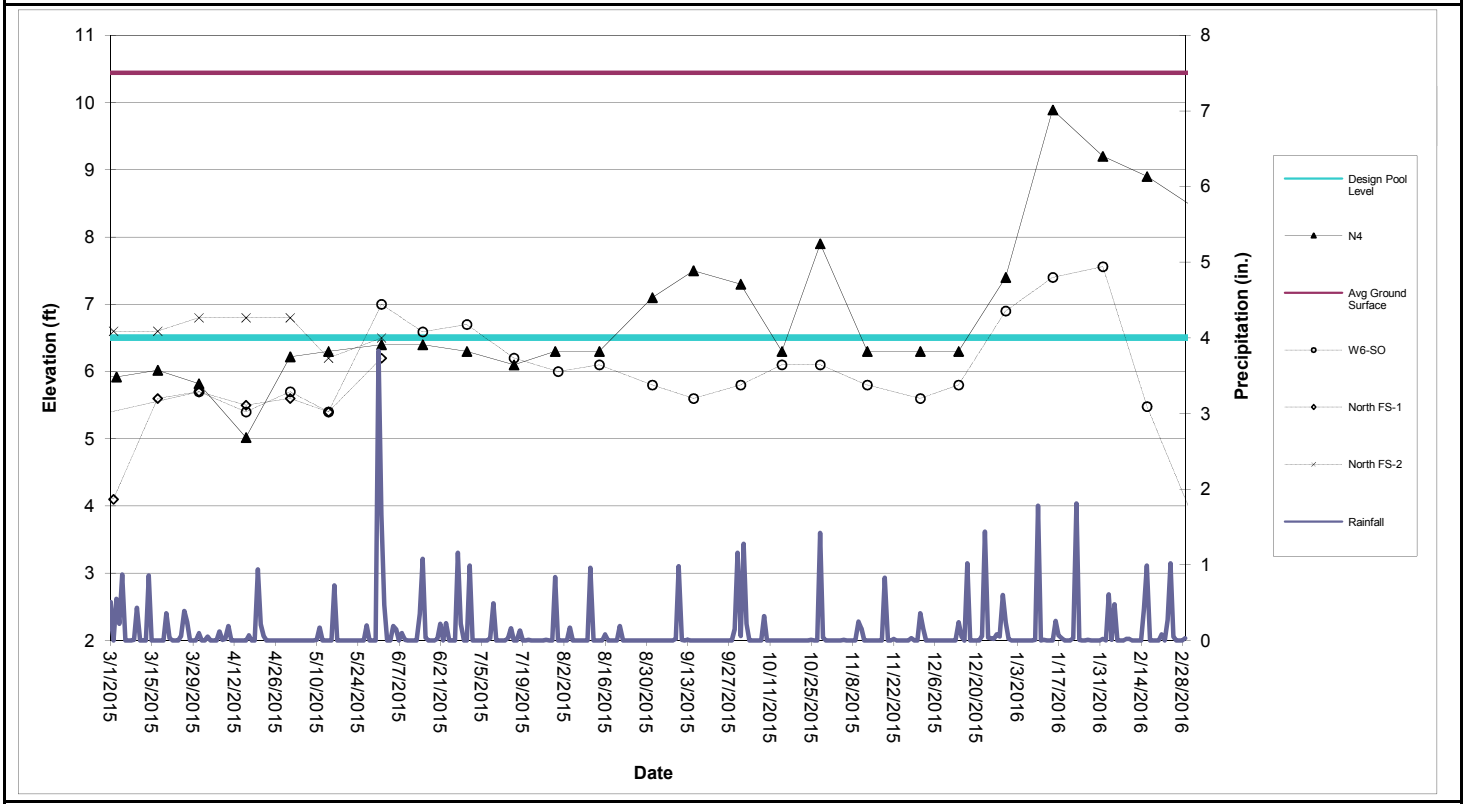
Perimeter Pool N1 (Sta. N13+60 to N20+25)



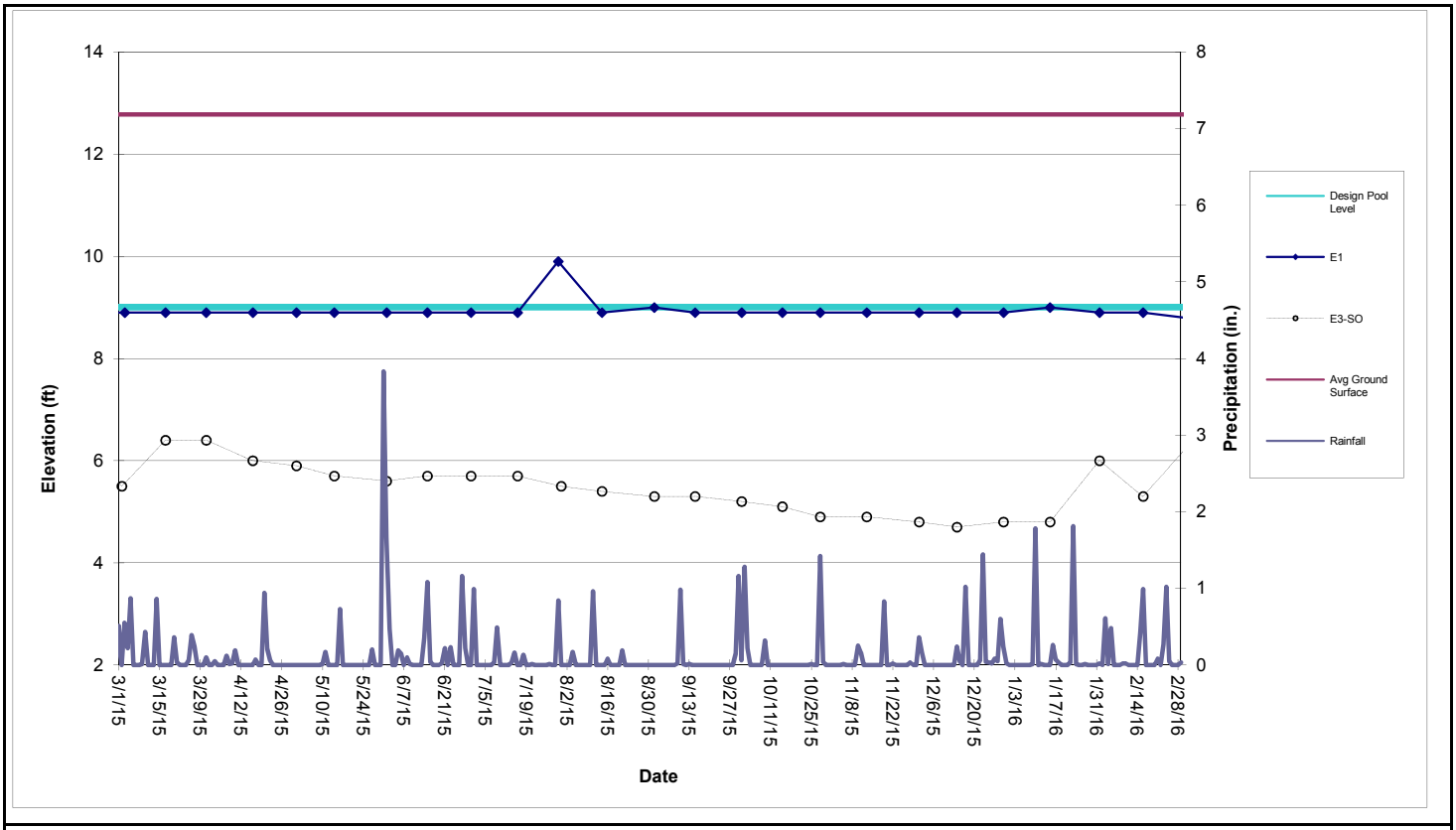
Perimeter Pool N2 (Sta. N10+73 to N13+10)



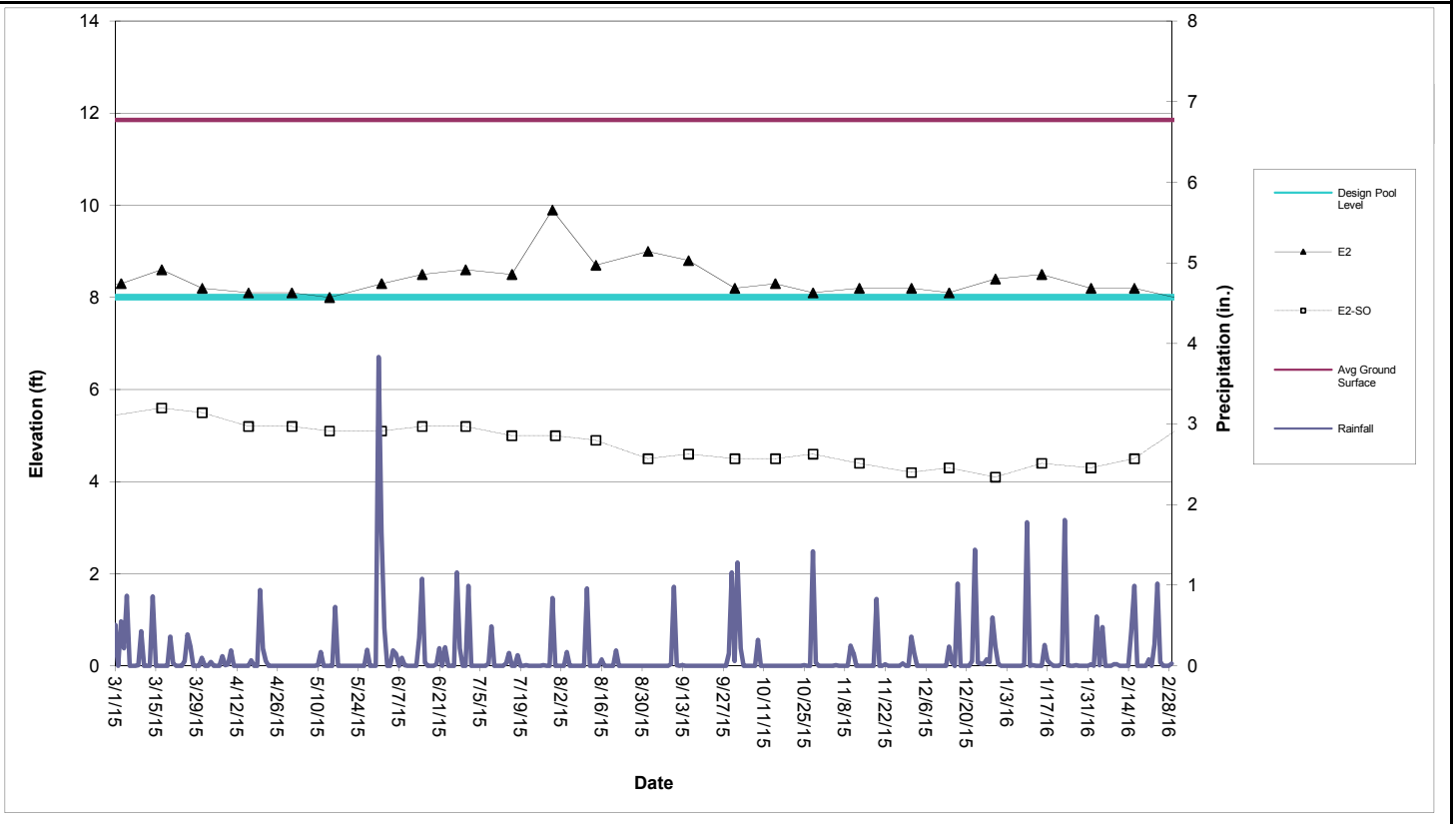
Perimeter Pool N3 (Sta. N6+80 to N10+23)



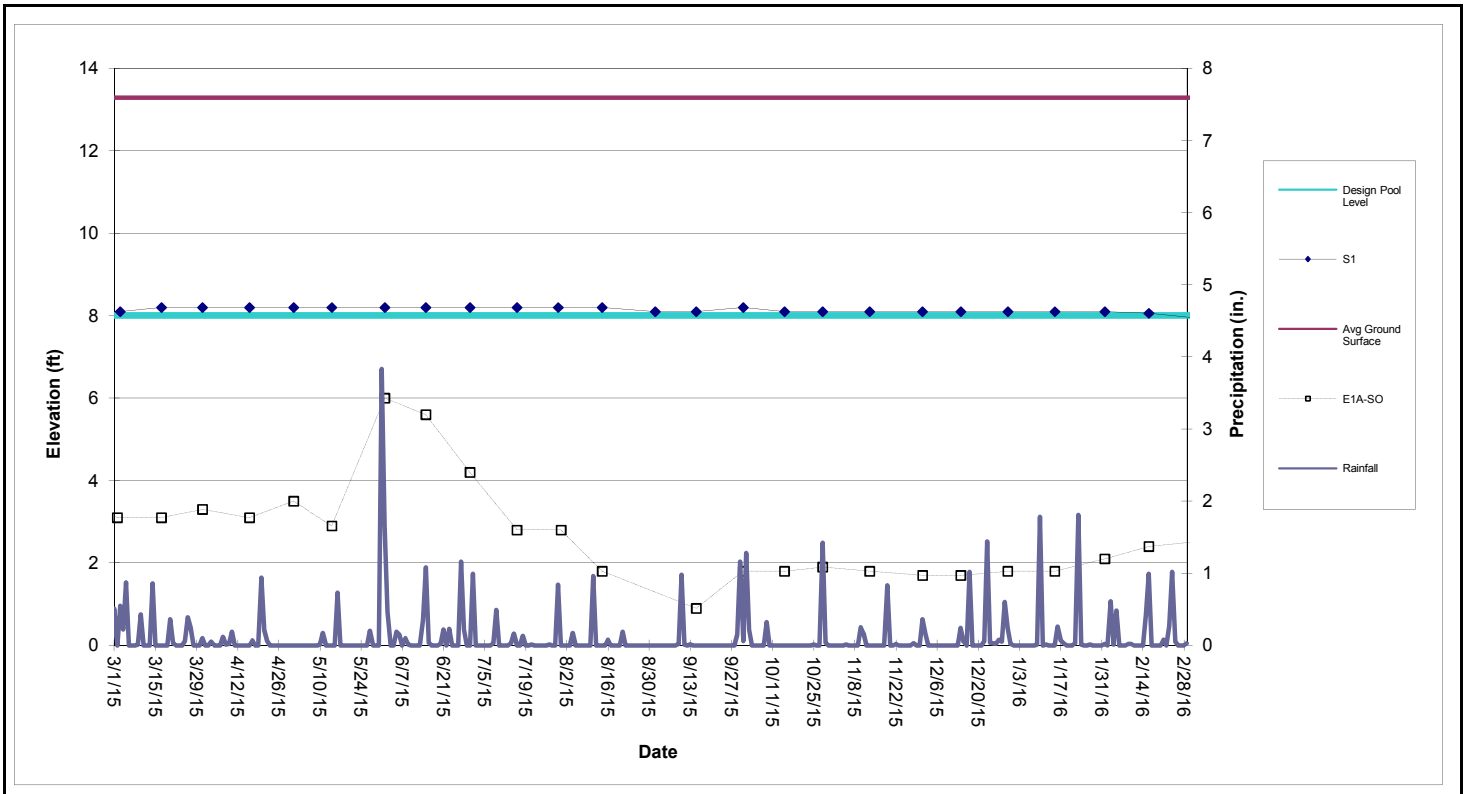
Perimeter Pool N4 (Sta. N6+80 to N10+23)



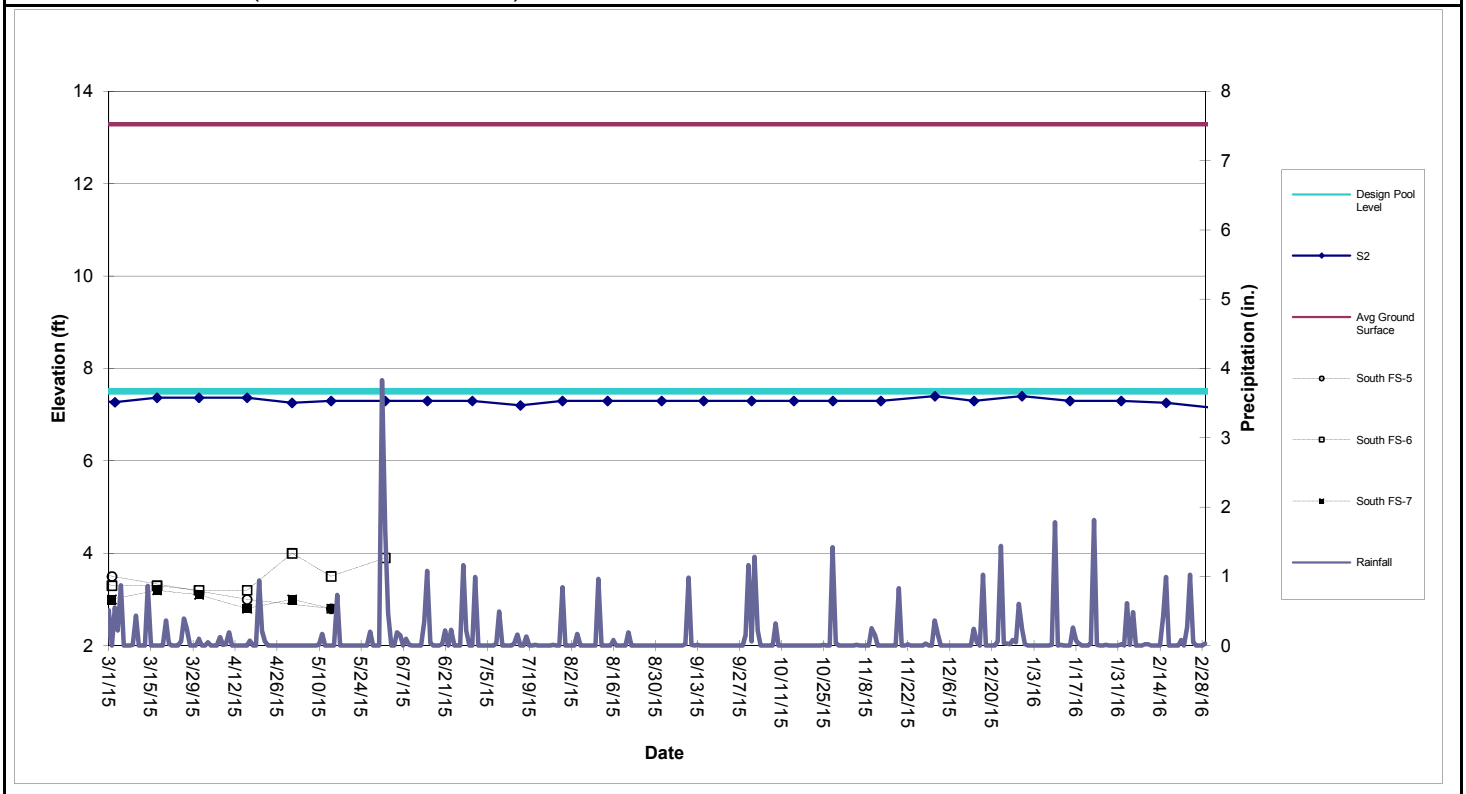
Perimeter Pool E1 (Sta. E0+50 to E3+75)



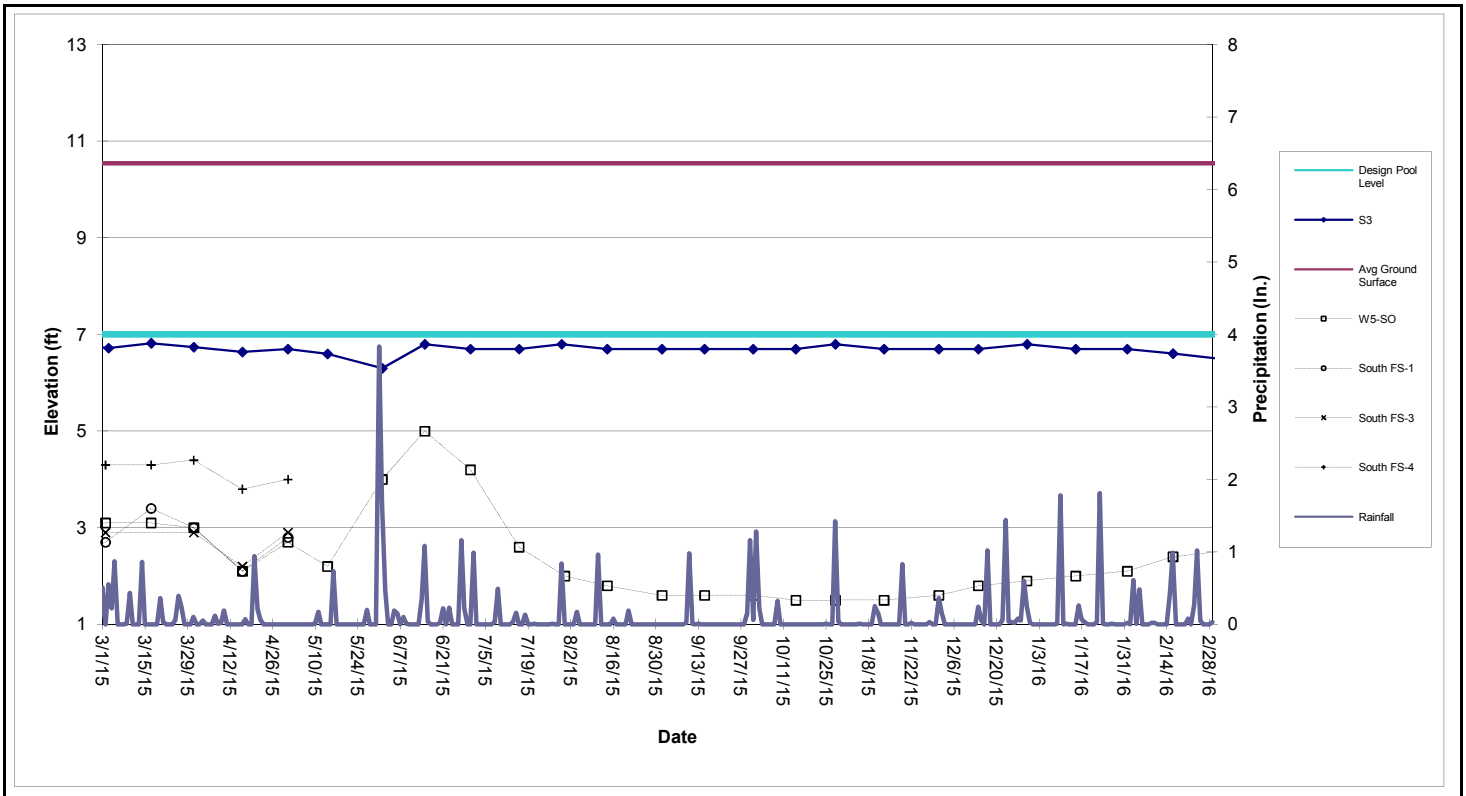
Perimeter Pool E2 (Sta. E4+50 to E7+25)



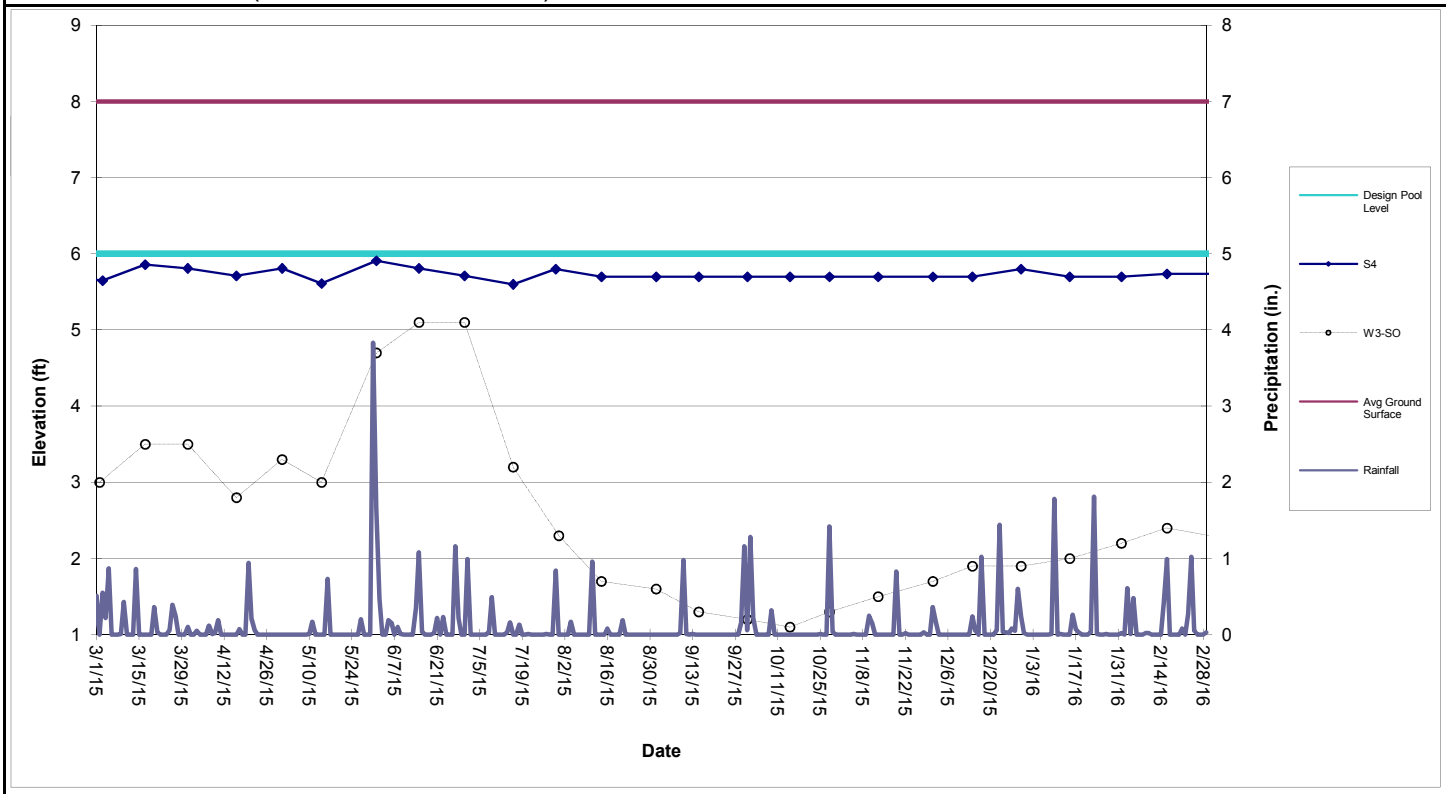
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
3/2/2015	3.1		5.5	5.9	6.0		3.0	3.1		4.1	6.6	5.9	5.8	5.8	5.8		2.7	2.9	4.3	3.5	3.3	3.0
3/17/2015	3.1	5.6	6.4	7.5	7.0		3.5	3.1		5.6	6.6		6.0	5.9	6.5		3.4		4.3		3.3	3.2
3/31/2015	3.3	5.5	6.4	7.2	6.7		3.5	3.0	5.7	5.7	6.8		5.7	5.6	5.3		3.0	2.9	4.4		3.2	3.1
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

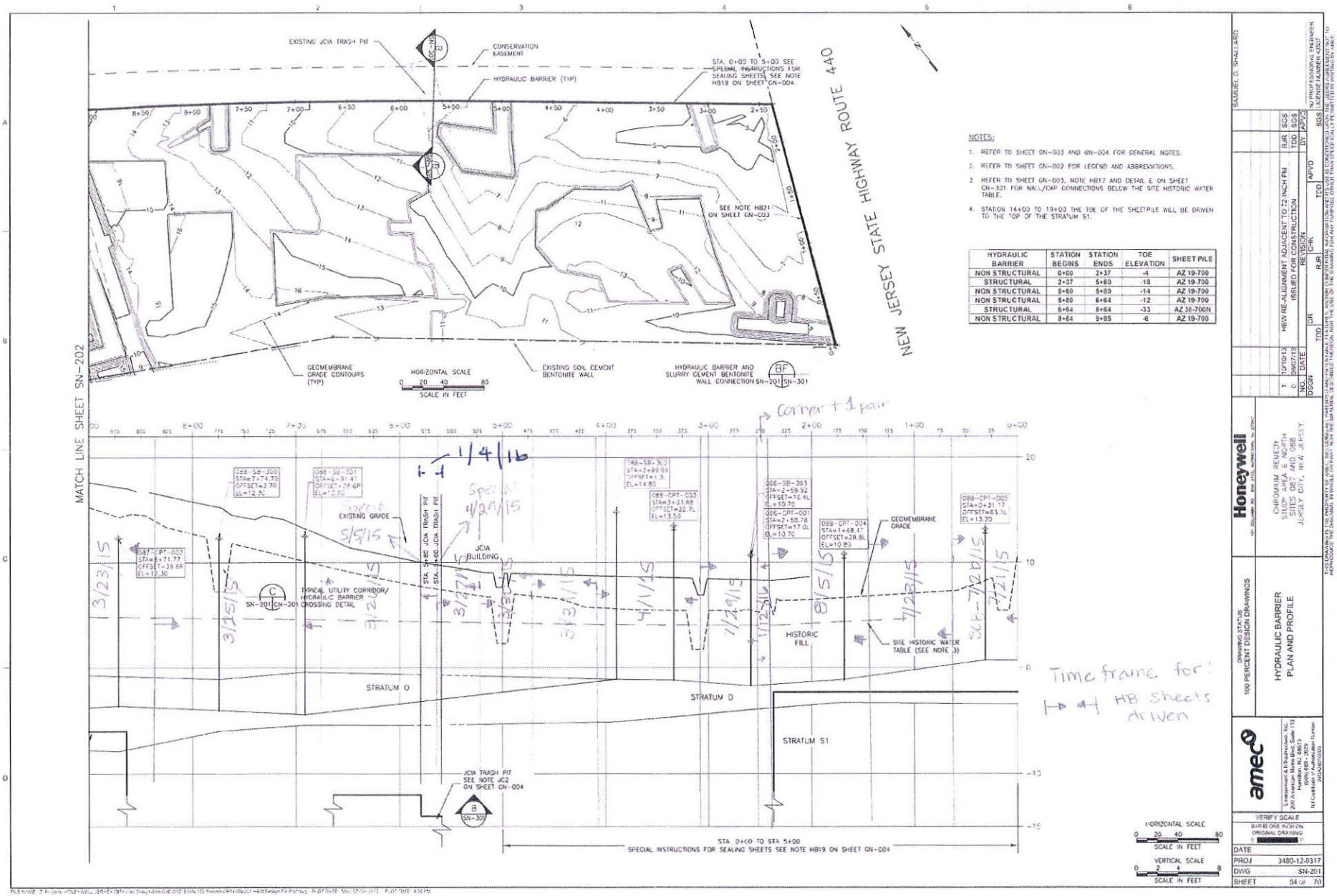
Attachment 8: Groundwater Quality Data

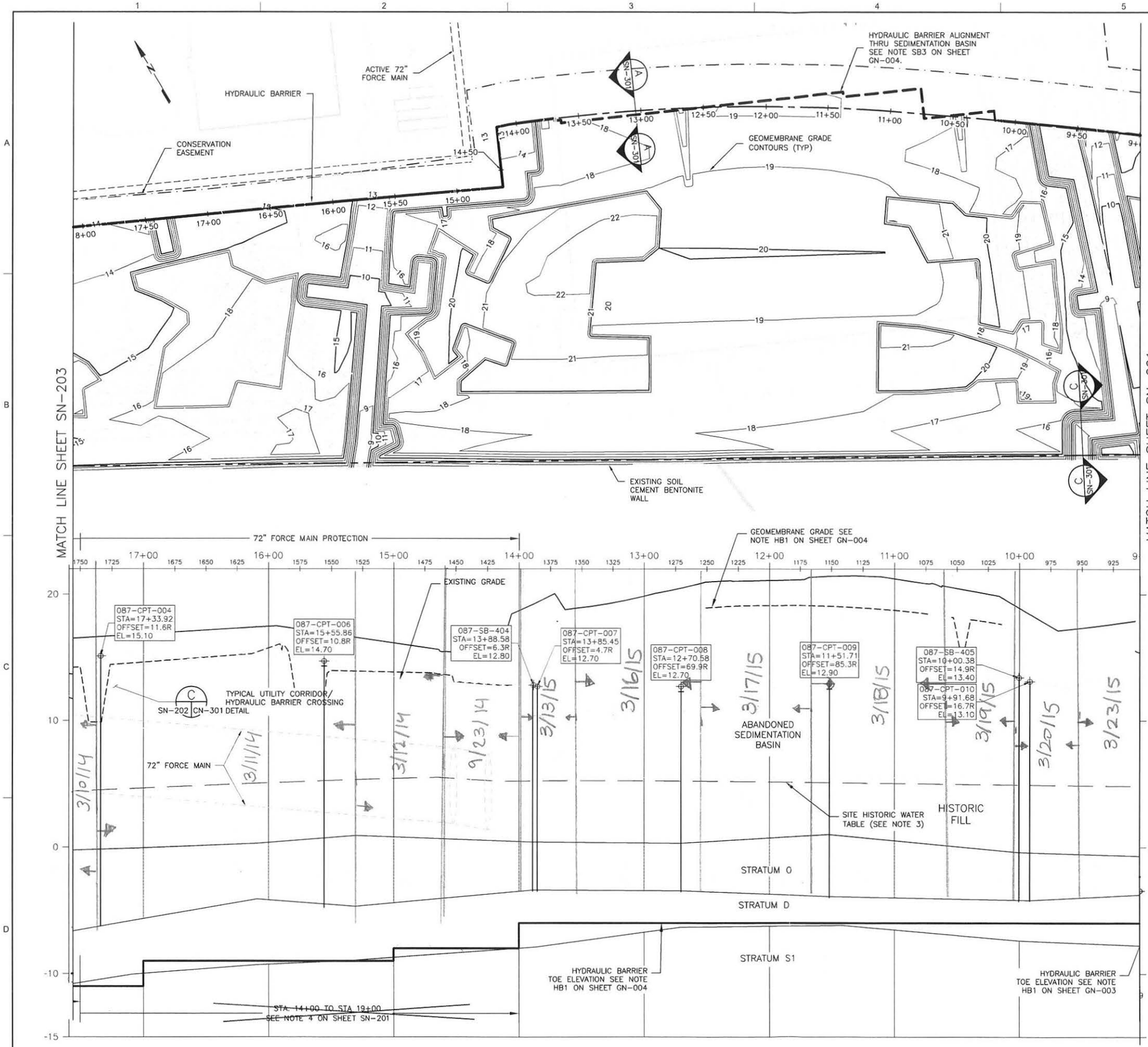
(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update


EXISTING JCIA TRASH PIT
CONSERVATION EASEMENT
HYDRAULIC BARRIER (TYP)
STA. 0+00 TO 5+00 SEE SPECIAL INSTRUCTIONS FOR SEALING SHEETS, SEE NOTE HB19 ON SHEET GN-004.
SEE NOTE HB21 ON SHEET GN-003
NEW JERSEY STATE HIGHWAY ROUTE 440
MATCH LINE SHEET SN-202
GEOMEMBRANE GRADE CONTOURS (TYP)
HORIZONTAL SCALE
SCALE IN FEET
EXISTING SOIL CEMENT BENTONITE WALL
HYDRAULIC BARRIER AND SLURRY CEMENT BENTONITE WALL CONNECTION SN-201 SN-301
NOTES:
1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET GN-501 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.
HYDRAULIC BARRIER | STATION BEGINS | STATION ENDS | TOE ELEVATION | SHEET PILE
NON STRUCTURAL | 0+00 | 2+37 | -4 | AZ 19-700
STRUCTURAL | 2+37 | 5+60 | -18 | AZ 19-700
NON STRUCTURAL | 5+60 | 5+80 | -14 | AZ 19-700
NON STRUCTURAL | 5+80 | 6+64 | -12 | AZ 19-700
STRUCTURAL | 6+64 | 8+64 | -33 | AZ 38-700N
NON STRUCTURAL | 8+64 | 9+85 | -6 | AZ 19-700
Corner + 1 pair
1/4/16
Special 4/29/15
5/5/15
EXISTING GRADE
JCIA BUILDING
TYPICAL UTILITY CORRIDOR/ HYDRAULIC BARRIER SN-201 SN-301 CROSSING DETAIL
STA. 3+66 JCIA TRASH PIT
STA. 3+80 JCIA TRASH PIT
GEOMEMBRANE GRADE
HISTORIC FILL
SITE HISTORIC WATER TABLE (SEE NOTE 3)
STRATUM O
STRATUM D
STRATUM S1
JCIA TRASH PIT SEE NOTE JC2 ON SHEET GN-004
STA. 0+00 TO STA. 5+00 SPECIAL INSTRUCTIONS FOR SEALING SHEETS SEE NOTE HB19 ON SHEET GN-004
HORIZONTAL SCALE
SCALE IN FEET
VERTICAL SCALE
SCALE IN FEET
Time frame for: 4 HB sheets driven
SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43527
NO. DATE DSGN CHK APVD
1 12/10/15 TDD RJR SGS
0 6/30/15 TDD RJR SGS
HB19 RE-ALIGNMENT ADJACENT TO 72-INCH RM
ISSUED FOR CONSTRUCTION
Honeywell
CHROMIUM REMEDY
STUDY AREA 6 / 7 SOUTH
JEFFREY ST. AND MAIN ST.
JERSEY CITY, NEW JERSEY
DRAWING STATUS
100 PERCENT DESIGN DRAWINGS
HYDRAULIC BARRIER
PLAN AND PROFILE
amec
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
DATE
PROJ 3480-12-0317
DWG SN-201
SHEET 54 OF 70



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

Time frame for:
HB sheets driven

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD BCO

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

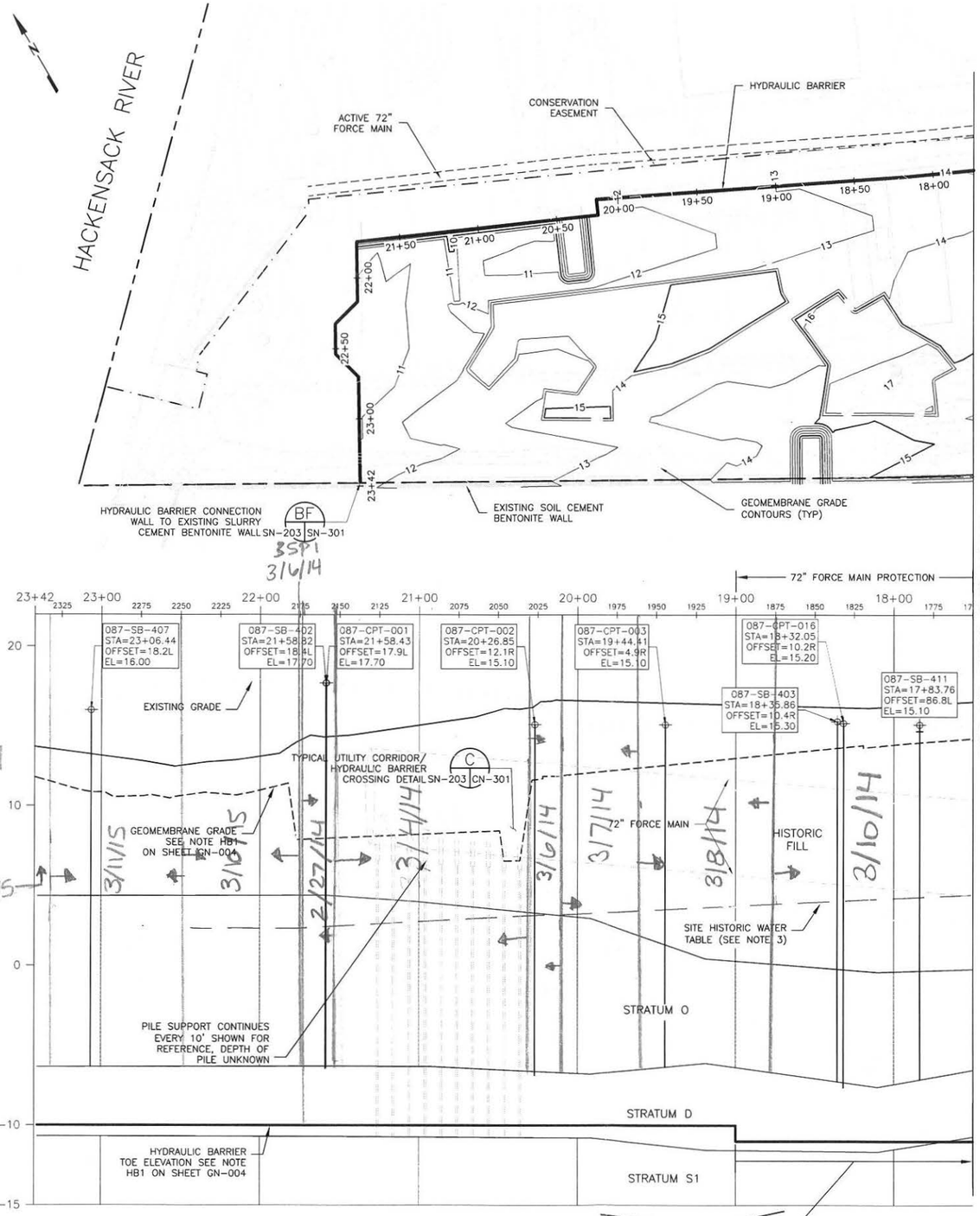
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR55-SN-202 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:35 AM



HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	CHK	APV'D
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN	TDD	DR TDD	RJR	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2629
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 18 Oct 2013 PLOT TIME: 10:37 AM

Attachment 11: Capping Update

(not included in this reporting period)

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 5, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation		X		1
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/5/16

SWPPP Observer: David Chase for George Pfeiffer
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 05, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The tracking pad at the SA-6 South truck exit has become blinded with sediment.
2	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline has become detached in several locations.
3	IA2Q4A1AL8	Ponded storm water (snow melt) is present on puddles/ponds throughout SA-6 South.
4	IA2Q4A1AL8	Trash and other debris is present along Rt. 440 and the Kellogg Street jughandle.
5	IA2Q4A1AL8	**REPEAT:** The silt fence along the southern perimeter of the Novartis Stockpile Area on SA-7 requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey
SWAP Observer: David Rose **Date:** 02/5/16

Signature for George Pfeiffer

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Stir up the stone in the tracking pad to restore function	2-10-16
2	Re-attach windscreen to the perimeter fenceline as required.	2-10-16
3	Pump ponded stormwater as required.	frozen can't do
4	Pick up and dispose of trash and other debris along the roadway	2-11-16
5	Repair or replace the silt fence along the southern perimeter of the Novartis Stockpile Area.	frozen can't do

Construction Manager: David Rose **Date:** 02/05/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 12, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/12/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 12, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline has become detached in several locations.
2	IA2Q4A1AL8	Trash and other debris is present along Rt. 440 and the Kellogg Street jughandle.
3	IA2Q4A1AL8	The silt fence along the southern perimeter of the Novartis Stockpile Area on SA-7 requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

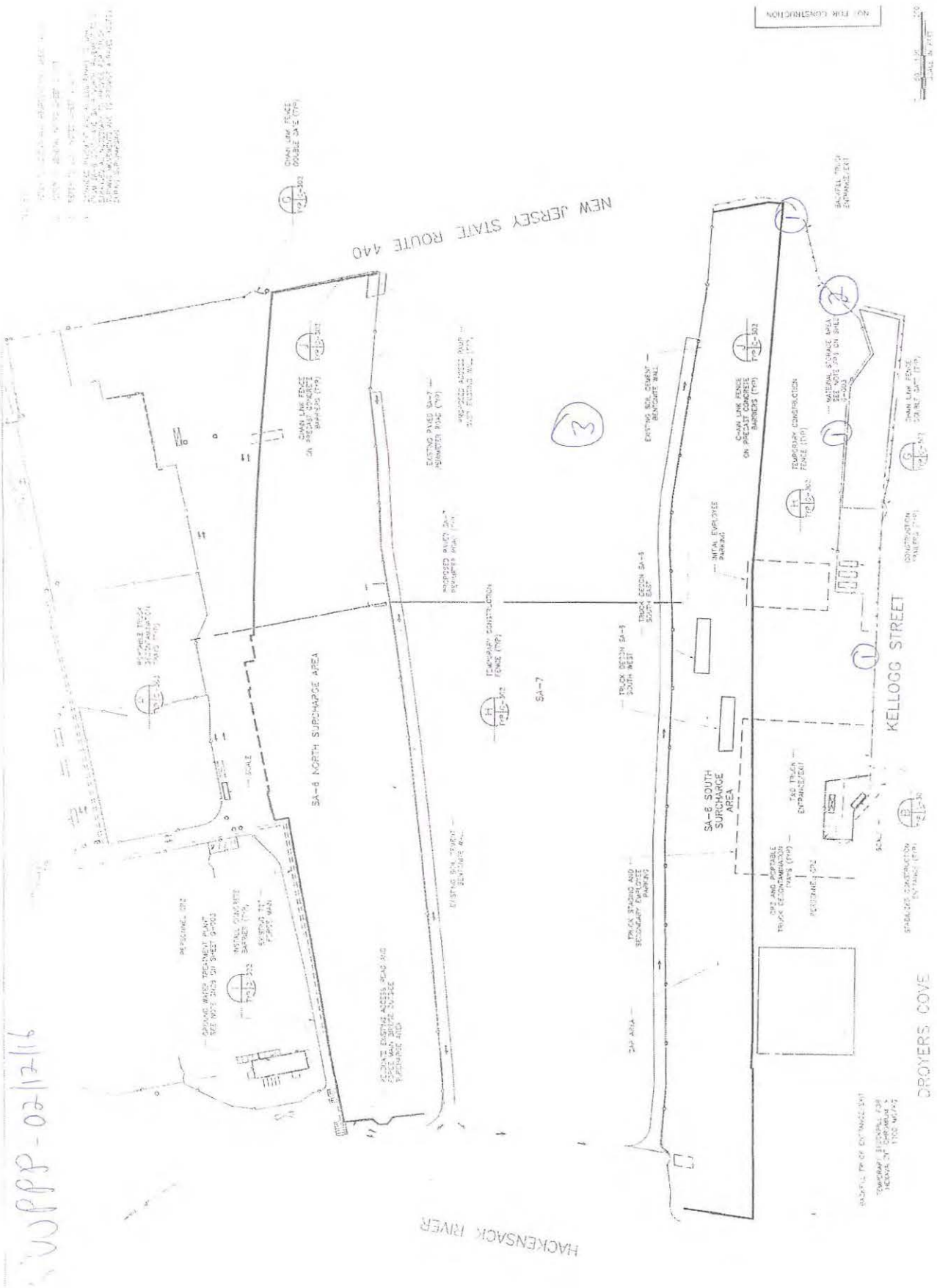
Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 02/12/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach windscreen to the perimeter fenceline as required.	2/12/16
2	Pick up and dispose of trash and other debris along the roadway.	
3	Repair or replace the silt fence along the southern perimeter of the Novartis Stockpile Area.	

Construction Manager: _____ **Date:** 02/12/16

for George Pfeiffer



SWPPP - 02/17/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 19, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		1
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		6
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/19/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 19, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Plastic sheeting used for erosion control on the western toe of the SA-6 South cap area adjacent to the Hackensack River has blown out of place.
2	IA2Q4A1AL8	Windscreen on the SA-6 South perimeter fenceline is detached from the perimeter fence in the area of the 60 Kellogg building.
3	IA2Q4A1AL8	Garbage has accumulated on the grass area along the 60 kellogg jughandle.
4	IA2Q4A1AL8	Exclusion Zone fencing surrounding the EZ at the western end of the SA-6 North cap area requires maintenance.
5	IA2Q4A1AL8	**Repeat:** Silt fence surrounding the Novartis Stockpile Area on SA-7 requires maintenance.
6	IA2Q4A1AL8	Sediment has accumulated on the western SA-7 haul road.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: 02/19/16 Date:

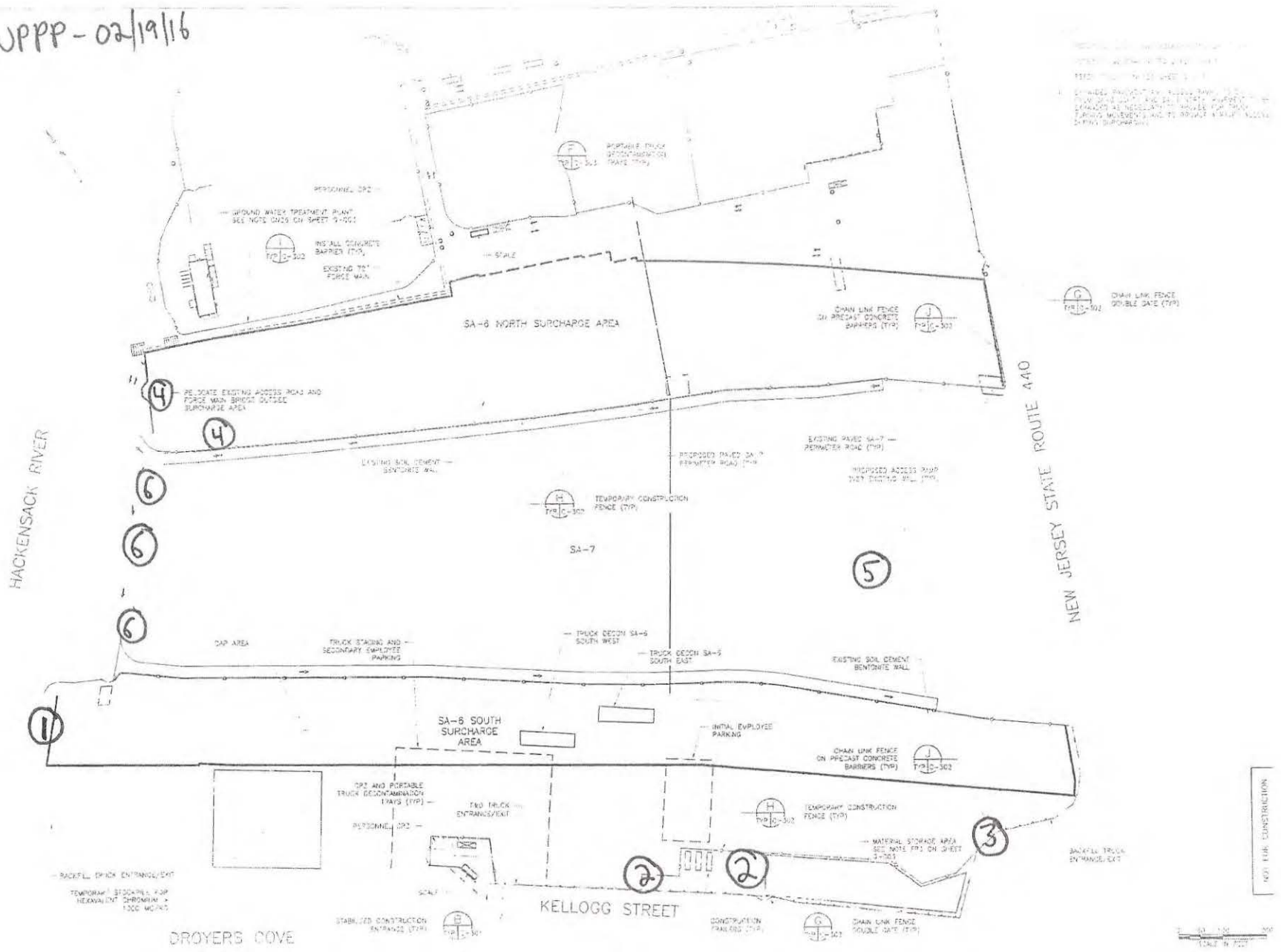
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-install plastic sheeting over the western toe of the SA-6 South cap area.	2/25/16 RAD
2	Re-attach windscreen to the perimeter fence as required.	
3	Pick up and dispose of accumulated garbage along the side of Kellogg Street.	
4	Repair or replace Exclusion Zone fencing as required.	
5	Repair or replace the silt fence surrounding the Novartis Stockpile Area as required.	
6	Clean sediment from the SA-7 roadway as required.	

Construction Manager: Ted Rose Date: 2/25/16

for George Pfeiffer

SWPPP - 02/19/16



STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: February 26, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		3
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 02/26/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, February 26, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608287
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Windscreen on the SA-6 South perimeter fenceline is detached from the perimeter fence in the area of the 60 Kellogg building.
2	IA2Q4A1AL8	Ponded stormwater is present at numerous locations on SA-6 South.
3	IA2Q4A1AL8	Exclusion Zone fencing surrounding the EZ at the western end of the SA-6 North cap area requires maintenance.
4	IA2Q4A1AL8	REPEAT: Silt fence surrounding the Novartis Stockpile Area on SA-7 requires maintenance.
5	IA2Q4A1AL8	Sediment has accumulated on the western SA-7 haul road.

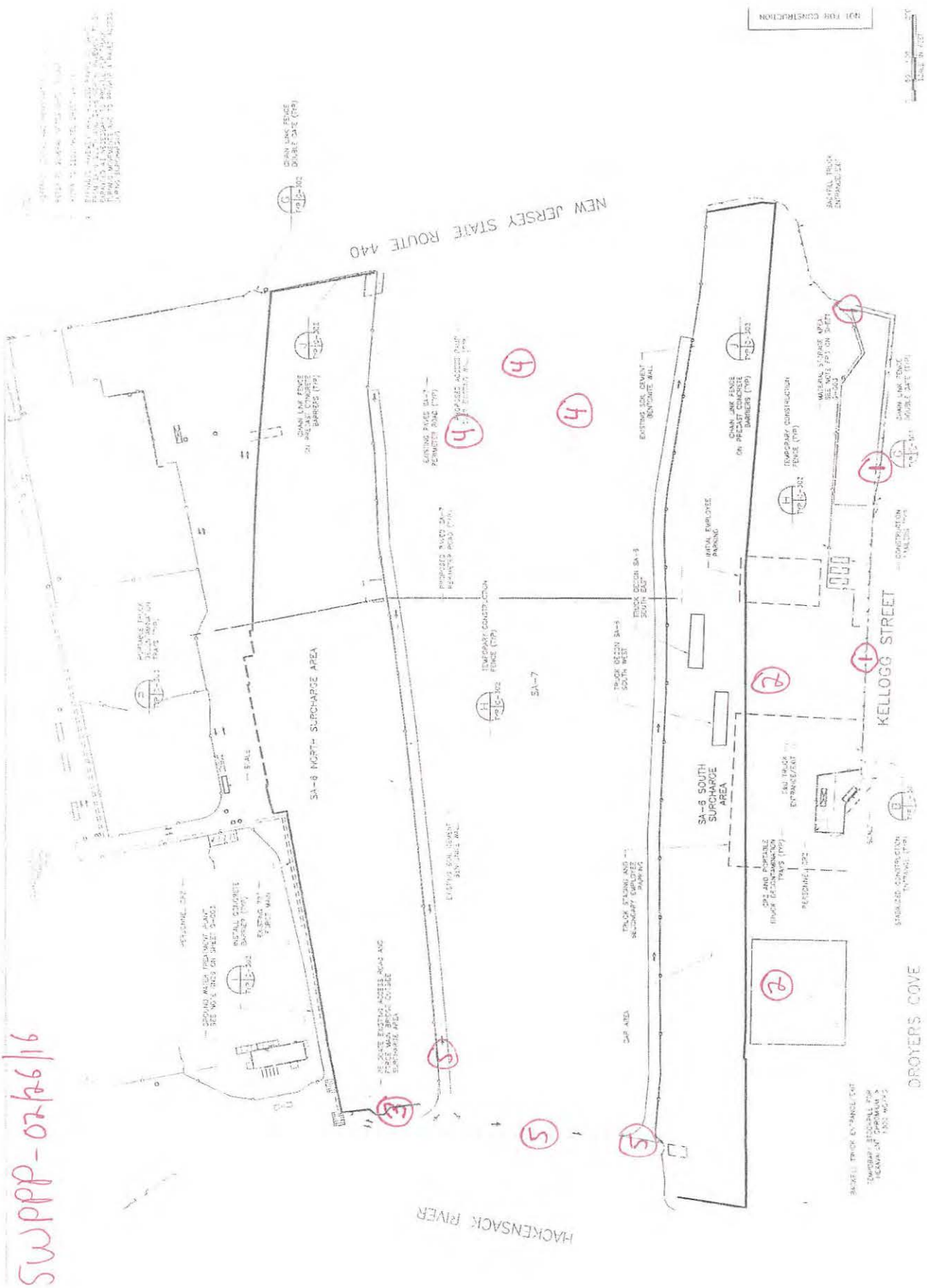
Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 02/26/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen to the perimeter fence as required.	2-26-16 (RAD)
2	Pump accumulated surface water to the CWTP as required.	
3	Repair or replace Exclusion Zone fencing as required.	
4	Repair or replace the silt fence surrounding the Novartis Stockpile Area as required.	
5	Clean sediment from the SA-7 roadway as required.	

Construction Manager: _____ **Date:** 02/26/16
for George Pfeiffer



SWPPP-07/26/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted February 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

February 5, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the January 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
1	01	16	1	31	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	69,166	86,376 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.99	1.23	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00047	0.00047	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.2	<5.2	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1437	0.1437	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

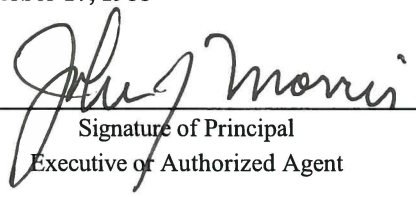
Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or superv accordance with a system designed to assure that qualified personnel properly gather and evaluate the informati Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

02/04/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION:** 31630016

MONITORING PERIOD

Start			End		
1	01	16	1	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,144,155 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 54,421,416

DATE	BOD (mg/l)	TSS (mg/l)
1/20/2016	4.2	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 02/04/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG	Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)								MONTH: January 2016							
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
1/1/2016	Angel Trujillo	52277261	52360622	83,361	0.083361	7.40	1.710									1.19
1/2/2016	Angel Trujillo	52360622	52443983	83,361	0.083361	7.51	1.710									1.19
1/3/2016	Angel Trujillo	52443983	52519517	75,534	0.075534	7.20	1.710									1.08
1/4/2016	Angel Trujillo	52519517	52595052	75,535	0.075535	7.61	1.710									1.08
1/5/2016	Angel Trujillo	52595052	52676528	81,476	0.081476	7.12	1.710									1.16
1/6/2016	Angel Trujillo	52676528	52754626	78,098	0.078098	7.10	1.710									1.11
1/7/2016	Angel Trujillo	52754626	52834124	79,498	0.079498	7.10	1.710									1.13
1/8/2016	Angel Trujillo	52834124	52910910	76,786	0.076786	7.20	1.710									1.10
1/9/2016	Angel Trujillo	52910910	52992706	81,796	0.081796	7.15	1.710									1.17
1/10/2016	Angel Trujillo	52992706	53068438	75,732	0.075732	7.00	1.710									1.08
1/11/2016	Angel Trujillo	53068438	53144170	75,732	0.075732	6.91	1.710									1.08
1/12/2016	Angel Trujillo	53144170	53222850	78,680	0.07868	7.08	1.710									1.12
1/13/2016	Angel Trujillo	53222850	53303728	80,878	0.080878	7.15	1.710									1.15
1/14/2016	Angel Trujillo	53303728	53316922	13,194	0.013194	7.12	1.710									0.19
1/15/2016	Angel Trujillo	53316922	53384990	68,068	0.068068	7.14	1.710									0.97
1/16/2016	Angel Trujillo	53384990	53470632	85,642	0.085642	7.20	1.710									1.22
1/17/2016	Angel Trujillo	53470632	53547549	76,917	0.076917	7.00	1.710									1.10
1/18/2016	Angel Trujillo	53547549	53624466	76,917	0.076917	7.07	1.710									1.10
1/19/2016	Angel Trujillo	53624466	53703794	79,328	0.079328	7.21	1.710									1.13
1/20/2016	Angel Trujillo	53703794	53782422	78,628	0.078628	6.92	1.710	<5.2	4.2		<0.010	<0.015	<0.010	0.00047	<0.020	1.12
1/21/2016	Angel Trujillo	53782422	53863312	80,890	0.08089	7.22	1.710									1.15
1/22/2016	Angel Trujillo	53863312	53943116	79,804	0.079804	7.19	1.710									1.14
1/23/2016	Angel Trujillo	53943116	54004535	61,419	0.061419	7.10	1.710									0.88
1/24/2016	Angel Trujillo	54004535	54065954	61,419	0.061419	7.00	1.710									0.88
1/25/2016	Angel Trujillo	54065954	54127374	61,420	0.06142	7.50	1.710									0.88
1/26/2016	Angel Trujillo	54127374	54127374	0	0	N/A	1.710									0.00
1/27/2016	Angel Trujillo	54127374	54127374	0	0	N/A	1.710									0.00
1/28/2016	Angel Trujillo	54127374	54176268	48,894	0.048894	7.14	1.710									0.70
1/29/2016	Angel Trujillo	54176268	54262644	86,376	0.086376	7.38	1.710									1.23
1/30/2016	Angel Trujillo	54262644	54344182	81,538	0.081538	7.18	1.710									1.16
1/31/2016	Angel Trujillo	54344182	54421416	77,234	0.077234	7.20	1.710									1.10
TOTAL				**2,144,155**	**2.144155**			<5.2	4.2		<0.010	<0.015	<0.010	0.00047	<0.020	
			High:	**86,376**											**High:**	**1.23**
			Average:	**69,166**											**Average:**	**0.99**

WW

JC12950

E/L

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 42388.53078
COC#: 087-WW-012016

| | | |

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-A		
Lab Sample ID:	JC12950-1	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1710	10	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 15	15	ug/l	5	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	0.47	0.20	ug/l	1	01/22/16	01/22/16	VM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	01/21/16	01/22/16	ND	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA38582
(2) Instrument QC Batch: MA38588
(3) Prep QC Batch: MP91567
(4) Prep QC Batch: MP91705

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-A		
Lab Sample ID:	JC12950-1	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	01/21/16	LA	SM2540 D-11
pH [b]	6.85		su	1	01/20/16 18:14	HL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 500 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-A		
Lab Sample ID:	JC12950-1A	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	4.2	3.4	mg/l	1	01/21/16 13:10	YR	SM5210 B-11

RL = Reporting Limit

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-B		
Lab Sample ID:	JC12950-2	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	U202808.D	1	01/21/16	NH	n/a	n/a	VU9329
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	2.3	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	4.5	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	20.5	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.41	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	ND	1.0	0.12	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	70.8	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.9	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	ND	1.0	0.22	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-B		
Lab Sample ID:	JC12950-2	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	41.1	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	104%		72-125%
2037-26-5	Toluene-D8 (SUR)	100%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	101%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@894420 13:44 03-Feb-2016

Report of Analysis

Client Sample ID:	087-WWE-012016-B		
Lab Sample ID:	JC12950-2	**Date Sampled:**	01/20/16
Matrix:	AQ - Water	**Date Received:**	01/20/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.2	5.2	mg/l	1	01/22/16 21:45	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA 6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2015-02-03	The final grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending February 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

Attachment 15: Horwith Accident RollOver

TRANSPORTATION HAZARDOUS WASTE ACCIDENT W / POTENTIAL OF RELEASE

Date: February 1st, 2016

Time: 3:00 PM

Driver: Salvatore Gagliano

Truck Number: 242

Shipment Information: Manifest #000728562WAS

Pickup: 60 Kellogg Street, Jersey City NJ.
Deliver: Horwith Transload Facility, Northampton PA

Event Details

Initial Report

Kellie Heffley received a telephone call from Fastlane Towing stating they are on the scene of a single vehicle rollover and the truck is owned by Horwith Trucks. A represented from Fastlane, "Pinky" reported unit #242 had rolled over with load on Route 33 near the 3.3 mile marker. Pinky indicated he was called to the scene by the PA State Police.

The Horwith team immediately implemented our Transporter Contingency plan. Kellie contacted the PA State Police – Belfast Barracks and informed them the shipment was being shipped on a Hazardous Waste Manifest and caution should be used when up righting the unit to ensure the commodity was not released. Initial reports indicated cargo within the enclosed IP-1 Zippered liner was not breached during the rollover.

Pete Zarayko called Dave Desiderio of HandsOn Environmental and notified him of the accident.

Initial Reports indicated there was no release of product, therefore PA DEP was not immediately notified.

HONEYWELL SA-7 - 2/1/17 Rollover Accident Details

At approximately 3:00pm on Monday, February 1st 2016, a tri-axle dump truck driven by Salvatore Gagliano was traveling northbound on Route 33 near mile marker 3.3 in Pennsylvania. The driver was traveling in the left lane of a two lane highway at approximately 65mph. For an unknown reason the driver side tires left the roadway. The driver attempted to regain traction on the highway with all tires at which time he lost control of the vehicle. The vehicle crossed both lanes of traffic and rolled onto the driver's side and came to rest on the right side of the highway.

Various "good Samaritans" stopped to aid assistance to the driver. Mr. Gagliano was initially unconscious when the first "Samaritan" arrived. The driver regained consciousness a few minutes later and was able to exit the unit from the passenger side window. He was quickly transported to St Luke's Fountain Hill where he was treated and released.

Initially the IP-1 zippered liner stayed in the dump body. However, a portion of the liner containing the contaminated soil slide out as a result of gravity and the unit being on its side. A portion of the liner came to rest on the roadway pavement. The liner did not breach at any point during the rollover incident.

Immediately following the incident, appropriate notifications were made to the PA State Police, emergency response personnel and our customer to inform them of the accident. 911 was called by another motorist. The following agencies were present on the scene: Northampton County EMA, Lehigh County Hazmat, Penn Dot, PA State Police, Bethlehem Twp. Fire Co., Nancy Run Fire Co., Rapid Response, Fastlane Towing, and PA DEP.

Under the direction of Fastlane Towing, Horwith was asked to send two additional vehicles to the accident scene to transfer the cargo. Fastlane Towing and Rapid Response received approval from DEP to open the IP-1 Zippered liner and remediate the soil prior to up righting the unit. (See Attached DEP Report) Various safety and security measures were used to ensure the contaminated soil was not released onto the roadway or into the environment. The soil was dug out of the IP-1 zippered liner from unit #242 and immediately loaded into two lined roll off containers. The dirt was transported by Horwith personnel under the same manifest number and transport instructions as the original load. (Manifest Number 000728562WAS) The two loads were dumped at the Northampton Transloading facility on Tuesday, February 2nd 2016 and shipped via rail to the designated disposal facility.

Unit # 242 was towed from the scene by Fastlane Towing and brought to the Horwith terminal in Northampton PA.
Rapid Response concluded cleanup operations by 12:00 AM February 2nd 2016.

Incident Follow-up as of 2/17/16

Eight soil samples were taken following the cleanup and the written results were provided to Horwith by Rapid Response. All samples reflected that no traces of the hazardous material were present. (See Attached) These result were sent to the PADEP by Rapid Response.

The driver was interviewed by Kellie Heffley and Michael Horwith regarding the accident details. The driver indicated he has no memory of the accident. He was initially treated at the hospital and released. Horwith sent him to our approved medical provider who conducted various post accident tests including drug testing. All test results were negative and did not provide any further insight as to a possible cause of the accident.

The vehicle was not impounded by the Department of Transportation and was released back to Horwith immediately. A DOT Inspection at the scene did not reveal any mechanical deficiencies with unit #242. The ECM was downloaded post accident. The average driver speed for February 1st 2016 was 52.1mph. The exact speed at impact cannot be validated by the ECM as the tires continued to rotate once the vehicle overturned. The vehicle is currently in the process of being repaired.

A copy of the police investigation report was requested but not received as of February 17, 2016. However, our driver did inform Horwith he received three citations in the mail. The charges include: Securing Loads in Vehicle, Driving on Roadways Laned for Traffic, Unlawful Activities. (See Attached) The citations were issued directly to Mr. Gagliano and are his responsibility. He has indicated he will be taking a hearing for each. Horwith did not receive any citations regarding this accident.

Conclusion & Action Items

In reviewing the details available to date, the cause of the accident is deemed driver error. There is no indication of a third party event that would have lead the truck #242 leaving the roadway for any reason.

Weather – Clear & Dry – Weather did not play a factor regarding visibility.
Vehicle – No mechanical deficiencies were revealed during the post-accident investigation. Manifest verified truck was transporting within legal weight limits for highway transportation.
Medical – All medical and drug test result have been concluded and did not reveal any medical reason the driver was unconscious prior to the accident.
Driver – Driver was not able to provide any memory or reasoning why he was unable to maintain control of unit #242.

Action Items:

- Mr. Gagliano employment with Horwith Trucks has been terminated.
- Immediately following the accident, Horwith reevaluated our company speed policy. All triaxles have been reset with a maximum speed limiter of 62mph. We researched and implemented additional mechanical settings to automatically apply the Jake Break for attempted override of the speed limiter setting.
- ECM Monitoring Policy implemented. Each time a vehicle is brought into our facility for service, the truck ECM will be downloaded and reviewed to monitor aggressive driving habits. These reports are reviewed directly by top management.
- All Horwith drivers have recently attended a Smith System driver training course. This course focuses on defensive driving techniques. We have currently held two courses and will be including this training in our new driver orientation program.
- Electronic logging and driver management technology. Horwith has been meeting with various global technology providers to team up with to capture our employee logs electronically along with speed gauge and aggressive driving monitoring services.
- A final analysis of the accident will be reviewed once the police report is received.

Report Prepared by Kellie Heffley, Director of Safety & Compliance for Horwith Trucks.

COPIES OF DRIVER CHARGES

1449 Nor-Bath Blvd, PO Box 7
Northampton, PA 18067

EALTH OF PENNSYLVANIA
District No. 03-2-03
areth Pike

ehem, PA 18020
-746-9740

CITATION NO.: T3244634-1
Docket Number Assigned by Court:
MJ-03203-TR-0000183-2016

FILED: 02/02/2016

TRAFFIC CITATION

TR-183-16

Defendant's First Name	Middle Name	Last Name	Suffix	Driver's Number	CDL	State	Sex
SALVATORE	J	GAGLIANO		[redacted]	Yes	PA	M

Defendant's Address Street	City	State	Zip Code	D.O.B.	Primary Phone No.	2nd Phone No.
2[redacted]	H[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

	Veh. Reg. No.	Reg. Yr.	State	Model Yr.	Make	Model	Style	Color
PRIMARY VEHICLE	AF86558	2016	PA	2011	FRHT		Dump	Blue
TRAILING UNIT 1								
TRAILING UNIT 2								

Owner/Lessee or Carrier	First Name	Middle Name	Suffix
L V COMPANY	HORWITH TRUCKING, INC		

Owner Street Address	City	State	Zip Code
ROUTE 329, PO BOX 7	NORTHAMPTON	PA	18067

Charge		
SECURING LOADS IN VEHICLES		TITLE 75
Nature of Offense: OPERATED A VEHICLE WITH A LOAD IMPROPERLY FASTENED	67 PA Code	Section: 4903 / Subsection: B
	Ref. 49 CFR	FINE: 100.00

Actual Speed	Allowed Speed	Timing Device	Fine Doubled Due To					
							E.M.S.	$ 10.00

Offense Date	Time	Day	Vehicle Weight	Permitted Weight	File on Info. Rec'd	Lab Serv. Requested		
02/01/2016	15:00	Monday	lbs.	80,000.00 lbs.	No	No	SURCHARGE	$ 45.00

Comm. Veh.	HazMat	Juvenile	Parents Notified	Accident Rpt.	Incident Number	Weather Conditions		
Yes	Yes	No	No	Yes	M06-1625496	No Adverse Conditions	COSTS	$ 0.00

Location		
ON PA-33 N AT MM 3.6	J.C.P./A.T.J.	$ 10.00

Route	Dir. of Travel	Interstate	County	Twp-Boro-City		
0033	N	No	NORTHAMPTON	BETHLEHEM TWP	Total Due	165.00

Speed Timing Device Operator	Miles Followed	Miles Timed	Secs. Timed	Special Activity
				None

Stopped By	Observed By	Speed Detection Type	Station Equip. Tested	Date Equip. Tested	Speed Equip. Serial No.
Unmarked	Unmarked				

Remarks
-FREIGHTLINER

I verify that the facts set forth in this citation are true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of Section4904 of the Crimes Code (18 Pa.C.S. § 4904) relating to the unsworn falsification to authorities.

Officer		Officer ID No.
PAPPAS	E-FILED	658910

THIS CITATION HAS BEEN ISSUED/FILED BY A MEMBER OF THE		ORI Number	Phone Number
	PA STATE POLICE - BELFAST	PAPSP2100	(610)759-6106

RIGHTS AND OBLIGATIONS

This citation will be filed with the magisterial district judge whose address appears above.

1. Within ten (10) days of the receipt of this citation you must;
a. PLEAD NOT GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding for collateral an amount equal to the Total Due plus $8.00 if the offense charged is under the Vehicle Code; or if the Total Due is not specified, by forwarding the sum of $50.00 as collateral for your appearance at trial

OR

b. PLEAD NOT GUILTY by appearing before the proper Magisterial District Judge and posting such collateral for your appearance as the Magisterial District Judge shall require

OR

c. Appear before the proper Magisterial District Judge to enter a plea if you cannot afford to pay the Total Due or the $50.00 collateral

OR

d. PLEAD GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding an amount equal to the Total Due as specified, or by making payments online through Pennsylvania's Unified Judicial System web portal. Visit the portal at <http://ujsportal.pacourts.us> to make a payment.

OR

e. PLEAD GUILTY by appearing before the proper Magisterial District Judge if the Total Due is not specified or if you are required to appear because of the offense with which you are charged carries a mandatory sentence of imprisonment, for example, a violation of 75 Pa.C.S.§ 1543(b) (Driving while operating privilege is suspended or revoked.)

2. If you fail to appear for trial, the trial may be held in your absence.
3. If you have been charged with a summary offense under the Vehicle Code, failure to respond within the time specified above will result in the suspension of your driver's license, the issuance of a summons or a warrant for your arrest.
4. If you have been charged with a violation of a local ordinance or any parking offense, failure to respond within the time specified above will result in the issuance of a summons.
5. If you plead guilty or are found guilty, points may be assessed against your driver's record. An accumulation of points may result in the suspension of your driving privilege.
6. Your driving privilege WILL BE SUSPENDED if you plead guilty or are found guilty of certain offenses under the Vehicle Code, including but not limited to,75 Pa.C.S.§§ 1371, 3341, 3345, 3367, 3718, 3733, 3734, 3736, subsequent convictions of Pa.C.S.§ 3361 when occurring in an active work zone and an accident report is submitted by the police, subsequent convictions of 75 Pa. C.S.§ 1501, a violation of 75 Pa.C.S.§ 3361 when occurring in an active work zone and an accident report is submitted by the police, and a violation of 75 Pa.C.S.§ 3362 when occurring in an active work zone.
7. If you are found guilty by the Magisterial District Judge, or you plead guilty, and you wish to appeal, you have THIRTY(30) days to file an appeal for a trial in the Court of Common Pleas.
8. If you are disabled and require assistance, please contact the Magisterial District office shown above.

Explanation of Terms:
E.M.S. - Emergency Medical Service Act
SURCHARGE - Funds distributed pursuant to 75 Pa.C.S. § 6506
J.C.P./A.T.J. - Judicial Computer Project/Access to Justice

ALTH OF PENNSYLVANIA
District No. 03-2-03
reth Pike

em, PA 18020
6-9740

CITATION NO.: T3244629-3
Docket Number Assigned by Court:
MJ-03203-TR-0000182-2016

FILED: 02/02/2016

TRAFFIC CITATION

TR-182-16

Defendant's First Name	Middle Name	Last Name	Suffix	Driver's Number	CDL	State	Sex
LVATORE	J	GAGLIANO		[redacted]	Yes	PA	M

Defendant's Address Street	City	State	Zip Code	D.O.B.	Primary Phone No.	2nd Phone No.
[redacted]	[redacted]VN	[redacted]	[redacted]	[redacted]	[redacted]	

	Veh. Reg. No.	Reg. Yr.	State	Model Yr.	Make	Model	Style	Color
PRIMARY VEHICLE	AF86558	2016	PA	2011	FRHT		Dump	Blue
TRAILING UNIT 1								
TRAILING UNIT 2								

Owner/Lessee or Carrier	First Name	Middle Name	Suffix
L V COMPANY	HORWITH TRUCKING, INC		

Owner Street Address	City	State	Zip Code
ROUTE 329, PO BOX 7	NORTHAMPTON	PA	18067

Charge	
DRIVING ON ROADWAYS LANED FOR TRAFFIC	TITLE 75

Nature of Offense	67 PA Code	Section	Subsection
FAILED TO DRIVE WITHIN A SINGLE LANE AND OR MOVEMENT FROM LANE WAS NOT MADE SAFELY		3309	1
	Ref. 49 CFR	FINE	$ 25.00
		E.M.S.	$ 10.00
		SURCHARGE	$ 45.00
		COSTS	$ 45.50
		J.C.P./A.T.J.	$ 10.00
		Total Due	$ 135.50

Actual Speed	Allowed Speed	Timing Device	Fine Doubled Due To

Offense Date	Time	Day	Vehicle Weight	Permitted Weight	File on Info. Rec'd	Lab Serv. Requested
02/01/2016	15:00	Monday	lbs.	80,000.00 lbs.	No	No

Comm. Veh.	HazMat	Juvenile	Parents Notified	Accident Rpt.	Incident Number	Weather Conditions
Yes	Yes	No	No	Yes	M06-1625496	No Adverse Conditions

Location
ON PA-33 N AT MM 3.6

Route	Dir. of Travel	Interstate	County	Twp-Boro-City
0033	N	No	NORTHAMPTON	BETHLEHEM TWP

Speed Timing Device Operator	Miles Followed	Miles Timed	Secs. Timed	Special Activity
				None

Stopped By	Observed By	Speed Detection Type	Station Equip. Tested	Date Equip. Tested	Speed Equip. Serial No.
Unmarked	Unmarked				

Remarks
-FREIGHTLINER

I verify that the facts set forth in this citation are true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of Section4904 of the Crimes Code (18 Pa.C.S. § 4904) relating to the unsworn falsification to authorities.

Officer		Officer ID No.
PAPPAS	E-FILED	658910

THIS CITATION HAS BEEN ISSUED/FILED BY A MEMBER OF THE		ORI Number	Phone Number
	PA STATE POLICE - BELFAST	PAPSP2100	(610)759-6106

RIGHTS AND OBLIGATIONS

This citation will be filed with the magisterial district judge whose address appears above.

1. Within ten (10) days of the receipt of this citation you must:

a. PLEAD NOT GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding for collateral an amount equal to the Total Due plus $8.00 if the offense charged is under the Vehicle Code; or if the Total Due is not specified, by forwarding the sum of $50.00 as collateral for your appearance at trial.

OR

b. PLEAD NOT GUILTY by appearing before the proper Magisterial District Judge and posting such collateral for your appearance as the Magisterial District Judge shall require.

OR

c. Appear before the proper Magisterial District Judge to enter a plea if you cannot afford to pay the Total Due or the $50.00 collateral.

OR

d. PLEAD GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding an amount equal to the Total Due as specified, or by making payments online through Pennsylvania's Unified Judicial System web portal. Visit the portal at <http://ujsportal.pacourts.us> to make a payment.

OR

e. PLEAD GUILTY by appearing before the proper Magisterial District Judge if the Total Due is not specified or if you are required to appear because of the offense with which you are charged carries a mandatory sentence of imprisonment, for example, a violation of 75 Pa.C.S.§ 1543(b) (Driving while operating privilege is suspended or revoked.)

2. If you fail to appear for trial, the trial may be held in your absence.

3. If you have been charged with a summary offense under the Vehicle Code, failure to respond within the time specified above will result in the suspension of your driver's license, the issuance of a summons or a warrant for your arrest.

4. If you have been charged with a violation of a local ordinance or any parking offense, failure to respond within the time specified above will result in the issuance of a summons.

5. If you plead guilty or are found guilty, points may be assessed against your driver's record. An accumulation of points may result in the suspension of your driving privilege.

6. Your driving privilege WILL BE SUSPENDED if you plead guilty or are found guilty of certain offenses under the Vehicle Code, including but not limited to,75 Pa.C.S.§§ 1371, 3341, 3345, 3367, 3718, 3733, 3734, 3736, subsequent convictions of Pa.C.S.§ 3361when occurring in an active work zone and an accident report is submitted by the police, subsequent convictions of 75 Pa. C.S.§ 1501, a violation of 75 Pa.C.S.§ 3361when occurring in an active work zone and an accident report is submitted by the police, and a violation of 75 Pa.C.S.§ 3362 when occurring in an active work zone.

7. If you are found guilty by the Magisterial District Judge, or you plead guilty, and you wish to appeal, you have THIRTY(30) days to file an appeal for a trial in the Court of Common Pleas.

8. If you are disabled and require assistance, please contact the Magisterial District office shown above.

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SURCHARGE - Funds distributed pursuant to 75 Pa.C.S. § 6506
J.C.P./A.T.J. - Judicial Computer Project/Access to Justice

OF PENNSYLVANIA
t No. 03-2-03
Pike

PA 18020
9740

CITATION NO.: T3244686-4
Docket Number Assigned by Court:
MJ-03203-TR-0000184-2016

FILED: 02/02/2016

TRAFFIC CITATION

72-184-16

Defendant's First Name	Middle Name	Last Name	Suffix	Driver's Number	CDL	State	Sex
VATORE	J	GAGLIANO		[redacted]	Yes	PA	M

Defendant's Address Street	City	State	Zip Code	D.O.B.	Primary Phone No.	2nd Phone No.
[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	

	Veh. Reg. No.	Reg. Yr.	State	Model Yr.	Make	Model	Style	Color
PRIMARY VEHICLE	AF86558	2016	PA	2011	FRHT		Dump	Blue
TRAILING UNIT 1								
TRAILING UNIT 2								

Owner/Lessee or Carrier	First Name	Middle Name	Suffix
L V COMPANY	HORWITH TRUCKING, INC		

Owner Street Address	City	State	Zip Code
ROUTE 329, PO BOX 7	NORTHAMPTON	PA	18067

Charge: **UNLAWFUL ACTIVITIES** — TITLE 75

Nature of Offense: **OPERATED OR PERMITTED TO OPERATE A VEHICLE NOT EQUIPPED AS REQUIRED**

67 PA Code	Section	Subsection
229.14	4107	B2
Ref. 49 CFR 392.16	FINE	$ 25.00
	E.M.S.	$ 10.00
	SURCHARGE	$ 45.00
	COSTS	$ 0.00
	J.C.P./A.T.J.	$ 10.00
	Total Due	$ 90.00

Actual Speed	Allowed Speed	Timing Device	Fine Doubled Due To

Offense Date	Time	Day	Vehicle Weight	Permitted Weight	File on Info. Rec'd	Lab Serv. Requested
02/01/2016	15:00	Monday	lbs.	80,000.00 lbs.	No	No

Comm. Veh.	HazMat	Juvenile	Parents Notified	Accident Rpt.	Incident Number	Weather Conditions
Yes	Yes	No	No	Yes	M06-1625496	No Adverse Conditions

Location: **ON PA-33 N AT MM 3.6**

Route	Dir. of Travel	Interstate	County	Twp-Boro-City
0033	N	No	NORTHAMPTON	BETHLEHEM TWP

Speed Timing Device Operator	Miles Followed	Miles Timed	Secs. Timed	Special Activity
				None

Stopped By	Observed By	Speed Detection Type	Station Equip. Tested	Date Equip. Tested	Speed Equip. Serial No.
Unmarked	Unmarked				

Remarks: **-FREIGHTLINER**

I verify that the facts set forth in this citation are true and correct to the best of my knowledge, information and belief. This verification is made subject to the penalties of Section4904 of the Crimes Code (18 Pa.C.S. § 4904) relating to the unsworn falsification to authorities.

Officer		Officer ID No.
PAPPAS	E-FILED	658910

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OR

b. PLEAD NOT GUILTY by appearing before the proper Magisterial District Judge and posting such collateral for your appearance as the Magisterial District Judge shall require.

OR

c. Appear before the proper Magisterial District Judge to enter a plea if you cannot afford to pay the Total Due or the $50.00 collateral

OR

d. PLEAD GUILTY by notifying the proper Magisterial District Judge in writing, signing the appropriate plea below, and by forwarding an amount equal to the Total Due as specified, or by making payments online through Pennsylvania's Unified Judicial System web portal. Visit the portal at <http://ujsportal.pacourts.us> to make a payment.

OR

e. PLEAD GUILTY by appearing before the proper Magisterial District Judge if the Total Due is not specified or if you are required to appear because of the offense with which you are charged carries a mandatory sentence of imprisonment, for example, a violation of 75 Pa.C.S.§ 1543(b) (Driving while operating privilege is suspended or revoked.)

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7. If you are found guilty by the Magisterial District Judge, or you plead guilty, and you wish to appeal, you have THIRTY(30) days to file an appeal for a trial in the Court of Common Pleas.
8. If you are disabled and require assistance, please contact the Magisterial District office shown above.

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SURCHARGE - Funds distributed pursuant to 75 Pa.C.S. § 6506
J.C.P./A.T.J. - Judicial Computer Project/Access to Justice

COPIES OF ANALYTICAL RESULTS

1449 Nor-Bath Blvd, PO Box 7
Northampton, PA 18067

Sample Summary

Environmental Waste Minimization, Inc.

Job No: JC13588

City Line, 6 Horwith Drive, Northampton, PA
Project No: 04-1944

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
JC13588-1	02/02/16	11:33	SS	02/03/16	SO	Soil	#1
JC13588-2	02/02/16	11:36	SS	02/03/16	SO	Soil	#2
JC13588-3	02/02/16	11:40	SS	02/03/16	SO	Soil	#3
JC13588-4	02/02/16	11:43	SS	02/03/16	SO	Soil	#4
JC13588-5	02/02/16	11:46	SS	02/03/16	SO	Soil	#5
JC13588-6	02/02/16	11:50	SS	02/03/16	SO	Soil	#6
JC13588-7	02/02/16	11:53	SS	02/03/16	SO	Soil	#7
JC13588-8	02/02/16	11:56	SS	02/03/16	SO	Soil	#8

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

Report of Analysis

Client Sample ID:	#1		
Lab Sample ID:	JC13588-1	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	79.9
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.0	0.50	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	79.9		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#2		
Lab Sample ID:	JC13588-2	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	85.4
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	0.85	0.47	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	85.4		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#3		
Lab Sample ID:	JC13588-3	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	94.4
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	7.4	0.42	mg/kg	1	02/04/16 10:06	RP	SW846 3060A/7196A
Solids, Percent	94.4		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#4		
Lab Sample ID:	JC13588-4	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	81.8
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	1.0	0.49	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	81.8		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#5		
Lab Sample ID:	JC13588-5	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	86.0
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	11.0	0.47	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	86		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#6		
Lab Sample ID:	JC13588-6	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	79.7
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.50	0.50	mg/kg	1	02/04/16 10:12	RP	SW846 3060A/7196A
Solids, Percent	79.7		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#7		
Lab Sample ID:	JC13588-7	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	73.5
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Oil and Grease	< 640	640	mg/kg	1	02/03/16 20:15	LS	SW846 9071B
Solids, Percent	73.5		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

Report of Analysis

Client Sample ID:	#8		
Lab Sample ID:	JC13588-8	**Date Sampled:**	02/02/16
Matrix:	SO - Soil	**Date Received:**	02/03/16
		Percent Solids:	74.3
Project:	City Line, 6 Horwith Drive, Northampton, PA		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Oil and Grease	< 670	670	mg/kg	1	02/03/16 20:15	LS	SW846 9071B
Solids, Percent	74.3		%	1	02/03/16 17:00	KP	SM2540 G-97

RL = Reporting Limit

ACCUTEST LABORATORIES

So

CHAIN OF CUSTODY

PAGE ___ OF ___

2235 Route 130, Dayton, NJ 08810
TEL: 732-329-0200 FAX: 732-329-3499/3480
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
Accutest Quote #: | Accutest Job #: JC13588

Client / Reporting Information

Company Name: EWMI (RAPID RESPONSE)
Street Address: 14 Brick Kiln CT
City / State / Zip: Northampton, PA 18067
Project Contact / E-mail: Scott Soden SSODEN@EWMI.com
Phone # / Fax #: 484-275-6945
Sampler(s) Name(s) / Phone #: Scott Soden 484-275-6945

Project Information

Project Name: Hornwith Trucks RT 33
Street:
City / State:
Project #: 1944
Client Purchase Order #: 04-1944
Project Manager: Scott Soden

Billing Information (if different from Report to)
Company Name:
Street Address:
City / State / Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Hexavalent Chrome
Oil & Grease

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

Accutest Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	MeOH	HNO3	H2SO4	NaOH	Zn Acetate	DI Water	MeOH	EnCore	Hexavalent Chrome	Oil & Grease	LAB USE ONLY
1	#1		2/2/16	8133		Soil	1				X						X	-1	DL3
	#2		2/2/16	1136		Soil	1				X						X	-2	
	#3		2/2/16	1145		Soil	1				X						X	-3	
	#4		2/2/16	1143		Soil	1				X						X	-4	
	#5		2/2/16	1146		Soil	1				X						X	-5	
	#6		2/2/16	1150		Soil	1				X						X	-6	
	#7		2/2/16	1153		Soil	1				X							X	-7
	#8		2/2/16	1156		Soil	1				X							X	-8

Turnaround Time (Business days)

Approved By (Accutest PM): / Date:

- ☐ Std. 10 Business Days
- ☐ 5 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☒ 1 Day EMERGENCY
- ☐ other

Emergency & Rush T/A data available VIA Labtrak

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULLT1 (Level 3+4)
- ☐ NJ Reduced
- ☐ Commercial "C"
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☐ Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

INITIAL ASSESSMENT Am 2/8
LABEL VERIFICATION Am

Sample Custody must be documented below each time samples change possession, including courier delivery.

11:03

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	2/2/16 1315	1 Robert Chambers	2 Robert Chambers	2-3-16	2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seals: ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☒ Cooler Temp. 2.6°c/IP
5		5			

JC13588: Chain of Custody
Page 1 of 2

ACCUTEST LABORATORIES

Accutest Laboratories Sample Receipt Summary

Accutest Job Number: JC13588 **Client:** **Project:**

Date / Time Received: 2/3/2016 11:03:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (2.6);

Cooler Temps (Corrected) °C: Cooler 1: (3.0);

Cooler Security	Y or N		Y or N
1. Custody Seals Present:	☑ ☐	3. COC Present:	☑ ☐
2. Custody Seals Intact:	☑ ☐	4. Smpl Dates/Time OK	☑ ☐

Cooler Temperature	Y or N
1. Temp criteria achieved:	☑ ☐
2. Cooler temp verification:	IR Gun
3. Cooler media:	Ice (Bag)
4. No. Coolers:	1

Quality Control Preservation	Y or N	N/A
1. Trip Blank present / cooler:	☐ ☐	☑
2. Trip Blank listed on COC:	☐ ☐	☑
3. Samples preserved properly:	☑ ☐	
4. VOCs headspace free:	☐ ☐	☑

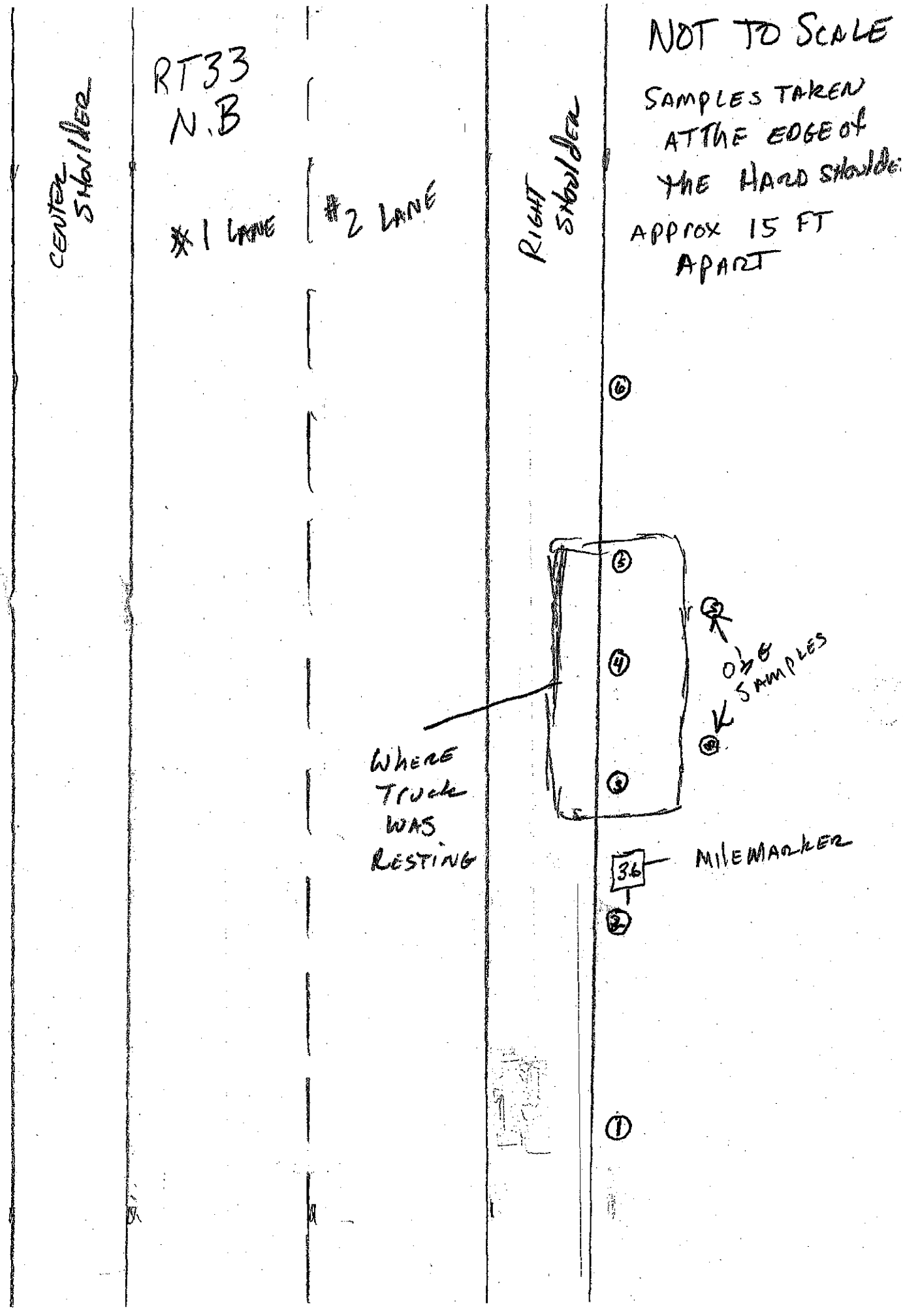
Sample Integrity - Documentation	Y or N
1. Sample labels present on bottles:	☑ ☐
2. Container labeling complete:	☑ ☐
3. Sample container label / COC agree:	☑ ☐

Sample Integrity - Condition	Y or N
1. Sample recvd within HT:	☑ ☐
2. All containers accounted for:	☑ ☐
3. Condition of sample:	Intact

Sample Integrity - Instructions	Y or N	N/A
1. Analysis requested is clear:	☑ ☐	
2. Bottles received for unspecified tests	☐ ☑	
3. Sufficient volume recvd for analysis:	☑ ☐	
4. Compositing instructions clear:	☐ ☐	☑
5. Filtering instructions clear:	☐ ☐	☑

Comments

JC13588: Chain of Custody
Page 2 of 2


NOT TO SCALE
SAMPLES TAKEN AT THE EDGE of THE HARD shoulder
APPROX 15 FT APART
RT33 N.B
CENTER SHOULDER
#1 LANE
#2 LANE
RIGHT SHOULDER
6
5
4
3
2
1
WHERE TRUCK WAS RESTING
6 SAMPLES
36
MILEMARKER

DEP RESPONSE REPORT

1449 Nor-Bath Blvd, PO Box 7
Northampton, PA 18067

DEPARTMENT OF ENVIRONMENTAL PROTECTION
EMERGENCY RESPONSE FIELD INSPECTION REPORT

Type of incident: Truck overturned on Route 33 North hauling hazardous waste, hexavalent chromium contaminated soil	**Date:** Mon. 2/1/2016
Facility or Location: Rte 33 North at Milemarker 3.6	
Municipality: Bethlehem Twp.	**County:** Northampton
Latitude: 40° 40' 33.9"	**Longitude:** 75° 17' 27.2"
Call Out Time: 1600hrs	**Return Time:** 2358hrs
Site Arrival Time: 1630hrs	**Site Departure Time:** 2310hrs
Beginning Mileage:	**Ending Mileage:**
Complainant Name and Address: N/A	
Telephone Number ( )	
Responsible Party Name and Address: Truck owner/Hazardous waste transporter – Horwith Trucking, Inc., Route 329, P.O. Box 7, Northampton, PA 18067; Hazardous waste generator – Honeywell, Inc., 115 Tabor Rd., Morris Plains, NJ 07950-4262	
Telephone Number (610) 261-2220 Horwith Trucks; 973-455-4252 – Honeywell, John Mojka (Contact on Manifest)	
Weather Conditions: Clear, Temp 40s	

Remarks: 1600hrs – Call from Kevin Augustine, ER Mgr., to respond to the truck accident on Rte. 33 North involving hexavalent chromium-contaminated soil. Accident occurred about 1500hrs.

Called Jeff Stire, Northampton County EMA, to confirm location and directions into the scene. 1630hrs – Arrived at the accident scene – Northampton County EMA, Lehigh County Hazmat, PennDOT, PSP, and Bethlehem Twp and Nancy Run Fire Co., Rapid Response, Fast Lane Towing and Transport, on-scene; Horwith Tri-axle truck was overturned on the northbound shoulder of Rte. 33 N. at milemarker 3.6. Truck was hauling the soil from a Honeywell Site located at 60 Kellogg St., Jersey City, NJ to the Horwith Trucking yard in Northampton to be loaded into Norfolk So. Rail cars for transport to Heritage Environmental Services facility in Indianapolis, IN via a CSX rail siding and Heritage trucks into the TSD. The manifest listed an estimated quantity of the hazardous waste (D007-TCLP hazardous for Cr) at 47,520 lbs. and listed a concentration range of 240- <1000ppm Hexavalent Cr. The truck was overturned, but the white sack/containment bladder appeared to be intact and for the most part still lying within the side of the bed on the truck. Work crews from Fast Lane Towing and Transport and Rapid Response performed the waste removal in Level C PPE and off-loaded the soils into two rolloff containers for transportation to the Horwith facility. Plastic was laid in front of the waste bladder and underneath the portion hanging out of the truck before the bladder was cut open and the waste soils were off-loaded. The soils appeared to be moist and no dust was observed during the transfer of the soils into the rolloffs. The backhoe and truck were deconned after the soils were removed. After the soil was removed, the truck was righted to be towed away and the truck and the area where the truck laid were examined. There did not appear to be a diesel fuel spill, but a small puddle of motor oil was observed, which the Rapid Response crew soaked up with pads and then scraped out the area with a backhoe. I left the Site after the truck was righted, the shoulder inspected, and the crews were finishing up the cleanup.

Materials Used: N/A		
Sample Collected? N/A	**Sample Numbers:**	**Analysis?**
Investigated By: J. Kunkle (ER-JK-02012016)	**PADEP**	**Northeast Regional Office**

4/13/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

April 13, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-03

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from March 1 – March 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: March 2016 SA-6/7 Combined Monthly Progress Report No. 2016-03

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2016-03
Project SA-6 & 7 Remediation

March 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
03/10/16	Combined Monthly Progress/Highlights Report No. 2016-02 Study Areas 6 and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/11/16	Spark Testing of Liner Boots RTC Study Area 6 North Chromium Remedy Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/15/16	Special Master Meeting	n/a
03/16/16	BEP -- USACE Additional Information Request and Response Study Area 7 Sediment Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/16/15	NMFS E-mail: BEP - Pre-Construction Notice for NWP No 27 Study Area 7 Sediment Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/16/16	Declaration Study Area 6 South Chromium Remedy Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/17/16	Evaluation of Depressurization Pumping Study Area 6 Groundwater Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/18/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440 MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
03/21/16	Request for Initial Consultation Pedestrian Bridge Study Area 7 Sediment Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
03/22/16	Design Change Bulletin: Horizon B and Horizon C Planting Soils New Sources of Imported Fill Identification Study Area 6 Jersey City, New Jersey *(One DCB was specific to Nature's Choice Horizon C Soils, One DCB was related to Horizon B Soils and Alternative Horizon C Soils)*	The Honorable Robert G. Torricelli Office of the Special Master

Date	Submittal/Meeting	Recipient
03/30/16	Groundwater Sampling Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	03/06/16	03/13/16	03/20/16	03/27/16
Construction Management (AMEC)	7	8	8	8
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	29	25	26	26
Arecon/US Ecology Subcontractors	1	2	0	0
Eglentowicz (Demolition)	6	1	0	3
Langan	0	0	0	0
Evoqua	1	1	1	1
B&B Drilling	0	0	1	1
Cornerstone	0	0	0	0
TOTAL STAFF	**49**	**42**	**41**	**44**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected March PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Conducted 6-month performance assessment soil sampling from the in-situ treatment area TA-10-1 in accordance with the updated Work Plan, dated August 2015 for the in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils (results pending).
- Continued pre-demolition activities associated with 60/72 Kellogg to include terminating the gas and electric service, and completing the asbestos, rodent and universal waste abatement activities.
- Conducted quarterly regional LTMP groundwater level monitoring event.
- Completed S-3 Mass Removal Injection Event No. 27 in well 088-IW-02.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on March 15, 2016.
- Initiated piping layout plans for routing the Contingent Groundwater Extraction System force mains from SA-6 North and South to the existing GWTP Neutralization Tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	03/06/16	03/13/16	03/20/16	03/27/16
Avg. Gallons Treated & Discharged (per day)	78,884	79,334	78,927	79,097
Average Flow (gpm) for Operating Period	55	57	57	57
Avg. Hours of Plant Operation	24	23	23	23
GWTP Influent Tanks (gal.)	4,370	5,300	5,771	4,318

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed dewatering and excavation activities of Site 163.
- Completed abandonment of the temporary Deep Extraction Well, DW8.
- Completed placement of backfill in Site 163 excavations in residential footprint.
- Continued backfilling of EA-2/EA-3 excavation area.
- Completed backfilling and restoration of EA-8.
- Completed excavation and backfilling of the anomalous material area observed within the northern portion of EA-1 up to the property line at Culver Circle.
- Completed trenching for installation of the Contingent Groundwater Extraction System piping on SA-6 North. A total of 260 linear feet of collection pipe was installed.
- Began backfilling the SA-6 North CGWES pipeline and installed the risers on manholes.
- On March 22, Amec sampled the proposed Nature's Choice Horizon C stockpiled soils for the additional hexavalent chromium analysis agreed upon with the parties. Results will be submitted when final.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	14	14
Horwith	Tri-axle	PA Transload	US Ecology	>240 mg/kg CrVI	25	21.39	534.91
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz "C"	9	21.8	197
Entact/Hortwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non Haz Petroleum	85	23.63	2009
Entact/Horwith	Tri-axle Dump	Middlesex County Landfill, NJ	MCUA	Non-haz "B"	19	23	437
Common Carrier	Roll-off	Tullytown, Pa	Waste Management	Non Friable ACM	1	30 cyds.	30 cyds.

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation Site 163 Complete - Total for Reporting Period (Site 163): 225 CY/ Total: 7,132.5 CY Excavation SA-6 North Complete - Total to Date (SA-6 North): 39,443 CY
Backfill in Progress	EA-2/EA-3, Site 163, SA-6 South Utility Corridor (C Street), EA-1 Completed in March

3. BACKFILL MATERIALS USED

Source	Week Ending			
	03/06/16	03/13/16	03/20/16	03/27/16
Tilcon 1.5" Stone	350.86	0	0	0
Tilcon Mount Hope I-8	0	0	987.97	0
Natures Choice Topsoil	150.83	65.54	0	0

- Screened Celgene material was placed as protective cover soil in the SA-6 South cap area along edges which were disturbed during the temporary plastic cover installation.
- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were placed as backfill in Site 163.
- Historic fill soils identified to be < 20 mg/kg hexavalent chromium were placed as backfill in EA-2/EA-3.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharge complete. Began offloading of Area 3N.
- Area 4N: Surcharge complete. Began offloading of Area 4N.

F. SHEET PILE OPERATIONS

- Completed installation of sheet pile for temporary excavation support at Site 163.
- Begin grouting Hydraulic Barrier Wall interlocks on SA-6 North.

G. CAPPING OPERATIONS

- Completed evaluations of potential alternative fill source(s), of both Horizon B and C Soils for the SA-6 South open space area. Conditions for acceptability of Nature's Choice Horizon C soils were agreed upon. A separate short list of potential Horizon B and C soil source vendors and the Dr. Jason Grabosky of Rutgers University recommendations were submitted to all parties for review as part of DCB 2016-03-18.
- Completed installation of additional panels of temporary plastic sheeting on the SA-6 South Cap.
- Continued placement of Structural Fill Material in the SA-6 South Cap Area corridor (C Street).

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013	Not Specified, Est. 3/31/2016	6/30/2016	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete EA-2/EA-3 backfilling activities.
- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Resume import and placement of Horizon C Soils from Nature's Choice on the SA-6 South open space area. Pending approval of Horizon B and alternative Horizon C sources, we will import as soon as possible.
- Complete grouting of Hydraulic Barrier Wall interlocks.
- Begin demolition of 60 and 72 Kellogg Street above-grade structures.

- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal injection event no. 28 in well 088-IW-03.
- Continue to develop CGWES piping layout plans for connection to GWTP Neutralization Tank.

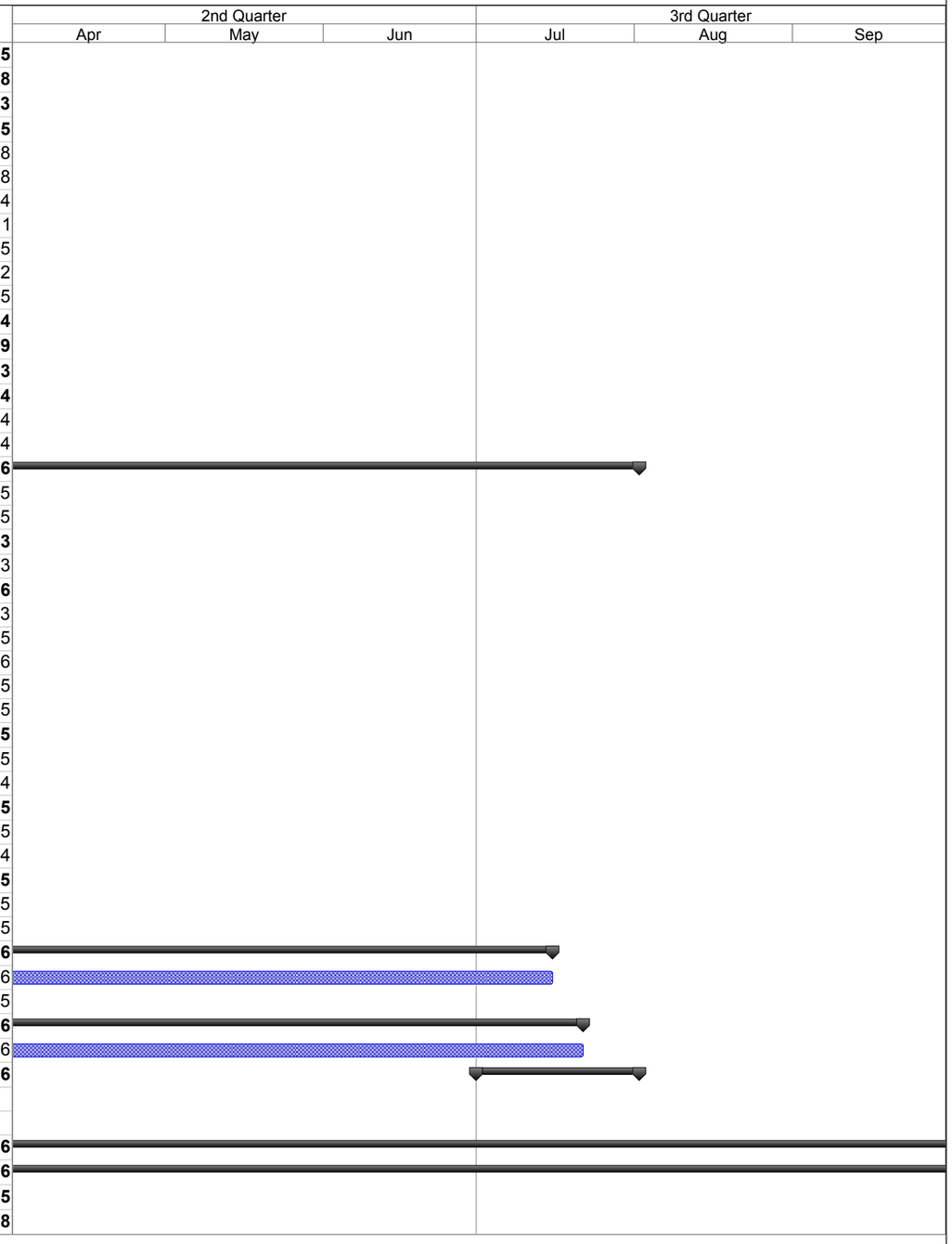
ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update *(not included in this reporting period)*
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 3/31/16

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Area C Dozer Spreading Backfill at Site 163.



Site Photograph 2: Area C Excavation at Site 163.



Site Photograph 3: Area EA-8 Restoration at JC Properties.



Site Photograph 4: Grading Structural Fill in future utility corridor.



Site Photograph 5: Loading concrete debris from Site 163.



Site Photograph 6: Removing temporary sheet pile at Area C Site 163.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of April 1, 2016



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

Attachment 4: Dewatering Operations Update

STUDY AREA 6 SOUTH DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
12/18/15	1	24	19	10	N/A	N/A	1,700	3,112,472	1.2	System Taken Offline
01/14/16	1	24	22,23,24	27	N/A	N/A	5,000	3,117,472	3.5	
01/15/16	1	24	22,23,24	23	N/A	N/A	5,000	3,122,472	3.5	
01/18/16	1	72	22,23,24	23	N/A	N/A	15,000	3,137,472	3.5	
01/19/16	1	24	22,23,24	23	N/A	N/A	5,000	3,142,472	3.5	System Offline for Excavation
02/05/16	1	24	22,23,24	23	N/A	N/A	5,000	3,147,472	3.5	
02/08/16	1	72	22,23,24	23	N/A	N/A	15,000	3,162,472	3.5	
02/09/16	1	24	22,23,24	27	N/A	N/A	5,000	3,167,472	3.5	
02/10/16	1	24	22,23,24	27	N/A	N/A	3,000	3,170,472	2.1	
02/11/16	1	24	22,23,24	27	N/A	N/A	3,000	3,173,472	2.1	
02/12/16	1	24	22,23,24	21	N/A	N/A	3,000	3,176,472	2.1	
02/16/16	1	96	22,23,24	21	N/A	N/A	2,000	3,178,472	0.3	
02/17/16	1	24	22,23,24	15	N/A	N/A	1,000	3,179,472	0.7	
02/18/16	1	24	22,23,24	8	N/A	N/A	1,000	3,180,472	0.7	
02/19/16	1	24	22,23,24	8	N/A	N/A	1,500	3,181,972	1.0	
02/22/16	1	72	22,23,24	3	N/A	N/A	4,000	3,185,972	0.9	
02/23/16	1	24	22,23,24	3	N/A	N/A	1,000	3,186,972	0.7	
02/24/16	1	24	22,23,24	3	N/A	N/A	1,000	3,187,972	0.7	
02/25/16	1	24	22,23,24	3	N/A	N/A	1,000	3,188,972	0.7	
02/26/16	1	24	22,23,24	3	N/A	N/A	1,000	3,189,972	0.7	
02/27/16	1	24	22,23,24	3	N/A	N/A	500	3,190,472	0.3	
02/28/16	1	24	22,23,24	3	N/A	N/A	500	3,190,972	0.3	
02/29/16	1	24	22,23,24	3	N/A	N/A	500	3,191,472	0.3	
03/01/16	1	24	22,23,24	3	N/A	N/A	500	3,191,972	0.3	
03/02/16	1	24	22,23,24	3	N/A	N/A	1,000	3,192,972	0.7	
03/03/16	1	24	22,23,24	3	N/A	N/A	1,000	3,193,972	0.7	System Offline for Excavation

Notes: Previous information is truncated. Only last month and current month information is provided.
Site 163 Excavation was completed and the system was turned off.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
01/14/16	9:30	14:00	4:30	39,510.66	39,562.31	51,650	39,418,460	
02/01/16	7:30	13:15	5:45	39,562.31	39,632.04	69,730	39,488,190	
02/02/16	7:00	11:30	4:30	39,632.04	39,691.51	59,470	39,547,660	PVSC Compliance Sample Collected
02/03/16	7:30	15:30	8:00	39,691.51	39,789.38	97,870	39,645,530	
02/04/16	8:00	15:30	7:30	39,789.38	39,869.34	79,960	39,725,490	
02/05/16	8:00	15:30	7:30	39,869.34	39,962.83	93,490	39,818,980	
02/06/16	8:00	14:00	6:00	39,962.83	40,010.68	47,850	39,866,830	
02/08/16	7:15	15:15	8:00	40,010.68	40,119.75	109,070	39,975,900	
02/09/16	8:30	15:30	7:00	40,119.75	40,195.00	75,250	40,051,150	
02/10/16	9:30	15:30	6:00	40,195.00	40,313.68	118,680	40,169,830	
02/11/16	10:30	15:30	5:00	40,313.68	40,407.45	93,770	40,263,600	
02/16/16	10:00	16:00	6:00	40,407.45	40,472.48	65,030	40,328,630	
02/17/16	7:00	15:30	8:30	40,472.48	40,635.48	163,000	40,491,630	
02/18/16	9:30	14:30	5:00	40,635.48	40,695.00	59,520	40,551,150	
02/22/16	7:30	13:00	5:30	40,695.00	40,767.90	72,900	40,624,050	
02/23/16	7:30	15:00	7:30	40,767.90	40,847.01	79,110	40,703,160	
02/24/16	8:30	15:00	6:30	40,847.01	40,947.06	100,050	40,803,210	
02/25/16	9:00	16:00	7:00	40,947.06	41,052.04	104,980	40,908,190	
02/26/16	7:30	15:00	7:30	41,052.04	41,114.52	62,480	40,970,670	
02/27/16	9:00	12:30	3:30	41,114.52	41,172.24	57,720	41,028,390	
02/28/16	8:00	13:00	5:00	41,172.24	41,227.51	55,270	41,083,660	
02/29/16	6:30	15:15	8:45	41,227.51	41,400.89	173,380	41,257,040	
03/01/16	7:00	15:30	8:30	41,400.89	41,493.59	92,700	41,349,740	
03/02/16	7:00	14:00	7:00	41,493.59	41,607.89	114,300	41,464,040	
03/03/16	7:30	12:15	4:45	41,607.89	41,671.38	63,490	41,527,530	
03/04/16	7:30	15:00	7:30	41,671.38	41,722.53	51,150	41,578,680	
03/05/16	9:00	15:00	6:00	41,722.53	41,782.88	60,350	41,639,030	
03/07/16	8:30	15:30	7:00	41,782.88	41,826.70	43,820	41,682,850	
03/10/16	9:00	15:00	6:00	41,826.70	41,955.66	128,960	41,811,810	PVSC Compliance Sample Collected
03/11/16	9:00	14:45	5:45	41,955.66	42,015.16	59,500	41,871,310	
03/15/16	8:00	16:00	8:00	42,015.16	42,113.22	98,060	41,969,370	
03/16/16	10:15	13:15	3:00	42,113.22	42,181.63	68,410	42,037,780	
03/17/16	7:30	15:00	7:30	42,181.63	42,268.80	87,170	42,124,950	
03/18/16	8:00	12:30	4:30	42,268.80	42,308.01	39,210	42,164,160	
03/21/16	7:30	13:00	5:30	42,308.01	42,352.43	44,420	42,208,580	
03/22/16	7:30	14:00	6:30	42,352.43	42,406.76	54,330	42,262,910	
03/23/16	12:00	15:15	3:15	42,406.76	42,437.75	30,990	42,293,900	
03/24/16	7:30	13:00	5:30	42,437.75	42,475.64	37,890	42,331,790	
03/28/16	7:30	15:30	8:00	42,475.64	42,517.63	41,990	42,373,780	

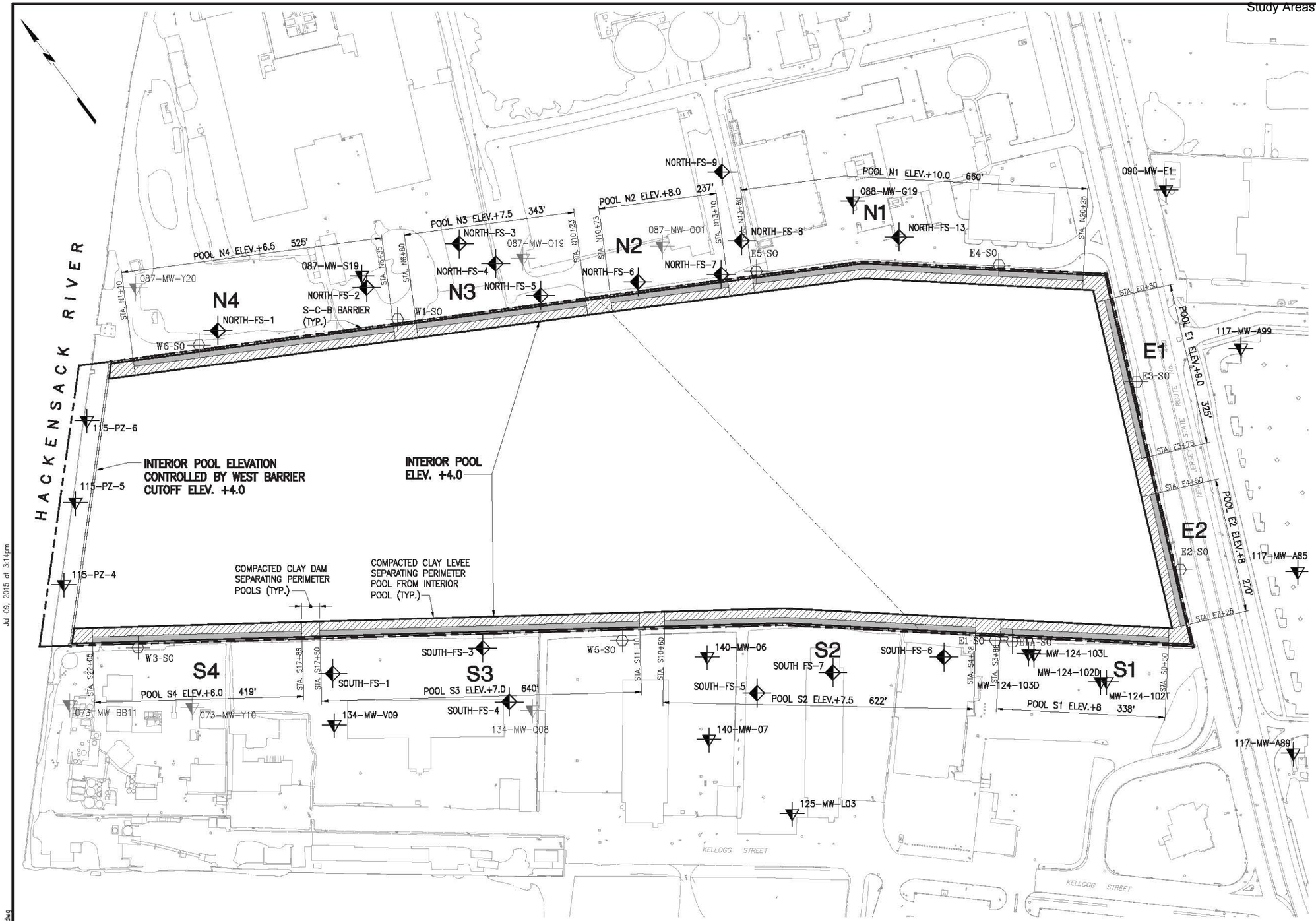
Notes: Previous information is truncated. Only last month and current month information is provided

Attachment 6: Backfill Analytical Data

Excavated Material Location (Grid No.)	Material Designation (<20 or >240)	Stockpile ID	Estimated Stockpile Volume (CY)	Sample ID	Sample Date	Sample Time	Hex Cr Result (mg/kg)	FINAL PLACEMENT OF MATERIAL		
								<20 Backfill in Excavation (Excavation Cell)	>20 - <240 Placed Under Cap	>240 Shipped Off Site as Haz
EA2/EA3	<20	087-EA2-20-a (bermed/trench material)	400	087-EA2-20-a1	12/11/2015	--	<1.8	Yes		
				087-EA2-20-a2	12/11/2015	--	6.7	Yes		
				087-EA2-20-a3	12/11/2015	--	<1.9	Yes		
				087-EA2-20-a4	12/11/2015	--	3.8	Yes		
EA2/EA3	<20	087-EA2-20-b1:g1 (A material)	5200 cy	087-EA2-20-b1	12/30/2015	--	3.0	Yes		
				087-EA2-20-b2	12/30/2015	--	3.0	Yes		
				087-EA2-20-b3	12/30/2015	--	0.55	Yes		
				087-EA2-20-b4	12/30/2015	--	0.97	Yes		
				087-EA2-20-c1	12/30/2015	--	4.3	Yes		
				087-EA2-20-c2	12/30/2015	--	1.5	Yes		
				087-EA2-20-c3	12/30/2015	--	1.6	Yes		
				087-EA2-20-c4	12/30/2015	--	0.53	Yes		
				087-EA2-20-d1	12/30/2015	--	0.60	Yes		
				087-EA2-20-d2	12/30/2015	--	15.9	Yes		
				087-EA2-20-d3	12/30/2015	--	5.4	Yes		
				087-EA2-20-d4	12/30/2015	--	1.7	Yes		
				087-EA2-20-e1	12/30/2015	--	0.53	Yes		
				087-EA2-20-e2	12/30/2015	--	12.3	Yes		
				087-EA2-20-e3	12/30/2015	--	3.1	Yes		
				087-EA2-20-e4	12/30/2015	--	0.57	Yes		
				087-EA2-20-f1	12/30/2015	--	0.52	Yes		
				087-EA2-20-f2	12/30/2015	--	0.53	Yes		
				087-EA2-20-f3	12/30/2015	--	0.57	Yes		
				087-EA2-20-f4	12/30/2015	--	0.54	Yes		
				087-EA2-20-g1	12/30/2015	--	0.53	Yes		
EA2/EA3	<20	087-EA2-20-h1 (overburden)	150 cy	087-EA2-20-h1	12/30/2015	--	0.7	Yes		
EA2/EA3	<20	087-EA2-20-i1 (overburden)	200 cy	087-EA2-20-i1	12/30/2015	--	0.54	Yes		
EA2/EA3	<20	087-EA2-20-h2:j3 (overburden)	2200 cy	087-EA2-20-h2	1/8/2016	--	24.1		Yes	
				087-EA2-20-h3	1/8/2016	--	<1.4	Yes		
				087-EA2-20-h4	1/8/2016	--	19	Yes		
				087-EA2-20-i2	1/8/2016	--	0.66	Yes		
				087-EA2-20-i3	1/8/2016	--	<1.9	Yes		
				087-EA2-20-i4	1/8/2016	--	<1.4	Yes		
				087-EA2-20-j1	1/8/2016	--	<2.0	Yes		
				087-EA2-20-j2	1/8/2016	--	8.9	Yes		
				087-EA2-20-j3	1/8/2016	--	<1.9	Yes		
EA2/EA3	<20	087-EA2-20-k1:k4	1000 cy	087-EA2-20-k1	1/8/2016	--	7	Yes		
				087-EA2-20-k2	1/8/2016	--	10	Yes		
				087-EA2-20-k3	1/8/2016	--	8	Yes		
				087-EA2-20-k4	1/8/2016	--	<1.9	Yes		
Site 163	<20	163-20-a	840	163-20-a1	1/19/2016	--	8.1	Yes		
				163-20-a2	1/19/2016	--	4.0	Yes		
				163-20-a3	1/19/2016	--	1.7	Yes		
				163-20-a4	1/19/2016	--	5.0	Yes		
Site 163	<20	163-20-a	840	163-20-a5	2/22/2016	--	2.7	Yes		
				163-20-a6	2/22/2016	--	3.6	Yes		
				163-20-a7	2/22/2016	--	1.0	Yes		
				163-20-a8	2/22/2016	--	5.1	Yes		
EA1	<20	087-EA1-20	210	087-EA1-20-A1	2/29/2016	--	0.9	Yes		
				087-EA1-20-A2	2/29/2016	--	3.2	Yes		
				087-EA1-20-A3	2/29/2016	--	29.0		Yes	
				087-EA1-20-A4	2/29/2016	--	2.3	Yes		

Previous information is truncated. Only last two months and current month information is provided.
*Material currently stockpiled. Pending final placement.
**Waiting on final results from the laboratory.

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

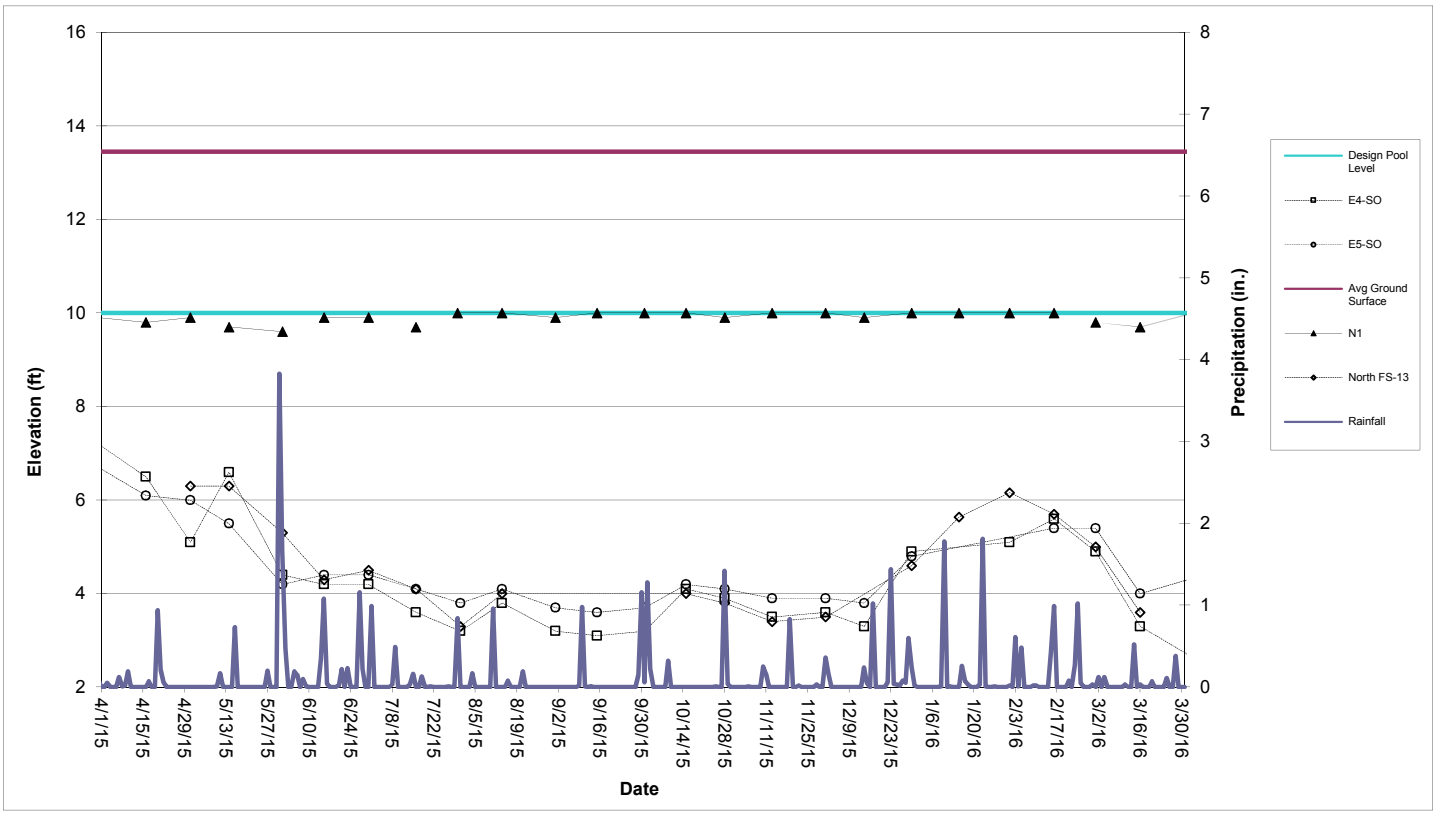
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

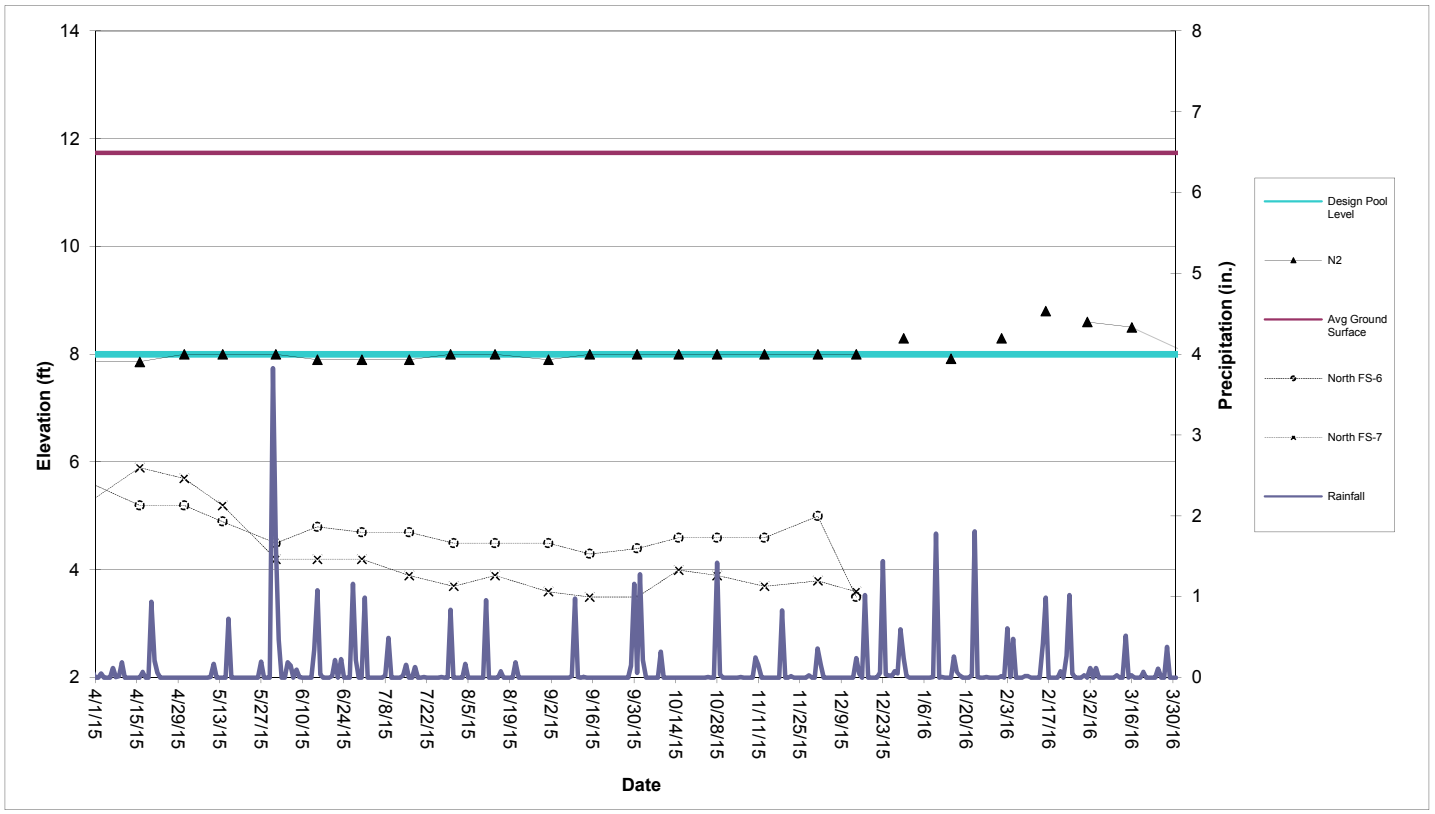
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

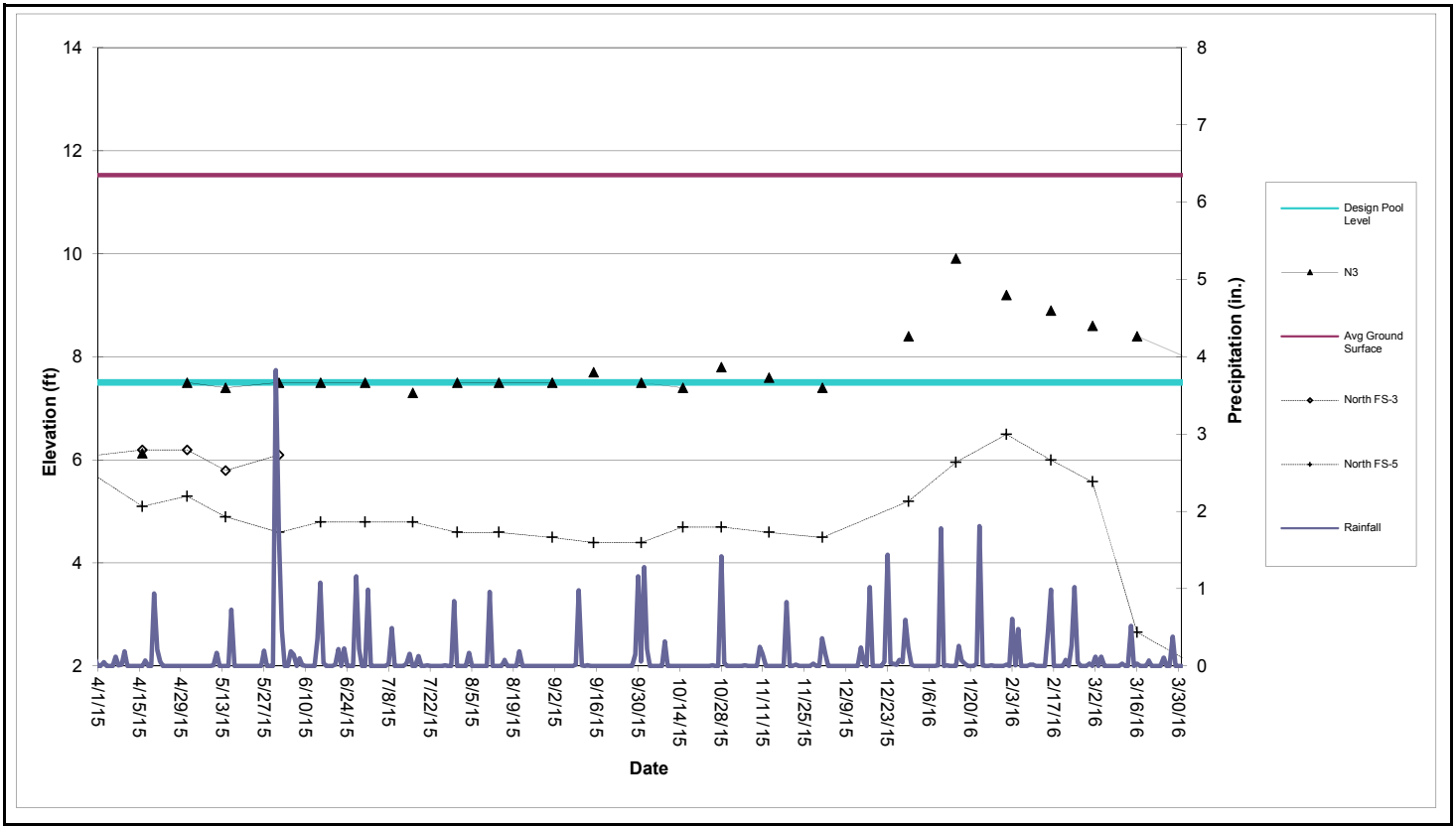
Jul 09, 2015 at 3:14pm
G:\DWGS\102\10210\Dewatering\PP-1.dwg
bboscaino



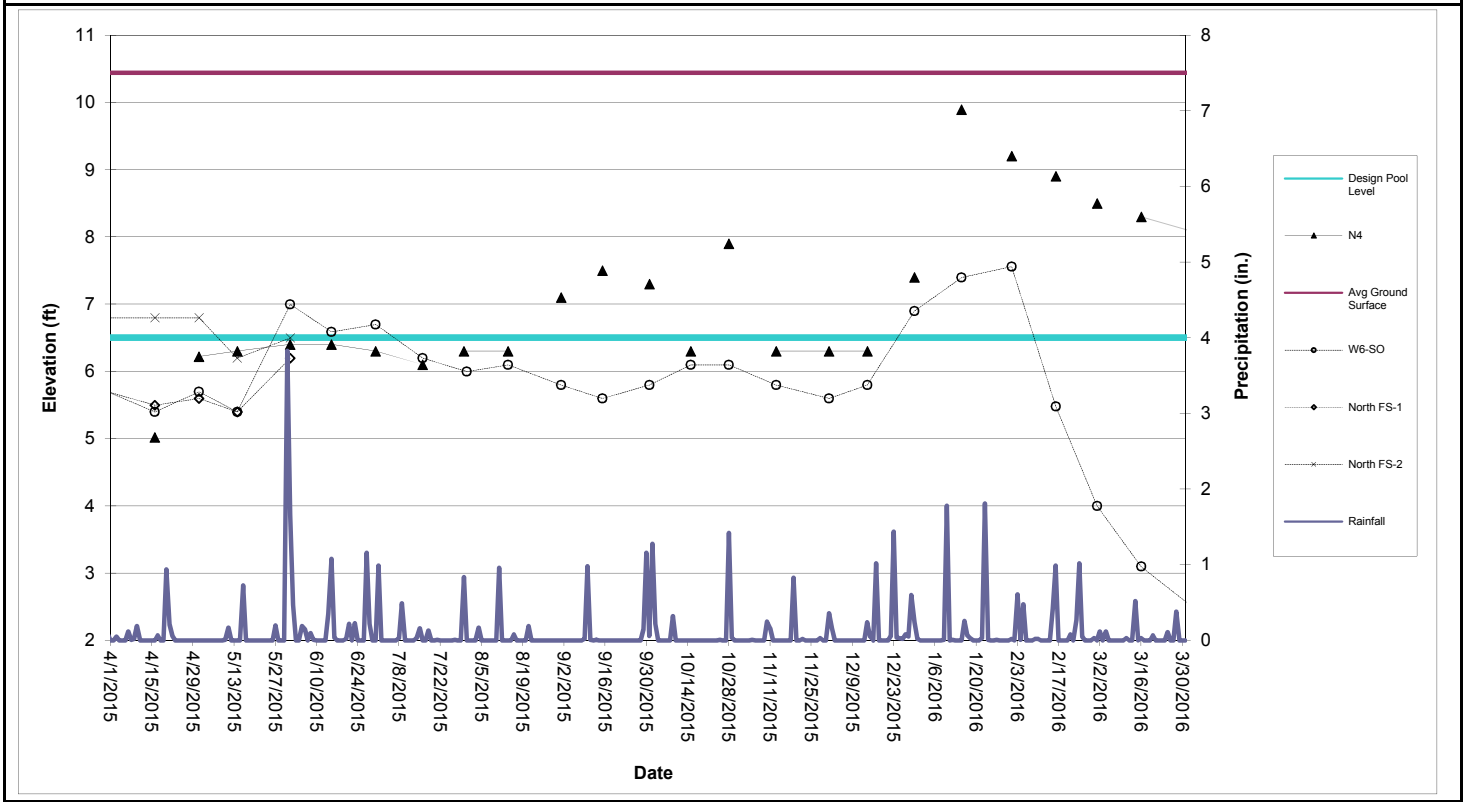
Perimeter Pool N1 (Sta. N13+60 to N20+25)



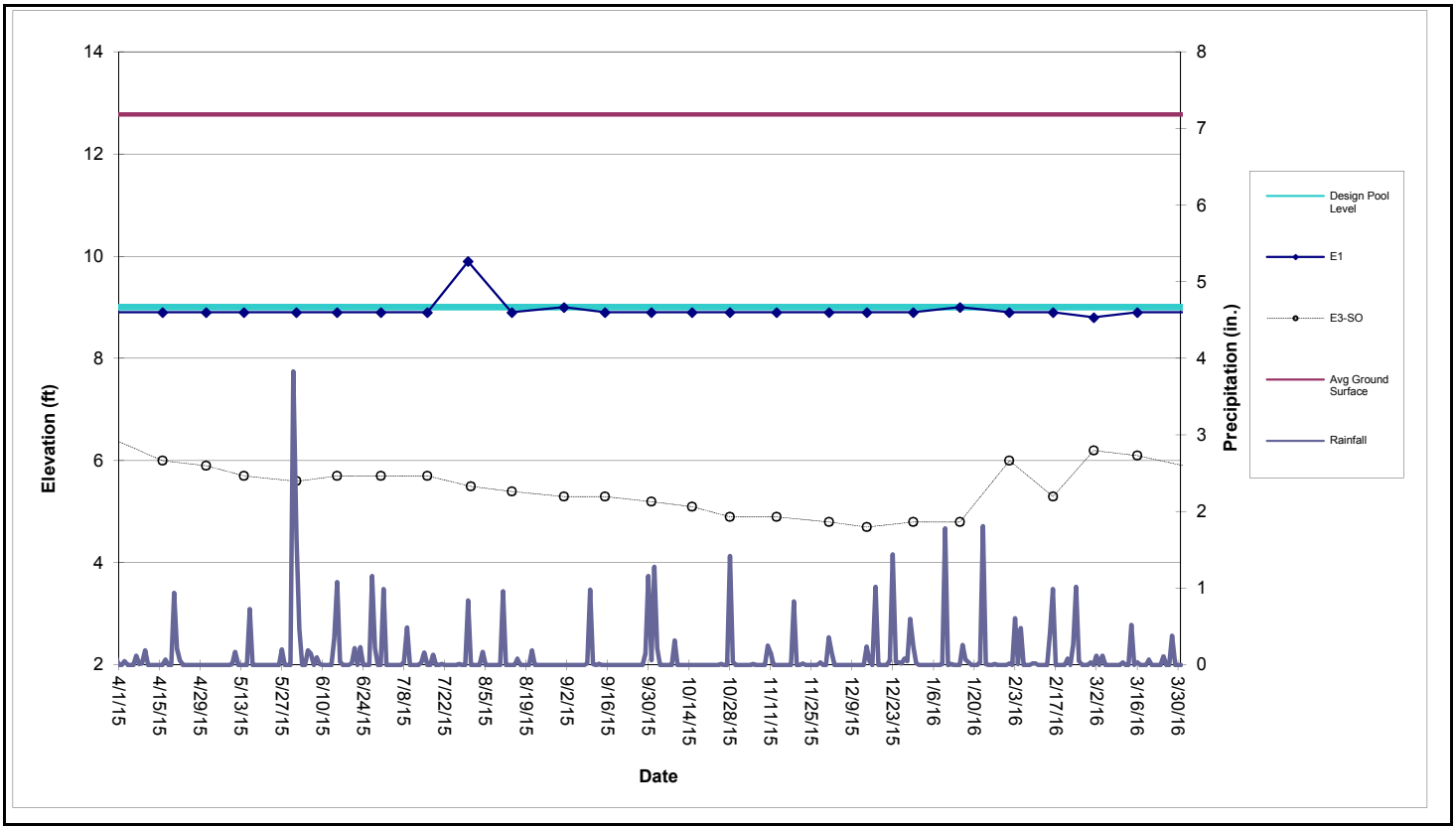
Perimeter Pool N2 (Sta. N10+73 to N13+10)



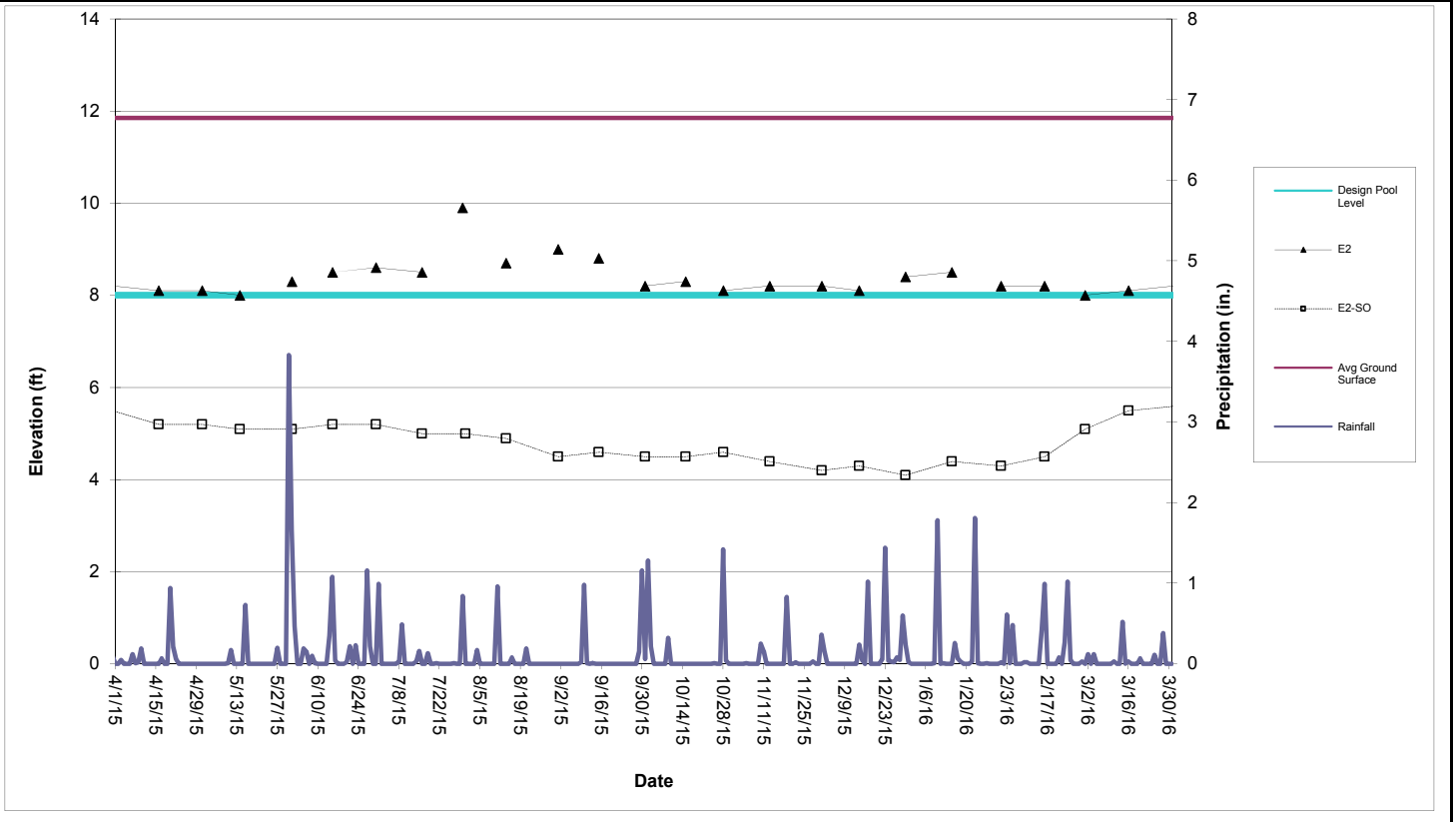
Perimeter Pool N3 (Sta. N6+80 to N10+23)



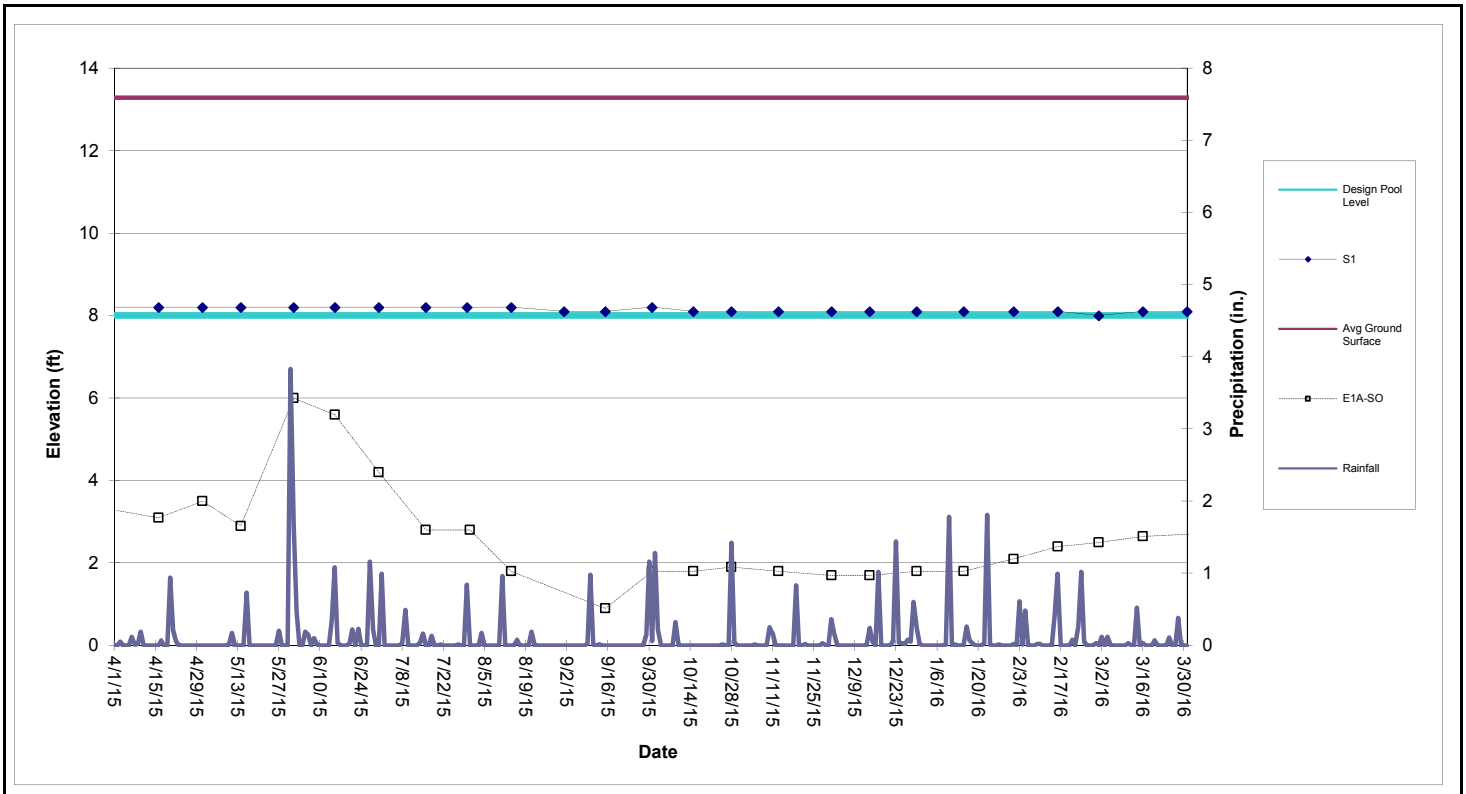
Perimeter Pool N4 (Sta. N6+80 to N10+23)



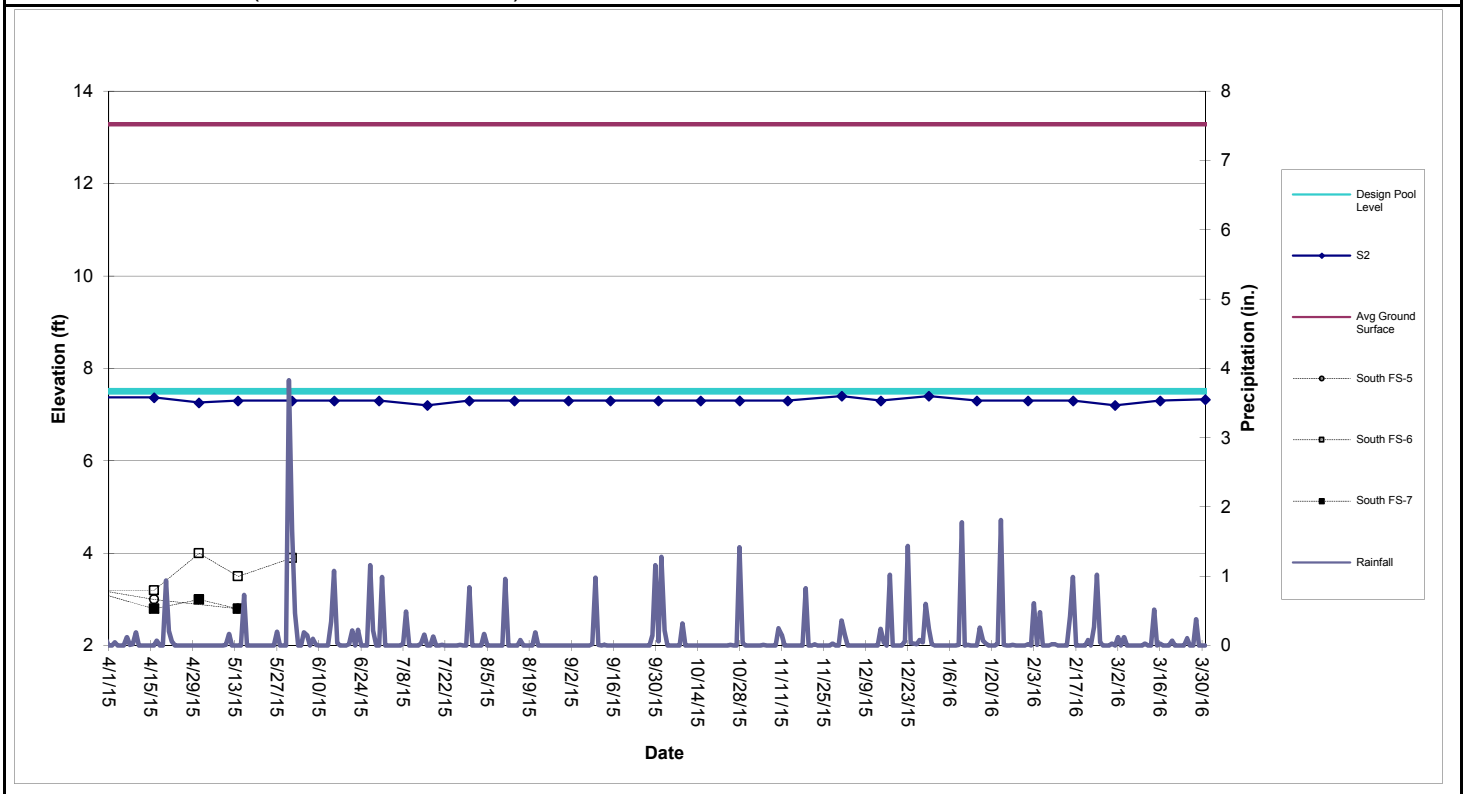
Perimeter Pool E1 (Sta. E0+50 to E3+75)



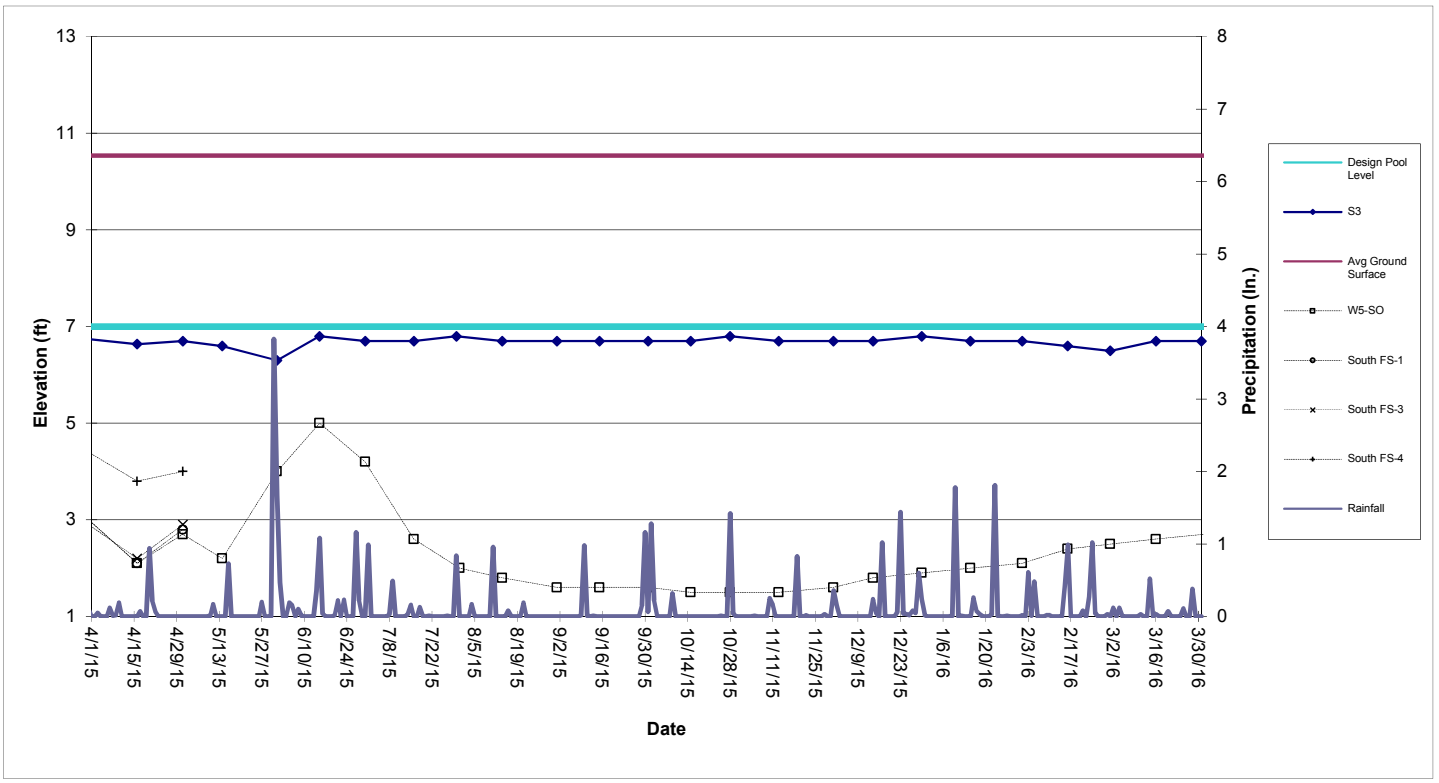
Perimeter Pool E2 (Sta. E4+50 to E7+25)



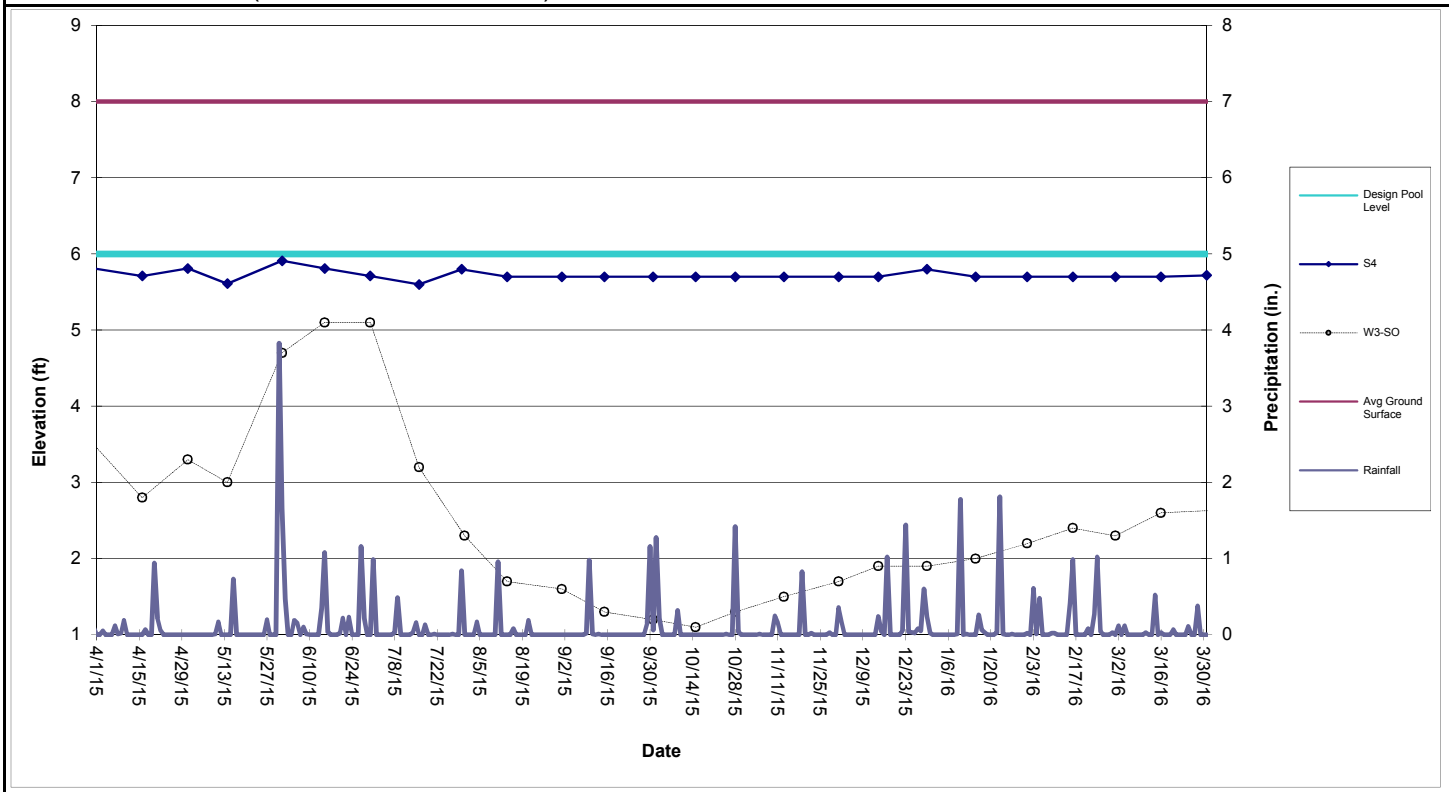
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
4/16/2015	3.1	5.2	6.0	6.5	6.1		2.8	2.1	5.4	5.5	6.8	6.2	5.1	5.2	5.9		2.1	2.2	3.8	3.0	3.2	2.8
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0				5.6			5.0						
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1				2.7			3.6						

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

(not included in this reporting period)

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: ~~March 4, 2016~~ March 3, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	✓			
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			
Stockpile Tarping/Containment	✓			
Proper Chemical Storage	✓			
Containment Around Exclusion Zones	✓			
Water Truck Wet- Down Operation	✓			
Truck De-Con Operation	✓			
Flood Protection	✓			
Haul Road Maintenance	✓			
Perimeter Fencing/Windscreen	✓			
Storm Drain Protection	✓			
Ponded Storm Water	✓			
Housekeeping	✓			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	✓			
River Discharge Weir	✓		X	
Swale Check Dams		✓	X	
Exclusion Zone Fencing	✓			
Misc. Spill Control (Fuels, Lubricants, Etc.)	✓			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	/			
Proper Chemical Storage	/			
Containment Around Exclusion Zones	/			
Water Truck Wet- Down Operation	/			
Truck De-Con Operation	/			
Flood Protection			X	
Haul Road Maintenance	/			
Perimeter Fencing/Windscreen	/			
Storm Drain Protection	/			
Ponded Storm Water	/			
Housekeeping	/			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	/			
River Discharge Weir	/			
Swale Check Dams	/			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	/			
Stockpile Tarping/Containment	/			
Proper Chemical Storage	/			
Containment Around Exclusion Zones	/		X	
Water Truck Wet- Down Operation	/			
Truck De-Con Operation			X	
Flood Protection	/		X	
Haul Road Maintenance	/			
Perimeter Fencing/Windscreen	/			
Storm Drain Protection	/			
Ponded Storm Water	/			
Housekeeping	/			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 3/3/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE

Thursday, March 03, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT**: Windscreen on the SA-6 South perimeter fenceline is detached from the perimeter fence in the area of the 60 Kellogg building.
2	"	Sediment from SA-7 roadway
3	"	Trash pile outside of EA-8
4	"	Trash on kellogg jug handle
5	"	Exclusion zone fencing is down on the west side of 1N
6	"	Bayfront banner on 440 is starting to detach
7	"	Filter fabric under storm drains is blinded, north of the trash pit

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ (Signature) **Date:** 3/3/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen to the perimeter fence as required.	3/10/16 RAD
2	Clean up sediment from SA-7 roadway	
3	Clean up trash pile outside of EA-8	
4	Clean up trash on kellogg jug handle	
5	Repair exclusion zone fencing on the west side of 1N	
6	Reinforce Bayfront banner on 440	
7	Replace filter fabric under storm drains north of the trash pit	

Construction Manager: _____ **Date:** 03/10/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 11, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection	X			
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		4
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/11/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 11, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence inside of the perimeter fence line along the western end of Kellogg Street requires maintenance.
2	IA2Q4A1AL8	Windscreen on the perimeter fence at the western end of Kellogg Street has become detached.
3	IA2Q4A1AL8	Garbage and other debris is present along the Kellogg Street jughandle.
4	IA2Q4A1AL8	Two catch basins in the former JCIA area to the north of the sedimentation basin require silt protection.
5	IA2Q4A1AL8	Silt fence along the southern perimeter of the N-1 stockpile area on SA-7 requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 03/11/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace the silt fence along the Kellogg Street fenceline as required.	3-17-16 RAD
2	Re-attach or replace windscreen on the perimeter fence as required.	↓
3	Pick up and discard the garbage and debris along the roadside.	
4	Install filter fabric or sediment baskets in the two catch basins as required.	
5	Repair or replace the silt fence along the northern SA-7 roadway as required.	↓

Construction Manager: _____ **Date:** 03/17/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 18, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2,3
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		4

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		5
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		6
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/21/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 18, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and other debris is present along the Kellogg Street jughandle.
2	IA2Q4A1AL8	Exclusion Zone fencing at the western end of surcharge area 1-N is down and requires maintenance.
3	IA2Q4A1AL8	Exclusion Zone fencing along the sheetpile in the sedimentation basin area requires maintenance.
4	IA2Q4A1AL8	There are 55 gallon drums of lubricant in the mechanics area which are not on spill pallets.
5	IA2Q4A1AL8	Silt fencing surrounding the Novartis Stockpile area requires maintenance.
6	IA2Q4A1AL8	Sediment has accumulated on the western haul road on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 03/21/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and discard the garbage and debris along the roadside.	3/24/16 KAD
2	Repair or replace EZ fencing and signage as required.	
3	Repair or replace EZ fencing and signage as required.	
4	Place all "in-use" drums on spill pallets.	
5	Repair or replace the silt fence surrounding the Novartis Stockpile Area as required.	
6	Clean sediment from the western SA-7 haul road as required.	

Construction Manager: _____ Date: 03/24/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: March 25, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 03/25/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, March 25, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and other debris is present along the Kellogg Street jughandle.
2	IA2Q4A1AL8	Silt fencing along the southern toe of the 1-N surcharge area requires maintenance.
3	IA2Q4A1AL8	Sediment fabric in a stormwater catch basin on the eastern SA-7 roadway has fallen through and requires replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 03/25/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and discard the garbage and debris along the roadside.	3/31/16 RAD
2	Repair or replace silt fence along the southern toe of the 1-N surcharge area as required	
3	Replace the filter fabric in the eastern SA-7 roadway catch basin as required	

Construction Manager: _____ Date: 03/31/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted March 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

March 18, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the February 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
2	01	16	2	29	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	79,211	84,960 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.75	0.80	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00021	0.00021	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1689	0.1689	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
2	01	16	2	29	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,297,112 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 56,718,528

DATE	BOD (mg/l)	TSS (mg/l)
2/10/2016	<3.4	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris IHE	John J. Morris	(973) 455-4003
		DATE 3/16/2016

PVSC FORM MR-2 REV.3 6/93

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

3/16/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: February 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
2/1/2016	Angel Trujillo	54421416	54498650	77,234	0.077234	7.18	1.130									0.73
2/2/2016	Angel Trujillo	54498650	54577458	78,808	0.078808	7.78	1.130									0.74
2/3/2016	Angel Trujillo	54577458	54656198	78,740	0.07874	7.60	1.130									0.74
2/4/2016	Angel Trujillo	54656198	54736172	79,974	0.079974	7.78	1.130									0.75
2/5/2016	Angel Trujillo	54736172	54816320	80,148	0.080148	7.63	1.130									0.76
2/6/2016	Angel Trujillo	54816320	54900072	83,752	0.083752	7.68	1.130									0.79
2/7/2016	Angel Trujillo	54900072	54977848	77,776	0.077776	7.70	1.130									0.73
2/8/2016	Angel Trujillo	54977848	55055624	77,776	0.077776	7.74	1.130									0.73
2/9/2016	Angel Trujillo	55055624	55134636	79,012	0.079012	7.67	1.130									0.74
2/10/2016	Angel Trujillo	55134636	55216114	81,478	0.081478	6.85	1.130	<5.1	<3.4		<0.010	<0.030	<0.010	0.00021	<0.020	0.77
2/11/2016	Angel Trujillo	55216114	55294078	77,964	0.077964	7.81	1.130									0.73
2/12/2016	Angel Trujillo	55294078	55374112	80,034	0.080034	7.79	1.130									0.75
2/13/2016	Angel Trujillo	55374112	55456622	82,510	0.08251	7.09	1.130									0.78
2/14/2016	Angel Trujillo	55456622	55533901	77,279	0.077279	7.70	1.130									0.73
2/15/2016	Angel Trujillo	55533901	55611180	77,279	0.077279	7.60	1.130									0.73
2/16/2016	Angel Trujillo	55611180	55688012	76,832	0.076832	7.76	1.130									0.72
2/17/2016	Angel Trujillo	55688012	55768112	80,100	0.0801	7.46	1.130									0.75
2/18/2016	Angel Trujillo	55768112	55846367	78,255	0.078255	7.81	1.130									0.74
2/19/2016	Angel Trujillo	55846367	55927468	81,101	0.081101	7.75	1.130									0.76
2/20/2016	Angel Trujillo	55927468	56012428	84,960	0.08496	7.56	1.130									0.80
2/21/2016	Angel Trujillo	56012428	56088708	76,280	0.07628	7.70	1.130									0.72
2/22/2016	Angel Trujillo	56088708	56164988	76,280	0.07628	7.90	1.130									0.72
2/23/2016	Angel Trujillo	56164988	56244394	79,406	0.079406	7.80	1.130									0.75
2/24/2016	Angel Trujillo	56244394	56321732	77,338	0.077338	7.74	1.130									0.73
2/25/2016	Angel Trujillo	56321732	56402166	80,434	0.080434	7.71	1.130									0.76
2/26/2016	Angel Trujillo	56402166	56481148	78,982	0.078982	7.57	1.130									0.74
2/27/2016	Angel Trujillo	56481148	56564090	82,942	0.082942	7.81	1.130									0.78
2/28/2016	Angel Trujillo	56564090	56641309	77,219	0.077219	7.80	1.130									0.73
2/29/2016	Angel Trujillo	56641309	56718528	77,219	0.077219	7.76	1.130									0.73
TOTAL				2,297,112	2.297112			<5.1	<3.4		<0.010	<0.030	<0.010	0.00021	<0.020	
			High:	84,960											High:	0.80
			Average:	79,211											Average:	0.75

WW

E
PN

JC 14033

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell Chain Of Custody / Analysis Request

AESI Ref:	42410.53492
COC#	087-WW-021016
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: [redacted]
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list				Sampling Method (code)	Lab Sample Numbers
											Units															
1	087-WW			087-WWE-021016-A	2/10/2016	14:00	WW	WATER	REG	3	comp	N	X	X	X	X			X	X				-1		
2	087-WW			087-WWE-021016-B	2/10/2016	14:05	WW	WATER	REG	5	grab	N					X	X						-2		
3	087-WW			087-WWI-021016	2/10/2016	14:15	WW	WATER	REG	3	grab	N									X			-3		
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

L26
V451
A40
G58

Relinquished by 6.85 s.u. @	7.9°C Company	AMEC Foster Wheeler	Received by	Company		Condition	Custody Seals Intact
Frank Schroyer [signature]	2/10/16 Date/Time		Robert chambers	2-10-16 Date/Time 17:19		Cooler Temp.	
Relinquished by	Company		Received by	Company		Condition	Custody Seals Intact
Robert chambers	2-10-16 Date/Time 17:19		D[signature]	2/10/16 Date/Time 17:19		Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2), 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

OB • VOA QC VIAL

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE
OB

INITIAL ASESSMENT 2A OB
LABEL VERIFICATION NL

I.G 5.0°C

SGS Accutest LabLink@898999 11:34 08-Mar-2016

Report of Analysis

Client Sample ID:	087-WWE-021016-A		
Lab Sample ID:	JC14033-1	Date Sampled:	02/10/16
Matrix:	AQ - Water	Date Received:	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1130	10	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	02/11/16	02/13/16	MS	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.21	0.20	ug/l	1	02/11/16	02/11/16	VM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	02/11/16	02/12/16	MS	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA38713
(2) Instrument QC Batch: MA38723
(3) Instrument QC Batch: MA38728
(4) Prep QC Batch: MP91970
(5) Prep QC Batch: MP91973

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@898871 16:38 07-Mar-2016

Report of Analysis

Client Sample ID:	087-WWE-021016-A		
Lab Sample ID:	JC14033-1	**Date Sampled:**	02/10/16
Matrix:	AQ - Water	**Date Received:**	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	02/11/16	LA	SM2540 D-11
pH [b]	6.97		su	1	02/10/16 17:36	SUB	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 550 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@898871 16:38 07-Mar-2016

Report of Analysis

Client Sample ID:	087-WWE-021016-A		
Lab Sample ID:	JC14033-1A	**Date Sampled:**	02/10/16
Matrix:	AQ - Water	**Date Received:**	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 3.4	3.4	mg/l	1	02/10/16 19:55	LA	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@898999 11:34 08-Mar-2016

Report of Analysis

4.3
4

Client Sample ID:	087-WWE-021016-B		
Lab Sample ID:	JC14033-2	Date Sampled:	02/10/16
Matrix:	AQ - Water	Date Received:	02/10/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T215436.D	1	02/12/16	DC	n/a	n/a	VT8851
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.7	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	5.4	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.093	ug/l	
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	29.8	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.40	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	65.6	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.94	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@898999 11:34 08-Mar-2016

Report of Analysis

Client Sample ID:	087-WWE-021016-B		
Lab Sample ID:	JC14033-2	Date Sampled:	02/10/16
Matrix:	AQ - Water	Date Received:	02/10/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	59.2	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	93%		72-125%
2037-26-5	Toluene-D8 (SUR)	98%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	107%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@898871 16:38 07-Mar-2016

Report of Analysis

Client Sample ID:	087-WWE-021016-B		
Lab Sample ID:	JC14033-2	**Date Sampled:**	02/10/16
Matrix:	AQ - Water	**Date Received:**	02/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	02/11/16 10:00	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Contractor only.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groudnwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.

SA-6 North/South Field Change Log - Month Ending March 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The final grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 13 OF 25

- **2016 Monthly Reports Part 2**

5/12/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

May 12, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-04

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from April 1 – April 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: April 2016 SA-6/7 Combined Monthly Progress Report No. 2016-04

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC (electronic copy)
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-04

Project SA-6 & 7 Remediation

April 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
04/12/16	Design Change Bulletin: Horizon B and Horizon C Planting Soils Study Area 6 Jersey City, NJ	Alicia Alcorn Terris, Pravlik & Millian
04/13/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-03	Honorable Robert G. Torricelli Office of the Special Master
04/18/16	Request for Recertification for Soil Erosion and Sediment Control Plan Certification Imported Novartis Fill Stockpile – Study Area 6 Block 21901 Lot 6, 7, and 8 Jersey City, NJ	Mr. Glen Van Olden Hudson-Essex-Passaic Soil Conservation District (HEPSCD)
04/18/16	Spark Testing of Liner Boots Response to Comments Study Area 6 North Jersey City, NJ	Alicia Alcorn Terris, Pravlik & Millian
4/19/2016	Surcharge Monitoring Plan – Monthly Report No. 16 Study Area 6 North and South Jersey City, NJ	Honorable Robert G. Torricelli Office of the Special Master
04/19/16	Special Master Conference Call	N/A
04/20/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440 Jersey City, NJ	Andy Caltagirone Passaic Valley Sewerage Commission
04/21/16	Design Change Bulletin: Horizon B and Horizon C Planting Soils New Sources of Imported Fill Identification Study Area 6 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master

B. SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	4/3/16	4/10/16	4/17/16	4/24/16	5/1/16
Construction Management (AMEC)	9	9	8	8	7
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	26	26	27	25	25
Arecon/US Ecology Subcontractors	0	2	0	0	0
Eglentowicz (Demolition)	0	1	0	5	5
Century	0	1	1	0	0
Evoqua	1	1	1	1	1
B&B Drilling	0	0	0	1	1
Cornerstone	0	0	0	0	0
TOTAL STAFF	**41**	**45**	**42**	**45**	**44**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected April PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Conducted 6-month performance assessment soil sampling from the in-situ treatment area TA-10-1 in accordance with the updated Work Plan, dated August 2015 for the in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils. Results submitted to all Parties on May 5, 2016.
- Completed demolition activities associated with 60/72 Kellogg to include demolition, loadout of demolition debris, and demolition of the above grade slab. Restoration of the site is pending evaluation of the analytical results of a sample of suspect material observed at one timber pile location below the former building slab.
- Reinstalled JCMUA water main vault and completed valve connection associated with the JCMUA water line.
- Completed S-3 Mass Removal Injection Event No. 28 in well 088-IW-03.

C. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned upstream process (tank 201 and tank 202) pH probes, and tank 201.
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on April 12, 2016.
- Continued piping layout plans for routing the Contingent Groundwater Extraction System force mains from SA-6 North and South to the existing GWTP Neutralization Tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	4/3/16	4/10/16	4/17/16	4/24/16	5/1/16
Avg. Gallons Treated & Discharged (per day)	78,240	79,310	79,016	77,790	78,493
Average Flow (gpm) for Operating Period	57	57	57	58	56
Avg. Hours of Plant Operation	23	23	23	23	23
GWTP Influent Tanks (gal.)	4,322	3,806	4,492	3,816	5,500

D. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Contractor completed abandonment of 3 monitoring wells (087-MW-14, 087-MW-130T, and 087-MW-OBS-6D).
- Completed backfilling of EA-2/EA-3 excavation area.
- Placed flowable concrete within the vault on the north side of the JCIA trash pit to an elevation of approximately +5.0 msl.
- Continued backfilling the SA-6 North CGWES pipeline and installed the risers on manholes.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Eglentowicz/F Rover & Sons	Roll-off	Harrison, NJ	Rover & Sons Recycling Yard	Metal	4	6.9	27.63
Eglentowicz/ Evergreen Recycling	Roll-off	Newark, NJ	Evergreen Recycling Solutions	Concrete	21	19.45	408.55
Eglentowicz/ Evergreen Recycling	Roll-off	Newark, NJ	Evergreen Recycling Solutions	C&D Debris	8	16	127

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation Site 163 Complete - Total for Reporting Period (Site 163): 225 CY/ Total: 7,132.5 CY Excavation SA-6 North Complete - Total to Date (SA-6 North): 39,443 CY
Backfill in Progress	EA-2/EA-3, SA-6 South Utility Corridor (B Street)

3. BACKFILL MATERIALS USED

Source	Week Ending				
	4/3/16	4/10/16	4/17/16	4/24/16	5/1/16
Natures Choice Horizon C	0	0	01,141.83	1,381.44	3,322.93
Tilcon Mount Hope I-8	0	0	0	1,838	2,633.5
Natures Choice Topsoil	0	0	00	0	271.4

- Historic fill soils identified to be < 20 mg/kg hexavalent chromium were placed as backfill in EA-2/EA-3.
- Screened Celgene material was removed from the SA6-South open space area during grading of the protective cover soils. Approximately 160 cubic yard was removed from the cap area and transferred to the Celgene stockpile area.

E. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.

- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharging and offloading of surcharge material is complete.
- Area 4N: Surcharging and offloading of surcharge material is complete.

F. SHEET PILE OPERATIONS

- Completed grouting Hydraulic Barrier Wall interlocks on SA-6 North.

G. CAPPING OPERATIONS

- Completed repairs to exposed GDL on west side of the SA-6 South Cap.
- Regraded the GDL cover soil in GDL repair areas on the west side of the SA-6 South cap to include associated compaction testing. In addition, the underlying exposed root barrier on the west side of the cap was replaced.
- Began importing and placing Horizon C soils to include associated compaction testing and placement of underlying root barrier and demarcation tape.
- Began SA-6 North cap subgrade construction activities.
- Continued placement of Structural Fill Material in the SA-6 South Cap Area corridor (B Street).

H. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012	Renewal Not Needed	2/21/2016	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

I. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Continue placement of Horizon C and begin importing and placing Horizon B soils.
- Continue SA-6 North cap subgrade construction activities.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Continue to develop CGWES piping layout plans for connection to GWTP Neutralization Tank.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

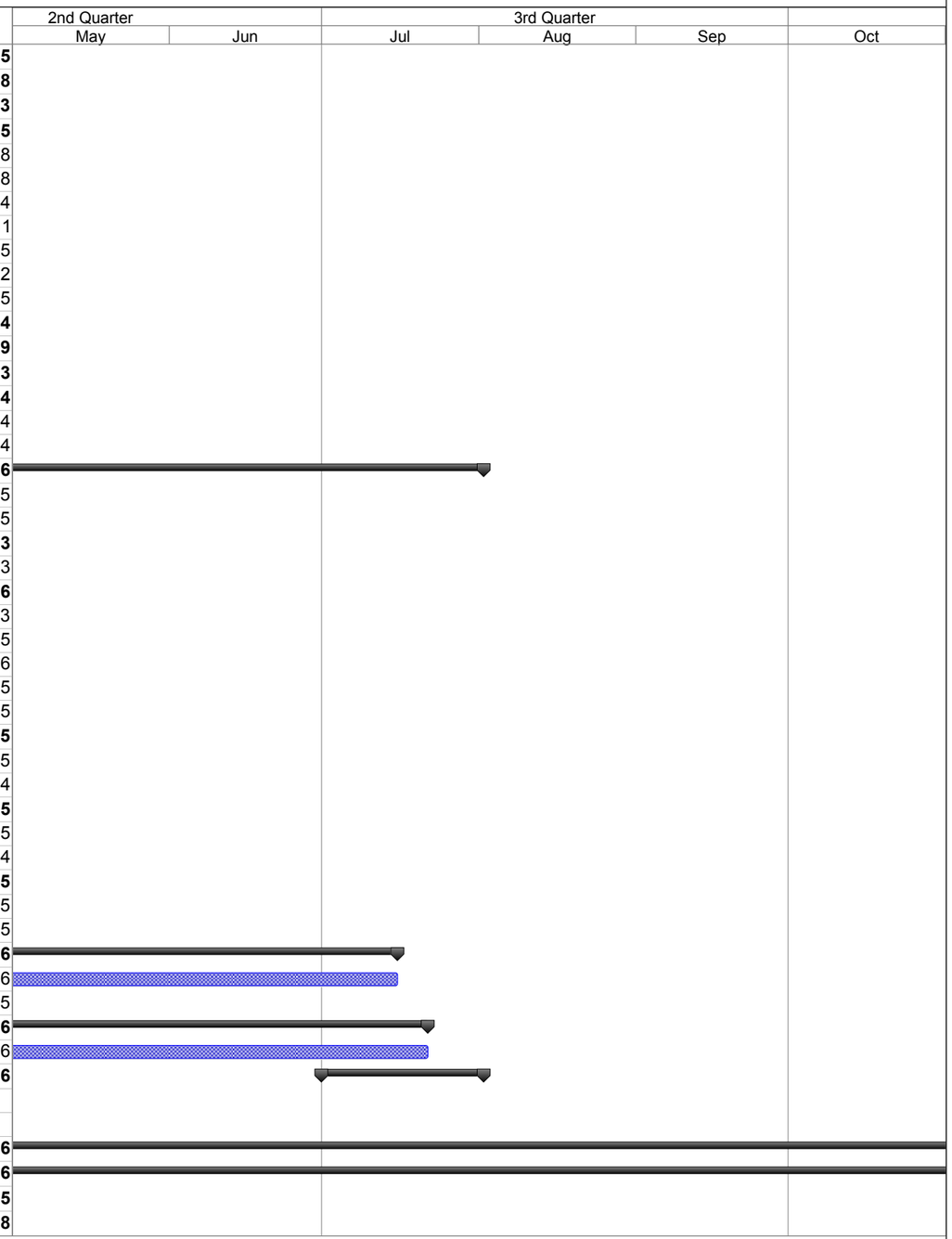
Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

amec foster wheeler

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 5/03/16

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Delivery of Horizon C Material at SA-6 South.



Site Photograph 2: Demolition of 60 Kellogg Building SA-6 South.



Site Photograph 3: Grading Cover Soils on SA-6 South Cap.



Site Photograph 4: Reinstallation of the JCMUA Water Meter Valve Box.



Site Photograph 5: Removal of Surcharge Material at JC Properties.



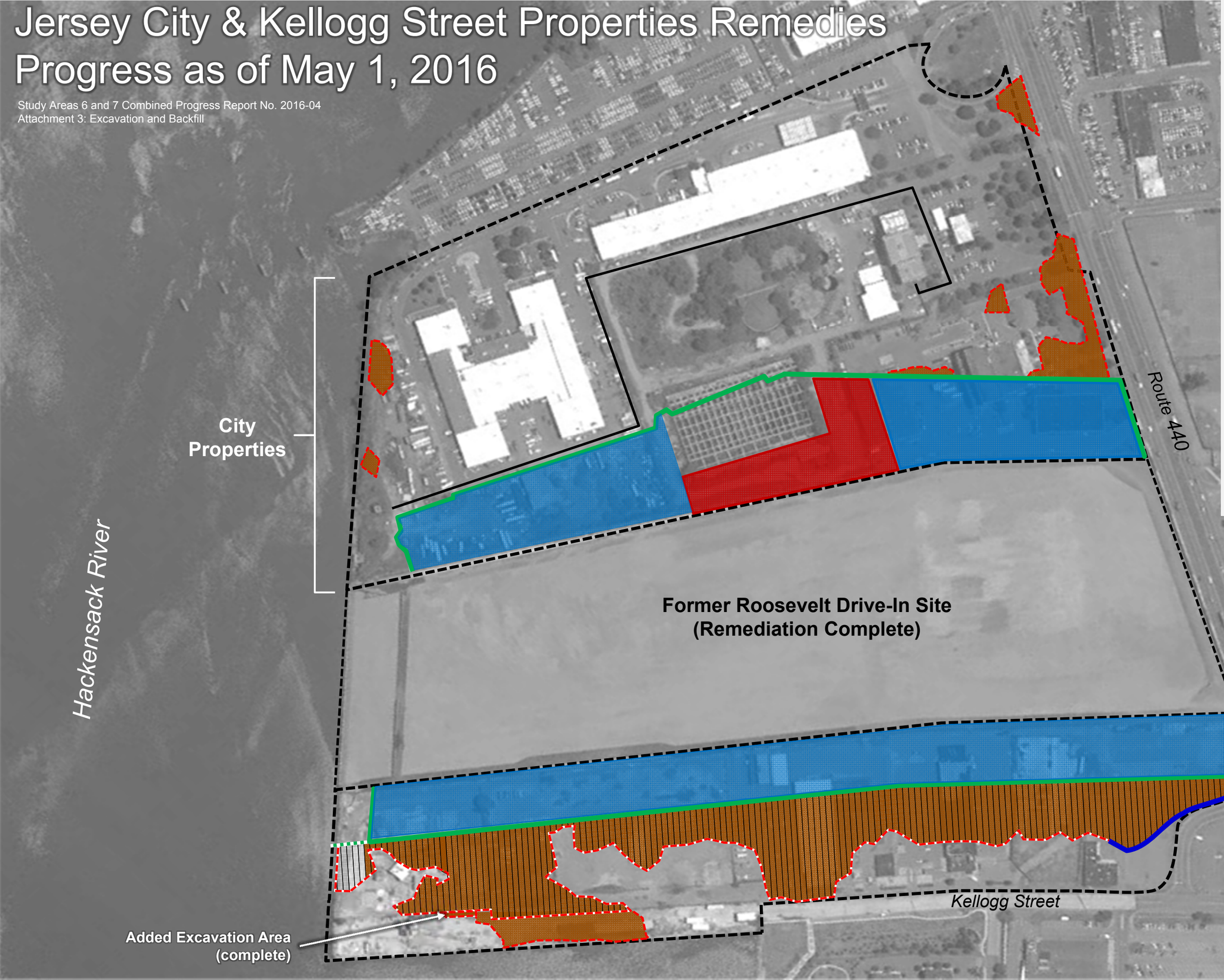
Site Photograph 6: Restoration of EA-3 at JC Properties.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of May 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-04
Attachment 3: Excavation and Backfill



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

Attachment 4: Dewatering Operations Update

STUDY AREA 6 DEWATERING DATA (HEADERS)

DATE	VAC PLANT NUMBER	HOURS OF OPERATION	ACTIVE HEADERS*	# OF ACTIVE WELLPOINTS	VAC PLANT FLOW METER START (Gal)	VAC PLANT FLOW METER FINISH (Gal)	EXTRACTED VOLUME (Gal) DAILY	EXTRACTED VOLUME (Gal) TOTAL	AVERAGE FLOW RATE (gpm)	COMMENTS
03/01/16	1	24	22,23,24	3	N/A	N/A	500	3,191,972	0.3	
03/02/16	1	24	22,23,24	3	N/A	N/A	1,000	3,192,972	0.7	
03/03/16	1	24	22,23,24	3	N/A	N/A	1,000	3,193,972	0.7	System Offline for Excavation

Notes: Site 163 Excavation was completed and the system was turned off.
The information of the final month of operation is provided.

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

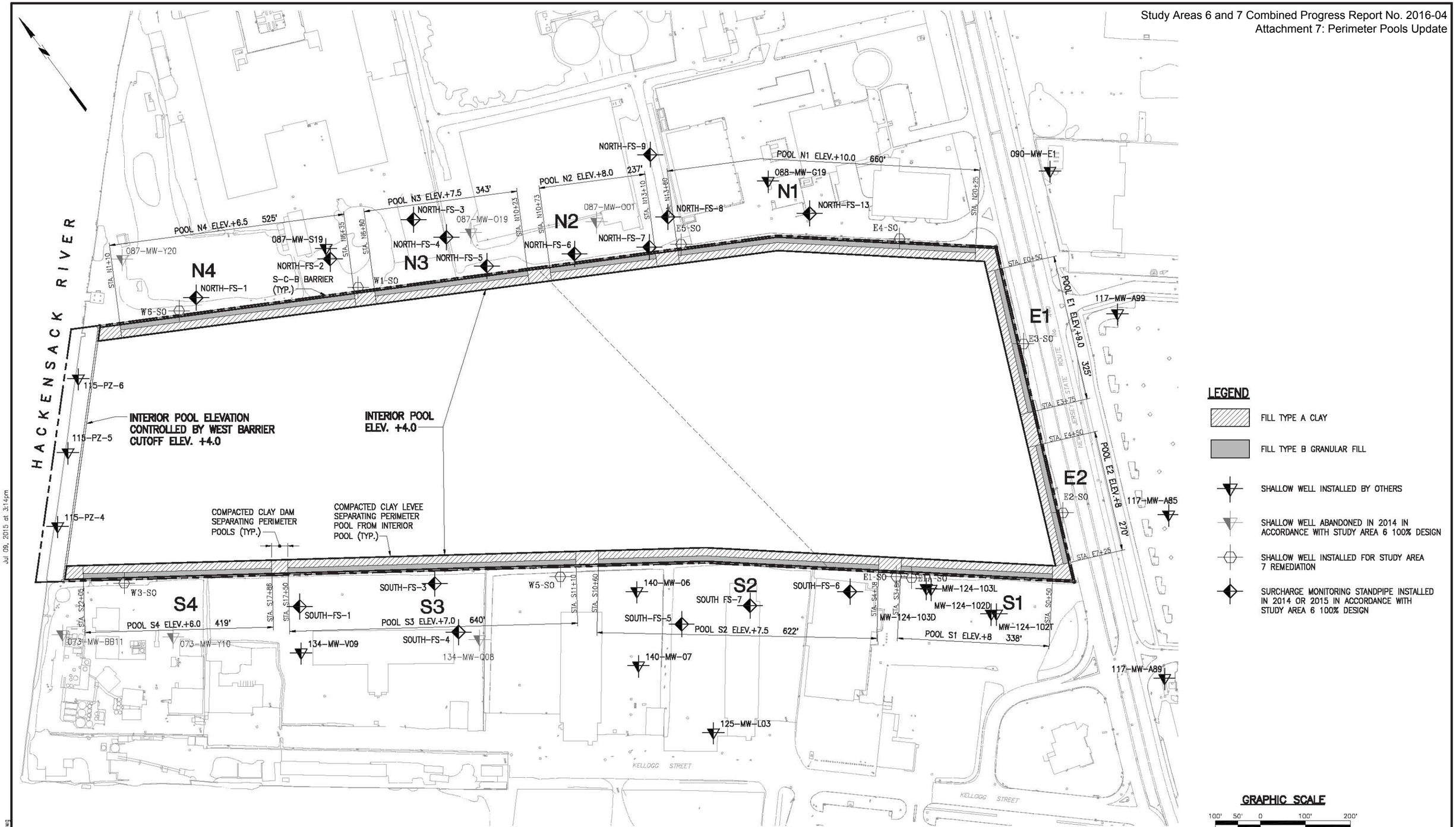
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
02/29/16	6:30	15:15	8:45	41,227.51	41,400.89	173,380	41,257,040	
03/01/16	7:00	15:30	8:30	41,400.89	41,493.59	92,700	41,349,740	
03/02/16	7:00	14:00	7:00	41,493.59	41,607.89	114,300	41,464,040	
03/03/16	7:30	12:15	4:45	41,607.89	41,671.38	63,490	41,527,530	
03/04/16	7:30	15:00	7:30	41,671.38	41,722.53	51,150	41,578,680	
03/05/16	9:00	15:00	6:00	41,722.53	41,782.88	60,350	41,639,030	
03/07/16	8:30	15:30	7:00	41,782.88	41,826.70	43,820	41,682,850	
03/10/16	9:00	15:00	6:00	41,826.70	41,955.66	128,960	41,811,810	PVSC Compliance Sample Collected
03/11/16	9:00	14:45	5:45	41,955.66	42,015.16	59,500	41,871,310	
03/15/16	8:00	16:00	8:00	42,015.16	42,113.22	98,060	41,969,370	
03/16/16	10:15	13:15	3:00	42,113.22	42,181.63	68,410	42,037,780	
03/17/16	7:30	15:00	7:30	42,181.63	42,268.80	87,170	42,124,950	
03/18/16	8:00	12:30	4:30	42,268.80	42,308.01	39,210	42,164,160	
03/21/16	7:30	13:00	5:30	42,308.01	42,352.43	44,420	42,208,580	
03/22/16	7:30	14:00	6:30	42,352.43	42,406.76	54,330	42,262,910	
03/23/16	12:00	15:15	3:15	42,406.76	42,437.75	30,990	42,293,900	
03/24/16	7:30	13:00	5:30	42,437.75	42,475.64	37,890	42,331,790	
03/28/16	7:30	15:30	8:00	42,475.64	42,517.63	41,990	42,373,780	
03/30/16	7:30	14:00	6:30	42,517.63	42,566.76	49,130	42,422,910	
03/31/16	10:00	13:30	3:30	42,566.76	42,598.54	31,780	42,454,690	
04/01/16	10:00	14:00	4:00	42,598.54	42,638.28	39,740	42,494,430	
04/08/16	8:00	12:00	4:00	42,638.28	42,688.87	50,590	42,545,020	PVSC Compliance Sample Collected
04/13/16	12:00	15:00	3:00	42,688.87	42,734.89	46,020	42,591,040	
04/19/16	8:00	13:00	5:00	42,734.89	42,802.71	67,820	42,658,860	
04/22/16	11:00	15:00	4:00	42,802.71	42,847.64	44,930	42,703,790	
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,769,050	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

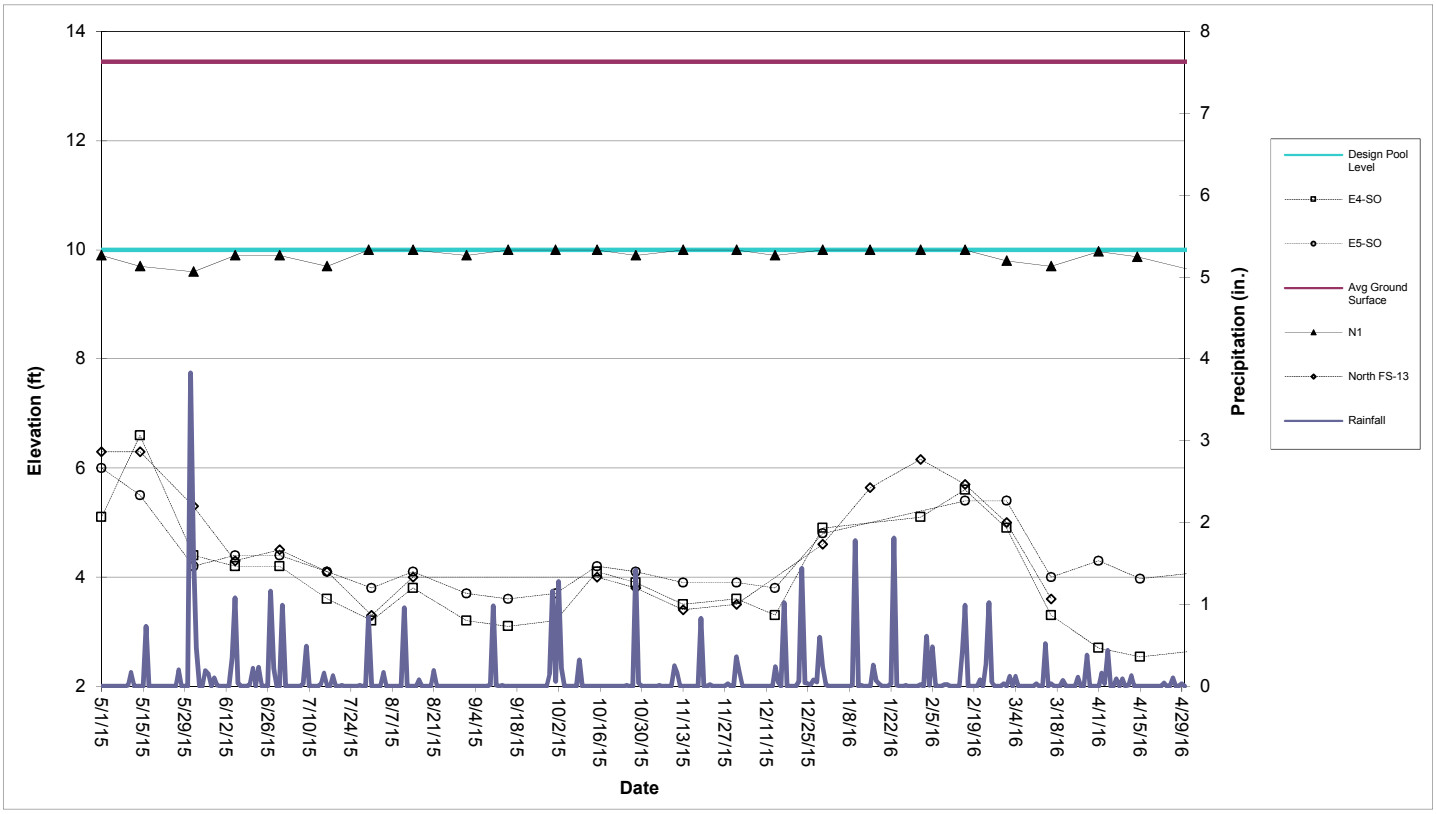
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

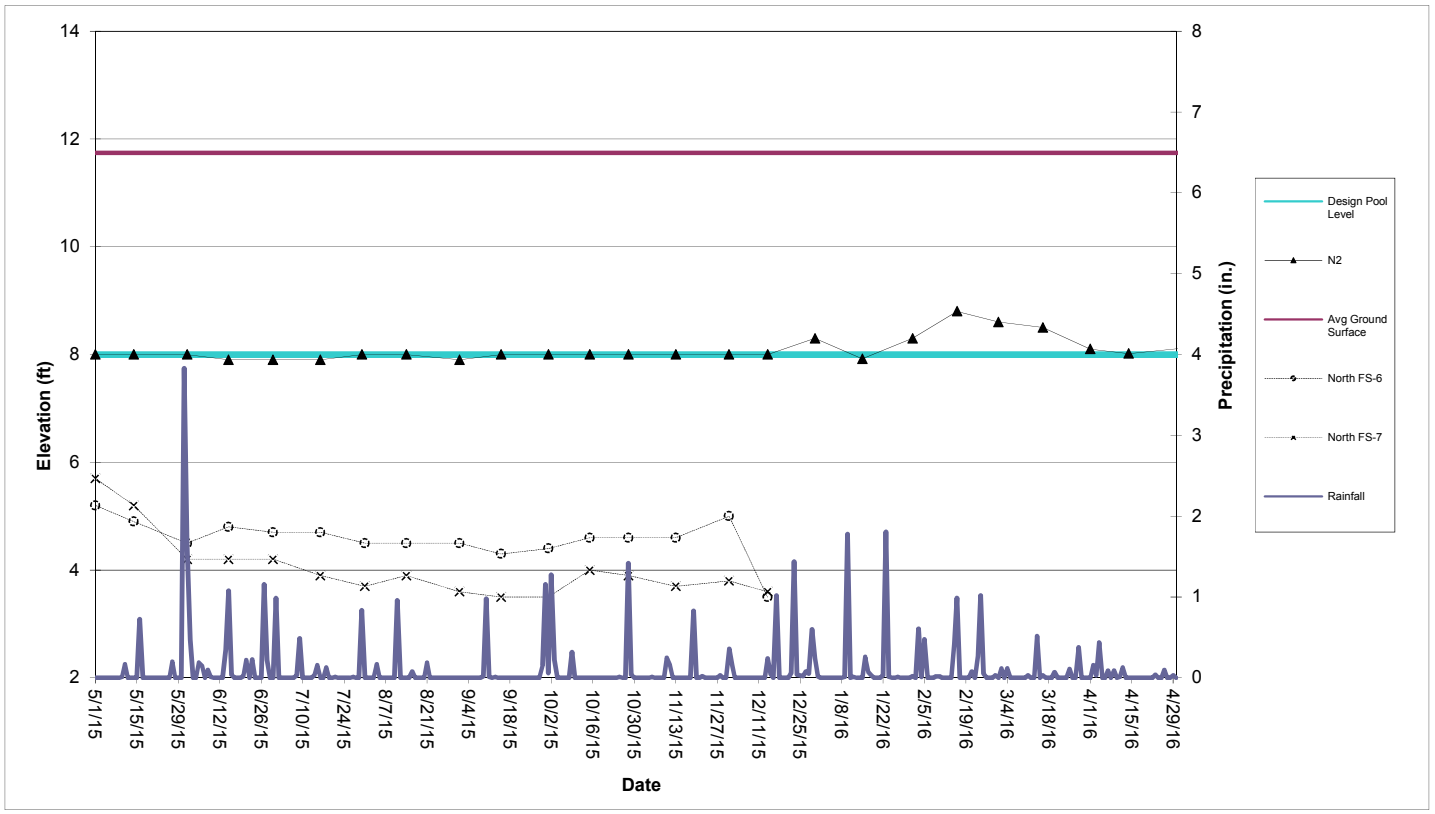
Jul 09, 2015 at 3:14pm

G:\DWGS\102\10210\Dewatering\PP-1.dwg

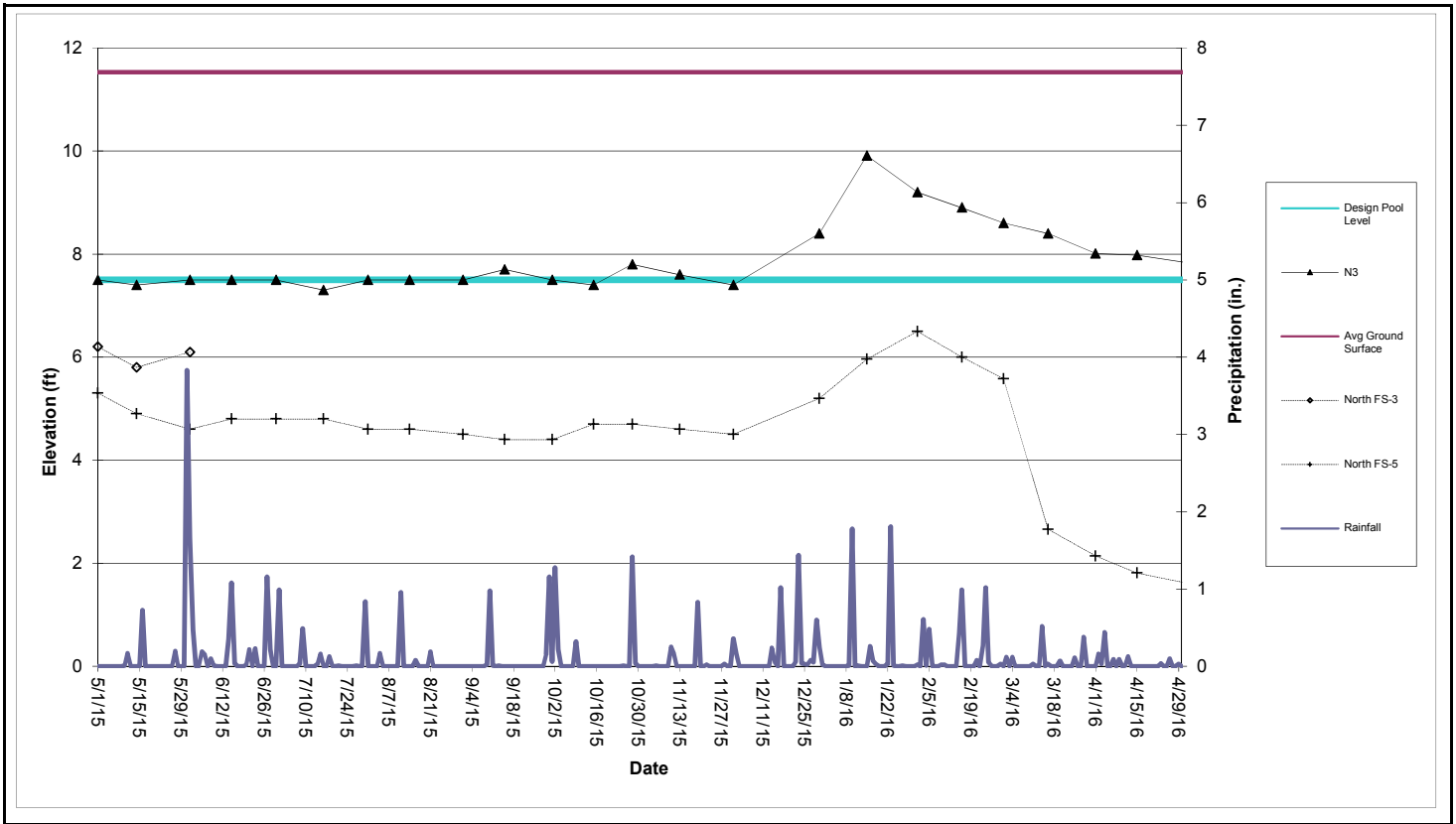
bboscaino



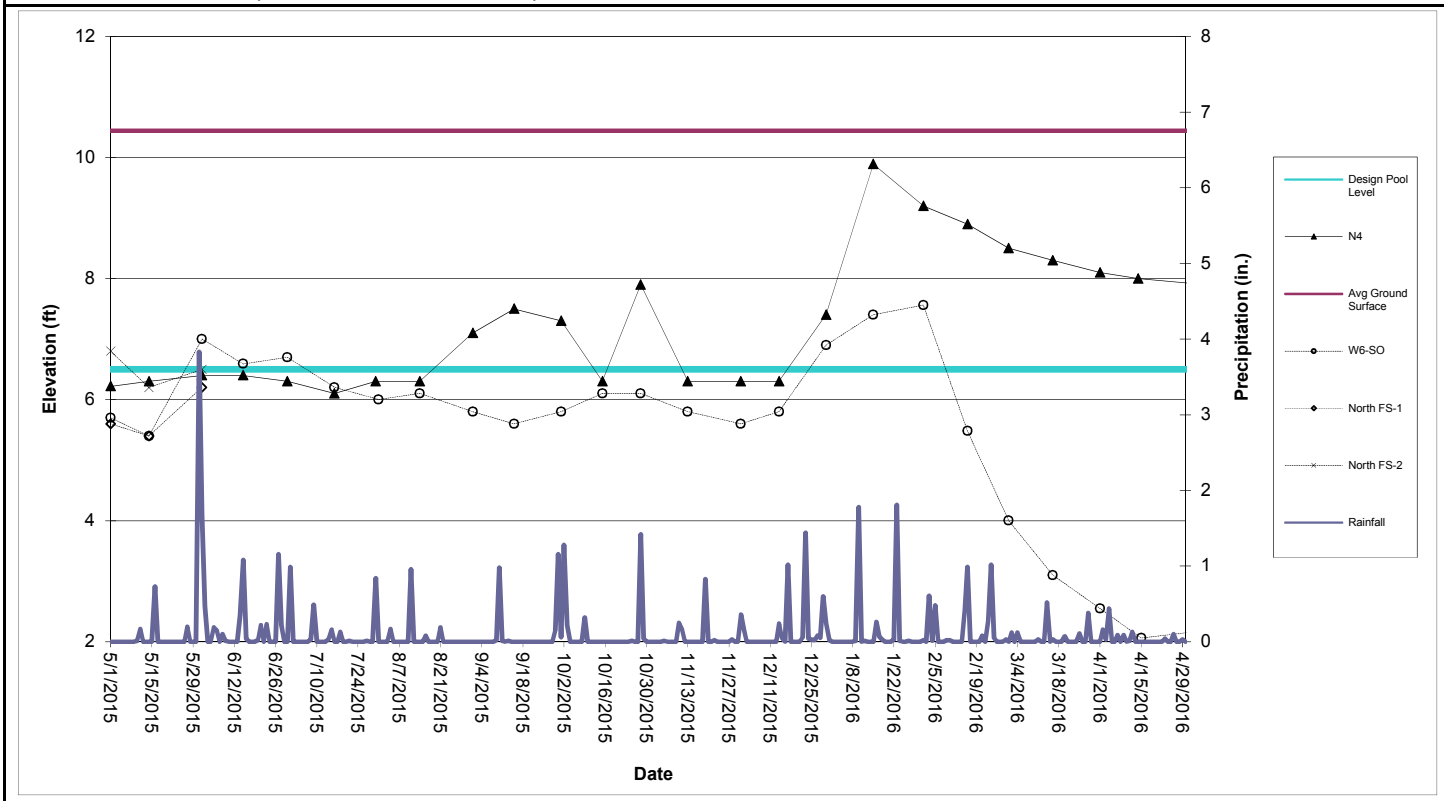
Perimeter Pool N1 (Sta. N13+60 to N20+25)



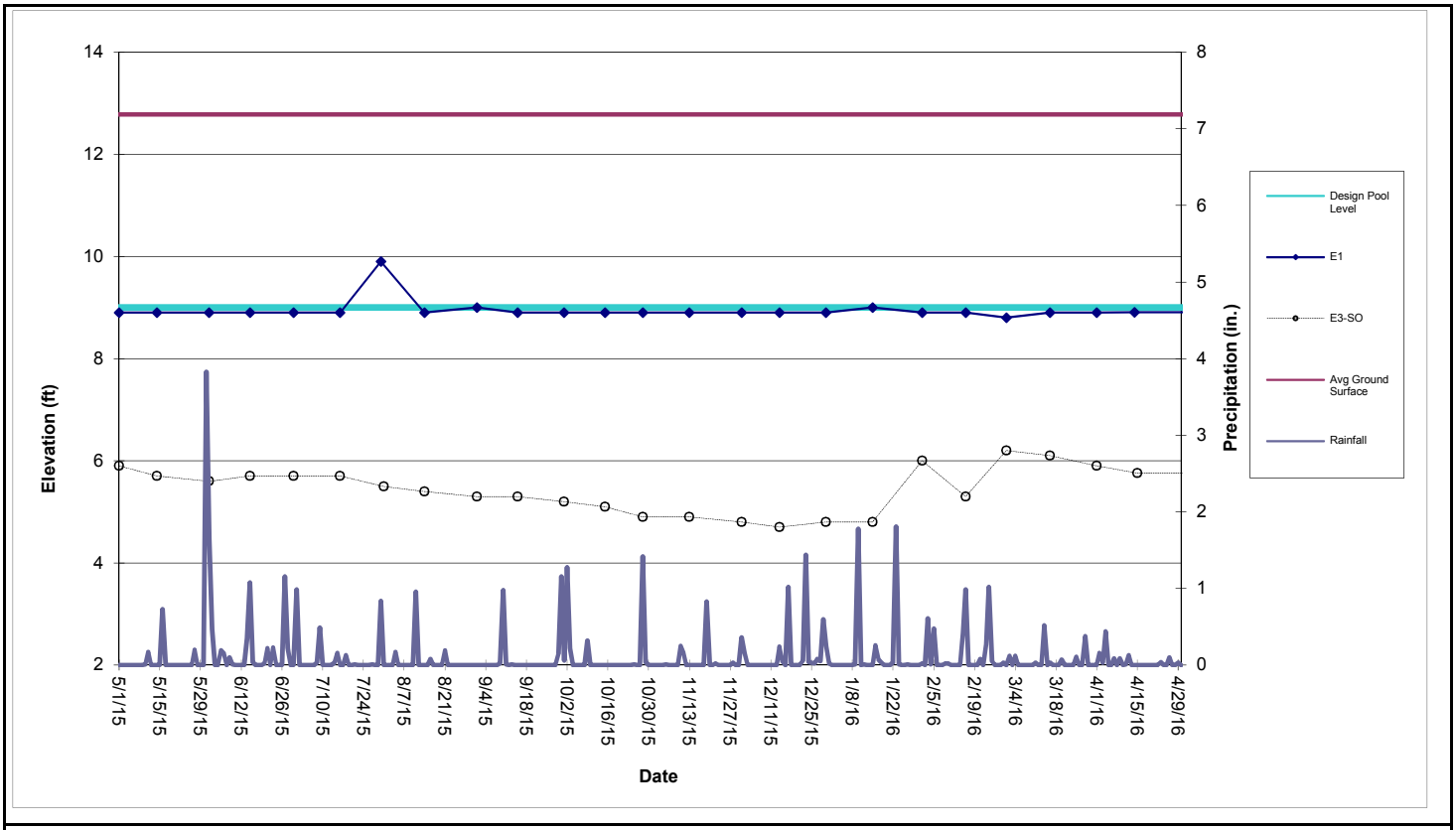
Perimeter Pool N2 (Sta. N10+73 to N13+10)



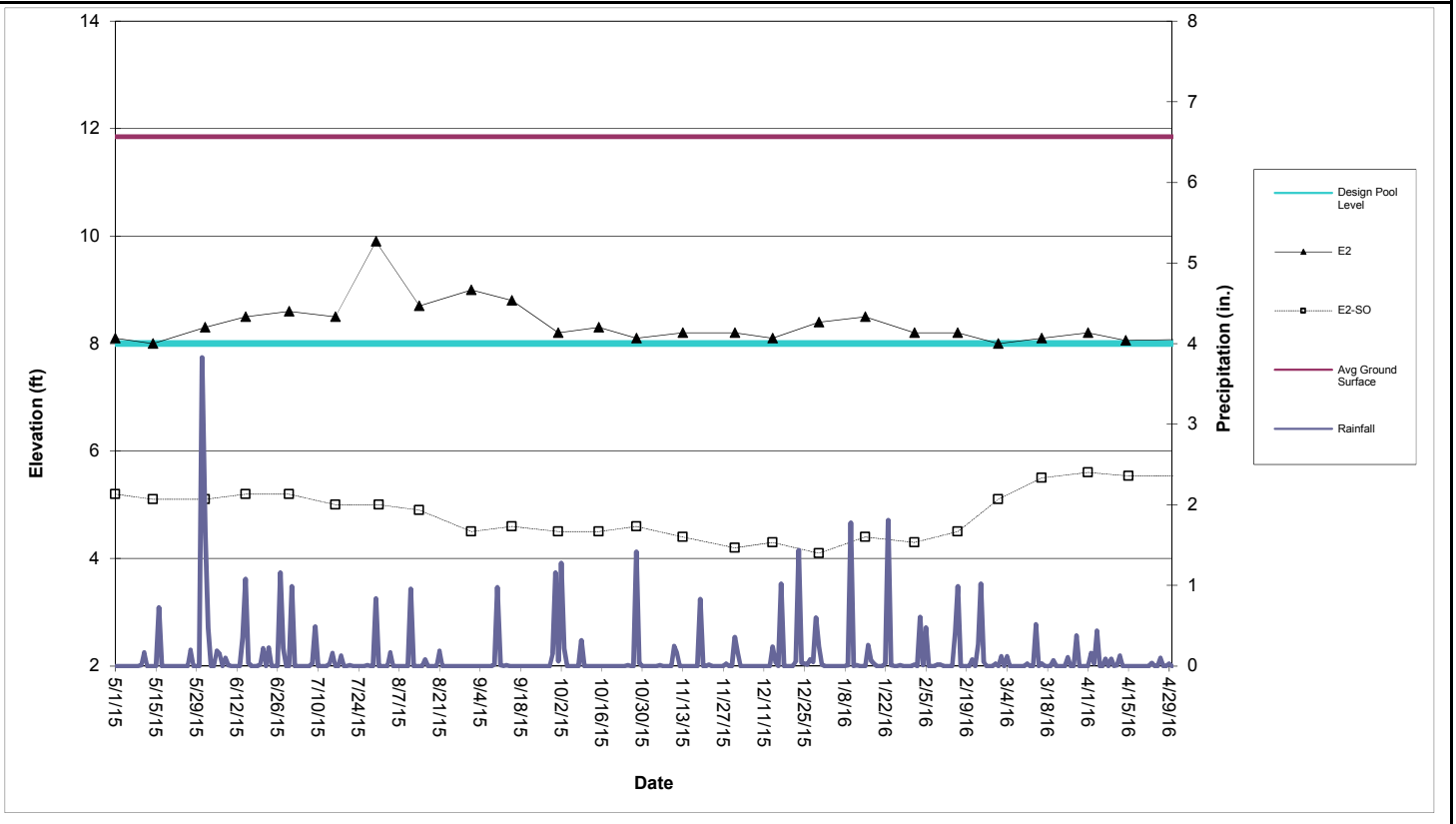
Perimeter Pool N3 (Sta. N6+80 to N10+23)



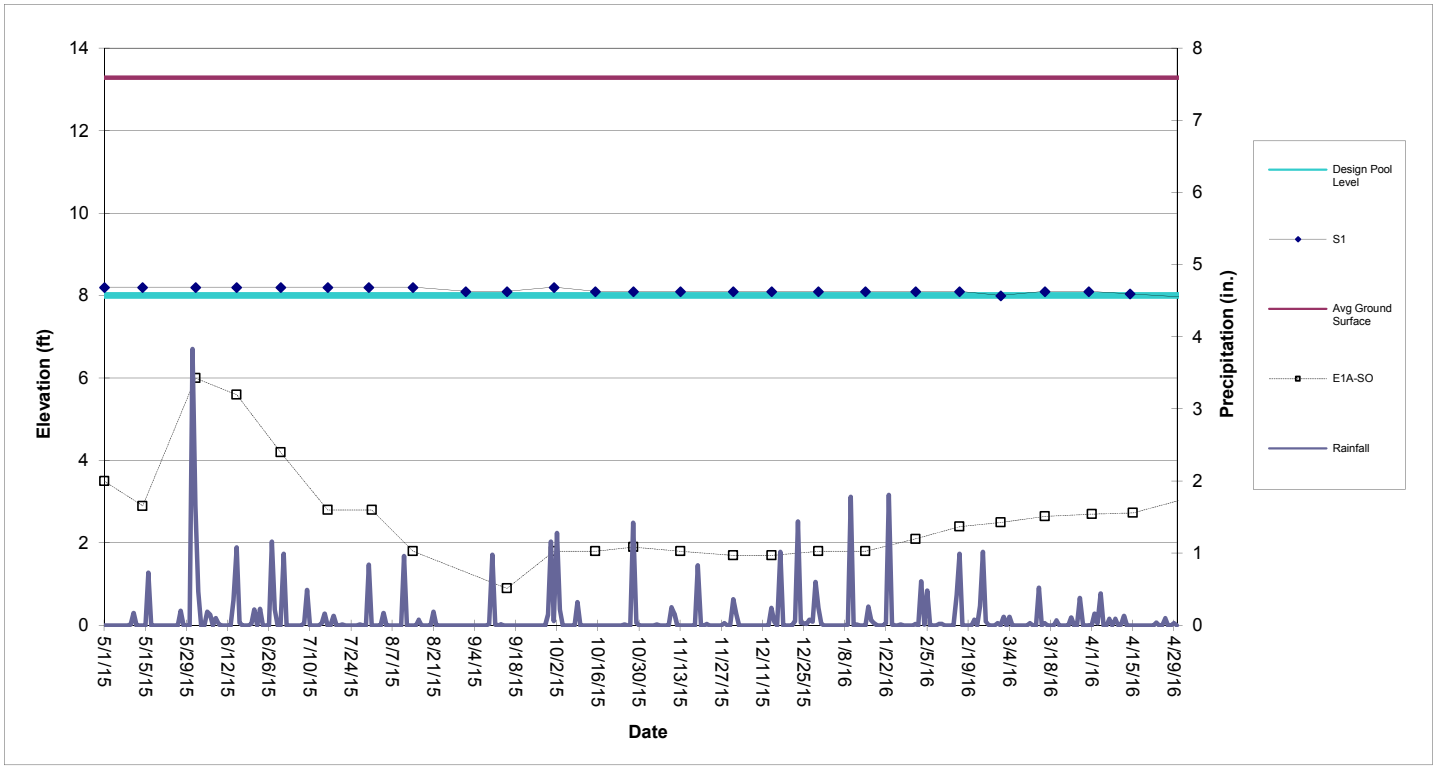
Perimeter Pool N4 (Sta. N6+80 to N10+23)



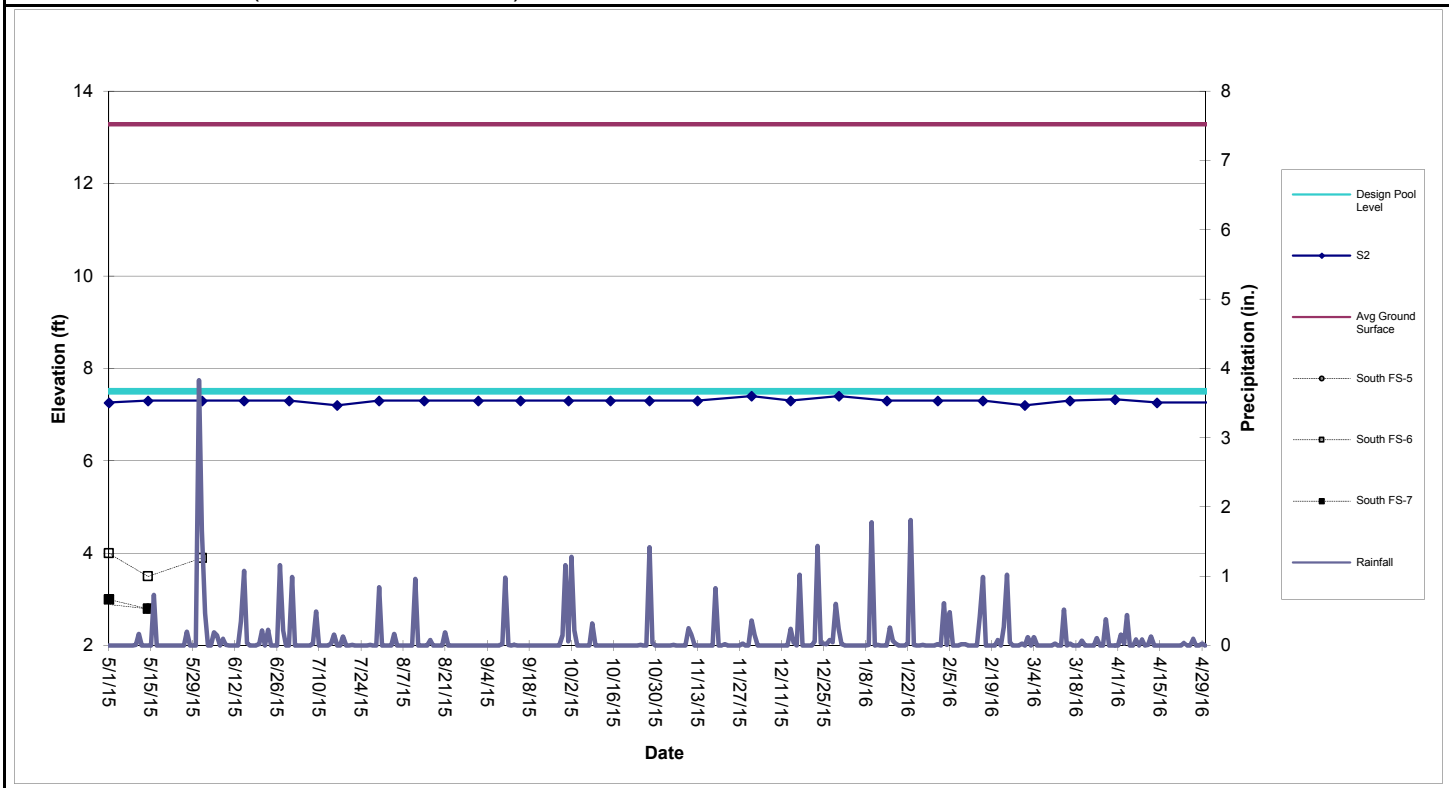
Perimeter Pool E1 (Sta. E0+50 to E3+75)



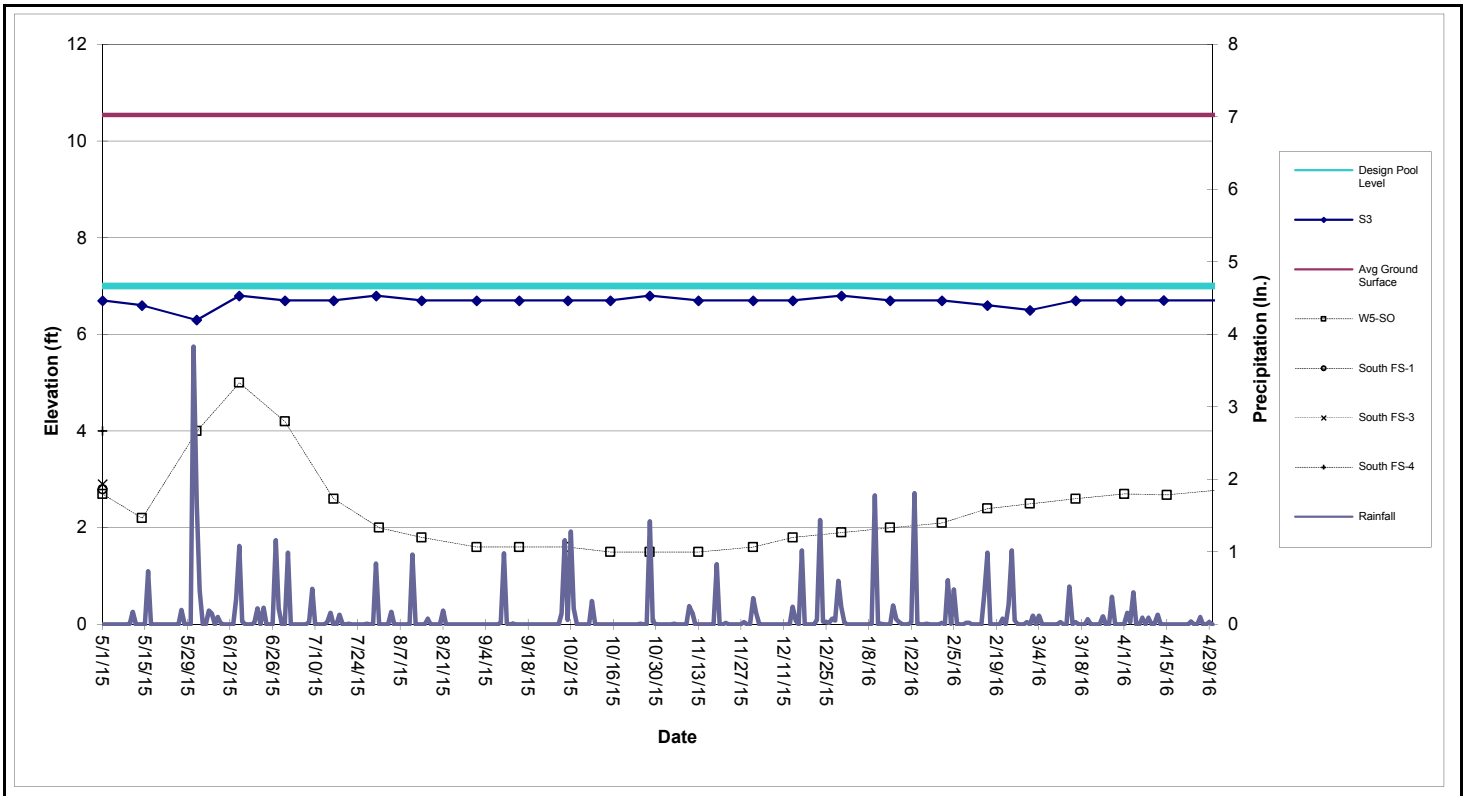
Perimeter Pool E2 (Sta. E4+50 to E7+25)



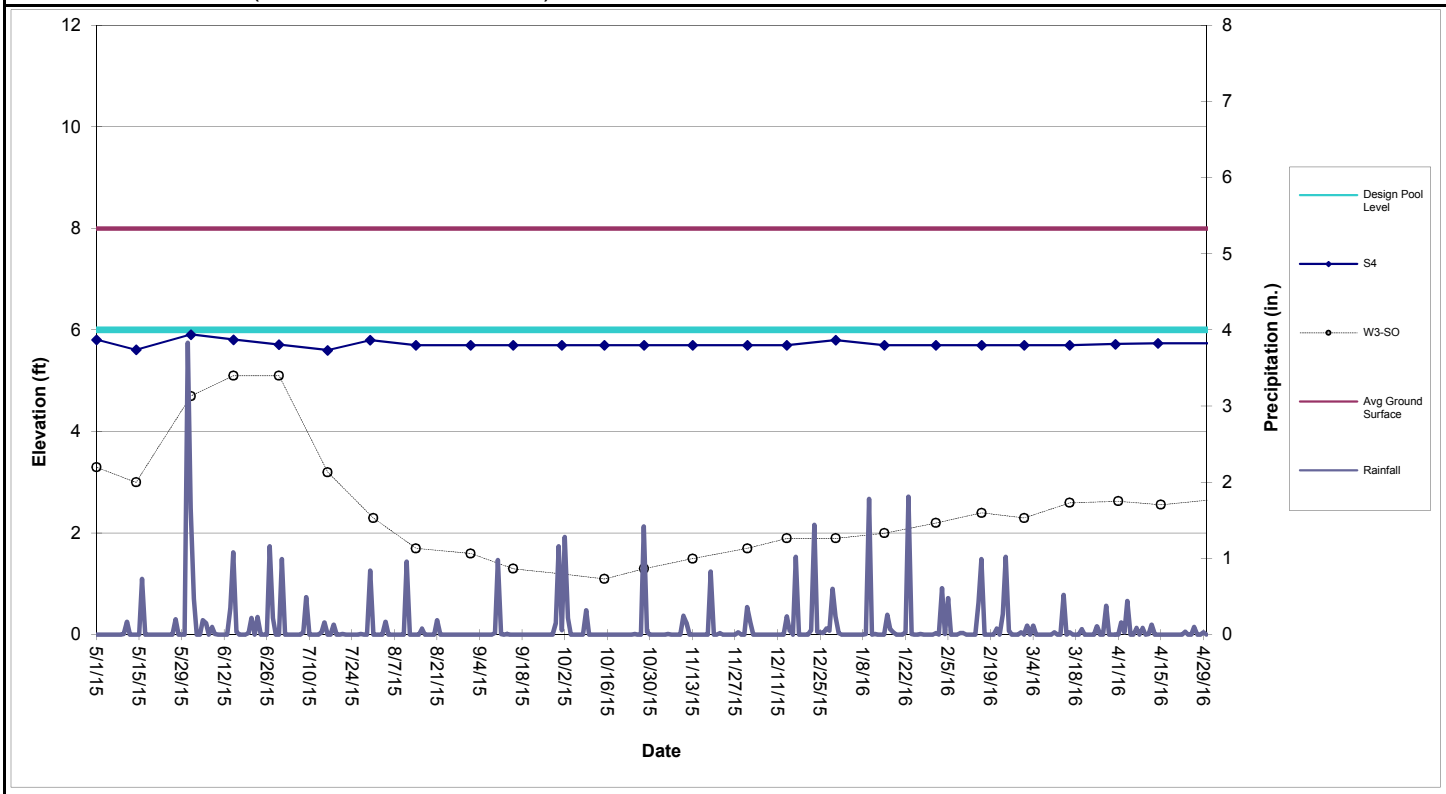
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
5/1/2015	3.5	5.2	5.9	5.1	6.0		3.3	2.7	5.7	5.6	6.8	6.2	5.3	5.2	5.7	6.3	2.8	2.9	4.0		4.0	3.0
5/14/2015	2.9	5.1	5.7	6.6	5.5		3.0	2.2	5.4	5.4	6.2	5.8	4.9	4.9	5.2	6.3				2.8	3.5	2.8
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0				5.6			5.0						
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1				2.7			3.6						
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6				2.1									
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1				1.8									

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09, E4-SO, W1-SO, North FS-6, North FS-7

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

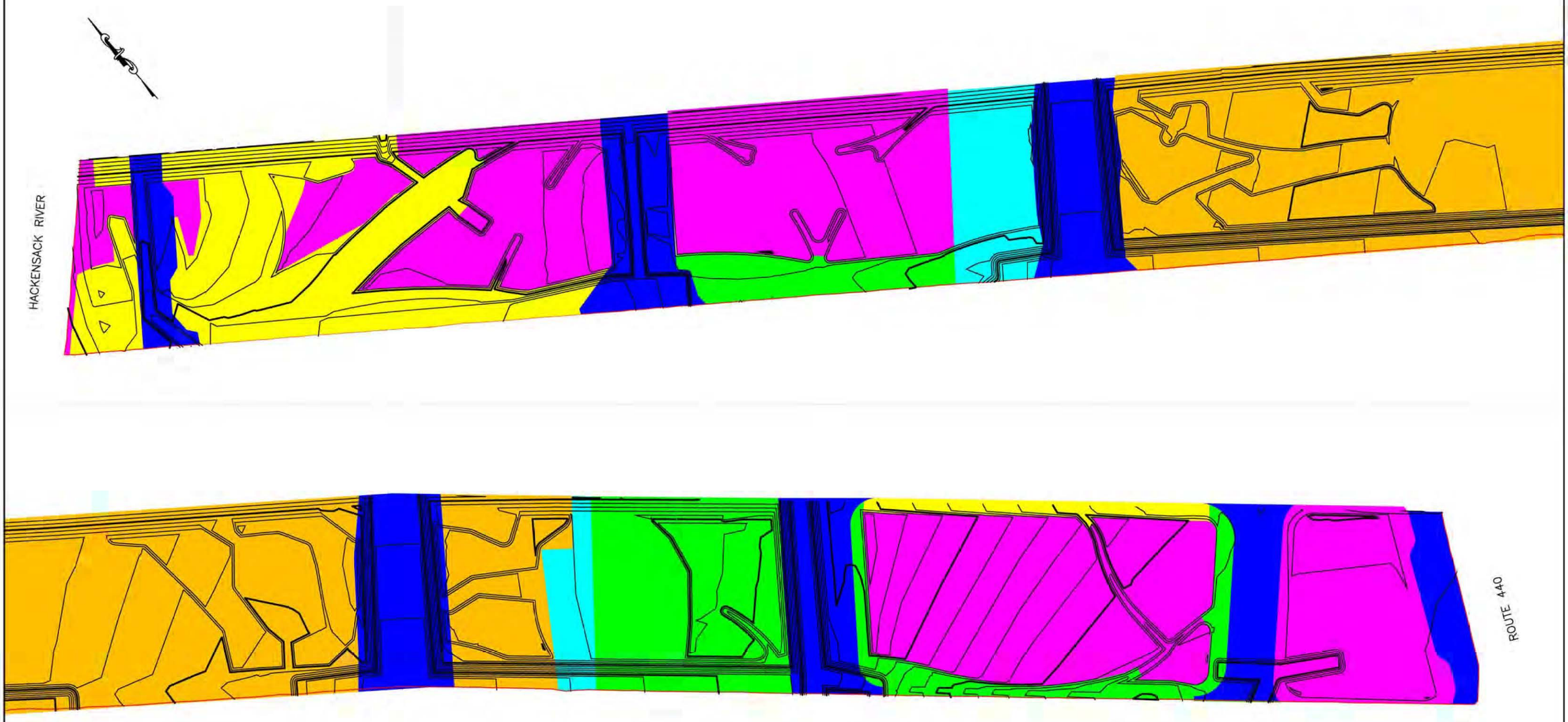
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update



LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- HORIZON C PLACED TO FINAL HORIZON C GRADE
- HORIZON C PLACED AND PREPARED FOR HORIZON B
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
05/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 1, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/01/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 01, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence along the western end of Kellogg Street requires maintenance or replacement.
2	IA2Q4A1AL8	Windscreen on the perimeter fence in the vicinity of the 60 Kellogg building requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: [signature] Signature

Date: 04/01/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence along the north side of the western end of Kellogg Street as required.	4/7/16 RAD
2	Repair or replace the windscreen on the perimeter fence by the 60 Kellogg building as required.	too windy Safety Hazard

Construction Manager: [signature]

Date: 04/07/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 8, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/08/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 08, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric is missing from a catch basin at the western end of Kellogg Street.
2	IA2Q4A1AL8	Windscreen on the perimeter fence bordering the JCMUA complex requires maintenance or replacement.
3	IA2Q4A1AL8	Trash and debris are present in the Rt. 440 pedestrian walkway on the east side of SA-6 North.
4	IA2Q4A1AL8	Mud and sediment have accumulated on the northern SA-7 paved haul road

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 04/08/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric as required.	4/11/16 RAD
2	Repair or replace the windscreen on the perimeter fence as required.	
3	Remove trash and debris as required.	
4	Clean the northern SA-7 haul road and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ Date: 04/13/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 15, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2,3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/18/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 15, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Trash and debris are present along the outside of the perimeter fence on Kellogg Street and on the Kellogg Street jughandle.
2	IA2Q4A1AL8	Silt fence material is not properly toed in along the southern perimeter of the 1-N surcharge area. This silt fence is located on SA-7.
3	EEPSQUO2YB	Silt fence surrounding the Novartis Stockpile Area requires maintenance.
4	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 04/18/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove and dispose of accumulated trash and debris.	CAD 4/21/16
2	Toe in or replace silt the silt fence along the south side of the 1-N Surcharge Area as required.	
3	Repair or replace the existing silt fence surrounding the Novartis Stockpile Area as required.	
4	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ **Date:** 04/21/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 22, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/22/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, April 22, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Trash and debris are present along the outside of the perimeter fence on Kellogg Street and on the Kellogg Street jughandle.
2	IA2Q4A1AL8	Windscreen fabric has become detached from the perimeter fence which borders the MUA complex on SA-6 North.
3	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: 04/22/16 **Date:**

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove and dispose of accumulated trash and debris.	4/28/16 (RAD)
2	Reattach or replace the windscreen on the fenceline between SA-6 North and the JCMUA parking lot.	
3	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: **Date:** 04/28/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: April 28, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 04/28/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Thursday, April 28, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Silt fence on SA-6 South along Kellogg Steet (to the west of the old guard house) requires maintenance or replacement.
2	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION
Facility Location: Jersey City, New Jersey
SWAP Observer: _____ Date: 04/28/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace silt fence as required. Toe in the silt fence properly.	5/6/16 RAD
2	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area	V

Construction Manager: _____ Date: 05/04/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted April 2015)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

April 20, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the March 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
3	01	16	3	31	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,969	86,966 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.51	0.56	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00032	0.00032	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1750	0.1750	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

04/19/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
3	01	16	3	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,448,028 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 59,166,556

DATE	BOD (mg/l)	TSS (mg/l)
3/15/2016	<10	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J Morris MC	John J. Morris	(973) 455-4003
		DATE 04/19/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)						MONTH: March 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
3/1/2016	Angel Trujillo	56718528	56794115	75,587	0.075587	7.79	0.773									0.49
3/2/2016	Angel Trujillo	56794115	56874850	80,735	0.080735	7.13	0.773									0.52
3/3/2016	Angel Trujillo	56874850	56957046	82,196	0.082196	7.35	0.773									0.53
3/4/2016	Angel Trujillo	56957046	57034950	77,904	0.077904	7.28	0.773									0.50
3/5/2016	Angel Trujillo	57034950	57121916	86,966	0.086966	7.51	0.773									0.56
3/6/2016	Angel Trujillo	57121916	57196317	74,401	0.074401	7.20	0.773									0.48
3/7/2016	Angel Trujillo	57196317	57270718	74,401	0.074401	7.34	0.773									0.48
3/8/2016	Angel Trujillo	57270718	57351070	80,352	0.080352	7.25	0.773									0.52
3/9/2016	Angel Trujillo	57351070	57428662	77,592	0.077592	7.16	0.773									0.50
3/10/2016	Angel Trujillo	57428662	57511584	82,922	0.082922	7.15	0.773									0.53
3/11/2016	Angel Trujillo	57511584	57590534	78,950	0.07895	7.20	0.773									0.51
3/12/2016	Angel Trujillo	57590534	57670542	80,008	0.080008	7.10	0.773									0.52
3/13/2016	Angel Trujillo	57670542	57750550	80,008	0.080008	7.02	0.773									0.52
3/14/2016	Angel Trujillo	57750550	57826060	75,510	0.07551	7.47	0.773									0.49
3/15/2016	Angel Trujillo	57826060	57902698	76,638	0.076638	6.94	0.773	<5.0	<10		<0.010	<0.030	<0.010	0.00032	<0.020	0.49
3/16/2016	Angel Trujillo	57902698	57984118	81,420	0.08142	7.05	0.773									0.52
3/17/2016	Angel Trujillo	57984118	58064512	80,394	0.080394	7.07	0.773									0.52
3/18/2016	Angel Trujillo	58064512	58141676	77,164	0.077164	7.04	0.773									0.50
3/19/2016	Angel Trujillo	58141676	58224948	83,272	0.083272	7.21	0.773									0.54
3/20/2016	Angel Trujillo	58224948	58301750	76,802	0.076802	7.00	0.773									0.50
3/21/2016	Angel Trujillo	58301750	58378552	76,802	0.076802	7.06	0.773									0.50
3/22/2016	Angel Trujillo	58378552	58457708	79,156	0.079156	7.18	0.773									0.51
3/23/2016	Angel Trujillo	58457708	58536570	78,862	0.078862	7.05	0.773									0.51
3/24/2016	Angel Trujillo	58536570	58617316	80,746	0.080746	7.20	0.773									0.52
3/25/2016	Angel Trujillo	58617316	58694426	77,110	0.07711	7.10	0.773									0.50
3/26/2016	Angel Trujillo	58694426	58776932	82,506	0.082506	7.22	0.773									0.53
3/27/2016	Angel Trujillo	58776932	58854584	77,652	0.077652	7.10	0.773									0.50
3/28/2016	Angel Trujillo	58854584	58932236	77,652	0.077652	7.01	0.773									0.50
3/29/2016	Angel Trujillo	58932236	59010326	78,090	0.07809	7.04	0.773									0.50
3/30/2016	Angel Trujillo	59010326	59088498	78,172	0.078172	7.08	0.773									0.50
3/31/2016	Angel Trujillo	59088498	59166556	78,058	0.078058	7.05	0.773									0.50
TOTAL				2,448,028	2.448028			<5.0	<10		<0.010	<0.030	<0.010	0.00032	<0.020	
			High:	86,966											High:	0.56
			Average:	78,969											Average:	0.51

WW

E

JC16234

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	42444.60016		
COC#	087-WW-031516		
Lab Proj # (SDG):			
Lab ID	ARTB		
Site ID	HudsonCo		
Lab Job #	HWINJM32815		
Authorized User:	Honeywell		
Text & Excel File Order	Excel & Text File Order		

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

Privileged & Confidential		Site Name:	Hudson County
EDD To:		Location of Site:	Jersey City, NJ
Sampling Co.:	MACTEC	Phase:	CS
Client Contact: (name, co., address)		Sampling Program	087: JCIA
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com		Sampler:	Frank Schroyer
Honeywell International		PO #	
101 Columbia Road Morristown, NJ 07962		Analysis Turnaround Time (TAT):	3
Preliminary Data To		Consultant	CH2M
Sample Receipt Acknowledgement To			
Hard Copy To	Helen Fahy (Honeywell)	Full Report TAT:	28 Days
Invoice To:	Helen Fahy (Honeywell)		

2

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units																
													3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-031516-A	3/15/2016	14:20	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-031516-B	3/15/2016	14:25	WW	WATER	REG	5	grab	N					X	X				2					C38
3	087-WW			087-WWI-031516	3/15/2016	14:35	WW	WATER	REG	3	grab	N									X	3					U748
4																											A27
5																											M15
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by 6.94 s.u. @ 7.2°C	Company	AMEC Foster Wheeler	Received by	Company		Condition		Custody Seals Intact	
Frank Schroyer	Date/Time	3/15/16 1500		Date/Time 3 15 1500		Cooler Temp.			
Relinquished by	Company		Received by	Company	AC W7051	Condition		Custody Seals Intact	
	Date/Time 3-15 1740			Date/Time	3/15/16 1740	Cooler Temp.			
Preservatives: (Other; Specify):			0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)							

INITIAL ASESSMENT 3B 0B

LABEL VERIFICATION JK

04.5 ~~20~~

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-A		
Lab Sample ID:	JC16234-1	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	773	10	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Lead	< 30	30	ug/l	10	03/16/16	03/18/16	GT	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	0.32	0.20	ug/l	1	03/18/16	03/18/16	MS	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	03/16/16	03/18/16	GT	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA38951
(2) Instrument QC Batch: MA38954
(3) Instrument QC Batch: MA38958
(4) Prep QC Batch: MP92578
(5) Prep QC Batch: MP92639

RL = Reporting Limit

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-A		
Lab Sample ID:	JC16234-1	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	03/16/16	LA	SM2540 D-11
pH [a]	6.93		su	1	03/15/16 19:11	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-A		
Lab Sample ID:	JC16234-1A	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 10	10	mg/l	1	03/16/16 18:21	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-B		
Lab Sample ID:	JC16234-2	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T216146.D	1	03/17/16	DC	n/a	n/a	VT8881
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.6	ug/l	
107-13-1	Acrylonitrile	ND	10	2.6	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.7	1.0	0.10	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.10	ug/l	
75-25-2	Bromoform	ND	1.0	0.17	ug/l	
74-83-9	Bromomethane	ND	1.0	0.57	ug/l	
56-23-5	Carbon tetrachloride	4.6	1.0	0.096	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.093	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.21	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.50	ug/l	
67-66-3	Chloroform	31.5	1.0	0.091	ug/l	
74-87-3	Chloromethane	ND	1.0	0.11	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.15	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.11	ug/l	
95-50-1	1,2-Dichlorobenzene	0.37	1.0	0.19	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.19	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.11	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.29	ug/l	
75-34-3	1,1-Dichloroethane	0.39	1.0	0.12	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.090	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.16	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.5	1.0	0.12	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.2	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.11	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.12	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.15	ug/l	
123-91-1	1,4-Dioxane	ND	130	20	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.22	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.97	1.0	0.22	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.12	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-B		
Lab Sample ID:	JC16234-2	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.14	ug/l	
108-88-3	Toluene	ND	1.0	0.25	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.086	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.13	ug/l	
79-01-6	Trichloroethene	66.5	1.0	0.12	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.20	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.13	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.22	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	87%		72-125%
2037-26-5	Toluene-D8 (SUR)	97%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	98%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@903397 10:39 05-Apr-2016

Report of Analysis

Client Sample ID:	087-WWE-031516-B		
Lab Sample ID:	JC16234-2	**Date Sampled:**	03/15/16
Matrix:	AQ - Water	**Date Received:**	03/15/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	03/17/16 13:50	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on June 22, 2015.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The final grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.

SA-6 North/South Field Change Log - Month Ending April 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

6/10/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

June 10, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-05

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from May 1 – May 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: May 2016 SA-6/7 Combined Monthly Progress Report No. 2016-05

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP (electronic copy)
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-05

Project SA-6 & 7 Remediation

May 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
05/04/16	BEP - Environmental Project - USACE Permit SA-7 Sediment	The Honorable Robert G. Torricelli Office of the Special Master
05/05/16	Summary of 6-Month Performance Assessment Sampling Post In-Situ Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Only Study Area 6 (SA-6) North (Site 087) Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/12/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-04	The Honorable Robert G. Torricelli Office of the Special Master
05/16/16	Groundwater Sampling Results Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/17/16	Observance of Suspect Material at the 60 Kellogg Street Building Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
05/17/16	Special Master All Hands Meeting	n/a
05/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	05/08/16	05/15/16	05/22/16	05/29/16
Construction Management (AMEC)	7	9	9	9
Engineering (AMEC)	1	1	1	1

Team	05/08/16	05/15/16	05/22/16	05/29/16
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	28	30	31	32
Arecon/US Ecology Subcontractors	0	0	0	1
Eglentowicz (Demolition)	0	0	0	0
Century	0	2	0	0
Evoqua	1	1	1	1
B&B Drilling	0	2	1	0
Cornerstone	0	0	0	0
TOTAL STAFF	**41**	**49**	**47**	**48**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Collected May PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on May 6, 2016.
- Completed piping layout plans for routing the Contingent Groundwater Extraction System force mains from SA-6 North and South to the existing GWTP Neutralization Tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	05/08/16	05/15/16	05/22/16	05/29/16
Avg. Gallons Treated & Discharged (per day)	77,947	78,345	77,444	78,840
Average Flow (gpm) for Operating Period	56	56	54	57
Avg. Hours of Plant Operation	23	23	24	23
GWTP Influent Tanks (gal.)	4,400	3,026	4,109	5,352

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Bayshore	Tri-Axle	Keasbey, NJ	Bayshore Recycling	Non-Haz Petroleum Soil	30	24	720

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	No chromium soil excavation performed.

3. BACKFILL MATERIALS USED

Source	Week Ending			
	05/08/16	05/15/16	05/22/16	5/29/16
Natures Choice Horizon C	1,867.67	1,826.85	2,461.46	4,442.30
Cedar Hill Horizon B	2,093.69	1,206.67	1,917.90	2,347.65
Tilcon Mount Hope I-8	1,320.32	817.21	304.28	308.73
Natures Choice Topsoil	0	786.37	740.25	0
Weldon Screenings	0	1,806.60	1,649.19	2,154.68

D. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharging and offloading of surcharge material is complete.

- Area 4N: Surcharging and offloading of surcharge material is complete.

E. SHEET PILE OPERATIONS

- Grouting of Hydraulic Barrier Wall on SA-6 North interlocks is complete.

F. CAPPING OPERATIONS

- Continued re-grading the GDL cover soil in GDL repair areas on the west side of the SA-6 South cap to include associated compaction testing.
- Continued placement of root barrier and demarcation tape and importing and placing Horizon C soils to include associated compaction testing on the SA-6 South open space area.
- Began importing and placing Horizon B soils atop Horizon C soils on SA-6 South.
- Continued importing and stockpiling Horizon A Topsoil.
- Continued SA-6 North liner subgrade grading activities within the open space area.
- Continued placement of Structural Fill Material in the future utility corridors crossing the SA-6 South open space area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete final grading of GDL cover soils to include associated compaction testing and installation of root barrier on SA-6 South open space area.
- Continue placement of Horizon C and Horizon B soils on SA-6 South open space area.
- Continue importing Horizon A Topsoil and begin placement on the SA-6 South Cap Area.
- Continue SA-6 North liner subgrade grading activities.
- Begin cutting SA-6 North Hydraulic Barrier Wall and Soil-Cement Bentonite Wall to liner grade.
- Prepare SA-6 North subgrade for initial geomembrane liner installation.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Continue to coordinate the CGWES piping layout with selected contractor for connection to GWTP Neutralization Tank.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 29 in well 088-IW-01 (completed June 5th through 7th, 2016).
- Conduct second quarterly LTMP regional groundwater level measurement round.
- Complete excavation and post-excavation sampling of small area of observed chromium impacted soils under the former 60 Kellogg St. building.
- Coordinate follow-up injections in Treatment Area TA 10-1.

ATTACHMENTS:

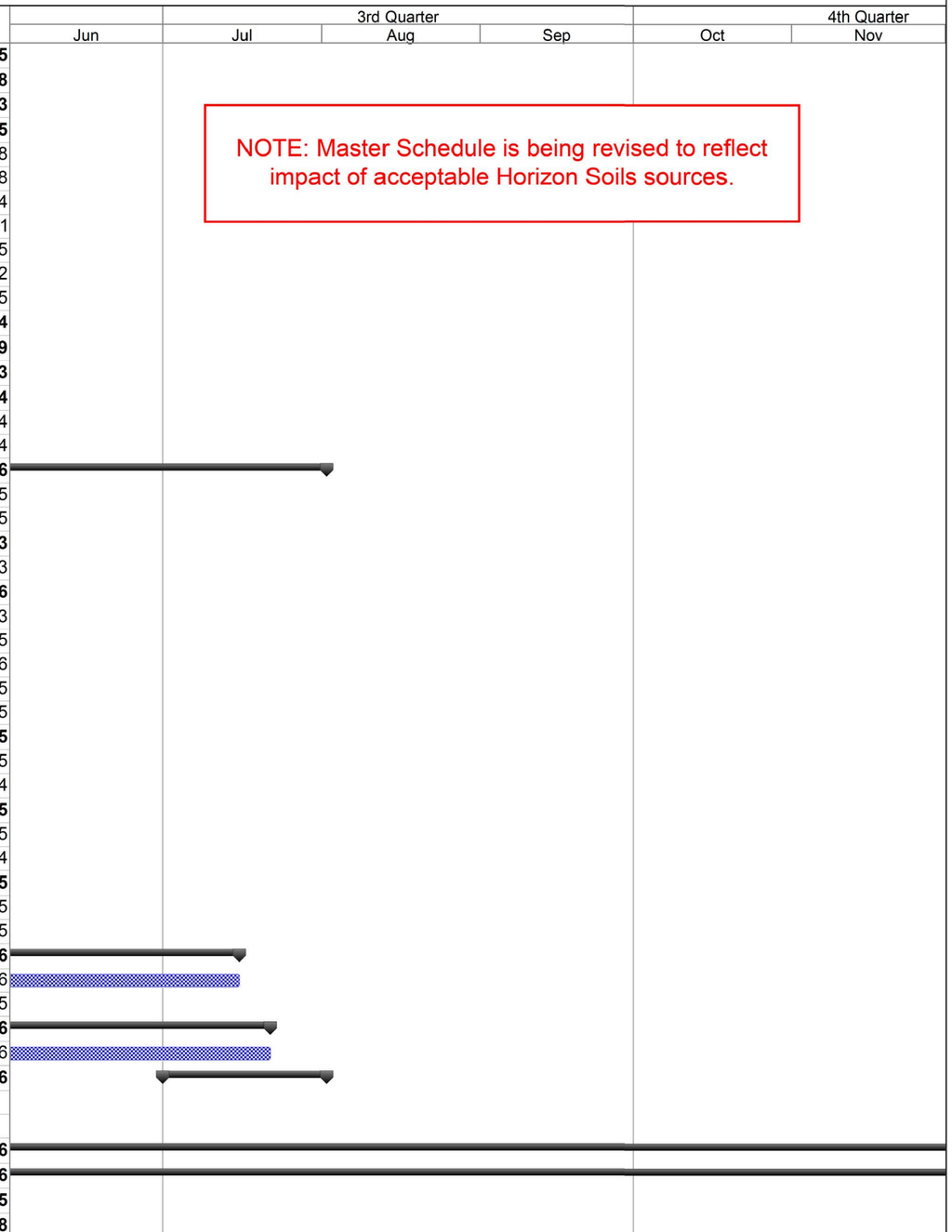
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start	Finish
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**1/4/08**	**6/1/15**
2	**Remedial Action Work Plan**	**33 days**	**1/4/08**	**2/19/08**
5	**Remedial Action Design**	**1522 days**	**2/20/08**	**12/13/13**
18	**JCIA/JCDPW Relocation**	**1780 days**	**8/11/08**	**6/1/15**
19	Develop Site Relocation Master Plan	38 days	8/11/08	10/1/08
20	Submit Site Relocation Master Plan	0 days	10/1/08	10/1/08
21	JC Construction of New Facilities	1309 days	6/2/09	6/2/14
22	Relocation Contractor Procurement	392 days	4/15/10	10/13/11
23	JCIA and JCDPW Relocation	949 days	10/17/11	6/1/15
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	12/12/11	4/30/12
24a	Demolition of JCIA Structures	146 days	9/1/14	3/23/15
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**7/11/08**	**4/30/14**
26	**Remedial Action Work Plan**	**187 days**	**7/11/08**	**3/30/09**
32	**Remedial Action Design**	**1161 days**	**2/2/09**	**7/9/13**
57	**SA-6 South Relocation**	**616 days**	**12/26/11**	**4/30/14**
58	New GWTP Construction Completion	502 days	3/5/12	1/30/14
59	Demolition of 80 Kellogg	857 days	12/26/11	4/30/14
60	**SA-6 North/South Field Implementation**	**894 days**	**3/1/13**	**8/1/16**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	6/17/13	12/31/15
60b	SA-6S (Site 163) In-Situ Treatment	555 days	11/15/13	12/31/15
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**3/1/13**	**6/28/13**
61a	Mobilization	87 days	3/1/13	6/28/13
62	**Surcharge Install/Instrumentation**	**706 days**	**6/17/13**	**2/29/16**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	6/17/13	12/31/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	4/8/14	2/13/15
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	6/30/15	2/29/16
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	6/16/14	2/23/15
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	10/6/14	5/8/15
63	**Barrier Wall Install**	**569 days**	**8/12/13**	**10/15/15**
63a	SA 6N Installation of Barrier Wall	159 days	3/9/15	10/15/15
63b	SA 6S Installation of Barrier Wall	210 days	8/12/13	5/30/14
64	**Excavation**	**507 days**	**10/22/13**	**9/30/15**
64a	SA 6N Excavation	218 days	12/1/14	9/30/15
64b	SA 6S Excavation	295 days	10/22/13	12/8/14
65	**Backfill**	**558 days**	**11/11/13**	**12/30/15**
65a	SA 6N Backfill	283 days	12/1/14	12/30/15
65b	SA 6S Backfill	384 days	11/11/13	4/30/15
66	**Capping and Cover Soil Placement**	**426 days**	**12/1/14**	**7/15/16**
66a	SA 6N Capping and Cover Soil Placement	83 days	3/24/16	7/15/16
66b	SA 6S Capping and Cover Soil Placement	283 days	12/1/14	12/30/15
67	**Restoration**	**234 days**	**9/1/15**	**7/21/16**
67a	Restoration	234 days	9/1/15	7/21/16
68	**Demobilization**	**22 days**	**7/1/16**	**8/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead			
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line			
69	**SA-6 North Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
75	**SA-6 South Project Closeout**	**311 days**	**10/1/15**	**12/7/16**
81	**SA-6 North Long Term Protections**	**1830 days**	**10/1/08**	**10/1/15**
92	**SA-6 South Long Term Protections**	**2569 days**	**6/5/08**	**3/31/18**



Project: SA-6 Remediation Schedule
Revision 4
Date: 5/31/16

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Compacting historical fill subgrade within open space area.



Site Photograph 2: Compacting structural fill in future utility corridor.



Site Photograph 3: Grading and compacting cover soils along open space area slope.



Site Photograph 4: Loading imported cover soils for placement in open space area.



Site Photograph 5: Spreading cover soils - survey control in background.



Site Photograph 6: Unloading imported cover soils for placement in open space area.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of June 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-05
Attachment 3: Excavation and Backfill (Progression Chart)

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

Former Roosevelt Drive-In Site
(Remediation Complete)

Kellogg Street Properties

Added Excavation Area
(complete)

Hackensack River

Route 440

Kellogg Street

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC

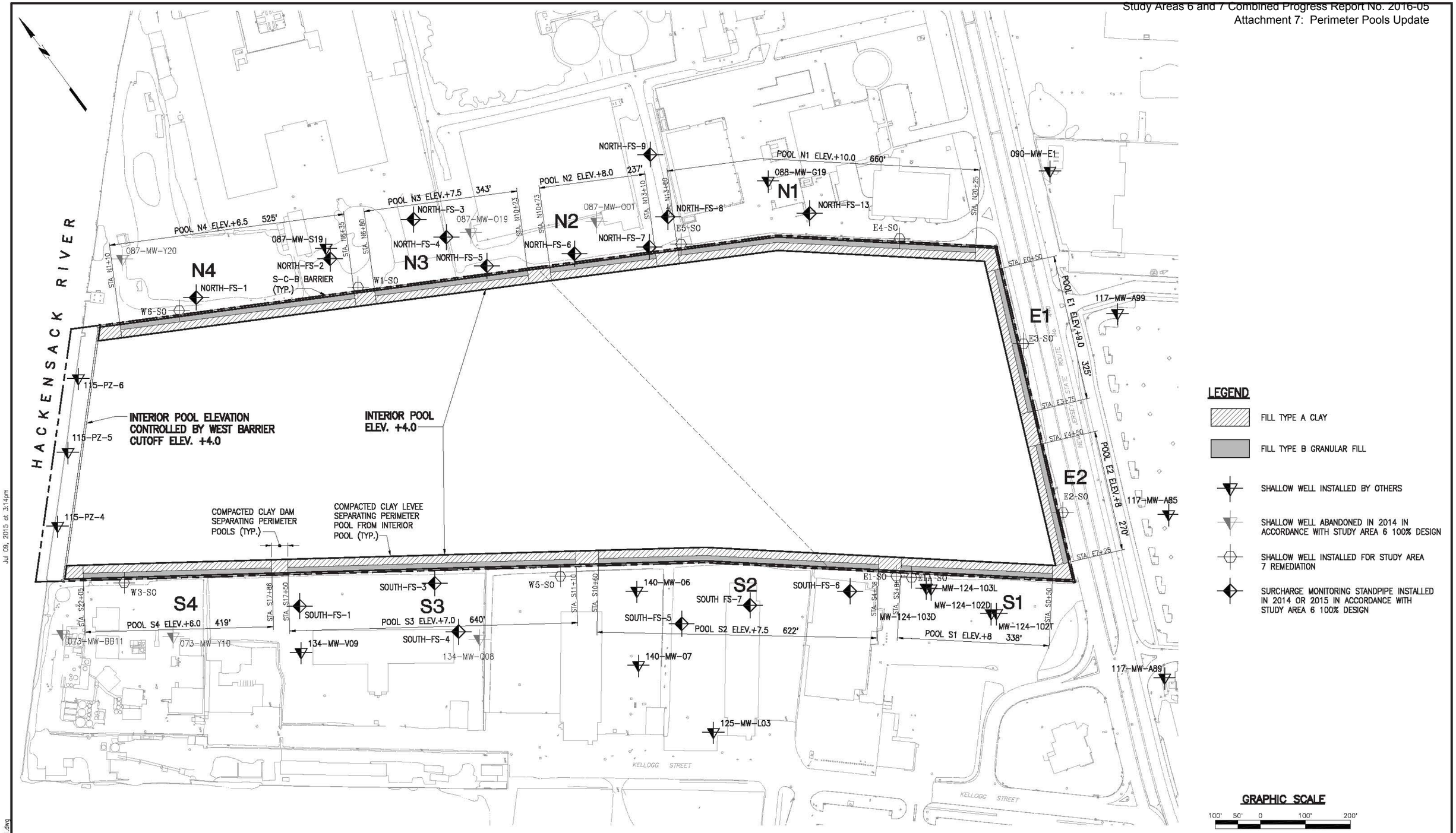
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/01/16	10:00	14:00	4:00	42,598.54	42,638.28	39,740	42,637,830	
04/08/16	8:00	12:00	4:00	42,638.28	42,688.87	50,590	42,688,420	PVSC Compliance Sample Collected
04/13/16	12:00	15:00	3:00	42,688.87	42,734.89	46,020	42,734,440	
04/19/16	8:00	13:00	5:00	42,734.89	42,802.71	67,820	42,802,260	
04/22/16	11:00	15:00	4:00	42,802.71	42,847.64	44,930	42,847,190	
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,912,450	
05/06/16	10:00	15:00	5:00	42,912.90	42,965.49	52,590	42,965,040	PVSC Compliance Sample Collected
05/13/16	11:00	15:00	4:00	42,965.49	43,019.78	54,290	43,019,330	
05/20/16	11:00	15:00	4:00	43,019.78	43,071.32	51,540	43,070,870	
05/27/16	10:00	14:00	4:00	43,071.32	43,130.78	59,460	43,130,330	
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

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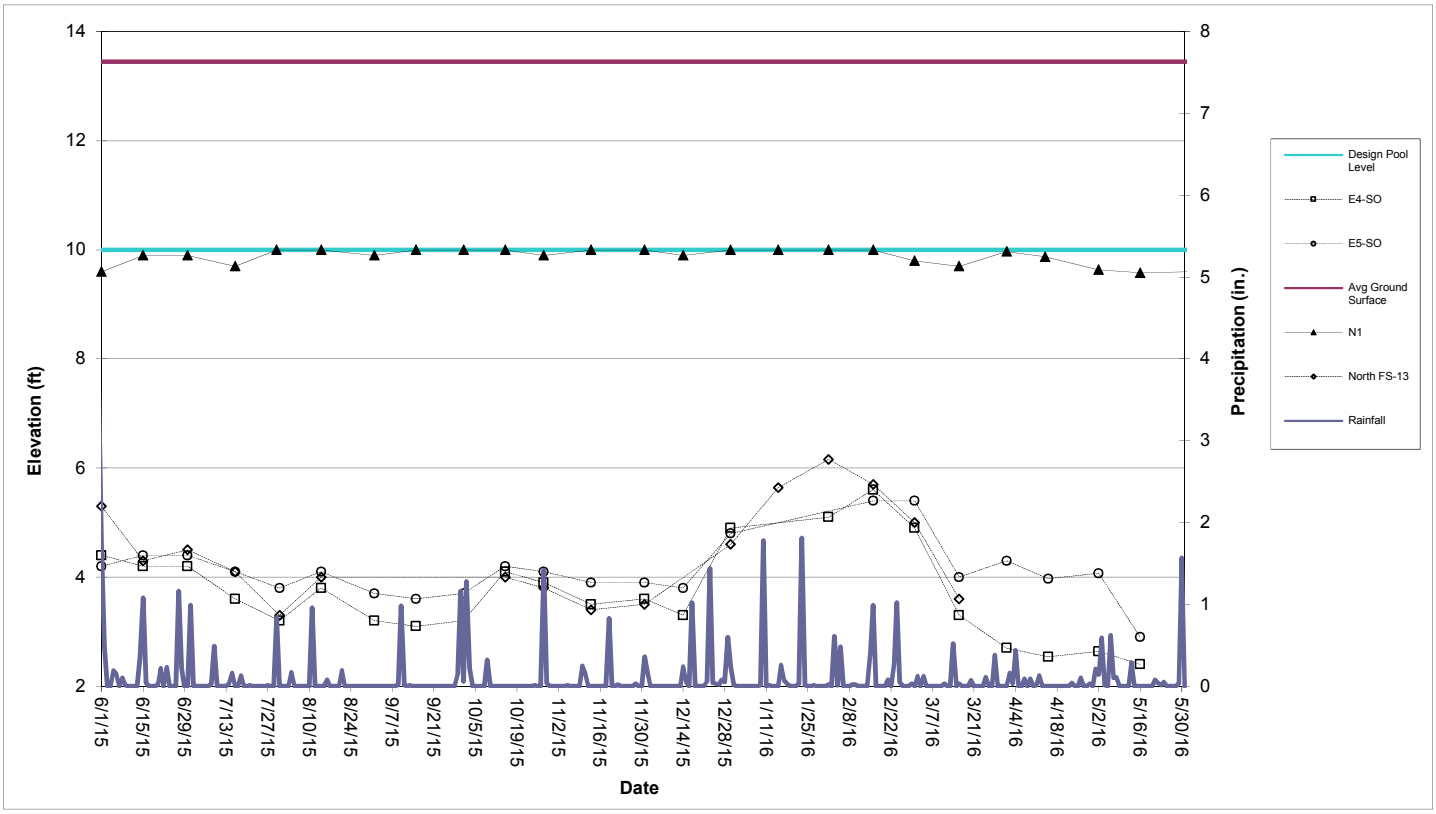
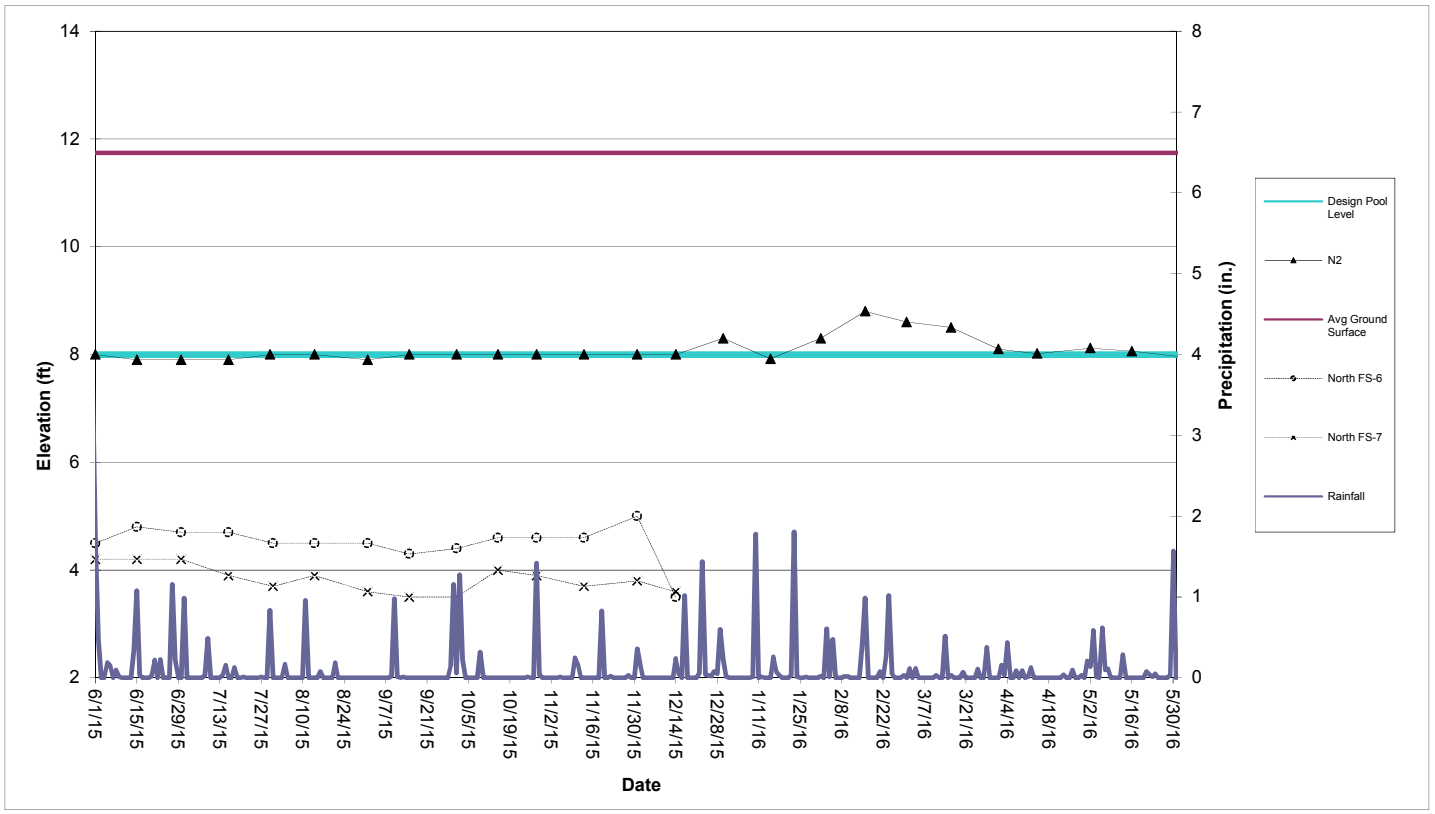
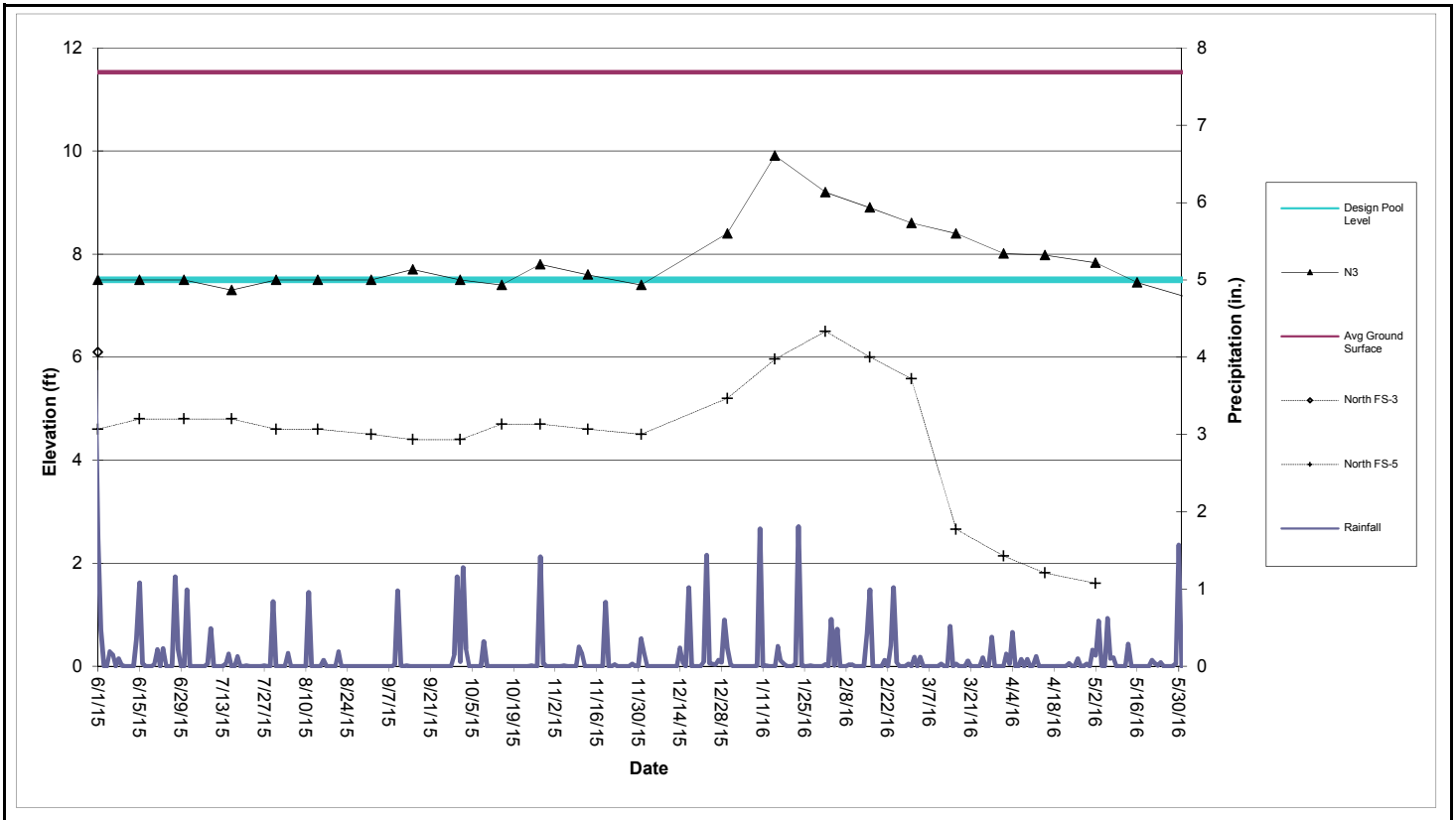
Jul 09, 2015 at 3:14pm
bboscaino



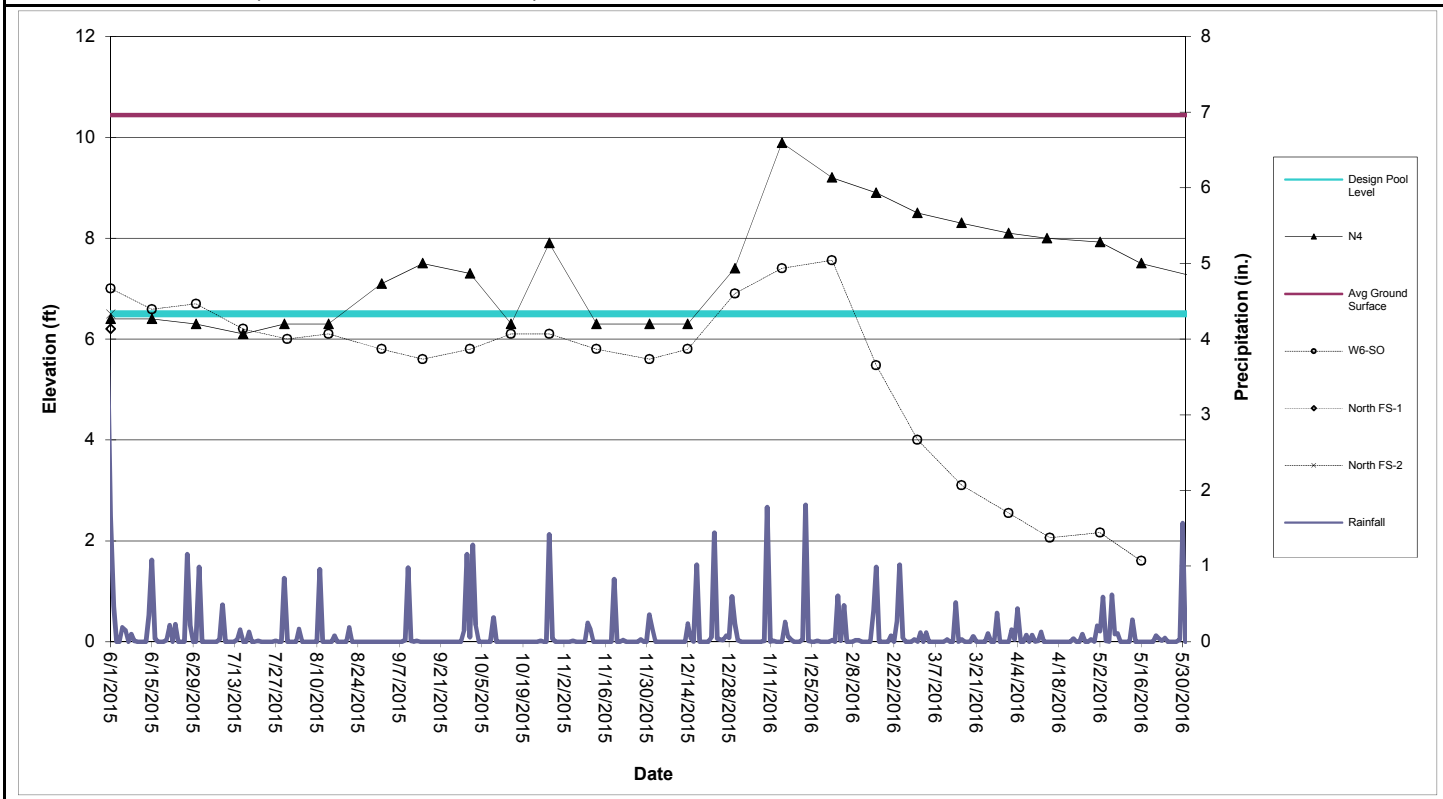
Perimeter Pool N1 (Sta. N13+60 to N20+25)



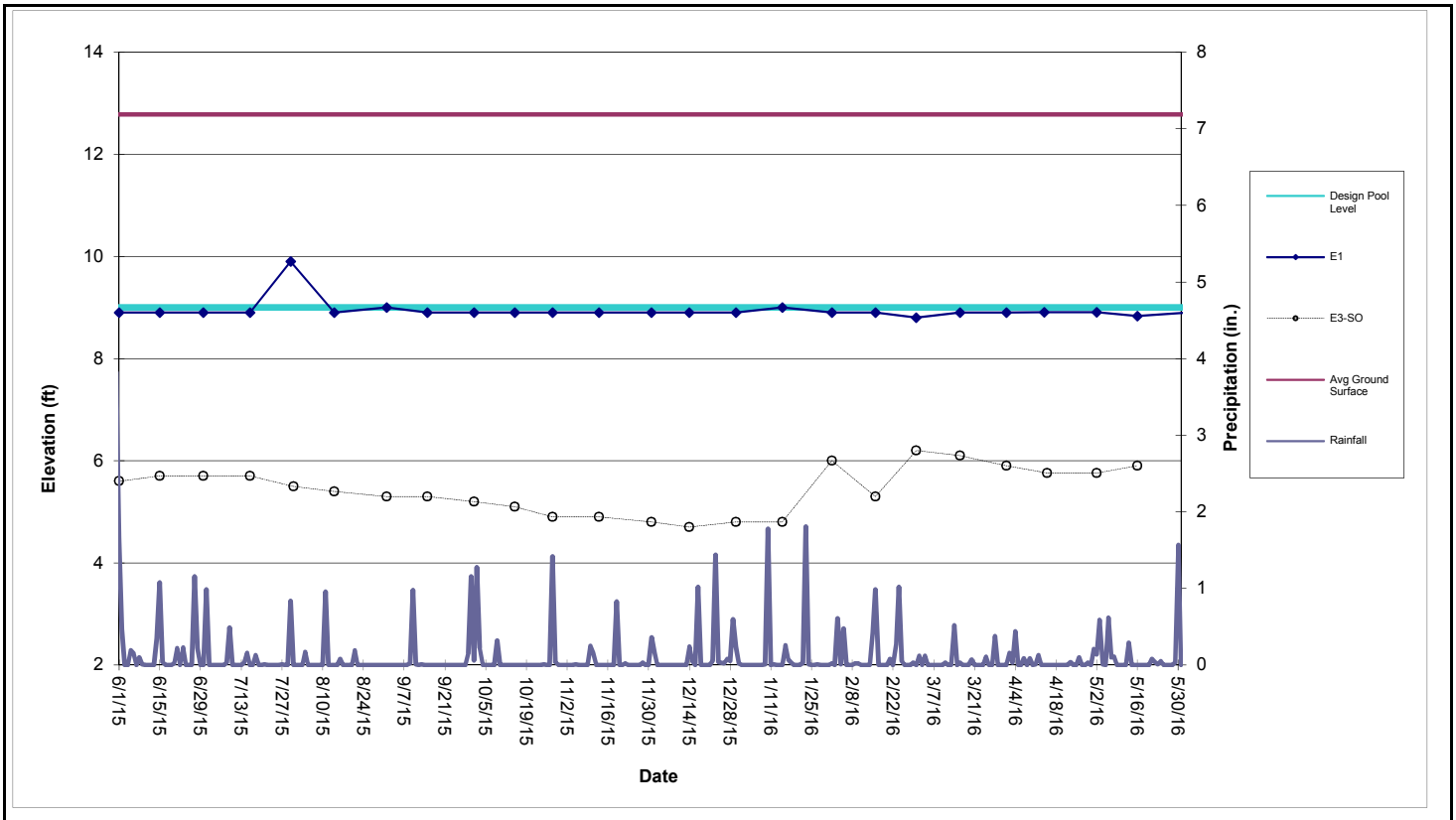
Perimeter Pool N2 (Sta. N10+73 to N13+10)



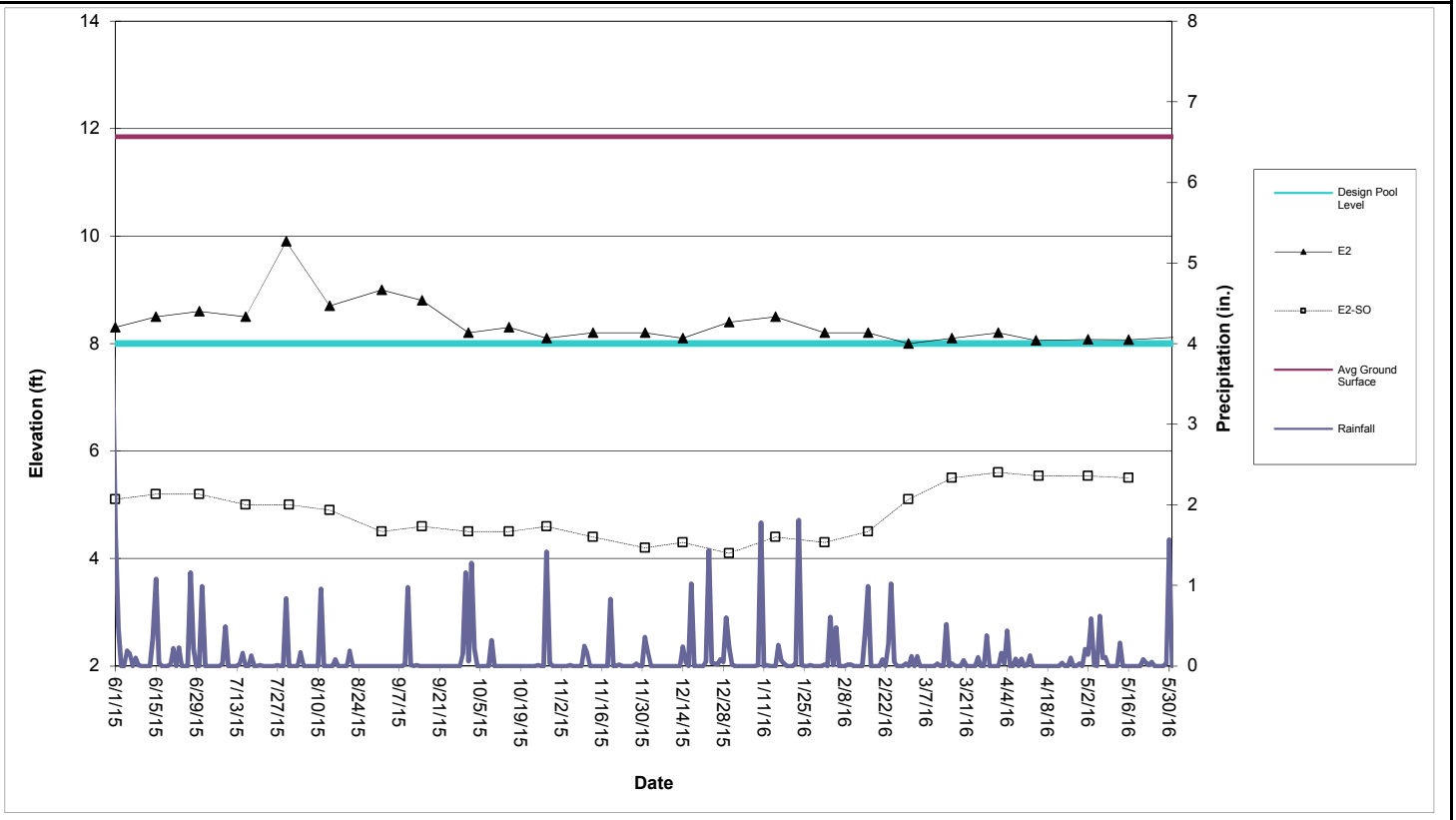
Perimeter Pool N3 (Sta. N6+80 to N10+23)



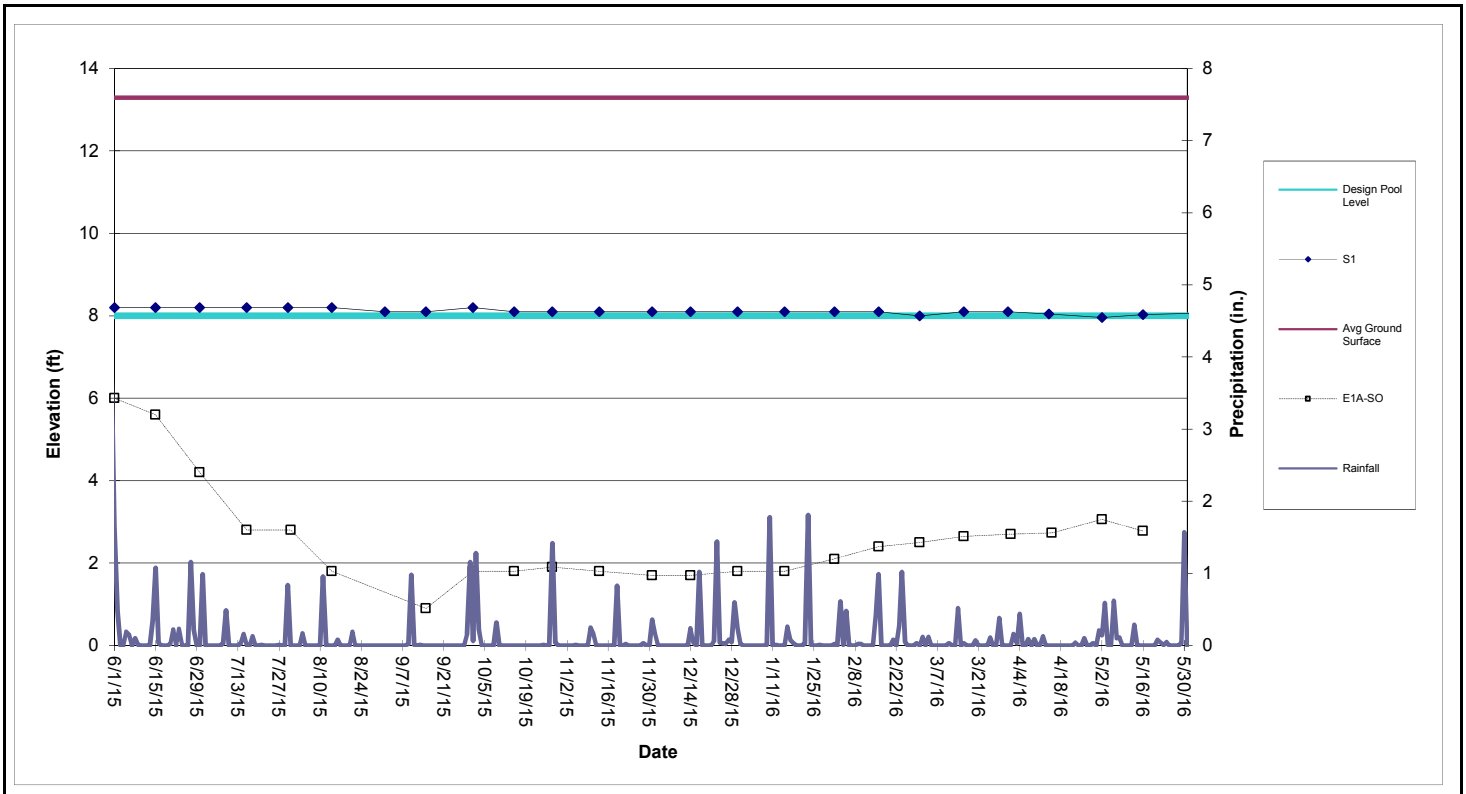
Perimeter Pool N4 (Sta. N6+80 to N10+23)



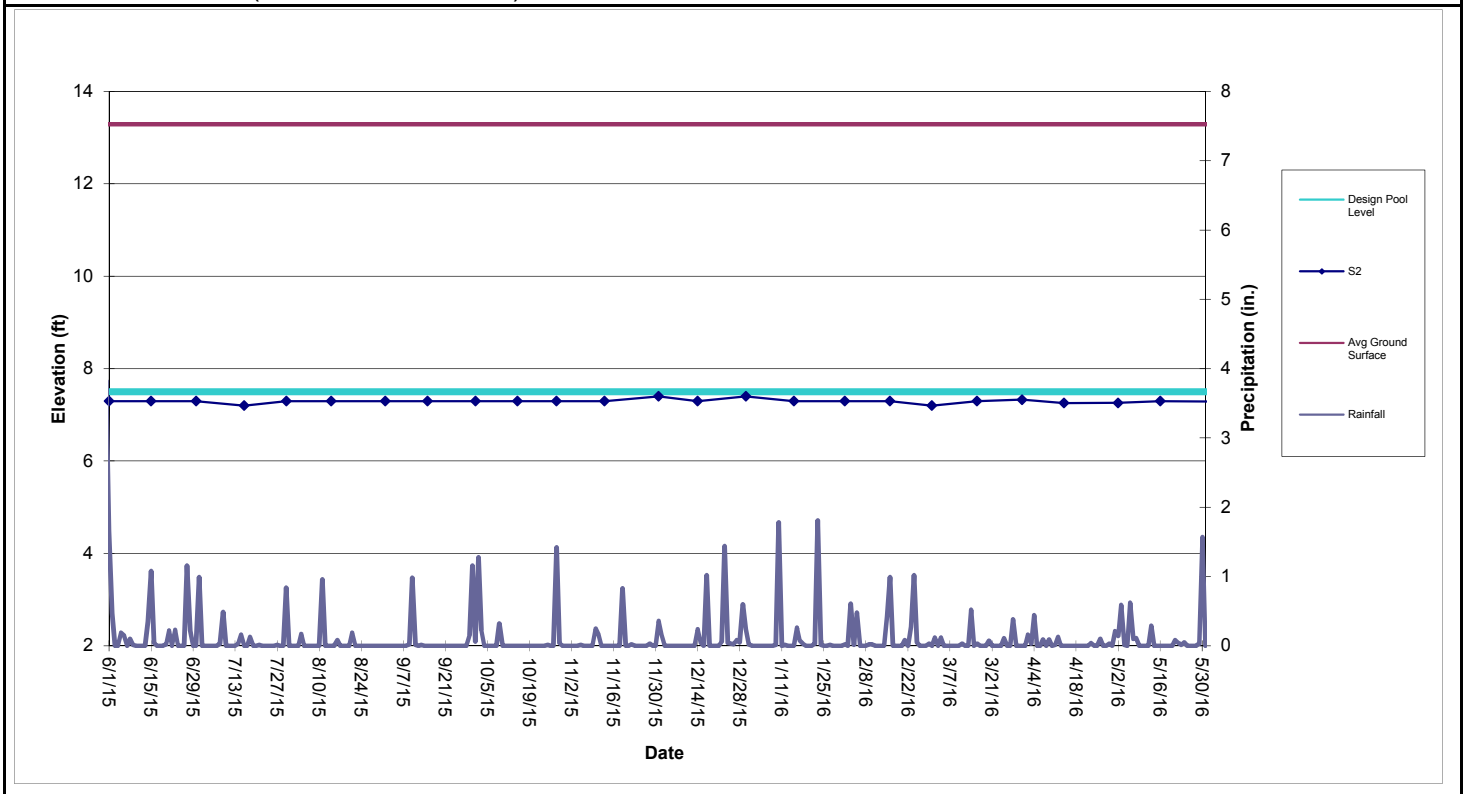
Perimeter Pool E1 (Sta. E0+50 to E3+75)



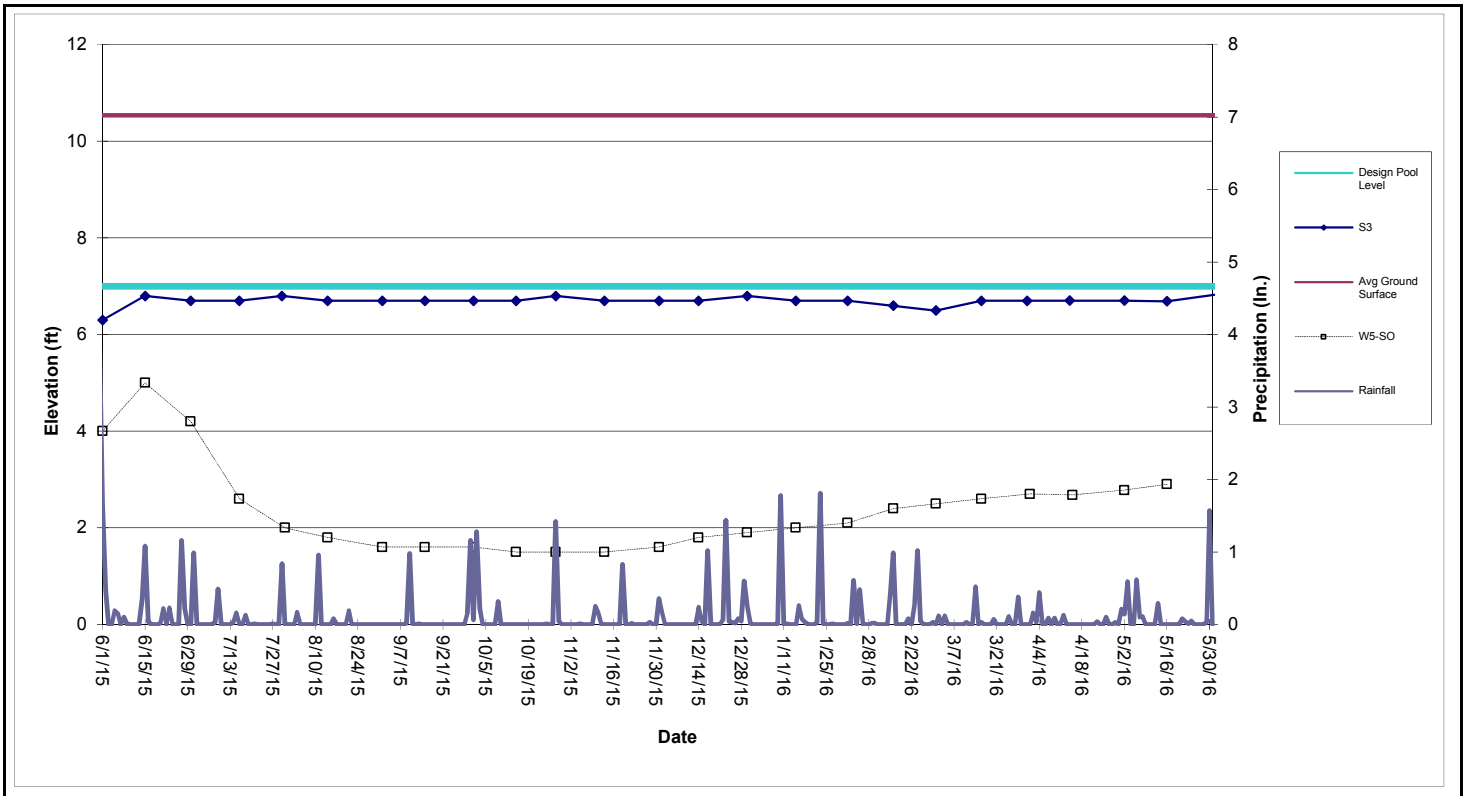
Perimeter Pool E2 (Sta. E4+50 to E7+25)



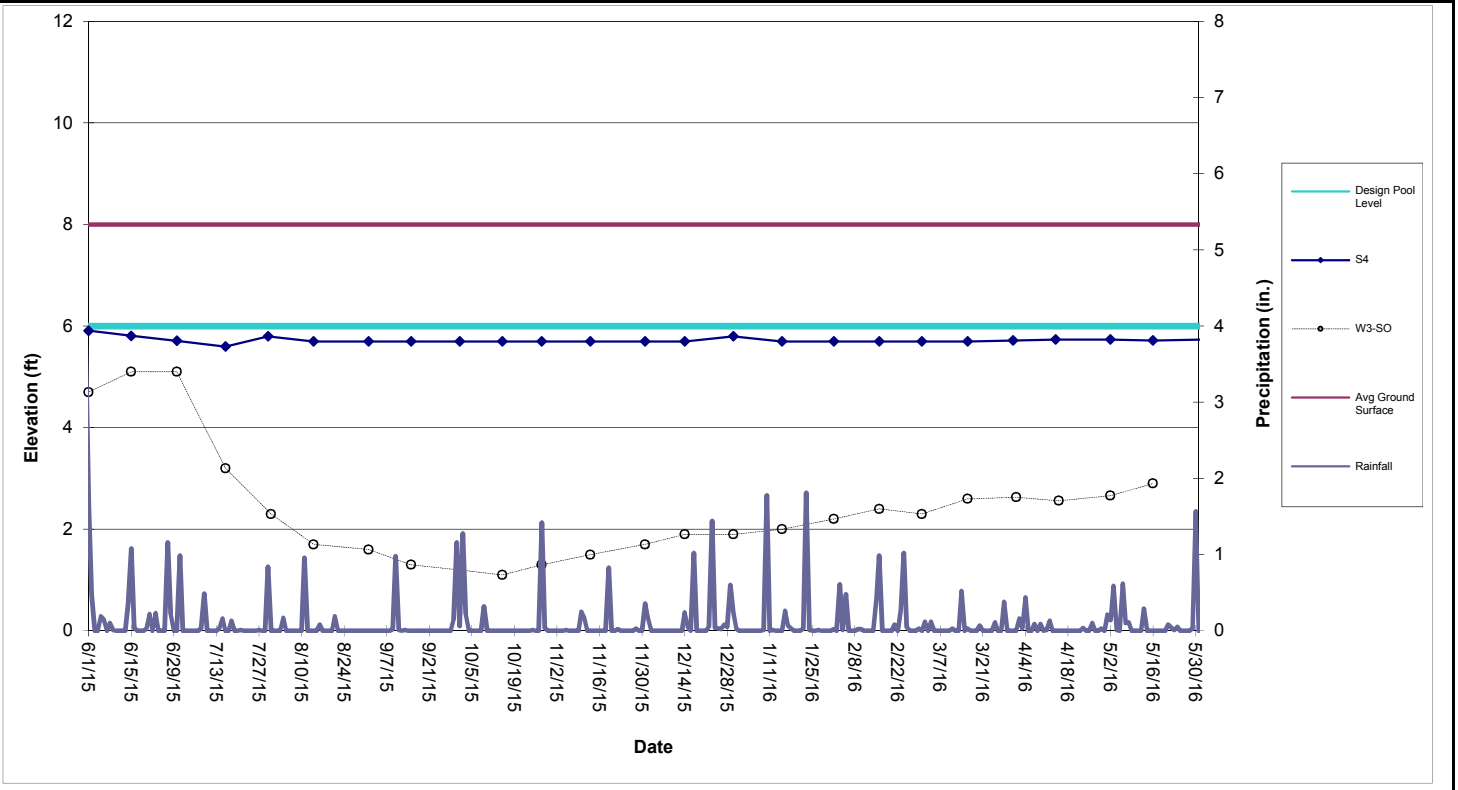
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North							South					
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-1	FS-2	FS-3	FS-5	FS-6	FS-7	FS-13	FS-1	FS-3	FS-4	FS-5	FS-6	FS-7
Date																						
6/1/2015	6.0	5.1	5.6	4.4	4.2		4.7	4.0	7.0	6.2	6.5	6.1	4.6	4.5	4.2	5.3					3.9	
6/15/2015	5.6	5.2	5.7	4.2	4.4		5.1	5.0	6.6				4.8	4.8	4.2	4.3						
6/30/2015	4.2	5.2	5.7	4.2	4.4		5.1	4.2	6.7				4.8	4.7	4.2	4.5						
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2				4.8	4.7	3.9	4.1						
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0				4.6	4.5	3.7	3.3						
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1				4.6	4.5	3.9	4.0						
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8				4.5	4.5	3.6							
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6				4.4	4.3	3.5							
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8				4.4	4.4	3.5							
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1				4.7	4.6	4.0	4.0						
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1				4.7	4.6	3.9	3.8						
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8				4.6	4.6	3.7	3.4						
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6				4.5	5.0	3.8	3.5						
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8					3.5	3.6							
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9				5.2			4.6						
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4				6.0			5.6						
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6				6.5			6.2						
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5				6.0			5.7						
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0				5.6			5.0						
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1				2.7			3.6						
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6				2.1									
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1				1.8									
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2				1.6									
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6													

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

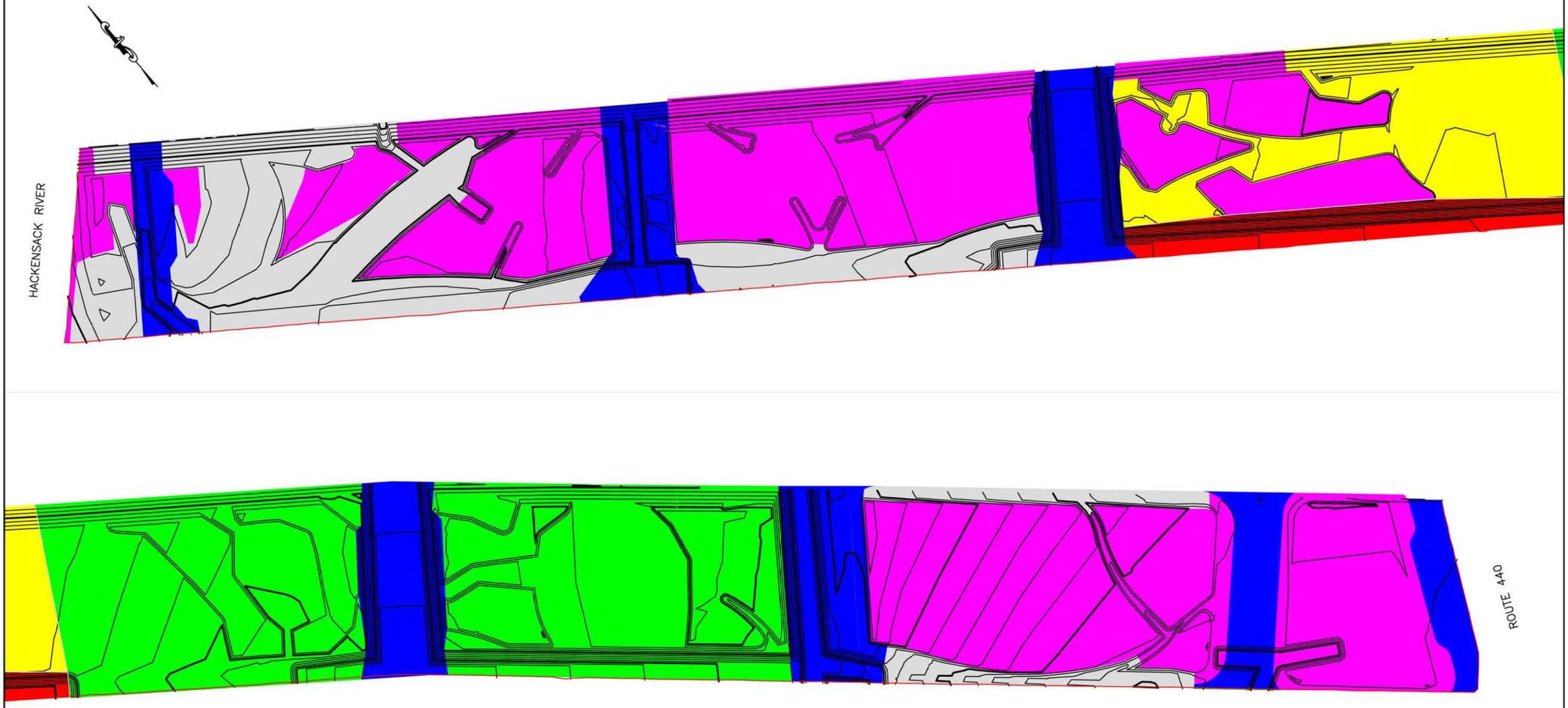
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update



LEGEND

- HORIZON C SOIL PLACED
- HORIZON C PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND PREPARED FOR HORIZON B
- HORIZON B PLACED
- HORIZON B PLACED AND READY FOR TOPSOIL
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
06/03/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 6, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/06/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 06, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence at the Kellogg Street jughandle has become detached.
2	IA2Q4A1AL8	Garbage has accumulated on the grass outside of the perimeter fence along Kellogg Street.
3	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 05/06/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen as required.	RAD 5/11/16
2	Pick up and dispose of accumulated garbage.	
3	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	

Construction Manager: _____ Date: 05/12/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 13, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/16/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 13, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence at the Kellogg Street jughandle has become detached.
2	IA2Q4A1AL8	Garbage has accumulated on the grass outside of the perimeter fence along Kellogg Street.
3	IA2Q4A1AL8	Mud and sediment have accumulated on the northern and southern SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 05/16/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen as required	5-19-16 RAD
2	Pick up and dispose of accumulated garbage.	1
3	Clean the northern and southern SA-7 haul roads and install stone tracking pads where needed to reduce the tracking of material by end dumps working in the area.	1

Construction Manager: _____ **Date:** 05/19/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 20, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		5
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/23/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 20, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Erosion protection measures are not present on the western end of the south cap area adjacent to the Hackensack River bulkhead.
2	IA2Q4A1AL8	Windscreen fabric on the perimeter fence at the Kellogg Street jughandle has become detached along the top.
3	IA2Q4A1AL8	Garbage has accumulated on the grass outside of the perimeter fence along Kellogg Street and the grass requires cutting.
4	IA2Q4A1AL8	Erosion protection measures are not present in the north cap area at the western side of the sedimentation basin (just south of the CWTP).
5	IA2Q4A1AL8	Mud and sediment have accumulated on the northern, southern and western SA-7 paved haul roads.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 05/23/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install erosion control measures on the western end of the south cap adjacent to the river bulkhead.	5/26/16 (AM)
2	Re-attach the windscreen as required.	
3	Pick up and dispose of accumulated garbage, cut the grass.	
4	Install erosion control measures on the north cap at the western end of the sedimentation basin where cap material overtops the sheetpile.	
5	Clean the northern, southern and western SA-7 haul roads.	

Construction Manager: _____ **Date** 05/26/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: May 27, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		2
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 05/27/16.

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, May 27, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg Street.
2	IA2Q4A1AL8	Entrances/exits to the SA-6 north cap area exclusion zone are being left open when unattended.
3	IA2Q4A1AL8	Garbage and other debris is present in the SA-6 North pedestrian walkway adjacent to Rte. 440.
4	IA2Q4A1AL8	Silt fence along the western end of the northern SA-7 roadway has become detached from the upright wooden stakes.
5	IA2Q4A1AL8	Filter fabric in two catch basins on the eastern SA-7 roadway has become blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 05/27/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean up all accumulated sediment on the western end of Kellogg Street, adjacent to the truck entrance gate.	CHD 6/2/16
2	Pull orange fencing across EZ entrances/exits when they are not being used.	/
3	Remove and dispose of accumulated garbage in the pedestrian walkway.	/
4	Maintain or replace the silt fence as required	/
5	Replace the filter fabric as needed to restore function.	/

Construction Manager: _____ **Date:** 06/02/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted May 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

May 18, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the April 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
4	01	16	4	30	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,700	87,494 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.72	0.80	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00026	0.00026	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.17461	0.17461	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

May 18, 2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
4	01	16	4	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,360,988	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	61,527,544

DATE	BOD (mg/l)	TSS (mg/l)
4/12/2016	11.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris VP	John J. Morris	(973) 455-4003
		DATE May 18, 2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)											MONTH: April, 2016
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
4/1/2016	Angel Trujillo	59166556	59244612	78,056	0.078056	7.15	1.090									0.71
4/2/2016	Angel Trujillo	59244612	59308878	64,266	0.064266	7.11	1.090									0.58
4/3/2016	Angel Trujillo	59308878	59394398	85,520	0.08552	7.80	1.090									0.78
4/4/2016	Angel Trujillo	59394398	59479918	85,520	0.08552	7.20	1.090									0.78
4/5/2016	Angel Trujillo	59479918	59561506	81,588	0.081588	7.61	1.090									0.74
4/6/2016	Angel Trujillo	59561506	59637952	76,446	0.076446	7.73	1.090									0.69
4/7/2016	Angel Trujillo	59637952	59719498	81,546	0.081546	7.65	1.090									0.74
4/8/2016	Angel Trujillo	59719498	59799370	79,872	0.079872	7.76	1.090									0.73
4/9/2016	Angel Trujillo	59799370	59881000	81,630	0.08163	7.45	1.090									0.74
4/10/2016	Angel Trujillo	59881000	59962630	81,630	0.08163	7.75	1.090									0.74
4/11/2016	Angel Trujillo	59962630	60035090	72,460	0.07246	7.64	1.090									0.66
4/12/2016	Angel Trujillo	60035090	60113084	77,994	0.077994	6.94	1.090	<5.0	11.0		<0.010	<0.030	<0.010	0.00026	<0.020	0.71
4/13/2016	Angel Trujillo	60113084	60191378	78,294	0.078294	7.67	1.090									0.71
4/14/2016	Angel Trujillo	60191378	60270082	78,704	0.078704	7.53	1.090									0.72
4/15/2016	Angel Trujillo	60270082	60349094	79,012	0.079012	7.59	1.090									0.72
4/16/2016	Angel Trujillo	60349094	60431159	82,065	0.082065	7.90	1.090									0.75
4/17/2016	Angel Trujillo	60431159	60513224	82,065	0.082065	7.60	1.090									0.75
4/18/2016	Angel Trujillo	60513224	60588200	74,976	0.074976	7.62	1.090									0.68
4/19/2016	Angel Trujillo	60588200	60667406	79,206	0.079206	7.61	1.090									0.72
4/20/2016	Angel Trujillo	60667406	60743746	76,340	0.07634	7.84	1.090									0.69
4/21/2016	Angel Trujillo	60743746	60831240	87,494	0.087494	7.72	1.090									0.80
4/22/2016	Angel Trujillo	60831240	60907212	75,972	0.075972	7.60	1.090									0.69
4/23/2016	Angel Trujillo	60907212	60990318	83,106	0.083106	7.60	1.090									0.76
4/24/2016	Angel Trujillo	60990318	61055402	65,084	0.065084	7.68	1.090									0.59
4/25/2016	Angel Trujillo	61055402	61132730	77,328	0.077328	7.82	1.090									0.70
4/26/2016	Angel Trujillo	61132730	61212418	79,688	0.079688	7.65	1.090									0.72
4/27/2016	Angel Trujillo	61212418	61288291	75,873	0.0759	7.62	1.090									0.69
4/28/2016	Angel Trujillo	61288291	61365913	77,622	0.077622	7.82	1.090									0.71
4/29/2016	Angel Trujillo	61365913	61449220	83,307	0.083307	7.69	1.090									0.76
4/30/2016	Angel Trujillo	61449220	61527544	78,324	0.078324	7.80	1.090									0.71
TOTAL				**2,360,988**	**2.360988**			<5.0	11.0		<0.010	<0.030	<0.010	0.00026	<0.020	
			High:	**87,494**											**High:**	**0.80**
			Average:	**78,700**											**Average:**	**0.72**

WW

E

JC18132

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref: 42472.64667
COC# 087-WW-041216

| | | |

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

Client Sample ID:	087-WWE-041216-A		
Lab Sample ID:	JC18132-1	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1090	10	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	04/13/16	04/15/16	GT	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.26	0.20	ug/l	1	04/13/16	04/13/16	JPM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	04/13/16	04/14/16	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA39168
(2) Instrument QC Batch: MA39183
(3) Instrument QC Batch: MA39193
(4) Prep QC Batch: MP93115
(5) Prep QC Batch: MP93118

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

Client Sample ID:	087-WWE-041216-A		
Lab Sample ID:	JC18132-1	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	< 4.0	4.0	mg/l	1	04/13/16	LA	SM2540 D-11
pH [b]	6.99		su	1	04/12/16 18:21	JK	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 500 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

Client Sample ID:	087-WWE-041216-A		
Lab Sample ID:	JC18132-1A	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	11.0	3.4	mg/l	1	04/13/16 18:20	LA	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

4.3
4

Client Sample ID:	087-WWE-041216-B		
Lab Sample ID:	JC18132-2	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N254162.D	1	04/14/16	WO	n/a	n/a	VN10745
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.5	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	4.0	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	26.7	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.31	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.34	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.6	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.4	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.83	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS ACCUTEST

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

Client Sample ID:	087-WWE-041216-B		
Lab Sample ID:	JC18132-2	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	72.7	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	93%		72-125%
2037-26-5	Toluene-D8 (SUR)	96%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	94%		74-115%
1868-53-7	Dibromofluoromethane (S)	97%		79-120%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@909884 14:18 12-May-2016

Report of Analysis

Client Sample ID:	087-WWE-041216-B		
Lab Sample ID:	JC18132-2	**Date Sampled:**	04/12/16
Matrix:	AQ - Water	**Date Received:**	04/12/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	04/13/16 18:30	LS	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized in supplemental DCBs based field obersvations and constructability review.	Submitted to Contractor only.
DC 2014-11-20	DC 2014-11-20 supplements DC 2014-06-10 and includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Contractor only.
DC 2015-2-12	DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Contractor only.
DC 2014-2-24	DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Contractor only.
DC 2015-9-03	DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Contractor only.
DC 2016-5-24	DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending May 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-5-11	Consistent with minor Bayfront final grading changes, Amec adjusted the interim grade in the SA-6 North landscape area by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Contractor only.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane liner elevations proximate to Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

7/14/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

July 14, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-06

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from June 1 – June 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: June 2016 SA-6/7 Combined Monthly Progress Report No. 2016-06

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-06

Project SA-6 & 7 Remediation

June 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
06/10/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-05	Honorable Robert G. Torricelli Office of the Special Master
06/16/16	3 Year Sampling At TA-7 & TA-8 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/20/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
06/21/16	Special Master All Hands Conference Call	n/a
06/30/16	Design Change Bulletin: Temporary Construction Road in SA-6 South Cap Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
06/30/16	Integrated Annual Groundwater Performance Report for 2015 Study Areas 5, 6, and 7 Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Construction Management (AMEC)	9	9	9	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3

Team	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Entact/Subcontractors	32	33	32	32
Arecon/US Ecology Subcontractors	1	1	1	1
ESI	0	0	0	13
Lagan	0	0	0	1
Century	0	0	0	1
Evoqua	1	1	1	2
B&B Drilling	0	1	2	2
Cornerstone	1	1	0	3
TOTAL STAFF	**49**	**51**	**50**	**69**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted second round of quarterly regional groundwater level measurements.
- Conducted S-3 Mass Removal Injection Event No. 29 in injection well 088-IW-01 and related semi-annual groundwater quality sampling.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 South and SA-6 North.
- Completed installation of piezometer pairs associated with SA-6 North Open Space Area.
- Completed reinstallation of electrical service on the northeast corner of SA-7.
- PVSC completed yearly inspection of the GWTP and the CWTP on June 2, 2016.
- Collected June PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Collected 3-Year Performance Assessment soil samples from in-situ treatment areas TA-7 and TA-8 in accordance with the Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil (dated February 2013) on June 27, 2016.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on June 9, 2016.
- Completed replacement of Groundwater Treatment Plant breaker and electrical panel.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Avg. Gallons Treated & Discharged (per day)	76,848	78,192	77,202	74,270
Average Flow (gpm) for Operating Period	57	56	56	55
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	3,331	3,816	2,512	3,619

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed excavation and post-excavation sampling of small area of observed chromium impacted soils under the former 60 Kellogg St. building. Post excavation sampling indicates that results were <20ppm.
- Completed cutting of pilings within the 60 Kellogg footprint and completed backfilling of the 60 Kellogg excavation.
- Completed disassembly of SA-6 South Soil Containment area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	17.6	17.6
Bayshore	Tri-Axle	Keasbey, NJ	Bayshore Recycling	Non-Haz Petroleum Soil	84	24	2,016

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Excavation Completed	Excavation Area 60 Kellogg Footprint Volume Excavated - Total for Reporting Period: 60 Kellogg (30 CY)

3. BACKFILL MATERIALS USED

Source	Week Ending			
	06/05/16	06/12/16	06/19/16	06/26/16
Natures Choice Horizon C	1,020	0	0	0
Cedar Hill Horizon B	3,929.39	2,545.57	4,185.73	848.7
Tilcon Mount Hope I-8	630.20	179.47	301.45	0
Natures Choice Topsoil	0	0	1,678.96	0
Tilcon 3/8" Stone	0	102.64	0	51.41
Weldon Screenings	2,977.8	2,543.6	1,870.25	358.04

- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill in Site 140.
- Continued to screen Celgene material for use as protective cover soils on the SA-6 North Open Space Area.

D. SURCHARGE OPERATIONS

- Area 1S: Surcharging and offloading of surcharge material is complete.
- Area 2S: Surcharging and offloading of surcharge material is complete.
- Area 3S: Surcharging and offloading of surcharge material is complete.
- Area 1N: Surcharging and offloading of surcharge material is complete.
- Area 2N: Surcharging and offloading of surcharge material is complete.
- Area 3N: Surcharging and offloading of surcharge material is complete.
- Area 4N: Surcharging and offloading of surcharge material is complete.

E. SHEET PILE OPERATIONS

- Continued cutting hydraulic barrier sheets to final elevation in SA-6 North Open Space Area.

F. CAPPING OPERATIONS

- Completed placement of root barrier and demarcation tape and importing and placing Horizon C soils to include associated compaction testing on the SA-6 South Open Space Area.
- Completed importing and placing Horizon B soils atop Horizon C soils on SA-6 South Open Space Area.

- Continued importing and placing Horizon A Topsoil.
- Applied lime on western portion of the SA-6 South Open Space Area topsoil in preparation for hydro-seeding.
- Continued placement of Structural Fill Material in the future utility corridors crossing the SA-6 South open space area to include associated compaction testing on the SA-6 South Open Space Area.
- Continued SA-6 North geomembrane liner subgrade grading activities within the Open Space Area.
- Began installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- A total of 57,807 sq. ft. of geomembrane liner totaling 13% of the total cap area was deployed during the reporting period.
- Completed spark testing on three initial boot welds.
- Continued cutting hydraulic barrier sheets and finishing the SCB wall to final elevation in SA-6 North Open Space Area.
- Continued installation of Gas Vent Pipe within the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue importing and placement of Horizon A Topsoil and on the SA-6 South Open Space Area.
- Begin Hydro-seeding of SA-6 South Open Space Area.
- Continue screening of Celgene soils for protective cover soils.
- Continue cutting SA-6 North Hydraulic Barrier Wall and Soil-Cement Bentonite Wall to geomembrane liner grade.
- Continue preparation of the SA-6 North subgrade for geomembrane liner installation.
- Continue installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Begin placement of GDL cover soils within the SA-6 North Open Space Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Continue installation CGWES Components.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 30 in well 088-IW-02.
- Conduct second quarterly LTMP regional groundwater level measurement round.
- Prepare and submit the NJDEP – Discharge to Groundwater Permit by Rule for Treatment Area 10-1 injections.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(sampled June 30; data not available for this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
    - SA-6 Cap Subgrade Progress Maps
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Form
    - QA Photo Log
    - Daily QA Reports (Langan)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

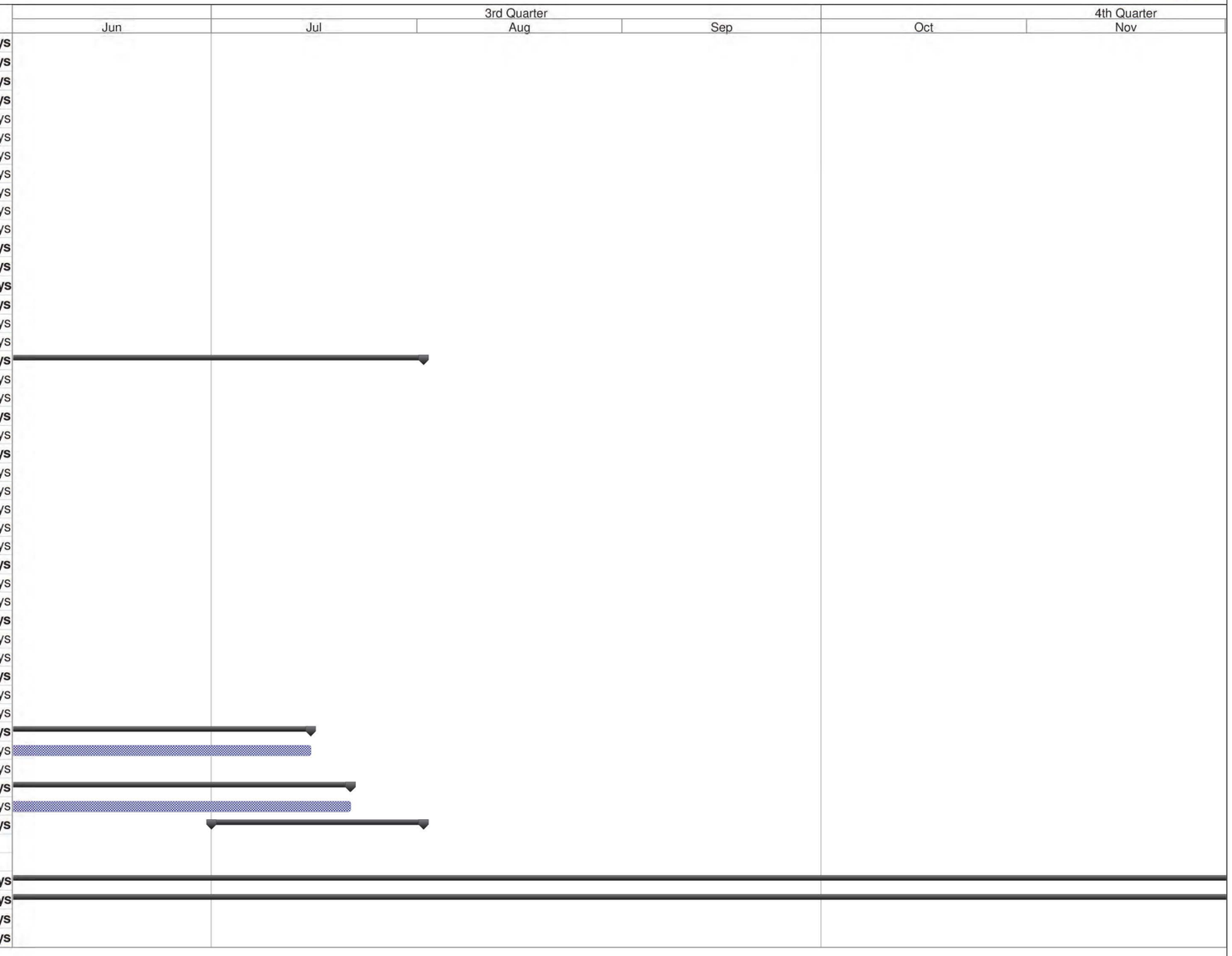
Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

amec foster wheeler

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**
2	**Remedial Action Work Plan**	**33 days**
5	**Remedial Action Design**	**1522 days**
18	**JCIA/JCDPW Relocation**	**1780 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	949 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	146 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
26	**Remedial Action Work Plan**	**187 days**
32	**Remedial Action Design**	**1161 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**894 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days
60b	SA-6S (Site 163) In-Situ Treatment	555 days
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**706 days**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	185 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	91 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days
63	**Barrier Wall Install**	**569 days**
63a	SA 6N Installation of Barrier Wall	159 days
63b	SA 6S Installation of Barrier Wall	210 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	SA 6S Excavation	295 days
65	**Backfill**	**558 days**
65a	SA 6N Backfill	283 days
65b	SA 6S Backfill	384 days
66	**Capping and Cover Soil Placement**	**426 days**
66a	SA 6N Capping and Cover Soil Placement	83 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**234 days**
67a	Restoration	234 days
68	**Demobilization**	**22 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	
69	**SA-6 North Project Closeout**	**311 days**
75	**SA-6 South Project Closeout**	**311 days**
81	**SA-6 North Long Term Protections**	**1830 days**
92	**SA-6 South Long Term Protections**	**2569 days**



Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Project: SA-6 Remediation Schedule
Revision 4
Date: 6/22/15

Task Milestone Summary Critical

Attachment 2: Site Photographs



Site Photograph 1: Grading clean imported cover soils in Open Space Area.



Site Photograph 2: Installing monitoring wells former Jersey City properties.



Site Photograph 3: Loading clean imported cover soils for placement in Open Space Areas.



Site Photograph 4: Placement of Venting Layer in Open Space Area.



Site Photograph 5: Placing clean imported topsoil in Open Space Area Kellogg St properties.



Site Photograph 6: Removing trimmed sections of sheet pile barrier wall.



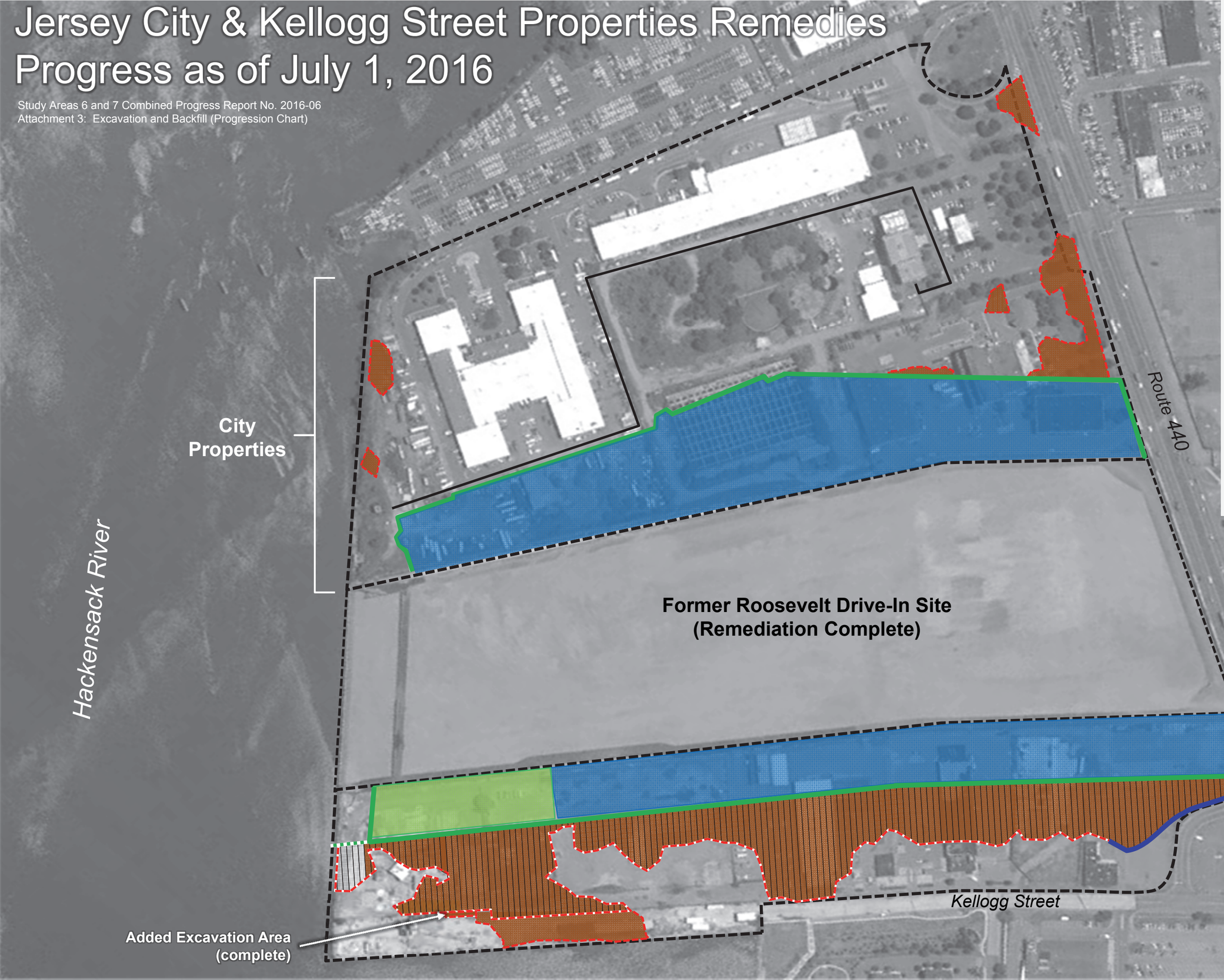
Site Photograph 7: Unloading clean imported stone screenings in utility corridor.

Attachment 3: Excavation and Backfill

- Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of July 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-06
Attachment 3: Excavation and Backfill (Progression Chart)



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

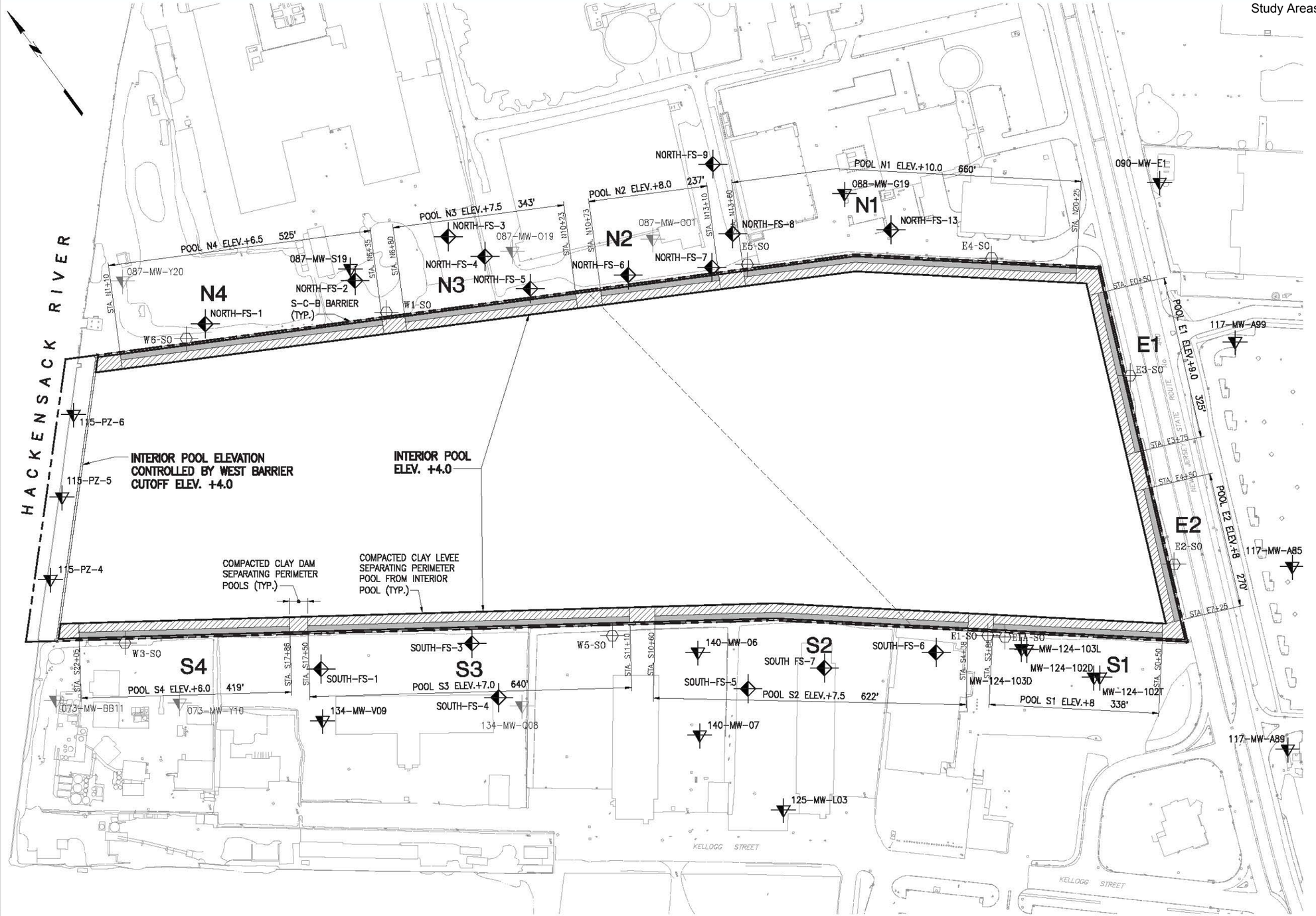
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
04/29/16	10:00	14:15	4:15	42,847.64	42,912.90	65,260	42,912,450	
05/06/16	10:00	15:00	5:00	42,912.90	42,965.49	52,590	42,965,040	PVSC Compliance Sample Collected
05/13/16	11:00	15:00	4:00	42,965.49	43,019.78	54,290	43,019,330	
05/20/16	11:00	15:00	4:00	43,019.78	43,071.32	51,540	43,070,870	
05/27/16	10:00	14:00	4:00	43,071.32	43,130.78	59,460	43,130,330	
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	
06/06/16	7:30	13:30	6:00	43,268.97	43,338.94	69,970	43,338,490	
06/08/16	7:30	12:00	4:30	43,338.94	43,402.10	63,160	43,401,650	PVSC Compliance Sample Collected
06/13/16	9:00	13:00	4:00	43,402.10	43,464.75	62,650	43,464,300	
06/21/16	8:00	14:00	6:00	43,464.75	43,543.94	79,190	43,543,490	
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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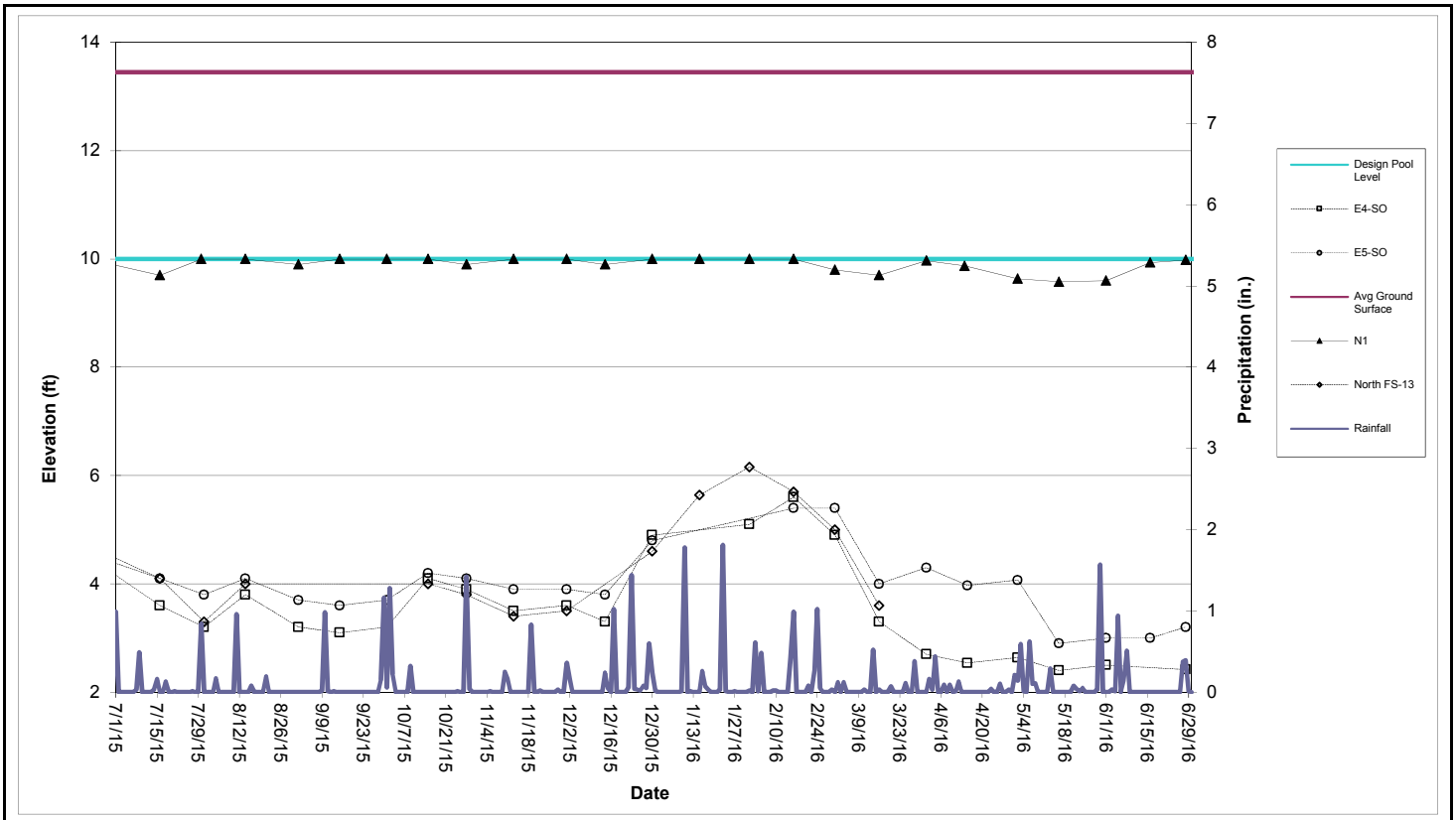
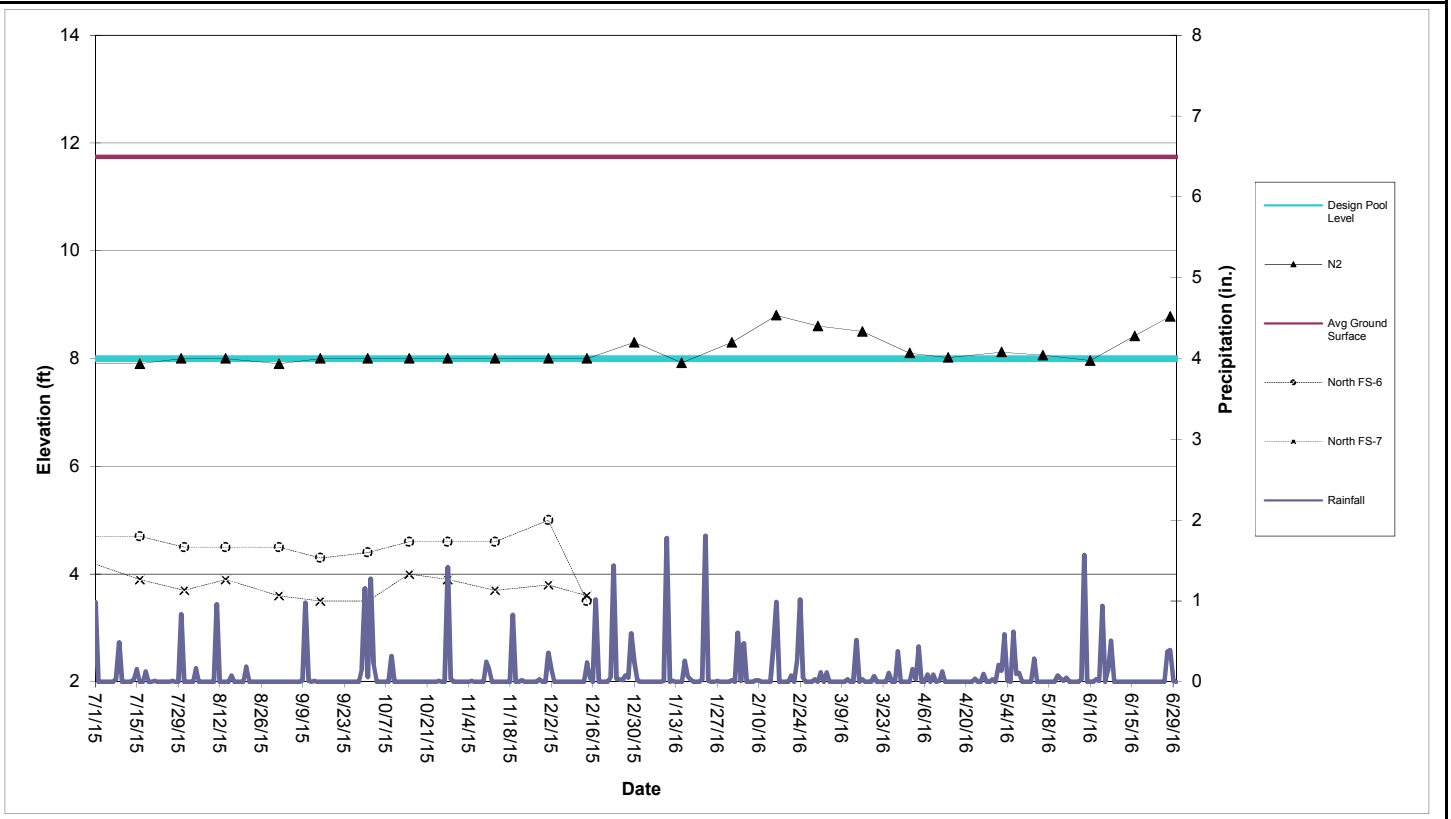
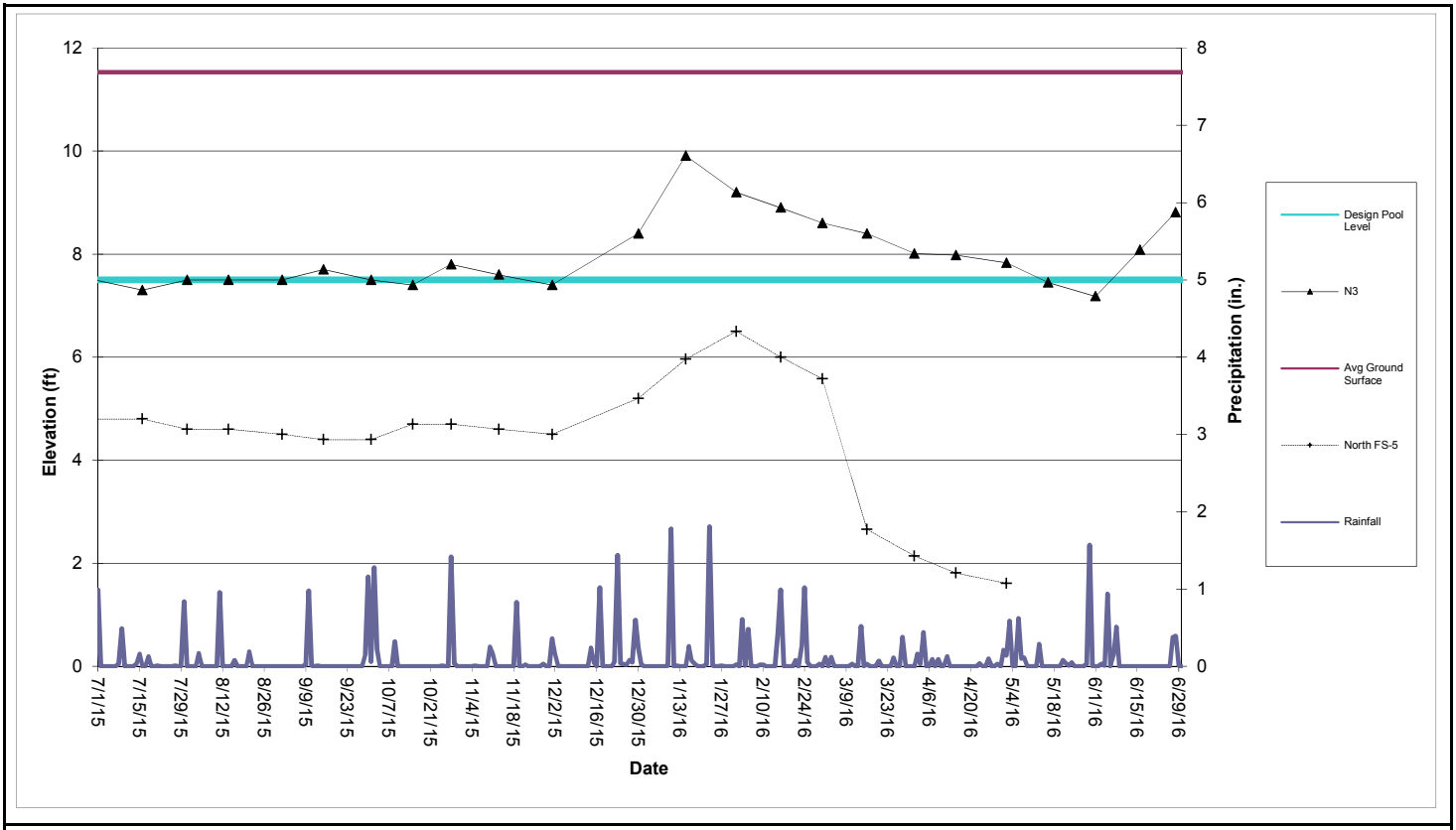
bboscaino



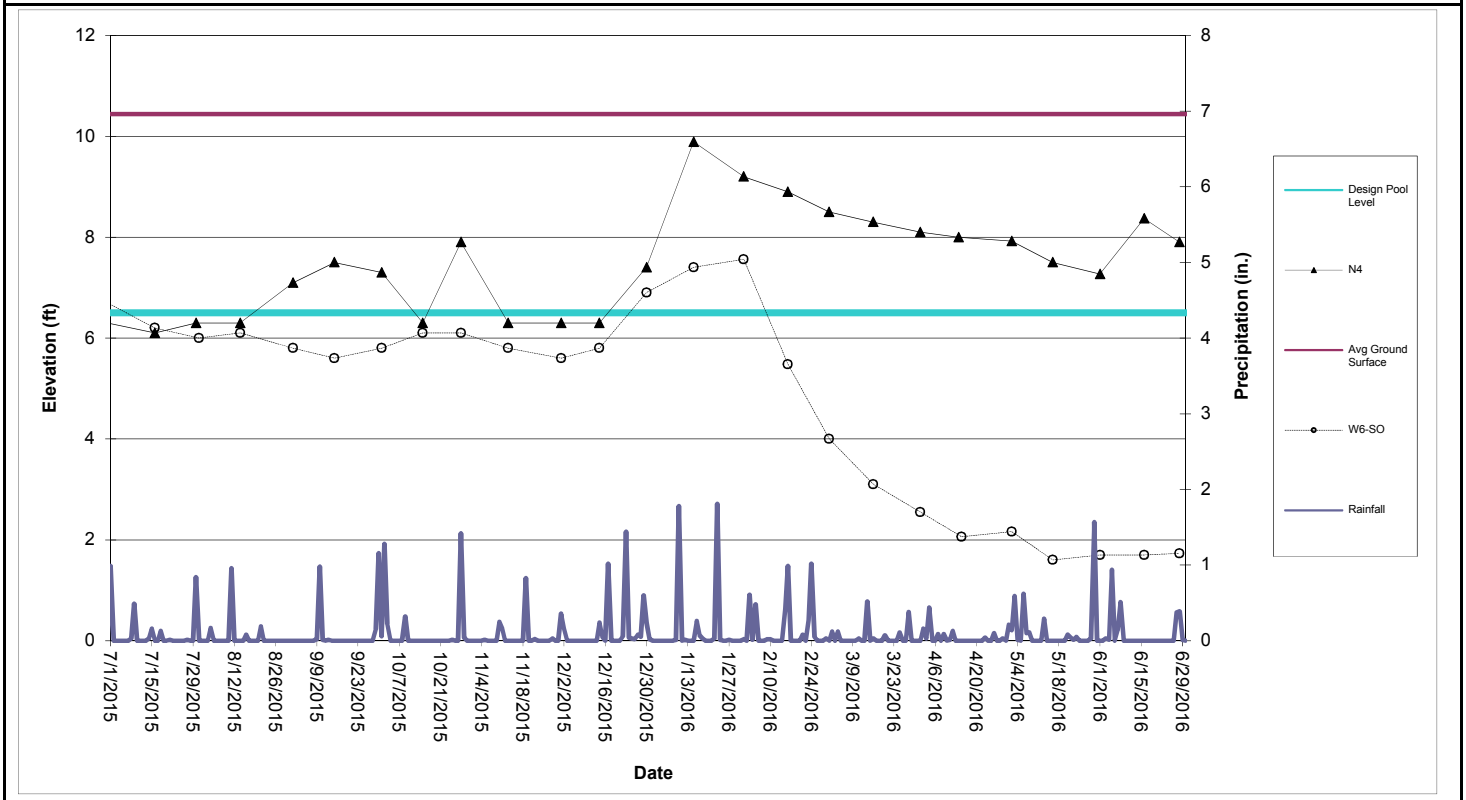
Perimeter Pool N1 (Sta. N13+60 to N20+25)



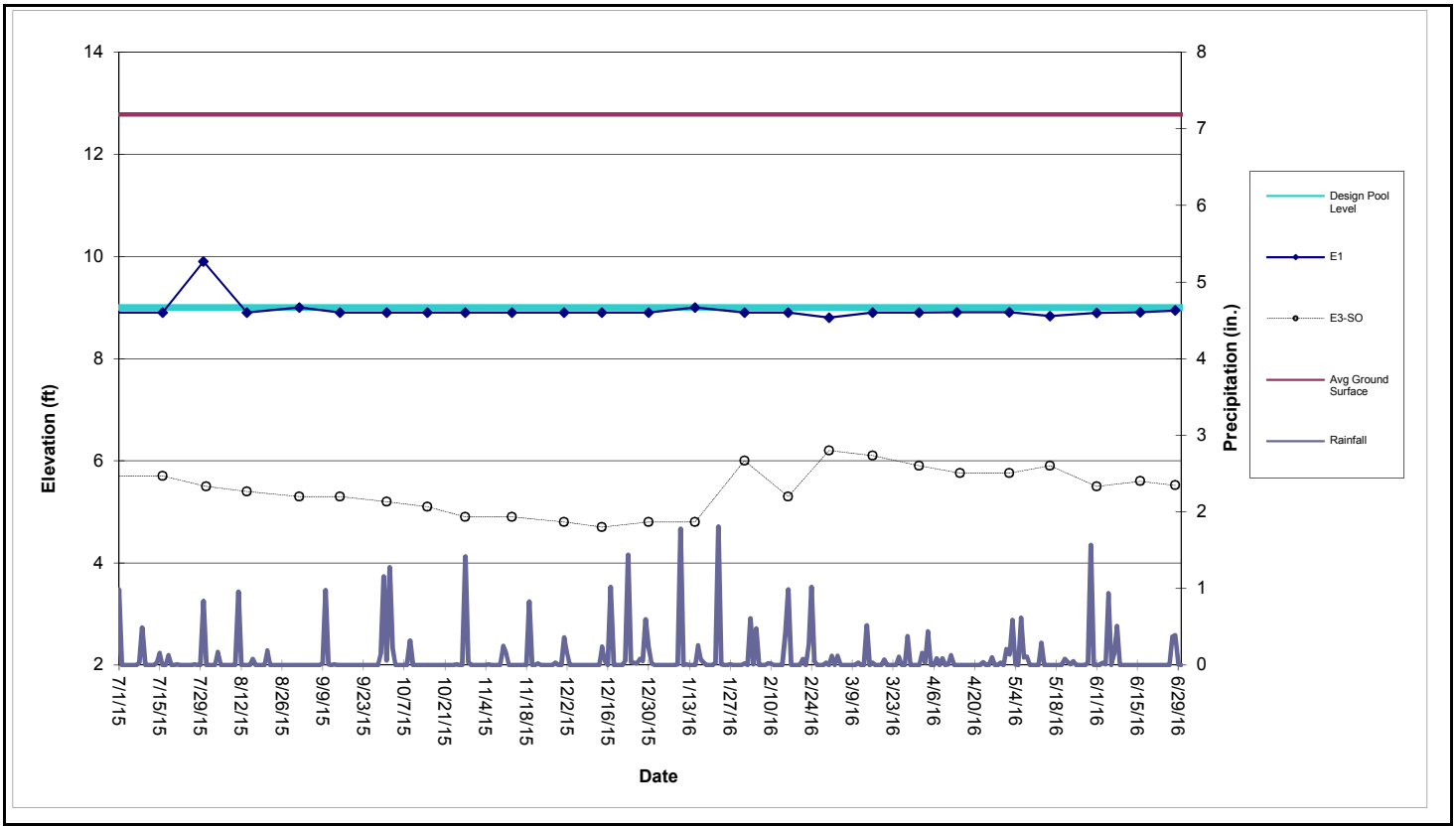
Perimeter Pool N2 (Sta. N10+73 to N13+10)



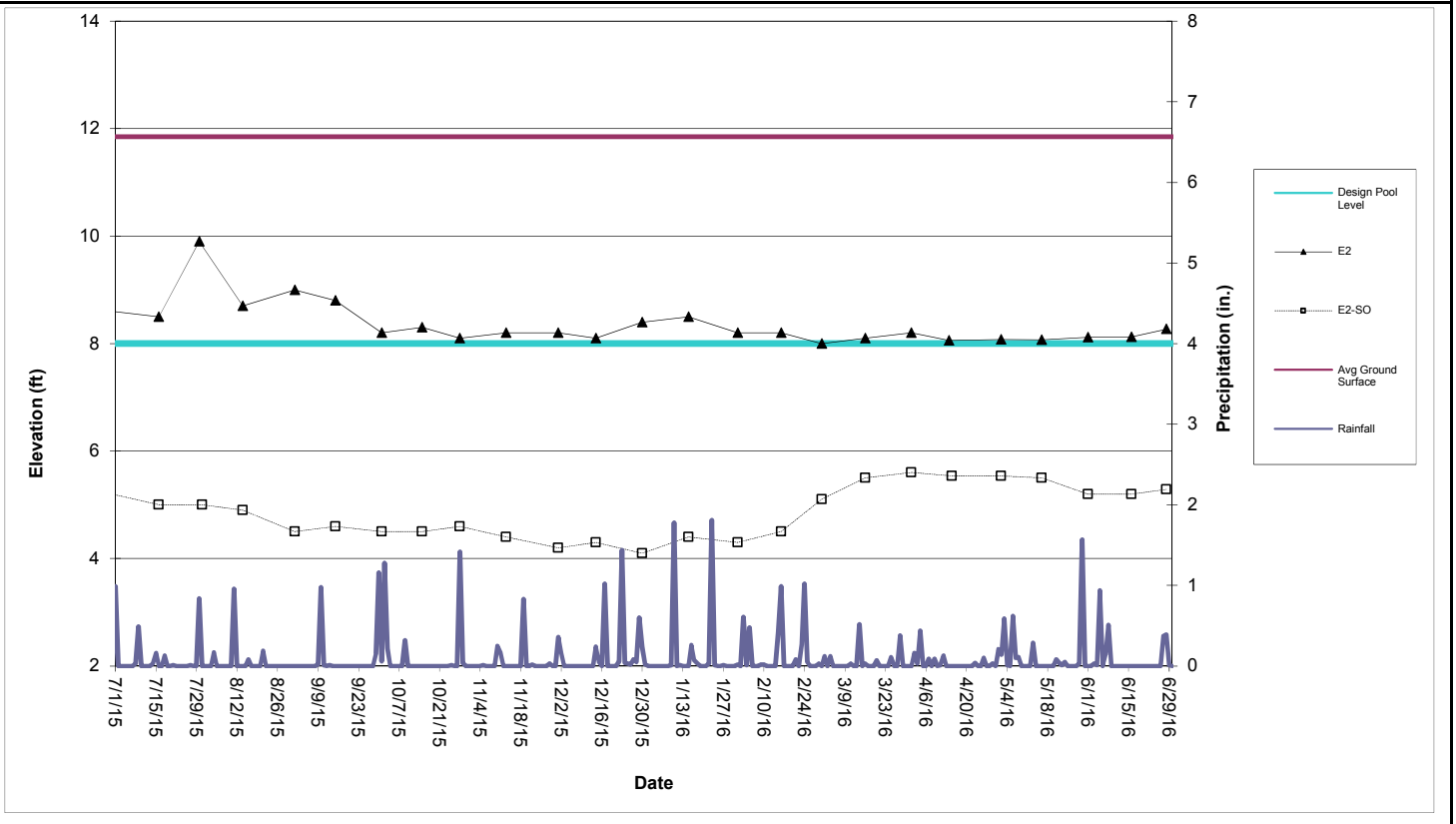
Perimeter Pool N3 (Sta. N6+80 to N10+23)



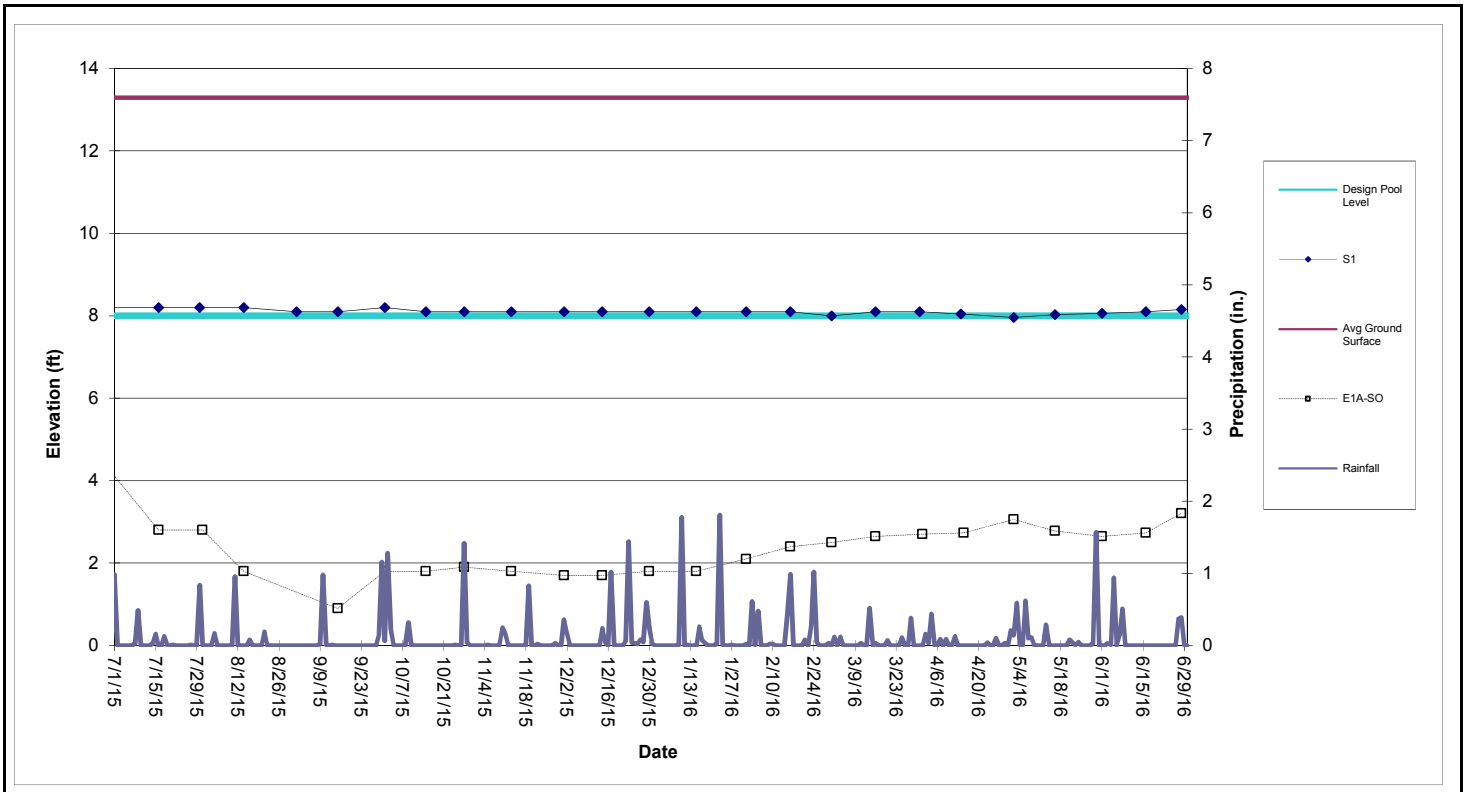
Perimeter Pool N4 (Sta. N6+80 to N10+23)



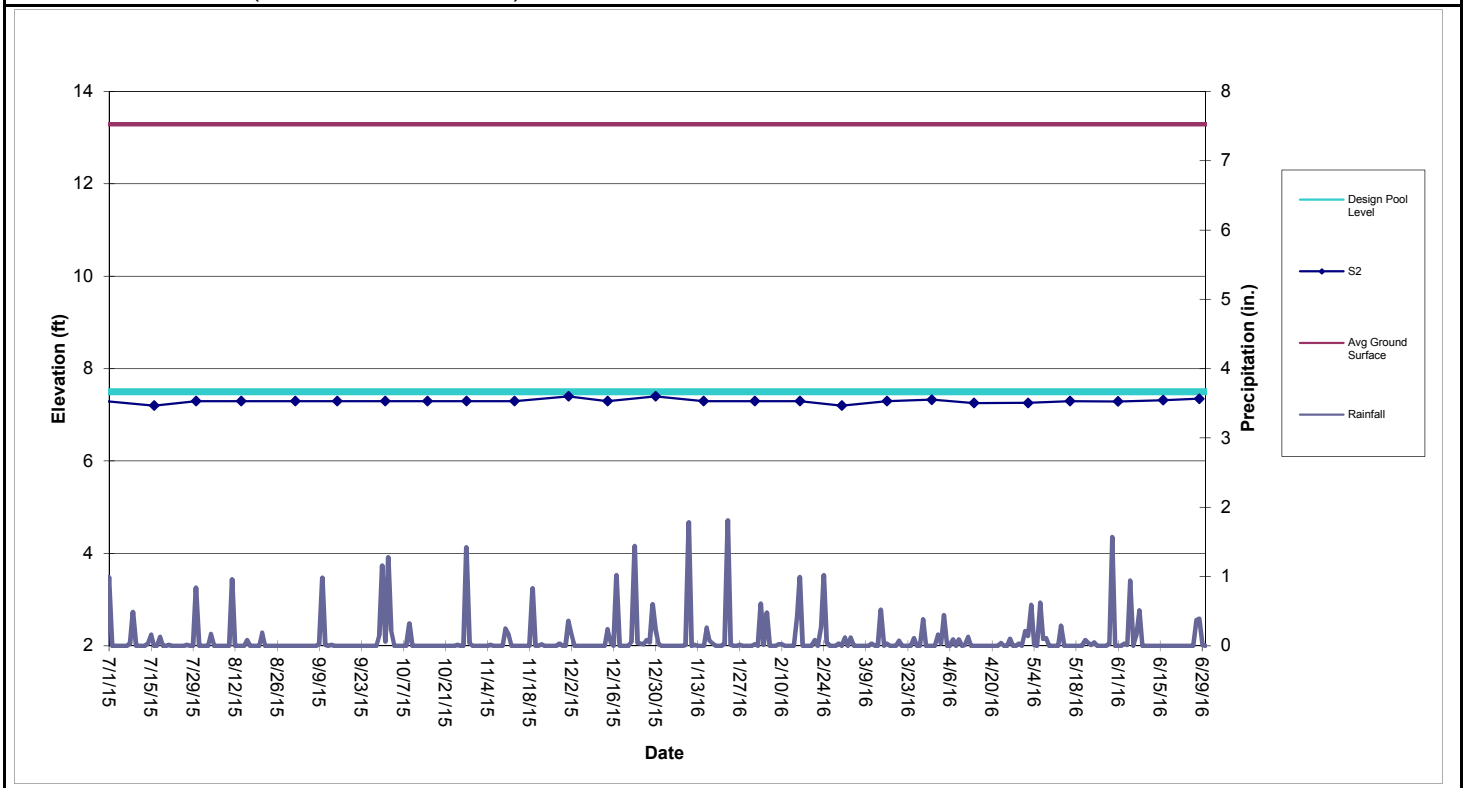
Perimeter Pool E1 (Sta. E0+50 to E3+75)



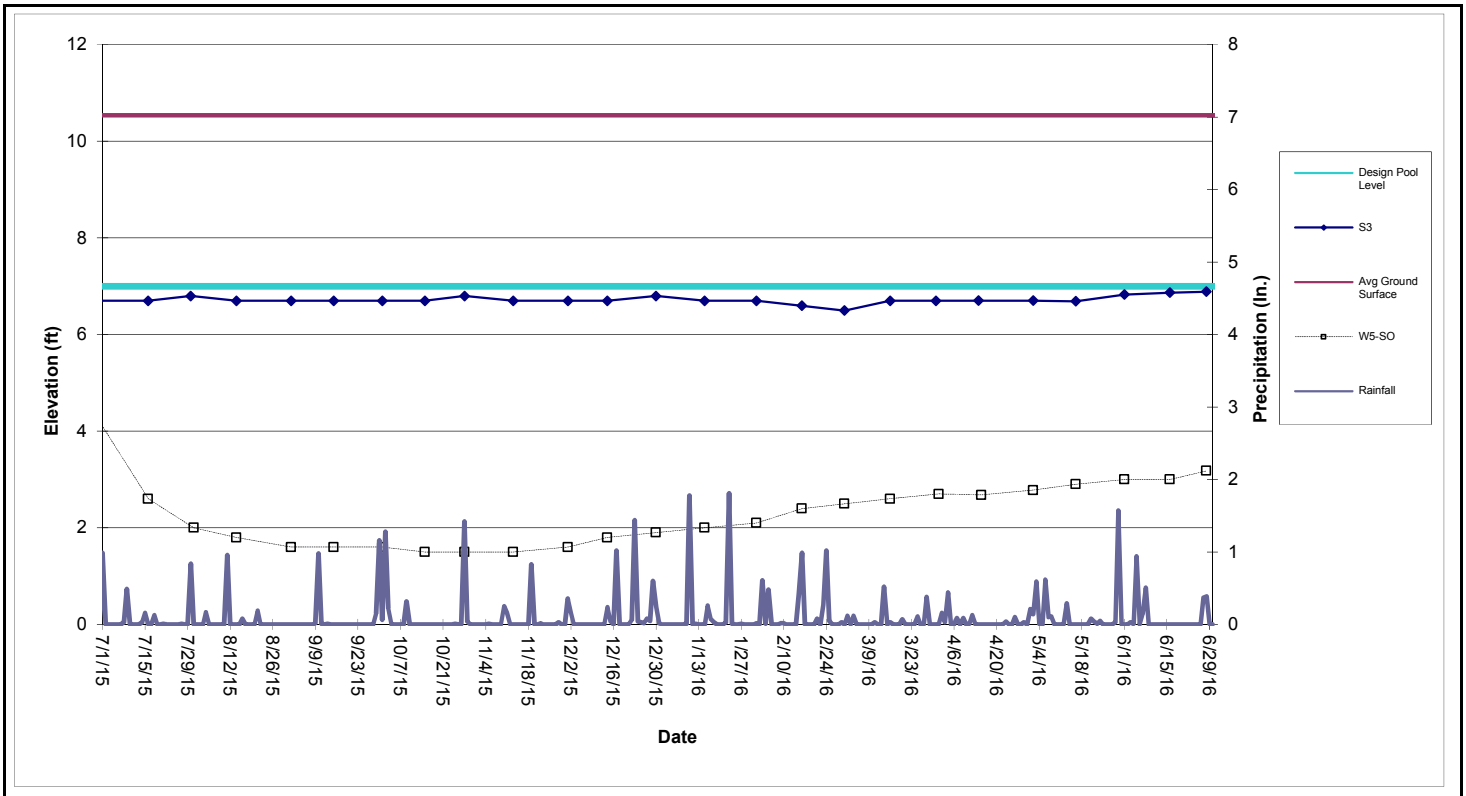
Perimeter Pool E2 (Sta. E4+50 to E7+25)



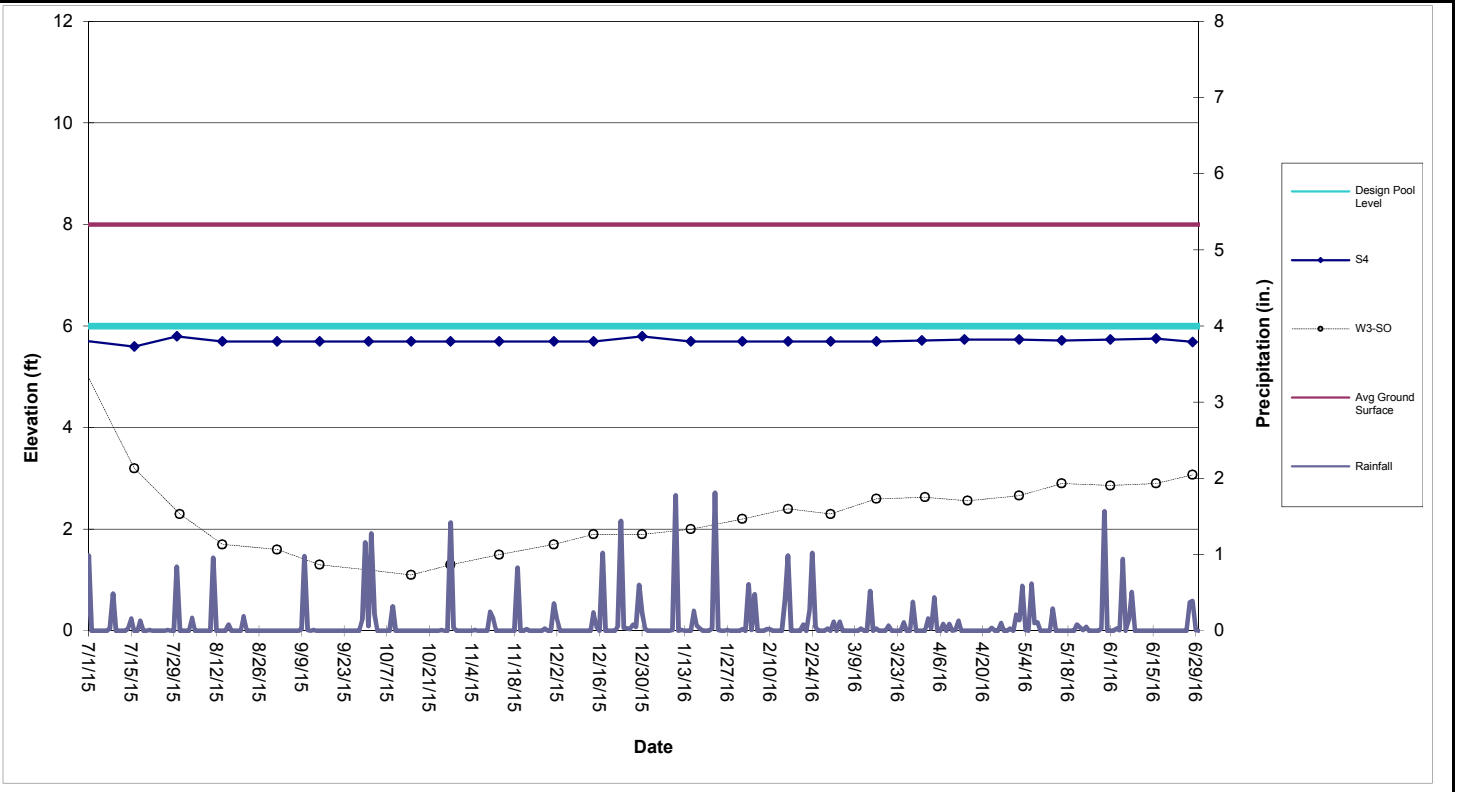
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
7/16/2015	2.8	5.0	5.7	3.6	4.1		3.2	2.6	6.2	4.8	4.7	3.9	4.1
7/31/2015	2.8	5.0	5.5	3.2	3.8		2.3	2.0	6.0	4.6	4.5	3.7	3.3
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1	4.6	4.5	3.9	4.0
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8	4.5	4.5	3.6	
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6	4.4	4.3	3.5	
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.3	5.5	2.4	3.2	2.4	3.1	3.2	1.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

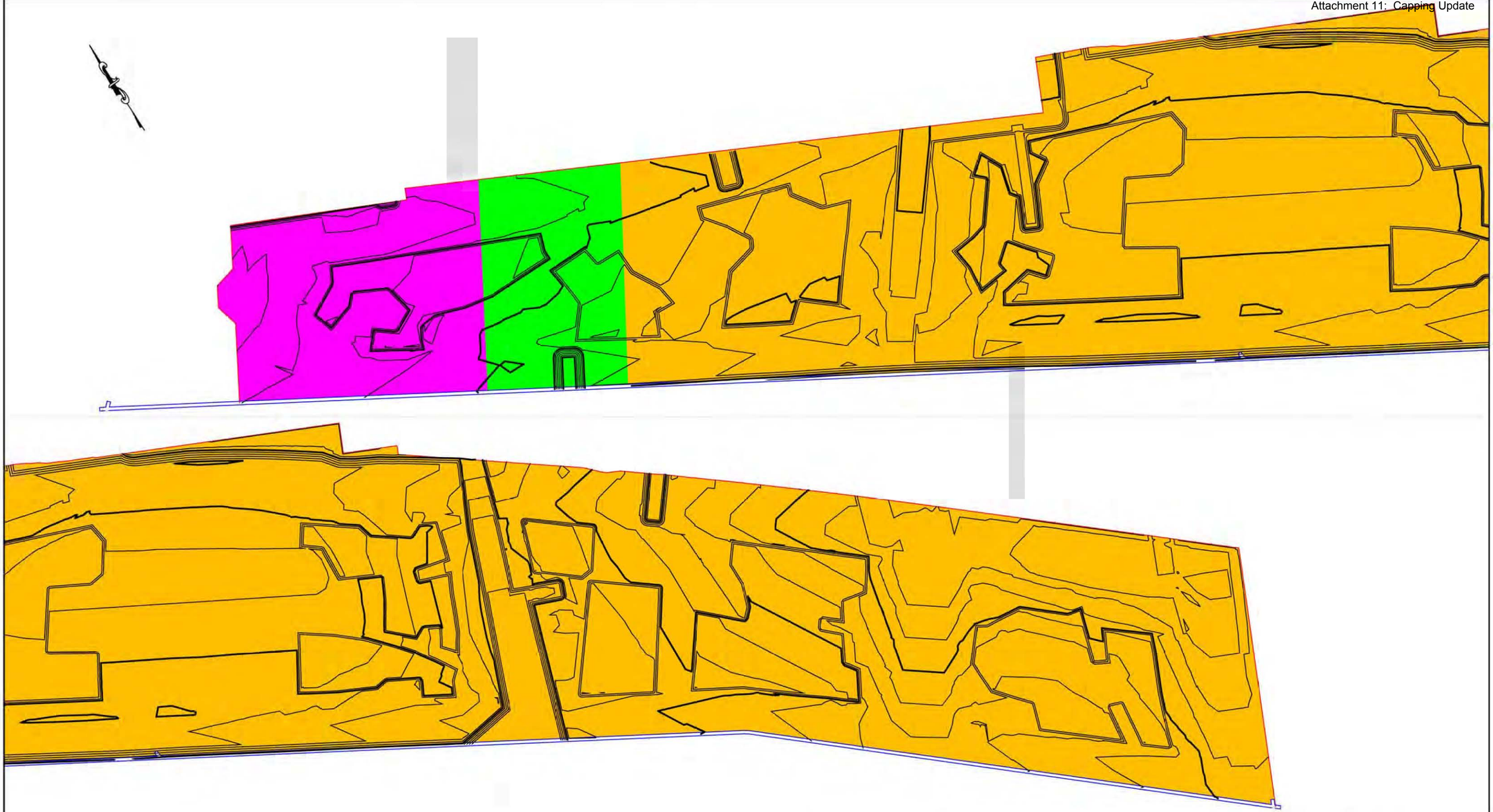
(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 Cap Subgrade Progress Maps
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)



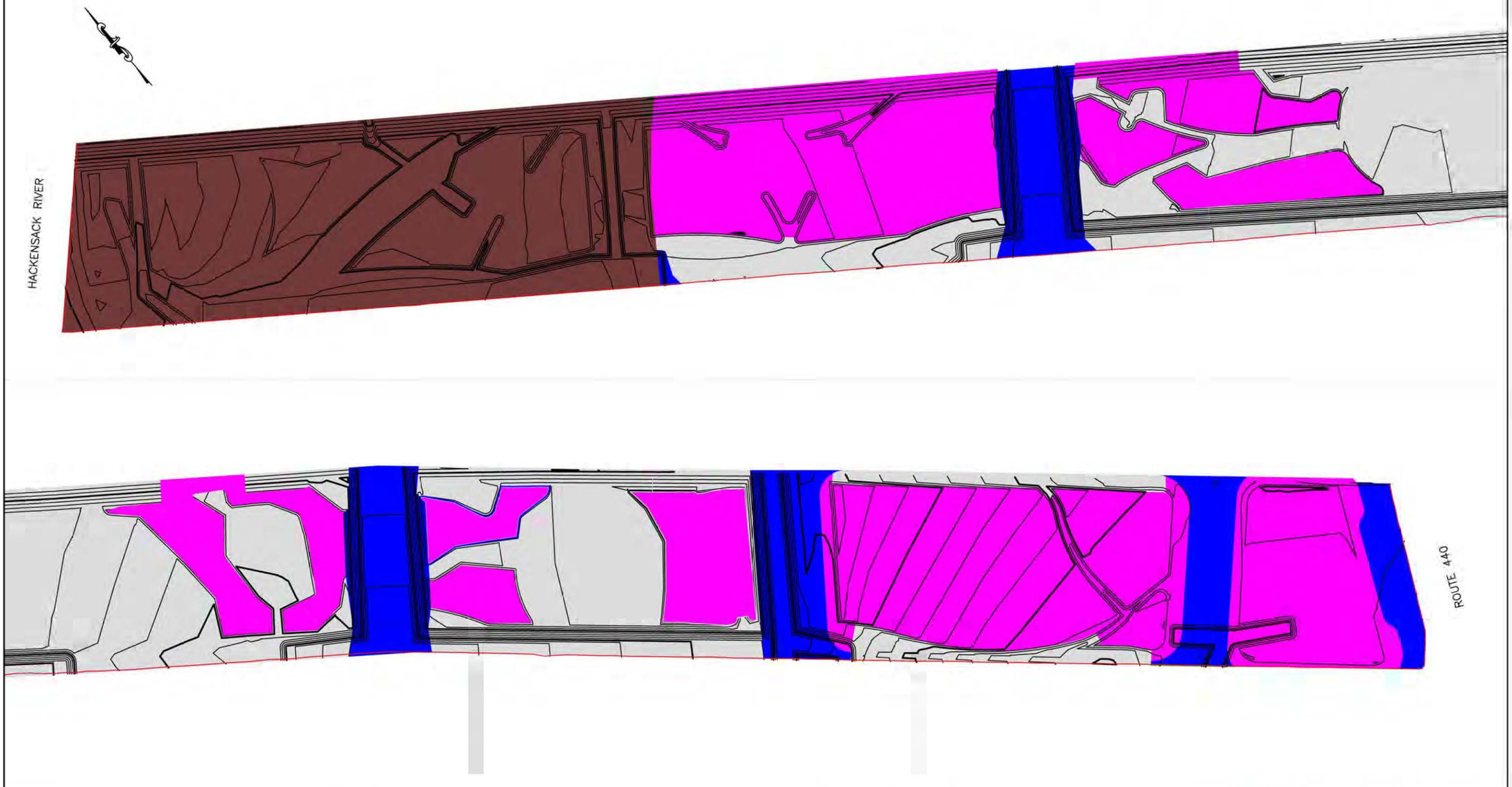
LEGEND

- SUBGRADE GRADING UNDERWAY
- SUBGRADE COMPLETE AND SURVEYED
- APPROVED FOR GEOSYNTHETIC DEPLOYMENT
- LINER DEPLOYED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP SUBGRADE PROGRESS MAP
06/24/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
06/30/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6		77' N OF SEOS	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF S EOS (PB 6")	P	3	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF SEOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1		P1/R15	34'N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P9	BETWEEN R12 & R13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF SEOS	B	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P6	BETWEEN R22 & R9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
21	CF		P6	BETWEEN R22 & R8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
22	CF		P6	68' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P-10	27' N OF S EOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P10	BETWEEN R-35 & R-28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P10	64' N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P10	93' S OF NEOS & 4'W (48" MH)	P	6	x	10		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P10	BETWEEN R29 & R31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P10	68' S OF NEOS & 2' W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P10	76' N OF SEOS & 7' W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P10	BETWEEN R-32 & R-34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		78' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11		49' N OF SEOS	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P11	50' N OF SEOS	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB		11	83' N OF SEOS (8" PIPE)	P	4	x	5		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

| Damage Codes | | |

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	954	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	1034.67	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF		P19	30' N OF SEOS	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF		P19	42' N OF SEOS	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
70	CF		P19	49' N OF SEOS	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		115' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		118' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2		P10/R30	106' N OF SEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74							x								
75							x								
76							x								
77							x								
78							x								
79							x								
80							x								
81							x								
82							x								
83							x								
84							x								

Summary of Non-Compliance & Corrective Action Forms
SA-6 North Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	6/23/2016	Subgrade Irregularity	R-10	Panel P6	Rock was removed from underneath geomembrane and hole was then patched with approximate 3 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
2	6/29/2016	Subgrade Irregularity	R-98	Panel P26	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)

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Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 319+00 + ~STA 317+75		
QA Monitor	LANGAN	Date	6/22/16		

Description of Soil Surface to be lined: WESTERN END OF SA-6 NORTH (~STA 319+00) APPROX. 125 FT. EAST (STA. 317+75). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS. NOTE: MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS TO ALLOW POSITIVE DRAINAGE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/22/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	6/22/16
Title	QC Manager
Representing:	Entact
Signature:	

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Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.
MINOR CHANGES IN SUBGRADE ELEVATION IN SELECT AREAS OF CAP (COMPLETED BY ENTACT)
- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA 319+00	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 6/22/16)
	2 PHOTO #2	STA 318+50	LOOKING N	REFER TO PHOTO #2 (PHOTO LOG 6/22/16)
1. REFER TO 6/22/16 PHOTOGRAPH LOG PHOTOS 1 TO 4 FOR SUPPORTING INFORMATION.				2.

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PHOTOGRAPHIC LOG
Photo #1 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/22/16

Direction Taken:

Looking North along SA-6 North (western end of cap) near Sta. 319+00.

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (> ½").



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PHOTOGRAPHIC LOG
Photo #2 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/22/16

Direction Taken:

Looking southeast along western end of SA-6 North.

Description:

Soil subgrade prepared by Entact. Soil firm and underlying, and graded, compacted and free of debris (>1/2")



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PHOTOGRAPHIC LOG
Photo #3 (06/22/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7) Jersey City, New Jersey	**Project No.** **100530001**

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 N (approximately Sta. 319+00)

Description:

ESI deploying 16oz. geotextile along western end of SA-6 North. Geotextile overlapped minimum of 1 ft. over the edges of the cap (remaining roll width inside)



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PHOTOGRAPHIC LOG
Photo #4 (06/22/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7) Jersey City, New Jersey	**Project No.** **100530001**

Date:
6/22/16

Direction Taken:

Looking south along SA-6 North (approximate Sta. 318+25).

Description:

ESI placing white plastic fasteners at maximum 5 ft. spacing along adjacent GVL panels. Top layer geotextile then sewn.



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PHOTOGRAPHIC LOG
Photo #5 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking north along western end of SA-6 North

Description:

ESI deploying LLDPE along western end of SA-6 North (approximate Sta. 319+00).



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PHOTOGRAPHIC LOG
Photo #6 (06/22/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/22/16

Direction Taken:

Looking south / southeast along SA-6 North

Description:

LLDPE deployed across SA-6 North from approximate Sta. 319+00 to Sta. 317+75.



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PHOTOGRAPHIC LOG
Photo #7 (06/24/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (North of SA-7) Jersey City, New Jersey	**Project No.** **100530001**

Date: 6/24/16

Direction Taken:

Looking east / southeast along SA-6 North (from approximately Sta.316+50).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (> ½").



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PHOTOGRAPHIC LOG
Photo #8 (06/24/2016)

Project: Honeywell SA-6 North Capping	**Location:** SA-6 North (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date: 06/24/16

Direction Taken:

Looking north / northwest at Well 115-W6-SO

Description:

Amec conducting methane testing for Well 115-W6-SO pipe boot. Methane at concentration of 1.4% measured. No spark testing conducted on well pipe boot.



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PHOTOGRAPHIC LOG
Photo #9 (06/24/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/24/16

Direction Taken:

SA-6 North – Gas Vent GV-6

Description:

ESI conducting spark testing for Gas Vent GV-6 pipe boot. Methane testing yielded results of 0.0% (below 1%), thus spark testing was conducted. No sparks identified during test. Spark test passed.



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PHOTOGRAPHIC LOG
Photo #10 (06/24/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
06/24/16

Direction Taken:

Looking south / southeast along SA-6 North (Panel P13 / P14).

Description:

ESI conducting fusion welding along Panel P13 / P 14 seam.



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PHOTOGRAPHIC LOG
Photo #11 (06/24/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/24/16

Direction Taken:

SA-6 North, Panel P12 / P13

Description:

ESI conducting non-destructive testing (i.e. pressure testing) for Panel seam P12 / P13 / P14. Seam pressurized to 30 psi and held for 5 minutes with <4 psi loss (according to project specs).



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PHOTOGRAPHIC LOG
Photo #12 (06/24/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/24/16

Direction Taken:

SA-6 North Panel P10

Description:

ESI conducting vacuum box testing for R-31 (Panel P10).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/21/2015
PROJECT:	SA-6 Capping			**WEATHER:**	80/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Inspection		**TIME:**	0745 – 1215

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #1**
Entact & ESI *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite to conduct soil subgrade inspection along the west end of SA-6 North. A preliminary kickoff meeting was conducted between AmecFW, Langan, and Entact to discuss the QA / QC activities, along with the strategy and implementation plan for the proposed capping of SA-6 North.
- Following the meeting, Langan and AmecFW conducted a visual observation of the prepared soil subgrade along the western end of SA-6 North. This area included the furthest western part of the cap (approximately 100 ft. from the western end moving east).
- In general, the following soil subgrade properties were observed:
  - Various debris including broken glass, wood fragments, small rocks, etc. were observed along the western end of SA-6 North (specifically along the slopes and elevation changes at the northern end of the cap). It is recommended that this debris addressed so that no objects are penetrating / extruding from the surface, and the overall subgrade is flat and even. Additionally, Entact should provide laborers with a wheelbarrow and equipment to collect various debris as it is encountered.
  - Some slight changes in elevation were observed in areas along the western end of the cap where one area appeared higher than the other. The variations in cap subgrade elevation could potentially result in the ponding of water. Additionally, the mouths along the tree bulb swales appeared to be higher than the swale itself, thus causing water to pond in the swales instead of flowing out and down the sides of the cap. AmecFW to review the survey data and confirm existing grades.
  - Additional details regarding the subgrade are outlined in the 6/21/16 Photograph Log attached as part of this report.
- AmecFW to address the issues outlined above, with follow up subgrade inspection to be completed on 6/22/16 by Langan (prior to deployment of GVL).

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade observation, the soil has not yet been approved for liner installation activities based on the debris / penetrations outlined in this report. It is recommended that the Entact provide the necessary labor to remove the various debris and provide a flat, even surface with no penetrations or extrusions through the subgrade.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items Pending

- QA Engineer - Review SA-6 North capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned to commence on 6/22/16).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- SA-6 North capping to commence on 6/22/16 (pending soil subgrade approval).

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log



Photo 1: Wood and various debris observed along northern end of SA-6 North.



Photo 2: Looking south along western end of SA-6 North. Misc. trash and debris to be removed by Entact.

Photograph Log (continued)



Photo 3: Prepared subgrade along western end of SA-6 North. AmecFW to confirm and verify surveyed grades.



Photo 4: Soil subgrade along western end of SA-6 North. Entact to remove debris / penetrations. AmecFW to verify and confirm surveyed grades.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/22/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0745 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #2** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Philemon **Langan:** Dan Bosworth **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) starting at the western end of SA-6 North. Material to be placed starting from the western end (approximate Sta. 319+00) of SA-6 North for approximately 125 ft. east. (to approximate Sta. 317+75).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area).
- Prior to placement of geosynthetic material, soil subgrade observation was conducted by Langan and Entact for the area outlined above. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1, 2, 3, and 4 of the daily photo log for 6/22/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW. Additionally, minor modifications to the subgrade elevations were completed by Entact to facilitate positive drainage flow away from the tree bulb swales (located at approximate Sta. 317+75).
- Following soil subgrade approval, ESI began by placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed on the western end of the Site (approximate Sta. 319+00) moving east (to approximate Sta. 317+75). GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 6/22/16 Photo Log for supporting photographs.
- After installation of GVL, geomembrane liner was installed beginning at the western end of SA-6 North and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 319+00 to approximate Sta. 317+75. A total of seven panels were installed (P1, P2, P3, P4, P5, P6, and P7). Note: P1 consisted of an approximate 50 ft. by 18 ft. piece of LLDPE installed along the western end of SA-6 North. During placement of panel P4, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P5. P2, P3, P6, and P7 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Adjacent panel seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing. The results of the pre-trial weld are provided in the 6/22/16 *Trial Weld Log.*
- Non-destructive testing was then conducted (pressure testing) for the fusion welded seams. 30 psi was applied to the seams and held for 5-minute increments with no more than 4 psi loss measured over the 5-minute interval. The results of the non-destructive tests are outlined in the *Seam Control Form.*
- Destruct test samples and extrusion weld detailing to be completed on 6/23/15.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, etc.)

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 317+75 to Sta. 316+75).
- Continue with 16 oz. geotextile, GVL, and LLDPE placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be certified upon completion of SA-6 North
A2 – Receiving and Inspection		NA - No material delivered to the site on 6/22/16
A3 – Photo Log	Pages 1 - 8	Total of 16 photos outlining pertinent daily observations and descriptions for activities completed on 6/22/16
A4 – Geosynthetic Inventory Log		Completed to date, no updates from 6/22/15
A5 – Subgrade Approval	Sheet 1 & ESI (6/22/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan for trial welds completed on 6/22/16
A7 – Panel Placement Log	Sheet 1	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/22/16.
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 6/22/16
A9 – Seam/Non-Destruct. Test Log	Sheet 1	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/24/15
A10 – Repair Log		NA – no repairs or extrusion welds completed on 6/22/16.
A11 – Conformance COC		NA – for 6/22/16.
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/22/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/22/16
A14 – Penetration & Edge Form		NA – no penetrations / boots completed on 6/22/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 6/22/16
A17 – Spark Test Form		NA – no spark testing conducted on 6/22/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/23/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Lull, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #3** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from panel P7 installed on 6/22/16 (approximate Sta. 317+75). Material to be placed from Panel P7 running approximately 125 ft. east to approximate Sta. 316+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 317+75 (Panel P7 installed on 6/22/16) to approximate Sta. 316+50. Refer to *Soil Subgrade Approval* forms from 6/23/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 4 of the daily photo log for 6/23/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 317+75 (east Panel P7) moving east to approximate Sta. 316+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a minimum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/23/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also conducted patch / repair work along the panels installed on 6/22/16 (Panels P1 to P7). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/23/16).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- A total of eleven repairs (R-1 through R-11) were observed and fixed (according to the project specifications) from Panels P1 through P7. Refer to 6/23/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane (installed on 6/22/16) was being patched / repaired, ESI also began to prepare penetration boots for Piezometer PZ10 and Well 115-W6-SO. Note: The boot and boot skirts were completed, however, the vertical welds along the boot have not yet been completed as methane testing / spark testing are to be completed prior to finalizing the boot details.
- During repair activities / extrusion welding one non-conformance issue was observed and was documented on Sheet #1 as non-compliance. The non-compliance issue encountered was identified based on debris / rock that was observed underneath the LLDPE geomembrane. The rock was subsequently removed and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #1* for 6/23/16. The non-compliance issue was also recorded within the *Repair Log* as a subgrade irregularity and is identified as R-10.
- After placement of GVL, geomembrane liner was installed beginning at the western end of SA-6 North (from Panel P7) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 317+75 (Panel P7) to approximate Sta. 316+50. A total of six panels were installed (P8, P9, P10, P11, P12, and P13). Note: During placement of panel P8, the roll of LLDPE terminated approx.. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P9. Similarily, during placement of Panel P12, the roll terminated along the northern end of SA-6 North, thus the remaining run of LLDPE was labeled as P13. Panels P10 and P11 ran the entire width of SA-6 North (approximately 162 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/23/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 316+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/23/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P8 through P13. A total of 32 additional repairs (RP-11 through RP-43) were observed and fixed according to the project specifications. Additional details are also outlined on the 6/23/16 *Repair Log.*
- A total of four destruct samples were collected for laboratory sampling by Entact / ESI. Three fusion weld destruct samples DS-1 (Panel P1 / P2 seam), DS-2 (Panel P6 / P7 seam), and DS-3 (Panel P10 / P11 seam) were collected for laboratory analysis. Additionally, one extrusion weld sample DSX-1 (Panel P1) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 1 (Sheet #1) – Subgrade irregularity identified as R-10 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P6. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 1 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/23/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16. ESI Daily Form Submittals still to be reviewed.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/23/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 6/23/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/23/16
A5 – Subgrade Approval	Sheet 2 & ESI (6/23/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/23/16
A7 – Panel Placement Log	Page 2	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/23/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/23/16
A9 – Seam/Non-Destruct. Test Log	Page 1	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/23/16
A10 – Repair Log	Pages 1,2,3	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/23/16
A11 – Conformance COC		NA for 6/23/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/23/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/23/16
A14 – Penetration & Edge Form		NA – Pipe boot skirts completed, methane testing to be completed before finalizing welds and conducting spark testing.
A16 – Notice of Non-Compliance	Sheet 1	One non-compliance issue identified on 6/23/16 and summarized on Sheet 1.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/24/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1545

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #4** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P12 / P13 installed on 6/23/16 (approximate Sta. 316+50). Material to be placed from Panel P12 / P13 running approximately 75 ft. east to approximate Sta. 315+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 316+50 (Panel P12 / P13 installed on 6/23/16) to approximate Sta. 315+75. Refer to *Soil Subgrade Approval* forms from 6/24/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/24/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 316+50 (east of Panel P12 / P13) moving east to approximate Sta. 315+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/24/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also continued patch / repair work for the panels installed on 6/23/16 (Panels P8 to P13). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/24/16).
- In addition, methane / spark testing was conducted for the pipe boots completed for Well 115-W6-SO,

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Piezometer PZ10, and Gas Vent GV-6. Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Well 115-W6-SO, a concentration of 1.4% (greater than 1%) was measured. No spark testing was conducted on Well 115-W6-SO due to the measured methane concentration. Instead, the weld was visually observed for deficiencies and none were noted.

- Methane testing for PZ10 and Gas Vent GV-6 yielded methane concentrations of 0.8% and 0.0%, respectively (<1%). Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and both boots passed. Additional details are outlined in the *Spark Testing QA Form Sheets #1-3.*
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P12 / P13 (installed on 6/23/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 316+50 (Panel P12 / P13) to approximate Sta. 315+75. A total of six panels were installed (P14, P15, P16, P17, P18, and P19). Note: During placement of panel P15, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P16. Panels P14, P17, P18, and P19 ran the entire width of SA-6 North (approximately 192 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/24/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 315+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/24/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P14 through P19. Additional details are also outlined on the 6/24/16 *Repair Log.*
- A total of thirty repairs (RP-44 through RP-73) were observed and fixed (according to the project specifications) from Panels P14 through P19. Refer to 6/24/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: vacuum box testing not completed for all welds. To be continued on 6/27/16.
- A total of two destruct samples were collected for laboratory analysis by Entact / ESI. One fusion weld destruct sample DS-4 (Panel P15 / P17 seam) was collected for laboratory analysis. Additionally, one extrusion weld sample DSX-2 (Panel P10) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/24/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample data (once received from laboratory).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16 and 6/23/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, and DS-3. Reviewed laboratory data for extrusion weld destruct sample DSX-1.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/24/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/24/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/24/16
A5 – Subgrade Approval	Sheet 3 & ESI (6/24/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/24/16
A7 – Panel Placement Log	Pages 2&3	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/24/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/24/16
A9 – Seam/Non-Destruct. Test Log	Pages 4 to 6	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/24/16
A10 – Repair Log	Pages 2 to 3	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/24/16
A11 – Conformance COC		NA for 6/24/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/24/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/24/16
A14 – Penetration & Edge Form	Sheets 1 to 3	Pipe boot skirts completed, methane / spark testing completed for Piezometer PZ10, Well 115-W6-SO and Gas Vent GV-6 as outlined on the Sheets 1 to 3.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/24/16.
A17 – Methane / Spark Testing Log	Sheets 1 to 3	Methane / spark testing completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	6/29/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	78/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #6**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for LLDPE repair activities to be completed on LLDPE geomembrane installed on 6/27/16. Note: No capping activities conducted on 6/28/16 due to inclement weather, and no new LLDPE was placed on 6/29/16 as soil subgrade was not approved.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with non-destructive testing (pressure testing) and repair activities for geomembrane panels P19 through P27 (installed on 6/27/16). Non-destructive testing was conducted on the remaining panel seams and the seams were pressurized to 30 psi and held for 5 minutes with less than 4 psi loss. Refer to *6/29/16 Seam Control Form* for additional details.
- A total of twenty-two repairs (R-82 through RP-103) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/29/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected for laboratory analysis. Two fusion weld destruct samples, DS-5 and DS-6, were collected from Panel Seam P19 / P20 and Panel Seam P23 / P24, respectively. Additional details are outlined in the *Trial Weld Log* dated 6/29/16.
- The LLDPE pipe boot penetration for Gas Vent GV-5 was completed and extrusion welded. Note: no methane testing / spark testing completed. Methane / spark testing to be completed week of July 5, 2016.
- While ESI was conducting repairs, small areas of standing water were observed on the soil subgrade from Sta. 314+25 to approximate Sta. 313+75. Entact solidified the subgrade by adding calcium cement to the soils so that the wet areas were absorbed / removed. Additionally, minor modifications to the subgrade were completed to facilitate positive drainage off of SA-6 North.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as R-98 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P26. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 2 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/29/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct samples results for DS-5 and DS-6.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, and 6/27/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/29/16
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 6/29/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/29/16
A5 – Subgrade Approval		NA - no subgrade approval for 6/29/16
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/29/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 6/29/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/29/16
A9 – Seam/Non-Destruct. Test Log	Pages 6-7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/29/16
A10 – Repair Log	Pages 4-5	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/29/16
A11 – Conformance COC		NA for 6/29/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/29/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/29/16
A14 – Penetration & Edge Form	6/29/16 Form	LLDPE pipe boot penetration form completed for Gas Vent GV-5. Note: methane / spark testing not completed (to be completed week of June 5, 2016).
A16 – Notice of Non-Compliance	Sheet 2	One non-compliance issue identified on 6/29/16 and summarized on Sheet 2.
A17 – Spark Testing Form		NA – no methane / spark testing completed on 6/29/16 for Gas Vent GV-5.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 3, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)		X		3

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/06/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 03, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The silt fabric in the catch basin at the western end of Kellogg Street requires maintenance or replacement.
2	IA2Q4A1AL8	REPEAT: Sediment has accumulated on the western end of Kellogg Street.
3	IA2Q4A1AL8	Drums in active use in the mechanics area on SA-6 North are not on spill pallets.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/06/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the filter fabric in the catch basin as required.	6/9/16 (AD)
2	REPEAT: Clean the sediment from the western end of Kellogg Street by the current truck entrance/exit gate.	
3	Place all drums which are in use on spill pallets.	✓

Construction Manager: _____ Date: 06/09/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 10, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/13/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 10, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The tracking pad at the western Kellogg Street gate is blinded with sediment and not functioning.
2	IA2Q4A1AL8	Windscreen material is missing from the newly-installed fence panels by the 60 Kellogg excavation area.
3	IA2Q4A1AL8	Garbage has accumulated on the grass by the Kellogg Street jughandle.
4	IA2Q4A1AL8	Windscreen material on the perimeter fence by the JCMUA parking lot has partially detached from the fence and requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 06/10/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean or replace the tracking pad stone to restore function	6-15-16 RAD
2	Install windscreen fabric on the Kellogg Street perimeter fence as needed.	/
3	Pick up and discard accumulated garbage/rubbish as required.	/
4	Re-attach windscreen material on the perimeter fenceline by the JCMUA front parking lot as required.	/

Construction Manager: _____ **Date** 06/16/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 17, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/20/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 17, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: The tracking pad at the western Kellogg Street gate is blinded with sediment and not functioning.
2	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg Street by the truck entrance.
3	IA2Q4A1AL8	Silt bags in two catch basins on the southern side of the H-Building on SA-6 North require maintenance.
4	IA2Q4A1AL8	Sediment has accumulated on the western haul road on SA-7

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/20/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	REPEAT: Clean or replace the tracking pad stone to restore function.	6-22-16 (2nd)
2	Remove accumulated sediment from the western end of Kellogg Street.	
3	Replace filter fabric in the two catch basins on the southern side of the H-Building.	
4	Remove accumulated sediment from the western SA-7 haul road.	

Construction Manager: _____ Date: 06/23/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: June 24, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 06/27/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, June 24, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and debris has accumulated on the grass area at the Kellogg Street jughandle.
2	IA2Q4A1AL8	REPEAT: Sediment has accumulated on the western haul road on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 06/27/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of accumulated litter at the Kellogg Street jughandle.	6/30/16 RAD
2	REPEAT: Remove accumulated sediment from the western SA-7 haul road.	√

Construction Manager: _____ Date: 06/30/16

Attachment 13: GWTP Update

- 525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted June 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

June 20, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the May 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy/SGF

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
5	01	16	5	31	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,941	92,574 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.51	0.61	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.00020	<0.00020	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1864	0.1864	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	~~Sample Measurement~~					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

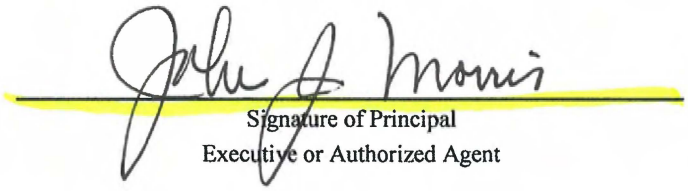
Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988



Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director

Type Name and Title

06/16/2016

Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
5	01	16	5	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,416,174	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	63,943,718

DATE	BOD (mg/l)	TSS (mg/l)
5/10/2016	<4.4	6.6

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 06/16/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: May 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
5/1/2016	Angel Trujillo	61527544	61604864	77,320	0.07732	7.70	0.785									0.51
5/2/2016	Angel Trujillo	61604864	61682184	77,320	0.07732	7.56	0.785									0.51
5/3/2016	Angel Trujillo	61682184	61758654	76,470	0.07647	7.16	0.785									0.50
5/4/2016	Angel Trujillo	61758654	61834632	75,978	0.075978	7.20	0.785									0.50
5/5/2016	Angel Trujillo	61834632	61912810	78,178	0.078178	7.18	0.785									0.51
5/6/2016	Angel Trujillo	61912810	61991222	78,412	0.078412	7.13	0.785									0.51
5/7/2016	Angel Trujillo	61991222	62072706	81,484	0.081484	7.11	0.785									0.53
5/8/2016	Angel Trujillo	62072706	62150261	77,555	0.077555	7.05	0.785									0.51
5/9/2016	Angel Trujillo	62150261	62227816	77,555	0.077555	7.08	0.785									0.51
5/10/2016	Angel Trujillo	62227816	62305770	77,954	0.077954	6.96	0.785	<5.1	<4.4		<0.010	<0.030	<0.010	<0.00020	<0.020	0.51
5/11/2016	Angel Trujillo	62305770	62384068	78,298	0.078298	7.05	0.785									0.51
5/12/2016	Angel Trujillo	62384068	62458920	74,852	0.074852	7.01	0.785									0.49
5/13/2016	Angel Trujillo	62458920	62537830	78,910	0.07891	7.13	0.785									0.52
5/14/2016	Angel Trujillo	62537830	62621880	84,050	0.08405	7.03	0.785									0.55
5/15/2016	Angel Trujillo	62621880	62699054	77,174	0.077174	7.05	0.785									0.51
5/16/2016	Angel Trujillo	62699054	62776228	77,174	0.077174	7.05	0.785									0.51
5/17/2016	Angel Trujillo	62776228	62851520	75,292	0.075292	7.49	0.785									0.49
5/18/2016	Angel Trujillo	62851520	62928746	77,226	0.077226	7.05	0.785									0.51
5/19/2016	Angel Trujillo	62928746	63006510	77,764	0.077764	7.10	0.785									0.51
5/20/2016	Angel Trujillo	63006510	63084574	78,064	0.078064	6.91	0.785									0.51
5/21/2016	Angel Trujillo	63084574	63177148	92,574	0.092574	7.22	0.785									0.61
5/22/2016	Angel Trujillo	63177148	63247742	70,594	0.070594	7.00	0.785									0.46
5/23/2016	Angel Trujillo	63247742	63318336	70,594	0.070594	7.15	0.785									0.46
5/24/2016	Angel Trujillo	63318336	63396035	77,699	0.077699	7.23	0.785									0.51
5/25/2016	Angel Trujillo	63396035	63480024	83,989	0.083989	7.11	0.785									0.55
5/26/2016	Angel Trujillo	63480024	63554444	74,420	0.07442	7.07	0.785									0.49
5/27/2016	Angel Trujillo	63554444	63632586	78,142	0.078142	7.12	0.785									0.51
5/28/2016	Angel Trujillo	63632586	63717776	85,190	0.08519	7.01	0.785									0.56
5/29/2016	Angel Trujillo	63717776	63793997	76,221	0.076221	7.10	0.785									0.50
5/30/2016	Angel Trujillo	63793997	63870218	76,221	0.076221	7.05	0.785									0.50
5/31/2016	Angel Trujillo	63870218	63943718	73,500	0.0735	7.10	0.785									0.48
TOTAL				2,416,174	2.416174			<5.1	<4.4		<0.010	<0.030	<0.010	<0.00020	<0.020	
			High:	92,574											High:	0.61
			Average:	77,941											Average:	0.51

WW

E

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

JC19960

AESI Ref:	42500.48434
COC#	087-WW-051016
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Order

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Sampler: Frank Schroyer
PO #
Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

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	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-051016-A	5/10/2016	14:20	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-051016-B	5/10/2016	14:25	WW	WATER	REG	5	grab	N					X	X				2					L19
3	087-WW			087-WWI-051016	5/10/2016	14:35	WW	WATER	REG	3	grab	N									X	3					V37
4																											G35
5																											
6																											
7																											
8																											
9																											
10																											
11																											
12																											

INITIAL ASESSMENT 2B/Cee
LABEL VERIFICATION OS

Relinquished by: 6.96 S.U. @ 7.5°C	Company: AMEC Foster Wheeler	Received by:	Company: ACCUT	Condition	Custody Seals Intact		
Frank Schroyer	Date/Time: 5/10/16		Date/Time: 5/10/16 TLF	Cooler Temp: 2.1°C			
Relinquished by:	Company: ACCUT	Received by:	Company: SGS	Condition	Custody Seals Intact		
	Date/Time: 5/10/16 1800		Date/Time: 5/10 1800	Cooler Temp.			

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

CS475
ACCUT

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE Cee

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

Client Sample ID:	087-WWE-051016-A		
Lab Sample ID:	JC19960-1	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	785	10	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 30	30	ug/l	10	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	05/11/16	05/11/16	JPM	SW846 7470A [1]	SW846 7470A [3]
Nickel	< 10	10	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	05/11/16	05/12/16	ND	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA39380
(2) Instrument QC Batch: MA39389
(3) Prep QC Batch: MP93649
(4) Prep QC Batch: MP93653

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

Client Sample ID:	087-WWE-051016-A		
Lab Sample ID:	JC19960-1	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended [a]	6.6	4.0	mg/l	1	05/11/16 14:00	SP	SM2540 D-11
pH [b]	6.94		su	1	05/10/16 18:45	AL	SM4500H+ B-11

(a) Reported sample aliquot obtained from filtration of 320 mL of sample. Sample did not meet method requirement of 2.5 mg of solids on the filter with this volume filtered.
(b) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

Client Sample ID:	087-WWE-051016-A		
Lab Sample ID:	JC19960-1A	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.2
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 4.4	4.4	mg/l	1	05/11/16 18:30	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

4.3 4

Client Sample ID:	087-WWE-051016-B		
Lab Sample ID:	JC19960-2	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N254847.D	1	05/11/16	BM	n/a	n/a	VN10771
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.8	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	4.7	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.22	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	30.4	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.39	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.39	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	71.4	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	1.1	1.0	0.16	ug/l	
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

Client Sample ID:	087-WWE-051016-B		
Lab Sample ID:	JC19960-2	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	69.5	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	100%		72-125%
2037-26-5	Toluene-D8 (SUR)	105%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	99%		74-115%
1868-53-7	Dibromofluoromethane (S)	105%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@911448 12:58 24-May-2016

Report of Analysis

Client Sample ID:	087-WWE-051016-B		
Lab Sample ID:	JC19960-2	**Date Sampled:**	05/10/16
Matrix:	AQ - Water	**Date Received:**	05/10/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	05/12/16 13:00	JOO	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Contractor only.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Contractor only.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Contractor only.
DC 2014-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Contractor only.
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Contractor only.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.

SA-6 North/South Field Change Log - Month Ending June 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only.
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Contractor only.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Contractor only.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 14 OF 25

- **2016 Monthly Reports Part 3**

8/8/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

August 8, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-07

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from July 1 – July 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: July 2016 SA-6/7 Combined Monthly Progress Report No. 2016-07

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
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Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-07

Project SA-6 & 7 Remediation

July 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
07/11/16	Sediment Remedy Long Term Monitoring Program Year 2 Implementation Report Study Area 7 Jersey City, NJ	The Honorable Robert G. Torricelli Office of the Special Master
07/11/16	Proposed Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils Treatment Area 10-1 Study Area 6 (SA-6) North (Site 087) Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
07/14/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-05	The Honorable Robert G. Torricelli Office of the Special Master
07/19/16	SA-6 South Declaration No. 2	Terris, Pravlik & Millian
07/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
7/19/16	Special Master Conference Call	n/a
07/28/16	Discharge to Groundwater Permit-by-Rule Authorization Request Study Area 6 North, Site 087 Jersey City, New Jersey	NJ Department of Environmental Protection

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Construction Management (AMEC)	9	10	11	8	9

Team	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	2	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	37	37	37	37	36
Arecon/US Ecology Subcontractors	1	1	0	1	0
ESI	12	13	13	13	13
Lagan	1	1	2	1	1
Century	0	0	0	0	0
Evoqua	2	1	1	1	1
B&B Drilling	1	0	1	2	0
Cornerstone	1	1	2	0	0
TOTAL STAFF	**70**	**69**	**72**	**68**	**65**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted S-3 Mass Removal Injection Event No. 30 in injection well 088-IW-02.
- Replaced the submersible pump in GWET extraction well PW-3 with spare.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Continued perimeter air monitoring activities on SA-6 North. On SA-6 South, all intrusive activities are complete. As only site grading and restoration activities remain, air monitoring will be completed using hand-held portable devices for nuisance dust.
- Prepared and submitted the NJDEP – Discharge to Groundwater Permit by Rule for the planned Treatment Area 10-1 second injection event.
- Collected July PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on July 7, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Avg. Gallons Treated & Discharged (per day)	78,968	77,153	76,395	77,536	76,878
Average Flow (gpm) for Operating Period	56	56	55	56	56
Avg. Hours of Plant Operation	23	23	23	23	23
GWTP Influent Tanks (gal.)	5,100	5,436	3,360	3,294	2,761

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Began backfilling as part of site restoration in the SA-6 South Development Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0
Entact/FCI	Roll-off	Kearny, NJ	Clean Earth	Soil >1000ppm Cr	3	18.0	54.2

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	Historic Fill Soils – SA-6 South Development Area

3. BACKFILL MATERIALS USED

Source	Week Ending				
	07/03/16	07/10/16	07/17/16	07/24/16	07/31/16
Natures Choice Horizon C	0	0	0	9,523.88	0
Cedar Hill Horizon B	125.95	0	0	45.49	111.16
Tilcon Mount Hope I-8	0	0	982.78	1994.48	533.16
Natures Choice Topsoil	0	0	0	0	0
Tilcon 3/8” Stone	51.11	127.94	0	0	77.08
Weldon Screenings	182.7	0	0	0	0

- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill the SA-6 South development area.
- Screened Celgene material was placed as protective cover soil in the SA-6 North open space area. Approximately 6,848 cubic yards was placed as protective cover soil during the reporting period.
- Continued to screen Celgene material for use as protective cover soils on the SA-6 North Open Space Area.
- Completed the frequency sampling of stockpiled Horizon C soils at the Nature's Choice facility remaining to be imported for use at SA-6 North. Results provided in Attachment 6.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- Continued cutting hydraulic barrier sheets to final elevation in SA-6 North Open Space Area.

F. CAPPING OPERATIONS

- Completed importing and placing Horizon B soils atop Horizon C soils on SA-6 South Open Space Area Completed hydro-seeding of western portion of the SA-6 South Open Space. Approximately 2.1 acres of hydro-seeding was completed.
- Continued placement of Structural Fill Material in the future utility corridors crossing the SA-6 South open space area.
- Began placement of GDL cover soils and demarcation tape to include associated compaction testing on the SA-6 North Open Space Area.
- Began placement structural fill, root barrier, and Horizon C to include associated compaction testing on the SA-6 North Open Space Area.
- Continued SA-6 North geomembrane liner subgrade grading activities within the Open Space Area.
- Continued installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- A total of 288,543 sq. ft. of geomembrane liner (65% of the total cap area) was deployed during the reporting period.
- Completed spark testing on ten boot welds during the reporting period. Please see the email summary in Attachment 11 for clarifications of the spark test reporting.
- Continued cutting hydraulic barrier sheets and finishing the SCB wall to final elevation in SA-6 North Open Space Area.

- Continued installation of Gas Vent Pipe within the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Continue importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Continue development area regrading on SA6 South.
- Continue hydro-seeding of SA-6 South Open Space Area.
- Continue screening of Celgene soils for protective cover soils.
- Continue cutting SA-6 North Hydraulic Barrier Wall and Soil-Cement Bentonite Wall to geomembrane liner grade.

- Continue preparation of the SA-6 North subgrade for geomembrane liner installation.
- Continue installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, and geocomposite drainage layer.
- Continue placement of GDL cover soils within the SA-6 North Open Space Area.
- Continue placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Continue installation CGWES Components.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 31 in well 088-IW-03.
- Conduct second injection event for Treatment Area 10-1.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data
7. Perimeter Pools Update
8. Groundwater Quality Data
    - Table 1: Summary of Groundwater Quality Data
    - Table 2: Second Quarter 2016
    - Graphs: Trichloroethene/ Chloroform/ Hexavalent Chromium in GWET Wells
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
    - SA-6 Cap Subgrade Progress Maps
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Form
    - QA Photo Log
    - Daily QA Reports (Langan)
    - August 5, 2016 Honeywell e-mail: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319 (pertaining to boot testing information provided in the June 2016 Combined Progress Report)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
    - SA-6 North & South Design Change Tracking Log
    - Design Change Bulleting 2016-07-12: SA-6 North Clarify location of Sand Bentonite Plug

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**
2	**Remedial Action Work Plan**	**33 days**
5	**Remedial Action Design**	**1522 days**
18	**JCIA/JCDPW Relocation**	**1780 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	949 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	146 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
26	**Remedial Action Work Plan**	**187 days**
32	**Remedial Action Design**	**1161 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**894 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days
60b	SA-6S (Site 163) In-Situ Treatment	555 days
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**706 days**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	185 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	91 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days
63	**Barrier Wall Install**	**569 days**
63a	SA 6N Installation of Barrier Wall	159 days
63b	SA 6S Installation of Barrier Wall	210 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	SA 6S Excavation	295 days
65	**Backfill**	**558 days**
65a	SA 6N Backfill	283 days
65b	SA 6S Backfill	384 days
66	**Capping and Cover Soil Placement**	**426 days**
66a	SA 6N Capping and Cover Soil Placement	83 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**234 days**
67a	Restoration	234 days
68	**Demobilization**	**22 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	
69	**SA-6 North Project Closeout**	**311 days**
75	**SA-6 South Project Closeout**	**311 days**
81	**SA-6 North Long Term Protections**	**1830 days**
92	**SA-6 South Long Term Protections**	**2569 days**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task Milestone Summary Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Attachment 2: Site Photographs



Site Photograph 1: Compacting clean imported stone in utility corridor SA6 North open space area.



Site Photograph 2: Contractor deploying liner panel on the SA-6 North open space area.



Site Photograph 3: Contractor grading protective cover soils on the SA-6 North open space area.



Site Photograph 4: Contractor placing geocomposite drainage layer panel SA-6 North open space area.



Site Photograph 5: Contractor screens clean protective cover soils.



Site Photograph 6: Geosynthetic Cap construction activities SA-6 North open space area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of August 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-07
Attachment 3: Excavation and Backfill (Progression Chart)

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

Hackensack River

Former Roosevelt Drive-In Site
(Remediation Complete)

Route 440

Kellogg Street Properties

Kellogg Street

Added Excavation Area
(complete)

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
05/31/16	11:00	14:30	3:30	43,130.78	43,178.93	48,150	43,178,480	
06/01/16	6:30	13:30	7:00	43,178.93	43,268.97	90,040	43,268,520	
06/06/16	7:30	13:30	6:00	43,268.97	43,338.94	69,970	43,338,490	
06/08/16	7:30	12:00	4:30	43,338.94	43,402.10	63,160	43,401,650	PVSC Compliance Sample Collected
06/13/16	9:00	13:00	4:00	43,402.10	43,464.75	62,650	43,464,300	
06/21/16	8:00	14:00	6:00	43,464.75	43,543.94	79,190	43,543,490	
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

Nature's Choice: Horizon C
Average

Vendor	Source Location	Sample ID	Hex Chrome mg/kg
Nature's Choice	South Brunswick, NJ	NC-HC1-002 Submittal 118A	0.67
Nature's Choice	South Brunswick, NJ	NC-003 Submittal 121	0.97
Nature's Choice	South Brunswick, NJ	NC-HC-004 Solid	1.1
Nature's Choice	South Brunswick, NJ	NC-HC-004A Solid	0.96
Nature's Choice	South Brunswick, NJ	NC-HC-004B Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC-004C Solid	1.2
Nature's Choice	South Brunswick, NJ	NC-HC-005 Solid	0.97
Nature's Choice	South Brunswick, NJ	NC-HC-006 Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC1 Solid	1.6
Nature's Choice	South Brunswick, NJ	NC-HC2 Solid	1.4
Nature's Choice	South Brunswick, NJ	NC-HC3 Solid	1.2
Nature's Choice	South Brunswick, NJ	NC-HC4 Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC5 Solid	1.3
Nature's Choice	South Brunswick, NJ	NC-HC6 Solid	1.2
Nature's Choice	South Brunswick, NJ	NC-HC7 Solid	1
Nature's Choice	South Brunswick, NJ	NC-HC8 Solid	1.7
Nature's Choice	South Brunswick, NJ	NC-010	0.78
Nature's Choice	South Brunswick, NJ	NC-011	1
Nature's Choice	South Brunswick, NJ	NC-012	1.5
Nature's Choice	South Brunswick, NJ	NC-013	0.63
Nature's Choice	South Brunswick, NJ	NC-014	0.43
Nature's Choice	South Brunswick, NJ	NC-015	1.1

Nature's Choice: Horizon C
Average

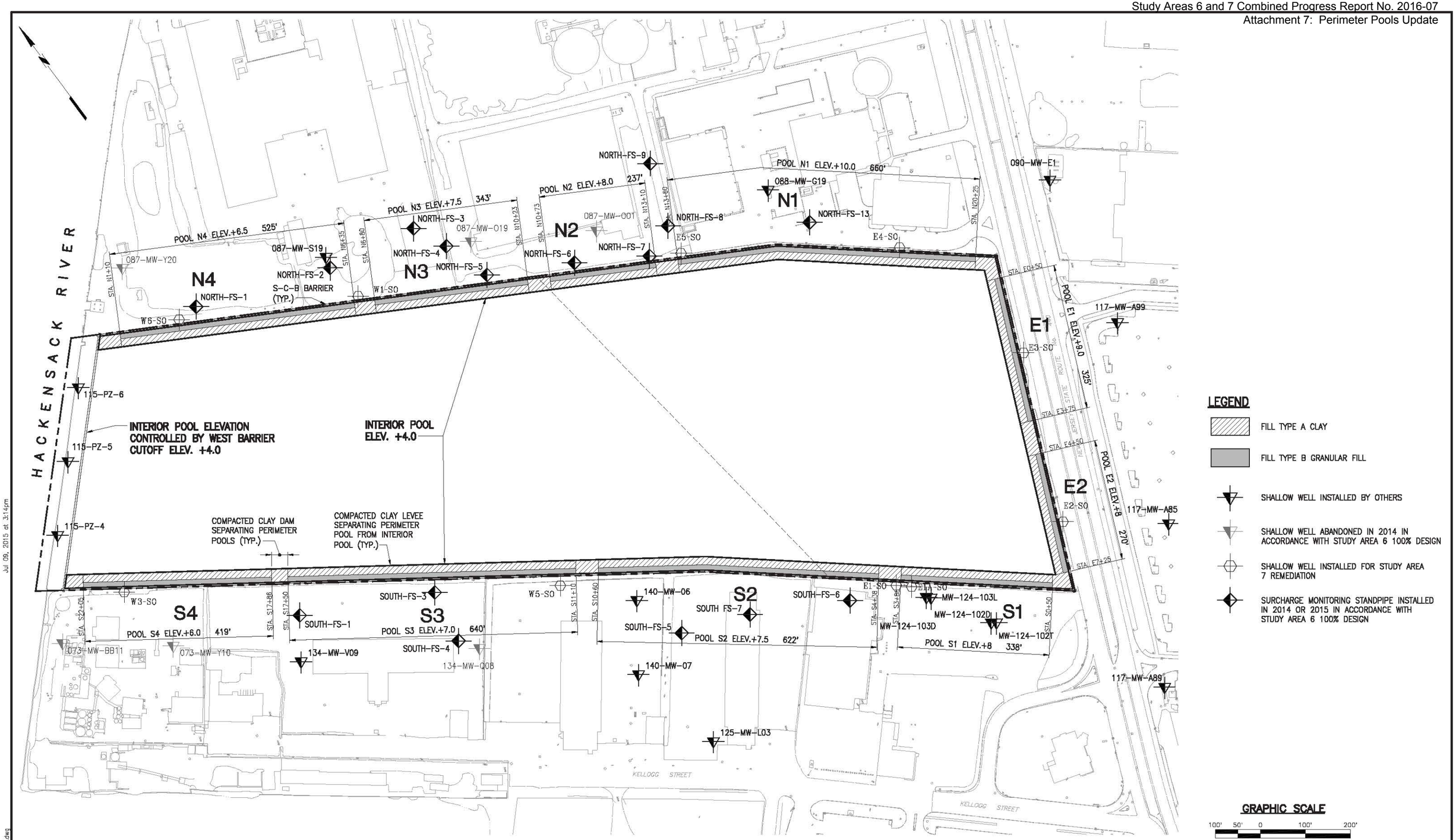
Vendor	Source Location	Sample ID	Hex Chrome mg/kg
Nature's Choice	South Brunswick, NJ	NC-016	1.4
Nature's Choice	South Brunswick, NJ	NC-017	1
Nature's Choice	South Brunswick, NJ	NC-018	1.1
Nature's Choice	South Brunswick, NJ	NC-019	1.2
Nature's Choice	South Brunswick, NJ	NC-020	0.87
Nature's Choice	South Brunswick, NJ	NC-021	0.55
Nature's Choice	South Brunswick, NJ	NC-022-CLAY	1.5
Nature's Choice	South Brunswick, NJ	NC-023-HORC*	1.4
Nature's Choice	South Brunswick, NJ	NC-024-HORC*	0.86
Nature's Choice	South Brunswick, NJ	NC-HC-007-CR6*	1.30
Nature's Choice	South Brunswick, NJ	NC-HC-008*	0.63
Nature's Choice	South Brunswick, NJ	NC-HC-009*	1.50
Nature's Choice	South Brunswick, NJ	NC-HC-010*	0.71
Nature's Choice	South Brunswick, NJ	NC-HC-011*	0.61

SUMMARY OF STATISTICS

Total Number of Observations	36
Arithmetic Mean	1.065
Minimum	0.43
Maximum	1.7
Standard Deviation	0.318
95% UCL	1.17

*Represents a 10 point composite sample (per DC 2016-3-21).

Attachment 7: Perimeter Pools Update



IN PROGRESS

06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

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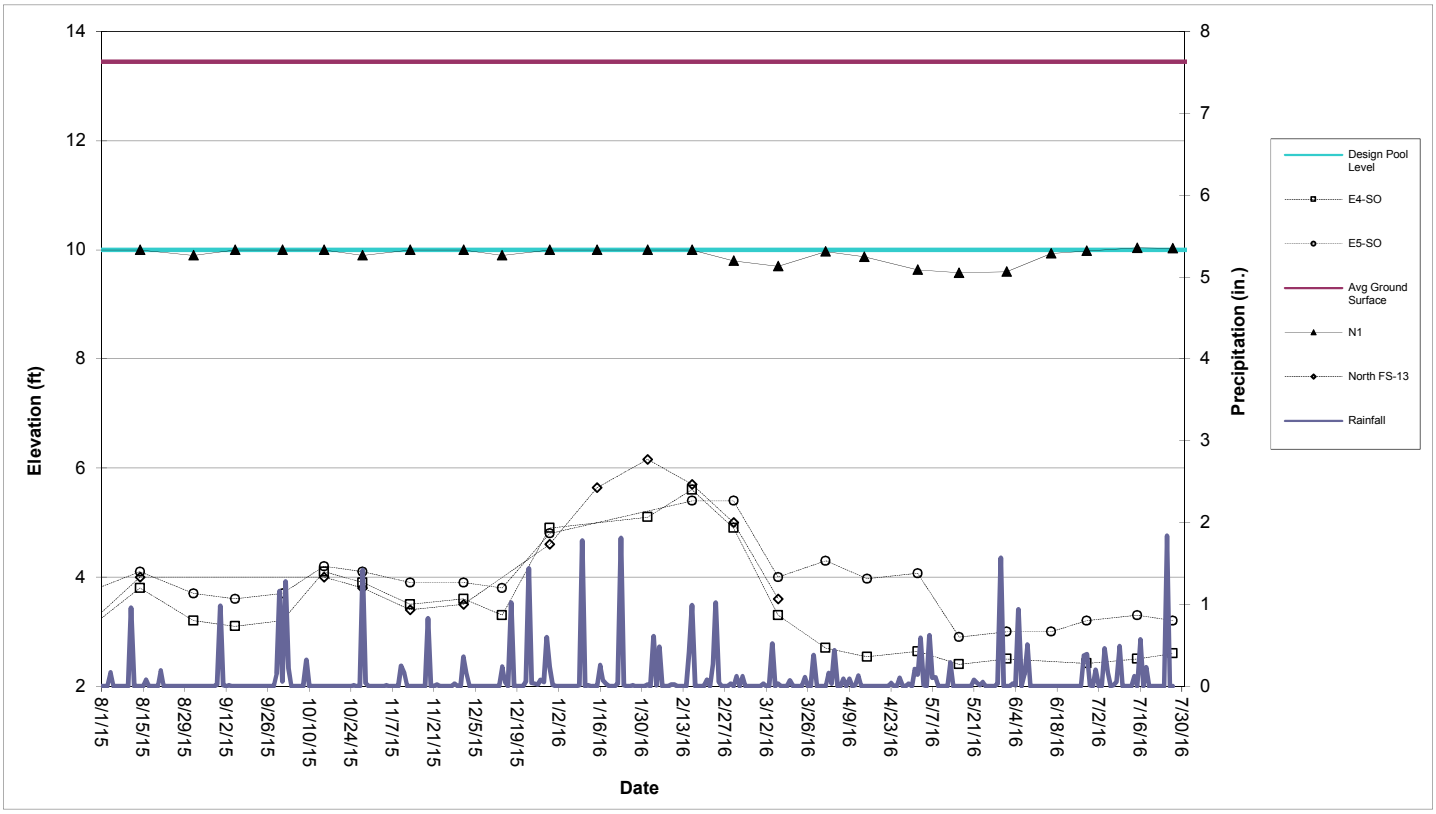
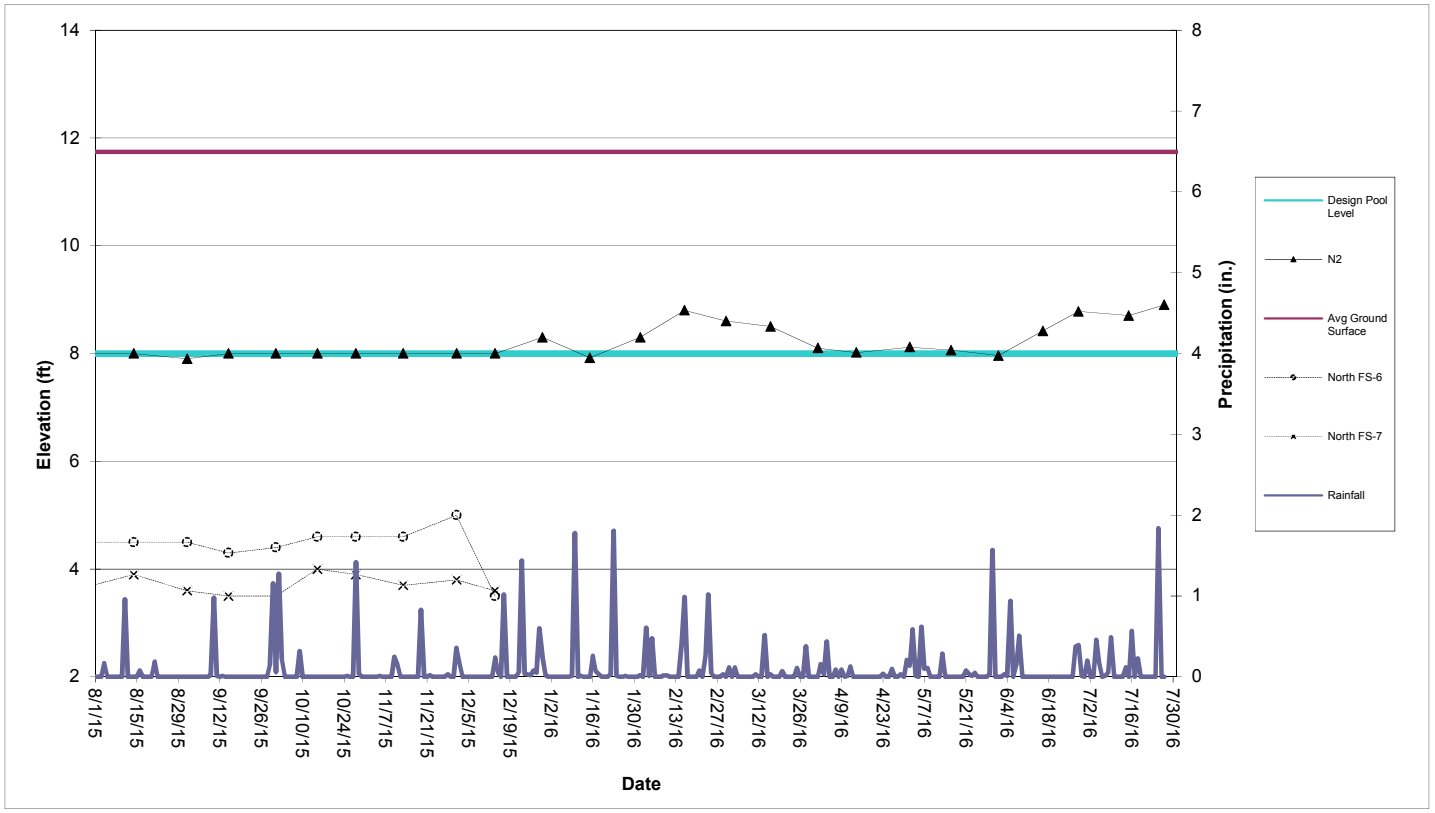
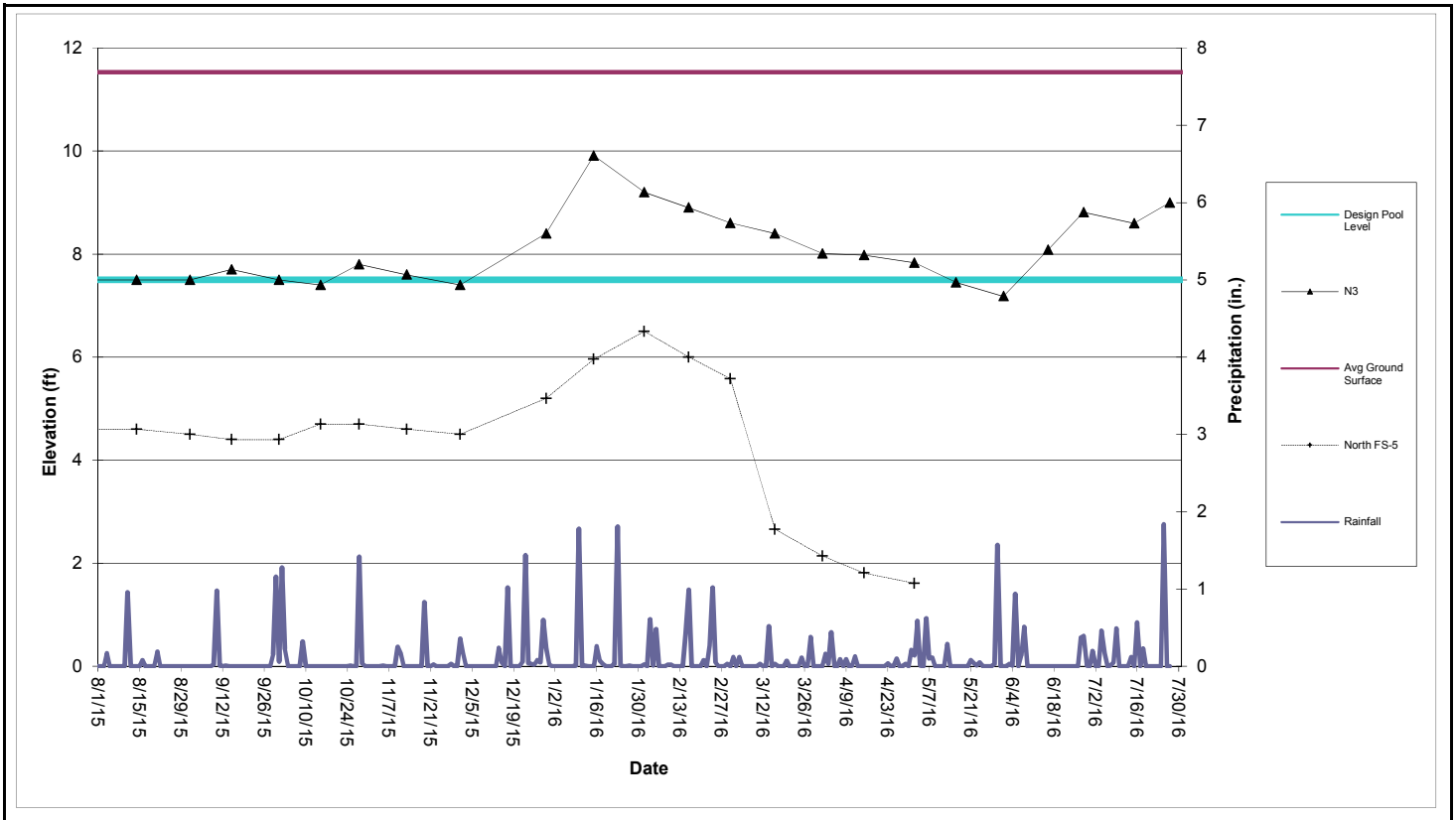
Jul 09, 2015 at 3:14pm
bboscaino



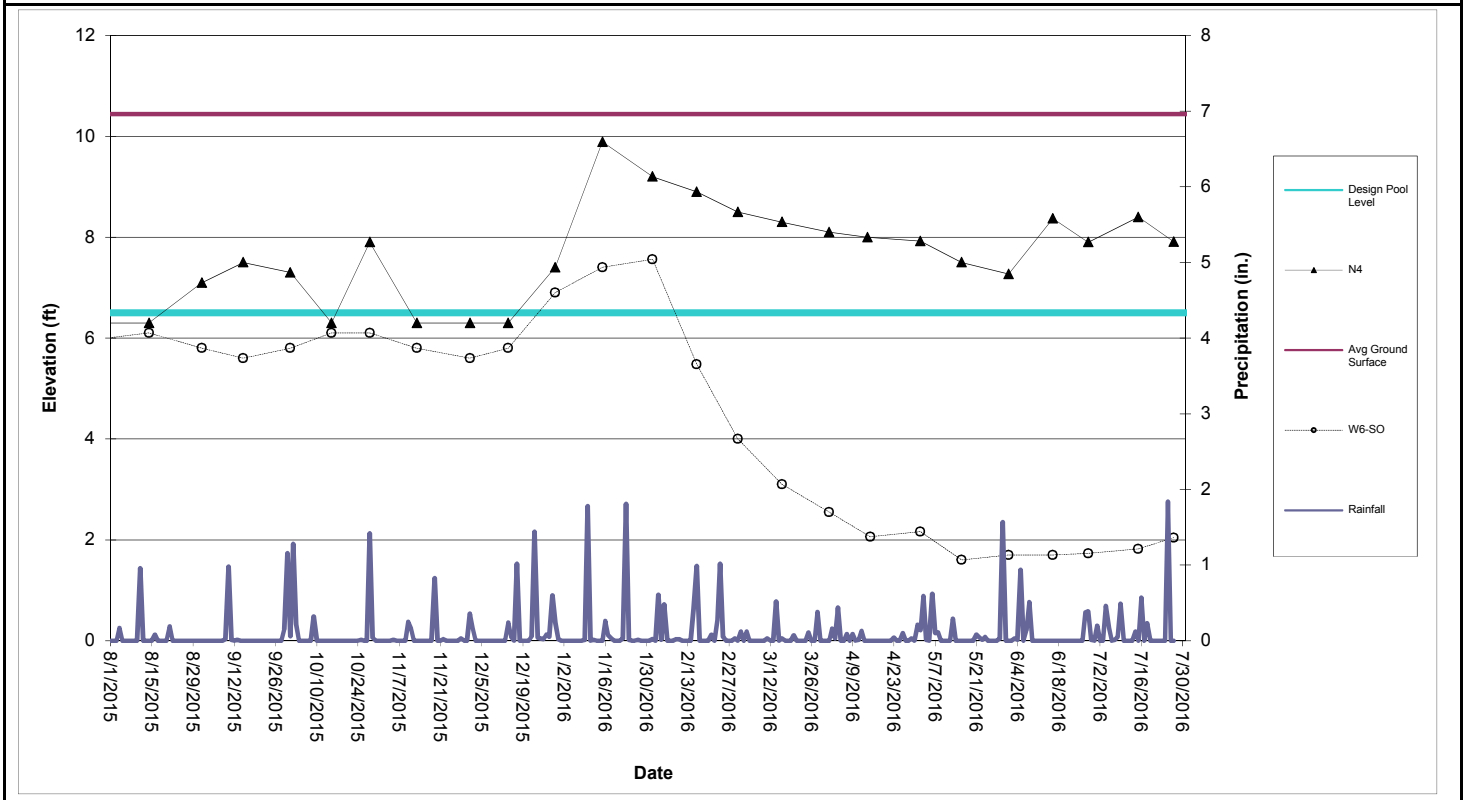
Perimeter Pool N1 (Sta. N13+60 to N20+25)



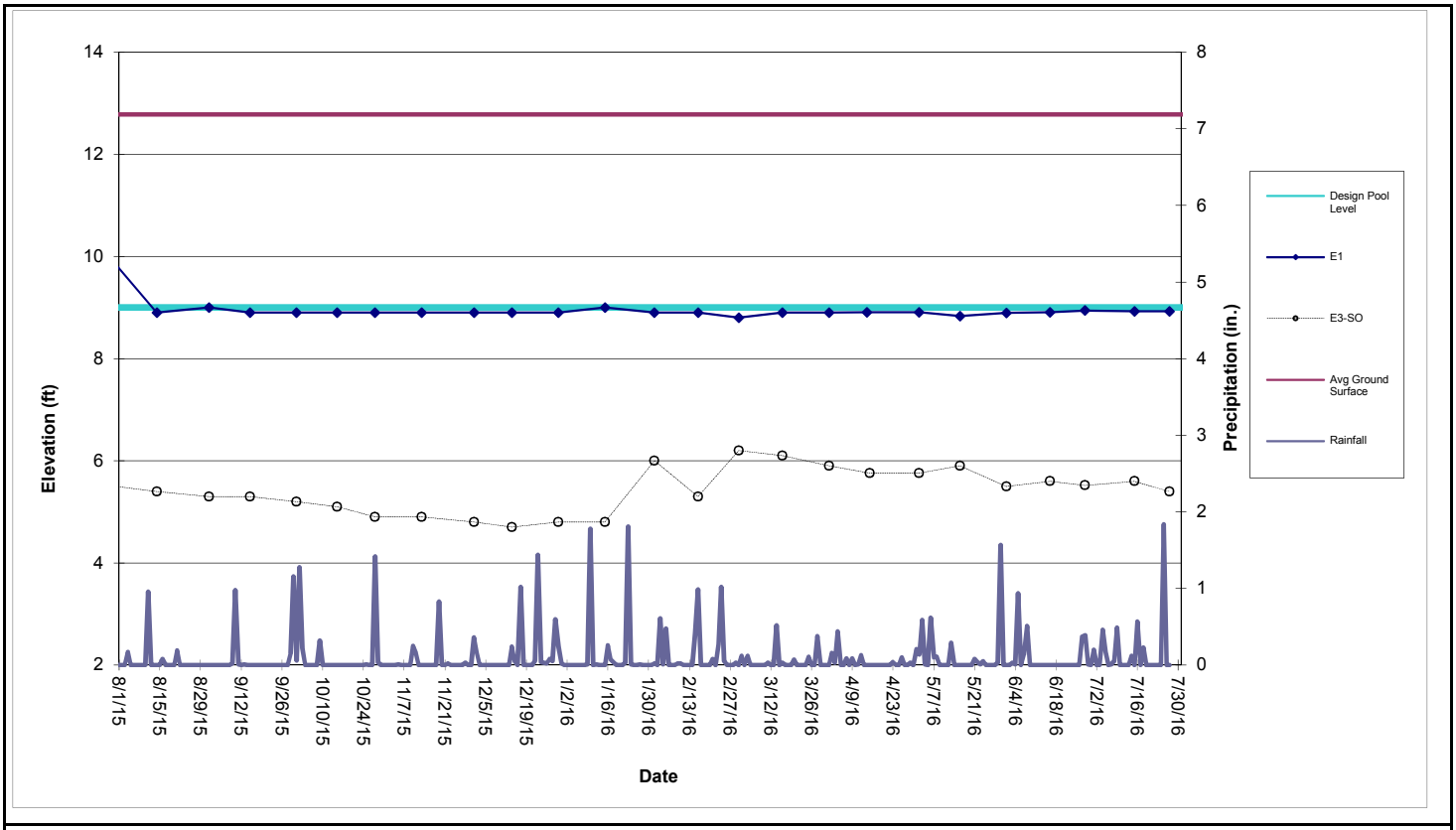
Perimeter Pool N2 (Sta. N10+73 to N13+10)



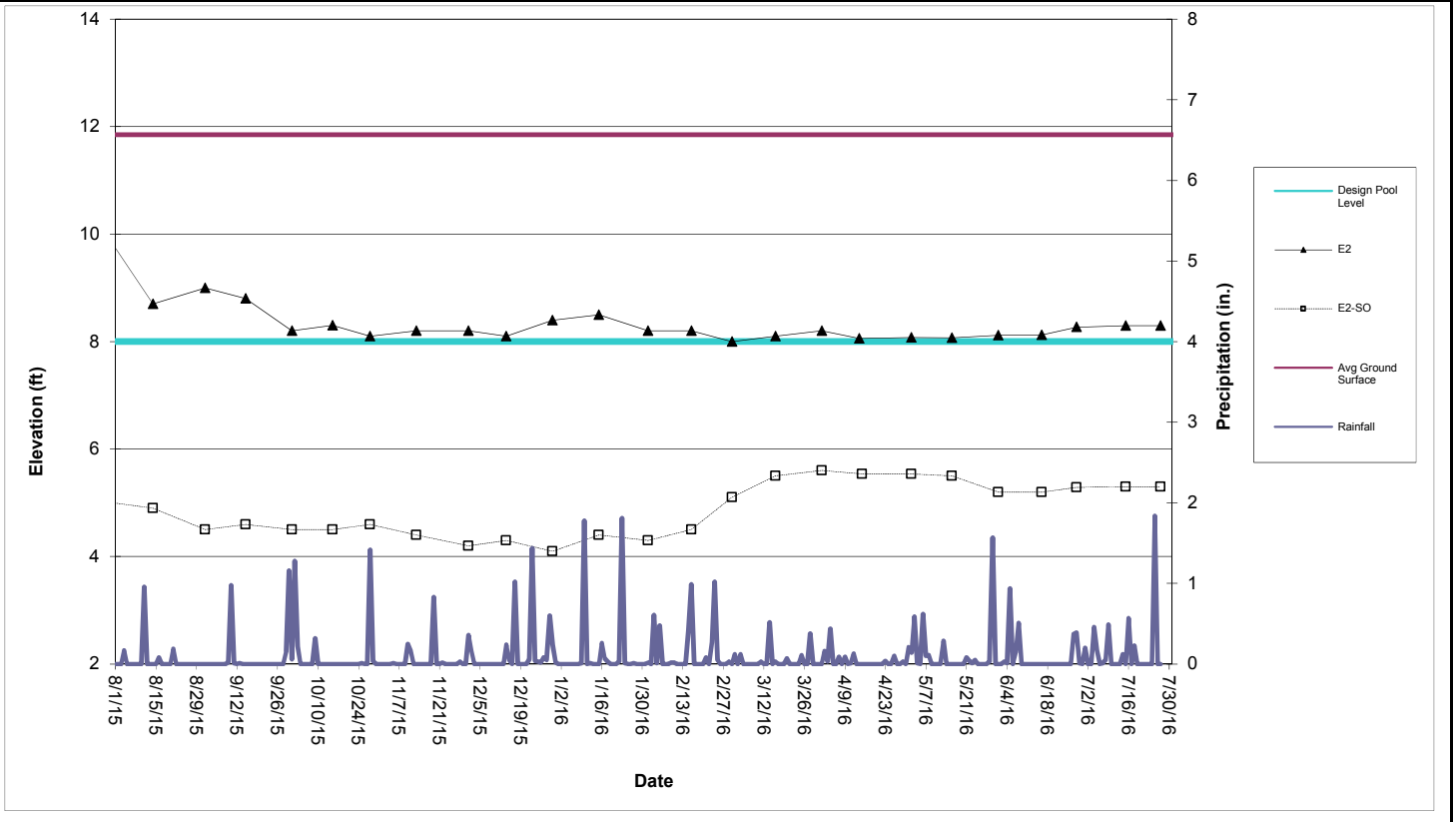
Perimeter Pool N3 (Sta. N6+80 to N10+23)



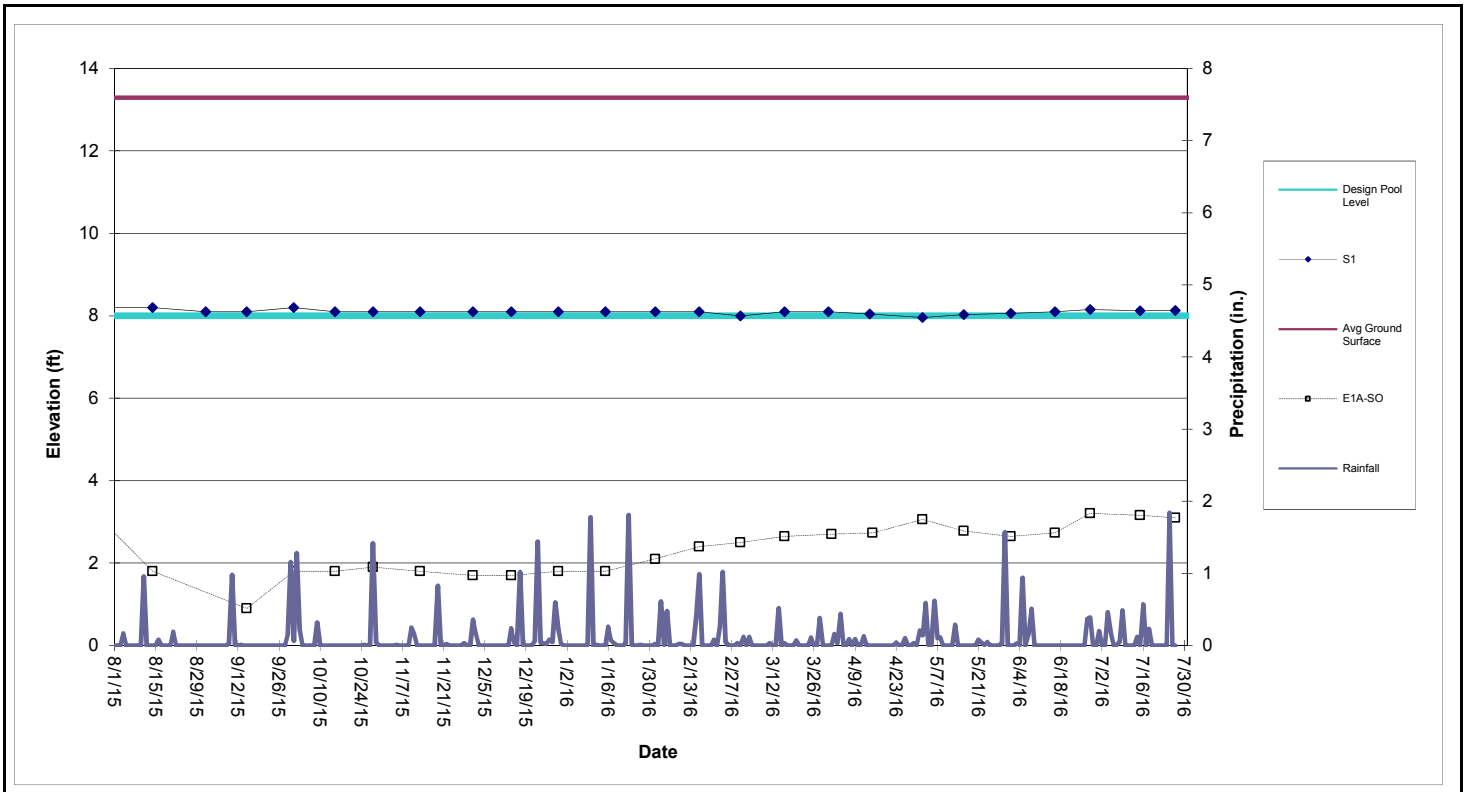
Perimeter Pool N4 (Sta. N6+80 to N10+23)



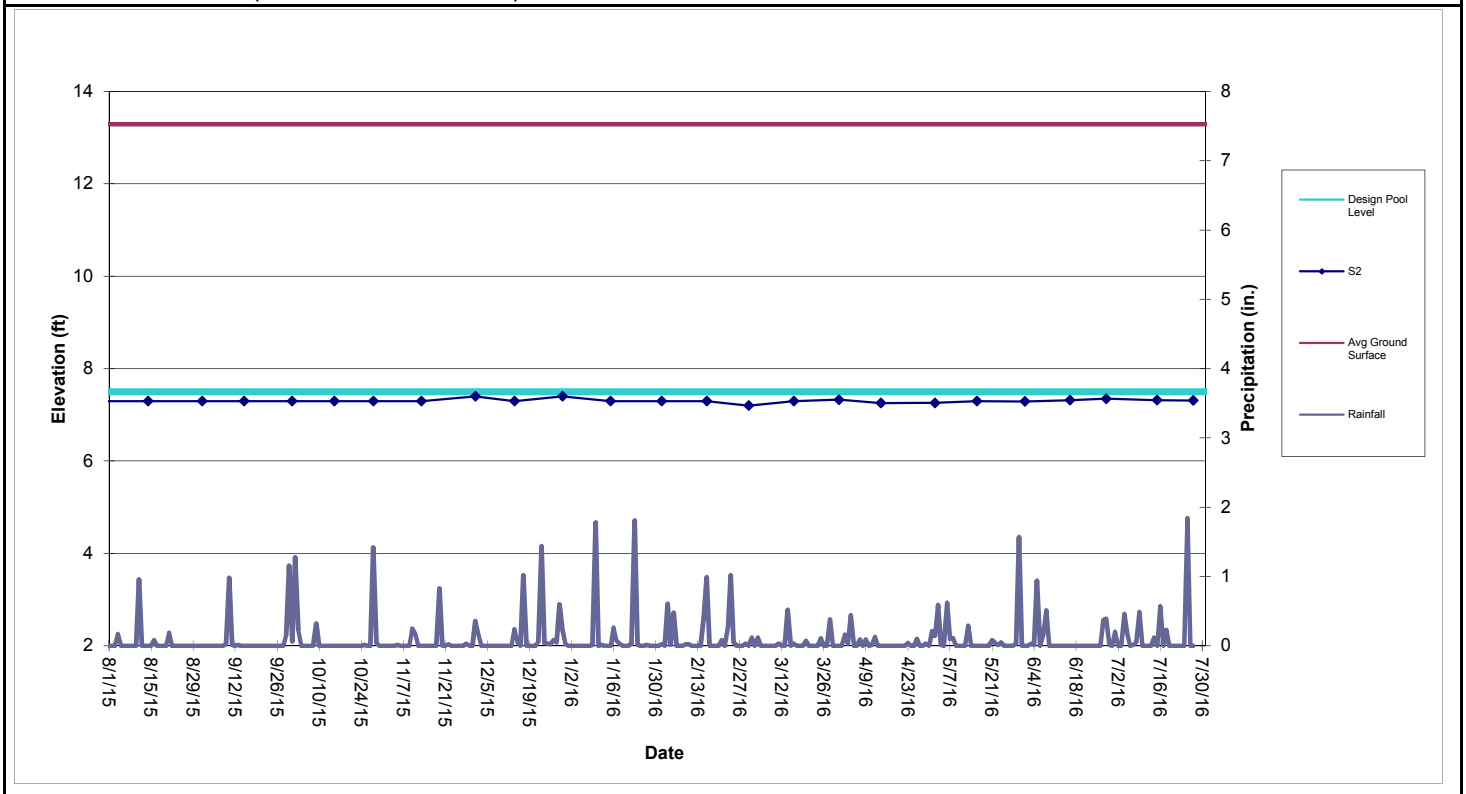
Perimeter Pool E1 (Sta. E0+50 to E3+75)



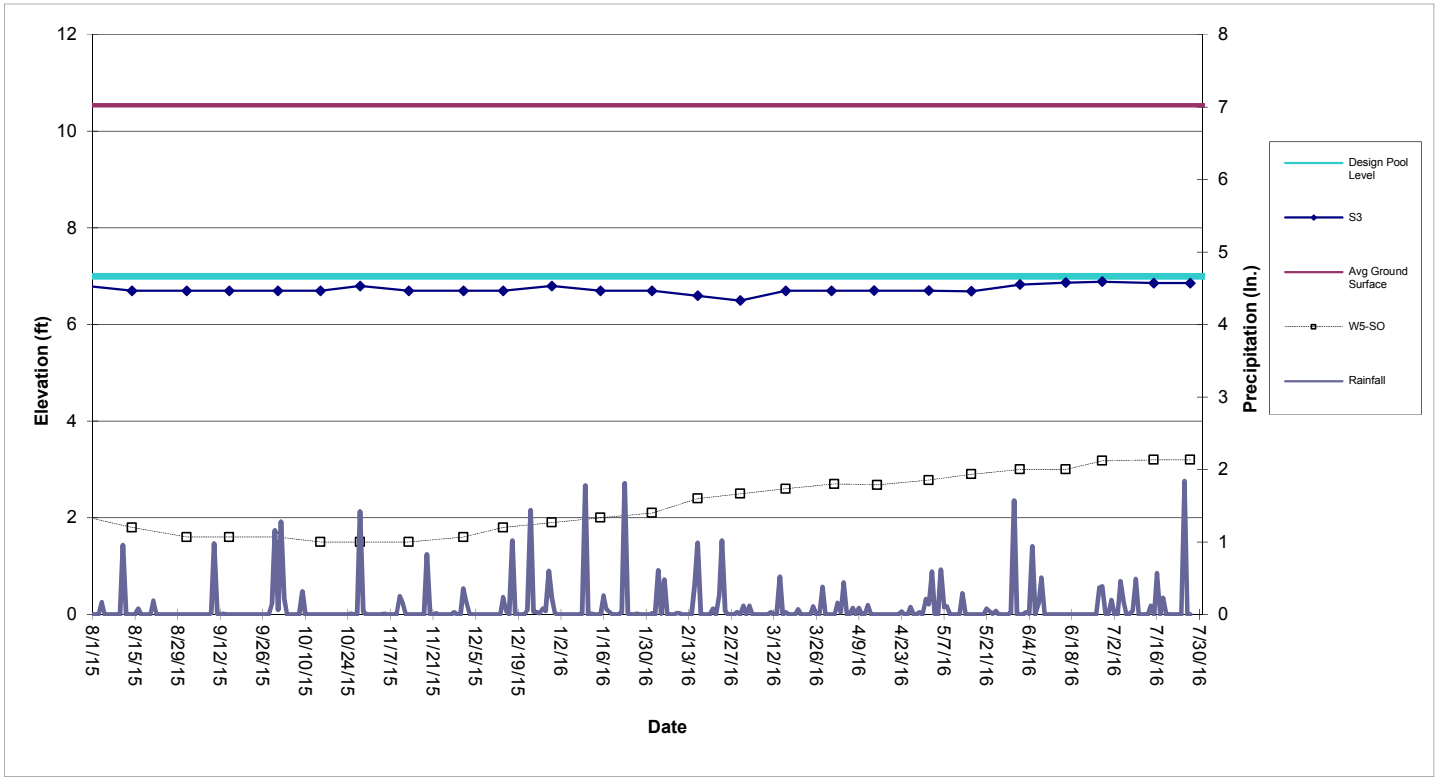
Perimeter Pool E2 (Sta. E4+50 to E7+25)



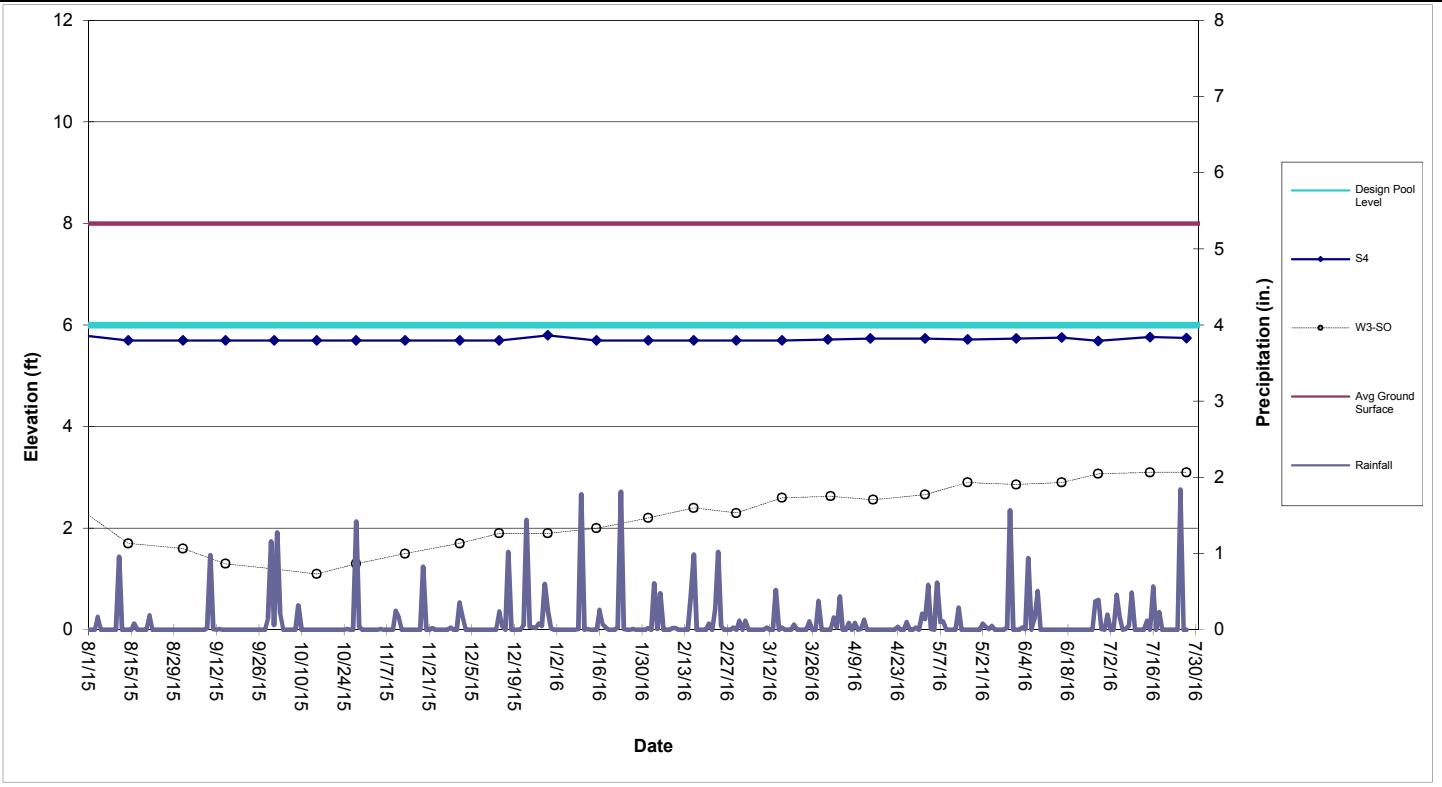
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
8/14/2015	1.8	4.9	5.4	3.8	4.1		1.7	1.8	6.1	4.6	4.5	3.9	4.0
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8	4.5	4.5	3.6	
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6	4.4	4.3	3.5	
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.3	5.5	2.4	3.2	2.4	3.1	3.2	1.7				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

- Table 1: Summary of Groundwater Quality Data
- Table 2: Second Quarter 2016
- Trichloroethene in GWET Wells
- Chloroform in GWET Wells
- Hexavalent Chromium in GWET Wells

Table 1: Summary of Groundwater Quality Data
(Attachment 8: Groundwater Quality Data)

Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	23-Sep-15			4-Dec-15			16-Mar-16			30-Jun-16		
	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-2 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-3 (ug/L)	115-MW-215BR (ug/L)	PW-1 (ug/L)	PW-3 (ug/L)	115-MW-215BR (ug/L)
Benzene	3.8	3.6	ND	3.2	2.2	ND	2.7	24.9	ND	2.7	27.3	ND
Carbon Tetrachloride	6.7	4.3	2.9	3.7	2.9	2.5	4.5	18.9	2.7	4.1	14.6	2.1
Chloroform	27.4	6.8	0.27	24.4	4.8	ND	21.0	121	0.23	24.2	111	0.25
1,1-Dichloroethene	0.63	ND	ND	0.43	ND	ND	0.44	0.32	ND	0.55	0.34	ND
cis-1,2-Dichloroethene	129	8.7	0.24	104	5.3	ND	104	48.9	ND	125	59.9	ND
trans-1,2-Dichloroethene	3.9	ND	ND	3.2	ND	ND	2.9	0.37	ND	3.5	0.44	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Trichloroethene	105.0	37.3	ND	86.8	24.5	ND	84.3	358	ND	86.8	347	ND
1,1-Dichloroethane	0.64	ND	ND	0.51	ND	ND	0.49	ND	ND	0.65	0.25	ND
Methylene chloride	0.71	ND	ND	ND	ND	ND	ND	4.0	ND	0.75	3.7	ND
Vinyl chloride	17.4	2.0	ND	11.3	1.4	ND	14.0	14.2	ND	17.0	15.2	ND
1,2-Dichlorobenzene	0.61	ND	ND	0.55	ND	ND	0.54	ND	ND	0.54	0.19	ND
Chlorobenzene	0.35	ND	ND	0.29	ND	ND	0.31	ND	ND	0.35	ND	ND
Ethylbenzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.28	ND
Xylenes (total)	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.44	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	33,900	7,300	14,700	34,200	5,900	16,700	29,600	91,700	15,200	31,300	68,800	14,400
Total Chromium	33,800	8,480	14,000	34,200	8,430	16,600	30,400	84,300	14,800	31,700	37,100	12,900

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Table 2: Second Quarter 2016
(Attachment 8: Groundwater Quality Data)

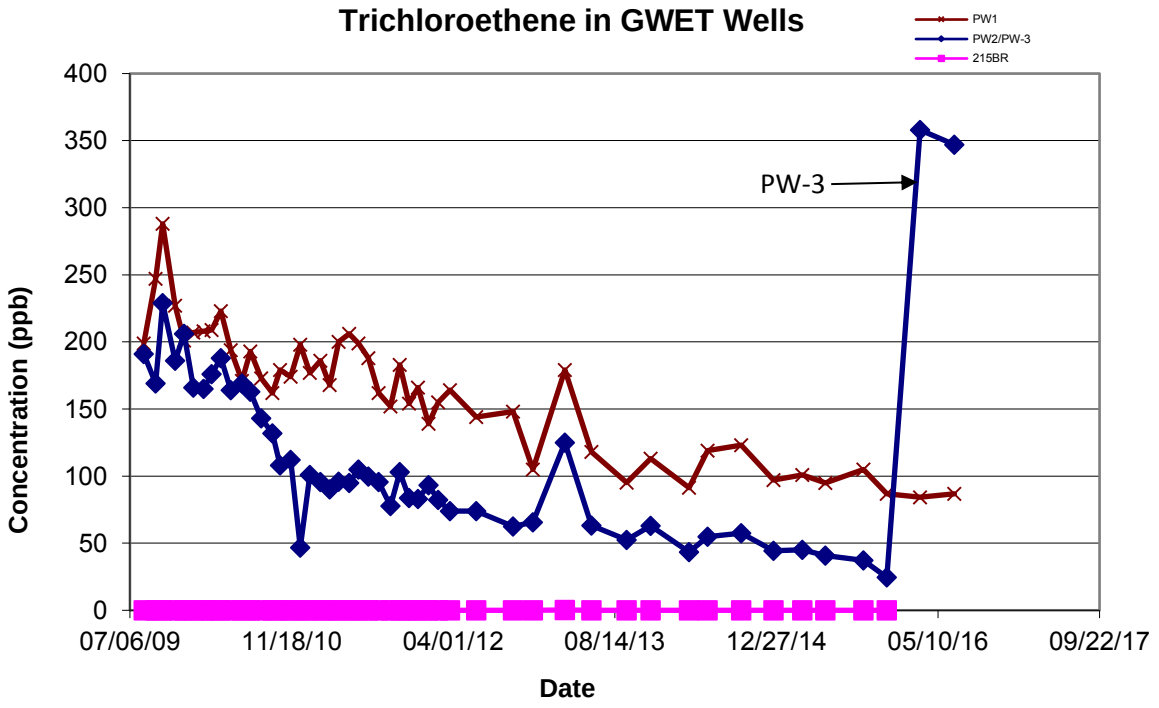
TABLE 2
Second Quarter 2016

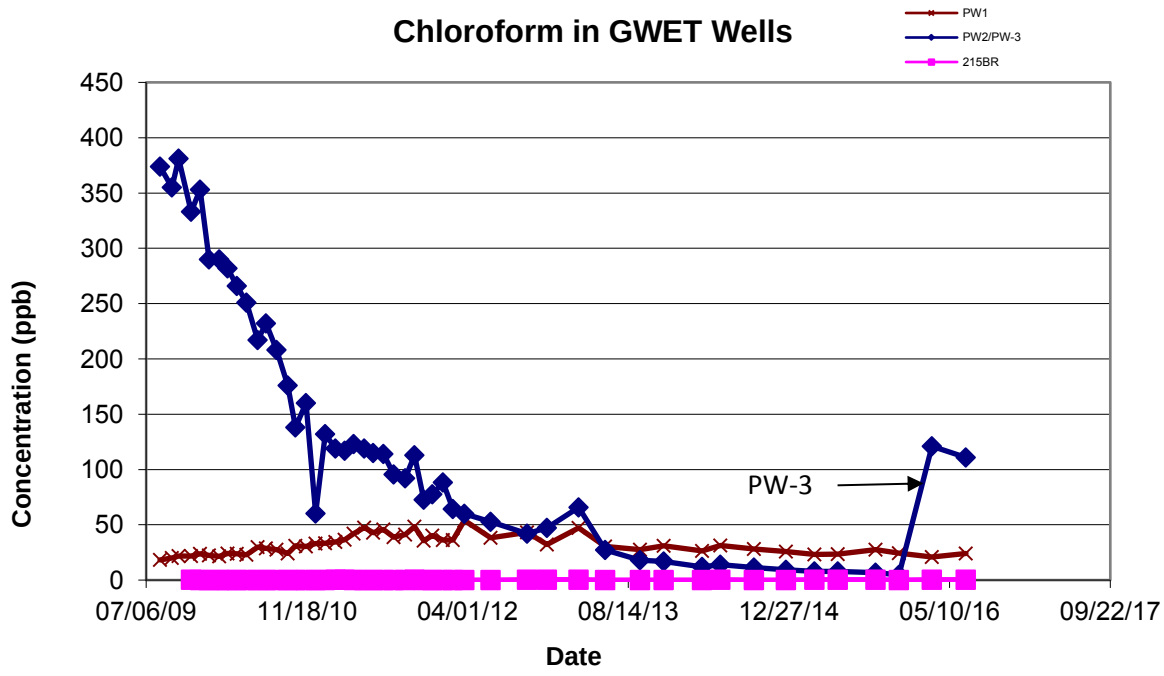
Honeywell

Wells Date: June 22, 2016	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments *GW Elevations are not corrected for tidal influence*
087-MW-25D	NA	8.22	NA	casing extended
087-MW-25T	NA	8.10	NA	casing extended
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	12.88	2.25	
087-OBS-1L	15.27	13.54	1.73	
087-OBS-1T	15.23	12.67	2.56	
087-PW-2	13.02	11.46	1.56	not pumping - obs well only
087-PW-3*	13.00	11.24	1.76	not pumping - TP down for service
087-OBS-7*	13.00	11.76	1.24	
087-MW-08	12.98	11.40	1.58	
087-OBS-3L	12.88	12.19	0.69	
087-MW-13	12.93	11.95	0.98	
087-OBS-5D	12.72	11.71	1.01	
087-OBS-5T	12.62	11.06	1.56	
087-PW-1	12.66	11.28	1.38	not pumping - TP down for service
087-MW-34	12.73	11.21	1.52	
087-OBS-2D	12.68	11.31	1.37	
SA6-MW-AA1D	19.36	17.93	1.43	
SA6-MW-AA1T	15.31	13.97	1.34	
SA6-MW-5BR-1	17.06	14.59	2.47	
087-OBS-4T	11.60	10.05	1.55	
087-MW-O29D	10.32	8.81	1.51	
087-MW-O29T	9.98	NA	N/A	Well abandoned
087-MW-03	13.77	NA	N/A	Well abandoned
087-MW-02	12.57	NA	N/A	Well abandoned
115-MW-203BR	8.70	NA	N/A	Well not accessible
073-MW-1	25.25	25.70	-0.45	retro-fitted as top-of-rock well
073-MW-10BR-1	6.67	NA	N/A	Flute does not purge
115-MW-215BR*	8.82	11.71	-2.89	

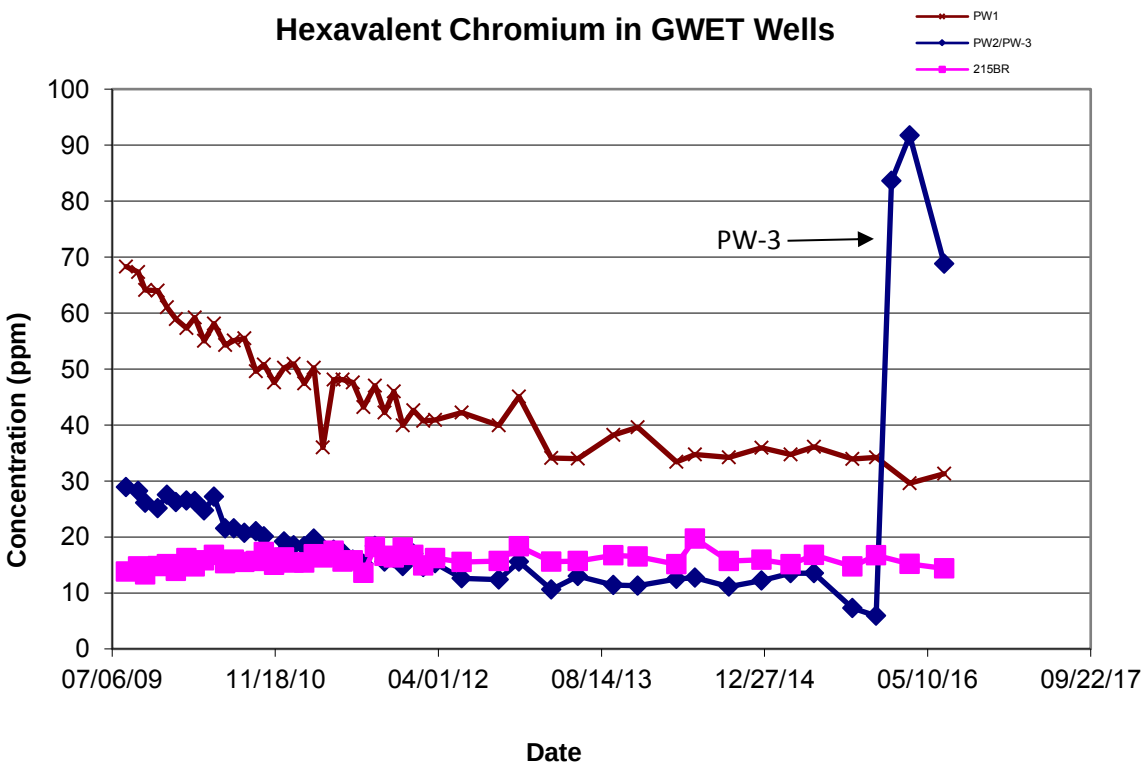
* Reference point elevation to be confirmed.

Graphs: Trichloroethene/ Chloroform/ Hexavalent Chromium in GWET Wells
(Attachment 8: Groundwater Quality Data)





Note:
Well 115-MW-203BR has been replaced with well 115-MW-215BR



Notes:
Well 115-MW-203BR was replaced with 115-MW-215BR on 3/3/14.
Well 087-PW-2 was replaced with well 087-PW-3 on 12/2215.

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

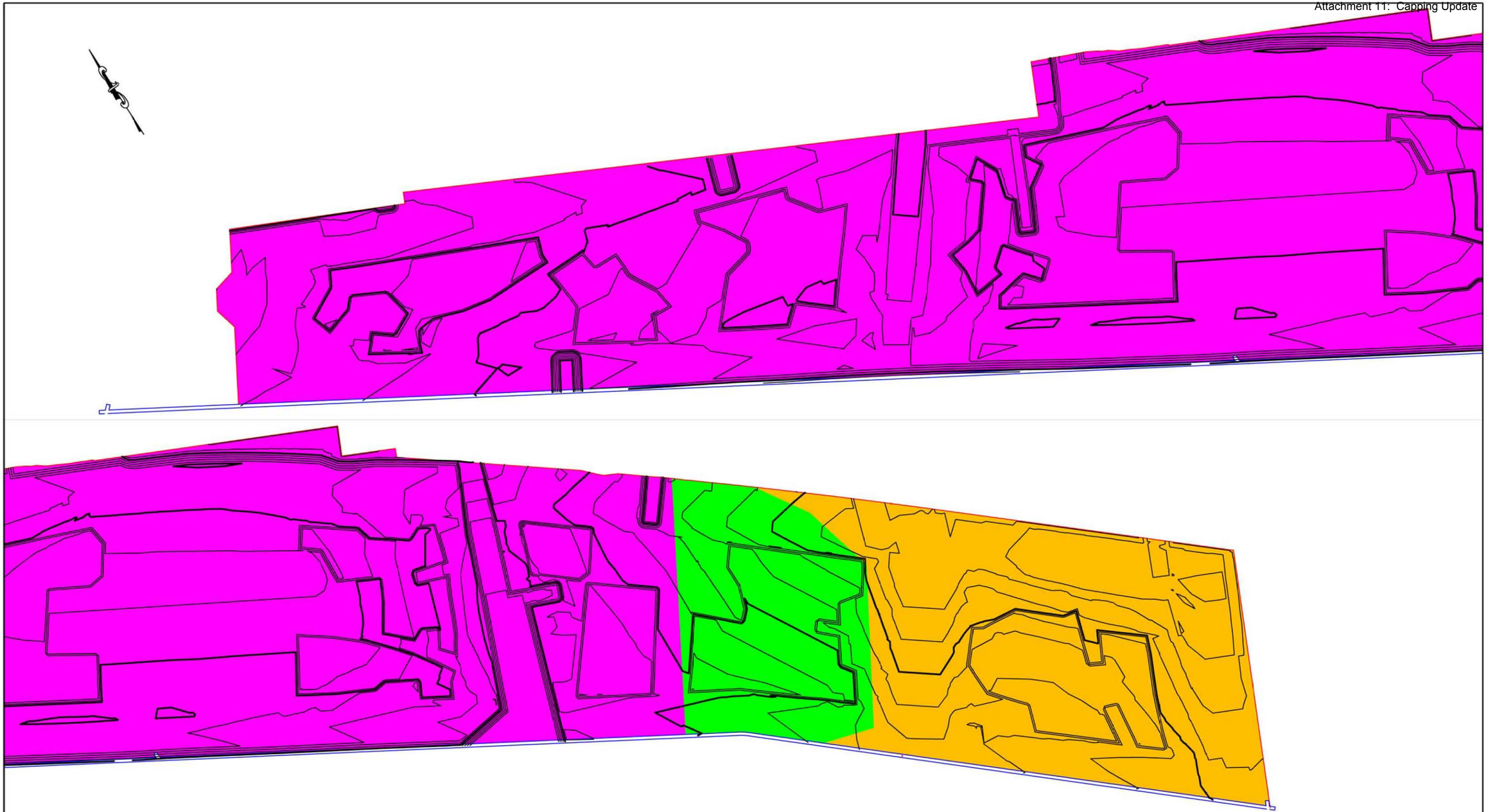
Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 Cap Subgrade Progress Maps
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)
- August 5, 2016 Honeywell e-mail: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319 (pertaining to boot testing information provided in the June 2016 Combined Progress Report)

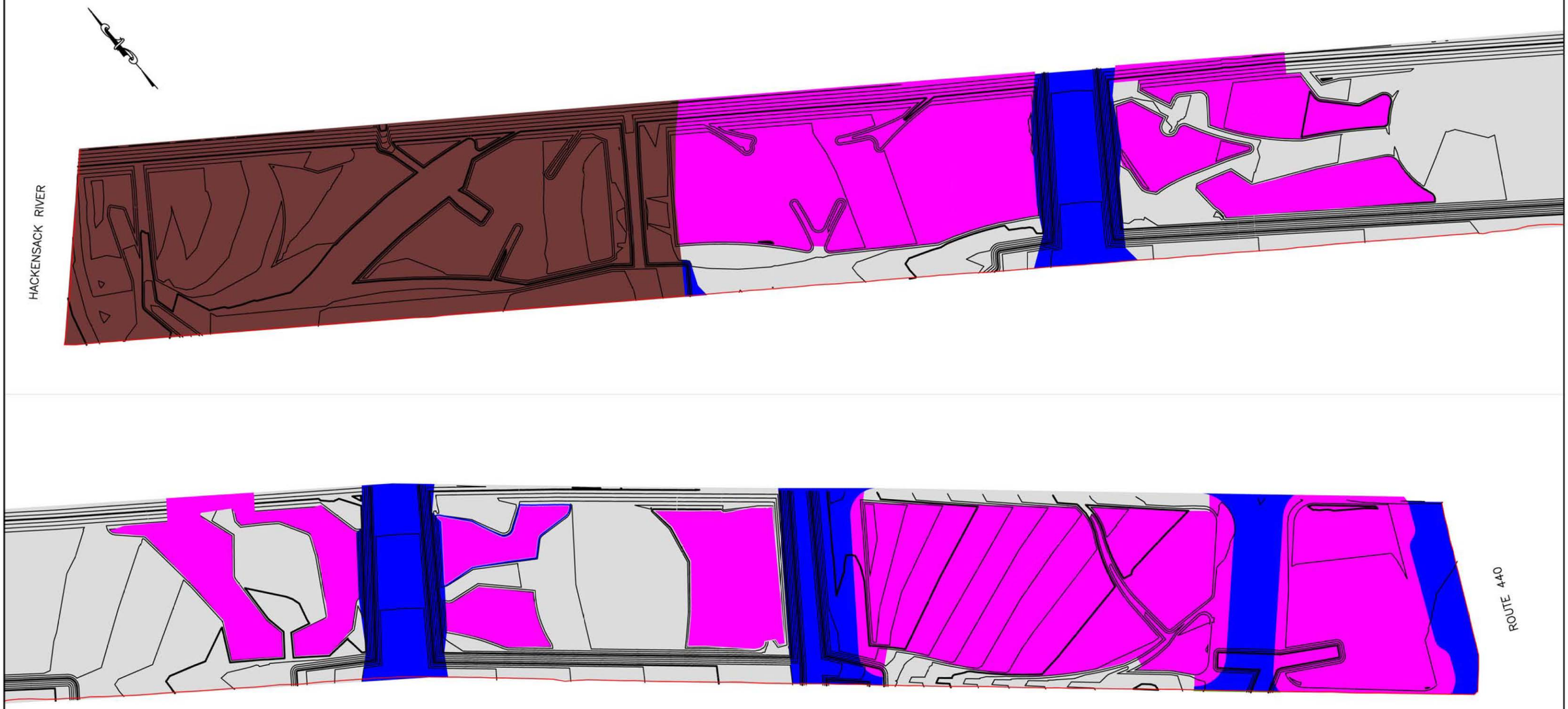
SA-6 Cap Subgrade Progress Maps
(Attachment 11: Capping Update)



ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP SUBGRADE PROGRESS MAP
07/29/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
06/30/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Repair Log
(Attachment 11: Capping Update)

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF S EOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6		77' N OF SEOS	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF S EOS (PB 6")	P	3	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF S EOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1		P1/R15	34'N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P9	BETWEEN R12 & R13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF S EOS	B	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P6	BETWEEN R22 & R9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
21	CF		P6	BETWEEN R22 & R8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
22	CF	6/7	P6	68' N OF SEOS & 6'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P10	27' N OF SEOS 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P10	BETWEEN R35 & R28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P10	64'N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P10	93' S OF NEOS 4' E (48" MH)	P	6	x	10		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P10	BETWEEN R29 & R31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P10	68' S OF NEOS & 2'W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P10	78' N OF SEOS & 7'W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P10	BETWEEN R32 & R34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		78' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11		49' N OF SEOS	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P11	50' N OF SEOS & 3'E	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB	10/11	11	83' N OF SEOS & 3' E (8" PIPE)	P	4	x	5		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

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SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
43	DO	4/6	P4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	B O	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
47	CF	13/14		BETWEEN R46 & 42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF		P17	56' S OF NEOS	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P18	74' S OF NEOS	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P18	84' S OF NEOS 4' E OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF		P18	29' N OF SEOS	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF	18/19	P19	30' N OF SEOS & 3'E	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF	19/20	P19	42' N OF SEOS & 5'W	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
70	DO	18/19	P19	49' N OF SEOS & 7'E	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		113' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		130' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2	10/11	P10/R30	106' N OF SEOS & 6'W	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74	DS-5	19/20		16' N OF SEOS	P	2	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
75	CF	19/20		164' N OF SEOS	P	2	x	20		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
76	AO	19/R76/20		180' N OF SEOS	P	1	x	21		6/27/16	SU	EXT-74	Air Pressure	Pass	6/27/16
77	SJ	20/21/22		99' N OF SEOS	P	2	x	2		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
78	CF	20/21		122' N OF SEOS	P	4	x	4		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
79	CF		P21	BETWEEN R-78 & R-80	B		x		156	6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
80	CF	21/23	P21	128' N OF SEOS & 11' W	P	1	x	1		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
81	PB	20/21	P21	171' N OF SEOS & 3' E (PB 4")	P	3	x	5		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
82	BO	22/23		54' N OF SEOS	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
83	SJ	21/22/23		99' N OF SEOS	P	6	x	14		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
84	SJ	23/24/25		17' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
85	BO	23/24		40' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
86	CF	23/24	P23	BETWEEN R-85 & 87	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
87	CF	23/24	P23	48' N OF SEOS & 11' W	P	2	x	9		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
88	CF	22/23	P23	51' N OF SEOS & 8' E	P	3	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
89	CF	23/24		74' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
90	CF	23/24		79' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
91	DS-6	23/24		105' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
92	SJ	24/25/26		17' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
93	CF	24/26		140' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
94	CF	24/26	P26	BETWEEN R-93 & 95	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
95	CF	24/26	P26	139' N OF SEOS & 8' E	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
96	CF	24/26	P26	120' N OF SEOS & 2' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
97	CF	24/26	P26	126' N OF SEOS & 6'E FROM R-96	B		x		132	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
98	SI	24/26	P26	150' N OF SEOS & 8' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
99	DO	26/27	P26	149' N OF SEOS & 10' W	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
100	BO	26/27		26' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
101	CF	26/27		55' N OF SEOS	P	3	x	8		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
102	PB	26/27	P27	124' N OF SEOS & 3' E (PB 8")	P	4	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
103	CF	26/27	P26	170' N OF SEOS & 12' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
104	AO	19/20		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
105	AO	18/19		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
106	AO	17/18		196' N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
107	CF	19/20/R26		194' N OF SEOS	P	3	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
108	CF	18/19		194' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
109	CF	17/18		194' N OF SEOS & 4' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
110	CF	19/20	P19	126' N OF SEOS & 8' W	P	2	x	4		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
111	CF	19/20	P19	BETWEEN R-110 & R-112	B		x		120	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
112	CF	19/20	P19	136' N OF SEOS & 2' W	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
113	DS-7	13/14		91' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
114	DS-8	R-105	P18	195' N OF SEOS & 9' W	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
115	DSX-3	R-179	P21	BETWEEN R-78 & R-80	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
116	DS-9	18/19		101' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
117	CF	26/27		180' N OF SEOS	P	6	x	11		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
118	CF	26/27	P-27	179' N OF SEOS 2'E	P	4	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
119	CF	26/27	P-27	179' N OF SEOS 4'E	P	5	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
120	CF	26/27	P-27	179' N OF SEOS 6'E	P	3	x	7		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
121	CF	27/28	P-27	179' N OF SEOS & 14'W	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
122	CF	27/28	P-27	BETWEEN R-121 & R-123	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
123	CF	27/28		173'N OF SEOS	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
124	BO	27/28		177' N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
125	SJ	P27/P28		129' N OF SEOS	P	2	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
126	SJ	P27/P28	P28	129'N OF SEOS & 3' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
127	CF	26/27		208'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
128	CF	26/27	P-26	216'N OF SEOS FROM R-127	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
129	CF	27/129	P-26	205'N OF SEOS FROM R-127	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
130	AO	27/28		132'N OF SEOS	P	6	x	18		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
131	AO	27/28		200'N OF SEOS	P	5	x	20		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
132	CF	27/28		133'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
133	DS-10	27/28		155'N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
134	CF	27/28		BETWEEN R133 & R154	B		x		72	6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
135	CF	19/20	P20	120' N OF SEOS & 6'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
136	CF	19/20	P-20	BETWEEN R-135 & R-137	B		x		60	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
137	CF	19/20	P-20	105'N OF SEOS & 3'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
138	BO	29/31		11'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
139	CF	29/31	P-29	BETWEEN R-140 & R-141	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
140	CF	29/31	P-29	54'N OFSEOS 10'W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
141	CF	29/31	P-29	54' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
142	SJ	29/30/31		159' N OF SEOS	P	3	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
143	BO	29/30		169' N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
144	CF	29/30	P-29	BETWEEN R-145 & R-146	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
145	CF	29/30	P29	175' N OF SEOS & 10'W	P	3	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
146	CF	29/30	P-29	170' N OF SEOS & 2'W	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
147	DSX-4	R-148/P32		96'N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
148	DS-11	31/32		96' N OF SEOS	P	4	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
149	CF	31/32		65' N OF SEOS & 4'E	P	3	x	12		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
150	CF	32/34	P-32	70' N OF SEOS 12' W	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
151	CF	32/34	P32	73' N OF SEOS 13' W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
152	SJ	30/31/32		158' N OF SEOS	P	2	x	13		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
153	SJ	32/33/34		130'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
154	CF	27/28		115' N OF SEOS	P	8	x	10		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
155	BO	27/28		102' N OF SEOS	P	3	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
156	PB	28/29		15' N OF SEOS (8"PB)	P	4	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
157	SJ	33/34/35		130' N OF SEOS	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
158	DS-12	34/35		21' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
159	SJ	35/36/37		82' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
160	SJ	36/37/38		82' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
161	DS-13	36/38		127' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
162	CF	36/38	P-38	BETWEEN R-161 & R-163	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
163	CF	36/38	P-38	126' N OF SEOS & 10'W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
164	CF	35/37	P-37	3'N OF SEOS 9' W	B		x		72	7/	SU	EXT-74	Vacuum	Pass	7/7/16
165	CF	35/37	P-37	6'N OF SEOS 10' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
166	CF	37/38		3'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
167	SJ	38/39/40		35' N OF SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
168	CF	38/39		74' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
169	BO	38/39		178' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
170	SI	38/39	P38	127' N OF SEOS 7' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
171	AO		40/39	BETWEEN R-167 & R-172	C	2	x	23		7/7/16	BS	4131	Air Pressure	Pass	7/7/16
172	SJ	39/40/41		35'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
173	CF	39/41	P-41	132' N OFSEOS 5'E	P	4	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
174	CF	39/41	P-39	142' N OF SEOS 4' W	P	3	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
175	CF	39/41		162' N OF SEOS	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
176	BO	39/41		173' N OF SEOS	P	2	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
177	CF	41/42		70' N OF SEOS	P	5	x	20		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
178	CF	41/42	P-41	92' N OF SEOS	P	3	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
179	CF	41/42		105' N OF SEOS	P	3	x	30		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
180	CF	41/42	P-42	156' N OF SEOS	P	6	x	17		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
181	CF	41/42	P-42	BETWEEN R-180 & R-187	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
182	CF	39/41	P-41	159' N OF SEOS 4' E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
183	CF	39/41	P-41	BETWEEN R-182 & R-175	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
184	DS-14	41/42		139' N OF SEOS	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
185	DSX-5	R-179/42		100' N OF SEOS 3' E	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
186	CF	41/42	P-42	157' N OF SEOS & 10' E	P	4	x	8		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
187	CF	41/42	P-42	162' N OF SEOS	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
188	CF	41/42	P-42	138' N OF SEOS & 10'E	P	4	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
189	PB	42/43		136' N OF SEOS (48" MH)	P	7	x	9		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
190	CF	42/43	P-43	127' N OF SEOS & 2' E	P	5	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
191	CF	42/43	P-43	202' N OF SEOS & 10' E	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
192	CF	42/43	P-43	BETWEEN R-191 & R-193	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
193	CF	42/43		210' N 0F SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
194	CF	42/43		BETWEEN R-193 & R-195	B		x		36	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
195	CF	42/43		215' N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
196	CF	42/43	P-42	215'N OF SEOS (BETWEEN R-195/197	B		x		60	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
197	CF	42/43	P-42	114' N OF SEOS(BETWEEN R-196/198	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
198	CF	42/43	P-42	210' N 0F SEOS 7'W	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
199	CF	42/43	P42	215' OFSEOS 7'W	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/9/16
200	CF	42/43	P42	114'N OF SEOS 11'W	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
201	CF	42/43	P-42	122'N OFSEOS 11'W	B		x		18	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
202	CF	42/43	P-42	132'N OF SEOS 10'W	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
203	CF	42/43	P-43	91' N OF SEOS 10'E	P	4	x	10		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
204	CF	42/43	P-43	91'N OF SEOS 19'E	B		x		120		PHOU	EXT-75	Vacuum	Pass	7/9/16
205	CF	42/43	P-43	106'N OF SEOS 20'E	B		x		108	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
206	CF	42/43	P-43	103' N OFSEOS 20'E	P	2	x	5		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
207	CF	42/43	P-43	103' N OF SEOS 9'E	P	3	x	13		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
208	CF	43/44	P-43	107'N OF SEOS 13'W	P	5	x	17		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
209	CF	43/44	P-43	180' N OF SEOS 10'W	P	6	x	22		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
210	CF	42/43	P-43	187' N OF SEOS 8' W	B		x	72		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
211	CF	42/43	P-43	190'N OF SEOS 8' E	P	3	x	7		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
212	DSX-6	R180/42	P-42	53'N SEOS 5'E	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
213	SJ	43/44/45		36'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
214	CF	43/44		46'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
215	CF	43/44		72'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
216	BO	43/44		98'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
217	CF	43/44		143'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
218	CF	43/44		150'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
219	CF	43/44		146'N OF SEOS 28'W	B		x		60	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
220	SJ	43/44/44A		196'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
221	SJ	44/44A/43		220' N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
222	SI	45/46		11'N OF 4'W	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
223	SJ	44/45/46		35'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
224	DSX-7	43/44	P-43	45'N OF SES 4'W	P	4	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
225	CF	44/46	P-44	180'N SEOS	P	10	x	16		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
226	DS15	43/44		187'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
227	CF	43./44	P-44	181'N OF SEOS 5'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
228	CF	43/44	P-44	181' N OF SEOS 7' E	B		x		24	7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
229	CF	43/44	P-44	181'N OF SEOS 9'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
230	DS-17	45/46		24'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
231	DS-16	46/47		146'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
232	SJ	46/47/48		115'N OF SEOS	P	2	x	7		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
233	SJ	47/48/49		116'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
234	CF	47/49		164' N OF SEOS	P	3	x	8		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
235	BO	46/47		258'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
236	CF	46/47		266'N OF SEOS	P	5	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
237	PB	44/46	P-46	112'N OF SEOS 8'E(8"PB)	P	4	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
238	AO	46/47		19'N OF SEOS (CAP 19')	P	2	x	19		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
239	CF	44/46	P-44	195'N OF SEOS 7'W	P	2	x	2		7/11/16	SU	EXTR #74	Vacuum	Pass	7/11/16
240	CF	44/46	P-44	203'N OF SEOS 7'W	B		x	9		7/11/16	SU	EXTR #74	Vacuum	Pass	7/11/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
241	CF	44/46	P-44	206'N SEOS 7'W	P	2	x	2	108	7/11/16	SU	EXTR #74	Vacuum	Pass	7/11/16
242	SI	49/50		3'N OF SEOS	B		x		60	7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
243	BO	49/50		6'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
244	DS-18	49/50		251' N OF SEOS	P	2	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
245	BO	49/50		271'N OF SEOS	P	2	x	4		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
246	SJ	50/52/53		20'N OF SEOS	P	2	x	3		7/12/16	SU	EXTR #74	Vacuum	Pass	7/1/16
247	CF	50/52	P-50	73'N OF SEOS 2'W	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/11/16
248	CF	50/52	P-50	85'N OF SEOS 10'W	P	3	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
249	CF	50/52	P-50	BETWEEN R-247 & R-248	B		x		108	7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
250	SJ	50/51/52		74'N OF SEOS	P	3	x	4		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
251	CF	50/51		111'N OF SEOS	P	3	x	5		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
252	CF	50/51	P-50	102N OF SEOS 8'W	P	2	x	8		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
253	CF	50/51	P-50	106N OF SEOS 5'W	B		x		72	7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
254	CF	50/51		214N OF SEOS	P	3	x	10		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
255	CF	50/51		274'N OF SEOS	P	3	x	3		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
256	DS19/SJ	52/53/54		20' NSEOS	P	3	x	8		7/12/16	SU	Extr #249	Vacuum	Pass	7/13/16
257	SJ	51/54/52		74'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
258	SJ	54/56/57		30'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
259	SJ	54/55/56		103'N OF SEOS	P	2	x	2		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
260	DS-20	54/55/56	55/56	BETWEEN R-259 & R-263	P	2	x	6		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes																			
CR	--Crease	FS	--Failed Seam	MatD	--Material Defect	LL	--Lost Lap	CF	--Custom Fit
DS	--Destruct Sample	WR	--Wrinkle	WS	--Welder Restart	MD	--Mechanical Damage	PB	--Pipe Boot
SI	--Subgrade Irregularity	AV	--Airvent	RW	--Roller Wrinkle	DO	--Damage By Others	BO	--Burn Out
SJ	--Seam Joint	AO	--Add On	CS	--Concrete Structure			AT	-Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
6489	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
261	PB	54/55	P-55	285'N OF SEOS 20'E (4" PB)	P	4	x	4		7/12/16	SU	EXTR #74	Vacuum	Pass	7/13/16
262	SJ	56/57/58		30'N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
263	SJ	55/56/58		103'N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
264	BO	55/58		273' N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
265	BO	55/58		285'N OF SEOS	P	2	x	4		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
266	CF	55/58		289'N OF SEOS	B		x		72	7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
267	SJ	58/59/60		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
268	SJ	59/60/61		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
269	BO	59/61		278'N OF SEOS	P	2	x	3		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
270	SJ	61/62/63		194'N OF SEOS	P	2	x	6		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
271	DS-21	58/59		266'N OF SEOS	P	2	x	4		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
272	DS-22	61/63		137' N OF SEOS	P	2	x	5		7/13/16	SU	EXTR #74	Vacuum	Pass	7/14/16
273	WR	50/51		165'N OF SEOS	P	3	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
274	WR	50/51	51	170'N OF SEOS 5'E	P	3	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
275	CF	50/51	51	BETWEEN R-274 & R-276	B		x		60	7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
276	BO	50/51		158'N OF SEOS	P	3	x	4		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
277	SJ	62/63/64		193'N OF SEOS	P	2	x	3		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
278	CF	64/65		187'N OF SEOS	P	2	x	3		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
279	CF	64/65		216'N OF SEOS	P	2	x	3		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
280	CF	64/65		115'N OF SEOS	P	5	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
281	SJ	65/66/67		116'N OF SEOS	P	2	x	2		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
282	CF	64/65	65	BETWEEN R-278 & R-283	B		x			7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
283	CF	64/65	65	193'N OF SEOS & 12'E	P	2	x	4		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
284	CF	64/65	65	215'N OF SEOS & 11'E	P	2	x	9		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
285	CF	64/65	65	BETWEEN R-279 & R-284	B		x			7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
286	DSX-8	R-270/61		193'N OF SEOS	P	2	x	6		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
287	DS-23	64/65		17'N OF SEOS	P	2	x	6		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
288	PB	65/66	65	90'N OF SEOS & 7'W (8")	P	2	x	5		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
289	SJ	66/67/68		115' OF SEOS	P	2	x	2		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
290	CF	66/68		167'N OF SEOS	P	6	x	10		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
291	DS-24	66/68	66	148'N OF SEOS	P	2	x	4		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
292	PB	66/68	66	148'N OF SEOS & 3'W (8")	P	6	x	8		7/14/16	SU	EXTR #74	Vacuum	Pass	7/14/16
293	BO	68/71		99' N OF SEOS	P	3	x	5		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
294	SJ	68/70/71		147' N OF SEOS	P	5	x	3		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
295	SJ	68/69/70		216' N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
296	DS-25	68/69		250' N OF SEOS	P	3	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
297	CF	68/70	P70	155'N OF SEOS & 12' E	P	4	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
298	CF	70/72	P70	BETWEEN R-297 & R-299	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
299	SJ	71/70/72		155'N OF SEOS	P	2	x	16		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
300	DSX-9	72/R299		153'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
301	CF	70/72		200'N OF SEOS	P	5	x	8		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
302	SJ	69/70/72		217'N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
303	CF	72/74		54'N OF SEOS	P	3	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
304	CF	72/74	P-72	60'N OF SEOS & 7' W	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
305	CF	72/74	P-72	BETWEEN R-306 & R-317	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
306	CF	72/74		104'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
307	CF	72/74		114'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
308	CF	72/74	P-74	BETWEEN R-307 & R-308	B		x		84	7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
309	CF	74/74		164'N OF SEOS	P	4	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
310	CF	72/74		172'N OF SEOS	P	4	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
311	SJ	72/73/74		220'N OF SEOS	P	3	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
312	DS-26	72/74		145'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
313	PB	72/74		158'N OFSEOS & 6'W (8" BOOT)	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
314	CF	74/75		76'N OF SEOS	P	3	x	7		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
315	CF	74/75		209'N OF SEOS	P	5	x	7		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
316	SJ	74/73/75		218'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
317	CF	72/74		109'N OF SEOS & 7' W	P	1	x	1		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
318	CF	72/74		114'N OF SEOS & 9'E	P	2	x	2		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
319	CF	74/75	P-75	95'N OF SEOS & 10'W	P	3	x	5		7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
320	CF	74/75	P-75	BETWEEN R-319&R-333 (DSX-10)	B		x		108	7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
321	CF	72/74	P-74	48'N OF SEOS 2' E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
322	CF	72/74	P-72	62'N OF SEOS 8' W	P	1	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
323	CF	74/75	P-75	35'N OF SEOS 10' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
324	CF	74/75	P-75	BETWEEN R-323 AND R-325	B		x		144	7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
325	CF	74/75	P-75	50'N OF SEOS 10' E	P	1	x	1		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
326	CF	74/75	P-75	157'N OF SEOS 12' E	P	2	x	2		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
327	CF	74/75	P-75	BETWEEN R-326 AND R-334	B		x		144	7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
328	SI	71/72	P-72	77'N OF SEOS 7' E	P	2	x	2		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
329	CF	74/75	P-75	164'N OF SEOS 7'E	P	2	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
330	CF	74/75	P-75	BETWEEN R-329 AND R-331	B		x		84	7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
331	CF	74/75	P-75	173'N OF SEOS 7'E	P	3	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	7/27/16
332	CF	75/76		8'N OF SEOS	P	2	x	7		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
333	CF	75/76		81'N OF SEOS	P	3	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
334	CF	75/76		151'N OF SEOS	P	2	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
335	BO	75/76		234'N OF SEOS	P	2	x	4		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
336	SI	75/76		254'N OF SEOS	P	4	x	14		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
337	DS-27	75/76		24'N OF SEOS	P	2	x	5		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
338	DSX-10	75/76	P-75	82'N OF SEOS 5'W	P	2	x	5		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
339	CF	76/78		4'N OF SEOS	P	3	x	7		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
340	SJ	76/77/78		40'N OF SEOS	P	3	x	6		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
341	CF	78/79	P-78	15'N OF SEOS	P	2	x	9		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
342	CF	76/78		15'N OF SEOS	P	2	x	5		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
343	PB	78/79	P-78	15'N OF SEOS 9'W (6"PB)	P	2	x	4		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
344	SJ	77/78/79		40'N OF SEOS	P	3	x	3		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
345	CF	77/79	P-79	138'N OF SEOS	P	2	x	15		7/27/16	SU	EXTR #74	Vacuum	Pass	8/2/16
346	CF	77/79	P-77	144'N OF SEOS 3'E	P	6	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
347	CF	76/78		25'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-75	Vacuum	Pass	8/2/16
348	CF	79/80	P-79	133'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
349	CF	79/80	P-79	129'N OF SEOS 9' W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
350	CF	79/80	P-79	131'N OFSEOS 10' W	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
351	CF	79/80	P-79	BETWEEN R-348 AND R-349	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
352	CF	79/80	P-79	BETWENN R-348 AND R-353	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
353	CF	79/80	P-79	138'N OF SEOS 2'W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
354	CF	79/80	P-79	134'N OF SEOS 3'W (ON R-348)	P	3	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
355	CF	79/80		167'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
356	SI	79/80	P-79	106'N OF SEOS 4'W	P	3	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
357	CF	79/80	P-80	140' N OF SEOS 1'E (48" MH)	P	6	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
358	CF	79/80	P-79	207'N OF SEOS 6'W	P	4	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
359	CF	79/80	P-79	208'N OF SEOS 10'W	P	3	x	7		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
360	CF	77/79	P-79	148'N OF SEOS (ON R-346)	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
361	CF	77/79	P-77	137'N OF SEOS 6'W	P	1	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
362	CF	80/82		6'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
363	SJ	80/81/82		25'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
364	CF	80/81		130'N OF SEOS	P	3	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
365	CF	80/81		140'N OF SEOS	P	3	x	15		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
366	CF	80/81	P-80	BETWEEN R-364 AND R-365	B		x		36	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
367	CF	80/81	P-80	140'NOF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
368	CF	80/81		150'N OF SEOS	P	4	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
369	CF	80/81		264'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
370	SJ	81/82/83		25'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
371	CF	81/83		31'N OF SEOS	P	2	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
372	BO	81/83		145'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
373	CF	81/83		216'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
374	SJ	83/84/85		52'N OF SEOS	P	3	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
375	CF	83/84		202'N OF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
376	SJ	84/85/86		52'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
377	CF	84/86		198'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
378	SJ	86/87/88		96'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
379	CF	86/87	P-86	205' N OF SEOS	P	4	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
380	PB	76/78	P-76	6'N OF SEOS 4'W	P	5	x	6		7/28/16	DM	EXT-75	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
381	CF	86/88		40'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
382	CF	83/84	83	197'N OF SEOS 10'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
383	CF	83/84	83	BETWEEN R-382 AND R-375	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
384	PB	81/83	81	32'N OF SEOS 7'W (8" PB)	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
385	CF	80/82	80	BETWEEN R-362 AND R-386	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
386	CF	80/82	80	10'N OF SEOS 10W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
387	CF	84/86	86	BETWEEN R-377 AND R-379	B		x		86	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
388	CF	86/87	87	250'N OF SEOS 19'E	P	3	x	12		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
389	CF	86/88	86	BETWEEN R-381 AND R-390	B		x		10	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
390	CF	86/88	86	42'N OF SEOS & 9'E	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
391	DS-26 B	72/74		154'N OF SEOS	P	2	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
392	DS-26 A	72/74		128'N OFSEOS	P	2	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
393	DS-28	81/83		177'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
394	DSX-11	83/81	81	144'N OF SEOS 12'W	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
395	DSX-12	84/86	86	199'N OF SEOS 4'E	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
396	CF	86/87		210'N OF SEOS	P	4	x	14		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
397	CF	86/87	86	210'N OF SEOS 7'W	P	3	x	4		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
398	CF	86/87	86	208'N OF SEOS 10'W	P	3	x	15		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
399	CF	86/87	87	200'N OF SEOS 9'E	P	4	x	20		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
400	CF	87/90		115'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum		

Environmental Specialties International Inc.

Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	6489	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	6528.42	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
401	CF	87/90	90	BETWEEN R-400 AND R-402	B		x		120	8/3/16	SU	EXT-74	Vacuum		
402	CF	87/90	90	115'N OF SEOS 13'E	P	2	x	3		8/3/16	SU	EXT-74	Vacuum		
403	BO	87/90		130'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum		
404	BO	87/89/90		150'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum		
405	SJ	88/87/90		97'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum		
406	CF	90/91	90	50'N OF SEOS 3'W	P	3	x	6		8/3/16	SU	EXT-74	Vacuum		
407	CF	90/91	90	49'N OF SEOS 7'W	P	3	x	9		8/3/16	SU	EXT-74	Vacuum		
408	PB	90/91	91	238'N OF SEOS 7'W (4" PB)	P	4	x	10		8/3/16	SU	EXT-74	Vacuum		
409	PB	90/91	91	107'N OF SEOS 5'E (8" PB)	P	4	x	4		8/3/16	SU	EXT-74	Vacuum		
410	CF	91/92		160' N OF SEOS	P	6	x	17		8/3/16	SU	EXT-74	Vacuum		
411	CF	91/92		180'N SEOS	P	4	x	6		8/3/16	SU	EXT-74	Vacuum		
412	CF	92/93		100'N OF SEOS	P	3	x	5		8/3/16	SU	EXT-74	Vacuum		
413	CF	92/93	92	BETWEEN R-412 AND R-414	B		x		84	8/3/16	SU	EXT-74	Vacuum		
414	CF	92/93	92	115'N OF SEOS 11'W	P	4	x	6		8/3/16	SU	EXT-74	Vacuum		
415	CF	87/89	87	246' N OF SEOS 4'W	P	3	x	8		8/3/16	SU	EXT-74	Vacuum		
416							x								
417							x								
418							x								
419							x								
420							x								

Non-conformance Log
(Attachment 11: Capping Update)

Summary of Non-Compliance & Corrective Action Forms

SA-6 North Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	6/23/2016	Subgrade Irregularity	R-10	Panel P6	Rock was removed from underneath geomembrane and hole was then patched with approximate 3 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
2	6/29/2016	Subgrade Irregularity	R-98	Panel P26	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
3	7/6/2016	Failed Spark Test	Gas Vent GV-5	Gas Vent GV-5	Spark identified during spark testing of vertical boot weld on Gas Vent GV-5 boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test
4	7/6/2016	Failed Spark Test	Well 115-W1-SO	Well 115-W1-SO	Spark identified during spark testing of vertical boot weld on Well 115-W1-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test
5	7/7/2016	Subgrade Irregularity	R-170	Panel P38	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
6	7/8/2016	Subgrade Irregularity	R-222	Panel P45	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
7	7/12/2016	Subgrade Irregularity	R-242	Panel P49 / P50	Rock was removed from underneath LLDPE geomembrane along the southern edge of SA-6 North (approximately 3 ft. from the edge of the cap. As such, the edge of the LLDPE was cut to remove the stone. This cut was then repaired with an extrusion weld bead. Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cut / bead was properly sealed (as outlined in Section 02372).
8	7/27/2016	Subgrade Irregularity	R-328	Panel P72	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs)
9	7/28/2016	Failed Destruct Sample	DS-26	Panel P72 / P74 (Repair R-312)	Destruct sample DS-26 reported two coupons as EPA Break Classification Code "AD BRK". Although the peel and shear strength requirments were met, since the coupons broke at the weld and were not conisdering a Film Tearing Bond, the sample was reported as a failed sample. Two field samples (DS-26A and DS-26B) were cut 10 ft. from each side of DS-26 and field tested. Peel and shear field tests met the strength requirments and sample DS-26B (lesser strength values of both samples) was sent for laboratory analysis (results pending).

Subgrade Approval Forms
(Attachment 11: Capping Update)

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 315+75 TO ~STA. 314+25		
QA Monitor	LANGAN	Date	6/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P19 (INSTALLED ON 6/24/16). FROM APPROX. STA. 315+75 TO APPROX STA. 314+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	6/29/16
Title	QC Manager
Representing:	Entrust
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½")
AS OUTLINED IN SECTION 02372-8.
- NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA. 315+75	LOOKING E	REFER TO PHOTO #1 (PHOTO LOG 6/27/16)
	2 PHOTO #2	STA. 315+00	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 6/27/16)
1. REFER TO 6/27/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	HONEYWELL SA 6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 314.25 TO ~STA. 313+25		
QA Monitor	LANGAN	Date	6/30/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P27 (INSTALLED ON 6/27/16) FROM APPROX. STA. 314+25 TO APPROX. STA. 313+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	6/30/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Ibarra
Date:	7/1/16
Title	QC Manager
Representing:	Entact
Signature:	Carolina Ibarra

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8

-NO GCL TO BE PLACED ALONG WESTERN END OF SA-6 NORTH

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1			REFER TO PHOTO #1 (PHOTO LOG 6/30/16)
	2 PHOTO #2			REFER TO PHOTO #2 (PHOTO LOG 6/30/16)
1. REFER TO 6/30/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFORMATION.				2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 313+25 TO ~STA. 312+60		
QA Monitor	LANGAN	Date	7/1/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P32 (INSTALLED ON 6/30/16) FROM APPROX STA. 313+25 TO APPROX STA. 312+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/1/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolyn Panico
Date:	7/1/16
Title	QC Manager
Representing:	Entek
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.

- NO GCL TO BE PLACED FROM ~STA. 313+25 TO ~STA. 312+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 313+25	LOOKING N	REFER TO PHOTO #1 (PHOTO LOG 7/1/16)
	2 PHOTO #2	~STA. 313+25	LOOKING S	REFER TO PHOTO #2 (PHOTO LOG 7/1/16)
1. REFER TO 7/1/16 PHOTOGRAPH LOG PHOTOS 1 TO 3 FOR SUPPORTING INFO.				2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 312+60 TO ~STA. 311+75
QA Monitor	LANGAN	Date	7/6/16

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P38 (INSTALLED ON 7/1/16) FROM APPROX. STA. 312+60 TO APPROX. STA. 311+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/6/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Layfield
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (i.e. >½'). NO GCL TO BE PLACED FROM ~STA. 312+60 TO ~STA. 311+75

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA 312+25	LOOKING S/SE	REFER TO PHOTO #3 (PHOTO LOG 7/6/16)
	2 PHOTO #4	~STA 312+27	LOOKING E	REFER TO PHOTO #4 (PHOTO LOG 7/6/16)
1. REFER TO 7/6/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 311+75 TO ~STA. 311+55		
QA Monitor	LANGAN	Date	7/7/16		

Description of Soil Surface to be lined: ~20 FT. AREA IMMEDIATELY EAST OF PANEL P42 (INSTALLED ON 7/6/16) FROM APPROX. STA. 311+75 TO APPROX. STA. 311+55. APPROVED SOIL FOR PLACEMENT OF ONE PANEL SO INSTALLED LLDPE TERMINATES OUTSIDE OF BOTTOM OF SWALES + GRADES TO CONTOURS TO PROMOTE + DRAINAGE (PM RAINSTORMS FORECASTED).

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/7/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8.
-SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. × 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). NO GEL TO BE PLACED FROM ~STA. 311+75 TO ~STA. 311+55'.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA 311+85	LOOKING N	REFER TO PHOTO #9 (PHOTO LOG 7/7/16)
	2			
1. REFER TO 7/7/16 PHOTO LOG PHOTO 9 (N ALONG ~STA 311+75)				2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 311+55 TO ~STA. 310+80		
QA Monitor	LANGAN	Date	7/8/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P43 (INSTALLED ON 7/7/16) FROM APPROX. STA. 311+55 TO ~STA. 310+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BUDWORTH
Date:	7/8/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/8/16
Title	QC Mgr
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (>1/2")
As outlined In Section 02372-8.
- Subgrade Observed By Field Engineer Who Walked The Placement Area In Approx. 200 ft. x 8ft. Transects To Observe Soil Compaction As well As Items Requiring Removal Prior to Panel Placement (>1/2"). No GCL to Be Placed From ~Sta. 311+55 To ~Sta. 310+80.

Photographs	Number	Location	Orientation	Notes
	1 Photo #1	~Sta. 311+55	Looking S/SE	Refer to Photo #1 (7/8/16)
	2 Photo #2	~Sta. 311+55	Looking S	Refer to Photo #2 (7/8/16)
1. Refer to 7/8/16 Photo Log Photos 1+2 for Supporting Subgrade Photos				2.

LANGAN

Certificate of Soil Surface

Sheet # 10

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 310+80 TO ~STA. 309+75		
QA Monitor	LANGAN	Date	7/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P49 (INSTALLED ON 7/8/16) APPROX. 105 FT. FROM APPROX STA. 310+80 TO ~STA 309+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Layfield
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). NO GCL TO BE PLACED FROM ~STA. 310+80 TO ~STA. 309+75.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #7	~STA. 310+80	LOOKING N	REFER TO PHOTO #7 (7/12/16)
	2 PHOTO #8	~STA. 310+80	LOOKING E	REFER TO PHOTO #8 (7/12/16)

1. REFER TO 7/12/16 PHOTO LOG PHOTOS 7 TO 9 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+75	TO ~STA. 309+00	
QA Monitor	LANGAN	Date	7/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P55/P56/P57 (INSTALLED ON 7/12/16) APPROX 175 FT. FROM APPROX. STA. 309+75 TO ~STA. 309+00. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (≥ ½") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (7½"). NO GCL TO BE PLACED FROM ~STA 309+75 TO ~STA. 309+00.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 309+75	LOOKING S	REFER TO PHOTO #3 (7/13/16)
	2 PHOTO #4	~STA. 309+75	LOOKING E	REFER TO PHOTO #4 (7/13/16)
1. REFER TO 7/13/16 PHOTO LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 309+00 TO ~STA. 308+20		
QA Monitor	LANGAN	Date	7/14/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P62/P63 (INSTALLED ON 7/13/16) APPROX 85 FT FROM APPROX STA. 309+00 TO ~STA. 308+20 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/14/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/15/16
Title	QC Mgr
Representing:	Environet
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. BY 8 FT. TRANSECTS TO OBSERVE SOIL CONDITION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). NO GCL TO BE PLACED FROM APPROX STA. 309+00 TO ± STA. 308+20.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 309+00	LOOKING E	REFER TO PHOTO #1 (7/14/16)
	2 PHOTO #2	~STA 309+00	LOOKING N	REFER TO PHOTO #2 (7/14/16)
1. REFER TO 7/14/16 PHOTOGRAPH LOG, PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec F&W	Cell No.	~Sta. 308+20 to ~Sta. 307+20		
QA Monitor	Langan	Date	7/25/16		

Description of Soil Surface to be lined: Area immediately East of Panel 768 (installed on 7/14/16) approx 100 ft. from approx ~Sta. 308+20 to ~Sta. 307+20 Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/25/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/25/16
Title	QC Mgr
Representing:	Entrel
Signature:	

LANGAN

Notes, Observations, Comments: Soil Graded, compacted, And Free of Debris (>1/2")
As outlined In Section 023172-8.
*Subgrade Observed By Field Engineer Who Walked The Placement Area In Approx 200 FT x 8 ft. Transects To Observe Soil Compaction As well As Items Requiring Removal Prior to Panel Placement (>1/2"). No GCL to Be Placed From ~ Sta. 308+20 to ~ Sta. 307+20

Photographs	Number	Location	Orientation	Notes
	1 Photo #1	~Sta. 308+15	Looking S	Refer to Photo #1 (11/25/16)
	2 Photo #2	~Sta 308+15	Looking E	Refer to Photo #2 (11/25/16)
1. Refer to 11/25/16 Photograph Log Photos 1 to 3 for supporting Subgrade Photos				2.

LANGAN

Certificate of Soil Surface

Sheet # 14

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 307+20 TO ~STA. 306+40		
QA Monitor	LANGAN	Date	7/27/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P175 (INSTALLED ON 7/25/16) APPROX 80 FT. FROM ~STA. 307+20 TO ~STA. 306+40. SOIL ADDITIONS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/27/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	CAROLINA PANICO
Date:	7/27/16
Title	QC
Representing:	Entrak
Signature:	

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (>1/2")
As outlined in Section 02372-8.
- Subgrade Observed By Field Engineer Who Walked The Placement Area In Approx. 200 ft. x 8ft Transects to observe Soil Compaction As well As Items Requiring Removal Prior to Panel Placement (>1/2"). No GCL to Be Placed From ~Sta. 307+20 to ~Sta. 306+40.

Photographs	Number	Location	Orientation	Notes
	1 Photo #1	~Sta. 307+00	Looking S	Refer to Photo #1 (11/27/16)
	2 Photo #2	~Sta. 307+20	Looking S	Refer to Photo #2 (11/27/16)
1. Refer to 11/27/16 Photograph Log Photos 1 to 4 for Supporting Subgrade Photos				2.

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 306+40 TO ~STA. 305+40		
QA Monitor	LANGAN	Date	7/28/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P&C (INSTALLED ON 7/27/16) APPROX 100 FT. EAST FROM ~STA. 306+40 TO ~STA. 305+40 SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/28/16
Title	QC
Representing:	Entrust
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02317-8.

- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT. x 8 FT. TRANSECTS TO OBSERVE SOIL CONDITION AS WELL AS ITEMS REQUIRING REMOVAL TO PANEL PLACEMENT (>½"). NO GCL TO BE PLACED FROM APPROX. STA. 306+40 TO ~ STA. 305+40

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	STA. 306+40	LOOKING N	REFER TO PHOTO #1 (7/28/16)
	2 PHOTO #2	STA. 306+40	LOOKING S	REFER TO PHOTO #2 (7/28/16)

1. REFER TO 7/28/16 PHOTOGRAPHIC LOG PHOTOS 1 TO 3 FOR SUPPORTING SUBGRADE PHOTOS.

2.

QA Photo Log
(Attachment 11: Capping Update)

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PHOTOGRAPHIC LOG
Photo #1 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/27/16

Direction Taken:

Looking west/ southwest along SA-6 North (at approximate Sta. 319+00).

Description:

ESI preparing to deploy GDL over Panel P1 and P2 (at approximate Sta. 319+00).



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PHOTOGRAPHIC LOG
Photo #2 (06/27/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

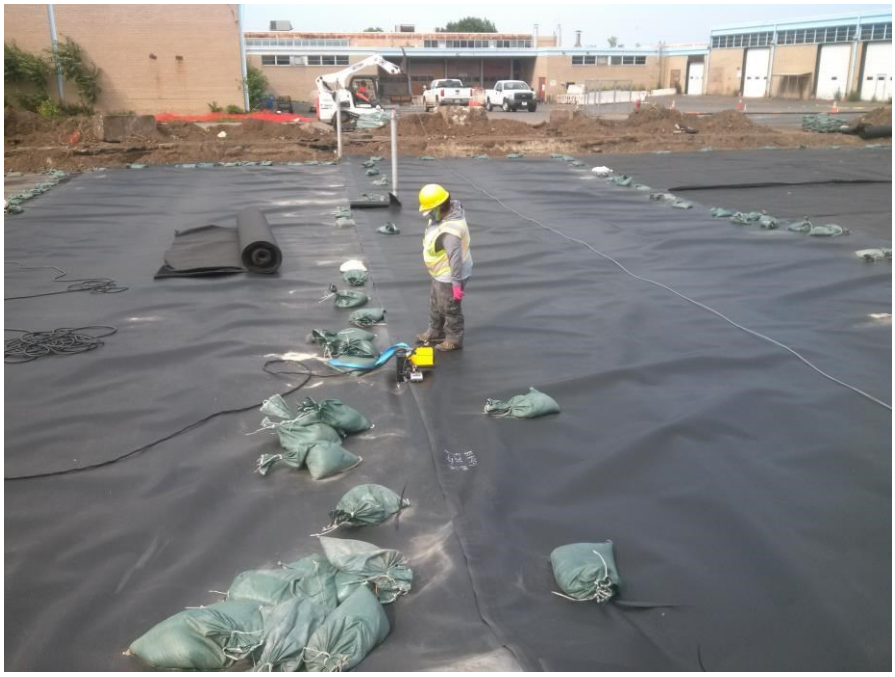
Date:
6/27/16

Direction Taken:

Looking north along SA-6 North at Panel P20 / P21 seam

Description:

ESI conducting fusion welding along Panel P20 / P21 seam.



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PHOTOGRAPHIC LOG
Photo #3 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/29/16

Direction Taken:

Looking south along SA-6 North along southern end of cap.

Description:

ESI continuing patch / repair activities for LLDPE geomembrane panels P19 Through P27 (installed on 6/27/16).



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PHOTOGRAPHIC LOG
Photo #4 (06/29/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
6/29/16

Direction Taken:

Looking south / southwest across SA-6 North (approximate Sta. 317+00).

Description:

Entact placing protective cover soil over GDL Panels 1 to 11 (GDL placed on 6/27/16).



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PHOTOGRAPHIC LOG
Photo #5 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

Looking south along southern end of SA6 North (approximate Sta. 314+00).

Description:

ESI deploying GVL with white plastic fasteners spaced at a maximum of 5 ft. along geonet. Top layer of geotextile also sewn.



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PHOTOGRAPHIC LOG
Photo #6 (06/30/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
6/30/16

Direction Taken:

SA-6 North Panel P27 / P28 seam

Description:

ESI conducting non-destructive testing (air pressure testing) for Panel P27 / P28 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #7 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
07/01/16

Direction Taken:

Looking north along northern end of SA-6 North (from approximate Sta. 313+25).

Description:

Soil subgrade prepared by Entact. Soil firm and unyielding, and graded, compacted and free of debris (>1/2").



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PHOTOGRAPHIC LOG
Photo #8 (07/01/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
07/01/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 313+00).

Description:

ESI deploying GVL across approved subgrade for SA-6 North. White plastic fasteners spaced at 5 ft. maximum across geonet with top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #9 (7/14/2016)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
7/14/16

Direction Taken:

SA-6 North – Destruct Sample DS-23

Description:

ESI completing patch / repair activities for Destruct Sample DS-23 located on Panel P64 / P65 seam (Repair R-287).



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PHOTOGRAPHIC LOG
Photo #10 (07/27/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
07/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

Entact conducting methane testing for LLDPE boot for Piezometer PZ6. Concentration of 0.0% methane measured. As such, spark testing was subsequently completed and no sparks were observed during the test (test passed).



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PHOTOGRAPHIC LOG
Photo #11 (07/27/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

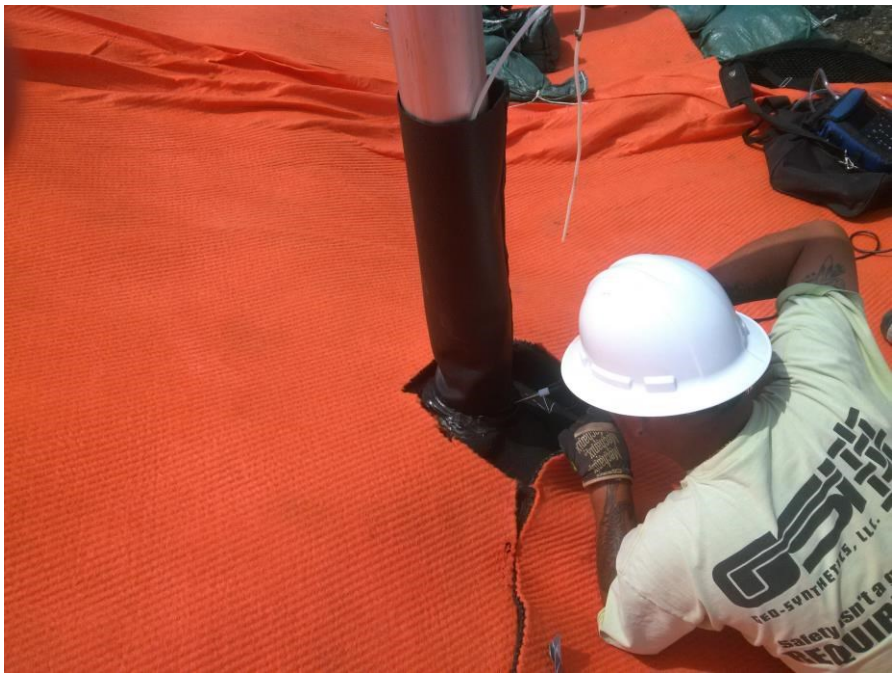
Date:
7/27/16

Direction Taken:

SA-6 North – Piezometer PZ6

Description:

ESI conducting spark testing along vertical weld and base of boot for Piezometer PZ6. No sparks were observed (i.e. spark test passed).



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PHOTOGRAPHIC LOG
Photo #12 (07/28/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
7/28/16

Direction Taken:
Looking north along SA-6 North from approximate center of cap (approximate Sta. 305+90).

Description:

ESI deploying LLDPE geomembrane over GVL across SA-6 North.



Daily QA Reports (Langan)
(Attachment 11: Capping Update)

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	70/85° F, Sunny (AM), PM Showers
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1930

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #5**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P19 installed on 6/24/16 (approximate Sta. 315+75). Material to be placed from Panel P19 running approximately 150 ft. east to approximate Sta. 314+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 315+75 (Panel P19 installed on 6/24/16) to approximate Sta. 314+25. Refer to *Soil Subgrade Approval* forms from 6/27/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/27/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- While the subgrade was being surveyed, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P1 (approximate Sta. 319+00), to Panel P11 (approximate Sta. 316+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boot completed for Access Manhole #1 (Panel P10). Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Manhole #1, a concentration of 0.1% (less than 1%) was measured. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and Manhole #1 boot passed. Additional details are outlined in the *Spark Testing QA Form Sheet #4.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following the placement of GDL, and subsequent to AmecFW completing the survey requirements for the soil subgrade, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 315+75 (east of Panel P19) moving east to approximate Sta. 314+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/27/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P19 (installed on 6/24/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 315+75 (Panel P19) to approximate Sta. 314+25. A total of eight panels were installed (P20, P21, P22, P23, P24, P25, P26, and P27). Note: During placement of panel P21, the roll of LLDPE terminated at the approximate center of the cap, thus the remaining run of LLDPE was installed as P22. Similarly, during placement of Panel P24, the roll of LLDPE terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P25. Panels P20, P23, P26, and P27 ran the entire width of SA-6 North (approximately 200 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/27/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P19 through P27 to attempt to patch / cover the LLDPE before inclement weather. Additional details are outlined on the 6/27/16 *Repair Log.*
- A total of seven repairs (R-75 through R-81) were observed and fixed (according to the project specifications) from Panels P20 through P21. Refer to 6/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: not all repairs completed, repairs conducted to cover and seal cap before inclemente weather. Vacuum box testing not completed. Activities to be continued on 6/28/16. No destruct samples were collected, as destruct samples to be cut on 6/28/16 (Note: Repair R-74 destruct sample to be cut on 6/28/16).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete pipe boot penetration log for Piezometer PZ-8 (Panel P21).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, and 6/24/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/27/16
A5 – Subgrade Approval	Sheet 4 & ESI (6/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/27/16
A7 – Panel Placement Log	Pages 3-4	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/27/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 5-7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/27/16
A10 – Repair Log	Page 4	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/27/16
A11 – Conformance COC		NA for 6/27/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 6/27/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 6/27/16
A14 – Penetration & Edge Form	6/27/16 Form	One boot penetration form completed for Piezometer PZ8. Note: no methane / spark testing conducted.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/27/16
A17 – Spark Testing Form		NA – no spark testing completed on 6/27/16. Boot for Piezometer PZ8 completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	6/29/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0650 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #6** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for LLDPE repair activities to be completed on LLDPE geomembrane installed on 6/27/16. Note: No capping activities conducted on 6/28/16 due to inclement weather, and no new LLDPE was placed on 6/29/16 as soil subgrade was not approved.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with non-destructive testing (pressure testing) and repair activities for geomembrane panels P19 through P27 (installed on 6/27/16). Non-destructive testing was conducted on the remaining panel seams and the seams were pressurized to 30 psi and held for 5 minutes with less than 4 psi loss. Refer to *6/29/16 Seam Control Form* for additional details.
- A total of twenty-two repairs (R-82 through RP-103) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/29/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected for laboratory analysis. Two fusion weld destruct samples, DS-5 and DS-6, were collected from Panel Seam P19 / P20 and Panel Seam P23 / P24, respectively. Additional details are outlined in the *Trial Weld Log* dated 6/29/16.
- The LLDPE pipe boot penetration for Gas Vent GV-5 was completed and extrusion welded. Note: no methane testing / spark testing completed. Methane / spark testing to be completed week of July 5, 2016.
- While ESI was conducting repairs, small areas of standing water were observed on the soil subgrade from Sta. 314+25 to approximate Sta. 313+75. Entact solidified the subgrade by adding calcium cement to the soils so that the wet areas were absorbed / removed. Additionally, minor modifications to the subgrade were completed to facilitate positive drainage off of SA-6 North.

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as R-98 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P26. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 2 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/29/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct samples results for DS-5 and DS-6.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, and 6/27/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, DS-3, and DS-4. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/29/16
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 6/29/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/29/16
A5 – Subgrade Approval		NA - no subgrade approval for 6/29/16
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/29/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 6/29/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/29/16
A9 – Seam/Non-Destruct. Test Log	Pages 6-7	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/29/16
A10 – Repair Log	Pages 4-5	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/29/16
A11 – Conformance COC		NA for 6/29/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/29/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/29/16
A14 – Penetration & Edge Form	6/29/16 Form	LLDPE pipe boot penetration form completed for Gas Vent GV-5. Note: methane / spark testing not completed (to be completed week of June 5, 2016).
A16 – Notice of Non-Compliance	Sheet 2	One non-compliance issue identified on 6/29/16 and summarized on Sheet 2.
A17 – Spark Testing Form		NA – no methane / spark testing completed on 6/29/16 for Gas Vent GV-5.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	6/30/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #7** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P27 installed on 6/27/16 (approximate Sta. 314+25). Material to be placed from Panel P27 running approximately 100 ft. east to approximate Sta. 313+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 314+25 (Panel P27 installed on 6/27/16) to approximate Sta. 313+25. Refer to *Soil Subgrade Approval* forms from 6/30/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/30/2016, for supporting subgrade photos. During subgrade observation, AmecFW was also completing surveying to verify the subgrade elevations. The area was subsequently approved by AmecFW following review of the survey data.
- Following subgrade approval (including AmecFW completing the survey requirements for the soil subgrade), GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 314+25 (east of Panel P27) moving east to approximate Sta. 313+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P27 (installed on 6/27/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 314+25 (Panel P27) to approximate Sta. 313+25. A total of five panels were installed (P28, P29, P30, P31, P32. Note: During placement of Panel P30, the

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roll of LLDPE terminated near the north end of SA-6 North, thus the remaining run of LLDPE was installed as P31. Panels P28, P29, and P31 ran the entire width of SA-6 North (approximately 215 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/30/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 314+25, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 6/30/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P27 through P32. Additional details are outlined on the 6/30/16 *Repair Log.*
- A total of thirty-one repairs (R-104 through R-134) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 6/30/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: Add on (AO) repairs completed for Panels P17, P18, and P19, as LLDPE length had to be increased along edges of SA-6 North.
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 6/30/16. Three fusion weld destruct samples DS-7, DS-8, and DS-9 were collected from panel seams P13 / P14, P18 / R-105, and 18 / 19, respectively. One extrusion weld destruct sample, DSX-3, was collected from Panel P21 (R-79).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log for 6/30/16. Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-7, DS-8, DS-9, and DSX-3.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, and 6/29/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-6. Reviewed laboratory data for extrusion weld destruct sample DSX-1 and DSX-2. Laboratory results in compliance with project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/30/16
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 6/30/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/30/16
A5 – Subgrade Approval	Sheet 5 & ESI (6/30/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/30/16
A7 – Panel Placement Log	Pages 4-5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/30/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/30/16
A9 – Seam/Non-Destruct. Test Log	Pages 7-8	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 630/16
A10 – Repair Log	Pages 6-7	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/30/16
A11 – Conformance COC		NA for 6/30/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/30/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/30/16
A14 – Penetration & Edge Form		NA – no pipe boot penetrations completed on 6/30/16.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/30/16
A17 – Spark Test Form		NA – no methane / spark testing completed on 6/30/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/1/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	78/95° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #8**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P32 installed on 6/30/16 (approximate Sta. 313+25). Material to be placed from Panel P32 running approximately 65 ft. east to approximate Sta. 312+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 313+25 (Panel P32 installed on 6/30/16) to approximate Sta. 312+60. Refer to *Soil Subgrade Approval* forms from 7/1/16 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 7/1/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 313+25 (east of Panel P32) moving east to approximate Sta. 312+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/1/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P32 (installed on 6/30/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 313+25 (Panel P32) to approximate Sta. 312+60. A total of seven panels were installed (P33, P34, P35, P36, P37, and P38). Note: During placement of Panel P33 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P34. Similarly, during placement of Panel 36, the roll of LLDPE terminated

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approximately 2/3 from the north end of SA-6 North, thus the remaining run of LLDPE was installed as P37. Panels P32, P35, and P38 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/1/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/1/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panel P29 (installed on 6/30/16) and Panels P33 to P38 (installed on 7/1/16). Additional details are outlined on the 7/1/16 *Repair Log.*
- A total of twenty-eight repairs (R-135 through R-162) were observed and fixed (according to the project specifications) from Panels P19 through P27. Refer to 7/1/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed a pipe boot for Well 115-S1-SO located on the Panel P28 / P29 seam. Additional details are provided in the pipe boot penetration form for 7/1/16. No methane / spark testing was conducted on the boot (to be completed on 7/6/16).
- Following the placement of LLDPE geomembrane, ESI deployed the orange geocomposite drainage layer (GDL), over the installed LLDPE geomembrane. GDL was placed from Panel P11 (approximate Sta. 316+25), to east of Panel P19 (approximate Sta. 315+50). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/30/16 Photo Log for supporting photographs
- A total of four destruct samples were collected on 7/1/16. Three (3) fusion weld destruct samples were collected – DS-11, DS-12, and DS-13 from Panel Seams P31 / P32, P34 / P35, and P36 / P38, respectively. One extrusion weld destruct sample – DSX-4 was collected from Panel P32 (Repair R-148).

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/1/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DS-11, DS-12, DS-13, and DSX-4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, and 6/30/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-10. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-3. Laboratory results in compliance with project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/1/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/1/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/23/16
A5 – Subgrade Approval	Sheet 6 & ESI (7/1/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/1/16
A7 – Panel Placement Log	Page 5	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/1/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 7/1/16
A9 – Seam/Non-Destruct. Test Log	Pages 12-13	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/1/16
A10 – Repair Log	Pages 7-9	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/1/16
A11 – Conformance COC		NA for 7/1/16
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 7/1/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 7/1/16
A14 – Penetration & Edge Form	7/1/16 Form	Pipe boot completed for Well 115-W1-SO located along Panel P28 / P29.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/1/16
A17 – Spark Testing Form		NA – no spark testing completed on 7/1/16. Boot for Well 115-W1-SO completed. Methane / spark testing to be completed week of July 5, 2016.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/6/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0655 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #9** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE) continuing east from Panel P38 installed on 7/1/16 (approximate Sta. 312+60). Material to be placed from Panel P38 running approximately 85 ft. east to approximate Sta. 311+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P19 (approximate Sta. 315+50), moving east up to Panel P27 (approximate Sta. 314+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs
- While ESI was deploying GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 312+60 (Panel P38 installed on 7/1/16) to approximate Sta. 311+75. Refer to *Soil Subgrade Approval* forms from 7/6/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 7/6/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 312+60 (east of Panel P38) moving east to approximate Sta. 311+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/6/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P38 (installed on 7/1/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 312+60 (Panel P38) to approximate Sta. 311+75. A total of four panels were installed (P39, P40, P41, and P42). Note: During placement of Panel P39 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P40. Panels P41 and P42 ran the entire width of SA-6 North (approximately 220 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/6/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 311+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/6/16 *Seam Control Form* for non-destructive testing details. ESI completed a temporary pipe boot for Extraction Pump Station #1 and completed leistering of temporary patches to cover the LLDPE geomembrane. Repair (detailing) activities to be completed on 7/7/16.
- While GDL was being deployed, ESI also conducted, methane / spark testing for the pipe boots completed for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO. Prior to spark testing, methane testing was conducted to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the pipe boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing).
- During the spark testing for Piezometer PZ8 a spark was observed at the top of the boot (outside of the 2 ft. boot requirement). Since this spark was outside of the required boot construction, the boot was subsequently cut at 2 ft. (thus removing the failed weld), and the remaining boot was retested with no sparks observed.
- During spark testing of Gas Vent GV-5 and Well 115-W1-SO, a spark was observed while testing the vertical weld and a small pinhole deficiency was observed in the weld. These areas will be grinded, rewelded, and retested on 7/7/16. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- No destruct samples collected on 7/6/16. Destruct samples to be cut on 7/7/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 3 (Sheet #3) – Failed spark test along vertical weld of Gas Vent GV-5
  - Failed spark test identified during spark testing of Gas Vent GV-5. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.
- Non-Conformance No. 4 (Sheet #4) – Failed spark test along vertical weld of Well 115-W1-SO
  - Failed spark test identified during spark testing of Well 115-W1-SO. Small pinhole deficiency identified in vertical weld. Weld to be grinded, re-welded, and re-tested on 7/7/16.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, and 7/1/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/6/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/6/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/6/16
A5 – Subgrade Approval	Sheet 7 & ESI (7/6/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/6/16
A7 – Panel Placement Log	Pages 5-6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/6/16
A8 – Destruct Seam Testing COC		NA - no destruct samples collected on 7/6/16
A9 – Seam/Non-Destruct. Test Log	Pages 14-16	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/6/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		NA – no repair activities conducted on 7/6/16
A11 – Conformance COC		NA for 7/6/16
A12 – Destructive Seam Field Test		NA - no destruct samples collected on 7/6/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/6/16
A14 – Penetration & Edge Form		NA – no pipe boots / penetrations completed on 7/6/16
A16 – Notice of Non-Compliance	Sheets 3 & 4	Two non-compliance issues identified on 7/6/16 during spark testing of pipe boots and summarized on Sheets 3 & 4 (7/6/16 Non-Compliance Forms).
A17 – Spark Test Log	7/616 Spark Test Logs	Spark tests completed for Piezometer PZ8, Gas Vent GV-5, and Well 115-W1-SO.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/7/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #10** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), 60-mil geomembrane liner (LLDPE), continuing east from Panel P42 installed on 7/6/16 (approximate Sta. 311+75). Material to be placed from Panel P42 running approximately 20 ft. east to approximate Sta. 311+55. Note: based on available prepared subgrade and inclement weather scheduled in the afternoon, ESI deployed one panel of GVL and one panel of LLDPE geomembrane so that the installed LLDPE was outside of the slope swales and depressed contours thus promoting positive drainage away from the installed material.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P27 (approximate Sta. 314+60), moving east up to Panel P36 / P37 (approximate Sta. 313+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/7/16 Photo Log for supporting photographs
- While GDL was being deployed, ESI also completed repair activities for Panels P39 to P42 (installed on 7/6/16). A total of thirty-seven repairs (R-163 through R-199) were observed and fixed (according to the project specifications) from Panels P39 through P42. Refer to 7/7/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. One fusion weld destruct sample (DS-14) was collected from Panel P41 / P42 seam, and one extrusion weld sample (DSX-5) was collected from Panel P42, Repair R-179 for laboratory analysis.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- While GDL and repair activities were being completed, ESI also conducted, methane / spark testing for the pipe boots repairs for Gas Vent GV-5, and Well 115-W1-SO. Based on the sparks observed during spark testing on 7/6/16, the areas were subsequently grinded, re-welded, and re-tested. Refer to 7/7/16 Photograph Log for supporting photos. Prior to spark testing, methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing, a concentration of 0.0% (<1%) was measured for each of the boots. Following the methane testing, spark testing was conducted by ESI for the vertical weld areas that were re-welded. During the re-test no sparks were observed and the retest spark test passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/6/16.
- Following the LLDPE repair activities, and deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+75 (Panel P42 installed on 7/6/16) to approximate Sta. 311+55. Refer to *Soil Subgrade Approval* forms from 7/7/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photo 9 of the daily photo log for 7/7/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).
- Following subgrade approval, one panel of GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications).
- After placement of GVL, one panel of LLDPE geomembrane was installed continuing from Panel P42 (installed on 7/6/16) and moving east. The panel was oriented from north to south (as proposed in the approved Panel Layout) and was installed from approximate Sta. 311+75 (Panel P42) to approximate Sta. 311+55. A total of one panel was installed (P43). Panel P43 ran the entire width of SA-6 North (approximately 230 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/7/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 312+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/7/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs were marked and temporary patches were leistered in place for repair activities (i.e. detailing) to be completed on 7/8/16.
- ESI completed the boot / penetration construction for Extraction Pump Station #1 manhole and welded (detailed) the repairs. Note: Extraction Pump Station #1 manhole was located in a recessed contour of SA-6 North and repair activities were conducted to seal the LLDPE geomembrane as rainstorms were forecasted for the afternoon.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 5 (Sheet #5) – Subgrade irregularity identified as R-170 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P38. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 5 Notice of Non-Compliance.*
- Note: Failed spark test non-conformance details are outlined in the 7/6/16 Daily Report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/6/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-14 and DSX-5.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, and 7/6/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-4. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/7/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/7/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/7/16
A5 – Subgrade Approval	Sheet 8 & ESI (7/7/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 3-4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/7/16
A7 – Panel Placement Log	Page 6	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/7/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/7/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Pages 16-17	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/7/16
A10 – Repair Log	Pages 9-10	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/7/16
A11 – Conformance COC		NA for 7/7/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/7/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/7/16
A14 – Penetration & Edge Form		NA – Pipe boot for Access Manhole #2 to be completed on 7/8/16.
A16 – Notice of Non-Compliance	Sheet 5	One non-compliance issue identified as subgrade irregularity on 7/7/16 and summarized on Sheet 5.
A17 – Spark Test Log	7/6/16 Spark Test Logs	Spark tests logs for Gas Vent GV-5 and Well 115-W1-SO dated 7/6/16 updated for spark retests completed on 7/7/16.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/98° F, Overcast, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #11** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P43 installed on 7/7/16 (approximate Sta. 311+55). Material to be placed from Panel P43 running approximately 75 ft. east to approximate Sta. 310+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities for Panels P42 and P43 (Panel P43 installed on 7/7/16). A total of twelve repairs (R-200 through R-211) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While LLDPE repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 311+55 (Panel P43 installed on 7/7/16) to approximate Sta. 310+80. Refer to *Soil Subgrade Approval* forms from 7/8/16 for additional details. During subgrade observation, the subgrade area was transversed in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 and 2 of the daily photo log for 7/8/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 311+55 (east of Panel P43) moving east to approximate Sta. 310+80.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/8/16 Photo Log for supporting photographs.
- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P43 (installed on 7/7/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 311+55 (Panel P43) to approximate Sta. 310+80. A total of eight panels were installed (P44, P44A, P44B, P45, P46, P47, P48, and P49). Note: During placement of Panel P44 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P45. Similarly, during placement of Panel P47, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P48. Panels P46 and P49 ran the entire width of SA-6 North (approximately 290 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/8/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 310+80, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repairs activities were conducted for Panels P44 through P49 (installed on 7/8/16). These repair activities were conducted in addition to the repairs completed in the morning for Panels P42 and P43 (installed on 7/7/16).
- A total of twenty additional repairs (R-212 through R-223, R-225, R-227, R-228, R-229, and R-233 to R-236) were observed and fixed (according to the project specifications) from Panels P44 to P49. Refer to 7/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of one (1) destruct samples was collected. One extrusion weld sample (DSX-6) was collected from Panel P42, Repair R-180 for laboratory analysis. Additional destruct samples to be cut and collected on 7/11/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as R-222 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P45. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 6 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct sample DSX-6.

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By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, and 7/7/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-13. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-5. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/8/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 7/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/8/16
A5 – Subgrade Approval	Sheet 9 & ESI (7/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/8/16
A7 – Panel Placement Log	Page 6-7	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/8/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/8/16
A9 – Seam/Non-Destruct. Test Log	Pages 16-18	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/8/16
A10 – Repair Log	Pages 10-12	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/8/16
A11 – Conformance COC		NA for 7/8/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/8/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/8/16
A14 – Penetration & Edge Form		NA – Pipe boot skirts completed, methane testing to be completed before finalizing welds and conducting spark testing.
A16 – Notice of Non-Compliance	Sheet 6	One non-compliance issue (subgrade irregularity) identified on 7/8/16 and summarized on Sheet 6.
A17 – Spark Test Log		NA – no spark test activities conducted on 7/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/11/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	72/80° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** LLDPE Repair Activities & Destruct Samples	**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #12**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of LLDPE repair activities (from Panels P44 to P49 installed on 7/8/16). Note: soil subgrade not approved for LLDPE placement as standing water / wet areas observed along subgrade from rainstorms over the weekend. Entact to solidify, rework, and re-compact soils for subgrade approval to be completed on 7/12/16. Note: the edge of the LLDPE geomembrane placed on 7/8/16 was pulled back until dry soil subgrade from below the liner was exposed (as shown in the 7/11/16 Photo Log). Soil to be dried, solidified, reworked, and re-compacted by Entact for approval on 7/12/16.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for Panels P44 through P49 (panels installed on 7/8/16). A total of eight repairs (R-224, R-226, R-230, R-231, R-232, R-239, R-240, and R-241) were observed and fixed (according to the project specifications) from the two panels. Refer to 7/11/16 *Repair Report* for additional details. In general, the majority of the repairs were destruct samples that were collected for laboratory analysis and cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of four (4) destruct samples were collected from panels installed on 7/8/16. Three fusion weld destruct samples – DS-15, DS-16, and DS-17 were collected from Panel Seam P43 / P44, P46 / P47, and P45 / 46, respectively. Additionally, one extrusion weld destruct sample - DSX-7 was collected from Panel P44, Repair R-179 for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-15, DS-16, DS-17, and DSX-7.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, and 7/8/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-14. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-6. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 7/11/16
A3 – Photo Log	Pages 1 – 2	Total of 4 photos outlining pertinent daily observations and descriptions for 7/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/11/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/11/16
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/11/16
A7 – Panel Placement Log		NA – no panels placed on 7/11/16 as no soil subgrade was not approved.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/11/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing conducted on 7/11/16
A10 – Repair Log	Pages 12-13	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/11/16
A11 – Conformance COC		NA for 7/11/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/11/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/11/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 7/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues identified on 7/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/11/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/12/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	72/85° F, Sunny, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #13**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P49 installed on 7/8/16 (approximate Sta. 310+80). Material to be placed from Panel P49 running approximately 100 ft. east to approximate Sta. 309+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P36 / P37 (approximate Sta. 313+25), moving east up to Panel P42 (approximate Sta. 312+25). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also completed the LLDPE pipe boot for Gas Vent GV-4. The boot was patched and welded (to be methane / spark tested later in the morning). Additional details are outlined in the Gas Vent GV-4 penetration log dated 7/12/16.
- ESI completed methane / spark testing for the LLDPE pipe boot for Pump Station #1 and Gas Vent GV-4. Prior to spark testing, Entact conducted methane testing to measure the concentration of methane present underneath the LLDPE geomembrane. A concentration of 0.0% (>1%) was measured for both boots. As such, ESI conducted spark testing along the base of the boot and the vertical weld. No sparks were observed during the spark test and both boots passed. Additional details are outlined in the *Spark Testing QA Forms* dated 7/12/16.
- Following the deployment of GDL and spark testing activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 310+80 (Panel P49 installed on 7/8/16) to approximate Sta. 309+75. Refer to *Soil Subgrade Approval* forms from 7/12/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was

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generally free of any loose material greater than ½". Refer to Photos 7 to 9 of the daily photo log for 7/12/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement. Note: the approximate 20 ft. area of soil was approved so that an additional panel of LLDPE geomembrane could be deployed to allow the edges of the liner to be outside of the depressed contours in the event of afternoon rainstorms (positive drainage away from the installed LLDPE geomembrane).

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 310+80 (east of Panel P49) moving east to approximate Sta. 309+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/12/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P49 (installed on 7/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 310+80 (Panel P49) to approximate Sta. 309+75. A total of eight panels were installed (P50, P51, P52, P53, P54, P55, P56, and P7). Note: During placement of Panel P51 the roll of LLDPE terminated near the approximate center of SA-6 North, thus the remaining run of LLDPE was installed as P52 and P53 (P52 and P53 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P55, the roll of LLDPE terminated near the center of SA-6 North, thus the remaining run of LLDPE was installed as P56 & P57 (Panels P56 and P57 installed as remaining pieces of previously used LLDPE rolls). Panels P50 and P54 ran the entire width of SA-6 North (approximately 288 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+75, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P50 through P57 (installed on 7/12/16).
- ESI conducted repair activities for Panels P50 to P57 (installed on 7/12/16). A total of twenty-two repairs (R-237, R-238 and R-242 through R-261) were observed and fixed (according to the project specifications) from Panels P50 through P57. Refer to 7/12/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of three (3) destruct samples were collected. Three fusion weld destruct samples - DS-18, DS-19, DS-20 were collected from Panel Seams P49 / P50, P53 / P54, and P55 / P56 for laboratory analysis

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as R-242 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P49 / P50. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 7 Notice of Non-Compliance.*

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Action Items – Pending

- Complete Daily Report and Photo Log (for 7/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-18, DS-19, and DS-20.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, and 7/11/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-17. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/12/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 7/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/12/16
A5 – Subgrade Approval	Sheet 10 & ESI (7/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/12/16
A7 – Panel Placement Log	Pages 8-9	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/12/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/12/16

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A9 – Seam/Non-Destruct. Test Log	Pages 19-22	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/12/16
A10 – Repair Log	Pages 13-14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/12/16
A11 – Conformance COC		NA for 7/12/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/12/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/12/16
A14 – Penetration & Edge Form	7/12/16 Boot Form	Pipe boot for Gas Vent GV-4 and Piezometer PZ6 completed on 7/12/16.
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issue identified as subgrade irregularity on 7/12/16 and summarized on Sheet 7.
A17 – Spark Test Log	7/12/16 Spark Test Logs	Spark tests logs for Gas Vent GV-4 and Extraction Pump Station #1 dated 7/12/16

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/13/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	72/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P55 / P56 / P57 installed on 7/12/16 (approximate Sta. 309+75). Material to be placed from Panel P55 / P56 / P57 running approximately 75 ft. east to approximate Sta. 309+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P42 (approximate Sta. 312+25), moving east through Panel P47 / P48 (approximate Sta. 311+10). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+75 (Panel P55 / P56 / P57 installed on 7/12/16) to approximate Sta. 309+00. Refer to *Soil Subgrade Approval* forms from 7/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3,4, and 5 of the daily photo log for 7/13/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 309+75 (east of Panel P55 / P56 / P57) moving east to approximate Sta. 309+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

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Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/13/16 Photo Log for supporting photographs.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P55 / P56 / P57 (installed on 7/12/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+75 (Panel P55 / P56 / P57) to approximate Sta. 309+00. A total of six panels were installed (P58, P59, P60, P61, P62, and P63). Note: During placement of Panel P59 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P60. Similarly, during placement of Panel P62, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P63. Panels P58 and P61 ran the entire width of SA-6 North (approximately 295 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 309+00, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/13/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P58 to P63 (installed on 7/13/16)
- ESI conducted repair activities for Panels 58 to P63 (installed on 7/13/16). A total of eleven repairs (R-262 through R-272) were observed and fixed (according to the project specifications) from Panels P58 through P63. Refer to 7/13/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two (2) destruct samples were collected. Two fusion weld destruct samples - DS-21 and DS-22 were collected from Panel Seams P58 / P59 and P61 / P63, respectively, for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-21 and DS-22.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, and 7/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-20. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/13/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/13/16
A5 – Subgrade Approval	Sheet 11 & ESI (7/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/13/16
A7 – Panel Placement Log	Pages 9-10	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/13/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/13/16
A10 – Repair Log	Page 14	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/13/16
A11 – Conformance COC		NA for 7/13/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/13/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 7/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/13/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/14/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	75/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P62 / P63 installed on 7/13/16 (approximate Sta. 309+00). Material to be placed from Panel P62 / P63 running approximately 80 ft. east to approximate Sta. 308+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting repair activities for a wrinkle observed on Panel P50 / P51. A total of four repairs (R-273 through R-276) were observed and fixed (according to the project specifications) from Panels P50 and P51. Refer to 7/14/16 *Repair Report* for additional details. The observed wrinkles were cut to allow the geomembrane to conform to the subgrade, and the cut areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While repair activities were being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 309+00 (Panel P62 / P63 installed on 7/13/16) to approximate Sta. 308+20. Refer to *Soil Subgrade Approval* forms from 7/14/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/14/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta.309+00 (east of Panel P62 / P63) moving east to approximate Sta. 308+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/14/16 Photo Log for supporting photographs.

- During deployment of GVL, the potential for rocks or other debris to become dislodged in the soil subgrade were observed. Additional walkover and observation activities were conducted along the GVL to attempt to identify any rocks or debris (>1/2") that may have been dislodged.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P62 / P63 (installed on 7/13/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 309+00 (Panel P62 / P63) to approximate Sta. 308+20. A total of five panels were installed (P64, P65, P66, P67, and P68). Note: During placement of Panel P66 the roll of LLDPE terminated approximately 2/3 from the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P67. Panels P64, P65, and P68 ran the entire width of SA-6 North (approximately 299 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/14/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 308+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/14/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P64 to P68 (installed on 7/14/16).
- ESI conducted repair activities for Panels P64 to P68 (installed on 7/14/16) in addition to the wrinkle repairs completed in the morning on Panels P50 / P51. A total of sixteen repairs (R-277 through R-292) were observed and fixed (according to the project specifications) from Panels P64 through P68. Refer to 7/14/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the boot / penetration construction for Gas Vent GV-3 and Extraction Pump Cleanout 1. The boots were welded and sealed with methane / spark testing to be conducted at a later date.
- A total of three (3) destruct samples were collected. Two fusion weld destruct samples - DS-23 and DS-24 were collected from Panel Seams P64 / P65 and P66 / P68, respectively, for laboratory analysis. In addition, one extrusion weld destruct sample – DSX-8 was collected from Panel P61 (Repair R-270) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/14/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-23, DS-24, and DSX-8.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, and 7/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-22. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-7. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/14/16
A3 – Photo Log	Pages 1 – 6	Total of 11 photos outlining pertinent daily observations and descriptions for 7/14/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/14/16
A5 – Subgrade Approval	Sheet 12 & ESI (7/14/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/14/16
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/14/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 7/14/16
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/14/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 14-15	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/14/16
A11 – Conformance COC		NA for 7/14/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 7/14/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 7/14/16
A14 – Penetration & Edge Form	7/14/16 Boot Forms	Pipe boot / penetrations completed for Gas Vent GV-3 and Extraction Pump Cleanout 1. To be methane / spark tested at later date.
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/14/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/14/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	7/15/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	80/95° F, Partly Cloudy, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite Drainage Layer (GDL)	**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #16**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/15/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P47 / P48 (approximate Sta. 311+10) to Panel P66 (approximate Sta. 308+35) along northern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the northern half to Panel P66. The southern end of the cap was covered to Panel P63 (approximate Sta. 309+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/15/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/15/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, and 7/14/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/15/16
A3 – Photo Log	Pages 1 – 2	Total of 3 photos outlining pertinent daily observations and descriptions for 7/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/15/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/15/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/15/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/15/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/15/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/15/16
A11 – Conformance COC		NA for 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/15/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/15/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/15/16
A17 – Spark Test Log		NA – no spark testing completed on 7/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/18/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 0845

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #17**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Kale **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainager layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 7/18/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed along the southern end of SA-6 North from Panel P63 (approximate Sta. 309+00) to Panel P66 (approximate Sta. 308+35) along southern end of cap. Note: GDL rolls were approximately 200 ft. in length and covered approximately 2/3 of the cap (north to south). As such, GDL was deployed along the southern half to Panel P66 (northern half previously covered with GDL on 7/15/16). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/18/16 Photo Log for supporting photographs.

Non-Conformance Items / Corrective Actions

- None encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/18/16). No LLDPE paperwork to be completed as no subgrade was approved and no LLDPE geomembrane was installed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, and 7/15/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/18/16
A3 – Photo Log	Page 1	Total of 2 photos outlining pertinent daily observations and descriptions for 7/18/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/18/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 7/18/16
A6 – Trial Weld Log		NA – no trial welds completed on 7/18/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 7/18/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/18/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 7/18/16
A10 – Repair Log		NA – no LLDPE repair activities conducted on 7/18/16
A11 – Conformance COC		NA for 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/18/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/18/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 7/18/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/18/16
A17 – Spark Test Log		NA – no spark testing completed on 7/18/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/25/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/93° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #18** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Kale Novalis **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P68 installed on 7/14/16 (approximate Sta. 308+15). Material to be placed from Panel P68 running approximately 95 ft. east to approximate Sta. 307+20.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 308+15 (Panel P68 installed on 7/14/16) to approximate Sta. 307+20. Refer to *Soil Subgrade Approval* forms from 7/25/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log on 7/25/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 308+15 (east of Panel P68) moving east to approximate Sta. 307+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 7/25/16 Photo Log for supporting photographs.
- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P68 (installed on 7/14/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 308+15 (Panel P68) to approximate Sta. 307+20. A total of seven panels were installed (P69, P70, P71, P72, P73, P74 and P75).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Note: During placement of Panel P69 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P70 and P71 (P70 and P71 remaining pieces of LLDPE from rolls previously used). Similarly, during placement of Panel P73, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P74. Panels P72 and P75 ran the entire width of SA-6 North (approximately 280 ft.) from north to south.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/25/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 307+20, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 7/25/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels 68 to P75 (installed on 7/25/16). A total of twenty-six repairs (R-293 through R-318) were observed and fixed (according to the project specifications) from Panels P68 through P75. Refer to 7/25/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications (Note: vacuum box testing not completed for all repairs. To be finished on 7/26/16).
- ESI also completed the pipe boot construction for Extraction Pump Cleanout Well 2.
- A total of two (3) destruct samples were collected. Two fusion weld destruct samples were collected – DS-25 and DS-26 were collected from Panel Seams P69 / P69 and P72 / P74, respectively. One extrusion weld destruct sample – DSX-9 was also collected from patch repair R29 (Panel P72) for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/25/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete boot penetration log for Extraction Pump Cleanout, Well 2
- Review laboratory results for destruct samples DS-25, DS-26, and DSX-9.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, and 7/18/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory results in compliance with project specifications.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/25/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 7/25/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/25/16
A5 – Subgrade Approval	Sheet 13 & ESI (7/25/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/25/16
A7 – Panel Placement Log	Pages 10-11	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/25/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/25/16
A9 – Seam/Non-Destruct. Test Log	Pages 25-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/25/16
A10 – Repair Log	Pages 15-16	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/25/16
A11 – Conformance COC		NA for 7/25/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/25/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A14 – Penetration & Edge Form	7/25/16 Boots	Pipe boot penetration log completed for Extraction Pump Cleanout Well 2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 7/25/16
A17 – Spark Test Log		NA – no spark testing conducted on 7/25/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/27/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/98° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1615

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #19** **AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P75 installed on 7/25/16 (approximate Sta. 307+20). Material to be placed from Panel P75 running approximately 80 ft. east to approximate Sta. 306+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 307+20 (Panel P75 installed on 7/25/16) to approximate Sta. 306+40. Refer to *Soil Subgrade Approval* forms from 7/27/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and one wet / soft area was identified at the top of the western slope of the utility corridor. The wet area was identified underneath the edge of the GVL panel (previously installed on 7/25/16). The GVL was pulled back and the soil subgrade was exposed. The wet area was re-worked by Entact and calcium cement was added to solidify the soil. Based on visual observation, the remaining soil subgrade (along with the re-worked wet area) appeared to be firm and unyielding with no other soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1 to 4 of the daily photo log for 7/27/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 307+20 (east of Panel P75) moving east to approximate Sta. 306+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/27/16 Photo Log for supporting photographs.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P75 (installed on 7/25/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 307+20 (Panel P75) to approximate Sta. 306+40. A total of five panels were installed (P76, P77, P78, P79, and P80). Note: During placement of Panel P77 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P78. Panels P76, P79, and P80 ran the entire width of SA-6 North (approximately 270 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/27/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 306+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/27/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P75 to P80 (installed on 7/25/16 and 7/27/16)
- ESI conducted repair activities for Panel P75 (installed on 7/25/16), and Panels P76 through P80 (installed on 7/27/16). A total of forty-three repairs (R-319 through R-361) were observed and fixed (according to the project specifications) from Panels P75 through P80. Refer to 7/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While repair activities were being conducted, ESI also completed methane / spark testing for Piezometer PZ6 and Extraction Well 1. Prior to spark testing methane testing was conducted at each location and 0.0% methane was recorded. As such, spark testing was then conducted and no sparks were observed along the base of the boot or vertical weld for both boots. Refer to the *Spark Testing Forms* from 7/27/16 for additional details.
- A total of two (2) destruct samples were collected on 7/27/16. One fusion weld destruct samples - DS-27 was collected from Panel Seams P75 / P76, for laboratory analysis. Additionally, one extrusion weld sample – DSX-10 was collected from Panel P75 Repair R-320.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as R-328 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P71 / P72. Stone was subsequently removed, and hole was patched/repaired following project specs as further described in *Sheet 8 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/27/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory results for destruct samples DS-27 and DSX-10.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, and 7/25/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-24. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-8. Laboratory samples DS-25, DS-26, and DSX-9 still pending.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/27/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/27/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/27/16
A5 – Subgrade Approval	Sheet 14 & ESI (7/27/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/27/16
A7 – Panel Placement Log	Pages 11-12	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/27/16
A8 – Destruct Seam Testing COC	Sheet 2	Updated for destruct samples collected on 7/27/16
A9 – Seam/Non-Destruct. Test Log	Pages 28-30	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/27/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 16-19	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/27/16
A11 – Conformance COC		NA for 7/27/16
A12 – Destructive Seam Field Test	Page 2	Updated with destruct samples collected on 7/27/16
A13 – Destruct. Sample Summary	Page 2	Destruct sample summary updated with samples collected on 7/27/16
A14 – Penetration & Edge Form	7/27/16 Pipe Boot Forms	One pipe boot / penetration completed for Well 115-E5-S0
A16 – Notice of Non-Compliance	Sheet 8	One subgrade irregularity identified and recorded on Sheet 8 Notice of Non-Compliance
A17 – Spark Test Log	7/27/16 Spark Test Logs	Two spark tests completed for pipe boots Piezometer PZ6 and Extraction Pumpout Well 1

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/28/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	78/95° F, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #20**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Dave Ambrose, Josh Boynton **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT** / **ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P80 installed on 7/27/16 (approximate Sta. 306+40). Material to be placed from Panel P80 running approximately 100 ft. east to approximate Sta. 305+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 306+40 (Panel P80 installed on 7/27/16) to approximate Sta. 305+40. Refer to *Soil Subgrade Approval* forms from 7/28/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 1, 2, and 3 of the daily photo log for 7/28/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 306+40 (east of Panel P80) moving east to approximate Sta. 305+40. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to the 7/28/16 Photo Log for supporting photographs.
- While GVL was being installed, Entact and ESI conducted spark testing for Gas Vent GV-3, and Extraction Pumpout Well #2. Prior to spark testing, methane testing was conducted by Entact and a concentration of 0.0% was measured at each boot. As such, spark testing was subsequently completed, and no sparks were observed during the test (i.e. spark test passed). Additional details regarding the

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methane / spark testing are provided in the 7/28/16 *Spark Test Logs*.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P80 (installed on 7/27/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 306+40 (Panel P80) to approximate Sta. 305+40. A total of eight panels were installed (P81, P82, P83, P84, P85, P86, P87, and P88). Note: During placement of Panel P81 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P82. Similarly, during placement of Panel P84 the roll of LLDPE terminated near the southern end of SA-6, thus the remaining run of LLDPE was installed as Panel P85. Panel P87 also terminated near the approximate center of SA-6 North, thus the remaining LLDPE run was installed as Panel P88. Panels P83 and P86 ran the entire width of SA-6 North (approximately 260 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 7/28/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 305+40, ESI began to conduct non-destructive testing (pressure testing) in accordance with the project specifications. Seams were pressurized to 30 psi and held for 5 minutes with less than 5 psi loss. Refer to the 7/28/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P80 to P88 (installed on 7/27/16 and 7/28/16)
- ESI conducted repair activities for Panel P80 (installed on 7/27/16), and Panels P81 through P88 (installed on 7/28/16). A total of twenty-nine repairs (R-362 through R-390) were observed and fixed (according to the project specifications) from Panels P80 through P88. Refer to 7/27/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- Laboratory results for destruct sample DS-26 were received and two of the coupons were reported as EPA Break Classificaion Code “AD BRK”. Although the coupons met the peel strength requirements, since the break was reported at the weld and not considered a film tearing bond (FTB), the sample was considered a failed sample and reported as a non-conformance item.
- No destruct samples were collected due to the forecasted storms at the end of the day. Destruct samples to be cut on 8/1/16 (rain forecast for 7/29/16 – no LLDPE activities anticipated).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Failed destruct sample DS-26 collected from Panel P72 / P74
    - Destruct sample DS-26 failed 2/5 coupons as the weld breaks were reported as “AD BRK” under the EPA Break Classification Code. Although the coupons achieved the required peel / shear strength parameters, since the break occurred at the weld and was not considered an FTB, the sample failed.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/28/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, and 7/27/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results in compliance with project specifications with the exception of destruct sample DS-26 (recorded as Non-Conformance #9).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 7/28/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 7/28/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/28/16
A5 – Subgrade Approval	Sheet 15 & ESI (7/28/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/28/16
A7 – Panel Placement Log	Pages 12-13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 7/28/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 7/28/16
A9 – Seam/Non-Destruct. Test Log	Pages 31-33	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 7/28/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 7/28/16
A11 – Conformance COC		NA for 7/28/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 7/28/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 7/28/16
A14 – Penetration & Edge Form	7/28/16 Pipe Boot Form	Two pipe boot / penetrations completed for Utility Corridor Drainage Pipe and Extraction Pump Station Manhole #2
A16 – Notice of Non-Compliance	Sheet 9	One failed destruct sample: DS-26 recorded on 7/28/16. Additional details provided in Non-Conformance Log Sheet #9
A17 – Spark Test Log	7/28/16 Spark Test Logs	Spark testing completed on 7/28/16 for Gas Vent GV-3 and Extraction Pumpout Well #2

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Site Observation Report Day #20 (7/28/16) Attachment:

Response to E-mail dated August 3, 2016, transmitting amended/clarified pages of June Monthly Progress Report

Graham, Stephanie

From: Clifford, Joseph T <joseph.clifford@amecfw.com>
Sent: Friday, August 05, 2016 2:02 PM
To: Graham, Stephanie; Ambrose, David M
Subject: FW: Resolution of the SA-6 North Anomalous Destruct Sample

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 4:51 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>; Kim Bell Hosea (k.bell@cea-enviro.com) <k.bell@cea-enviro.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: Resolution of the SA-6 North Anomalous Destruct Sample

Steve/Kim,

I am sending this email on behalf of Honeywell and in response to the technical question raised during our biweekly technical call on Tue Aug 2.

Specifically, it was asked that Honeywell provide an update to a reported geomembrane destruct sample failure on a fusion weld that was identified by Langan as part of their standard 3rd party Quality Assurance (QA) testing procedures. It is noted that the failed sample met the strength requirement but the "inside" weld failed in such a manner as to be classified as a failure by the geotechnical testing lab.

The approved 100% Design Specifications and the QA Plan describe the procedures to be followed in the event of a failed destruct sample. Langan and the Amec EOR instructed the contractor to collect and run additional destruct samples 10 feet either side of the failed test. In addition an additional sample was collected from the sample for offsite testing from the location that yielded the lower field strength.

Both field tests and the supplemental offsite laboratory test passed. The contractor subsequently placed a single patch that encompasses all three destruct sample locations in accordance with the approved 100% Design. Langan observed the repair and the passing vacuum testing of the patch.

Lastly, we want to emphasize that this entire approach is not only consistent with the 100% Design, but is also industry practice, and considered a routine item when dealing with geomembrane liner installations of this scale.

Both the Langan QA manager and Amec EOR consider that the geomembrane in this location meets the specified requirements. The results will be reported and documented as part of the routine repair log as well as the next monthly progress report and final RAR documentation.

Please let us know if you have any other questions on this item.

Thank you. -Joe



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August 5, 2016 Honeywell e-mail:
080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319
(Attachment 11: Capping Update)

Graham, Stephanie

From: Hague, William
Sent: Friday, August 05, 2016 11:20 AM
To: Graham, Stephanie
Subject: FW: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319
Attachments: Well 115-W6-SO Spark Test Log.pdf; Gas Vent GV-6 Spark Test Log.pdf; DRAFT DR_LLDPE Day#4_062416_RL Rev.docx; Piezometer PZ10 Spark Test Log.pdf

From: Hague, William
Sent: Friday, August 05, 2016 9:57 AM
To: 'Kim Hosea'; RGTSpecialMaster@aol.com
Cc: joseph.clifford@amecfw.com; Michael.Daneker@APORTER.COM; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom; Kaouris, Maria; Morris, John; AAlcorn@tpmlaw.com; KMillian@tpmlaw.com; CPravlik@tpmlaw.com; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mhogan@thewalshfirm.com; HRuiz@TheWalshFirm.com; lwalsh@thewalshfirm.com; Mojka, John; mmcwatters@louisberger.com; bdavis@tpmlaw.com
Subject: RE: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319

Kim,

In response to your questions on the boot testing information provided in the June 2016 Study Areas 6 and7 Combined Monthly Progress Report, please see the following clarifications:

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- Langan has clarified the dates of methane testing and spark testing. Langan Site Observation Report dated 6/24/16 (4 pages is attached with redline/strikeout).
- The three individual BOOT LOG QA forms (R-1/R-7/R-38) for the first three boots completed by Langan are attached.
- Regarding the question on the explanation of abbreviations.

    - **“SEOS”** represents the **South End of Seam** which refers to the southern edge of the SA-6 North Cap. The edge of the cap is used as a reference point to record and document the repair distances, panel lengths, etc. For example, if a repair was completed 10 ft. from the south edge of the cap, it is recorded on the repair report as 10 ft. north of SEOS.

    - Similarly, **“NEOS”** represents the **North End of Seam**, or northern edge of SA-6 North.

- Langan and AmecFW both disagree with the Plaintiffs request that the boot on Well-W6-S0 should be classified as a “Non Compliance” based on not performing the spark test. Specification 02372 was amended to include the spark testing. The amended specification provides for visual inspection of an extrusion weld if spark testing is not feasible due to the methane readings consistent with standard

industry practice. The specification was followed and both the methane reading and visual observation are noted on the Boot Log QA form R-7.

- Amec/Langan confirm that Plaintiffs understanding of the pipe boot penetrations on the daily reports is correct.

- The Amec portion of the Combined Report-Section F, 9th bullet will be amended to indicate that **"Spark testing was conducted on two boots that had methane reading of <1%. Visual inspection of the extrusion weld was performed on Well 115-W6-SO boot due to methane > 1%."**

Honeywell will issue an this email as an attachment to the next Study Areas 6 and 7 Combined Monthly Progress/Highlights Report to document these clarifications.

Let us know if you have any other questions on this item.

Regards,

Bill

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
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From: Kim Hosea [mailto:k.hosea@cea-enviro.com]
Sent: Monday, August 01, 2016 3:01 PM
To: RGTSpecialMaster@aol.com
Cc: joseph.clifford@amecfw.com; Michael.Daneker@APORTER.COM; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom; Hague, William; Kaouris, Maria; Morris, John; AAlcorn@tpmlaw.com; KMillian@tpmlaw.com; CPravlik@tpmlaw.com; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mhogan@thewalshfirm.com; HRuiz@TheWalshFirm.com; lwalsh@thewalshfirm.com; Mojka, John; mmcwatters@louisberger.com; bdavis@tpmlaw.com
Subject: 080116 June 2016 SA-6 and SA-7 Combined Progress Report 21319

We have reviewed the Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-06 and have the following comments and requests for additional information.

Section F, Capping Operations, states that three sparks tests of initial boot welds were conducted in June. The documentation provided in Attachment 11 – Capping Update does not support this statement. The Repair Report includes entries regarding three pipe boot penetrations:

- Repair No. 1 – Panel Number P-1, 35'North of SEOS & 8'W
- Repair No. 7 – 15'N of S EOS (PB 6")
- Repair No. 38 – Panel Number 11, 83' N of SEOS (8" Pipe)

We understand that the locations as shown on the Repair Report correspond to the pipe boot penetrations described in the Daily Reports. If our understanding is incorrect, please provide a drawing showing the panel layout and a description of the terms "SEOS" and "EOS."

While Section F, Capping Operations, states that three sparks tests of initial boot welds were conducted in June, the June 24, 2016, Site Observation Report, included in Attachment 11, indicates that only 2 of the 3 installed boots were spark tested. The Site Observation Report states that methane testing was conducted at Well 115-W6-SO, GV-6, and Piezometer PZ-10. Per the specifications, due to methane concentrations of >1.0%, no spark testing was conducted of the Well 115-W6-SO boot. Spark tests were conducted at GV-6 and PZ10 (methane <1%) and passed. Thus, based on Langan's Site Observation Report, only two spark tests were conducted in June. Section F should accurately reflect the testing that was conducted and the results.

The Repair Report, included in Attachment 11, contains entries regarding vacuum testing, but does not contain any entries for spark testing. Completed spark tests should be documented on the Repair Report and, in the event that methane concentrations are detected >1%, the lack of spark testing should be documented on the Summary of Non-Compliance & Corrective Action Forms. In addition, the QA/QC logs for the spark testing should be included in Attachment 11.

Please let me know if you have any questions or require additional information.

Thank you –

Kim Bell Hosea
President
Carpenter Environmental Associates, Inc.
610 County Route 1, Unit 2F
Pine Island, New York 10969

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From: Graham, Stephanie [mailto:Stephanie.Graham@honeywell.com]
Sent: Thursday, July 14, 2016 4:27 PM
To: RGTSpecialMaster@aol.com
Cc: joseph.clifford@amecfw.com; Michael.Daneker@APORTER.COM; Jeremy.Karpatkin@aporter.com; Kim Hosea <k.hosea@cea-enviro.com>; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom <tom.byrne@honeywell.com>; Hague, William <william.hague@honeywell.com>; Kaouris, Maria <Maria.Kaouris@Honeywell.com>; Morris, John

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Subject: June 2016 SA-6 and SA-7 Combined Progress Report

Attached please find the **June 2016 SA-6 and SA-7 Combined Progress Report.**

Please note that these files have also been made available for download on the Louis Berger SharePoint Site.

Thank you,

Stephanie Graham

Amec Foster Wheeler
c/o Honeywell
115 Tabor Road
Morris Plains, New Jersey 07950
Phone: 973-455-4209

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	6/24/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & LLDPE Placement	**TIME:**	0645 – 1545

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #4**
AmecFW: Stu Bills, Dave Ambrose, Ari Eslaminejad, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) continuing east from Panel P12 / P13 installed on 6/23/16 (approximate Sta. 316+50). Material to be placed from Panel P12 / P13 running approximately 75 ft. east to approximate Sta. 315+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 316+50 (Panel P12 / P13 installed on 6/23/16) to approximate Sta. 315+75. Refer to *Soil Subgrade Approval* forms from 6/24/15 for additional details. Based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos 1 to 3 of the daily photo log for 6/24/2016, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications as verified by AmecFW
- GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 316+50 (east of Panel P12 / P13) moving east to approximate Sta. 315+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 6/24/16 Photo Log for supporting photographs.
- While GVL was being deployed, ESI also continued patch / repair work for the panels installed on 6/23/16 (Panels P8 to P13). Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (6/24/16).
- In addition, methane testing was conducted for the pipe boots completed for Well 115-W6-SO,

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Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Piezometer PZ10, and Gas Vent GV-6. Methane testing was conducted by AmecFW to measure the concentration of methane present below the LLDPE geomembrane. During methane testing of Well 115-W6-SO, a concentration of 1.4% (greater than 1%) was measured. No spark testing was conducted on Well 115-W6-SO due to the measured methane concentration. Instead, the weld was visually observed for deficiencies and none were noted.

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- Methane testing for PZ10 and Gas Vent GV-6 yielded methane concentrations of 0.8% and 0.0%, respectively (<1%). Following the methane testing, spark testing was conducted by ESI for the vertical weld and pipe boot weld at the base of the penetration (i.e. welds not accessible for vacuum box testing). No sparks were observed during the test, and both boots passed. Additional details are outlined in the *Spark Testing QA Form Sheets #1-3*.
- After placement of GVL, LLDPE geomembrane was installed continuing from Panel P12 / P13 (installed on 6/23/16) and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 316+50 (Panel P12 / P13) to approximate Sta. 315+75. A total of six panels were installed (P14, P15, P16, P17, P18, and P19). Note: During placement of panel P15, the roll of LLDPE terminated approx. 2/3 from the north of the cap, thus the remaining run of LLDPE was installed as P16. Panels P14, P17, P18, and P19 ran the entire width of SA-6 North (approximately 192 ft.) from north to south.
- Adjacent geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 6/24/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 315+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 6/24/16 *Seam Control Form* for non-destructive testing details. Additionally, repair and extrusion weld activities were also conducted for Panels P14 through P19. Additional details are also outlined on the 6/24/16 *Repair Log*.
- A total of thirty repairs (RP-44 through RP-73) were observed and fixed (according to the project specifications) from Panels P14 through P19. Refer to 6/24/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: vacuum box testing not completed for all welds. To be continued on 6/27/16.
- A total of two destruct samples were collected for laboratory analysis by Entact / ESI. One fusion weld destruct sample DS-4 (Panel P15 / P17 seam) was collected for laboratory analysis. Additionally, one extrusion weld sample DSX-2 (Panel P10) was also collected for laboratory analysis.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 6/24/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample data (once received from laboratory).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16 and 6/23/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1, DS-2, and DS-3. Reviewed laboratory data for extrusion weld destruct sample DSX-1.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no material delivered on 6/24/16
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 6/24/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 6/24/16
A5 – Subgrade Approval	Sheet 3 & ESI (6/24/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 6/24/16
A7 – Panel Placement Log	Pages 2&3	One panel placement log provided by ESI and confirmed by Langan for panels placed on 6/24/16
A8 – Destruct Seam Testing COC	Sheet 1	Updated for destruct samples collected on 6/24/16
A9 – Seam/Non-Destruct. Test Log	Pages 4 to 6	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 6/24/16
A10 – Repair Log	Pages 2 to 3	One repair log provided by ESI and confirmed by Langan for repairs completed for 6/24/16
A11 – Conformance COC		NA for 6/24/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 1	Updated with destruct samples collected on 6/24/16
A13 – Destruct. Sample Summary	Page 1	Destruct sample summary updated with samples collected on 6/24/16
A14 – Penetration & Edge Form	Sheets 1 to 3	Pipe boot skirts completed, methane testing completed for Piezometer PZ10, Well 115-W6-SO and Gas Vent GV-6 as outlined on the Sheets 1 to 3.
A16 – Notice of Non-Compliance		NA - no non-compliance issues identified on 6/24/16.
A17 – Methane / Spark Testing Log	Sheets 1 to 3	Methane testing completed for Piezometer PZ10, Well 115-W6-SO, and Gas Vent GV-6. Spark testing completed for Piezometer PZ10 and Gas Vent GV-6

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Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

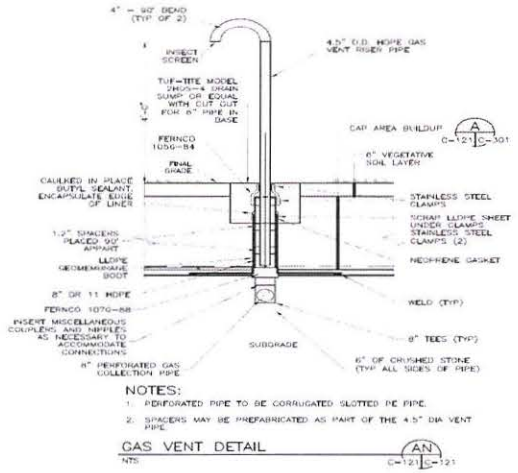
Project: Study Area 6 North

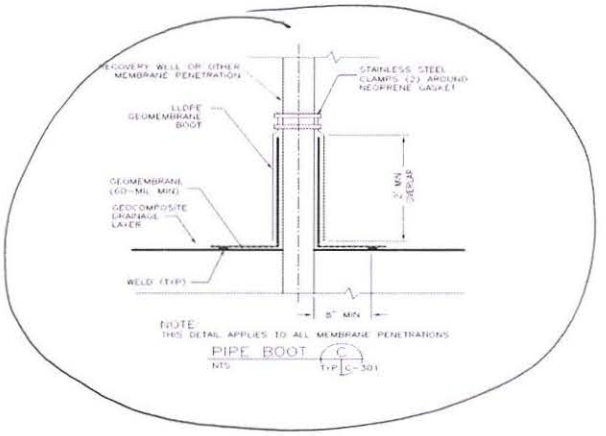
Location: Piezometer PZ10 located at approximate center of SA-6 North Cap on Panel P1 (approximately 35 ft. north of Panel P1 / P2 seam and 8 ft. west). Identified as R-1 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-1

Boot Log QA Form (cross-reference): 6/23/16 Piezometer PZ10 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0925

% Methane 0.8%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16 by ESI. Methane testing yielded concentration of 0.8%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

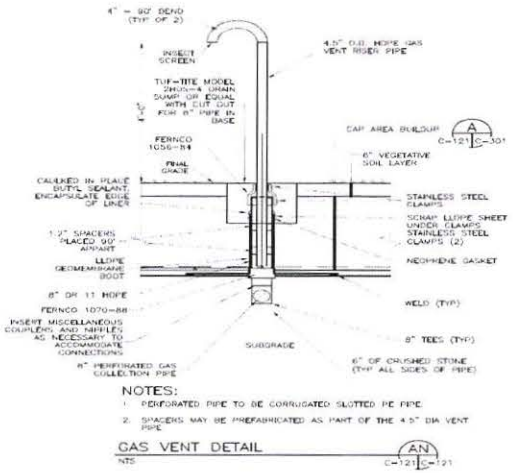
Project: Study Area 6 North

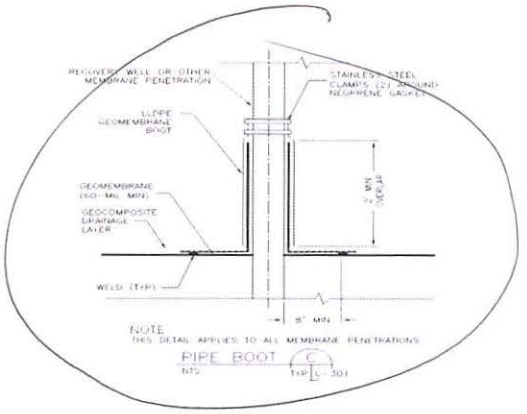
Location: Well 115-W6-SO located near southern end of SA-6 North Cap on Panel P5 / P6 seam (approximately 15 ft. north of southern end of cap). Identified as R-7 on *As Built* and *Repair Report*.

Date: 6/24/16 **Repair Number:** R-7

Boot Log QA Form (cross-reference): 6/23/16 Well 115-W6-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0910

% Methane 1.4%

☐Methane < 1%; Proceed with spark testing

☒Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld:

☐Vacuum Box Tested

☐Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot										
Vertical weld										

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane completed on 6/24/16 by ESI. Methane testing yielded concentration of 1.4%. (>1%). As such, no spark testing was completed. The vertical weld and the weld at the base of the boot were visually observed and no deficiencies were noted.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

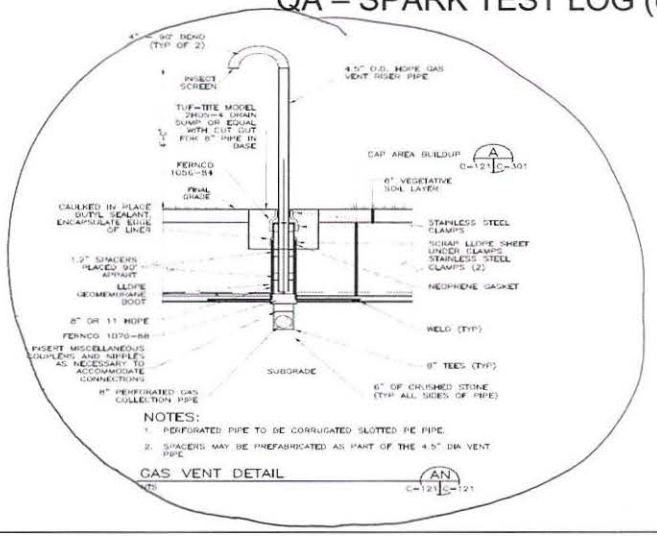
STUDY AREA 6 - CAP INSTALLATION

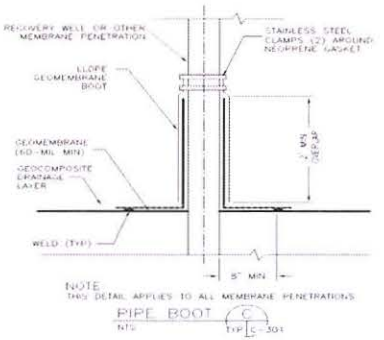
LANGAN

Project: Study Area 6 North
Location: Gas Vent GV-6 located near approximate center of SA-6 North Cap on Panel P11 (approximately 83 ft. north of southern end of cap). Identified as R-38 on *As Built* and *Repair Report.*

Date: 6/24/16 **Repair Number:** R-38
Boot Log QA Form (cross-reference): 6/23/16 Gas Vent GV-6 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0915

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 6/23/16. Methane / spark testing completed on 6/24/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature: **Independent CQA Monitor Signature:**

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 1, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping		X		3

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/05/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 01, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJPDES #:

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on Kellogg Street, just outside of the SA-6 South truck entrance/exit gate.
2	IA2Q4A1AL8	Filter fabric in the catch basins on the eastern SA-7 haul road has become blinded with sediment and/or damaged.
3	IA2Q4A1AL8	Garbage and refuse is present on SA-7 between the western haul road and the Hackensack River bulkhead.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/05/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean/shovel sediment from the western end of Kellogg Street, particularly along the perimeter fenceline.	7-7-16, RAV
2	Replace filter fabric in the catch basins as needed.	
3	Pick up and dispose of garbage/debris on western SA-7	

Construction Manager: _____ Date: 07/07/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 8, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones		X		2
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage		X		3
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/11/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 08, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and refuse are present along the outside of the perimeter fence on Kellogg Street and along the Kellogg Street jughandle.
2	IA2Q4A1AL8	The top of sheetpile in the area of the JCIA trash pit is approximately at currently-existing grade and stormwater can accumulate and flow into the northern cap area.
3	IA2Q4A1AL8	An O2 tank by the c-boxes on the SA-7 northern access roadway is missing its protective valve cap.
4	IA2Q4A1AL8	Garbage and other debris is present in the Rt. 440 pedestrian walkway to the east of SA-6 North.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/11/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of garbage/debris located along the outside of the Kellogg Street fenceline	7/11/16 RAD
2	Construct a berm along the top if the sheetpile in the vicinity of the old JCIA trash pit to prevent stormwater from running into the cap area.	7/11/16 RAD
3	Replace the missing cap on the O2 bottle by the c-boxes on SA-7	cap RMS 7/11/16
4	Pick up and dispose of garbage/debris located in the eastern SA-6 North pedestrian walkway.	7/11/16 RAD

Construction Manager: _____ Date: 07/13/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 15, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		2
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/18/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 15, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	The sediment bag in the stormwater catch basin at the western end of Kellogg Street (next to the truck entrance gate) requires maintenance.
2	IA2Q4A1AL8	The N-2 perimeter pool riser on the north side of SA-7 is being impacted by stormwater during rain events.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/18/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the sediment bag in the catch basin.	7-21-16 RAS
2	Construct a berm around the perimeter pool N-2 grate out of sandbags or other appropriate material to prevent stormwater run-off from entering the riser.	↓

Construction Manager: _____ Date 07/21/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 22, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 07/25/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 22, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence by the Kellogg Street jughandle requires maintenance.
2	IA2Q4A1AL8	The sediment bag in the stormwater catch basin on the southern side of the Groundwater Treatment Plant on SA-6 North requires maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 07/25/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Repair or replace windscreen fabric as required.	7/28/16 RAD
2	Replace the filter fabric in the catch basin to the south of the GWTP	V

Construction Manager: _____ Date: 07/28/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: July 29, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☑ Cloudy ☐ Other _____
☑ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance		X		2
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water		X		3
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing		X		4
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		5
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/01/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWAP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, July 29, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated against the silt fence on the western end of the south cap and some of the silt fence is not properly toed in.
2	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg Street, particularly where it is piled up against the western curb at the end of the street and also along the northern edge.
3	IA2Q4A1AL8	Stormwater has ponded at several locations on the south side of the SA-6 South cap area
4	IA2Q4A1AL8	Additional Exclusion Zone signage is needed along the south side of the SA-6 North EZ and a CRZ must be properly delineated/identified.
5	EEPSQUO2YB	Silt fence and erosion control measures around the Novartis stockpile area require maintenance.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/01/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove sediment which has accumulated more than half-way up the fabric and toe in silt fence where required.	8/4/16 RAD
2	Remove accumulated sediment from the roadway.	
3	Pump ponded stormwater as required.	
4	Place additional EZ signs on the southern edge of the Exclusion Zone and label the CRZ area	
5	Repair or replace erosion control measures around the Novartis stockpile area as required.	

Construction Manager: _____ Date: 08/04/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted June 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

July 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the June 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
6	01	16	6	30	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	76,973	83,596 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.67	0.73	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.17937	0.17937	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris VP
Signature of Principal
Executive or Authorized Agent

John J. Morris
Remediation Portfolio Director
Type Name and Title

7/19/2016
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
6	01	16	6	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,309,202 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 66,252,920

DATE	BOD (mg/l)	TSS (mg/l)
6/9/2016	<5.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 7/19/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: June, 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
6/1/2016	Angel Trujillo	63943718	64021930	78,212	0.078212	7.01	1.040									0.68
6/2/2016	Angel Trujillo	64021930	64099220	77,290	0.07729	7.08	1.040									0.67
6/3/2016	Angel Trujillo	64099220	64174820	75,600	0.0756	7.98	1.040									0.66
6/4/2016	Angel Trujillo	64174820	64256270	81,450	0.08145	7.92	1.040									0.71
6/5/2016	Angel Trujillo	64256270	64332213	75,943	0.075943	8.10	1.040									0.66
6/6/2016	Angel Trujillo	64332213	64408156	75,943	0.075943	7.95	1.040									0.66
6/7/2016	Angel Trujillo	64408156	64487026	78,870	0.07887	8.09	1.040									0.68
6/8/2016	Angel Trujillo	64487026	64564698	77,672	0.077672	7.97	1.040									0.67
6/9/2016	Angel Trujillo	64564698	64644458	79,760	0.07976	6.95	1.040	<5.1	<5.0		<0.010	<0.030	<0.010	<0.0002	<0.020	0.69
6/10/2016	Angel Trujillo	64644458	64720510	76,052	0.076052	8.11	1.040									0.66
6/11/2016	Angel Trujillo	64720510	64799545	79,035	0.079035	7.90	1.040									0.69
6/12/2016	Angel Trujillo	64799545	64878580	79,035	0.079035	7.99	1.040									0.69
6/13/2016	Angel Trujillo	64878580	64955502	76,922	0.076922	7.85	1.040									0.67
6/14/2016	Angel Trujillo	64955502	65036750	81,248	0.081248	8.01	1.040									0.70
6/15/2016	Angel Trujillo	65036750	65109326	72,576	0.072576	7.00	1.040									0.63
6/16/2016	Angel Trujillo	65109326	65189252	79,926	0.079926	8.23	1.040									0.69
6/17/2016	Angel Trujillo	65189252	65266398	77,146	0.077146	8.05	1.040									0.67
6/18/2016	Angel Trujillo	65266398	65342976	76,578	0.076578	7.77	1.040									0.66
6/19/2016	Angel Trujillo	65342976	65419446	76,470	0.07647	7.80	1.040									0.66
6/20/2016	Angel Trujillo	65419446	65495916	76,470	0.07647	7.91	1.040									0.66
6/21/2016	Angel Trujillo	65495916	65573388	77,472	0.077472	8.14	1.040									0.67
6/22/2016	Angel Trujillo	65573388	65651421	78,033	0.078033	7.79	1.040									0.68
6/23/2016	Angel Trujillo	65651421	65706685	55,264	0.055264	7.74	1.040									0.48
6/24/2016	Angel Trujillo	65706685	65790281	83,596	0.083596	7.78	1.040									0.73
6/25/2016	Angel Trujillo	65790281	65867596	77,315	0.077315	7.86	1.040									0.67
6/26/2016	Angel Trujillo	65867596	65941703	74,107	0.074107	7.80	1.040									0.64
6/27/2016	Angel Trujillo	65941703	66015810	74,107	0.0741	7.77	1.040									0.64
6/28/2016	Angel Trujillo	66015810	66097814	82,004	0.082004	7.72	1.040									0.71
6/29/2016	Angel Trujillo	66097814	66173494	75,680	0.07568	7.86	1.040									0.66
6/30/2016	Angel Trujillo	66173494	66252920	79,426	0.079426	7.84	1.040									0.69
TOTAL				**2,309,202**	**2.309202**			<5.1	<5.0		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	**83,596**											**High:**	**0.73**
			Average:	**76,973**											**Average:**	**0.67**

WW

E

JC21877

Accutest Labs
2235 ROUTE 130
Dayton, NJ 8810
732-329-0200

Honeywell — Chain Of Custody / Analysis Request

AESI Ref:	42530.51425	COC#	087-WW-060916
Lab Proj # (SDG):		Lab ID	ACTD
Site ID	HudsonCo	Lab Job #	HWINJM32815
Authorized User:	Honeywell	Text & Excel File Drive	Excel & Text File Order

Privileged & Confidential

Site Name: Hudson County
Phase: CS
Location of Site: Jersey City, NJ
Sampling Program: 087: JCIA

Sampling Co.: MACTEC
EDD To:
Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Sampler: Frank Schroyer
PO #
Honeywell International
101 Columbia Road Morristown, NJ 07962
Preliminary Data To
Sample Receipt Acknowledgement To: Frank Schroyer
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

Analysis Turnaround Time (TAT): 3
Consultant: CH2M
Full Report TAT: 28 Days

Copyright AESI: Version 6.0 Unauthorized use strictly prohibited.

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample ?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		Preservative	3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-060916-A	6/9/2016	14:25	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-060916-B	6/9/2016	14:30	WW	WATER	REG	5	grab	N					X	X				2				L26	
3	087-WW			087-WWI-060916	6/9/2016	14:40	WW	WATER	REG	3	grab	N									X	3				V338	
4																										A15	
5																										G23	
6																											
7																											
8																											
9																											
10																											
11																											
12																											

INITIAL ASESSMENT 3A DOM
LABEL VERIFICATION JV

Relinquished by: 6.95 s.u. @ 8.3°C	Company: AMEC Foster Wheeler	Received by: R Pemp	Company:	Condition:	Custody Seals Intact:			
Frank Schroyer	Date/Time: 6/9/16		Date/Time: 6-9-16 1540	Cooler Temp.:				
Relinquished by: R Pemp	Company:	Received by:	Company:	Condition:	Custody Seals Intact:			
	Date/Time: 6-9-16 1740		Date/Time: 6-4 1740	Cooler Temp.: 3.1°C	250			

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

ALL SAMP... PRESERVE... ...IVED ...E

Study Areas 6 and 7 Combined Progress Report No. 2016-07
Attachment 13: GWTP Update

Page 204 of 222

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID: 087-WWE-060916-A
Lab Sample ID: JC21877-1
Matrix: AQ - Water
Project: PESNJP: Hudson County, Jersey City, NJ

Date Sampled: 06/09/16
Date Received: 06/09/16
Percent Solids: n/a

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1040	10	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	06/13/16	06/13/16	JPM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	06/11/16	06/13/16	AB	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA39615
(2) Instrument QC Batch: MA39617
(3) Prep QC Batch: MP94237
(4) Prep QC Batch: MP94261

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-A		
Lab Sample ID:	JC21877-1	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	06/11/16 08:00	SP	SM2540 D-11
pH [a]	6.94		su	1	06/09/16 19:10	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-A		
Lab Sample ID:	JC21877-1A	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 5.0	5.0	mg/l	1	06/09/16 21:25	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-B		
Lab Sample ID:	JC21877-2	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N255408.D	1	06/10/16	BM	n/a	n/a	VN10794
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.4	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	27.7	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.34	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.36	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	69.4	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.0	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.93	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS ACCUTEST

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-B		
Lab Sample ID:	JC21877-2	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
Method:	EPA 624	**Percent Solids:**	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	67.6	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	1.5	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	110%		72-125%
2037-26-5	Toluene-D8 (SUR)	101%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	105%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@917142 13:11 06-Jul-2016

Report of Analysis

Client Sample ID:	087-WWE-060916-B		
Lab Sample ID:	JC21877-2	**Date Sampled:**	06/09/16
Matrix:	AQ - Water	**Date Received:**	06/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	06/10/16 21:20	CB	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

- SA-6 North & South Design Change Tracking Log
- Design Change Bulleting 2016-07-12: SA-6 North Clarify location of Sand Bentonite Plug

SA-6 North & South Design Change Tracking Log
(Attachment 14: SA-6 North & South Design Change Tracking Log)

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Contractor only.
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Contractor only.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Contractor only.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Submitted to Contractor only.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Submitted to Contractor only.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Contractor only.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Contractor only.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

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Changed Item Identifier	Description of Change	Comments
DC 2015-12-01	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Contractor only.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Contractor only.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Contractor only.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Contractor only.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only.

SA-6 North/South Field Change Log - Month Ending July 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Contractor only.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to this log.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

Design Change Bulleting 2016-07-12: SA-6 North Clarify location of Sand Bentonite Plug
(Attachment 14: SA-6 North & South Design Change Tracking Log)

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 7/12/16
Project Location: SA-6 North	**Associated RFI:**
Title: Clarify location of Sand Bentonite Plug	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

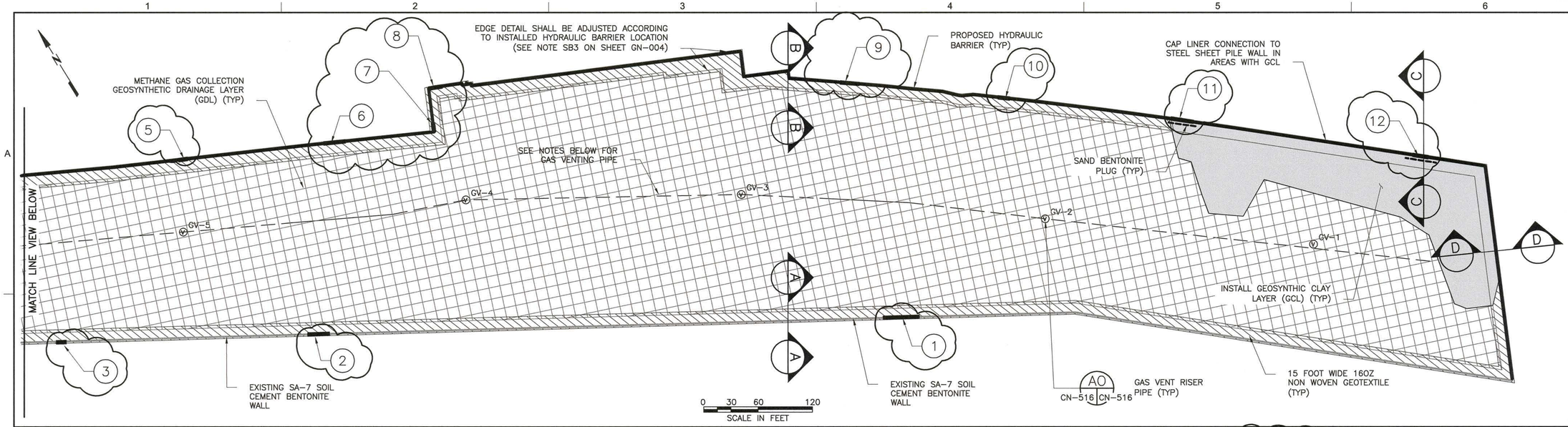
Drawing CN-516 indicates the limit of the GCL deployment. Where the top of the Barrier Wall is below elevation 7.0, a sand bentonite plug will be installed as shown on Section C-C. The intent of the plug is to provide a connection between the GCL and Barrier wall in locations where the cap may be below the groundwater. The plug is isolated to two utility corridors. The plug limits are noted on Section C-C.

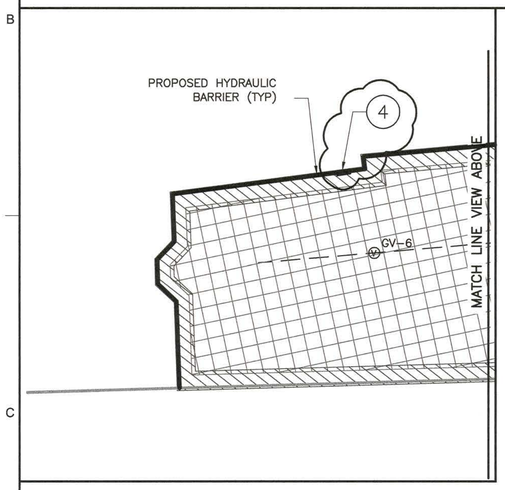
In the remainder of the areas where the Barrier Wall is at or above elevation 7.0, the GCL will be carried over the wall as shown in Section D-D. The GCL should be in intimate contact with the top of the Barrier Wall.

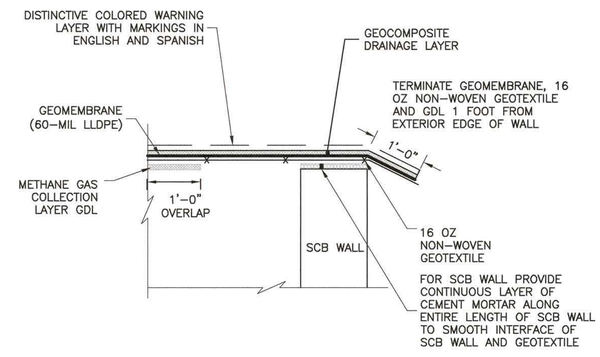
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Clarification of drawing CN-516, incorporated into DC 2016-2-25 in an e-mail to ENTACT dated 5/4/16
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-516

Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**	
Distribution:			

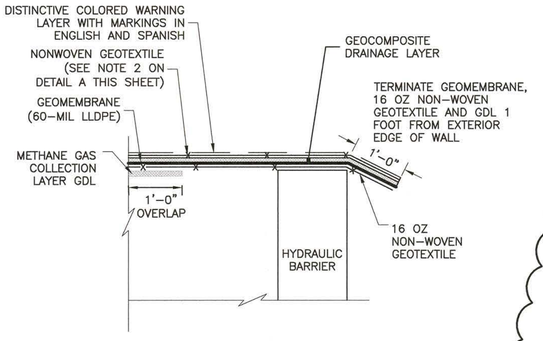
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



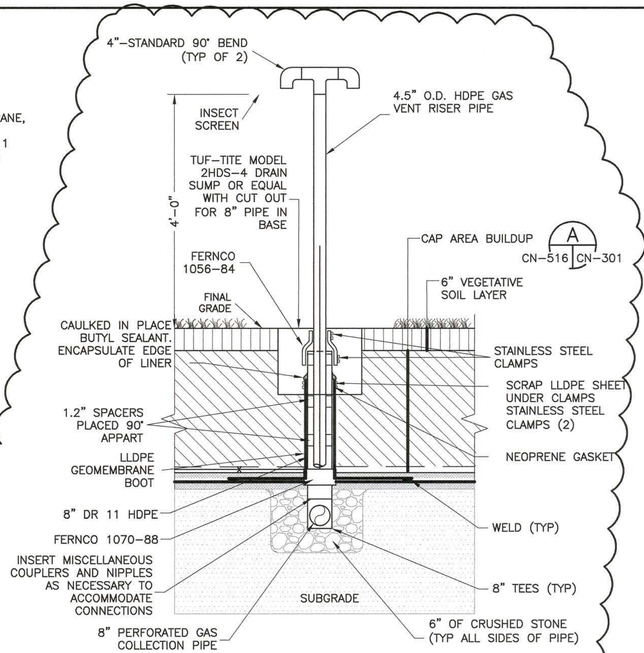




SECTION A-A
NTS



SECTION B-B
NTS



GEOFOAM BLOCK SUMMARY

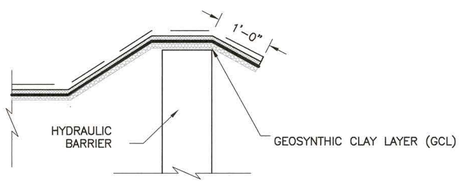
NUMBER	LENGTH
1	40'
2	24'
3	11'
4	10'
5	10'
6	24'
7	10'
8	15'
9	21'
10	13'
11	25'
12	17'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES

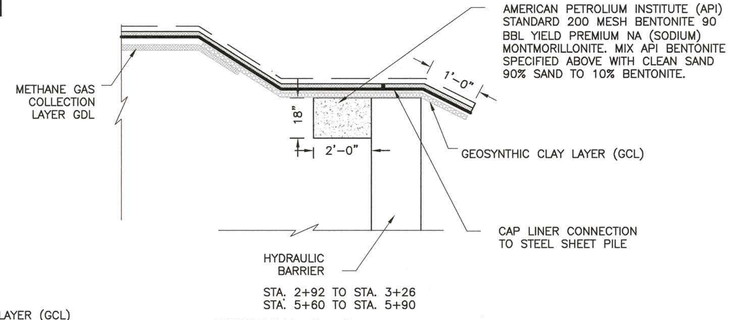
NOTES:

1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL
NTS
AN
CN-516 CN-516



SECTION D-D
(NO SAND BENTONITE PLUG)
NTS



STA. 2+92 TO STA. 3+26
STA. 5+60 TO STA. 5+90

SECTION C-C
(SAND BENTONITE PLUG)
NTS

NOTES:

1. HORIZONTAL GAS VENTING PIPE SHALL BE 8" ADS SINGLE WALL HEAVY DUTY PERPETRATED PIPE WITH ANNULAR INTERIOR AND EXTERIOR CORRUGATIONS OR APPROVED EQUAL.
2. PIPING JOINTS SHALL BE MADE WITH SPLIT OR SNAP COUPLINGS. STANDARD CONNECTIONS SHALL MEET THE REQUIREMENTS OF THE ASTM F405 OR ASTM F667. GASKETED CONNECTIONS SHALL INCORPORATE A CLOSED-CELL SYNTHETIC EXPANDED RUBBER GASKET MEETING THE REQUIREMENTS OF ASTM D1056 GRADE 2A2.
3. ALL PIPE FITTINGS SHALL CONFORM TO ASTM F405 OR ASTM F667.
4. PIPE AND FITTING MATERIAL SHALL BE HIGH DENSITY POLYETHYLENE CONFORMING WITH THE MINIMUM REQUIREMENTS OF CELL CLASSIFICATION 423410C AS DEFINED AND DESCRIBED IN THE LATEST VERSION OF ASTM D3350; OR ASTM D1248 TYPE III, CLASS C, CATEGORY 4, GRADE P33.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
4	07/12/16	DCB 062 SAND BENTONITE PLUG CLAIRIFICATION	TDD	SGS
3	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 BARRIER WALL REALIGNMENT	RJR	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR | CHK RJR | APVD TDD

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Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GAS VENTING SYSTEM AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-2929
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG CN-516
SHEET 52 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR52-C-516 GAS VENTING.dwg PLOT DATE: Tue, 12 Jul 2016 PLOT TIME: 12:32 PM

9/12/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 12, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-08

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from August 1 – August 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: August 2016 SA-6/7 Combined Monthly Progress Report No. 2016-08

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED
MONTHLY PROGRESS/HIGHLIGHTS
REPORT NO. 2016-08
Project SA-6 & 7 Remediation

August 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
08/08/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-05	Honorable Robert G. Torricelli Office of the Special Master
08/08/16	Response to Comments Temporary Construction Road – Design Change Bulletin SA-6 South Chrome Remedy Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/09/16	Special Master Conference Call	n/a
08/10/16	3 Year Sampling Results Treatment Areas 7 and 8 SA-6 North (Site 087) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/10/16	NJDEP approved DGW permit for the continued treatment works SA-6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/10/16	Honeywell - Culver Circle, Jersey City Notification to NJDOT SA-6 North Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
08/11/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
08/16/16	Evaluation of Options for Treatment Area 7 SA-6 North (Site 087) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	08/07/26	08/14/16	08/21/16	08/28/16
Construction Management (AMEC)	10	9	10	12
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	37	36	33	31
Arecon/US Ecology Subcontractors	0	1	0	0
ESI	12	12	3	0
Lagan	1	1	1	1
ERFS	0	0	0	1
Evoqua	2	1	1	1
B&B Drilling	1	1	0	1
Cornerstone	1	2	0	0
TOTAL STAFF	**69**	**68**	**53**	**52**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Conducted S-3 Mass Removal Injection Event No. 31 in injection well 088-IW-03.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Raised the PW-3 Pump elevation to the top of screen.
- Completed perimeter air monitoring activities on SA-6 North. As of July 1, 2016, all intrusive activities are complete. As only site grading and restoration activities remain, air monitoring will be completed using hand-held portable devices for nuisance dust.
- PVSC personnel removed the spare 72” force main repair components stored on SA-7 on August 18, 2016.
- Obtained a Discharge to Groundwater-Permit by Rule from NJDEP for additional injections in treatment area 10-1.
- ERFS installed a total of 10 injection wells in Treatment Area 10-1. On August 4, 2016, received the NJDEP – Discharge to Groundwater Permit authorization for the additional in-situ treatment injections at this location.
- Began installation of CGWES components within the SA-6 South Open Space and the SA-6 North Open Space Areas to include installation of the valve vaults and link seals.
- Completed resampling of 124-MW-106T (results pending, will be provided when available.)

- Collected August PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on August 9, 2016.
- Contracted with mechanical contractor, Brownfield Science & Technology, Inc. (BTSI), to complete piping installation from the CGWTS force mains to the neutralization tank in accordance with the PVSC permit.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	08/07/26	08/14/16	08/21/16	08/28/16
Avg. Gallons Treated & Discharged (per day)	76,768	77,362	77,405	77,197
Average Flow (gpm) for Operating Period	55	56	55	55
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	3,540	4,560	2,880	3,648

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Continued placing backfill as part of site restoration in the SA-6 South Development Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	18.4	18.4

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	Historic Fill Soils – SA-6 South Development Area

3. BACKFILL MATERIALS USED

Source	Week Ending			
	08/07/16	08/14/16	08/21/16	08/28/16
Natures Choice Horizon C	0	0	0	6,113.75
Tilcon Mt. Hope DGA	0	0	0	176.57
Tilcon Mount Hope I-8	886	1,263	504	1661
Natures Choice Topsoil	0	539	1,138	875
Tilcon 3/8" Stone	51.76	0	26.53	0
Weldon Screenings	0	377.68	0	0

- Overburden historic fill soils with hexavalent chromium concentrations confirmed to be < 20 mg/kg soils were transferred and placed as backfill the SA-6 South Development Area.
- Screened Celgene material was placed as protective cover soil in the SA-6 North Open Space Area. Approximately 9,984 cubic yards was placed as protective cover soil during the reporting period.
- Approximately 272 cubic yards of Celgene screening operations were placed as backfill on the south slope of the SA-6 North Open Space Area.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- Completed cutting hydraulic barrier sheets to final elevation in SA-6 North Open Space Area.

F. CAPPING OPERATIONS

- Continued importing and placing Horizon A soils on SA-6 South Open Space Area.
- Continued placement of GDL cover soils and demarcation tape to include associated compaction testing on the SA-6 North Open Space Area.
- Continued placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Completed SA-6 North geomembrane liner subgrade grading activities within the Open Space Area.
- Completed installation of geosynthetic components to include placement of the geocomposite gas venting layer, 60 mil geomembrane liner, geosynthetic clay layer, and geocomposite drainage layer.
- A total of 92,588sq. ft. of geomembrane liner (21% of the total cap area) was deployed during the

reporting period.

- Completed spark testing on twelve boot welds during the reporting period. Please see **Attachment 11** for the spark test logs.
- Completed cutting hydraulic barrier sheets and finishing the SCB wall to final elevation in SA-6 North Open Space Area.
- Completed installation of Gas Vent Pipe within the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Complete redevelopment area regrading and site restoration on SA-6 South.
- Complete hydro-seeding of SA-6 South Open Space Area.
- Complete placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.
- Continue installation of the Contingent Groundwater Extraction System Components including the mechanical piping and conduit within the GWTP.
- Complete placement of GDL cover soils within the SA-6 North Open Space Area.
- Continue placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Begin placement of Horizon A Topsoil on the SA-6 North Open Space Area.
- Begin hydro-seeding of SA-6 North Cap Area.
- Continue dewatering and storm-water management activities.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 32 in well 088-IW-01.
- Conduct third quarter regional groundwater level measurement round.
- Start injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.

ATTACHMENTS:

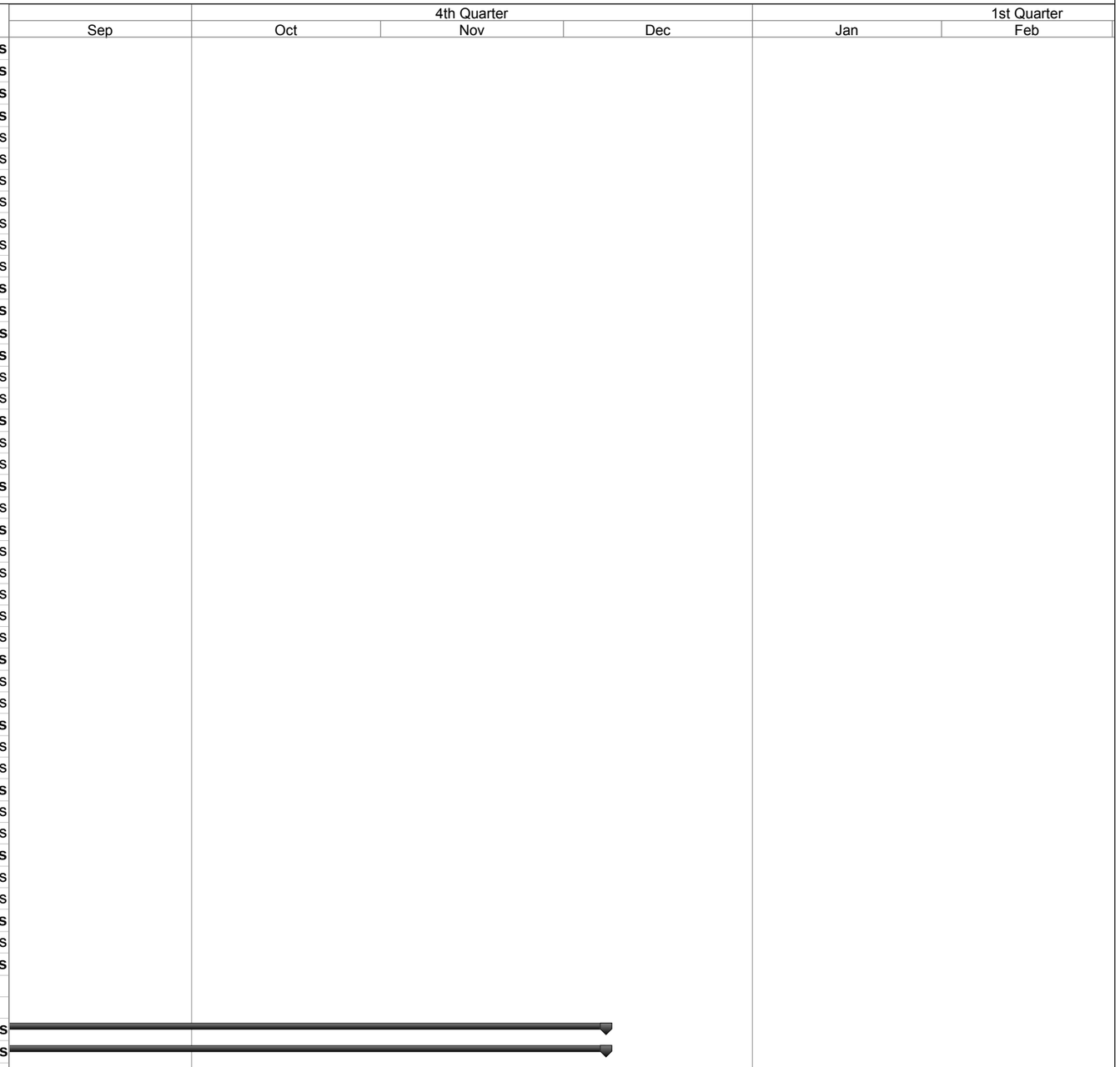
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(reported quarterly – not included in this report)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update
    - SA-6 Cap Subgrade Progress Maps
    - Repair Log
    - Non-conformance Log
    - Subgrade Approval Form
    - QA Photo Log
    - Daily QA Reports (Langan)
    - Spark Test Logs
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
15. Issued Permit: NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**
2	**Remedial Action Work Plan**	**33 days**
5	**Remedial Action Design**	**1522 days**
18	**JCIA/JCDPW Relocation**	**1780 days**
19	Develop Site Relocation Master Plan	38 days
20	Submit Site Relocation Master Plan	0 days
21	JC Construction of New Facilities	1309 days
22	Relocation Contractor Procurement	392 days
23	JCIA and JCDPW Relocation	949 days
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days
24a	Demolition of JCIA Structures	146 days
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**
26	**Remedial Action Work Plan**	**187 days**
32	**Remedial Action Design**	**1161 days**
57	**SA-6 South Relocation**	**616 days**
58	New GWTP Construction Completion	502 days
59	Demolition of 80 Kellogg	857 days
60	**SA-6 North/South Field Implementation**	**894 days**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days
60b	SA-6S (Site 163) In-Situ Treatment	555 days
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**
61a	Mobilization	87 days
62	**Surcharge Install/Instrumentation**	**706 days**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days
62b	Place Stockpile Surcharge SA6N Western Areas	185 days
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days
62d	Place Stockpile Surcharge SA6S Western Areas	91 days
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days
63	**Barrier Wall Install**	**569 days**
63a	SA 6N Installation of Barrier Wall	159 days
63b	SA 6S Installation of Barrier Wall	210 days
64	**Excavation**	**507 days**
64a	SA 6N Excavation	218 days
64b	SA 6S Excavation	295 days
65	**Backfill**	**558 days**
65a	SA 6N Backfill	283 days
65b	SA 6S Backfill	384 days
66	**Capping and Cover Soil Placement**	**426 days**
66a	SA 6N Capping and Cover Soil Placement	83 days
66b	SA 6S Capping and Cover Soil Placement	283 days
67	**Restoration**	**234 days**
67a	Restoration	234 days
68	**Demobilization**	**22 days**
68a	Deferred Remediation of SA-6 South Along Bulkhead	
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	
69	**SA-6 North Project Closeout**	**311 days**
75	**SA-6 South Project Closeout**	**311 days**
81	**SA-6 North Long Term Protections**	**1830 days**
92	**SA-6 South Long Term Protections**	**2569 days**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task Milestone Summary Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Attachment 2: Site Photographs



Site Photograph 1: Contractor fine grading cover soils on the SA-6N Open Space Area.



Site Photograph 2: Contractor placing cover soils on the SA-6N Open Space Area.



Site Photograph 3: Contractor grading protective cover soils on the SA-6N open space area.



Site Photograph 4: Dust suppression activities SA-6N.



Site Photograph 5: Installation of root barrier SA-6N Open Space Area.



Site Photograph 6: Overall view of warning layer and cover soils SA-6N Open Space Area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of September 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-08
Attachment 3: Excavation and Backfill (Progression Chart)

Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

City Properties

Hackensack River

Route 440

Former Roosevelt Drive-In Site
(Remediation Complete)

Kellogg Street Properties

Kellogg Street

Added Excavation Area
(complete)

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

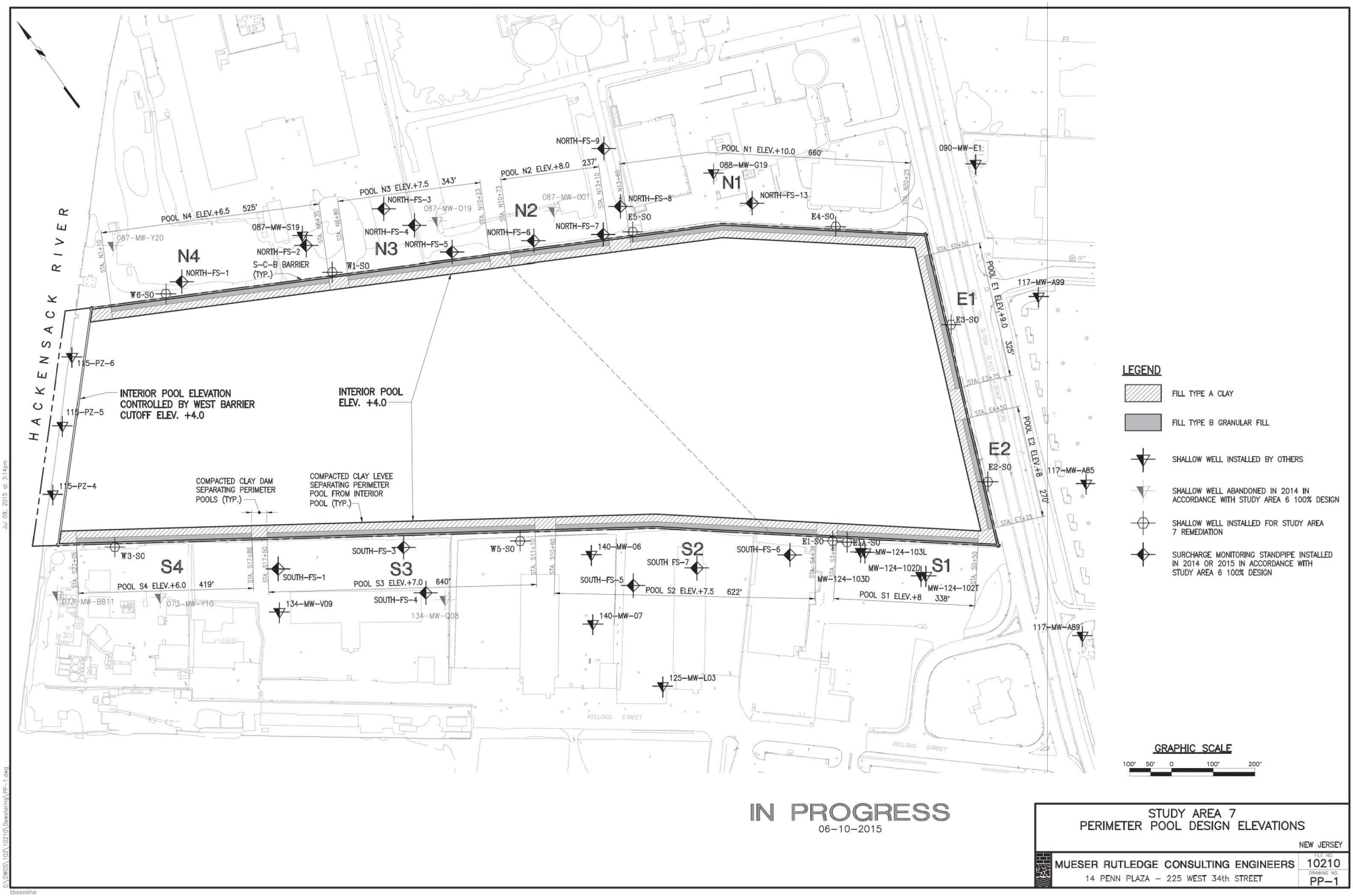
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
06/24/16	9:00	14:00	5:00	43,543.94	43,596.37	52,430	43,595,920	
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	

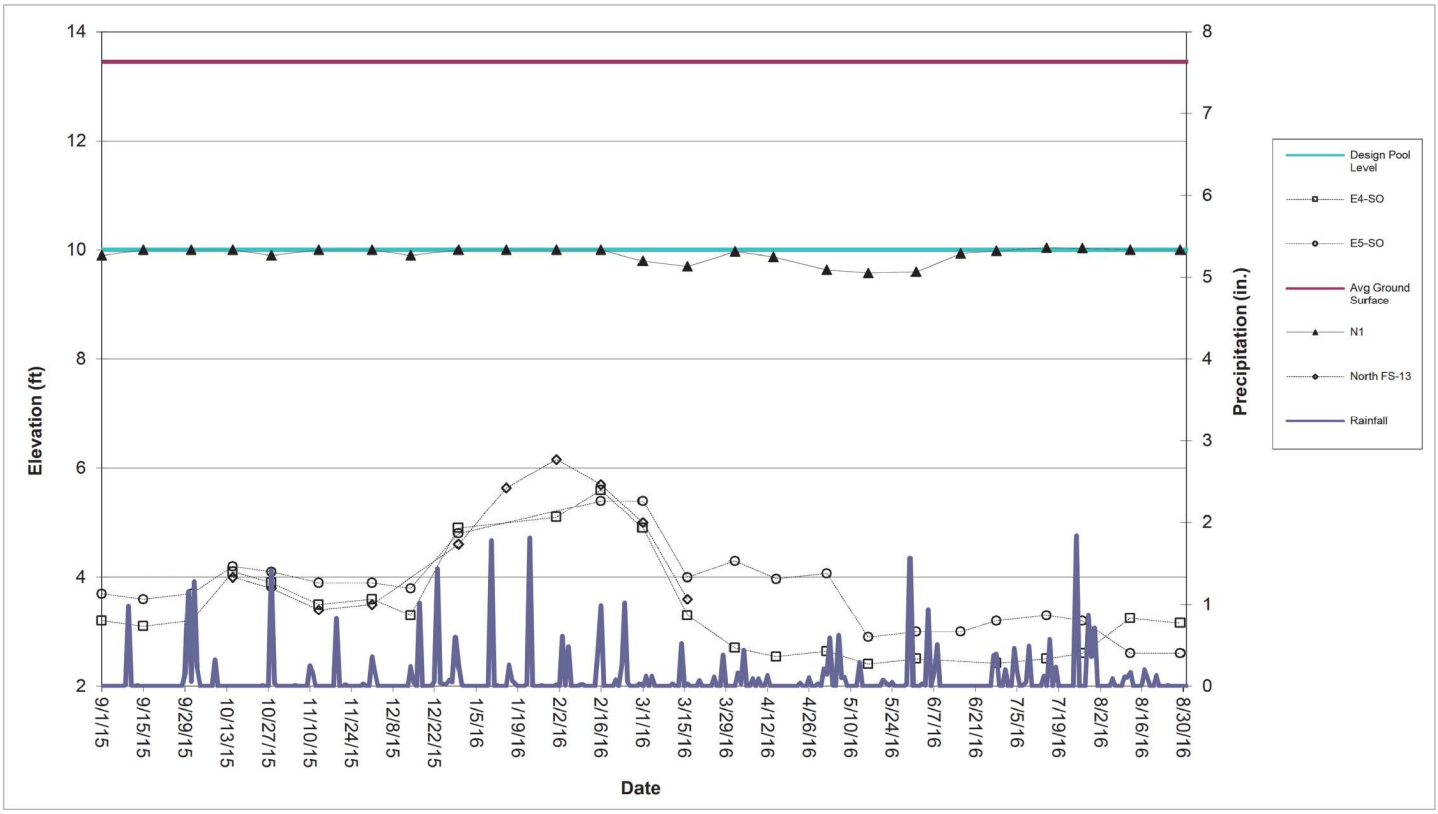
Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

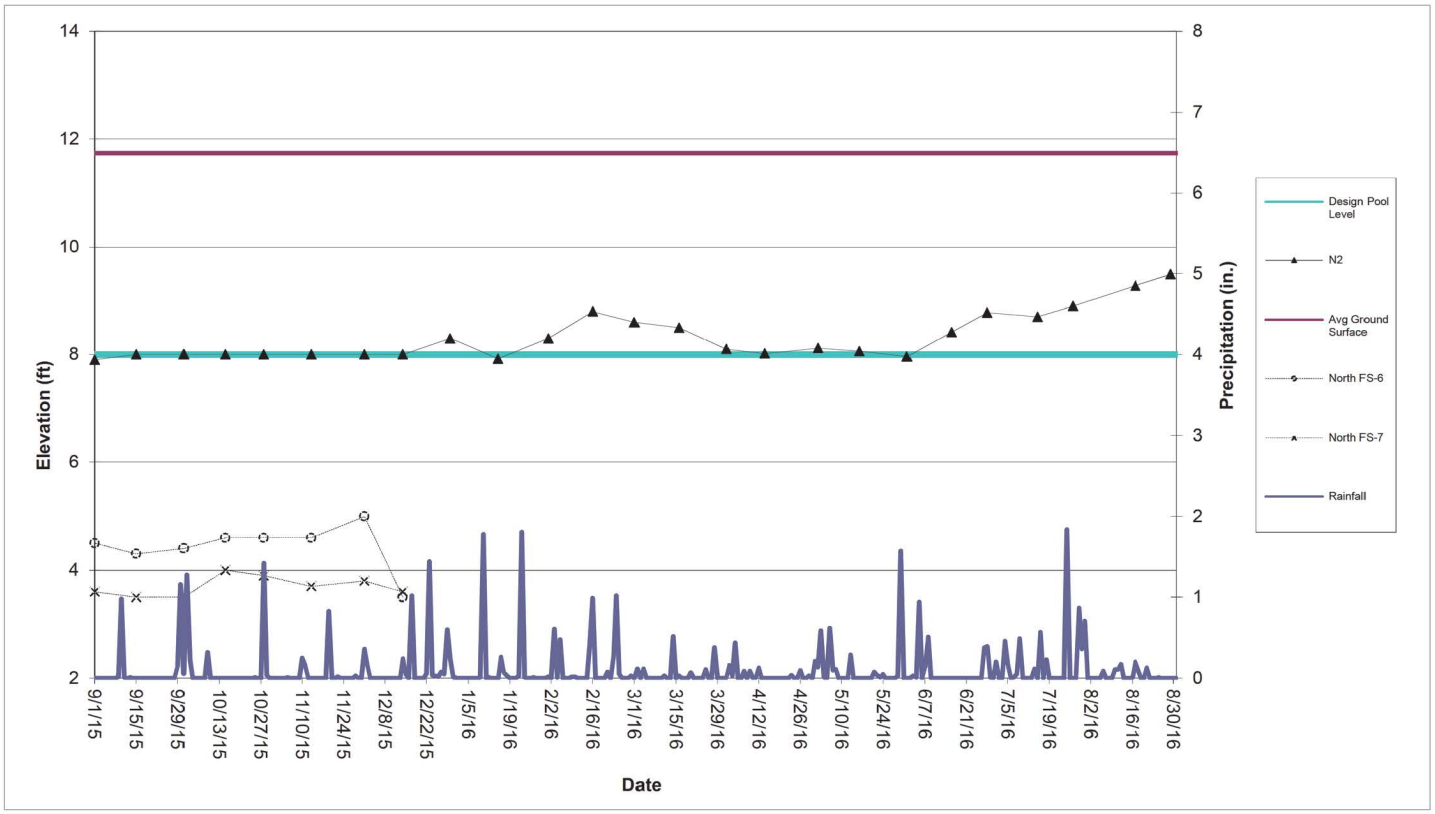
(not included in this reporting period)

Attachment 7: Perimeter Pools Update

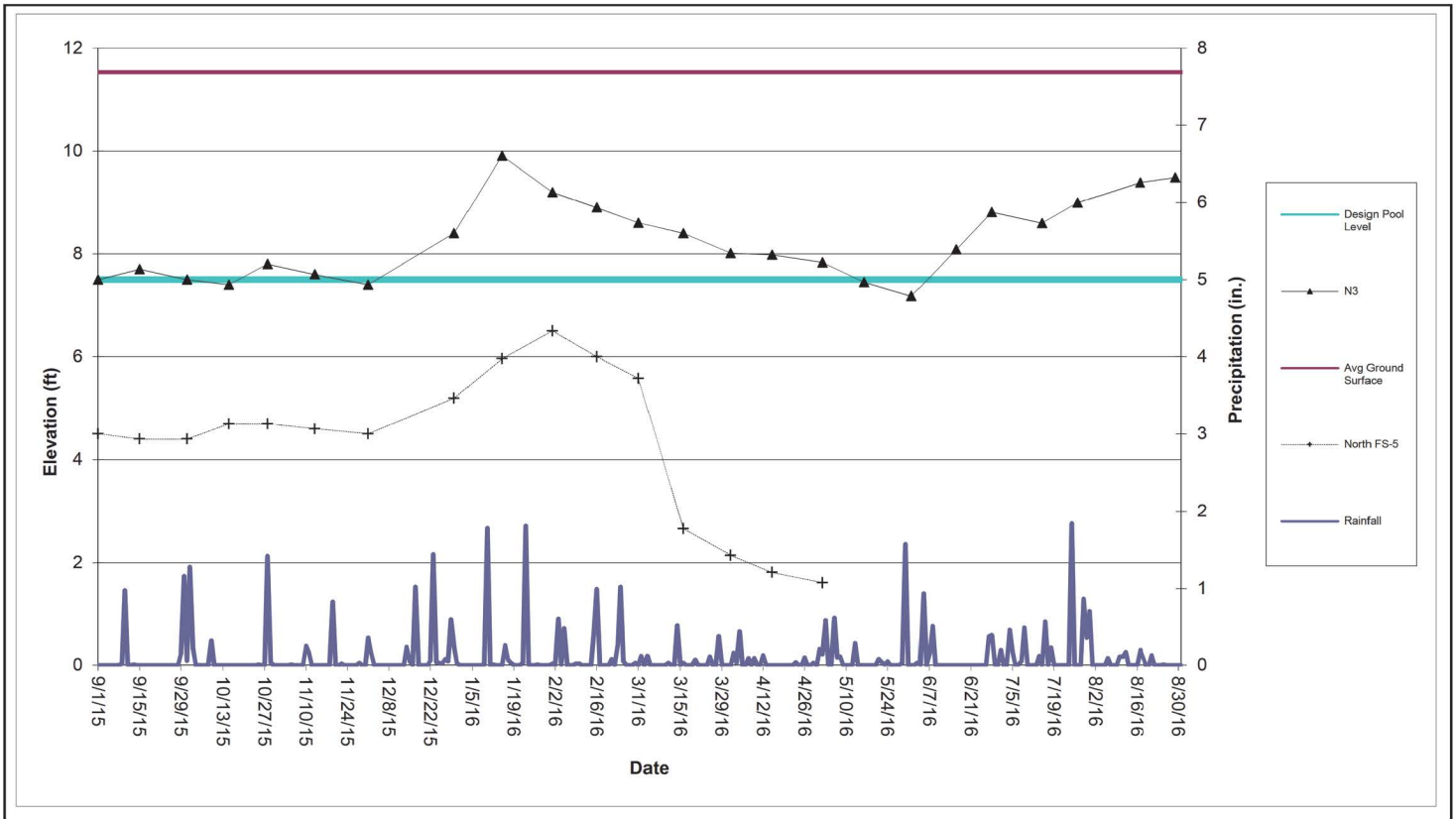

HACKENSACK RIVER
N4
N3
N2
N1
S4
S3
S2
S1
E1
E2
POOL N4 ELEV.+6.5 525'
POOL N3 ELEV.+7.5 343'
POOL N2 ELEV.+8.0 237'
POOL N1 ELEV.+10.0 660'
POOL S4 ELEV.+6.0 419'
POOL S3 ELEV.+7.0 640'
POOL S2 ELEV.+7.5 622'
POOL S1 ELEV.+8 338'
POOL E1 ELEV.+9.0 325'
POOL E2 ELEV.+8 270'
INTERIOR POOL ELEVATION CONTROLLED BY WEST BARRIER CUTOFF ELEV. +4.0
INTERIOR POOL ELEV. +4.0
COMPACTED CLAY DAM SEPARATING PERIMETER POOLS (TYP.)
COMPACTED CLAY LEVEE SEPARATING PERIMETER POOL FROM INTERIOR POOL (TYP.)
S-C-B BARRIER (TYP.)
KELLOGG STREET
LEGEND
FILL TYPE A CLAY
FILL TYPE B GRANULAR FILL
SHALLOW WELL INSTALLED BY OTHERS
SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
GRAPHIC SCALE
100' 50' 0 100' 200'
IN PROGRESS
06-10-2015
STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS
NEW JERSEY
MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET
FILE NO. 10210
DRAWING NO. PP-1



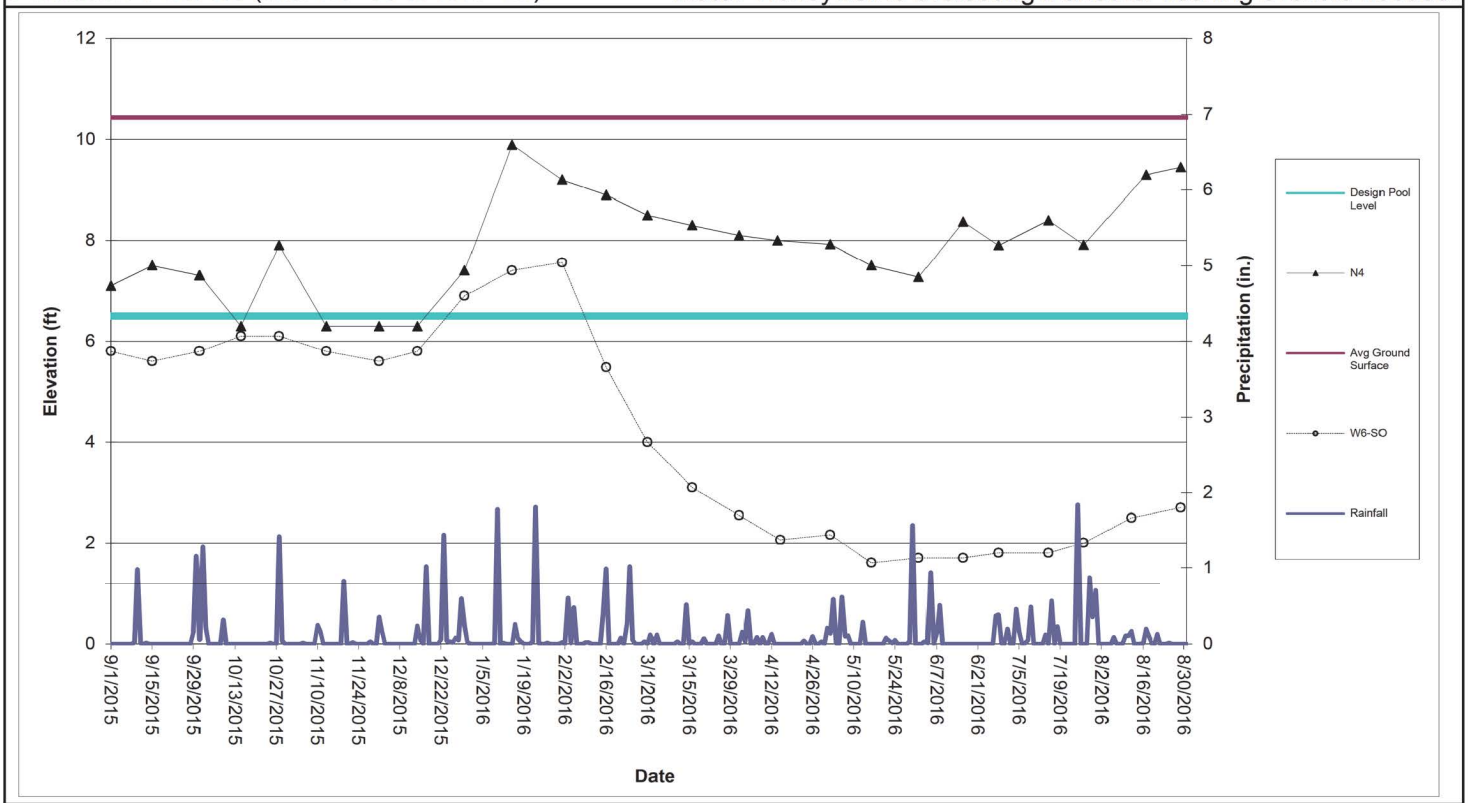
Perimeter Pool N1 (Sta. N13+60 to N20+25)



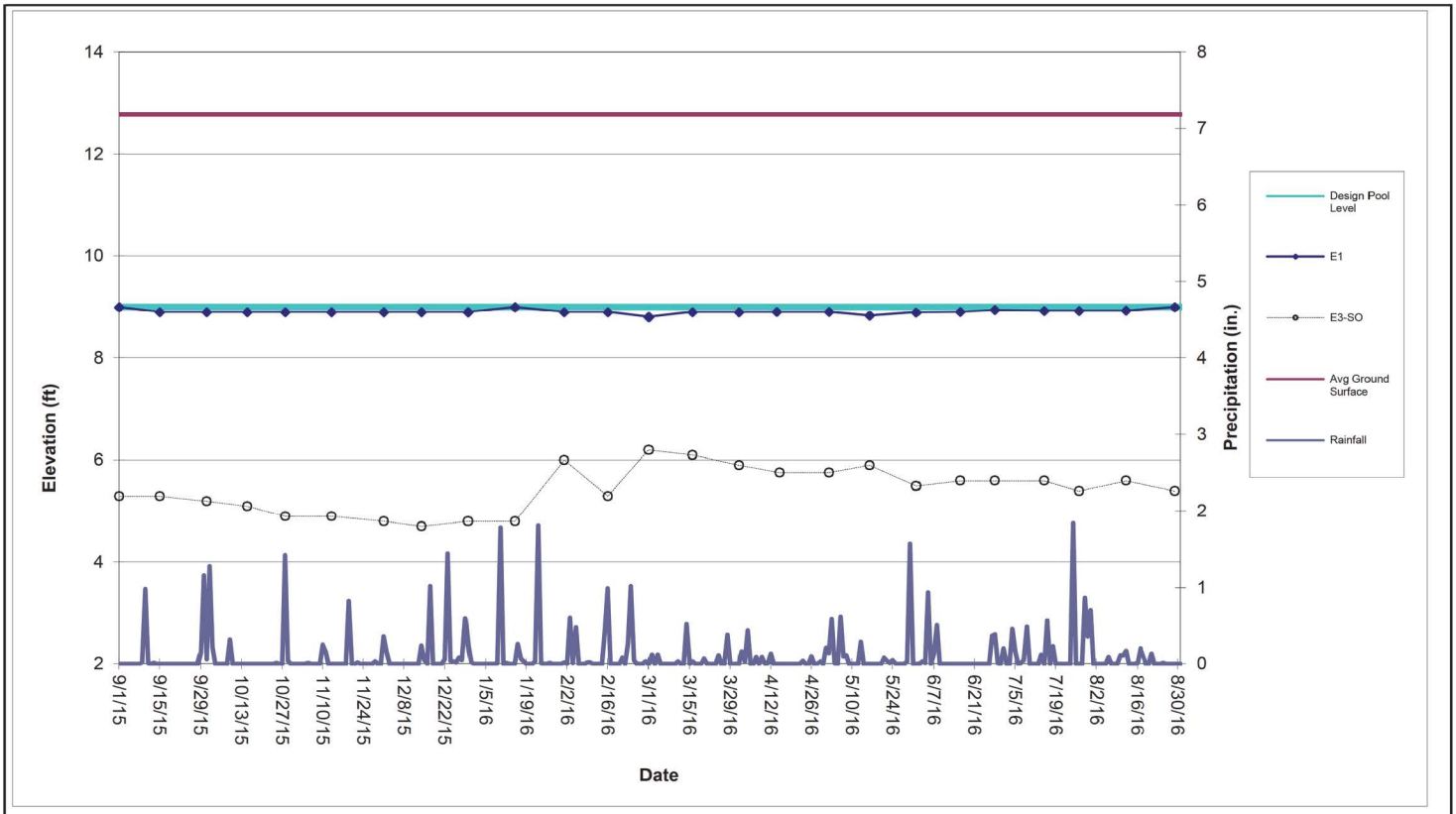
Perimeter Pool N2 (Sta. N10+73 to N13+10) **Note:** Honeywell is evaluating if another flushing event is needed.



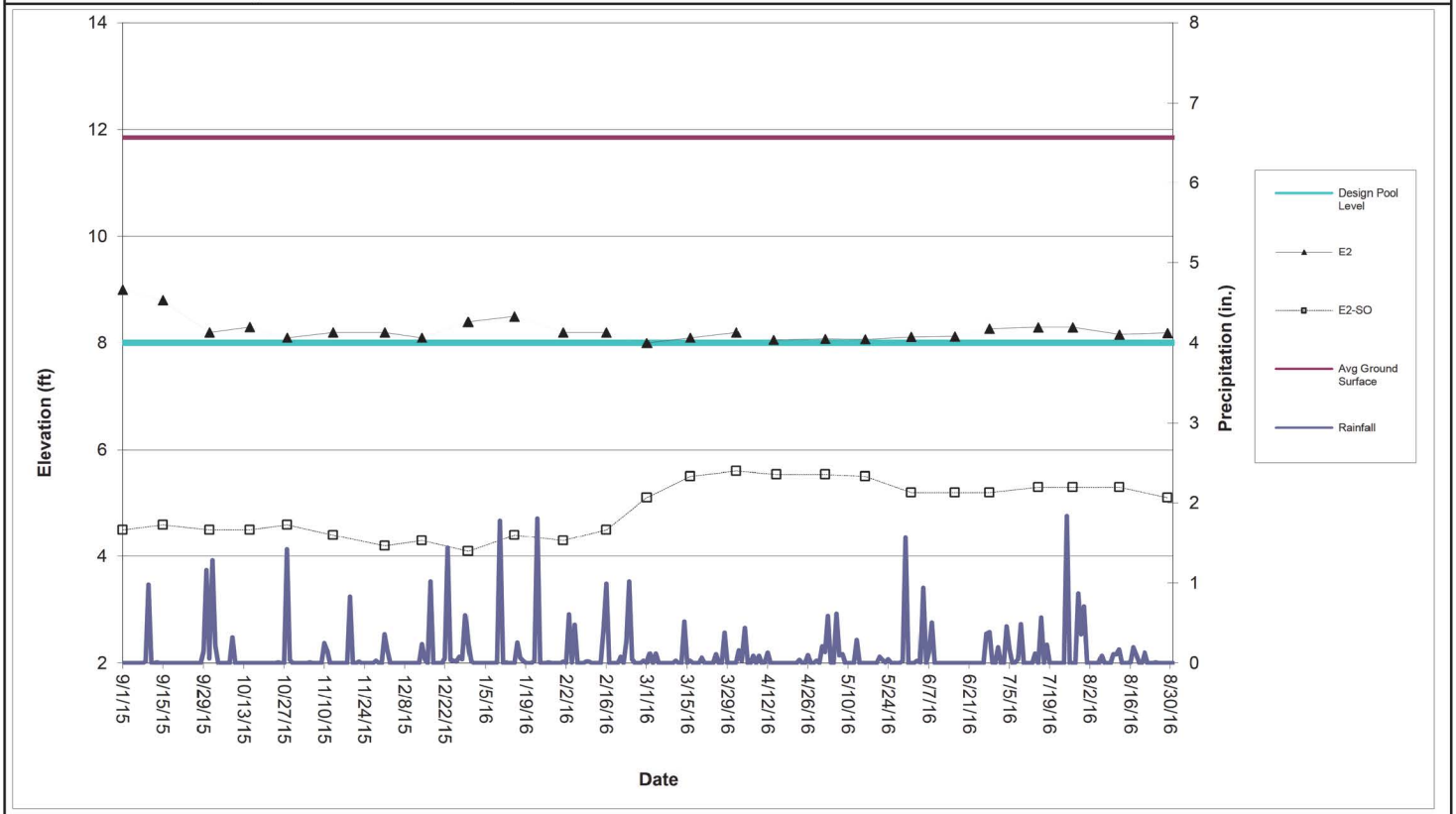
Perimeter Pool N3 (Sta. N6+80 to N10+23) **Note:** Honeywell is evaluating if another flushing event is needed.



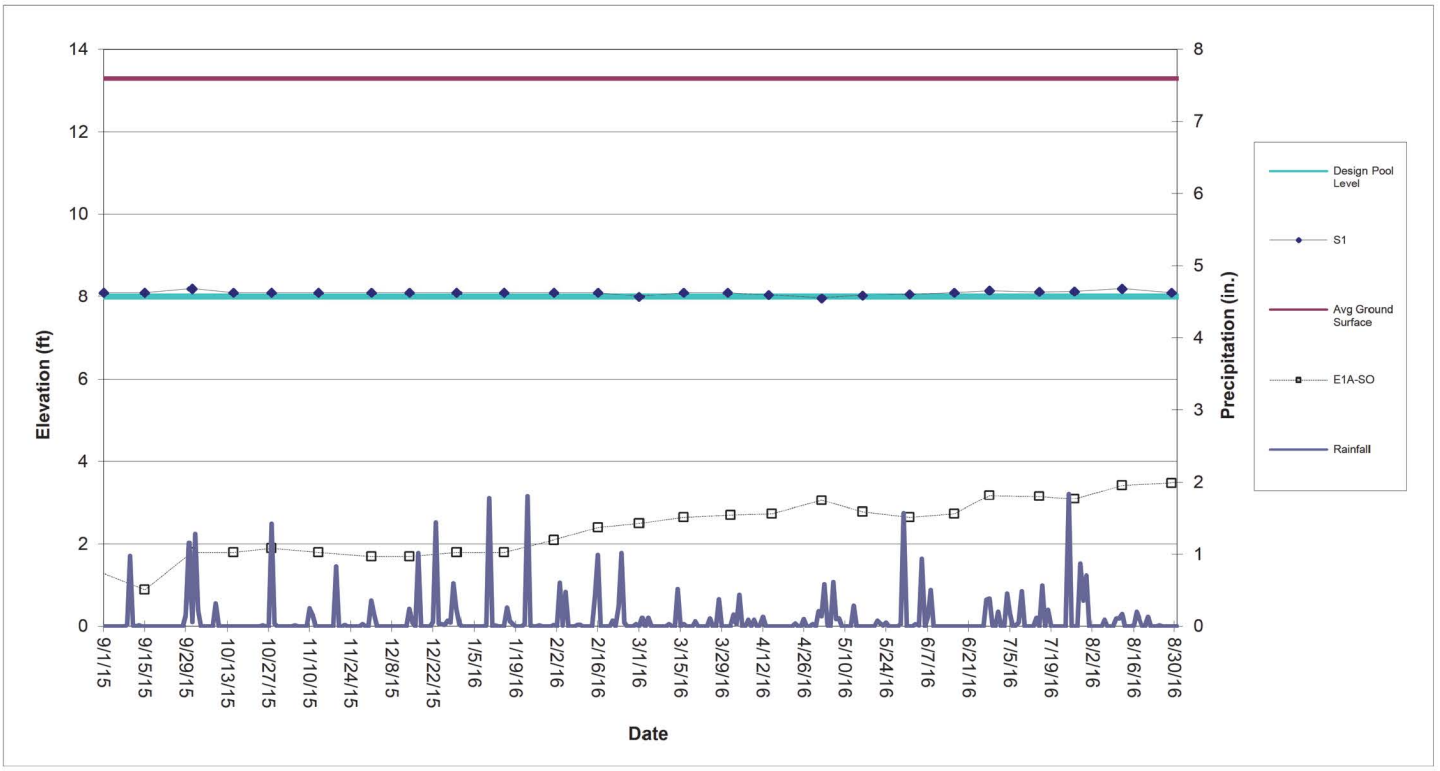
Perimeter Pool N4 (Sta. N6+80 to N10+23) **Note:** Honeywell is evaluating if another flushing event is needed.



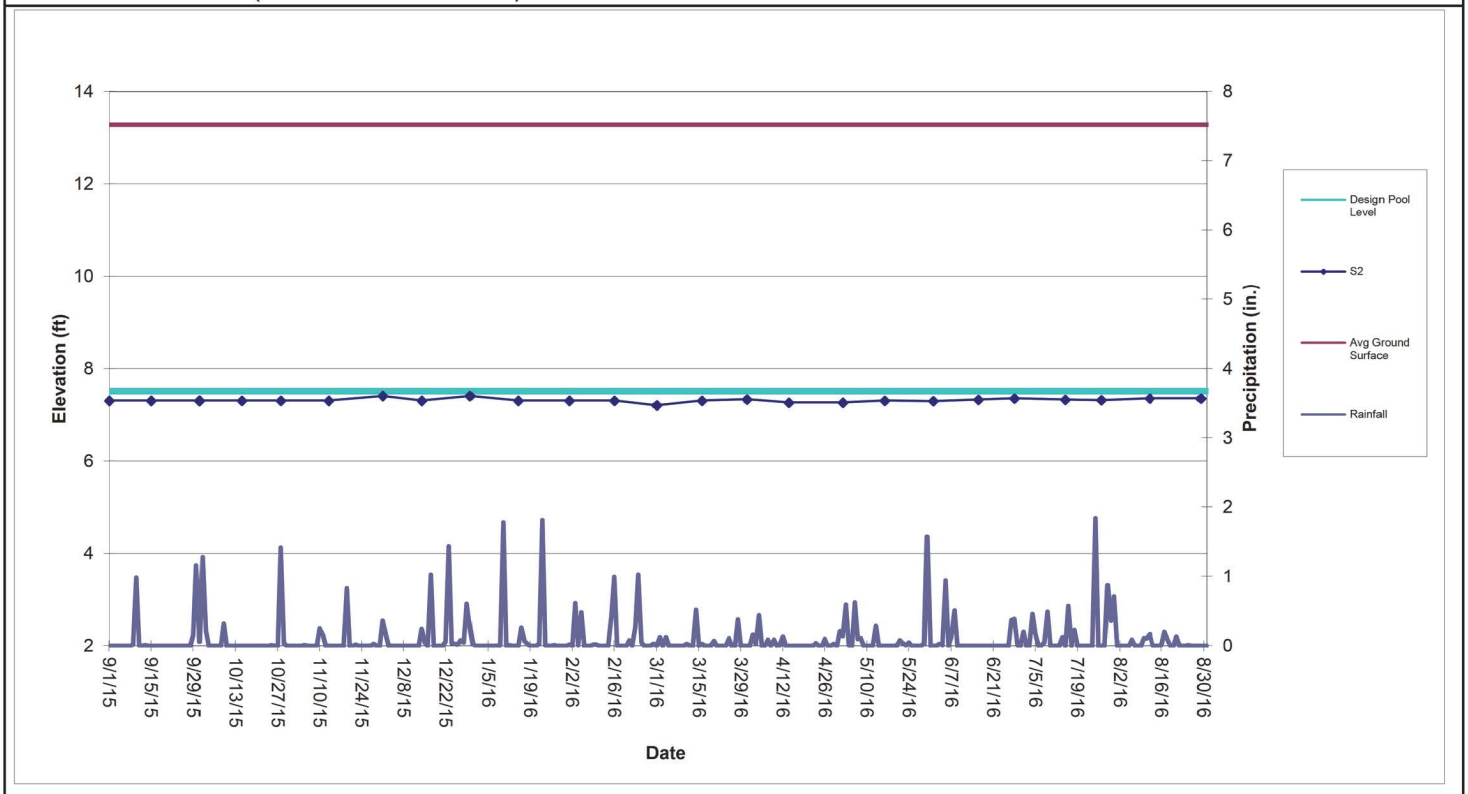
Perimeter Pool E1 (Sta. E0+50 to E3+75)



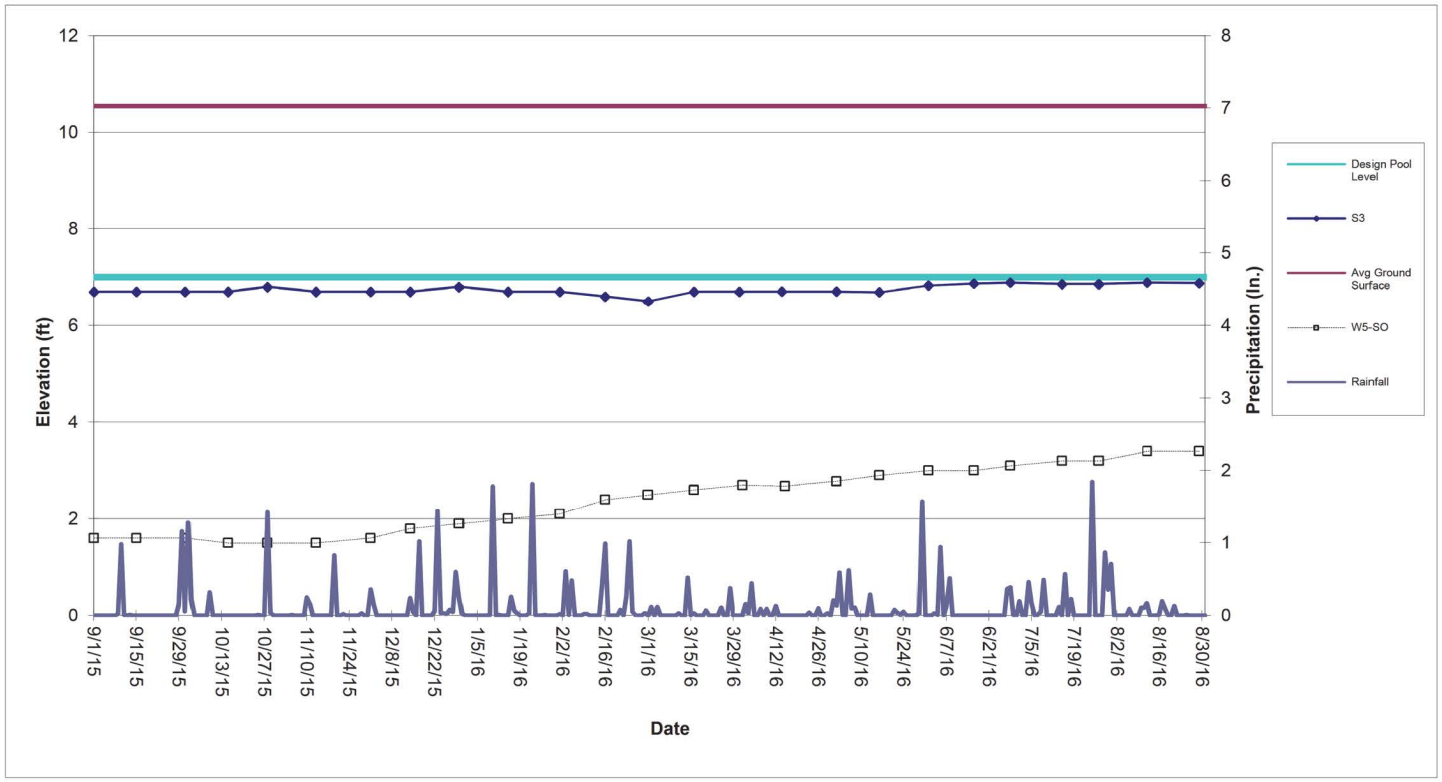
Perimeter Pool E2 (Sta. E4+50 to E7+25)



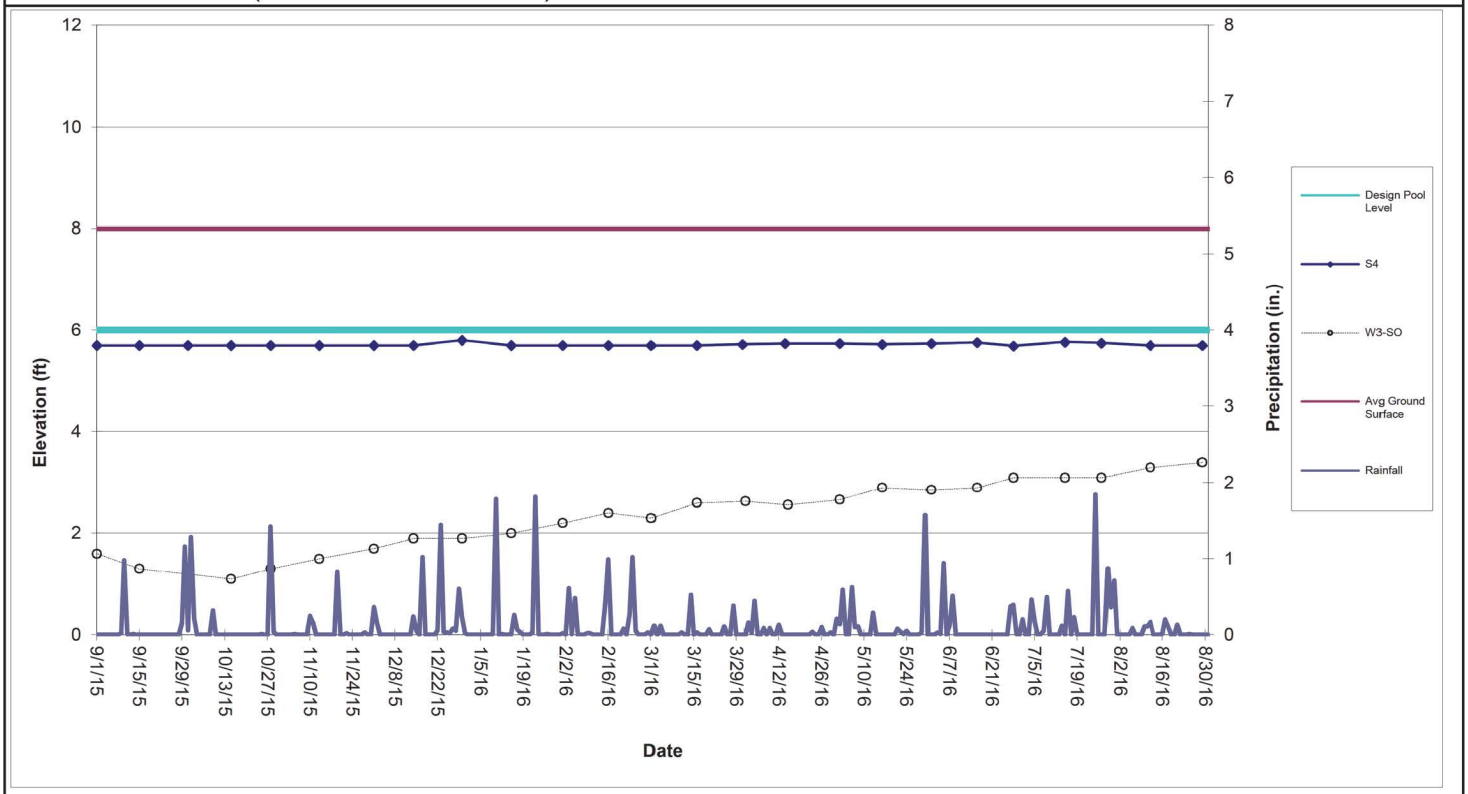
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
9/1/2015		4.5	5.3	3.2	3.7		1.6	1.6	5.8	4.5	4.5	3.6	
9/15/2015	0.9	4.6	5.3	3.1	3.6		1.3	1.6	5.6	4.4	4.3	3.5	
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.1	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.2	2.6	2.8	3.4	3.4	2.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

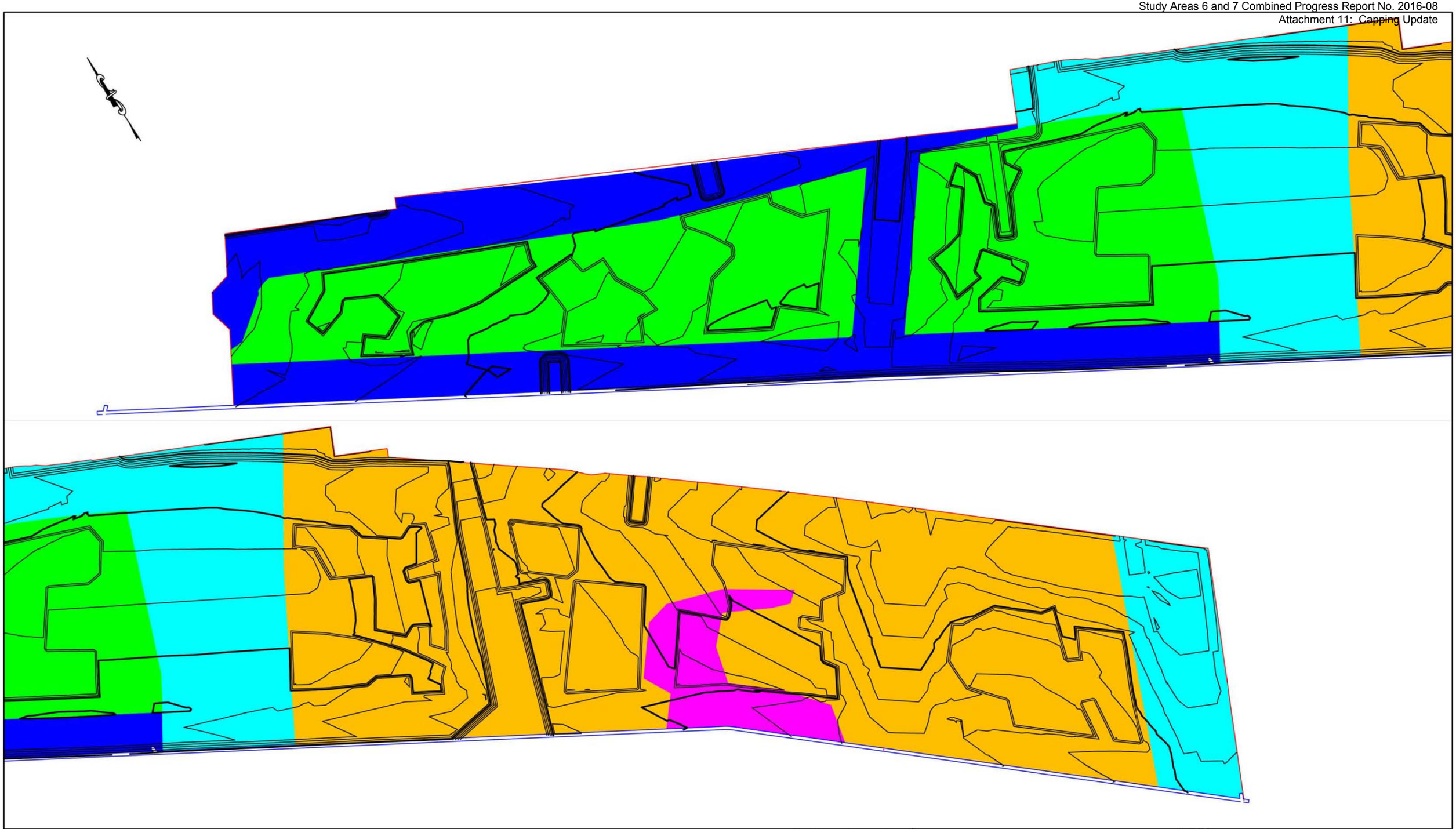
Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update

- SA-6 Cap Subgrade Progress Maps
- Repair Log
- Non-conformance Log
- Subgrade Approval Forms
- QA Photo Log
- Daily QA Reports (Langan)
- Spark Test Logs

SA-6 Cap Subgrade Progress Maps
(Attachment 11: Capping Update)



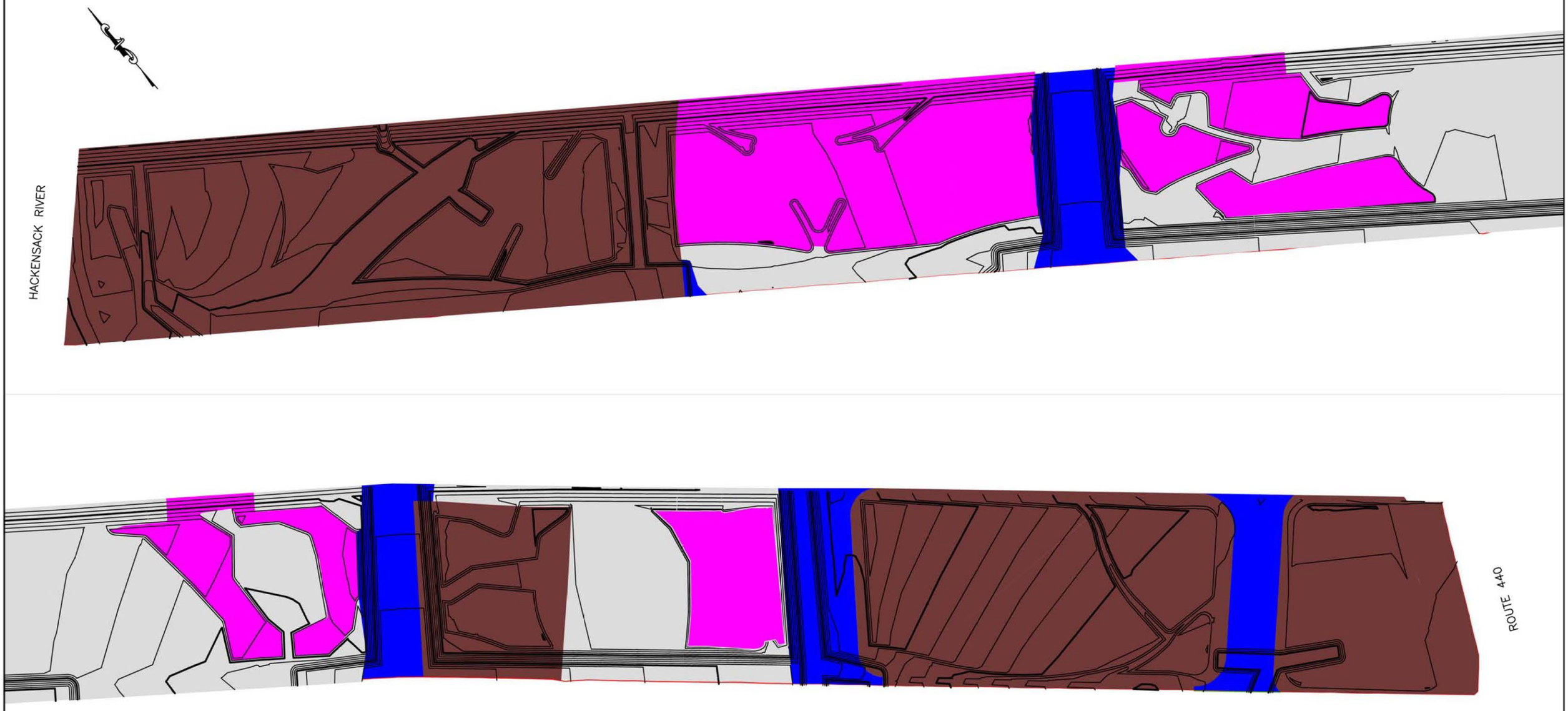
LEGEND

- GDL COVER SOIL PLACED
- GDL COVER SOIL GRADED AND APPROVED FOR HORIZON SOILS
- HORIZON C SOIL PLACED
- STRUCTURAL FILL PLACED
- GEOCOMPOSITE DRAINAGE LAYER FABRIC
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
08/31/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
08/31/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
1	PB	1/2	P-1	35' N OF SEOS & 8'W PB 6")	P	3	x	11	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
2	BO	3/5		2' N OF S EOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
3	SJ	3/4/5		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
4	CF	4/6		5' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
5	CF	4/6	P-6	77' N OF SEOS & 2'E	P	5	x	12		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
6	SJ	4/5/6		69' N OF SEOS	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
7	PB	5/6		15' N OF SEOS (PB 6")	P	3	x	6	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
8	WR	6/7	P-6	63' N OF S EOS & 5'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
9	BO	6/7		66' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
10	SI	6/7	P-6	80' N OF SEOS & 5'W	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
11	DS-2	6/7		16' N OF SEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
12	WR	7/9		41' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
13	CF	7/9	P-9	45' N OF SEOS & 10'E	P	6	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
14	DS-1	1/2		15' N OF SEOS	P	2	x	7		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
15	DSX-1	R-15	P-1	34'N OF SEOS & 10'W	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
16	CF		P-9	BETWEEN R-12 & R-13	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
17	WR	7/9		71' N OF SEOS	P	3	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
18	CF		P-9	BETWEEN R17 & R19	B		x		168	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
19	CF	7/9	P-9	59' N OF SEOS & 12'E	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
20	CF		P-6	BETWEEN R-22 & R-9	B		x		36	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
21	CF		P-6	BETWEEN R-22 & R-8	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
22	CF	6/7	P-6	68' N OF SEOS & 6'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
23	SJ	7/8/9		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
24	CF	8/10		11' S OF NEOS	P	2	x	20		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
25	SJ	8/9/10		103' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
26	DO	10/11	P-10	27' N OF SEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
27	CF	10/11	P-10	BETWEEN R-35 & R-28	B		x		156	6/26/16	SU	EXT-74	Vacuum	Pass	6/23/16
28	CF	10/11	P-10	64'N OF SEOS & 15' W	P	4	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
29	PB	10/11	P-10	93' S OF NEOS 4' E (48" MH)	P	6	x	10	48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
30	CF		P-10	BETWEEN R-29 & R-31	B		x		240	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
31	CF	10/11	P-10	68' S OF NEOS & 2'W	P	2	x	2		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
32	CF	10/11	P-10	78' N OF SEOS & 7'W	P	2	x	4		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
33	CF		P-10	BETWEEN R-32 & R-34	B		x		60	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
34	CF	10/11		80' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
35	CF	10/11		69' N OF SEOS	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
36	CF	10/11	P-11	49' N OF SEOS & 5'E	P	5	x	15		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
37	CF		P-11	50' N OF SEOS & 3'E	B		x		48	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
38	PB	10/11	P-11	105' N OF SEOS & 3' E (8" PIPE)	P	4	x	5	24	6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
39	DS-3	10/11		25' S OF NEOS	P	2	x	6		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
40	AO	10/11		3' S OF NEOS	P	12	x	12		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
41	SJ	11/12/13		22' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
42	SJ	12/13/14		24' S OF NEOS	P	2	x	6		6/24/16	SU	EXT-74	Vacuum	Pass	6/23/16
43	DO	4/6	P-4	6' S OF NEOS & 4'W	P	2	x	3		6/23/16	SU	EXT-74	Vacuum	Pass	6/23/16
44	BO	13/14		65' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
45	BO	13/14		79' N OF SEOS	P	2	x	5		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
46	BO	13/14		163' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
47	CF	13/14		BETWEEN R-46 & R-42	B		x		12	6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
48	SJ	12/14/14A		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
49	SJ	14A/14/15		4' S OF NEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
50	SJ	14/15/16		78' N OF SEOS	P	2	x	2		6/24/16	SU	EXT-74	Vacuum	Pass	6/24/16
51	BO	14/16		2'N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
52	SJ	15/16/17		78' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
53	DS-4	15/17		87' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
54	CF	17/18		53' S OF NEOS	P	3	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
55	CF	17/18	P-17	56' S OF NEOS & 3'W	B		x		24	6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
56	CF	17/18	P-18	74' S OF NEOS &3'E	P	3	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
57	CF	17/18		83' S OF NEOS	P	2	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
58	CF	17/18	P-18	84' S OF NEOS & 4' E OF R-57	B		x		120	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
59	BO	17/18		153' S OF NEOS	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
60	CF		P-18	BETWEEN R-59 & R-62	B		x		140	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
61	BO	17/18		182' S OF NEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
62	CF	18/19	P-18	29' N OF SEOS & 7'W	P	2	x	13		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
63	BO	18/19		24' N OF SEOS	P	2	x	6		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
64	CF	18/19		BETWEEN R-63 & R-65	B		x		12	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
65	CF	18/19	P-19	30' N OF SEOS & 3'E	P	2	x	9		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
66	CF		P-19	BETWEEN R-65 & R-67	B		x		108	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
67	CF	19/20	P-19	42' N OF SEOS & 5'W	P	3	x	7		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
68	CF	18/19		46' N OF SEOS	P	2	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
69	CF		P-19	BETWEEN R-68 & R-70	B		x		72	6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
70	CF	18/19	P-19	49' N OF SEOS & 7'E	P	3	x	3		6/24/16	MA	EXT-75	Vacuum	Pass	6/29/16
71	BO	18/19		113' N OF SEOS	P	3	x	4		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
72	BO	18/19		130' N OF SEOS	P	2	x	2		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
73	DSX-2	R-30	P-10	106' N OF SEOS & 6'W	P	2	x	5		6/24/16	MA	EXT-75	Vacuum	Pass	6/24/16
74	DS-5	19/20		16' N OF SEOS	P	2	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
75	CF	19/20		164' N OF SEOS	P	2	x	20		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
76	AO	19/R76/20		180' N OF SEOS	P	1	x	21		6/27/16	SU	EXT-74	Air Pressure	Pass	6/27/16
77	SJ	20/21/22		99' N OF SEOS	P	2	x	2		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
78	CF	20/21		122' N OF SEOS	P	4	x	4		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
79	CF		P-21	BETWEEN R-78 & R-80	B		x		156	6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
80	CF	21/23	P-21	128' N OF SEOS & 11' W	P	1	x	1		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
81	PB	20/21	P-21	171' N OF SEOS & 3' E (PB 4")	P	3	x	5		6/27/16	SU	EXT-74	Vacuum	Pass	6/29/16
82	BO	22/23		54' N OF SEOS	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
83	SJ	21/22/23		99' N OF SEOS	P	6	x	14		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
84	SJ	23/24/25		17' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
85	BO	23/24		40' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
86	CF	23/24	P-23	BETWEEN R-85 & R-87	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
87	CF	23/24	P-23	48' N OF SEOS & 11' W	P	2	x	9		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
88	CF	22/23	P-23	51' N OF SEOS & 8' E	P	3	x	5		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
89	CF	23/24		74' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
90	CF	23/24		79' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
91	DS-6	23/24		105' N OF SEOS	P	2	x	6		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
92	SJ	24/25/26		17' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
93	CF	24/26		157' N OF SEOS	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
94	CF	24/26	P-26	BETWEEN R-93 & R-95	B		x		72	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
95	CF	24/26	P-26	156' N OF SEOS & 8' E	P	2	x	4		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
96	CF	24/26	P-26	137' N OF SEOS & 2' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
97	CF	24/26	P-26	143' N OF SEOS & 6'E FROM R-96	B		x		132	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
98	SI	24/26	P-26	167' N OF SEOS & 8' E	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
99	DO	26/27	P-26	166' N OF SEOS & 10' W	P	2	x	3		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
100	BO	26/27		26' N OF SEOS	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
101	CF	26/27		55' N OF SEOS	P	3	x	8		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
102	PB	26/27	P-27	124' N OF SEOS & 3' E (PB 8")	P	4	x	5	24	6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
103	CF	26/27	P-26	185' N OF SEOS & 12' W	P	2	x	2		6/29/16	SU	EXT-74	Vacuum	Pass	6/29/16
104	AO	19/20		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
105	AO	18/19		196' N OF SEOS	P	5	x	23		6/30/16	BS	W-4131	Air Pressure	Pass	6/30/16
106	AO	17/18		196' N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
107	CF	19/20/R-26		194' N OF SEOS	P	3	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
108	CF	18/19		194' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
109	CF	17/18	P-18	194' N OF SEOS & 4' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
110	CF	19/20	P-19	126' N OF SEOS & 8' W	P	2	x	4		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
111	CF	19/20	P-19	BETWEEN R-110 & R-112	B		x		120	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
112	CF	19/20	P-19	136' N OF SEOS & 2' W	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
113	DS-7	13/14		91' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
114	DS-8	R-105/18	P-18	195' N OF SEOS & 9' W	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
115	DSX-3	R-79	P-21	125'N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
116	DS-9	18/19		101' N OF SEOS	P	3	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
117	CF	26/27		180' N OF SEOS	P	6	x	11		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
118	CF	26/27	P-27	179' N OF SEOS 2'E	P	4	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
119	CF	26/27	P-27	179' N OF SEOS 4'E	P	5	x	6		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
120	CF	26/27	P-27	179' N OF SEOS 6'E	P	3	x	7		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
121	CF	27/28	P-27	179' N OF SEOS & 14'W	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
122	CF	27/28	P-27	BETWEEN R-121 & R-123	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
123	CF	27/28		173'N OF SEOS	P	3	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
124	BO	27/28		177' N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
125	SJ	27/28/R-30		129' N OF SEOS	P	2	x	3		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
126	SJ	27/28/R-30	P-28	129'N OF SEOS & 3' E	P	2	x	2		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
127	CF	26/27	P-27	208'N OF SEOS & 2'E	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
128	CF	26/27	P-26	216'N OF SEOS (FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
129	CF	27/R-127	P-26	205'N OF SEOS(FROM R-127)	B		x		108	6/30/16	SU	EXT-74	Vacuum	Pass	6/30/16
130	AO	27/28		175'N OF SEOS	P	6	x	18		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
131	AO	27/28		200'N OF SEOS	P	5	x	20		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
132	CF	27/28		133'N OF SEOS	P	5	x	8		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
133	DS-10	27/28		155'N OF SEOS	P	2	x	5		6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
134	CF	27/28		BETWEEN R-132 & R-154	B		x		72	6/30/16	SU	EXT-74	Vacuum	Pass	7/1/16
135	CF	19/20	P-20	115' N OF SEOS & 6'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
136	CF	19/20	P-20	BETWEEN R-135 & R-137	B		x		60	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
137	CF	19/20	P-20	115'N OF SEOS & 3'E	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
138	BO	29/31		11'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
139	CF	29/31	P-29	BETWEEN R-140 & R-141	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
140	CF	29/31	P-29	54'N OFSEOS 10'W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
141	CF	29/31		54' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
142	SJ	29/30/31		159' N OF SEOS	P	3	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
143	BO	29/30		169' N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
144	CF	29/30	P-29	BETWEEN R-145 & R-146	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
145	CF	29/30	P-29	175' N OF SEOS & 10'W	P	3	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
146	CF	29/30	P-29	180' N OF SEOS & 2'W	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
147	DSX-4	R-148	P-32	96'N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
148	DS-11	31/32		96' N OF SEOS	P	4	x	7		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
149	CF	31/32	P-32	65' N OF SEOS & 4'E	P	3	x	12		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
150	CF	32/34	P-32	BETWEEN R-149 & R-150	B		x		108	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
151	CF	32/34	P-32	73' N OF SEOS 13' W	P	1	x	1		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
152	SJ	30/31/32		158' N OF SEOS	P	2	x	13		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
153	SJ	32/33/34		130'N OF SEOS	P	2	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
154	CF	27/28		115' N OF SEOS	P	8	x	10		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
155	BO	27/28		102' N OF SEOS	P	3	x	4		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
156	PB	28/29		15' N OF SEOS (8"PB)	P	4	x	5	24	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
157	SJ	33/34/35		130' N OF SEOS	P	2	x	2		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
158	DS-12	34/35		21' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
159	SJ	35/36/37		82' N OF SEOS	P	2	x	3		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
160	SJ	36/37/38		82' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
161	DS-13	36/38		215' N OF SEOS	P	2	x	5		7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
162	CF	36/38	P-38	BETWEEN R-161 & R-163	B		x		96	7/1/16	SU	EXT-74	Vacuum	Pass	7/1/16
163	CF	36/38	P-38	205' N OF SEOS & 10'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
164	CF	37/38	P-37	3'N OF SEOS & 9' W	B		x		72	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
165	CF	37/38	P-37	6'N OF SEOS & 10' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
166	CF	37/38		3'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
167	SJ	38/39/40		35' N OF SEOS	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
168	CF	38/39		109' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
169	BO	38/39		213' N OF SEOS	P	3	x	5		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
170	SI	38/39	P-38	162' N OF SEOS 7' W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
171	AO	40/39		BETWEEN R-167 & R-172	C	2	x	23		7/7/16	BS	W-4131	Air Pressure	Pass	7/7/16
172	SJ	39/40/41		35'N OF SEOS	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
173	CF	39/41	P-41	167' N OFSEOS 5'E	P	4	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
174	CF	39/41	P-39	177' N OF SEOS 4' W	P	3	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
175	CF	39/41		197' N OF SEOS	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
176	BO	39/41		208' N OF SEOS	P	2	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
177	CF	41/42		70' N OF SEOS	P	5	x	20		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
178	CF	41/42	P-41	92' N OF SEOS & 5'W	P	3	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
179	CF	41/42		105' N OF SEOS	P	3	x	30		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
180	CF	41/42	P-42	156' N OF SEOS & 5'E	P	6	x	17		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
181	CF	41/42	P-42	BETWEEN R-180 & R-187	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
182	CF	39/41	P-41	193' N OF SEOS & 4' E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
183	CF	39/41	P-41	BETWEEN R-182 & R-175	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
184	DS-14	41/42		139' N OF SEOS	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
185	DSX-5	R-179	P-42	100' N OF SEOS & 3' E	P	2	x	6		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
186	CF	41/42	P-42	157' N OF SEOS & 10' E	P	4	x	8		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
187	CF	41/42	P-42	162' N OF SEOS & 8'E	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
188	CF	41/42	P-42	138' N OF SEOS & 10'E	P	4	x	10		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
189	PB	42/43		136' N OF SEOS (48" MH)	P	7	x	9	48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
190	CF	42/43	P-43	127' N OF SEOS & 5' E	P	5	x	13		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
191	CF	42/43	P-43	202' N OF SEOS & 10' E	P	2	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
192	CF	42/43	P-43	BETWEEN R-191 & R-193	B		x		120	7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
193	CF	42/43		210' N 0F SEOS	P	6	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
194	CF	43/44	P-43	175' N OF SEOS & 5'W	P	2	x	2		7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
195	CF	43/44	P-43	BETWEEN R-194 & R-219	B		x		24	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
196	CF	42/43	P-42	BETWEEN R-199 & R-193	B		x		48	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
197	CF	42/43	P-42	BETWEEN R-198 & R-193	B		x		60	7/7/16	SU	EXT-74	Vacuum	Pass	7/8/16
198	CF	42/43	P-42	210' N 0F SEOS & 7'W	P	3	x	4		7/7/16	SU	EXT-74	Vacuum	Pass	7/7/16
199	CF	42/43	P-42	215' N OF SEOS & 7'W	P	3	x	3		7/7/16	SU	EXT-74	Vacuum	Pass	7/9/16
200	CF	42/43	P-42	114'N OF SEOS & 11'W	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
201	CF	42/43	P-42	BETWEEN R-200 & R-202	B		x		168	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
202	CF	42/43	P-42	128'N OF SEOS & 10'W	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
203	CF	42/43	P-43	91' N OF SEOS & 10'E	P	4	x	10		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
204	CF	42/43	P-43	BETWEEN R-203 & R-214	B		x		120	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
205	CF	42/43	P-43	BETWEEN R-206 & R-215	B		x		108	7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
206	CF	42/43	P-43	103' N OF SEOS & 20'E	P	2	x	5		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16
207	CF	42/43	P-43	103' N OF SEOS & 9'E	P	3	x	13		7/8/16	PHOU	EXT-75	Vacuum	Pass	7/9/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
208	CF	43/44	P-43	160' N OF SEOS & 13'W	P	5	x	17		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
209	CF	43/44	P-43	180' N OF SEOS & 10'W	P	6	x	22		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
210	CF	42/43	P-43	BETWEEN R-211 & R-209	B		x		72	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
211	CF	42/43	P-43	190'N OF SEOS & 8' E	P	8	x	12		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
212	DSX-6	R-180	P-42	153'N SEOS & 5'E	P	3	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
213	SJ	43/44/45		36'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
214	CF	43/44		81'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
215	CF	43/44		107'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
216	BO	43/44		133'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
217	CF	43/44		178'N OF SEOS	P	2	x	4		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
218	CF	43/44		185'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
219	CF	43/44		BETWEEN R-218 & R-217	B		x		60	7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
220	SJ	43/44/44A		231'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
221	SJ	44/44A/43		250' N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
222	SI	45/46	P-45	11'N OF 4'W	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
223	SJ	44/45/46		35'N OF SEOS	P	2	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
224	DSX-7	R-204	P-43	80'N OF SEOS 4'W	P	4	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
225	CF	44/46	P-44	215'N SEOS & 12'E	P	10	x	16		7/8/16	SU	EXT-74	Vacuum	Pass	7/9/16
226	DS-15	43/44		222'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
227	CF	43./44	P-44	216'N OF SEOS 5'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
228	CF	43/44	P-44	BETWEEN R-227 & R-229	B		x		24	7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
229	CF	43/44	P-44	216'N OF SEOS 7'E	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
230	DS-17	45/46		24'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
231	DS-16	46/47		146'N OF SEOS	P	2	x	4		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
232	SJ	46/47/48		115'N OF SEOS	P	2	x	7		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
233	SJ	47/48/49		116'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
234	CF	47/49	P-47	164' N OF SEOS & 2'W	P	3	x	8		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
235	BO	46/47		258'N OF SEOS	P	2	x	2		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
236	CF	46/47		266'N OF SEOS	P	5	x	3		7/8/16	SU	EXT-74	Vacuum	Pass	7/11/16
237	PB	44/46	P-46	147'N OF SEOS 8'E(8"PB)	P	4	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
238	AO	46/47		19'S OF NEOS (CAP 19')	P	2	x	19		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
239	CF	44/46	P-44	230'N OF SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
240	CF	44/46	P-44	BETWEEN R-239 & R-241	B		x		108	7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
241	CF	44/46	P-44	241'N SEOS 7'W	P	2	x	2		7/11/16	SU	EXT-74	Vacuum	Pass	7/11/16
242	SI	49/50		3'N OF SEOS	B		x		60	7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
243	BO	49/50		6'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
244	DS-18	49/50		251' N OF SEOS	P	2	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
245	BO	49/50		271'N OF SEOS	P	2	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
246	SJ	50/52/53		20'N OF SEOS	P	2	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/1/16
247	CF	50/52	P-50	53'N OF SEOS 2'W	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/11/16
248	CF	50/52	P-50	65'N OF SEOS 10'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
249	CF	50/52	P-50	BETWEEN R-247 & R-248	B		x		108	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
250	SJ	50/51/52		74'N OF SEOS	P	3	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
251	CF	50/51	P-50	111'N OF SEOS & 2'W	P	3	x	5		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
252	CF	50/51	P-50	102N OF SEOS 8'W	P	2	x	8		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
253	CF	50/51	P-50	BETWEEN R-251 & R-252	B		x		72	7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
254	CF	50/51		214N OF SEOS	P	3	x	10		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
255	CF	50/51		274'N OF SEOS	P	3	x	3		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
256	DS-19	53/54		20' N OF SEOS (AT SJ FOR 52/53/54)	P	3	x	8		7/12/16	SU	EXT-249	Vacuum	Pass	7/13/16
257	SJ	51/54/52		74'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
258	SJ	54/56/57		30'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
259	SJ	54/55/56		103'N OF SEOS	P	2	x	2		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
260	DS-20	55/56		103'N OF SEOS ON P55/P56	P	2	x	6		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
261	PB	54/55	P-55	285'N OF SEOS 20'E (4" PB)	P	4	x	4		7/12/16	SU	EXT-74	Vacuum	Pass	7/13/16
262	SJ	56/57/58		30'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
263	SJ	55/56/58		103'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
264	BO	55/58		273' N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
265	BO	55/58		285'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
266	CF	55/58		289'N OF SEOS	B		x		72	7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
267	SJ	58/59/60		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
268	SJ	59/60/61		94'N OF SEOS	P	3	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
269	BO	59/61		278'N OF SEOS	P	2	x	3		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
270	SJ	61/62/63		194'N OF SEOS	P	2	x	6		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
271	DS-21	58/59		266'N OF SEOS	P	2	x	4		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
272	DS-22	61/63		137' N OF SEOS	P	2	x	5		7/13/16	SU	EXT-74	Vacuum	Pass	7/14/16
273	WR	50/51		165'N OF SEOS	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
274	WR	50/51	P-51	170'N OF SEOS 5'E	P	3	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
275	CF	50/51	P-51	BETWEEN R-273 & R-276	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
276	BO	50/51		158'N OF SEOS	P	3	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
277	SJ	62/63/64		193'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
278	CF	64/65		187'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
279	CF	64/65		216'N OF SEOS	P	2	x	3		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
280	CF	64/65		115'N OF SEOS	P	5	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
281	SJ	65/66/67		116'N OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
282	CF	64/65	P-65	BETWEEN R-278 & R-283	B		x		120	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
283	CF	64/65	P-65	193'N OF SEOS & 12'E	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
284	CF	64/65	P-65	215'N OF SEOS & 11'E	P	2	x	9		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
285	CF	64/65	P-65	BETWEEN R-279 & R-284	B		x		60	7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
286	DSX-8	R-270	P-61	193'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
287	DS-23	64/65		17'N OF SEOS	P	2	x	6		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
288	PB	65/67	P-65	90'N OF SEOS & 7'W (8")	P	2	x	5		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
289	SJ	66/67/68		115' OF SEOS	P	2	x	2		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
290	CF	66/68	P-66	167'N OF SEOS & 4'W	P	6	x	10		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
291	DS-24	66/68		148'N OF SEOS	P	2	x	4		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
292	PB	66/68	P-66	148'N OF SEOS & 3'W (8")	P	6	x	8		7/14/16	SU	EXT-74	Vacuum	Pass	7/14/16
293	BO	68/71		99' N OF SEOS	P	3	x	5		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
294	SJ	68/70/71		147' N OF SEOS	P	5	x	3		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
295	SJ	68/69/70		216' N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
296	DS-25	68/69		250' N OF SEOS	P	3	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
297	CF	68/70	P-70	155'N OF SEOS & 12' E	P	4	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
298	CF	70/72	P-70	BETWEEN R-297 & R-299	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
299	SJ	71/70/72		155'N OF SEOS	P	2	x	16		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
300	DSX-9	R-299	P-72	153'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
301	CF	70/72		200'N OF SEOS	P	5	x	8		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
302	SJ	69/70/72		217'N OF SEOS	P	2	x	2		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
303	CF	72/74	P-72	54'N OF SEOS & 4'W	P	3	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
304	CF	72/74	P-72	BETWEEN R-303 & R-322	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
305	CF	72/74	P-72	BETWEEN R-306 & R-317	B		x		109	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
306	CF	72/74		104'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
307	CF	72/74		114'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
308	CF	72/74	P-74	BETWEEN R-307 & R-318	B		x		84	7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
309	CF	74/74		164'N OF SEOS	P	4	x	9		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
310	CF	72/74		172'N OF SEOS	P	4	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
311	SJ	72/73/74		220'N OF SEOS	P	3	x	4		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
312	DS-26	72/74		145'N OF SEOS	P	2	x	6		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
313	PB	72/74	P-72	158'N OFSEOS & 6'W (8" PB)	P	2	x	2	24	7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
314	CF	74/75		76'N OF SEOS	P	3	x	7		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
315	CF	74/75		209'N OF SEOS	P	5	x	7		7/25/16	SU	EXT-74	Vacuum	Pass	7/25/16
316	SJ	74/73/75		218'N OF SEOS	P	2	x	3		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
317	CF	72/74	P-72	109'N OF SEOS & 7' W	P	1	x	1		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
318	CF	72/74	P-74	114'N OF SEOS & 9'E	P	2	x	2		7/25/16	DM	EXT-75	Vacuum	Pass	7/25/16
319	CF	74/75	P-75	95'N OF SEOS & 10'E	P	3	x	5		7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
320	CF	74/75	P-75	BETWEEN R-319 & R-333	B		x		108	7/27/16	SU	EXT-75	Vacuum	Pass	7/27/16
321	CF	72/74	P-74	48'N OF SEOS & 2' E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
322	CF	72/74	P-72	62'N OF SEOS & 8' W	P	1	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
323	CF	74/75	P-75	35'N OF SEOS &10' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
324	CF	74/75	P-75	BETWEEN R-323 AND R-325	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
325	CF	74/75	P-75	50'N OF SEOS & 10' E	P	1	x	1		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
326	CF	74/75	P-75	157'N OF SEOS & 12' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
327	CF	74/75	P-75	BETWEEN R-326 AND R-334	B		x		144	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
328	SI	71/72	P-72	77'N OF SEOS & 7' E	P	2	x	2		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
329	CF	74/75	P-75	164'N OF SEOS & 7'E	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
330	CF	74/75	P-75	BETWEEN R-329 AND R-331	B		x		84	7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
331	CF	74/75	P-75	173'N OF SEOS & 7'E	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	7/27/16
332	CF	75/76		8'N OF SEOS	P	2	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
333	CF	75/76		81'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
334	CF	75/76		151'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
335	BO	75/76		234'N OF SEOS	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
336	CF	75/76		254'N OF SEOS	P	4	x	14		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
337	DS-27	75/76		24'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
338	DSX-10	R-320	P-75	82'N OF SEOS & 5'W	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
339	CF	76/78		4'N OF SEOS	P	3	x	7		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
340	SJ	76/77/78		40'N OF SEOS	P	3	x	6		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
341	CF	78/79	P-78	15'N OF SEOS & 4'W	P	2	x	9		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
342	CF	76/78		15'N OF SEOS	P	2	x	5		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
343	PB	78/79	P-78	15'N OF SEOS & 9'W (6"PB)	P	2	x	4		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
344	SJ	77/78/79		40'N OF SEOS	P	3	x	3		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16
345	CF	77/79	P-79	138'N OF SEOS & 7'E	P	2	x	15		7/27/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
346	CF	77/79	P-77	144'N OF SEOS 3'W	P	6	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
347	CF	76/78		25'N OF SEOS	P	2	x	3		7/27/16	SU	EXT-75	Vacuum	Pass	8/2/16
348	CF	79/80	P-79	133'N OF SEOS & 4'W	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
349	CF	79/80	P-79	129'N OF SEOS & 9' W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
350	CF	79/80	P-79	131'N OFSEOS & 10' W	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
351	CF	79/80	P-79	BETWEEN R-348 AND R-349	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
352	CF	79/80	P-79	BETWEEN R-348 & R-353	B		x		36	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
353	CF	79/80	P-79	138'N OF SEOS & 2'W	P	2	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
354	CF	79/80	P-79	134'N OF SEOS & 3'W (ON R-348)	P	3	x	3		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
355	CF	79/80		167'N OF SEOS	P	5	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
356	CF	79/80	P-79	106'N OF SEOS & 4'W	P	3	x	6		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
357	PB	80/81	P-80	140' N OF SEOS & 1'W (48" MH)	P	6	x	6	60	7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
358	CF	79/80	P-79	207'N OF SEOS & 6'W	P	4	x	10		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
359	CF	79/80	P-79	208'N OF SEOS & 10'W	P	3	x	7		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
360	CF	77/79	P-79	148'N OF SEOS (ON R-346)	P	2	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
361	CF	77/79	P-77	137'N OF SEOS & 6'W	P	1	x	2		7/27/16	DM	EXT-75	Vacuum	Pass	8/2/16
362	CF	80/82		6'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
363	SJ	80/81/82		25'N OF SEOS	P	2	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
364	CF	80/81		130'N OF SEOS	P	3	x	4		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
365	CF	80/81		140'N OF SEOS	P	3	x	15		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
366	CF	80/81	P-80	BETWEEN R-364 & R-365	B		x		36	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
367	CF	80/81	P-80	140'NOF SEOS & 4'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
368	CF	80/81		150'N OF SEOS	P	4	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
369	CF	80/81		264'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
370	SJ	81/82/83		25'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
371	CF	81/83	P-81	31'N OF SEOS & 3'W	P	2	x	6		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
372	BO	81/83		145'N OF SEOS	P	2	x	5		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
373	CF	81/83		216'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
374	SJ	83/84/85		52'N OF SEOS	P	3	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
375	CF	83/84		202'N OF SEOS	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
376	SJ	84/85/86		52'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
377	CF	84/86		198'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
378	SJ	86/87/88		96'N OF SEOS	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
379	CF	86/87	P-86	205' N OF SEOS	P	4	x	11		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
380	PB	76/78	P-76	6'N OF SEOS & 4'W (8" PB)	P	5	x	6	24	7/28/16	DM	EXT-75	Vacuum	Pass	8/2/16
381	CF	86/88		40'N OF SEOS	P	2	x	2		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
382	CF	83/84	P-83	197'N OF SEOS & 10'W	P	3	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
383	CF	83/84	P-83	BETWEEN R-382 & R-375	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
384	PB	81/83	P-81	32'N OF SEOS & 7'W (8" PB)	P	2	x	4	24	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
385	CF	80/82	P-80	BETWEEN R-362 & R-386	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
386	CF	80/82	P-80	10'N OF SEOS & 10W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
387	CF	84/86	P-86	BETWEEN R-377 & R-379	B		x		86	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
388	CF	86/87	P-87	250'N OF SEOS & 19'E	P	3	x	12		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
389	CF	86/88	P-86	BETWEEN R-381 & R-390	B		x		120	7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
390	CF	86/88	P-86	42'N OF SEOS & 9'W	P	2	x	3		7/28/16	SU	EXT-74	Vacuum	Pass	8/2/16
391	DS-26 B	72/74		154'N OF SEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
392	DS-26 A	72/74		135'N OFSEOS	P	2	x	11		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
393	DS-28	81/83		177'N OF SEOS	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
394	DSX-11	R-365	P-81	144'N OF SEOS &12'W	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
395	DSX-12	R-387	P-86	199'N OF SEOS & 4'E	P	2	x	5		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
396	CF	86/87		210'N OF SEOS	P	4	x	14		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
397	CF	86/87	P-86	210'N OF SEOS 7'W	P	3	x	4		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
398	CF	86/87	P-86	208'N OF SEOS 10'W	P	3	x	15		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
399	CF	86/87	P-87	200'N OF SEOS 9'E	P	4	x	20		8/2/16	SU	EXT-74	Vacuum	Pass	8/2/16
400	CF	87/90		115'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
401	CF	87/90	P-90	BETWEEN R-400 & R-402	B		x		120	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
402	CF	87/90	P-90	115'N OF SEOS 13'E	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
403	BO	87/90		130'N OF SEOS	P	2	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
404	BO	87/89/90		150'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
405	SJ	88/87/90		97'N OF SEOS	P	2	x	3		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
406	CF	90/91	P-90	50'N OF SEOS 3'W	P	3	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
407	CF	90/91	P-90	49'N OF SEOS 7'W	P	3	x	9		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
408	PB	90/91	P-90	238'N OF SEOS 7'W (4" PB)	P	4	x	10	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
409	PB	90/91	P-91	107'N OF SEOS 5'E (8" PB)	P	4	x	4	24	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
410	CF	91/92		160' N OF SEOS	P	6	x	17		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
411	CF	91/92		180'N SEOS	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
412	CF	92/93		110'N OF SEOS	P	3	x	5		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
413	CF	92/93	P-92	BETWEEN R-412 & R-414	B		x		84	8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
414	CF	92/93	P-92	115'N OF SEOS & 11'W	P	4	x	6		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
415	CF	87/89	P-87	246' N OF SEOS & 4'W	P	3	x	8		8/3/16	SU	EXT-74	Vacuum	Pass	8/4/16
416	DS-29	90/91		26'N OF SEOS	P	2	x	5		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
417	DSX-13	R-401	P-90	116'N OF SEOS &7'E	P	2	x	7		8/4/16	SU	EXT-74	Vacuum	Pass	8/4/16
418	DO	36/38	P-36	212' N OF SEOS & 6'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
419	CF	94/95		45'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
420	CF	94/95	P-94	BETWEEN R-419 & R-420	B		x		86	8/5/16	SU	EXT-74	Vacuum	Pass	8/5/16
421	CF	94/95	P-94	45'N OF SEOS & 12'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
422	CF	94/95	P-94	149'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
423	CF	94/95	P-94	BETWEEN R-422 & R-424	B		x		84	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
424	CF	94/95	P-94	149'N OF SEOS & 11'W	P	4	x	6		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
425	CF	94/95	P-94	186'N OF SEOS & 2'W	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
426	CF	94/95	P-94	BETWEEN R-425 & R-427	B		x		132	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
427	CF	94/95	P-94	176'N OF SEOS & 12'W	P	3	x	4		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
428	SJ	95/96/97		14'N OF SEOS	P	2	x	3		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
429	SJ	96/97/98		14'N OF SEOS	P	2	x	2		8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
430	PB	97/98	P-97	109'N OF SEOS 2'W (8"PB)	P	2	x	4	24	8/5/16	SU	EXT-74	Vacuum	Pass	8/8/16
431	DS-30	97/98		120'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
432	DSX-14	R-430	P-98	110'N OF SEOS	P	2	x	5		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
433	CF	99/100	P-100	92'N OF SEOS & 6'E	P	3	x	7		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
434	CF	99/100		97'N OF SEOS	P	3	x	11		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
435	CF	99/100		132'N OF SEOS	P	2	x	3		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
436	CF	99/100	P-100	BETWEEN R-435 & R-437	B		x		108	8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16
437	CF	99/100	P-100	128'N OFSEOS & 8'E	P	2	x	2		8/8/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
438	DS-31	79/80		200'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
439	DS-32	86/87		178'N OF SEOS	P	2	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
440	SJ	100/101/102		20'N OF SEOS	P	3	x	5		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
441	SJ	101/102/103		22'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
442	CF	103/104		40'N OF SEOS	P	4	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
443	SJ	103/104/105		188'N OF SEOS	P	2	x	3		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
444	BO	103/105		218'N OF SEOS	P	2	x	4		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
445	BO	104/106		62'N OF SEOS	P	3	x	8		8/9/16	SU	EXT-74	Vacuum	Pass	8/10/16
446	SJ	104/105/106		190'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/11/16
447	CF	104/106	P-106	150'N OF SEOS 13'E	P	2	x	7		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
448	CF	104/106	P-106	BETWEEN R-447 & R-477	B		x		108	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
449	PB	102/103	P-103	113'N OF SEOS 13'E (8" PB)	P	2	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
450	PB	103/104	P-104	6'N OF SEOS 5'E (6" PB)	P	3	x	4	24	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
451	DS-33	104/106		23'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
452	DSX-15	R-445	P-106	62'N OF SEOS	P	2	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
453	BO	93/107		3'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
454	BO	93/107		45'N OF SEOS	P	3	x	6		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
455	CF	108/110	P-108	115'N OF SEOS & 2'W	P	5	x	15		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
456	SJ	108/109/110		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
457	SI	107/108		2'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
458	CF	94/110	P-110	103'N OF SEOS & 9'W	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
459	CF	94/110		BETWEEN R-458 & R-460	B		x		120	8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
460	SJ	R-461/94		110'N OF SEOS	P	2	x	4		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
461	AO		P-110	110'N OF SEOS (BTWN R-460/R-455)	C	2	x	22		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
462	CF	110/94		115'N OF SEOS & 13'W	P	3	x	8		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
463	CF	110/94	P-110	132'N OF SEOS & 2'W	P	4	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
464	CF	110/94	P-110	136'N OF SEOS & 10'W	P	4	x	12		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
465	SJ	94/110/109		188'N OF SEOS	P	2	x	3		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
466	CF	108/110	P-108	110'N OF SEOS & 5'W	P	3	x	11		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
467	DS-34	94/110		62'N OF SEOS	P	2	x	5		8/10/16	SU	EXT-74	Vacuum	Pass	8/10/16
468	AO	94/110		4' N OF SEOS (ON R-469)	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
469	AO	R-470	P-94/P-95	4'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
470	AO	R-469	P-94/P-95/P-96	2'N OF SEOS	P	2	x	55		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
471	AO	R-470/R-472	P-96/P-98/P-99	2'N OF SEOS	P	2	x	45		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
472	AO	R-473/R-474	P-100/P-101	2'N OF SEOS	P	2	x	56		8/11/16	SU	EXT-74	Vacuum	Pass	8/11/16
473	AO	R-472/R-475	103/P-104/P-1	2'N OF SEOS	P	3	x	25		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
474	AO	R-472	P-99/P-100	4'N OF SEOS	P	3	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
475	AO	R-473	P-104/P-106	3'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
476	AO	R-469/R-470	P-94/P-95	2'N OF SEOS	B		x		276	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
477	CF	106/111		161'N OF SEOS	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
478	CF	111/112	P-112	46'N OF SEOS & 4'E	P	4	x	10		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
479	CF	111/112	P-111	74'N OF SEOS & 2'W	P	3	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
480	DO	111/112	P-111	236'N OF SEOS & 11'W	P	2	x	3		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
481	CF	111/112	P-111	140'N OF SEOS & 4'W	P	3	x	9		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
482	CF	111/112	P-111	142'N OF SEOS &14'W	P	4	x	12		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
483	CF	111/112	P-112	46' N OF SEOS &15'E	P	2	x	7		8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16

Environmental Specialties International Inc.
Repair Report

Project Name HONEYWELL SA6 NORTH CAP **Job # :** 12-11-1399 **Superintendent:** TONY UNG

Material Type: 60 MIL LLDP MICROSPIKE LINER **Primary** X **Pond**

Job Description: **Secondary** **Cell**

Reported by : KHAI S. SOK **Cap** X

Other:

Damage Codes						SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit		8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot			Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out		LF Welded	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test		8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
484	CF	111/112	P-112	BETWEEN R-483 & R-487	B		x		96	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
485	CF	111/112	P-112	46'N OF SEOS & 11' E	B		x		36	8/11/16	SU	EXT-74	Vacuum	Pass	8/12/16
486	DO	103/105	P-103	236'N OF SEOS & 12'W	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/12/16
487	CF	112/113		46'N OF SEOS	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
488	BO	112/113		163'N OFSEOS	P	3	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
489	BO	113/114		66'N OF SEOS	P	2	x	3		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
490	DSX-16	R-478	P-112	47'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
491	DS-35	112/113		114'N OF SEOS	P	2	x	6		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
492	PB	112/113	P-113	110'N OF SEOS & 10'E (48" MH)	P	7	x	6	60	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
493	PB	113/114	P-114	206'N SEOS & 13'E (6" PB)	P	2	x	7	24	8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
494	CF	113/114	P-114	206'N OF SEOS &16'E	P	2	x	10		8/12/16	SU	EXT-74	Vacuum	Pass	8/13/16
495	CF	111/106	P-106	161'N OF SEOS & 9'W	P	1	x	1		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
496	CF	111/106	P-106	BETWEEN R-495 & R-497	B		x		120	8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
497	CF	111/106	P-106	172'N OF SEOS & 3'W	P	2	x	2		8/11/16	SU	EXT-74	Vacuum	Pass	8/13/16
498	CF	112/113	P-113	38'N OF SEOS & 7'E	P	3	x	7		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
499	CF	113/114	P-114	46'N OF SEOS & 7'E	P	3	x	10		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
500	CF	113/114	P-114	BETWEEN R-499 & R-503	B		x		120	8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
501	CF	111/112	P-111	115'N OF SEOS & 6' W	P	2	x	14		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
502	CF	112/113	P-113	152'N OF SEOS & 11' E	P	2	x	15		8/13/16	SU	EXT-74	Vacuum	Pass	8/13/16
503	CF	114/115		39'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
504	CF	114/115		205'N OF SEOS	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
505	SJ	115/119/118		106'N OF SEOS	P	4	x	12		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
506	BO	116/115		244'N OF SEOS	P	3	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Environmental Specialties International Inc.
Repair Report

Project Name	HONEYWELL SA6 NORTH CAP	**Job # :**	12-11-1399	**Superintendent:**	TONY UNG
Material Type:	60 MIL LLDP MICROSPIKE LINER	**Primary**	X	**Pond**	
Job Description:		**Secondary**		**Cell**	
Reported by :	KHAI S. SOK			**Cap**	X
Other:					

Damage Codes					SF Patch Material	Test Type	Abbrv.	Repair Types
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	8356	Vacuum	*S=South	C--Cap Strip
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot		Air Pressure	*N=North	P--Patch
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	8434.25	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
507	SJ	118/116/117		171'N OF SEOS	P	2	x	3		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
508	BO	117/118		171'N OF SEOS & 10'E	P	4	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
509	PB	116/118	P-116	176'N OF SEOS & 13'E (4" PB)	P	4	x	4	24	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
510	CF	118/116	P-116	BETWEEN R-509 & R-511	B		x		60	8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
511	CF	117/116	P-116	171'N OF SEOS & 16'E	P	2	x	5		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
512	SJ	115/116/118		225'N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
513	DS-36	118/117		40'N OF SEOS	P	2	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16
514	DSX-17	R-505	P-118	106' N OF SEOS	P	3	x	6		8/15/16	SU	EXT-74	Vacuum	Pass	8/15/16

Repair Log
(Attachment 11: Capping Update)

Non-conformance Log
(Attachment 11: Capping Update)

Summary of Non-Compliance & Corrective Action Forms

SA-6 North Cap Installation

Notice of Non-Compliance & Corrective Action Sheet Number	Date	Item	Associated Repair Number	Approx. Location	Follow Up Action Taken
1	6/23/2016	Subgrade Irregularity	R-10	Panel P6	Rock was removed from underneath geomembrane and hole was then patched with approximate 3 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
2	6/29/2016	Subgrade Irregularity	R-98	Panel P26	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
3	7/6/2016	Failed Spark Test	Gas Vent GV-5	Gas Vent GV-5	Spark identified during spark testing of vertical boot weld on Gas Vent GV-5 boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test.
4	7/6/2016	Failed Spark Test	Well 115-W1-SO	Well 115-W1-SO	Spark identified during spark testing of vertical boot weld on Well 115-W1-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed duriing the test.
5	7/7/2016	Subgrade Irregularity	R-170	Panel P38	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
6	7/8/2016	Subgrade Irregularity	R-222	Panel P45	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
7	7/12/2016	Subgrade Irregularity	R-242	Panel P49 / P50	Rock was removed from underneath LLDPE geomembrane along the southern edge of SA-6 North (approximately 3 ft. from the edge of the cap. As such, the edge of the LLDPE was cut to remove the stone. This cut was then repaired with an extrusion weld bead. Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the cut / bead was properly sealed (as outlined in Section 02372).
8	7/27/2016	Subgrade Irregularity	R-328	Panel P72	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 2 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
9	7/28/2016	Failed Destruct Sample	DS-26	Panel P72 / P74 (Repair R-312)	Destruct sample DS-26 reported two coupons as EPA Break Classification Code "AD BRK". Although the peel and shear strength requirments were met, since the coupons broke at the weld and were not conisdering a Film Tearing Bond, the sample was reported as a failed sample. Two field samples (DS-26A and DS-26B) were cut 10 ft. from each side of DS-26 and field tested. Peel and shear field tests met the strength requirments and sample DS-26B (lesser strength values of both samples) was sent for laboratory analysis (results pending).
10	8/5/2016	Equipment Puncture	R-418	Panel P36	Equipment puncture through SA-6 North on Panel P36 (north end) as grounding rod was driven through liner. The puncture was exposed and a geomembrane patch was placed over the area and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut. Repairs were confirmed with vacuum box testing (vacuum box test passed), as per project specs.
11	8/9/2016	Failed Spark Test	Piezometer PZ4	Piezometer PZ4	Spark identified during spark testing of vertical boot weld on Piezometer PZ4 boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed during the test.
12	8/9/2016	Failed Spark Test	Well 115-E5-WO	Well 115-E5-SO	Spark identified during spark testing of vertical boot weld on Well 115-E5-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed during the test.
13	8/10/2016	Subgrade Irregularity	R-457	Panel P107 / P108	Rock was removed from underneath geomembrane and hole was then patched with approximate 2 ft. by 3 ft. geomembrane patch and sealed with an extrusion weld with minimum of 4-inches beyond edges of cut, and confirmed with vacuum box testing (as per project specs).
14	8/12/2016	Failed Spark Test	Well 115-E4-SO	Well 115-E4-SO	Spark identified during spark testing of vertical boot weld on Well 115-E4-SO boot. Area of weld was grinded, rewelded, and re-tested. Spark retest passed as no sparks were observed during the test.

Subgrade Approval Forms
(Attachment 11: Capping Update)

LANGAN

Certificate of Soil Surface

Sheet # 16

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 305+40 TO ~STA. 304+60		
QA Monitor	LANGAN	Date	8/3/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P88 (INSTALLED ON 7/28/16) APPROX 80 FT EAST FROM ~STA. 305+40 TO ~STA. 304+60. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/3/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	CAROLINE PARRIS
Date:	8/3/16
Title	QC MGR
Representing:	ANTAEUS
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8.
-SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). NO GCL TO BE INSTALLED FROM APPROX. STA. 805+40 TO ± STA. 804+60

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 805+40	LOOKING S	REFER TO PHOTO #3 (8/3/16)
	2 PHOTO #4	~STA. 805+40	LOOKING E	REFER TO PHOTO #4 (8/3/16)
1. REFER TO 8/3/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 304+60 TO ~STA. 303+75		
QA Monitor	LANGAN	Date	8/4/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P93 (INSTALLED ON 8/3/16) APPROX. 85 FT. EAST FROM ~STA. 304+60 TO ~STA. 303+75. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG NORTH END OF CAP (~STA. 303+75) FOR AREA BELOW, TO 1FT. ABOVE SITE WATER TABLE

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/4/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	CAROLINE PANICO
Date:	8/4/16
Title	QC MGR
Representing:	ENTRADA
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1/2"). GCL PANELS ALONG NORTHERN EDGE OF CAP AT APPROX STA. 303+75 FOR AREAS BELOW (TO LFT ABOVE SITE CONTROL DATUM TABLE) @ APPROX EL. 7

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	± STA. 304+60	LOOKING E	REFER TO PHOTO #3 (8/4/16)
	2 PHOTO #4	± STA. 304+60	LOOKING S	REFER TO PHOTO #4 (8/4/16)
1. REFER TO 8/4/16 PHOTOGRAPH LOG PHOTOS 3 TO 5 FOR SUPPORTING SUBGRADE PHOTOS.				2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 303+75 TO ~STA. 303+15		
QA Monitor	LANGAN	Date	8/5/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF TEMPORARY PANEL 3 (INSTALLED ON 8/4/16) APPROX 60 FT EAST FROM ~STA. 303+75 TO ~STA. 303+15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREA BELOW (TO 1 FT. ABOVE) SITE WATER TABLE AS INDICATED ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Gepsynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/5/16
Title	QC Mgr
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX 200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>1½"). GCL PLACED ALONG NORTHERN END OF CAP FROM ~STA. 303+75 TO ~STA 303+15. FOR AREAS BELOW (TO 1ST. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 303+75	LOOKING S	REFER TO PHOTO #5 (8/5/16)
	2 PHOTO #6	~STA. 303+75	LOOKING E	REFER TO PHOTO #6 (8/5/16)
1. REFER TO 8/5/16 PHOTOGRAPH LOG PHOTOS 5 TO 8 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

LANGAN

Certificate of Soil Surface

Sheet # 19

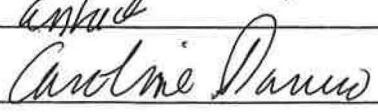
Project Name	Honeywell SA-6 North	Material Desc.	Geomembrane
Project No.	100530001	General Desc.	(Subgrade) Operations LCRS
Owner/ Contr.	Honeywell / AMEC FW	Cell No.	~Sta. 303+15 to ~Sta. 302+70
QA Monitor	Langan	Date	8/8/16

Description of Soil Surface to be lined: Area immediately East of Panel P98 (Installed on 8/5/16) Approx 45 ft East from Approx ~Sta. 303+15 to ~Sta. 302+70. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with Project Specs. GCL placed along N end of Cap for Areas Below (to left Above) Site Water Table as shown on Design Drawings

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/8/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/8/16
Title	QC Manager
Representing:	Anchor
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT. TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. ALL PLACED ALONG N END OF CAP FROM APPROX ~STA. 303+15 TO ~STA. 902+70. FOR AREAS BELOW (TO LEFT ABOVE) SITE WATER TABLE @ ~EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1			
	2			

1.

2.

LANGAN

Certificate of Soil Surface

Sheet # 20

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE
Project No.	100530001	General Desc.	(Subgrade) Operations LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 302+70 TO ~STA. 301+70
QA Monitor	LANGAN	Date	8/9/16

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF P100 (INSTALLED ON 8/8/16) APPROX 100 FT EAST FROM APPROX ~STA. 302+70 TO ~STA. 301+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSHOUWER
Date:	8/9/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/9/16
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02371-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WITNESS THE PLACEMENT AREA IN ARMOR 1200 FT BY SET TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT (>½"). GCL PLACED ALONG N END OF CAP FROM ARMOR ~STA. 302+70 TO ~STA. 301+70 FOR AREAS BELOW (TO 1FT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA 302+70	LOOKING E	REFER TO PHOTO #9 (8/9/16)
	2 PHOTO #10	~STA. 302+70	LOOKING S	REFER TO PHOTO #10 (8/9/16)
1. REFER TO 8/9/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+70 TO ~STA. 301+25		
QA Monitor	LANGAN	Date	8/11/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P106 (INSTALLED ON 8/9/16) APPROX 45 FT. EAST FROM APPROX ~STA. 301+70 TO ~STA. 301+25. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/11/16
Title	LEAD GM ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/11/16
Title	QC Manager
Representing:	Entrak
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ~200 FT BY 8 FT TRANSECTS TO OBSERVE SOIL CONDITIONS AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO GCL PLACEMENT (>½"). GCL PLACED ALONG N END OF CAP FROM ~STA. 301+70 TO ~STA. 301+25 FOR AREAS BELOW (TO LFT. ABOVE) SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+70	LOOKING S	REFER TO PHOTO #9 (8/11/16)
	2 PHOTO #10	~STA. 301+70	LOOKING S	REFER TO PHOTO #10 (8/11/16)

1. REFER TO 8/11/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

LANGAN

Certificate of Soil Surface

Sheet # 22

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 301+25 TO ~STA. 300+80		
QA Monitor	LANGAN	Date	8/12/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P112 (INSTALLED ON 8/11/16) APPROX 45 FT. EAST FROM ~STA. 301+25 TO ~STA. 300+80. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N END OF CAP FOR AREAS BELOW (TO 1FT ABOVE) SITE WATER TABLE AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/12/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	[signature]

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/12/16
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX. 200 FT BY 8FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT
GCL PLACED ALONG N END OF CAP FROM APPROX ~STA. 301+25 TO ~STA. 300+80 FOR AREAS BELOW (TO LFT. ABOVE) SITE WATER TABLE & APPROX. EL. 17 AS SHOWN ON DESIGN DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	~STA. 301+25	LOOKING N	REFER TO PHOTO #9 (8/12/16)
	2 PHOTO #10	~STA. 301+25	LOOKING S	REFER TO PHOTO #10 (8/12/16)

1. REFER TO 8/12/16 PHOTOGRAPH LOG PHOTOS 9 TO 12 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT

2.

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Certificate of Soil Surface

Sheet # 23

Project Name	HONEYWELL SA-6 NORTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 300+80 TO ~STA. 300+00 (EEO5)		
QA Monitor	LANGAN	Date	8/13/16		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST OF PANEL P114 (INSTALLED ON 8/12/16) APPROX 80 FT. EAST FROM ~STA. 300+80 TO ~STA. 300+00 (EEO5). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (≥½") AND IN CONFORMANCE WITH PROJECT SPECS. GCL PLACED ALONG N AND E END OF CAP FOR AREAS BELOW (TO BE ABOVE) SITE WATER TABLE. AS SHOWN ON DESIGN DRAWINGS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DAN BOSWORTH
Date:	8/13/16
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/13/16
Title	QC Manager
Representing:	Anteon
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (≤ ½") AS OUTLINED IN SECTION 02372-8
- SUBGRADE OBSERVED BY FIELD ENGINEER WHO WALKED THE PLACEMENT AREA IN APPROX ≤200FT BY 50FT TRANSECTS TO OBSERVE SOIL COMPACTION AS WELL AS ITEMS REQUIRING REMOVAL PRIOR TO PANEL PLACEMENT. GCL PLACED ALONG NORTH + EAST END OF CAP FROM APPROX STA. 300+80 TO ~STA 300+00 (EDGE OF (AND) FOR AREAS BELOW TO LFT. ABOVE SITE WATER TABLE @ APPROX EL. 7 AS SHOWN ON DESIGN DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	~STA. 300+40	LOOKING N	REFER TO PHOTO #8 (8/13/16)
	2 PHOTO #9	~STA. 300+80	LOOKING N	REFER TO PHOTO #9 (8/13/16)
1. REFER TO 8/13/16 PHOTOGRAPH LOG PHOTOS 8 TO 11 FOR SUPPORTING SUBGRADE PHOTOS + GCL PLACEMENT				2.

QA Photo Log
(Attachment 11: Capping Update)

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PHOTOGRAPHIC LOG
Photo #1 (08/02/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/2/16

Direction Taken:

Looking south along SA-6 North Panel P66/ P67 (approximate Sta. 308+35).

Description:

ESI deploying GDL over approved LLDPE geomembrane (Panels P66 / P67 and P68). GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.

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PHOTOGRAPHIC LOG
Photo #2 (08/02/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

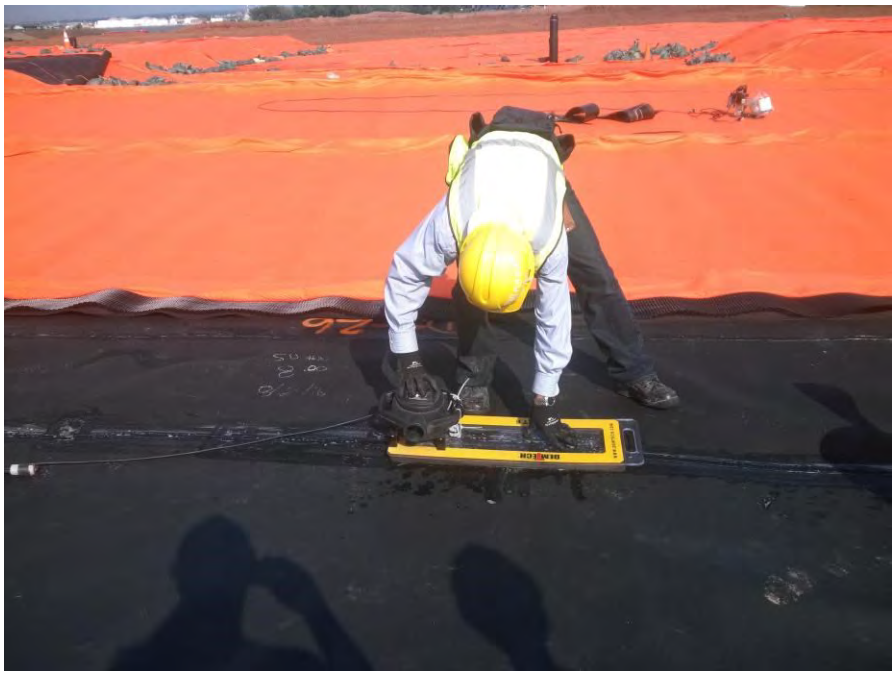
Date:
8/2/16

Direction Taken:

SA-6 North – Panel Seam P72 / P74 (Repair R-391)

Description:

ESI conducting vacuum box activities for extrusion weld patch R-391. Two additional samples were cut Approximately 10 ft. from each side of DS-26, patched, sealed with an extrusion weld, and vacuum box tested.



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PHOTOGRAPHIC LOG
Photo #3 (08/03/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
8/3/16

Direction Taken:

Looking north / northeast along SA-6 North (from approximate Sta. 304+80).

Description:

GVL deployed along approved soil subgrade up to approximate Sta. 304+60. GVL secured with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #4 (08/03/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
8/3/16

Direction Taken:

Looking south / southeast along SA-6 North (approximate Sta. 305+40).

Description:

ESI conducting fusion welding along LLDPE geomembrane Panel Seam P88 and P90.



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PHOTOGRAPHIC LOG
Photo #5 (08/04/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/4/16

Direction Taken:

Looking north along northern end of SA-6 North (approximate Sta. 303+75).

Description:

GCL placed along areas below (to 1 ft. above) the site water table. GCL seams sealed with bentonite and leistered in place.



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PHOTOGRAPHIC LOG
Photo #6 (08/05/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

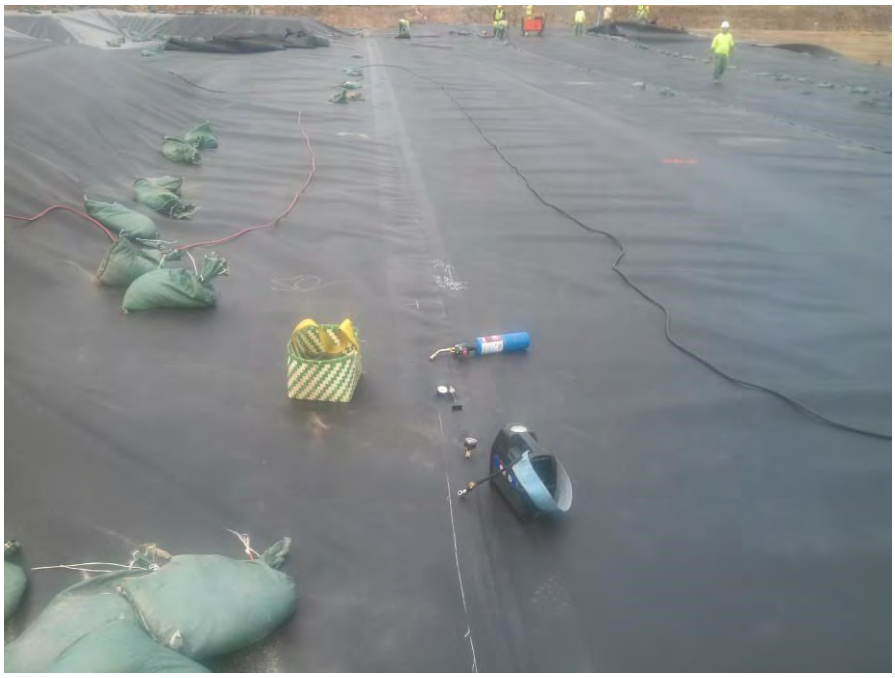
Date:
8/5/16

Direction Taken:

SA-6 North – Panel P94 / P95 seam

Description:

ESI conducting non-destructive testing (pressure testing) along Panel P94 / P95 seam. Seam pressurized to 30 psi and held for 5 minutes with less than 4 psi loss.



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PHOTOGRAPHIC LOG
Photo #7 (08/05/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
8/5/16

Direction Taken:

SA-6 North – Injection Well 088-IW-02

Description:

ESI completing boot penetration for Injection Well 088-IW-02 located on Panel P97.



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PHOTOGRAPHIC LOG
Photo #8 (08/08/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/8/16

Direction Taken:

Looking north along SA-6 (approximate Sta. 304+60).

Description:

ESI deploying two panels of orange GDL over approved LLDPE geomembrane. GDL placed up to temporary panels installed 8/4/16. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. with top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #9 (08/09/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
8/9/16

Direction Taken:

SA-6 North – Gas Vent GV-2

Description:

ESI conducting spark testing for Gas Vent GV-2. Prior to spark testing, methane testing was conducted and yielded a concentration of 0.0%, thus spark testing was conducted and no sparks were observed (spark test passed).



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PHOTOGRAPHIC LOG
Photo #10 (08/10/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	**100530001**

Date:
8/10/16

Direction Taken:

SA-6 North – Panel Seam P102 / P103 / P104

Description:

ESI conducting repair activities for seam joint at Panel P102 / P103 / P104 (panels installed on 8/9/16).



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PHOTOGRAPHIC LOG
Photo #11 (08/10/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/.10/16

Direction Taken:

SA-6 North – Panel P110

Description:

ESI conducting custom fit repairs along Panel P110.



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PHOTOGRAPHIC LOG
Photo #12 (08/13/16)

Project:	Location:	Project No.
Honeywell SA-6 North Capping	SA-6 North (North of SA-7) Jersey City, New Jersey	100530001

Date:
8/13/16

Direction Taken:

Looking north along SA-6 North (approximate Sta. 300+60)

Description:

LLDPE geomembrane installed over GVL and GCL to east end of cap (approximate Sta. 300+00)



Daily QA Reports (Langan)
(Attachment 11: Capping Update)

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/2/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	78/85° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #21**
AmecFW: Stu Bills, Dave Ambrose, Josh Boynton
Langan: Dan Bosworth, Vikki Hon
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane. Note: no soil subgrade approved and no LLDPE geomembrane installed on 8/2/16. Next area of subgrade still being prepared, graded, and compacted by Entact (to be surveyed by Maser).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was first placed along the northern end of SA-6 North from Panel P66 / P67 (approximate Sta. 308+35) to the approximate center of the Utility Corridor (approximate Sta. 306+80) Note: The GDL panel orientation changed to east to west through the utility corridor so that the GDL followed the same contours as the utility corridor slopes. GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/2/16 Photo Log for supporting photographs.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repair activities for Panels P86 and P87 (installed on 7/28/16). Additional details are provided in the 8/2/16 Repair Report.
- A total of three (3) destruct samples were collected. One fusion weld sample – DS-28 was collected from Panel Seam P81 / P83. Two extrusion weld destruct samples – DSX-11 and DSX-12 were collected from Repair R-365 (Panel 81) and Repair R-387 (Panel 86), respectively.
- ESI also completed repair activities for fusion weld destruct sample DS-26 (Panel P72 / P74 seam). DS-26 failed laboratory testing as two specimens were reported as EPA Break Code “AD-BRK” outlining a break in the weld and not the film tear break (FTB). Although the minimum peel requirements were met, since the break code was not an FTB, the test was reported as a failed test.
- To address the failed destruct sample, two field specimens (DS-26A & DS-26B) were cut approximately 10 ft. on each side of DS-26. Both samples were field tested and peel and shear strength requirements were met. Sample DS-26B which exhibited peel and shear breaks slightly less than DS-26A was sent for laboratory analysis.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Non-Conformance Items / Corrective Actions

- None Encountered - Failed destruct sample DS-26 was previously outlined on the 7/28/16 Daily Report

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/2/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for DS-28, DSX-11, DSX-12, and DS-26B.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/27/16, and 7/28/16. ESI Daily Form Submittals still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-27. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-10. Laboratory results generally in compliance with project specifications with the exception of DS-26.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/2/16
A3 – Photo Log	Pages 1-3	Total of 6 photos outlining pertinent daily observations and descriptions for 8/2/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/2/16
A5 – Subgrade Approval		NA – no subgrade approved for LLDPE placement on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI for prewelds completed on 8/2/16
A7 – Panel Placement Log		NA – no LLDPE panels placed on 8/2/16
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct samples collected on 8/2/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted on 8/2/16
A10 – Repair Log	Page 20	Repair log provided by ESI for LLDPE repair activities completed on 8/2/16
A11 – Conformance COC		NA for 8/2/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/2/16
A13 – Destruct. Sample Summary	Page 3	Updated with destruct samples collected on 8/2/16
A14 – Penetration & Edge Form		NA – no penetration / pipe boots completed on 8/2/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/2/16
A17 – Spark Test Log		NA – no spark testing completed on 8/2/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/3/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	80/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #22**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Kale Novalis
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P87 / P88 installed on 7/28/16 (approximate Sta. 305+40). Material to be placed from Panel P87 / P88 running approximately 80 ft. east to approximate Sta. 304+60.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from the approximate center of the Utility Corridor (approximate Sta. 306+80), moving east through Panel P81 (approximate Sta. 306+20). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/3/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 305+40 (Panel P87 / P88 installed on 7/28/16) to approximate Sta. 304+60. Refer to *Soil Subgrade Approval* forms from 8/3/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3 to 5 of the daily photo log for 8/3/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 305+40 (east of Panel P87 / P88) moving east to approximate Sta. 304+60. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/3/16 Photo Log for supporting photographs.

- After placement of GVL, LLDPE geomembrane was installed continuing east from Panel P87 / P88 (installed on 7/28/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 305+40 (Panel P87 / P88) to approximate Sta. 304+60. A total of five panels were installed (P89, P90, P91, P92, and P93). Note: During placement of Panel P89 a piece of LLDPE was used to realign the panel placement arrangement. Panels P90, P91, P92, and P93 ran the entire width of SA-6 North (approximately 245 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/3/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 304+60, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/3/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P89 to P93 (installed on 8/3/16)
- ESI conducted repair activities for Panels 89 to P93 (installed on 8/13/16). A total of sixteen repairs (R-400 through R-415) were observed and fixed (according to the project specifications) from Panels P89 through P93. Refer to 8/3/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additionally, ESI completed boot construction activities for Gas Vent GV-2 and Piezometer PZ4.
- No destruct samples were collected on 8/3/16. Samples to be cut for laboratory analysis on 8/4/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 and 8/2/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/3/16
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/3/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/16
A5 – Subgrade Approval	Sheet 16 & ESI (8/3/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/16
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/3/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/3/16
A9 – Seam/Non-Destruct. Test Log	Pages 33-35	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/3/16
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/3/16
A11 – Conformance COC		NA for 8/3/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/3/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/3/16
A14 – Penetration & Edge Form	8/3/16 Pipe Boot Forms	Pipe boot / penetration forms completed for Piezometer PZ4 and Gas Vent GV-2
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/3/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/3/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/4/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	72/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #23**
AmecFW: Stu Bills, Dave Ambrose, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and temporary liner, continuing east from Panel P93 installed on 8/3/16 (approximate Sta. 304+60). Material to be placed from Panel P93 running approximately 85 ft. east to approximate Sta. 303+75.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box and repair activities for LLDPE previously installed on 8/3/16. In addition, two destruct samples were collected for laboratory analysis. One fusion weld destruct sample – DS-29 was collected from Panel P90 / P91. One extrusion weld destruct sample was also collected – DSX-13 from Panel P90 Repair R-401.
- While repair / vacuum box activities were being conducted ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P81 (approximate Sta. 306+20) up to Panel P86 (approximate Sta. 305+80). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 304+60 (Panel P93 installed on 8/3/16) to approximate Sta. 303+75. Refer to *Soil Subgrade Approval* forms from 8/4/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 3,4, and 5 of the daily photo log for 8/4/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
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- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 304+60 (east of Panel P93) moving east to approximate Sta. 303+75. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/4/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included a small area along the northern edge of SA-6 North east of Sta. 303+75. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/4/16 *Photograph Log*.
- Based on an LLDPE inventory completed by Entact, it was determined that approximately two additional rolls of 60-mil LLDPE would be required to complete the remaining area of SA-6 North. As such, three temporary panels were installed (to be replaced once new LLDPE rolls were received) from approximate Sta. 304+60 to approximate Sta. 303+75 (area of SA-6 North at upper elevation above the water table).
- After placement of GVL, three temporary panels were installed east of Panel P93 (installed on 8/3/16) and moving east. The three temporary panels were installed up to approximate Sta. 303+75 (did not cover the GCL or remaining area of subgrade to the east as permanent 60-mil panels will be installed continuing east from the temporary panel on 8/5/16.
- Note: since no permanent LLDPE was installed, and only temporary panels were placed, no repairs or non-destructive testing was conducted on the temporary panels.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct results for samples DS-29 and DSX-13.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, and 8/3/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-28. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-12. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/4/16
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/4/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/4/16
A5 – Subgrade Approval	Sheet 17 & ESI (8/4/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log		NA – no trial welds completed on 8/4/16
A7 – Panel Placement Log		NA – no permanent LLDPE panels on 8/4/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 8/4/16
A9 – Seam/Non-Destruct. Test Log		NA – no non-destructive testing conducted as no permanent LLDPE panels were installed
A10 – Repair Log	Page 21	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/4/16
A11 – Conformance COC		NA for 8/4/16
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/4/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 8/4/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/4/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/4/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/4/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/5/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	75/85° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1745

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #24**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from the third temporary panel installed on 8/4/16 (approximate Sta. 303+75). Material to be placed from Temp Panel 3 running approximately 60 ft. east to approximate Sta. 303+15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P86 (approximate Sta. 305+80) up to Panel P93 (approximate Sta. 304+60). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs.
- While GDL was being deployed, a puncture / penetration through the liner was fixed at Panel P36. The penetration was due to work activities outside of SA-6 North, as a grounding rod was driven through the liner. This penetration was recorded as a non-conformance issue, and is identified as Repair R-418 on the *Repair Report.*
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+75 (east of temporary panels installed on 8/4/16) to approximate Sta. 303+15. Refer to *Soil Subgrade Approval* forms from 8/5/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 5 to 8 of the daily photo log for 8/5/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+75 (east of temporary panels) moving east to approximate Sta. 303+15. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/5/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from Sta. 303+75 to Sta. 303+15. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/5/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of the temporary panels (installed on 8/4/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+75 (east of temporary panels) to approximate Sta. 303+15. A total of five panels were installed (P94, P95, P96, P97, and P98). Note: During placement of Panel P96 the LLDPE panel terminated along the southern end of SA-6 North, thus the remaining run of LLDPE was installed as Panel P97. Panels P94, P95, and P98 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/5/16 *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 303+15, ESI began to conduct non-destructive testing in accordance with the project specifications. Refer to the 8/5/16 *Seam Control Form* for non-destructive testing details.
- ESI conducted repair activities for Panels P94 to P98 (installed on 8/5/16). A total of thirteen repairs (R-418 through R-430) were observed and fixed (according to the project specifications) from Panels P94 through P98. Refer to 8/5/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed the pipe boot construction for Injection Well 088-IW-02.
- No destruct samples were collected on 8/5/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 10 (Sheet #10) – Penetration / puncture through LLDPE geomembrane
    - Penetration / puncture through LLDPE geomembrane from work activities outside of geosynthetic installation. Grounding rod driven through liner. Puncture exposed, and hole patched / repaired as per project specifications and outlined in the non-conformance log.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, and 8/4/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/5/16
A3 – Photo Log	Pages 1 – 8	Total of 15 photos outlining pertinent daily observations and descriptions for 8/5/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/16
A5 – Subgrade Approval	Sheet 18 & ESI (8/5/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/16
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/5/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/5/16
A9 – Seam/Non-Destruct. Test Log	Page 36	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/5/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 21-22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/5/16
A11 – Conformance COC		NA for 8/5/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/5/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/5/16
A14 – Penetration & Edge Form	8/15/16 Pipe Boot Form	Pipe boot / penetration form completed for Injection Well 088-IW-02
A16 – Notice of Non-Compliance	8/15/16 Sheet #10	One non-compliance issue identified as “Damage by Others” on Panel P36
A17 – Spark Test Log		NA – no spark testing conducted on 8/5/16

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By: Dan Bosworth

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/8/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/95° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1215

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #25**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P98 installed on 8/5/16 (approximate Sta. 303+15). Material to be placed from Panel P98 running approximately 45 ft. east to approximate Sta. 302+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing vacuum box testing for repairs from Panels P94 to P98 (installed on 8/5/16). Additionally, two destruct samples were collected. One fusion weld destruct sample – DS-30 was collected from Panel P97 / P98, and one extrusion weld sample DSX-14 was collected from Panel P98 (Repair R-430).
- ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed moving east through Panel P93 and up to the temporary panels (installed on 8/4/16). Approximately 2 rolls of GDL were placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 303+15 (east of Panel P98 installed on 8/5/16) to approximate Sta. 302+70. Refer to *Soil Subgrade Approval* forms from 8/8/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.
- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile

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was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 303+15 (east of Panel P98) moving east to approximate Sta. 302+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/8/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).

- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 303+15 to Sta. 302+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/8/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P98 (installed on 8/5/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 303+15 (east of Panel P98) to approximate Sta. 302+70. A total of two panels were installed (P99 and P100). Panels P99 and P100 ran the entire width of SA-6 North (north to south) spanning approximately 238 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/8/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 302+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/8/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P99 and P100 (installed on 8/8/16) as outlined below.
- ESI conducted repair activities for Panels P99 and P100 (installed on 8/8/16). A total of seven repairs (R-431 through R-437) were observed and fixed (according to the project specifications) from Panels P99 to P100. Refer to 8/8/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/8/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-30 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, and 8/5/16. ESI Forms still to be reviewed.

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By: Dan Bosworth

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- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-29. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-13. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/8/16
A3 – Photo Log	Pages 1 – 3	Total of 5 photos outlining pertinent daily observations and descriptions for 8/8/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/8/16
A5 – Subgrade Approval	Sheet 19 & ESI (8/8/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/8/16
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/8/16
A8 – Destruct Seam Testing COC	Sheet 3	Updated for destruct samples collected on 8/8/16
A9 – Seam/Non-Destruct. Test Log	Page 37	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/8/16
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/8/16
A11 – Conformance COC		NA for 8/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	Updated with destruct samples collected on 8/8/16
A13 – Destruct. Sample Summary	Page 3	Destruct sample summary updated with samples collected on 8/8/16
A14 – Penetration & Edge Form		NA – no penetrations / pipe boots completed on 8/8/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues encountered on 8/8/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/8/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/9/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	85/90° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #26**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth, Kale Novalis
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P100 installed on 8/8/16 (approximate Sta. 302+70). Material to be placed from Panel P100 running approximately 100 ft. east to approximate Sta. 301+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane. GDL was placed from Panel P94 (approximate Sta. 303+75), moving east through Panel P97 (approximate Sta. 303+15). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- While GDL was being deployed, ESI also collected two destruct samples for laboratory analysis. Two fusion weld destruct samples – DS-31 was collected from Panel P79 / P80 and DS-32 was collected from Panel P86 / P87. These additional samples were collected to supplement the destruct sample data previously collected beyond failed destruct sample DS-26. DS-31 and DS-32 were collected between the destruct samples collected at 1,500 LF to provide additional sample information.
- Following the deployment of GDL, Langan and Entact conducted soil subgrade approval from approximate Sta. 302+70 (Panel P100 installed on 8/8/16) to approximate Sta. 301+70. Refer to *Soil Subgrade Approval* forms from 8/9/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". Refer to Photos 9 to 12 of the daily photo log for 8/9/2016, for supporting subgrade photos. The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 302+70 (east of Panel P100) moving east to approximate Sta. 301+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/9/16 Photo Log for supporting photographs.
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs), which included an area along the northern edge of SA-6 North from approximate Sta. 302+70 to Sta. 301+70. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/9/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east from Panel P100 (installed on 8/8/16) and moving east. The panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 302+70 (Panel P100) to approximate Sta. 301+70. A total of six panels were installed (P101, P102, P103, P104, P105, and P106). Note: During placement of Panel P101 the roll of LLDPE terminated near the southern end of SA-6 North, thus the remaining run of LLDPE was installed as P102. Similarly, during placement of Panel P104, the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P105. Panels P103 and P106 ran the entire width of SA-6 North (approximately 235 ft.) from north to south.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for peel and shear testing (3 samples for each test) for each weld. The results of the pre-trial weld are provided in the 8/9/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/9/16 *Seam Control Form* for pressure testing details. Additionally, repair activities were conducted for Panels P100 to P106 (installed on 8/9/16)
- ESI conducted repair activities for Panels P100 to P106 (installed on 8/9/16). A total of eight repairs (R-438 through R-445) were observed and fixed (according to the project specifications) from Panels P100 through P106. Refer to 8/9/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds. Repair activities for Panels P100 to P106 to be completed on 8/10/16.
- ESI also conducted spark testing for seven pipe boots / penetrations total. Prior to spark testing, Entact conducted methane testing prior to spark testing and a concentration of 0.0% was measured at each location. Spark testing was completed for Extraction Pump Sta. 2, Gas Vent GV-2, Utility Corridor Drain Pipe, Injection Well 088-IW-02, and Injection Well 088-IW-03. The vertical weld and base of the boot was tested and no sparks were observed (thus the spark test passed). During spark testing of Piezometer PZ4 and Well 115-E5-SO,a spark was observed during testing as the spark was able to arc to the wire through a section of vertical weld. Area to be re-grinded, rewelded, and retested on 8/9/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed spark test along vertical weld of Piezometer PZ4
  - Failed spark test identified during spark testing of Piezometer PZ4. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.
  -

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Non-Conformance Items / Corrective Actions (continued)

- Non-Conformance No. 12 (Sheet #12) – Failed spark test along vertical weld of Well 115-E5-SO
  - Failed spark test identified during spark testing of Well 115-E5-SO. Spark able to arc to wire through section of vertical weld (thin weld). Weld to be grinded, re-welded, and re-tested on 8/9.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/9/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-31 and DS-32.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, and 8/8/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-30. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/9/16
A3 – Photo Log	Pages 1 – 9	Total of 17 photos outlining pertinent daily observations and descriptions for 8/9/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/9/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A5 – Subgrade Approval	Sheet 20 & ESI (8/9/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 7-8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/9/16
A7 – Panel Placement Log	Pages 14-15	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/9/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/9/16
A9 – Seam/Non-Destruct. Test Log	Pages 37-38	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 8/9/16
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/9/16
A11 – Conformance COC		NA for 8/9/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/9/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/9/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/9/16
A16 – Notice of Non-Compliance	Sheet 11 & 12 (8/9/16)	Two non-compliance issues identified for failed spark tests on 8/9/16
A17 – Spark Test Log	8/9/16 Spark Test Logs	Seven spark test logs conducted for Extraction Pump Sta. 2 Manhole, Gas Vent GV-2, Piezometer PZ4, Utility Corridor Drain Pipe, Injection Well 088-IW-02, Injection Well 088-IW-03, and Well 115-E5-SO

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/10/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	82/88° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1315

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #27**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE) for area previously covered by temporary panels (area east of Panel P93). Temporary panels were removed, and new LLDPE was placed from Panel P93 (approximate Sta. 304+60) running approximately 85 ft. east to approximate Sta. 303+75 (subgrade previously approved on 8/4/16).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI continuing with repair activities for Panels P100 to P106 (installed on 8/9/16). The repairs were patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Additional details are outlined on the 8/10/16 *Repair Report.*
- ESI also collected two destruct samples from Panels P100 to P106 (installed on 8/9/16) for laboratory analysis. One fusion weld destruct samples – DS-33 was collected from Panel P104 / P106 and one extrusion weld destruct sample – DSX-15 was collected from Repair R-445 (Panel P104 / P106).
- While repair / vacuum box activities were being conducted ESI removed the temporary panels from approximate Sta. 304+60 to approximate Sta. 303+75 which were previously installed on 8/4/16. Note: soil subgrade approval for this area was also completed on 8/4/16 prior to the temporary panel placement. 16 oz. geotextile and GVL were also placed on 8/4/16 following subgrade approval.
- LLDPE geomembrane was installed continuing east from Panel P93 (installed on 8/4/16) up to Panel P94 (installed on 8/5/16). The new LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 304+60 (east of Panel P93) to approximate Sta.303+75 (Panel P94) . A total of four panels were installed (P107, P108, P109, and P110). Note: During placement of Panel P109 the roll of LLDPE terminated near the northern end of SA-6 North, thus the remaining run of LLDPE was installed as P110. Panels P107 and P108 ran the entire width of SA-6 North (approximately 233 ft.) from north to south.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, smooth to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for peel and shear testing for each weld (3 samples for each test). The results of the pre-trial weld are provided in the 8/10/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 303+75, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/10/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P107 to P110 (installed on 8/10/16)
- ESI conducted repair activities for Panels P107 to P110 (installed on 8/10/16), along with the repair activities for Panels P100 to P106 (installed on 8/9/16). A total of twenty-two repairs (R-446 through R-467) were observed and fixed (according to the project specifications). Refer to 8/10/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Gas Vent GV-1 and Well 115-E4-SO. Additional details are provided in the 8/10/16 Pipe Boot Construction Logs.
- One fusion weld sample – DS-34 was also collected from Panels P107 to P110 (installed on 8/11/16) from Panel P94 / P110 seam for laboratory analysis.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 13 (Sheet #13) – Subgrade irregularity identified as R-457 on *Repair Log*
    - Stone identified underneath LLDPE geomembrane located on Panel P107 / P108. Stone was subsequently removed, and hole was patched / repaired following project specs as further described in *Sheet 13 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DS-33, DS-34, and DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, and 8/9/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-32. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-14. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/10/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/10/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/16
A5 – Subgrade Approval		NA – no subgrade approval for 8/10/16. Subgrade previously approved on 8/4/16 prior to temp panel placement
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/16
A7 – Panel Placement Log	Pages 15-16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/10/16
A8 – Destruct Seam Testing COC	Sheet 4	Updated for destruct samples collected on 8/10/16
A9 – Seam/Non-Destruct. Test Log	Pages 39-40	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/10/16
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/10/16
A11 – Conformance COC		NA for 8/10/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/10/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/10/16
A14 – Penetration & Edge Form	8/10/16 Pipe Boot Forms	Pipe boots for Gas Vent GV-1 and Well 115-E4-SO completed on 8/10/16
A16 – Notice of Non-Compliance	Sheet 13	Subgrade irregularity identified as non-compliance issue on 8/10/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/10/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	8/11/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/90° F, Overcast, Humid, Iso. Storms
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & LLDPE Placement	**TIME:**	0645 – 1715

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #28**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P106 installed on 8/9/16 (approximate Sta. 301+70). Material to be placed from Panel P106 running approximately 45 ft. east to approximate Sta. 301+25.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and "Add On" repair activities for Panels P94 to P104. ESI completed Add On repairs along the southern end of SA-6 North. Additional LLDPE was installed so that the cap extended a minimum of 1 ft. beyond the edges of the SCB wall. These repairs were recorded and documented on the 8/11/16 *Repair Report.*
- Following repair activities, ESI placed geocomposite drainage layer (GDL) continuing east of Panel P93. GDL was placed over Panels P107 to P110 (installed on 8/10/16) from approximate Sta. 304+60 to approximate Sta. 303+75. GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- Prior to soil subgrade approval, the edge of Panel P106 (installed on 8/9/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place. See Photos 6 & 7 in 8/11/6 *Photograph Log.*
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+70 (east of Panel P106 installed on 8/9/16) to approximate Sta. 301+25. Refer to *Soil Subgrade Approval* forms from 8/11/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+75 (east of Panel P106) moving east to approximate Sta. 301+25. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/11/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+75 to Sta. 301+25. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/11/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east Panel P106 (installed on 8/9/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+75 (east of Panel P106) to approximate Sta. 301+25. A total of two panels were installed (P111 and P112). Panels P111 and P112 ran the entire width of SA-6 North (north to south) spanning approximately 237 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected to conduct peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/11/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 301+25, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/11/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P111 and P112 (installed on 8/11/16)
- ESI completed repair activities for Panels P94 to P104 (Add On repairs along southern end of the cap) and Panels P111 & P112 (installed on 8/11/16). A total of twenty-one repairs (R-468 through R-485 and R-495 to R-497) were observed and fixed (according to the project specifications). Refer to the 8/11/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- No destruct samples collected on 8/11/16.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/11/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, and 8/10/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/11/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/11/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/11/16
A5 – Subgrade Approval	Sheet 21 & ESI (8/11/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 8	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/11/16
A7 – Panel Placement Log	Page 16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/11/16
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/11/16
A9 – Seam/Non-Destruct. Test Log	Pages 40-42	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/11/16
A10 – Repair Log	Pages 24-25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/11/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/11/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/11/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/11/16
A14 – Penetration & Edge Form		NA – No pipe boots / penetrations completed on 8/11/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/11/16
A17 – Spark Test Log		NA – no spark testing conducted on 8/11/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/12/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1730

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #29**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P112 installed on 8/11/16 (approximate Sta. 301+25). Material to be placed from Panel P112 running approximately 45 ft. east to approximate Sta. 300+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying orange geocomposite drainage layer (GDL) continuing east from Panel P98. GDL was placed over Panels P99 to P106 (installed on 8/8/16 and 8/9/16) from approximate Sta. 303+15 (Panel P99) to approximate Sta. 301+70 (Panel P106). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn.
- While GDL was being deployed ESI also conducted vacuum box testing and minor repairs for Panels P111 and P112 (installed on 8/11/16). Additional details are provided in the 8/12/16 *Repair Report.*
- ESI also completed spark testing for Gas Vent GV-1 and Well 115-E4-SO. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed for Gas Vent GV-1 along the base of the boot and vertical weld and no sparks were observed (spark test passed). During spark testing of Well 115-E4-SO a spark was observed along the edge of the vertical weld as the extrusion weld was not centered over the copper wire. This area was marked by ESI, grinded, re-welded, and retested. No sparks were observed during the spark retest thus the retest passed.
- Prior to soil subgrade approval, the edge of Panel P112 (installed on 8/11/16) was pulled back to expose the underlying GCL layer. A small portion of the GCL had become saturated due to overnight storms. The saturated GCL was cut and exposed to dry the GCL and soil subgrade. A new piece of GCL was then installed over the saturated GCL, secured with bentonite, and leistered in place.
- Following the GCL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 301+25 (east of Panel P112 installed on 8/11/16) to approximate Sta. 300+80. Refer to *Soil Subgrade Approval* forms from 8/12/16 for additional details.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 301+25 (east of Panel P112) moving east to approximate Sta. 300+80. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/12/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 301+25 to approximate Sta. 300+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/12/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P112 (installed on 8/12/16). The LLDPE panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 301+25 (east of Panel P112) to approximate Sta. 300+80. A total of two panels were installed (P113 and P114). Panels P113 and P114 ran the entire width of SA-6 North (north to south) spanning approximately 233 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for peel and shear testing (3 samples for each weld). The results of the pre-trial weld are provided in the 8/12/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+80, ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/12/16 *Seam Control Form* for non-destructive testing details. Additionally, repair activities were conducted for Panels P113 and P114 (installed on 8/12/16)
- ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-486 through R-489 and R-492, R-493, and R-494) were observed and fixed (according to the project specifications). Refer to the 8/12/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- ESI also completed pipe boot / penetrations for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Additional details are provided in the 8/12/16 Pipe Boot Construction Logs.
- No destruct samples collected on 8/12/16.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 14 (Sheet #14) – Failed spark test along vertical weld of Well 115-E4-SO
  - Failed spark test identified during spark testing of Well 115-E4-SO. Spark observed along edge of extrusion weld (weld not centered over wire). Area was grinded, rewelded, and retested and no sparks were observed during spark retest (spark retest passed).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, and 8/11/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/12/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/12/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/16
A5 – Subgrade Approval	Sheet 22 & ESI (8/12/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 8-9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/16
A7 – Panel Placement Log	Page 16	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/12/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC		NA – no destruct samples collected on 8/12/16
A9 – Seam/Non-Destruct. Test Log	Pages 42-43	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/12/16
A10 – Repair Log	Page 25	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/12/16
A11 – Conformance COC		NA for 8/12/16
A12 – Destructive Seam Field Test		NA – no destruct samples collected on 8/12/16
A13 – Destruct. Sample Summary		NA – no destruct samples collected on 8/12/16
A14 – Penetration & Edge Form	8/12/16 Pipe Boot Forms	Pipe boots / penetrations completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01
A16 – Notice of Non-Compliance	Sheet 14	One failed spark test for Well 115-E4-SO identified on 8/12/16
A17 – Spark Test Log	8/12/16 Spark Test Logs	Spark testing for Gas Vent GV-1 and Well 115-E4-SO completed on 8/12/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/13/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	85/98° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement		**TIME:**	0645 – 1800

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #30**
AmecFW: Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of 16 oz. geotextile, geocomposite venting layer (GVL), and 60-mil geomembrane liner (LLDPE), continuing east from Panel P114 installed on 8/12/16 (approximate Sta. 300+80). Material to be placed from Panel P114 running approximately 80 ft. east to approximate Sta. 300+00 (east end of SA-6 North).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing and minor repair activities for Panels P113 / P114 (installed on 8/12/16). Repairs were patched, extrusion welded, and vacuum box tested as per project specifications. Additional details are outlined on the 8/13/16 *Repair Report*. Additionally, two destruct samples were collected. One fusion weld destruct sample DS-35 was collected from Panel P112 / P113, and one extrusion weld destruct sample – DSX-16 was collected from Panel P112 (Repair R-478)
- While repair activities were being completed ESI deployed orange geocomposite drainage layer (GDL) continuing east from Panel P106. GDL was placed over Panels P106 (approximate Sta. 301+70) to approximate Sta. 300+80 (Panel P114). GDL was placed according to the project specs with white plastic fasteners spaced at a maximum of 5 ft. with the top layer of geotextile sewn. Note: repairs were completed for Panels P113 / P114 in the early morning and were surveyed and verified before GDL was deployed over the panels later in the morning.
- ESI also completed spark testing for Access Manhole Sta. 18+00 and Injection Well 088-IW-01. Prior to spark testing, methane testing was completed by AmecFW and a concentration of 0.0% was measured for both boots. Spark testing was then completed along the base of the boot and vertical weld for both locations. No sparks were observed during either test (spark tests passed).
- Following the GDL activities, Langan and Entact conducted soil subgrade approval from approximate Sta. 300+80 (east of Panel P114 installed on 8/12/16) to approximate Sta. 300+00 (east end of cap). Refer to *Soil Subgrade Approval* forms from 8/13/16 for additional details. During subgrade observation, the subgrade area was transected in approximate 200 ft. by 8 ft. sections and based on visual observation, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was generally free of any

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By: Dan Bosworth
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loose material greater than ½". The area was also previously surveyed and subsequently approved by AmecFW prior to LLDPE placement.

- Following subgrade approval, GVL and LLDPE placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 North Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 1 ft. outside of the cap (remaining roll width inside), as outlined in the project specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 300+80 (east of Panel P114) moving east to approximate Sta. 300+00 (east end of cap). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top layer of geotextile was sewn along the seams (according to the project specifications). Refer to 8/13/16 Photo Log for supporting photographs. Note: GVL was placed along the southern end of SA-6 North at areas above the site water table (areas not covered by GCL).
- Additionally, GCL was placed along the northern and eastern end of SA-6 North at areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included an area along the northern edge of SA-6 North from approximate Sta. 300+80 to approximate Sta. 300+00 (east end of cap). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges. Supporting photos are provided in the 8/13/16 *Photograph Log*.
- After placement of GVL and GCL, LLDPE geomembrane was installed continuing east of Panel P114 (installed on 8/12/16). The LLDPE panels were generally oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 300+80 (east of Panel P114) to approximate Sta. 300+00. A total of five panels were installed (P115, P116, P117, P118, and P119). Panels P116, P117, P118, and P119 were oriented northwest/southeast and were placed to fill in the triangle area along the southeast portion of the cap. Panel P115 ran the entire width of SA-6 North (north to south) spanning approximately 235 ft.
- Adjacent LLDPE geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture) were conducted to confirm that the equipment met the required specifications. At least six 1-inch specimens were collected for several welds for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the 8/13/16 *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 300+00 (east end of cap), ESI conducted non-destructive testing in accordance with the project specifications. Refer to the 8/13/16 *Seam Control Form* for non-destructive testing details.
- Temporary patches were leistered in place for Panels P115 to P119, but no repair activities (extrusion welding) were completed on 8/13/16 (to be finished Monday – 8/15/16). ESI completed repair activities for Panels P113 to P114 (installed on 8/12/16). A total of seven repairs (R-490, R-491, R-498 to R-502) were observed and fixed (according to the project specifications). Refer to the 8/13/16 *Repair Report* for additional details. Repairs were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-16 and DS-35.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, and 8/12/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-34. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-15. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/13/16
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 8/13/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/16
A5 – Subgrade Approval	Sheet 23 & ESI (8/13/16)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log	Pages 16-17	One panel placement log provided by ESI and confirmed by Langan for panels placed on 8/13/16
A8 – Destruct Seam Testing COC	Page 4	Updated with destruct samples collected on 8/13/16
A9 – Seam/Non-Destruct. Test Log	Pages 43-44	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 8/13/16
A10 – Repair Log	Pages 25-26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/13/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		NA for 8/13/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/13/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/13/16
A14 – Penetration & Edge Form		NA – no boots / penetrations completed on 8/13/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/13/16
A17 – Spark Test Log	8/13/16 Spark Test Forms	Spark testing completed for Access Manhole Sta. 18+00 and Injection Well 088-IW-01

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/15/2016
PROJECT:	SA-6 North Capping		**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & LLDPE Placement	**TIME:**	0645 – 1500

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #31**
AmecFW: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) over approved LLDPE geomembrane (Panel P115 to P119). Note: LLDPE geomembrane installation complete up to east end of cap (Panels P115 to P119).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing repair activities and vacuum box testing for Panels P115 to P119 (installed on 8/13/16). A total of twelve repairs were (R-503 to R-514) observed and fixed according to the project specifications. Refer to the 8/15/16 *Repair Report* for additional details. In general, the majority of the repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 North grade (custom fit repairs), as well as seam joint patches. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- A total of two destruct samples were collected. One destruct sample DS-36 was collected from Panel P117 / P118 seam and one extrusion weld destruct sample – DSX-17 was collected from Panel P118 (Repair R-505) for laboratory analysis.
- ESI also completed the boot construction for Piezometer PZ2. Following the boot completion, methane / spark testing for Piezometer PZ2 was completed. Methane testing was conducted prior to spark testing and a concentration of 0.0% was measured. Spark testing was then conducted along the base of the boot and vertical weld and no sparks were observed (spark test passed). Additional details are provided in the Piezometer PZ2 boot construction log and the 8/15 *Spark Test Log.*
- After repair activities were completed, the as-built information including repair locations, distances, etc. was verified and ESI deployed the orange geocomposite drainage layer (GDL), over the previously installed LLDPE geomembrane (Panels P115 to P119). GDL was placed from approximate Sta. 300+80 to the east end of SA-6 North (approximate Sta. 300+00). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 8/15/16 Photo Log for supporting photographs.

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Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/15/16). Review and confirm supporting QA paperwork (soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory destruct sample results for DSX-17 and DS-36.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 6/22/16, 6/23/16, 6/24/16, 6/27/16, 6/29/16, 6/30/16, 7/1/16, 7/6/16, 7/7/16, 7/8/16, 7/11/16, 7/12/16, 7/13/16, 7/14/16, 7/15/16, 7/18/16, 7/25/16, 7/28/16 8/2/16, 8/3/16, 8/4/16, 8/5/16, 8/8/16, 8/9/16, 8/10/16, 8/11/16, 8/12/16, and 8/13/16. ESI Forms still to be reviewed.
- Reviewed laboratory data for fusion weld destruct samples DS-1 through DS-35. Reviewed laboratory data for extrusion weld destruct sample DSX-1 through DSX-16. Laboratory results generally in compliance with project specifications with the exception of DS-26. Destruct sample DS-26B passed for peel and shear.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 North continuing east. Continue with subgrade observation to confirm if subgrade is graded, compacted, and free of debris, as well as surveyed (to be completed by AmecFW / Maser) to specifications.
- Continue with GVL and LLDPE geomembrane placement moving east along SA-6 North.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		NA – no new material delivered on 8/15/16
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/15/16
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/15/16
A5 – Subgrade Approval		NA – no subgrade approval completed on 8/15/16
A6 – Trial Weld Log	Page 9	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/16
A7 – Panel Placement Log		NA – no new LLDPE geomembrane panels placed on 8/15/16
A8 – Destruct Seam Testing COC	Page 4	Updated with destruct samples collected on 8/15/16
A9 – Seam/Non-Destruct. Test Log		NA – no pressure testing completed on 8/15/16
A10 – Repair Log	Page 26	One repair log provided by ESI and confirmed by Langan for repairs completed for 8/15/16
A11 – Conformance COC		NA for 8/15/16
A12 – Destructive Seam Field Test	Page 4	Updated with destruct samples collected on 8/15/16
A13 – Destruct. Sample Summary	Page 4	Destruct sample summary updated with samples collected on 8/15/16
A14 – Penetration & Edge Form	8/15/16 Boot Form	LLDPE geomembrane boot for Piezometer PZ2 completed on 8/15/16
A16 – Notice of Non-Compliance		NA – no non-compliance issues observed on 8/15/16
A17 – Spark Test Log	8/15/16 Spark Test Logs	Spark testing for Piezometer PZ2 completed on 8/15/16

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/17/2016
PROJECT:	SA-6 North Capping			**WEATHER:**	82/92° F, Sunny, Humid
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Final Site Walk / Observation		**TIME:**	0745 – 1015

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #32**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose, Philemon Onyango, Josh Boynton **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan (Dan Bosworth and Jeff Stoicescu) onsite for final site walk of SA-6 North to observe completed geosynthetic components of SA-6 North capping activities.
- Langan conducted a site walk of the completed SA-6 North cap spanning from the west end (approximate. Sta. 319+00) to the east end (approximate Sta. 300+00). During the site walk, the following conditions were observed (in relation to the geosynthetic components of the cap installation):
  - Condition 1: The final GDL geotextile wrap around Gas Vent GV-2 was cut and gas vent was exposed.
  - Action Item: Based on discussions with Entact, the GDL was cut so that the construction of the gas vent could be completed. Entact plans to conduct leistering activities to reseal the geotextile wrap and secure the GDL.
  - Condition 2: Wrinkles were observed along the east end of the cap (approximate Sta. 300+00) due to the spreading of cover soils over the GDL.
  - Action Item: Entact to attempt to work out wrinkles to the east end of the cap. If wrinkles cannot be removed, ESI will return to the site to cut the geomembrane and complete patch / repair activities.
  - Condition 3: LLDPE was pulled taught along the slopes / contour changes along SA-6 North for areas where cover soil was being placed. During placement of cover soil, sand bags were removed from the cap so that the cover soil could be placed over the GDL. However, for areas where cover soil was not completed by the end of the day, the sand bags were not returned and the geosynthetic material was left un-weighted, thus causing the LLDPE to trampoline.
  - Action Item: Entact to ensure that areas not covered with cover soil at the end of the day will be secured with sand bags.
- Above items shall be reviewed on Friday (8/19).
- Additional details are outlined in the 8/17/16 *Photograph Log.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Spark Test Logs
(Attachment 11: Capping Update)

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STUDY AREA 6 - CAP INSTALLATION

LANGAN

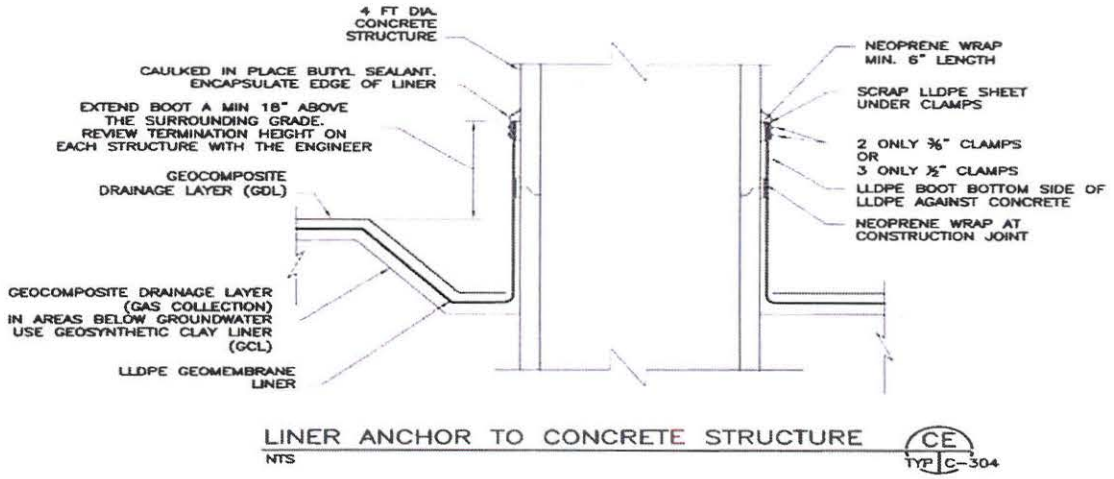
Project: Study Area 6 North

Location: Extraction Pump Station #2 located near approx center of SA-6 North Cap on Panel P80 (approx 140 ft. N of southern end of cap and 5 ft. W of Panel P79/P80 seam). Identified as R-357 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-357

Boot Log QA Form (cross-reference): 7/27/16 Extraction Pump Station #2 Form

QA – Spark Test Log – Manhole



Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0910

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (kV)	AC / DC	Brush Probe	Point Probe	QCR I.D.*	Pass / Fail	Retest Pass /Fail	QCR I.D.*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 7/27/16. Spark / methane testing conducted on 8/9/16. Concentration of 0.0% methane measured prior to spark testing. As such, spark testing was conducted along the base of the boot and the vertical weld and no sparks were observed (spark test passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

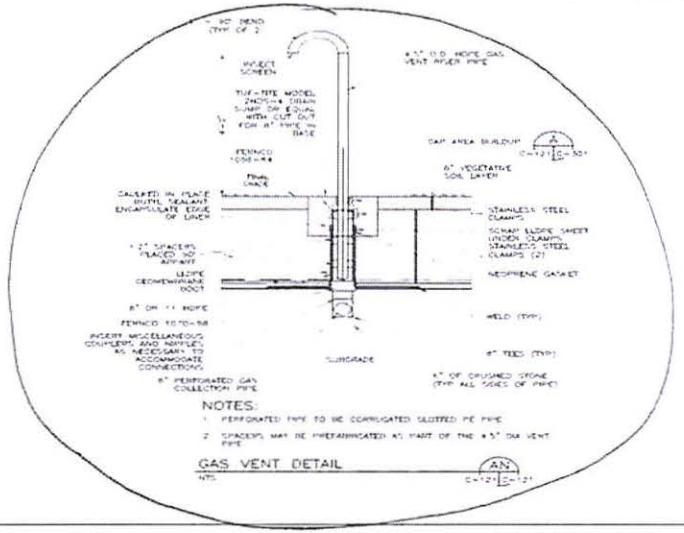
Project: Study Area 6 North

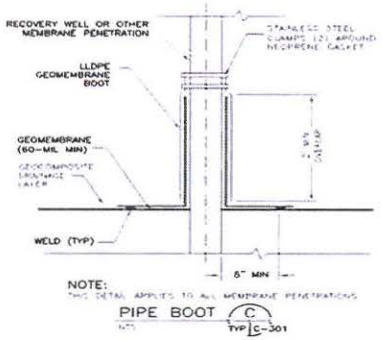
Location: Gas Vent GV-2 located at the approximate center of SA-6 North Cap on Panel P91 (approximately 107 ft. north of southern end of cap and 5 ft. east from Panel P90/P91 seam). Identified as R-409 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-409

Boot Log QA Form (cross-reference): 8/3/16 Gas Vent GV-2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0900

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature:

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

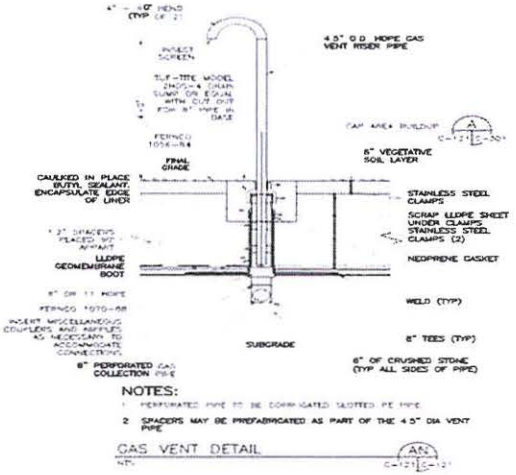
Project: Study Area 6 North

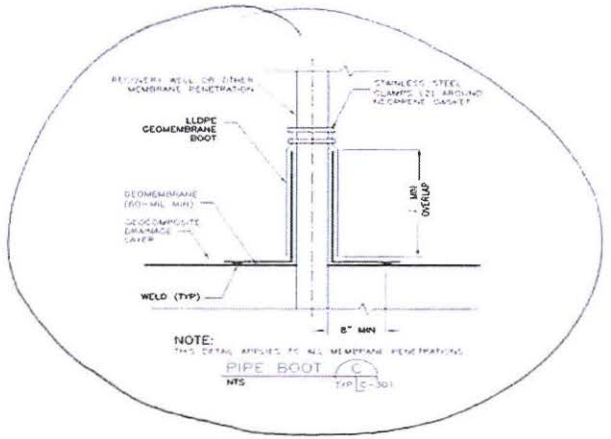
Location: Injection Well 088-IW-02 located at the approx. center of SA-6 North Cap on Panel P97 (approximately 109 ft. north of southern end of cap and 2 ft. west from Panel P97/P98 seam). Identified as R-430 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-430

Boot Log QA Form (cross-reference): 8/5/16 Injection Well 088-IW-02 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0840

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/5/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

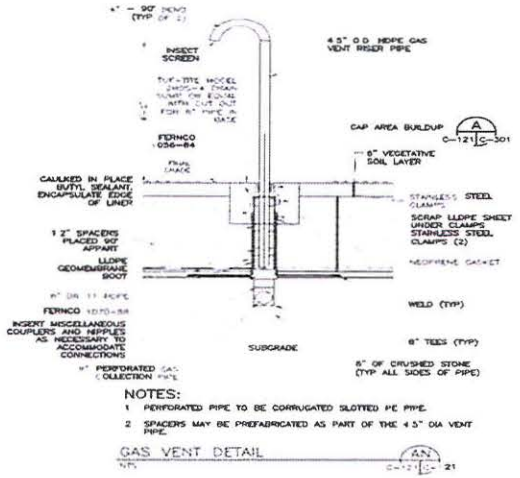
Project: Study Area 6 North

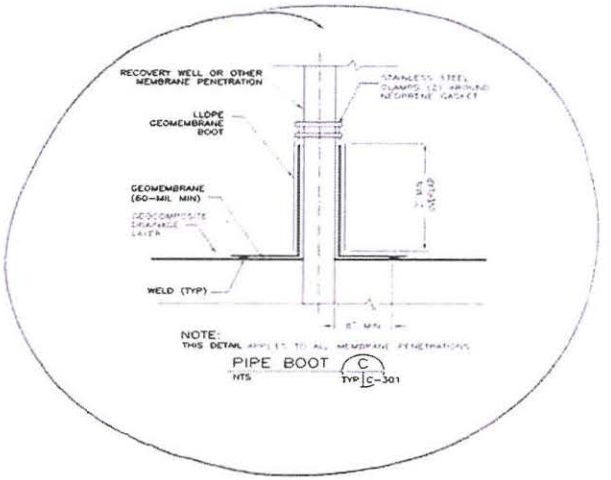
Location: Injection Well 088-IW-03 located near southern end of SA-6 North Cap on Panel P81 (approximately 32 ft. north of southern end of cap and 7 ft. west from Panel P81/P83 seam). Identified as R-384 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-384

Boot Log QA Form (cross-reference): 7/28/16 Injection Well 088-IW-03 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 1220

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

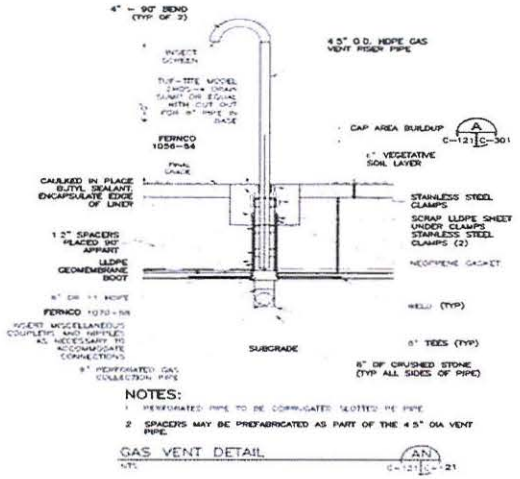
Project: Study Area 6 North

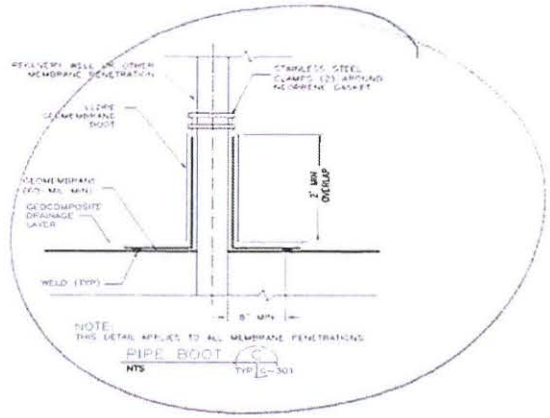
Location: Monitoring well 115-E5-SO located along southern end of SA-6 North Cap on Panel P78 (approximately 15 ft. north of southern end of cap and 9 ft. west from Panel P78/P79 seam). Identified as R-343 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-343

Boot Log QA Form (cross-reference): 7/27/16 Well 115-E5-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0930

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/27/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. A spark was observed along the vertical weld as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, rewelded, and retested on 8/9/16 and the spark retest passed as no sparks were observed.

AmecFW QA Signature:

Independent CQA Monitor Signature: - LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

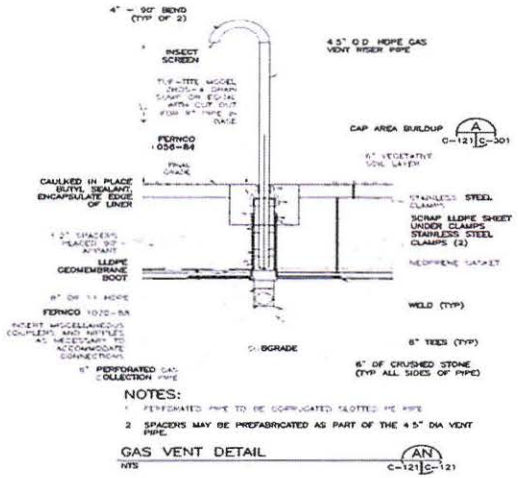
Project: Study Area 6 North

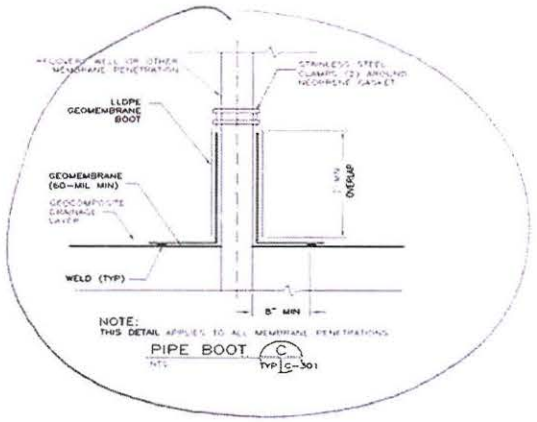
Location: Utility corridor horizontal drain pipe located along southern end of SA-6 North Cap on Panel P76 (approx. 6 ft. north of southern end of cap and 4 ft. west from Panel P76/P78 seam). Identified as R-380 on *As Built* and *Repair Report.*

Date: 8/9/16 **Repair Number:** R-380

Boot Log QA Form (cross-reference): 7/28/16 Utility Corridor Drain Pipe Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0935

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 7/28/16. Methane completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

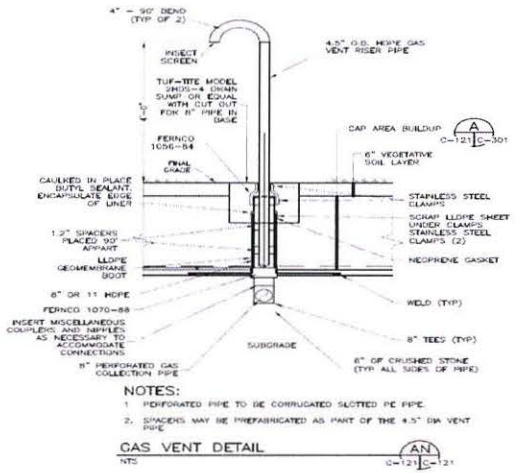
Project: Study Area 6 North

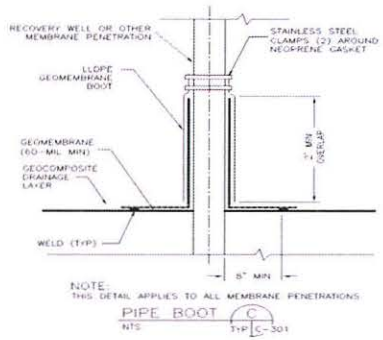
Location: Piezometer PZ4 located along northern end of SA-6 North Cap on Panel P90 (approximately 238 ft. north of southern end of cap and 7 ft. west from Panel P90/P91 seam). Identified as R-408 on *As Built* and *Repair Report*.

Date: 8/9/16 **Repair Number:** R-408

Boot Log QA Form (cross-reference): 8/3/16 Piezometer PZ4 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0855

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/3/16. Methane / spark testing completed on 8/9/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld and a spark was observed as the weld over the wire was too thin thus causing the spark to arc. The area was grinded, re-welded and retested on 8/9/16 and the subsequent spark re-test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: – LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

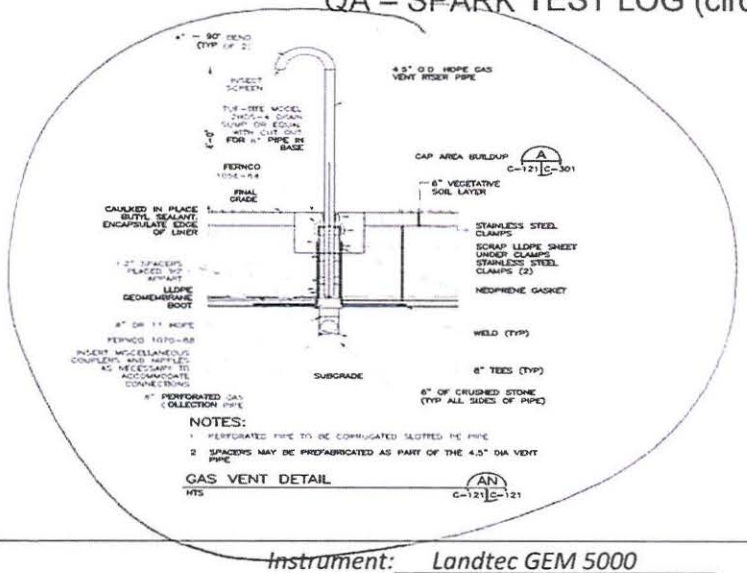
Project: Study Area 6 North

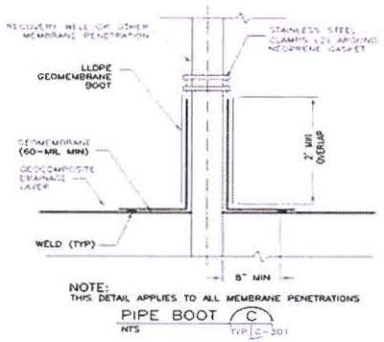
Location: Gas Vent GV-1 located at the approximate center of SA-6 North Cap on Panel P103 (approximately 113 ft. north of southern end of cap and 13 ft. east from Panel P102/P103 seam). Identified as R-449 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-449

Boot Log QA Form (cross-reference): 8/10/16 Gas Vent GV-1 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0800

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	Thickness	Operator Initials	Voltage (Volts)	AC / DC	Brush Probe	Point Probe	QCR I.D*	Pass / Fail	Retest Pass /Fail	QCR I.D*
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

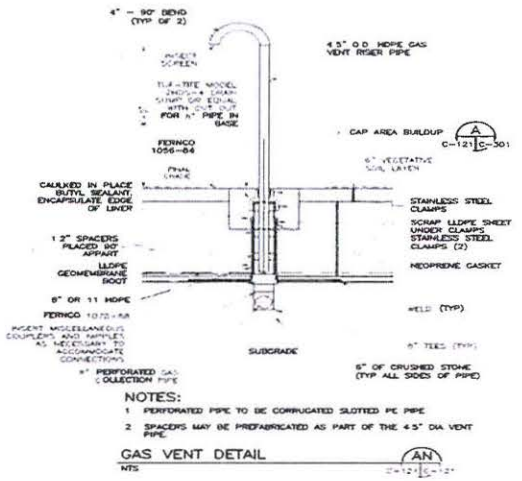
Project: Study Area 6 North

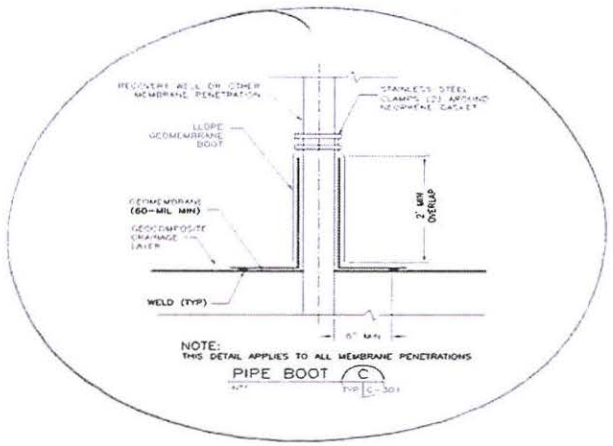
Location: Monitoring Well 115-E4-SO located along the southern end of SA-6 North on Panel P104 (approx. 6 ft. north of southern end of cap and 5 ft. east from Panel P103/P104 seam). Identified as R-450 on *As Built* and *Repair Report*.

Date: 8/12/16 **Repair Number:** R-450

Boot Log QA Form (cross-reference): 8/10/16 Monitoring Well 115-E4-SO Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0810

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Fail	Pass	CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/10/16. Methane / spark testing completed on 8/12/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing of the base of the boot, thus the spark test passed. During spark testing of the vertical weld a spark was observed along the edge of the weld (weld not centered over wire) thus the test failed. The area was grinded, rewelded, and retested on 8/12/16 and no sparks were observed (spark retest passed).

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

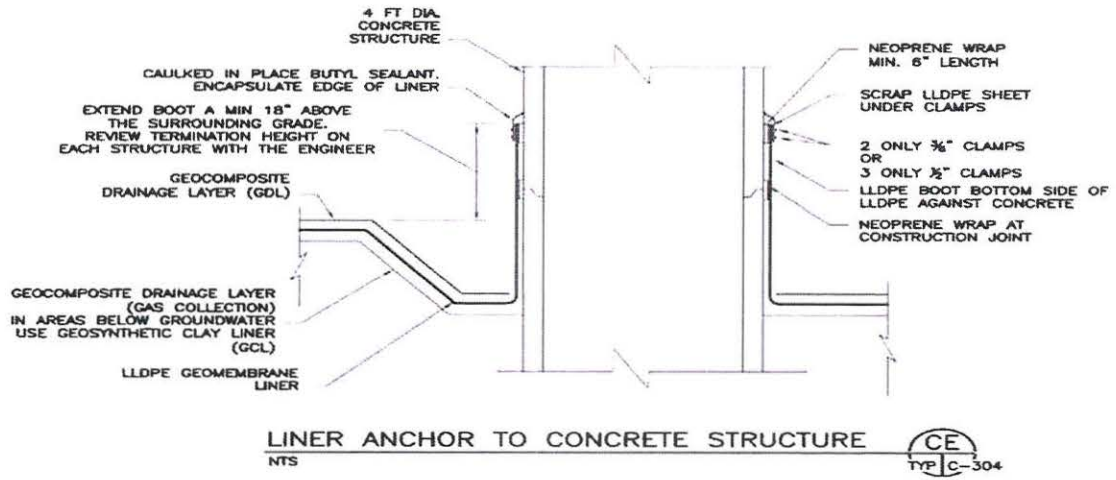
Project: Study Area 6 North

Location: Access Manhole Sta. 18+00 located near approximate center of SA-6 North Cap on Panel P113 (approximately 110 ft. north of southern end of cap and 10 ft. east of Panel P112/P113 seam). Identified as R-492 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-492

Boot Log QA Form (cross-reference): 8/12/16 Access Manhole Sta. 18+00 Form

QA – Spark Test Log – Manhole



LINER ANCHOR TO CONCRETE STRUCTURE
NTS

CE TYP C-304

Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0910

% Methane 0.0%

☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Panel Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (kV)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication completed on 8/12/16. Spark / methane testing conducted on 8/13/16. Concentration of 0.0% methane measured prior to spark testing. As such, spark testing was conducted along the base of the boot and the vertical weld and no sparks were observed (spark test passed). Additionally, vacuum box testing was conducted along vertical and horizontal extrusion welds completed for the boot construction.

AmecFW QA Signature:

Independent CQA Monitor Signature: -LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

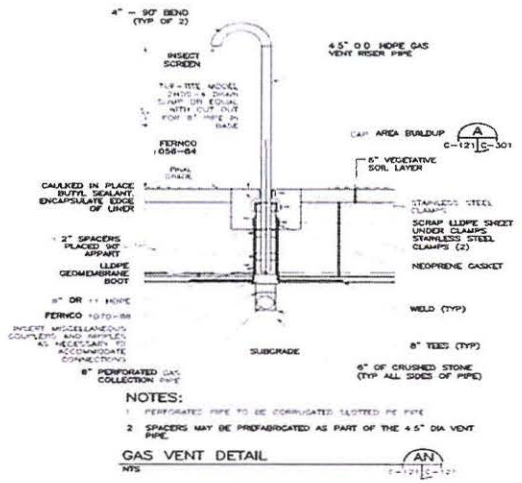
Project: Study Area 6 North

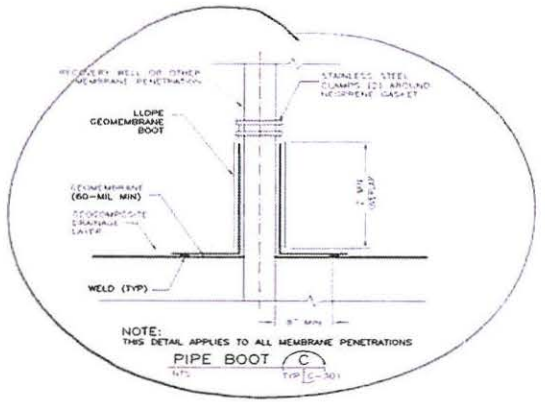
Location: Injection Well 088-IW-01 located along N end of SA-6 North Cap on Panel P113 / P114 seam (approx 206 ft. north of southern end of cap and 13 ft. east from Panel P113/P114 seam). Identified as R-493 on *As Built* and *Repair Report*.

Date: 8/13/16 **Repair Number:** R-493

Boot Log QA Form (cross-reference): 8/12/16 Injection Well 088-IW-01 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0800

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/12/16. Methane / spark testing completed on 8/13/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Honeywell

STUDY AREA 6 - CAP INSTALLATION

LANGAN

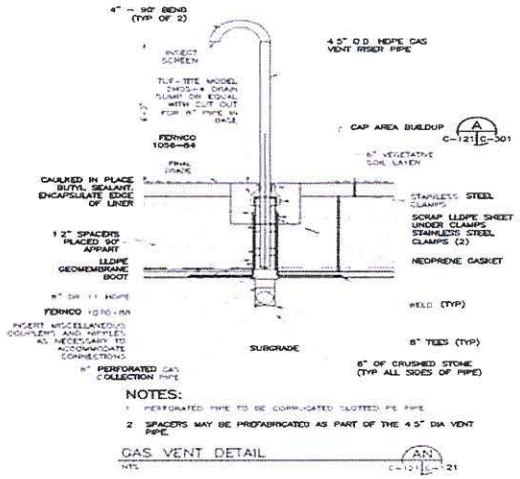
Project: Study Area 6 North

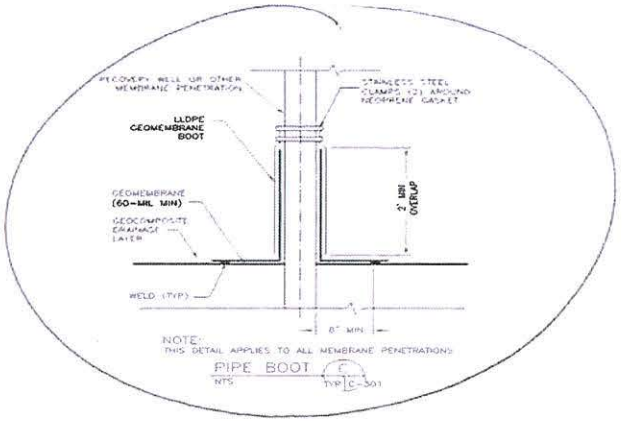
Location: Piezometer PZ2 located along northern end of SA-6 North Cap on Panel P116 seam (approximately 188 ft. north of southern end of cap and 13 ft. east from Panel P116/P118 seam). Identified as R-509 on *As Built* and *Repair Report*.

Date: 8/15/16 **Repair Number:** R-509

Boot Log QA Form (cross-reference): 8/15/16 Piezometer PZ2 Form

QA – SPARK TEST LOG (circle type of boot)





Methane Testing: *Instrument:* Landtec GEM 5000 *Time:* 0800

% Methane 0.0% ☒Methane < 1%; Proceed with spark testing ☐Methane > 1%; Visual observation of welds

Skirt to Boot Extrusion Weld: ☐Vacuum Box Tested ☒Spark Tested (as outlined below)

Spark Test Information

Item Tested	*Thickness*	*Operator Initials*	*Voltage (Volts)*	*AC / DC*	*Brush Probe*	*Point Probe*	*QCR I.D**	*Pass / Fail*	*Retest Pass /Fail*	*QCR I.D**
Base of boot	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP
Vertical weld	~20 Gauge Copper	TU	20,000 – 45,000	AC		Model BD-10A	CP	Pass		CP

*QCR represents the designated Quality Control representative determined by the Geosynthetic Installer

Comments: Boot fabrication and construction completed on 8/15/16. Methane / spark testing completed on 8/15/16 by ESI. Methane testing yielded concentration of 0.0%. As such, spark testing was conducted at the base of boot and along the vertical weld. No sparks were observed during testing, thus the spark test passed.

AmecFW QA Signature:

Independent CQA Monitor Signature: LANGAN

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 5, 2016

Type of Inspection: ☑ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☑ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		4
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/05/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 05, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence by the Kellogg Street jughandle has become detached
2	IA2Q4A1AL8	Filter fabric in the catch basins to the north of the old JCIA trashpit has become blinded with accumulated sediment.
3	IA2Q4A1AL8	Silt fence along the western end of the northern SA-7 raceway is damaged or missing in several locations.
4	IA2Q4A1AL8	Sediment has accumulated to several inches deep on the SA-7 western raceway.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: George Pfeiff Date: 08/05/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen material as required.	8/11/16 RAD
2	Replace the filter fabric in the three catch basins as required.	
3	Repair or replace the silt fence in this area as needed to comply with the SWPPP	
4	Remove the accumulated sediment from the western SA-7 roadway.	

Construction Manager: Date: 08/11/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 12, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/12/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 12, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated along the SA-7 paved perimeter road on the south side.
2	IA2Q4A1AL8	Trash and debris has accumulated along the North side of SA-7
3	IA2Q4A1AL8	Several panels of windscreen are in need of attention along the south side of SA-6 South.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 08/12/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Remove accumulated sediment from roadway.	8/15/16 (2nd)
2	Remove accumulated debris/trash	
3	Repaid windscreen as needed along SA-6 South perimeter fencing.	

Construction Manager: _____ **Date:** 08/16/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 19, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing	X			
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/22/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 19, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen has become detached from the perimeter fence next to the Kellogg Street jughandle.
2	IA2Q4A1AL8	Garbage and other debris has accumulated on the grass at the Kellogg Street jughandle.
3	IA2Q4A1AL8	The filter fabric in the stormwater catch basin immediately south of the Groundwater Treatment Plant on SA-6 North is blinded with sediment and driveway stone.
4	IA2Q4A1AL8	There are discarded scraps of liner and other associated materials on the eastern end of the SA-6 North cap area.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/22/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter chain-link fence as required.	8/24/16 RAD
2	Pick up and dispose of garbage and other accumulated debris.	
3	Replace the filter fabric in the catch basin as required.	
4	Pick up and dispose of all liner installation-related debris from around and in the northern cap area.	

Construction Manager: _____ Date: 08/25/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: August 26, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 08/29/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, August 26, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Sediment has accumulated on the western end of Kellogg street, particularly at the very end.
2	IA2Q4A1AL8	Windscreen material is missing from the perimeter fence at the southern JCMUA driveway.
3	IA2Q4A1AL8	Grass in the fenced-in area in front of the JCMUA building (by Rt. 440) has grown tall and need to be cut.
4	IA2Q4A1AL8	The silt fence is down on the western and southern sides of the Novartis stockpile area on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 08/29/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean up accumulated sediment from the public roadway.	9/1/16 (CAD)
2	Replace windscreen material on the fence panels as required.	
3	Mow the grass in the area between the MUA wrought-iron fence and the temporary work zone fence along Rt. 440.	
4	Repair or replace the silt fence as required.	

Construction Manager: _____ Date: 09/01/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report (submitted June 2016)

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

August 11, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the July 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

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PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
7	01	16	7	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,410	84,811 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.58	0.64	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	0.00024	0.00024	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1737	0.1737	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

DocuSigned by:
John J. Morris
E0[illegible]

Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director
Type Name and Title

08/10/2016
Date

PVSC FORM MR-1 REV: 5 3/91 P2

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North
ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)
FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305
NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
7	01	16	7	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,399,724	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	68,652,644

DATE	BOD (mg/l)	TSS (mg/l)
7/7/2016	42.7	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
DocuSigned by: John J. Morris E013C567A19144E...	John J. Morris	(973) 455-4003
		DATE 08/10/2016

PVSC FORM MR-2 REV.3 6/93

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)					MONTH: July 2016							
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
7/1/2016	Angel Trujillo	66252920	66331772	78,852	0.078852	7.81	0.901									0.59
7/2/2016	Angel Trujillo	66331772	66410384	78,612	0.078612	7.60	0.901									0.59
7/3/2016	Angel Trujillo	66410384	66488997	78,613	0.078613	7.64	0.901									0.59
7/4/2016	Angel Trujillo	66488997	66568587	79,590	0.07959	7.59	0.901									0.60
7/5/2016	Angel Trujillo	66568587	66645834	77,247	0.077247	7.06	0.901									0.58
7/6/2016	Angel Trujillo	66645834	66723450	77,616	0.077616	7.01	0.901									0.58
7/7/2016	Angel Trujillo	66723450	66804476	81,026	0.081026	6.79	0.901	<5.1	42.7		<0.010	<0.030	<0.010	0.00024	<0.020	0.61
7/8/2016	Angel Trujillo	66804476	66877058	72,582	0.072582	7.04	0.901									0.55
7/9/2016	Angel Trujillo	66877058	66960358	83,300	0.0833	7.25	0.901									0.63
7/10/2016	Angel Trujillo	66960358	67034509	74,151	0.074151	7.00	0.901									0.56
7/11/2016	Angel Trujillo	67034509	67108660	74,151	0.074151	7.02	0.901									0.56
7/12/2016	Angel Trujillo	67108660	67186214	77,554	0.077554	7.00	0.901									0.58
7/13/2016	Angel Trujillo	67186214	67262708	76,494	0.076494	7.16	0.901									0.57
7/14/2016	Angel Trujillo	67262708	67343708	81,000	0.081	7.15	0.901									0.61
7/15/2016	Angel Trujillo	67343708	67416552	72,844	0.072844	7.09	0.901									0.55
7/16/2016	Angel Trujillo	67416552	67491180	74,628	0.074628	6.99	0.901									0.56
7/17/2016	Angel Trujillo	67491180	67567304	76,124	0.076124	7.20	0.901									0.57
7/18/2016	Angel Trujillo	67567304	67643428	76,124	0.076124	7.12	0.901									0.57
7/19/2016	Angel Trujillo	67643428	67723020	79,592	0.079592	7.11	0.901									0.60
7/20/2016	Angel Trujillo	67723020	67796418	73,398	0.073398	6.98	0.901									0.55
7/21/2016	Angel Trujillo	67796418	67877736	81,318	0.081318	7.06	0.901									0.61
7/22/2016	Angel Trujillo	67877736	67955362	77,626	0.077626	7.04	0.901									0.58
7/23/2016	Angel Trujillo	67955362	68040173	84,811	0.084811	7.00	0.901									0.64
7/24/2016	Angel Trujillo	68040173	68124984	84,811	0.084811	7.12	0.901									0.64
7/25/2016	Angel Trujillo	68124984	68186182	61,198	0.061198	6.93	0.901									0.46
7/26/2016	Angel Trujillo	68186182	68264614	78,432	0.078432	7.01	0.901									0.59
7/27/2016	Angel Trujillo	68264614	68339918	75,304	0.075304	6.98	0.901									0.57
7/28/2016	Angel Trujillo	68339918	68419386	79,468	0.079468	7.01	0.901									0.60
7/29/2016	Angel Trujillo	68419386	68496866	77,480	0.07748	7.23	0.901									0.58
7/30/2016	Angel Trujillo	68496866	68576958	80,092	0.080092	7.08	0.901									0.60
7/31/2016	Angel Trujillo	68576958	68652844	75,886	0.075886	7.20	0.901									0.57
TOTAL				2,399,724	2.399724			<5.1	42.7		<0.010	<0.030	<0.010	0.00024	<0.020	
			High:	84,811											High:	0.64
			Average:	77,410											Average:	0.58

WW

E

JC23592

Accutest Labs
2235 ROUTE 130
Dayton, 8810
732-329-0200

Honeywell

Chain Of Custody / Analysis Request

AESI Ref:	42558.46959
COC#	087-WW-070716
Lab Proj # (SDG):	
Lab ID	ACTD
Site ID	HudsonCo
Lab Job #	HWINJM32815
Authorized User:	Honeywell
Text & Excel File Drive	Excel & Text File Drive

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Privileged & Confidential		Site Name:	Hudson County
EDD To:		Location of Site:	Jersey City, NJ
Sampler:	Frank Schroyer	Phase:	CS
PO #		Sampling Program	087: JCIA
Analysis Turnaround Time (TAT):	3		
Consultant	CH2M		
Full Report TAT:	28 Days		

Sampling Co.: MACTEC

Client Contact: (name, co., address)
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com
Honeywell International
101 Columbia Road Morristown, NJ 07962

Preliminary Data To:
Sample Receipt Acknowledgement To:
Hard Copy To: Helen Fahy (Honeywell)
Invoice To: Helen Fahy (Honeywell)

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
											Units		3	3	3	1	2	2	0	0	2						
1	087-WW			087-WWE-070716-A	7/7/2016	14:55	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					L28
2	087-WW			087-WWE-070716-B	7/7/2016	15:00	WW	WATER	REG	5	grab	N					X	X				2					V626
3	087-WW			087-WWI-070716	7/7/2016	15:10	WW	WATER	REG	3	grab	N									X	3					
4																											A5
5																											G27
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by	6.79 s.u. @ 9.0°C	Company	AMEC Foster Wheeler	Received by	Company		Condition		Custody Seals Intact	232
Frank Schroyer		Date/Time	7/7/16 16:00		Date/Time	7/7/16 16:00	Cooler Temp.			
Relinquished by		Company		Received by	Company		Condition		Custody Seals Intact	
		Date/Time	7/7/16 17:25		Date/Time	7/7/16 17:25	Cooler Temp.	3.8°C	IP	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 1BJK

LABEL VERIFICATION JK

ALL SAMPLES RECEIVED
PRESERVED AS APPLICABLE JK

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

Client Sample ID:	087-WWE-070716-A		
Lab Sample ID:	JC23592-1	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	901	10	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Copper	< 10	10	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Lead [a]	< 30	30	ug/l	10	07/08/16	07/12/16	ND	EPA 200.7 [3]	EPA 200.7 [5]
Mercury	0.24	0.20	ug/l	1	07/08/16	07/08/16	MS	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]
Zinc	< 20	20	ug/l	1	07/08/16	07/09/16	ND	EPA 200.7 [2]	EPA 200.7 [5]

(1) Instrument QC Batch: MA39818
(2) Instrument QC Batch: MA39826
(3) Instrument QC Batch: MA39842
(4) Prep QC Batch: MP94800
(5) Prep QC Batch: MP94810

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

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SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

Client Sample ID:	087-WWE-070716-A		
Lab Sample ID:	JC23592-1	**Date Sampled:**	07/07/16
Matrix:	AQ - Water	**Date Received:**	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	07/08/16	KP	SM2540 D-11
pH [a]	6.87		su	1	07/07/16 17:47	SUB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

Client Sample ID:	087-WWE-070716-A		
Lab Sample ID:	JC23592-1A	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	42.7	10	mg/l	1	07/07/16 19:22	LS	SM5210 B-11

RL = Reporting Limit

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

Client Sample ID:	087-WWE-070716-B		
Lab Sample ID:	JC23592-2	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T218721.D	1	07/08/16	BK	n/a	n/a	VT8985
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.6	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.3	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.24	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	27.3	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.36	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.32	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.9	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.0	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.80	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

Client Sample ID:	087-WWE-070716-B		
Lab Sample ID:	JC23592-2	Date Sampled:	07/07/16
Matrix:	AQ - Water	Date Received:	07/07/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	71.9	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	86%		72-125%
2037-26-5	Toluene-D8 (SUR)	94%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	107%		74-115%
1868-53-7	Dibromofluoromethane (S)	95%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

DocuSign Envelope ID: 59E15354-CA31-421C-9315-7024D0CBD141

SGS Accutest LabLink@922099 14:06 08-Aug-2016

Report of Analysis

Client Sample ID:	087-WWE-070716-B		
Lab Sample ID:	JC23592-2	**Date Sampled:**	07/07/16
Matrix:	AQ - Water	**Date Received:**	07/07/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	07/08/16 11:00	TT	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2014-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	To be submitted to Parties as Attachment to Declaration 004.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	To be submitted to Parties as Attachment to Declaration 003.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI. All DCBs will be included in final Remedial Action Report.

SA-6 North/South Field Change Log - Month Ending August 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

Attachment 15: Issued Permit: NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils

State of New Jersey

DEPARTMENT OF ENVIRONMENTAL PROTECTION
SITE REMEDIATION PROGRAM
Mail Code 401-06
P.O. Box 420
Trenton, NJ 08625-0420

CHRIS CHRISTIE
Governor

KIM GUADAGNO
Lt. Governor

BOB MARTIN
Commissioner

August 4, 2016

William Hague, Director
Remediation Engineering and Construction
Honeywell International, Inc.
115 Tabor Road
Morris Plains, New Jersey 07950

Re: Permit-by-Rule Discharge Authorization
In-Situ Treatment of Chromium Impacted Soils
Study Area 6 – North
Hudson County Chromate Site 087
Jersey City, Hudson County
NJDEP PI # G000008710

Dear Mr. Hague:

This New Jersey Pollutant Discharge Elimination System/Discharge to Ground Water (NJPDES/DGW) authorization is hereby issued under the authority of the New Jersey Water Pollution Control Act, N.J.S.A. 58:10A-1 et seq. and the implementing regulations, N.J.A.C. 7:14A-1 et seq. N.J.A.C. 7:14A-7.5 authorizes this discharge of calcium polysulfide (CaS_x) to the ground waters of the State for the purpose of remediating chromium impacted soil at the above referenced site. Pursuant to N.J.A.C. 7:14A-22.4(b)5, a Treatment Works Approval is not required for discharges to ground water authorized pursuant to N.J.A.C. 7:14A-7.5 or 8.5. The discharge approved through this DGW Permit is to injection wells, and must be conducted in conformance with the "Proposed In-Situ Treatment Event for Remaining Hexavalent Chromium Impacted Soils, Treatment Area 10-1, SA-6 North, Site 087" (July 8, 2016) prepared by Amec Foster Wheeler E&I, Inc. for the subject site.

Honeywell is authorized to discharge fluids to the ground waters of the state from injection wells related to in-situ soil treatment where the discharge will not last more than 180 days from the first date of discharge. This NJPDES/DGW permit authorization is issued in order to facilitate the remedial activities conducted with oversight from the NJDEP. Specifically, the Administrative Consent Order executed between the NJDEP and AlliedSignal on June 17, 1993, pursuant to N.J.A.C. 7:26C, is the oversight document for remedial activities conducted at the site. In addition, remedial activities are being conducted in accordance with the Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North entered by the Federal Court in JCMUA v. Honeywell Civ. No. 05-5955 on April 21, 2008. Termination of the oversight document by the

Department or Honeywell will revoke the permit-by-rule authorization to discharge to the ground waters of the State.

I. DISCHARGE DESCRIPTION AND AREA RECEPTORS

Site Description

The location of the permit-by-rule is Jersey City, Hudson County (west of Route 440, within Block 21901, Lot 9). The site has areas of soil contaminated with hexavalent chromium (Cr(VI)). The area targeted for in-situ treatment is Treatment Area 10-1. Area 10-1 is an 800 square foot area proximate to a 72 inch force main, with impacted soils located at 10 to 16 feet below grade. The impacted soils are contaminated with Cr(VI) at levels above 20 mg/kg and up to 39 mg/kg.

An initial in-situ treatment event with Calcium Polysulfide occurred at Area 10-1 between August and September 2015, in accordance with a Permit-By-Rule dated July 14, 2015. Post in-situ analytical results showed that Cr(VI) samples in the majority of areas treated are now below the 20 mg/kg clean up criteria. However, 5 out of 20 sample points contained soil which will require additional treatment. Calcium Polysulfide will be re-injected within all five original treatment points, not just the remaining areas of soil exceedances.

Proposed Remedy

The proposed discharge is comprised of a Calcium Polysulfide (CaS_x) solution, which is to be injected into at least 10 temporary injection points within the targeted areas to convert hexavalent chromium (CrVI) to trivalent chromium (CrIII). Ten (10) 1-inch diameter PVC injection wells (IWs) will be drilled and installed within subarea TA-10-1, grouped in 5 nested pairs spaced approximately 15 feet apart, in the same general location as the previous 5 injection points. Wells within each pair will be screened at 3-foot intervals, one from 10 to 13 feet below ground surface and one from 13 to 16 feet below ground surface, to increase the vertical distribution of CaS_x. A total of 825 gallons of 29% CaS_x will be mixed with approximately 2,425 gallons of potable water to produce 3,250 gallons of a 7% CaS_x solution. Stoichiometric chemical dose is estimated to be 2.5X. The discharge will be within soils contaminated with hexavalent chromium between the depths of 10 to 16 feet, but will not be contained by recovery wells. The CaSx will be gravity fed from tanker trucks into the injection wells. Injections will occur over an estimated 5 weekly dosages of 650 gallons each. Each IW will receive 65 gallons of solution during each event.

The proposed area for the CaS_x treatment in Area 10-1 is approximately 20 feet north of the force main location. As a contingency, Honeywell proposes that if the sulfate concentrations in either one or both of 087-MW-133 and 087-MW-134 reach 150 mg/L, clean potable water will be injected into both wells to dilute the sulfate concentrations in the shallow ground water adjacent to the force main.

Site Monitoring Requirements

Site monitoring will be scheduled as follows:

- **Baseline Monitoring**

Ten (10) injection wells (IWs) will be installed around the perimeter of the injection areas. The breathing zones at drilling locations will be monitored for volatile organic compounds (VOCs) and H_2S. Ground water monitoring wells 087-MW-132, 087-MW-133, and 087-MW-134 installed between subarea TA-10-1 and the adjacent force main (FM) for the 2015 injection event have been maintained in the area. The following measurements will be taken and recorded in the ten newly installed IWs and existing monitoring wells prior to the start of injections (baseline): depth to ground water; ground water quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS); hydrogen sulfide (H_2S) and volatile organic compounds (VOCs) in the headspace of the PVC riser pipe; and ground water color and/or odor. Ground water samples will be collected from the monitoring wells for analysis of sulfate and sulfide prior to the start of injections. Additionally, the five temporary well points (TWPs) 087-TWP-37 through 087-TWP-41 installed for the 2015 injection event have been maintained in the area and will also be monitored for sulfate and sulfide.

- **Injection Performance Monitoring**

During the course of injections, IWs and permanent monitoring wells will be sampled to monitor changes in water levels during injection, and to monitor distribution of reductant (changes in redox and conductivity as well as sulfate and sulfide concentration), and sampled for ground water quality parameters, including pH, ORP, SC, and TDS; H_2S and VOCs in the headspace of the PVC riser pipe and ground water color and/or odor. The breathing zones at storage, mixing, and injection areas will be monitored for hydrogen sulfide (H2S). Ground water samples will be collected from the TWPs and monitoring wells within the vicinity of the treatment area for analysis of sulfate and sulfide each week between dosages.

- **Post-Injection Sampling**

Subsequent to the completion of the injection program, IWs and permanent monitoring wells will be sampled for ground water quality parameters, including pH, ORP, SC, and TDS; H_2S and VOCs in the headspace of the PVC riser pipe and ground water color and/or odor. Also, at a minimum, samples will be collected from the TWPs and monitoring wells for analysis of sulfate and sulfide each week between dosages and for several weeks after the last dosage. Additional sampling may be implemented if conditions warrant.

The treatment remedy is being performed with a goal of long-term protectiveness. Approximately six months after the final (fifth) weekly injection dosage in subarea TA-10-1 (weather permitting), Honeywell will collect and analyze ten (10) soil samples to evaluate the effectiveness of the in-situ treatment. A second round of soil sampling will be conducted 3 years after completion of the field program. Honeywell may seek to conduct the final sampling event sooner than 3 years after the completion of the TA-10-1 injection program. Soil samples will be analyzed for Cr(VI) (3060A/7199).

All sampling and monitoring will be performed according to the methodology specified in the most current edition of the Department's Field Sampling Procedures Manual. All samples are to be analyzed by a New Jersey Certified Laboratory except those field-determined parameters specified in the monitoring program.

II. CONSTRUCTION REQUIREMENTS

Ten (10) 1-inch diameter PVC injection wells (IWs) will be drilled and installed within subarea TA-10-1, grouped in 5 nested pairs. Wells within each pair will be screened at 3-foot intervals, one from 10 to 13 feet below ground surface and one from 13 to 16 feet below ground surface.

All design plans and specifications for the injection wells shall be retained and made available to the Department upon request. UIC Class V injection wells shall be operated and maintained pursuant to N.J.A.C. 7:14A-8.16 (c)1. Upon termination of injection well operations, the UIC-Class V injection wells will be properly closed and abandoned in accordance with N.J.A.C. 7:14A-8.16(d).

III. SYSTEM OPERATION AND CLOSURE

The injection wells shall be inspected during injection activities for evidence of malfunction. Said evidence shall include, but not be limited to: breakout, wet areas, ponding, or odors. Discharge of water via any discharge to ground water unit shall not create an unpermitted discharge to any surface water of the State, create a persistent standing, ponded or surface-flowing fluid condition. Honeywell shall conduct periodic inspections of the treatment area throughout the injection.

Upon termination of the discharge, any discharge to ground water units will be properly closed and abandoned. Any temporary UIC-Class V injection wells shall be properly abandoned in accordance with N.J.A.C. 7:14A-8.16(d).

IV. REPORTING REQUIREMENTS AND INFORMATION SUBMITTALS:

Honeywell, AMEC or a subcontractor will submit the Remedial Action Report, and any other information identified above which is required to be delivered to the Department, to:

Thomas J. Cozzi, Assistant Director
New Jersey Department of Environmental Protection
Site Remediation Program
Mail Code 401-06
P.O. Box 420
Trenton, NJ 08625-0420

The Department contact for this Permit-by-Rule Authorization is:

Attention: David Van Eck
New Jersey Department of Environmental Protection
Bureau of Ground Water Pollution Abatement
Mail Code 401-05V
P.O. Box 420
Trenton, NJ 08625-0420
Phone: (609) 633-2427

If you have any questions, please contact Thomas J. Cozzi of the Site Remediation Program at (609) 984-2905.

Sincerely,

Thomas J. Cozzi, Assistant Director
NJDEP Site Remediation

c: David Doyle, NJDEP
David Van Eck, NJDEP
Maria Kaouris, Honeywell
Dennis Nagg, Amec Foster Wheeler E & I

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 15 OF 25

- **2016 Monthly Reports Part 4**

10/12/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 12, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-09

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from September 1 – September 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: September 2016 SA-6/7 Combined Monthly Progress Report No. 2016-09

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-09

Project SA-6 & 7 Remediation

September 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
09/01/16	Groundwater Sampling Results Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/01/16	LTMP Response to Comments (transmitted by Arnold & Porter)	The Honorable Robert G. Torricelli Office of the Special Master
09/08/16	Response to Comments Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-07	The Honorable Robert G. Torricelli Office of the Special Master
09/12/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-08	The Honorable Robert G. Torricelli Office of the Special Master
09/13/16	Special Master Meeting	N/A
09/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
09/19/16	Shallow Limited Excavation at Treatment Area 7 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/23/16	Response to Comments Integrated Annual Groundwater Performance Report for 2015 Study Areas 5, 6, and 7 Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/26/16	SA-6 Declaration 02 Study Area 6 South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
09/30/16	SA-6 Declaration 3 Study Area 6 North Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending				
	9/4/16	9/11/16	9/18/16	9/25/16	10/2/16
Construction Management (AMEC)	10	8	9	8	9
Engineering (AMEC)	1	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1	1
Security (Securitas)	3	3	3	3	3
Entact/Subcontractors	30	29	28	27	24
Arecon/US Ecology Subcontractors	0	0	0	1	0
E&V Dirt Works	2	0	0	0	0
Lagan	0	0	0	0	0
ERFS	1	1	1	0	0
Evoqua	1	1	1	1	1
B&B Drilling	2	0	1	0	0
Cornerstone	0	0	0	1	2
TOTAL STAFF	**51**	**44**	**45**	**43**	**41**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Conducted perimeter air monitoring activities using hand-held portable devices for nuisance dust.
- Continued installation of CGWES components within the SA-6 South and the SA-6 North Open Space Areas to include installation of the valve vaults and link seals.
- ERFS Continued injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.
- Implemented post-injection groundwater sampling and monitoring in Treatment Area 10-1 in accordance with the NJDEP – Discharge to Groundwater Permit.
- Collected groundwater samples for chromium and hexavalent chromium analysis of filtered and unfiltered from the interior piezometers at both SA-6 North and South Open Space Areas.
- Completed third round of quarterly regional groundwater level measurements.
- Collected September PVSC compliance sample from the Construction Water Treatment Plant (CWTP).

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on September 13, 2016.
- Reviewed submittals from the mechanical contractor, Brownfield Science & Technology, Inc. (BTSI), associated with piping installation from the CGWTS force mains to the neutralization tank in accordance with the PVSC permit.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending				
	9/4/16	9/11/16	9/18/16	9/25/16	10/2/16
Avg. Gallons Treated & Discharged (per day)	78,586	76,458	77,623	77,940	78,057
Average Flow (gpm) for Operating Period	56	54	55	56	56
Avg. Hours of Plant Operation	23	23	23	23	23
GWTP Influent Tanks (gal.)	3,989	3,780	3,312	3,264	2,928

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Continued routine dewatering activities and associated discharge to the construction water treatment facility.
- Completed placing backfill as part of site restoration in the SA-6 South Development Area.
- Continued placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.
- Completed placement of asphalt to restore the JCMUA driveway.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	3/4" stone Historic Fill Cap – SA-6 South Development Area

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending				
	9/4/16	9/11/16	9/18/16	9/25/16	10/2/16
Natures Choice Topsoil	376	454	1,125	1,569	898
Tilcon Mt. Hope DGA	0	0	1,654	0	0
Tilcon Mount Hope I-8	4,458	4,148	4,248	4,604	2,738
Natures Choice Horizon C	1,350	0	6,116	726	308
Tilcon 3/8" Stone	0	51.51	51	51	76.23
Tilcon Mt. Hope 1.5"	0	0	0	0	250
Tilcon Mt. Hope #57	629	2,606	3,742	3,473	1,348
Weldon Screenings	0	0	0	0	1,086

- Screened Celgene material was placed as protective cover soil in the SA-6 North Open Space Area. Approximately 464 cubic yards were placed as protective cover soil during the reporting period.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Continued importing and placing Horizon A soils on SA-6 South Open Space Area.
- Begin construction of the SA-6 South Temporary Access Road in utility corridor B.
- Begin installation of toe drain on the north site of the SA6 South Open Space Area.
- Completed placement of GDL cover soils and demarcation tape to include associated compaction testing on the SA-6 North Open Space Area.
- Continued placement structural fill to included compaction.
- Completed placement of root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Complete hydro-seeding of SA-6 South Open Space Area.
- Complete placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.
- Complete installation of the Contingent Groundwater Extraction System Components including the mechanical piping and conduit within the GWTP.
- Complete placement structural fill, root barrier, and Horizon C soils to include associated compaction testing on the SA-6 North Open Space Area.
- Begin placement of Horizon A Topsoil on the SA-6 North Open Space Area.
- Begin hydro-seeding of SA-6 North Cap Area.
- Continue storm-water management activities.
- Begin cleaning and demobilization of temporary CWTS.
- Continue SWPPP inspections.
- Complete PVSC Monthly compliance sampling.
- Conduct S-3 Mass Removal Injection Event No. 32 in well 088-IW-01 (completed October 3, 2016).
- Conduct S-3 Mass Removal Injection Event No. 33 in well 088-IW-02.
- Complete injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.

ATTACHMENTS:

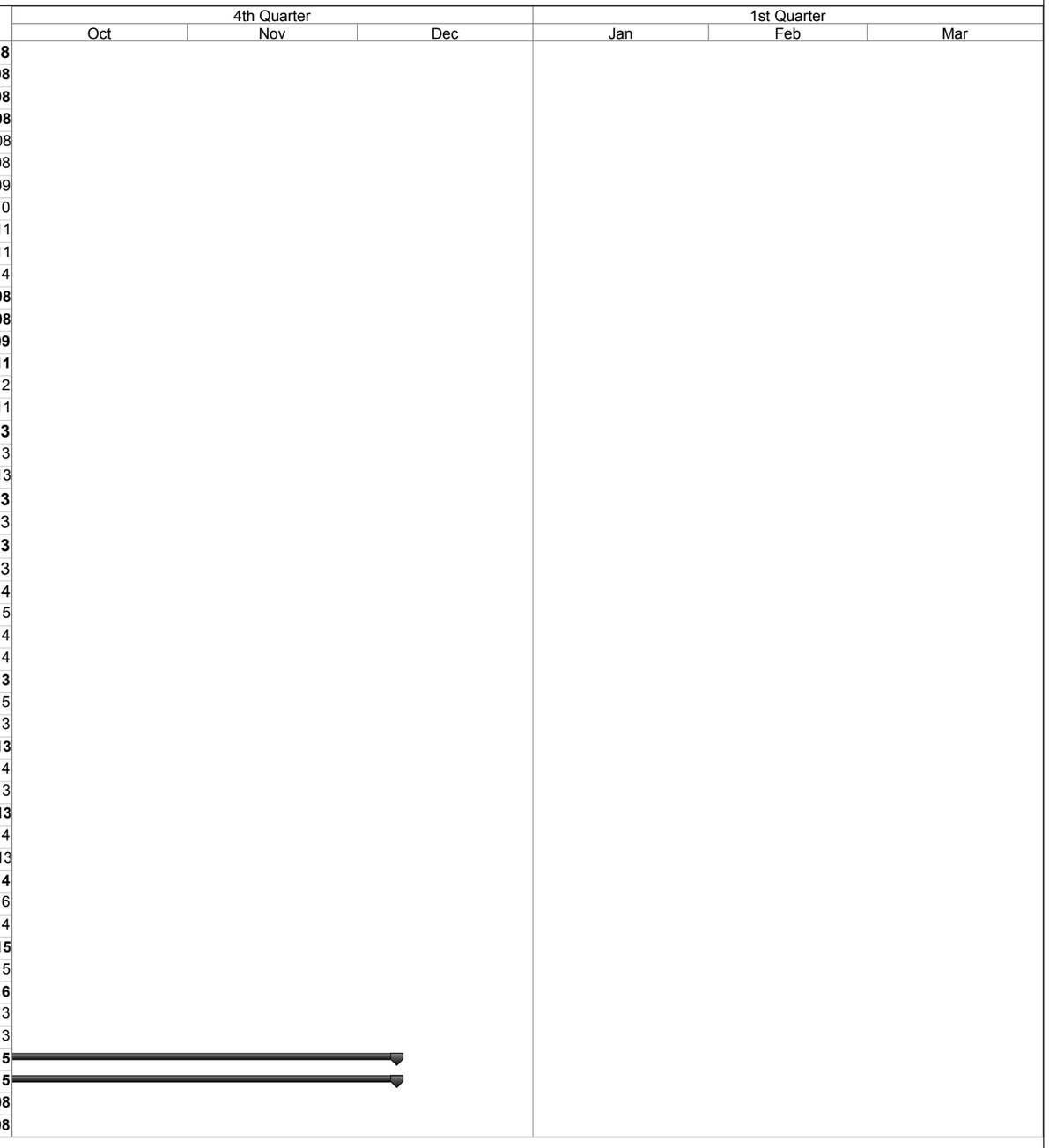
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(reported quarterly – not included in this report)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone | Summary | Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
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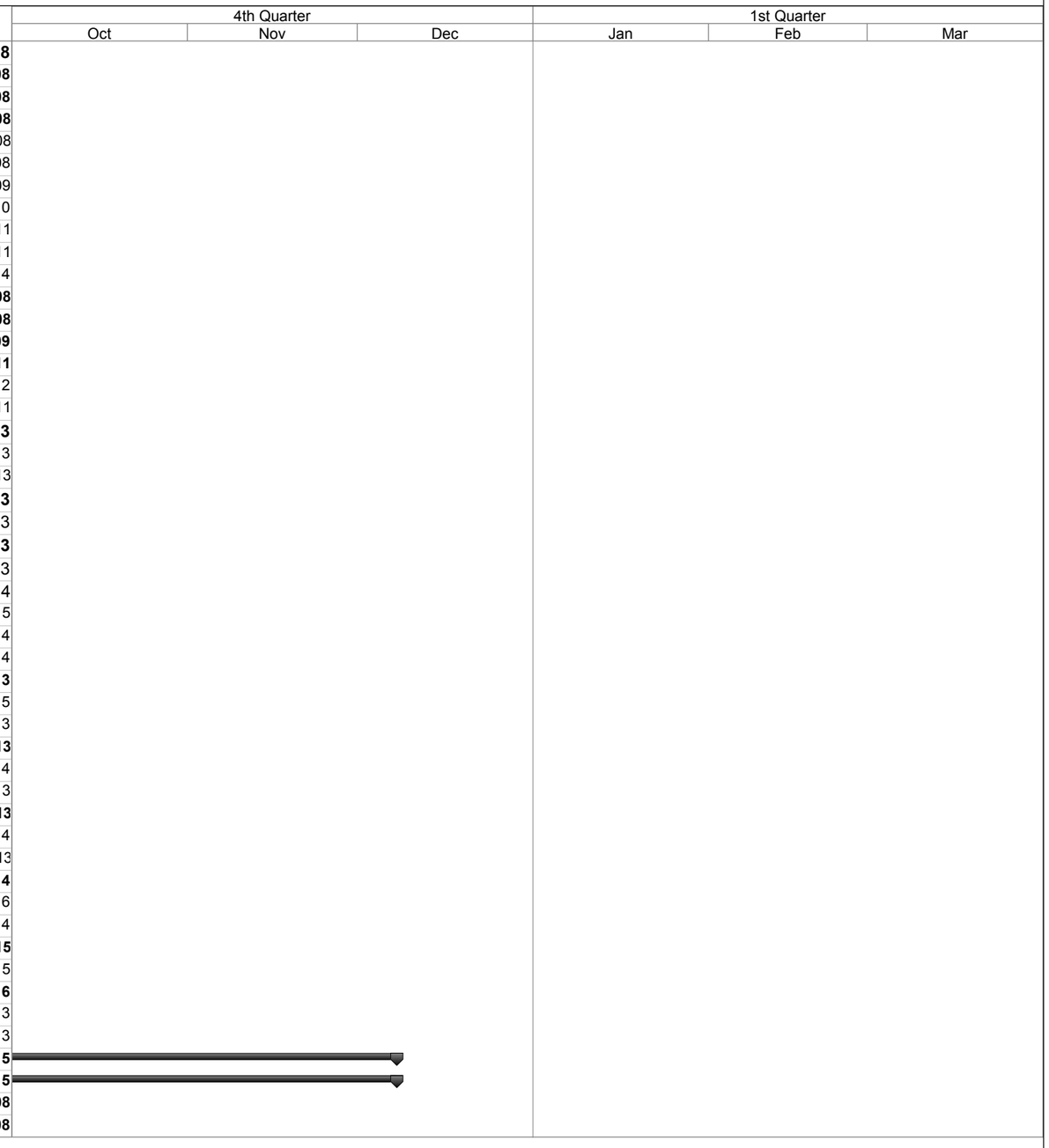


Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone | Summary | Critical

Note: Current field implementation schedule shows capping complete in September 2016 and restoration in October 2016.

Attachment 2: Site Photographs



Site Photograph 1: Compacting clean fill on Open Space Area.



Site Photograph 2: Delivering clean stone to Kellogg St Properties.



Site Photograph 3: Delivering clean top soil for SA6 South Open Space Area.



Site Photograph 4: Grading structural fill along SA6 North Open Space Area.



Site Photograph 5: Grading topsoil at SA6 South Open Space Area.

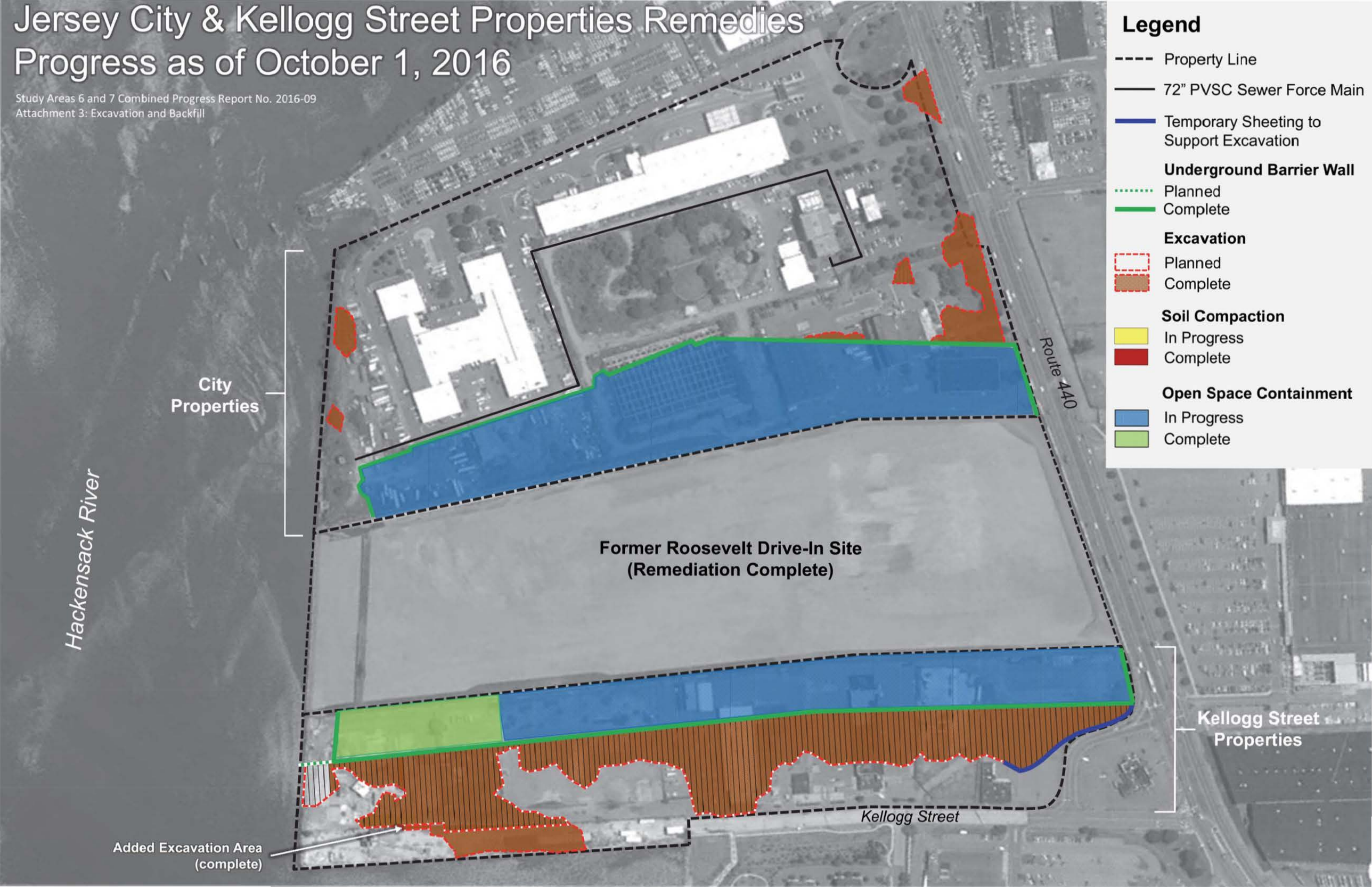


Site Photograph 6: Placement of asphalt for the JCMUA south entrance.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of October 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-09
Attachment 3: Excavation and Backfill



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update

HACKENSACK RIVER

POOL N4 ELEV.+6.5 525'
POOL N3 ELEV.+7.5 343'
POOL N2 ELEV.+8.0 237'
POOL N1 ELEV.+10.0 660'
POOL E1 ELEV.+9.0 325'
POOL E2 ELEV.+8 270'
POOL S4 ELEV.+6.0 419'
POOL S3 ELEV.+7.0 640'
POOL S2 ELEV.+7.5 622'
POOL S1 ELEV.+8 338'

N4 N3 N2 N1 E1 E2 S4 S3 S2 S1

INTERIOR POOL ELEVATION CONTROLLED BY WEST BARRIER CUTOFF ELEV. +4.0

INTERIOR POOL ELEV. +4.0

COMPACTED CLAY DAM SEPARATING PERIMETER POOLS (TYP.)

COMPACTED CLAY LEVEE SEPARATING PERIMETER POOL FROM INTERIOR POOL (TYP.)

S-C-B BARRIER (TYP.)

087-MW-Y20 087-MW-S19 087-MW-O19 087-MW-O01 088-MW-G19 090-MW-E1
115-PZ-6 115-PZ-5 115-PZ-4
117-MW-A99 117-MW-A85 117-MW-A89
073-MW-BB11 073-MW-Y10
134-MW-V09 134-MW-Q08
140-MW-06 140-MW-07
125-MW-L03
MW-124-103L MW-124-102D MW-124-103D MW-124-102T

NORTH-FS-1 NORTH-FS-2 NORTH-FS-3 NORTH-FS-4 NORTH-FS-5 NORTH-FS-6 NORTH-FS-7 NORTH-FS-8 NORTH-FS-9 NORTH-FS-13
SOUTH-FS-1 SOUTH-FS-3 SOUTH-FS-4 SOUTH-FS-5 SOUTH FS-7 SOUTH-FS-6

W6-S0 W1-S0 W5-S0 W3-S0 E5-S0 E4-S0 E3-S0 E2-S0 E1-S0 E1A-S0

STA N1+10 STA N6+35 STA N6+80 STA N10+23 STA N10+73 STA N13+10 STA N13+60 STA N20+25 STA E0+50 STA E3+75 STA E4+50 STA E7+25 STA S0+50 STA S3+38 STA S4+38 STA S10+60 STA S11+10 STA S17+50 STA S17+86 STA S22+06

KELLOGG STREET

LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE
100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS
NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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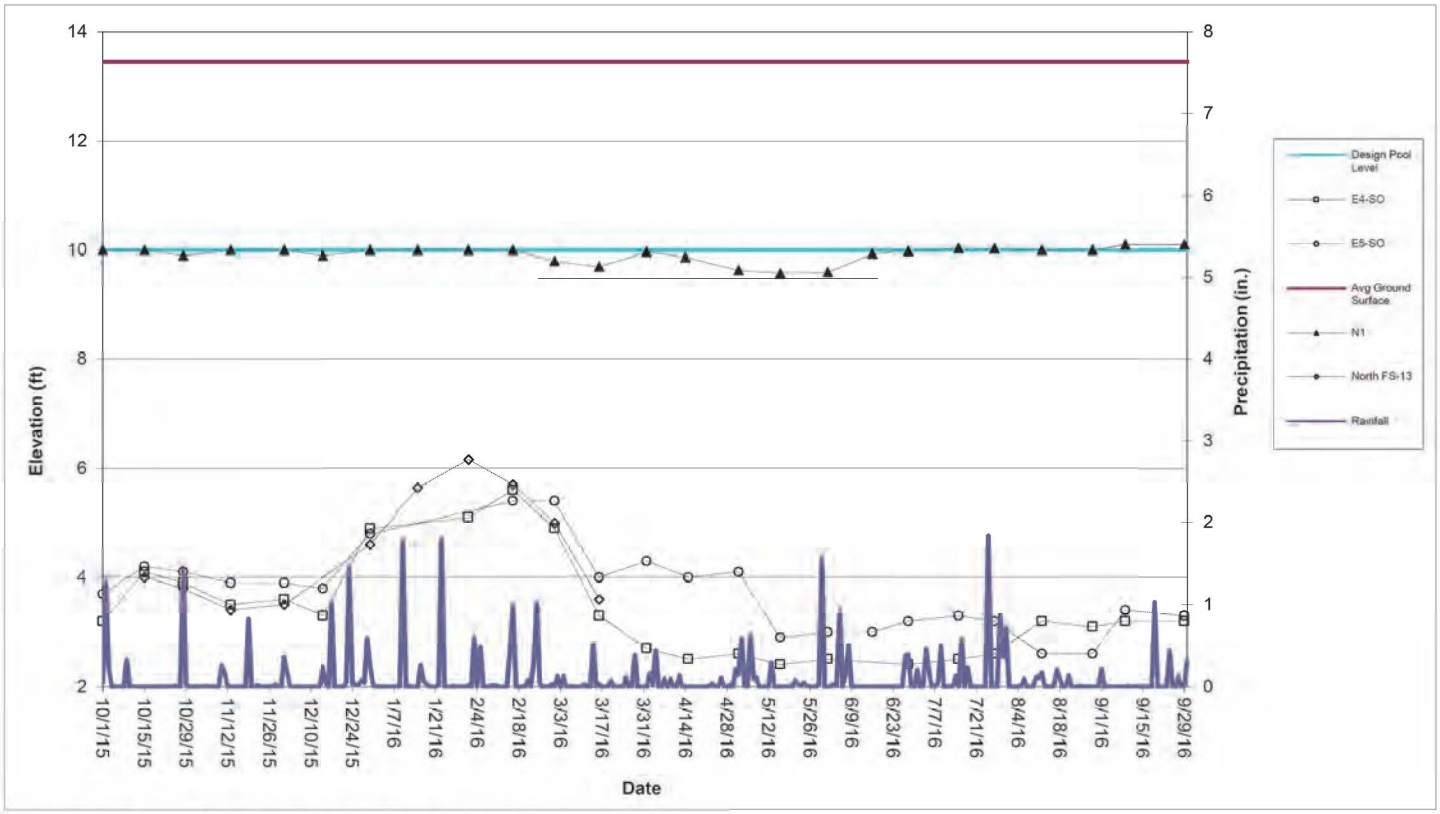
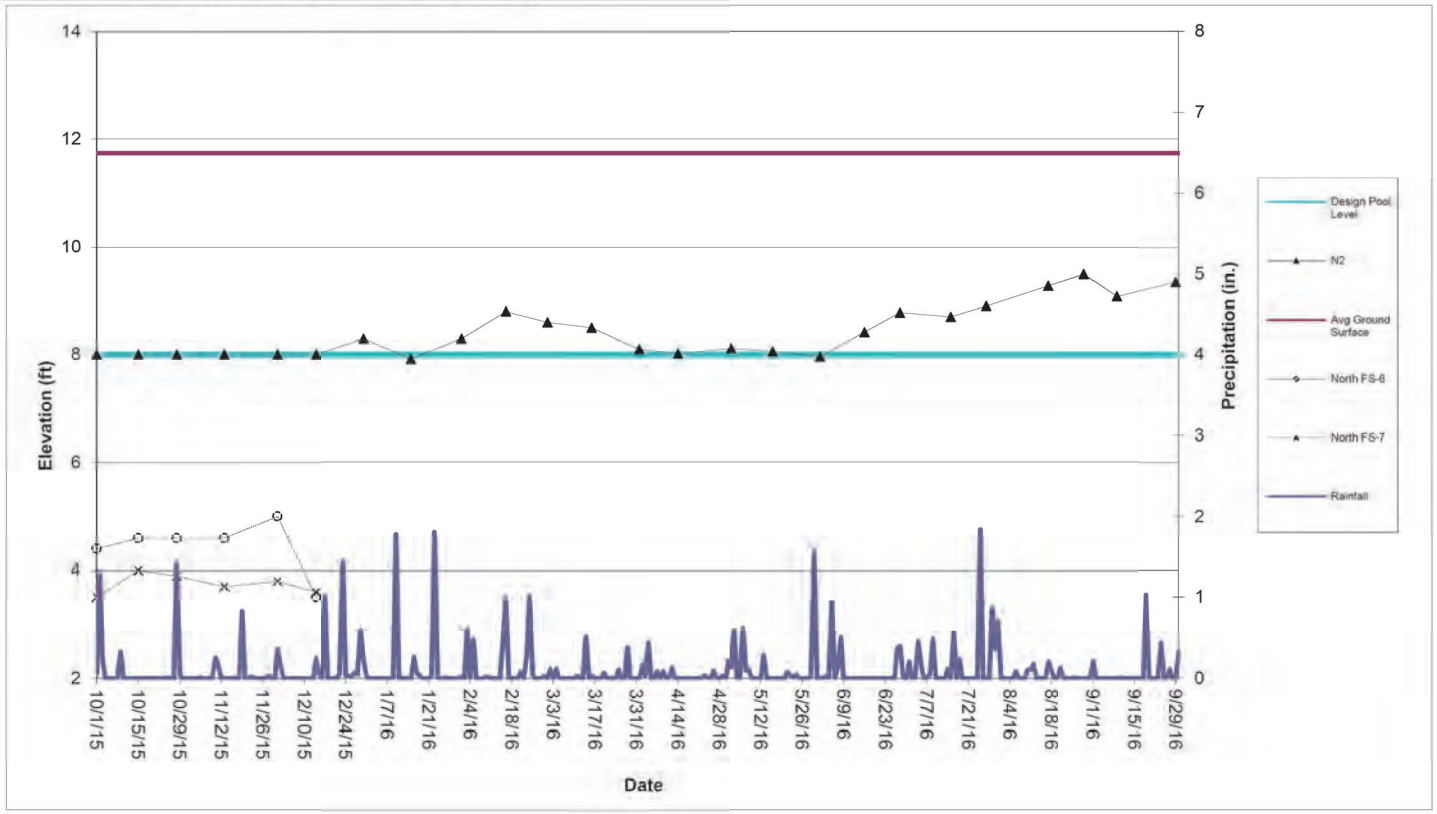
bbascaino

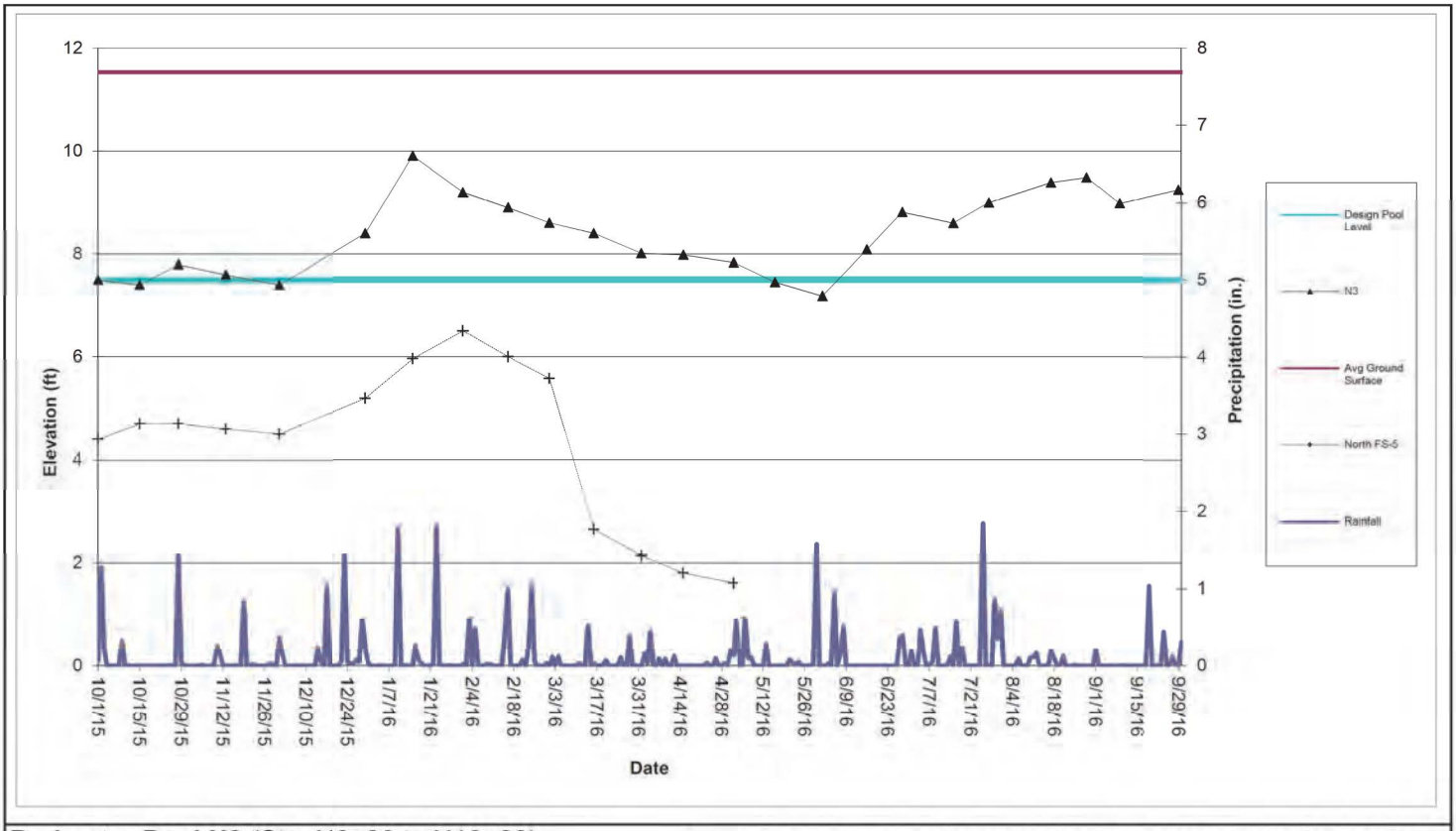


Perimeter Pool N1 (Sta. N13+60 to N20+25)

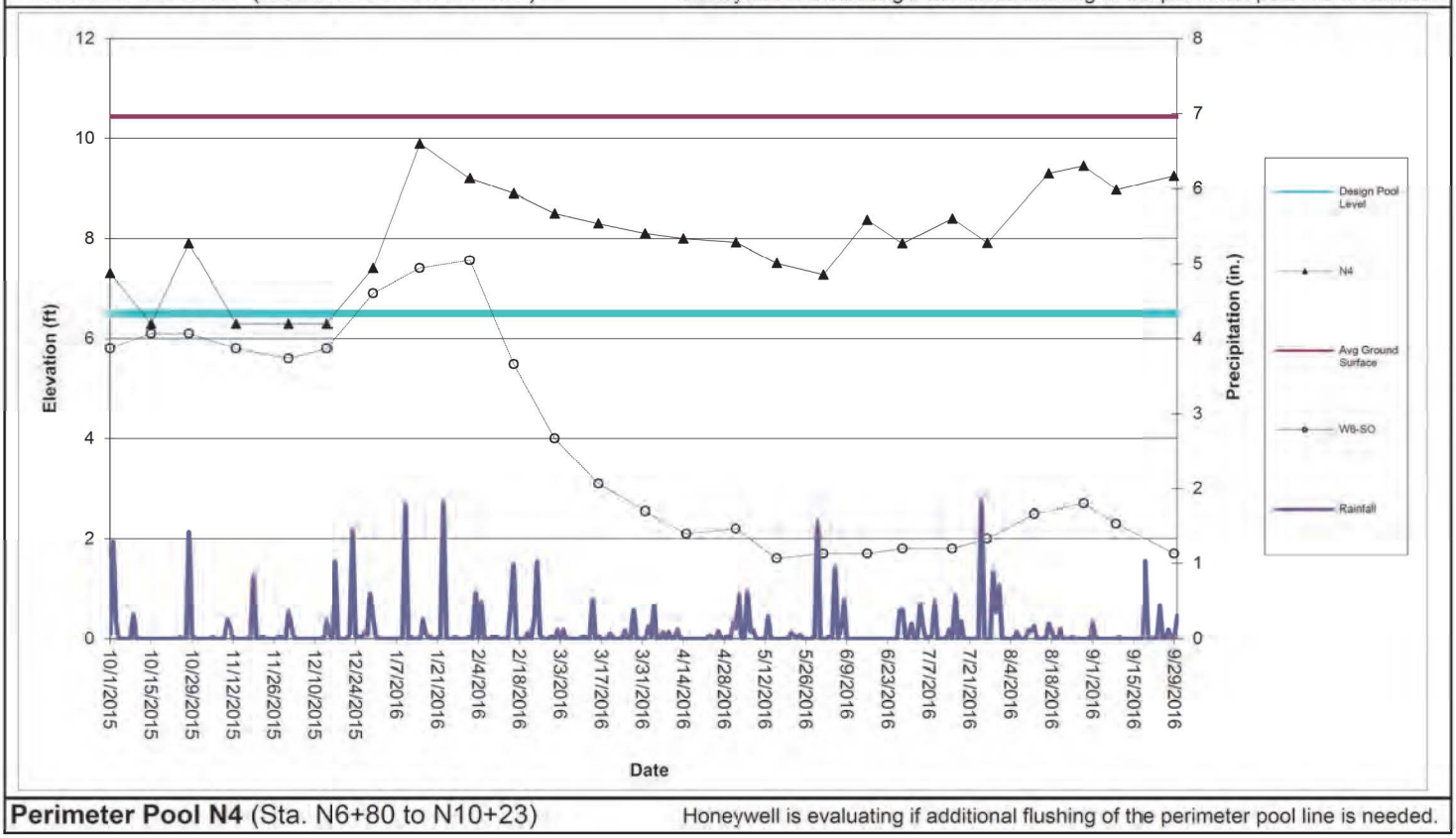


Perimeter Pool N2 (Sta. N10+73 to N13+10)

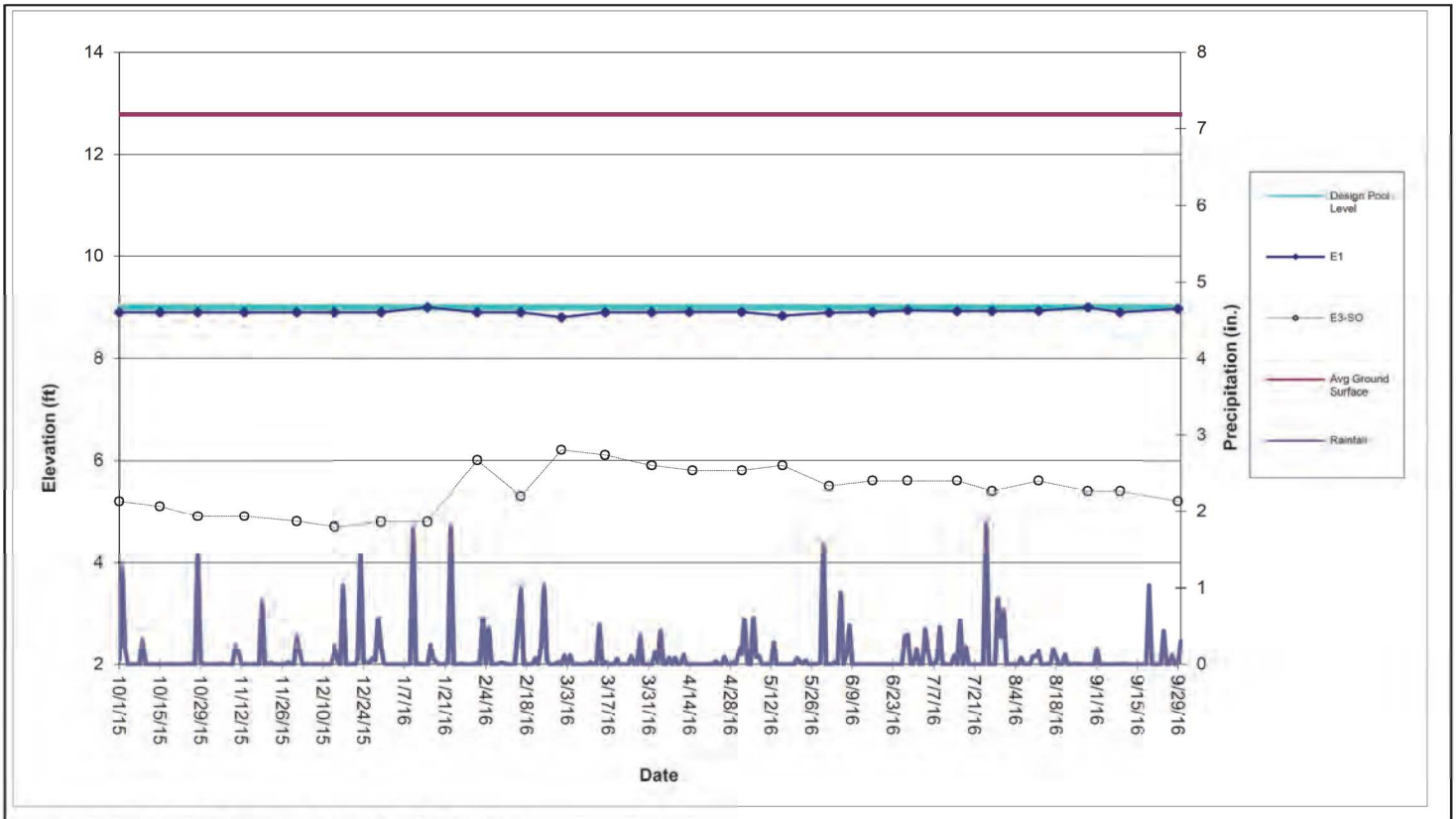
Honeywell is evaluating if additional flushing of the perimeter pool line is needed.



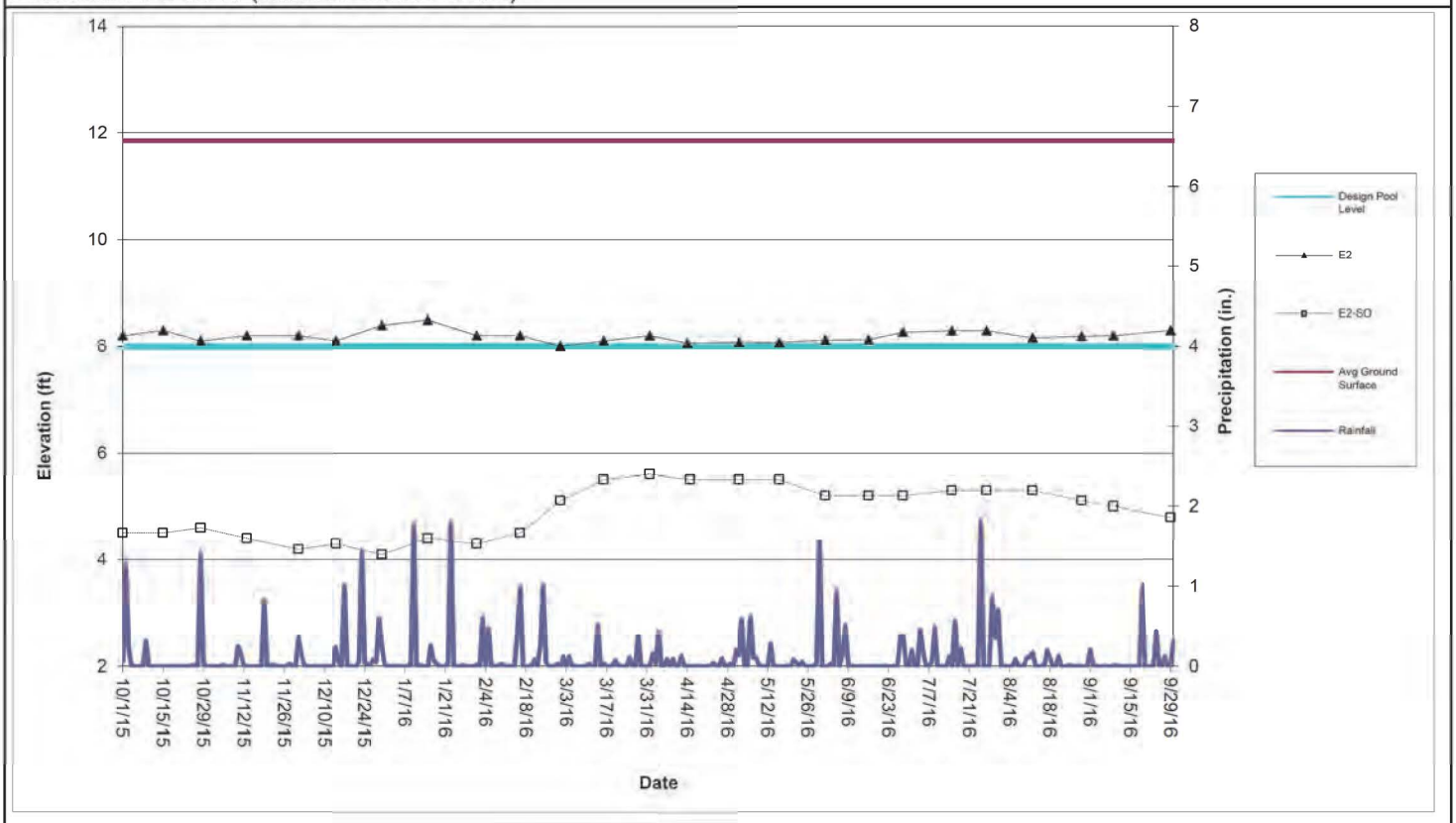
Perimeter Pool N3 (Sta. N6+80 to N10+23) Honeywell is evaluating if additional flushing of the perimeter pool line is needed.



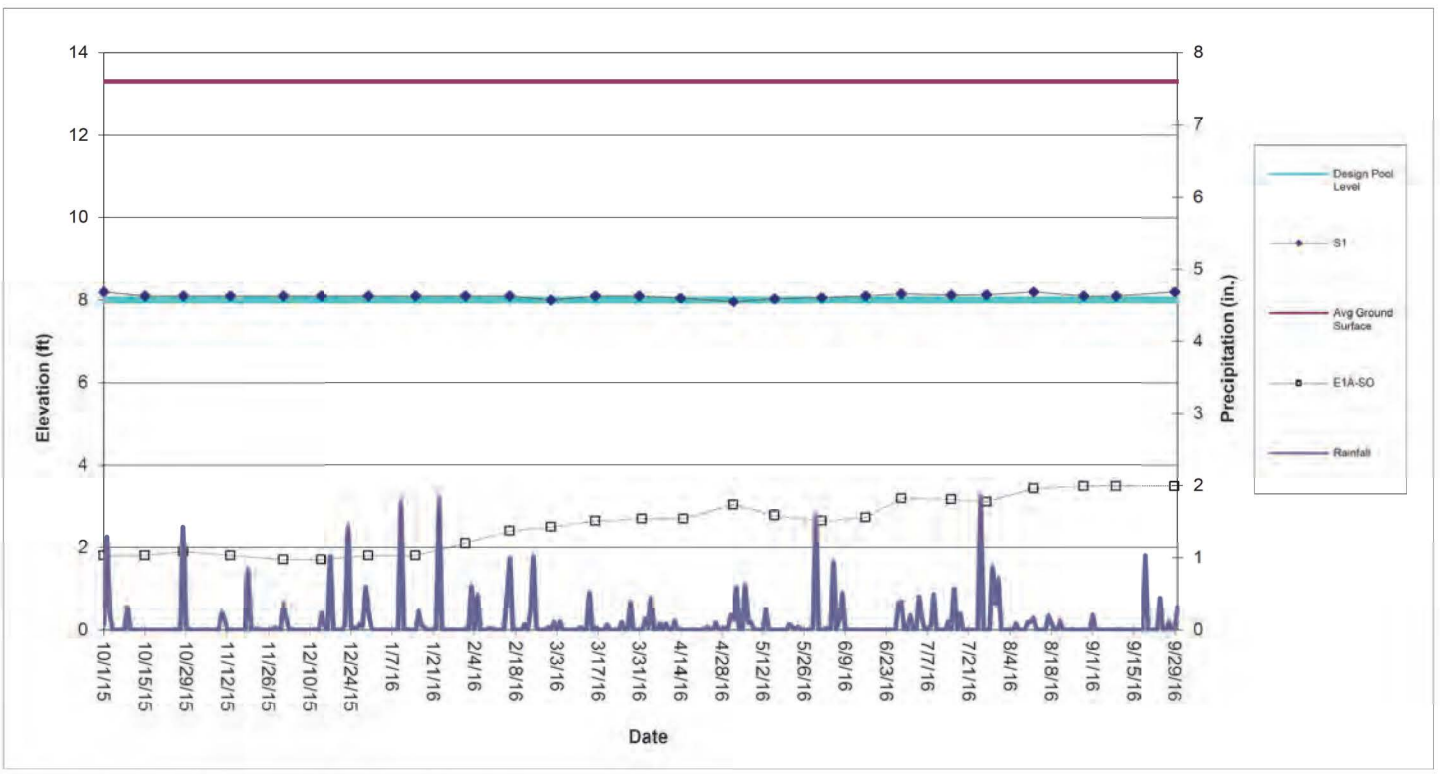
Perimeter Pool N4 (Sta. N6+80 to N10+23) Honeywell is evaluating if additional flushing of the perimeter pool line is needed.



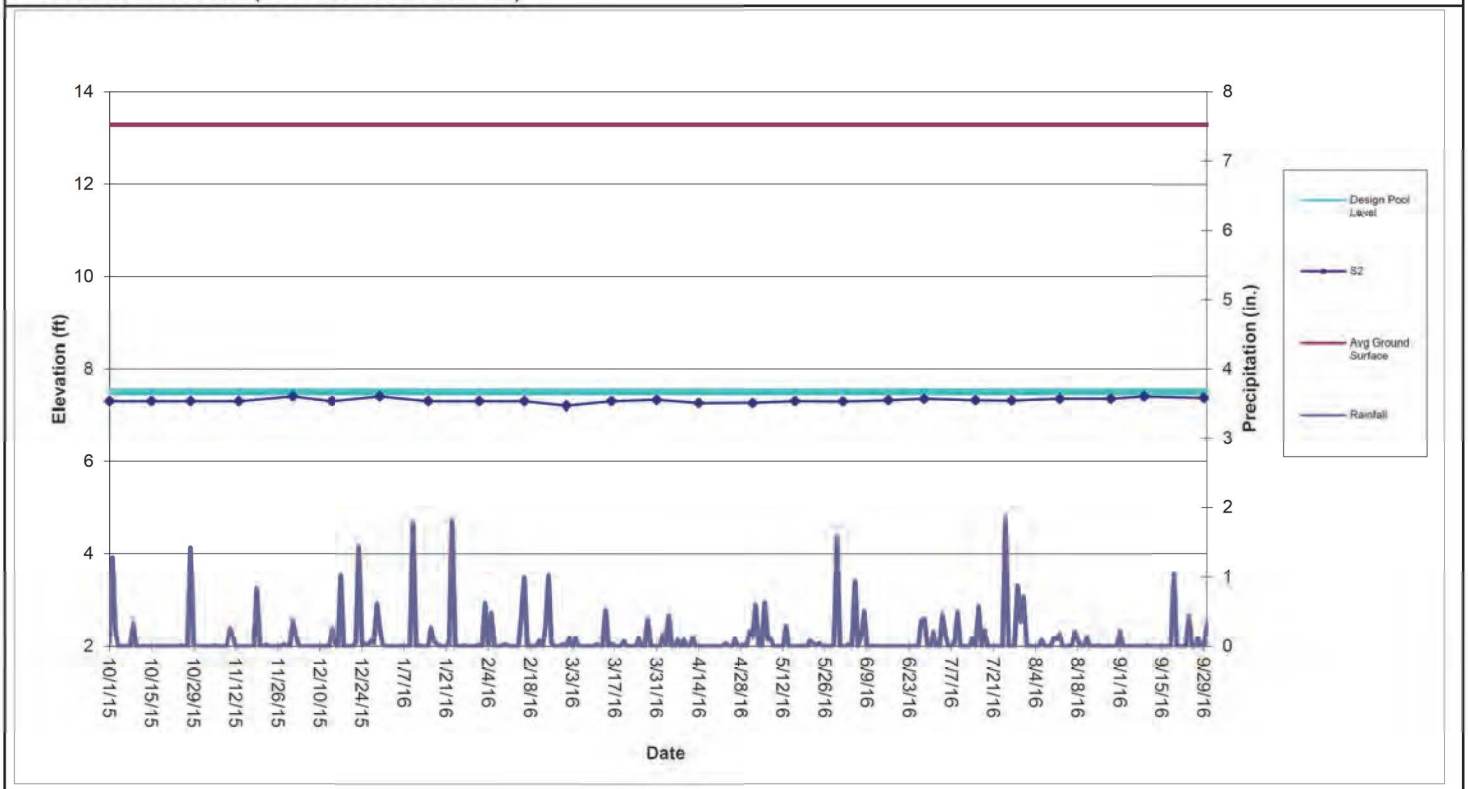
Perimeter Pool E1 (Sta. E0+50 to E3+75)



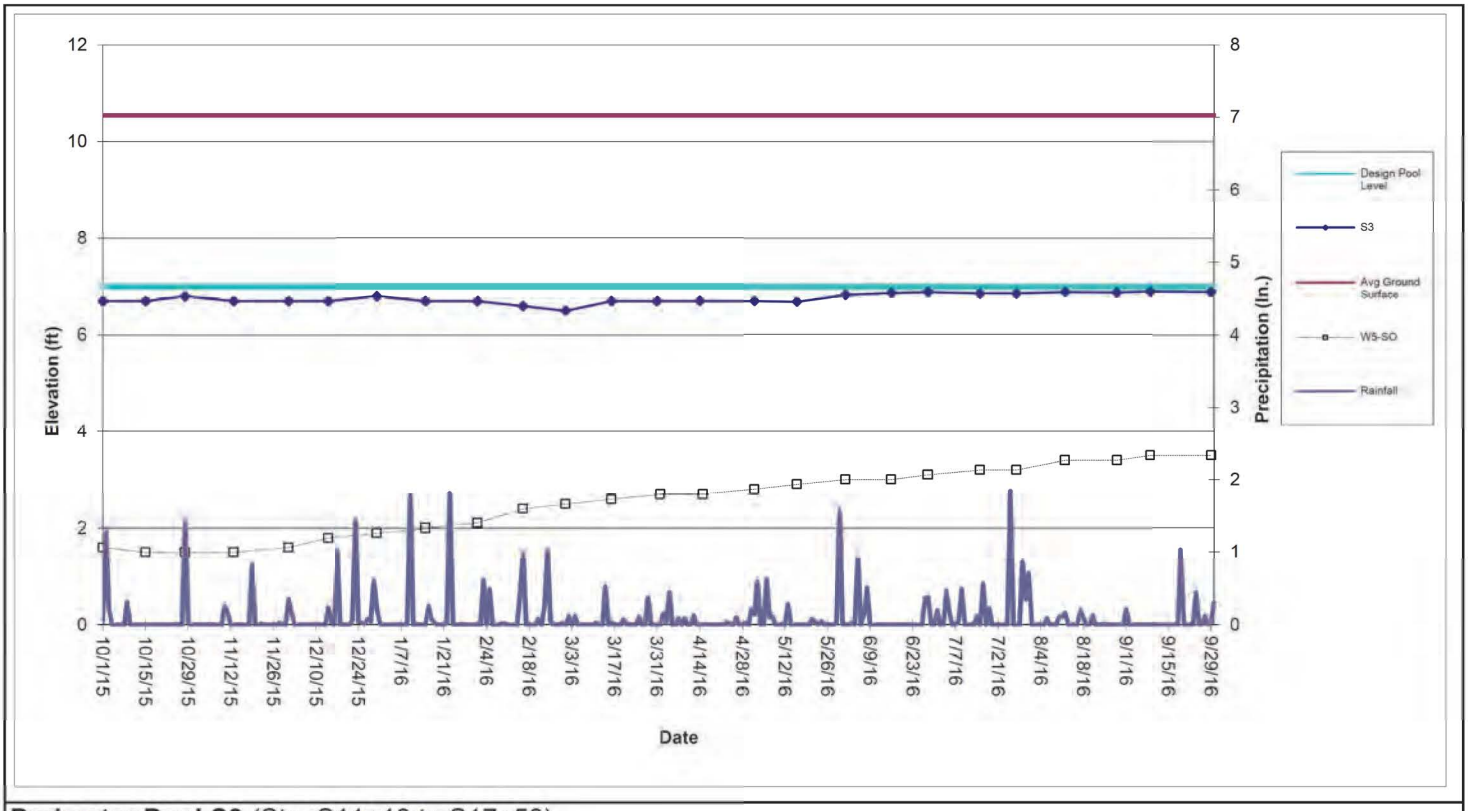
Perimeter Pool E2 (Sta. E4+50 to E7+25)



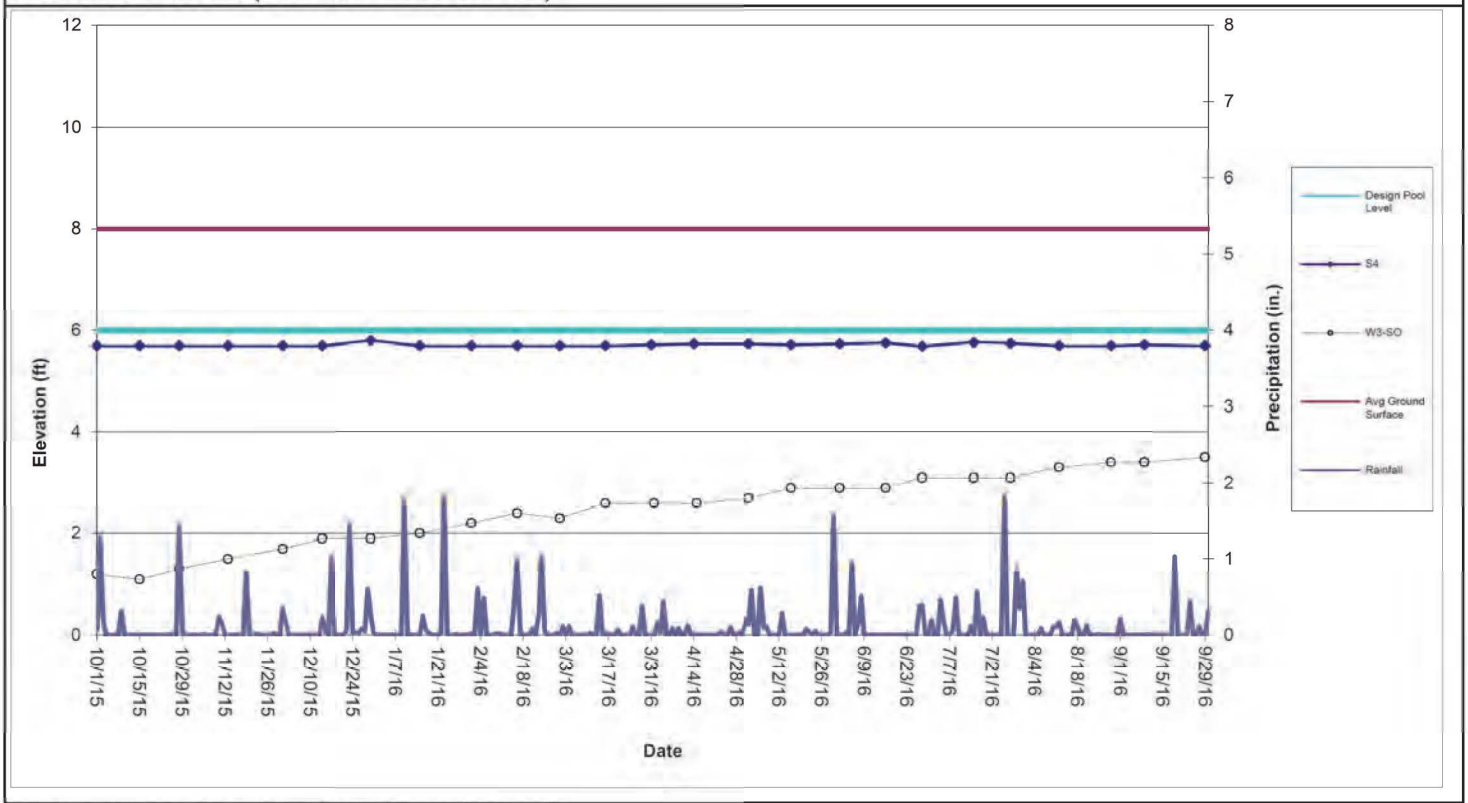
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
10/1/2015	1.8	4.5	5.2	3.2	3.7		1.2	1.6	5.8	4.4	4.4	3.5	
10/15/2015	1.8	4.5	5.1	4.1	4.2		1.1	1.5	6.1	4.7	4.6	4.0	4.0
10/28/2015	1.9	4.6	4.9	3.9	4.1	6.9	1.3	1.5	6.1	4.7	4.6	3.9	3.8
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7				
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3				
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

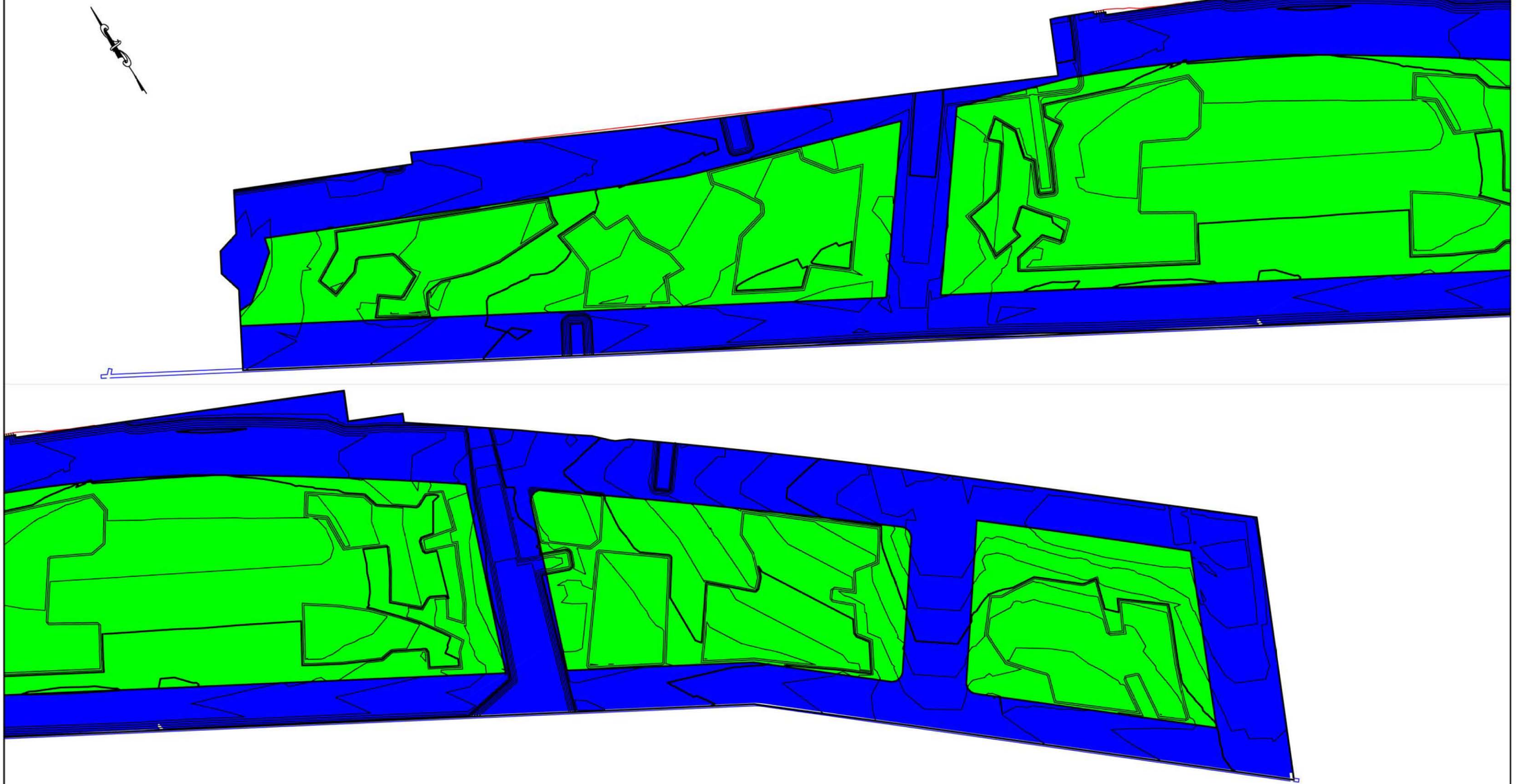
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)



LEGEND

HORIZON C SOIL PLACED

STRUCTURAL FILL PLACED

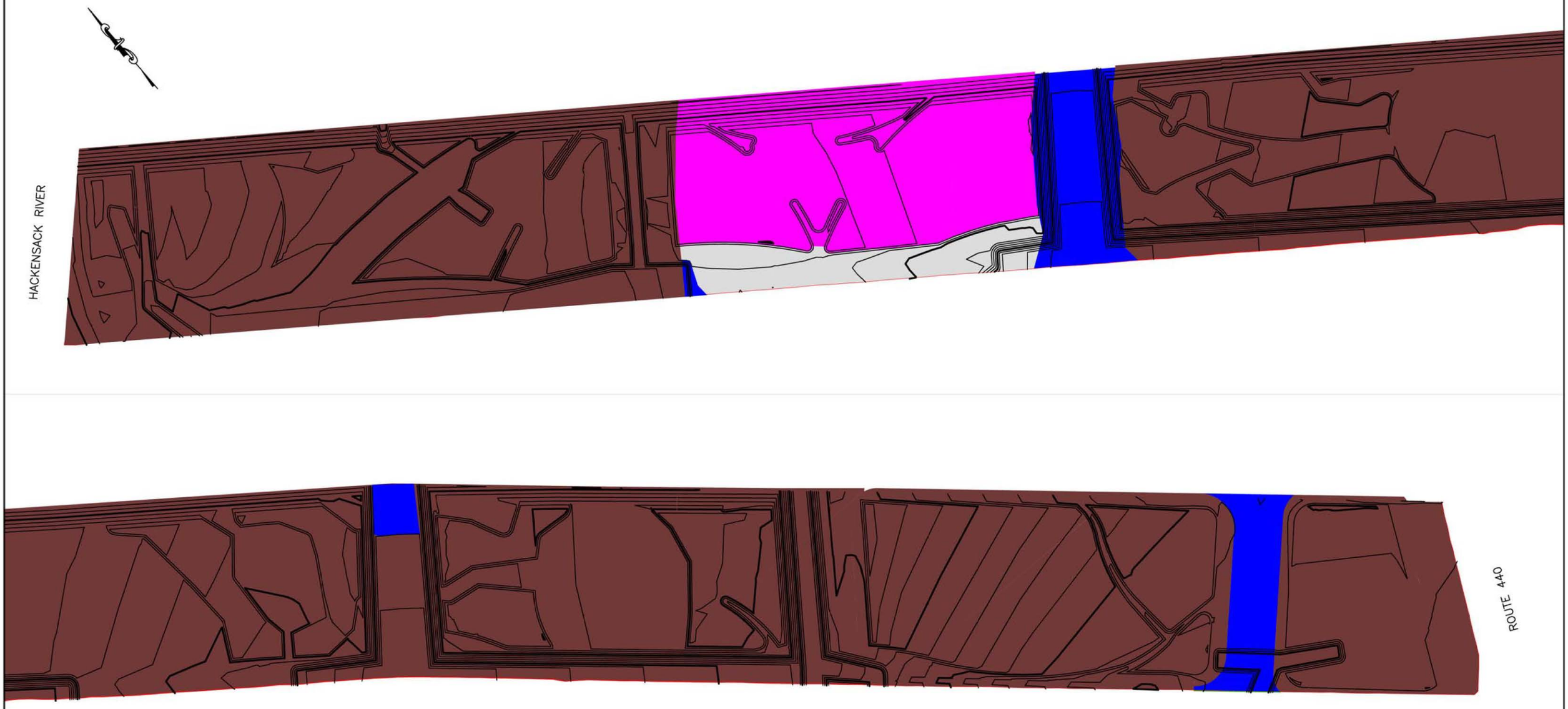
SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
10/03/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

- HORIZON B PLACED AND READY FOR TOPSOIL
- HORIZON C PLACED AND READY FOR TOPSOIL
- TOPSOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
10/03/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 2, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1,2
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping		X		4
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/06/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 02, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	No sediment controls are currently in place for the newly-installed historic fill lifts along Droyer's Cove on SA-6 South.
2	IA2Q4A1AL8	Additional sandbags are needed in the low areas along the eastern edge of the south cap to prevent Horizon A soils from eroding off site during storm events.
3	IA2Q4A1AL8	The filter fabric in the catch basins along the north side of Kellogg Street is blinded with sediment.
4	IA2Q4A1AL8	Garbage has accumulated on the grass area by the Kellogg Street jughandle
5	IA2Q4A1AL8	The filter fabric in the catch basins by the former JCIA garbage pit on SA-6 North is blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/08/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence or else geotextile with stone cover along the edge of Droyer's Cove on the southern development area.	9/8/16 RAD
2	Place additional sandbags along the low areas on the eastern end of the south cap area.	
3	Replace the filter fabric in the five catch basins along the north side of Kellogg Street, starting at the truck entrance and going westward to the end of the street.	
4	Pick up and dispose of the accumulated garbage/debris.	
5	Replace the filter fabric in the catch basins to the north of the former JCIA trash pit.	

Construction Manager: _____ Date: 09/08/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 9, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact		X		1
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact		X		4
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/12/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, September 09, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: No sediment controls are currently in place for the newly-installed historic fill lifts along Droyer's Cove on SA-6 South.
2	IA2Q4A1AL8	REPEAT: The filter fabric in the catch basins along the north side of Kellogg Street is blinded with sediment.
3	IA2Q4A1AL8	REPEAT: Garbage has accumulated on the grass area by the Kellogg Street jughandle
4	IA2Q4A1AL8	No erosion control measures are in place between the MUA South Driveway work area and the public sidewalk on Rt. 440.
5	IA2Q4A1AL8	REPEAT: The filter fabric in the catch basins by the former JCIA garbage pit on SA-6 North is blinded with sediment.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/12/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Install silt fence or else geotextile with #57 stone cover along the edge of Droyer's Cove on the southern development area.	9-15-16 RM
2	Replace the filter fabric in the five catch basins along the north side of Kellogg Street, starting at the truck entrance and going westward to the end of the street.	
3	Pick up and dispose of the accumulated garbage/debris.	
4	Install erosion control measures in this area.	
5	Replace the filter fabric in the catch basins to the north of the former JCIA trash pit.	

Construction Manager: _____ Date: 09/15/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 16, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/19/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, September 16, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Additional sandbags are needed at the eastern end of the SA-6 South cap where it abutts the Rt. 440 sidewalk.
2	IA2Q4A1AL8	Garbage and other debris is present in the Rt. 440 pedestrian walkway at the eastern end of SA-6 North.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/19/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Place additional sandbags on top of the existing ones (where needed) to prevent stormwater runoff from carrying sediment to the Rt. 440 sidewalk and catch basins.	9-19-16 RAD
2	Pick up and dispose of accumulated litter and garbage in the SA-6 North pedestrian walkway.	✓

Construction Manager: _____ Date: 09/19/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 23, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/26/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, September 23, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen on the perimeter fence by the MUA administrative building is detached or missing in two areas.
2	IA2Q4A1AL8	Sediment has accumulated on the filter fabric in the catch basin near the eastern side of the sedimentation basin.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 09/26/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach or replace windscreen fabric on the perimeter fence adjacent to the MUA admin building as needed.	9/26/16 RPD
2	Replace the filter fabric in the catch basin.	↓

Construction Manager: _____ **Date:** 09/29/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: September 30, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		2
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 09/30/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, September 30, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and debris has accumulated on the grassy area by the Kellogg Street jughandle.
2	IA2Q4A1AL8	REPEAT: Windscreen on the perimeter fence by the MUA administrative building is detached or missing in two areas.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 09/30/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of accumulated garbage along the Kellogg Street jughandle and along Kellogg Street.	10/5/16 RAD
2	Re-attach or replace windscreen fabric on the perimeter fence adjacent to the MUA admin building as needed.	↓

Construction Manager: _____ Date: 10/05/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted August 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

September 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the August 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy /sgf

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
8	01	16	8	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,329	82,476 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.72	0.77	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1595	0.1595	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J Morris VP
Signature of Principal
Executive or Authorized Agent

John J. Morris
Remediation Portfolio Director
Type Name and Title

09/16/2016
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
8	01	16	8	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD	
2,397,212	GALS
CU. FT X 7.48 - GALLONS	
EFFLUENT METER READING LAST DAY THIS PERIOD	71,049,856

DATE	BOD (mg/l)	TSS (mg/l)
8/9/2016	<5.0	4.2

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 09/15/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: August 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD_5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
8/1/2016	Angel Trujillo	68652644	68728330	75,686	0.075686	7.22	1.120									0.71
8/2/2016	Angel Trujillo	68728330	68804226	75,896	0.075896	7.96	1.120									0.71
8/3/2016	Angel Trujillo	68804226	68881512	77,286	0.077286	8.17	1.120									0.72
8/4/2016	Angel Trujillo	68881512	68958126	76,614	0.076614	7.86	1.120									0.72
8/5/2016	Angel Trujillo	68958126	69036568	78,442	0.078442	8.03	1.120									0.73
8/6/2016	Angel Trujillo	69036568	69118306	81,738	0.081738	8.13	1.120									0.76
8/7/2016	Angel Trujillo	69118306	69192009	73,703	0.073703	8.10	1.120									0.69
8/8/2016	Angel Trujillo	69192009	69265712	73,703	0.073703	7.97	1.120									0.69
8/9/2016	Angel Trujillo	69265712	69348188	82,476	0.082476	7.12	1.120	<5.1	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	0.77
8/10/2016	Angel Trujillo	69348188	69422849	74,661	0.074661	8.05	1.120									0.70
8/11/2016	Angel Trujillo	69422849	69500076	77,227	0.077227	8.15	1.120									0.72
8/12/2016	Angel Trujillo	69500076	69579008	78,932	0.078932	8.15	1.120									0.74
8/13/2016	Angel Trujillo	69579008	69658212	79,204	0.079204	8.19	1.120									0.74
8/14/2016	Angel Trujillo	69658212	69733571	75,359	0.075359	8.10	1.120									0.70
8/15/2016	Angel Trujillo	69733571	69808930	75,359	0.075359	8.11	1.120									0.70
8/16/2016	Angel Trujillo	69808930	69886178	77,248	0.077248	8.09	1.120									0.72
8/17/2016	Angel Trujillo	69886178	69963024	76,846	0.076846	8.10	1.120									0.72
8/18/2016	Angel Trujillo	69963024	70038618	75,594	0.075594	8.25	1.120									0.71
8/19/2016	Angel Trujillo	70038618	70117954	79,336	0.079336	8.12	1.120									0.74
8/20/2016	Angel Trujillo	70117954	70196154	78,200	0.0782	7.99	1.120									0.73
8/21/2016	Angel Trujillo	70196154	70273460	77,306	0.077306	8.20	1.120									0.72
8/22/2016	Angel Trujillo	70273460	70350766	77,306	0.077306	8.18	1.120									0.72
8/23/2016	Angel Trujillo	70350766	70424330	73,564	0.073564	8.20	1.120									0.69
8/24/2016	Angel Trujillo	70424330	70503620	79,290	0.07929	8.21	1.120									0.74
8/25/2016	Angel Trujillo	70503620	70581100	77,480	0.07748	8.27	1.120									0.72
8/26/2016	Angel Trujillo	70581100	70658594	77,494	0.077494	8.12	1.120									0.72
8/27/2016	Angel Trujillo	70658594	70739518	80,924	0.080924	8.23	1.120									0.76
8/28/2016	Angel Trujillo	70739518	70815334	75,816	0.075816	7.10	1.120									0.71
8/29/2016	Angel Trujillo	70815334	70891150	75,816	0.075816	7.95	1.120									0.71
8/30/2016	Angel Trujillo	70891150	70968302	77,152	0.077152	8.16	1.120									0.72
8/31/2016	Angel Trujillo	70968302	71049856	81,554	0.081554	8.25	1.120									0.76
TOTAL				2,397,212	2.397212			<5.1	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	82,476											High:	0.77
			Average:	77,329											Average:	0.72

WW

E

JC25469

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42591.41809
2235 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County	Phase: CS	COC# 087-WW-080916
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ	Sampling Program 087: JCIA	Lab Proj # (SDG):
Client Contact: (name, co., address)	Sampler: Frank Schroyer			Lab ID ACTD
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #	Preservative 3	3 3 1 2 2 0 0 2	Site ID HudsonCo
Honeywell International 101 Columbia Road Morristown, NJ 07962	Analysis Turnaround Time (TAT): 3 Consultant CH2M			Lab Job # HWINJM32815
Preliminary Data To				Authorized User: Honeywell
Sample Receipt Acknowledgement To: Frank Schroyer				Text & Excel File Order: Excel & Text File Order
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cu, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list					Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units																
1	087-WW			087-WWE-080916-A	8/9/2016	14:50	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1					
2	087-WW			087-WWE-080916-B	8/9/2016	14:55	WW	WATER	REG	5	grab	N					X	X				2					A7
3	087-WW			087-WWI-080916	8/9/2016	15:00	WW	WATER	REG	3	grab	N									X	3					G2
4																											L23
5																											V862
6																											
7																											
8																											
9																											
10																											
11																											
12																											

Relinquished by: 7.12 S.U. @7.5°C	Company: AMEC Foster Wheeler	Received by:	Company:		Condition:		Custody Seals Intact:	
Frank Schroyer	Date/Time: 8/9/16 1505		Date/Time: 8-9 1505		Cooler Temp.			
Relinquished by:	Company:	Received by:	Company: SGS		Condition:		Custody Seals Intact:	
8-9 1630	Date/Time:		Date/Time: 8/9/16 1630		Cooler Temp.			

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT 2A-OB 04.5 SB

LABEL VERIFICATION_____

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-A		
Lab Sample ID:	JC25469-1	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1120	10	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	08/10/16	08/12/16	ND	EPA 200.7 [3]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	08/11/16	08/11/16	MS	EPA 245.1 [1]	EPA 245.1 [5]
Nickel	< 10	10	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	08/10/16	08/11/16	KS	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA40059
(2) Instrument QC Batch: MA40065
(3) Instrument QC Batch: MA40073
(4) Prep QC Batch: MP95353
(5) Prep QC Batch: MP95382

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-A		
Lab Sample ID:	JC25469-1	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	4.2	4.0	mg/l	1	08/11/16 11:00	AT	SM2540 D-11
pH [a]	6.93		su	1	08/09/16 16:33	OB	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-A		
Lab Sample ID:	JC25469-1A	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 5.0	5.0	mg/l	1	08/10/16 19:16	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-B		
Lab Sample ID:	JC25469-2	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N256771.D	1	08/10/16	BM	n/a	n/a	VN10847
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.7	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.5	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.21	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	23.1	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.33	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.37	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	62.8	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	2.5	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.81	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-B		
Lab Sample ID:	JC25469-2	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	62.2	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	95%		72-125%
2037-26-5	Toluene-D8 (SUR)	97%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	100%		74-115%
1868-53-7	Dibromofluoromethane (S)	100%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@926159 15:42 09-Sep-2016

Report of Analysis

Client Sample ID:	087-WWE-080916-B		
Lab Sample ID:	JC25469-2	Date Sampled:	08/09/16
Matrix:	AQ - Water	Date Received:	08/09/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	08/11/16 11:30	TT	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	To be submitted to Parties as Attachment to Declaration 004.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	To be submitted to Parties as Attachment to Declaration 003.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log - Month Ending September 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

11/14/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 14, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-10

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from October 1 – October 31, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: October 2016 SA-6/7 Combined Monthly Progress Report No. 2016-10

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
Jason Watson – City Hall (electronic copy)
Agnieszka Antonian - Connell Foley LLP (electronic copy)
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP (electronic copy)
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell (electronic copy)
Maria Kaouris - Honeywell (electronic copy)
John Morris - Honeywell (electronic copy)
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP (electronic copy)
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP (electronic copy)
Steve Egnaczyk - The Louis Berger Group, Inc. (electronic copy)
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP (electronic copy)
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP (electroni copy)

Honeywell

STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-10

Project SA-6 & 7 Remediation

October 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
10/11/16	Special Master All Parties Conference Call	n/a
10/12/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-09	Honorable Robert G. Torricelli Office of the Special Master
10/13/16	New Source of Horizon A Topsoil Study Area 6 (SA-6) Jersey City, New Jersey	Honorable Robert G. Torricelli Office of the Special Master
10/17/16	SA-5-7 Financial Assurances (Arnold & Porter correspondence)	Honorable Robert G. Torricelli Office of the Special Master
10/19/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Passaic Valley Sewerage Commission
10/20/16	ICO v. Honeywell Response to Plaintiffs' Comments of August 29, 2016 Regarding the SA-7 Sediment Remedy Long-Term Monitoring Program – Year 2 Report	Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
Construction Management (AMEC)	9	8	8	9
Engineering (AMEC)	1	1	1	1
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	24	25	24	17
Arecon/US Ecology Subcontractors	0	0	0	0

Team	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
E&V Dirt Works	0	0	0	0
Langan	0	0	0	0
ERFS	1	1	0	1
Evoqua	1	1	1	1
B&B Drilling	0	1	0	0
Cornerstone	2	1	1	2
TOTAL STAFF	**42**	**42**	**39**	**35**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Conducted perimeter air monitoring activities using hand-held portable devices for nuisance dust.
- Continued installation of CGWES components within the SA-6 North Open Space Areas to include installation of spare conduit pipe for future piezometer instrumentation on the north side of the SA-6 North Open Space Area.
- Completed installation of the CGWES dual wall force main pipe on the north side of the SA-6 North Open Space Area to approximately 8 feet outside of the GWTP.
- ERFS completed injections in Treatment Area 10-1 in accordance with NJDEP-DGW permit.
- Continued post-injection groundwater sampling and monitoring in Treatment Area 10-1 in accordance with the NJDEP – Discharge to Groundwater Permit.
- An inspector from the Hudson Essex Passaic Soil Conservation District was on site on October 25, 2016 for an inspection of the current erosion and sediment controls. There were no findings and all items were in compliance.
- Conducted S-3 Mass Removal Injection Event No. 32 in injection well 088-IW-01.
- Conducted S-3 Mass Removal Injection Event No. 33 in injection well 088-IW-02.
- Collected October PVSC compliance sample from the Construction Water Treatment Plant (CWTP).
- Obtained NJDOT Permit for Restoration of Sidewalks within work limits along Rt. 440.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on October 11, 2016.

- Reviewed submittals from the mechanical contractor, Brownfield Science & Technology, Inc. (BTSI), associated with piping installation from the CGWTS force mains to the neutralization tank.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
Avg. Gallons Treated & Discharged (per day)	78,882	77,380	78,011	78,861
Average Flow (gpm) for Operating Period	56	55	56	56
Avg. Hours of Plant Operation	23	23	23	23
GWTP Influent Tanks (gal.)	5,784	4,266	3,669	2,431

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Completed routine dewatering activities and associated discharge to the construction water treatment facility.
- Initiated cleaning and demobilization of temporary Construction Water Treatment Plant.
- Completed cutting of temporary sheetpile along the SA-6 South Kellogg Street Jug handle.
- Completed placement of historic fill cap to include geotextile and 6-inches of stone in the SA-6 South Development Area.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	0	0	0

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	3/8” stone Historic Fill Cap – SA-6 South Development Area

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending			
	10/9/16	10/16/16	10/23/16	10/30/16
Natures Choice Topsoil	0	0	0	994
EME Topsoil	0	0	0	294.53
Tilcon Mount Hope I-8	203	256	203	868
Natures Choice Horizon C	0	0	0	0
Tilcon 3/8" Stone	53	51	52	0
Tilcon Mt. Hope 1.5"	316	153	154	105
Tilcon Mt. Hope #57	0	676	356	0
Weldon Screenings	0	0	0	290.32

- A total of 37 loads totaling approximately 834 cubic yards on crushed concrete were relocated from the SA-6 North former JCIA area to the south of the former JCDPW "H" building. This concrete stockpile will be sampled and managed in accordance with the approved materials management plan by the non-chromium contractor.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Continued importing and placing Horizon A soils on SA-6 South Open Space Area.
- Completed construction of the SA-6 South Temporary Access Road in utility corridor B.
- Completed installation of toe drain on the north site of the SA-6 South Open Space Area.
- Performed hydro-seeding of SA-6 South Open Space Area to include placement of erosion control matting. Approximately 5 acres were hydro-seeded.
- Initiated installation of toe drain on the south side slope of the SA-6 North Open Space Area.
- Completed placement structural fill to included compaction on the SA-6 North Open Space Area.
- Initiated importing and placing Horizon A soils on SA-6 North Open Space Area.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete importing and placement of Horizon A Topsoil on the SA-6 South Open Space Area.
- Complete hydro-seeding of SA-6 South Open Space Area.
- Initiate installation of the Contingent Groundwater Extraction System Components within the GWTP including the mechanical piping and conduit.
- Complete importing and placement of Horizon A Topsoil on the SA-6 North Open Space Area.
- Complete hydro-seeding of SA-6 North Open Space Area.
- Complete storm-water management activities associated with construction.
- Complete cleaning and demobilization of temporary CWTS.
- Complete NJDOT sidewalk restoration and removal of Highway Occupancy Permit traffic control devices.
- Complete SWPPP inspections associated with construction.
- Conduct S-3 Mass Removal Injection Event No. 34 in well 088-IW-03.
- Initiate periodic groundwater level monitoring in accordance with Draft Long-Term Monitoring Plan at SA-6 South and perimeter pools.
- Demobilize Entact office trailers and equipment.

ATTACHMENTS:

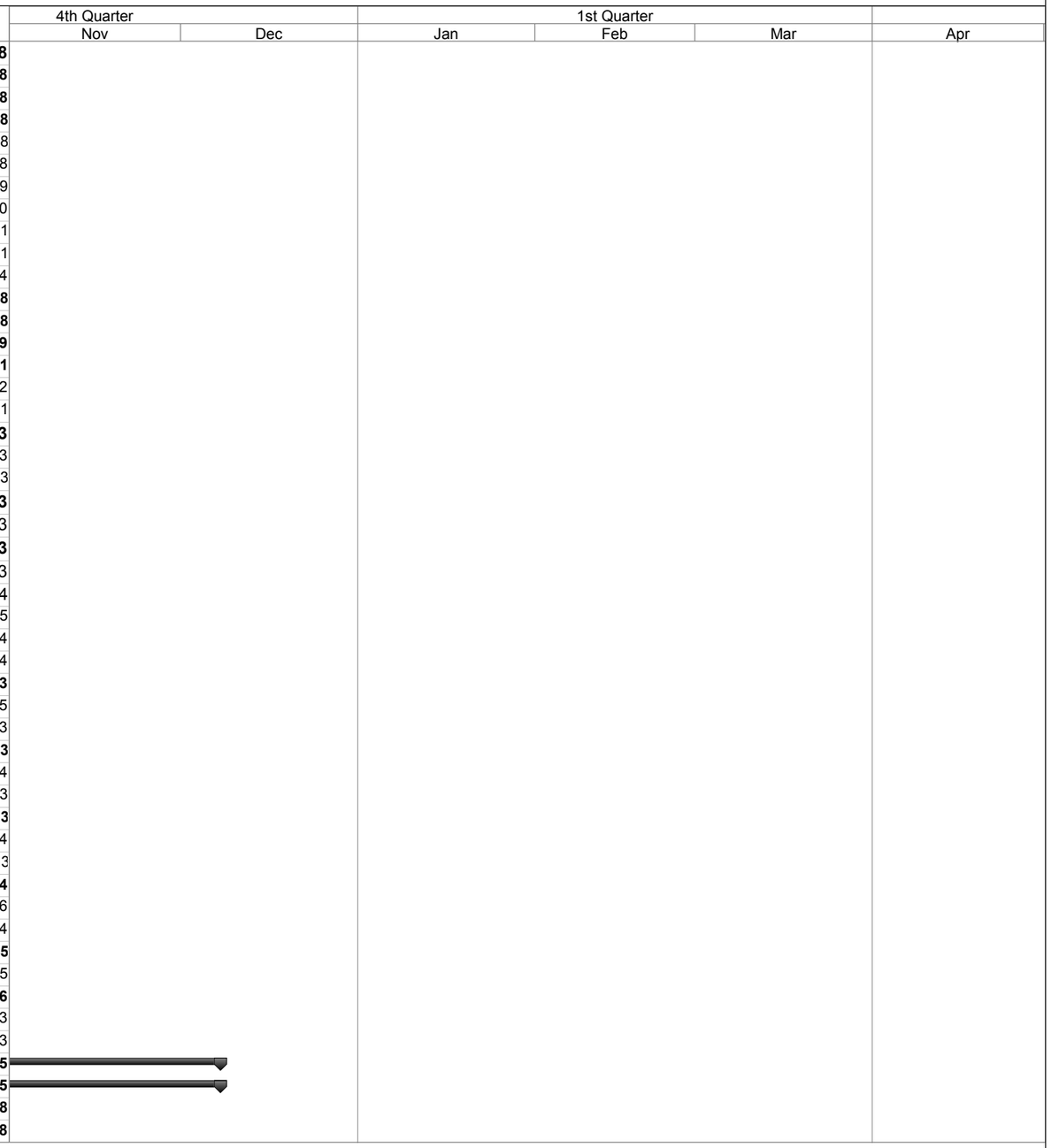
1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log

Attachment 1: Schedule – 6 Month Look Ahead

Honeywell

SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone ◆ | Summary | Critical

Note: Current field implementation schedule shows restoration in November 2016.

Attachment 2: Site Photographs



Site Photograph 1: Dust suppression activities SA-6S Open Space Area.



Site Photograph 2: Grading imported Horizon C clean fill on SA-6N Open Space Area.



Site Photograph 3: Grading imported stone in the SA-6S Restoration Areas.



Site Photograph 4: Hydroseeding along the eastern portion SA-6S Open Space Area.



Site Photograph 5: Installing Erosion Control Matting on the north slope of the SA-6S Open Space Area.



Site Photograph 6: Placement of Contingent Groundwater System cleanout station.



Site Photograph 7: Toe drain construction north side of SA-6S Open Space Area.

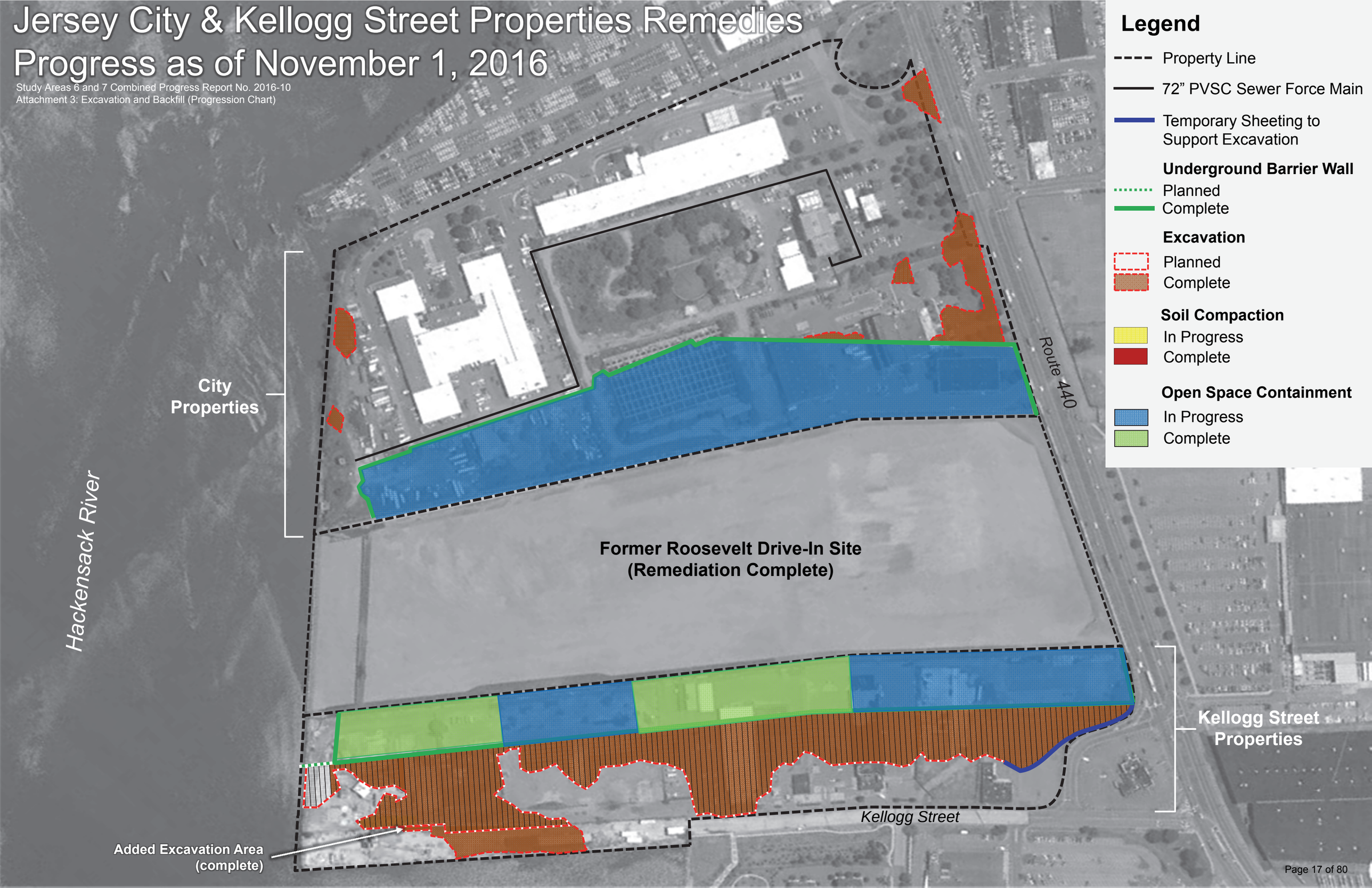


Site Photograph 8: View of SA-6S Kellogg St Properties Final Restoration.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies Progress as of November 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-10
Attachment 3: Excavation and Backfill (Progression Chart)



Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

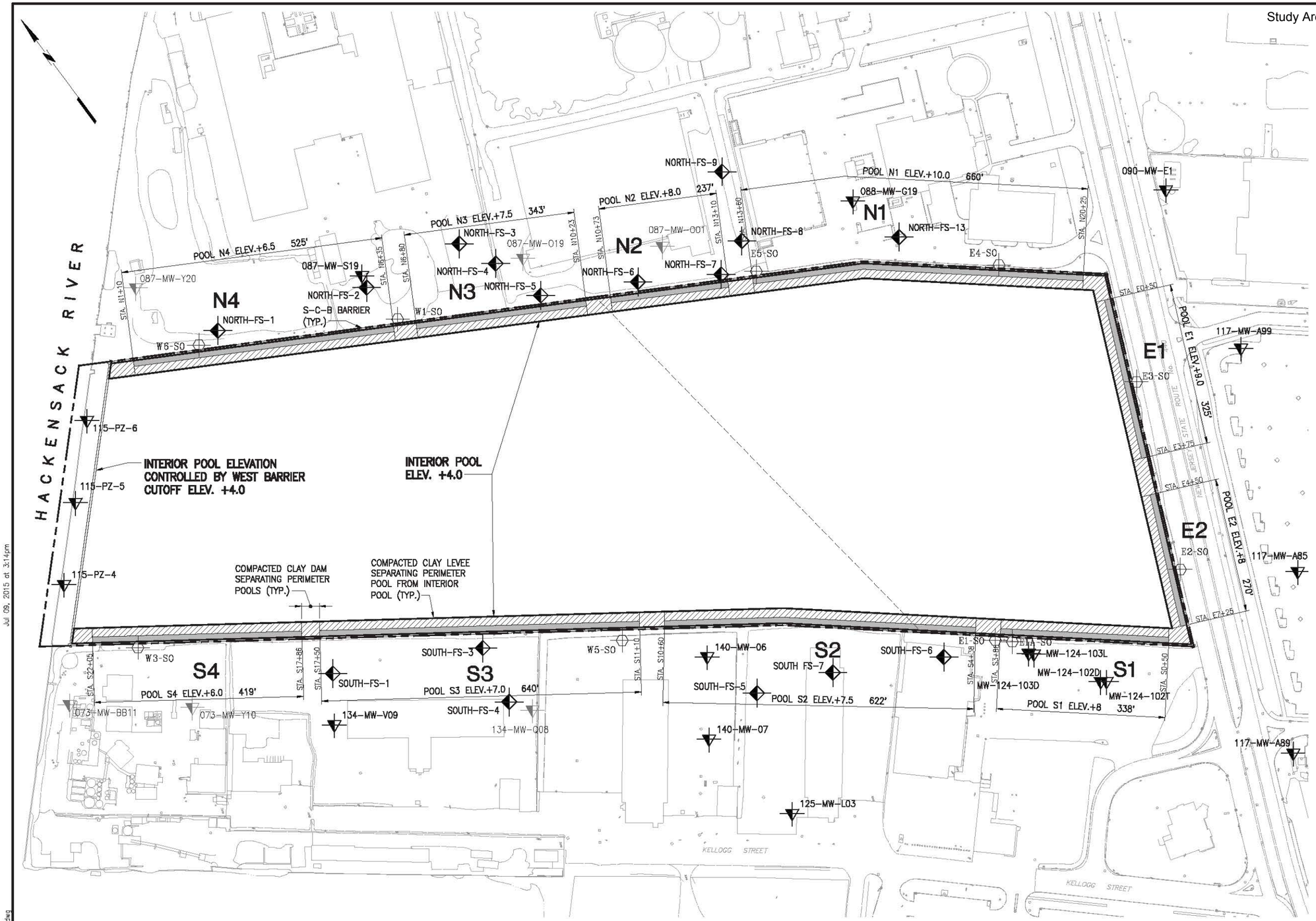
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected
10/05/16	8:00	11:00	3:00	44,120.80	44,158.46	37,660	44,158	PVSC Compliance Sample Collected
11/01/16	8:00	10:00	2:00	44,158.46	44,204.91	46,450	44,205	Final reading; system disassembled 11/1/16

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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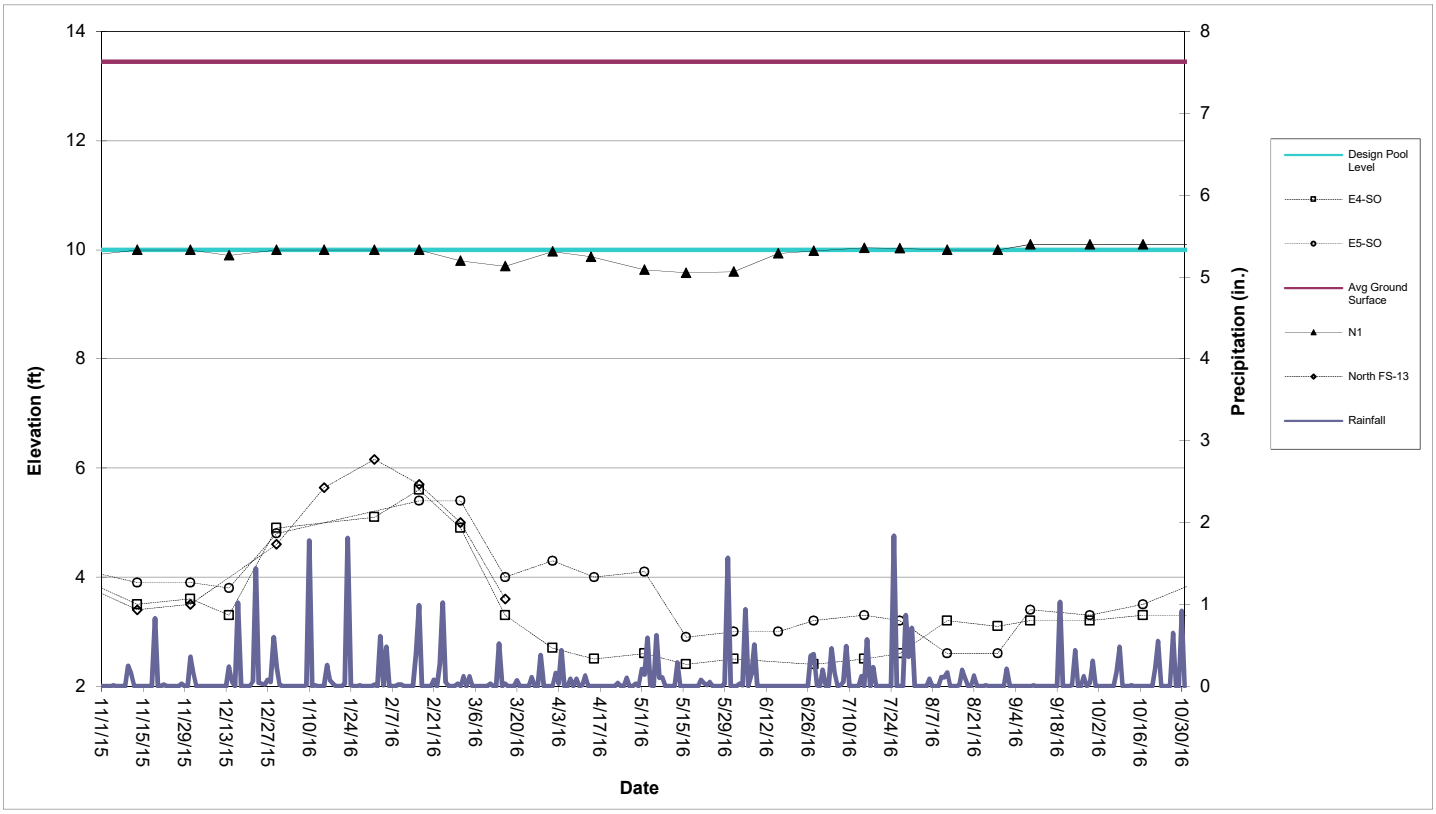
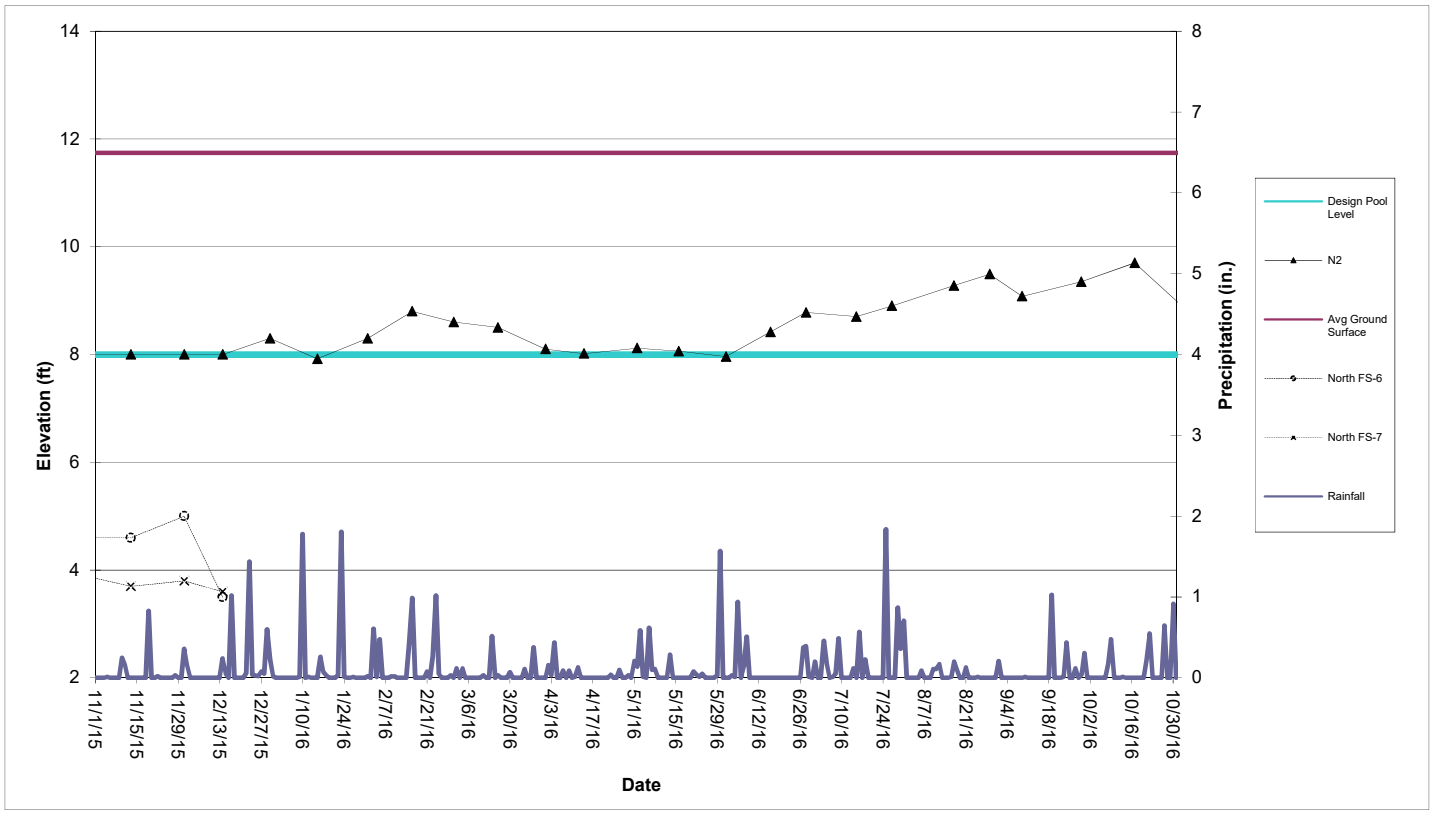
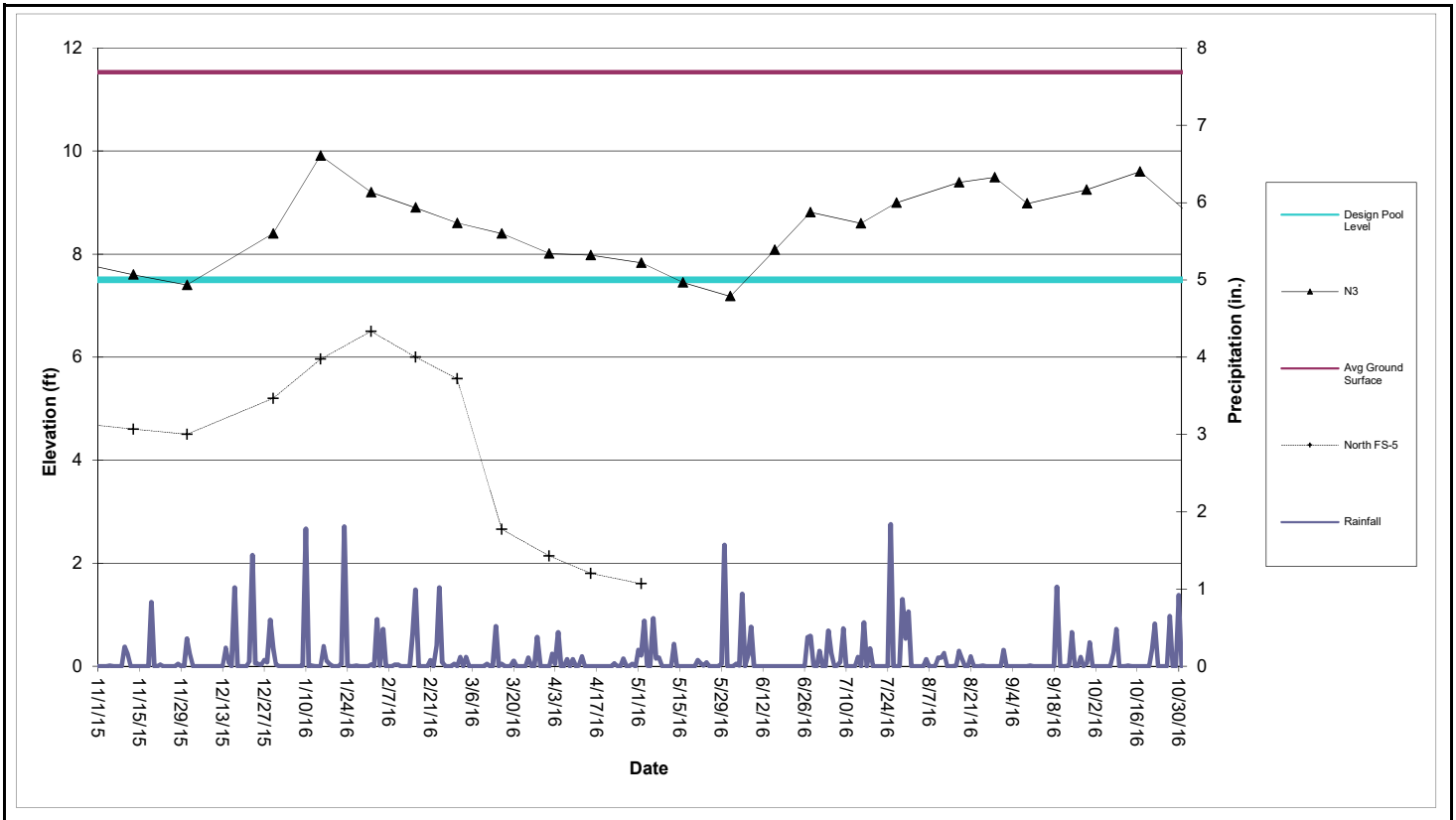
bboscaino



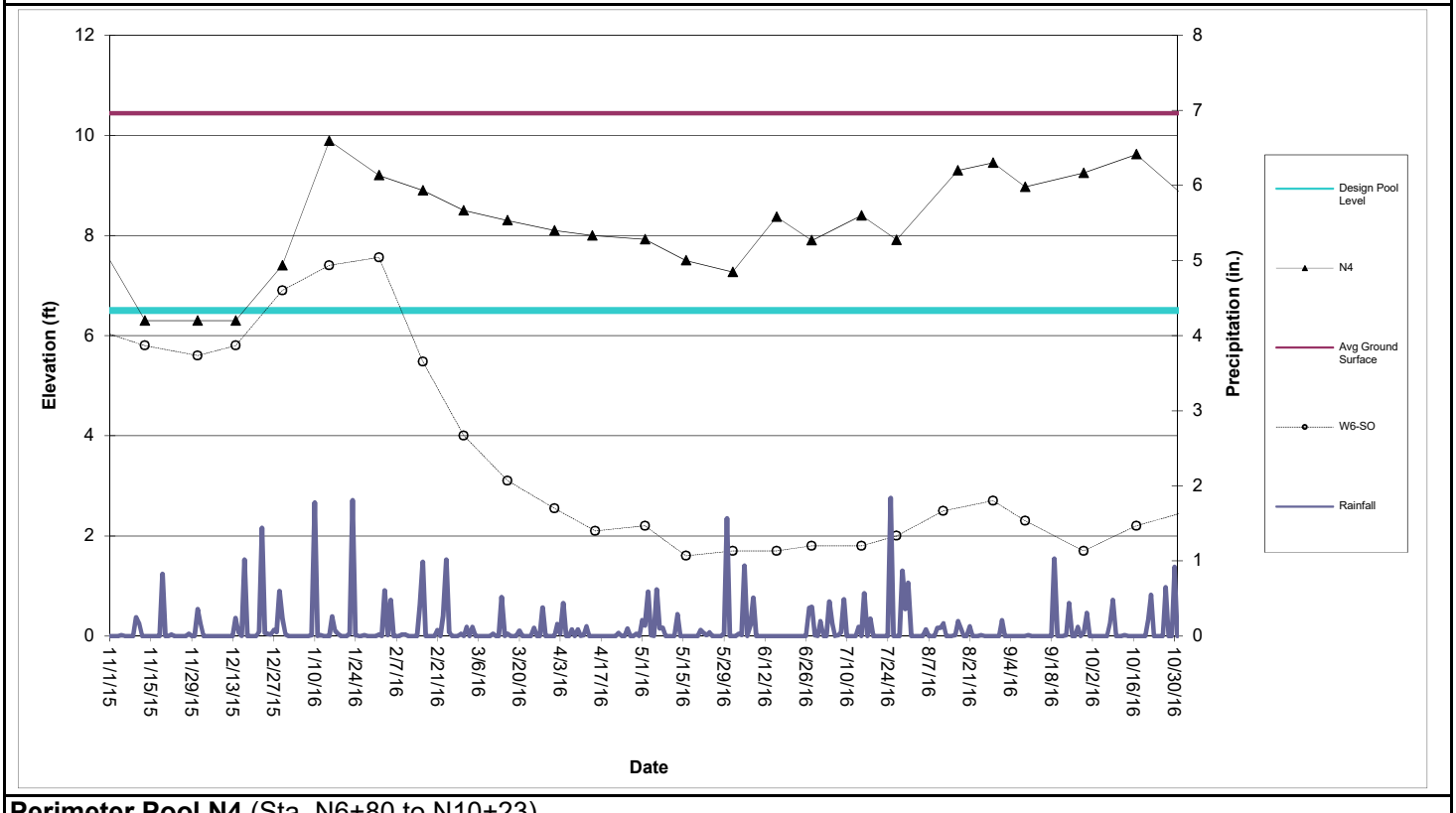
Perimeter Pool N1 (Sta. N13+60 to N20+25)



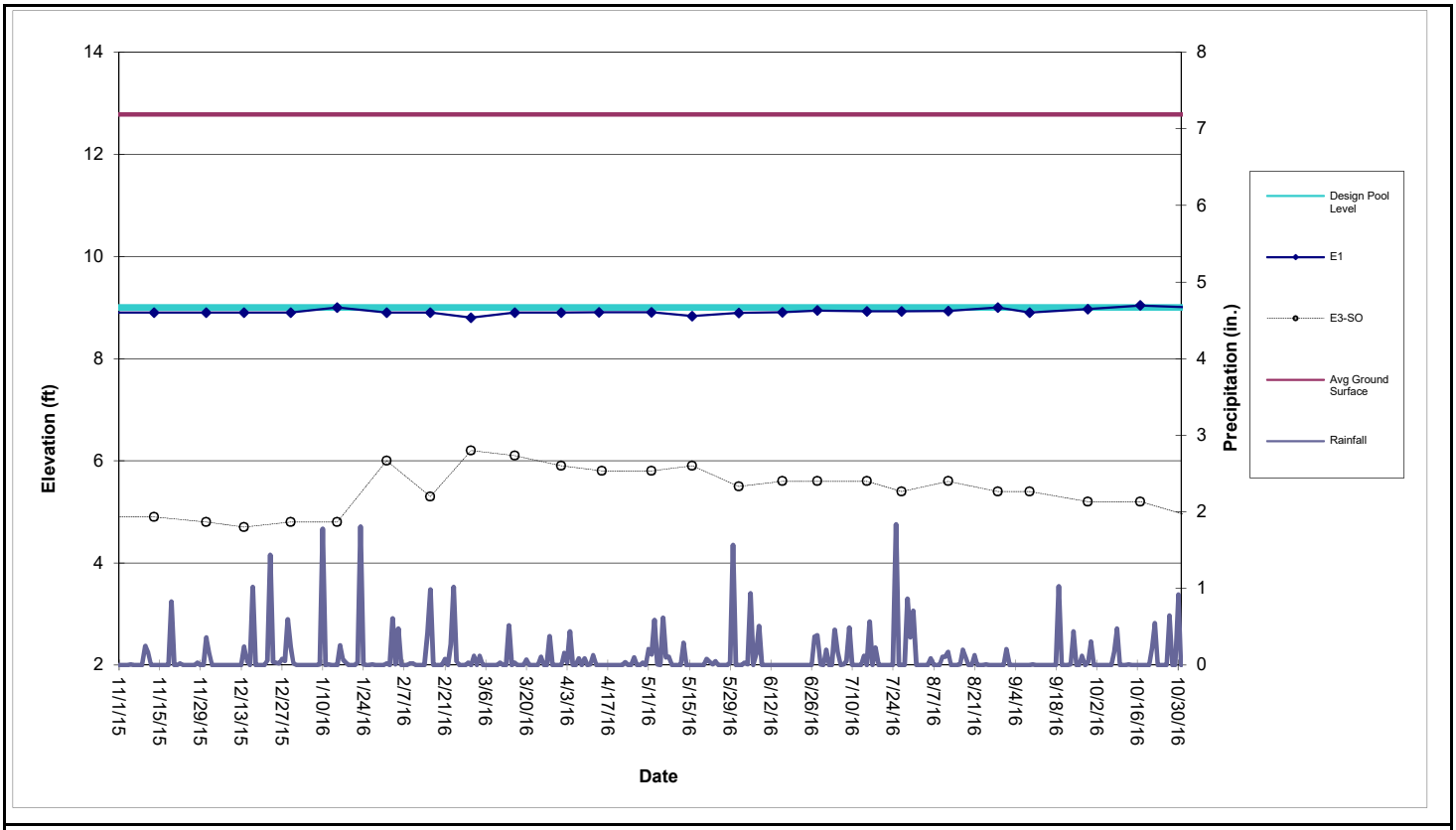
Perimeter Pool N2 (Sta. N10+73 to N13+10)



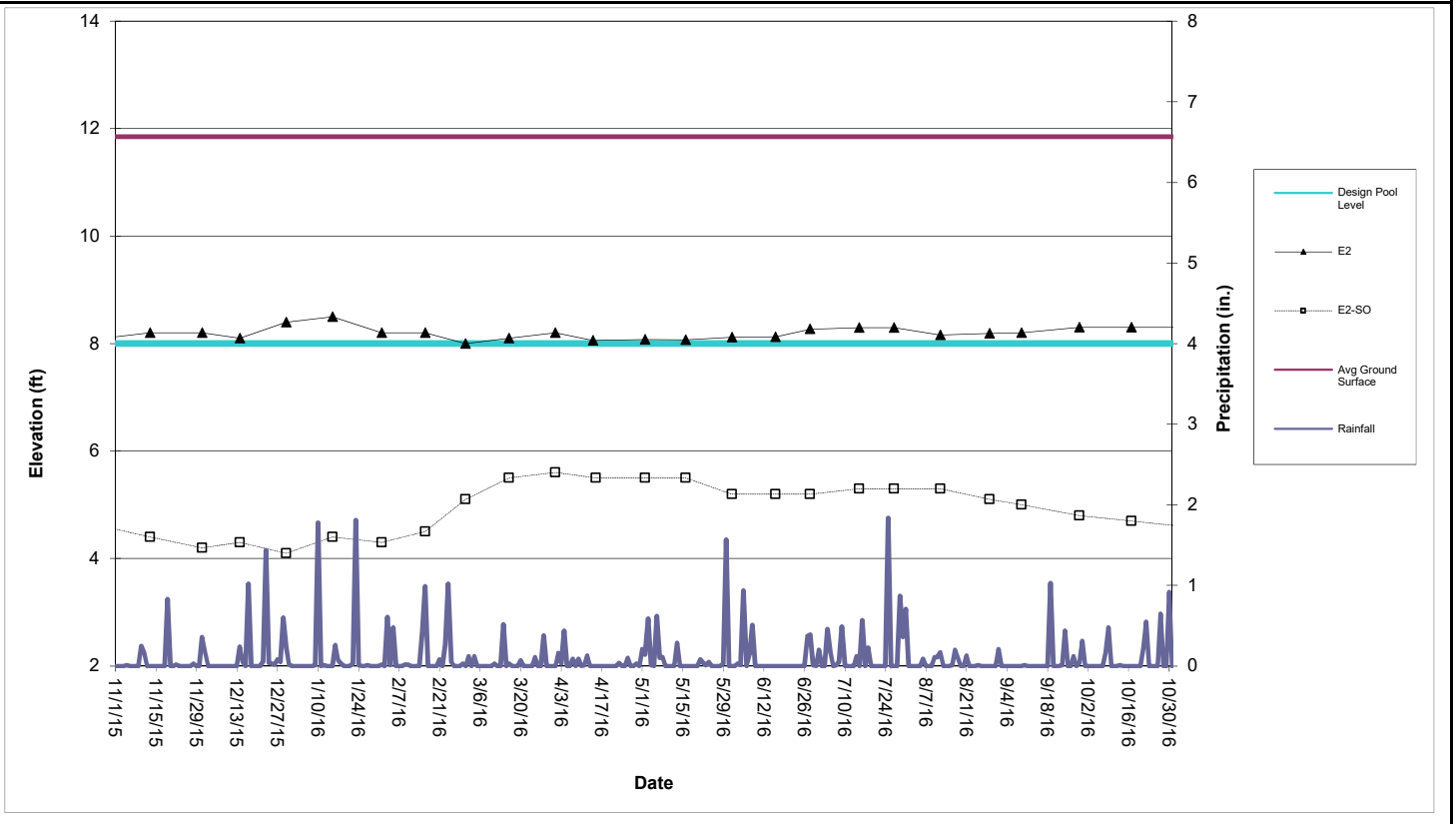
Perimeter Pool N3 (Sta. N6+80 to N10+23)



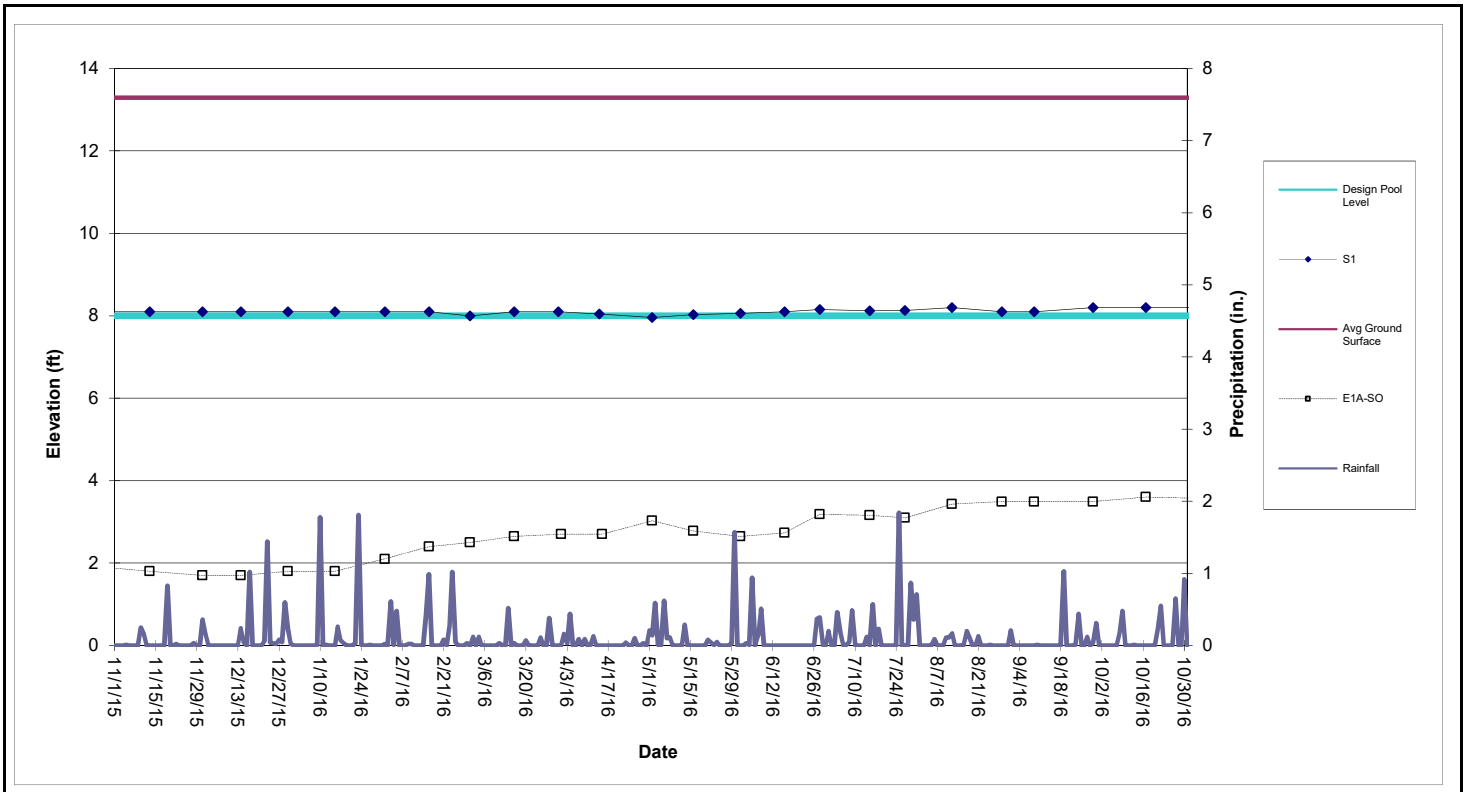
Perimeter Pool N4 (Sta. N6+80 to N10+23)



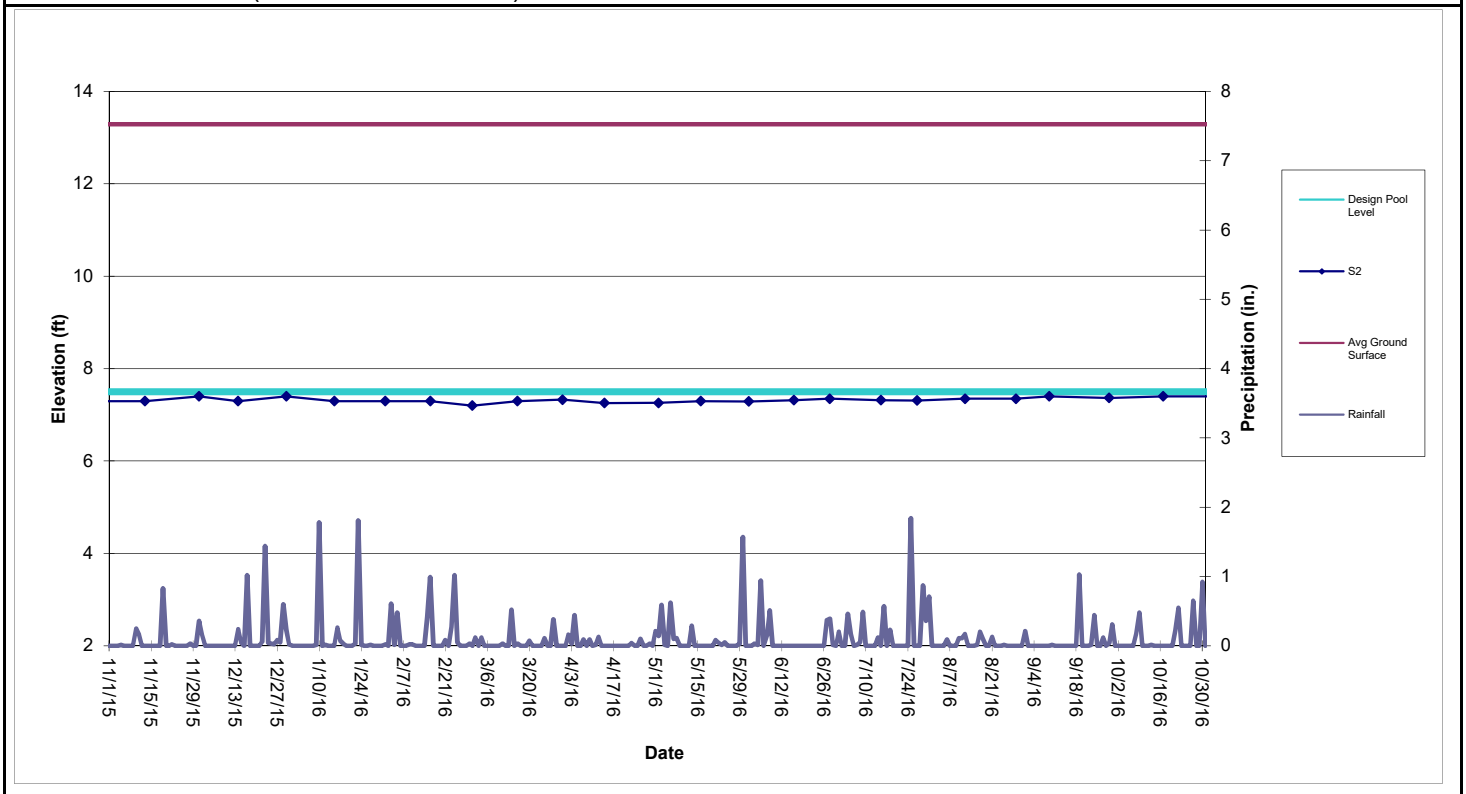
Perimeter Pool E1 (Sta. E0+50 to E3+75)



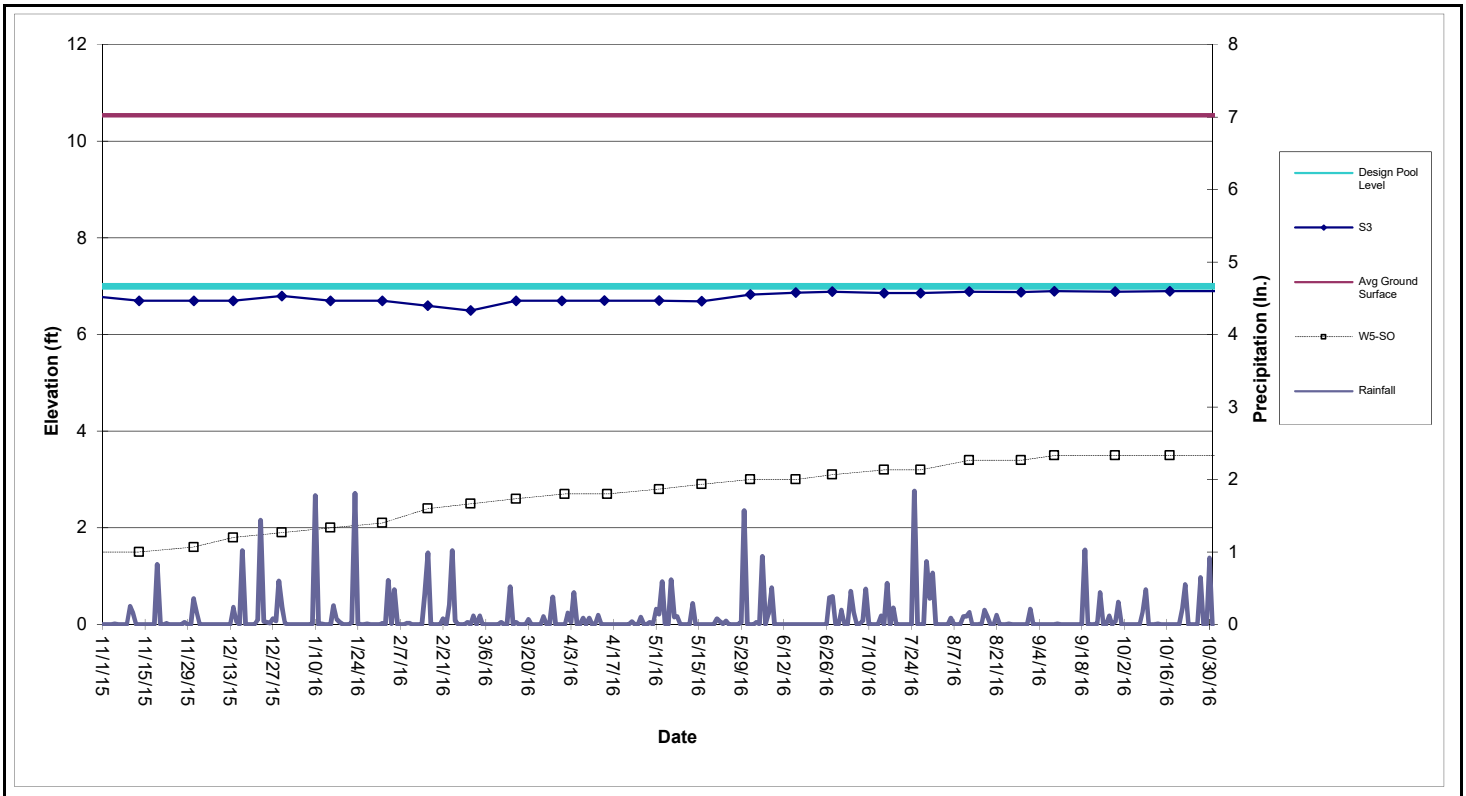
Perimeter Pool E2 (Sta. E4+50 to E7+25)



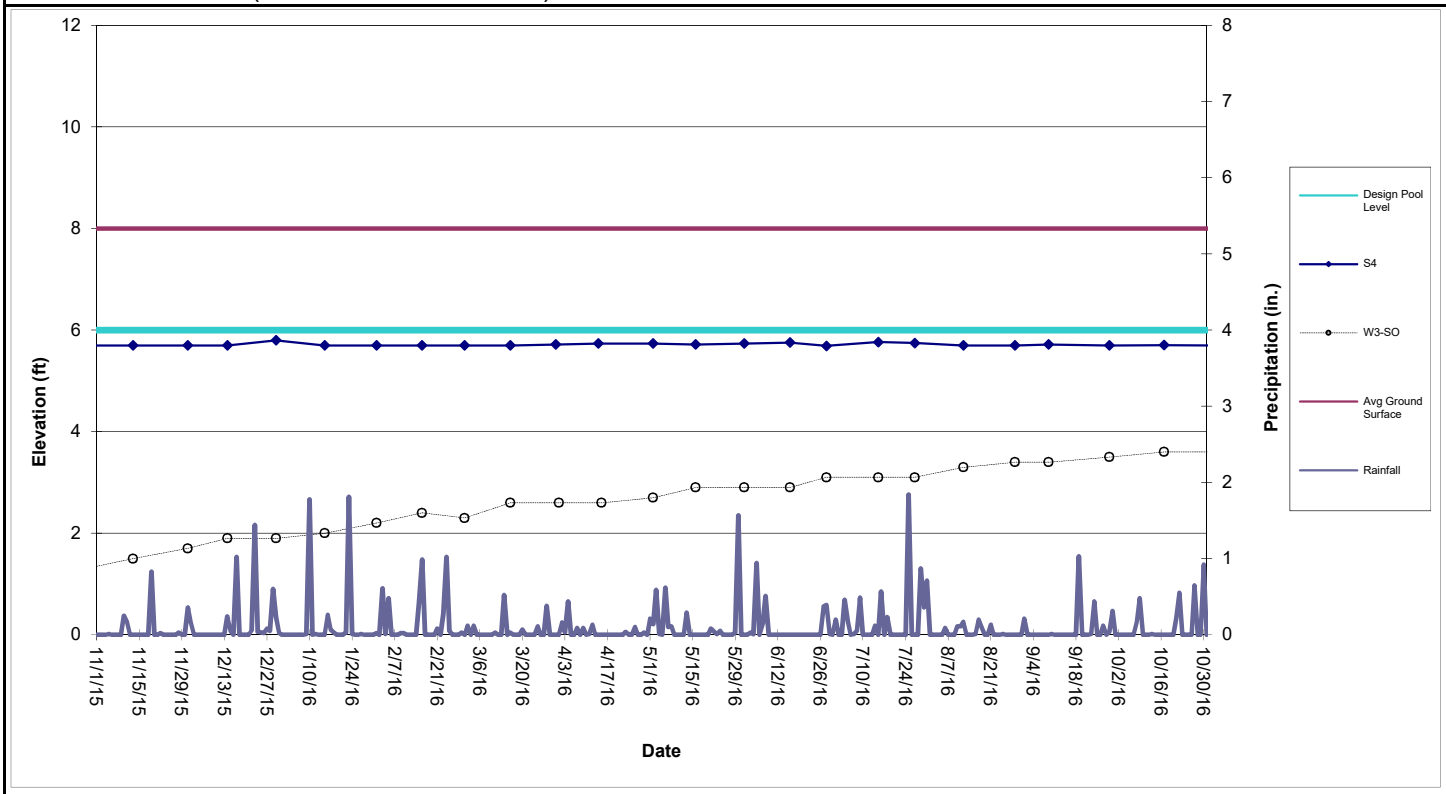
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
11/13/2015	1.8	4.4	4.9	3.5	3.9	6.4	1.5	1.5	5.8	4.6	4.6	3.7	3.4
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7				
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3				
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7				
10/17/2016	3.6	4.7	5.2	3.3	3.5	2.3	3.6	3.5	2.2				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

Table 1: Summary of Groundwater Quality Data
(Attachment 8: Groundwater Quality Data)

Honeywell

Table 1
Summary of Groundwater Quality Data from GWET Wells

Parameter	30-Jun-16			19-Oct-16		
	PW-1 (ug/L)	**PW-3** (ug/L)	**115-MW-215BR** (ug/L)	**PW-1** (ug/L)	**PW-3** (ug/L)	**115-MW-215BR** (ug/L)
Benzene	2.7	27.3	ND	2.5	17.4	ND
Carbon Tetrachloride	4.1	14.6	2.1	4.6	8.2	3.0
Chloroform	24.2	111	0.25	21.9	77.3	0.29
1,1-Dichloroethene	0.55	0.34	ND	0.49	ND	ND
cis-1,2-Dichloroethene	125	59.9	ND	100	46.8	ND
trans-1,2-Dichloroethene	3.5	0.44	ND	3.4	0.32	ND
Toluene	ND	ND	ND	ND	ND	ND
Trichloroethene	86.8	347	ND	80.7	205	ND
1,1-Dichloroethane	0.65	0.25	ND	0.65	ND	ND
Methylene chloride	0.75	3.7	ND	0.58	2.2	ND
Vinyl chloride	17.0	15.2	ND	13.2	6.9	ND
1,2-Dichlorobenzene	0.54	0.19	ND	0.52	ND	ND
Chlorobenzene	0.35	ND	ND	0.33	ND	ND
Ethylbenzene	ND	0.28	ND	ND	ND	ND
Xylenes (total)	ND	0.44	ND	ND	ND	ND
Bromodichloromethane	ND	ND	ND	ND	ND	ND
Hexavalent Chromium	31,300	68,800	14,400	31,000	56,300	19,200
Total Chromium	31,700	37,100	12,900	30,200	58,500	17,800

NA = Not Available for Testing due to COPR excavation activities.
NT = Not Tested
ND = Not detected above reporting limit.

Table 2: Third Quarter 2016
(Attachment 8: Groundwater Quality Data)

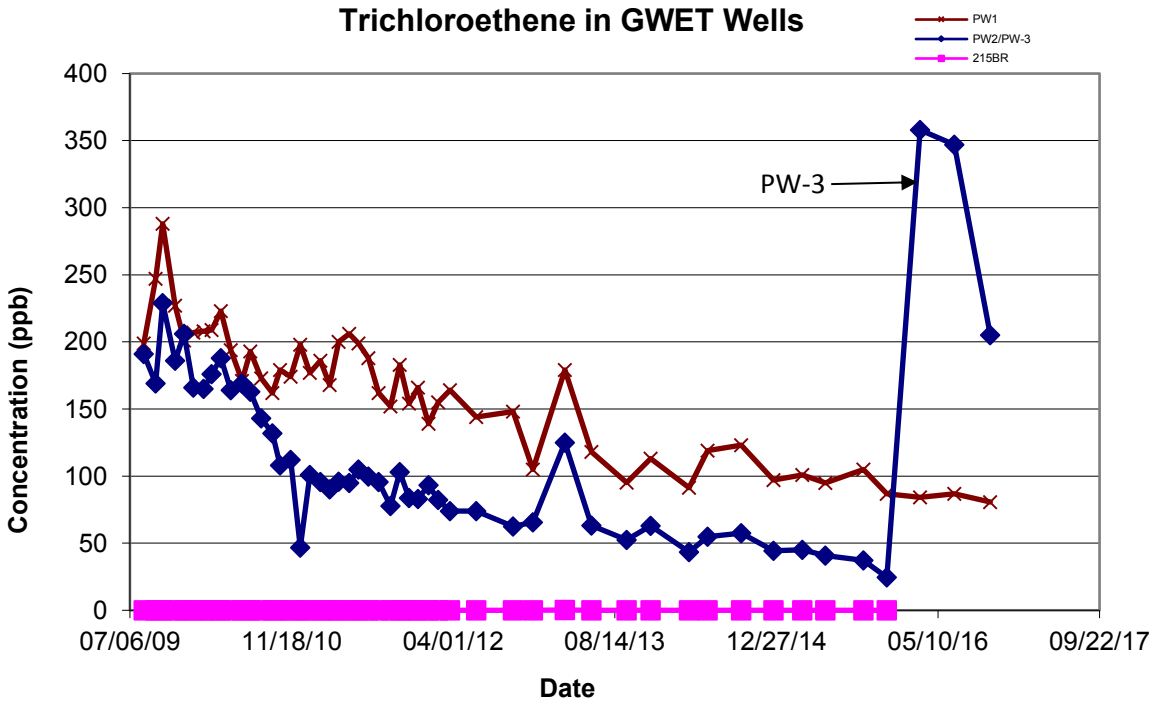
TABLE 2
Third Quarter 2016

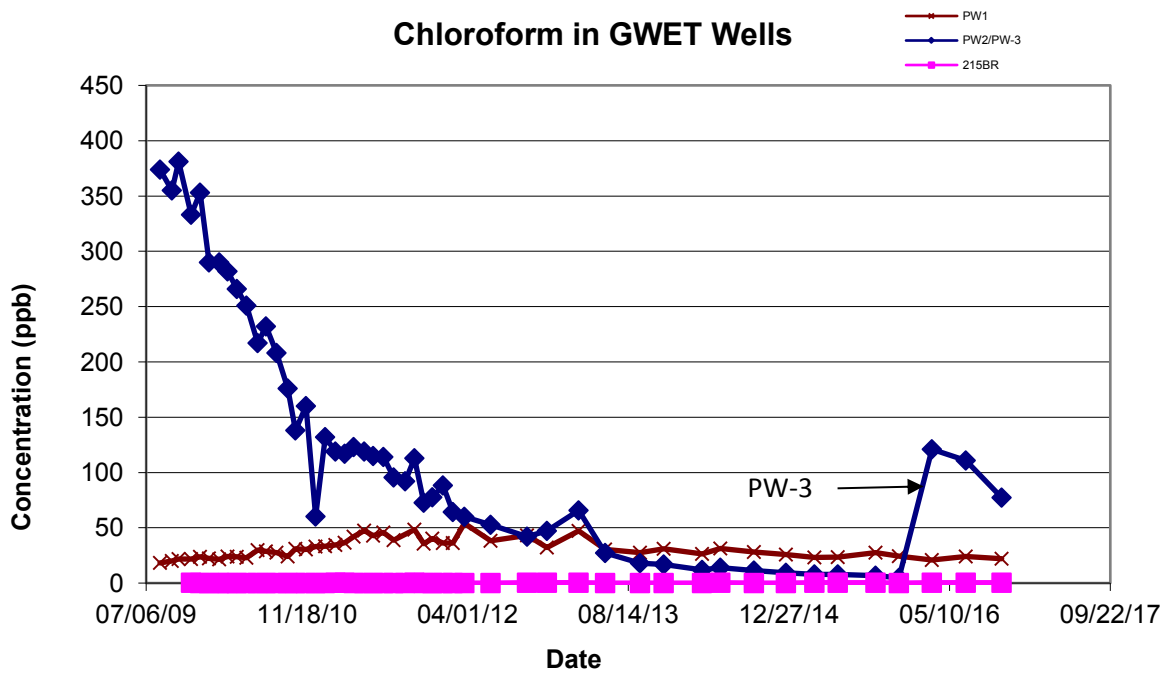
Honeywell

Wells Date: September 27, 2016	Top of Casing Elevation (ft. msl)	Depth to Water (ft., btoc)	Groundwater Elevation (ft., msl)	Comments *GW Elevations are not corrected for tidal influence*
087-MW-25D*	NA	8.71	NA	casing extended
087-MW-25T*	NA	8.73	NA	casing extended
087-MW-35	18.29	NA	NA	Well abandoned
087-OBS-1D	15.13	12.07	3.06	
087-OBS-1L	15.27	12.65	2.62	
087-OBS-1T	15.23	13.65	1.58	
087-PW-2	13.02	10.93	2.09	Inactive, use as obs well only
087-PW-3*	13.00	17.08	-4.08	
087-OBS-7*	13.00	13.66	-0.66	
087-MW-08	12.98	11.46	1.52	
087-OBS-3L	12.88	11.39	1.49	
087-MW-13	12.93	11.47	1.46	
087-OBS-5D	12.72	11.95	0.77	
087-OBS-5T	12.62	12.30	0.32	
087-PW-1	12.66	39.75	-27.09	
087-MW-34	12.73	12.88	-0.15	
087-OBS-2D	12.68	14.07	-1.39	
SA6-MW-AA1D	19.36	17.56	1.80	
SA6-MW-AA1T	15.31	13.78	1.53	
SA6-MW-5BR-1	17.06	14.59	2.47	
087-OBS-4T	11.60	10.52	1.08	
087-MW-O29D	10.32	8.67	1.65	
087-MW-O29T	9.98	NA	N/A	Well abandoned
115-MW-203BR*	8.70	7.13	N/A	casing extended
073-MW-1	25.25	25.70	-0.45	retro-fitted as top-of-rock well
073-MW-10BR-1	6.67	NA	NA	Flute does not purge
115-MW-215BR	8.82	11.71	-2.89	

* Reference point elevation to be confirmed.

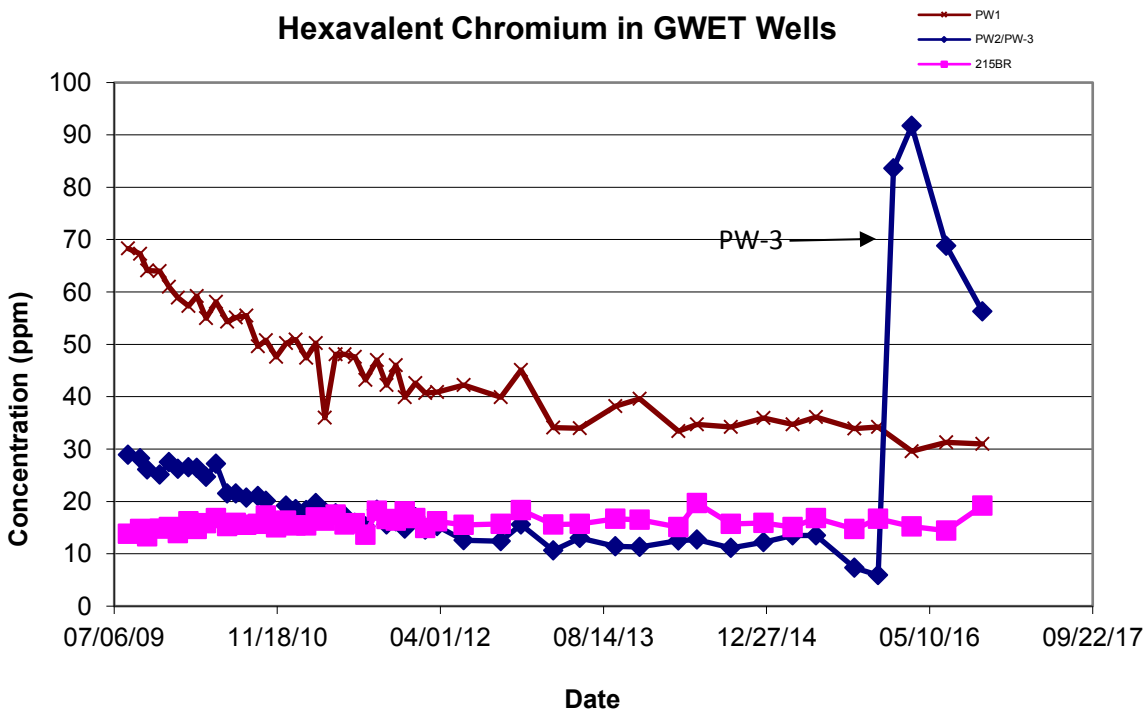
Graphs: Trichloroethene/ Chloroform/ Hexavalent Chromium/ Carbon Tetrachloride in GWET Wells
(Attachment 8: Groundwater Quality Data)

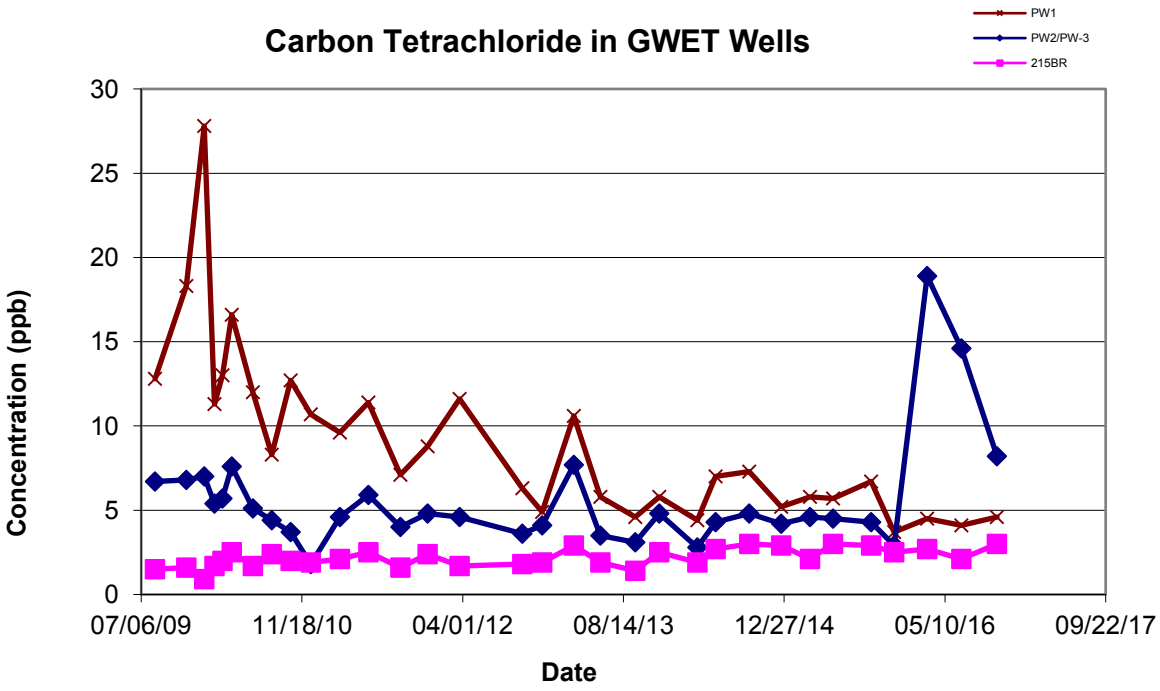




Note:

Notes:
Well 115-MW-203BR was replaced with 115-MW-215BR on 3/3/14.
Well 087-PW-2 was replaced with well 087-PW-3 on 12/2215.





Notes:
Well 115-MW-203BR was replaced with 115-MW-215BR on 3/3/14.
Well 087-PW-2 was replaced with well 087-PW-3 on 12/2215.

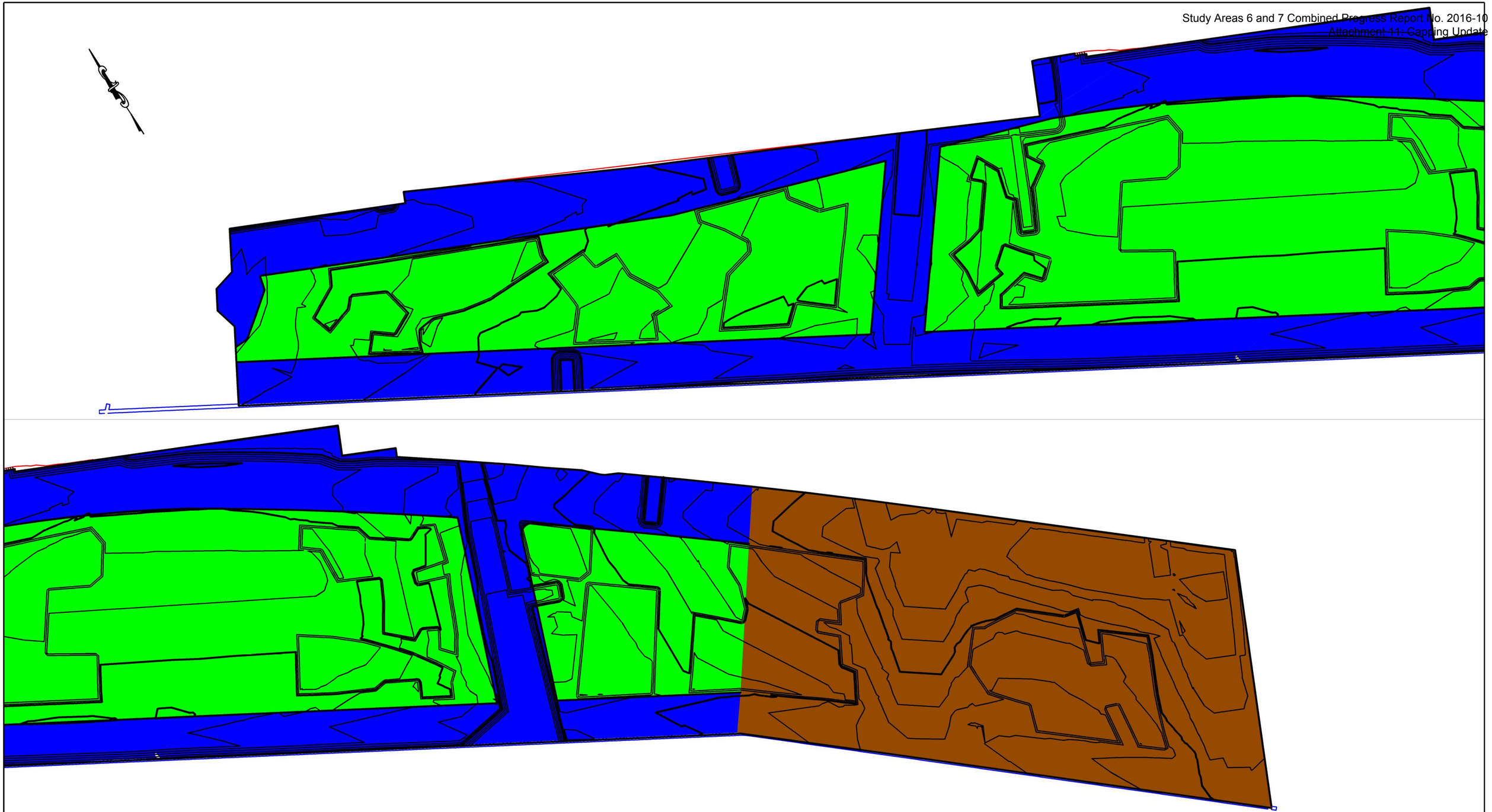
Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)



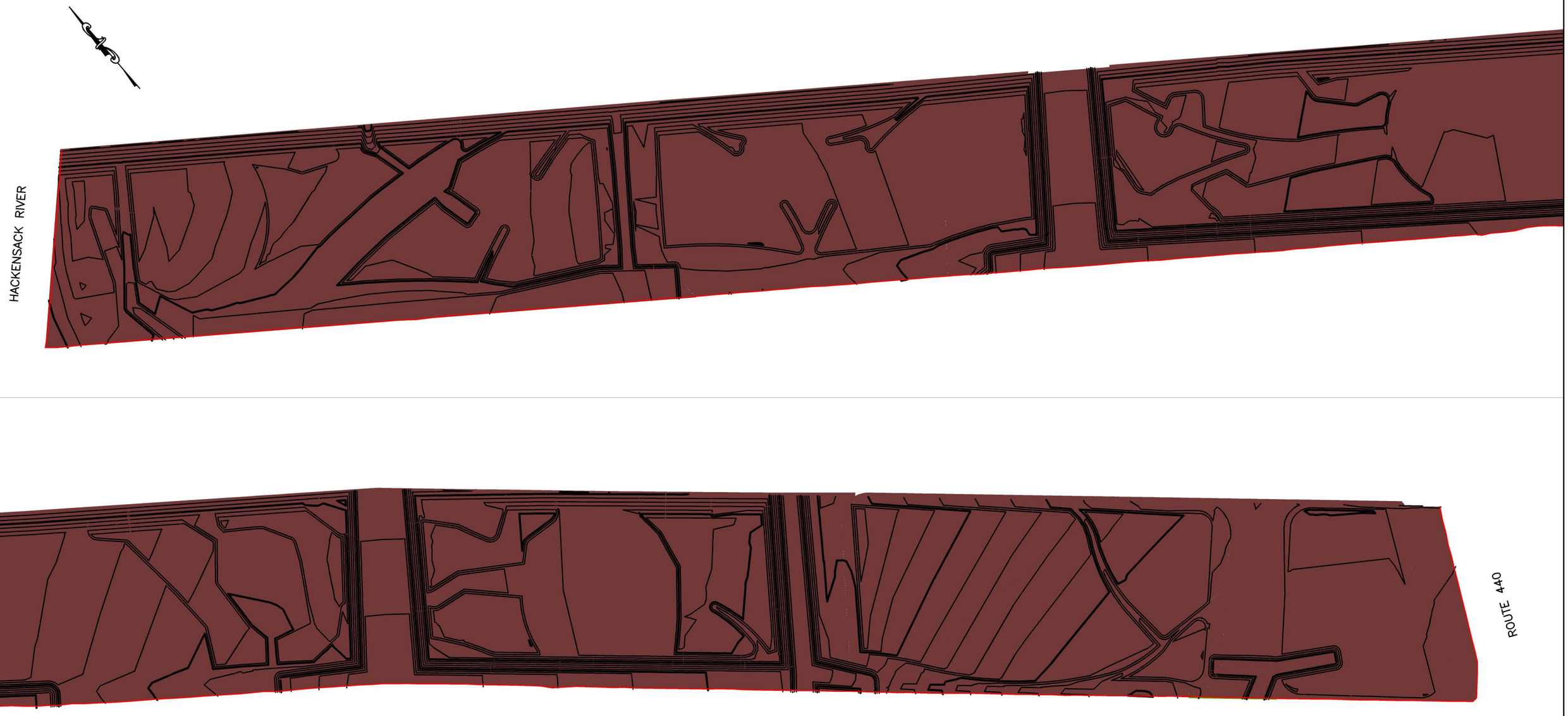
LEGEND

- HORIZON C SOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL
- TOPSOIL PLACED

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

TOPSOIL PLACED

SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 7, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		1
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/07/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 07, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Filter fabric in the stormwater catch basins at the western end of Kellogg Street has become blinded.
2	IA2Q4A1AL8	Garbage and debris has accumulated on the grassy area by the Kellogg Street jughandle

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 10/07/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Replace the catch basin filter fabric as required.	10/12/16 RAD
2	Pick up and dispose of accumulated garbage along the Kellogg Street jughandle and along Kellogg Street.	

Construction Manager: _____ **Date:** 10/13/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 14, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment	X			
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		1
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones	X			
Water Truck Wet- Down Operation	X			
Truck De-Con Operation	X			
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		3
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		4
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/14/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 14, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Mud and other sediment is present on the western end of Kellogg Street by the truck entrance gate.
2	IA2Q4A1AL8	Garbage and debris is present on the grass by the Kellogg Street jughandle.
3	IA2Q4A1AL8	Garbage and debris is present in the SA-6 North, Rt. 440 pedestrian walkway.
4	IA2Q4A1AL8	The silt fence surrounding the Novartis stockpile area on Study Area 7 requires maintenance or replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/14/16

Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Clean up and remove mud and sediment from the road surface and from the strip along the perimeter fence jersey barriers.	10/20/16 RAD
2	Pick up and dispose of the accumulated garbage and debris.	
3	Pick up and dispose of the accumulated garbage and debris.	
4	Repair or replace the erosion control measures as required.	in progress

Construction Manager: _____ Date: 10/20/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 21, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☒ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		1
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment		X		2
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance		X		3
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/21/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 21, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Garbage and debris is present on the grass by the Kellogg Street jughandle.
2	IA2Q4A1AL8	The silt fence surrounding the Novartis stockpile area on Study Area 7 requires maintenance or replacement.
3	IA2Q4A1AL8	Sediment is present on the Study Area 7 north roadway where the berm material was recently removed

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/21/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Pick up and dispose of the accumulated garbage and debris.	10/27/16 (12:41)
2	Repair or replace the erosion control measures as required.	
3	Clean the paved haul road on SA-7 as required.	↓

Construction Manager: _____ Date: 10/27/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: October 28, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☒ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		2
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		3
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 10/28/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, October 28, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence on SA-6 North by the Rt. 440 pedestrican walkway.
2	IA2Q4A1AL8	The silt fence surrounding the Novartis stockpile area on Study Area 7 requires maintenance or replacement.
3	IA2Q4A1AL8	The filter fabric in the stormwater catch basin at the Northeast corner of SA-7 is blinded with sediment and requires replacement.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 10/28/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	11/3/16 RAD
2	Repair or replace the erosion control measures as required.	
3	Replace the filter fabric in the catch basin.	1/

Construction Manager: _____ Date: 11/03/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted September 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 19, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the September 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
9	01	16	9	30	16
MO	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	77,623	81,075 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.66	0.69	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.015	<0.015	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.0	<5.0	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1516	0.1516	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets):

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used:

All analytes are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3.

SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler.

All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris VP
Signature of Principal
Executive or Authorized Agent

John J. Morris

Remediation Portfolio Director
Type Name and Title

Oct 18, 2016
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 101 Columbia Rd, (Attn: Maria Kaouris (SOL-4)) Morristown, NJ 07962

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
9	01	16	9	30	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,328,702 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 73,378,558

DATE	BOD (mg/l)	TSS (mg/l)
9/13/2016	<5.0	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris VP	John J. Morris	(973) 455-4003
		DATE Oct 18, 2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)						MONTH: September, 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits		5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
9/1/2016	Angel Trujillo	71049856	71125968	76,112	0.076112	8.29	1.020									0.65
9/2/2016	Angel Trujillo	71125968	71205920	79,952	0.079952	7.01	1.020									0.68
9/3/2016	Angel Trujillo	71205920	71285772	79,852	0.079852	7.02	1.020									0.68
9/4/2016	Angel Trujillo	71285772	71363511	77,739	0.077739	7.10	1.020									0.66
9/5/2016	Angel Trujillo	71363511	71441250	77,739	0.077739	7.09	1.020									0.66
9/6/2016	Angel Trujillo	71441250	71515976	74,726	0.074726	7.01	1.020									0.64
9/7/2016	Angel Trujillo	71515976	71592442	76,466	0.076466	7.16	1.020									0.65
9/8/2016	Angel Trujillo	71592442	71669950	77,508	0.077508	7.16	1.020									0.66
9/9/2016	Angel Trujillo	71669950	71748819	78,869	0.078869	6.95	1.020									0.67
9/10/2016	Angel Trujillo	71748819	71828328	79,509	0.079509	7.23	1.020									0.68
9/11/2016	Angel Trujillo	71828328	71902394	74,066	0.074066	7.10	1.020									0.63
9/12/2016	Angel Trujillo	71902394	71976460	74,066	0.074066	7.11	1.020									0.63
9/13/2016	Angel Trujillo	71976460	72056256	79,796	0.079796	6.83	1.020	<5.0	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	0.68
9/14/2016	Angel Trujillo	72056256	72132192	75,936	0.075936	7.09	1.020									0.65
9/15/2016	Angel Trujillo	72132192	72210400	78,208	0.078208	7.80	1.020									0.67
9/16/2016	Angel Trujillo	72210400	72288135	77,735	0.077735	7.05	1.020									0.66
9/17/2016	Angel Trujillo	72288135	72369210	81,075	0.081075	7.13	1.020									0.69
9/18/2016	Angel Trujillo	72369210	72444517	75,307	0.075307	7.20	1.020									0.64
9/19/2016	Angel Trujillo	72444517	72519824	75,307	0.075307	7.30	1.020									0.64
9/20/2016	Angel Trujillo	72519824	72596090	76,266	0.076266	7.28	1.020									0.65
9/21/2016	Angel Trujillo	72596090	72672621	76,531	0.076531	7.14	1.020									0.65
9/22/2016	Angel Trujillo	72672621	72753213	80,592	0.080592	7.22	1.020									0.69
9/23/2016	Angel Trujillo	72753213	72829818	76,605	0.076605	7.19	1.020									0.65
9/24/2016	Angel Trujillo	72829818	72908564	78,746	0.078746	7.24	1.020									0.67
9/25/2016	Angel Trujillo	72908564	72986986	78,422	0.078422	7.30	1.020									0.67
9/26/2016	Angel Trujillo	72986986	73065408	78,422	0.078422	7.21	1.020									0.67
9/27/2016	Angel Trujillo	73065408	73144654	79,246	0.0792	7.33	1.020									0.67
9/28/2016	Angel Trujillo	73144654	73221560	76,906	0.076906	7.35	1.020									0.65
9/29/2016	Angel Trujillo	73221560	73300054	78,494	0.078494	7.15	1.020									0.67
9/30/2016	Angel Trujillo	73300054	73378558	78,504	0.078504	7.18	1.020									0.67
TOTAL				2,328,702	2.328702			<5.0	<5.0		<0.010	<0.015	<0.010	<0.0002	<0.020	
			High:	81,075											High:	0.69
			Average:	77,623											Average:	0.66

WW

E

JC 27484

Accutest Labs	Honeywell	Chain Of Custody / Analysis Request	AESI Ref:	42626.48208
2236 ROUTE 130 Dayton, NJ 8810 732-329-0200	Privileged & Confidential	Site Name: Hudson County / Phase: CS	COC#	087-WW-091316
Sampling Co.: MACTEC	EDD To:	Location of Site: Jersey City, NJ / Sampling Program: 087: JCIA	Lab Proj # (SDG):	
Client Contact: (name, co., address)	Sampler: Frank Schroyer		Lab ID	ACTD
Helen Fahy P: (973) 455-2989 E: helen.fahy@honeywell.com	PO #		Site ID	HudsonCo
Honeywell International	Analysis Turnaround Time (TAT): 3	Preservative: 3 3 3 1 2 2 0 0 2	Lab Job #	HWINJM32815
115 Tabor Road, Morris Plains, NJ 07950	Consultant: CH2M		Authorized User:	Honeywell
Preliminary Data To				
Sample Receipt Acknowledgement To			Text & Excel File Drive	Excel & Text File Order
Hard Copy To: Helen Fahy (Honeywell)	Full Report TAT: 28 Days			
Invoice To: Helen Fahy (Honeywell)				

Copyright AESI: Version 8.0 Unauthorized use strictly prohibited.

	Sample Identification				Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Composite/Grab	Field Filtered Sample?	Total CHROMIUM (EPA 200.7)	EPA 200.7 Cd, Pb, Zn, Ni	E245.1 Hg	E405.1 Biological Oxygen Demand	EPA 624 TVOC	E1664A SGT-HEM	EPA 150.1 PH	E160.2 Total Suspended Solids	EPA V624-SL VOCs; see attached special list							Sampling Method (code)	Lab Sample Numbers
	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID							Units																		
1	087-WW			087-WWE-091316-A	9/13/2016	14:20	WW	WATER	REG	5	comp	N	X	X	X	X			X	X		1							
2	087-WW			087-WWE-091316-B	9/13/2016	14:25	WW	WATER	REG	5	grab	N					X	X				2							A29
3	087-WW			087-WWI-091316	9/13/2016	14:30	WW	WATER	REG	3	grab	N									X	3							G56
4																													L29
5																													V1125
6																													
7																													
8																													
9																													
10																													
11																													
12																													

Relinquished by: Frank Schroyer	6.83 5.4 @ 9.5°C / 9/13/16 Date/Time 1515	Company: AMEC Foster Wheeler	Received by	Company		Condition	Custody Seals Intact
				9-13-16 Date/Time 1515		Cooler Temp.	
Relinquished by	9-13-16 Date/Time 1650	Company	Received by	Company: SAS		Condition	Custody Seals Intact
				Date/Time: 9-13-16 1650		Cooler Temp.	

Preservatives: (Other; Specify):

0 (none); 1 (4 Deg C); 2 (HCl pH<2); 3 (HNO3 pH<2); 4 (H2SO4 pH<2); 5 (NaOH pH>12); 6 (NaOH, Zn Acetate); 7 (H2SO4 (pH<2), 4 Deg C)); 8 (HCl pH<2); 9 (HCl 4 Deg C); 10 (HNO3 (pH<2), 4Deg C); 11 (4C NaOH (pH>12) & Ascorbic Acid); 12 (4C H2SO4 (pH<2) & Na2S2O3); 13 (Zn Acetate); sp (special instructions)

INITIAL ASESSMENT BBM

LABEL VERIFICATION

049

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-A		
Lab Sample ID:	JC27484-1	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1020	10	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Copper	< 10	10	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Lead [a]	< 15	15	ug/l	5	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Mercury	< 0.20	0.20	ug/l	1	09/14/16	09/14/16	JPM	EPA 245.1 [1]	EPA 245.1 [3]
Nickel	< 10	10	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]
Zinc	< 20	20	ug/l	1	09/16/16	09/17/16	GT	EPA 200.7 [2]	EPA 200.7 [4]

(1) Instrument QC Batch: MA40293
(2) Instrument QC Batch: MA40321
(3) Prep QC Batch: MP95994
(4) Prep QC Batch: MP96034

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-A		
Lab Sample ID:	JC27484-1	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.1
4

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	09/14/16 11:15	AT	SM2540 D-11
pH [a]	6.82		su	1	09/13/16 17:46	HFM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-A		
Lab Sample ID:	JC27484-1A	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	< 5.0	5.0	mg/l	1	09/14/16 17:02	DM	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-B		
Lab Sample ID:	JC27484-2	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	N257494.D	1	09/15/16	SC	n/a	n/a	VN10876
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	3.7	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.7	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	ND	1.0	0.12	ug/l	
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	23.6	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.15	ug/l	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.43	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	60.6	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.6	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.81	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-B		
Lab Sample ID:	JC27484-2	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

4.3
4

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene [b]	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	55.2	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	102%		72-125%
2037-26-5	Toluene-D8 (SUR)	100%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	97%		74-115%
1868-53-7	Dibromofluoromethane (S)	103%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.
(b) This compound in BS is outside in house QC limits bias high.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@929339 14:20 05-Oct-2016

Report of Analysis

Client Sample ID:	087-WWE-091316-B		
Lab Sample ID:	JC27484-2	Date Sampled:	09/13/16
Matrix:	AQ - Water	Date Received:	09/13/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.0	5.0	mg/l	1	09/14/16 17:20	LS	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentaion Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-8-14	The area indicated on sheets S-201 to S-203 from Station 0+00 to 17+80 will be sealed with a cement bentonite grout in lieu of hydraulic sealant. This area will include a grouted angle.	Contingency to Expand Use of Grouted Joint Called out in 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-12	Hydraulic barrier alignment for SA-6 South between 21+00 and 22+00 to be straightened. Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.	Minor alignment adjustment now that Boatyard Property transaction to Bayfront completed. Submitted to Contractor only as clarification or response to RFI.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2013-12-12	The proposed bottom of excavation elevations may be deepened as required to expose Post-Excavation Samples as reported on the revised PDI summary tables which were submitted to Parties in HON/Amec Response to Comments dated 02/06/14.	In addition to the periodic notice of excavation complete emails to the Parties, Honeywell submitted the following documents that further defined excavation extents, updated PDI Tables (converted to elevations), Colorized Area Excavation Depth Drawing, and procedures to certify those extents: 1) 2/6/14 RTC letter on 1/28/14 & 1/31/14 Plaintiff comment letters Re: Cells 17 - 29. 2) 3/3/14 SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits. 3) 4/17/14 RTC letter on 4/11/14 Plaintiff comment letters Re: Cells 44 - 52. 4) 4/24/14 Revised SA-6 South Standard Operating Procedure, Confirmation of Excavation Limits.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-6-10 includes the french drain installation, as well as pump and access station manholes for SA-6 South. Some design details, including the electrical design, will be finalized based field obersvations and constructability review.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-10	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-2-12	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA 6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-9-03	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to address the elimination of a drop structure, the elmination of a flow meter, conduit sizing changes, and to clarify Entact's scope.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2013-8-14	Modify surcharge pile toe of slope to reduce load on the bulkhead.	Submitted to all Parties on July 10, 2014.
DC 2014-5-6	Excavate down to 4 ft bgs (instead of 3 ft bgs) in a portion of the Site 163 excavation area.	5/6/14 letter from Honeywell summarizing the ERFS SiteVision field testing program indicated that this portion of Site 163 would be excavated instead of treated in-situ.
DC 2014-5-19	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-10-28	Direction on the handling of petroleum soils under the cap.	Submitted to all Parties on November 19, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2014-12-01	The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	To be submitted to Parties as Attachment to Declaration 004.
DC 2015-01-22	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on 5/27/15.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on 5/27/15.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-03-04	The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.	Submitted to Parties on July 2, 2015.
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberence was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2015-06-18	Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). In addition, it was identified that minor increases in the Bayfront final grades of up to 0.25 feet may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.	Submitted to all Parties on June 18, 2015.
DC 2015-05-29	Details were revised in order to clarify cap termination beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.	Submitted to Parties on August 27, 2015.
DC 2015-06-05	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.
DC 2015-11-12	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	To be submitted to Parties as Attachment to Declaration 005.
DC 2016-04-15	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	To be submitted to Parties as Attachment to Declaration 005.
DC 2015-06-18 (South)	Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated September 2012.	Submitted to all Parties on 6/22/15.
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-06-15	A Construction Control Grid for the SA-6 cap subgrade was developed in CAD as a Triangular Irregular Network for construction control and verification of compliance with cover thickness requirements in the Consent Decree and Open Space Design Standards.	Submitted to Parties on August 27, 2015.
DC 2015-07-16	The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.	Submitted to Parties on August 27, 2015.
DC 2015-08-18	The Design detail (Drawing C-121, Detail AN) assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	Submitted to Parties on August 27, 2015.
DC 2015-10-06	GCL is required to be installed over the SCB wall and Barrier Wall at the locations shown in the annotated PDF of C-121 (rev 4, 8/13/15).	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-22	Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.	Submitted to Parties on August 27, 2015.
DC 2015-07-28	Drawing 304, Detail CE and associated notes regarding the "Liner Anchor to Concrete Structure" have been modified.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-07	AmecFW has conducted further review of the "Liner to Concrete Structure Detail" (Drawing C-304, Detail CE) with Entact/ESI, including field review, to improve constructability.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-07-30	Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. AmecFW reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development. The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longe required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-08-20	The most easterly utility corridor was eliminated from the Development Plan, allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall (revised Drawing S-201). Addendum: The top of the SCB wall will also be revised to reflect the elimination of the utility corridor (revised Drawing S-204).	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	To be submitted to Parties as Attachment to Declaration 004.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	To be submitted to Parties as Attachment to Declaration 003.
DC 2015-09-28	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.
DC 2015-12-21	Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance withASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	To be submitted to Parties as Attachment to Declaration 003.
DC 2016-02-03	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-05-06	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.
DC 2016-05-31	This DCB documents the vault sketch Drawing C-310 (Rev 5, 5/31/16)	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log - Month Ending October 2016

Changed Item Identifier	Description of Change	Comments
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	To be submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.
DC 2016-10-21	Amee Foster Wheeler has consulted with Dr. James Murphy of the Rutgers Cooperative Extension regarding seed mixes that are suitable for use at this time of year. Based on the Rutgers' recommendations either one of the two seed mixes noted below is considered acceptable. Seed Mix 1: • 80% tall fescue • 20% perennial ryegrass • seeded at 360 pounds per acre Seed Mix 2: • 70% ta ll fescue • 10% Kentucky bluegrass • 20% perennial ryegrass • seeded at 360 pounds per acre	Included as an attachment to October 2016 Monthly Progress Report.

Notes: All tracked changes will be reflected in the as-built drawings and Final Record Documents as agreed to with the Parties.

12/13/2016
MONTHLY REPORT

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

December 13, 2016

Honorable Robert G. Torricelli
Office of the Special Master
c/o Sean Jackson
7 So. Lanning Ave.
Hopewell, NJ 08525

Re: Riverkeeper et al v. Honeywell International Inc. et al
Study Areas 6 and 7 Combined Monthly Progress/Highlights
Report No. 2016-11

Dear Senator Torricelli:

Attached is the combined Chromium Remedy Monthly Progress Report for Study Areas 6 and 7, for activities conducted by Honeywell during the period from November 1 – November 30, 2016.

If you have any questions concerning the content of the report, please feel free to contact the undersigned.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:jtc/sgf

Attachment: Novembefr 2016 SA-6/7 Combined Monthly Progress Report No. 2016-11

cc: Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP (electronic copy)
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall (electronic copy)
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STUDY AREAS 6 AND 7 COMBINED MONTHLY PROGRESS/HIGHLIGHTS REPORT NO. 2016-11

Project SA-6 & 7 Remediation

November 2016

A. SUBMITTALS AND MEETINGS

Date	Submittal/Meeting	Recipient
11/07/16	Initiation of Long Term Groundwater Monitoring Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master
11/09/16	SA-6 South Declaration No. 2	The Honorable Robert G. Torricelli Office of the Special Master
11/14/16	Study Areas 6 and 7 Combined Monthly Progress/Highlights Report No. 2016-10	Honorable Robert G. Torricelli Office of the Special Master
11/17/16	SA-6 South 12-month transition period groundwater elevation data (Presentation Slides)	*Upload to Louis Berger SharePoint Site*
11/15/16	Special Master All Parties Meeting	n/a
11/21/16	Study Area 6 Chromium Remediation – PVSC Connection Fee Jersey City, NJ Connection File # 15830	Frank Grant Passaic Valley Sewerage Commission
11/21/16	Honeywell International Inc. Court Ordered Regional Groundwater Remedy Treatment Plant Located at 525 & 575 Route 440, Jersey City MR 1 and MR 2 Permit ID# 20630025	Andy Caltagirone Manager of Industrial & Pollution Control Passaic Valley Sewerage Commission
11/30/16	SA-6 North Declaration No. 4	The Honorable Robert G. Torricelli Office of the Special Master
11/30/16	Groundwater Sampling Results Study Area 6 (SA-6) South Jersey City, New Jersey	The Honorable Robert G. Torricelli Office of the Special Master

SITE OPERATIONS

1. AVERAGE WEEKLY SITE RESOURCES

Team	Week Ending			
	11/6/16	11/13/16	11/20/16	11/27/16
Construction Management (AMEC)	9	8	10	7
Engineering (AMEC)	1	1	1	1

Team	Week Ending			
	11/6/16	11/13/16	11/20/16	11/27/16
Air Monitoring (Emilcott)	1	1	1	1
Security (Securitas)	3	3	3	3
Entact/Subcontractors	19	20	22	16
Arecon/US Ecology Subcontractors	0	0	0	1
Maser	1	0	1	1
Langan	0	0	0	0
ERFS	0	0	0	1
Evoqua	1	1	1	1
B&B Drilling	0	0	1	0
Cornerstone	0	0	1	2
TOTAL STAFF	**35**	**34**	**41**	**34**

2. SITE HIGHLIGHTS (GENERAL)

- Performed routine groundwater monitoring and GWET inspections.
- Continued Ground Water Treatment Plant (GWTP) processing activities.
- Conducted perimeter air monitoring activities using hand-held portable devices for nuisance dust.
- Completed installation of CGWES components within the SA-6 North Open Space Areas to include installation of spare conduit pipe for future piezometer instrumentation on the north side of the SA-6 North Open Space Area.
- Initiated long-term groundwater monitoring activities at SA-6 South in accordance with the correspondence submitted by Honeywell to All Parties, dated November 7, 2016. This correspondence also transmitted results of samples collected from piezometers located on the interior of both SA-6 North and SA-6 South Open Areas.
- Completed post-injection groundwater sampling and monitoring in Treatment Area 10-1 in accordance with the NJDEP – Discharge to Groundwater Permit.
- On December 5, 2016, collected post-injection soil samples for total and hexavalent chromium and sulfide from the TA-10-1 area in accordance with the Amec Foster Wheeler memo entitled, "Proposed In-Situ-Treatment Event for Remaining Hexavalent Chromium Impacted Soils – Treatment Area 10-1", dated July 11, 2016.
- Conducted S-3 Mass Removal Injection Event No. 34 in injection well 088-IW-03.
- Completed sidewalk restoration activities within the work limits along Route 440.
- Removed Highway Occupancy Permit Fence and barricades along Route 440.

B. SA-6N GROUND WATER TREATMENT PLANT

- Cleaned all process vessel pH and ORP probes, and mixed/refilled the polymer.
- Cleaned downstream process tanks T-300 (neutralization tank) and T-400 (effluent tank).
- Received monthly lab results for the GWTP effluent PVSC sampling conducted on November 15, 2016.

1. WEEKLY SUMMARY

80 Kellogg GWTP Data	Week Ending			
	11/06/16	11/13/16	11/20/16	11/27/16
Avg. Gallons Treated & Discharged (per day)	77,961	77,307	78,910	74,929
Average Flow (gpm) for Operating Period	55	55	56	58
Avg. Hours of Plant Operation	23	23	23	22
GWTP Influent Tanks (gal.)	3,246	2,844	4,300	3,463

C. EXCAVATION AND BACKFILL *(see **Attachment 3** for Progression Chart)*

- Continued storm-water management activities.
- Completed cleaning and demobilization of temporary Construction Water Treatment Plant.
- Initiated placement of geotextile and 6 inches of #57 Stone in the SA-6 North in the area just north of the Open Space Area and south of the JCMUA property. The restoration serves as both final restoration of disturbed areas and also as historic fill cap.

1. OFF-SITE DISPOSAL MONTHLY WASTE MATERIALS SUMMARY

Contractor/ Transporter	Truck Type	Destination	TSDF	Material	Truck Loads	Avg. T/ Truck	Tons Shipped
Siemens/FCI	Roll-off	Sarnia, Ontario Canada	Stablex	WWTP Filer Cake	1	17	17
Montecalvo	Tri-axle	Keasby, NJ	Bay shore Recycling	Non Haz Cr	4	24	96

2. EXCAVATION & BACKFILL PROGRESS

Description	Areas
Backfill in Progress	#57 Stone Historic Fill Cap – SA6 N Restoration Area

3. BACKFILL MATERIALS USED (TONS)

Source	Week Ending			
	11/06/16	11/13/16	11/20/16	11/27/16
Natures Choice Topsoil	801	0	1,241	287
EME Topsoil	4,640	5,090	3,566	1,524
Tilcon Mount Hope I-8	104	0	52	0
Natures Choice Horizon C	203	0	0	108
Tilcon DGA	0	0	0	100
Tilcon Mt. Hope 1.5"	0	52	51	77
Tilcon Mt. Hope #57	0	513	1,427	1,189
Weldon Screenings	277	139	0	0

- The EME Horizon A clean fill new source information dated October 13, 2016 is included in Attachment 15.
- This new source transmittal includes the EME certification that materials from their identified quarries being used for the Horizon A Topsoil are both virgin and not commingled. In addition, this transmittal includes all initial analytical and geotechnical data that supported the material meets the SA-6 100% Design and DCB adjusted specifications for Horizon A topsoil.
- In response to Plaintiffs' initial questions, we are also attaching the October 19, 2016 e-mail transmittal which confirmed earlier discussions (among Amec Foster Wheeler and the Parties during a conference call on October 4, 2016) which identified that the EME facility needed to increase the organic content via blending of an amendment to meet SA-6 100% Design and DCB adjusted specifications.
- The October 19, 2016 transmittal also clarifies that a natural Peat material was the organic amendment being used in the blending process at the EME facility. Honeywell further provided a separate clean fill certification from the Peat organic amendment supplier.
- Lastly, the October 19, 2016 response by Honeywell includes a clarification statement that Amec Foster Wheeler obtained the analytical and geotechnical samples on the blended Horizon A Topsoil product to be imported to SA-6.

D. SURCHARGE OPERATIONS

- All surcharging activities are completed.

E. SHEET PILE OPERATIONS

- All sheet pile operations are complete.

F. CAPPING OPERATIONS

- Completed importing and placing Horizon A soils on SA-6 South Open Space Area.

- Completed hydro-seeding of SA-6 South Open Space Area and placement of erosion control matting.
- Completed installation of toe drain on the south side slope of the SA-6 North Open Space Area.
- Performed hydro-seeding of the SA-6 North Open Space Area and placement of erosion control matting.
- Completed importing and placing Horizon A soils on SA-6 North Open Space Area.
- Stockpiled a small quantity of Horizon A & C soils within SA-7 for potential future repairs of the SA-6 South and SA-6 North Open Space Areas.

G. PERMIT STATUS

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Waterfront Development	SA-6 North Only	Obtained 6/23/2010	Not Specified, Est. 3/31/2015	6/23/2015	-
NJDEP CAFRA/FHA	SA-6 South Only	Obtained 9/26/2012	Renewal Not Needed	9/25/2017	10/09/2012
HEPSCD SESCP	Novartis Soil Pile/SA-7	Obtained 8/21/2012 Extension Obtained 5/17/2015	Renewal Not Needed	10/04/2019	-
NJDEP RFA	Novartis Soil Pile/SA-7	Obtained 9/7/2012	Renewal Not Needed	Not Specified	-
PVSC SUP No. 31630019	SA-6 Chromium Remedy	Obtained 3/26/2014 Final Revision 5/23/14	Renewal Not Needed	8/31/2018	04/19/2014
SESCP	SA-6 Chromium Remedy	Obtained 5/16/2013	Renewal Not Needed	11/16/2016	-
RFA	SA-6 Chromium Remedy	Obtained 5/29/2013	Not Specified	Not Specified	-
NJDEP - Water Allocation	SA-6 Chromium Remedy	Obtained 6/19/2013	Renewal Not Needed	5/31/2018	-
NJDEP – Treatment Works Approval	SA-6 Chromium Remedy	Obtained 7/8/2013 Extension Obtained 3/16/2015	Not Specified, Est. 3/31/2016	6/30/2016*	-
NJDOT - Highway Occupancy Permit	SA-6 Chromium Remedy	Obtained 9/11/2013 Extension Obtained 10/14/2015	Not Specified	6/30/2016	-
NJDEP CAFRA/WFD/FHA GWTP Force Mains	GWTP	Obtained 4/22/2008	Renewal Not Needed	4/22/2013	-

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
HEPSCD SESCP	GWTP	Obtained 8/27/2012	Renewal Not Needed	2/27/2016	-
NJDEP CAFRA/WFD/FHA	GWTP	Obtained 11/16/2012	Renewal Not Needed	6/23/2015	-
NJDEP Treatment Works Approval	GWTP	Obtained 4/11/2013	Renewal Not Needed	4/10/2015	4/23/2013
NJDEP Air Pollution Control Preconstruction Permit	Existing GWTP	Obtained 9/24/2013 Automatically Renewed for 5 years	Not Specified, Est. 3/23/2019	6/23/2019	11/20/2013
PVSC SUP No. 20630025	Existing GWTP	Obtained 10/1/2013 Final Revision Received 12/02/2015	6/30/2018	9/30/2018	10/29/2013
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 4/30/2012 Revised 07/14/2015	Not Specified	Not Specified	5/10/2012
NJDEP DGW for In-Situ Treatment of Chromium Impacted Soils	SA-6 South Only	Obtained 1/3/2013	Not Specified	Not Specified	-
NJDEP Discharge to Groundwater (DGW) for In-Situ Treatment of Chromium Impacted Soils	SA-6 North Only	Obtained 08/04/2016	Not Specified	Not Specified	9/12/16
NJPDES Permit	SA-7	Renewed: Effective 12/01/2012	Renewal Not Needed	6/30/2015	1/11/2013
Subchapter 8 Air Permit Application for the Waste Water Treatment Plant	SA-7	Issued: 06/24/2009	Renewal Not Needed	6/23/2014	7/15/2009
Individual Waterfront Development Permit and Water Quality Certificate for Sediment Remedy	SA-7	Issued: 05/27/2011 Modified: 07/02/2012	N/A	5/26/2016	5/27/2011, 7/5/2012
Tidelands Licenses for Sediment Remedy	SA-7	Re-Issuance of Final Tidelands License is pending and will be effective 7/21/2013	N/A	7/21/2014	7/19/2012
Pre-Construction Notice – Nationwide Permit #38 for Sediment Remedy	SA-7	Issued: 3/21/2013	N/A	3/18/2015	3/25/2013

Permit	Site	Status	Renewal Application Due Date	Expiration Date	Date Transmitted to the Louis Berger Group
NJDEP Individual Upland Waterfront Development Permit and Water Quality Certificate for Bulkhead Expansion Project	SA-7	Issued: 5/10/2016	TBD	5/9/2021	-
NJDOT – Application for Drainage Connection, Post Remediation Grading and Drainage	SA-6 Chromium Remedy	Application Submitted 8/19/14 Permit Application Rescinded 12/1/14 & Approved by DOT on 12/18/14	N/A	N/A	N/A
NJDOT – Highway Occupancy Permit – Installation of Sheet Piling and Excavation Adjacent to Rte 440 ROW	SA-6 Chromium Remedy	Application Submitted 9/8/14 Final Executed Permit Issued 12/2/14	11/2/15, 1-yr Extension Obtained 12/24/15	12/03/16	Pending
USACE Nationwide Permit No. 27 for Droyers Cove Beneficial Environmental Project	Bayfront	Issued: 4/15/2016	TBD	3/18/2017	5/4/16
NJDEP Coastal General Permit 24 for the living shoreline	Bayfront	Issued: 10/15/2015	TBD	10/14/2020	5/4/16

** Amec Foster Wheeler reviewed the expiration of this TWA with NJDEP, Division of Water Quality and no extension is necessary.*

H. PLANNED HIGHLIGHTS FOR NEXT MONTH

- Complete installation of the Contingent Groundwater Extraction System Components final connections within the GWTP including the mechanical piping and conduit.
- Complete hydro-seeding of SA-6 North Open Space Area.
- Complete storm-water management activities associated with construction.
- Complete placement of geotextile and 6 inches of #57 Stone in the SA-6 North Restoration Area.
- Complete SWPPP inspections associated with construction.
- Conduct fourth quarter regional groundwater level monitoring event.
- Complete demobilization of Entact crew, office trailers and equipment.

ATTACHMENTS:

1. Schedule – 6 Month Look Ahead
2. Site Photographs
3. Excavation and Backfill (Progression Chart)
4. Dewatering Operations Update *(not included in this reporting period)*
5. SA-6 Construction Water Discharge Data (To PVSC)
6. Backfill Analytical Data *(not included in this reporting period)*
7. Perimeter Pools Update
8. Groundwater Quality Data *(provided quarterly, not included in this reporting period)*
9. Surcharge Monitoring Update *(not included in this reporting period)*
10. Sheet Pile Update *(not included in this reporting period)*
11. Capping Update (SA-6 Cap Subgrade Progress Maps)
12. Weekly SWPPP Reports
13. GWTP Update
14. SA-6 North & South Design Change Tracking Log
    - DCB 2016-7-14: Design change documenting minor grading adjustments to improvements to drainage off of the SA-6N Open Space Area
15. EME Soils
    - 10/13/16 – Transmittal: SA-6 New Source of Topsoil
    - 10/19/16 – E-mail Transmittal: Response to Email -- 101716 Horizon A Analytical Results 21319

Attachment 1: Schedule – 6 Month Look Ahead

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SA-6 North/South Combined Chromium Remediation Schedule

ID	Task Name	Duration	Start
1	**SA-6 North Chromium Remedy Preparation (Sites 087 and 088)**	**1936 days**	**Fri 1/4/08**
2	**Remedial Action Work Plan**	**33 days**	**Fri 1/4/08**
5	**Remedial Action Design**	**1522 days**	**Wed 2/20/08**
18	**JCIA/JCDPW Relocation**	**1780 days**	**Mon 8/11/08**
19	Develop Site Relocation Master Plan	38 days	Mon 8/11/08
20	Submit Site Relocation Master Plan	0 days	Wed 10/1/08
21	JC Construction of New Facilities	1309 days	Tue 6/2/09
22	Relocation Contractor Procurement	392 days	Thu 4/15/10
23	JCIA and JCDPW Relocation	949 days	Mon 10/17/11
24	Demolition of Existing JCIA Facilities - Sedimentation Basin	101 days	Mon 12/12/11
24a	Demolition of JCIA Structures	146 days	Mon 9/1/14
25	**SA-6 South Chromium Remedy Preparation (Sites 073, 124, 125, 134, 140 and 163)**	**1518 days**	**Fri 7/11/08**
26	**Remedial Action Work Plan**	**187 days**	**Fri 7/11/08**
32	**Remedial Action Design**	**1161 days**	**Mon 2/2/09**
57	**SA-6 South Relocation**	**616 days**	**Mon 12/26/11**
58	New GWTP Construction Completion	502 days	Mon 3/5/12
59	Demolition of 80 Kellogg	857 days	Mon 12/26/11
60	**SA-6 North/South Field Implementation**	**894 days**	**Fri 3/1/13**
60a	SA-6N In-Situ Treatment Areas 7, 8 and 10	664 days	Mon 6/17/13
60b	SA-6S (Site 163) In-Situ Treatment	555 days	Fri 11/15/13
61	**Mobilization (Includees new GWTP, In-situ Treatment & Main Remedy)**	**87 days**	**Fri 3/1/13**
61a	Mobilization	87 days	Fri 3/1/13
62	**Surcharge Install/Instrumentation**	**706 days**	**Mon 6/17/13**
62a	Prepare Open Space Areas for Surcharge/Install Instumentation	142 days	Mon 6/17/13
62b	Place Stockpile Surcharge SA6N Western Areas	185 days	Tue 4/8/14
62c	Place Stockpile Surcharge SA6N Eastern Areas	175 days	Tue 6/30/15
62d	Place Stockpile Surcharge SA6S Western Areas	91 days	Mon 6/16/14
62e	Place Stockpile Surcharge SA6S Eastern Areas	155 days	Mon 10/6/14
63	**Barrier Wall Install**	**569 days**	**Mon 8/12/13**
63a	SA 6N Installation of Barrier Wall	159 days	Mon 3/9/15
63b	SA 6S Installation of Barrier Wall	210 days	Mon 8/12/13
64	**Excavation**	**507 days**	**Tue 10/22/13**
64a	SA 6N Excavation	218 days	Mon 12/1/14
64b	SA 6S Excavation	295 days	Tue 10/22/13
65	**Backfill**	**558 days**	**Mon 11/11/13**
65a	SA 6N Backfill	283 days	Mon 12/1/14
65b	SA 6S Backfill	384 days	Mon 11/11/13
66	**Capping and Cover Soil Placement**	**426 days**	**Mon 12/1/14**
66a	SA 6N Capping and Cover Soil Placement	83 days	Thu 3/24/16
66b	SA 6S Capping and Cover Soil Placement	283 days	Mon 12/1/14
67	**Restoration**	**234 days**	**Tue 9/1/15**
67a	Restoration	234 days	Tue 9/1/15
68	**Demobilization**	**22 days**	**Fri 7/1/16**
68a	Deferred Remediation of SA-6 South Along Bulkhead	1 day	Fri 3/1/13
68b	Deferred Remediation of SA-6 North/South Along PSEG Gas Line	1 day	Fri 3/1/13
69	**SA-6 North Project Closeout**	**311 days**	**Thu 10/1/15**
75	**SA-6 South Project Closeout**	**311 days**	**Thu 10/1/15**
81	**SA-6 North Long Term Protections**	**1830 days**	**Wed 10/1/08**
92	**SA-6 South Long Term Protections**	**2569 days**	**Thu 6/5/08**



Project: SA-6 Remediation Schedule
Revision 4
Date: 8/2/2016

Task | Milestone | Summary | Critical

Note: Current field implementation schedule shows final restoration activities and demobilization in December 2016.

Attachment 2: Site Photographs



Site Photograph 1: Finishing toe drain at SA-6S Open Space Area.



Site Photograph 2: Grading topsoil along north slope of the SA-6N Open Space Area.



Site Photograph 3: Hydroseeding the top of SA-6S Open Space Area.



Site Photograph 4: Restoring curb and sidewalk along Route 440.



Site Photograph 5: Securing straw matting on SA-6S Open Space Area.

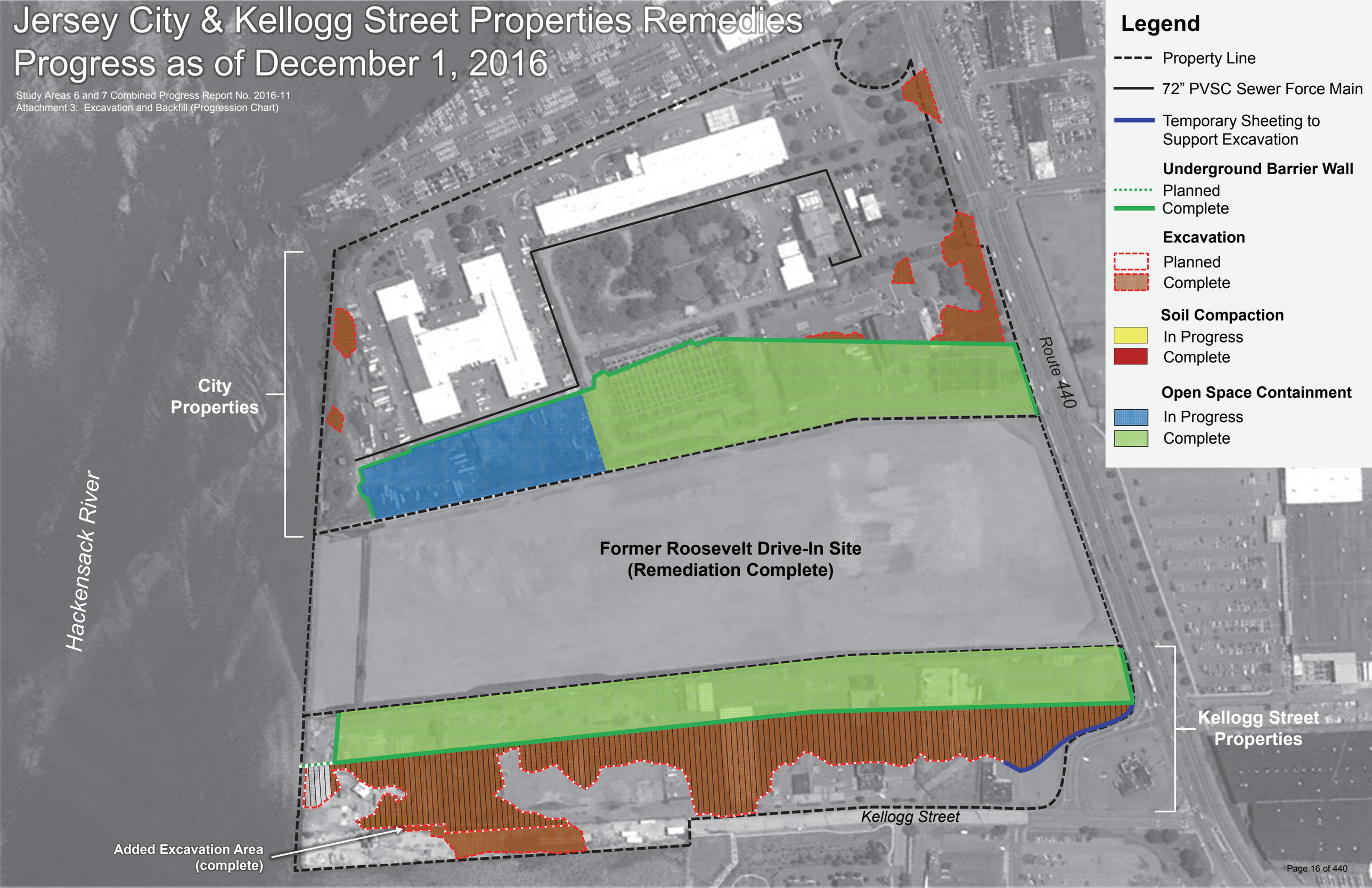


Site Photograph 6: Watering the SA-6S Open Space Area.

Attachment 3: Excavation and Backfill Progression Chart

Jersey City & Kellogg Street Properties Remedies
Progress as of December 1, 2016

Study Areas 6 and 7 Combined Progress Report No. 2016-11
Attachment 3: Excavation and Backfill (Progression Chart)



Legend

- Property Line
- 72” PVSC Sewer Force Main
- Temporary Sheeting to Support Excavation

Underground Barrier Wall
- Planned
- Complete

Excavation
- Planned
- Complete

Soil Compaction
- In Progress
- Complete

Open Space Containment
- In Progress
- Complete

Attachment 4: Dewatering Operations Update

(not included in this reporting period)

Attachment 5: Weekly Dewatering Discharge to PVSC

STUDY AREA 6 CONSTRUCTION WATER DISCHARGE DATA (TO PVSC)

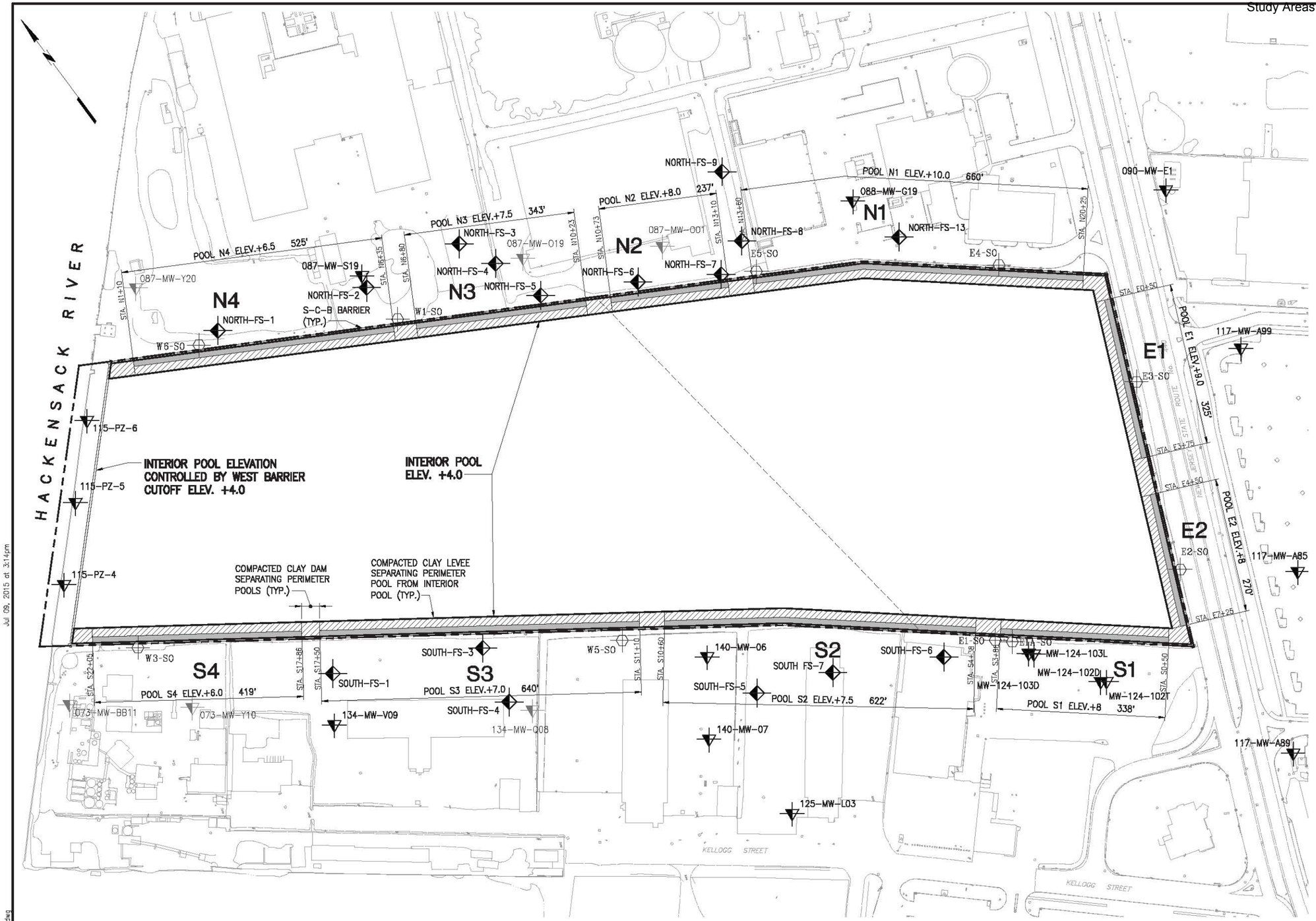
DATE	SHIFT START TIME	SHIFT END TIME	HOURS OF OPERATION	DISCHARGE FLOW METER SHIFT START (KGal)	DISCHARGE FLOW METER SHIFT END (KGal)	DISCHARGED VOLUME (Gal) PUMPING DURATION	DISCHARGED VOLUME (Gal) TOTAL	COMMENTS
07/07/16	7:30	12:00	4:30	43,596.37	43,642.93	46,560	43,642,480	PVSC Compliance Sample Collected
07/15/16	10:00	14:00	4:00	43,642.93	43,692.98	50,050	43,692,530	
07/26/16	9:00	14:00	5:00	43,692.98	43,794.27	101,290	43,793,820	
07/27/16	7:00	15:00	8:00	43,794.27	43,826.36	32,090	43,825,910	
07/28/16	9:00	15:00	6:00	43,826.36	43,860.98	34,620	43,860,530	
08/01/16	9:00	15:00	6:00	43,860.98	43,896.38	35,400	43,895,930	PVSC Compliance Sample Collected
08/11/16	9:00	16:00	7:00	43,896.38	43,958.93	62,550	43,958,480	
08/12/16	9:30	13:45	4:15	43,958.93	43,998.63	39,700	43,998,180	
08/19/16	8:00	13:30	5:30	43,998.63	44,062.58	63,950	44,062,130	
09/08/16	7:00	13:00	6:00	44,062.58	44,120.80	58,220	44,120,350	PVSC Compliance Sample Collected
10/05/16	8:00	11:00	3:00	44,120.80	44,158.46	37,660	44,158	PVSC Compliance Sample Collected
11/01/16	8:00	10:00	2:00	44,158.46	44,204.91	46,450	44,205	Final reading; system disassembled 11/1/16

Notes: Previous information is truncated. Only last month and current month information is provided.

Attachment 6: Backfill Analytical Data

(not included in this reporting period)

Attachment 7: Perimeter Pools Update



LEGEND

- FILL TYPE A CLAY
- FILL TYPE B GRANULAR FILL
- SHALLOW WELL INSTALLED BY OTHERS
- SHALLOW WELL ABANDONED IN 2014 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN
- SHALLOW WELL INSTALLED FOR STUDY AREA 7 REMEDIATION
- SURCHARGE MONITORING STANDPIPE INSTALLED IN 2014 OR 2015 IN ACCORDANCE WITH STUDY AREA 6 100% DESIGN

GRAPHIC SCALE

100' 50' 0 100' 200'

IN PROGRESS
06-10-2015

STUDY AREA 7
PERIMETER POOL DESIGN ELEVATIONS

NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
14 PENN PLAZA – 225 WEST 34th STREET

FILE NO. 10210
DRAWING NO. PP-1

Jul 09, 2015 at 3:14pm
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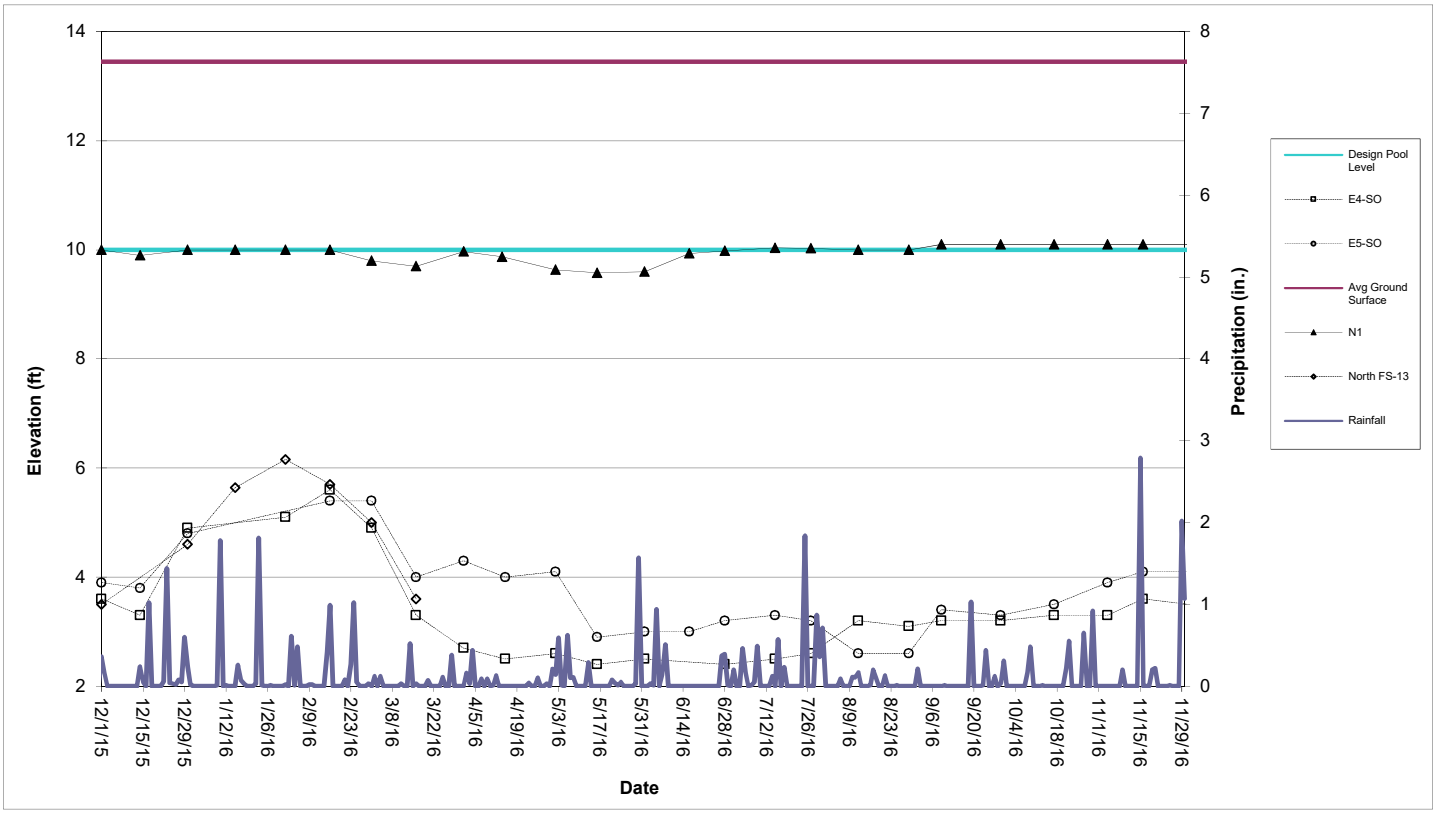
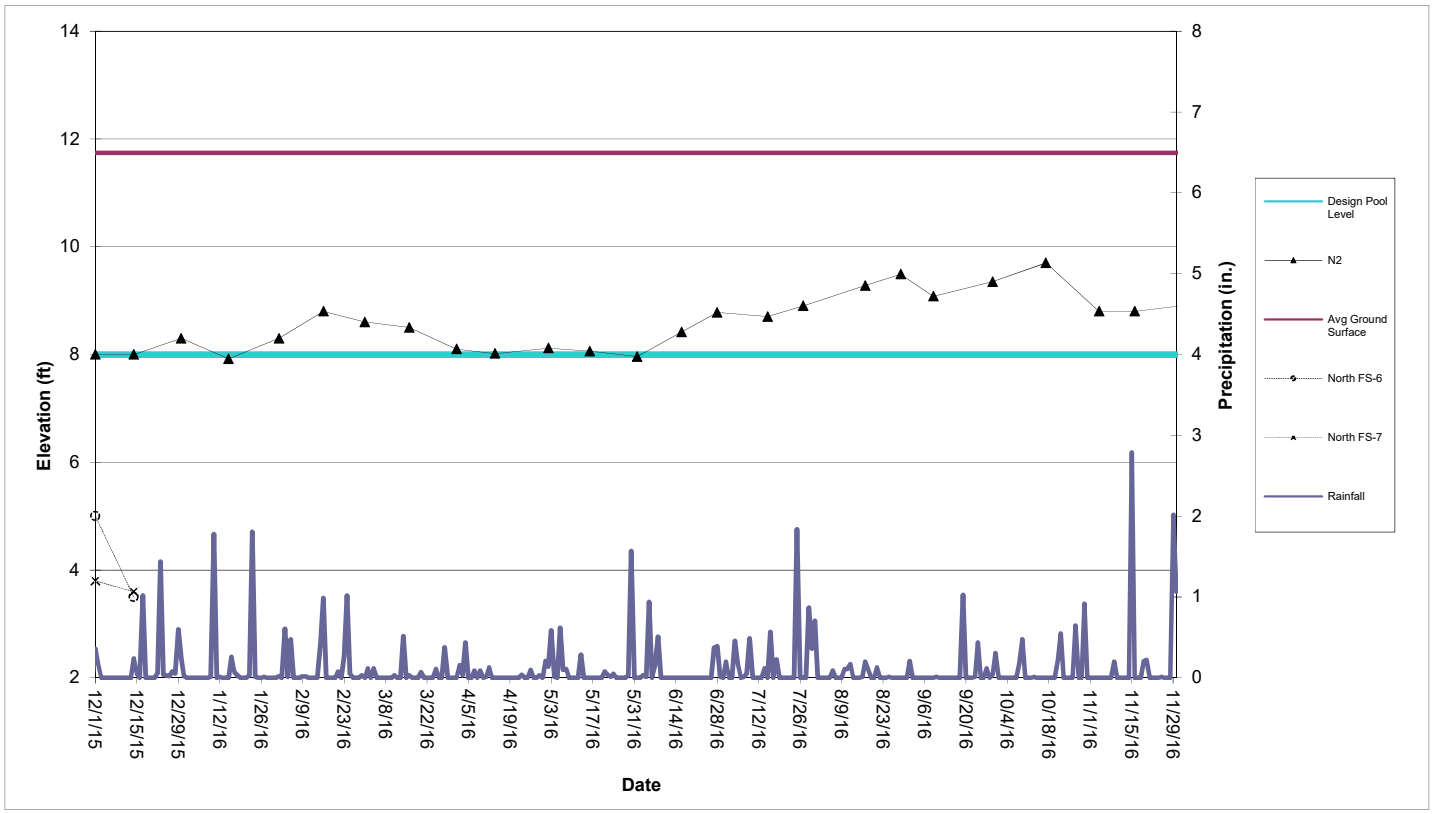
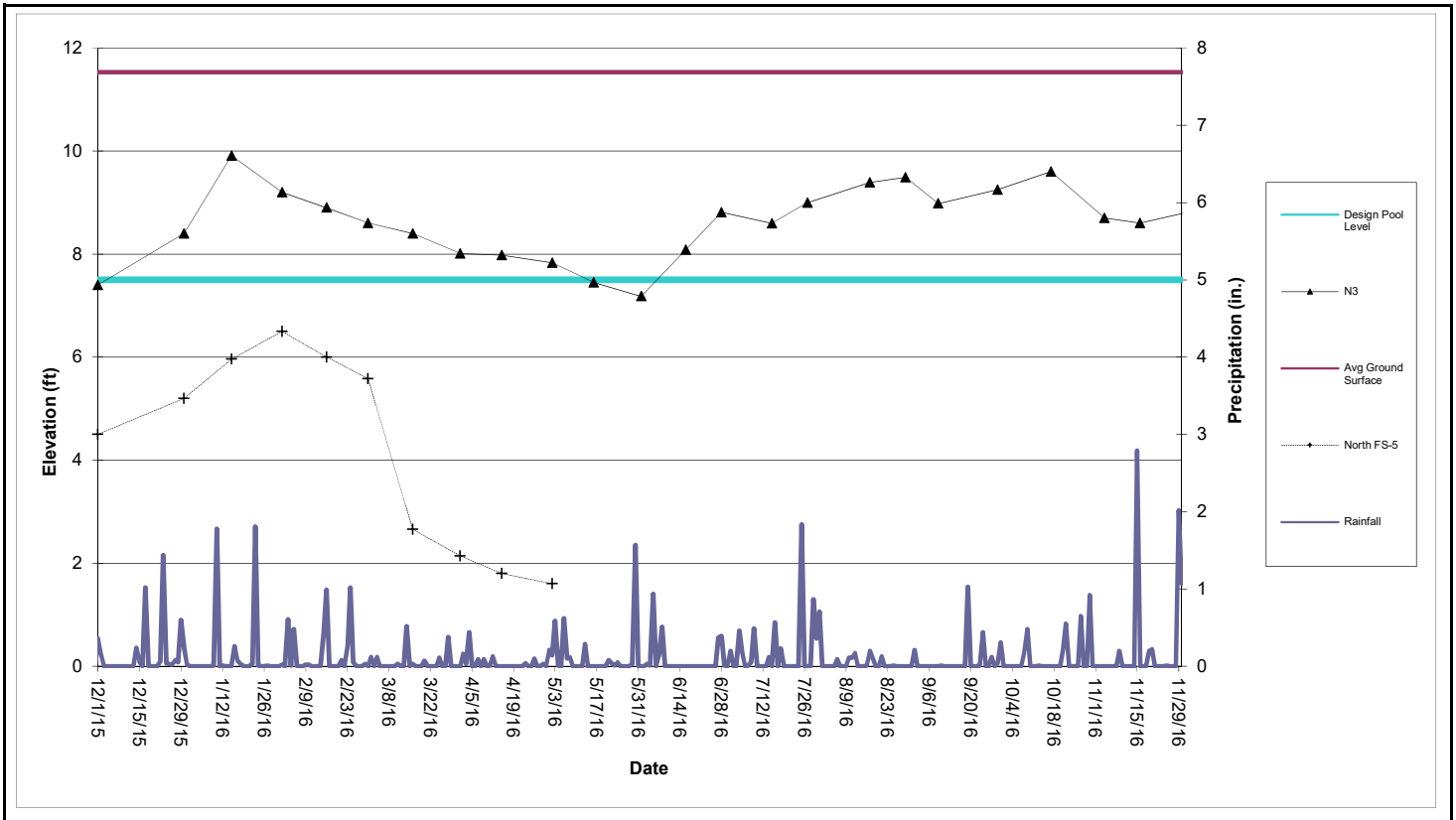
bboscaino



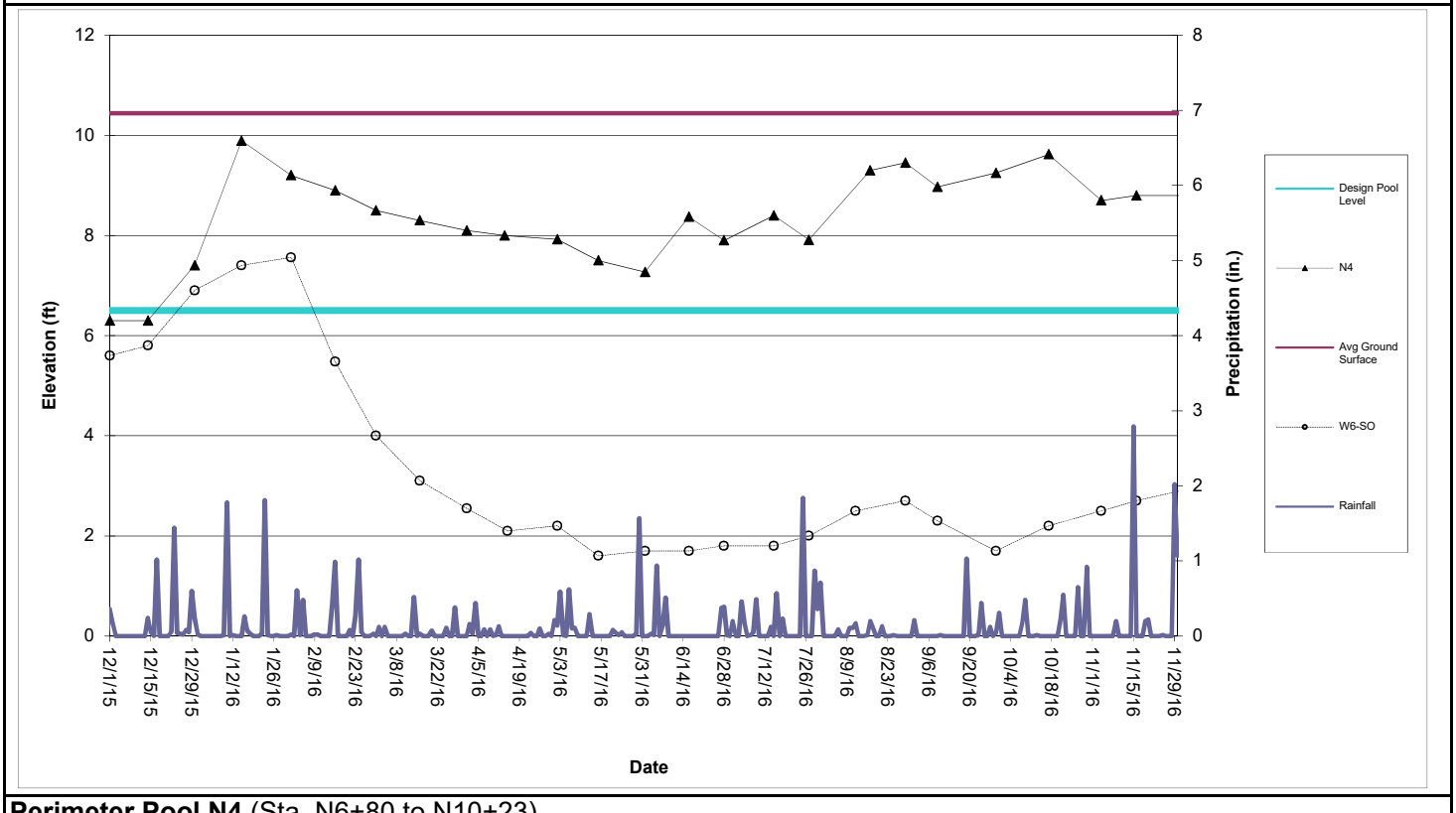
Perimeter Pool N1 (Sta. N13+60 to N20+25)



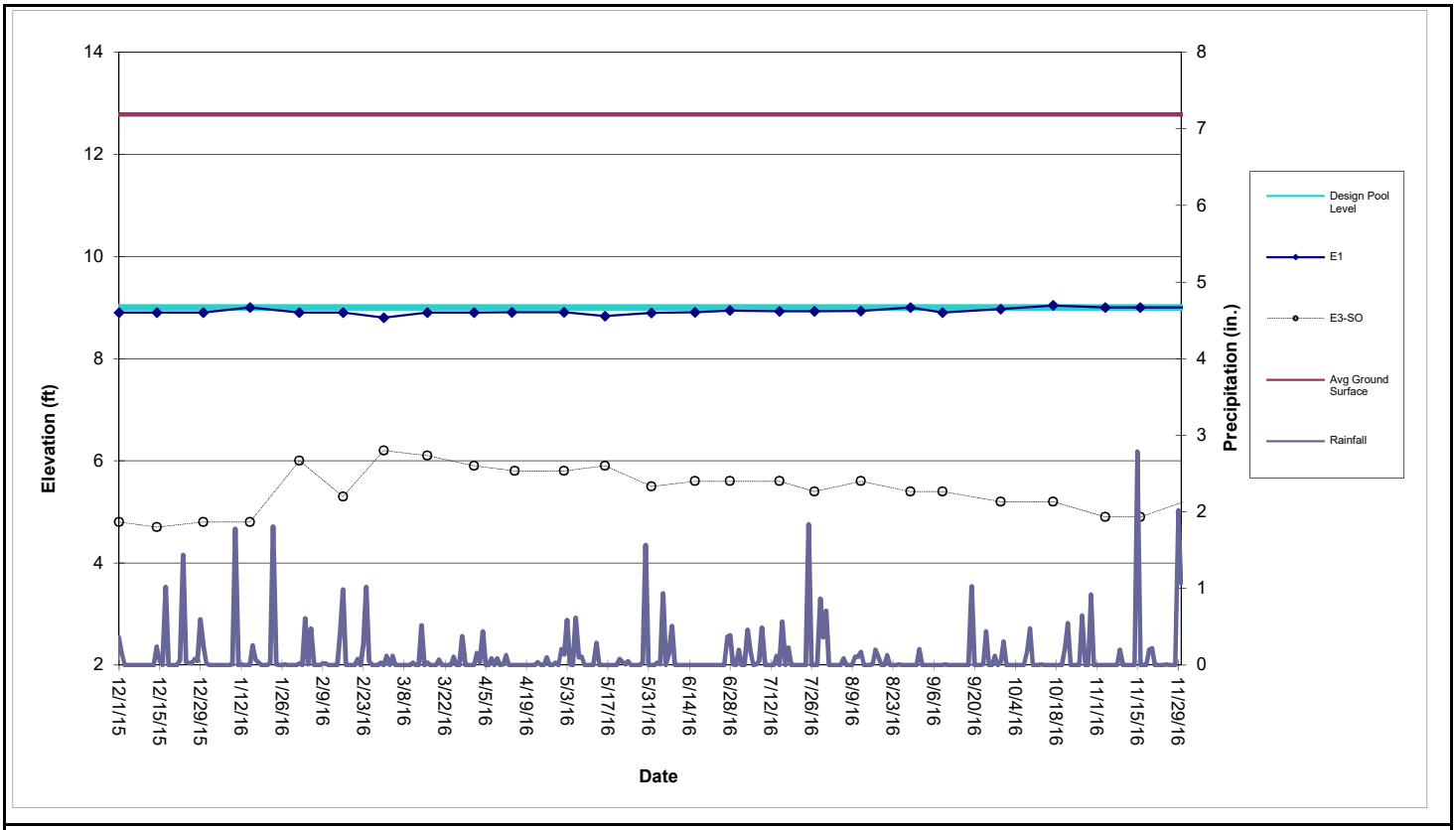
Perimeter Pool N2 (Sta. N10+73 to N13+10)



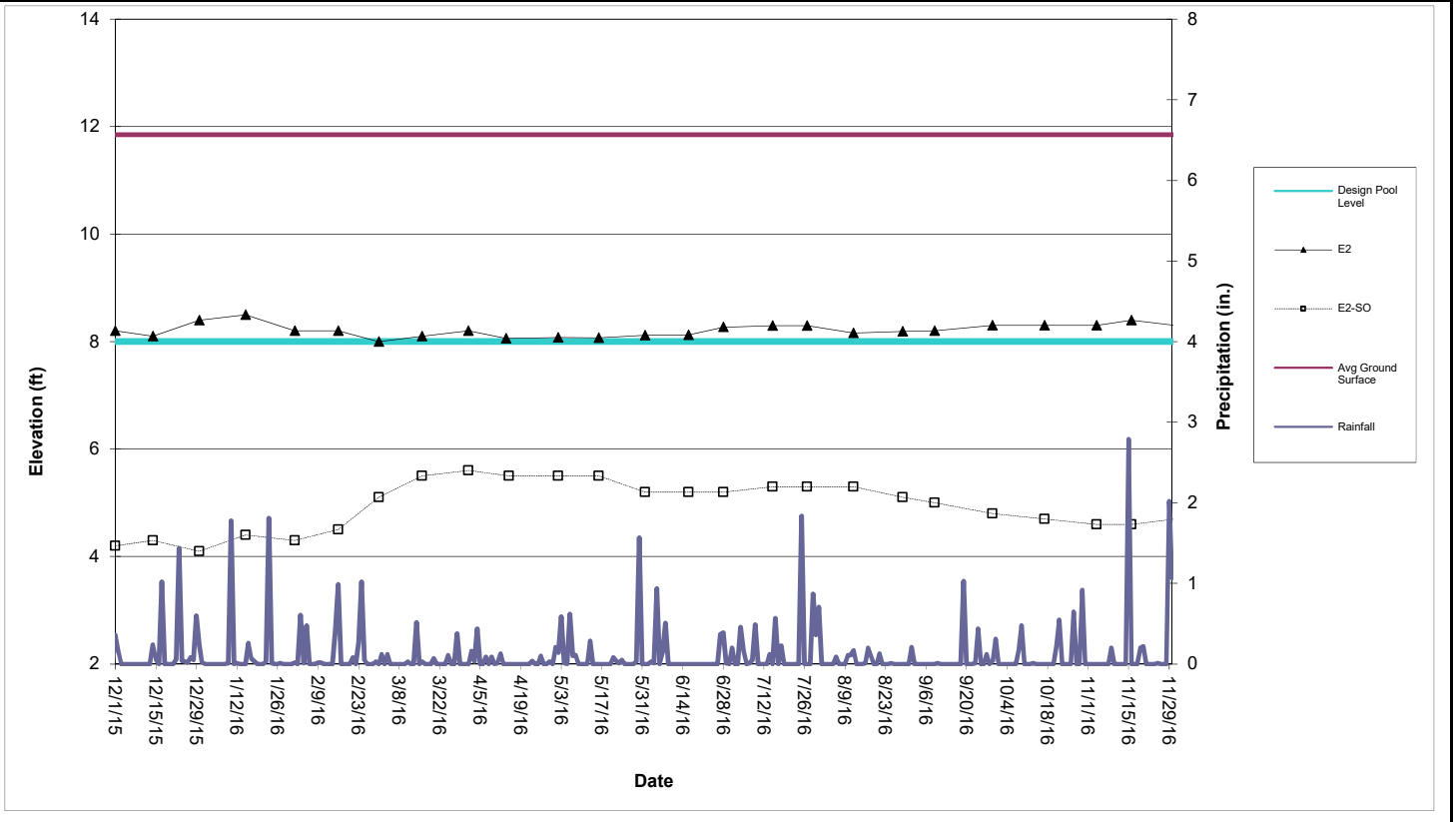
Perimeter Pool N3 (Sta. N6+80 to N10+23)



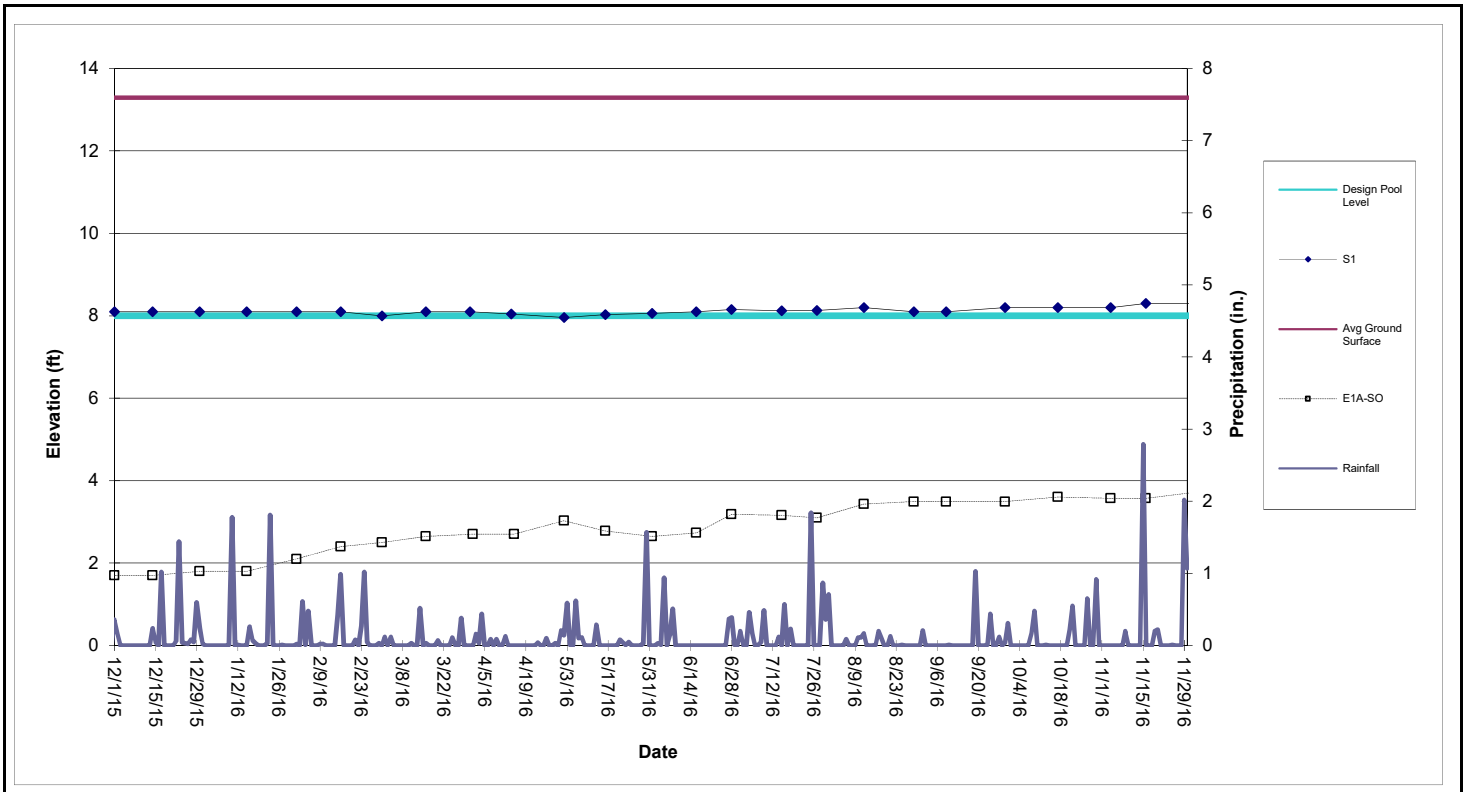
Perimeter Pool N4 (Sta. N6+80 to N10+23)



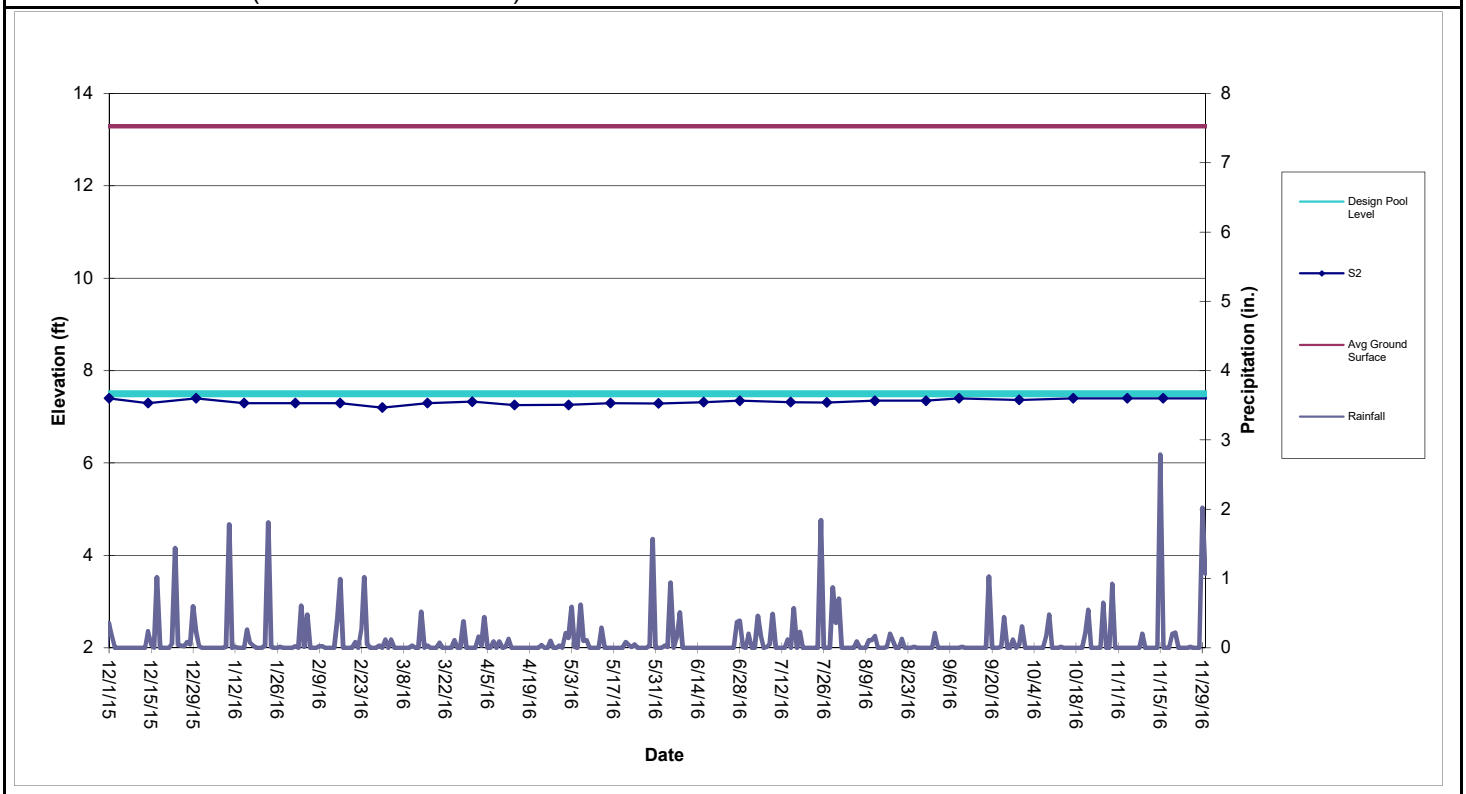
Perimeter Pool E1 (Sta. E0+50 to E3+75)



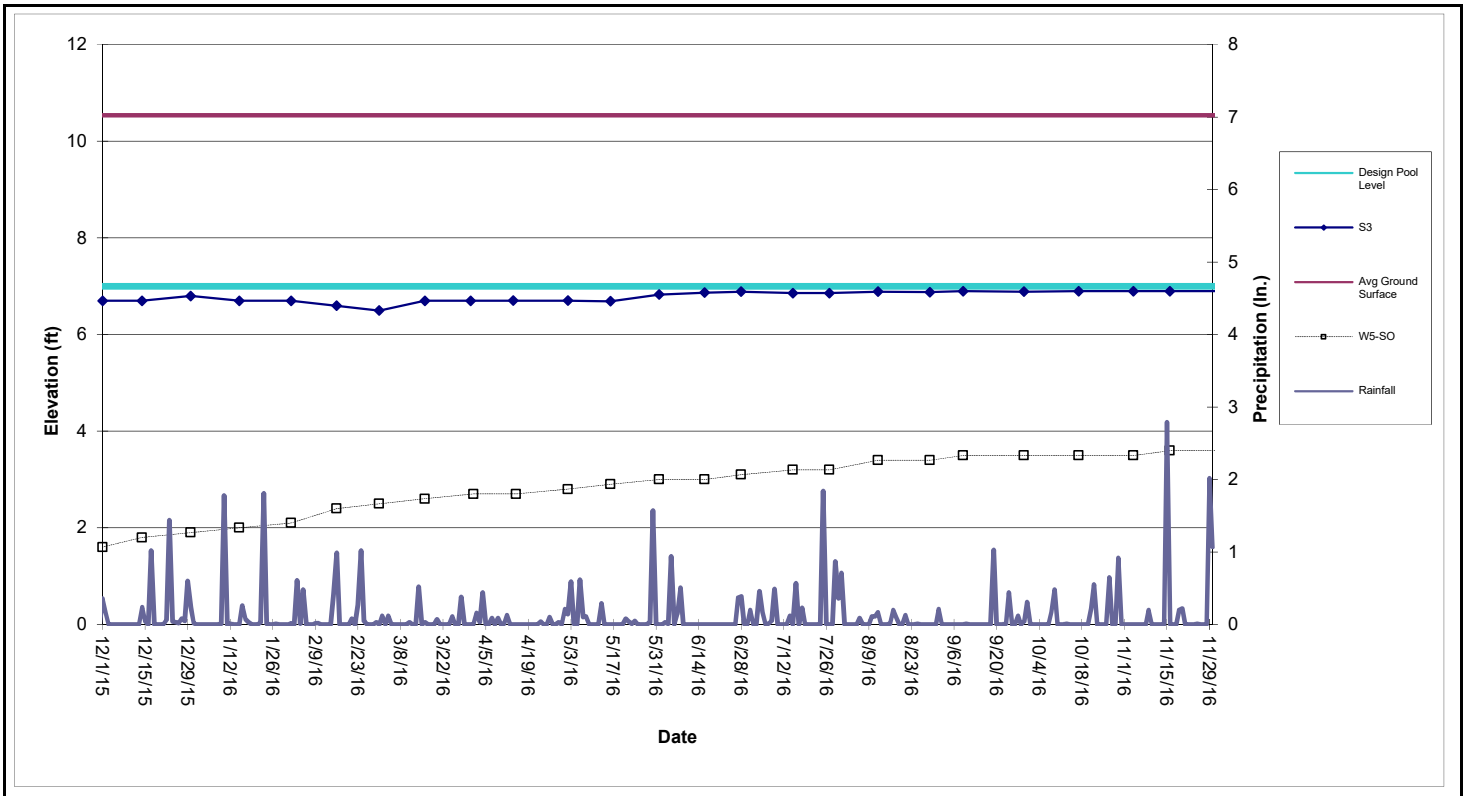
Perimeter Pool E2 (Sta. E4+50 to E7+25)



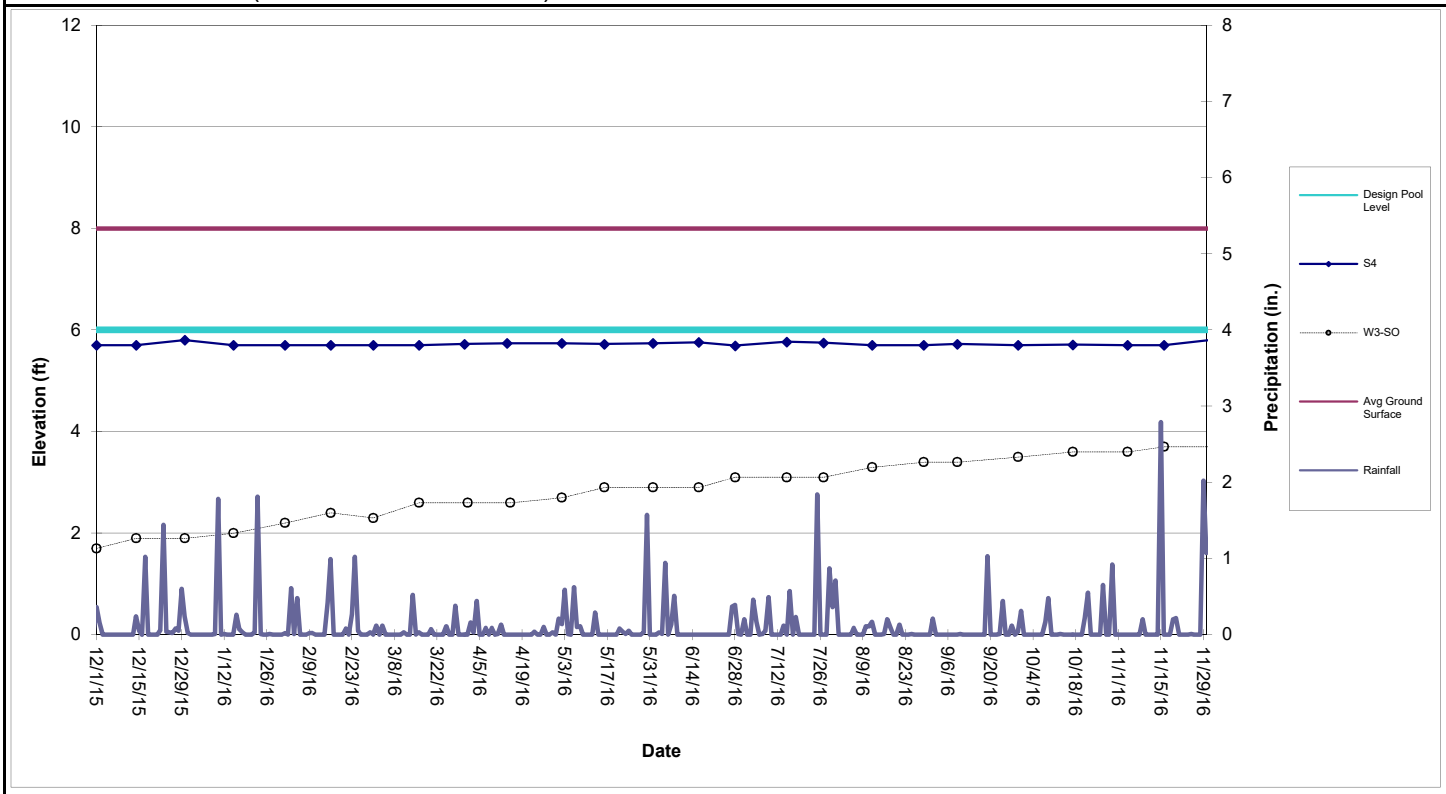
Perimeter Pool S1 (Sta. S0+50 to S3+88)



Perimeter Pool S2 (Sta. S4+38 to S10+60)



Perimeter Pool S3 (Sta. S11+10 to S17+50)



Perimeter Pool S4 (Sta. S17+86 to S22+05)

Table 1

Shallow Groundwater Data

										North			
	E1A-SO	E2-SO	E3-SO	E4-SO	E5-SO	W1-SO	W3-SO	W5-SO	W6-SO	FS-5	FS-6	FS-7	FS-13
Date													
12/1/2015	1.7	4.2	4.8	3.6	3.9	6.2	1.7	1.6	5.6	4.5	5.0	3.8	3.5
12/14/2015	1.7	4.3	4.7	3.3	3.8	6.2	1.9	1.8	5.8		3.5	3.6	
12/30/2015	1.8	4.1	4.8	4.9	4.8	7.5	1.9	1.9	6.9	5.2			4.6
1/15/2016	1.8	4.4	4.8			7.9	2.0	2.0	7.4	6.0			5.6
2/1/2016	2.1	4.3	6.0	5.1		7.7	2.2	2.1	7.6	6.5			6.2
2/16/2016	2.4	4.5	5.3	5.6	5.4	6.7	2.4	2.4	5.5	6.0			5.7
3/1/2016	2.5	5.1	6.2	4.9	5.4	5.1	2.3	2.5	4.0	5.6			5.0
3/16/2016	2.7	5.5	6.1	3.3	4.0	4.2	2.6	2.6	3.1	2.7			3.6
4/1/2016	2.7	5.6	5.9	2.7	4.3	3.5	2.6	2.7	2.6	2.1			
4/15/2016	2.7	5.5	5.8	2.5	4.0	2.9	2.6	2.7	2.1	1.8			
5/2/2016	3.0	5.5	5.8	2.6	4.1		2.7	2.8	2.2	1.6			
5/16/2016	2.8	5.5	5.9	2.4	2.9	2.4	2.9	2.9	1.6				
6/1/2016	2.7	5.2	5.5	2.5	3.0	2.5	2.9	3.0	1.7				
6/16/2016	2.7	5.2	5.6		3.0	2.5	2.9	3.0	1.7				
6/28/2016	3.2	5.2	5.6	2.4	3.2	2.3	3.1	3.1	1.8				
7/15/2016	3.2	5.3	5.6	2.5	3.3	2.4	3.1	3.2	1.8				
7/27/2016	3.1	5.3	5.4	2.6	3.2	2.3	3.1	3.2	2.0				
8/12/2016	3.4	5.3	5.6	3.2	2.6	2.8	3.3	3.4	2.5				
8/29/2016	3.5	5.1	5.4	3.1	2.6	2.8	3.4	3.4	2.7				
9/9/2016	3.5	5.0	5.4	3.2	3.4	2.6	3.4	3.5	2.3				
9/29/2016	3.5	4.8	5.2	3.2	3.3	3.1	3.5	3.5	1.7				
10/17/2016	3.6	4.7	5.2	3.3	3.5	2.3	3.6	3.5	2.2				
11/4/2016	3.6	4.6	4.9	3.3	3.9	2.5	3.6	3.5	2.5				
11/16/2016	3.6	4.6	4.9	3.6	4.1	2.7	3.7	3.6	2.7				

The following wells have been abandoned in accordance with the SA-6 100% Design:
134-W4-DO, 087-MW-001, 087-MW-019, 087-MW-Y20, 115-E1-DO, 115-E1-SO, 125-MW-01, 073-MW-BB-11, 073-MW-Y10, 134-MW-Q08.

The following wells have been abandoned:
North FS-1, FS-2, FS-3, FS-4, FS-5, FS-6, FS-7, FS-13
South FS-1, FS-3, FS-4, FS-5, FS-6, FS-7

The following wells are temporarily inaccessible:
134-MW-V09,

Attachment 8: Groundwater Quality Data

(not included in this reporting period)

Attachment 9: Surcharge Monitoring Update

(not included in this reporting period)

Attachment 10: Sheet Pile Update

(not included in this reporting period)

Attachment 11: Capping Update (SA-6 Cap Subgrade Progress Maps)



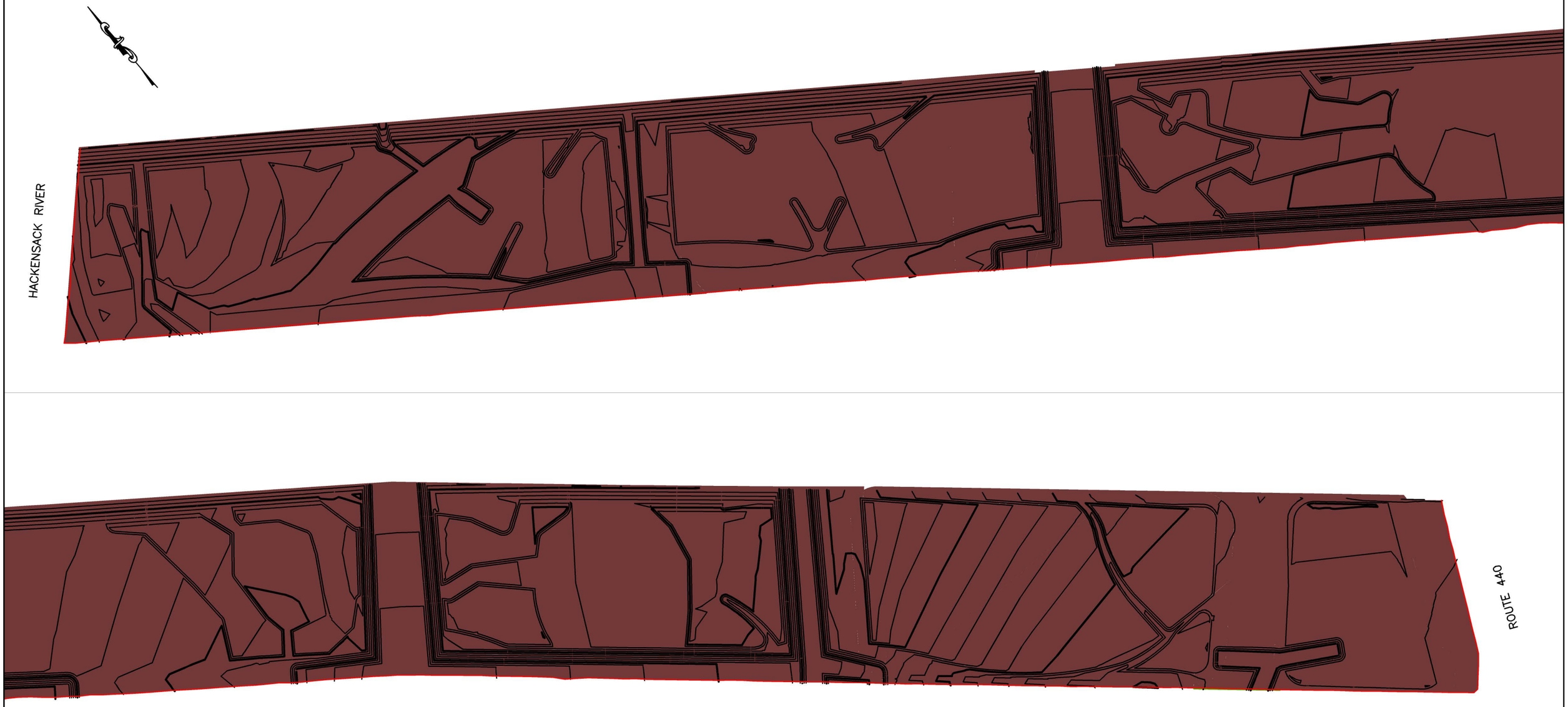
LEGEND

- HORIZON C SOIL PLACED
- STRUCTURAL FILL PLACED
- SCB WALL
- HB WALL
- TOPSOIL PLACED

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP COVER SOILS PROGRESS MAP
12/05/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



LEGEND

TOPSOIL PLACED

SCB WALL

HB WALL

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP COVER SOILS PROGRESS MAP
11/04/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Attachment 12: Weekly SWPPP Reports

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 4, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☐ Fair ☐ Cloudy ☐ Other _____
☒ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		2
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		3
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping		X		4
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/07/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE

Friday, November 04, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence on SA-6 South along Kellogg Street and by the Kellogg Street jughandle.
2	IA2Q4A1AL8	Garbage has accumulated on the grassy area by the Kellogg Street jughandle.
3	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence on SA-6 north adjacent to the JCMUA property.
4	IA2Q4A1AL8	Garbage has accumulated in the SA-6 North pedestrican walkway along Rte. 440.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Signature **Date:** 11/07/16

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	RLAD 11/10/16
2	Pick up and dispose of accumulated garbage/refuse.	
3	Re-attach the windscreen fabric to the perimeter fence as required.	
4	Pick up and dispose of accumulated garbage/refuse.	

Construction Manager: _____ **Date:** 11/10/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 11, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X	X		2
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection		X		7
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/14/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 11, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Windscreen material has become detached from the perimeter fence on SA-6 South along Kellogg Street and by the Kellogg Street jughandle.
2	IA2Q4A1AL8	Filter fabric in all catch basins on SA-6 South must be replaced prior to demobilization.
3	IA2Q4A1AL8	REPEAT: Garbage has accumulated on the grassy area by the Kellogg Street jughandle.
4	IA2Q4A1AL8	Windscreen material has become detached from the perimeter fence along the JCMUA parking lot.
5	IA2Q4A1AL8	Filter fabric in all catch basins on SA-6 North must be replaced prior to demobilization.
6	EEPSQU02YB	Sediment control measures (silt fence or hay bales) are missing in several areas surrounding the Novartis material stockpile area on SA-7.
7	IA2Q4A1AL8	Filter fabric in all catch basins on SA-7 must be replaced prior to demobilization.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 11/14/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	All will
2	Replace filter fabric in all catch basins on SA-6 South and on Kellogg Street.	be done
3	Pick up and dispose of accumulated garbage/refuse.	prior to
4	Re-attach the windscreen fabric to the perimeter fence as required.	demob.
5	Replace filter fabric in all catch basins on SA-6 North.	R&D
6	Complete the installation of sediment control measures around the Novartis stockpile area on SA-7.	
7	Replace filter fabric in all catch basins on SA-7	11-17-16

Construction Manager: _____ **Date:** 11/17/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 18, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection	X	X		2
Ponded Storm Water	X			
Housekeeping		X		3
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		4
Storm Drain Protection		X		5
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		6
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/21/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Friday, November 18, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJIf

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	**REPEAT:** Windscreen material has become detached from the perimeter fence on SA-6 South along Kellogg Street and by the Kellogg Street jughandle.
2	IA2Q4A1AL8	**REPEAT:** Filter fabric in all catch basins on SA-6 South must be replaced prior to demobilization.
3	IA2Q4A1AL8	**REPEAT:** Garbage has accumulated on the grassy area by the Kellogg Street jughandle.
4	IA2Q4A1AL8	**REPEAT:** Windscreen material has become detached from the perimeter fence along the JCMUA parking lot.
5	IA2Q4A1AL8	**REPEAT:** Filter fabric in all catch basins on SA-6 North must be replaced prior to demobilization.
6	EEPSQU02YB	**REPEAT:** Sediment control measures (silt fence or hay bales) are missing in several areas surrounding the Novartis material stockpile area on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ **Date:** 11/21/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	11/23/16 RAD
2	Replace filter fabric in all catch basins on SA-6 South and on Kellogg Street.	
3	Pick up and dispose of accumulated garbage/refuse.	
4	Re-attach the windscreen fabric to the perimeter fence as required.	
5	Replace filter fabric in all catch basins on SA-6 North.	
6	Complete the installation of sediment control measures around the Novartis stockpile area on SA-7.	

Construction Manager: _____ **Date:** 11/23/16

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Date of Inspection: November 23, 2016

Type of Inspection: ☒ Regular ☐ During Storm ☐ Annual
☐ Pre-Storm ☐ Post Storm

Weather Conditions: ☒ Fair ☐ Cloudy ☐ Other _____
☐ Rain ☐ Snow

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 South				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)			X	
Stockpile Tarping/Containment			X	
Proper Chemical Storage			X	
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			
SA-6 North & GWTP				
Hay Bales/Silt Fence Present and Intact	X			
River Discharge Weir			X	
Swale Check Dams			X	
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Description	Satisfactory	Needs Work	Not Applicable	Comment Number
SA-6 North & GWTP				
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen		X		1
Storm Drain Protection		X		2
Ponded Storm Water	X			
Housekeeping	X			
SA-7 & Novartis Stockpile				
Hay Bales/Silt Fence Present and Intact		X		3
River Discharge Weir	X			
Swale Check Dams	X			
Exclusion Zone Fencing			X	
Misc. Spill Control (Fuels, Lubricants, Etc.)	X			
Stockpile Tarping/Containment	X			
Proper Chemical Storage	X			
Containment Around Exclusion Zones			X	
Water Truck Wet- Down Operation	X			
Truck De-Con Operation			X	
Flood Protection			X	
Haul Road Maintenance	X			
Perimeter Fencing/Windscreen	X			
Storm Drain Protection	X			
Ponded Storm Water	X			
Housekeeping	X			

NOTE: All comments are numbered for reference and included on the included comment section.

STUDY AREAS 6&7- COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET
JERSEY CITY, NJ 07305
PHONE: 201-413-5160
FAX: 201-413-5161

Weekly SWPPP Compliance Checklist

Project Name: SA-6&7 COURT ORDERED REMIDIATION ACTION

Facility Location: Jersey City, NJ

Date: 11/23/16

SWPPP Observer: _____
Signature

Honeywell

STUDY AREAS 6&7 - COURT ORDERED REMEDIAL ACTION
60 KELLOGG STREET; JERSEY CITY, NJ
WEEKLY SWPPP COMPLIANCE CHECKLIST COMMENT PAGE
Wednesday, November 23, 2016

SA-6 North & South
SESCP SCD: IA2Q4A1AL8
RFA PI ID #: 608267
RFA Portal ID#: 304689
RFA NJPDES #: NJG0216771

GWTP (SA-6 North)
SESCP SCD: EHWG3RTMXR
RFA PI ID #: 587787
RFA Portal ID#: 219047
RFA NJPDES #: NJG0208710
PERMIT CLOSED

Novartis Soil Pile
SESCP SCD: EEPSQUO2YB
RFA PI ID #:
RFA Portal ID#: 217517
RFA NJI f

Comment Number	Permit Number	SWAP Observer's Comments
1	IA2Q4A1AL8	REPEAT: Windscreen material has become detached from the perimeter fence along the JCMUA parking lot.
2	IA2Q4A1AL8	REPEAT: Filter fabric in all catch basins on SA-6 North must be replaced prior to demobilization.
3	EEPSQU02YB	REPEAT: Sediment control measures (silt fence or hay bales) are missing in several areas surrounding the Novartis material stockpile area on SA-7.

Project Name: SA-6 COURT ORDERED REMEDIATION ACTION

Facility Location: Jersey City, New Jersey

SWAP Observer: _____ Date: 11/23/16
Signature

Comment	Construction Manager's Comments to Contractor	Date Completed
1	Re-attach the windscreen fabric to the perimeter fence as required.	12/1/16 RMD
2	Replace filter fabric in all catch basins on SA-6 North.	
3	Complete the installation of sediment control measures around the Novartis stockpile area on SA-7.	

Construction Manager: _____ Date: 12/01/16

Attachment 13: GWTP Update (525/575 Route 440 GWTP PVSC Discharge Monitoring Report - submitted October 2016)

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

November 21, 2016

Andy Caltagirone
Manager of Industrial & Pollution Control
Passaic Valley Sewerage Commission
600 Wilson Avenue
Newark, NJ 07105

Re: Honeywell International Inc.
Court Ordered Regional Groundwater Remedy Treatment Plant
Located at 525 & 575 Route 440, Jersey City
MR 1 and MR 2
Permit ID# 20630025

Dear Mr. Caltagirone:

Honeywell is submitting the October 2016 discharge monitoring reports, MR 1 and MR 2, for the Court Ordered Regional Groundwater Remedy treatment plant located at 525 & 575 Route 440 in Jersey City. Our discharge is in compliance with the limits.

Please contact me at 973-455-2989 if you need further clarification or have questions.

On Behalf of Honeywell
Sincerely,

Helen Fahy
Remediation Manager
Fahy Associates

cc: (electronic copy)
Frank Schroyer – Amec Foster Wheeler
Angle Trujillo - Evoqua
Maria Kaouris - Honeywell
Dave Wissen - JCMUA

PRETREATMENT MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

MAILING ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

CATEGORY & SUBPART: Not Applicable OUTLET #: 1

CONTACT OFFICIAL: Maria Kaouris TELEPHONE: 973-455-3302

NEW CUSTOMER ID / OUTLET ID: 20630025 OLD OUTLET DESIGNATION: 31630016

MONITORING PERIOD

Start			End		
10	01	16	10	31	16
\	DAY	YR	MO	DAY	YR

	Average	Maximum
~~Regulated Flow-gal/day~~		
Total Flow-gal/day	78,106	84,582 (see attached)

Method Used: Honeywell VersaFlow Mag 100 1-1/2" Flowmeter #FE/FIT-41001 w/ #TWM9000 WCG30011100 Non-Resettable Remote Totalizer Readout.

Production Rate (if applicable)

PARAMETER		MASS OR CONCENTRATION			# OF	SAMPLE TYPE
		MON AVG	MAXIMUM	UNITS	SAMPLES	COMP/GRAB
Chromium	Sample Measurement	0.96	1.04	lb/day	1	COMP
	Permit Requirement		**23**	lb/day		
Copper	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.6**		mg/l		
Lead	Sample Measurement	<0.030	<0.030	mg/l	1	COMP
	Permit Requirement	**1.0**		mg/l		
Nickel	Sample Measurement	<0.010	<0.010	mg/l	1	COMP
	Permit Requirement	**3.9**		mg/l		
Mercury	Sample Measurement	<0.0002	<0.0002	mg/l	1	COMP
	Permit Requirement	**0.08**		mg/l		
Zinc	Sample Measurement	<0.020	<0.020	mg/l	1	COMP
	Permit Requirement	**4.2**		mg/l		
SGT-HEM; Non-Polar Material	Sample Measurement	<5.1	<5.1	mg/l	1	GRAB
	Permit Requirement	**100**	**150**	mg/l		
TVOC	Sample Measurement	0.1699	0.1699	mg/l	1	GRAB
	Permit Requirement	N.A.	N.A.	mg/l		
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					
	Sample Measurement					
	Permit Requirement					

PVSC FORM MR-1 REV: 4 6/87 P1

PRETREATMENT MONITORING REPORT

Certification of Non-Use if applicable (use additional sheets): _____

Compliance or non compliance statement with compliance schedule (use additional sheets if necessary) for every parameter used: All analyte results are compliant (see attached report).

Explain Method for preserving samples: Monthly metals are preserved with HNO3. SGT-HEM & TVOC samples are preserved using HCl. BOD samples are collected in a refrigerated sampler. All samples are iced in a cooler during transport to the lab.

I certify under penalty of law that this document and attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

403.6(a)(2)(ii) revised by 53 FR 40610, October 17, 1988

John J. Morris IV
Signature of Principal
Executive or Authorized Agent

John J. Morris
Remediation Portfolio Director
Type Name and Title

11/17/2016
Date

PVSC FORM MR-1 REV: 5 3/91 P2

USER CHARGE SELF MONITORING REPORT

NAME: Honeywell International Inc.; Jersey City GWTP; SA-6 North

ADDRESS: 115 Tabor Avenue, Morris Plains, NJ 07950 (Attn: Maria Kaouris)

FACILITY LOCATION: 525 Route 440, Jersey City, NJ 07305

NEW CUSTOMER ID / OUTLET ID: 20630025 **OLD OUTLET DESIGNATION** 31630016

MONITORING PERIOD

Start			End		
10	01	16	10	31	16
MO	DAY	YR	MO	DAY	YR

VOL DISCHARGE THIS PERIOD
2,421,276 GALS
CU. FT X 7.48 - GALLONS
EFFLUENT METER READING LAST DAY THIS PERIOD 75,799,834

DATE	BOD (mg/l)	TSS (mg/l)
10/11/2016	5.9	<4.0

DATE	BOD	TSS

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

SIGNATURE OF PRINCIPAL OR	TYPE NAME AND TITLE	TELEPHONE NUMBER
John J. Morris	John J. Morris	(973) 455-4003
		DATE 11/17/2016

PVSC FORM MR-2 REV.3 6/93

PVSC DAILY OPERATING LOG				Honeywell Jersey City GWTP; SA-6 North (Permit #20630025)							MONTH: October 2016					
DATE	OPERATOR	PREVIOUS TOT.	CURRENT TOT.	DAILY FLOW	MGD	pH	TOTAL CR	SGT-HEM	BOD5		CU	PB	NI	HG	ZINC	CR LBS/DAY
				Permit Limits	0.2376	5-10.5		100 mg/l max			3.6 mg/l	1.0 mg/l	3.9 mg/l	0.08 mg/l	4.2 mg/l	23 #/day
				gallons/day		pH Units	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	mg/l	lbs/day
10/1/2016	Angel Trujillo	73378558	73460508	81,950	0.08195	7.23	1.480									1.01
10/2/2016	Angel Trujillo	73460508	73536160	75,652	0.075652	7.40	1.480									0.93
10/3/2016	Angel Trujillo	73536160	73611812	75,652	0.075652	7.29	1.480									0.93
10/4/2016	Angel Trujillo	73611812	73689504	77,692	0.077692	7.31	1.480									0.96
10/5/2016	Angel Trujillo	73689504	73766524	77,020	0.07702	7.36	1.480									0.95
10/6/2016	Angel Trujillo	73766524	73849214	82,690	0.08269	7.46	1.480									1.02
10/7/2016	Angel Trujillo	73849214	73925458	76,244	0.076244	7.40	1.480									0.94
10/8/2016	Angel Trujillo	73925458	74007834	82,376	0.082376	7.35	1.480									1.02
10/9/2016	Angel Trujillo	74007834	74085721	77,887	0.077887	7.40	1.480									0.96
10/10/2016	Angel Trujillo	74085721	74163608	77,887	0.077887	7.79	1.480									0.96
10/11/2016	Angel Trujillo	74163608	74241954	78,346	0.078346	7.33	1.480	<5.1	5.9		<0.010	<0.030	<0.010	<0.0002	<0.020	0.97
10/12/2016	Angel Trujillo	74241954	74317348	75,394	0.075394	7.51	1.480									0.93
10/13/2016	Angel Trujillo	74317348	74394862	77,514	0.077514	7.51	1.480									0.96
10/14/2016	Angel Trujillo	74394862	74470970	76,108	0.076108	7.44	1.480									0.94
10/15/2016	Angel Trujillo	74470970	74555552	84,582	0.084582	7.41	1.480									1.04
10/16/2016	Angel Trujillo	74555552	74630410	74,858	0.074858	7.40	1.480									0.92
10/17/2016	Angel Trujillo	74630410	74705268	74,858	0.074858	7.41	1.480									0.92
10/18/2016	Angel Trujillo	74705268	74780890	75,622	0.075622	7.46	1.480									0.93
10/19/2016	Angel Trujillo	74780890	74858587	77,697	0.077697	7.47	1.480									0.96
10/20/2016	Angel Trujillo	74858587	74937348	78,761	0.078761	7.51	1.480									0.97
10/21/2016	Angel Trujillo	74937348	75014720	77,372	0.077372	7.37	1.480									0.96
10/22/2016	Angel Trujillo	75014720	75098742	84,022	0.084022	7.55	1.480									1.04
10/23/2016	Angel Trujillo	75098742	75175023	76,281	0.076281	7.30	1.480									0.94
10/24/2016	Angel Trujillo	75175023	75251304	76,281	0.076281	7.43	1.480									0.94
10/25/2016	Angel Trujillo	75251304	75329662	78,358	0.078358	7.49	1.480									0.97
10/26/2016	Angel Trujillo	75329662	75407004	77,342	0.077342	7.44	1.480									0.95
10/27/2016	Angel Trujillo	75407004	75484996	77,992	0.077992	7.40	1.480									0.96
10/28/2016	Angel Trujillo	75484996	75564766	79,770	0.07977	7.52	1.480									0.98
10/29/2016	Angel Trujillo	75564766	75646364	81,598	0.081598	7.51	1.480									1.01
10/30/2016	Angel Trujillo	75646364	75723099	76,735	0.076735	7.30	1.480									0.95
10/31/2016	Angel Trujillo	75723099	75799834	76,735	0.076735	7.39	1.480									0.95
TOTAL				2,421,276	2.421276			<5.1	5.9		<0.010	<0.030	<0.010	<0.0002	<0.020	
			High:	84,582											High:	1.04
			Average:	78,106											Average:	0.96

WW

E

JC 29431

| Accutest Labs | | |

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-A		
Lab Sample ID:	JC29431-1	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

Total Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Chromium	1480	10	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Copper	< 10	10	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Lead [a]	< 30	30	ug/l	10	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Mercury	< 0.20	0.20	ug/l	1	10/13/16	10/13/16	JPM	EPA 245.1 [1]	EPA 245.1 [4]
Nickel	< 10	10	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]
Zinc	< 20	20	ug/l	1	10/12/16	10/13/16	ND	EPA 200.7 [2]	EPA 200.7 [3]

(1) Instrument QC Batch: MA40513
(2) Instrument QC Batch: MA40520
(3) Prep QC Batch: MP96496
(4) Prep QC Batch: MP96513

(a) Elevated detection limit due to dilution required for high interfering element.

RL = Reporting Limit

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-A		
Lab Sample ID:	JC29431-1	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Solids, Total Suspended	< 4.0	4.0	mg/l	1	10/13/16 12:45	RI	SM2540 D-11
pH [a]	6.94		su	1	10/11/16 18:24	JM	SM4500H+ B-11

(a) Sample received out of holding time for pH analysis.

RL = Reporting Limit

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-A		
Lab Sample ID:	JC29431-1A	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
BOD, 5 Day	5.9	5.0	mg/l	1	10/11/16 20:58	LS	SM5210 B-11

RL = Reporting Limit

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-B			
Lab Sample ID:	JC29431-2		Date Sampled:	10/11/16
Matrix:	AQ - Water		Date Received:	10/11/16
Method:	EPA 624		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ			

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	T220132.D	1	10/12/16	BK	n/a	n/a	VT9043
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
107-02-8	Acrolein	ND	10	1.3	ug/l	
107-13-1	Acrylonitrile	ND	10	1.2	ug/l	
542-88-1	Bis(chloromethyl)ether	IND			ug/l	
71-43-2	Benzene	4.2	1.0	0.11	ug/l	
75-27-4	Bromodichloromethane	ND	1.0	0.14	ug/l	
75-25-2	Bromoform	ND	1.0	0.15	ug/l	
74-83-9	Bromomethane	ND	1.0	0.20	ug/l	
56-23-5	Carbon tetrachloride	3.9	1.0	0.19	ug/l	
108-90-7	Chlorobenzene	0.23	1.0	0.12	ug/l	J
75-00-3	Chloroethane	ND	1.0	0.19	ug/l	
110-75-8	2-Chloroethyl vinyl ether	ND	5.0	0.73	ug/l	
67-66-3	Chloroform	26.5	1.0	0.11	ug/l	
74-87-3	Chloromethane	ND	1.0	0.22	ug/l	
124-48-1	Dibromochloromethane	ND	1.0	0.22	ug/l	
106-93-4	1,2-Dibromoethane	ND	1.0	0.19	ug/l	
95-50-1	1,2-Dichlorobenzene	0.35	1.0	0.15	ug/l	J
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.15	ug/l	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.13	ug/l	
75-71-8	Dichlorodifluoromethane	ND	2.0	0.54	ug/l	
75-34-3	1,1-Dichloroethane	0.46	1.0	0.16	ug/l	J
107-06-2	1,2-Dichloroethane	ND	1.0	0.21	ug/l	
75-35-4	1,1-Dichloroethene	ND	1.0	0.22	ug/l	
156-59-2	cis-1,2-Dichloroethene	67.5	1.0	0.30	ug/l	
156-60-5	trans-1,2-Dichloroethene	3.1	1.0	0.14	ug/l	
78-87-5	1,2-Dichloropropane	ND	1.0	0.17	ug/l	
10061-01-5	cis-1,3-Dichloropropene	ND	1.0	0.16	ug/l	
10061-02-6	trans-1,3-Dichloropropene	ND	1.0	0.17	ug/l	
123-91-1	1,4-Dioxane	ND	130	27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.11	ug/l	
151-56-4	Ethylenimine	IND			ug/l	
75-09-2	Methylene chloride	0.80	1.0	0.16	ug/l	J
79-34-5	1,1,2,2-Tetrachloroethane	ND	1.0	0.18	ug/l	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-B		
Lab Sample ID:	JC29431-2	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
Method:	EPA 624	Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

VOA TVO List

CAS No.	Compound	Result	RL	MDL	Units	Q
127-18-4	Tetrachloroethene	ND	1.0	0.17	ug/l	
108-88-3	Toluene	ND	1.0	0.12	ug/l	
71-55-6	1,1,1-Trichloroethane	ND	1.0	0.17	ug/l	
79-00-5	1,1,2-Trichloroethane	ND	1.0	0.18	ug/l	
79-01-6	Trichloroethene	62.9	1.0	0.16	ug/l	
75-69-4	Trichlorofluoromethane	ND	2.0	0.55	ug/l	
75-01-4	Vinyl chloride	ND	1.0	0.19	ug/l	
1330-20-7	Xylenes (total)	ND	1.0	0.24	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4 (SUR)	99%		72-125%
2037-26-5	Toluene-D8 (SUR)	99%		78-119%
460-00-4	4-Bromofluorobenzene (SUR)	102%		74-115%
1868-53-7	Dibromofluoromethane (S)	100%		79-120%

(a) Results reported from the HCl preserved sample. This reported result can only be used for screening purposes for acrolein and acrylonitrile.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@934243 14:51 09-Nov-2016

Report of Analysis

Client Sample ID:	087-WWE-101116-B		
Lab Sample ID:	JC29431-2	Date Sampled:	10/11/16
Matrix:	AQ - Water	Date Received:	10/11/16
		Percent Solids:	n/a
Project:	PESNJP: Hudson County, Jersey City, NJ		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
HEM Petroleum Hydrocarbons	< 5.1	5.1	mg/l	1	10/13/16 14:25	TT	EPA 1664A

RL = Reporting Limit

Attachment 14: SA-6 North & South Design Change Tracking Log

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2013-7-29	Surcharge Monitoring Plan modifications to match changes associated with relocation of the hydraulic barrier wall near the 72" force main. 72-Inch Force Main Monitoring Layout Plan, Details, and Notes developed. Surcharge pile layout redesign and instrumentation adjustments. The format of the Daily Report, Instrumentation Installation Forms, and Monitoring Data Forms has been modified to allow for generation using a "tablet application".	Submitted to all Parties on March 12, 2014.
DC 2013-8-14	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.
DC 2013-9-24	Testing frequency for analytic parameters for imported borrow material is to be modified to 1 test/5,000 CY of borrow.	Honeywell directive to be more conservative than 100% Design. Submitted to Contractor only as clarification or response to RFI.
DC 2014-3-25	Change Contingent GW system from wells to trench on both SA-6 S and SA-6N.	Submitted to all Parties on March 25, 2014 and April 23, 2014.
DC 2014-11-20	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.
DC 2016-6-6	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).
DC 2015-2-24	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-5-24 was issued to document the changes in the SA-6 North and South cap subgrades that resulted from the change to a trench system.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2014-7-28	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.
DC 2014-8-13	Revised hydraulic barrier wall alignment through the sedimentation basin to reduce potential conflict with existing timber piles.	Submitted to all Parties on August 19, 2014.
DC 2014-9-2	Revised hydraulic barrier wall alignment adjacent the 72" force main in order to provide a clearance of 25 ft. between the centerline of the 72" force main and the barrier wall as previously agreed with PVSC.	Submitted to all Parties on September 4, 2014.
DC 2014-10-31	Revised Soil Management Plan (Appendix G - SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused as backfill or placed underneath the cap. Contractor directed to consolidate arsenic-impacted asphalt in Cap Areas in a footprint that does not exceed 44,000 SF and to cover the asphalt with chromium-impacted soil.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-01-22	In accordance with the 100% Design, the Contractor is directed to remove 0-2 feet of <20 mg/kg overburden historic fill soils from selected locations throughout the SA-6 North Open Space Area. This will create a nominal 10,000 to 12,000 cubic yards (CY) additional capacity under the SA-6 North liner without affecting final grades for the liner or cover soils. The SMP allows such soils that are confirmed to be below 20 mg/kg for hexavalent chromium, to be used as temporary surcharge in the cap areas, backfill for excavations, or to raise the grades for the Redevelopment Project outside of the cap areas. In the space created by this removal of the 0-2 feet of historic fill soils from selected locations throughout the SA-6 North Open Space Area, the Contractor will relocate an additional estimated 10,000 to 12,000 CY worth of 20-240 mg/kg hexavalent chromium soils currently staged at SA-6 South.	Submitted to Parties as Attachment to Declaration 004.
DC 2015-03-03	Mueser Rutledge Consulting Engineers (MRCE) have revised the design for temporary excavation support in SA-6 North along Route 440. Revised drawings SN-501, SN-502, SN-503, SN-504, and SN-505 are included in this Design Change Bulletin.	Submitted to Contractor and BMUA/JCMUA. Submitted to all Parties on May 27, 2015.
DC 2015-03-30	A pile cap was encountered during pre-trenching at the general location of the demolished Waste Management Garage. An alternatives evaluation was conducted and it was concluded that the least risk option was to re-align the wall to the south effectively resulting in a decrease in the cap area and an increase in the EA-5 Excavation.	Submitted to all Parties on May 27, 2015.

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-03-09	The utility pole relocations along Route 440 require the installation of new poles in the DOT Right of Way along Route 440. The DCB includes the pole sleeve construction details and locations.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-04-30	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-05-19	Supply and installation of specific components related to the contingent groundwater system will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6 North and SA-6 South.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016
DC 2015-06-18 (North)	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on June 22, 2015.
DC 2015-07-31	The sheet pile pair is located at Sta. 0+50. Driving was stopped with a top elevation of +12.8 and a tip of -2.2. The top of meadow mat is at elevation +0.5. In accordance with the 100% Design Report (10.1.3 Bottom Key), the tip of the sheet shall be embedded a minimum of 2' into the Stratum D. The tip of the sheet is embedded 2.7 ft. and therefore meets the design criteria which was established in accordance with the requirements of the Consent Decree.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-08-19	Entact notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring). As an option Entact proposed installing a standard direct burial utility marking tape. AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking.	Submitted to Parties on August 27, 2015.
DC 2015-08-21	The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.	Submitted to Parties on August 27, 2015.
DC 2015-9-02	As identified in the 100% Design, ENTACT should now remove approximately 2 ft. of historic fill from the post surcharge removal surface of Area 1N to create capacity for 20-240 mg/kg chromium impacted soils. Excavated Soils will be sampled and analyzed according to the Soil Management Plan. Should any excavated historic fill exceed the 20 mg/kg criteria, it will be placed under the cap.	Submitted to Parties as Attachment to Declaration 004.
DC 2015-9-17	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.
DC 2015-9-04	EA-8 boundaries have been revised to reflect additional sampling following initial excavation as defined in the 100% Design. The internal boundaries delineating the different soil disposition based on hexavalent chromium content have been revised. The revisions are minor in nature and are based on using a means of interpolation between sample points that is consistent with that used on SA-6S.	Submitted to Parties as Attachment to Declaration 003.

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2015-11-18	Drawing CN-118 has been revised to show additional excavation in EA-8 as outlined in DC 2015-09-04. In addition, review of DC 2015-09-04 indicated a small area where the 20 - 240 ppm hatch had not been carried to the outer limit of excavation. The hatch mark has been corrected in CN-118 revision 2.	Submitted to Parties as Attachment to Declaration 003.
DC 2015-10-02	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.
DC 2015-10-22	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.
DC 2015-12-14	Specification 02372, Sections 3.03 – Geomembrane Placement, C. Liner Boots and 3.06 – Field Quality Control, B. Nondestructive Seam Testing have been amended to include spark testing of extrusion welds that cannot be tested by other means. Spark testing will be performed in accordance with ASTM D6365 - Standard Practice for the Non Destructive Testing of Geomembrane Seams using the Spark Test. In addition, GRI-19 - Specification Seam Strength & Related Properties of Thermally Bonded Polyolefin Geomembrane was added as a reference document. The Specification also requires preparation of a Spark Testing form for each location that Spark Testing is used, to be signed by the Independent Geosynthetics QA representative. Agreement was reached between Honeywell and the Plaintiffs to implement Spark Testing on SA-6N. Specification 02372 has been revised accordingly.	Submitted to Parties on January 14, 2016.
DC 2015-11-30	EA 2&3 external boundaries remain consistent with the Issued for Construction Design. Internal waste classification boundaries required adjustment to clarify the limits in three small triangular areas within the main excavation. A complete set of EA 2&3 Drawings and AutoCAD Files have been included showing all intervals. EA-8 Issued for Construction defined excavation limits from the surface to elevation 7. Upon reaching elevation 7 supplemental sampling was conducted and excavation conducted based on those results. Observation of excavation faces revealed a suspect area that subsequent testing verified required removal. A further round of supplemental sampling established new excavation limits. A detail is shown on the Interval 6 drawing showing the extent of extra excavation required.	Submitted to Parties as Attachment to Declaration 003.
DC 2016-02-02	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).
DC 2016-02-22	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-02-25	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-05-03	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.

SA-6 North/South Field Change Log		
Changed Item Identifier	**Description of Change**	**Comments**
DC 2016-03-18	This DC 2016-03-18 documents the revised acceptable ranges of physical parameters and provides an updated specification made in consultation with Dr. Grabosky of Rutgers University. Dr. Grabosky provided his recommendations in correspondence dated 3/17/2016.	Submitted to Parties on March 22, 2016. Plaintiffs responded in a letter dated April 15, 2016. Plaintiffs and Honeywell subsequently held discussions and DCB 2016-04-20 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016.
DC 2016-03-21	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.
DC 2016-04-20	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.
DC 2016-5-11	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Parties as Attachment to Declaration 004.
DC 2016-5-20	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.
DC 2016-7-14	Design change documenting minor grading adjustments to improvements to drainage off of the SA6N Open Space Area.	DCB will be provided to Parties in the November 2016 monthly progress report and included in the finalized Declaration No. 4.
DC 2016-7-12	DC 2016-7-12 clarifies the limit of GCL deployment and the location of the sand bentonite plug in the SA-6 North cap.	Included as an attachment to July 2016 Monthly Progress Report.

DCB-2016-7-14: North Cap – Field Engineered Subgrade Adjustments
(Attachment 14: SA-6 North & South Design Change Tracking Log)

Honeywell RES

Honeywell.com

PDESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 7/14/16
Project Location: SA-6 North	**Associated RFI:**
Title: North Cap - Field Engineered Subgrade Adjustments	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

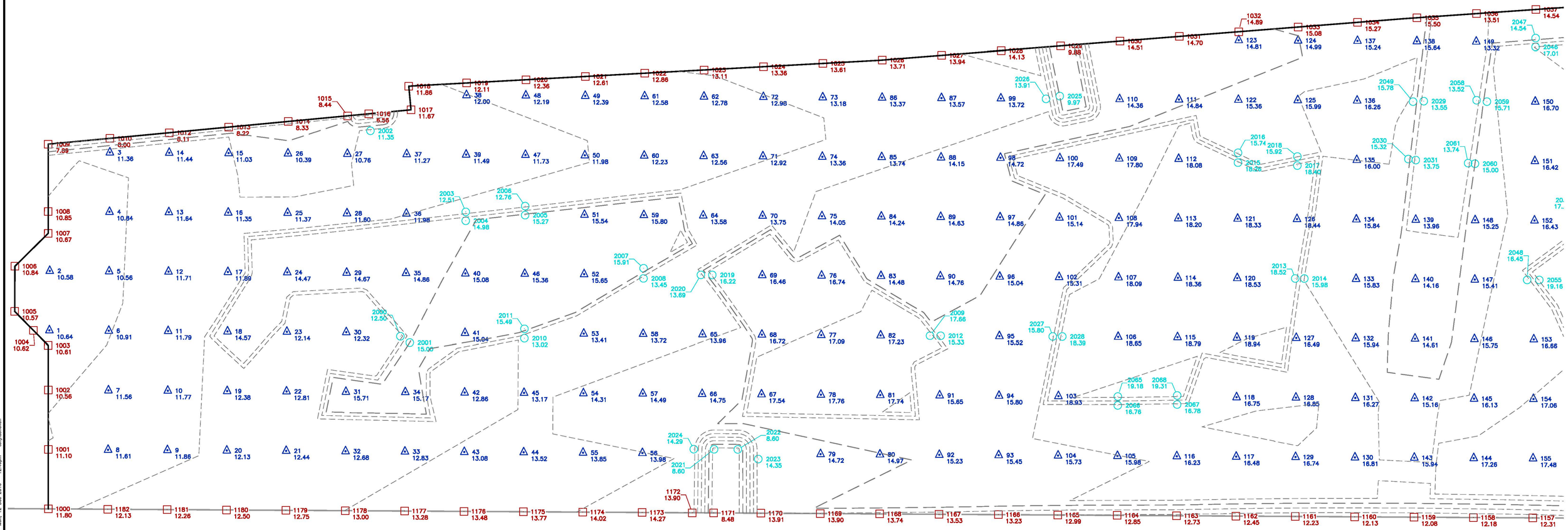
Description.

During the course of subgrade construction two field conditions were identified that resulted in the need for minor adjustments to several small localized areas of the subgrade to achieve positive drainage. In one area these field developed changes resulted in a change in elevation of the Construction Control Grid subgrade elevation.

In addition there were several minor changes in the top elevation of the Hydraulic Barrier wall. These changes were made to avoid major changes to the Construction Water Treatment forcemain and to address several locations where the final top elevations of driven sheets were slightly below the design levels. These changes did result in a very small reduction in capacity under the cap and had no impact on the containment and hydraulic requirements of the wall. The changes are so minor they are not readily visible on the hard copy drawings. Revisions were issued to Entact in electronic format and will be incorporated in As Built documentation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Construction Control Grid Top of Barrier Wall and Subgrade
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/12/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



153 16.66 GRID POINT
2054 17.00 BREAK POINT
1157 12.31 BOUND POINT

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689 - 2829 NJ Certificate of Authorization Number 24GA28019300	SA-6 NORTH CONSTRUCTION CONTROL GRID FIGURE 1 OF 3 Project 3480-13-0377 Figure 1.1

C:\Donovan\SA- 6 North\2013 Excavation Surfaces\SA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019600

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan

DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

153 16.66 GRID POINT
2054 17.00 BREAK POINT
1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

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Attachment 15: EME Soils

10/13/16 Honeywell Corr: New Source of Horizon A Topsoil - SA-6
(Attachment 15: EME Soils)
Included in electronic copy only

Honeywell
115 Tabor Road
Morris Plains, NJ 07950

October 13, 2016 ***via Electronic Mail***

The Honorable Robert G. Torricelli
Office of the Special Master
RGTSpecialMaster@aol.com

Re: New Source of Horizon A Topsoil
Study Area 6 (SA-6)
Jersey City, New Jersey

Dear Senator Torricelli:

Honeywell is preparing this letter to advise the parties that we have identified a new fill material from the Excavating Materials & Equipment, Inc. quarry in New Egypt, NJ, which can be used at SA-6 for Horizon A topsoil needs. A clean fill certification and mine registration certificate are provided in Attachment A.

Although the fill material is certified by the quarry, an analytical sample was collected and compared to the NJDEP Residential Soil Remediation Standards. The soil sample was analyzed for VOCs, SVOCs, PCBs, pesticides, metals, cyanide, and hexavalent Cr.

All the data was found to meet NJDEP unrestricted use criteria and the hexavalent Cr was found to be < 1 mg/kg. Consistent with our prior practice, we are providing the parties with a copy of the final laboratory data package, which includes the Horizon A topsoil sample collected by Amec Foster Wheeler, WOOLSTON-TS-002.

In addition, Amec Foster Wheeler collected a geotechnical sample to confirm that the material meets the topsoil specifications in the approved 100% Design and DC 2015-09-17 (provided to Parties in a letter dated September 23, 2015). Amec Foster Wheeler found that the materials meet the topsoil specifications. A copy of the geotechnical data is also attached to this letter (Attachment B).

Should you have any questions please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Global Director, Remediation
Design and Construction

WJH:egc/sgf

Encl.: Attachment A: Clean Fill Certification/ Mine Registration Certificate/
WOOLSTON-TS-002 Sample Results
Attachment B: Geotechnical Results - Rutgers Soil Testing Laboratory

cc: (electronic copy only)
Joe Clifford - Amec Foster Wheeler
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
Tom Byrne - Honeywell
Maria Kaouris - Honeywell
John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.
Mary Hogan - Walsh Pizzi O'Reilly Falanga LLP
Hector Ruiz - Walsh Pizzi O'Reilly Falanga LLP
Liza Walsh - Walsh Pizzi O'Reilly Falanga LLP

ATTACHMENT A

CLEAN FILL CERTIFICATION/ MINE REGISTRATION CERTIFICATE/ WOOLSTON-TS-002 LAB RESULTS

EXCAVATING MATERIALS & EQUIPMENT, INC.
849 ROUTE 539 • NEW EGYPT, NJ 08533 • 609.758.3400 • FAX: 609.758.5545

10-12-16

GENERAL CONTRACTOR : Entach Corp

CERTIFICATION: Clean Fill Certification

PROJECT: Honeywell Jersey City NJ.

Please accept this letter as our certification that the Clean Fill to be supplied to you through EME for the above referenced project is produced at our Plumsted Township Plant located at 849 Route 539, New Egypt, NJ 08533. Block 80 lot 4.

The material provided from our pit is:
Excavated from undisturbed geologic formations;
Obtained from a licensed quarry/mine;
Not been subject to a discharged hazardous substance at any time;
Not located on or impacted by other contaminant sources;
Not comingled with any other materials;
Not known or suspected of being contaminated.
Not adversely impacted by discharges of hazardous materials or chemical applications;
Not affected by conditions or processes that would result in the introduction of contaminates into the licensed quarry/mine material in concentrations above regulatory concern; and
Not affected by conditions or processes that would increase the concentrations of contaminants already present in the licensed quarry/mine to concentrations above regulatory concern.
Also please find a copy of our state mine registration.

If you need any further assistance, please feel free to contact me.

Sincerely,

Keith Prince
Vice President

State of New Jersey
Department of Labor and Workforce Development

Certificate No. 004218
Expiration Date 3/31/2017

MINE REGISTRATION CERTIFICATE

ISSUED TO: EME Inc

LOCATION: 849 Route 539
New Egypt, NJ

BLK NO(S): 80
LOT NO(S): 4
COUNTY: Ocean

Issued pursuant to the provisions of N.J.S.A. 34:6-98.1 et. seq. Failure to comply with the provisions of the Act, and the Rules promulgated thereunder, shall be good cause for the revocation of this Certificate.

Harold J. Wirths
Commissioner

THIS CERTIFICATE MUST BE POSTED AT ALL TIMES

ES 140 (R-1-05)

SGS Accutest New Jersey					10/12/2016 7:08
Job Number:	JC28902				
Account:	Honeywell International Inc.				
Project:	HLANJPR: Study Area 6 Chrome Remedy				
Project Number:					
Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent).			Legend:	Hit	Exceed
Client Sample ID:		NJ Residential Direct Contact Soil (NJAC 7: 26D 5/12)[1]	NJ Default Impact to Groundwater Soil Screening (NJAC 7:26D 11/13)	WOOLSTON-TS-002	WOOLSTON-TS-002
Lab Sample ID:				JC28902-1	JC28902-1R
Date Sampled:				10/4/2016	10/4/2016
Matrix:				Soil	Soil
GC/MS Volatiles (SW846 8260C)					
Acetone	ug/kg	70000000	19000	ND (9.6)	-
Benzene	ug/kg	2000	5	ND (0.23)	-
Bromochloromethane	ug/kg	-	-	ND (0.61)	-
Bromodichloromethane	ug/kg	1000	5	ND (0.29)	-
Bromoform	ug/kg	81000	30	ND (0.51)	-
Bromomethane	ug/kg	25000	40	ND (0.93)	-
2-Butanone (MEK)	ug/kg	3100000	900	ND (3.4)	-
Carbon disulfide	ug/kg	7800000	6000	ND (0.33)	-
Carbon tetrachloride	ug/kg	600	5	ND (0.32)	-
Chlorobenzene	ug/kg	510000	600	ND (0.31)	-
Chloroethane	ug/kg	220000	NA	ND (0.83)	-
Chloroform	ug/kg	600	400	ND (0.46)	-
Chloromethane	ug/kg	4000	NA	ND (0.41)	-
Cyclohexane	ug/kg	-	-	ND (1.1)	-
1,2-Dibromo-3-chloropropane	ug/kg	80	5	ND (0.93)	-
Dibromochloromethane	ug/kg	3000	5	ND (0.29)	-
1,2-Dibromoethane	ug/kg	8	5	ND (0.47)	-
1,2-Dichlorobenzene	ug/kg	5300000	17000	ND (0.33)	-
1,3-Dichlorobenzene	ug/kg	5300000	19000	ND (0.26)	-
1,4-Dichlorobenzene	ug/kg	5000	2000	ND (0.29)	-
Dichlorodifluoromethane	ug/kg	490000	39000	ND (1.1)	-
1,1-Dichloroethane	ug/kg	8000	200	ND (0.36)	-
1,2-Dichloroethane	ug/kg	900	5	ND (0.33)	-
1,1-Dichloroethene	ug/kg	11000	8	ND (0.29)	-
cis-1,2-Dichloroethene	ug/kg	230000	300	ND (0.84)	-
trans-1,2-Dichloroethene	ug/kg	300000	600	ND (0.30)	-
1,2-Dichloropropane	ug/kg	2000	5	ND (0.60)	-
cis-1,3-Dichloropropene	ug/kg	2000	5	ND (0.38)	-
trans-1,3-Dichloropropene	ug/kg	2000	5	ND (0.43)	-
Ethylbenzene	ug/kg	7800000	13000	ND (0.29)	-
Freon 113	ug/kg	-	-	ND (0.93)	-
2-Hexanone	ug/kg	-	-	ND (2.7)	-
Isopropylbenzene	ug/kg	-	-	ND (0.30)	-
Methyl Acetate	ug/kg	78000000	22000	ND (3.9)	-
Methylcyclohexane	ug/kg	-	-	ND (0.97)	-
Methyl Tert Butyl Ether	ug/kg	110000	200	ND (0.51)	-
4-Methyl-2-pentanone(MIBK)	ug/kg	-	-	ND (1.6)	-
Methylene chloride	ug/kg	34000	10	ND (1.9)	-
Styrene	ug/kg	90000	3000	ND (0.28)	-
1,1,2,2-Tetrachloroethane	ug/kg	1000	7	ND (0.46)	-
Tetrachloroethene	ug/kg	2000	5	ND (0.54)	-
Toluene	ug/kg	6300000	7000	ND (0.24)	-
1,2,3-Trichlorobenzene	ug/kg	-	-	ND (0.44)	-
1,2,4-Trichlorobenzene	ug/kg	73000	700	ND (0.35)	-
1,1,1-Trichloroethane	ug/kg	290000	300	ND (0.32)	-
1,1,2-Trichloroethane	ug/kg	2000	20	ND (0.62)	-
Trichloroethene	ug/kg	7000	10	ND (0.37)	-
Trichlorofluoromethane	ug/kg	23000000	34000	ND (1.2)	-
Vinyl chloride	ug/kg	700	5	ND (0.39)	-
m,p-Xylene	ug/kg	12000000	19000	ND (0.42)	-
o-Xylene	ug/kg	12000000	19000	ND (0.39)	-
Xylene (total)	ug/kg	12000000	19000	ND (0.39)	-
GC/MS Volatile TIC					
Total TIC, Volatile	ug/kg	-	-	0	-
Total Alkanes	ug/kg	-	-	0	-
GC/MS Semi-volatiles (SW846 8270D)					
2-Chlorophenol	ug/kg	310000	800	ND (19)	-
4-Chloro-3-methyl phenol	ug/kg	-	-	ND (23)	-
2,4-Dichlorophenol	ug/kg	180000	200	ND (32)	-
2,4-Dimethylphenol	ug/kg	1200000	1000	ND (68)	-
2,4-Dinitrophenol	ug/kg	120000	300	ND (140)	-
4,6-Dinitro-o-cresol	ug/kg	6000	300	ND (41)	-
2-Methylphenol	ug/kg	310000	NA	ND (24)	-
3&4-Methylphenol	ug/kg	-	-	ND (31)	-
2-Nitrophenol	ug/kg	-	-	ND (25)	-
4-Nitrophenol	ug/kg	-	-	ND (100)	-
Pentachlorophenol	ug/kg	3000	300	ND (36)	-
Phenol	ug/kg	18000000	8000	ND (20)	-
2,3,4,6-Tetrachlorophenol	ug/kg	-	-	ND (25)	-
2,4,5-Trichlorophenol	ug/kg	6100000	68000	ND (28)	-
2,4,6-Trichlorophenol	ug/kg	19000	200	ND (23)	-
Acenaphthene	ug/kg	3400000	110000	ND (13)	-
Acenaphthylene	ug/kg	NA	NA	ND (19)	-

SGS Accutest New Jersey					10/12/2016 7:08
Job Number:	JC28902				
Account:	Honeywell International Inc.				
Project:	HLANJPR: Study Area 6 Chrome Remedy				
Project Number:					
Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent).			Legend:	Hit	Exceed
Client Sample ID:		NJ Residential Direct Contact Soil (NJAC 7:	NJ Default Impact to Groundwater	WOOLSTON-TS-002	WOOLSTON-TS-002
Lab Sample ID:		26D 5/12)[1]	Soil Screening	JC28902-1	JC28902-1R
Date Sampled:			(NJAC 7:26D	10/4/2016	10/4/2016
Matrix:			11/13)	Soil	Soil
Acetophenone	ug/kg	2000	3000	15.8 J	-
Anthracene	ug/kg	17000000	2400000	ND (23)	-
Atrazine	ug/kg	210000	200	ND (16)	-
Benzo(a)anthracene	ug/kg	600	800	ND (11)	-
Benzo(a)pyrene	ug/kg	200	200	ND (17)	-
Benzo(b)fluoranthene	ug/kg	600	2000	ND (17)	-
Benzo(g,h,i)perylene	ug/kg	380000000	NA	ND (19)	-
Benzo(k)fluoranthene	ug/kg	6000	25000	ND (18)	-
4-Bromophenyl phenyl ether	ug/kg	-	-	ND (15)	-
Butyl benzyl phthalate	ug/kg	1200000	230000	ND (9.3)	-
1,1'-Biphenyl	ug/kg	3100000	140000	ND (5.2)	-
Benzaldehyde	ug/kg	6100000	NA	11.3 J	-
2-Chloronaphthalene	ug/kg	-	-	ND (9.1)	-
4-Chloroaniline	ug/kg	-	-	ND (14)	-
Carbazole	ug/kg	24000	NA	ND (5.5)	-
Caprolactam	ug/kg	31000000	12000	ND (15)	-
Chrysene	ug/kg	62000	80000	ND (12)	-
bis(2-Chloroethoxy)methane	ug/kg	-	-	ND (8.1)	-
bis(2-Chloroethyl)ether	ug/kg	400	200	ND (16)	-
bis(2-Chloroisopropyl)ether	ug/kg	23000	5000	ND (14)	-
4-Chlorophenyl phenyl ether	ug/kg	-	-	ND (12)	-
2,4-Dinitrotoluene	ug/kg	700	NA	ND (12)	-
2,6-Dinitrotoluene	ug/kg	700	NA	ND (19)	-
3,3'-Dichlorobenzidine	ug/kg	1000	200	ND (32)	-
1,4-Dioxane	ug/kg	-	-	ND (25)	-
Dibenzo(a,h)anthracene	ug/kg	200	800	ND (17)	-
Dibenzofuran	ug/kg	-	-	ND (15)	-
Di-n-butyl phthalate	ug/kg	6100000	760000	ND (6.2)	-
Di-n-octyl phthalate	ug/kg	2400000	3300000	ND (9.5)	-
Diethyl phthalate	ug/kg	49000000	88000	ND (8.1)	-
Dimethyl phthalate	ug/kg	-	-	ND (6.8)	-
bis(2-Ethylhexyl)phthalate	ug/kg	35000	1200000	ND (8.9)	-
Fluoranthene	ug/kg	2300000	1300000	ND (17)	-
Fluorene	ug/kg	2300000	170000	ND (17)	-
Hexachlorobenzene	ug/kg	300	200	ND (9.6)	-
Hexachlorobutadiene	ug/kg	6000	900	ND (15)	-
Hexachlorocyclopentadiene	ug/kg	45000	320000	ND (15)	-
Hexachloroethane	ug/kg	35000	200	ND (19)	-
Indeno(1,2,3-cd)pyrene	ug/kg	600	7000	ND (18)	-
Isophorone	ug/kg	510000	200	ND (8.1)	-
2-Methylnaphthalene	ug/kg	230000	8000	ND (8.6)	-
2-Nitroaniline	ug/kg	39000	NA	ND (9.0)	-
3-Nitroaniline	ug/kg	-	-	ND (9.5)	-
4-Nitroaniline	ug/kg	-	-	ND (9.8)	-
Naphthalene	ug/kg	6000	25000	ND (11)	-
Nitrobenzene	ug/kg	31000	200	ND (15)	-
N-Nitroso-di-n-propylamine	ug/kg	200	200	ND (11)	-
N-Nitrosodiphenylamine	ug/kg	99000	400	ND (14)	-
Phenanthrene	ug/kg	NA	NA	ND (13)	-
Pyrene	ug/kg	1700000	840000	ND (12)	-
1,2,4,5-Tetrachlorobenzene	ug/kg	-	-	ND (9.7)	-
GC/MS Semi-volatile TIC					
Total TIC, Semi-Volatile	ug/kg	-	-	41160 J	-
Total Alkanes	ug/kg	-	-	600 J	-
GC Semi-volatiles (NJDEP EPH)					
EPH (C9-C28)	mg/kg	-	-	88.4	-
EPH (>C28-C40)	mg/kg	-	-	358	-
Total EPH (C9-C40)	mg/kg	-	-	447	-
GC Semi-volatiles (SW846 8081B)					
Aldrin	ug/kg	40	200	ND (1.2)	-
alpha-BHC	ug/kg	100	2	ND (1.3)	-
beta-BHC	ug/kg	400	2	ND (1.5)	-
delta-BHC	ug/kg	-	-	ND (1.1)	-
gamma-BHC (Lindane)	ug/kg	400	2	ND (1.1)	-
alpha-Chlordane	ug/kg	200	50	ND (1.2)	-
gamma-Chlordane	ug/kg	200	50	ND (1.1)	-
Chlordane (alpha and gamma)	ug/kg	200	50	ND (1.1)	-
Dieldrin	ug/kg	40	3	ND (1.2)	-
4,4'-DDD	ug/kg	3000	4000	ND (1.6)	-
4,4'-DDE	ug/kg	2000	18000	ND (1.3)	-
4,4'-DDT	ug/kg	2000	11000	ND (1.5)	-
Endrin	ug/kg	23000	1000	ND (1.2)	-
Endosulfan sulfate	ug/kg	470000	2000	ND (0.99)	-

SGS Accutest New Jersey					10/12/2016 7:08
Job Number:	JC28902				
Account:	Honeywell International Inc.				
Project:	HLANJPR: Study Area 6 Chrome Remedy				
Project Number:					
Results flagged as "Exceed" if any of the selected criteria exceeded (most stringent).			Legend:	Hit	Exceed
Client Sample ID:		NJ Residential Direct Contact Soil (NJAC 7:	NJ Default Impact to Groundwater	WOOLSTON-TS-002	WOOLSTON-TS-002
Lab Sample ID:		26D 5/12)[1]	Soil Screening	JC28902-1	JC28902-1R
Date Sampled:			(NJAC 7:26D	10/4/2016	10/4/2016
Matrix:			11/13)	Soil	Soil
Endrin aldehyde	ug/kg	-	-	ND (1.5)	-
Endosulfan-I	ug/kg	470000	4000	ND (1.3)	-
Endosulfan-II	ug/kg	470000	4000	ND (1.3)	-
Heptachlor	ug/kg	100	500	ND (1.2)	-
Heptachlor epoxide	ug/kg	70	10	ND (1.3)	-
Methoxychlor	ug/kg	390000	160000	ND (1.2)	-
Endrin ketone	ug/kg	-	-	ND (1.9)	-
Toxaphene	ug/kg	600	300	ND (26)	-
GC Semi-volatiles (SW846 8082A)					
Aroclor 1016	ug/kg	200	200	ND (29)	-
Aroclor 1221	ug/kg	200	200	ND (29)	-
Aroclor 1232	ug/kg	200	200	ND (23)	-
Aroclor 1242	ug/kg	200	200	ND (21)	-
Aroclor 1248	ug/kg	200	200	ND (38)	-
Aroclor 1254	ug/kg	200	200	ND (30)	-
Aroclor 1260	ug/kg	200	200	ND (25)	-
Aroclor 1268	ug/kg	200	200	ND (21)	-
Aroclor 1262	ug/kg	200	200	ND (40)	-
GC Semi-volatiles (SW846 8151)					
2,4-D	ug/kg	-	-	ND (17)	-
2,4,5-TP (Silvex)	ug/kg	-	-	ND (2.7)	-
2,4,5-T	ug/kg	-	-	ND (2.9)	-
Dalapon	ug/kg	-	-	ND (5.1)	-
Dicamba	ug/kg	-	-	ND (3.8)	-
Dichloroprop	ug/kg	-	-	ND (11)	-
Dinoseb	ug/kg	-	-	ND (25)	-
MCPA	ug/kg	-	-	ND (860)	-
MCPP	ug/kg	-	-	ND (820)	-
Pentachlorophenol	ug/kg	3000	300	ND (3.3)	-
2,4-DB	ug/kg	-	-	ND (12)	-
Metals Analysis					
Aluminum	mg/kg	78000	6000	3160	-
Antimony	mg/kg	31	6	<2.3	-
Arsenic	mg/kg	19	19	5.4	-
Barium	mg/kg	16000	2100	<23	-
Beryllium	mg/kg	16	0.7	<0.23	-
Cadmium	mg/kg	78	2	<0.58	-
Calcium	mg/kg	-	-	1380	-
Chromium	mg/kg	-	-	7.2	-
Cobalt	mg/kg	1600	90	<5.8	-
Copper	mg/kg	3100	11000	3.5	-
Iron	mg/kg	-	-	7460	-
Lead	mg/kg	400	90	4.3	-
Magnesium	mg/kg	-	-	637	-
Manganese	mg/kg	11000	65	12.7	-
Mercury	mg/kg	23	0.1	<0.038	-
Nickel	mg/kg	1600	48	<4.6	-
Potassium	mg/kg	-	-	<1200	-
Selenium	mg/kg	390	11	<2.3	-
Silver	mg/kg	390	1	<0.58	-
Sodium	mg/kg	-	-	<1200	-
Thallium	mg/kg	5	3	<1.2	-
Vanadium	mg/kg	78	NA	9.1	-
Zinc	mg/kg	23000	930	<5.8	-
General Chemistry					
Chromium, Hexavalent	mg/kg	-	-	<0.45	<0.46
Cyanide	mg/kg	1600	20	<0.23	-
Redox Potential Vs H2	mv	-	-	302	-
Solids, Percent	%	-	-	86.5	-
pH	su	-	-	5.55	-

Regulatory limits listed in this document have been obtained from the latest version of the regulations cited and are used for advisory purposes only. SGS Accutest assumes no responsibility for errors in regulatory documents or changes to criteria detailed in later versions of the referenced regulation. It is the responsibility of the user to verify these limits before using or reporting any data.

No results exceeded regulatory criteria.

[1] NOTE: Soil Remediation Standards from June 2008 were incorporated in the May 2012 rule without change.

SGS ACCUTEST
New Jersey

10/12/16

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Automated Report



Technical Report for

Honeywell International Inc.

HLANJPR: Study Area 6 Chrome Remedy

SGS Accutest Job Number: JC28902

Sampling Date: 10/04/16

Report to:

AMEC Environment & Infrastructure, Inc.

jenna.desiderio@amecfw.com

ATTN: Jenna Desiderio

Total number of pages in report: 349

NELAP ACCREDITED TNI LABORATORY

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Nancy Cole
Laboratory Director

Client Service contact: Marty Vitanza 732-329-0200

Certifications: NJ(12129), NY(10983), CA, CT, FL, IL, IN, KS, KY, LA, MA, MD, ME, MN, NC, OH VAP (CL0056), AK (UST-103), AZ (AZ0786), PA, RI, SC, TX, UT, VA, WV, DoD ELAP (L-A-B L2248)

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SGS Accutest LabLink@930131 07:10 12-Oct-2016

Sample Summary

Honeywell International Inc.

Job No: JC28902

HLANJPR: Study Area 6 Chrome Remedy

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
JC28902-1	10/04/16	08:30	JD	10/04/16	SO	Soil	WOOLSTON-TS-002
JC28902-1R	10/04/16	08:30	JD	10/04/16	SO	Soil	WOOLSTON-TS-002

Soil samples reported on a dry weight basis unless otherwise indicated on result page.

2

CASE NARRATIVE / CONFORMANCE SUMMARY

Client:	Honeywell International Inc.	**Job No**	JC28902
Site:	HLANJPR: Study Area 6 Chrome Remedy	**Report Date**	10/11/2016 5:29:27 P

On 10/04/2016, 1 Sample(s), 0 Trip Blank(s) and 0 Field Blank(s) were received at SGS Accutest at a maximum corrected temperature of 5.2 C. Samples were intact and chemically preserved, unless noted below. A SGS Accutest Job Number of JC28902 was assigned to the project. Laboratory sample ID, client sample ID and dates of sample collection are detailed in the report's Results Summary Section. Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

Please refer to certification exceptions summary for additional certification information.

Compounds qualified as out of range in the continuing calibration summary report are acceptable as per method requirements when there is a high bias but the sample result is non-detect.

Volatiles by GCMS By Method SW846 8260C

Matrix: SO **Batch ID:** VY7259

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28964-1DUP, JC28964-2MS, JC28964-1DUP were used as the QC samples indicated.
- RPD(s) for Duplicate for 2-Butanone (MEK), Acetone, Benzene, Carbon disulfide, Chloroform, Cyclohexane, Ethylbenzene, Isopropylbenzene, m,p-Xylene, Methylcyclohexane, o-Xylene, Toluene, Xylene (total) are outside control limits for sample JC28964-1DUP. Outside control limits due to different encores.

Extractables by GCMS By Method SW846 8270D

Matrix: SO **Batch ID:** OP97539

- All samples were extracted within the recommended method holding time.
- Sample(s) JC28910-1MS, JC28910-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- JC28902-1: Confirmation run.
- JC28902-1 for 2-Fluorobiphenyl: Outside control limits due to matrix interference.

Extractables by GC By Method NJDEP EPH

Matrix: SO **Batch ID:** OP97541

- All samples were extracted within the recommended method holding time.
- Sample(s) JC28906-2MS, JC28906-2MSD, JC28910-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Matrix Spike Recovery(s) for EPH (>C28-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.
- Matrix Spike / Matrix Spike Duplicate Recovery(s) for EPH (C9-C28), Total EPH (C9-C40) are outside control limits. Outside control limits due to high level in sample relative to spike amount.

Extractables by GC By Method SW846 8081B

Matrix: SO **Batch ID:** OP97536

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28906-1MS, JC28906-1MSD, OP97536-MSMSD were used as the QC samples indicated.

Extractables by GC By Method SW846 8082A

Matrix: SO **Batch ID:** OP97535

- All samples were extracted within the recommended method holding time.
- Sample(s) JC28902-1MS, JC28902-1MSD, OP97535-MSMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- OP97535-BS1 for Aroclor 1260: Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (20%) so using for confirmation only.

Extractables by GC By Method SW846 8151

Matrix: SO **Batch ID:** OP97538

- All samples were extracted within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28904-1AMS, JC28904-1AMSD were used as the QC samples indicated.
- Matrix Spike Recovery(s) for 2,4-DB, Dinoseb, MCPA, MCPP are outside control limits. Outside control limits due to matrix interference.
- Matrix Spike Duplicate Recovery(s) for Dinoseb, MCPA, MCPP are outside control limits. Outside control limits due to matrix interference.
- RPD(s) for MSD for 2,4,5-T, 2,4,5-TP (Silvex), 2,4-DB, Dalapon, Dicamba, Dichloroprop, Pentachlorophenol are outside control limits for sample OP97538-MSD.
- OP97538-MSD for 2,4-DB: Outside the QC limits.

Metals By Method SW846 6010C

Matrix: SO **Batch ID:** MP96373

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28910-1MS, JC28910-1MSD, JC28910-1SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Antimony, Arsenic, Barium, Cadmium, Calcium, Chromium, Cobalt, Copper, Lead, Nickel, Potassium, Sodium, Vanadium are outside control limits for sample MP96373-SD1. Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
- MP96373-SD1 for Zinc: Serial dilution indicates possible matrix interference.
- MP96373-MB1 for Zinc: All reported results >10x MB value or with RL> 2X of this value.

Metals By Method SW846 7471B

Matrix: SO **Batch ID:** MP96393

- All samples were digested within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28910-1MS, JC28910-1MSD were used as the QC samples for metals.

Wet Chemistry By Method ASTM D1498-76M

Matrix: SO **Batch ID:** GN52967

- Sample(s) JC28819-1DUP were used as the QC samples for Redox Potential Vs H2.

Wet Chemistry By Method SM2540 G-97

Matrix: SO **Batch ID:** GN52970

- The data for SM2540 G-97 meets quality control requirements.

Wet Chemistry By Method SW846 3060A/7199

Matrix: SO **Batch ID:** GP574

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28902-1PS, JC28902-1MS, JC28902-1DUP were used as the QC samples for Chromium, Hexavalent.
- Matrix Spike Recovery(s) for Chromium, Hexavalent are outside control limits. Insoluble XCR matrix spike recovery indicates possible matrix interference. See additional comments on soluble matrix spike recovery.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP574-D1. RPD acceptable due to low duplicate and sample concentrations.
- GP574-S1 for Chromium, Hexavalent: Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (102%) on this sample.

Matrix: SO **Batch ID:** GP648

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28902-1RPS, JC28902-1RMS, JC28902-1RDUP were used as the QC samples for Chromium, Hexavalent.
- Matrix Spike Recovery(s) for Chromium, Hexavalent are outside control limits. Insoluble XCR matrix spike recovery indicates possible matrix interference. See additional comments on soluble matrix spike recovery.
- RPD(s) for Duplicate for Chromium, Hexavalent are outside control limits for sample GP648-D1. RPD acceptable due to low duplicate and sample concentrations.
- GP648-S1 for Chromium, Hexavalent: Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (97.2%) on this sample.

Wet Chemistry By Method SW846 9012B/LACHAT

Matrix: SO **Batch ID:** GP585

- All samples were prepared within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JC28906-1DUP, JC28906-1MS were used as the QC samples for Cyanide.
- Matrix Spike Recovery(s) for Cyanide are outside control limits. Spike recovery indicates possible matrix interference.

Wet Chemistry By Method SW846 9045D

Matrix: SO **Batch ID:** GN52968

- Sample(s) JC28819-1DUP were used as the QC samples for pH.

SGS Accutest certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting the Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS Accutest is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. Data release is authorized by SGS Accutest indicated via signature on the report cover

Summary of Hits

Job Number: JC28902
Account: Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Collected: 10/04/16

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
JC28902-1	**WOOLSTON-TS-002**					
Acetophenone		15.8 J	190	8.2	ug/kg	SW846 8270D
Benzaldehyde		11.3 J	190	9.4	ug/kg	SW846 8270D
Total TIC, Semi-Volatile		41160 J			ug/kg	
Total Alkanes		600 J			ug/kg	
EPH (C9-C28)		88.4	7.0	3.6	mg/kg	NJDEP EPH
EPH (> C28-C40)		358	7.0	3.6	mg/kg	NJDEP EPH
Total EPH (C9-C40)		447	7.0	3.6	mg/kg	NJDEP EPH
Aluminum		3160	58		mg/kg	SW846 6010C
Arsenic		5.4	2.3		mg/kg	SW846 6010C
Calcium		1380	580		mg/kg	SW846 6010C
Chromium		7.2	1.2		mg/kg	SW846 6010C
Copper		3.5	2.9		mg/kg	SW846 6010C
Iron		7460	58		mg/kg	SW846 6010C
Lead		4.3	2.3		mg/kg	SW846 6010C
Magnesium		637	580		mg/kg	SW846 6010C
Manganese		12.7	1.7		mg/kg	SW846 6010C
Vanadium		9.1	5.8		mg/kg	SW846 6010C
Redox Potential Vs H2		302			mv	ASTM D1498-76M
pH		5.55			su	SW846 9045D
JC28902-1R	**WOOLSTON-TS-002**					

No hits reported in this sample.

SGS ACCUTEST New Jersey

Section 4

4

Sample Results

Report of Analysis

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8260C SW846 5035
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	Y166776.D	1	10/06/16	PS	10/05/16 10:00	n/a	VY7259
Run #2							

	Initial Weight
Run #1	3.0 g
Run #2	

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	19	9.6	ug/kg	
71-43-2	Benzene	ND	0.96	0.23	ug/kg	
74-97-5	Bromochloromethane	ND	9.6	0.61	ug/kg	
75-27-4	Bromodichloromethane	ND	3.9	0.29	ug/kg	
75-25-2	Bromoform	ND	9.6	0.51	ug/kg	
74-83-9	Bromomethane	ND	9.6	0.93	ug/kg	
78-93-3	2-Butanone (MEK)	ND	19	3.4	ug/kg	
75-15-0	Carbon disulfide	ND	3.9	0.33	ug/kg	
56-23-5	Carbon tetrachloride	ND	3.9	0.32	ug/kg	
108-90-7	Chlorobenzene	ND	3.9	0.31	ug/kg	
75-00-3	Chloroethane	ND	9.6	0.83	ug/kg	
67-66-3	Chloroform	ND	3.9	0.46	ug/kg	
74-87-3	Chloromethane	ND	9.6	0.41	ug/kg	
110-82-7	Cyclohexane	ND	3.9	1.1	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	3.9	0.93	ug/kg	
124-48-1	Dibromochloromethane	ND	3.9	0.29	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.9	0.47	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.9	0.33	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.9	0.26	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.9	0.29	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	9.6	1.1	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.9	0.36	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.9	0.33	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.9	0.29	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.9	0.84	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.9	0.30	ug/kg	
78-87-5	1,2-Dichloropropane	ND	3.9	0.60	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	3.9	0.38	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	3.9	0.43	ug/kg	
100-41-4	Ethylbenzene	ND	1.9	0.29	ug/kg	
76-13-1	Freon 113	ND	9.6	0.93	ug/kg	
591-78-6	2-Hexanone	ND	9.6	2.7	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8260C SW846 5035
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

VOA TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
98-82-8	Isopropylbenzene	ND	3.9	0.30	ug/kg	
79-20-9	Methyl Acetate	ND	9.6	3.9	ug/kg	
108-87-2	Methylcyclohexane	ND	3.9	0.97	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.9	0.51	ug/kg	
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	9.6	1.6	ug/kg	
75-09-2	Methylene chloride	ND	9.6	1.9	ug/kg	
100-42-5	Styrene	ND	3.9	0.28	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	3.9	0.46	ug/kg	
127-18-4	Tetrachloroethene	ND	3.9	0.54	ug/kg	
108-88-3	Toluene	ND	1.9	0.24	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	9.6	0.44	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	9.6	0.35	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	3.9	0.32	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	3.9	0.62	ug/kg	
79-01-6	Trichloroethene	ND	1.9	0.37	ug/kg	
75-69-4	Trichlorofluoromethane	ND	9.6	1.2	ug/kg	
75-01-4	Vinyl chloride	ND	3.9	0.39	ug/kg	
	m,p-Xylene	ND	1.9	0.42	ug/kg	
95-47-6	o-Xylene	ND	1.9	0.39	ug/kg	
1330-20-7	Xylene (total)	ND	1.9	0.39	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		70-122%
17060-07-0	1,2-Dichloroethane-D4	109%		68-124%
2037-26-5	Toluene-D8	100%		77-125%
460-00-4	4-Bromofluorobenzene	121%		72-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	
	Total Alkanes		0	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8270D SW846 3546
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M128187.D	1	10/07/16	CS	10/06/16	OP97539	EM5462
Run #2 [a]	M128186.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

	Initial Weight	Final Volume
Run #1	30.4 g	1.0 ml
Run #2	6.5 g	1.0 ml

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	76	19	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	190	23	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	190	32	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	190	68	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	190	140	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	190	41	ug/kg	
95-48-7	2-Methylphenol	ND	76	24	ug/kg	
	3&4-Methylphenol	ND	76	31	ug/kg	
88-75-5	2-Nitrophenol	ND	190	25	ug/kg	
100-02-7	4-Nitrophenol	ND	380	100	ug/kg	
87-86-5	Pentachlorophenol	ND	150	36	ug/kg	
108-95-2	Phenol	ND	76	20	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	190	25	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	190	28	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	190	23	ug/kg	
83-32-9	Acenaphthene	ND	38	13	ug/kg	
208-96-8	Acenaphthylene	ND	38	19	ug/kg	
98-86-2	Acetophenone	15.8	190	8.2	ug/kg	J
120-12-7	Anthracene	ND	38	23	ug/kg	
1912-24-9	Atrazine	ND	76	16	ug/kg	
56-55-3	Benzo(a)anthracene	ND	38	11	ug/kg	
50-32-8	Benzo(a)pyrene	ND	38	17	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	38	17	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	38	19	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	38	18	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	76	15	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	76	9.3	ug/kg	
92-52-4	1,1'-Biphenyl	ND	76	5.2	ug/kg	
100-52-7	Benzaldehyde	11.3	190	9.4	ug/kg	J
91-58-7	2-Chloronaphthalene	ND	76	9.1	ug/kg	
106-47-8	4-Chloroaniline	ND	190	14	ug/kg	
86-74-8	Carbazole	ND	76	5.5	ug/kg	

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8270D SW846 3546
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

ABN TCL List (SOM0 2.0)

CAS No.	Compound	Result	RL	MDL	Units	Q
105-60-2	Caprolactam	ND	76	15	ug/kg	
218-01-9	Chrysene	ND	38	12	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	76	8.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	76	16	ug/kg	
108-60-1	bis(2-Chloroisopropyl)ether	ND	76	14	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	76	12	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	38	12	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	38	19	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	76	32	ug/kg	
123-91-1	1,4-Dioxane	ND	38	25	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	38	17	ug/kg	
132-64-9	Dibenzofuran	ND	76	15	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	76	6.2	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	76	9.5	ug/kg	
84-66-2	Diethyl phthalate	ND	76	8.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	76	6.8	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	76	8.9	ug/kg	
206-44-0	Fluoranthene	ND	38	17	ug/kg	
86-73-7	Fluorene	ND	38	17	ug/kg	
118-74-1	Hexachlorobenzene	ND	76	9.6	ug/kg	
87-68-3	Hexachlorobutadiene	ND	38	15	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	380	15	ug/kg	
67-72-1	Hexachloroethane	ND	190	19	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	38	18	ug/kg	
78-59-1	Isophorone	ND	76	8.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	76	8.6	ug/kg	
88-74-4	2-Nitroaniline	ND	190	9.0	ug/kg	
99-09-2	3-Nitroaniline	ND	190	9.5	ug/kg	
100-01-6	4-Nitroaniline	ND	190	9.8	ug/kg	
91-20-3	Naphthalene	ND	38	11	ug/kg	
98-95-3	Nitrobenzene	ND	76	15	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	76	11	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	190	14	ug/kg	
85-01-8	Phenanthrene	ND	38	13	ug/kg	
129-00-0	Pyrene	ND	38	12	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	190	9.7	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	32%	53%	30-106%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8270D SW846 3546
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

ABN TCL List (SOM0 2.0)

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
4165-62-2	Phenol-d5	31%	53%	30-106%
118-79-6	2,4,6-Tribromophenol	40%	72%	24-140%
4165-60-0	Nitrobenzene-d5	31%	62%	26-122%
321-60-8	2-Fluorobiphenyl	35% [b]	56%	36-112%
1718-51-0	Terphenyl-d14	36%	59%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	3.20	1500	ug/kg	J
	system artifact	3.53	2100	ug/kg	J
	system artifact/aldol-condensation	3.59	4600	ug/kg	J
	unknown	5.39	1100	ug/kg	J
1470-50-4	2-Octenoic acid	6.05	600	ug/kg	JN
67-47-0	2-Furancarboxaldehyde, 5-(hydroxymethyl)	6.20	980	ug/kg	JN
	unknown	10.48	530	ug/kg	J
	alkene	16.02	1200	ug/kg	J
	unknown	17.30	670	ug/kg	J
	unknown	18.11	730	ug/kg	J
	unknown	18.56	1300	ug/kg	J
	unknown	18.91	5300	ug/kg	J
	unknown	19.23	1400	ug/kg	J
	Tocopherol	19.37	680	ug/kg	J
	unknown	19.48	2200	ug/kg	J
	unknown	19.58	1300	ug/kg	J
	unknown	19.65	1100	ug/kg	J
	Tocopherol	19.79	900	ug/kg	J
	unknown	20.39	960	ug/kg	J
	unknown	20.44	1700	ug/kg	J
	unknown	20.78	990	ug/kg	J
	unknown	21.03	4600	ug/kg	J
	unknown	21.18	6100	ug/kg	J
	unknown	21.32	610	ug/kg	J
	unknown	21.45	2900	ug/kg	J
	unknown	21.55	810	ug/kg	J
	unknown	21.71	2500	ug/kg	J
	Total TIC, Semi-Volatile		41160	ug/kg	J
	Total Alkanes		600	ug/kg	J

(a) Confirmation run.
(b) Outside control limits due to matrix interference.

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8151 SW846 8151/3550C
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	OA120273.D	2	10/07/16	VDT	10/06/16	OP97538	GOA4139
Run #2							

	Initial Weight	Final Volume
Run #1	15.4 g	5.0 ml
Run #2		

Herbicide List

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	38	17	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	7.5	2.7	ug/kg	
93-76-5	2,4,5-T	ND	7.5	2.9	ug/kg	
75-99-0	Dalapon	ND	7.5	5.1	ug/kg	
1918-00-9	Dicamba	ND	7.5	3.8	ug/kg	
120-36-5	Dichloroprop	ND	38	11	ug/kg	
88-85-7	Dinoseb	ND	38	25	ug/kg	
94-74-6	MCPA	ND	3800	860	ug/kg	
93-65-2	MCPP	ND	3800	820	ug/kg	
87-86-5	Pentachlorophenol	ND	3.8	3.3	ug/kg	
94-82-6	2,4-DB	ND	38	12	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
19719-28-9	2,4-DCAA	94%		10-156%
19719-28-9	2,4-DCAA	101%		10-156%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8081B SW846 3546
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	4G73355.D	1	10/06/16	DS	10/06/16	OP97536	G4G1919
Run #2							

	Initial Weight	Final Volume
Run #1	4.7 g	10.0 ml
Run #2		

Pesticide TCL List

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	2.5	1.2	ug/kg	
319-84-6	alpha-BHC	ND	2.5	1.3	ug/kg	
319-85-7	beta-BHC	ND	2.5	1.5	ug/kg	
319-86-8	delta-BHC	ND	2.5	1.1	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	2.5	1.1	ug/kg	
5103-71-9	alpha-Chlordane	ND	2.5	1.2	ug/kg	
5103-74-2	gamma-Chlordane	ND	2.5	1.1	ug/kg	
57-74-9	Chlordane (alpha and gamma)	ND	2.5	1.1	ug/kg	
60-57-1	Dieldrin	ND	2.5	1.2	ug/kg	
72-54-8	4,4'-DDD	ND	2.5	1.6	ug/kg	
72-55-9	4,4'-DDE	ND	2.5	1.3	ug/kg	
50-29-3	4,4'-DDT	ND	2.5	1.5	ug/kg	
72-20-8	Endrin	ND	2.5	1.2	ug/kg	
1031-07-8	Endosulfan sulfate	ND	2.5	0.99	ug/kg	
7421-93-4	Endrin aldehyde	ND	2.5	1.5	ug/kg	
959-98-8	Endosulfan-I	ND	2.5	1.3	ug/kg	
33213-65-9	Endosulfan-II	ND	2.5	1.3	ug/kg	
76-44-8	Heptachlor	ND	2.5	1.2	ug/kg	
1024-57-3	Heptachlor epoxide	ND	2.5	1.3	ug/kg	
72-43-5	Methoxychlor	ND	4.9	1.2	ug/kg	
53494-70-5	Endrin ketone	ND	2.5	1.9	ug/kg	
8001-35-2	Toxaphene	ND	61	26	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	77%		24-136%
877-09-8	Tetrachloro-m-xylene	74%		24-136%
2051-24-3	Decachlorobiphenyl	65%		10-153%
2051-24-3	Decachlorobiphenyl	78%		10-153%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: SW846 8082A SW846 3546
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	XX198049.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823
Run #2							

	Initial Weight	Final Volume
Run #1	9.7 g	10.0 ml
Run #2		

PCB List

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	60	29	ug/kg	
11104-28-2	Aroclor 1221	ND	60	29	ug/kg	
11141-16-5	Aroclor 1232	ND	60	23	ug/kg	
53469-21-9	Aroclor 1242	ND	60	21	ug/kg	
12672-29-6	Aroclor 1248	ND	60	38	ug/kg	
11097-69-1	Aroclor 1254	ND	60	30	ug/kg	
11096-82-5	Aroclor 1260	ND	60	25	ug/kg	
11100-14-4	Aroclor 1268	ND	60	21	ug/kg	
37324-23-5	Aroclor 1262	ND	60	40	ug/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
877-09-8	Tetrachloro-m-xylene	89%		20-152%
877-09-8	Tetrachloro-m-xylene	88%		20-152%
2051-24-3	Decachlorobiphenyl	83%		12-157%
2051-24-3	Decachlorobiphenyl	80%		12-157%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Method: NJDEP EPH SW846 3546
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	5Y36634.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211
Run #2							

	Initial Weight	Final Volume
Run #1	16.6 g	2.0 ml
Run #2		

NJDEP EPH List

CAS No.	Compound	Result	RL	MDL	Units	Q
	EPH (C9-C28)	88.4	7.0	3.6	mg/kg	
	EPH (> C28-C40)	358	7.0	3.6	mg/kg	
	Total EPH (C9-C40)	447	7.0	3.6	mg/kg	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
84-15-1	o-Terphenyl	63%		40-140%
3386-33-2	1-Chlorooctadecane	69%		40-140%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

Metals Analysis

Analyte	Result	RL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Aluminum	3160	58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Antimony	< 2.3	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Arsenic	5.4	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Barium	< 23	23	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Beryllium	< 0.23	0.23	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Cadmium	< 0.58	0.58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Calcium	1380	580	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Chromium	7.2	1.2	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Cobalt	< 5.8	5.8	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Copper	3.5	2.9	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Iron	7460	58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Lead	4.3	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Magnesium	637	580	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Manganese	12.7	1.7	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Mercury	< 0.038	0.038	mg/kg	1	10/06/16	10/06/16	JPM	SW846 7471B [2]	SW846 7471B [4]
Nickel	< 4.6	4.6	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Potassium	< 1200	1200	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Selenium	< 2.3	2.3	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Silver	< 0.58	0.58	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Sodium	< 1200	1200	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Thallium	< 1.2	1.2	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Vanadium	9.1	5.8	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]
Zinc	< 5.8	5.8	mg/kg	1	10/05/16	10/05/16	ND	SW846 6010C [1]	SW846 3050B [3]

(1) Instrument QC Batch: MA40457
(2) Instrument QC Batch: MA40466
(3) Prep QC Batch: MP96373
(4) Prep QC Batch: MP96393

RL = Reporting Limit

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID: WOOLSTON-TS-002
Lab Sample ID: JC28902-1
Matrix: SO - Soil
Project: HLANJPR: Study Area 6 Chrome Remedy

Date Sampled: 10/04/16
Date Received: 10/04/16
Percent Solids: 86.5

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.45	0.45	mg/kg	1	10/07/16 11:04	TT	SW846 3060A/7199
Cyanide	< 0.23	0.23	mg/kg	1	10/07/16 10:09	YZ	SW846 9012B/LACHAT
Redox Potential Vs H2	302		mv	1	10/05/16 14:10	AC	ASTM D1498-76M
Solids, Percent	86.5		%	1	10/05/16 14:00	AT	SM2540 G-97
pH	5.55		su	1	10/05/16 13:45	AC	SW846 9045D

RL = Reporting Limit

SGS Accutest LabLink@930131 07:10 12-Oct-2016

Report of Analysis

Client Sample ID:	WOOLSTON-TS-002		
Lab Sample ID:	JC28902-1R	**Date Sampled:**	10/04/16
Matrix:	SO - Soil	**Date Received:**	10/04/16
		Percent Solids:	86.5
Project:	HLANJPR: Study Area 6 Chrome Remedy		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
Chromium, Hexavalent	< 0.46	0.46	mg/kg	1	10/10/16 19:47	AT	SW846 3060A/7199

RL = Reporting Limit

SGS ACCUTEST New Jersey

Section 5

5

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody
- Sample Tracking Chronicle
- Internal Chain of Custody

Parameter Certification Exceptions

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

The following parameters included in this report are exceptions to NELAC certification.
The certification status of each is indicated below.

Parameter	CAS#	Method	Mat	Certification Status
Redox Potential Vs H2		**ASTM D1498-76M**	SO	Accutest is not certified for this parameter.[a]

(a) Lab cert for analyte not supported by NJDEP, OQA. Only methods/analytes required for reporting by the State of NJ can be certified in NJ. Use of this analyte for compliance must be verified through the appropriate regulatory office.

Certification exceptions shown are based on the New Jersey DEP certifications. Applicability in other states may vary. Please contact your laboratory representative if additional information is required for a specific regulatory program.

SLL

ACCUTEST
Fresh Ponds Corporate Village, Building B
2235 Route 130,Dayton, New Jersey 08810
732-329-0200 Phone, 732-329-3499 Fax

Honeywell Chain Of Custody / Analysis Request

AESI Ref: 38439.43925
COC # : 37394-092716
Lab Use Only
Lab Proj # HWINJM 45341
Lab ID ACTD
PAGE 1 of 1
Job No. JC28902

Privileged & Confidential Y
EDD To: Andrew Shust (AMEC)
Site Name: HUDSONCO
Location of Site: SA-6 Cr Remedy

Client Contact: (name, co., address)
Andrew Shust, AMEC Hamilton, NJ
200 American Metro Blvd., Suite 113
Hamilton, NJ 08619

Sampler: Jenna Desiderio
P O #
Analysis Turnaround Time: 3 day TAT
Standard -
Rush Charges Authorized for - Y
2 weeks -
1 week -
48 Hours -

Hardcopy Report To: See above
Invoice To: Maria Kaouris - Honeywell PM 101 Columbia Rd, Morristown, NJ 07962

What is in the Text File? Mouse over here.
Written and maintained by AESI (Ver 3_7) 02-01-05 renesurgi@aol.com

	Location ID	Start Depth (ft)	End Depth (ft)	Field Sample ID	Sample Date	Sample Time	Sample Type	Sample Matrix	Sample Purpose	# of Cont.	Grab/Composite	Field Filtered Sample ?	EPA 7199 Hexavalent Chromium	TAL Metals 6010B	TCL VOC 8260B	TCL SVOCs 8270C	Non- fractionated EPH	PCB	SW846 9012A	Pesticides 8081A	SW8151 Total Herb					Lab Sample Numbers
											Units		mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg					
													0	0	0	0	0	0	0	0	0					
1	WOOLSTON-TS			WOOLSTON-TS-002 *	10/4/2016	8:30	SOIL	Soil	REG	4	grab	N	X	X	X	X	X	X	X	X	X			1		D16 P1 14Q3 4013
2																										
3																										
4																										
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										

INITIAL ASSESSMENT AMB
LABEL VERIFICATION Am

3 day TAT * 3X5 G ENC 10/4/16 tu

Relinquished by	Company	AMEC	Received by	Company	ACTD	Condition		Custody Seals Intact	
	Date/Time	10/4/16 8:40		Date/Time	10-4-16 1500	Cooler Temp.			
Relinquished by	Company		Received by	Company	Accutest	Condition		Custody Seals Intact	
	Date/Time	10-4-16 1652		Date/Time	10/4/16 17:38	Cooler Temp.			

Preservatives: 0 = None; [1 = HCL]; [2 = HNO3]; [3 = H2SO4]; [4 = NaOH]; [5 = Zn. Acetate]; [6 = MeOH]; [7 = NaHSO4]; 8 = Other (specify):

04.1 SSP

JC28902: Chain of Custody
Page 1 of 3

SGS Accutest Sample Receipt Summary

Job Number: JC28902 **Client:** **Project:**

Date / Time Received: 10/4/2016 4:52:00 PM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (4.1);

Cooler Temps (Corrected) °C: Cooler 1: (5.0);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control _Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

JC28902: Chain of Custody
Page 2 of 3

Job Change Order: JC28902

Requested Date:	10/7/2016	**Received Date:**	10/4/2016
Account Name:	Honeywell International Inc.	**Due Date:**	10/20/2016
Project Description:	HLANJPR: Study Area 6 Chrome Remedy	**Deliverable:**	FULT1
CSR:	mayurp	**TAT (Days):**	3

==========

Sample #: JC28902-1

Dept:

TAT: 3

WOOLSTON-TS-002

Change:
Relog the sample for XXCRA7199R, HOMOGENIZE
move HWSHEET to relogged email

==========

Above Changes Per:

Date/Time: 10/7/2016 3:38:35 PM

To Client: This Change Order is confirmation of the revisions, previously discussed with the SGS Accutest Client Service Representative.

Page 1 of 1

5.2 5

JC28902: Chain of Custody
Page 3 of 3

SGS Accutest

Internal Sample Tracking Chronicle

Honeywell International Inc.

Job No: JC28902

HLANJPR: Study Area 6 Chrome Remedy

Sample Number	Method	Analyzed	By	Prepped	By	Test Codes
JC28902-1	Collected: 04-OCT-16 08:30 By: JD		Received: 04-OCT-16 By: JK			
WOOLSTON-TS-002						
JC28902-1	SW846 9045D	05-OCT-16 13:45	AC			PH
JC28902-1	SM2540 G-97	05-OCT-16 14:00	AT			SOL104
JC28902-1	ASTM D1498-76M	05-OCT-16 14:10	AC			EH
JC28902-1	SW846 6010C	05-OCT-16 23:30	ND	05-OCT-16	DM	AG,AL,AS,BA,BE,CA,CD,CO,CR,CU,FE,K,MG,MN,NA,NI,PB,SB,SE,TL,V,ZN
JC28902-1	SW846 7471B	06-OCT-16 11:51	JPM	06-OCT-16	JPM	HG
JC28902-1	NJDEP EPH	06-OCT-16 16:01	SP	06-OCT-16	SZ	BNJEPHCAT2NF
JC28902-1	SW846 8082A	06-OCT-16 17:57	HB	06-OCT-16	SZ	P8082PCB11AO
JC28902-1	SW846 8081B	06-OCT-16 18:11	DS	06-OCT-16	SZ	P8081PESTTCL
JC28902-1	SW846 8260C	06-OCT-16 21:54	PS			V8260TCL20+
JC28902-1	SW846 9012B/LACHAT	07-OCT-16 10:09	YZ	06-OCT-16	HS	CN
JC28902-1	SW846 3060A/7199	07-OCT-16 11:04	TT	06-OCT-16	MP	XCRA7199
JC28902-1	SW846 8151	07-OCT-16 12:09	VDT	06-OCT-16	RG	H8151FL
JC28902-1	SW846 8270D	07-OCT-16 14:49	CS	06-OCT-16	FN	AB8270TCL20+
JC28902-1	SW846 8270D	07-OCT-16 15:17	CS	06-OCT-16	FN	AB8270TCL20+
JC28902-1R	Collected: 04-OCT-16 08:30 By: JD		Received: 04-OCT-16 By: JK			
WOOLSTON-TS-002						
JC28902-1R	SW846 3060A/7199	10-OCT-16 19:47	AT	10-OCT-16	AP	XCRA7199

SGS Accutest Internal Chain of Custody

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Received: 10/04/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC28902-1.1	Secured Storage	Alfredo Crespo	10/05/16 08:10	Retrieve from Storage
JC28902-1.1	Alfredo Crespo	Secured Staging Area	10/05/16 08:10	Return to Storage
JC28902-1.1	Secured Staging Area	Diana Mathes	10/05/16 10:02	Retrieve from Storage
JC28902-1.1	Diana Mathes	Andrew Csimbok	10/05/16 10:17	Custody Transfer
JC28902-1.1	Andrew Csimbok	Secured Storage	10/05/16 17:16	Return to Storage
JC28902-1.1	Secured Storage	Steven Zarchy	10/06/16 06:38	Retrieve from Storage
JC28902-1.1	Steven Zarchy	Deanna Hornig	10/06/16 07:37	Custody Transfer
JC28902-1.1	Deanna Hornig	Secured Storage	10/06/16 09:34	Return to Storage
JC28902-1.1	Secured Storage	Todd Shoemaker	10/06/16 15:27	Retrieve from Storage
JC28902-1.1	Todd Shoemaker	Secured Staging Area	10/06/16 15:27	Return to Storage
JC28902-1.1	Secured Staging Area	Hans Seignon	10/06/16 16:49	Retrieve from Storage
JC28902-1.1	Hans Seignon	Secured Storage	10/07/16 00:21	Return to Storage
JC28902-1.1	Secured Storage	Alfredo Crespo	10/10/16 07:27	Retrieve from Storage
JC28902-1.1	Alfredo Crespo	Secured Staging Area	10/10/16 07:27	Return to Storage
JC28902-1.1	Secured Staging Area	Aesha Patel	10/10/16 09:15	Retrieve from Storage
JC28902-1.1	Lisa Brassell		10/10/16 11:17	Depleted
Bottle was returned to secure storage, but inadvertently not scanned.				
JC28902-1.1.1	Diana Mathes	Metals Digestion	10/05/16 10:14	Digestate from JC28902-1.1
JC28902-1.1.1	Metals Digestion	Diana Mathes	10/05/16 10:14	Digestate from JC28902-1.1
JC28902-1.1.1	Diana Mathes	Metals Digestate Storage	10/05/16 10:14	Return to Storage
JC28902-1.1.2	Steven Zarchy	Organics Prep	10/06/16 06:39	Extract from JC28902-1.1
JC28902-1.1.2	Organics Prep	Steven Zarchy	10/06/16 11:54	Extract from JC28902-1.1
JC28902-1.1.2	Steven Zarchy	Extract Storage	10/06/16 11:54	Return to Storage
JC28902-1.1.2	Extract Storage	Sarah Patterson	10/06/16 16:06	Retrieve from Storage
JC28902-1.1.2	Sarah Patterson	GC5Y	10/06/16 16:06	Load on Instrument
JC28902-1.1.2	GC5Y	Sarah Patterson	10/07/16 16:10	Unload from Instrument
JC28902-1.1.2	Sarah Patterson	Extract Freezer	10/07/16 16:10	Return to Storage
JC28902-1.1.3	Steven Zarchy	Organics Prep	10/06/16 06:41	Extract from JC28902-1.1
JC28902-1.1.3	Organics Prep	Steven Zarchy	10/06/16 13:15	Extract from JC28902-1.1
JC28902-1.1.3	Steven Zarchy	Extract Storage	10/06/16 13:15	Return to Storage
JC28902-1.1.3	Extract Storage	Humarah Bano	10/06/16 17:33	Retrieve from Storage
JC28902-1.1.3	Humarah Bano	GCXX	10/06/16 17:33	Load on Instrument
JC28902-1.1.4	Steven Zarchy	Organics Prep	10/06/16 06:42	Extract from JC28902-1.1
JC28902-1.1.4	Organics Prep	Steven Zarchy	10/06/16 13:15	Extract from JC28902-1.1
JC28902-1.1.4	Steven Zarchy	Extract Storage	10/06/16 13:15	Return to Storage
JC28902-1.1.4	Extract Storage	Kristen Drake	10/06/16 16:35	Retrieve from Storage
JC28902-1.1.4	Kristen Drake	GC4G	10/06/16 16:35	Load on Instrument
JC28902-1.1.4	GC4G	Dhara Saparia	10/10/16 09:44	Unload from Instrument
JC28902-1.1.4	Dhara Saparia	Extract Freezer	10/10/16 09:45	Return to Storage

SGS Accutest Internal Chain of Custody

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Received: 10/04/16

Sample.Bottle Number	Transfer FROM	Transfer TO	Date/Time	Reason
JC28902-1.1.5	Deanna Hornig	Organics Prep	10/06/16 07:40	Extract from JC28902-1.1
JC28902-1.1.5	Organics Prep	Finley Nyaata	10/06/16 17:34	Extract from JC28902-1.1
JC28902-1.1.5	Finley Nyaata	Extract Storage	10/06/16 17:34	Return to Storage
JC28902-1.1.5	Extract Storage	Ashley Noble	10/07/16 13:20	Retrieve from Storage
JC28902-1.1.5	Ashley Noble	GCMS6P	10/07/16 13:20	Load on Instrument
JC28902-1.1.5	Arielle Cocozza	Extract Freezer	10/08/16 12:06	Return to Storage
JC28902-1.1.5	GCMS6P	Arielle Cocozza	10/08/16 12:06	Unload from Instrument
JC28902-1.1.6	Deanna Hornig	Organics Prep	10/06/16 07:42	Extract from JC28902-1.1
JC28902-1.1.6	Organics Prep	Rebecca Gluckman	10/06/16 17:46	Extract from JC28902-1.1
JC28902-1.1.6	Rebecca Gluckman	Extract Storage	10/06/16 17:46	Return to Storage
JC28902-1.1.6	Extract Storage	Vincent Drago	10/07/16 09:44	Retrieve from Storage
JC28902-1.1.6	Vincent Drago	GCOA	10/07/16 09:44	Load on Instrument
JC28902-1.1.6	GCOA	Vincent Drago	10/10/16 09:37	Unload from Instrument
JC28902-1.1.6	Vincent Drago	Extract Freezer	10/10/16 09:37	Return to Storage
JC28902-1.1.7	Deanna Hornig	Miti Patel	10/06/16 08:23	Aliquot from JC28902-1.1
JC28902-1.1.7	Miti Patel		10/06/16 11:53	Depleted
JC28902-1.2	Secured Storage	Todd Shoemaker	10/05/16 08:49	Retrieve from Storage
JC28902-1.2	Todd Shoemaker	Secured Staging Area	10/05/16 08:49	Return to Storage
JC28902-1.2	Secured Staging Area	Amir Takla	10/05/16 08:52	Retrieve from Storage
JC28902-1.2	Amir Takla	Secured Storage	10/05/16 17:18	Return to Storage
JC28902-1.2	Secured Storage	Alfredo Crespo	10/06/16 07:49	Retrieve from Storage
JC28902-1.2	Alfredo Crespo	Secured Staging Area	10/06/16 07:49	Return to Storage
JC28902-1.2	Secured Staging Area	James Patrick McIlvaine	10/06/16 08:47	Retrieve from Storage
JC28902-1.2	Secured Storage	Alfredo Crespo	10/06/16 09:12	Retrieve from Storage
Bottle was returned to secure storage, but inadvertently not scanned.				
JC28902-1.2	Alfredo Crespo	Secured Staging Area	10/06/16 09:12	Return to Storage
JC28902-1.2	Deanna Hornig		10/06/16 09:34	Depleted
Analyst unavailable for custody transfer.				
JC28902-1.4	Secured Storage	Jayna Patel	10/05/16 10:15	Retrieve from Storage
JC28902-1.4	Jayna Patel	Secured Storage	10/05/16 10:15	Return to Storage
JC28902-1.5	Secured Storage	Jayna Patel	10/05/16 10:15	Retrieve from Storage
JC28902-1.5	Jayna Patel	Secured Storage	10/05/16 10:15	Return to Storage
JC28902-1.5	Secured Storage	Prashant Shukla	10/06/16 15:59	Retrieve from Storage
JC28902-1.5	Prashant Shukla	GCMSY	10/06/16 15:59	Load on Instrument
JC28902-1.5	GCMSY	Prashant Shukla	10/08/16 09:37	Unload from Instrument
JC28902-1.5	Prashant Shukla		10/08/16 09:37	Depleted
JC28902-1.6	Secured Storage	Jayna Patel	10/05/16 10:15	Retrieve from Storage
JC28902-1.6	Jayna Patel	Secured Storage	10/05/16 10:15	Return to Storage

SGS ACCUTEST New Jersey

Section 6

GC/MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (BFB)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-MB	Y166756.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	10	5.0	ug/kg	
71-43-2	Benzene	ND	0.50	0.12	ug/kg	
74-97-5	Bromochloromethane	ND	5.0	0.32	ug/kg	
75-27-4	Bromodichloromethane	ND	2.0	0.15	ug/kg	
75-25-2	Bromoform	ND	5.0	0.27	ug/kg	
74-83-9	Bromomethane	ND	5.0	0.49	ug/kg	
78-93-3	2-Butanone (MEK)	ND	10	1.8	ug/kg	
75-15-0	Carbon disulfide	ND	2.0	0.17	ug/kg	
56-23-5	Carbon tetrachloride	ND	2.0	0.17	ug/kg	
108-90-7	Chlorobenzene	ND	2.0	0.16	ug/kg	
75-00-3	Chloroethane	ND	5.0	0.43	ug/kg	
67-66-3	Chloroform	ND	2.0	0.24	ug/kg	
74-87-3	Chloromethane	ND	5.0	0.21	ug/kg	
110-82-7	Cyclohexane	ND	2.0	0.55	ug/kg	
96-12-8	1,2-Dibromo-3-chloropropane	ND	2.0	0.48	ug/kg	
124-48-1	Dibromochloromethane	ND	2.0	0.15	ug/kg	
106-93-4	1,2-Dibromoethane	ND	1.0	0.24	ug/kg	
95-50-1	1,2-Dichlorobenzene	ND	1.0	0.17	ug/kg	
541-73-1	1,3-Dichlorobenzene	ND	1.0	0.14	ug/kg	
106-46-7	1,4-Dichlorobenzene	ND	1.0	0.15	ug/kg	
75-71-8	Dichlorodifluoromethane	ND	5.0	0.55	ug/kg	
75-34-3	1,1-Dichloroethane	ND	1.0	0.19	ug/kg	
107-06-2	1,2-Dichloroethane	ND	1.0	0.17	ug/kg	
75-35-4	1,1-Dichloroethene	ND	1.0	0.15	ug/kg	
156-59-2	cis-1,2-Dichloroethene	ND	1.0	0.44	ug/kg	
156-60-5	trans-1,2-Dichloroethene	ND	1.0	0.16	ug/kg	
78-87-5	1,2-Dichloropropane	ND	2.0	0.31	ug/kg	
10061-01-5	cis-1,3-Dichloropropene	ND	2.0	0.20	ug/kg	
10061-02-6	trans-1,3-Dichloropropene	ND	2.0	0.22	ug/kg	
100-41-4	Ethylbenzene	ND	1.0	0.15	ug/kg	
76-13-1	Freon 113	ND	5.0	0.48	ug/kg	
591-78-6	2-Hexanone	ND	5.0	1.4	ug/kg	
98-82-8	Isopropylbenzene	ND	2.0	0.15	ug/kg	
79-20-9	Methyl Acetate	ND	5.0	2.0	ug/kg	
108-87-2	Methylcyclohexane	ND	2.0	0.51	ug/kg	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.27	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-MB	Y166756.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-10-1	4-Methyl-2-pentanone(MIBK)	ND	5.0	0.85	ug/kg	
75-09-2	Methylene chloride	ND	5.0	1.0	ug/kg	
100-42-5	Styrene	ND	2.0	0.15	ug/kg	
79-34-5	1,1,2,2-Tetrachloroethane	ND	2.0	0.24	ug/kg	
127-18-4	Tetrachloroethene	ND	2.0	0.28	ug/kg	
108-88-3	Toluene	ND	1.0	0.13	ug/kg	
87-61-6	1,2,3-Trichlorobenzene	ND	5.0	0.23	ug/kg	
120-82-1	1,2,4-Trichlorobenzene	ND	5.0	0.18	ug/kg	
71-55-6	1,1,1-Trichloroethane	ND	2.0	0.17	ug/kg	
79-00-5	1,1,2-Trichloroethane	ND	2.0	0.32	ug/kg	
79-01-6	Trichloroethene	ND	1.0	0.19	ug/kg	
75-69-4	Trichlorofluoromethane	ND	5.0	0.63	ug/kg	
75-01-4	Vinyl chloride	ND	2.0	0.20	ug/kg	
	m,p-Xylene	ND	1.0	0.22	ug/kg	
95-47-6	o-Xylene	ND	1.0	0.20	ug/kg	
1330-20-7	Xylene (total)	ND	1.0	0.20	ug/kg	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	99%	70-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	100%	77-125%
460-00-4	4-Bromofluorobenzene	105%	72-130%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-BS	Y166757.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
67-64-1	Acetone	50	53.1	106	30-150
71-43-2	Benzene	50	46.7	93	77-122
74-97-5	Bromochloromethane	50	49.1	98	81-126
75-27-4	Bromodichloromethane	50	48.7	97	82-130
75-25-2	Bromoform	50	49.7	99	78-134
74-83-9	Bromomethane	50	48.9	98	56-141
78-93-3	2-Butanone (MEK)	50	53.1	106	61-139
75-15-0	Carbon disulfide	50	46.6	93	68-131
56-23-5	Carbon tetrachloride	50	51.2	102	73-139
108-90-7	Chlorobenzene	50	49.8	100	79-120
75-00-3	Chloroethane	50	54.2	108	64-150
67-66-3	Chloroform	50	51.4	103	77-123
74-87-3	Chloromethane	50	49.1	98	50-140
110-82-7	Cyclohexane	50	54.3	109	66-131
96-12-8	1,2-Dibromo-3-chloropropane	50	50.8	102	70-128
124-48-1	Dibromochloromethane	50	49.6	99	82-129
106-93-4	1,2-Dibromoethane	50	49.2	98	83-125
95-50-1	1,2-Dichlorobenzene	50	49.8	100	79-118
541-73-1	1,3-Dichlorobenzene	50	48.7	97	76-119
106-46-7	1,4-Dichlorobenzene	50	49.0	98	75-118
75-71-8	Dichlorodifluoromethane	50	54.4	109	31-170
75-34-3	1,1-Dichloroethane	50	48.0	96	78-129
107-06-2	1,2-Dichloroethane	50	50.1	100	77-140
75-35-4	1,1-Dichloroethene	50	49.2	98	71-128
156-59-2	cis-1,2-Dichloroethene	50	50.0	100	73-123
156-60-5	trans-1,2-Dichloroethene	50	46.7	93	72-122
78-87-5	1,2-Dichloropropane	50	49.2	98	80-129
10061-01-5	cis-1,3-Dichloropropene	50	49.7	99	75-124
10061-02-6	trans-1,3-Dichloropropene	50	49.2	98	75-129
100-41-4	Ethylbenzene	50	48.7	97	75-121
76-13-1	Freon 113	50	54.2	108	67-136
591-78-6	2-Hexanone	50	52.9	106	63-140
98-82-8	Isopropylbenzene	50	50.1	100	70-126
79-20-9	Methyl Acetate	50	51.7	103	59-131
108-87-2	Methylcyclohexane	50	46.9	94	62-131
1634-04-4	Methyl Tert Butyl Ether	100	99.5	100	77-121

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VY7259-BS	Y166757.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	50	51.8	104	73-141
75-09-2	Methylene chloride	50	50.8	102	71-124
100-42-5	Styrene	50	51.2	102	79-125
79-34-5	1,1,2,2-Tetrachloroethane	50	48.7	97	72-121
127-18-4	Tetrachloroethene	50	49.2	98	70-135
108-88-3	Toluene	50	48.4	97	75-123
87-61-6	1,2,3-Trichlorobenzene	50	56.1	112	76-128
120-82-1	1,2,4-Trichlorobenzene	50	58.3	117	74-129
71-55-6	1,1,1-Trichloroethane	50	53.0	106	75-134
79-00-5	1,1,2-Trichloroethane	50	50.7	101	78-130
79-01-6	Trichloroethene	50	50.1	100	79-127
75-69-4	Trichlorofluoromethane	50	50.4	101	64-141
75-01-4	Vinyl chloride	50	50.3	101	57-136
	m,p-Xylene	100	95.1	95	75-122
95-47-6	o-Xylene	50	50.0	100	76-121
1330-20-7	Xylene (total)	150	145	97	76-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	103%	70-122%
17060-07-0	1,2-Dichloroethane-D4	102%	68-124%
2037-26-5	Toluene-D8	101%	77-125%
460-00-4	4-Bromofluorobenzene	98%	72-130%

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-2MS	Y166764.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-2	Y166760.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
67-64-1	Acetone	ND		61.2	36.8	60	10-180
71-43-2	Benzene	ND		61.2	53.5	87	48-136
74-97-5	Bromochloromethane	ND		61.2	51.6	84	53-137
75-27-4	Bromodichloromethane	ND		61.2	51.7	85	50-145
75-25-2	Bromoform	ND		61.2	47.7	78	39-148
74-83-9	Bromomethane	ND		61.2	56.1	92	12-156
78-93-3	2-Butanone (MEK)	ND		61.2	41.7	68	26-164
75-15-0	Carbon disulfide	ND		61.2	59.2	97	34-146
56-23-5	Carbon tetrachloride	ND		61.2	58.8	96	43-152
108-90-7	Chlorobenzene	ND		61.2	56.3	92	38-144
75-00-3	Chloroethane	ND		61.2	60.6	99	26-154
67-66-3	Chloroform	ND		61.2	58.6	96	52-134
74-87-3	Chloromethane	ND		61.2	55.3	90	41-142
110-82-7	Cyclohexane	ND		61.2	60.7	99	22-154
96-12-8	1,2-Dibromo-3-chloropropane	ND		61.2	46.0	75	29-145
124-48-1	Dibromochloromethane	ND		61.2	51.3	84	49-142
106-93-4	1,2-Dibromoethane	ND		61.2	49.0	80	46-139
95-50-1	1,2-Dichlorobenzene	ND		61.2	53.8	88	30-144
541-73-1	1,3-Dichlorobenzene	ND		61.2	54.0	88	28-148
106-46-7	1,4-Dichlorobenzene	ND		61.2	53.4	87	30-142
75-71-8	Dichlorodifluoromethane	ND		61.2	63.4	104	31-161
75-34-3	1,1-Dichloroethane	ND		61.2	55.8	91	54-137
107-06-2	1,2-Dichloroethane	ND		61.2	51.7	85	56-140
75-35-4	1,1-Dichloroethene	ND		61.2	60.2	98	41-143
156-59-2	cis-1,2-Dichloroethene	ND		61.2	56.7	93	45-137
156-60-5	trans-1,2-Dichloroethene	ND		61.2	55.4	91	42-141
78-87-5	1,2-Dichloropropane	ND		61.2	54.6	89	53-139
10061-01-5	cis-1,3-Dichloropropene	ND		61.2	51.1	84	41-144
10061-02-6	trans-1,3-Dichloropropene	ND		61.2	49.1	80	36-148
100-41-4	Ethylbenzene	ND		61.2	56.1	92	34-145
76-13-1	Freon 113	ND		61.2	59.0	96	30-152
591-78-6	2-Hexanone	ND		61.2	45.1	74	16-176
98-82-8	Isopropylbenzene	ND		61.2	58.2	95	36-145
79-20-9	Methyl Acetate	ND		61.2	47.0	77	26-176
108-87-2	Methylcyclohexane	ND		61.2	50.1	82	14-153
1634-04-4	Methyl Tert Butyl Ether	ND		122	99.3	81	54-129

* = Outside of Control Limits.

Matrix Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-2MS	Y166764.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-2	Y166760.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-2 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		61.2	47.3	77	33-154
75-09-2	Methylene chloride	ND		61.2	55.6	91	47-133
100-42-5	Styrene	ND		61.2	56.4	92	32-156
79-34-5	1,1,2,2-Tetrachloroethane	ND		61.2	47.7	78	31-149
127-18-4	Tetrachloroethene	ND		61.2	56.5	92	34-163
108-88-3	Toluene	ND		61.2	55.0	90	40-141
87-61-6	1,2,3-Trichlorobenzene	ND		61.2	54.2	89	14-153
120-82-1	1,2,4-Trichlorobenzene	ND		61.2	57.7	94	14-156
71-55-6	1,1,1-Trichloroethane	ND		61.2	61.7	101	48-144
79-00-5	1,1,2-Trichloroethane	ND		61.2	50.9	83	43-146
79-01-6	Trichloroethene	ND		61.2	57.2	94	42-152
75-69-4	Trichlorofluoromethane	ND		61.2	55.9	91	39-153
75-01-4	Vinyl chloride	ND		61.2	57.6	94	38-149
	m,p-Xylene	ND		122	107	87	32-148
95-47-6	o-Xylene	ND		61.2	55.7	91	36-145
1330-20-7	Xylene (total)	ND		184	163	89	34-146

CAS No.	Surrogate Recoveries	MS	JC28964-2	Limits
1868-53-7	Dibromofluoromethane	99%	102%	70-122%
17060-07-0	1,2-Dichloroethane-D4	93%	104%	68-124%
2037-26-5	Toluene-D8	100%	101%	77-125%
460-00-4	4-Bromofluorobenzene	100%	104%	72-130%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-1DUP	Y166759.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-1	Y166763.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-1 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
67-64-1	Acetone	35.3		ND		200* [a]	35
71-43-2	Benzene	0.26	J	ND		200* [a]	17
74-97-5	Bromochloromethane	ND		ND		nc	30
75-27-4	Bromodichloromethane	ND		ND		nc	30
75-25-2	Bromoform	ND		ND		nc	30
74-83-9	Bromomethane	ND		ND		nc	30
78-93-3	2-Butanone (MEK)	5.2	J	ND		200* [a]	30
75-15-0	Carbon disulfide	0.81	J	ND		200* [a]	20
56-23-5	Carbon tetrachloride	ND		ND		nc	30
108-90-7	Chlorobenzene	ND		ND		nc	30
75-00-3	Chloroethane	ND		ND		nc	30
67-66-3	Chloroform	ND		0.40	J	200* [a]	30
74-87-3	Chloromethane	ND		ND		nc	30
110-82-7	Cyclohexane	2.4		ND		200* [a]	30
96-12-8	1,2-Dibromo-3-chloropropane	ND		ND		nc	30
124-48-1	Dibromochloromethane	ND		ND		nc	30
106-93-4	1,2-Dibromoethane	ND		ND		nc	30
95-50-1	1,2-Dichlorobenzene	ND		ND		nc	30
541-73-1	1,3-Dichlorobenzene	ND		ND		nc	30
106-46-7	1,4-Dichlorobenzene	ND		ND		nc	30
75-71-8	Dichlorodifluoromethane	ND		ND		nc	30
75-34-3	1,1-Dichloroethane	ND		ND		nc	30
107-06-2	1,2-Dichloroethane	ND		ND		nc	30
75-35-4	1,1-Dichloroethene	ND		ND		nc	30
156-59-2	cis-1,2-Dichloroethene	ND		ND		nc	30
156-60-5	trans-1,2-Dichloroethene	ND		ND		nc	30
78-87-5	1,2-Dichloropropane	ND		ND		nc	30
10061-01-5	cis-1,3-Dichloropropene	ND		ND		nc	30
10061-02-6	trans-1,3-Dichloropropene	ND		ND		nc	30
100-41-4	Ethylbenzene	0.27	J	ND		200* [a]	23
76-13-1	Freon 113	ND		ND		nc	30
591-78-6	2-Hexanone	ND		ND		nc	30
98-82-8	Isopropylbenzene	0.31	J	ND		200* [a]	22
79-20-9	Methyl Acetate	ND		ND		nc	30
108-87-2	Methylcyclohexane	23.6		ND		200* [a]	18
1634-04-4	Methyl Tert Butyl Ether	ND		ND		nc	30

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JC28964-1DUP	Y166759.D	1	10/06/16	PS	n/a	n/a	VY7259
JC28964-1	Y166763.D	1	10/06/16	PS	n/a	n/a	VY7259

The QC reported here applies to the following samples: **Method:** SW846 8260C

JC28902-1

CAS No.	Compound	JC28964-1 ug/kg	Q	DUP ug/kg	Q	RPD	Limits
108-10-1	4-Methyl-2-pentanone(MIBK)	ND		ND		nc	30
75-09-2	Methylene chloride	ND		ND		nc	37
100-42-5	Styrene	ND		ND		nc	30
79-34-5	1,1,2,2-Tetrachloroethane	ND		ND		nc	30
127-18-4	Tetrachloroethene	ND		ND		nc	30
108-88-3	Toluene	0.24	J	ND		200* [a]	22
87-61-6	1,2,3-Trichlorobenzene	ND		ND		nc	30
120-82-1	1,2,4-Trichlorobenzene	ND		ND		nc	30
71-55-6	1,1,1-Trichloroethane	ND		ND		nc	30
79-00-5	1,1,2-Trichloroethane	ND		ND		nc	30
79-01-6	Trichloroethene	ND		ND		nc	17
75-69-4	Trichlorofluoromethane	ND		ND		nc	30
75-01-4	Vinyl chloride	ND		ND		nc	30
	m,p-Xylene	0.51	J	ND		200* [a]	20
95-47-6	o-Xylene	0.86	J	ND		200* [a]	19
1330-20-7	Xylene (total)	1.4		ND		200* [a]	21

CAS No.	Surrogate Recoveries	DUP	JC28964-1	Limits
1868-53-7	Dibromofluoromethane	101%	103%	70-122%
17060-07-0	1,2-Dichloroethane-D4	103%	105%	68-124%
2037-26-5	Toluene-D8	101%	104%	77-125%
460-00-4	4-Bromofluorobenzene	105%	109%	72-130%

(a) Outside control limits due to different encores.

* = Outside of Control Limits.

Instrument Performance Check (BFB)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7258-BFB
Lab File ID: Y166738.D
Instrument ID: GCMSY
Injection Date: 10/05/16
Injection Time: 12:58

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	29648	21.1		Pass
75	30.0 - 60.0% of mass 95	69402	49.4		Pass
95	Base peak, 100% relative abundance	140400	100.0		Pass
96	5.0 - 9.0% of mass 95	9399	6.69		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	110045	78.4		Pass
175	5.0 - 9.0% of mass 174	8437	6.01	(7.67) [a]	Pass
176	95.0 - 101.0% of mass 174	107696	76.7	(97.9) [a]	Pass
177	5.0 - 9.0% of mass 176	7186	5.12	(6.67) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY7258-IC7258	Y166739.D	10/05/16	13:36	00:38	Initial cal 0.2
VY7258-IC7258	Y166740.D	10/05/16	14:04	01:06	Initial cal 0.5
VY7258-IC7258	Y166741.D	10/05/16	14:32	01:34	Initial cal 1
VY7258-IC7258	Y166742.D	10/05/16	15:00	02:02	Initial cal 2
VY7258-IC7258	Y166743.D	10/05/16	15:28	02:30	Initial cal 4
VY7258-IC7258	Y166744.D	10/05/16	15:56	02:58	Initial cal 8
VY7258-IC7258	Y166745.D	10/05/16	16:24	03:26	Initial cal 20
VY7258-ICC7258	Y166746.D	10/05/16	16:53	03:55	Initial cal 50
VY7258-IC7258	Y166747.D	10/05/16	17:21	04:23	Initial cal 100
VY7258-IC7258	Y166748.D	10/05/16	17:49	04:51	Initial cal 200
VY7258-ICV7258	Y166751.D	10/05/16	19:14	06:16	Initial cal verification 50

Instrument Performance Check (BFB)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7259-BFB
Lab File ID: Y166753.D
Instrument ID: GCMSY
Injection Date: 10/06/16
Injection Time: 10:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
50	15.0 - 40.0% of mass 95	30877	21.8		Pass
75	30.0 - 60.0% of mass 95	71696	50.6		Pass
95	Base peak, 100% relative abundance	141672	100.0		Pass
96	5.0 - 9.0% of mass 95	9423	6.65		Pass
173	Less than 2.0% of mass 174	0	0.00	(0.00) [a]	Pass
174	50.0 - 120.0% of mass 95	109643	77.4		Pass
175	5.0 - 9.0% of mass 174	8398	5.93	(7.66) [a]	Pass
176	95.0 - 101.0% of mass 174	107021	75.5	(97.6) [a]	Pass
177	5.0 - 9.0% of mass 176	7348	5.19	(6.87) [b]	Pass

(a) Value is % of mass 174
(b) Value is % of mass 176

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
VY7259-CC7258	Y166754.D	10/06/16	11:20	00:33	Continuing cal 20
VY7259-MB	Y166756.D	10/06/16	12:24	01:37	Method Blank
VY7259-BS	Y166757.D	10/06/16	13:00	02:13	Blank Spike
JC28964-1DUP	Y166759.D	10/06/16	13:56	03:09	Duplicate
JC28964-2	Y166760.D	10/06/16	14:24	03:37	(used for QC only; not part of job JC28902)
JC28964-3	Y166761.D	10/06/16	14:52	04:05	(used for QC only; not part of job JC28902)
ZZZZZZ	Y166762.D	10/06/16	15:20	04:33	(unrelated sample)
JC28964-1	Y166763.D	10/06/16	15:48	05:01	(used for QC only; not part of job JC28902)
JC28964-2MS	Y166764.D	10/06/16	16:16	05:29	Matrix Spike
ZZZZZZ	Y166766.D	10/06/16	17:13	06:26	(unrelated sample)
ZZZZZZ	Y166767.D	10/06/16	17:41	06:54	(unrelated sample)
ZZZZZZ	Y166768.D	10/06/16	18:09	07:22	(unrelated sample)
ZZZZZZ	Y166769.D	10/06/16	18:37	07:50	(unrelated sample)
ZZZZZZ	Y166770.D	10/06/16	19:06	08:19	(unrelated sample)
ZZZZZZ	Y166771.D	10/06/16	19:34	08:47	(unrelated sample)
ZZZZZZ	Y166772.D	10/06/16	20:02	09:15	(unrelated sample)
ZZZZZZ	Y166773.D	10/06/16	20:30	09:43	(unrelated sample)
ZZZZZZ	Y166774.D	10/06/16	20:58	10:11	(unrelated sample)
JC28964-3DUP	Y166775.D	10/06/16	21:26	10:39	Duplicate
JC28902-1	Y166776.D	10/06/16	21:54	11:07	WOOLSTON-TS-002
ZZZZZZ	Y166777.D	10/06/16	22:23	11:36	(unrelated sample)

Volatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	VY7259-CC7258	**Injection Date:**	10/06/16
Lab File ID:	Y166754.D	**Injection Time:**	11:20
Instrument ID:	GCMSY	**Method:**	SW846 8260C

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
Check Std	207250	7.12	438461	9.34	702778	10.25	494671	13.40	233044	15.71
Upper Limit [a]	414500	7.62	876922	9.84	1405556	10.75	989342	13.90	466088	16.21
Lower Limit [b]	103625	6.62	219231	8.84	351389	9.75	247336	12.90	116522	15.21

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT
VY7259-MB	189890	7.11	450817	9.33	726112	10.24	519035	13.40	224416	15.71
VY7259-BS	211182	7.12	438407	9.33	712045	10.25	499349	13.40	236255	15.71
JC28964-1DUP	225773	7.12	471009	9.33	765539	10.24	553047	13.40	239877	15.71
JC28964-2	228305	7.12	462441	9.33	746100	10.24	544205	13.40	237964	15.71
JC28964-3	220112	7.12	475491	9.33	773150	10.24	560467	13.40	241667	15.71
ZZZZZZ	221345	7.11	457506	9.33	742458	10.24	532212	13.40	235600	15.71
JC28964-1	235825	7.12	477465	9.33	784176	10.24	560475	13.40	240827	15.71
JC28964-2MS	172075	7.11	477485	9.33	780754	10.24	536100	13.40	245738	15.71
ZZZZZZ	224967	7.11	471990	9.33	772252	10.24	551240	13.40	227284	15.71
ZZZZZZ	236455	7.11	460548	9.33	754302	10.24	549486	13.40	234477	15.71
ZZZZZZ	238555	7.12	475717	9.33	778798	10.24	559392	13.40	239460	15.71
ZZZZZZ	254139	7.12	461856	9.33	767808	10.24	561452	13.40	247073	15.71
ZZZZZZ	239023	7.11	456330	9.33	749096	10.24	542088	13.40	237096	15.71
ZZZZZZ	266193	7.12	465247	9.33	767579	10.24	557811	13.40	239885	15.71
ZZZZZZ	210513	7.11	469800	9.33	768831	10.24	559250	13.40	238827	15.71
ZZZZZZ	199302	7.11	444538	9.33	729759	10.24	522204	13.40	224150	15.71
ZZZZZZ	209506	7.11	465690	9.33	765480	10.24	544409	13.40	230564	15.71
JC28964-3DUP	226008	7.11	435516	9.33	729365	10.24	535178	13.40	229919	15.71
JC28902-1	154672	7.11	443977	9.33	722047	10.24	488363	13.40	169486	15.71
ZZZZZZ	225252	7.12	455552	9.33	756181	10.24	548333	13.40	232113	15.71

IS 1 = Tert Butyl Alcohol-D9
IS 2 = Pentafluorobenzene
IS 3 = 1,4-Difluorobenzene
IS 4 = Chlorobenzene-D5
IS 5 = 1,4-Dichlorobenzene-d4

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Volatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8260C **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4
JC28902-1	Y166776.D	105	109	100	121
JC28964-1DUP	Y166759.D	101	103	101	105
JC28964-2MS	Y166764.D	99	93	100	100
VY7259-BS	Y166757.D	103	102	101	98
VY7259-MB	Y166756.D	99	99	100	105

Surrogate Compounds	Recovery Limits
S1 = Dibromofluoromethane	70-122%
S2 = 1,2-Dichloroethane-D4	68-124%
S3 = Toluene-D8	77-125%
S4 = 4-Bromofluorobenzene	72-130%

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7258-ICC7258
Lab FileID: Y166746.D

Response Factor Report MSY

Method : C:\MSDCHEM\1\METHODS\MYS7258.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Oct 07 09:37:12 2016
Response via : Initial Calibration

Calibration Files
4 =Y166743.D 8 =Y166744.D 0.5 =Y166740.D 50 =Y166746.D
100 =Y166747.D 1 =Y166741.D 200 =Y166748.D 20 =Y166745.D
2 =Y166742.D 0.2 =Y166739.D = =

Compound	4	8	0.5	50	100	1	200	20	2	0.2	Avg	%RSD
1) I Tert Butyl Alcohol-d9	----------ISTD----------											
2) 1,4-dioxane	0.105	0.121		0.119	0.114		0.125	0.123			0.118	6.23
3) tertiary butyl alcohol	1.483	1.471		1.428	1.374		1.518	1.469	1.466		1.458	3.12
4) I pentafluorobenzene	----------ISTD----------											
5) propene											0.000	-1.00
6) chlorodifluoromethane	0.830	0.824		0.800	0.761		0.760	0.833	0.854		0.809	4.54
7) dichlorodifluoromethane	0.753	0.699		0.686	0.646	0.664	0.655	0.699	0.658		0.683	5.12
8) chloromethane	1.268	0.971		0.877	0.855		0.875	0.898			0.957	16.43
9) vinyl chloride	0.959	0.889		0.829	0.792	0.910	0.793	0.844	0.846		0.858	6.77
10) 1,3-butadiene											0.000	-1.00
11) bromomethane	0.610	0.494		0.436	0.360		0.466				0.473	19.27
12) chloroethane	0.479	0.439		0.401	0.365	0.441	0.332	0.423	0.416		0.412	11.23
13) Vinyl Bromide	0.758	0.697	0.740	0.656	0.619	0.658	0.624	0.673	0.651		0.675	7.16
14) trichlorofluoromethane	0.875	0.777		0.747	0.717		0.734	0.759			0.768	7.33
15) ethyl ether	0.356	0.319		0.312	0.308	0.320	0.314	0.323	0.350		0.325	5.47
16) 2-chloropropane											0.000	-1.00
17) acrolein	0.105	0.101		0.098	0.091		0.092	0.100	0.104		0.099	5.35
18) 1,1-dichloroethene	1.008	0.978		0.900	0.882	0.852	0.895	0.957	1.045		0.940	7.22
19) acetone		0.268		0.170	0.188		0.205	0.237			0.213	18.34
20) allyl chloride	0.392	0.361		0.367	0.351		0.357	0.390	0.434		0.379	7.63
21) acetonitrile	0.055	0.054		0.051	0.047		0.049	0.051			0.051	5.69
22) iodomethane	1.082	1.008		0.937	0.932	0.829	0.960	0.996	1.019		0.970	7.75
23) carbon disulfide												

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
      2.274 2.164       1.966 1.911 1.928 1.959 2.062 2.237        2.063    7.02
24)  1-chloropropane
                                                                   0.000   -1.00
25)  methylene chloride
      1.016 0.769       0.646 0.623       0.627 0.691              0.729   20.74
            ----- Linear regression -----  Coefficient =  0.9998
              Response Ratio = 0.02952 + 0.61555 *A

26)  methyl acetate
      0.440 0.378       0.392 0.370       0.381 0.398              0.393    6.35
27)  methyl tert butyl ether
      1.864 1.729       1.667 1.637 1.618 1.677 1.714 1.938        1.730    6.54
28)  trans-1,2-dichloroethene
      1.057 1.007 1.155 0.933 0.915 0.935 0.927 0.988 1.049 1.059  1.002    7.76
29)  di-isopropyl ether
      2.494 2.573 2.197 2.345 2.290 2.254 2.328 2.415 2.463        2.373    5.15
30)  ethyl tert-butyl ether
      2.139 2.191 1.935 2.063 2.030 1.997 2.086 2.093 2.085        2.069    3.65
31)  2-butanone
      0.057 0.062       0.056 0.058       0.063 0.063              0.060    5.02
32)  1,1-dichloroethane
      1.323 1.230 1.470 1.122 1.103 1.063 1.109 1.203 1.280 1.300  1.220   10.35
33)  chloroprene
      0.945 0.997 0.860 0.913 0.894 0.882 0.921 0.944 0.970        0.925    4.71
34)  acrylonitrile
      0.199 0.178       0.180 0.173 0.162 0.178 0.189 0.187        0.181    6.10
35)  vinyl acetate
      0.065 0.078       0.085 0.082       0.084 0.086              0.080    9.68
36)  ethyl acetate
      0.109 0.089       0.079 0.075       0.075 0.086              0.086   14.98
37)  2,2-dichloropropane
      1.019 0.959       0.871 0.854 0.956 0.866 0.922 1.087        0.942    8.66
38)  cis-1,2-dichloroethene
      0.734 0.649       0.620 0.609 0.556 0.609 0.658 0.696        0.641    8.71
39)  propionitrile
      0.074 0.067       0.068 0.065       0.066 0.070              0.068    4.68
40)  bromochloromethane
      0.391 0.369 0.402 0.360 0.355 0.317 0.360 0.371 0.399        0.369    7.13
41)  tetrahydrofuran
            0.076       0.066 0.063       0.064 0.070              0.068    8.02
42)  chloroform
      1.172 1.087       1.018 1.015 1.017 1.043 1.067 1.184        1.075    6.36
43)  tert-Butyl Formate
      0.589 0.592       0.571 0.558 0.528 0.574 0.566 0.556        0.567    3.62
44)  isobutyl alcohol
                                                                   0.000   -1.00
45)  dibromofluoromethane (s)
      0.528 0.522 0.523 0.524 0.522 0.530 0.513 0.522 0.533 0.536  0.525    1.26
46)  1,2-dichloroethane-d4 (s)
      0.566 0.543 0.556 0.552 0.545 0.558 0.536 0.547 0.565 0.563  0.553    1.86
47)  freon 113
      0.399 0.421       0.375 0.362       0.351 0.391 0.400        0.385    6.32
48)  methacrylonitrile
      0.207 0.183       0.192 0.189       0.197 0.198 0.168        0.191    6.65
49)  1,1,1-trichloroethane
      0.919 0.848       0.804 0.808 0.756 0.832 0.840 0.913        0.840    6.56
50)  Cyclohexane
      0.871 0.868 0.750 0.786 0.751 0.769 0.751 0.825 0.906        0.808    7.50
51)  2,2,4-trimethylpentane
      2.596 2.664 2.440 2.554 2.422 2.295 2.366 2.549 2.602 2.490  2.498    4.65
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
52)  tert-amyl methyl ether
      1.862 1.915       1.801 1.756 1.845 1.789 1.829 1.843        1.830    2.66

53) I   1,4-difluorobenzene   ----------------ISTD---------------------
54)  epichlorohydrin
      0.030 0.030       0.028 0.027       0.028 0.029 0.025        0.028    6.12
55)  n-butyl alcohol
      0.009 0.009       0.010 0.010       0.010 0.010 0.007        0.009   12.32
56)  carbon tetrachloride
      0.501 0.483       0.444 0.445 0.432 0.459 0.478 0.520        0.470    6.51
57)  1,1-dichloropropene
      0.502 0.496       0.455 0.451 0.432 0.460 0.493 0.530        0.477    6.89
58)  hexane   **This compound does not meet IC QC criteria**
      0.568 0.582       0.528 0.500 0.577 0.493 0.551 0.595        0.549    6.99
59)  Tert Amyl Alcohol
                                                                   0.000   -1.00
60)  benzene
      1.636 1.544 1.977 1.391 1.375 1.491 1.381 1.496 1.641        1.548   12.28
61)  heptane
      0.316 0.319 0.313 0.295 0.282 0.279 0.283 0.304 0.313        0.300    5.35
62)  isopropyl acetate
      0.046 0.055       0.053 0.053       0.054 0.057 0.050        0.053    6.42
63)  1,2-dichloroethane
      0.529 0.487       0.463 0.459 0.446 0.476 0.491 0.515        0.483    5.85
64)  trichloroethene
      0.376 0.366       0.334 0.335 0.318 0.341 0.357 0.381        0.351    6.43
65)  ethyl acrylate
      0.339 0.314       0.321 0.318       0.333 0.334 0.304        0.323    3.91
66)  2-nitropropane **This compound does not meet IC QC criteria**
      0.122 0.109       0.094 0.093       0.098 0.097              0.102   10.91
67)  2-chloroethyl vinyl ether
      0.078 0.081       0.079 0.077 0.068 0.081 0.078 0.070        0.076    6.37
68)  methyl methacrylate
      0.055 0.055       0.060 0.059       0.061 0.063 0.053        0.058    6.60
69)  1,2-dichloropropane
      0.436 0.421       0.380 0.379 0.361 0.375 0.416 0.437        0.401    7.50
70)  methylcyclohexane
      0.718 0.744 0.666 0.680 0.640 0.664 0.608 0.708 0.733 0.682  0.684    6.21
71)  Tert-amyl ethyl ether
                                                                   0.000   -1.00
72)  dibromomethane
      0.221 0.208 0.213 0.199 0.193 0.190 0.197 0.211 0.213        0.205    5.15
73)  bromodichloromethane
      0.528 0.493 0.540 0.475 0.481 0.432 0.496 0.503 0.507        0.495    6.36
74)  cis-1,3-dichloropropene
      0.614 0.578 0.614 0.551 0.547 0.506 0.563 0.584 0.614 0.606  0.578    6.29
75)  toluene-d8 (s)
      1.104 1.101 1.093 1.088 1.086 1.094 1.074 1.107 1.101 1.113  1.096    1.06
76)  4-methyl-2-pentanone
      0.118 0.108       0.112 0.108       0.110 0.116 0.101        0.111    5.05
77)  toluene
      1.407 1.349       1.211 1.207 1.281 1.208 1.308 1.419        1.299    6.71
78)  3-methyl-1-butanol
      0.007 0.007       0.008 0.007       0.008 0.008 0.006        0.007    9.71
79)  trans-1,3-dichloropropene
      0.531 0.491       0.463 0.454 0.449 0.450 0.493 0.535        0.483    7.25
80)  ethyl methacrylate
      0.349 0.326       0.335 0.329 0.274 0.328 0.348 0.325        0.327    7.09
81)  1,1,2-trichloroethane
      0.233 0.219 0.228 0.211 0.203 0.189 0.200 0.223 0.233 0.180  0.212    8.71
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

82) 2-hexanone
0.099 0.088 0.089 0.087 0.088 0.094 0.091 0.091 4.55

83) I chlorobenzene-d5 ----------ISTD----------
84) tetrachloroethene
0.425 0.421 0.399 0.399 0.365 0.433 0.431 0.438 0.414 6.00
85) 1,3-dichloropropane
0.656 0.608 0.658 0.583 0.566 0.538 0.574 0.618 0.627 0.603 6.79
86) butyl acetate
0.244 0.243 0.252 0.243 0.248 0.258 0.248 2.51
87) dibromochloromethane
0.456 0.422 0.432 0.424 0.430 0.353 0.445 0.430 0.445 0.426 6.92
88) 1,2-dibromoethane
0.371 0.349 0.341 0.343 0.338 0.300 0.347 0.355 0.352 0.344 5.59
89) 3,3-Dimethyl-1-Butanol
0.043 0.039 0.043 0.041 0.039 0.044 0.043 0.041 0.041 4.54
90) n-butyl ether
2.029 1.946 1.858 1.836 1.873 1.932 1.985 1.923 3.67
91) chlorobenzene
1.141 1.097 1.020 1.018 0.924 1.066 1.071 1.131 1.058 6.68
92) 1,1,1,2-tetrachloroethane
0.462 0.435 0.475 0.408 0.413 0.386 0.426 0.430 0.447 0.431 6.40
93) ethylbenzene
2.052 1.942 1.762 1.761 1.796 1.784 1.893 2.071 1.883 6.80
94) m,p-xylene
0.765 0.718 0.900 0.657 0.649 0.675 0.655 0.698 0.758 0.719 11.17
95) o-xylene
1.709 1.616 1.495 1.484 1.491 1.497 1.587 1.713 1.574 6.20
96) styrene
1.146 1.103 1.076 1.072 0.962 1.094 1.114 1.145 1.089 5.36
97) bromoform
0.259 0.244 0.270 0.247 0.249 0.213 0.266 0.252 0.262 0.251 6.66
98) butyl acrylate
0.000 -1.00

99) I 1,4-dichlorobenzene-d ----------ISTD----------
100) isopropylbenzene
4.067 3.956 3.654 3.600 3.616 3.699 3.912 4.132 3.830 5.56
101) 4-bromofluorobenzene (s)
1.091 1.097 1.112 1.065 1.063 1.136 1.061 1.086 1.103 1.110 1.092 2.22
102) cis-1,4-dichloro-2-butene
0.000 -1.00
103) bromobenzene
1.078 0.990 0.905 0.885 0.912 0.919 0.967 1.059 0.964 7.56
104) cyclohexanone
0.157 0.170 0.129 0.140 0.153 0.155 0.176 0.166 0.156 9.88
105) 1,1,2,2-tetrachloroethane
1.021 0.932 0.888 0.844 0.876 0.860 0.959 0.982 0.920 6.88
106) trans-1,4-dichloro-2-butene
0.272 0.252 0.243 0.237 0.206 0.252 0.254 0.233 0.244 7.90
107) 1,2,3-trichloropropane
0.229 0.205 0.198 0.187 0.192 0.209 0.203 7.33
108) n-propylbenzene
4.904 4.771 4.276 4.162 4.373 4.238 4.612 4.752 4.511 6.28
109) 4-Ethyltoluene
0.000 -1.00
110) 2-chlorotoluene
1.005 0.963 0.890 0.856 0.834 0.865 0.950 1.056 0.927 8.49
111) 4-chlorotoluene
3.233 3.016 2.758 2.709 2.874 2.820 2.940 3.293 2.955 7.23

Initial Calibration Summary

Job Number: JC28902 **Sample:** VY7258-ICC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166746.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
112)  1,3,5-trimethylbenzene
       3.586 3.452       3.183 3.113 3.090 3.149 3.443 3.543        3.320    6.20
113)  tert-butylbenzene
       0.582 0.550       0.532 0.539 0.515 0.560 0.578 0.559        0.552    4.16
114)  pentachloroethane
       0.671 0.619 0.694 0.618 0.606 0.595 0.624 0.625 0.631        0.632    4.98
115)  1,2,4-trimethylbenzene
       3.643 3.453       3.225 3.176 3.188 3.266 3.436 3.652        3.380    5.78
116)  sec-butylbenzene
       4.363 4.235 4.902 3.975 3.905 3.653 4.033 4.211 4.392 4.450  4.212    8.24
117)  1,3-dichlorobenzene
       2.008 1.856       1.751 1.716 1.668 1.807 1.861 1.923        1.824    6.14
118)  p-isopropyltoluene
       3.576 3.483       3.314 3.271 3.025 3.376 3.495 3.728        3.408    6.26
119)  1,4-dichlorobenzene
       1.938 1.818       1.704 1.680 1.626 1.778 1.820 1.931        1.787    6.33
120)  1,2-dichlorobenzene
       1.843 1.743       1.671 1.625 1.534 1.712 1.766 1.812        1.713    5.93
121)  n-butylbenzene
       1.944 1.893 2.074 1.834 1.766 1.540 1.814 1.917 1.895        1.853    7.91
122)  p-Diethylbenzene
                                                                    0.000   -1.00
123)  1,2-dibromo-3-chloropropane
       0.166 0.148       0.159 0.154       0.165 0.161 0.161        0.159    3.93
124)  1,3,5-Trichlorobenzene
       1.480 1.444 1.516 1.455 1.392 1.149 1.500 1.473 1.419 1.553  1.438    7.78
125)  1,2,4-trichlorobenzene
       1.036 1.049       1.227 1.196       1.313 1.181 0.912        1.131   12.13
126)  1,2,4,5-tetramethylbenzene
                                                                    0.000   -1.00
127)  hexachlorobutadiene
       0.929 0.884       0.860 0.832 0.773 0.876 0.910 0.910        0.872    5.79
128)  naphthalene
       1.683 1.699       2.084 2.107       2.299 1.974              1.974   12.31
129)  1,2,3-trichlorobenzene
       0.927 0.902       1.071 1.063       1.156 1.039 0.825        0.998   11.62
130)  hexachloroethane
       0.626 0.604       0.596 0.611 0.523 0.657 0.617 0.626        0.607    6.41
131)  Benzyl chloride
       1.584 1.704       1.592 1.510 1.748 1.581 1.645 1.654        1.627    4.68
132)  2-ethylhexyl acrylate
                                                                    0.000   -1.00
 ------------------------------------------------------------------------------
 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

           MYS7258.M         Fri Oct 07 11:26:07 2016   RPT1
```

Initial Calibration Verification

Job Number: JC28902 **Sample:** VY7258-ICV7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166751.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\Y166751.D Vial: 14
Acq On : 5 Oct 2016 7:14 pm Operator: prashans
Sample : ICV7258-50 Inst : MSY
Misc : MS7637,VY7258,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS7258.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Fri Oct 07 09:37:12 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	100	0.00	7.12
2		1,4-dioxane	0.118	0.112	5.1	94	0.00	10.96
3		tertiary butyl alcohol	1.458	1.445	0.9	102	0.00	7.23
4	I	pentafluorobenzene	1.000	1.000	0.0	102	0.00	9.33
5		propene		----------NA----------				
6		chlorodifluoromethane	0.809	0.725	10.4	92	0.00	3.90
7		dichlorodifluoromethane	0.683	0.586	14.2	87	0.00	3.89
8		chloromethane	0.957	0.800	16.4	93	0.00	4.19
9		vinyl chloride	0.858	0.727	15.3	89	0.00	4.45
10		1,3-butadiene		----------NA----------				
11		bromomethane	0.473	0.412	12.9	96	0.00	5.06
12		chloroethane	0.412	0.378	8.3	96	0.00	5.21
13		Vinyl Bromide	0.675	0.638	5.5	99	0.00	5.56
14		trichlorofluoromethane	0.768	0.659	14.2	90	0.00	5.68
15		ethyl ether	0.325	0.319	1.8	104	0.00	6.06
16		2-chloropropane		----------NA----------				
17		acrolein	0.099	0.110	-11.1	114	-0.01	6.28
18		1,1-dichloroethene	0.940	0.868	7.7	98	0.00	6.47
19		acetone	0.213	0.173	18.8	104	0.00	6.49
20		allyl chloride	0.379	0.353	6.9	98	0.00	6.97
21		acetonitrile	0.051	0.048	5.9	97	-0.01	6.90
22		iodomethane	0.970	0.897	7.5	97	0.00	6.74
23		carbon disulfide	2.063	1.868	9.5	97	0.00	6.88
24		1-chloropropane		----------NA----------				
		----------	True	Calc.	% Drift	----------		
25		methylene chloride	50.000	49.617	0.8	101	0.00	7.15
		----------	AvgRF	CCRF	% Dev	----------		
26		methyl acetate	0.393	0.395	-0.5	102	0.00	6.96
27		methyl tert butyl ether	1.730	1.678	3.0	102	0.00	7.49
28		trans-1,2-dichloroethene	1.002	0.895	10.7	97	0.00	7.54
29		di-isopropyl ether	2.373	2.418	-1.9	105	0.00	8.09
30		ethyl tert-butyl ether	2.069	2.164	-4.6	107	0.00	8.55
31		2-butanone	0.060	0.056	6.7	101	0.00	8.76
32		1,1-dichloroethane	1.220	1.115	8.6	101	0.00	8.09
33		chloroprene	0.925	0.892	3.6	99	0.00	8.20
34		acrylonitrile	0.181	0.186	-2.8	105	0.00	7.45
35		vinyl acetate	0.080	0.088	-10.0	104	0.00	8.07
36		ethyl acetate	0.086	0.081	5.8	104	0.00	8.80
37		2,2-dichloropropane	0.942	0.838	11.0	98	0.00	8.83

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7258-ICV7258
Lab FileID: Y166751.D

38		cis-1,2-dichloroethene	0.641	0.616	3.9	101	0.00	8.81
39		propionitrile	0.068	0.069	-1.5	103	0.00	8.84
40		bromochloromethane	0.369	0.359	2.7	101	0.00	9.12
41		tetrahydrofuran	0.068	0.068	0.0	105	0.00	9.16
42		chloroform	1.075	1.068	0.7	107	0.00	9.17
43		tert-Butyl Formate	0.567	0.437	22.9	78	0.00	9.22
44		isobutyl alcohol		----------NA----------				
45	S	dibromofluoromethane (s)	0.525	0.532	-1.3	103	0.00	9.37
46	S	1,2-dichloroethane-d4 (s)	0.553	0.558	-0.9	103	0.00	9.79
47		freon 113	0.385	0.373	3.1	101	0.00	6.46
48		methacrylonitrile	0.191	0.186	2.6	98	0.00	9.03
49		1,1,1-trichloroethane	0.840	0.813	3.2	103	0.00	9.45
50		Cyclohexane	0.808	0.764	5.4	99	0.00	9.54
51		2,2,4-trimethylpentane	2.498	2.429	2.8	97	0.00	9.91
52		tert-amyl methyl ether	1.830	1.822	0.4	103	0.00	9.92
53	I	1,4-difluorobenzene	1.000	1.000	0.0	101	0.00	10.24
54		epichlorohydrin	0.028	0.028	0.0	103	0.00	11.48
55		n-butyl alcohol	0.009	0.010	-11.1	96	0.00	10.35
56		carbon tetrachloride	0.470	0.433	7.9	99	0.00	9.65
57		1,1-dichloropropene	0.477	0.449	5.9	100	0.00	9.62
58		hexane	0.549	0.336	38.8#	65	0.00	7.86
59		Tert Amyl Alcohol		----------NA----------				
60		benzene	1.548	1.377	11.0	100	0.00	9.88
61		heptane	0.300	0.281	6.3	97	0.00	10.08
62		isopropyl acetate	0.053	0.054	-1.9	104	0.00	9.79
63		1,2-dichloroethane	0.483	0.474	1.9	104	0.00	9.87
64		trichloroethene	0.351	0.330	6.0	100	0.00	10.60
65		ethyl acrylate	0.323	0.333	-3.1	105	0.00	10.59
66		2-nitropropane	0.102	0.094	7.8	102	0.00	11.33
67		2-chloroethyl vinyl ether	0.076	0.081	-6.6	105	0.00	11.38
68		methyl methacrylate	0.058	0.060	-3.4	101	0.00	10.86
69		1,2-dichloropropane	0.401	0.382	4.7	102	0.00	10.84
70		methylcyclohexane	0.684	0.564	17.5	84	0.00	10.84
71		Tert-amyl ethyl ether		----------NA----------				
72		dibromomethane	0.205	0.201	2.0	103	0.00	11.00
73		bromodichloromethane	0.495	0.468	5.5	100	0.00	11.13
74		cis-1,3-dichloropropene	0.578	0.556	3.8	102	0.00	11.60
75	S	toluene-d8 (s)	1.096	1.088	0.7	101	0.00	11.90
76		4-methyl-2-pentanone	0.111	0.109	1.8	99	0.00	11.69
77		toluene	1.299	1.195	8.0	100	0.00	11.97
78		3-methyl-1-butanol	0.007	0.008	-14.3	99	0.00	11.70
79		trans-1,3-dichloropropene	0.483	0.462	4.3	101	0.00	12.15
80		ethyl methacrylate	0.327	0.330	-0.9	100	0.00	12.16
81		1,1,2-trichloroethane	0.212	0.208	1.9	100	0.00	12.36
82		2-hexanone	0.091	0.087	4.4	99	0.00	12.54
83	I	chlorobenzene-d5	1.000	1.000	0.0	101	0.00	13.40
84		tetrachloroethene	0.414	0.388	6.3	98	0.00	12.56
85		1,3-dichloropropane	0.603	0.584	3.2	101	0.00	12.55
86		butyl acetate	0.248	0.257	-3.6	103	0.00	12.63
87		dibromochloromethane	0.426	0.420	1.4	100	0.00	12.81
88		1,2-dibromoethane	0.344	0.337	2.0	99	0.00	12.96
89		3,3-Dimethyl-1-Butanol	0.041	0.042	-2.4	99	0.00	12.71
90		n-butyl ether	1.923	2.195	-14.1	119	0.00	13.37
91		chlorobenzene	1.058	1.025	3.1	101	0.00	13.43
92		1,1,1,2-tetrachloroethane	0.431	0.406	5.8	100	0.00	13.49
93		ethylbenzene	1.883	1.747	7.2	100	0.00	13.49
94		m,p-xylene	0.719	0.646	10.2	99	0.00	13.60
95		o-xylene	1.574	1.490	5.3	101	0.00	14.01

Initial Calibration Verification

Job Number: JC28902 **Sample:** VY7258-ICV7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166751.D
Project: HLANJPR: Study Area 6 Chrome Remedy

96		styrene	1.089	1.080	0.8	101	0.00	14.02
97		bromoform	0.251	0.245	2.4	100	0.00	14.27
98		butyl acrylate		----------NA----------				
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	103	0.00	15.71
100		isopropylbenzene	3.830	3.475	9.3	98	0.00	14.35
101	S	4-bromofluorobenzene (s)	1.092	1.064	2.6	103	0.00	14.54
102		cis-1,4-dichloro-2-butene		----------NA----------				
103		bromobenzene	0.964	0.887	8.0	101	0.00	14.74
104		cyclohexanone	0.156	0.112	28.2	89	0.00	14.49
105		1,1,2,2-tetrachloroethane	0.920	0.849	7.7	98	0.00	14.63
106		trans-1,4-dichloro-2-bute	0.244	0.247	-1.2	104	0.00	14.68
107		1,2,3-trichloropropane	0.203	0.189	6.9	98	0.00	14.71
108		n-propylbenzene	4.511	4.190	7.1	101	0.00	14.76
109		4-Ethyltoluene		----------NA----------				
110		2-chlorotoluene	0.927	0.844	9.0	97	0.00	14.90
111		4-chlorotoluene	2.955	2.662	9.9	99	0.00	14.99
112		1,3,5-trimethylbenzene	3.320	3.030	8.7	98	0.00	14.91
113		tert-butylbenzene	0.552	0.524	5.1	101	0.00	15.26
114		pentachloroethane	0.632	0.608	3.8	101	0.00	15.33
115		1,2,4-trimethylbenzene	3.380	3.165	6.4	101	0.00	15.30
116		sec-butylbenzene	4.212	3.765	10.6	97	0.00	15.47
117		1,3-dichlorobenzene	1.824	1.671	8.4	98	0.00	15.65
118		p-isopropyltoluene	3.408	3.167	7.1	98	0.00	15.59
119		1,4-dichlorobenzene	1.787	1.640	8.2	99	0.00	15.73
120		1,2-dichlorobenzene	1.713	1.614	5.8	99	0.00	16.12
121		n-butylbenzene	1.853	1.689	8.9	95	0.00	16.00
122		p-Diethylbenzene		----------NA----------				
123		1,2-dibromo-3-chloropropa	0.159	0.151	5.0	97	0.00	16.87
124		1,3,5-Trichlorobenzene	1.438	1.442	-0.3	102	0.00	17.08
125		1,2,4-trichlorobenzene	1.131	1.143	-1.1	96	0.00	17.70
126		1,2,4,5-tetramethylbenzen		----------NA----------				
127		hexachlorobutadiene	0.872	0.818	6.2	98	0.00	17.83
128		naphthalene	1.974	1.975	-0.1	97	0.00	17.97
129		1,2,3-trichlorobenzene	0.998	0.997	0.1	96	0.00	18.22
130		hexachloroethane	0.607	0.586	3.5	101	0.00	16.39
131		Benzyl chloride	1.627	1.451	10.8	94	0.00	15.84
132		2-ethylhexyl acrylate		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y166746.D MYS7258.M Fri Oct 07 11:26:29 2016 RPT1

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: VY7259-CC7258
Lab FileID: Y166754.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\Y\...7260\vy7259\Y166754.D Vial: 2
Acq On : 6 Oct 2016 11:20 am Operator: prashans
Sample : CC7258-20 Inst : MSY
Misc : MS7637,VY7259,5.0,,,,1 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MYS7258.M (RTE Integrator)
Title : Method SW846 8260C, ZB624 60m x 0.25mm x 1.4um
Last Update : Mon Sep 13 11:48:20 2010
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	Tert Butyl Alcohol-d9	1.000	1.000	0.0	99	0.00	7.12
2		1,4-dioxane	0.118	0.112	5.1	90	0.01	10.97
3		tertiary butyl alcohol	1.458	1.369	6.1	92	0.02	7.24
4	I	pentafluorobenzene	1.000	1.000	0.0	94	0.00	9.34
5		propene		----------NA----------				
6		chlorodifluoromethane	0.809	1.013	-25.2#	115	0.00	3.90
7		dichlorodifluoromethane	0.683	0.820	-20.1#	110	0.01	3.90
8		chloromethane	0.957	1.048	-9.5	110	-0.02	4.17
9		vinyl chloride	0.858	0.998	-16.3	111	0.00	4.44
10		1,3-butadiene		----------NA----------				
11		bromomethane	0.473	0.535	-13.1	108	0.00	5.05
12		chloroethane	0.412	0.489	-18.7	109	0.01	5.22
13		Vinyl Bromide	0.675	0.788	-16.7	110	0.00	5.56
14		trichlorofluoromethane	0.768	0.905	-17.8	112	0.00	5.68
15		ethyl ether	0.325	0.337	-3.7	98	0.00	6.06
16		2-chloropropane		----------NA----------				
17		acrolein	0.099	0.104	-5.1	97	0.00	6.28
18		1,1-dichloroethene	0.940	1.100	-17.0	108	0.00	6.47
19		acetone	0.213	0.192	9.9	76	0.00	6.49
20		allyl chloride	0.379	0.408	-7.7	99	0.00	6.98
21		acetonitrile	0.051	0.056	-9.8	103	0.00	6.91
22		iodomethane	0.970	1.100	-13.4	104	0.00	6.74
23		carbon disulfide	2.063	2.375	-15.1	108	0.00	6.88
24		1-chloropropane		----------NA----------				
		----------	True	Calc.	% Drift	----------		
25		methylene chloride	20.000	21.755	-8.8	101	0.00	7.16
		----------	AvgRF	CCRF	% Dev	----------		
26		methyl acetate	0.393	0.410	-4.3	97	0.00	6.96
27		methyl tert butyl ether	1.730	1.813	-4.8	100	0.00	7.50
28		trans-1,2-dichloroethene	1.002	1.105	-10.3	105	0.00	7.54
29		di-isopropyl ether	2.373	2.585	-8.9	101	0.00	8.09
30		ethyl tert-butyl ether	2.069	2.211	-6.9	99	0.00	8.56
31		2-butanone	0.060	0.059	1.7	88	0.00	8.77
32		1,1-dichloroethane	1.220	1.301	-6.6	102	0.00	8.09
33		chloroprene	0.925	1.065	-15.1	106	0.00	8.21
34		acrylonitrile	0.181	0.192	-6.1	96	0.00	7.46
35		vinyl acetate	0.080	0.083	-3.8	91	0.00	8.07
36		ethyl acetate	0.086	0.080	7.0	88	0.00	8.80
37		2,2-dichloropropane	0.942	1.055	-12.0	108	0.00	8.83

Continuing Calibration Summary

Job Number: JC28902 **Sample:** VY7259-CC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166754.D
Project: HLANJPR: Study Area 6 Chrome Remedy

38		cis-1,2-dichloroethene	0.641	0.702	-9.5	100	0.00	8.82
39		propionitrile	0.068	0.070	-2.9	94	0.00	8.85
40		bromochloromethane	0.369	0.394	-6.8	100	0.00	9.12
41		tetrahydrofuran	0.068	0.070	-2.9	94	0.00	9.17
42		chloroform	1.075	1.152	-7.2	102	0.00	9.18
43		tert-Butyl Formate	0.567	0.593	-4.6	99	0.00	9.22
44		isobutyl alcohol		----------NA----------				
45	S	dibromofluoromethane (s)	0.525	0.533	-1.5	96	0.00	9.37
46	S	1,2-dichloroethane-d4 (s)	0.553	0.556	-0.5	96	0.00	9.79
47		freon 113	0.385	0.451	-17.1	109	0.00	6.46
48		methacrylonitrile	0.191	0.185	3.1	88	0.00	9.04
49		1,1,1-trichloroethane	0.840	0.957	-13.9	107	0.00	9.45
50		Cyclohexane	0.808	0.961	-18.9	110	0.00	9.54
51		2,2,4-trimethylpentane	2.498	2.764	-10.6	102	0.00	9.91
52		tert-amyl methyl ether	1.830	1.906	-4.2	98	0.00	9.93
53	I	1,4-difluorobenzene	1.000	1.000	0.0	95	0.00	10.25
54		epichlorohydrin	0.028	0.029	-3.6	93	0.00	11.48
55		n-butyl alcohol	0.009	0.010	-11.1	90	0.00	10.36
56		carbon tetrachloride	0.470	0.542	-15.3	107	0.00	9.66
57		1,1-dichloropropene	0.477	0.545	-14.3	105	0.00	9.62
58		hexane	0.549	0.583	-6.2	100	0.00	7.86
59		Tert Amyl Alcohol		----------NA----------				
60		benzene	1.548	1.610	-4.0	102	0.00	9.88
61		heptane	0.300	0.301	-0.3	94	0.00	10.08
62		isopropyl acetate	0.053	0.053	0.0	89	0.00	9.80
63		1,2-dichloroethane	0.483	0.505	-4.6	97	0.00	9.87
64		trichloroethene	0.351	0.382	-8.8	101	0.00	10.60
65		ethyl acrylate	0.323	0.331	-2.5	94	0.00	10.59
66		2-nitropropane	0.102	0.103	-1.0	100	0.00	11.33
67		2-chloroethyl vinyl ether	0.076	0.078	-2.6	94	0.00	11.38
68		methyl methacrylate	0.058	0.061	-5.2	92	0.00	10.86
69		1,2-dichloropropane	0.401	0.428	-6.7	97	0.00	10.85
70		methylcyclohexane	0.684	0.801	-17.1	107	0.00	10.84
71		Tert-amyl ethyl ether		----------NA----------				
72		dibromomethane	0.205	0.213	-3.9	95	0.00	11.00
73		bromodichloromethane	0.495	0.513	-3.6	96	0.00	11.13
74		cis-1,3-dichloropropene	0.578	0.590	-2.1	95	0.00	11.59
75	S	toluene-d8 (s)	1.096	1.094	0.2	93	0.00	11.90
76		4-methyl-2-pentanone	0.111	0.115	-3.6	94	0.00	11.69
77		toluene	1.299	1.377	-6.0	100	0.00	11.97
78		3-methyl-1-butanol	0.007	0.008	-14.3	92	0.00	11.70
79		trans-1,3-dichloropropene	0.483	0.494	-2.3	95	0.00	12.15
80		ethyl methacrylate	0.327	0.342	-4.6	93	0.00	12.16
81		1,1,2-trichloroethane	0.212	0.221	-4.2	94	0.00	12.37
82		2-hexanone	0.091	0.088	3.3	89	0.00	12.55
83	I	chlorobenzene-d5	1.000	1.000	0.0	94	0.00	13.40
84		tetrachloroethene	0.414	0.451	-8.9	99	0.00	12.57
85		1,3-dichloropropane	0.603	0.614	-1.8	94	0.00	12.55
86		butyl acetate	0.248	0.246	0.8	90	0.00	12.63
87		dibromochloromethane	0.426	0.426	0.0	94	0.00	12.81
88		1,2-dibromoethane	0.344	0.350	-1.7	93	0.00	12.96
89		3,3-Dimethyl-1-Butanol	0.041	0.041	0.0	90	0.00	12.71
90		n-butyl ether	1.923	2.133	-10.9	104	0.00	13.37
91		chlorobenzene	1.058	1.122	-6.0	99	0.00	13.43
92		1,1,1,2-tetrachloroethane	0.431	0.457	-6.0	100	0.00	13.49
93		ethylbenzene	1.883	2.016	-7.1	100	0.00	13.49
94		m,p-xylene	0.719	0.742	-3.2	100	0.00	13.60
95		o-xylene	1.574	1.690	-7.4	100	0.00	14.01

Continuing Calibration Summary

Job Number: JC28902 **Sample:** VY7259-CC7258
Account: HWINJM Honeywell International Inc. **Lab FileID:** Y166754.D
Project: HLANJPR: Study Area 6 Chrome Remedy

96		styrene	1.089	1.167	-7.2	99	0.00	14.02
97		bromoform	0.251	0.247	1.6	93	0.00	14.27
98		butyl acrylate		----------NA----------				
99	I	1,4-dichlorobenzene-d4	1.000	1.000	0.0	97	0.00	15.71
100		isopropylbenzene	3.830	4.162	-8.7	103	0.00	14.36
101	S	4-bromofluorobenzene (s)	1.092	1.065	2.5	95	0.00	14.55
102		cis-1,4-dichloro-2-butene		----------NA----------				
103		bromobenzene	0.964	0.983	-2.0	99	0.00	14.74
104		cyclohexanone	0.156	0.124	20.5#	68	0.00	14.49
105		1,1,2,2-tetrachloroethane	0.920	0.921	-0.1	93	0.00	14.64
106		trans-1,4-dichloro-2-bute	0.244	0.255	-4.5	97	0.00	14.68
107		1,2,3-trichloropropane	0.203	0.208	-2.5	97	0.00	14.71
108		n-propylbenzene	4.511	4.896	-8.5	103	0.00	14.76
109		4-Ethyltoluene		----------NA----------				
110		2-chlorotoluene	0.927	0.996	-7.4	102	0.00	14.90
111		4-chlorotoluene	2.955	3.018	-2.1	100	0.00	15.00
112		1,3,5-trimethylbenzene	3.320	3.597	-8.3	101	0.00	14.92
113		tert-butylbenzene	0.552	0.599	-8.5	101	0.00	15.26
114		pentachloroethane	0.632	0.647	-2.4	100	0.00	15.33
115		1,2,4-trimethylbenzene	3.380	3.636	-7.6	103	0.00	15.30
116		sec-butylbenzene	4.212	4.568	-8.5	105	0.00	15.47
117		1,3-dichlorobenzene	1.824	1.901	-4.2	99	0.00	15.65
118		p-isopropyltoluene	3.408	3.747	-9.9	104	0.00	15.59
119		1,4-dichlorobenzene	1.787	1.827	-2.2	97	0.00	15.73
120		1,2-dichlorobenzene	1.713	1.774	-3.6	98	0.00	16.12
121		n-butylbenzene	1.853	2.029	-9.5	103	0.00	16.00
122		p-Diethylbenzene		----------NA----------				
123		1,2-dibromo-3-chloropropa	0.159	0.152	4.4	92	0.00	16.88
124		1,3,5-Trichlorobenzene	1.438	1.575	-9.5	104	0.00	17.08
125		1,2,4-trichlorobenzene	1.131	1.243	-9.9	102	0.00	17.71
126		1,2,4,5-tetramethylbenzen		----------NA----------				
127		hexachlorobutadiene	0.872	0.957	-9.7	102	0.00	17.83
128		naphthalene	1.974	1.985	-0.6	98	0.00	17.98
129		1,2,3-trichlorobenzene	0.998	1.065	-6.7	99	0.00	18.22
130		hexachloroethane	0.607	0.648	-6.8	102	0.00	16.39
131		Benzyl chloride	1.627	1.592	2.2	94	0.00	15.84
132		2-ethylhexyl acrylate		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Y166745.D MYS7258.M Fri Oct 07 12:37:30 2016 ACC-VOA-DP

SGS ACCUTEST New Jersey

Section 7

GC/MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Instrument Performance Checks (DFTPP)
- Internal Standard Area Summaries
- Surrogate Recovery Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	P107983.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
105-60-2	Caprolactam	ND	67	13	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	P107983.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	P107983.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	74%	30-106%
4165-62-2	Phenol-d5	76%	30-106%
118-79-6	2,4,6-Tribromophenol	83%	24-140%
4165-60-0	Nitrobenzene-d5	87%	26-122%
321-60-8	2-Fluorobiphenyl	88%	36-112%
1718-51-0	Terphenyl-d14	90%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.83	400	ug/kg	J
	system artifact	3.15	290	ug/kg	J
	system artifact/aldol-condensation	3.22	410	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	Z114917.D	1	10/07/16	AD	10/06/16	OP97539	EZ5729

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
105-60-2	Caprolactam	ND	67	13	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	Z114917.D	1	10/07/16	AD	10/06/16	OP97539	EZ5729

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	Z114917.D	1	10/07/16	AD	10/06/16	OP97539	EZ5729

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	70%	30-106%
4165-62-2	Phenol-d5	73%	30-106%
118-79-6	2,4,6-Tribromophenol	84%	24-140%
4165-60-0	Nitrobenzene-d5	83%	26-122%
321-60-8	2-Fluorobiphenyl	93%	36-112%
1718-51-0	Terphenyl-d14	88%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	2.72	360	ug/kg	J
	system artifact	3.05	320	ug/kg	J
	system artifact/aldol-condensation	3.12	500	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	M128185.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
95-57-8	2-Chlorophenol	ND	67	16	ug/kg	
59-50-7	4-Chloro-3-methyl phenol	ND	170	20	ug/kg	
120-83-2	2,4-Dichlorophenol	ND	170	28	ug/kg	
105-67-9	2,4-Dimethylphenol	ND	170	59	ug/kg	
51-28-5	2,4-Dinitrophenol	ND	170	130	ug/kg	
534-52-1	4,6-Dinitro-o-cresol	ND	170	36	ug/kg	
95-48-7	2-Methylphenol	ND	67	21	ug/kg	
	3&4-Methylphenol	ND	67	27	ug/kg	
88-75-5	2-Nitrophenol	ND	170	22	ug/kg	
100-02-7	4-Nitrophenol	ND	330	89	ug/kg	
87-86-5	Pentachlorophenol	ND	130	31	ug/kg	
108-95-2	Phenol	ND	67	17	ug/kg	
58-90-2	2,3,4,6-Tetrachlorophenol	ND	170	22	ug/kg	
95-95-4	2,4,5-Trichlorophenol	ND	170	25	ug/kg	
88-06-2	2,4,6-Trichlorophenol	ND	170	20	ug/kg	
83-32-9	Acenaphthene	ND	33	11	ug/kg	
208-96-8	Acenaphthylene	ND	33	17	ug/kg	
98-86-2	Acetophenone	ND	170	7.2	ug/kg	
120-12-7	Anthracene	ND	33	20	ug/kg	
1912-24-9	Atrazine	ND	67	14	ug/kg	
56-55-3	Benzo(a)anthracene	ND	33	9.4	ug/kg	
50-32-8	Benzo(a)pyrene	ND	33	15	ug/kg	
205-99-2	Benzo(b)fluoranthene	ND	33	15	ug/kg	
191-24-2	Benzo(g,h,i)perylene	ND	33	17	ug/kg	
207-08-9	Benzo(k)fluoranthene	ND	33	16	ug/kg	
101-55-3	4-Bromophenyl phenyl ether	ND	67	13	ug/kg	
85-68-7	Butyl benzyl phthalate	ND	67	8.1	ug/kg	
92-52-4	1,1'-Biphenyl	ND	67	4.6	ug/kg	
100-52-7	Benzaldehyde	ND	170	8.3	ug/kg	
91-58-7	2-Chloronaphthalene	ND	67	7.9	ug/kg	
106-47-8	4-Chloroaniline	ND	170	12	ug/kg	
86-74-8	Carbazole	ND	67	4.8	ug/kg	
105-60-2	Caprolactam	ND	67	13	ug/kg	
218-01-9	Chrysene	ND	33	10	ug/kg	
111-91-1	bis(2-Chloroethoxy)methane	ND	67	7.1	ug/kg	
111-44-4	bis(2-Chloroethyl)ether	ND	67	14	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	M128185.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
108-60-1	bis(2-Chloroisopropyl)ether	ND	67	12	ug/kg	
7005-72-3	4-Chlorophenyl phenyl ether	ND	67	11	ug/kg	
121-14-2	2,4-Dinitrotoluene	ND	33	10	ug/kg	
606-20-2	2,6-Dinitrotoluene	ND	33	17	ug/kg	
91-94-1	3,3'-Dichlorobenzidine	ND	67	28	ug/kg	
123-91-1	1,4-Dioxane	ND	33	22	ug/kg	
53-70-3	Dibenzo(a,h)anthracene	ND	33	15	ug/kg	
132-64-9	Dibenzofuran	ND	67	14	ug/kg	
84-74-2	Di-n-butyl phthalate	ND	67	5.4	ug/kg	
117-84-0	Di-n-octyl phthalate	ND	67	8.3	ug/kg	
84-66-2	Diethyl phthalate	ND	67	7.1	ug/kg	
131-11-3	Dimethyl phthalate	ND	67	5.9	ug/kg	
117-81-7	bis(2-Ethylhexyl)phthalate	ND	67	7.8	ug/kg	
206-44-0	Fluoranthene	ND	33	15	ug/kg	
86-73-7	Fluorene	ND	33	15	ug/kg	
118-74-1	Hexachlorobenzene	ND	67	8.4	ug/kg	
87-68-3	Hexachlorobutadiene	ND	33	13	ug/kg	
77-47-4	Hexachlorocyclopentadiene	ND	330	13	ug/kg	
67-72-1	Hexachloroethane	ND	170	16	ug/kg	
193-39-5	Indeno(1,2,3-cd)pyrene	ND	33	16	ug/kg	
78-59-1	Isophorone	ND	67	7.1	ug/kg	
91-57-6	2-Methylnaphthalene	ND	67	7.5	ug/kg	
88-74-4	2-Nitroaniline	ND	170	7.9	ug/kg	
99-09-2	3-Nitroaniline	ND	170	8.3	ug/kg	
100-01-6	4-Nitroaniline	ND	170	8.6	ug/kg	
91-20-3	Naphthalene	ND	33	9.4	ug/kg	
98-95-3	Nitrobenzene	ND	67	13	ug/kg	
621-64-7	N-Nitroso-di-n-propylamine	ND	67	9.6	ug/kg	
86-30-6	N-Nitrosodiphenylamine	ND	170	12	ug/kg	
85-01-8	Phenanthrene	ND	33	11	ug/kg	
129-00-0	Pyrene	ND	33	11	ug/kg	
95-94-3	1,2,4,5-Tetrachlorobenzene	ND	170	8.5	ug/kg	

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MB1	M128185.D	1	10/07/16	CS	10/06/16	OP97539	EM5462

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	81%	30-106%
4165-62-2	Phenol-d5	84%	30-106%
118-79-6	2,4,6-Tribromophenol	108%	24-140%
4165-60-0	Nitrobenzene-d5	90%	26-122%
321-60-8	2-Fluorobiphenyl	82%	36-112%
1718-51-0	Terphenyl-d14	85%	36-132%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	system artifact	1.78	1600	ug/kg	J
	system artifact	2.19	220	ug/kg	J
	system artifact	3.21	310	ug/kg	J
	system artifact	3.48	210	ug/kg	J
	system artifact/aldol-condensation	3.59	350	ug/kg	J
	Total TIC, Semi-Volatile		0	ug/kg	

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-BS1	P107984.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
95-57-8	2-Chlorophenol	1670	1410	85	54-98
59-50-7	4-Chloro-3-methyl phenol	1670	1570	94	52-107
120-83-2	2,4-Dichlorophenol	1670	1540	92	53-105
105-67-9	2,4-Dimethylphenol	1670	1470	88	49-115
51-28-5	2,4-Dinitrophenol	3330	2740	82	30-127
534-52-1	4,6-Dinitro-o-cresol	1670	1500	90	41-114
95-48-7	2-Methylphenol	1670	1430	86	53-103
	3&4-Methylphenol	1670	1370	82	53-102
88-75-5	2-Nitrophenol	1670	1530	92	52-104
100-02-7	4-Nitrophenol	1670	1320	79	36-143
87-86-5	Pentachlorophenol	1670	1110	67	29-128
108-95-2	Phenol	1670	1240	74	45-106
58-90-2	2,3,4,6-Tetrachlorophenol	1670	1420	85	47-113
95-95-4	2,4,5-Trichlorophenol	1670	1450	87	55-112
88-06-2	2,4,6-Trichlorophenol	1670	1610	97	57-108
83-32-9	Acenaphthene	1670	1470	88	60-108
208-96-8	Acenaphthylene	1670	1390	83	54-94
98-86-2	Acetophenone	1670	1360	82	53-110
120-12-7	Anthracene	1670	1450	87	59-109
1912-24-9	Atrazine	1670	1500	90	59-126
56-55-3	Benzo(a)anthracene	1670	1520	91	52-113
50-32-8	Benzo(a)pyrene	1670	1500	90	56-122
205-99-2	Benzo(b)fluoranthene	1670	1440	86	53-119
191-24-2	Benzo(g,h,i)perylene	1670	1440	86	48-117
207-08-9	Benzo(k)fluoranthene	1670	1460	88	52-115
101-55-3	4-Bromophenyl phenyl ether	1670	1530	92	58-114
85-68-7	Butyl benzyl phthalate	1670	1680	101	44-132
92-52-4	1,1'-Biphenyl	1670	1440	86	54-101
100-52-7	Benzaldehyde	1670	1460	88	39-117
91-58-7	2-Chloronaphthalene	1670	1400	84	54-103
106-47-8	4-Chloroaniline	1670	1020	61	10-110
86-74-8	Carbazole	1670	1520	91	55-105
105-60-2	Caprolactam	1670	1080	65	42-111
218-01-9	Chrysene	1670	1410	85	51-119
111-91-1	bis(2-Chloroethoxy)methane	1670	1380	83	51-106
111-44-4	bis(2-Chloroethyl)ether	1670	1440	86	48-107

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-BS1	P107984.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
108-60-1	bis(2-Chloroisopropyl)ether	1670	1270	76	46-103
7005-72-3	4-Chlorophenyl phenyl ether	1670	1450	87	54-112
121-14-2	2,4-Dinitrotoluene	1670	1600	96	56-116
606-20-2	2,6-Dinitrotoluene	1670	1550	93	56-115
91-94-1	3,3'-Dichlorobenzidine	3330	2040	61	22-103
123-91-1	1,4-Dioxane	1670	813	49	14-110
53-70-3	Dibenzo(a,h)anthracene	1670	1500	90	49-118
132-64-9	Dibenzofuran	1670	1540	92	55-103
84-74-2	Di-n-butyl phthalate	1670	1610	97	56-117
117-84-0	Di-n-octyl phthalate	1670	1720	103	47-137
84-66-2	Diethyl phthalate	1670	1470	88	54-112
131-11-3	Dimethyl phthalate	1670	1440	86	56-108
117-81-7	bis(2-Ethylhexyl)phthalate	1670	1630	98	45-130
206-44-0	Fluoranthene	1670	1490	89	58-110
86-73-7	Fluorene	1670	1450	87	59-108
118-74-1	Hexachlorobenzene	1670	1420	85	55-114
87-68-3	Hexachlorobutadiene	1670	1380	83	44-118
77-47-4	Hexachlorocyclopentadiene	3330	2180	65	41-137
67-72-1	Hexachloroethane	1670	1400	84	50-107
193-39-5	Indeno(1,2,3-cd)pyrene	1670	1450	87	48-120
78-59-1	Isophorone	1670	1350	81	54-109
91-57-6	2-Methylnaphthalene	1670	1400	84	48-104
88-74-4	2-Nitroaniline	1670	1530	92	49-124
99-09-2	3-Nitroaniline	1670	1140	68	22-110
100-01-6	4-Nitroaniline	1670	1540	92	50-107
91-20-3	Naphthalene	1670	1360	82	49-100
98-95-3	Nitrobenzene	1670	1390	83	47-108
621-64-7	N-Nitroso-di-n-propylamine	1670	1290	77	49-106
86-30-6	N-Nitrosodiphenylamine	1670	1440	86	53-112
85-01-8	Phenanthrene	1670	1470	88	57-105
129-00-0	Pyrene	1670	1520	91	50-117
95-94-3	1,2,4,5-Tetrachlorobenzene	1670	1350	81	52-109

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-BS1	P107984.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	83%	30-106%
4165-62-2	Phenol-d5	77%	30-106%
118-79-6	2,4,6-Tribromophenol	85%	24-140%
4165-60-0	Nitrobenzene-d5	91%	26-122%
321-60-8	2-Fluorobiphenyl	93%	36-112%
1718-51-0	Terphenyl-d14	96%	36-132%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MS	P107985.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
OP97539-MSD	P107986.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
JC28910-1	P107987.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	JC28910-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
95-57-8	2-Chlorophenol	ND		1680	1310	78	1670	1260	75	4	33-106/35
59-50-7	4-Chloro-3-methyl phenol	ND		1680	1540	92	1670	1500	90	3	27-124/34
120-83-2	2,4-Dichlorophenol	ND		1680	1490	89	1670	1470	88	1	25-122/34
105-67-9	2,4-Dimethylphenol	ND		1680	1580	94	1670	1550	93	2	23-133/34
51-28-5	2,4-Dinitrophenol	ND		3360	2560	76	3340	2420	72	6	10-110/51
534-52-1	4,6-Dinitro-o-cresol	ND		1680	1490	89	1670	1380	83	8	10-113/49
95-48-7	2-Methylphenol	ND		1680	1430	85	1670	1330	80	7	32-111/34
	3&4-Methylphenol	ND		1680	1400	83	1670	1290	77	8	32-113/34
88-75-5	2-Nitrophenol	ND		1680	1490	89	1670	1470	88	1	17-118/37
100-02-7	4-Nitrophenol	ND		1680	1370	82	1670	1300	78	5	14-154/39
87-86-5	Pentachlorophenol	ND		1680	1070	64	1670	939	56	13	10-131/43
108-95-2	Phenol	ND		1680	1190	71	1670	1110	66	7	25-112/33
58-90-2	2,3,4,6-Tetrachlorophenol	ND		1680	1400	83	1670	1340	80	4	19-125/37
95-95-4	2,4,5-Trichlorophenol	ND		1680	1420	84	1670	1380	83	3	30-125/35
88-06-2	2,4,6-Trichlorophenol	ND		1680	1490	89	1670	1540	92	3	26-126/35
83-32-9	Acenaphthene	ND		1680	1410	84	1670	1390	83	1	34-125/36
208-96-8	Acenaphthylene	ND		1680	1350	80	1670	1340	80	1	28-113/34
98-86-2	Acetophenone	ND		1680	1340	80	1670	1200	72	11	26-120/34
120-12-7	Anthracene	ND		1680	1430	85	1670	1390	83	3	31-131/41
1912-24-9	Atrazine	ND		1680	1470	87	1670	1420	85	3	34-138/36
56-55-3	Benzo(a)anthracene	ND		1680	1490	89	1670	1420	85	5	23-136/43
50-32-8	Benzo(a)pyrene	ND		1680	1530	91	1670	1440	86	6	22-144/42
205-99-2	Benzo(b)fluoranthene	ND		1680	1450	86	1670	1370	82	6	18-145/43
191-24-2	Benzo(g,h,i)perylene	ND		1680	1520	90	1670	1360	81	11	20-138/43
207-08-9	Benzo(k)fluoranthene	ND		1680	1480	88	1670	1370	82	8	27-129/43
101-55-3	4-Bromophenyl phenyl ether	ND		1680	1450	86	1670	1430	86	1	39-124/33
85-68-7	Butyl benzyl phthalate	ND		1680	1650	98	1670	1540	92	7	27-143/35
92-52-4	1,1'-Biphenyl	ND		1680	1370	82	1670	1340	80	2	33-116/32
100-52-7	Benzaldehyde	ND		1680	1320	79	1670	1230	74	7	20-129/34
91-58-7	2-Chloronaphthalene	ND		1680	1370	82	1670	1370	82	0	38-110/32
106-47-8	4-Chloroaniline	ND		1680	1130	67	1670	1070	64	5	10-110/49
86-74-8	Carbazole	ND		1680	1480	88	1670	1420	85	4	27-129/38
105-60-2	Caprolactam	ND		1680	1060	63	1670	1030	62	3	18-127/35
218-01-9	Chrysene	ND		1680	1380	82	1670	1330	80	4	21-142/43
111-91-1	bis(2-Chloroethoxy)methane	ND		1680	1350	80	1670	1280	77	5	32-116/33
111-44-4	bis(2-Chloroethyl)ether	ND		1680	1620	96	1670	1290	77	23	30-113/37

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MS	P107985.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
OP97539-MSD	P107986.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
JC28910-1	P107987.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Compound	JC28910-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
108-60-1	bis(2-Chloroisopropyl)ether	ND		1680	1290	77	1670	1170	70	10	28-110/33
7005-72-3	4-Chlorophenyl phenyl ether	ND		1680	1400	83	1670	1400	84	0	38-119/33
121-14-2	2,4-Dinitrotoluene	ND		1680	1580	94	1670	1540	92	3	28-126/36
606-20-2	2,6-Dinitrotoluene	ND		1680	1480	88	1670	1460	87	1	31-126/34
91-94-1	3,3'-Dichlorobenzidine	ND		3360	2450	73	3340	2160	65	13	10-115/44
123-91-1	1,4-Dioxane	ND		1680	740	44	1670	691	41	7	10-110/38
53-70-3	Dibenzo(a,h)anthracene	ND		1680	1540	92	1670	1430	86	7	25-135/41
132-64-9	Dibenzofuran	ND		1680	1470	87	1670	1470	88	0	30-125/35
84-74-2	Di-n-butyl phthalate	ND		1680	1580	94	1670	1510	90	5	32-131/34
117-84-0	Di-n-octyl phthalate	ND		1680	1700	101	1670	1620	97	5	28-144/35
84-66-2	Diethyl phthalate	ND		1680	1450	86	1670	1390	83	4	35-124/32
131-11-3	Dimethyl phthalate	ND		1680	1410	84	1670	1390	83	1	36-121/33
117-81-7	bis(2-Ethylhexyl)phthalate	ND		1680	1610	96	1670	1490	89	8	25-146/35
206-44-0	Fluoranthene	ND		1680	1500	89	1670	1430	86	5	15-143/46
86-73-7	Fluorene	ND		1680	1420	84	1670	1400	84	1	30-129/37
118-74-1	Hexachlorobenzene	ND		1680	1430	85	1670	1340	80	6	34-125/34
87-68-3	Hexachlorobutadiene	ND		1680	1370	82	1670	1280	77	7	29-120/34
77-47-4	Hexachlorocyclopentadiene	ND		3360	2060	61	3340	1970	59	4	10-127/46
67-72-1	Hexachloroethane	ND		1680	1420	84	1670	1210	72	16	21-109/38
193-39-5	Indeno(1,2,3-cd)pyrene	ND		1680	1480	88	1670	1390	83	6	23-141/44
78-59-1	Isophorone	ND		1680	1330	79	1670	1270	76	5	31-124/32
91-57-6	2-Methylnaphthalene	ND		1680	1360	81	1670	1290	77	5	21-125/33
88-74-4	2-Nitroaniline	ND		1680	1440	86	1670	1450	87	1	29-138/33
99-09-2	3-Nitroaniline	ND		1680	1200	71	1670	1160	69	3	12-112/38
100-01-6	4-Nitroaniline	ND		1680	1450	86	1670	1470	88	1	21-117/38
91-20-3	Naphthalene	ND		1680	1360	81	1670	1270	76	7	24-118/35
98-95-3	Nitrobenzene	ND		1680	1360	81	1670	1260	75	8	28-118/32
621-64-7	N-Nitroso-di-n-propylamine	ND		1680	1280	76	1670	1140	68	12	26-121/34
86-30-6	N-Nitrosodiphenylamine	ND		1680	1430	85	1670	1380	83	4	24-142/35
85-01-8	Phenanthrene	ND		1680	1460	87	1670	1390	83	5	14-144/44
129-00-0	Pyrene	ND		1680	1490	89	1670	1410	84	6	16-147/46
95-94-3	1,2,4,5-Tetrachlorobenzene	ND		1680	1320	79	1670	1300	78	2	37-115/32

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97539-MS	P107985.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
OP97539-MSD	P107986.D	1	10/06/16	RL	10/06/16	OP97539	EP4787
JC28910-1	P107987.D	1	10/06/16	RL	10/06/16	OP97539	EP4787

The QC reported here applies to the following samples: **Method:** SW846 8270D

JC28902-1

CAS No.	Surrogate Recoveries	MS	MSD	JC28910-1	Limits
367-12-4	2-Fluorophenol	70%	74%	72%	30-106%
4165-62-2	Phenol-d5	84%	70%	75%	30-106%
118-79-6	2,4,6-Tribromophenol	87%	83%	79%	24-140%
4165-60-0	Nitrobenzene-d5	89%	86%	89%	26-122%
321-60-8	2-Fluorobiphenyl	88%	90%	91%	36-112%
1718-51-0	Terphenyl-d14	94%	92%	88%	36-132%

* = Outside of Control Limits.

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5442-DFTPP
Lab File ID: M127785.D
Instrument ID: GCMSM
Injection Date: 09/24/16
Injection Time: 08:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	105373	35.1		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	149572	49.9		Pass
70	Less than 2.0% of mass 69	724	0.24	(0.48) [a]	Pass
127	40.0 - 60.0% of mass 198	166918	55.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	299946	100.0		Pass
199	5.0 - 9.0% of mass 198	21993	7.33		Pass
275	10.0 - 30.0% of mass 198	65058	21.7		Pass
365	1.0 - 100.0% of mass 198	7342	2.45		Pass
441	Present, but less than mass 443	35006	11.7	(78.7) [b]	Pass
442	40.0 - 100.0% of mass 198	230498	76.8		Pass
443	17.0 - 23.0% of mass 442	44478	14.8	(19.3) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5442-IC5442	M127786.D	09/24/16	09:06	00:12	Initial cal 2
EM5442-IC5442	M127787.D	09/24/16	09:34	00:40	Initial cal 1
EM5442-IC5442	M127788.D	09/24/16	10:03	01:09	Initial cal 100
EM5442-ICC5442	M127789.D	09/24/16	10:31	01:37	Initial cal 50
EM5442-IC5442	M127790.D	09/24/16	10:59	02:05	Initial cal 5
EM5442-IC5442	M127791.D	09/24/16	11:27	02:33	Initial cal 10
EM5442-IC5442	M127792.D	09/24/16	11:56	03:02	Initial cal 25
EM5442-IC5442	M127793.D	09/24/16	12:24	03:30	Initial cal 80

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5443-DFTPP
Lab File ID: M127794.D
Instrument ID: GCMSM
Injection Date: 09/24/16
Injection Time: 12:54

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	104664	35.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	160739	54.2		Pass
70	Less than 2.0% of mass 69	480	0.16	(0.30) [a]	Pass
127	40.0 - 60.0% of mass 198	177138	59.7		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	296520	100.0		Pass
199	5.0 - 9.0% of mass 198	21189	7.15		Pass
275	10.0 - 30.0% of mass 198	69023	23.3		Pass
365	1.0 - 100.0% of mass 198	11253	3.80		Pass
441	Present, but less than mass 443	42406	14.3	(87.1) [b]	Pass
442	40.0 - 100.0% of mass 198	262675	88.6		Pass
443	17.0 - 23.0% of mass 442	48678	16.4	(18.5) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5443-IC5443	M127795.D	09/24/16	13:05	00:11	Initial cal 100
EM5443-IC5443	M127796.D	09/24/16	13:34	00:40	Initial cal 80
EM5443-IC5443	M127797.D	09/24/16	14:02	01:08	Initial cal 25
EM5443-IC5443	M127798.D	09/24/16	14:30	01:36	Initial cal 10
EM5443-IC5443	M127799.D	09/24/16	14:58	02:04	Initial cal 5
EM5443-IC5443	M127800.D	09/24/16	15:27	02:33	Initial cal 2
EM5443-IC5443	M127801.D	09/24/16	15:55	03:01	Initial cal 1
EM5443-ICC5443	M127802.D	09/24/16	16:23	03:29	Initial cal 50
EM5443-ICV5442	M127803.D	09/24/16	16:52	03:58	Initial cal verification 50
EM5443-ICV5442	M127804.D	09/24/16	17:20	04:26	Initial cal verification 50
EM5443-ICV5442	M127805.D	09/24/16	17:48	04:54	Initial cal verification 50
EM5443-ICV5443	M127806A.D	09/24/16	18:16	05:22	Initial cal verification 50
EM5443-ICV5442	M127806.D	09/24/16	18:16	05:22	Initial cal verification 50
EM5443-ICV5442	M127808.D	09/24/16	19:13	06:19	Initial cal verification 50
EM5443-ICV5443	M127808A.D	09/24/16	19:13	06:19	Initial cal verification 50
EM5443-ICV5443	M127809.D	09/24/16	19:41	06:47	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5444-DFTPP
Lab File ID: M127815.D
Instrument ID: GCMSM
Injection Date: 09/26/16
Injection Time: 13:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	113048	30.4		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	164640	44.3		Pass
70	Less than 2.0% of mass 69	1333	0.36	(0.81) [a]	Pass
127	40.0 - 60.0% of mass 198	203253	54.7		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	371328	100.0		Pass
199	5.0 - 9.0% of mass 198	24176	6.51		Pass
275	10.0 - 30.0% of mass 198	86575	23.3		Pass
365	1.0 - 100.0% of mass 198	11199	3.02		Pass
441	Present, but less than mass 443	49731	13.4	(88.0) [b]	Pass
442	40.0 - 100.0% of mass 198	314922	84.8		Pass
443	17.0 - 23.0% of mass 442	56522	15.2	(17.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5444-ICV5443	M127816A.D	09/26/16	13:14	00:13	Initial cal verification 50
EM5444-ICV5442	M127816.D	09/26/16	13:14	00:13	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5462-DFTPP
Lab File ID: M128174.D
Instrument ID: GCMSM
Injection Date: 10/07/16
Injection Time: 09:03

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	100448	31.7		Pass
68	Less than 2.0% of mass 69	963	0.30	(0.67) [a]	Pass
69	Mass 69 relative abundance	143925	45.4		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	172026	54.2		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	317319	100.0		Pass
199	5.0 - 9.0% of mass 198	22762	7.17		Pass
275	10.0 - 30.0% of mass 198	81666	25.7		Pass
365	1.0 - 100.0% of mass 198	12639	3.98		Pass
441	Present, but less than mass 443	45802	14.4	(76.7) [b]	Pass
442	40.0 - 100.0% of mass 198	314111	99.0		Pass
443	17.0 - 23.0% of mass 442	59677	18.8	(19.0) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EM5462-CC5442	M128175.D	10/07/16	09:15	00:12	Continuing cal 25
EM5462-CC5443	M128178.D	10/07/16	10:49	01:46	Continuing cal 25
OP97337A-MB1	M128180.D	10/07/16	12:27	03:24	Method Blank
OP97337A-BS1	M128181.D	10/07/16	12:55	03:52	Blank Spike
OP97337A-BSD	M128182.D	10/07/16	13:24	04:21	Blank Spike Duplicate
ZZZZZZ	M128183.D	10/07/16	13:52	04:49	(unrelated sample)
OP97539-MB1	M128185.D	10/07/16	14:20	05:17	Method Blank
JC28902-1	M128186.D	10/07/16	14:49	05:46	WOOLSTON-TS-002
JC28902-1	M128187.D	10/07/16	15:17	06:14	WOOLSTON-TS-002
ZZZZZZ	M128184.D	10/07/16	15:46	06:43	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4769-DFTPP
Lab File ID: P107661A.D
Instrument ID: GCMSP
Injection Date: 09/21/16
Injection Time: 15:01

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	18792	37.0		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	25458	50.1		Pass
70	Less than 2.0% of mass 69	73	0.14	(0.29) [a]	Pass
127	40.0 - 60.0% of mass 198	23152	45.6		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	50773	100.0		Pass
199	5.0 - 9.0% of mass 198	3727	7.34		Pass
275	10.0 - 30.0% of mass 198	13590	26.8		Pass
365	1.0 - 100.0% of mass 198	1408	2.77		Pass
441	Present, but less than mass 443	5138	10.1	(83.1) [b]	Pass
442	40.0 - 100.0% of mass 198	32706	64.4		Pass
443	17.0 - 23.0% of mass 442	6186	12.2	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4769-IC4769	P107662.D	09/21/16	15:24	00:23	Initial cal 100
EP4769-IC4769	P107663.D	09/21/16	15:52	00:51	Initial cal 1
EP4769-ICC4769	P107664.D	09/21/16	16:25	01:24	Initial cal 50
EP4769-IC4769	P107665.D	09/21/16	16:53	01:52	Initial cal 2
EP4769-IC4769	P107666.D	09/21/16	17:21	02:20	Initial cal 5
EP4769-IC4769	P107667.D	09/21/16	17:49	02:48	Initial cal 10
EP4769-IC4769	P107668.D	09/21/16	18:17	03:16	Initial cal 25
EP4769-IC4769	P107669.D	09/21/16	18:45	03:44	Initial cal 80
EP4769-ICV4769	P107670.D	09/21/16	19:14	04:13	Initial cal verification 50
EP4769-ICV4769	P107672.D	09/21/16	20:11	05:10	Initial cal verification 50
EP4769-ICV4769	P107673.D	09/21/16	20:39	05:38	Initial cal verification 50
EP4769-ICV4769	P107674.D	09/21/16	21:07	06:06	Initial cal verification 50
EP4769-ICV4769	P107675.D	09/21/16	21:34	06:33	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4770-DFTPP
Lab File ID: P107676.D
Instrument ID: GCMSP
Injection Date: 09/22/16
Injection Time: 08:26

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	20850	37.5		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	27904	50.2		Pass
70	Less than 2.0% of mass 69	63	0.11	(0.23) [a]	Pass
127	40.0 - 60.0% of mass 198	25264	45.5		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	55546	100.0		Pass
199	5.0 - 9.0% of mass 198	3673	6.61		Pass
275	10.0 - 30.0% of mass 198	14326	25.8		Pass
365	1.0 - 100.0% of mass 198	1638	2.95		Pass
441	Present, but less than mass 443	5853	10.5	(83.3) [b]	Pass
442	40.0 - 100.0% of mass 198	35394	63.7		Pass
443	17.0 - 23.0% of mass 442	7029	12.7	(19.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4770-IC4770	P107677.D	09/22/16	08:42	00:16	Initial cal 100
EP4770-IC4770	P107678.D	09/22/16	09:10	00:44	Initial cal 80
EP4770-ICC4770	P107679.D	09/22/16	09:38	01:12	Initial cal 50
EP4770-IC4770	P107680.D	09/22/16	10:06	01:40	Initial cal 25
EP4770-IC4770	P107681.D	09/22/16	10:34	02:08	Initial cal 10
EP4770-IC4770	P107682.D	09/22/16	11:02	02:36	Initial cal 5
EP4770-IC4770	P107683.D	09/22/16	11:30	03:04	Initial cal 2
EP4770-IC4770	P107684.D	09/22/16	11:57	03:31	Initial cal 1
EP4770-ICV4770	P107685.D	09/22/16	12:25	03:59	Initial cal verification 50
EP4770-ICV4770	P107686.D	09/22/16	12:53	04:27	Initial cal verification 51
EP4770-ICV4770	P107687.D	09/22/16	13:21	04:55	Initial cal verification 50
EP4770-ICV4770	P107688.D	09/22/16	13:50	05:24	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4771-DFTPP
Lab File ID: P107689.D
Instrument ID: GCMSP
Injection Date: 09/22/16
Injection Time: 14:47

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	14988	30.3		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	22418	45.4		Pass
70	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
127	40.0 - 60.0% of mass 198	21310	43.1		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	49426	100.0		Pass
199	5.0 - 9.0% of mass 198	3344	6.77		Pass
275	10.0 - 30.0% of mass 198	13218	26.7		Pass
365	1.0 - 100.0% of mass 198	1379	2.79		Pass
441	Present, but less than mass 443	5951	12.0	(84.7) [b]	Pass
442	40.0 - 100.0% of mass 198	37178	75.2		Pass
443	17.0 - 23.0% of mass 442	7026	14.2	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4771-ICV4769	P107690.D	09/22/16	15:22	00:35	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4787-DFTPP
Lab File ID: P107973.D
Instrument ID: GCMSP
Injection Date: 10/06/16
Injection Time: 09:57

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	16322	34.4		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	21158	44.6		Pass
70	Less than 2.0% of mass 69	157	0.33	(0.74) [a]	Pass
127	40.0 - 60.0% of mass 198	21293	44.9		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	47453	100.0		Pass
199	5.0 - 9.0% of mass 198	3321	7.00		Pass
275	10.0 - 30.0% of mass 198	12276	25.9		Pass
365	1.0 - 100.0% of mass 198	1559	3.29		Pass
441	Present, but less than mass 443	5311	11.2	(82.5) [b]	Pass
442	40.0 - 100.0% of mass 198	32325	68.1		Pass
443	17.0 - 23.0% of mass 442	6440	13.6	(19.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EP4787-CC4769	P107974.D	10/06/16	10:09	00:12	Continuing cal 25
EP4787-CC4770	P107975.D	10/06/16	10:36	00:39	Continuing cal 25
OP95519-MB1	P107978.D	10/06/16	12:18	02:21	Method Blank
OP97539-MB1	P107983.D	10/06/16	14:37	04:40	Method Blank
OP97539-BS1	P107984.D	10/06/16	15:05	05:08	Blank Spike
JC28910-1	P107987.D	10/06/16	15:33	05:36	(used for QC only; not part of job JC28902)
ZZZZZZ	P107988.D	10/06/16	16:01	06:04	(unrelated sample)
OP97539-MS	P107985.D	10/06/16	16:29	06:32	Matrix Spike
OP97539-MSD	P107986.D	10/06/16	16:57	07:00	Matrix Spike Duplicate
ZZZZZZ	P107989.D	10/06/16	17:25	07:28	(unrelated sample)
ZZZZZZ	P107990.D	10/06/16	17:53	07:56	(unrelated sample)
ZZZZZZ	P107991.D	10/06/16	18:21	08:24	(unrelated sample)
ZZZZZZ	P107992.D	10/06/16	18:48	08:51	(unrelated sample)
ZZZZZZ	P107993.D	10/06/16	19:16	09:19	(unrelated sample)
ZZZZZZ	P107994.D	10/06/16	19:44	09:47	(unrelated sample)
ZZZZZZ	P107995.D	10/06/16	20:12	10:15	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5695-DFTPP
Lab File ID: Z114090.D
Instrument ID: GCMSZ
Injection Date: 09/14/16
Injection Time: 14:10

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	57762	30.1		Pass
68	Less than 2.0% of mass 69	490	0.26	(0.61) [a]	Pass
69	Mass 69 relative abundance	79784	41.6		Pass
70	Less than 2.0% of mass 69	416	0.22	(0.52) [a]	Pass
127	40.0 - 60.0% of mass 198	95874	50.0		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	191730	100.0		Pass
199	5.0 - 9.0% of mass 198	13255	6.91		Pass
275	10.0 - 30.0% of mass 198	44994	23.5		Pass
365	1.0 - 100.0% of mass 198	5571	2.91		Pass
441	Present, but less than mass 443	17773	9.27	(76.3) [b]	Pass
442	40.0 - 100.0% of mass 198	123016	64.2		Pass
443	17.0 - 23.0% of mass 442	23306	12.2	(18.9) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5695-IC5695	Z114092A.D	09/14/16	14:38	00:28	Initial cal 2
EZ5695-IC5695	Z114093.D	09/14/16	15:05	00:55	Initial cal 1
EZ5695-IC5695	Z114094.D	09/14/16	15:33	01:23	Initial cal 100
EZ5695-ICC5695	Z114095.D	09/14/16	16:01	01:51	Initial cal 50
EZ5695-IC5695	Z114096.D	09/14/16	16:28	02:18	Initial cal 80
EZ5695-IC5695	Z114097.D	09/14/16	16:55	02:45	Initial cal 25
EZ5695-IC5695	Z114098.D	09/14/16	17:23	03:13	Initial cal 10
EZ5695-IC5695	Z114099.D	09/14/16	17:49	03:39	Initial cal 5

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-DFTPP
Lab File ID: Z114103.D
Instrument ID: GCMSZ
Injection Date: 09/15/16
Injection Time: 07:35

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	47954	30.4		Pass
68	Less than 2.0% of mass 69	1125	0.71	(1.75) [a]	Pass
69	Mass 69 relative abundance	64142	40.6		Pass
70	Less than 2.0% of mass 69	591	0.37	(0.92) [a]	Pass
127	40.0 - 60.0% of mass 198	76333	48.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	157941	100.0		Pass
199	5.0 - 9.0% of mass 198	10519	6.66		Pass
275	10.0 - 30.0% of mass 198	36816	23.3		Pass
365	1.0 - 100.0% of mass 198	4277	2.71		Pass
441	Present, but less than mass 443	14771	9.35	(74.1) [b]	Pass
442	40.0 - 100.0% of mass 198	102917	65.2		Pass
443	17.0 - 23.0% of mass 442	19940	12.6	(19.4) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5696-IC5696	Z114104.D	09/15/16	07:50	00:15	Initial cal 100
EZ5696-IC5696	Z114105.D	09/15/16	08:17	00:42	Initial cal 2
EZ5696-IC5696	Z114106.D	09/15/16	08:43	01:08	Initial cal 80
EZ5696-ICC5696	Z114107.D	09/15/16	09:09	01:34	Initial cal 50
EZ5696-IC5696	Z114108.D	09/15/16	09:35	02:00	Initial cal 25
EZ5696-IC5696	Z114109.D	09/15/16	10:01	02:26	Initial cal 10
EZ5696-IC5696	Z114110.D	09/15/16	10:26	02:51	Initial cal 5
EZ5696-IC5696	Z114111.D	09/15/16	10:52	03:17	Initial cal 1
EZ5696-ICV5695	Z114112.D	09/15/16	11:18	03:43	Initial cal verification 50
EZ5696-ICV5695	Z114113.D	09/15/16	11:43	04:08	Initial cal verification 50
EZ5696-ICV5695	Z114114.D	09/15/16	12:09	04:34	Initial cal verification 50
EZ5696-ICV5695	Z114115.D	09/15/16	12:35	05:00	Initial cal verification 50
EZ5696-ICV5696	Z114115A.D	09/15/16	12:35	05:00	Initial cal verification 50
EZ5696-ICV5695	Z114116.D	09/15/16	13:01	05:26	Initial cal verification 50
EZ5696-ICV5696	Z114116A.D	09/15/16	13:01	05:26	Initial cal verification 50
EZ5696-ICV5695	Z114117.D	09/15/16	13:26	05:51	Initial cal verification 50
EZ5696-ICV5696	Z114118.D	09/15/16	13:52	06:17	Initial cal verification 50

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5729-DFTPP
Lab File ID: Z114913.D
Instrument ID: GCMSZ
Injection Date: 10/07/16
Injection Time: 09:43

m/e	Ion Abundance Criteria	Raw Abundance	% Relative Abundance		Pass/Fail
51	30.0 - 60.0% of mass 198	30500	39.2		Pass
68	Less than 2.0% of mass 69	0	0.00	(0.00) [a]	Pass
69	Mass 69 relative abundance	35041	45.0		Pass
70	Less than 2.0% of mass 69	185	0.24	(0.53) [a]	Pass
127	40.0 - 60.0% of mass 198	40669	52.3		Pass
197	Less than 1.0% of mass 198	0	0.00		Pass
198	Base peak, 100% relative abundance	77808	100.0		Pass
199	5.0 - 9.0% of mass 198	5292	6.80		Pass
275	10.0 - 30.0% of mass 198	21245	27.3		Pass
365	1.0 - 100.0% of mass 198	2872	3.69		Pass
441	Present, but less than mass 443	9795	12.6	(75.0) [b]	Pass
442	40.0 - 100.0% of mass 198	65941	84.7		Pass
443	17.0 - 23.0% of mass 442	13063	16.8	(19.8) [c]	Pass

(a) Value is % of mass 69
(b) Value is % of mass 443
(c) Value is % of mass 442

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
EZ5729-CC5695	Z114914.D	10/07/16	10:11	00:28	Continuing cal 50
EZ5729-CC5696	Z114915.D	10/07/16	10:38	00:55	Continuing cal 25
OP97539-MB1	Z114917.D	10/07/16	11:56	02:13	Method Blank
ZZZZZZ	Z114918.D	10/07/16	12:22	02:39	(unrelated sample)
ZZZZZZ	Z114919.D	10/07/16	12:48	03:05	(unrelated sample)
ZZZZZZ	Z114920.D	10/07/16	13:13	03:30	(unrelated sample)
OP97072-MB1	Z114923.D	10/07/16	14:44	05:01	Method Blank
ZZZZZZ	Z114924.D	10/07/16	15:10	05:27	(unrelated sample)
OP97582-MB1	Z114925.D	10/07/16	15:35	05:52	Method Blank
OP97582-BS1	Z114926.D	10/07/16	16:01	06:18	Blank Spike
ZZZZZZ	Z114927.D	10/07/16	16:27	06:44	(unrelated sample)
ZZZZZZ	Z114929.D	10/07/16	17:19	07:36	(unrelated sample)
ZZZZZZ	Z114930.D	10/07/16	17:45	08:02	(unrelated sample)
ZZZZZZ	Z114931.D	10/07/16	18:11	08:28	(unrelated sample)
JC29041-1	Z114932.D	10/07/16	18:37	08:54	(used for QC only; not part of job JC28902)
OP97582-MS	Z114933.D	10/07/16	19:02	09:19	Matrix Spike
OP97582-MSD	Z114934.D	10/07/16	19:28	09:45	Matrix Spike Duplicate
ZZZZZZ	Z114935.D	10/07/16	19:54	10:11	(unrelated sample)
ZZZZZZ	Z114936.D	10/07/16	20:20	10:37	(unrelated sample)

Instrument Performance Check (DFTPP)

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample:	EZ5729-DFTPP	**Injection Date:**	10/07/16
Lab File ID:	Z114913.D	**Injection Time:**	09:43
Instrument ID:	GCMSZ		

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
ZZZZZZ	Z114937.D	10/07/16	20:46	11:03	(unrelated sample)
ZZZZZZ	Z114938.D	10/07/16	21:12	11:29	(unrelated sample)
ZZZZZZ	Z114939.D	10/07/16	21:37	11:54	(unrelated sample)

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std: EM5462-CC5442 **Injection Date:** 10/07/16
Lab File ID: M128175.D **Injection Time:** 09:15
Instrument ID: GCMSM **Method:** SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	1564755	4.81	6266363	5.97	4409431	8.33	8338826	10.96	9356188	16.12	9550995	18.75
Upper Limit [a]	3129510	5.31	12532726	6.47	8818862	8.83	16677652	11.46	18712376	16.62	19101990	19.25
Lower Limit [b]	782378	4.31	3133182	5.47	2204716	7.83	4169413	10.46	4678094	15.62	4775498	18.25
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**	**IS 6 AREA**	**RT**
OP97337A-MB1	1443873	4.82	5498150	5.97	4067136	8.33	8184417	10.96	10374822	16.12	10489244	18.74
OP97337A-BS1	1345553	4.81	5109687	5.97	3903056	8.33	7564553	10.96	9242235	16.12	9553446	18.75
OP97337A-BSD	1206467	4.82	4550809	5.97	3442851	8.33	6630668	10.96	8032963	16.12	8203376	18.74
ZZZZZZ	1339665	4.81	5221911	5.97	3761953	8.33	6801974	10.96	7987181	16.12	7785895	18.75
OP97539-MB1	1069851	4.81	4338474	5.97	3161657	8.33	6311133	10.96	7825280	16.11	7732888	18.74
JC28902-1 [c]	1266058	4.82	4992434	5.97	3504143	8.33	6695282	10.96	7324592	16.12	6956599	18.74
JC28902-1	1511417	4.81	5744728	5.97	3994359	8.33	7055287	10.96	6529861	16.12	6342825	18.75
ZZZZZZ	1123328	4.82	4350213	5.98	2927301	8.34	4867320	10.97	4606748*	16.15	3988049*	18.78

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.
(c) Confirmation run.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std: EP4787-CC4769 **Injection Date:** 10/06/16
Lab File ID: P107974.D **Injection Time:** 10:09
Instrument ID: GCMSP **Method:** SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	71259	4.46	257092	5.37	166163	6.71	303426	8.47	302776	13.61	283483	16.63
Upper Limit [a]	142518	4.96	514184	5.87	332326	7.21	606852	8.97	605552	14.11	566966	17.13
Lower Limit [b]	35630	3.96	128546	4.87	83082	6.21	151713	7.97	151388	13.11	141742	16.13
Lab Sample ID	**IS 1 AREA**	**RT**	**IS 2 AREA**	**RT**	**IS 3 AREA**	**RT**	**IS 4 AREA**	**RT**	**IS 5 AREA**	**RT**	**IS 6 AREA**	**RT**
OP95519-MB1	76414	4.46	280288	5.37	168797	6.71	291849	8.47	276157	13.60	240391	16.63
OP97539-MB1	60226	4.46	220032	5.37	135194	6.71	232261	8.47	225935	13.59	198577	16.62
OP97539-BS1	54326	4.46	195164	5.37	124084	6.71	215327	8.47	205213	13.60	189146	16.63
JC28910-1	59192	4.46	212254	5.37	130260	6.71	224493	8.47	214462	13.59	188062	16.62
ZZZZZZ	51850	4.46	195309	5.37	118936	6.71	207619	8.47	204760	13.59	178909	16.62
OP97539-MS	51844	4.46	188812	5.37	121906	6.71	209623	8.47	203761	13.60	185366	16.63
OP97539-MSD	55309	4.46	191919	5.37	121660	6.71	212805	8.47	207278	13.60	189179	16.63
ZZZZZZ	63770	4.45	226926	5.37	138117	6.71	238349	8.47	229133	13.59	202599	16.63
ZZZZZZ	58559	4.46	214602	5.37	132321	6.71	223664	8.47	218082	13.59	190491	16.62
ZZZZZZ	57175	4.45	209081	5.37	125888	6.71	212740	8.47	215167	13.59	186251	16.62
ZZZZZZ	57166	4.46	191618	5.37	129133	6.71	231521	8.48	251796	13.63	238740	16.68
ZZZZZZ	58093	4.46	203400	5.38	142093	6.72	239854	8.49	256783	13.67	241391	16.73
ZZZZZZ	68126	4.46	225395	5.38	138085	6.72	241402	8.49	250469	13.64	235910	16.69
ZZZZZZ	64550	4.46	224029	5.38	138304	6.71	225185	8.48	212555	13.63	199804	16.67

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std: EZ5729-CC5695 **Injection Date:** 10/07/16
Lab File ID: Z114914.D **Injection Time:** 10:11
Instrument ID: GCMSZ **Method:** SW846 8270D

	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
Check Std	149398	4.38	601366	5.31	362486	6.60	647623	8.11	607929	11.84	623634	13.91
Upper Limit [a]	298796	4.88	1202732	5.81	724972	7.10	1295246	8.61	1215858	12.34	1247268	14.41
Lower Limit [b]	74699	3.88	300683	4.81	181243	6.10	323812	7.61	303965	11.34	311817	13.41

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT	IS 3 AREA	RT	IS 4 AREA	RT	IS 5 AREA	RT	IS 6 AREA	RT
OP97539-MB1	138512	4.38	581118	5.30	341107	6.60	565828	8.11	551004	11.83	530923	13.91
ZZZZZZ	155463	4.38	608829	5.30	358788	6.60	615167	8.10	590480	11.83	572563	13.91
ZZZZZZ	163845	4.38	654866	5.30	363793	6.60	609109	8.11	550235	11.83	514601	13.91
ZZZZZZ	139743	4.38	565459	5.30	315416	6.60	526461	8.11	486996	11.83	452345	13.91
OP97072-MB1	107724	4.38	431814	5.30	249368	6.60	435183	8.11	405529	11.83	389973	13.91
ZZZZZZ	110121	4.38	454910	5.30	260870	6.60	452202	8.11	434611	11.83	421621	13.91
OP97582-MB1	135422	4.38	557129	5.30	311685	6.60	523878	8.11	508122	11.83	486665	13.91
OP97582-BS1	123265	4.38	486608	5.31	289308	6.60	500480	8.11	476904	11.84	500999	13.91
ZZZZZZ	124285	4.38	485273	5.30	255434	6.60	450808	8.11	458885	11.84	448402	13.92
ZZZZZZ	120214	4.38	415100	5.31	287075	6.63	518536	8.14	596638	11.84	569743	13.91
ZZZZZZ	150509	4.38	574839	5.30	293743	6.61	514540	8.12	550644	11.84	518092	13.91
ZZZZZZ	115829	4.39	388351	5.31	268845	6.64	530225	8.16	618022	11.86	597836	13.92
JC29041-1	138087	4.38	442350	5.31	266919	6.63	520247	8.15	582900	11.86	558949	13.91
OP97582-MS	142343	4.38	473051	5.31	284591	6.64	552399	8.16	622142	11.86	613345	13.92
OP97582-MSD	137481	4.38	444968	5.31	270810	6.63	506060	8.15	551784	11.86	553747	13.92
ZZZZZZ	170595	4.38	661122	5.30	375612	6.60	630256	8.11	594861	11.85	579792	13.92
ZZZZZZ	176107	4.38	664746	5.30	384115	6.60	646129	8.11	602690	11.84	578549	13.92
ZZZZZZ	138501	4.38	534640	5.30	312408	6.61	508770	8.11	468210	11.86	462808	13.93
ZZZZZZ	157213	4.38	619851	5.31	366827	6.61	628365	8.12	562592	11.86	537657	13.93
ZZZZZZ	190302	4.38	737277	5.31	417548	6.61	696231	8.12	625443	11.85	591876	13.93

IS 1 = 1,4-Dichlorobenzene-d4
IS 2 = Naphthalene-d8
IS 3 = Acenaphthene-D10
IS 4 = Phenanthrene-d10
IS 5 = Chrysene-d12
IS 6 = Perylene-d12

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8270D **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1	S2	S3	S4	S5	S6
JC28902-1	M128187.D	32	31	40	31	35* [a]	36
JC28902-1	M128186.D	53	53	72	62	56	59
OP97539-BS1	P107984.D	83	77	85	91	93	96
OP97539-MB1	P107983.D	74	76	83	87	88	90
OP97539-MB1	Z114917.D	70	73	84	83	93	88
OP97539-MB1	M128185.D	81	84	108	90	82	85
OP97539-MS	P107985.D	70	84	87	89	88	94
OP97539-MSD	P107986.D	74	70	83	86	90	92

Surrogate Compounds	Recovery Limits
S1 = 2-Fluorophenol	30-106%
S2 = Phenol-d5	30-106%
S3 = 2,4,6-Tribromophenol	24-140%
S4 = Nitrobenzene-d5	26-122%
S5 = 2-Fluorobiphenyl	36-112%
S6 = Terphenyl-d14	36-132%

(a) Outside control limits due to matrix interference.

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5442-ICC5442
Lab FileID: M127789.D

Response Factor Report Instrument #1

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue Sep 27 14:20:13 2016
Response via : Initial Calibration

Calibration Files
2 =M127786.D 5 =M127790.D 100 =M127788.D 50 =M127789.D
1 =M127787.D 10 =M127791.D 80 =M127793.D 25 =M127792.D

Compound	2	5	100	50	1	10	80	25	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	ISTD									
2) 1,4-Dioxane	0.490	0.519	0.512	0.512	0.601	0.549	0.526	0.519	0.528	6.38
3) Pyridine	1.095	1.177	1.218	1.182	0.958	1.238	1.224	1.272	1.170	8.61
4) N-Nitrosodim	0.428	0.412	0.417	0.423	0.475	0.444	0.423	0.443	0.433	4.71
5) 2-Fluorophen	1.139	1.264	1.218	1.291	1.212	1.354	1.277	1.330	1.261	5.51
6) Indene	2.295	2.342	1.811	2.083	2.321	2.478	1.907	2.231	2.183	10.54
7) Cumene	3.051	3.296	2.406	2.819	3.170	3.334	2.522	3.043	2.955	11.66
8) Phenol-d5	1.444	1.569	1.354	1.509	1.381	1.683	1.420	1.584	1.493	7.60
9) Phenol	1.720	1.835	1.387	1.579	1.427	1.867	1.451	1.681	1.619	11.50
10) Aniline	1.968	1.947		1.405	1.856	1.913	1.181	1.597	1.695	18.18
11) bis(2-Chloro	1.018	1.242	0.954	1.093	1.162	1.232	1.104	1.146	1.119	8.85
12) 2-Chlorophen	1.376	1.395	1.140	1.260	1.391	1.429	1.202	1.323	1.314	7.87
13) Decane	0.948	0.944	0.630	0.729	0.976	0.924	0.671	0.797	0.827	16.70
14) 1,3-Dichloro	1.621	1.633	1.316	1.476	1.686	1.729	1.374	1.574	1.551	9.57
15) 1,4-Dichloro	1.448	1.523	1.266	1.403	1.506	1.525	1.315	1.469	1.432	6.79
16) Benzyl alcoh	0.626	0.697	0.706	0.777	0.574	0.799	0.747	0.792	0.715	11.35
17) 1,2-Dichloro	1.551	1.581	1.192	1.356	1.658	1.653	1.254	1.464	1.464	12.22
18) Acetophenone	1.757	1.816	1.419	1.589	1.704	1.878	1.494	1.728	1.673	9.50
19) 2-Methylphen	1.119	1.256	1.037	1.125	1.196	1.267	1.097	1.195	1.161	6.92
20) 2,2'-oxybis(	0.470	0.460	0.399	0.431	0.494	0.492	0.415	0.458	0.452	7.67
21) 3&4-Methylph	1.205	1.299	1.131	1.207	1.153	1.325	1.193	1.241	1.219	5.48
22) n-Nitroso-di	0.719	0.809	0.696	0.796	0.705	0.924	0.745	0.860	0.782	10.35
23) Hexachloroet	0.491	0.503	0.438	0.471	0.489	0.508	0.449	0.493	0.480	5.25
24) I Naphthalene-d8	ISTD									
25) Nitrobenzene	0.284	0.320	0.290	0.316	0.266	0.356	0.305	0.329	0.308	9.18
26) Nitrobenzene	0.307	0.336	0.273	0.304	0.315	0.368	0.289	0.318	0.314	9.19
27) Quinoline	0.732	0.806	0.707	0.765	0.711	0.885	0.740	0.811	0.770	7.93
28) Isophorone	0.542	0.621	0.531	0.601	0.480	0.690	0.565	0.640	0.584	11.54
29) 2-Nitropheno	0.151	0.164	0.173	0.186	0.134	0.201	0.182	0.194	0.173	12.93
30) 2,4-Dimethyl	0.289	0.295	0.272	0.294	0.272	0.310	0.284	0.291	0.288	4.38
31) Benzoic acid		0.067	0.252	0.229		0.120	0.253	0.185	0.184	41.35
---- Quadratic regression ---- Coefficient = 0.9990										
Response Ratio = -0.02898 + 0.24000 *A + 0.01062 *A^2										
32) bis(2-Chloro	0.353	0.382	0.309	0.349	0.361	0.411	0.334	0.372	0.359	8.58
33) 2,4-Dichloro	0.300	0.312	0.275	0.309	0.289	0.355	0.290	0.331	0.308	8.29
34) 2,6-Dichloro	0.286	0.296	0.262	0.289	0.284	0.333	0.273	0.300	0.290	7.30
35) 1,3,5-Trichl	0.408	0.381	0.281	0.324	0.388	0.398	0.297	0.351	0.354	13.63
36) 1,2,4-Trichl	0.364	0.359	0.281	0.314	0.359	0.374	0.292	0.334	0.334	10.60
37) 1,2,3-Trichl	0.330	0.352	0.277	0.309	0.337	0.368	0.289	0.329	0.324	9.53
38) Naphthalene	1.056	1.099	0.824	0.986	1.052	1.176	0.864	1.059	1.014	11.68
39) 4-Chloroanil	0.423	0.485	0.331	0.397	0.458	0.507	0.351	0.448	0.425	14.66
40) 2,3-Dichloro	0.400	0.411	0.310	0.352	0.369	0.440	0.325	0.383	0.374	11.73
41) Caprolactam	0.088	0.108	0.121	0.126		0.131	0.126	0.127	0.118	12.75
42) Hexachlorobu	0.174	0.170	0.142	0.156	0.156	0.180	0.147	0.168	0.162	8.39

Initial Calibration Summary

Job Number: JC28902 **Sample:** EM5442-ICC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M127789.D
Project: HLANJPR: Study Area 6 Chrome Remedy

43)	4-Chloro-3-m	0.287	0.288	0.271	0.294	0.246	0.327	0.282	0.308	0.288	8.33
44)	2-Methylnaph	0.740	0.722	0.541	0.619	0.682	0.769	0.566	0.676	0.664	12.37
45)	1-Methylnaph	0.835	0.835	0.654	0.747	0.816	0.902	0.676	0.791	0.782	10.79
46)	Dimethylnaph	0.726	0.750	0.582	0.655	0.704	0.804	0.606	0.712	0.692	10.72
47)	I Acenaphthene-d10	----------	ISTD	----------							
48)	Hexachlorocy	0.242	0.252	0.247	0.278	0.206	0.293	0.256	0.283	0.257	10.78
49)	2,4,6-Trichl	0.317	0.346	0.302	0.336	0.275	0.388	0.316	0.357	0.330	10.69
50)	2,4,5-Trichl	0.369	0.379	0.351	0.372	0.388	0.410	0.363	0.389	0.378	4.83
51)	2-Fluorobiph	1.461	1.470	1.085	1.255	1.420	1.508	1.161	1.352	1.339	11.67
52)	2-Chloronaph	1.196	1.216	0.905	1.033	1.252	1.211	0.956	1.110	1.110	11.83
53)	Biphenyl	1.663	1.648	1.224	1.444	1.575	1.728	1.309	1.574	1.521	11.75
54)	2-Nitroanili	0.181	0.228	0.220	0.238	0.179	0.257	0.232	0.244	0.222	12.84
55)	Dimethylphth	1.280	1.299	1.112	1.232	1.135	1.377	1.173	1.319	1.241	7.59
56)	Acenaphthyle	1.778	1.982	1.505	1.764	1.704	2.088	1.587	1.921	1.791	11.04
57)	2,6-Dinitrot	0.183	0.236	0.276	0.298	0.171	0.302	0.294	0.298	0.257	20.95
	---- Quadratic regression ---- Coefficient = 0.9995										
	Response Ratio = -0.00842 + 0.33313 *A + -0.02048 *A^2										
58)	3-Nitroanili	0.179	0.264	0.310	0.315		0.302	0.324	0.311	0.287	17.86
59)	Acenaphthene	1.219	1.245	0.975	1.119	1.235	1.334	1.030	1.203	1.170	10.24
60)	2,4-Dinitrop	0.059	0.076	0.184	0.180		0.133	0.185	0.165	0.140	37.97
	---- Quadratic regression ---- Coefficient = 0.9997										
	Response Ratio = -0.02345 + 0.18780 *A + 0.00040 *A^2										
61)	4-Nitropheno	0.098	0.104	0.136	0.135		0.133	0.136	0.132	0.125	13.15
62)	Dibenzofuran	1.720	1.773	1.301	1.504	1.687	1.840	1.359	1.636	1.602	12.20
63)	2,4-Dinitrot	0.237	0.314	0.343	0.361	0.188	0.375	0.358	0.366	0.318	21.58
	---- Quadratic regression ---- Coefficient = 0.9998										
	Response Ratio = -0.00735 + 0.39457 *A + -0.01885 *A^2										
64)	2,3,4,6-Tetr	0.246	0.268	0.276	0.297	0.216	0.293	0.284	0.297	0.272	10.44
65)	Diethylphtha	1.123	1.297	1.047	1.179	1.078	1.396	1.103	1.278	1.188	10.39
66)	Fluorene	1.427	1.455	1.103	1.256	1.425	1.522	1.159	1.354	1.338	11.21
67)	4-Chlorophen	0.671	0.662	0.499	0.560	0.674	0.659	0.517	0.582	0.603	12.05
68)	4-Nitroanili	0.212	0.304	0.322	0.342		0.372	0.332	0.357	0.320	16.37
69)	I Phenanthrene-d10	----------	ISTD	----------							
70)	4,6-Dinitro-	0.045	0.063	0.139	0.135		0.106	0.142	0.126	0.108	36.34
	---- Quadratic regression ---- Coefficient = 0.9995										
	Response Ratio = -0.00853 + 0.14351 *A + -0.00006 *A^2										
71)	n-Nitrosodip	0.555	0.585	0.487	0.551	0.520	0.647	0.511	0.590	0.556	9.24
72)	1,2-Diphenyl	0.515	0.613	0.494	0.561	0.485	0.666	0.527	0.608	0.559	11.60
73)	2,4,6-Tribro	0.093	0.095	0.114	0.123	0.088	0.121	0.117	0.123	0.109	13.44
74)	4-Bromopheny	0.217	0.227	0.190	0.215	0.237	0.251	0.198	0.228	0.220	9.13
75)	Hexachlorobe	0.264	0.266	0.210	0.236	0.271	0.275	0.218	0.249	0.248	10.01
76)	Pentachlorop	0.091	0.089	0.130	0.139		0.129	0.133	0.138	0.121	17.81
77)	Phenanthrene	1.168	1.198	0.888	1.042	1.166	1.243	0.935	1.118	1.095	11.69
78)	Anthracene	1.086	1.171	0.918	1.082	0.974	1.298	0.965	1.171	1.083	11.82
79)	Carbazole	1.095	1.227	0.952	1.108	1.025	1.316	1.007	1.195	1.116	11.04
80)	Di-n-butylph	0.842	1.160	1.008	1.227		1.399	1.085	1.318	1.148	16.49
81)	Fluoranthene	1.186	1.324	1.017	1.184	1.139	1.418	1.062	1.260	1.199	11.08
82)	Octadecane	0.313	0.373	0.285	0.336	0.311	0.408	0.309	0.364	0.337	12.21
83)	I Chrysene-d12	----------	ISTD	----------							
84)	Pyrene	1.265	1.364	1.079	1.241	1.176	1.451	1.160	1.328	1.258	9.61
85)	Terphenyl-d1	0.862	0.877	0.759	0.856	0.792	0.972	0.823	0.911	0.857	7.84
86)	Butylbenzylp	0.287	0.421	0.539	0.581	0.248	0.570	0.580	0.592	0.477	29.51
	---- Quadratic regression ---- Coefficient = 0.9993										

Initial Calibration Summary

Job Number: JC28902 **Sample:** EM5442-ICC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M127789.D
Project: HLANJPR: Study Area 6 Chrome Remedy

```
              Response Ratio = -0.02107 + 0.66311 *A + -0.04377 *A^2

 87) Benzo[a]anth 0.966 1.074 1.006 1.111 0.978 1.194 1.068 1.152 1.069   7.68
 88) 3,3'-Dichlor 0.279 0.358 0.407 0.433 0.257 0.417 0.423 0.425 0.375  18.67
 89) Chrysene     1.142 1.159 0.938 1.059 1.097 1.215 0.998 1.127 1.092   8.26
 90) bis(2-Ethylh 0.367 0.589 0.708 0.786 0.309 0.778 0.763 0.795 0.637  30.88
            ---- Quadratic regression ----  Coefficient =  0.9995
              Response Ratio = -0.02900 + 0.90693 *A + -0.07233 *A^2


 91) I   Perylene-d12          -----------------ISTD----------------------
 92) Di-n-octylph 0.583 0.952 1.039 1.274 0.516 1.314 1.148 1.324 1.019  31.26
            ---- Quadratic regression ----  Coefficient =  0.9997
              Response Ratio = -0.05099 + 1.55963 *A + -0.19828 *A^2

 93) Benzo[b]fluo 1.164 1.252 1.010 1.099 1.126 1.308 1.064 1.188 1.151   8.52
 94) Benzo[k]fluo 1.143 1.179 0.905 1.101 1.126 1.274 0.960 1.182 1.109  10.91
 95) Benzo[a]pyre 0.901 1.068 0.918 1.041 0.849 1.179 0.966 1.095 1.002  11.19
 96) Indeno[1,2,3 0.958 1.105 1.080 1.163 0.895 1.229 1.107 1.150 1.086  10.09
 97) Dibenz(a,h)a 0.824 0.974 0.926 1.011 0.805 1.077 0.957 1.034 0.951  10.15
 98) Dibenz[a,h]a 1.073 1.192 1.033 1.165 1.094 1.273 1.072 1.190 1.137   7.13
 99) 7,12-Dimethy 0.418 0.487 0.466 0.519 0.381 0.548 0.485 0.532 0.479  11.88
100) Benzo[g,h,i] 1.094 1.172 1.082 1.160 1.045 1.269 1.101 1.180 1.138   6.26

 (#) = Out of Range  ###  Number of calibration levels exceeded format  ###

          MM5442.M          Tue Sep 27 14:20:44 2016   MSM
```

7.1.1

7

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICC5443
Lab FileID: M127802.D

Response Factor Report Instrument #1

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue Sep 27 14:28:37 2016
Response via : Initial Calibration

Calibration Files
2 =Copy of M127800.D 5 =M127799.D 100 =M127795.D 50 =M127802.D
1 =Copy of M127801.D 10 =M127798.D 80 =M127796.D 25 =M127797.D

Compound	2	5	100	50	1	10	80	25	Avg	%RSD
101) I 1,4-Dichlorobenzene-d	ISTD									
102) Benzaldehyde	1.158	1.226	0.666	0.765	1.222	1.139	0.716	1.033	0.991	23.90
---- Quadratic regression ---- Coefficient = 0.9959										
Response Ratio = 0.03626 + 0.92101 *A + -0.10988 *A^2										
103) I Acenaphthene-d10a	ISTD									
104) 1,2,4,5-Tetr	0.679	0.671	0.468	0.472	0.681	0.585	0.479	0.544	0.572	16.67
105) Atrazine	0.142	0.196	0.187	0.170	0.129	0.197	0.189	0.199	0.176	15.28
106) I Chrysene-d12a	ISTD									
107) Benzidine	0.653	0.497	0.575		0.765	0.472	0.700	0.610		19.01
108) 1-chloroocta	0.237	0.284	0.220	0.235	0.210	0.278	0.222	0.257	0.243	11.28
109) I Phenanthrene-d10a	ISTD									
110) o-terphenyl	0.723	0.727	0.505	0.523	0.718	0.665	0.522	0.600	0.623	15.62
111) I Naphthalene-d8a	ISTD									
112) Hydroquinone	0.241	0.312	0.359	0.326		0.359	0.355	0.353	0.329	13.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

MM5442.M Tue Sep 27 14:29:38 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127803.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127803.D Vial: 10
Acq On : 24 Sep 2016 4:52 pm Operator: ariellec
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue Sep 27 14:34:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	118	0.00	4.92
9	t	Phenol	1.619	1.518	6.2	113	0.00	4.69
12	t	2-Chlorophenol	1.314	1.315	-0.1	123	0.00	4.78
19	t	2-Methylphenol	1.161	1.148	1.1	120	0.00	5.15
21	t	3&4-Methylphenol	1.219	1.188	2.5	116	0.00	5.28
24	I	Naphthalene-d8	1.000	1.000	0.0	111	0.00	6.10
29	t	2-Nitrophenol	0.173	0.206	-19.1	123	0.00	5.71
30	t	2,4-Dimethylphenol	0.288	0.306	-6.3	116	0.00	5.76
		----------	True	Calc.	% Drift	----------		
31	t	Benzoic acid	50.000	40.264	19.5	87	0.02	5.90
		----------	AvgRF	CCRF	% Dev	----------		
33	t	2,4-Dichlorophenol	0.308	0.312	-1.3	112	0.00	5.96
34	t	2,6-Dichlorophenol	0.290	0.303	-4.5	117	0.00	6.20
43	t	4-Chloro-3-methylphenol	0.288	0.277	3.8	104	0.00	6.80
47	I	Acenaphthene-d10	1.000	1.000	0.0	108	0.00	8.48
49	t	2,4,6-Trichlorophenol	0.330	0.367	-11.2	118	0.00	7.35
50	t	2,4,5-Trichlorophenol	0.378	0.367	2.9	107	0.00	7.41
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	100.000	41.818	16.4	94	0.00	8.63
		----------	AvgRF	CCRF	% Dev	----------		
61	t	4-Nitrophenol	0.125	0.135	-8.0	108	0.00	8.87
		----------	AvgRF	CCRF	% Dev	----------		
64	t	2,3,4,6-Tetrachlorophenol	0.272	0.288	-5.9	105	0.00	9.07
69	I	Phenanthrene-d10	1.000	1.000	0.0	104	0.00	11.12
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	46.919	6.2	98	0.00	9.55
		----------	AvgRF	CCRF	% Dev	----------		
76	t	Pentachlorophenol	0.121	0.136	-12.4	100	0.00	10.82

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 14:38:22 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127804.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127804.D Vial: 11
Acq On : 24 Sep 2016 5:20 pm Operator: ariellec
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue Sep 27 14:34:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	96	0.00	4.92
3	t	Pyridine	1.170	1.171	-0.1	95	0.05	2.95
10	t	Aniline	1.695	1.728	-1.9	118	0.00	4.69
16	t	Benzyl alcohol	0.715	0.829	-15.9	102	0.00	5.05
24	I	Naphthalene-d8	1.000	1.000	0.0	103	0.00	6.10
39	t	4-Chloroaniline	0.425	0.349	17.9	90	0.00	6.20
44	t	2-Methylnaphthalene	0.664	0.560	15.7	93	0.00	6.94
47	I	Acenaphthene-d10	1.000	1.000	0.0	100	0.00	8.48
54	t	2-Nitroaniline	0.222	0.232	-4.5	97	0.00	7.83
58	t	3-Nitroaniline	0.287	0.272	5.2	86	0.00	8.49
62	t	Dibenzofuran	1.602	1.539	3.9	102	0.00	8.83
68	t	4-Nitroaniline	0.320	0.336	-5.0	98	0.00	9.56
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	0.00	11.12
79	t	Carbazole	1.116	1.031	7.6	96	0.00	11.64

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 14:41:12 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127805.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127805.D Vial: 12
Acq On : 24 Sep 2016 5:48 pm Operator: ariellec
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	4.92
5	S	2-Fluorophenol	1.261	1.038	17.7	101	0.00	3.97
8	S	Phenol-d5	1.493	1.240	16.9	103	0.00	4.68
24	I	Naphthalene-d8	1.000	1.000	0.0	121	0.00	6.10
25	S	Nitrobenzene-d5	0.308	0.281	8.8	108	0.00	5.40
47	I	Acenaphthene-d10	1.000	1.000	0.0	115	0.00	8.48
51	S	2-Fluorobiphenyl	1.339	1.197	10.6	110	0.00	7.45
69	I	Phenanthrene-d10	1.000	1.000	0.0	113	-0.01	11.12
73	S	2,4,6-Tribromophenol	0.109	0.101	7.3	93	-0.01	9.85
83	I	Chrysene-d12	1.000	1.000	0.0	113	-0.02	16.28
85	S	Terphenyl-d14	0.857	0.768	10.4	101	-0.01	14.27

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:14:45 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127806.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127806.D Vial: 13
Acq On : 24 Sep 2016 6:16 pm Operator: ariellec
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	99	0.00	4.92
4	t	N-Nitrosodimethylamine	0.433	0.386	10.9	91	0.00	2.84
11	t	bis(2-Chloroethyl)ether	1.119	1.160	-3.7	105	0.00	4.71
14	t	1,3-Dichlorobenzene	1.551	1.498	3.4	101	0.00	4.87
15	t	1,4-Dichlorobenzene	1.432	1.381	3.6	98	0.00	4.93
17	t	1,2-Dichlorobenzene	1.464	1.423	2.8	104	0.00	5.07
20	t	2,2'-oxybis(1-Chloropropa	0.452	0.427	5.5	98	0.00	5.13
22	t	n-Nitroso-di-n-propylamin	0.782	0.743	5.0	93	-0.01	5.25
23	t	Hexachloroethane	0.480	0.478	0.4	101	0.00	5.35
24	I	Naphthalene-d8	1.000	1.000	0.0	97	0.00	6.10
26	t	Nitrobenzene	0.314	0.298	5.1	95	0.00	5.42
28	t	Isophorone	0.584	0.542	7.2	87	-0.02	5.62
32	t	bis(2-Chloroethoxy)methan	0.359	0.357	0.6	99	0.00	5.83
36	t	1,2,4-Trichlorobenzene	0.334	0.329	1.5	101	0.00	6.03
38	t	Naphthalene	1.014	0.935	7.8	92	0.00	6.12
42	t	Hexachlorobutadiene	0.162	0.165	-1.9	103	0.00	6.25
47	I	Acenaphthene-d10	1.000	1.000	0.0	95	0.00	8.48
48	t	Hexachlorocyclopentadiene	0.257	0.270	-5.1	92	0.00	7.16
52	t	2-Chloronaphthalene	1.110	1.109	0.1	102	-0.01	7.62
55	t	Dimethylphthalate	1.241	1.191	4.0	91	-0.01	8.09
56	t	Acenaphthylene	1.791	1.621	9.5	87	-0.01	8.25
		----------	True	Calc.	% Drift		----------	
57	t	2,6-Dinitrotoluene	50.000	43.780	12.4	84	-0.01	8.19
		----------	AvgRF	CCRF	% Dev		----------	
59	t	Acenaphthene	1.170	1.065	9.0	90	0.00	8.54
		----------	True	Calc.	% Drift		----------	
63	t	2,4-Dinitrotoluene	50.000	47.402	5.2	91	-0.01	8.85
		----------	AvgRF	CCRF	% Dev		----------	
65	t	Diethylphthalate	1.188	1.120	5.7	90	-0.01	9.28
66	t	Fluorene	1.338	1.213	9.3	91	0.00	9.41
67	t	4-Chlorophenyl-phenylethe	0.603	0.556	7.8	94	0.00	9.44
69	I	Phenanthrene-d10	1.000	1.000	0.0	95	-0.01	11.12
71	t	n-Nitrosodiphenylamine	0.556	0.502	9.7	87	-0.02	9.66
72	t	1,2-Diphenylhydrazine	0.559	0.523	6.4	89	0.00	9.72
74	t	4-Bromophenyl-phenylether	0.220	0.210	4.5	94	-0.01	10.31

Initial Calibration Verification

Job Number: JC28902 **Sample:** EM5443-ICV5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M127806.D
Project: HLANJPR: Study Area 6 Chrome Remedy

75	t	Hexachlorobenzene	0.248	0.235	5.2	95	0.00	10.40
77	t	Phenanthrene	1.095	0.984	10.1	90	-0.01	11.17
78	t	Anthracene	1.083	0.987	8.9	87	-0.01	11.26
80	t	Di-n-butylphthalate	1.148	1.091	5.0	85	0.00	12.36
81	t	Fluoranthene	1.199	1.084	9.6	87	-0.01	13.45
83	I	Chrysene-d12	1.000	1.000	0.0	91	-0.01	16.28
84	t	Pyrene	1.258	1.196	4.9	87	-0.01	13.89
		----------	True	Calc.	% Drift	----------		
86	t	Butylbenzylphthalate	50.000	44.631	10.7	83	0.00	15.31
		----------	AvgRF	CCRF	% Dev	----------		
87	t	Benzo[a]anthracene	1.069	1.040	2.7	85	0.00	16.26
89	t	Chrysene	1.092	0.958	12.3	82	-0.01	16.34
		----------	True	Calc.	% Drift	----------		
90	t	bis(2-Ethylhexyl)phthalat	50.000	43.409	13.2	80	0.00	16.47
		----------	AvgRF	CCRF	% Dev	----------		
91	I	Perylene-d12	1.000	1.000	0.0	89	-0.01	18.90
		----------	True	Calc.	% Drift	----------		
92	t	Di-n-octylphthalate	50.000	44.959	10.1	81	0.00	17.68
		----------	AvgRF	CCRF	% Dev	----------		
93	t	Benzo[b]fluoranthene	1.151	1.067	7.3	87	-0.01	18.26
94	t	Benzo[k]fluoranthene	1.109	1.064	4.1	86	-0.02	18.30
95	t	Benzo[a]pyrene	1.002	1.013	-1.1	87	-0.02	18.80
96	t	Indeno[1,2,3-cd]pyrene	1.086	1.042	4.1	80	-0.02	20.67
98	t	Dibenz[a,h]anthracene	1.137	1.087	4.4	83	-0.02	20.71
100	t	Benzo[g,h,i]perylene	1.138	1.094	3.9	84	-0.03	21.17

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:14:47 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5443
Lab FileID: M127806A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127806a.D Vial: 13
Acq On : 24 Sep 2016 6:16 pm Operator: ariellec
Sample : icv5443-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
		AvgRF	CCRF	% Dev			
103 I	Acenaphthene-d10a	1.000	1.000	0.0	85	0.00	8.48
104 I	1,2,4,5-Tetrachlorobenzen	0.572	0.518	9.4	94	0.00	7.16

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:14:49 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5442
Lab FileID: M127808.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127808.D Vial: 15
Acq On : 24 Sep 2016 7:13 pm Operator: ariellec
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83	I	Chrysene-d12	1.000	1.000	0.0	105	-0.02	16.28
88	t	3,3'-Dichlorobenzidine	0.375	0.394	-5.1	95	0.00	16.32

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:19:00 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5443-ICV5443
Lab FileID: M127808A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127808a.D Vial: 15
Acq On : 24 Sep 2016 7:13 pm Operator: ariellec
Sample : icv5443-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Tue Sep 27 14:28:37 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
106 I	Chrysene-d12a	1.000	1.000	0.0	98	0.00	16.28
107 t	Benzidine	0.610	0.785	-28.7	133	0.00	13.83

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 14:33:41 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5443-ICV5443
Lab FileID: M127809.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\em5443\M127809.D Vial: 16
Acq On : 24 Sep 2016 7:41 pm Operator: ariellec
Sample : icv5443-50 Inst : Instrument #1
Misc : op96678,em5443 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
111 I	Naphthalene-d8a	1.000	1.000	0.0	98	0.00	6.09
112	Hydroquinone	0.329	0.370	-12.5	111	0.00	6.63

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Mon Sep 26 11:14:53 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5444-ICV5442
Lab FileID: M127816.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM5444\M127816.D Vial: 2
Acq On : 26 Sep 2016 1:14 pm Operator: chriss2
Sample : icv5442-50 Inst : Instrument #1
Misc : op96678,em5444 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	121	-0.02	4.90
2	t	1,4-Dioxane	0.528	0.373	29.4	88	-0.02	2.51
6	t	Indene	2.183	1.843	15.6	107	-0.03	5.11
7	t	Cumene	2.955	2.164	26.8	93	-0.02	4.28
13	t	Decane	0.827	0.599	27.6	99	-0.02	4.74
18	t	Acetophenone	1.673	1.335	20.2	101	-0.03	5.23
24	I	Naphthalene-d8	1.000	1.000	0.0	127	-0.03	6.07
27	t	Quinoline	0.770	0.569	26.1	94	-0.06	6.48
40	t	2,3-Dichloroaniline	0.374	0.305	18.4	110	-0.03	7.33
41	t	Caprolactam	0.118	0.085	28.0	85	-0.08	6.57
45	t	1-Methylnaphthalene	0.782	0.553	29.3	94	-0.03	7.05
46	t	Dimethylnaphthalene	0.692	0.550	20.5	107	-0.03	7.79
47	I	Acenaphthene-d10	1.000	1.000	0.0	119	-0.03	8.45
53	t	Biphenyl	1.521	1.275	16.2	105	-0.04	7.56
69	I	Phenanthrene-d10	1.000	1.000	0.0	121	-0.04	11.09
82	t	Octadecane	0.337	0.257	23.7	93	-0.03	10.97
91	I	Perylene-d12	1.000	1.000	0.0	117	-0.04	18.87
99	t	7,12-Dimethylbenz(a)anthr	0.479	0.411	14.2	93	-0.06	18.22

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 09:34:14 2016 MSM

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EM5444-ICV5443
Lab FileID: M127816A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM5444\M127816a.D Vial: 2
Acq On : 26 Sep 2016 1:14 pm Operator: chriss2
Sample : icv5443-50 Inst : Instrument #1
Misc : op96678,em5444 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Mon Sep 26 10:51:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101 I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	105	-0.02	4.90
	---------- True	Calc.	% Drift	----------			
102 t	Benzaldehyde	50.000	44.863	10.3	102	-0.02	4.57
	---------- AvgRF	CCRF	% Dev	----------			
103 I	Acenaphthene-d10a	1.000	1.000	0.0	108	-0.03	8.45
105 t	Atrazine	0.176	0.189	-7.4	120	-0.03	10.68

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127802.D MM5442.M Tue Sep 27 09:34:16 2016 MSM

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5462-CC5442
Lab FileID: M128175.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM5462\M128175.D Vial: 2
Acq On : 7 Oct 2016 9:15 am Operator: chriss2
Sample : cc5442-25 Inst : Instrument #1
Misc : op96678,em5462 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Fri Oct 07 09:45:00 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	89	0.00	4.81
2	t	1,4-Dioxane	0.528	0.414	21.6#	71	0.02	2.42
3	t	Pyridine	1.170	1.085	7.3	76	0.00	2.78
4	t	N-Nitrosodimethylamine	0.433	0.458	-5.8	92	0.02	2.73
5	S	2-Fluorophenol	1.261	1.139	9.7	76	0.01	3.90
6	t	Indene	2.183	2.132	2.3	85	0.00	5.02
7	t	Cumene	2.955	2.669	9.7	78	0.00	4.21
8	S	Phenol-d5	1.493	1.407	5.8	79	0.01	4.61
9	t	Phenol	1.619	1.597	1.4	85	0.02	4.62
10	t	Aniline	1.695	1.347	20.5#	75	0.00	4.59
11	t	bis(2-Chloroethyl)ether	1.119	1.203	-7.5	93	0.00	4.61
12	t	2-Chlorophenol	1.314	1.332	-1.4	90	0.01	4.69
13	t	Decane	0.827	0.790	4.5	88	0.00	4.66
14	t	1,3-Dichlorobenzene	1.551	1.439	7.2	81	0.00	4.77
15	t	1,4-Dichlorobenzene	1.432	1.375	4.0	83	0.00	4.83
16	t	Benzyl alcohol	0.715	0.808	-13.0	91	0.00	4.95
17	t	1,2-Dichlorobenzene	1.464	1.430	2.3	87	0.00	4.96
18	t	Acetophenone	1.673	1.726	-3.2	89	0.00	5.15
19	t	2-Methylphenol	1.161	1.170	-0.8	87	0.03	5.07
20	t	2,2'-oxybis(1-Chloropropa	0.452	0.449	0.7	87	0.00	5.03
21	t	3&4-Methylphenol	1.219	1.273	-4.4	91	0.03	5.20
22	t	n-Nitroso-di-n-propylamin	0.782	0.877	-12.1	91	0.00	5.14
23	t	Hexachloroethane	0.480	0.492	-2.5	89	0.00	5.24
24	I	Naphthalene-d8	1.000	1.000	0.0	97	0.00	5.97
25	S	Nitrobenzene-d5	0.308	0.306	0.6	91	0.00	5.29
26	t	Nitrobenzene	0.314	0.308	1.9	94	0.00	5.31
27	t	Quinoline	0.770	0.806	-4.7	97	0.02	6.38
28	t	Isophorone	0.584	0.615	-5.3	93	0.00	5.51
29	t	2-Nitrophenol	0.173	0.202	-16.8	101	0.00	5.60
30	t	2,4-Dimethylphenol	0.288	0.273	5.2	91	0.01	5.66
			True	Calc.	% Drift			
31	t	Benzoic acid	25.000	27.437	-9.7	118	0.03	5.80
			AvgRF	CCRF	% Dev			
32	t	bis(2-Chloroethoxy)methan	0.359	0.356	0.8	93	0.00	5.71
33	t	2,4-Dichlorophenol	0.308	0.314	-1.9	92	0.02	5.86
34	t	2,6-Dichlorophenol	0.290	0.301	-3.8	97	0.00	6.09
35	t	1,3,5-Trichlorobenzene	0.354	0.339	4.2	94	0.00	5.59
36	t	1,2,4-Trichlorobenzene	0.334	0.321	3.9	93	0.00	5.91
37	t	1,2,3-Trichlorobenzene	0.324	0.327	-0.9	97	0.00	6.16

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EM5462-CC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M128175.D
Project: HLANJPR: Study Area 6 Chrome Remedy

38	t	Naphthalene	1.014	0.980	3.4	90	0.00	6.00
39	t	4-Chloroaniline	0.425	0.423	0.5	92	0.00	6.08
40	t	2,3-Dichloroaniline	0.374	0.412	-10.2	105	0.00	7.22
41	t	Caprolactam	0.118	0.146	-23.7#	111	0.02	6.50
42	t	Hexachlorobutadiene	0.162	0.171	-5.6	99	0.00	6.12
43	t	4-Chloro-3-methylphenol	0.288	0.312	-8.3	98	0.05	6.71
44	t	2-Methylnaphthalene	0.664	0.634	4.5	91	0.00	6.80
45	t	1-Methylnaphthalene	0.782	0.767	1.9	94	0.00	6.94
46	t	Dimethylnaphthalene	0.692	0.734	-6.1	100	0.00	7.67
47	I	Acenaphthene-d10	1.000	1.000	0.0	111	0.00	8.33
48	t	Hexachlorocyclopentadiene	0.257	0.215	16.3	84	-0.01	7.02
49	t	2,4,6-Trichlorophenol	0.330	0.344	-4.2	107	0.00	7.22
50	t	2,4,5-Trichlorophenol	0.378	0.379	-0.3	108	0.03	7.31
51	S	2-Fluorobiphenyl	1.339	1.171	12.5	96	0.00	7.31
52	t	2-Chloronaphthalene	1.110	1.008	9.2	101	0.00	7.47
53	t	Biphenyl	1.521	1.359	10.7	96	0.00	7.45
54	t	2-Nitroaniline	0.222	0.258	-16.2	117	0.00	7.69
55	t	Dimethylphthalate	1.241	1.317	-6.1	111	0.00	7.95
56	t	Acenaphthylene	1.791	1.753	2.1	101	0.00	8.11
			True	Calc.	% Drift			
57	t	2,6-Dinitrotoluene	25.000	25.682	-2.7	117	0.00	8.04
			AvgRF	CCRF	% Dev			
58	t	3-Nitroaniline	0.287	0.328	-14.3	117	0.02	8.35
59	t	Acenaphthene	1.170	1.086	7.2	100	0.00	8.38
			True	Calc.	% Drift			
60	t	2,4-Dinitrophenol	50.000	57.302	-14.6	132	0.03	8.50
			AvgRF	CCRF	% Dev			
61	t	4-Nitrophenol	0.125	0.121	3.2	101	0.05	8.82
62	t	Dibenzofuran	1.602	1.575	1.7	107	0.00	8.67
			True	Calc.	% Drift			
63	t	2,4-Dinitrotoluene	25.000	28.539	-14.2	128	0.02	8.71
			AvgRF	CCRF	% Dev			
64	t	2,3,4,6-Tetrachlorophenol	0.272	0.312	-14.7	116	0.03	8.94
65	t	Diethylphthalate	1.188	1.301	-9.5	113	0.01	9.13
66	t	Fluorene	1.338	1.345	-0.5	110	0.01	9.25
67	t	4-Chlorophenyl-phenylethe	0.603	0.639	-6.0	122	0.01	9.28
68	t	4-Nitroaniline	0.320	0.373	-16.6	116	0.03	9.42
69	I	Phenanthrene-d10	1.000	1.000	0.0	126	0.00	10.96
			True	Calc.	% Drift			
70	t	4,6-Dinitro-2-methylpheno	25.000	28.359	-13.4	149	0.00	9.41
			AvgRF	CCRF	% Dev			
71	t	n-Nitrosodiphenylamine	0.556	0.534	4.0	114	-0.01	9.51
72	t	1,2-Diphenylhydrazine	0.559	0.521	6.8	108	-0.02	9.56
73	S	2,4,6-Tribromophenol	0.109	0.138	-26.6#	140	0.00	9.70
74	t	4-Bromophenyl-phenylether	0.220	0.233	-5.9	128	0.00	10.15
75	t	Hexachlorobenzene	0.248	0.268	-8.1	135	0.00	10.24
76	t	Pentachlorophenol	0.121	0.128	-5.8	117	0.02	10.69
77	t	Phenanthrene	1.095	1.052	3.9	118	0.00	11.00
78	t	Anthracene	1.083	1.092	-0.8	117	0.00	11.10
79	t	Carbazole	1.116	1.107	0.8	117	0.02	11.48

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EM5462-CC5442
Account: HWINJM Honeywell International Inc. **Lab FileID:** M128175.D
Project: HLANJPR: Study Area 6 Chrome Remedy

80	t	Di-n-butylphthalate	1.148	1.262	-9.9	121	0.02	12.20
81	t	Fluoranthene	1.199	1.276	-6.4	127	0.03	13.29
82	t	Octadecane	0.337	0.310	8.0	107	0.00	10.84
83	I	Chrysene-d12	1.000	1.000	0.0	144	0.00	16.12
84	t	Pyrene	1.258	1.177	6.4	128	0.02	13.72
85	S	Terphenyl-d14	0.857	0.894	-4.3	142	-0.03	14.10
		----------	True	Calc.	% Drift	----------		
86	t	Butylbenzylphthalate	25.000	22.322	10.7	131	-0.02	15.14
		----------	AvgRF	CCRF	% Dev	----------		
87	t	Benzo[a]anthracene	1.069	1.123	-5.1	141	0.00	16.10
88	t	3,3'-Dichlorobenzidine	0.375	0.460	-22.7#	156	0.00	16.15
89	t	Chrysene	1.092	1.099	-0.6	141	0.00	16.17
		----------	True	Calc.	% Drift	----------		
90	t	bis(2-Ethylhexyl)phthalat	25.000	22.795	8.8	135	0.00	16.29
		----------	AvgRF	CCRF	% Dev	----------		
91	I	Perylene-d12	1.000	1.000	0.0	145	0.00	18.75
		----------	True	Calc.	% Drift	----------		
92	t	Di-n-octylphthalate	25.000	22.436	10.3	133	-0.03	17.50
		----------	AvgRF	CCRF	% Dev	----------		
93	t	Benzo[b]fluoranthene	1.151	1.221	-6.1	149	0.00	18.10
94	t	Benzo[k]fluoranthene	1.109	1.140	-2.8	139	0.00	18.14
95	t	Benzo[a]pyrene	1.002	1.088	-8.6	144	0.00	18.64
96	t	Indeno[1,2,3-cd]pyrene	1.086	1.195	-10.0	150	0.01	20.48
97	t	Dibenz(a,h)acridine	0.951	1.057	-11.1	148	0.00	20.09
98	t	Dibenz[a,h]anthracene	1.137	1.219	-7.2	148	0.00	20.52
99	t	7,12-Dimethylbenz(a)anthr	0.479	0.515	-7.5	140	-0.02	18.09
100	t	Benzo[g,h,i]perylene	1.138	1.184	-4.0	145	0.02	20.96

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127797.D MM5442.M Fri Oct 07 16:16:41 2016 MSM

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EM5462-CC5443
Lab FileID: M128178.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EM5462\M128178.D Vial: 3
Acq On : 7 Oct 2016 10:49 am Operator: chriss2
Sample : cc5443-25 Inst : Instrument #1
Misc : op96678,em5462 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MM5442.M (RTE Integrator)
Title : Semi Volatile GC/MS, rtx-5ms 30mx0.25mmx0.25um
Last Update : Fri Oct 07 09:45:00 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101	I	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	79	0.00	4.82
			True	Calc.	% Drift			
102	t	Benzaldehyde	25.000	25.766	-3.1	71	0.00	4.50
			AvgRF	CCRF	% Dev			
103	I	Acenaphthene-d10a	1.000	1.000	0.0	104	0.00	8.33
104	I	1,2,4,5-Tetrachlorobenzen	0.572	0.454	20.6#	86	-0.01	7.03
105	t	Atrazine	0.176	0.239	-35.8#	125	0.02	10.55
106	I	Chrysene-d12a	1.000	1.000	0.0	148	-0.01	16.11
107	t	Benzidine	0.610	0.552	9.5	117	0.02	13.67
108	s	1-chlorooctadecane	0.243	0.190	21.8#	110	-0.02	13.17
109	I	Phenanthrene-d10a	1.000	1.000	0.0	120	0.00	10.96
110	s	o-terphenyl	0.623	0.595	4.5	119	0.00	11.74
111	I	Naphthalene-d8a	1.000	1.000	0.0	85	0.00	5.97
112		Hydroquinone	0.329	0.374	-13.7	90	0.00	6.55

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of M127797.D MM5442.M Fri Oct 07 16:16:44 2016 MSM

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICC4769
Lab FileID: P107664.D

Response Factor Report MSP

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 16:22:13 2016
Response via : Initial Calibration

Calibration Files
2 =P107665.D 5 =P107666.D 25 =P107668.D 80 =P107669.D
100 =P107662.D 50 =P107664.D 10 =P107667.D 1 =P107663.D

Compound	2	5	25	80	100	50	10	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	ISTD									
2) 1,4-Dioxane	0.665	0.693	0.771	0.763	0.744	0.791	0.789	0.787	0.751	6.30
3) Pyridine	1.552	1.578	1.967	1.833	1.779	1.840	1.996	1.474	1.752	11.17
4) N-Nitrosodim	0.791	0.791	0.882	0.820	0.800	0.861	0.911	0.865	0.840	5.45
5) 2-Fluorophen	1.228	1.423	1.569	1.482	1.443	1.555	1.552	1.285	1.442	8.83
6) Indene	2.427	2.511	2.425	2.227	2.099	2.374	2.567	2.516	2.393	6.63
7) Cumene	3.740	3.891	3.824	3.211	3.025	3.547	4.211	3.731	3.647	10.42
8) Phenol-d5	1.976	2.046	1.993	1.777	1.683	1.898	2.073	1.802	1.906	7.35
9) Phenol	2.191	2.281	2.247	1.944	1.836	2.089	2.400	2.324	2.164	8.97
10) Aniline	2.386	2.545	2.290	1.906	1.835	2.177	2.573	2.547	2.282	12.69
11) bis(2-Chloro	1.473	1.473	1.400	1.235	1.197	1.308	1.513	1.493	1.386	8.95
12) 2-Chlorophen	1.534	1.465	1.438	1.291	1.225	1.370	1.540	1.391	1.407	7.90
13) Decane	1.493	1.426	1.315	1.140	1.110	1.268	1.420	1.530	1.338	11.71
14) 1,3-Dichloro	1.577	1.611	1.560	1.419	1.358	1.519	1.671	1.565	1.535	6.63
15) 1,4-Dichloro	1.577	1.502	1.511	1.383	1.328	1.467	1.589	1.532	1.486	6.12
16) Benzyl alcoh	0.802	0.851	0.951	0.929	0.893	0.946	0.993	0.679	0.880	11.54
17) 1,2-Dichloro	1.472	1.458	1.490	1.323	1.262	1.404	1.562	1.465	1.430	6.75
18) Acetophenone	2.084	2.021	2.023	1.927	1.837	1.984	2.157	2.035	2.008	4.82
19) 2-Methylphen	1.335	1.380	1.337	1.270	1.214	1.306	1.414	1.333	1.324	4.70
20) 2,2'-oxybis(	0.406	0.466	0.436	0.421	0.398	0.414	0.463	0.457	0.433	6.20
21) 3&4-Methylph	1.438	1.462	1.458	1.372	1.336	1.416	1.571	1.392	1.431	4.98
22) n-Nitroso-di	1.186	1.184	1.177	1.068	1.037	1.123	1.277	1.262	1.164	7.30
23) Hexachloroet	0.563	0.558	0.585	0.565	0.547	0.579	0.597	0.573	0.571	2.82
24) I Naphthalene-d8	ISTD									
25) Nitrobenzene	0.466	0.489	0.490	0.446	0.423	0.467	0.529	0.466	0.472	6.72
26) Nitrobenzene	0.495	0.480	0.464	0.413	0.393	0.440	0.520	0.461	0.458	9.14
27) Quinoline	0.741	0.803	0.805	0.780	0.746	0.795	0.858	0.715	0.780	5.77
28) Isophorone	0.828	0.914	0.871	0.769	0.733	0.824	0.954	0.825	0.840	8.61
29) 2-Nitropheno	0.189	0.200	0.213	0.195	0.187	0.210	0.229	0.188	0.201	7.41
30) 2,4-Dimethyl	0.386	0.397	0.377	0.366	0.349	0.380	0.409	0.368	0.379	5.00
31) Benzoic acid			0.275	0.313	0.305	0.297	0.241		0.286	10.12
32) bis(2-Chloro	0.467	0.482	0.478	0.428	0.405	0.449	0.514	0.446	0.459	7.47
33) 2,4-Dichloro	0.295	0.341	0.335	0.305	0.287	0.326	0.359	0.281	0.316	8.86
34) 2,6-Dichloro	0.291	0.311	0.313	0.285	0.270	0.302	0.337	0.288	0.300	6.93
35) 1,3,5-Trichl	0.376	0.404	0.384	0.331	0.314	0.352	0.422	0.397	0.372	10.02
36) 1,2,4-Trichl	0.353	0.398	0.371	0.327	0.309	0.348	0.394	0.363	0.358	8.58
37) 1,2,3-Trichl	0.357	0.367	0.358	0.322	0.306	0.343	0.387	0.350	0.349	7.29
38) Naphthalene	1.129	1.125	1.061	0.908	0.840	1.004	1.170	1.079	1.039	11.07
39) 4-Chloroanil	0.444	0.489	0.469	0.411	0.393	0.449	0.519	0.449	0.453	8.93
40) 2,3-Dichloro	0.382	0.428	0.412	0.388	0.367	0.399	0.452	0.416	0.405	6.68
41) Caprolactam	0.147	0.168	0.182	0.178	0.176	0.179	0.188	0.194	0.176	8.05
42) Hexachlorobu	0.223	0.235	0.229	0.210	0.196	0.220	0.237	0.218	0.221	6.07
43) 4-Chloro-3-m	0.322	0.379	0.406	0.368	0.350	0.378	0.412	0.348	0.370	8.12
44) 2-Methylnaph	0.671	0.657	0.647	0.559	0.521	0.607	0.699	0.647	0.626	9.55
45) 1-Methylnaph	0.802	0.840	0.813	0.696	0.653	0.757	0.886	0.808	0.782	9.78

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICC4769
Lab FileID: P107664.D

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46) Dimethylnaph 0.701 0.765 0.732 0.649 0.615 0.703 0.807 0.714 0.711   8.56

47) I   Acenaphthene-d10      ----------------ISTD--------------------
48) Hexachlorocy 0.037 0.082 0.209 0.242 0.233 0.232 0.167       0.172  47.50
         ----- Quadratic regression -----                 Coefficient =  0.9990
              Response Ratio = -0.03821 + 0.25346 *A + -0.00199 *A^2

49) 2,4,6-Trichl 0.336 0.368 0.361 0.326 0.314 0.346 0.391 0.348 0.349   7.02
50) 2,4,5-Trichl 0.374 0.401 0.380 0.357 0.342 0.384 0.426 0.339 0.375   7.83
51) 2-Fluorobiph 1.422 1.406 1.260 1.035       1.158 1.424 1.412 1.302  11.97
52) 2-Chloronaph 1.172 1.120 1.039 0.898 0.848 0.962 1.161 1.136 1.042  12.07
53) Biphenyl     1.521 1.580 1.442 1.229 1.151 1.359 1.628 1.581 1.436  12.23
54) 2-Nitroanili 0.375 0.436 0.422 0.384 0.369 0.405 0.471 0.380 0.405   8.74
55) Dimethylphth 1.309 1.265 1.250 1.124 1.063 1.161 1.263 1.302 1.217   7.41
56) Acenaphthyle 1.795 1.826 1.738 1.479 1.413 1.675 1.902 1.822 1.706  10.24
57) 2,6-Dinitrot 0.272 0.297 0.304 0.298 0.289 0.306 0.305 0.247 0.290   7.13
58) 3-Nitroanili 0.277 0.330 0.336 0.332 0.326 0.342 0.346 0.274 0.320   8.90
59) Acenaphthene 1.117 1.169 1.137 0.982 0.940 1.077 1.243 1.147 1.101   9.02
60) 2,4-Dinitrop 0.003 0.026 0.125 0.174 0.172 0.151 0.088       0.106  65.54
         ----- Quadratic regression -----                 Coefficient =  0.9982
              Response Ratio = -0.02875 + 0.15053 *A + 0.00596 *A^2

61) 4-Nitropheno 0.111 0.144 0.185 0.179 0.174 0.186 0.176       0.165  16.89
         ----- Quadratic regression -----                 Coefficient =  1.0000
              Response Ratio = -0.00589 + 0.20233 *A + -0.01028 *A^2

62) Dibenzofuran 1.620 1.704 1.569 1.315 1.234 1.466 1.802 1.705 1.552  12.85
63) 2,4-Dinitrot 0.311 0.387 0.402 0.348 0.332 0.381 0.435 0.279 0.359  14.26
64) 2,3,4,6-Tetr 0.265 0.309 0.341 0.346 0.339 0.353 0.346 0.282 0.323  10.40
65) Diethylphtha 1.221 1.313 1.263 1.110 1.053 1.210 1.397 1.285 1.232   8.96
66) Fluorene     1.378 1.442 1.331 1.119 1.054 1.226 1.449 1.364 1.295  11.38
67) 4-Chlorophen 0.696 0.714 0.677 0.595 0.566 0.638 0.742 0.698 0.666   9.15
68) 4-Nitroanili 0.237 0.277 0.328 0.323 0.321 0.333 0.338 0.264 0.303  12.53

69) I   Phenanthrene-d10      ----------------ISTD--------------------
70) 4,6-Dinitro- 0.025 0.064 0.135 0.150 0.146 0.143 0.112       0.111  43.49
         ----- Quadratic regression -----                 Coefficient =  0.9995
              Response Ratio = -0.00995 + 0.15536 *A + -0.00185 *A^2

71) n-Nitrosodip 0.561 0.578 0.559 0.494 0.466 0.537 0.613 0.519 0.541   8.75
72) 1,2-Diphenyl 0.784 0.853 0.794 0.675 0.627 0.744 0.860 0.774 0.764  10.59
73) 2,4,6-Tribro 0.081 0.090 0.101 0.100 0.096 0.102 0.103       0.096   8.34
74) 4-Bromopheny 0.225 0.233 0.239 0.223 0.211 0.237 0.258 0.216 0.230   6.55
75) Hexachlorobe 0.235 0.237 0.232 0.208 0.203 0.222 0.250 0.272 0.232   9.59
76) Pentachlorop 0.043 0.077 0.116 0.120 0.119 0.119 0.096       0.099  29.63
         ----- Quadratic regression -----                 Coefficient =  0.9999
              Response Ratio = -0.01153 + 0.12621 *A + -0.00091 *A^2

77) Phenanthrene 1.112 1.116 1.078 0.942 0.883 1.027 1.172 1.129 1.057   9.44
78) Anthracene   1.132 1.168 1.125 0.967 0.904 1.073 1.224 1.140 1.092   9.78
79) Carbazole    1.065 1.098 1.092 0.957 0.910 1.045 1.199 1.065 1.054   8.40
80) Di-n-butylph 1.045 1.214 1.251 1.092 1.017 1.192 1.298 1.011 1.140   9.88
81) Fluoranthene 1.247 1.322 1.321 1.130 1.066 1.236 1.374 1.221 1.240   8.31
82) Octadecane   0.444 0.497 0.468 0.404 0.380 0.441 0.491 0.442 0.446   8.99

83) I   Chrysene-d12          ----------------ISTD--------------------
84) Pyrene       1.284 1.346 1.348 1.217 1.179 1.275 1.444 1.298 1.299   6.33
85) Terphenyl-d1 0.829 0.868 0.895 0.859 0.823 0.870 0.915 0.847 0.863   3.61
86) Butylbenzylp 0.418 0.500 0.553 0.544 0.534 0.554 0.534 0.416 0.507  11.38
87) Benzo[a]anth 1.116 1.179 1.209 1.169 1.141 1.202 1.246 1.223 1.186   3.63
```

Initial Calibration Summary

Job Number: JC28902 **Sample:** EP4769-ICC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107664.D
Project: HLANJPR: Study Area 6 Chrome Remedy

88)	3,3'-Dichlor	0.328	0.381	0.414	0.426	0.422	0.429	0.414	0.349	0.395	9.71
89)	Chrysene	1.118	1.148	1.142	1.073	1.069	1.122	1.198	1.103	1.122	3.76
90)	bis(2-Ethylh	0.511	0.603	0.731	0.716	0.699	0.735	0.729		0.675	12.69
91)	I Perylene-d12	ISTD									
92)	Di-n-octylph	0.910	1.111	1.336	1.253	1.156	1.340	1.314		1.203	13.05
93)	Benzo[b]fluo	1.169	1.307	1.304	1.228	1.181	1.259	1.415	1.313	1.272	6.33
94)	Benzo[k]fluo	1.236	1.274	1.211	1.092	0.993	1.187	1.310	1.221	1.191	8.59
95)	Benzo[a]pyre	1.064	1.128	1.176	1.108	1.038	1.156	1.215	1.173	1.132	5.30
96)	Indeno[1,2,3	0.899	1.013	1.079	1.051	0.988	1.063	1.124	0.930	1.018	7.49
97)	Dibenz(a,h)a	0.812	0.891	0.982	0.936	0.865	0.966	1.004	0.860	0.914	7.43
98)	Dibenz[a,h]a	0.965	1.008	1.013	1.014	0.955	1.048	1.113	0.935	1.006	5.65
99)	7,12-Dimethy	0.476	0.532	0.578	0.558	0.541	0.586	0.596	0.478	0.543	8.50
100)	Benzo[g,h,i]	1.100	1.091	1.154	1.093	1.030	1.129	1.223	1.048	1.108	5.49

(#) = Out of Range ### Number of calibration levels exceeded format ###

MP4769.M Thu Sep 22 16:22:41 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107670.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107670.D Vial: 10
Acq On : 21 Sep 2016 7:14 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	124	0.00	4.50
4	t	N-Nitrosodimethylamine	0.840	0.731	13.0	105	0.02	2.33
11	t	bis(2-Chloroethyl)ether	1.386	1.484	-7.1	141	0.00	4.30
14	t	1,3-Dichlorobenzene	1.535	1.550	-1.0	126	0.00	4.46
15	t	1,4-Dichlorobenzene	1.486	1.398	5.9	118	0.00	4.51
17	t	1,2-Dichlorobenzene	1.430	1.396	2.4	123	0.00	4.62
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.414	4.4	124	0.00	4.70
22		n-Nitroso-di-n-propylamin	1.164	1.086	6.7	120	0.00	4.79
23	t	Hexachloroethane	0.571	0.550	3.7	117	0.00	4.87
24	I	Naphthalene-d8	1.000	1.000	0.0	114	0.00	5.42
26	t	Nitrobenzene	0.458	0.437	4.6	113	0.00	4.91
28	t	Isophorone	0.840	0.759	9.6	105	0.00	5.08
32	t	bis(2-Chloroethoxy)methan	0.459	0.470	-2.4	119	0.00	5.24
36	t	1,2,4-Trichlorobenzene	0.358	0.357	0.3	117	0.00	5.38
38	t	Naphthalene	1.039	0.958	7.8	109	0.00	5.43
42	t	Hexachlorobutadiene	0.221	0.221	0.0	115	0.00	5.52
47	I	Acenaphthene-d10	1.000	1.000	0.0	106	0.00	6.77
		----------	True	Calc.	% Drift	----------		
48	t	Hexachlorocyclopentadiene	50.000	47.891	4.2	96	0.00	6.04
		----------	AvgRF	CCRF	% Dev	----------		
52	t	2-Chloronaphthalene	1.042	1.028	1.3	113	0.00	6.29
55	t	Dimethylphthalate	1.217	1.129	7.2	103	0.00	6.52
56	t	Acenaphthylene	1.706	1.489	12.7	94	0.00	6.64
57	t	2,6-Dinitrotoluene	0.290	0.275	5.2	96	0.00	6.58
59	t	Acenaphthene	1.101	1.006	8.6	99	0.00	6.80
		----------	True	Calc.	% Drift	----------		
		----------	AvgRF	CCRF	% Dev	----------		
63	t	2,4-Dinitrotoluene	0.359	0.354	1.4	99	0.00	6.96
65	t	Diethylphthalate	1.232	1.104	10.4	97	0.00	7.20
66	t	Fluorene	1.295	1.116	13.8	97	0.00	7.33
67	t	4-Chlorophenyl-phenylethe	0.666	0.593	11.0	99	0.00	7.32
69	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	8.55
71	t	n-Nitrosodiphenylamine	0.541	0.485	10.4	90	0.00	7.47
72	t	1,2-Diphenylhydrazine	0.764	0.718	6.0	97	0.00	7.51
74	t	4-Bromophenyl-phenylether	0.230	0.222	3.5	94	0.00	7.92

Initial Calibration Verification

Job Number: JC28902 **Sample:** EP4769-ICV4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107670.D
Project: HLANJPR: Study Area 6 Chrome Remedy

75	t	Hexachlorobenzene	0.232	0.211	9.1	95	0.00	8.02
77	t	Phenanthrene	1.057	0.958	9.4	93	0.00	8.59
78	t	Anthracene	1.092	0.955	12.5	89	0.00	8.66
80	t	Di-n-butylphthalate	1.140	1.077	5.5	90	0.00	9.60
81	t	Fluoranthene	1.240	1.090	12.1	88	0.00	10.66
83	I	Chrysene-d12	1.000	1.000	0.0	85	0.00	13.71
84	t	Pyrene	1.299	1.307	-0.6	87	0.00	11.10
86	t	Butylbenzylphthalate	0.507	0.552	-8.9	85	0.00	12.67
87	t	Benzo[a]anthracene	1.186	1.130	4.7	80	0.00	13.69
89	t	Chrysene	1.122	1.027	8.5	78	0.00	13.77
90	t	bis(2-Ethylhexyl)phthalat	0.675	0.694	-2.8	80	0.00	14.07
91	I	Perylene-d12	1.000	1.000	0.0	81	0.00	16.74
92	t	Di-n-octylphthalate	1.203	1.323	-10.0	80	0.00	15.50
93	t	Benzo[b]fluoranthene	1.272	1.174	7.7	76	0.00	15.99
94	t	Benzo[k]fluoranthene	1.191	1.149	3.5	79	0.00	16.05
95	t	Benzo[a]pyrene	1.132	1.108	2.1	78	0.00	16.62
96	t	Indeno[1,2,3-cd]pyrene	1.018	0.929	8.7	71	0.00	18.69
98	t	Dibenz[a,h]anthracene	1.006	0.933	7.3	73	0.00	18.74
100	t	Benzo[g,h,i]perylene	1.108	1.034	6.7	75	0.00	19.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:07 2016

7.7.16

7

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107672.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107672.D Vial: 12
Acq On : 21 Sep 2016 8:11 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 12:40:53 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	127	0.00	4.50
9	t	Phenol	2.164	2.012	7.0	123	0.00	4.28
12	t	2-Chlorophenol	1.407	1.443	-2.6	134	0.00	4.36
19	t	2-Methylphenol	1.324	1.350	-2.0	132	0.00	4.70
21	t	3&4-Methylphenol	1.431	1.410	1.5	127	0.00	4.82
24	I	Naphthalene-d8	1.000	1.000	0.0	116	0.00	5.42
29	t	2-Nitrophenol	0.201	0.223	-10.9	123	0.00	5.15
30	t	2,4-Dimethylphenol	0.379	0.416	-9.8	127	0.00	5.19
31	t	Benzoic acid	0.286	0.270	5.6	106	0.02	5.30
33	t	2,4-Dichlorophenol	0.316	0.322	-1.9	115	0.00	5.33
34		2,6-Dichlorophenol	0.300	0.317	-5.7	122	0.00	5.48
43	t	4-Chloro-3-methylphenol	0.370	0.359	3.0	111	0.00	5.83
47	I	Acenaphthene-d10	1.000	1.000	0.0	113	0.00	6.77
49	t	2,4,6-Trichlorophenol	0.349	0.382	-9.5	125	0.00	6.14
50	t	2,4,5-Trichlorophenol	0.375	0.370	1.3	108	-0.01	6.17
		----------	True	Calc.	% Drift	----------		
60	t	2,4-Dinitrophenol	50.000	44.533	10.9	88	-0.06	6.84
61	t	4-Nitrophenol	50.000	47.370	5.3	107	0.00	6.94
		----------	AvgRF	CCRF	% Dev	----------		
64		2,3,4,6-Tetrachlorophenol	0.323	0.336	-4.0	107	0.00	7.10
69	I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	8.55
		----------	True	Calc.	% Drift	----------		
70	t	4,6-Dinitro-2-methylpheno	50.000	47.344	5.3	98	0.00	7.40
		----------	True	Calc.	% Drift	----------		
76	t	Pentachlorophenol	50.000	51.745	-3.5	104	0.00	8.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 12:43:47 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107673.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107673.D Vial: 13
Acq On : 21 Sep 2016 8:39 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	100	0.00	4.50
3	t	Pyridine	1.752	1.885	-7.6	103	0.11	2.45
10	t	Aniline	2.282	2.621	-14.9	121	0.01	4.27
16	t	Benzyl alcohol	0.880	1.017	-15.6	108	0.00	4.61
24	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00	5.42
39	t	4-Chloroaniline	0.453	0.427	5.7	103	0.00	5.47
44	t	2-Methylnaphthalene	0.626	0.540	13.7	96	0.00	5.92
47	I	Acenaphthene-d10	1.000	1.000	0.0	97	0.00	6.77
54	t	2-Nitroaniline	0.405	0.406	-0.2	97	0.00	6.38
58	t	3-Nitroaniline	0.320	0.323	-0.9	92	0.00	6.74
62	t	Dibenzofuran	1.552	1.539	0.8	102	0.00	6.96
68	t	4-Nitroaniline	0.303	0.320	-5.6	93	0.00	7.37
69	I	Phenanthrene-d10	1.000	1.000	0.0	103	0.00	8.55
79	t	Carbazole	1.054	0.930	11.8	92	0.00	8.94

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:09 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107674.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107674.D Vial: 14
Acq On : 21 Sep 2016 9:07 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83 I	Chrysene-d12	1.000	1.000	0.0	97	0.00	13.71
88 t	3,3'-Dichlorobenzidine	0.395	0.397	-0.5	90	0.00	13.73

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:10 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4769-ICV4769
Lab FileID: P107675.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4769\P107675.D Vial: 15
Acq On : 21 Sep 2016 9:34 pm Operator: robertl1
Sample : ICV4769-50 Inst : MSP
Misc : OP97024,EP4769 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 11:48:02 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	129	0.00	4.50
5	S	2-Fluorophenol	1.442	1.452	-0.7	121	0.00	3.55
8	S	Phenol-d5	1.906	1.851	2.9	126	0.00	4.27
24	I	Naphthalene-d8	1.000	1.000	0.0	122	0.00	5.42
25	S	Nitrobenzene-d5	0.472	0.445	5.7	116	0.00	4.90
47	I	Acenaphthene-d10	1.000	1.000	0.0	109	0.00	6.77
51	S	2-Fluorobiphenyl	1.302	1.186	8.9	112	0.00	6.19
69	I	Phenanthrene-d10	1.000	1.000	0.0	102	0.00	8.55
73	S	2,4,6-Tribromophenol	0.096	0.101	-5.2	102	0.00	7.61
83	I	Chrysene-d12	1.000	1.000	0.0	96	0.00	13.71
85	S	Terphenyl-d14	0.863	0.831	3.7	91	0.00	11.52

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 11:56:11 2016

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICC4770
Lab FileID: P107679.D

Response Factor Report MSP

Method : C:\MSDCHEM\1\METHODS\MP4770.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 15:52:56 2016
Response via : Initial Calibration

Calibration Files
2 =P107683.D 5 =P107682.D 25 =P107680.D 80 =P107678.D
100 =P107677.D 50 =P107679.D 10 =P107681.D 1 =P107684.D

Compound	2	5	25	80	100	50	10	1	Avg	%RSD
158) I 1,4-Dichlorobenzene-d	ISTD									
159) Benzaldehyde	1.387	1.407	1.195	0.831	0.708	0.931	1.311	1.503	1.159	25.65
----- Quadratic regression ----- Coefficient = 0.9980										
Response Ratio = 0.02275 + 1.21397 *A + -0.20464 *A^2										
160) I Phenanthrene-d10b	ISTD									
161) Atrazine	0.232	0.270	0.248	0.236	0.234	0.244	0.254	0.206	0.241	7.73
162) I Chrysene-d12b	ISTD									
163) Benzidine		0.604	0.658	0.395		0.509	0.688		0.571	20.95
164) I Naphthalene-d8b	ISTD									
165) Hydroquinone	0.250	0.341	0.385	0.395	0.377	0.397	0.352		0.357	14.46
166) I Acenaphthene-d10b	ISTD									
167) 1,2,4,5-Tetr	0.742	0.750	0.637	0.574	0.563	0.593	0.671	0.750	0.660	12.09

(#) = Out of Range ### Number of calibration levels exceeded format ###

MP4769.M Thu Sep 22 15:53:27 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4770-ICV4770
Lab FileID: P107685.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4770\P107685.D Vial: 10
Acq On : 22 Sep 2016 12:25 pm Operator: robertl1
Sample : ICV4770-50 Inst : MSP
Misc : OP97024,EP4770 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 16:22:13 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
166 I	Acenaphthene-d10b	1.000	1.000	0.0	83	0.00	6.77
167	1,2,4,5-Tetrachlorobenzen	0.660	0.634	3.9	88	0.00	6.05

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 16:30:45 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4770-ICV4770
Lab FileID: P107686.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4770\P107686.D Vial: 11
Acq On : 22 Sep 2016 12:53 pm Operator: robertl1
Sample : ICV4770-51 Inst : MSP
Misc : OP97024,EP4770 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 12:51:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
158 I	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	83	0.00	4.50
		True	Calc.	% Drift			
159	Benzaldehyde	50.000	54.386	-8.8	92	0.00	4.18
		AvgRF	CCRF	% Dev			
160 I	Phenanthrene-d10b	1.000	1.000	0.0	80	0.00	8.55
161	Atrazine	0.241	0.233	3.3	76	0.00	8.18

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 15:51:09 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4770-ICV4770
Lab FileID: P107687.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4770\P107687.D Vial: 12
Acq On : 22 Sep 2016 1:21 pm Operator: robertl1
Sample : ICV4770-50 Inst : MSP
Misc : OP97024,EP4770 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 15:52:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
162 I	Chrysene-d12b	1.000	1.000	0.0	86	0.00	13.70
163	Benzidine	0.571	0.772	-35.2#	131	0.00	11.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 15:58:34 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4770-ICV4770
Lab FileID: P107688.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4770\P107688.D Vial: 13
Acq On : 22 Sep 2016 1:50 pm Operator: robertl1
Sample : ICV4770-50 Inst : MSP
Misc : OP97024,EP4770 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 12:51:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
164 I	Naphthalene-d8b	1.000	1.000	0.0	87	0.00	5.42
165	Hydroquinone	0.357	0.414	-16.0	91	-0.01	5.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 15:51:10 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EP4771-ICV4769
Lab FileID: P107690.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4771\P107690.D Vial: 2
Acq On : 22 Sep 2016 3:22 pm Operator: ashleyd
Sample : icv4769-50 Inst : MSP
Misc : OP97024,EP4771 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Sep 22 15:52:56 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	134	0.00	4.49
2	t	1,4-Dioxane	0.751	0.591	21.3	100	0.01	2.01
6	t	Indene	2.393	2.242	6.3	126	0.00	4.68
7	t	Cumene	3.647	2.965	18.7	112	0.00	3.90
13	t	Decane	1.338	1.089	18.6	115	-0.01	4.37
18	t	Acetophenone	2.008	1.774	11.7	119	0.00	4.78
24	I	Naphthalene-d8	1.000	1.000	0.0	129	-0.01	5.40
26	t	Nitrobenzene	0.458	0.443	3.3	130	-0.14	4.78
27	t	Quinoline	0.780	0.662	15.1	107	-0.01	5.66
40	t	2,3-Dichloroaniline	0.405	0.325	19.8	105	0.00	6.13
41	t	Caprolactam	0.176	0.127	27.8	91	-0.02	5.70
45	t	1-Methylnaphthalene	0.782	0.622	20.5	106	0.00	5.99
46	t	Dimethylnaphthalene	0.711	0.599	15.8	110	0.00	6.39
47	I	Acenaphthene-d10	1.000	1.000	0.0	121	-0.01	6.76
53	t	Biphenyl	1.436	1.232	14.2	110	0.00	6.26
69	I	Phenanthrene-d10	1.000	1.000	0.0	109	-0.02	8.54
82	t	Octadecane	0.446	0.417	6.5	103	-0.01	8.44
91	I	Perylene-d12	1.000	1.000	0.0	96	-0.02	16.72
99	t	7,12-Dimethylbenz(a)anthr	0.543	0.455	16.2	75	-0.02	15.98

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107679a.D MP4769.M Thu Sep 22 16:05:15 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EP4787-CC4769
Lab FileID: P107974.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4787\P107974.D Vial: 2
Acq On : 6 Oct 2016 10:09 am Operator: robertl1
Sample : CC4769-25 Inst : MSP
Misc : OP97024,EP4787 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Oct 06 14:50:26 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	66	-0.02	4.46
2	t	1,4-Dioxane	0.751	0.689	8.3	59	0.00	1.98
3	t	Pyridine	1.752	1.643	6.2	55	0.01	2.33
4	t	N-Nitrosodimethylamine	0.840	0.831	1.1	62	0.01	2.31
5	S	2-Fluorophenol	1.442	1.494	-3.6	63	0.05	3.58
6	t	Indene	2.393	2.417	-1.0	66	-0.02	4.65
7	t	Cumene	3.647	3.866	-6.0	67	-0.02	3.86
8	S	Phenol-d5	1.906	1.845	3.2	61	0.04	4.29
9	t	Phenol	2.164	1.886	12.8	55	0.05	4.30
10	t	Aniline	2.282	2.304	-1.0	66	0.00	4.23
11	t	bis(2-Chloroethyl)ether	1.386	1.502	-8.4	71	-0.01	4.27
12	t	2-Chlorophenol	1.407	1.407	0.0	64	0.01	4.35
13	t	Decane	1.338	1.353	-1.1	68	-0.02	4.34
14	t	1,3-Dichlorobenzene	1.535	1.553	-1.2	66	-0.02	4.42
15	t	1,4-Dichlorobenzene	1.486	1.524	-2.6	67	-0.02	4.47
16	t	Benzyl alcohol	0.880	0.896	-1.8	62	0.00	4.59
17	t	1,2-Dichlorobenzene	1.430	1.512	-5.7	67	-0.02	4.58
18	t	Acetophenone	2.008	2.060	-2.6	67	-0.03	4.76
19	t	2-Methylphenol	1.324	1.402	-5.9	69	-0.07	4.71
20	t	2,2'-oxybis(1-Chloropropa	0.433	0.436	-0.7	66	-0.03	4.66
21	t	3&4-Methylphenol	1.431	1.435	-0.3	65	-0.07	4.82
22		n-Nitroso-di-n-propylamin	1.164	1.148	1.4	64	-0.01	4.76
23	t	Hexachloroethane	0.571	0.587	-2.8	66	-0.01	4.82
24	I	Naphthalene-d8	1.000	1.000	0.0	65	-0.02	5.37
25	S	Nitrobenzene-d5	0.472	0.487	-3.2	64	-0.01	4.87
26	t	Nitrobenzene	0.458	0.473	-3.3	66	-0.01	4.88
27	t	Quinoline	0.780	0.791	-1.4	64	-0.02	5.63
28	t	Isophorone	0.840	0.858	-2.1	64	-0.02	5.05
29	t	2-Nitrophenol	0.201	0.215	-7.0	65	-0.01	5.11
30	t	2,4-Dimethylphenol	0.379	0.425	-12.1	73	0.00	5.17
31	t	Benzoic acid	0.286	0.242	15.4	57	0.01	5.29
32	t	bis(2-Chloroethoxy)methan	0.459	0.459	0.0	62	-0.02	5.20
33	t	2,4-Dichlorophenol	0.316	0.331	-4.7	64	0.01	5.32
34		2,6-Dichlorophenol	0.300	0.317	-5.7	66	0.00	5.45
35		1,3,5-Trichlorobenzene	0.372	0.397	-6.7	67	-0.02	5.11
36	t	1,2,4-Trichlorobenzene	0.358	0.359	-0.3	63	-0.02	5.34
37		1,2,3-Trichlorobenzene	0.349	0.350	-0.3	63	-0.02	5.50
38	t	Naphthalene	1.039	1.069	-2.9	65	-0.02	5.39
39	t	4-Chloroaniline	0.453	0.471	-4.0	65	-0.01	5.44
40	t	2,3-Dichloroaniline	0.405	0.405	0.0	64	-0.01	6.09
41	t	Caprolactam	0.176	0.171	2.8	61	0.00	5.70

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107974.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42	t	Hexachlorobutadiene	0.221	0.221	0.0	63	-0.02	5.47
43	t	4-Chloro-3-methylphenol	0.370	0.389	-5.1	62	0.02	5.83
44	t	2-Methylnaphthalene	0.626	0.637	-1.8	64	-0.02	5.88
45	t	1-Methylnaphthalene	0.782	0.782	0.0	62	-0.02	5.95
46	t	Dimethylnaphthalene	0.711	0.729	-2.5	65	-0.02	6.35
47	I	Acenaphthene-d10	1.000	1.000	0.0	62	-0.03	6.71
			True	Calc.	% Drift			
48	t	Hexachlorocyclopentadiene	50.000	37.390	25.2#	47	-0.03	5.99
			AvgRF	CCRF	% Dev			
49	t	2,4,6-Trichlorophenol	0.349	0.374	-7.2	64	-0.04	6.11
50	t	2,4,5-Trichlorophenol	0.375	0.375	0.0	61	-0.01	6.17
51	S	2-Fluorobiphenyl	1.302	1.329	-2.1	65	-0.02	6.14
52	t	2-Chloronaphthalene	1.042	1.081	-3.7	64	-0.02	6.24
53	t	Biphenyl	1.436	1.486	-3.5	64	-0.02	6.22
54	t	2-Nitroaniline	0.405	0.426	-5.2	62	0.00	6.35
55	t	Dimethylphthalate	1.217	1.278	-5.0	63	-0.02	6.47
56	t	Acenaphthylene	1.706	1.772	-3.9	63	-0.02	6.59
57	t	2,6-Dinitrotoluene	0.290	0.309	-6.6	63	-0.02	6.53
58	t	3-Nitroaniline	0.320	0.331	-3.4	61	0.00	6.70
59	t	Acenaphthene	1.101	1.151	-4.5	63	-0.03	6.74
			True	Calc.	% Drift			
60	t	2,4-Dinitrophenol	50.000	44.315	11.4	57	0.00	6.80
61	t	4-Nitrophenol	25.000	22.779	8.9	57	0.08	6.99
			AvgRF	CCRF	% Dev			
62	t	Dibenzofuran	1.552	1.669	-7.5	66	-0.03	6.91
63	t	2,4-Dinitrotoluene	0.359	0.413	-15.0	64	-0.02	6.92
64		2,3,4,6-Tetrachlorophenol	0.323	0.305	5.6	55	0.00	7.06
65	t	Diethylphthalate	1.232	1.318	-7.0	64	-0.03	7.14
66	t	Fluorene	1.295	1.371	-5.9	64	-0.03	7.26
67	t	4-Chlorophenyl-phenylethe	0.666	0.692	-3.9	63	-0.03	7.26
68	t	4-Nitroaniline	0.303	0.335	-10.6	63	0.00	7.33
69	I	Phenanthrene-d10	1.000	1.000	0.0	63	-0.04	8.47
			True	Calc.	% Drift			
70	t	4,6-Dinitro-2-methylpheno	25.000	23.151	7.4	59	-0.02	7.35
			AvgRF	CCRF	% Dev			
71	t	n-Nitrosodiphenylamine	0.541	0.536	0.9	60	-0.03	7.40
72	t	1,2-Diphenylhydrazine	0.764	0.779	-2.0	62	-0.04	7.44
73	S	2,4,6-Tribromophenol	0.096	0.096	0.0	60	-0.03	7.55
74	t	4-Bromophenyl-phenylether	0.230	0.235	-2.2	62	-0.04	7.85
75	t	Hexachlorobenzene	0.232	0.221	4.7	60	-0.04	7.94
			True	Calc.	% Drift			
76	t	Pentachlorophenol	50.000	39.427	21.1#	48	-0.02	8.25
			AvgRF	CCRF	% Dev			
77	t	Phenanthrene	1.057	1.065	-0.8	62	-0.04	8.50
78	t	Anthracene	1.092	1.101	-0.8	61	-0.04	8.58
79	t	Carbazole	1.054	1.087	-3.1	62	-0.02	8.88
80	t	Di-n-butylphthalate	1.140	1.282	-12.5	64	-0.06	9.50
81	t	Fluoranthene	1.240	1.292	-4.2	61	-0.05	10.57
82	t	Octadecane	0.446	0.458	-2.7	61	-0.06	8.35

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4769
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107974.D
Project: HLANJPR: Study Area 6 Chrome Remedy

83	I	Chrysene-d12	1.000	1.000	0.0	62	-0.04	13.61
84	t	Pyrene	1.299	1.313	-1.1	61	-0.04	11.00
85	S	Terphenyl-d14	0.863	0.885	-2.5	62	-0.05	11.40
86	t	Butylbenzylphthalate	0.507	0.566	-11.6	64	-0.05	12.55
87	t	Benzo[a]anthracene	1.186	1.199	-1.1	62	-0.04	13.58
88	t	3,3'-Dichlorobenzidine	0.395	0.395	0.0	59	-0.03	13.64
89	t	Chrysene	1.122	1.092	2.7	60	-0.04	13.66
90	t	bis(2-Ethylhexyl)phthalat	0.675	0.755	-11.9	64	-0.06	13.94
91	I	Perylene-d12	1.000	1.000	0.0	63	-0.05	16.63
92	t	Di-n-octylphthalate	1.203	1.379	-14.6	65	-0.02	15.36
93	t	Benzo[b]fluoranthene	1.272	1.220	4.1	59	-0.05	15.89
94	t	Benzo[k]fluoranthene	1.191	1.145	3.9	59	-0.07	15.94
95	t	Benzo[a]pyrene	1.132	1.118	1.2	60	-0.05	16.52
96	t	Indeno[1,2,3-cd]pyrene	1.018	1.063	-4.4	62	-0.05	18.58
97	t	Dibenz(a,h)acridine	0.914	0.938	-2.6	60	-0.06	18.21
98	t	Dibenz[a,h]anthracene	1.006	1.025	-1.9	63	-0.05	18.63
99	t	7,12-Dimethylbenz(a)anthr	0.543	0.583	-7.4	63	-0.08	15.88
100	t	Benzo[g,h,i]perylene	1.108	1.071	3.3	58	-0.05	19.01

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107680a.D MP4769.M Thu Oct 06 15:50:36 2016

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EP4787-CC4770
Account: HWINJM Honeywell International Inc. **Lab FileID:** P107975.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\EP4787\P107975.D Vial: 3
Acq On : 6 Oct 2016 10:36 am Operator: robertl1
Sample : CC4770-25 Inst : MSP
Misc : OP97024,EP4787 Multiplr: 1.00
MS Integration Params: rteint.p

Method : C:\MSDCHEM\1\METHODS\MP4769.M (RTE Integrator)
Title : Semi Volatile Extractables by GC/MS
Last Update : Thu Oct 06 14:50:26 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 48% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101 I	1,4-Dichlorobenzene-d4b	1.000	1.000	0.0	71	-0.02	4.46
		True	Calc.	% Drift			
102	Benzaldehyde	25.000	27.059	-8.2	71	0.03	4.14
		AvgRF	CCRF	% Dev			
103 I	Phenanthrene-d10b	1.000	1.000	0.0	69	-0.04	8.47
104	Atrazine	0.241	0.260	-7.9	72	0.04	8.10
105 I	Chrysene-d12b	1.000	1.000	0.0	69	-0.05	13.60
106	Benzidine	0.571	0.540	5.4	57	0.06	10.92
107 I	Naphthalene-d8b	1.000	1.000	0.0	70	-0.02	5.37
108	Hydroquinone	0.357	0.423	-18.5	77	0.04	5.74
109 I	Acenaphthene-d10b	1.000	1.000	0.0	70	-0.03	6.71
110	1,2,4,5-Tetrachlorobenzen	0.660	0.659	0.2	73	0.03	6.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
P107680a.D MP4769.M Thu Oct 06 15:50:37 2016

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5695-ICC5695
Lab FileID: Z114095.D

Response Factor Report MSZ

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 07:33:53 2016
Response via : Initial Calibration

Calibration Files
100 =z114094.D 80 =z114096.D 50 =z114095.D 25 =z114097.D
10 =z114098.D 5 =z114099.D 2 =z114092a.D 1 =z114093.D

Compound	100	80	50	25	10	5	2	1	Avg	%RSD
1) I 1,4-Dichlorobenzene-d	ISTD									
2) 1,4-Dioxane	0.648	0.640	0.689	0.639	0.650	0.692	0.771	0.676	0.676	6.53
3) Pyridine	1.604	1.658	1.794	1.631	1.583	1.952	1.817	1.770	1.726	7.43
4) N-Nitrosodim	0.964	0.955	1.035	0.980	0.990	1.094	0.994	0.968	0.997	4.62
5) 2-Fluorophen	1.371	1.385	1.501	1.444	1.424	1.566	1.441	1.422	1.444	4.36
6) Indene	1.760	1.867	2.155	2.213	2.391	2.777	2.523	2.565	2.281	15.37
7) Cumene	2.896	3.083	3.490	3.412	3.540	3.943	3.598	3.551	3.439	9.37
8) Phenol-d5	1.677	1.715	1.914	1.850	1.875	2.113	1.906	1.936	1.873	7.23
9) Phenol	1.594	1.716	1.984	2.004	2.092	2.382	2.157	2.203	2.017	12.76
10) Aniline		1.557	1.641	1.940	2.155	2.563	2.455	2.384	2.099	19.01
11) bis(2-Chloro	1.152	1.179	1.317	1.296	1.330	1.526	1.413	1.421	1.329	9.41
12) 2-Chlorophen	1.189	1.233	1.395	1.391	1.475	1.638	1.543	1.537	1.425	10.90
13) Decane	0.754	0.801	0.912	0.925	0.999	1.139	1.186	1.148	0.983	16.63
14) 1,3-Dichloro	1.249	1.300	1.471	1.446	1.571	1.743	1.652	1.620	1.506	11.44
15) 1,4-Dichloro	1.206	1.247	1.418	1.395	1.495	1.648	1.598	1.579	1.448	11.21
16) Benzyl alcoh	0.833	0.855	0.931	0.900	0.950	1.049	0.955	0.951	0.928	7.23
17) 1,2-Dichloro	1.150	1.207	1.374	1.377	1.468	1.646	1.566	1.542	1.416	12.28
18) Acetophenone	1.481	1.528	1.779	1.799	2.002	2.270	2.090	2.186	1.892	15.52
19) 2-Methylphen	0.941	1.000	1.161	1.208	1.316	1.457	1.359	1.397	1.230	15.23
20) 2,2'-oxybis(	0.346	0.359	0.394	0.399	0.431	0.484	0.427	0.429	0.409	10.78
21) 3&4-Methylph	0.986	1.049	1.217	1.237	1.358	1.570	1.430	1.460	1.288	15.79
22) n-Nitroso-di	0.722	0.751	0.876	0.907	1.012	1.225	1.126	1.176	0.974	19.62
23) Hexachloroet	0.429	0.443	0.506	0.486	0.508	0.578	0.511	0.532	0.499	9.52
24) I Naphthalene-d8	ISTD									
25) Nitrobenzene	0.341	0.345	0.389	0.370	0.392	0.435	0.412	0.421	0.388	8.87
26) Nitrobenzene	0.330	0.333	0.386	0.377	0.399	0.447	0.429	0.429	0.391	11.16
27) Quinoline	0.669	0.666	0.747	0.708	0.736	0.851	0.768	0.798	0.743	8.52
28) Isophorone	0.631	0.640	0.715	0.710	0.735	0.855	0.796	0.813	0.737	10.89
29) 2-Nitropheno	0.173	0.178	0.202	0.193	0.189	0.214	0.187	0.180	0.189	7.09
30) 2,4-Dimethyl	0.298	0.306	0.331	0.308	0.327	0.364	0.333	0.359	0.328	7.38
31) Benzoic Acid	0.293	0.289	0.314	0.261	0.226	0.236	0.173		0.256	18.87
32) bis(2-Chloro	0.355	0.361	0.410	0.393	0.422	0.483	0.458	0.459	0.418	11.25
33) 2,4-Dichloro	0.248	0.255	0.293	0.285	0.302	0.337	0.312	0.303	0.292	10.04
34) 2,6-Dichloro	0.225	0.229	0.268	0.263	0.285	0.315	0.297	0.306	0.273	12.36
35) 1,3,5-Trichl	0.259	0.273	0.316	0.314	0.338	0.402	0.351	0.364	0.327	14.38
36) 1,2,4-Trichl	0.262	0.266	0.308	0.303	0.317	0.372	0.345	0.350	0.315	12.39
37) 1,2,3-Trichl	0.243	0.250	0.294	0.291	0.310	0.366	0.340	0.336	0.304	14.29
38) Naphthalene	0.817	0.848	0.978	0.956	1.028	1.191	1.102	1.140	1.008	13.30
39) 4-Chloroanil	0.338	0.352	0.403	0.408	0.446	0.516	0.469	0.484	0.427	14.72
40) 2,3-Dichloro	0.285	0.291	0.341	0.338	0.360	0.424	0.388	0.407	0.354	14.31
41) Caprolactam	0.131	0.130	0.136	0.129	0.136	0.153	0.149	0.164	0.141	9.11
42) Hexachlorobu	0.138	0.142	0.168	0.161	0.170	0.200	0.172	0.188	0.167	12.39
43) 4-Chloro-3-m	0.284	0.291	0.336	0.318	0.320	0.378	0.320	0.355	0.325	9.54
44) 2-Methylnaph	0.449	0.467	0.549	0.541	0.560	0.656	0.597	0.590	0.551	12.33
45) 1-Methylnaph	0.462	0.486	0.562	0.561	0.586	0.696	0.633	0.644	0.579	13.72

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5695-ICC5695
Lab FileID: Z114095.D

46)	Dimethylnaph	0.474	0.494	0.565	0.566	0.601	0.705	0.634	0.649	0.586	13.32
47)	I Acenaphthene-d10	ISTD									
48)	Hexachlorocy	0.238	0.248	0.291	0.289	0.312	0.342	0.293	0.285	0.287	11.52
49)	2,4,6-Trichl	0.260	0.270	0.318	0.315	0.348	0.409	0.362	0.350	0.329	14.97
50)	2,4,5-Trichl	0.313	0.316	0.359	0.350	0.369	0.431	0.386	0.363	0.361	10.54
51)	2-Fluorobiph	0.911	0.954	1.138	1.121	1.238	1.458	1.355	1.338	1.189	16.34
52)	2-Chloronaph	0.796	0.820	0.968	0.954	1.052	1.253	1.135	1.169	1.019	16.08
53)	Biphenyl	1.049	1.092	1.314	1.290	1.411	1.653	1.534	1.562	1.363	16.05
54)	2-Nitroanili	0.283	0.286	0.325	0.307	0.318	0.353	0.324	0.306	0.313	7.27
55)	Dimethylphth	1.013	1.047	1.216	1.162	1.229	1.460	1.334	1.286	1.219	12.05
56)	Acenaphthyle	1.392	1.464	1.731	1.699	1.823	2.147	1.949	1.930	1.767	14.28
57)	2,6-Dinitrot	0.237	0.244	0.278	0.251	0.254	0.289	0.250	0.204	0.251	10.24
58)	3-Nitroanili	0.302	0.306	0.343	0.324	0.330	0.367	0.312	0.301	0.323	7.13
59)	Acenaphthene	0.816	0.850	1.004	0.970	1.052	1.251	1.132	1.149	1.028	14.52
60)	2,4-Dinitrop	0.150	0.152	0.162	0.142	0.115	0.106	0.044		0.125	32.70
	---- Quadratic regression ---- Coefficient = 0.9990										
	Response Ratio = -0.02041 + 0.17438 *A + -0.00409 *A^2										
61)	4-Nitropheno	0.164	0.165	0.185	0.170	0.170	0.190	0.147	0.146	0.167	9.43
62)	Dibenzofuran	1.140	1.199	1.428	1.415	1.535	1.808	1.623	1.668	1.477	15.52
63)	2,4-Dinitrot	0.314	0.328	0.377	0.352	0.351	0.395	0.317	0.252	0.336	13.09
64)	2,3,4,6-Tetr	0.258	0.260	0.300	0.285	0.296	0.331	0.278	0.274	0.285	8.39
65)	Diethylphtha	1.047	1.078	1.251	1.204	1.269	1.494	1.284	1.295	1.240	11.21
66)	Fluorene	0.878	0.936	1.126	1.111	1.253	1.505	1.326	1.316	1.182	17.79
67)	4-Chlorophen	0.405	0.430	0.508	0.505	0.561	0.668	0.588	0.576	0.530	16.30
68)	4-Nitroanili	0.291	0.311	0.345	0.329	0.335	0.391	0.332	0.308	0.330	9.14
69)	I Phenanthrene-d10	ISTD									
70)	4,6-Dinitro-	0.120	0.122	0.133	0.119	0.103	0.101			0.116	10.61
71)	n-Nitrosodip	0.417	0.432	0.506	0.478	0.516	0.598	0.550	0.569	0.508	12.58
72)	1,2-Diphenyl	0.608	0.631	0.750	0.719	0.775	0.885	0.832	0.858	0.757	13.39
73)	2,4,6-Tribro	0.096	0.097	0.110	0.104	0.104	0.116	0.102	0.095	0.103	7.18
74)	4-Bromopheny	0.166	0.169	0.197	0.184	0.199	0.219	0.195	0.196	0.191	9.03
75)	Hexachlorobe	0.179	0.183	0.212	0.200	0.217	0.248	0.222	0.229	0.211	11.05
76)	Pentachlorop	0.122	0.127	0.145	0.136	0.140	0.149	0.125	0.096	0.130	12.96
77)	Phenanthrene	0.793	0.824	0.981	0.920	1.001	1.172	1.062	1.079	0.979	13.19
78)	Anthracene	0.806	0.841	0.986	0.957	1.029	1.220	1.091	1.107	1.005	13.79
79)	Carbazole	0.842	0.881	1.018	0.973	1.056	1.218	1.094	1.117	1.025	12.16
80)	Di-n-butylph	1.075	1.121	1.311	1.237	1.281	1.448	1.294	1.290	1.257	9.24
81)	Fluoranthene	0.936	0.982	1.153	1.101	1.177	1.348	1.186	1.203	1.136	11.47
82)	Octadecane	0.298	0.312	0.371	0.357	0.388	0.443	0.411	0.421	0.375	13.63
83)	I Chrysene-d12	ISTD									
84)	Pyrene	1.264	1.258	1.389	1.320	1.374	1.556	1.458	1.478	1.387	7.61
85)	Terphenyl-d1	0.799	0.802	0.855	0.808	0.825	0.937	0.890	0.916	0.854	6.39
86)	Butylbenzylp	0.661	0.660	0.712	0.651	0.640	0.718	0.662	0.644	0.668	4.46
87)	Benzo[a]anth	1.085	1.094	1.174	1.122	1.152	1.344	1.264	1.303	1.192	8.28
88)	3,3'-Dichlor	0.386	0.391	0.428	0.414	0.415	0.464	0.420	0.423	0.418	5.73
89)	Chrysene	1.028	1.024	1.108	1.056	1.113	1.280	1.170	1.146	1.116	7.63
90)	bis(2-Ethylh	0.862	0.860	0.929	0.856	0.861	0.960	0.952	0.928	0.901	5.03
91)	I Perylene-d12	ISTD									
92)	Di-n-octylph	1.335	1.392	1.554	1.522	1.530	1.723	1.658	1.734	1.556	9.35
93)	Benzo[b]fluo	1.075	0.999	1.137	1.112	1.226	1.390	1.262	1.247	1.181	10.50
94)	Benzo[k]fluo	0.758	0.899	1.001	1.010	1.118	1.312	1.193	1.254	1.068	17.51
95)	Benzo[a]pyre	0.876	0.898	1.004	1.005	1.082	1.236	1.137	1.171	1.051	12.21
96)	Indeno[1,2,3	0.889	0.886	1.009	0.971	1.032	1.171	1.094	1.134	1.023	10.39
97)	Dibenz(a,h)a	0.773	0.786	0.877	0.876	0.915	1.043	1.000	1.031	0.913	11.46
98)	Dibenz[a,h]a	0.865	0.870	0.985	0.970	1.046	1.153	1.036	1.104	1.004	10.22

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5695-ICC5695
Lab FileID: Z114095.D

99)	7,12-Dimethy	0.427	0.430	0.472	0.471	0.479	0.510	0.460	0.459	0.463	5.81
100)	Benzo[g,h,i]	0.886	0.898	1.007	0.984	1.061	1.222	1.128	1.185	1.046	11.98

(#) = Out of Range ### Number of calibration levels exceeded format ###

MZ5695.M Thu Sep 15 07:39:20 2016 RTE

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICC5696
Lab FileID: Z114107.D

Response Factor Report MSZ

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 13:44:08 2016
Response via : Initial Calibration

Calibration Files
100 =z114104.D 80 =z114106.D 50 =z114107.D 25 =z114108.D
10 =z114109.D 5 =z114110.D 2 =z114105.D 1 =z114111.D

Compound	100	80	50	25	10	5	2	1	Avg	%RSD
101) 1,4-Dichlorobenzene-d	ISTD									
102) Benzaldehyde	0.835	0.861	0.929	1.216	1.336	1.426	1.440		1.149	23.32
---- Quadratic regression ---- Coefficient = 0.9963										
Response Ratio = 0.06284 + 1.03330 *A + -0.09365 *A^2										
103) Phenanthrene-d10a	ISTD									
104) 1-chloroocta	0.268	0.267	0.266	0.297	0.309	0.333	0.328	0.303	0.296	9.13
105) o-terphenyl	0.498	0.505	0.494	0.556	0.593	0.661	0.653	0.655	0.577	12.75
106) Atrazine	0.106	0.105	0.103	0.112	0.117	0.125	0.125	0.110	0.113	7.81
107) Chrysene-d12a	ISTD									
108) Benzidine	0.379	0.511	0.715	0.695	0.586	0.437			0.554	24.65
109) Acenaphthene-d10a	ISTD									
110) 1,2,4,5-Tetr	0.478	0.490	0.487	0.550	0.600	0.671	0.657	0.655	0.573	14.47
111) I Naphthalene-d8a	ISTD									
112) Hydroquinone	0.415	0.416	0.395	0.417	0.403	0.378	0.373	0.283	0.385	11.57

(#) = Out of Range ### Number of calibration levels exceeded format ###

MZ5695.M Thu Sep 15 13:44:26 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114112.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114112.D Vial: 10
Acq On : 15 Sep 2016 11:18 am Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	114	0.00	4.55
9	t	Phenol	2.017	1.948	3.4	112	0.00	4.29
12	t	2-Chlorophenol	1.425	1.494	-4.8	122	0.00	4.40
19	t	2-Methylphenol	1.230	1.350	-9.8	133	0.00	4.74
21	t	3&4-Methylphenol	1.288	1.387	-7.7	130	0.00	4.84
24	I	Naphthalene-d8	1.000	1.000	0.0	110	0.00	5.47
29	t	2-Nitrophenol	0.189	0.204	-7.9	111	0.00	5.20
30	t	2,4-Dimethylphenol	0.328	0.388	-18.3	129	0.00	5.23
31		Benzoic Acid	0.256	0.249	2.7	87	0.05	5.32
33	t	2,4-Dichlorophenol	0.292	0.298	-2.1	112	0.00	5.37
34		2,6-Dichlorophenol	0.273	0.289	-5.9	119	0.00	5.53
43	t	4-Chloro-3-methylphenol	0.325	0.336	-3.4	110	0.00	5.86
47	I	Acenaphthene-d10	1.000	1.000	0.0	109	0.00	6.81
49	t	2,4,6-Trichlorophenol	0.329	0.371	-12.8	127	0.00	6.19
50	t	2,4,5-Trichlorophenol	0.361	0.340	5.8	103	0.00	6.21
			True	Calc.	% Drift			
60	t	2,4-Dinitrophenol	100.000	80.740	19.2	82	0.00	6.85
			AvgRF	CCRF	% Dev			
61	t	4-Nitrophenol	0.167	0.181	-8.4	106	0.00	6.91
64		2,3,4,6-Tetrachlorophenol	0.285	0.293	-2.8	107	0.00	7.11
69	I	Phenanthrene-d10	1.000	1.000	0.0	104	0.00	8.36
70	t	4,6-Dinitro-2-methylpheno	0.116	0.130	-12.1	102	0.00	7.37
76	t	Pentachlorophenol	0.130	0.158	-21.5	112	0.00	8.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 11:37:43 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114113.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114113.D Vial: 11
Acq On : 15 Sep 2016 11:43 am Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	90	0.00	4.56
3	t	Pyridine	1.726	1.782	-3.2	89	0.09	2.48
10	t	Aniline	2.099	2.362	-12.5	130	0.00	4.31
16	t	Benzyl alcohol	0.928	0.975	-5.1	94	0.00	4.66
24	I	Naphthalene-d8	1.000	1.000	0.0	91	0.00	5.47
39	t	4-Chloroaniline	0.427	0.448	-4.9	101	0.00	5.52
44	t	2-Methylnaphthalene	0.551	0.530	3.8	88	0.00	5.98
47	I	Acenaphthene-d10	1.000	1.000	0.0	87	0.00	6.81
54	t	2-Nitroaniline	0.313	0.323	-3.2	87	0.00	6.42
58	t	3-Nitroaniline	0.323	0.333	-3.1	85	0.00	6.76
62	t	Dibenzofuran	1.477	1.495	-1.2	91	0.00	6.99
68	t	4-Nitroaniline	0.330	0.338	-2.4	85	0.00	7.33
69	I	Phenanthrene-d10	1.000	1.000	0.0	89	0.00	8.35
79	t	Carbazole	1.025	0.974	5.0	86	0.00	8.65

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 12:02:15 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114114.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114114.D Vial: 12
Acq On : 15 Sep 2016 12:09 pm Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	125	0.00	4.55
5	S	2-Fluorophenol	1.444	1.318	8.7	110	0.00	3.57
8	S	Phenol-d5	1.873	1.669	10.9	109	0.00	4.28
24	I	Naphthalene-d8	1.000	1.000	0.0	125	0.00	5.47
25	S	Nitrobenzene-d5	0.388	0.383	1.3	123	0.00	4.95
47	I	Acenaphthene-d10	1.000	1.000	0.0	116	0.00	6.81
51	S	2-Fluorobiphenyl	1.189	1.168	1.8	119	0.00	6.25
69	I	Phenanthrene-d10	1.000	1.000	0.0	113	0.00	8.35
73	S	2,4,6-Tribromophenol	0.103	0.095	7.8	98	0.00	7.56
83	I	Chrysene-d12	1.000	1.000	0.0	123	0.00	12.13
85	S	Terphenyl-d14	0.854	0.723	15.3	104	0.00	10.58

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 12:29:12 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-ICV5696
Lab FileID: Z114115A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114115a.D Vial: 13
Acq On : 15 Sep 2016 12:35 pm Operator: ariellec
Sample : icv5696-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
107	Chrysene-d12a	1.000	1.000	0.0	88	0.00	12.13
108	Benzidine	0.554	0.391	29.4	135	0.00	10.20
109	Acenaphthene-d10a	1.000	1.000	0.0	96	0.00	6.81
110	1,2,4,5-Tetrachlorobenzen	0.573	0.502	12.4	99	0.00	6.11

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:53:58 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5696-ICV5695
Lab FileID: Z114115.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114115.D Vial: 13
Acq On : 15 Sep 2016 12:35 pm Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	112	0.00	4.55
4	t	N-Nitrosodimethylamine	0.997	0.944	5.3	102	0.00	2.36
11	t	bis(2-Chloroethyl)ether	1.329	1.496	-12.6	128	0.00	4.36
14	t	1,3-Dichlorobenzene	1.506	1.555	-3.3	119	0.00	4.51
15	t	1,4-Dichlorobenzene	1.448	1.452	-0.3	115	0.00	4.57
17	t	1,2-Dichlorobenzene	1.416	1.429	-0.9	117	0.00	4.67
20	t	2,2'-oxybis(1-Chloropropa	0.409	0.426	-4.2	121	0.00	4.75
22	t	n-Nitroso-di-n-propylamin	0.974	0.956	1.8	123	0.00	4.84
23	t	Hexachloroethane	0.499	0.508	-1.8	113	0.00	4.92
24	I	Naphthalene-d8	1.000	1.000	0.0	108	0.00	5.47
26	t	Nitrobenzene	0.391	0.383	2.0	107	0.00	4.97
28	t	Isophorone	0.737	0.709	3.8	107	0.00	5.14
32	t	bis(2-Chloroethoxy)methan	0.418	0.461	-10.3	122	0.00	5.29
36	t	1,2,4-Trichlorobenzene	0.315	0.318	-1.0	112	0.00	5.43
38	t	Naphthalene	1.008	0.935	7.2	103	0.00	5.49
42	t	Hexachlorobutadiene	0.167	0.175	-4.8	113	0.00	5.58
47	I	Acenaphthene-d10	1.000	1.000	0.0	105	0.00	6.81
52	t	2-Chloronaphthalene	1.019	1.100	-7.9	119	0.00	6.35
55	t	Dimethylphthalate	1.219	1.175	3.6	101	0.00	6.58
56	t	Acenaphthylene	1.767	1.661	6.0	101	0.00	6.68
57	t	2,6-Dinitrotoluene	0.251	0.253	-0.8	96	0.00	6.62
59	t	Acenaphthene	1.028	0.977	5.0	102	0.00	6.84
63	t	2,4-Dinitrotoluene	0.336	0.313	6.8	87	0.00	6.98
65	t	Diethylphthalate	1.240	1.169	5.7	98	0.00	7.21
66	t	Fluorene	1.182	1.038	12.2	97	0.00	7.32
67	t	4-Chlorophenyl-phenylethe	0.530	0.499	5.8	103	0.00	7.32
69	I	Phenanthrene-d10	1.000	1.000	0.0	105	0.00	8.36
71	t	n-Nitrosodiphenylamine	0.508	0.447	12.0	93	0.00	7.44
72	t	1,2-Diphenylhydrazine	0.757	0.691	8.7	97	0.00	7.48
74	t	4-Bromophenyl-phenylether	0.191	0.189	1.0	101	0.00	7.84
75	t	Hexachlorobenzene	0.211	0.204	3.3	101	0.00	7.92
77	t	Phenanthrene	0.979	0.893	8.8	96	0.00	8.39
78	t	Anthracene	1.005	0.898	10.6	96	0.00	8.45
80	t	Di-n-butylphthalate	1.257	1.172	6.8	94	0.00	9.17
81	t	Fluoranthene	1.136	1.014	10.7	93	0.00	9.97
83	I	Chrysene-d12	1.000	1.000	0.0	97	0.00	12.13
84	t	Pyrene	1.387	1.301	6.2	91	0.00	10.29
86	t	Butylbenzylphthalate	0.668	0.660	1.2	90	0.00	11.37

Initial Calibration Verification

Job Number: JC28902 **Sample:** EZ5696-ICV5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114115.D
Project: HLANJPR: Study Area 6 Chrome Remedy

87	t	Benzo[a]anthracene	1.192	1.080	9.4	89	0.00	12.12
89	t	Chrysene	1.116	1.000	10.4	87	0.00	12.17
90	t	bis(2-Ethylhexyl)phthalat	0.901	0.849	5.8	88	0.00	12.32
91	I	Perylene-d12	1.000	1.000	0.0	94	0.00	14.20
92	t	Di-n-octylphthalate	1.556	1.502	3.5	91	0.00	13.29
93	t	Benzo[b]fluoranthene	1.181	1.021	13.5	85	0.01	13.69
94	t	Benzo[k]fluoranthene	1.068	0.975	8.7	92	0.01	13.73
95	t	Benzo[a]pyrene	1.051	0.975	7.2	92	0.00	14.12
96	t	Indeno[1,2,3-cd]pyrene	1.023	0.970	5.2	91	0.01	15.52
98	t	Dibenz[a,h]anthracene	1.004	0.900	10.4	86	0.01	15.55
100	t	Benzo[g,h,i]perylene	1.046	0.939	10.2	88	0.02	15.84

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:49:24 2016 RTE

7.7.35

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Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-ICV5695
Lab FileID: Z114116.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114116.D Vial: 14
Acq On : 15 Sep 2016 1:01 pm Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	113	0.00	4.55
2		1,4-Dioxane	0.676	0.594	12.1	97	0.00	2.07
6	t	Indene	2.281	2.370	-3.9	124	0.00	4.74
7	t	Cumene	3.439	3.196	7.1	103	0.00	3.96
13	t	Decane	0.983	0.859	12.6	106	0.00	4.44
18	t	Acetophenone	1.892	1.907	-0.8	121	0.00	4.84
24	I	Naphthalene-d8	1.000	1.000	0.0	114	0.00	5.47
27	t	Quinoline	0.743	0.677	8.9	104	0.00	5.72
40	t	2,3-Dichloroaniline	0.354	0.311	12.1	104	0.00	6.19
41	t	Caprolactam	0.141	0.109	22.7	92	0.01	5.76
45	t	1-Methylnaphthalene	0.579	0.510	11.9	104	0.00	6.05
46	t	Dimethylnaphthalene	0.586	0.546	6.8	110	0.00	6.45
47	I	Acenaphthene-d10	1.000	1.000	0.0	107	0.00	6.81
48	t	Hexachlorocyclopentadiene	0.287	0.306	-6.6	112	0.00	6.10
53	t	Biphenyl	1.363	1.338	1.8	108	0.00	6.32
69	I	Phenanthrene-d10	1.000	1.000	0.0	100	0.00	8.35
82	t	Octadecane	0.375	0.394	-5.1	106	0.00	8.27
91	I	Perylene-d12	1.000	1.000	0.0	99	0.00	14.19
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.470	-1.5	98	0.00	13.69

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:39:37 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-ICV5696
Lab FileID: Z114116A.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114116a.D Vial: 14
Acq On : 15 Sep 2016 1:01 pm Operator: ariellec
Sample : icv5696-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 11:21:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	97	0.00	4.55
		True	Calc.	% Drift			
102	Benzaldehyde	50.000	57.642	-15.3	113	0.00	4.22
		AvgRF	CCRF	% Dev			
103	Phenanthrene-d10a	1.000	1.000	0.0	93	0.00	8.35
106	Atrazine	0.113	0.111	1.8	101	0.02	8.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:39:39 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-ICV5695
Lab FileID: Z114117.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114117.D Vial: 15
Acq On : 15 Sep 2016 1:26 pm Operator: ariellec
Sample : icv5695-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
83 I	Chrysene-d12	1.000	1.000	0.0	98	0.00	12.12
88 t	3,3'-Dichlorobenzidine	0.418	0.428	-2.4	98	0.00	12.12

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 13:52:10 2016 RTE

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5696-ICV5696
Lab FileID: Z114118.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\ez5696\z114118.D Vial: 16
Acq On : 15 Sep 2016 1:52 pm Operator: ariellec
Sample : icv5696-50 Inst : MSZ
Misc : op96490,ez5696 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Sep 15 13:44:08 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
111 I	Naphthalene-d8a	1.000	1.000	0.0	95	0.00	5.47
112	Hydroquinone	0.385	0.449	-16.6	108	0.02	5.76

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Thu Sep 15 14:21:19 2016 RTE

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: EZ5729-CC5695
Lab FileID: Z114914.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EZ5729\z114914.D Vial: 2
Acq On : 7 Oct 2016 10:11 am Operator: ashleyd
Sample : cc5695-50 Inst : MSZ
Misc : op97372,ez5729 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Oct 06 13:37:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
1	I	1,4-Dichlorobenzene-d4	1.000	1.000	0.0	75	-0.02	4.38
2		1,4-Dioxane	0.676	0.632	6.5	69	-0.18	1.82
3	t	Pyridine	1.726	1.288	25.4#	54	0.06	2.17
4	t	N-Nitrosodimethylamine	0.997	0.859	13.8	62	-0.08	2.14
5	S	2-Fluorophenol	1.444	1.300	10.0	65	-0.03	3.45
6	t	Indene	2.281	2.355	-3.2	82	-0.01	4.57
7	t	Cumene	3.439	3.243	5.7	70	-0.05	3.78
8	S	Phenol-d5	1.873	1.676	10.5	66	-0.04	4.18
9	t	Phenol	2.017	1.749	13.3	66	0.04	4.19
10	t	Aniline	2.099	1.458	30.5#	67	-0.01	4.15
11	t	bis(2-Chloroethyl)ether	1.329	1.259	5.3	72	-0.02	4.19
12	t	2-Chlorophenol	1.425	1.401	1.7	75	0.00	4.25
13	t	Decane	0.983	1.240	-26.1#	102	-0.03	4.27
14	t	1,3-Dichlorobenzene	1.506	1.457	3.3	74	-0.02	4.34
15	t	1,4-Dichlorobenzene	1.448	1.450	-0.1	77	-0.02	4.40
16	t	Benzyl alcohol	0.928	0.787	15.2	63	0.00	4.51
17	t	1,2-Dichlorobenzene	1.416	1.413	0.2	77	-0.01	4.51
18	t	Acetophenone	1.892	1.861	1.6	78	0.00	4.68
19	t	2-Methylphenol	1.230	1.178	4.2	76	-0.10	4.62
20	t	2,2'-oxybis(1-Chloropropa	0.409	0.401	2.0	76	0.00	4.59
21	t	3&4-Methylphenol	1.288	1.331	-3.3	82	0.00	4.73
22	t	n-Nitroso-di-n-propylamin	0.974	0.973	0.1	83	0.00	4.69
23	t	Hexachloroethane	0.499	0.490	1.8	73	-0.02	4.74
24	I	Naphthalene-d8	1.000	1.000	0.0	81	-0.02	5.31
25	S	Nitrobenzene-d5	0.388	0.338	12.9	70	-0.02	4.79
26	t	Nitrobenzene	0.391	0.329	15.9	69	-0.02	4.81
27	t	Quinoline	0.743	0.739	0.5	80	-0.06	5.57
28	t	Isophorone	0.737	0.632	14.2	71	-0.03	4.97
29	t	2-Nitrophenol	0.189	0.203	-7.4	81	-0.02	5.04
30	t	2,4-Dimethylphenol	0.328	0.325	0.9	79	-0.02	5.10
31		Benzoic Acid	0.256	0.281	-9.8	72	0.09	5.22
32	t	bis(2-Chloroethoxy)methan	0.418	0.366	12.4	72	-0.02	5.13
33	t	2,4-Dichlorophenol	0.292	0.281	3.8	77	0.01	5.24
34		2,6-Dichlorophenol	0.273	0.264	3.3	80	0.00	5.38
35	t	1,3,5-Trichlorobenzene	0.327	0.311	4.9	80	-0.03	5.04
36	t	1,2,4-Trichlorobenzene	0.315	0.296	6.0	78	-0.02	5.27
37	t	1,2,3-Trichlorobenzene	0.304	0.289	4.9	80	-0.01	5.42
38	t	Naphthalene	1.008	0.965	4.3	80	-0.02	5.32
39	t	4-Chloroaniline	0.427	0.377	11.7	75	0.00	5.38
40	t	2,3-Dichloroaniline	0.354	0.356	-0.6	84	0.00	6.02
41	t	Caprolactam	0.141	0.154	-9.2	91	0.03	5.63

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EZ5729-CC5695
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114914.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42	t	Hexachlorobutadiene	0.167	0.159	4.8	76	-0.02	5.41
43	t	4-Chloro-3-methylphenol	0.325	0.334	-2.8	80	0.04	5.75
44	t	2-Methylnaphthalene	0.551	0.578	-4.9	85	0.00	5.81
45	t	1-Methylnaphthalene	0.579	0.599	-3.5	86	0.00	5.88
46	t	Dimethylnaphthalene	0.586	0.592	-1.0	85	-0.01	6.27
47	I	Acenaphthene-d10	1.000	1.000	0.0	80	-0.03	6.60
48	t	Hexachlorocyclopentadiene	0.287	0.227	20.9#	63	-0.02	5.92
49	t	2,4,6-Trichlorophenol	0.329	0.328	0.3	83	-0.02	6.03
50	t	2,4,5-Trichlorophenol	0.361	0.349	3.3	78	-0.02	6.08
51	S	2-Fluorobiphenyl	1.189	1.164	2.1	82	0.00	6.08
52	t	2-Chloronaphthalene	1.019	0.982	3.6	81	0.00	6.17
53	t	Biphenyl	1.363	1.363	0.0	83	0.00	6.15
54	t	2-Nitroaniline	0.313	0.343	-9.6	85	0.00	6.26
55	t	Dimethylphthalate	1.219	1.240	-1.7	82	-0.01	6.38
56	t	Acenaphthylene	1.767	1.740	1.5	81	-0.01	6.49
57	t	2,6-Dinitrotoluene	0.251	0.289	-15.1	83	0.00	6.44
58	t	3-Nitroaniline	0.323	0.333	-3.1	78	0.00	6.59
59	t	Acenaphthene	1.028	1.087	-5.7	87	-0.02	6.64
			True	Calc.	% Drift			
60	t	2,4-Dinitrophenol	100.000	116.299	-16.3	90	0.02	6.69
			AvgRF	CCRF	% Dev			
61	t	4-Nitrophenol	0.167	0.124	25.7#	54	-0.03	6.80
62	t	Dibenzofuran	1.477	1.502	-1.7	84	-0.02	6.79
63	t	2,4-Dinitrotoluene	0.336	0.378	-12.5	80	-0.03	6.79
64		2,3,4,6-Tetrachlorophenol	0.285	0.280	1.8	75	0.00	6.92
65	t	Diethylphthalate	1.240	1.231	0.7	79	-0.02	7.00
66	t	Fluorene	1.182	1.214	-2.7	86	-0.02	7.10
67	t	4-Chlorophenyl-phenylethe	0.530	0.570	-7.5	90	-0.02	7.10
68	t	4-Nitroaniline	0.330	0.329	0.3	76	0.02	7.16
69	I	Phenanthrene-d10	1.000	1.000	0.0	83	-0.03	8.11
70	t	4,6-Dinitro-2-methylpheno	0.116	0.133	-14.7	83	0.02	7.19
71	t	n-Nitrosodiphenylamine	0.508	0.505	0.6	83	-0.01	7.22
72	t	1,2-Diphenylhydrazine	0.757	0.603	20.3#	67	-0.03	7.26
73	S	2,4,6-Tribromophenol	0.103	0.110	-6.8	83	-0.02	7.35
74	t	4-Bromophenyl-phenylether	0.191	0.206	-7.9	87	-0.03	7.60
75	t	Hexachlorobenzene	0.211	0.227	-7.6	89	-0.02	7.68
76	t	Pentachlorophenol	0.130	0.116	10.8	67	0.00	7.92
77	t	Phenanthrene	0.979	0.988	-0.9	84	-0.01	8.14
78	t	Anthracene	1.005	1.012	-0.7	85	0.00	8.20
79	t	Carbazole	1.025	1.011	1.4	83	-0.03	8.42
80	t	Di-n-butylphthalate	1.257	1.267	-0.8	80	-0.03	8.89
81	t	Fluoranthene	1.136	1.172	-3.2	85	0.00	9.70
82	t	Octadecane	0.375	0.446	-18.9	100	-0.04	8.01
83	I	Chrysene-d12	1.000	1.000	0.0	92	-0.02	11.84
84	t	Pyrene	1.387	1.273	8.2	85	-0.03	10.02
85	S	Terphenyl-d14	0.854	0.873	-2.2	94	-0.01	10.29
86	t	Butylbenzylphthalate	0.668	0.617	7.6	80	-0.05	11.07
87	t	Benzo[a]anthracene	1.192	1.169	1.9	92	-0.03	11.82
88	t	3,3'-Dichlorobenzidine	0.418	0.429	-2.6	92	-0.02	11.84
89	t	Chrysene	1.116	1.064	4.7	89	-0.02	11.88
90	t	bis(2-Ethylhexyl)phthalat	0.901	0.818	9.2	81	-0.05	12.00
91	I	Perylene-d12	1.000	1.000	0.0	90	-0.03	13.91
92	t	Di-n-octylphthalate	1.556	1.450	6.8	84	-0.04	12.98
93	t	Benzo[b]fluoranthene	1.181	1.157	2.0	92	-0.02	13.40

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: EZ5729-CC5695
Lab FileID: Z114914.D

94	t	Benzo[k]fluoranthene	1.068	1.084	-1.5	97	-0.02	13.44
95	t	Benzo[a]pyrene	1.051	1.050	0.1	94	-0.02	13.84
96	t	Indeno[1,2,3-cd]pyrene	1.023	1.104	-7.9	98	0.00	15.23
97	t	Dibenz(a,h)acridine	0.913	0.993	-8.8	102	0.00	14.97
98	t	Dibenz[a,h]anthracene	1.004	1.098	-9.4	100	0.00	15.25
99	t	7,12-Dimethylbenz(a)anthr	0.463	0.544	-17.5	104	-0.04	13.40
100	t	Benzo[g,h,i]perylene	1.046	1.090	-4.2	97	-0.07	15.54

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114107.D MZ5695.M Fri Oct 07 14:23:29 2016 RTE

Continuing Calibration Summary

Job Number: JC28902 **Sample:** EZ5729-CC5696
Account: HWINJM Honeywell International Inc. **Lab FileID:** Z114915.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\EZ5729\z114915.D Vial: 3
Acq On : 7 Oct 2016 10:38 am Operator: ashleyd
Sample : cc5696-25 Inst : MSZ
Misc : op97372,ez5729 Multiplr: 1.00
MS Integration Params: RTEINT.P

Method : C:\MSDCHEM\1\METHODS\MZ5695.M (RTE Integrator)
Title : Semi Volatile GC/MS, ZB-5MS 15m x .25mm x .25um
Last Update : Thu Oct 06 13:37:48 2016
Response via : Multiple Level Calibration

Min. RRF : 0.050 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	R.T.
101	1,4-Dichlorobenzene-d4a	1.000	1.000	0.0	65	-0.02	4.38
		True	Calc.	% Drift			
102	Benzaldehyde	25.000	19.763	20.9#	47	-0.03	4.06
		AvgRF	CCRF	% Dev			
103	Phenanthrene-d10a	1.000	1.000	0.0	74	-0.03	8.10
104	Atrazine	0.113	0.119	-5.3	79	-0.01	7.81
105	Chrysene-d12a	1.000	1.000	0.0	81	-0.03	11.83
106	Benzidine	0.554	0.577	-4.2	66	-0.04	9.93
107	Acenaphthene-d10a	1.000	1.000	0.0	74	-0.03	6.60
108	1,2,4,5-Tetrachlorobenzen	0.573	0.543	5.2	73	-0.01	5.93
109 I	Naphthalene-d8a	1.000	1.000	0.0	72	-0.02	5.30
110	Hydroquinone	0.385	0.301	21.8#	52	0.07	5.66

(#) = Out of Range SPCC's out = 0 CCC's out = 0
Copy of z114108.D MZ5695.M Fri Oct 07 14:23:17 2016 RTE

SGS ACCUTEST New Jersey

Section 8

GC Semi-volatiles

QC Data Summaries

8

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries
- Internal Standard Area Summaries
- DDT/Endrin Breakdown Checks
- GC Identification Summaries (Hits)
- Surrogate Recovery Summaries
- GC Surrogate Retention Time Summaries
- Initial and Continuing Calibration Summaries

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-MB1	5Y36627.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	EPH (C9-C28)	ND	6.7	3.5	mg/kg	
	EPH (> C28-C40)	ND	6.7	3.5	mg/kg	
	Total EPH (C9-C40)	ND	6.7	3.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	68%	40-140%
3386-33-2	1-Chlorooctadecane	72%	40-140%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-MB1	5Z30028.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
	EPH (C9-C28)	ND	6.7	3.5	mg/kg	
	EPH (> C28-C40)	ND	6.7	3.5	mg/kg	
	Total EPH (C9-C40)	ND	6.7	3.5	mg/kg	

CAS No.	Surrogate Recoveries		Limits
84-15-1	o-Terphenyl	84%	40-140%
3386-33-2	1-Chlorooctadecane	97%	40-140%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97538-MB1	OA120269.D	1	10/07/16	VDT	10/06/16	OP97538	GOA4139

The QC reported here applies to the following samples: **Method:** SW846 8151

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
94-75-7	2,4-D	ND	17	7.5	ug/kg	
93-72-1	2,4,5-TP (Silvex)	ND	3.3	1.2	ug/kg	
93-76-5	2,4,5-T	ND	3.3	1.3	ug/kg	
75-99-0	Dalapon	ND	3.3	2.2	ug/kg	
1918-00-9	Dicamba	ND	3.3	1.7	ug/kg	
120-36-5	Dichloroprop	ND	17	4.7	ug/kg	
88-85-7	Dinoseb	ND	17	11	ug/kg	
94-74-6	MCPA	ND	1700	380	ug/kg	
93-65-2	MCPP	ND	1700	360	ug/kg	
87-86-5	Pentachlorophenol	ND	1.7	1.5	ug/kg	
94-82-6	2,4-DB	ND	17	5.4	ug/kg	

CAS No.	Surrogate Recoveries		Limits
19719-28-9	2,4-DCAA	110%	10-156%
19719-28-9	2,4-DCAA	114%	10-156%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97536-MB1	4G73353.D	1	10/06/16	DS	10/06/16	OP97536	G4G1919

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
309-00-2	Aldrin	ND	0.67	0.32	ug/kg	
319-84-6	alpha-BHC	ND	0.67	0.36	ug/kg	
319-85-7	beta-BHC	ND	0.67	0.42	ug/kg	
319-86-8	delta-BHC	ND	0.67	0.30	ug/kg	
58-89-9	gamma-BHC (Lindane)	ND	0.67	0.29	ug/kg	
5103-71-9	alpha-Chlordane	ND	0.67	0.32	ug/kg	
5103-74-2	gamma-Chlordane	ND	0.67	0.29	ug/kg	
57-74-9	Chlordane (alpha and gamma)	ND	0.67	0.29	ug/kg	
60-57-1	Dieldrin	ND	0.67	0.33	ug/kg	
72-54-8	4,4'-DDD	ND	0.67	0.43	ug/kg	
72-55-9	4,4'-DDE	ND	0.67	0.35	ug/kg	
50-29-3	4,4'-DDT	ND	0.67	0.40	ug/kg	
72-20-8	Endrin	ND	0.67	0.31	ug/kg	
1031-07-8	Endosulfan sulfate	ND	0.67	0.27	ug/kg	
7421-93-4	Endrin aldehyde	ND	0.67	0.40	ug/kg	
959-98-8	Endosulfan-I	ND	0.67	0.35	ug/kg	
33213-65-9	Endosulfan-II	ND	0.67	0.35	ug/kg	
76-44-8	Heptachlor	ND	0.67	0.33	ug/kg	
1024-57-3	Heptachlor epoxide	ND	0.67	0.36	ug/kg	
72-43-5	Methoxychlor	ND	1.3	0.33	ug/kg	
53494-70-5	Endrin ketone	ND	0.67	0.51	ug/kg	
8001-35-2	Toxaphene	ND	17	6.9	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	92%	24-136%
877-09-8	Tetrachloro-m-xylene	90%	24-136%
2051-24-3	Decachlorobiphenyl	89%	10-153%
2051-24-3	Decachlorobiphenyl	107%	10-153%

Method Blank Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97535-MB1	XX198040.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC28902-1

CAS No.	Compound	Result	RL	MDL	Units	Q
12674-11-2	Aroclor 1016	ND	33	16	ug/kg	
11104-28-2	Aroclor 1221	ND	33	16	ug/kg	
11141-16-5	Aroclor 1232	ND	33	13	ug/kg	
53469-21-9	Aroclor 1242	ND	33	12	ug/kg	
12672-29-6	Aroclor 1248	ND	33	21	ug/kg	
11097-69-1	Aroclor 1254	ND	33	17	ug/kg	
11096-82-5	Aroclor 1260	ND	33	14	ug/kg	
11100-14-4	Aroclor 1268	ND	33	12	ug/kg	
37324-23-5	Aroclor 1262	ND	33	23	ug/kg	

CAS No.	Surrogate Recoveries		Limits
877-09-8	Tetrachloro-m-xylene	101%	20-152%
877-09-8	Tetrachloro-m-xylene	95%	20-152%
2051-24-3	Decachlorobiphenyl	114%	12-157%
2051-24-3	Decachlorobiphenyl	96%	12-157%

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-BS11	5Z30027.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	Spike mg/kg	BSP mg/kg	BSP %	Limits
	EPH (C9-C28)	33.3	25.3	76	40-140
	Total EPH (C9-C40)	33.3	25.3	76	40-140

CAS No.	Surrogate Recoveries	BSP	Limits
84-15-1	o-Terphenyl	90%	40-140%
3386-33-2	1-Chlorooctadecane	107%	40-140%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97538-BS1	OA120270.D	1	10/07/16	VDT	10/06/16	OP97538	GOA4139

The QC reported here applies to the following samples: **Method:** SW846 8151

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
94-75-7	2,4-D	133	131	98	63-160
93-72-1	2,4,5-TP (Silvex)	26.7	25.6	96	53-132
93-76-5	2,4,5-T	26.7	26.0	98	41-139
75-99-0	Dalapon	26.7	29.3	110	24-160
1918-00-9	Dicamba	26.7	24.2	91	52-144
120-36-5	Dichloroprop	133	143	107	66-141
88-85-7	Dinoseb	133	58.9	44	10-182
94-74-6	MCPA	6670	6340	95	48-147
93-65-2	MCPP	6670	7480	112	42-160
87-86-5	Pentachlorophenol	13.3	9.0	68	47-150
94-82-6	2,4-DB	133	128	96	35-143

CAS No.	Surrogate Recoveries	BSP	Limits
19719-28-9	2,4-DCAA	106%	10-156%
19719-28-9	2,4-DCAA	109%	10-156%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97536-BS1	4G73354.D	1	10/06/16	DS	10/06/16	OP97536	G4G1919

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
309-00-2	Aldrin	16.7	12.8	77	40-135
319-84-6	alpha-BHC	16.7	12.8	77	37-134
319-85-7	beta-BHC	16.7	13.3	80	37-131
319-86-8	delta-BHC	16.7	13.1	79	34-132
58-89-9	gamma-BHC (Lindane)	16.7	12.7	76	36-128
5103-71-9	alpha-Chlordane	16.7	13.0	78	40-131
5103-74-2	gamma-Chlordane	16.7	12.0	72	41-133
57-74-9	Chlordane (alpha and gamma)	33.3	25.0	75	41-132
60-57-1	Dieldrin	16.7	13.4	80	33-133
72-54-8	4,4'-DDD	16.7	13.4	80	37-132
72-55-9	4,4'-DDE	16.7	13.2	79	39-133
50-29-3	4,4'-DDT	16.7	15.1	91	26-150
72-20-8	Endrin	16.7	17.9	107	41-134
1031-07-8	Endosulfan sulfate	16.7	14.6	88	38-138
7421-93-4	Endrin aldehyde	16.7	12.7	76	37-129
959-98-8	Endosulfan-I	16.7	12.8	77	39-130
33213-65-9	Endosulfan-II	16.7	13.0	78	40-134
76-44-8	Heptachlor	16.7	12.4	74	36-132
1024-57-3	Heptachlor epoxide	16.7	13.5	81	39-131
72-43-5	Methoxychlor	16.7	15.8	95	28-149
53494-70-5	Endrin ketone	16.7	14.0	84	31-138

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	81%	24-136%
877-09-8	Tetrachloro-m-xylene	78%	24-136%
2051-24-3	Decachlorobiphenyl	79%	10-153%
2051-24-3	Decachlorobiphenyl	97%	10-153%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97535-BS1	XX198041.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC28902-1

CAS No.	Compound	Spike ug/kg	BSP ug/kg	BSP %	Limits
12674-11-2	Aroclor 1016	133	120	90	48-167
11104-28-2	Aroclor 1221		ND		70-130
11141-16-5	Aroclor 1232		ND		70-130
53469-21-9	Aroclor 1242		ND		70-130
12672-29-6	Aroclor 1248		ND		70-130
11097-69-1	Aroclor 1254		ND		70-130
11096-82-5	Aroclor 1260	133	116	87 [a]	44-162
11100-14-4	Aroclor 1268		ND		50-150 [b]
37324-23-5	Aroclor 1262		ND		50-150 [b]

CAS No.	Surrogate Recoveries	BSP	Limits
877-09-8	Tetrachloro-m-xylene	97%	20-152%
877-09-8	Tetrachloro-m-xylene	91%	20-152%
2051-24-3	Decachlorobiphenyl	103%	12-157%
2051-24-3	Decachlorobiphenyl	89%	12-157%

(a) Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (20%) so using for confirmation only.
(b) Advisory control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-MS	5Z30030.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032
OP97541-MSD	5Z30031.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032
JC28906-2	5Z30029.D	1	10/06/16	SP	10/06/16	OP97541	G5Z1032
JC28906-2	5Z30044.D	5	10/07/16	SP	10/06/16	OP97541	G5Z1033

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	JC28906-2 mg/kg	Q	Spike mg/kg	MS mg/kg	MS %	Spike mg/kg	MSD mg/kg	MSD %	RPD	Limits Rec/RPD
	EPH (C9-C28)	3520 [b]		178	4790	584* [a]	178	4310	315* [a]	11	40-140/50
	EPH (> C28-C40)	162 [b]		89	310	148* [a]	89	258	90	18	40-140/50
	Total EPH (C9-C40)	3680 [b]		267	5100	438* [a]	267	4570	240* [a]	11	40-140/50

CAS No.	Surrogate Recoveries	MS	MSD	JC28906-2	JC28906-2	Limits
84-15-1	o-Terphenyl	105%	103%	100%	102%	40-140%
3386-33-2	1-Chlorooctadecane	85%	84%	76%	81%	40-140%

(a) Outside control limits due to high level in sample relative to spike amount.
(b) Result is from Run #2.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97538-MS	3G103397.D	2	10/07/16	VDT	10/06/16	OP97538	G3G3614
OP97538-MSD	3G103398.D	2	10/07/16	VDT	10/06/16	OP97538	G3G3614
JC28904-1A	3G103396.D	2	10/07/16	VDT	10/06/16	OP97538	G3G3614

The QC reported here applies to the following samples: **Method:** SW846 8151

JC28902-1

CAS No.	Compound	JC28904-1A ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
94-75-7	2,4-D	ND		144	74.4	52	146	132	90	56	10-176/56
93-72-1	2,4,5-TP (Silvex)	ND		28.9	7.5	26	29.3	30.9	106	122* [a]	10-146/52
93-76-5	2,4,5-T	ND		28.9	5.5	19	29.3	22.5	77	121* [a]	10-145/56
75-99-0	Dalapon	ND		28.9	13.9	48	29.3	42.8	146	102* [a]	10-203/60
1918-00-9	Dicamba	ND		28.9	8.4	29	29.3	26.7	91	104* [a]	10-162/53
120-36-5	Dichloroprop	ND		144	35.2	24	146	76.5	52	74* [a]	10-169/50
88-85-7	Dinoseb	ND		144	ND	0* [b]	146	ND	0* [b]	nc	10-193/48
94-74-6	MCPA	ND		7220	ND	0* [b]	7320	ND	0* [b]	nc	10-153/51
93-65-2	MCPP	ND		7220	ND	0* [b]	7320	ND	0* [b]	nc	10-184/51
87-86-5	Pentachlorophenol	ND		14.4	4.7	33	14.6	13.6	93	97* [a]	10-178/48
94-82-6	2,4-DB	ND		144	ND	0* [b]	146	271	185* [a]	200* [a]	10-164/49

CAS No.	Surrogate Recoveries	MS	MSD	JC28904-1A	Limits
19719-28-9	2,4-DCAA	14%	73%	34%	10-156%
19719-28-9	2,4-DCAA	18%	113%	71%	10-156%

(a) Outside the QC limits.
(b) Outside control limits due to matrix interference.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97536-MS	4G73391.D	1	10/07/16	RK	10/06/16	OP97536	G4G1920
OP97536-MSD	4G73392.D	1	10/07/16	RK	10/06/16	OP97536	G4G1920
JC28906-1	4G73390.D	1	10/07/16	RK	10/06/16	OP97536	G4G1920

The QC reported here applies to the following samples: **Method:** SW846 8081B

JC28902-1

CAS No.	Compound	JC28906-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
309-00-2	Aldrin	ND		17.8	10.9	61	17.8	13.8	78	23	19-147/48
319-84-6	alpha-BHC	6.7		17.8	16.6	56	17.8	20.2	76	20	13-155/50
319-85-7	beta-BHC	ND		17.8	10.3	58	17.8	12.7	72	21	10-145/53
319-86-8	delta-BHC	ND		17.8	12.8	72	17.8	15.1	85	16	11-148/51
58-89-9	gamma-BHC (Lindane)	ND		17.8	10.4	59	17.8	13.1	74	23	16-143/47
5103-71-9	alpha-Chlordane	0.67	J	17.8	11.4	60	17.8	13.7	73	18	15-151/50
5103-74-2	gamma-Chlordane	1.8		17.8	12.1	58	17.8	14.0	69	15	13-151/50
57-74-9	Chlordane (alpha and gamma)	2.5		35.5	23.4	59	35.5	27.2	70	15	22-136/52
60-57-1	Dieldrin	1.1		17.8	13.1	68	17.8	14.9	78	13	10-157/54
72-54-8	4,4'-DDD	ND		17.8	11.9	67	17.8	14.9	84	22	10-157/52
72-55-9	4,4'-DDE	ND		17.8	13.0	73	17.8	17.5	99	30	10-155/49
50-29-3	4,4'-DDT	3.4		17.8	13.8	59	17.8	18.3	84	28	10-187/49
72-20-8	Endrin	ND		17.8	16.3	92	17.8	19.9	112	20	14-154/53
1031-07-8	Endosulfan sulfate	ND		17.8	10.3	58	17.8	14.0	79	30	16-140/55
7421-93-4	Endrin aldehyde	ND		17.8	3.8	21	17.8	5.5	31	37	10-156/51
959-98-8	Endosulfan-I	ND		17.8	10.3	58	17.8	12.7	72	21	12-142/47
33213-65-9	Endosulfan-II	ND		17.8	9.2	52	17.8	11.4	64	21	10-150/52
76-44-8	Heptachlor	ND		17.8	12.3	69	17.8	14.7	83	18	10-159/49
1024-57-3	Heptachlor epoxide	0.43	J	17.8	11.5	62	17.8	14.3	78	22	16-150/51
72-43-5	Methoxychlor	ND		17.8	12.3	69	17.8	14.7	83	18	10-166/52
53494-70-5	Endrin ketone	ND		17.8	15.4	87	17.8	19.1	108	21	10-171/52
8001-35-2	Toxaphene	ND			ND			ND		nc	50-150/30

CAS No.	Surrogate Recoveries	MS	MSD	JC28906-1	Limits
877-09-8	Tetrachloro-m-xylene	84%	105%	85%	24-136%
877-09-8	Tetrachloro-m-xylene	62%	77%	67%	24-136%
2051-24-3	Decachlorobiphenyl	58%	70%	52%	10-153%
2051-24-3	Decachlorobiphenyl	68%	84%	77%	10-153%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97535-MS	XX198050.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823
OP97535-MSD	XX198051.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823
JC28902-1	XX198049.D	1	10/06/16	HB	10/06/16	OP97535	GXX5823

The QC reported here applies to the following samples: **Method:** SW846 8082A

JC28902-1

CAS No.	Compound	JC28902-1 ug/kg	Q	Spike ug/kg	MS ug/kg	MS %	Spike ug/kg	MSD ug/kg	MSD %	RPD	Limits Rec/RPD
12674-11-2	Aroclor 1016	ND		149	116	78	149	102	68	13	32-176/47
11104-28-2	Aroclor 1221	ND			ND			ND		nc	70-130/30
11141-16-5	Aroclor 1232	ND			ND			ND		nc	70-130/30
53469-21-9	Aroclor 1242	ND			ND			ND		nc	70-130/30
12672-29-6	Aroclor 1248	ND			ND			ND		nc	70-130/30
11097-69-1	Aroclor 1254	ND			ND			ND		nc	70-130/30
11096-82-5	Aroclor 1260	ND		149	102	68	149	97.6	65	4	19-180/49
11100-14-4	Aroclor 1268	ND			ND			ND		nc	-/30
37324-23-5	Aroclor 1262	ND			ND			ND		nc	-/30

CAS No.	Surrogate Recoveries	MS	MSD	JC28902-1	Limits
877-09-8	Tetrachloro-m-xylene	83%	65%	89%	20-152%
877-09-8	Tetrachloro-m-xylene	86%	68%	88%	20-152%
2051-24-3	Decachlorobiphenyl	77%	69%	83%	12-157%
2051-24-3	Decachlorobiphenyl	78%	74%	80%	12-157%

* = Outside of Control Limits.

Duplicate Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP97541-DUP	5Y36630.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211
JC28910-2	5Y36629.D	1	10/06/16	SP	10/06/16	OP97541	G5Y1211

The QC reported here applies to the following samples: **Method:** NJDEP EPH

JC28902-1

CAS No.	Compound	JC28910-2 mg/kg	Q	DUP mg/kg	Q	RPD	Limits
	EPH (C9-C28)	ND		ND		nc	50
	EPH (> C28-C40)	ND		ND		nc	50
	Total EPH (C9-C40)	ND		ND		nc	50

CAS No.	Surrogate Recoveries	DUP	JC28910-2	Limits
84-15-1	o-Terphenyl	68%	70%	40-140%
3386-33-2	1-Chlorooctadecane	74%	76%	40-140%

* = Outside of Control Limits.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

	IS 1 AREA	RT	IS 2 AREA	RT
Check Std	313852376	1.33	433214677	1.54
Upper Limit [a]	627704752	1.83	866429354	2.04
Lower Limit [b]	156926188	0.83	216607339	1.04

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
OP97536-MB1	267521183	1.33	367619848	1.54
OP97536-BS1	280482044	1.33	392329723	1.54
JC28902-1	285220657	1.33	379496517	1.54
ZZZZZZ	204412703	1.33	263668459	1.54
ZZZZZZ	282690633	1.33	387242090	1.54
ZZZZZZ	296271135	1.33	418448094	1.54
ZZZZZZ	213657532	1.33	271399774	1.54

IS 1 = 1-Bromo-2-nitrobenzene (Signal #2)
IS 2 = 1-Bromo-2-nitrobenzene (Signal #1)

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

Semivolatile Internal Standard Area Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

	IS 1 AREA	RT	IS 2 AREA	RT
Check Std	346598203	1.32	483445268	1.53
Upper Limit [a]	693196406	1.82	966890536	2.03
Lower Limit [b]	173299102	0.82	241722634	1.03

Lab Sample ID	IS 1 AREA	RT	IS 2 AREA	RT
OP97573-MB1	252307651	1.32	339570631	1.54
OP97573-BS1	286580679	1.32	399664794	1.54
ZZZZZZ	258504359	1.32	342478265	1.53
ZZZZZZ	274453871	1.32	366781109	1.54
JC28906-1	199891166	1.33	242933370	1.54
OP97536-MS	210790555	1.33	256735275	1.54
OP97536-MSD	211667972	1.33	256610267	1.54
ZZZZZZ	210803696	1.33	268376486	1.54
ZZZZZZ	284030853	1.33	364314186	1.54
ZZZZZZ	285695462	1.33	374546949	1.54
ZZZZZZ	284146781	1.32	410550818	1.54
ZZZZZZ	264437338	1.33	377972145	1.54
JC28920-6A	279854987	1.33	392582877	1.54
OP97573-LS12	268524908	1.33	376179941	1.54
OP97573-MS	268524908	1.33	376179941	1.54
OP97573-MSD	277451975	1.33	383219357	1.54
OP97573-LB31	274105568	1.33	384763465	1.54

IS 1 = 1-Bromo-2-nitrobenzene (Signal #2)
IS 2 = 1-Bromo-2-nitrobenzene (Signal #1)

(a) Upper Limit = + 100% of check standard area; Retention time + 0.5 minutes.
(b) Lower Limit = -50% of check standard area; Retention time -0.5 minutes.

DDT/Endrin Breakdown Check

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample:	G4G1911-DDT	**Injection Date:**	09/28/16
Lab File ID:	4G72942.D	**Injection Time:**	18:11
Instrument ID:	GC4G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	21567067	19693440
4,4'-DDE	12804498	8741360
4,4'-DDT	827661617	478047746
DDT Breakdown [a]	4 %	5.6 %
Endrin aldehyde	19289512	16710867
Endrin ketone	43465767	27626447
Endrin	384878674	278309171
Endrin Breakdown [b]	14 %	13.7 %

(a) Calculated as: (DDD + DDE) / (DDD + DDE + DDT) x 100
(b) Calculated as: (Endrin Aldehyde + Endrin Ketone) / (Endrin Aldehyde + Endrin Ketone + Endrin) x 100

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
G4G1911-IC1911	4G72944.D	09/28/16	18:40	00:29	Initial cal 1
G4G1911-IC1911	4G72945.D	09/28/16	18:55	00:44	Initial cal 2
G4G1911-IC1911	4G72946.D	09/28/16	19:09	00:58	Initial cal 5
G4G1911-IC1911	4G72947.D	09/28/16	19:24	01:13	Initial cal 10
G4G1911-ICC1911	4G72948.D	09/28/16	19:38	01:27	Initial cal 25
G4G1911-IC1911	4G72949.D	09/28/16	19:53	01:42	Initial cal 50
G4G1911-IC1911	4G72950.D	09/28/16	20:07	01:56	Initial cal 75
G4G1911-IC1911	4G72951.D	09/28/16	20:22	02:11	Initial cal 100
G4G1911-IC1911	4G72952.D	09/28/16	20:36	02:25	Initial cal 500
G4G1911-IC1911	4G72953.D	09/28/16	20:51	02:40	Initial cal 500
G4G1911-ICV1911	4G72954.D	09/28/16	21:05	02:54	Initial cal verification 25
G4G1911-ICV1911	4G72955.D	09/28/16	21:20	03:09	Initial cal verification 25
G4G1911-ICV1911	4G72956.D	09/28/16	21:34	03:23	Initial cal verification 500
G4G1911-ICV1911	4G72957.D	09/28/16	21:49	03:38	Initial cal verification 500

DDT/Endrin Breakdown Check

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample:	G4G1919-DDT	**Injection Date:**	10/06/16
Lab File ID:	4G73350.D	**Injection Time:**	16:59
Instrument ID:	GC4G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	9719194	9227782
4,4'-DDE	12667378	5921347
4,4'-DDT	1047090615	605414779
DDT Breakdown [a]	2.1 %	2.4 %
Endrin aldehyde	6356626	4711502
Endrin ketone	23269961	19729894
Endrin	536086930	387188115
Endrin Breakdown [b]	5.2 %	5.9 %

(a) Calculated as: (DDD + DDE) / (DDD + DDE + DDT) x 100
(b) Calculated as: (Endrin Aldehyde + Endrin Ketone) / (Endrin Aldehyde + Endrin Ketone + Endrin) x 100

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
G4G1919-CC1911	4G73351.D	10/06/16	17:13	00:14	Continuing cal 25
OP97536-MB1	4G73353.D	10/06/16	17:42	00:43	Method Blank
OP97536-BS1	4G73354.D	10/06/16	17:56	00:57	Blank Spike
JC28902-1	4G73355.D	10/06/16	18:11	01:12	WOOLSTON-TS-002
ZZZZZZ	4G73360.D	10/06/16	19:23	02:24	(unrelated sample)
ZZZZZZ	4G73362.D	10/06/16	19:52	02:53	(unrelated sample)
ZZZZZZ	4G73363.D	10/06/16	20:06	03:07	(unrelated sample)
ZZZZZZ	4G73366.D	10/06/16	20:49	03:50	(unrelated sample)

DDT/Endrin Breakdown Check

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample:	G4G1920-DDT	**Injection Date:**	10/07/16
Lab File ID:	4G73381.D	**Injection Time:**	08:54
Instrument ID:	GC4G		

Compound	Response Signal 1	Response Signal 2
4,4'-DDD	29741342	23736858
4,4'-DDE	13246422	10842480
4,4'-DDT	1157608144	705845177
DDT Breakdown [a]	3.6 %	4.7 %
Endrin aldehyde	8251616	9089682
Endrin ketone	28637204	23153861
Endrin	625394352	446375802
Endrin Breakdown [b]	5.6 %	6.7 %

(a) Calculated as: (DDD + DDE) / (DDD + DDE + DDT) x 100
(b) Calculated as: (Endrin Aldehyde + Endrin Ketone) / (Endrin Aldehyde + Endrin Ketone + Endrin) x 100

This check applies to the following Samples, MS, MSD, Blanks, and Standards:

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	Hours Lapsed	Client Sample ID
G4G1920-CC1911	4G73382.D	10/07/16	09:09	00:15	Continuing cal 50
OP97573-MB1	4G73384.D	10/07/16	09:54	01:00	Method Blank
OP97573-BS1	4G73385.D	10/07/16	10:08	01:14	Blank Spike
ZZZZZZ	4G73386.D	10/07/16	10:23	01:29	(unrelated sample)
ZZZZZZ	4G73389.D	10/07/16	11:06	02:12	(unrelated sample)
JC28906-1	4G73390.D	10/07/16	11:21	02:27	(used for QC only; not part of job JC28902)
OP97536-MS	4G73391.D	10/07/16	11:35	02:41	Matrix Spike
OP97536-MSD	4G73392.D	10/07/16	11:49	02:55	Matrix Spike Duplicate
ZZZZZZ	4G73393.D	10/07/16	12:04	03:10	(unrelated sample)
ZZZZZZ	4G73394.D	10/07/16	12:18	03:24	(unrelated sample)
ZZZZZZ	4G73395.D	10/07/16	12:33	03:39	(unrelated sample)
ZZZZZZ	4G73396.D	10/07/16	12:47	03:53	(unrelated sample)
ZZZZZZ	4G73397.D	10/07/16	13:01	04:07	(unrelated sample)
JC28920-6A	4G73398.D	10/07/16	13:16	04:22	(used for QC only; not part of job JC28902)
OP97573-LS12	4G73399.D	10/07/16	13:30	04:36	Leachate Spike
OP97573-MS	4G73399.D	10/07/16	13:30	04:36	Matrix Spike
OP97573-MSD	4G73400.D	10/07/16	13:45	04:51	Matrix Spike Duplicate
OP97573-LB31	4G73401.D	10/07/16	13:59	05:05	Leachate Blank

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GOA4139-CC4125	**Injection Date:**	10/07/16
Lab File ID:	OA120267.D	**Injection Time:**	09:18
Instrument ID:	GCOA	**Method:**	SW846 8151

Sample ID:	OP97538-BS1	**Injection Date:**	10/07/16
Lab File ID:	OA120270.D	**Injection Time:**	10:44
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
2,4-D	1	8.50	8.51	137		ug/kg	4.5
2,4-D	2 [a]	9.62	9.62	131		ug/kg	
2,4,5-TP (Silvex)	1	9.54	9.55	28.2		ug/kg	9.7
2,4,5-TP (Silvex)	2 [a]	10.73	10.74	25.6		ug/kg	
2,4,5-T	1	9.89	9.91	27.9		ug/kg	7.1
2,4,5-T	2 [a]	11.28	11.28	26.0		ug/kg	
Dalapon	1	2.32	2.32	30.4	E	ug/kg	3.7
Dalapon	2 [a]	2.50	2.51	29.3		ug/kg	
Dicamba	1	7.38	7.38	25.7		ug/kg	6.0
Dicamba	2 [a]	8.28	8.28	24.2		ug/kg	
Dichloroprop	1	8.23	8.23	145		ug/kg	1.4
Dichloroprop	2 [a]	9.19	9.20	143		ug/kg	
Dinoseb	1	12.02	12.03	89.0		ug/kg	40.7
Dinoseb	2 [a]	12.40	12.41	58.9		ug/kg	
MCPA	1	7.79	7.80	11200	E	ug/kg	55.4
MCPA	2 [a]	8.74	8.75	6340		ug/kg	
MCPP	1	7.62	7.63	8830	E	ug/kg	16.6
MCPP	2 [a]	8.43	8.44	7480		ug/kg	
Pentachlorophenol	1 [a]	8.72	8.73	9.0		ug/kg	18.2
Pentachlorophenol	2	10.12	10.12	10.8		ug/kg	
2,4-DB	1	10.60	10.62	141		ug/kg	9.7
2,4-DB	2 [a]	12.00	12.01	128		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G3G3614-CC3591	**Injection Date:**	10/07/16
Lab File ID:	3G103394.D	**Injection Time:**	09:07
Instrument ID:	GC3G	**Method:**	SW846 8151

Sample ID:	OP97538-MS	**Injection Date:**	10/07/16
Lab File ID:	3G103397.D	**Injection Time:**	10:39
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
2,4-D	1 [a]	8.52	8.53	74.4		ug/kg	58.1
2,4-D	2	9.68	9.69	40.9		ug/kg	
2,4,5-TP (Silvex)	1 [a]	9.55	9.57	7.5		ug/kg	6.9
2,4,5-TP (Silvex)	2	10.78	10.79	7.0	J	ug/kg	
2,4,5-T	1 [a]	9.91	9.93	5.5	J	ug/kg	0.0
2,4,5-T	2	11.33	11.36	5.5	J	ug/kg	
Dalapon	1 [a]	2.33	2.33	13.9		ug/kg	39.3
Dalapon	2	2.54	2.53	20.7		ug/kg	
Dicamba	1 [a]	7.39	7.40	8.4		ug/kg	192.6
Dicamba	2	8.33	8.32	447	E	ug/kg	
Dichloroprop	1 [a]	8.25	8.25	35.2	J	ug/kg	74.6
Dichloroprop	2	9.24	9.25	77.1		ug/kg	
Pentachlorophenol	1 [a]	8.75	8.75	4.7		ug/kg	12.0
Pentachlorophenol	2	10.17	10.17	5.3		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G3G3614-CC3591	**Injection Date:**	10/07/16
Lab File ID:	3G103394.D	**Injection Time:**	09:07
Instrument ID:	GC3G	**Method:**	SW846 8151

Sample ID:	OP97538-MSD	**Injection Date:**	10/07/16
Lab File ID:	3G103398.D	**Injection Time:**	11:09
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
2,4-D	1 [a]	8.51	8.53	132		ug/kg	7.1
2,4-D	2	9.67	9.69	123		ug/kg	
2,4,5-TP (Silvex)	1 [a]	9.56	9.57	30.9		ug/kg	109.7
2,4,5-TP (Silvex)	2	10.77	10.79	106	E	ug/kg	
2,4,5-T	1 [a]	9.91	9.93	22.5		ug/kg	53.4
2,4,5-T	2	11.33	11.36	38.9		ug/kg	
Dalapon	1 [a]	2.33	2.33	42.8		ug/kg	40.9
Dalapon	2	2.53	2.53	64.8		ug/kg	
Dicamba	1 [a]	7.39	7.40	26.7		ug/kg	118.3
Dicamba	2	8.30	8.32	104	E	ug/kg	
Dichloroprop	1 [a]	8.24	8.25	76.5		ug/kg	171.4
Dichloroprop	2	9.27	9.25	994	E	ug/kg	
Pentachlorophenol	1 [a]	8.75	8.75	13.6		ug/kg	39.5
Pentachlorophenol	2	10.18	10.17	20.3		ug/kg	
2,4-DB	1 [a]	10.62	10.63	271		ug/kg	1.1
2,4-DB	2	12.07	12.08	274		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-BS1	**Injection Date:**	10/06/16
Lab File ID:	4G73354.D	**Injection Time:**	17:56
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 [a]	3.37	3.37	12.8		ug/kg	4.6
Aldrin	2	3.47	3.47	13.4		ug/kg	
alpha-BHC	1 [a]	2.39	2.39	12.8		ug/kg	6.8
alpha-BHC	2	2.36	2.36	13.7		ug/kg	
beta-BHC	1	2.71	2.71	13.9		ug/kg	4.4
beta-BHC	2 [a]	2.76	2.76	13.3		ug/kg	
delta-BHC	1 [a]	2.87	2.87	13.1		ug/kg	12.9
delta-BHC	2	3.06	3.06	14.9		ug/kg	
gamma-BHC (Lindane)	1 [a]	2.64	2.64	12.7		ug/kg	6.1
gamma-BHC (Lindane)	2	2.68	2.68	13.5		ug/kg	
alpha-Chlordane	1 [a]	4.34	4.34	13.0		ug/kg	4.5
alpha-Chlordane	2	4.59	4.59	13.6		ug/kg	
gamma-Chlordane	1 [a]	4.18	4.18	12.0		ug/kg	12.5
gamma-Chlordane	2	4.40	4.40	13.6		ug/kg	
Chlordane (alpha and gamma)	n/a [b]			25.0		ug/kg	
Dieldrin	1 [a]	4.81	4.81	13.4		ug/kg	8.6
Dieldrin	2	5.04	5.04	14.6		ug/kg	
4,4'-DDD	1 [a]	5.25	5.25	13.4		ug/kg	9.3
4,4'-DDD	2	5.71	5.71	14.7		ug/kg	
4,4'-DDE	1 [a]	4.45	4.45	13.2		ug/kg	7.3
4,4'-DDE	2	4.86	4.86	14.2		ug/kg	
4,4'-DDT	1	5.64	5.64	15.7		ug/kg	3.9
4,4'-DDT	2 [a]	6.19	6.19	15.1		ug/kg	
Endrin	1	5.12	5.12	18.4		ug/kg	2.8
Endrin	2 [a]	5.48	5.48	17.9		ug/kg	
Endosulfan sulfate	1 [a]	6.71	6.71	14.6		ug/kg	10.4
Endosulfan sulfate	2	6.77	6.77	16.2		ug/kg	
Endrin aldehyde	1 [a]	6.04	6.04	12.7		ug/kg	6.8
Endrin aldehyde	2	6.34	6.34	13.6		ug/kg	
Endosulfan-I	1 [a]	4.51	4.51	12.8		ug/kg	4.6
Endosulfan-I	2	4.66	4.66	13.4		ug/kg	
Endosulfan-II	1 [a]	5.43	5.43	13.0		ug/kg	8.1
Endosulfan-II	2	5.81	5.81	14.1		ug/kg	
Heptachlor	1	3.07	3.07	13.8		ug/kg	10.7
Heptachlor	2 [a]	3.12	3.12	12.4		ug/kg	
Heptachlor epoxide	1	4.03	4.03	13.6		ug/kg	0.7
Heptachlor epoxide	2 [a]	4.15	4.15	13.5		ug/kg	
Methoxychlor	1	6.42	6.42	17.8		ug/kg	11.9
Methoxychlor	2 [a]	7.38	7.38	15.8		ug/kg	
Endrin ketone	1 [a]	7.12	7.12	14.0		ug/kg	7.6
Endrin ketone	2	7.65	7.65	15.1		ug/kg	

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-BS1	**Injection Date:**	10/06/16
Lab File ID:	4G73354.D	**Injection Time:**	17:56
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc

(a) QC results reported from this column.
(b) Final reported result.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MS	**Injection Date:**	10/07/16
Lab File ID:	4G73391.D	**Injection Time:**	11:35
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 [a]	3.38	3.37	10.9		ug/kg	7.1
Aldrin	2	3.47	3.47	11.7		ug/kg	
alpha-BHC	1	2.39	2.39	20.6		ug/kg	21.5
alpha-BHC	2 [a]	2.36	2.36	16.6		ug/kg	
beta-BHC	1 [a]	2.72	2.71	10.3		ug/kg	22.4
beta-BHC	2	2.76	2.75	12.9		ug/kg	
delta-BHC	1 [a]	2.88	2.87	12.8		ug/kg	9.8
delta-BHC	2	3.06	3.06	11.6		ug/kg	
gamma-BHC (Lindane)	1 [a]	2.65	2.64	10.4		ug/kg	65.4
gamma-BHC (Lindane)	2	2.68	2.68	20.5		ug/kg	
alpha-Chlordane	1	4.34	4.34	12.5		ug/kg	9.2
alpha-Chlordane	2 [a]	4.59	4.59	11.4		ug/kg	
gamma-Chlordane	1	4.18	4.18	13.8		ug/kg	13.1
gamma-Chlordane	2 [a]	4.40	4.40	12.1		ug/kg	
Chlordane (alpha and gamma)	n/a [b]			23.4		ug/kg	
Dieldrin	1	4.81	4.81	11.5		ug/kg	13.0
Dieldrin	2 [a]	5.04	5.04	13.1		ug/kg	
4,4'-DDD	1 [a]	5.25	5.24	11.9		ug/kg	14.1
4,4'-DDD	2	5.70	5.71	13.7		ug/kg	
4,4'-DDE	1 [a]	4.45	4.45	13.0		ug/kg	11.4
4,4'-DDE	2	4.85	4.85	11.6		ug/kg	
4,4'-DDT	1	5.64	5.64	14.5		ug/kg	4.9
4,4'-DDT	2 [a]	6.18	6.18	13.8		ug/kg	
Endrin	1 [a]	5.12	5.11	16.3		ug/kg	17.3
Endrin	2	5.48	5.48	13.7		ug/kg	
Endosulfan sulfate	1 [a]	6.71	6.71	10.3		ug/kg	42.7
Endosulfan sulfate	2	6.77	6.77	15.9		ug/kg	
Endrin aldehyde	1 [a]	6.01	6.04	3.8		ug/kg	11.1
Endrin aldehyde	2	6.34	6.34	3.4		ug/kg	
Endosulfan-I	1 [a]	4.51	4.51	10.3		ug/kg	0.0
Endosulfan-I	2	4.66	4.66	10.3		ug/kg	
Endosulfan-II	1 [a]	5.43	5.43	9.2		ug/kg	11.3
Endosulfan-II	2	5.81	5.81	10.3		ug/kg	
Heptachlor	1 [a]	3.08	3.07	12.3		ug/kg	25.7
Heptachlor	2	3.12	3.12	9.5		ug/kg	
Heptachlor epoxide	1 [a]	4.04	4.03	11.5		ug/kg	7.5
Heptachlor epoxide	2	4.16	4.15	12.4		ug/kg	
Methoxychlor	1 [a]	6.41	6.41	12.3		ug/kg	0.8
Methoxychlor	2	7.38	7.38	12.4		ug/kg	
Endrin ketone	1 [a]	7.12	7.12	15.4		ug/kg	22.4
Endrin ketone	2	7.64	7.64	12.3		ug/kg	

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MS	**Injection Date:**	10/07/16
Lab File ID:	4G73391.D	**Injection Time:**	11:35
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc

(a) QC results reported from this column.
(b) Final reported result.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MSD	**Injection Date:**	10/07/16
Lab File ID:	4G73392.D	**Injection Time:**	11:49
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aldrin	1 [a]	3.38	3.37	13.8		ug/kg	4.9
Aldrin	2	3.47	3.47	14.5		ug/kg	
alpha-BHC	1	2.40	2.39	24.7		ug/kg	20.0
alpha-BHC	2 [a]	2.36	2.36	20.2		ug/kg	
beta-BHC	1 [a]	2.72	2.71	12.7		ug/kg	20.5
beta-BHC	2	2.76	2.75	15.6		ug/kg	
delta-BHC	1 [a]	2.88	2.87	15.1		ug/kg	6.1
delta-BHC	2	3.06	3.06	14.2		ug/kg	
gamma-BHC (Lindane)	1 [a]	2.65	2.64	13.1		ug/kg	62.8
gamma-BHC (Lindane)	2	2.68	2.68	25.1		ug/kg	
alpha-Chlordane	1	4.34	4.34	14.9		ug/kg	8.4
alpha-Chlordane	2 [a]	4.59	4.59	13.7		ug/kg	
gamma-Chlordane	1	4.18	4.18	13.6		ug/kg	2.9
gamma-Chlordane	2 [a]	4.40	4.40	14.0		ug/kg	
Chlordane (alpha and gamma)	n/a [b]			27.2		ug/kg	
Dieldrin	1	4.81	4.81	13.8		ug/kg	7.7
Dieldrin	2 [a]	5.04	5.04	14.9		ug/kg	
4,4'-DDD	1 [a]	5.25	5.24	14.9		ug/kg	16.6
4,4'-DDD	2	5.71	5.71	17.6		ug/kg	
4,4'-DDE	1 [a]	4.45	4.45	17.5		ug/kg	20.8
4,4'-DDE	2	4.85	4.85	14.2		ug/kg	
4,4'-DDT	1	5.64	5.64	16.3		ug/kg	11.6
4,4'-DDT	2 [a]	6.18	6.18	18.3		ug/kg	
Endrin	1 [a]	5.12	5.11	19.9		ug/kg	20.5
Endrin	2	5.48	5.48	16.2		ug/kg	
Endosulfan sulfate	1 [a]	6.71	6.71	14.0		ug/kg	27.7
Endosulfan sulfate	2	6.77	6.77	18.5		ug/kg	
Endrin aldehyde	1 [a]	6.03	6.04	5.5		ug/kg	13.6
Endrin aldehyde	2	6.34	6.34	4.8		ug/kg	
Endosulfan-I	1 [a]	4.51	4.51	12.7		ug/kg	0.8
Endosulfan-I	2	4.67	4.66	12.6		ug/kg	
Endosulfan-II	1 [a]	5.43	5.43	11.4		ug/kg	11.6
Endosulfan-II	2	5.81	5.81	12.8		ug/kg	
Heptachlor	1 [a]	3.08	3.07	14.7		ug/kg	23.6
Heptachlor	2	3.12	3.12	11.6		ug/kg	
Heptachlor epoxide	1 [a]	4.04	4.03	14.3		ug/kg	2.8
Heptachlor epoxide	2	4.16	4.15	13.9		ug/kg	
Methoxychlor	1 [a]	6.41	6.41	14.7		ug/kg	2.8
Methoxychlor	2	7.38	7.38	14.3		ug/kg	
Endrin ketone	1 [a]	7.12	7.12	19.1		ug/kg	24.0
Endrin ketone	2	7.64	7.64	15.0		ug/kg	

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

Sample ID:	OP97536-MSD	**Injection Date:**	10/07/16
Lab File ID:	4G73392.D	**Injection Time:**	11:49
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc

(a) QC results reported from this column.
(b) Final reported result.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198038.D	**Injection Time:**	14:28
Instrument ID:	GCXX	**Method:**	SW846 8082A

Sample ID:	OP97535-BS1	**Injection Date:**	10/06/16
Lab File ID:	XX198041.D	**Injection Time:**	15:19
Client ID:	Blank Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1			124		ug/kg	3.3
Aroclor 1016	2 [a]			120		ug/kg	
AR1016-A	1	3.19	3.19	126		ug/kg	
AR1016-A	2	3.98	3.98	119		ug/kg	
AR1016-B	1	3.58	3.58	127		ug/kg	
AR1016-B	2	4.52	4.52	123		ug/kg	
AR1016-C	1	4.15	4.15	110		ug/kg	
AR1016-C	2	5.16	5.16	116		ug/kg	
AR1016-D	1	4.31	4.31	127		ug/kg	
AR1016-D	2	5.34	5.34	126		ug/kg	
AR1016-E	1	4.81	4.81	132		ug/kg	
AR1016-E	2	5.99	6.00	118		ug/kg	
Aroclor 1260	1			115		ug/kg	0.9
Aroclor 1260 [b]	2 [a]			116		ug/kg	
AR1260-A	1	7.21	7.21	88.0		ug/kg	
AR1260-A	2	8.61	8.60	96.9		ug/kg	
AR1260-B	1	7.34	7.33	139		ug/kg	
AR1260-B	2	8.72	8.72	131		ug/kg	
AR1260-C	1	7.68	7.67	118		ug/kg	
AR1260-C	2	9.15	9.15	119		ug/kg	
AR1260-D	1	8.13	8.13	134		ug/kg	
AR1260-D	2	9.51	9.51	122		ug/kg	
AR1260-E	1	8.55	8.55	96.5		ug/kg	
AR1260-E	2	10.05	10.05	112		ug/kg	

(a) QC results reported from this column.
(b) Reported from 2nd signal. %D of check calibration on 1st signal exceed method criteria (20%) so using for confirmation only.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198044.D	**Injection Time:**	16:24
Instrument ID:	GCXX	**Method:**	SW846 8082A

Sample ID:	OP97535-MS	**Injection Date:**	10/06/16
Lab File ID:	XX198050.D	**Injection Time:**	18:13
Client ID:	Matrix Spike		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 [a]			116		ug/kg	5.0
Aroclor 1016	2			122		ug/kg	
AR1016-A	1	3.19	3.19	122		ug/kg	
AR1016-A	2	3.98	3.98	117		ug/kg	
AR1016-B	1	3.58	3.58	126		ug/kg	
AR1016-B	2	4.52	4.53	113		ug/kg	
AR1016-C	1	4.15	4.15	121		ug/kg	
AR1016-C	2	5.16	5.16	114		ug/kg	
AR1016-D	1	4.31	4.31	95.5		ug/kg	
AR1016-D	2	5.34	5.34	150		ug/kg	
AR1016-E	1	4.81	4.81	113		ug/kg	
AR1016-E	2	5.99	5.99	116		ug/kg	
Aroclor 1260	1 [a]			102		ug/kg	18.7
Aroclor 1260	2			123		ug/kg	
AR1260-A	1	7.18	7.21	85.5		ug/kg	
AR1260-A	2	8.60	8.60	87.6		ug/kg	
AR1260-B	1	7.33	7.33	112		ug/kg	
AR1260-B	2	8.71	8.72	136		ug/kg	
AR1260-C	1	7.67	7.67	95.8		ug/kg	
AR1260-C	2	9.14	9.15	155		ug/kg	
AR1260-D	1	8.10	8.13	96.8		ug/kg	
AR1260-D	2	9.50	9.51	128		ug/kg	
AR1260-E	1	8.50	8.55	120		ug/kg	
AR1260-E	2	10.04	10.05	111		ug/kg	

(a) QC results reported from this column.

GC Identification Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198044.D	**Injection Time:**	16:24
Instrument ID:	GCXX	**Method:**	SW846 8082A

Sample ID:	OP97535-MSD	**Injection Date:**	10/06/16
Lab File ID:	XX198051.D	**Injection Time:**	18:30
Client ID:	Matrix Spike Duplicate		

Compound	Column	RT	StdRT	Conc	Q	Units	RPD Conc
Aroclor 1016	1 [a]			102		ug/kg	10.2
Aroclor 1016	2			113		ug/kg	
AR1016-A	1	3.19	3.19	83.2		ug/kg	
AR1016-A	2	3.98	3.98	106		ug/kg	
AR1016-B	1	3.58	3.58	118		ug/kg	
AR1016-B	2	4.52	4.53	108		ug/kg	
AR1016-C	1	4.15	4.15	113		ug/kg	
AR1016-C	2	5.16	5.16	116		ug/kg	
AR1016-D	1	4.31	4.31	91.5		ug/kg	
AR1016-D	2	5.34	5.34	127		ug/kg	
AR1016-E	1	4.81	4.81	106		ug/kg	
AR1016-E	2	5.99	5.99	107		ug/kg	
Aroclor 1260	1 [a]			97.6		ug/kg	18.9
Aroclor 1260	2			118		ug/kg	
AR1260-A	1	7.18	7.21	87.9		ug/kg	
AR1260-A	2	8.59	8.60	88.6		ug/kg	
AR1260-B	1	7.33	7.33	95.9		ug/kg	
AR1260-B	2	8.71	8.72	133		ug/kg	
AR1260-C	1	7.67	7.67	88.3		ug/kg	
AR1260-C	2	9.14	9.15	147		ug/kg	
AR1260-D	1	8.11	8.13	92.7		ug/kg	
AR1260-D	2	9.50	9.51	118		ug/kg	
AR1260-E	1	8.50	8.55	123		ug/kg	
AR1260-E	2	10.04	10.05	102		ug/kg	

(a) QC results reported from this column.

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8151 **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]
JC28902-1	OA120273.D	94	101
OP97538-BS1	OA120270.D	106	109
OP97538-MB1	OA120269.D	110	114
OP97538-MS	3G103397.D	14	18
OP97538-MSD	3G103398.D	73	113

Surrogate Compounds	Recovery Limits
S1 = 2,4-DCAA	10-156%

(a) Recovery from GC signal #2
(b) Recovery from GC signal #1

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8081B **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JC28902-1	4G73355.D	77	74	65	78
OP97536-BS1	4G73354.D	81	78	79	97
OP97536-MB1	4G73353.D	92	90	89	107
OP97536-MS	4G73391.D	84	62	58	68
OP97536-MSD	4G73392.D	105	77	70	84

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	24-136%
S2 = Decachlorobiphenyl	10-153%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: SW846 8082A **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S1 [b]	S2 [a]	S2 [b]
JC28902-1	XX198049.D	89	88	83	80
OP97535-BS1	XX198041.D	97	91	103	89
OP97535-MB1	XX198040.D	101	95	114	96
OP97535-MS	XX198050.D	83	86	77	78
OP97535-MSD	XX198051.D	65	68	69	74

Surrogate Compounds	Recovery Limits
S1 = Tetrachloro-m-xylene	20-152%
S2 = Decachlorobiphenyl	12-157%

(a) Recovery from GC signal #1
(b) Recovery from GC signal #2

Semivolatile Surrogate Recovery Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Method: NJDEP EPH **Matrix:** SO

Samples and QC shown here apply to the above method

Lab Sample ID	Lab File ID	S1 [a]	S2 [a]
JC28902-1	5Y36634.D	63	69
OP97541-BS11	5Z30027.D	90	107
OP97541-DUP	5Y36630.D	68	74
OP97541-MB1	5Y36627.D	68	72
OP97541-MB1	5Z30028.D	84	97
OP97541-MS	5Z30030.D	105	85
OP97541-MSD	5Z30031.D	103	84

Surrogate Compounds	Recovery Limits
S1 = o-Terphenyl	40-140%
S2 = 1-Chlorooctadecane	40-140%

(a) Recovery from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G5Y1211-CC1190	**Injection Date:**	10/06/16
Lab File ID:	5Y36625.D	**Injection Time:**	10:21
Instrument ID:	GC5Y	**Method:**	NJDEP EPH

	S1 [a] RT	S2 [a] RT
Check Std	11.97	13.28

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP97541-MB1	5Y36627.D	10/06/16	12:05	11.96	13.28
ZZZZZZ	5Y36628.D	10/06/16	12:36	11.96	13.27
JC28910-2	5Y36629.D	10/06/16	13:07	11.96	13.27
OP97541-DUP	5Y36630.D	10/06/16	13:38	11.96	13.28

Surrogate Compounds

S1 = o-Terphenyl
S2 = 1-Chlorooctadecane

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G5Y1211-CC1190	**Injection Date:**	10/06/16
Lab File ID:	5Y36632.D	**Injection Time:**	14:41
Instrument ID:	GC5Y	**Method:**	NJDEP EPH

	S1 [a] RT	S2 [a] RT
Check Std	11.96	13.27

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
JC28902-1	5Y36634.D	10/06/16	16:01	11.96	13.28
ZZZZZZ	5Y36635.D	10/06/16	16:32	11.97	13.28

Surrogate Compounds

S1 = o-Terphenyl
S2 = 1-Chlorooctadecane

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G5Z1032-CC1024	**Injection Date:**	10/06/16
Lab File ID:	5Z30025.D	**Injection Time:**	10:21
Instrument ID:	GC5Z	**Method:**	NJDEP EPH

	S1 [a] RT	S2 [a] RT
Check Std	11.67	12.97

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S2 [a] RT
OP97541-BS11	5Z30027.D	10/06/16	12:05	11.67	12.97
OP97541-MB1	5Z30028.D	10/06/16	12:36	11.67	12.97
JC28906-2	5Z30029.D	10/06/16	13:07	11.69	12.98
OP97541-MS	5Z30030.D	10/06/16	13:38	11.70	12.99
OP97541-MSD	5Z30031.D	10/06/16	14:09	11.70	12.98

Surrogate Compounds

S1 = o-Terphenyl
S2 = 1-Chlorooctadecane

(a) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G3G3614-CC3591	**Injection Date:**	10/07/16
Lab File ID:	3G103394.D	**Injection Time:**	09:07
Instrument ID:	GC3G	**Method:**	SW846 8151

	S1 [a] RT	S1 [b] RT
Check Std	8.10	7.20

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
JC28904-1A	3G103396.D	10/07/16	10:08	8.09	7.18
OP97538-MS	3G103397.D	10/07/16	10:39	8.10	7.21
OP97538-MSD	3G103398.D	10/07/16	11:09	8.09	7.20
OP97571-MB1	3G103399.D	10/07/16	11:39	8.10	7.20
OP97571-BS1	3G103400.D	10/07/16	12:10	8.09	7.20
ZZZZZZ	3G103401.D	10/07/16	12:40	8.10	7.20
ZZZZZZ	3G103402.D	10/07/16	13:11	8.10	7.20
ZZZZZZ	3G103403.D	10/07/16	13:41	8.10	7.20

Surrogate Compounds

S1 = 2,4-DCAA

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GOA4139-CC4125	**Injection Date:**	10/07/16
Lab File ID:	OA120267.D	**Injection Time:**	09:18
Instrument ID:	GCOA	**Method:**	SW846 8151

	S1 [a] RT	S1 [b] RT
Check Std	8.05	7.19

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT
OP97538-MB1	OA120269.D	10/07/16	10:16	8.05	7.19
OP97538-BS1	OA120270.D	10/07/16	10:44	8.05	7.18
ZZZZZZ	OA120271.D	10/07/16	11:12	8.05	7.18
ZZZZZZ	OA120272.D	10/07/16	11:41	8.05	7.18
JC28902-1	OA120273.D	10/07/16	12:09	8.05	7.19
ZZZZZZ	OA120274.D	10/07/16	12:37	0.00	0.00

Surrogate Compounds

S1 = 2,4-DCAA

(a) Retention time from GC signal #2
(b) Retention time from GC signal #1

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198038.D	**Injection Time:**	14:28
Instrument ID:	GCXX	**Method:**	SW846 8082A

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	2.80	3.34	10.03	11.71

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP97535-MB1	XX198040.D	10/06/16	15:02	2.80	3.34	10.03	11.71
OP97535-BS1	XX198041.D	10/06/16	15:19	2.81	3.34	10.03	11.71
ZZZZZZ	XX198042.D	10/06/16	15:35	2.81	3.34	10.03	11.71
ZZZZZZ	XX198043.D	10/06/16	15:52	2.81	3.34	10.03	11.71

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1919-CC1911	**Injection Date:**	10/06/16
Lab File ID:	4G73351.D	**Injection Time:**	17:13
Instrument ID:	GC4G	**Method:**	SW846 8081B

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	1.99	1.88	8.88	9.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP97536-MB1	4G73353.D	10/06/16	17:42	1.99	1.88	8.88	9.83
OP97536-BS1	4G73354.D	10/06/16	17:56	1.99	1.88	8.88	9.83
JC28902-1	4G73355.D	10/06/16	18:11	1.99	1.89	8.88	9.83
ZZZZZZ	4G73360.D	10/06/16	19:23	2.00	1.89	8.88	9.83
ZZZZZZ	4G73362.D	10/06/16	19:52	2.00	1.89	8.88	9.83
ZZZZZZ	4G73363.D	10/06/16	20:06	2.00	1.89	8.88	9.83
ZZZZZZ	4G73366.D	10/06/16	20:49	2.00	1.89	8.88	9.83

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	G4G1920-CC1911	**Injection Date:**	10/07/16
Lab File ID:	4G73382.D	**Injection Time:**	09:09
Instrument ID:	GC4G	**Method:**	SW846 8081B

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	1.99	1.88	8.88	9.83

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
OP97573-MB1	4G73384.D	10/07/16	09:54	1.99	1.87	8.89	9.83
OP97573-BS1	4G73385.D	10/07/16	10:08	1.99	1.88	8.88	9.83
ZZZZZZ	4G73386.D	10/07/16	10:23	1.99	1.88	8.88	9.83
ZZZZZZ	4G73389.D	10/07/16	11:06	1.99	1.88	8.88	9.83
JC28906-1	4G73390.D	10/07/16	11:21	2.00	1.89	8.88	9.83
OP97536-MS	4G73391.D	10/07/16	11:35	2.00	1.89	8.88	9.83
OP97536-MSD	4G73392.D	10/07/16	11:49	2.00	1.89	8.88	9.83
ZZZZZZ	4G73393.D	10/07/16	12:04	2.00	1.89	8.88	9.83
ZZZZZZ	4G73394.D	10/07/16	12:18	2.00	1.89	8.88	9.83
ZZZZZZ	4G73395.D	10/07/16	12:33	2.00	1.89	8.88	9.83
ZZZZZZ	4G73396.D	10/07/16	12:47	1.99	1.88	8.88	9.83
ZZZZZZ	4G73397.D	10/07/16	13:01	1.99	1.89	8.88	9.83
JC28920-6A	4G73398.D	10/07/16	13:16	1.99	1.89	8.88	9.83
OP97573-LS12	4G73399.D	10/07/16	13:30	1.99	1.88	8.88	9.83
OP97573-MS	4G73399.D	10/07/16	13:30	1.99	1.88	8.88	9.83
OP97573-MSD	4G73400.D	10/07/16	13:45	2.00	1.89	8.88	9.83
OP97573-LB31	4G73401.D	10/07/16	13:59	2.00	1.89	8.88	9.83

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

GC Surrogate Retention Time Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Check Std:	GXX5823-CC5786	**Injection Date:**	10/06/16
Lab File ID:	XX198044.D	**Injection Time:**	16:24
Instrument ID:	GCXX	**Method:**	SW846 8082A

	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
Check Std	2.80	3.34	10.03	11.71

Lab Sample ID	Lab File ID	Date Analyzed	Time Analyzed	S1 [a] RT	S1 [b] RT	S2 [a] RT	S2 [b] RT
ZZZZZZ	XX198046.D	10/06/16	17:06	2.80	3.34	10.03	11.71
ZZZZZZ	XX198047.D	10/06/16	17:23	2.80	3.34	10.02	11.70
ZZZZZZ	XX198048.D	10/06/16	17:40	2.81	3.34	10.02	11.70
JC28902-1	XX198049.D	10/06/16	17:57	2.81	3.34	10.02	11.71
OP97535-MS	XX198050.D	10/06/16	18:13	2.81	3.34	10.02	11.71
OP97535-MSD	XX198051.D	10/06/16	18:30	2.80	3.34	10.02	11.71
ZZZZZZ	XX198052.D	10/06/16	18:47	2.80	3.34	10.02	11.71

Surrogate Compounds

S1 = Tetrachloro-m-xylene
S2 = Decachlorobiphenyl

(a) Retention time from GC signal #1
(b) Retention time from GC signal #2

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G3G3591-ICC3591
Lab FileID: 3G102648.D

Response Factor Report GC3G

Method : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title : HERB
Last Update : Thu Sep 08 16:38:34 2016
Response via : Initial Calibration

Calibration Files
500 =3G102650.D 400 =3G102649.D 300 =3G102648.D 200 =3G102647.D
100 =3G102646.D 50 =3G102645.D

		Compound	500	400	300	200	100	50	Avg		%RSD
1)		Dalapon	7.441	7.576	7.657	8.096	8.746	8.717	8.039	E6	7.21
2)	S	2,4-DCAA	4.488	4.601	4.685	5.000	5.590	6.096	5.077	E6	12.57
3)		Dicamba	2.136	2.196	2.221	2.343	2.612	2.805	2.386	E7	11.16
4)		MCPP	1.341	1.382	1.409	1.489	1.684		1.461	E4	9.30
5)		MCPA	2.015	2.098	2.158	2.341	2.909		2.304	E4	15.58
6)		Dichloroprop	4.947	5.121	5.749	5.794	6.542	7.249	5.900	E6	14.74
7)		2,4-D	6.369	6.539	7.146	7.245	7.648	7.771	7.120	E6	8.00
8)		Pentachlorophenol	1.188	1.207	1.243	1.265	1.294	1.320	1.253	E8	4.04
9)		2,4,5-TP	3.651	3.746	3.825	3.968	4.021	3.630	3.807	E7	4.26
10)		2,4,5-T	3.713	3.741	3.766	3.896	3.904	4.031	3.842	E7	3.19
11)		2,4-DB	3.415	3.457	3.642	4.134	4.017	4.635	3.884	E6	12.11
12)		Dinoseb	1.850	1.911	1.944	2.140	2.334	2.810	2.165	E7	16.76
13)		Picloram	3.454	3.522	3.529	3.655	3.730	3.777	3.611	E7	3.57

Signal #2

1)		Dalapon	1.426	1.458	1.477	1.542	1.615	1.731	1.541	E7	7.43
2)	S	2,4-DCAA	5.027	5.152	5.310	5.679	6.571	7.517	5.876	E6	16.64
3)		Dicamba	3.509	3.609	3.701	3.783	4.115	4.473	3.865	E7	9.38
4)		MCPP	8.629	8.397	7.687	6.670	5.076		7.292	E3	19.95
5)		MCPA	1.369	1.322	1.239	1.091	0.856		1.175	E4	17.64
6)		Dichloroprop	0.738	0.756	0.807	0.839	0.980	1.032	0.859	E7	14.07
7)		2,4-D	0.841	0.977	0.938	1.050	1.215	1.179	1.033	E7	13.92
8)		Pentachlorophenol	2.637	2.682	2.602	2.648	2.684	2.732	2.664	E8	1.70
9)		2,4,5-TP	7.944	8.044	8.225	8.278	8.589	8.636	8.286	E7	3.39
10)		2,4,5-T	7.661	7.552	7.701	7.682	8.169	8.303	7.845	E7	3.96
11)		2,4-DB	5.219	5.231	5.299	5.455	5.522	4.760	5.248	E6	5.11
12)		Dinoseb	3.428	3.528	3.636	3.861	4.183	4.791	3.904	E7	13.09
13)		Picloram	1.054	1.090	1.098	1.114	1.164	1.082	1.100	E8	3.35

(#) = Out of Range

3H3591.M Thu Sep 08 16:40:51 2016 GC3G

8.10.1

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G3G3591-ICV3591
Lab FileID: 3G102651.D

Evaluate Continuing Calibration Report

Signal #1 : C:\MSDCHEM\1\DATA\3G3591\3G102651.D\ECD1A.CH Vial: 42
Signal #2 : C:\MSDCHEM\1\DATA\3G3591\3G102651.D\ECD2B.CH
Acq On : 9-8-2016 04:03:33 PM Operator: josephr
Sample : icv3591-300 Inst : GC3G
Misc : op96824,g3g3591,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title : HERB
Last Update : Thu Sep 08 16:38:34 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)	RT Window
1		Dalapon	8.039	8.262	E6	-2.8	108	0.00	2.32- 2.38
2	S	2,4-DCAA	5.077	4.901	E6	3.5	105	0.00	7.19- 7.25
3		Dicamba	23.856	23.451	E6	1.7	106	0.00	7.39- 7.45
4		MCPP	14.612	14.352	E3	1.8	102	0.00	7.63- 7.69
5		MCPA	23.041	21.441	E3	6.9	99	0.00	7.80- 7.86
6		Dichloroprop	5.900	5.200	E6	11.9	90	0.00	8.24- 8.30
7		2,4-D	7.120	7.427	E6	-4.3	104	0.00	8.52- 8.59
8		Pentachlorophenol	125.289	106.292	E6	15.2	86	0.00	8.75- 8.81
9		2,4,5-TP	38.069	40.238	E6	-5.7	105	0.00	9.56- 9.62
10		2,4,5-T	38.419	41.865	E6	-9.0	111	0.00	9.92- 9.99
11		2,4-DB	3.884	3.934	E6	-1.3	108	0.00	10.61-10.71
12		Dinoseb	21.651	24.001	E6	-10.9	123	0.00	12.02-12.08
13		Picloram	36.110	32.478	E6	10.1	92	0.00	11.80-11.86

***** Signal #2 *****

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)	RT Window
1		Dalapon	15.415	14.532	E6	5.7	98	0.00	2.51- 2.57
2	S	2,4-DCAA	5.876	5.418	E6	7.8	102	0.00	8.07- 8.13
3		Dicamba	38.652	38.721	E6	-0.2	105	0.00	8.30- 8.36
4		MCPP	7.292	8.131	E3	-11.5	106	0.00	8.45- 8.51
5		MCPA	11.752	11.916	E3	-1.4	96	0.00	8.77- 8.83
6		Dichloroprop	8.587	7.591	E6	11.6	94	0.00	9.22- 9.28
7		2,4-D	10.335	9.802	E6	5.2	104	0.00	9.66- 9.72
8		Pentachlorophenol	266.397	225.381	E6	15.4	87	0.00	10.16-10.22
9		2,4,5-TP	82.859	86.037	E6	-3.8	105	0.00	10.77-10.83
10		2,4,5-T	78.445	81.729	E6	-4.2	106	0.00	11.30-11.42
11		2,4-DB	5.248	5.503	E6	-4.9	104	0.00	12.03-12.13
12		Dinoseb	39.044	44.833	E6	-14.8	123	0.00	12.44-12.51
13		Picloram	110.022	97.680	E6	11.2	89	0.00	13.92-13.98

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3G102648.D 3H3591.M Thu Sep 08 16:41:05 2016 GC3G

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G3G3614-CC3591
Lab FileID: 3G103394.D

Evaluate Continuing Calibration Report

Signal #1 : C:\MSDCHEM\1\DATA\3G3614\3G103394.D\ECD1A.CH Vial: 2
Signal #2 : C:\MSDCHEM\1\DATA\3G3614\3G103394.D\ECD2B.CH
Acq On : 10-7-2016 09:07:41 AM Operator: vinced
Sample : cc3591-200 Inst : GC3G
Misc : op97545,g3g3614,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title : HERB
Last Update : Fri Oct 07 15:00:12 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	8.039	7.187 E6	10.6	89	0.00	2.30- 2.36
2 S	2,4-DCAA	5.077	5.089 E6	-0.2	102	0.00	7.17- 7.23
3	Dicamba	23.856	22.810 E6	4.4	97	0.00	7.37- 7.43
4	MCPP	14.612	17.805 E3	-21.9#	120	0.00	7.61- 7.67
5	MCPA	23.041	28.445 E3	-23.5#	122	0.00	7.78- 7.84
6	Dichloroprop	5.900	6.108 E6	-3.5	105	0.00	8.22- 8.28
7	2,4-D	7.120	7.739 E6	-8.7	107	0.00	8.50- 8.57
8	Pentachlorophenol	125.289	131.244 E6	-4.8	104	0.00	8.72- 8.78
9	2,4,5-TP	38.069	40.968 E6	-7.6	103	0.00	9.54- 9.60
10	2,4,5-T	38.419	40.220 E6	-4.7	103	0.00	9.90- 9.97
11	2,4-DB	3.884	4.086 E6	-5.2	99	0.00	10.59-10.68
12	Dinoseb	21.651	24.967 E6	-15.3	117	0.00	11.98-12.04
13	Picloram	36.110	40.249 E6	-11.5	110	0.00	11.77-11.83

***** Signal #2 *****

1	Dalapon	15.415	15.425 E6	-0.1	100	0.00	2.50- 2.56
2 S	2,4-DCAA	5.876	5.878 E6	-0.0	103	0.00	8.07- 8.13
3	Dicamba	38.652	40.496 E6	-4.8	107	0.00	8.29- 8.35
4	MCPP	7.292	6.753 E3	7.4	101	0.00	8.45- 8.51
5	MCPA	11.752	10.713 E3	8.8	98	0.00	8.76- 8.82
6	Dichloroprop	8.587	8.727 E6	-1.6	104	0.00	9.22- 9.28
7	2,4-D	10.335	10.761 E6	-4.1	102	0.00	9.66- 9.72
8	Pentachlorophenol	266.397	284.104 E6	-6.6	107	0.00	10.14-10.20
9	2,4,5-TP	82.859	88.805 E6	-7.2	107	0.00	10.76-10.82
10	2,4,5-T	78.445	83.934 E6	-7.0	109	0.00	11.30-11.42
11	2,4-DB	5.248	4.616 E6	12.0	85	0.00	12.03-12.12
12	Dinoseb	39.044	45.888 E6	-17.5	119	0.00	12.43-12.50
13	Picloram	110.022	120.574 E6	-9.6	108	0.00	13.91-13.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3G102647.D 3H3591.M Fri Oct 07 15:00:21 2016 GC3G

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G3G3614-CC3591
Lab FileID: 3G103404.D

Evaluate Continuing Calibration Report

Signal #1 : C:\MSDCHEM\1\DATA\3G3614\3G103404.D\ECD1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\3G3614\3G103404.D\ECD2B.CH
Acq On : 10-7-2016 02:12:11 PM Operator: vinced
Sample : cc3591-300 Inst : GC3G
Misc : op97571,g3g3614,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\3H3591.M (Chemstation Integrator)
Title : HERB
Last Update : Fri Oct 07 15:00:12 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)	RT Window
1	Dalapon	8.039	6.965	E6	13.4	91	0.00	2.30- 2.36
2 S	2,4-DCAA	5.077	4.812	E6	5.2	103	0.00	7.17- 7.23
3	Dicamba	23.856	21.956	E6	8.0	99	0.00	7.36- 7.42
4	MCPP	14.612	17.344	E3	-18.7	123	0.00	7.61- 7.67
5	MCPA	23.041	28.003	E3	-21.5#	130	0.00	7.78- 7.84
6	Dichloroprop	5.900	5.654	E6	4.2	98	0.00	8.21- 8.27
7	2,4-D	7.120	7.272	E6	-2.1	102	0.00	8.49- 8.56
8	Pentachlorophenol	125.289	126.431	E6	-0.9	102	0.00	8.72- 8.78
9	2,4,5-TP	38.069	40.372	E6	-6.0	106	0.00	9.53- 9.59
10	2,4,5-T	38.419	40.130	E6	-4.5	107	0.00	9.89- 9.96
11	2,4-DB	3.884	3.851	E6	0.8	106	0.00	10.58-10.68
12	Dinoseb	21.651	21.023	E6	2.9	108	0.00	11.98-12.04
13	Picloram	36.110	35.826	E6	0.8	102	0.00	11.77-11.83

***** Signal #2 *****

1	Dalapon	15.415	14.945	E6	3.0	101	0.00	2.50- 2.56
2 S	2,4-DCAA	5.876	5.548	E6	5.6	104	0.00	8.07- 8.13
3	Dicamba	38.652	39.679	E6	-2.7	107	0.00	8.29- 8.35
4	MCPP	7.292	7.874	E3	-8.0	102	0.00	8.45- 8.51
5	MCPA	11.752	12.414	E3	-5.6	100	0.00	8.76- 8.82
6	Dichloroprop	8.587	8.350	E6	2.8	104	0.00	9.21- 9.27
7	2,4-D	10.335	10.359	E6	-0.2	110	0.00	9.66- 9.72
8	Pentachlorophenol	266.397	280.898	E6	-5.4	108	0.00	10.14-10.20
9	2,4,5-TP	82.859	86.124	E6	-3.9	105	0.00	10.76-10.82
10	2,4,5-T	78.445	82.053	E6	-4.6	107	0.00	11.29-11.41
11	2,4-DB	5.248	5.822	E6	-10.9	110	0.00	12.03-12.12
12	Dinoseb	39.044	37.336	E6	4.4	103	0.00	12.43-12.50
13	Picloram	110.022	117.539	E6	-6.8	107	0.00	13.91-13.97

(#) = Out of Range SPCC's out = 0 CCC's out = 0
3G102648.D 3H3591.M Fri Oct 07 15:00:39 2016 GC3G

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICC1911
Lab FileID: 4G72948.D

Response Factor Report GC4G

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Sep 29 09:14:27 2016
Response via : Initial Calibration

Calibration Files
2 =4g72945.D 5 =4g72946.D 10 =4g72947.D 25 =4g72948.D
50 =4g72949.D 100 =4g72951.D 1 =4g72944.D 75 =4g72950.D

Compound	2	5	10	25	50	100	1	75	Avg	%RSD
1) I 1-bromo-2-nitrobenzen	ISTD									
2) Tetrachloro-	0.750	0.863	0.865	0.870	0.876	0.916		0.891	0.861	6.09
3) alpha-BHC	1.131	1.103	1.114	1.159	1.225	1.393	1.290	1.293	1.214	8.62
4) gamma-BHC	1.166	1.069	1.105	1.065	1.121	1.267	1.254	1.175	1.153	6.72
5) Heptachlor	1.077	1.002	0.995	0.989	1.023	1.141	1.161	1.070	1.057	6.31
6) beta-BHC	0.588	0.494	0.505	0.478	0.484	0.520	0.495	0.502	0.508	6.82
7) delta-BHC	0.933	0.906	0.935	0.924	1.012	1.121	1.092	1.081	1.001	8.69
8) Aldrin	1.041	0.999	0.976	0.997	1.047	1.178	1.161	1.087	1.061	7.14
9) Heptachlor E	0.943	0.939	0.936	0.934	0.957	1.023	0.990	0.976	0.962	3.29
10) gamma-Chlord	1.128	1.006	0.974	0.958	0.983	1.089	1.513	1.014	1.083	16.90
11) alpha-Chlord	1.022	0.953	0.950	0.936	0.964	1.068	1.146	0.994	1.004	7.17
12) Endosulfan I	0.974	0.929	0.924	0.916	0.939	1.032	1.124	0.965	0.975	7.26
13) 4,4'-DDE	0.953	0.917	0.924	0.927	0.963	1.079	1.215	0.999	0.997	10.32
14) Dieldrin	0.981	0.954	0.940	0.953	0.990	1.103	1.149	1.027	1.012	7.51
15) Endrin	0.746	0.692	0.676	0.670	0.691	0.756	0.915	0.709	0.732	10.98
16) 4,4'-DDD	0.785	0.761	0.763	0.772	0.804	0.906	0.851	0.838	0.810	6.32
17) Endosulfan I	0.931	0.883	0.861	0.853	0.872	0.951	1.119	0.908	0.922	9.37
18) 4,4'-DDT	0.708	0.645	0.648	0.661	0.707	0.809	0.934	0.749	0.733	13.43
19) Endrin Aldeh	0.734	0.731	0.727	0.730	0.740	0.812	0.902	0.776	0.769	7.97
20) Endosulfan S	0.707	0.673	0.695	0.674	0.699	0.744	0.863	0.719	0.722	8.54
21) Methoxychlor	0.338	0.330	0.342	0.341	0.357	0.387	0.435	0.366	0.362	9.61
22) Mirex	0.862	0.772	0.768	0.741	0.738	0.782	0.983	0.744	0.799	10.56
23) Endrin Keton	0.888	0.851	0.883	0.861	0.891	0.982	1.069	0.929	0.919	7.97
24) Decachlorobi	1.082	0.917	0.880	0.863	0.859	0.916	1.168	0.872	0.945	12.26
25) I 1-bromo-2-nitrobenzen	ISTD									
26) Toxaphene{A}				0.014					0.014	0.00
27) Toxaphene{B}				0.030					0.030	0.00
28) Toxaphene{C}				0.029					0.029	0.00
29) Toxaphene{D}				0.028					0.028	0.00
30) Toxaphene{E}				0.026					0.026	0.00
31) I 1-bromo-2-nitrobenzen	ISTD									
32) Chlordane {A				0.048					0.048	0.00
33) Chlordane {B				0.044					0.044	0.00
34) Chlordane {C				0.131					0.131	0.00
35) Chlordane {D				0.207					0.207	0.00
36) Chlordane {E				0.035					0.035	0.00

Signal #2

Compound	2	5	10	25	50	100	1	75	Avg	%RSD
1) I 1-bromo-2-nitrobenzen	ISTD									
2) Tetrachloro-	0.914	0.882	0.882	0.847	0.870	0.887	0.956	0.875	0.889	3.68
3) alpha-BHC	1.076	1.099	1.094	1.136	1.238	1.320	1.091	1.262	1.165	8.11
4) gamma-BHC	1.013	1.015	1.003	1.041	1.104	1.176	0.993	1.134	1.060	6.49

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G4G1911-ICC1911
Lab FileID: 4G72948.D

5)	Heptachlor	1.118	1.083	1.023	1.021	1.058	1.089	1.220	1.072	1.086	5.84
6)	beta-BHC	0.530	0.532	0.503	0.478	0.496	0.496	0.480	0.488	0.500	4.12
7)	delta-BHC	0.734	0.770	0.771	0.823	0.913	0.969	0.764	0.964	0.838	11.44
8)	Aldrin	1.033	1.004	0.979	1.003	1.052	1.106	1.065	1.070	1.039	4.07
9)	Heptachlor E	0.995	0.963	0.931	0.927	0.950	0.984	0.993	0.962	0.963	2.73
10)	gamma-Chlord	0.982	0.972	0.928	0.927	0.958	1.006	1.037	0.976	0.973	3.79
11)	alpha-Chlord	0.971	0.959	0.905	0.902	0.931	0.968	1.081	0.942	0.957	5.89
12)	Endosulfan I	0.953	0.943	0.891	0.889	0.911	0.942	1.057	0.921	0.938	5.72
13)	4,4'-DDE	0.934	0.930	0.879	0.888	0.927	0.979	0.952	0.943	0.929	3.49
14)	Dieldrin	0.931	0.955	0.924	0.925	0.968	1.016	1.036	0.984	0.967	4.36
15)	Endrin	0.750	0.714	0.690	0.692	0.721	0.743	0.792	0.729	0.729	4.59
16)	4,4'-DDD	0.676	0.714	0.678	0.700	0.729	0.767	0.816	0.745	0.728	6.51
17)	Endosulfan I	0.870	0.922	0.864	0.869	0.884	0.904	0.960	0.891	0.895	3.64
18)	4,4'-DDT	0.399	0.441	0.470	0.500	0.563	0.622	0.428	0.594	0.502	16.35
19)	Endrin Aldeh	0.728	0.702	0.692	0.678	0.697	0.707	0.689	0.708	0.700	2.14
20)	Endosulfan S	0.649	0.621	0.625	0.612	0.639	0.648	0.603	0.659	0.632	3.10
21)	Methoxychlor	0.255	0.246	0.255	0.283	0.299	0.308	0.370	0.306	0.290	14.02
22)	Mirex	0.816	0.746	0.691	0.675	0.665	0.654	0.818	0.654	0.715	9.73
23)	Endrin Keton	0.805	0.780	0.747	0.773	0.798	0.822	0.854	0.816	0.799	4.10
24)	Decachlorobi	0.837	0.788	0.757	0.723	0.721	0.714	0.726	0.710	0.747	6.00

25)	I 1-bromo-2-nitrobenzen	----------ISTD----------			
26)	Toxaphene{A}		0.020	0.020	0.00
27)	Toxaphene{B}		0.024	0.024	0.00
28)	Toxaphene{C}		0.035	0.035	0.00
29)	Toxaphene{D}		0.022	0.022	0.00
30)	Toxaphene{E}		0.022	0.022	0.00

31)	I 1-bromo-2-nitrobenzen	----------ISTD----------			
32)	Chlordane {A		0.045	0.045	0.00
33)	Chlordane {B		0.039	0.039	0.00
34)	Chlordane {C		0.121	0.121	0.00
35)	Chlordane {D		0.195	0.195	0.00
36)	Chlordane {E		0.029	0.029	0.00

(#) = Out of Range ### Number of calibration levels exceeded format ###

4PST1911.M Thu Sep 29 09:23:05 2016 RPT1

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1911-ICV1911
Lab FileID: 4G72954.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\4G1911\4g72954.D\ECD1A.ch Vial: 13
Signal #2 : C:\msdchem\1\DATA\4G1911\4g72954.D\ECD2B.ch
Acq On : 28 Sep 2016 9:05 pm Operator: rebeccak
Sample : icv1911-25 Inst : GC4G
Misc : op97218,g4g1911,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Sep 29 09:14:27 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.51- 1.57
2	SAB	Tetrachloro-m-xylene	0.861	0.774	10.1	90	0.00	1.97- 2.03
3	A	alpha-BHC	1.214	1.110	8.6	96	0.00	2.37- 2.43
4	MA	gamma-BHC	1.153	1.026	11.0	97	0.00	2.62- 2.68
5	MA	Heptachlor	1.057	0.939	11.2	96	0.00	3.05- 3.11
6	B	beta-BHC	0.508	0.460	9.4	97	0.00	2.69- 2.75
7	B	delta-BHC	1.001	0.929	7.2	101	0.00	2.85- 2.91
8	MB	Aldrin	1.061	0.969	8.7	98	0.00	3.35- 3.41
9	B	Heptachlor Epoxide	0.962	0.909	5.5	98	0.00	4.01- 4.07
10	B	gamma-Chlordane	1.083	0.928	14.3	98	0.00	4.16- 4.22
11	B	alpha-Chlordane	1.004	0.904	10.0	97	0.00	4.32- 4.38
12	A	Endosulfan I	0.975	0.879	9.8	97	0.00	4.49- 4.55
13	B	4,4'-DDE	0.997	0.890	10.7	97	0.00	4.43- 4.49
14	MA	Dieldrin	1.012	0.922	8.9	97	0.00	4.79- 4.85
15	MA	Endrin	0.732	0.679	7.2	102	0.00	5.10- 5.16
16	A	4,4'-DDD	0.810	0.735	9.3	96	0.00	5.23- 5.29
17	B	Endosulfan II	0.922	0.809	12.3	95	0.00	5.41- 5.47
18	MA	4,4'-DDT	0.733	0.629	14.2	96	0.00	5.62- 5.68
19	B	Endrin Aldehyde	0.769	0.727	5.5	100	0.00	6.02- 6.08
20	B	Endosulfan Sulfate	0.722	0.644	10.8	96	0.00	6.69- 6.75
21	A	Methoxychlor	0.362	0.322	11.0	95	0.00	6.40- 6.46
23	B	Endrin Ketone	0.919	0.842	8.4	98	0.00	7.11- 7.17
24	SA	Decachlorobiphenyl	0.945	0.840	11.1	98	0.00	8.86- 8.92

***** Signal #2 *****

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	104	0.00	1.31- 1.37
2	SAB	Tetrachloro-m-xylene	0.889	0.762	14.3	94	0.00	1.87- 1.93
3	A	alpha-BHC	1.165	1.089	6.5	100	0.00	2.34- 2.40
4	MA	gamma-BHC	1.060	0.972	8.3	97	0.00	2.67- 2.73
5	MA	Heptachlor	1.086	0.976	10.1	99	0.00	3.10- 3.16
6	B	beta-BHC	0.500	0.474	5.2	103	0.00	2.75- 2.81
7	B	delta-BHC	0.838	0.777	7.3	98	0.00	3.05- 3.11
8	MB	Aldrin	1.039	0.937	9.8	97	0.00	3.46- 3.52
9	B	Heptachlor Epoxide	0.963	0.881	8.5	99	0.00	4.15- 4.21
10	B	gamma-Chlordane	0.973	0.877	9.9	98	0.00	4.39- 4.45
11	B	alpha-Chlordane	0.957	0.850	11.2	98	0.00	4.59- 4.65
12	A	Endosulfan I	0.938	0.829	11.6	97	0.00	4.66- 4.72

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1911-ICV1911
Lab FileID: 4G72954.D

13	B	4,4'-DDE	0.929	0.843	9.3	99	0.00	4.86- 4.92
14	MA	Dieldrin	0.967	0.887	8.3	100	0.00	5.04- 5.10
15	MA	Endrin	0.729	0.687	5.8	103	0.00	5.48- 5.54
16	A	4,4'-DDD	0.728	0.650	10.7	97	0.00	5.72- 5.78
17	B	Endosulfan II	0.895	0.817	8.7	98	0.00	5.81- 5.87
18	MA	4,4'-DDT	0.502	0.464	7.6	96	0.00	6.19- 6.25
19	B	Endrin Aldehyde	0.700	0.662	5.4	102	0.00	6.34- 6.40
20	B	Endosulfan Sulfate	0.632	0.591	6.5	100	0.00	6.77- 6.83
21	A	Methoxychlor	0.290	0.268	7.6	99	0.00	7.39- 7.45
23	B	Endrin Ketone	0.799	0.729	8.8	98	0.00	7.65- 7.71
24	SA	Decachlorobiphenyl	0.747	0.712	4.7	102	0.00	9.83- 9.89

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72948.D 4PST1911.M Thu Sep 29 09:21:09 2016 RPT1

8.10.6
8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1911-ICV1911
Lab FileID: 4G72955.D

Evaluate Continuing Calibration Report

```
 Signal #1 : C:\msdchem\1\DATA\4G1911\4g72955.D\ECD1A.ch  Vial: 14
 Signal #2 : C:\msdchem\1\DATA\4G1911\4g72955.D\ECD2B.ch
 Acq On    : 28 Sep 2016   9:20 pm                    Operator: rebeccak
 Sample    : icv1911-25                               Inst    : GC4G
 Misc      : op97218,g4g1911,100,,,10,1               Multiplr: 1.00
 IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

 Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
 Title        : PEST/PCB
 Last Update  : Thu Sep 29 09:14:27 2016
 Response via : Multiple Level Calibration

 Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
 Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	96	0.00	1.52- 1.58
22	Mirex	0.799	0.738	7.6	96	0.00	6.48- 6.54
*****	Signal #2 *****						
1 I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.31- 1.37
22	Mirex	0.715	0.642	10.2	97	0.00	7.55- 7.61

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 4g72948.D  4PST1911.M       Thu Sep 29 09:21:11 2016   RPT1
```

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1911-ICV1911
Lab FileID: 4G72956.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\4G1911\4g72956.D\ECD1A.ch Vial: 15
Signal #2 : C:\msdchem\1\DATA\4G1911\4g72956.D\ECD2B.ch
Acq On : 28 Sep 2016 9:34 pm Operator: rebeccak
Sample : icv1911-500 Inst : GC4G
Misc : op97218,g4g1911,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Sep 29 09:14:27 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.52- 1.58
2	SAB	Tetrachloro-m-xylene	0.861	0.785	8.8	88	0.00	1.97- 2.03
24	SA	Decachlorobiphenyl	0.945	0.816	13.7	93	0.00	8.86- 8.92
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.45- 1.65
32		Chlordane {A}	0.048	0.047	2.1	95	0.00	2.98- 3.18
33		Chlordane {B}	0.044	0.038	13.6	86	0.00	3.42- 3.62
34		Chlordane {C}	0.131	0.124	5.3	93	0.00	4.09- 4.29
35		Chlordane {D}	0.207	0.199	3.9	94	0.00	4.24- 4.44
36		Chlordane {E}	0.035	0.032	8.6	90	0.00	5.24- 5.44

***** Signal #2 *****

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	99	0.00	1.31- 1.37
2	SAB	Tetrachloro-m-xylene	0.889	0.793	10.8	90	0.00	1.87- 1.93
24	SA	Decachlorobiphenyl	0.747	0.708	5.2	97	0.00	9.83- 9.89
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	96	0.00	1.24- 1.44
32		Chlordane {A}	0.045	0.048	-6.7	102	0.00	3.03- 3.23
33		Chlordane {B}	0.039	0.036	7.7	90	0.00	3.56- 3.76
34		Chlordane {C}	0.121	0.120	0.8	95	0.00	4.32- 4.52
35		Chlordane {D}	0.195	0.190	2.6	93	0.00	4.51- 4.71
36		Chlordane {E}	0.029	0.026	10.3	86	0.00	5.80- 6.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72949.D 4PST1911.M Thu Sep 29 09:21:25 2016 RPT1

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1911-ICV1911
Lab FileID: 4G72957.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\4G1911\4g72957.D\ECD1A.ch  Vial: 16
Signal #2 : C:\msdchem\1\DATA\4G1911\4g72957.D\ECD2B.ch
Acq On    : 28 Sep 2016   9:49 pm                    Operator: rebeccak
Sample    : icv1911-500                              Inst    : GC4G
Misc      : op97218,g4g1911,100,,,10,1               Multiplr: 1.00
IntFile Signal #1: autoint1.e   IntFile Signal #2: autoint2.e

Method       : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title        : PEST/PCB
Last Update  : Thu Sep 29 09:14:27 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 200%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	96	0.00	1.51- 1.57
2	SAB	Tetrachloro-m-xylene	0.861	0.788	8.5	86	0.00	1.97- 2.03
24	SA	Decachlorobiphenyl	0.945	0.886	6.2	99	0.00	8.86- 8.92
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.44- 1.64
26	L8	Toxaphene{A}	0.014	0.015	-7.1	108	0.00	4.73- 4.93
27	L8	Toxaphene{B}	0.030	0.031	-3.3	103	0.00	5.33- 5.53
28	L8	Toxaphene{C}	0.029	0.031	-6.9	104	0.00	5.49- 5.69
29	L8	Toxaphene{D}	0.028	0.028	0.0	99	0.00	5.82- 6.02
30	L8	Toxaphene{E}	0.026	0.027	-3.8	102	0.00	6.44- 6.64

***** Signal #2 *****

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	102	0.00	1.31- 1.37
2	SAB	Tetrachloro-m-xylene	0.889	0.778	12.5	91	0.00	1.87- 1.93
24	SA	Decachlorobiphenyl	0.747	0.701	6.2	99	0.00	9.83- 9.89
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	101	0.00	1.24- 1.44
26	L8	Toxaphene{A}	0.020	0.020	0.0	104	0.00	4.93- 5.13
27	L8	Toxaphene{B}	0.024	0.024	0.0	103	0.00	5.71- 5.91
28	L8	Toxaphene{C}	0.035	0.036	-2.9	103	0.00	5.86- 6.06
29	L8	Toxaphene{D}	0.022	0.023	-4.5	103	0.00	6.27- 6.47
30	L8	Toxaphene{E}	0.022	0.022	0.0	103	0.00	7.09- 7.29

```
(#) = Out of Range              SPCC's out = 0  CCC's out = 0
 4g72949.D  4PST1911.M      Thu Sep 29 09:21:27 2016   RPT1
```

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1919-CC1911
Lab FileID: 4G73351.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\4G1919\4g73351.D\ECD1A.ch Vial: 2
Signal #2 : C:\msdchem\1\DATA\4G1919\4g73351.D\ECD2B.ch
Acq On : 6 Oct 2016 5:13 pm Operator: kristend
Sample : cc1911-25 Inst : GC4G
Misc : op97520,g4g1919,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Oct 06 11:37:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	95	0.00	1.51- 1.57
2	SAB	Tetrachloro-m-xylene	0.861	0.841	2.3	92	0.00	1.96- 2.02
3	A	alpha-BHC	1.214	1.137	6.3	93	0.00	2.36- 2.42
4	MA	gamma-BHC	1.153	1.021	11.4	91	0.00	2.61- 2.67
5	MA	Heptachlor	1.057	1.009	4.5	97	0.00	3.04- 3.10
6	B	beta-BHC	0.508	0.446	12.2	89	0.00	2.68- 2.74
7	B	delta-BHC	1.001	0.887	11.4	91	0.00	2.84- 2.90
8	MB	Aldrin	1.061	0.937	11.7	89	0.00	3.34- 3.40
9	B	Heptachlor Epoxide	0.962	0.795	17.4	81	0.00	4.00- 4.06
10	B	gamma-Chlordane	1.083	0.903	16.6	89	0.00	4.15- 4.21
11	B	alpha-Chlordane	1.004	0.849	15.4	86	0.00	4.31- 4.37
12	A	Endosulfan I	0.975	0.844	13.4	87	0.00	4.48- 4.54
13	B	4,4'-DDE	0.997	0.868	12.9	89	0.00	4.42- 4.48
14	MA	Dieldrin	1.012	0.886	12.5	88	0.00	4.78- 4.84
15	MA	Endrin	0.732	0.846	-15.6	120	0.00	5.09- 5.15
16	A	4,4'-DDD	0.810	0.711	12.2	87	0.00	5.22- 5.28
17	B	Endosulfan II	0.922	0.807	12.5	90	0.00	5.40- 5.46
18	MA	4,4'-DDT	0.733	0.742	-1.2	107	0.00	5.61- 5.67
19	B	Endrin Aldehyde	0.769	0.642	16.5	83	0.00	6.01- 6.07
20	B	Endosulfan Sulfate	0.722	0.691	4.3	97	0.00	6.68- 6.74
21	A	Methoxychlor	0.362	0.421	-16.3	117	0.00	6.39- 6.45
22		Mirex	0.799	0.690	13.6	88	0.00	6.47- 6.53
23	B	Endrin Ketone	0.919	0.833	9.4	92	0.00	7.09- 7.15
24	SA	Decachlorobiphenyl	0.945	0.813	14.0	89	0.00	8.85- 8.91

***** Signal #2 *****

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	98	0.00	1.30- 1.36
2	SAB	Tetrachloro-m-xylene	0.889	0.833	6.3	96	0.00	1.85- 1.91
3	A	alpha-BHC	1.165	1.141	2.1	98	0.00	2.33- 2.39
4	MA	gamma-BHC	1.060	0.988	6.8	93	0.00	2.65- 2.71
5	MA	Heptachlor	1.086	0.869	20.0	83	0.00	3.09- 3.15
6	B	beta-BHC	0.500	0.451	9.8	92	0.00	2.73- 2.79
7	B	delta-BHC	0.838	0.857	-2.3	102	0.00	3.03- 3.09
8	MB	Aldrin	1.039	0.945	9.0	92	0.00	3.44- 3.50
9	B	Heptachlor Epoxide	0.963	0.849	11.8	90	0.00	4.12- 4.18
10	B	gamma-Chlordane	0.973	0.847	12.9	89	0.00	4.37- 4.43
11	B	alpha-Chlordane	0.957	0.834	12.9	90	0.00	4.56- 4.62
12	A	Endosulfan I	0.938	0.814	13.2	90	0.00	4.63- 4.69
13	B	4,4'-DDE	0.929	0.851	8.4	94	0.00	4.83- 4.89

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G4G1919-CC1911
Lab FileID: 4G73351.D

14	MA	Dieldrin	0.967	0.883	8.7	93	0.00	5.01- 5.07
15	MA	Endrin	0.729	0.817	-12.1	115	0.00	5.45- 5.51
16	A	4,4'-DDD	0.728	0.696	4.4	97	0.00	5.68- 5.74
17	B	Endosulfan II	0.895	0.811	9.4	91	0.00	5.78- 5.84
18	MA	4,4'-DDT	0.502	0.477	5.0	93	0.00	6.16- 6.22
19	B	Endrin Aldehyde	0.700	0.617	11.9	89	0.00	6.31- 6.37
20	B	Endosulfan Sulfate	0.632	0.675	-6.8	108	0.00	6.74- 6.80
21	A	Methoxychlor	0.290	0.291	-0.3	101	0.00	7.35- 7.41
22		Mirex	0.715	0.656	8.3	95	0.00	7.51- 7.57
23	B	Endrin Ketone	0.799	0.796	0.4	101	0.00	7.62- 7.68
24	SA	Decachlorobiphenyl	0.747	0.779	-4.3	105	0.00	9.80- 9.86

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72948.D 4PST1911.M Fri Oct 07 08:32:46 2016 RPT1

8.10.10
8

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73382.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\4G1920\4g73382.D\ECD1A.ch Vial: 4
Signal #2 : C:\msdchem\1\DATA\4G1920\4g73382.D\ECD2B.ch
Acq On : 7 Oct 2016 9:09 am Operator: rebeccak
Sample : cc1911-50 Inst : GC4G
Misc : op97536,g4g1920,15.3,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Oct 06 11:37:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	106	0.00	1.50- 1.56
2	SAB	Tetrachloro-m-xylene	0.861	0.860	0.1	104	0.00	1.96- 2.02
3	A	alpha-BHC	1.214	1.215	-0.1	106	0.00	2.36- 2.42
4	MA	gamma-BHC	1.153	1.079	6.4	102	0.00	2.61- 2.67
5	MA	Heptachlor	1.057	1.053	0.4	109	0.00	3.04- 3.10
6	B	beta-BHC	0.508	0.456	10.2	100	0.00	2.68- 2.74
7	B	delta-BHC	1.001	0.970	3.1	102	0.00	2.84- 2.90
8	MB	Aldrin	1.061	0.993	6.4	101	0.00	3.34- 3.40
9	B	Heptachlor Epoxide	0.962	0.851	11.5	95	0.00	4.00- 4.06
10	B	gamma-Chlordane	1.083	0.891	17.7	96	0.00	4.15- 4.21
11	B	alpha-Chlordane	1.004	0.867	13.6	96	0.00	4.31- 4.37
12	A	Endosulfan I	0.975	0.862	11.6	98	0.00	4.48- 4.54
13	B	4,4'-DDE	0.997	0.895	10.2	99	0.00	4.42- 4.48
14	MA	Dieldrin	1.012	0.928	8.3	100	0.00	4.78- 4.84
15	MA	Endrin	0.732	0.868	-18.6	134	0.00	5.08- 5.14
16	A	4,4'-DDD	0.810	0.751	7.3	99	0.00	5.21- 5.27
17	B	Endosulfan II	0.922	0.822	10.8	100	0.00	5.40- 5.46
18	MA	4,4'-DDT	0.733	0.735	-0.3	111	0.00	5.61- 5.67
19	B	Endrin Aldehyde	0.769	0.658	14.4	94	0.00	6.01- 6.07
20	B	Endosulfan Sulfate	0.722	0.715	1.0	109	0.00	6.68- 6.74
21	A	Methoxychlor	0.362	0.402	-11.0	120	0.00	6.38- 6.44
22		Mirex	0.799	0.671	16.0	97	0.00	6.47- 6.53
23	B	Endrin Ketone	0.919	0.852	7.3	102	0.00	7.09- 7.15
24	SA	Decachlorobiphenyl	0.945	0.752	20.4#	93	0.00	8.85- 8.91
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	108	0.00	1.43- 1.63
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	106	0.00	1.43- 1.63
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

***** Signal #2 *****

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73382.D
Project: HLANJPR: Study Area 6 Chrome Remedy

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	109	0.00	1.29- 1.35
2	SAB	Tetrachloro-m-xylene	0.889	0.857	3.6	107	0.00	1.85- 1.91
3	A	alpha-BHC	1.165	1.232	-5.8	108	0.00	2.33- 2.39
4	MA	gamma-BHC	1.060	1.055	0.5	104	0.00	2.65- 2.71
5	MA	Heptachlor	1.086	1.027	5.4	106	0.00	3.09- 3.15
6	B	beta-BHC	0.500	0.455	9.0	100	0.00	2.72- 2.78
7	B	delta-BHC	0.838	0.965	-15.2	115	0.00	3.03- 3.09
8	MB	Aldrin	1.039	0.992	4.5	103	0.00	3.44- 3.50
9	B	Heptachlor Epoxide	0.963	0.871	9.6	100	0.00	4.12- 4.18
10	B	gamma-Chlordane	0.973	0.889	8.6	101	0.00	4.37- 4.43
11	B	alpha-Chlordane	0.957	0.866	9.5	101	0.00	4.56- 4.62
12	A	Endosulfan I	0.938	0.842	10.2	101	0.00	4.63- 4.69
13	B	4,4'-DDE	0.929	0.885	4.7	104	0.00	4.82- 4.88
14	MA	Dieldrin	0.967	0.922	4.7	104	0.00	5.01- 5.07
15	MA	Endrin	0.729	0.852	-16.9	128	0.00	5.45- 5.51
16	A	4,4'-DDD	0.728	0.739	-1.5	110	-0.01	5.68- 5.74
17	B	Endosulfan II	0.895	0.831	7.2	102	0.00	5.78- 5.84
18	MA	4,4'-DDT	0.502	0.588	-17.1	114	0.00	6.15- 6.21
19	B	Endrin Aldehyde	0.700	0.637	9.0	99	0.00	6.30- 6.37
20	B	Endosulfan Sulfate	0.632	0.687	-8.7	117	0.00	6.74- 6.80
21	A	Methoxychlor	0.290	0.336	-15.9	122	0.00	7.35- 7.41
22		Mirex	0.715	0.630	11.9	103	0.00	7.51- 7.57
23	B	Endrin Ketone	0.799	0.826	-3.4	113	0.00	7.61- 7.67
24	SA	Decachlorobiphenyl	0.747	0.725	2.9	109	0.00	9.80- 9.86
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	108	0.00	1.22- 1.42
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	105	0.00	1.22- 1.42
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72949.D 4PST1911.M Fri Oct 07 15:45:45 2016 RPT1

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73403.D
Project: HLANJPR: Study Area 6 Chrome Remedy

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\4G1920\4g73403.D\ECD1A.ch Vial: 2
Signal #2 : C:\msdchem\1\DATA\4G1920\4g73403.D\ECD2B.ch
Acq On : 7 Oct 2016 5:10 pm Operator: dharas
Sample : cc1911-25 Inst : GC4G
Misc : op97573,g4g1920,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\4PST1911.M (ChemStation Integrator)
Title : PEST/PCB
Last Update : Thu Oct 06 11:37:41 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	107	0.00	1.50- 1.56
2	SAB	Tetrachloro-m-xylene	0.861	0.860	0.1	106	0.00	1.96- 2.02
3	A	alpha-BHC	1.214	1.147	5.5	106	0.00	2.36- 2.42
4	MA	gamma-BHC	1.153	1.034	10.3	104	0.00	2.61- 2.67
5	MA	Heptachlor	1.057	1.019	3.6	111	0.00	3.04- 3.10
6	B	beta-BHC	0.508	0.460	9.4	103	0.00	2.68- 2.74
7	B	delta-BHC	1.001	0.894	10.7	104	0.00	2.84- 2.90
8	MB	Aldrin	1.061	0.956	9.9	103	0.00	3.34- 3.40
9	B	Heptachlor Epoxide	0.962	0.840	12.7	97	0.00	4.00- 4.06
10	B	gamma-Chlordane	1.083	0.848	21.7#	95	0.00	4.15- 4.21
11	B	alpha-Chlordane	1.004	0.848	15.5	97	0.00	4.31- 4.37
12	A	Endosulfan I	0.975	0.850	12.8	100	0.00	4.48- 4.54
13	B	4,4'-DDE	0.997	0.865	13.2	100	0.00	4.42- 4.48
14	MA	Dieldrin	1.012	0.897	11.4	101	0.00	4.78- 4.84
15	MA	Endrin	0.732	0.841	-14.9	135	0.00	5.08- 5.14
16	A	4,4'-DDD	0.810	0.726	10.4	101	0.00	5.22- 5.28
17	B	Endosulfan II	0.922	0.805	12.7	101	0.00	5.40- 5.46
18	MA	4,4'-DDT	0.733	0.693	5.5	112	0.00	5.61- 5.67
19	B	Endrin Aldehyde	0.769	0.648	15.7	95	0.00	6.01- 6.07
20	B	Endosulfan Sulfate	0.722	0.700	3.0	111	0.00	6.68- 6.74
21	A	Methoxychlor	0.362	0.399	-10.2	126	0.00	6.39- 6.45
22		Mirex	0.799	0.694	13.1	100	0.00	6.47- 6.53
23	B	Endrin Ketone	0.919	0.795	13.5	99	0.00	7.09- 7.15
24	SA	Decachlorobiphenyl	0.945	0.810	14.3	101	0.00	8.85- 8.91
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.43- 1.63
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.43- 1.63
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

***** Signal #2 *****

Continuing Calibration Summary

Job Number: JC28902 **Sample:** G4G1920-CC1911
Account: HWINJM Honeywell International Inc. **Lab FileID:** 4G73403.D
Project: HLANJPR: Study Area 6 Chrome Remedy

1	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	108	0.00	1.29- 1.35
2	SAB	Tetrachloro-m-xylene	0.889	0.849	4.5	108	0.00	1.85- 1.91
3	A	alpha-BHC	1.165	1.170	-0.4	111	0.00	2.33- 2.39
4	MA	gamma-BHC	1.060	1.014	4.3	105	0.00	2.65- 2.71
5	MA	Heptachlor	1.086	1.027	5.4	108	0.00	3.09- 3.15
6	B	beta-BHC	0.500	0.464	7.2	104	0.00	2.73- 2.79
7	B	delta-BHC	0.838	0.881	-5.1	115	0.00	3.03- 3.09
8	MB	Aldrin	1.039	0.967	6.9	104	0.00	3.44- 3.50
9	B	Heptachlor Epoxide	0.963	0.857	11.0	99	0.00	4.12- 4.18
10	B	gamma-Chlordane	0.973	0.875	10.1	101	0.00	4.37- 4.43
11	B	alpha-Chlordane	0.957	0.855	10.7	102	0.00	4.56- 4.62
12	A	Endosulfan I	0.938	0.836	10.9	101	0.00	4.63- 4.69
13	B	4,4'-DDE	0.929	0.863	7.1	105	0.00	4.82- 4.88
14	MA	Dieldrin	0.967	0.897	7.2	104	0.00	5.01- 5.07
15	MA	Endrin	0.729	0.830	-13.9	129	0.00	5.45- 5.51
16	A	4,4'-DDD	0.728	0.716	1.6	110	0.00	5.68- 5.74
17	B	Endosulfan II	0.895	0.829	7.4	103	0.00	5.78- 5.84
18	MA	4,4'-DDT	0.502	0.561	-11.8	121	0.00	6.15- 6.21
19	B	Endrin Aldehyde	0.700	0.634	9.4	101	0.00	6.31- 6.37
20	B	Endosulfan Sulfate	0.632	0.678	-7.3	119	0.00	6.74- 6.80
21	A	Methoxychlor	0.290	0.352	-21.4#	134	0.00	7.35- 7.41
22		Mirex	0.715	0.666	6.9	106	0.00	7.51- 7.57
23	B	Endrin Ketone	0.799	0.772	3.4	107	0.00	7.61- 7.67
24	SA	Decachlorobiphenyl	0.747	0.777	-4.0	116	0.00	9.80- 9.86
25	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.22- 1.42
26	L8	Toxaphene{A}		----------NA----------				
27	L8	Toxaphene{B}		----------NA----------				
28	L8	Toxaphene{C}		----------NA----------				
29	L8	Toxaphene{D}		----------NA----------				
30	L8	Toxaphene{E}		----------NA----------				
31	I	1-bromo-2-nitrobenzene	1.000	1.000	0.0	0#	0.00	1.22- 1.42
32		Chlordane {A}		----------NA----------				
33		Chlordane {B}		----------NA----------				
34		Chlordane {C}		----------NA----------				
35		Chlordane {D}		----------NA----------				
36		Chlordane {E}		----------NA----------				

(#) = Out of Range SPCC's out = 0 CCC's out = 0
4g72948.D 4PST1911.M Mon Oct 10 11:38:10 2016 RPT1

8.10.12

8

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Y1190-ICC1190
Lab FileID: 5Y35988.D

Response Factor Report GC5Y5Z

Method : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Thu Sep 01 09:01:07 2016
Response via : Initial Calibration

Calibration Files
5 =5y35985.D 10 =5y35986.D 50 =5y35988.D 100 =5y35989.D
2 =5y35984.D 20 =5y35987.D =

Compound	5	10	50	100	2	20	Avg	%RSD
1)T C9	7.953	8.186	8.036	8.026	7.967	8.165	8.055 E5	1.22
2)T C10	8.019	8.274	8.115	8.103	8.073	8.251	8.139 E5	1.25
3)T C12	8.124	8.416	8.245	8.257	8.202	8.395	8.273 E5	1.36
4)T C14	8.280	8.608	8.431	8.404	8.385	8.561	8.445 E5	1.43
5)T C16	8.537	8.882	8.625	8.528	8.730	8.794	8.683 E5	1.65
6)T C18	8.814	9.173	8.838	8.519	9.055	9.033	8.906 E5	2.62
7)T C20	8.969	9.318	8.916	8.730	9.235	9.151	9.053 E5	2.44
8)T C21	9.075	9.451	9.020	8.805	9.335	9.286	9.162 E5	2.60
9)T C22	9.188	9.484	8.998	8.765	9.702	9.299	9.239 E5	3.63
10)T C24	9.137	9.464	8.984	8.716	9.537	9.288	9.188 E5	3.35
11)T C26	9.219	9.504	8.977	8.665	9.686	9.304	9.226 E5	3.97
12)T C28	9.008	9.328	8.835	8.496	9.336	9.155	9.026 E5	3.58
13)H EPH (C9-C28)	8.694	9.007	8.668	8.501	8.937	8.890	8.783 E5	2.20
14)T C30	9.133	9.407	8.859	8.507	9.552	9.242	9.117 E5	4.18
15)T C32	8.945	9.308	8.756	8.403	9.301	9.101	8.969 E5	3.89
16)T C34	8.626	8.958	8.392	8.055	9.034	8.746	8.635 E5	4.24
17)T C36	8.541	8.936	8.311	7.984	8.954	8.671	8.566 E5	4.37
18)T C38	8.240	8.681	7.967	7.677	8.667	8.308	8.257 E5	4.76
19)T C40	7.655	8.054	7.576	7.334	7.911	7.878	7.735 E5	3.40
20)H EPH (>C28-C40)	8.523	8.891	8.310	7.993	8.903	8.658	8.546 E5	4.12
21)H TOTAL PHC	8.637	8.969	8.549	8.332	8.926	8.813	8.704 E5	2.80
22)S o-Terphenyl (S)	9.505	9.885	9.569	9.437	9.761	9.763	9.653 E5	1.81
23)S 1-chlorooctadecan	7.822	8.146	7.797	7.620	8.043	8.012	7.907 E5	2.46
24)S 2-Fluorobiphenyl							0.000#	-1.00
25)S 2-Bromonaphthalen							0.000#	-1.00

(#) = Out of Range

EPH5Y1190.M Thu Sep 01 09:06:12 2016

8.10.13
8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Y1190-ICV1190
Lab FileID: 5Y35990.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Y1190\5y35990.D Vial: 17
Acq On : 1 Sep 2016 2:16 am Operator: sarahp1
Sample : icv1190-50 Inst : GC5Y5Z
Misc : op96611,g5y1190,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Thu Sep 01 09:01:07 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	744.966 E3	7.5	93	0.00	3.40- 3.46
2	T	C10	813.928	748.854 E3	8.0	92	0.00	4.37- 4.43
3	T	C12	827.299	745.180 E3	9.9	90	0.00	6.35- 6.41
4	T	C14	844.484	786.633 E3	6.9	93	0.00	8.16- 8.22
5	T	C16	868.268	798.085 E3	8.1	93	0.00	9.79- 9.85
6	T	C18	890.552	802.201 E3	9.9	91	0.00	11.27-11.33
7	T	C20	905.330	813.193 E3	10.2	91	0.00	12.67-12.73
8	T	C21	916.198	813.063 E3	11.3	90	0.00	13.36-13.42
9	T	C22	923.910	818.830 E3	11.4	91	0.00	14.05-14.11
10	T	C24	918.775	813.764 E3	11.4	91	0.00	15.37-15.43
11	T	C26	922.586	810.254 E3	12.2	90	0.00	16.63-16.69
12	T	C28	902.633	801.729 E3	11.2	91	0.00	17.81-17.87
13	H	EPH (C9-C28)	878.291	791.396 E3	9.9	91	0.00	3.30-18.10
14	T	C30	911.681	801.910 E3	12.0	91	0.00	18.93-18.99
15	T	C32	896.888	786.318 E3	12.3	90	0.00	19.98-20.04
16	T	C34	863.538	776.202 E3	10.1	92	0.00	20.97-21.05
17	T	C36	856.611	744.374 E3	13.1	90	0.00	22.03-22.09
18	T	C38	825.673	718.862 E3	12.9	90	0.00	23.35-23.41
19	T	C40	773.463	694.937 E3	10.2	92	0.00	25.11-25.17
20	H	EPH (>C28-C40)	854.642	753.767 E3	11.8	91	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	778.853 E3	10.5	91	0.00	3.30-25.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y35990.D EPH5Y1190.M Thu Sep 01 09:02:30 2016

8.10.14
8

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G5Y1211-CC1190
Lab FileID: 5Y36625.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Y1211\5y36625.D Vial: 3
Acq On : 6 Oct 2016 10:21 am Operator: sarahp1
Sample : cc1190-50 Inst : GC5Y5Z
Misc : op97508,g5y1211,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Thu Sep 22 09:13:58 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	939.957 E3	-16.7	117	0.00	3.37- 3.43
2	T	C10	813.928	941.832 E3	-15.7	116	0.00	4.34- 4.40
3	T	C12	827.299	919.871 E3	-11.2	112	0.00	6.31- 6.37
4	T	C14	844.484	883.349 E3	-4.6	105	0.00	8.12- 8.18
5	T	C16	868.268	850.501 E3	2.0	99	0.00	9.75- 9.81
6	T	C18	890.552	830.340 E3	6.8	94	0.00	11.22-11.28
7	T	C20	905.330	813.066 E3	10.2	91	0.00	12.63-12.69
8	T	C21	916.198	813.060 E3	11.3	90	0.00	13.32-13.38
9	T	C22	923.910	804.901 E3	12.9	89	0.00	14.00-14.06
10	T	C24	918.775	792.921 E3	13.7	88	0.00	15.32-15.38
11	T	C26	922.586	785.939 E3	14.8	88	0.00	16.57-16.63
12	T	C28	902.633	772.377 E3	14.4	87	0.00	17.76-17.82
13	H	EPH (C9-C28)	878.291	845.676 E3	3.7	98	0.00	3.30-18.10
14	T	C30	911.681	775.411 E3	14.9	88	0.00	18.87-18.93
15	T	C32	896.888	772.994 E3	13.8	88	0.00	19.92-19.98
16	T	C34	863.538	750.116 E3	13.1	89	0.00	20.91-20.99
17	T	C36	856.611	751.962 E3	12.2	90	0.00	21.96-22.02
18	T	C38	825.673	739.019 E3	10.5	93	0.00	23.27-23.33
19	T	C40	773.463	647.903 E3	16.2	86	0.00	25.00-25.06
20	H	EPH (>C28-C40)	854.642	739.568 E3	13.5	89	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	810.307 E3	6.9	94	0.00	3.30-25.30
22	S	o-Terphenyl (S)	965.337	909.051 E3	5.8	95	0.00	11.94-12.00
23	S	1-chlorooctadecane (S)	790.673	689.983 E3	12.7	88	0.00	13.25-13.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y36451.D EPH5Y1190.M Thu Oct 06 14:21:39 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G5Y1211-CC1190
Lab FileID: 5Y36632.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Y1211\5y36632.D Vial: 2
Acq On : 6 Oct 2016 2:41 pm Operator: sarahp1
Sample : cc1190-20 Inst : GC5Y5Z
Misc : op97541,g5y1211,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Thu Oct 06 15:18:54 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	982.289 E3	-21.9	120	0.00	3.37- 3.43
2	T	C10	813.928	984.159 E3	-20.9	119	0.00	4.33- 4.39
3	T	C12	827.299	981.492 E3	-18.6	117	0.00	6.30- 6.36
4	T	C14	844.484	971.984 E3	-15.1	114	0.00	8.12- 8.18
5	T	C16	868.268	960.057 E3	-10.6	109	0.00	9.75- 9.81
6	T	C18	890.552	947.127 E3	-6.4	105	0.00	11.22-11.28
7	T	C20	905.330	926.749 E3	-2.4	101	0.00	12.62-12.68
8	T	C21	916.198	927.207 E3	-1.2	100	0.00	13.31-13.37
9	T	C22	923.910	916.300 E3	0.8	99	0.00	13.99-14.05
10	T	C24	918.775	893.903 E3	2.7	96	0.00	15.31-15.37
11	T	C26	922.586	877.021 E3	4.9	94	0.00	16.57-16.63
12	T	C28	902.633	854.093 E3	5.4	93	0.00	17.75-17.81
13	H	EPH (C9-C28)	878.291	935.198 E3	-6.5	106	0.00	3.30-18.10
14	T	C30	911.681	850.430 E3	6.7	92	0.00	18.87-18.93
15	T	C32	896.888	840.965 E3	6.2	92	0.00	19.91-19.97
16	T	C34	863.538	807.793 E3	6.5	92	0.00	20.90-20.98
17	T	C36	856.611	791.873 E3	7.6	91	0.00	21.95-22.01
18	T	C38	825.673	724.825 E3	12.2	87	0.00	23.25-23.31
19	T	C40	773.463	592.635 E3	23.4	75	0.00	24.98-25.04
20	H	EPH (>C28-C40)	854.642	768.087 E3	10.1	88	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	879.494 E3	-1.0	97	0.00	3.30-25.30
22	S	o-Terphenyl (S)	965.337	1020.885 E3	-5.8	105	0.00	11.93-11.99
23	S	1-chlorooctadecane (S)	790.673	776.699 E3	1.8	97	0.00	13.24-13.30

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y36632.D EPH5Y1190.M Thu Oct 06 15:19:51 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G5Y1211-CC1190
Lab FileID: 5Y36638.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Y1211\5y36638.D Vial: 3
Acq On : 6 Oct 2016 6:06 pm Operator: sarahp1
Sample : cc1190-50 Inst : GC5Y5Z
Misc : op97541,g5y1211,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\METHODS\EPH5Y1190.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Thu Oct 06 15:18:54 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	805.526	961.600 E3	-19.4	120	0.00	3.37- 3.43
2	T	C10	813.928	963.354 E3	-18.4	119	0.00	4.34- 4.40
3	T	C12	827.299	941.164 E3	-13.8	114	0.00	6.31- 6.37
4	T	C14	844.484	917.845 E3	-8.7	109	0.00	8.12- 8.18
5	T	C16	868.268	901.790 E3	-3.9	105	0.00	9.75- 9.81
6	T	C18	890.552	895.449 E3	-0.5	101	0.00	11.22-11.28
7	T	C20	905.330	883.883 E3	2.4	99	0.00	12.63-12.69
8	T	C21	916.198	888.107 E3	3.1	98	0.00	13.32-13.38
9	T	C22	923.910	881.274 E3	4.6	98	0.00	14.00-14.06
10	T	C24	918.775	867.987 E3	5.5	97	0.00	15.32-15.38
11	T	C26	922.586	855.882 E3	7.2	95	0.00	16.58-16.64
12	T	C28	902.633	836.385 E3	7.3	95	0.00	17.76-17.82
13	H	EPH (C9-C28)	878.291	899.560 E3	-2.4	104	0.00	3.30-18.10
14	T	C30	911.681	835.500 E3	8.4	94	0.00	18.87-18.93
15	T	C32	896.888	834.632 E3	6.9	95	0.01	19.92-19.98
16	T	C34	863.538	807.658 E3	6.5	96	0.01	20.91-20.99
17	T	C36	856.611	808.802 E3	5.6	97	0.02	21.96-22.02
18	T	C38	825.673	804.361 E3	2.6	101	0.02	23.27-23.33
19	T	C40	773.463	790.299 E3	-2.2	104	0.03	25.00-25.06
20	H	EPH (>C28-C40)	854.642	813.542 E3	4.8	98	0.00	18.10-25.30
21	H	TOTAL PHC	870.408	870.887 E3	-0.1	101	0.00	3.30-25.30
22	S	o-Terphenyl (S)	965.337	971.458 E3	-0.6	102	0.00	11.94-12.00
23	S	1-chlorooctadecane (S)	790.673	763.558 E3	3.4	98	0.00	13.25-13.31

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5y36451.D EPH5Y1190.M Fri Oct 07 10:23:25 2016

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: G5Z1024-ICC1024
Lab FileID: 5Z29836.D

Response Factor Report GC5Y5Z

Method : C:\msdchem\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Tue Sep 20 09:42:33 2016
Response via : Initial Calibration

Calibration Files
5 =5z29833.D 10 =5z29834.D 50 =5z29836.D 100 =5z29837.D
2 =5z29832.D 20 =5z29835.D =

Compound	5	10	50	100	2	20	Avg	%RSD
1)T C9	7.124	7.464	6.996	6.978	6.882	7.179	7.104 E5	2.90
2)T C10	7.288	7.637	7.151	7.184	7.057	7.312	7.272 E5	2.78
3)T C12	7.579	7.978	7.519	7.591	7.348	7.633	7.608 E5	2.72
4)T C14	7.822	8.303	7.848	7.941	7.738	7.957	7.935 E5	2.49
5)T C16	8.057	8.614	8.146	8.217	8.102	8.305	8.240 E5	2.46
6)T C18	8.292	8.907	8.408	8.443	8.496	8.627	8.529 E5	2.53
7)T C20	8.411	9.045	8.541	8.569	8.679	8.832	8.680 E5	2.63
8)T C21	8.527	9.159	8.678	8.696	8.781	8.996	8.806 E5	2.63
9)T C22	8.569	9.177	8.692	8.709	9.163	9.037	8.891 E5	2.99
10)T C24	8.619	9.106	8.736	8.732	8.980	9.114	8.881 E5	2.40
11)T C26	8.621	9.037	8.762	8.731	9.010	9.144	8.884 E5	2.33
12)T C28	8.569	8.871	8.699	8.657	9.007	9.104	8.818 E5	2.39
13)H EPH (C9-C28)	8.123	8.608	8.181	8.204	8.270	8.437	8.304 E5	2.21
14)T C30	8.734	8.858	8.792	8.729	9.204	9.230	8.924 E5	2.59
15)T C32	8.760	8.783	8.791	8.711	9.223	9.265	8.922 E5	2.81
16)T C34	8.478	8.458	8.488	8.401	8.606	8.973	8.567 E5	2.45
17)T C36	8.461	8.451	8.491	8.398	8.891	8.986	8.613 E5	2.97
18)T C38	8.593	8.427	8.259	8.146	9.033	8.757	8.536 E5	3.85
19)T C40	7.844	7.962	7.920	7.828	8.140	8.358	8.009 E5	2.55
20)H EPH (>C28-C40)	8.478	8.490	8.457	8.369	8.849	8.928	8.595 E5	2.71
21)H TOTAL PHC	8.241	8.569	8.273	8.259	8.463	8.600	8.401 E5	1.95
22)S o-Terphenyl (S)	8.873	9.498	9.018	9.079	9.039	9.211	9.120 E5	2.35
23)S 1-chlorooctadecan	7.341	7.881	7.476	7.499	7.551	7.731	7.580 E5	2.57
24)S 2-Fluorobiphenyl							0.000#	-1.00
25)S 2-Bromonaphthalen							0.000#	-1.00

(#) = Out of Range

EPH5Z1024.M Tue Sep 20 09:50:28 2016

8.10.18

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G5Z1024-ICV1024
Lab FileID: 5Z29838.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Z1024\5z29838.D Vial: 58
Acq On : 19 Sep 2016 9:55 pm Operator: sarahp1
Sample : icv1024-50 Inst : GC5Y5Z
Misc : op97053,g5z1024,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\msdchem\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Tue Sep 20 09:42:33 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	710.380	654.871 E3	7.8	94	0.00	3.16- 3.22
2	T	C10	727.177	679.290 E3	6.6	95	0.00	4.12- 4.18
3	T	C12	760.809	754.321 E3	0.9	100	0.00	6.08- 6.14
4	T	C14	793.477	781.764 E3	1.5	100	0.00	7.89- 7.95
5	T	C16	824.025	821.287 E3	0.3	101	0.00	9.51- 9.57
6	T	C18	852.903	846.616 E3	0.7	101	0.00	10.97-11.03
7	T	C20	867.953	874.717 E3	-0.8	102	0.00	12.35-12.41
8	T	C21	880.596	881.309 E3	-0.1	102	0.00	13.04-13.10
9	T	C22	889.120	891.767 E3	-0.3	103	0.00	13.71-13.77
10	T	C24	888.123	890.268 E3	-0.2	102	0.00	14.85-14.91
11	T	C26	888.421	879.222 E3	1.0	100	0.00	15.73-15.79
12	T	C28	881.780	868.097 E3	1.6	100	0.00	16.69-16.75
13	H	EPH (C9-C28)	830.397	818.627 E3	1.4	100	0.00	3.10-16.90
14	T	C30	892.441	858.999 E3	3.7	98	0.00	17.68-17.74
15	T	C32	892.199	830.685 E3	6.9	94	0.00	18.66-18.72
16	T	C34	856.729	807.111 E3	5.8	95	0.00	19.60-19.68
17	T	C36	861.290	763.630 E3	11.3	90	0.00	20.52-20.58
18	T	C38	853.588	734.803 E3	13.9	89	0.00	21.43-21.49
19	T	C40	800.858	710.971 E3	11.2	90	0.00	22.53-22.59
20	H	EPH (>C28-C40)	859.518	784.366 E3	8.7	93	0.00	16.90-22.70
21	H	TOTAL PHC	840.104	807.207 E3	3.9	96	0.00	3.10-22.70

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5z29836.D EPH5Z1024.M Tue Sep 20 09:43:49 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G5Z1032-CC1024
Lab FileID: 5Z30025.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Z1032\5z30025.D Vial: 2
Acq On : 6 Oct 2016 10:21 am Operator: sarahp1
Sample : cc1024-20 Inst : GC5Y5Z
Misc : op97337,g5z1032,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\MSDCHEM\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Tue Sep 27 16:33:21 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	710.380	791.878 E3	-11.5	110	0.00	3.15- 3.21
2	T	C10	727.177	825.827 E3	-13.6	113	-0.01	4.10- 4.16
3	T	C12	760.809	881.021 E3	-15.8	115	-0.01	6.05- 6.11
4	T	C14	793.477	938.575 E3	-18.3	118	-0.01	7.86- 7.92
5	T	C16	824.025	990.456 E3	-20.2	119	-0.01	9.48- 9.54
6	T	C18	852.903	1021.910 E3	-19.8	118	-0.01	10.95-11.01
7	T	C20	867.953	1038.560 E3	-19.7	118	-0.01	12.32-12.38
8	T	C21	880.596	1048.435 E3	-19.1	117	-0.01	13.01-13.07
9	T	C22	889.120	1044.884 E3	-17.5	116	-0.01	13.68-13.74
10	T	C24	888.123	1033.511 E3	-16.4	113	0.00	14.83-14.89
11	T	C26	888.421	1018.600 E3	-14.7	111	0.00	15.71-15.77
12	T	C28	881.780	994.464 E3	-12.8	109	-0.01	16.66-16.72
13	H	EPH (C9-C28)	830.397	969.010 E3	-16.7	115	0.00	3.10-16.90
14	T	C30	892.441	989.418 E3	-10.9	107	0.00	17.65-17.71
15	T	C32	892.199	977.060 E3	-9.5	105	-0.01	18.63-18.69
16	T	C34	856.729	935.908 E3	-9.2	104	0.00	19.56-19.64
17	T	C36	861.290	930.891 E3	-8.1	104	0.00	20.49-20.55
18	T	C38	853.588	904.990 E3	-6.0	103	-0.01	21.39-21.45
19	T	C40	800.858	870.483 E3	-8.7	104	-0.01	22.47-22.53
20	H	EPH (>C28-C40)	859.518	934.792 E3	-8.8	105	0.00	16.90-22.70
21	H	TOTAL PHC	840.104	957.604 E3	-14.0	110	0.00	3.10-22.70
22	S	o-Terphenyl (S)	911.965	1084.760 E3	-18.9	118	-0.01	11.64-11.70
23	S	1-chlorooctadecane (S)	757.982	900.081 E3	-18.7	116	-0.01	12.94-13.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5z29913.D EPH5Z1024.M Thu Oct 06 14:38:43 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: G5Z1032-CC1024
Lab FileID: 5Z30033.D

Evaluate Continuing Calibration Report

Data File : C:\msdchem\1\DATA\G5Z1032\5z30033.D Vial: 3
Acq On : 6 Oct 2016 3:12 pm Operator: sarahp1
Sample : cc1024-50 Inst : GC5Y5Z
Misc : op97541,g5z1032,15.0,,,2,1 Multiplr: 1.00
IntFile : autoint1.e

Method : C:\MSDCHEM\1\METHODS\EPH5Z1024.M (ChemStation Integrator)
Title : NJDEP Extractable Petroleum Hydrocarbons
Last Update : Tue Sep 27 16:33:21 2016
Response via : Multiple Level Calibration

Min. RRF : 0.100 Min. Rel. Area : 50% Max. R.T. Dev 0.50min
Max. RRF Dev : 30% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	T	C9	710.380	761.994 E3	-7.3	109	0.00	3.15- 3.21
2	T	C10	727.177	787.356 E3	-8.3	110	0.00	4.10- 4.16
3	T	C12	760.809	829.527 E3	-9.0	110	0.00	6.06- 6.12
4	T	C14	793.477	865.430 E3	-9.1	110	0.00	7.87- 7.93
5	T	C16	824.025	889.336 E3	-7.9	109	0.00	9.49- 9.55
6	T	C18	852.903	907.980 E3	-6.5	108	0.00	10.95-11.01
7	T	C20	867.953	918.901 E3	-5.9	108	0.00	12.33-12.39
8	T	C21	880.596	931.371 E3	-5.8	107	0.00	13.01-13.07
9	T	C22	889.120	930.480 E3	-4.7	107	0.00	13.69-13.75
10	T	C24	888.123	932.577 E3	-5.0	107	0.00	14.83-14.89
11	T	C26	888.421	931.749 E3	-4.9	106	0.00	15.71-15.77
12	T	C28	881.780	921.287 E3	-4.5	106	0.00	16.67-16.73
13	H	EPH (C9-C28)	830.397	883.999 E3	-6.5	108	0.00	3.10-16.90
14	T	C30	892.441	924.176 E3	-3.6	105	0.00	17.66-17.72
15	T	C32	892.199	916.880 E3	-2.8	104	0.00	18.63-18.69
16	T	C34	856.729	874.507 E3	-2.1	103	0.00	19.57-19.65
17	T	C36	861.290	862.550 E3	-0.1	102	0.00	20.49-20.55
18	T	C38	853.588	826.510 E3	3.2	100	0.00	21.40-21.46
19	T	C40	800.858	784.876 E3	2.0	99	0.00	22.48-22.54
20	H	EPH (>C28-C40)	859.518	864.917 E3	-0.6	102	0.00	16.90-22.70
21	H	TOTAL PHC	840.104	877.638 E3	-4.5	105	0.00	3.10-22.70
22	S	o-Terphenyl (S)	911.965	972.089 E3	-6.6	108	0.00	11.65-11.71
23	S	1-chlorooctadecane (S)	757.982	801.317 E3	-5.7	107	0.00	12.94-13.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0
5z29836.D EPH5Z1024.M Thu Oct 06 15:39:31 2016

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GOA4125-ICC4125
Lab FileID: OA119877.D

Response Factor Report GCOA

Method : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title : HERB
Last Update : Tue Sep 20 14:28:40 2016
Response via : Initial Calibration

Calibration Files
500 =OA119879.D 400 =OA119878.D 300 =OA119877.D 200 =OA119876.D
100 =OA119875.D 50 =OA119874.D

		Compound	500	400	300	200	100	50	Avg		%RSD
1)		Dalapon	2.368	2.419	2.442	2.598	2.707	2.866	2.567	E7	7.54
2)	S	2,4-DCAA	1.250	1.274	1.312	1.409	1.603	1.838	1.448	E7	15.90
3)		Dicamba	7.572	7.792	8.027	8.303	8.722	9.195	8.268	E7	7.33
4)		MCPP	3.165	3.150	3.083	3.080	2.909		3.077	E4	3.31
5)		MCPA	4.487	4.461	4.380	4.433	4.216		4.395	E4	2.45
6)		Dichloroprop	1.518	1.581	1.665	1.813	2.112	2.363	1.842	E7	18.00
7)		2,4-D	1.819	1.904	1.982	2.167	2.473	2.748	2.182	E7	16.58
8)		Pentachlorophenol	4.804	4.805	4.660	4.778	4.653	4.628	4.721	E8	1.75
9)		2,4,5-TP	1.370	1.403	1.407	1.457	1.488	1.547	1.445	E8	4.51
10)		2,4,5-T	1.299	1.319	1.323	1.350	1.385	1.420	1.349	E8	3.39
11)		2,4-DB	0.998	1.026	1.051	1.126	1.358	1.316	1.146	E7	13.52
12)		Dinoseb	5.288	5.450	5.536	5.914	5.867	6.369	5.738	E7	6.85
13)		Picloram	1.280	1.344	1.332	1.369	1.296	1.305	1.321	E8	2.52

Signal #2

		Compound	500	400	300	200	100	50	Avg		%RSD
1)		Dalapon	1.026	1.055	1.073	1.144	1.195	1.257	1.125	E7	7.96
2)	S	2,4-DCAA	0.683	0.705	0.724	0.777	0.876	1.016	0.797	E7	16.00
3)		Dicamba	2.882	3.010	3.126	3.299	3.559	3.953	3.305	E7	11.97
4)		MCPP	3.130	3.271	3.449	3.818	4.418		3.617	E4	14.28
5)		MCPA	4.903	5.155	5.528	6.278	7.656		5.904	E4	18.77
6)		Dichloroprop	0.707	0.737	0.772	0.840	0.964	1.103	0.854	E7	17.89
7)		2,4-D	0.946	0.985	1.010	1.089	1.204	1.369	1.100	E7	14.57
8)		Pentachlorophenol	1.572	1.621	1.598	1.658	1.685	1.741	1.646	E8	3.76
9)		2,4,5-TP	5.044	5.204	5.287	5.542	5.759	6.129	5.494	E7	7.31
10)		2,4,5-T	5.161	5.277	5.323	5.552	5.691	6.298	5.550	E7	7.46
11)		2,4-DB	5.687	5.850	5.933	6.367	7.009	8.603	6.575	E6	16.76
12)		Dinoseb	2.610	2.684	2.746	2.901	3.084	3.384	2.901	E7	10.02
13)		Picloram	4.120	4.239	4.368	4.586	4.920	5.372	4.601	E7	10.25

(#) = Out of Range

HOA4125.M Tue Sep 20 14:31:46 2016 RPT1

8.10.22
8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GOA4125-ICV4125
Lab FileID: OA119880.D

Evaluate Continuing Calibration Report

Signal #1 : C:\MSDCHEM\1\DATA\GOA4125\OA119880.D\ECD1A.CH Vial: 8
Signal #2 : C:\MSDCHEM\1\DATA\GOA4125\OA119880.D\ECD2B.CH
Acq On : 9-20-16 01:14:14 PM Operator: vinced
Sample : icv4125-300 Inst : GCOA
Misc : op97082,GOA4125,100,,,10,1 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title : HERB
Last Update : Tue Sep 20 14:28:40 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF		%Dev	Area%	Dev(min)	RT Window
1		Dalapon	25.667	26.058	E6	-1.5	107	0.00	2.30- 2.36
2	S	2,4-DCAA	14.477	13.287	E6	8.2	101	0.00	7.16- 7.22
3		Dicamba	82.685	83.685	E6	-1.2	104	0.00	7.35- 7.41
4		MCPP	30.773	32.522	E3	-5.7	105	0.00	7.60- 7.66
5		MCPA	43.955	43.234	E3	1.6	99	0.00	7.77- 7.83
6		Dichloroprop	18.421	15.831	E6	14.1	95	0.00	8.20- 8.26
7		2,4-D	21.820	20.880	E6	4.3	105	0.00	8.48- 8.54
8		Pentachlorophenol	472.131	401.625	E6	14.9	86	0.00	8.70- 8.76
9		2,4,5-TP	144.525	147.302	E6	-1.9	105	0.00	9.52- 9.58
10		2,4,5-T	134.940	147.574	E6	-9.4	112	0.00	9.87- 9.93
11		2,4-DB	11.459	11.040	E6	3.7	105	0.00	10.58-10.64
12		Dinoseb	57.376	65.123	E6	-13.5	118	0.00	12.00-12.06
13		Picloram	132.126	105.815	E6	19.9	79	0.00	11.75-11.81

***** Signal #2 *****

1		Dalapon	11.250	11.463	E6	-1.9	107	0.00	2.48- 2.54
2	S	2,4-DCAA	7.968	7.313	E6	8.2	101	0.00	8.02- 8.08
3		Dicamba	33.048	32.930	E6	0.4	105	0.00	8.25- 8.31
4		MCPP	36.173	35.978	E3	0.5	104	0.00	8.40- 8.46
5		MCPA	59.040	56.303	E3	4.6	102	0.00	8.71- 8.77
6		Dichloroprop	8.538	7.418	E6	13.1	96	0.00	9.16- 9.22
7		2,4-D	11.005	10.773	E6	2.1	107	0.00	9.59- 9.65
8		Pentachlorophenol	164.597	139.505	E6	15.2	87	0.00	10.09-10.15
9		2,4,5-TP	54.943	56.353	E6	-2.6	107	0.00	10.70-10.76
10		2,4,5-T	55.505	58.781	E6	-5.9	110	0.00	11.25-11.31
11		2,4-DB	6.575	6.305	E6	4.1	106	0.00	11.97-12.03
12		Dinoseb	29.015	32.435	E6	-11.8	118	0.00	12.37-12.43
13		Picloram	46.008	35.411	E6	23.0#	81	0.00	13.82-13.88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OA119877.D HOA4125.M Tue Sep 20 14:32:14 2016 RPT1

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GOA4139-CC4125
Lab FileID: OA120267.D

Evaluate Continuing Calibration Report

Data File : C:\MSDCHEM\1\DATA\GOA4139\OA120267.D\ECD1A.CH Vial: 2
Acq On : 10-7-16 09:18:54 AM Operator: vinced
Sample : cc4125-200 Inst : GCOA
Misc : op97511,GOA4139,15.8,,,5,1 Multiplr: 1.00
IntFile : autoint1.e

Data File : C:\MSDCHEM\1\DATA\GOA4139\OA120267.D\ECD2B.CH Vial: 2
Acq On : 10-7-16 09:18:53 AM Operator: vinced
Sample : cc4125-200 Inst : GCOA
Misc : op97511,GOA4139,15.8,,,5,1 Multiplr: 1.00
IntFile : autoint2.e

Method : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title : HERB
Last Update : Fri Oct 07 14:31:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	Dalapon	25.667	28.399 E6	-10.6	109	0.00	2.29- 2.35
2 S	2,4-DCAA	14.477	15.970 E6	-10.3	113	0.00	7.16- 7.22
3	Dicamba	82.685	91.454 E6	-10.6	110	0.00	7.35- 7.41
4	MCPP	30.773	32.133 E3	-4.4	104	0.00	7.60- 7.66
5	MCPA	43.955	44.928 E3	-2.2	101	0.00	7.77- 7.83
6	Dichloroprop	18.421	21.395 E6	-16.1	118	0.00	8.20- 8.26
7	2,4-D	21.820	25.442 E6	-16.6	117	0.00	8.48- 8.54
8	Pentachlorophenol	472.131	537.735 E6	-13.9	113	0.00	8.70- 8.76
9	2,4,5-TP	144.525	164.863 E6	-14.1	113	0.00	9.52- 9.58
10	2,4,5-T	134.940	151.466 E6	-12.2	112	0.00	9.88- 9.94
11	2,4-DB	11.459	14.074 E6	-22.8#	125	0.00	10.59-10.65
12	Dinoseb	57.376	69.809 E6	-21.7#	118	0.00	12.00-12.06
13	Picloram	132.126	147.862 E6	-11.9	108	0.00	11.75-11.81
*****	Signal #2 *****						
1	Dalapon	11.250	10.610 E6	5.7	93	0.00	2.48- 2.54
2 S	2,4-DCAA	7.968	7.944 E6	0.3	102	0.00	8.02- 8.08
3	Dicamba	33.048	32.960 E6	0.3	100	0.00	8.25- 8.31
4	MCPP	36.173	40.796 E3	-12.8	107	0.00	8.41- 8.47
5	MCPA	59.040	70.509 E3	-19.4	112	0.00	8.72- 8.78
6	Dichloroprop	8.538	8.104 E6	5.1	96	0.00	9.17- 9.23
7	2,4-D	11.005	10.982 E6	0.2	101	0.00	9.59- 9.65
8	Pentachlorophenol	164.597	168.378 E6	-2.3	102	0.00	10.09-10.15
9	2,4,5-TP	54.943	54.078 E6	1.6	98	0.00	10.71-10.77
10	2,4,5-T	55.505	53.361 E6	3.9	96	0.00	11.25-11.31
11	2,4-DB	6.575	7.081 E6	-7.7	111	0.00	11.98-12.04
12	Dinoseb	29.015	30.851 E6	-6.3	106	0.00	12.38-12.44
13	Picloram	46.008	41.047 E6	10.8	89	0.00	13.82-13.88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OA119876.D HOA4125.M Fri Oct 07 14:31:20 2016 RPT1

8.10.24
8

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GOA4139-CC4125
Lab FileID: OA120276.D

Evaluate Continuing Calibration Report

Signal #1 : C:\MSDCHEM\1\DATA\GOA4139\OA120276.D\ECD1A.CH Vial: 3
Signal #2 : C:\MSDCHEM\1\DATA\GOA4139\OA120276.D\ECD2B.CH
Acq On : 10-7-16 01:34:50 PM Operator: vinced
Sample : cc4125-300 Inst : GCOA
Misc : op97538,GOA4139,15.4,,,5,2 Multiplr: 1.00
IntFile Signal #1: autoint1.e IntFile Signal #2: autoint2.e

Method : C:\MSDCHEM\1\METHODS\HOA4125.M (Chemstation Integrator)
Title : HERB
Last Update : Fri Oct 07 14:31:09 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1		Dalapon	25.667	24.755 E6	3.6	101	-0.02	2.28- 2.34
2	S	2,4-DCAA	14.477	13.176 E6	9.0	100	0.00	7.16- 7.22
3		Dicamba	82.685	81.455 E6	1.5	101	0.00	7.35- 7.41
4		MCPP	30.773	30.259 E3	1.7	98	0.00	7.59- 7.65
5		MCPA	43.955	40.007 E3	9.0	91	0.00	7.76- 7.82
6		Dichloroprop	18.421	17.269 E6	6.3	104	0.00	8.20- 8.26
7		2,4-D	21.820	21.048 E6	3.5	106	0.00	8.48- 8.54
8		Pentachlorophenol	472.131	471.454 E6	0.1	101	0.00	8.70- 8.76
9		2,4,5-TP	144.525	143.743 E6	0.5	102	0.00	9.52- 9.58
10		2,4,5-T	134.940	130.483 E6	3.3	99	0.00	9.87- 9.93
11		2,4-DB	11.459	11.780 E6	-2.8	112	0.00	10.59-10.65
12		Dinoseb	57.376	61.099 E6	-6.5	110	0.00	11.99-12.05
13		Picloram	132.126	125.895 E6	4.7	94	0.00	11.75-11.81

***** Signal #2 *****

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1		Dalapon	11.250	10.279 E6	8.6	96	-0.02	2.46- 2.52
2	S	2,4-DCAA	7.968	6.453 E6	19.0	89	0.00	8.02- 8.08
3		Dicamba	33.048	28.808 E6	12.8	92	0.00	8.25- 8.31
4		MCPP	36.173	32.312 E3	10.7	94	0.00	8.40- 8.46
5		MCPA	59.040	50.298 E3	14.8	91	0.00	8.71- 8.77
6		Dichloroprop	8.538	6.919 E6	19.0	90	0.00	9.16- 9.22
7		2,4-D	11.005	8.914 E6	19.0	88	0.00	9.59- 9.65
8		Pentachlorophenol	164.597	142.713 E6	13.3	89	0.00	10.09-10.15
9		2,4,5-TP	54.943	48.378 E6	11.9	92	0.00	10.70-10.76
10		2,4,5-T	55.505	45.265 E6	18.4	85	0.00	11.25-11.31
11		2,4-DB	6.575	5.570 E6	15.3	94	0.00	11.98-12.04
12		Dinoseb	29.015	25.999 E6	10.4	95	0.00	12.37-12.43
13		Picloram	46.008	36.241 E6	21.2#	83	0.00	13.82-13.88

(#) = Out of Range SPCC's out = 0 CCC's out = 0
OA119877.D HOA4125.M Fri Oct 07 14:31:38 2016 RPT1

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICC5786
Lab FileID: XX195648.D

Response Factor Report HP G1530A

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 24 14:53:46 2016
Response via : Initial Calibration

Calibration Files
50 =xx195645.D 250 =xx195646.D 500 =xx195647.D 1000=xx195648.D
2000 =xx195649.D 3000 =xx195650.D

		Compound	50	250	500	1000	2000	3000	Avg		%RSD
1)	S	Tetrachloro-m-xylen	2.204	2.096	2.076	2.090	2.192	2.173	2.139	E7	2.68
2)		AR1221-A				1.160			1.160	E5	0.00
3)		AR1221-B				2.037			2.037	E5	0.00
4)		AR1221-C				6.156			6.156	E5	0.00
5)		AR1221-D				5.282			5.282	E4	0.00
6)		AR1221-E				7.028			7.028	E4	0.00
7)		AR1232-A				5.131			5.131	E5	0.00
8)		AR1232-B				3.495			3.495	E5	0.00
9)		AR1232-C				7.782			7.782	E5	0.00
10)		AR1232-D				2.851			2.851	E5	0.00
11)		AR1232-E				2.749			2.749	E5	0.00
12)		AR1242-A				5.938			5.938	E5	0.00
13)		AR1242-B				1.384			1.384	E6	0.00
14)		AR1242-C				5.074			5.074	E5	0.00
15)		AR1242-D				5.503			5.503	E5	0.00
16)		AR1242-E				6.048			6.048	E5	0.00
17)		AR1248-A				3.066			3.066	E5	0.00
18)		AR1248-B				9.241			9.241	E5	0.00
19)		AR1248-C				8.231			8.231	E5	0.00
20)		AR1248-D				8.498			8.498	E5	0.00
21)		AR1248-E				4.678			4.678	E5	0.00
22)		AR1248-F				9.409			9.409	E5	0.00
23)		AR1248-G				1.025			1.025	E6	0.00
24)		AR1254-A				7.377			7.377	E5	0.00
25)		AR1254-B				9.543			9.543	E5	0.00
26)		AR1254-C				7.598			7.598	E5	0.00
27)		AR1254-D				1.527			1.527	E6	0.00
28)		AR1254-E				1.202			1.202	E6	0.00
29)		AR1254-F				1.077			1.077	E6	0.00
30)		AR1254-G				1.505			1.505	E6	0.00
31)		AR1262-A				1.107			1.107	E6	0.00
32)		AR1262-B				1.792			1.792	E6	0.00
33)		AR1262-C				1.375			1.375	E6	0.00
34)		AR1262-D				4.043			4.043	E6	0.00
35)		AR1262-E				2.394			2.394	E6	0.00
36)		AR1268-A				3.924			3.924	E6	0.00
37)		AR1268-B				4.578			4.578	E6	0.00
38)		AR1268-C				3.485			3.485	E6	0.00
39)		AR1268-D				1.353			1.353	E6	0.00
40)		AR1268-E				9.700			9.700	E6	0.00
41)		AR1016-A	4.296	3.954	3.928	3.862	3.769	3.666	3.912	E5	5.52
42)		AR1016-B	7.876	7.210	7.130	7.023	6.821	6.641	7.117	E5	5.99
43)		AR1016-C	1.776	1.654	1.665	1.670	1.667	1.651	1.680	E6	2.81
44)		AR1016-D	6.453	6.105	6.116	6.093	6.024	5.945	6.123	E5	2.85
45)		AR1016-E	6.806	6.361	6.439	6.455	6.439	6.404	6.484	E5	2.49
46)		AR1260-A	2.095	2.037	2.060	2.065	2.178	2.195	2.105	E6	3.14
47)		AR1260-B	0.994	0.975	0.975	0.968	1.023	1.029	0.994	E6	2.66

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5786-ICC5786
Lab FileID: XX195648.D

48)		AR1260-C	9.106	8.715	8.884	8.849	9.448	9.544	9.091	E5	3.73
49)		AR1260-D	2.643	2.761	2.868	2.857	3.053	3.098	2.880	E6	5.98
50)		AR1260-E	1.792	1.646	1.675	1.667	1.788	1.816	1.731	E6	4.37
51)	S	Decachlorobiphenyl	2.210	2.042	2.021	2.045	2.172	2.207	2.116	E7	4.22

Signal #2

1)	S	Tetrachloro-m-xylen	1.128	1.110	1.079	1.091	1.135	1.140	1.114	E7	2.23
2)		AR1221-A				6.822			6.822	E4	0.00
3)		AR1221-B				1.062			1.062	E5	0.00
4)		AR1221-C				2.651			2.651	E5	0.00
5)		AR1221-D				4.644			4.644	E4	0.00
6)		AR1221-E				3.177			3.177	E4	0.00
7)		AR1232-A				2.316			2.316	E5	0.00
8)		AR1232-B				1.805			1.805	E5	0.00
9)		AR1232-C				3.961			3.961	E5	0.00
10)		AR1232-D				1.639			1.639	E5	0.00
11)		AR1232-E				1.060			1.060	E5	0.00
12)		AR1242-A				3.008			3.008	E5	0.00
13)		AR1242-B				6.931			6.931	E5	0.00
14)		AR1242-C				2.823			2.823	E5	0.00
15)		AR1242-D				2.038			2.038	E5	0.00
16)		AR1242-E				2.702			2.702	E5	0.00
17)		AR1248-A				1.625			1.625	E5	0.00
18)		AR1248-B				4.502			4.502	E5	0.00
19)		AR1248-C				2.464			2.464	E5	0.00
20)		AR1248-D				3.274			3.274	E5	0.00
21)		AR1248-E				3.733			3.733	E5	0.00
22)		AR1248-F				4.670			4.670	E5	0.00
23)		AR1248-G				4.244			4.244	E5	0.00
24)		AR1254-A				4.180			4.180	E5	0.00
25)		AR1254-B				4.656			4.656	E5	0.00
26)		AR1254-C				3.763			3.763	E5	0.00
27)		AR1254-D				7.706			7.706	E5	0.00
28)		AR1254-E				6.092			6.092	E5	0.00
29)		AR1254-F				5.994			5.994	E5	0.00
30)		AR1254-G				7.662			7.662	E5	0.00
31)		AR1262-A				6.132			6.132	E5	0.00
32)		AR1262-B				9.701			9.701	E5	0.00
33)		AR1262-C				7.277			7.277	E5	0.00
34)		AR1262-D				1.758			1.758	E6	0.00
35)		AR1262-E				1.086			1.086	E6	0.00
36)		AR1268-A				1.945			1.945	E6	0.00
37)		AR1268-B				1.836			1.836	E6	0.00
38)		AR1268-C				1.532			1.532	E6	0.00
39)		AR1268-D				5.904			5.904	E5	0.00
40)		AR1268-E				4.342			4.342	E6	0.00
41)		AR1016-A	2.072	1.910	1.882	1.840	1.783	1.752	1.873	E5	6.08
42)		AR1016-B	4.302	3.944	3.854	3.780	3.684	3.610	3.862	E5	6.36
43)		AR1016-C	9.420	8.519	8.405	8.365	8.296	8.236	8.540	E5	5.17
44)		AR1016-D	3.921	3.517	3.436	3.385	3.329	3.287	3.479	E5	6.65
45)		AR1016-E	2.583	2.499	2.459	2.448	2.425	2.408	2.470	E5	2.57
46)		AR1260-A	7.668	7.183	7.169	7.273	7.412	7.413	7.353	E5	2.55
47)		AR1260-B	5.820	5.453	5.418	5.444	5.530	5.532	5.533	E5	2.68
48)		AR1260-C	5.335	5.148	5.128	5.203	5.290	5.314	5.236	E5	1.70
49)		AR1260-D	1.278	1.269	1.285	1.319	1.347	1.345	1.307	E6	2.63
50)		AR1260-E	8.062	7.668	7.717	7.922	8.158	8.253	7.963	E5	2.98
51)	S	Decachlorobiphenyl	1.157	0.926	0.908	0.928	0.979	0.993	0.982	E7	9.37

(#) = Out of Range

8.10.26

8

Initial Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5786-ICC5786
Lab FileID: XX195648.D

PCB5786.M Wed Aug 24 14:58:55 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5786-ICV5786
Lab FileID: XX195655.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...6\xx195655.D\ECD1A.CH Vial: 36
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195655.D\ECD2B.CH
Acq On : 24 Aug 2016 1:09 pm Operator: josephr
Sample : icv5786-1000 Inst : HP G1530A
Misc : op96505,GXX5786,1.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	S	Tetrachloro-m-xylene	21.385	23.677 E6	-10.7	113	0.00	2.77- 2.83
41		AR1016-A	391.249	390.290 E3	0.2	101	0.00	3.15- 3.21
42		AR1016-B	711.705	759.388 E3	-6.7	108	0.00	3.55- 3.61
43		AR1016-C	1.680	1.799 E6	-7.1	108	0.00	4.11- 4.17
44		AR1016-D	612.273	656.654 E3	-7.2	108	0.00	4.28- 4.34
45		AR1016-E	648.408	682.502 E3	-5.3	106	0.00	4.78- 4.85
46		AR1260-A	2.105	2.106 E6	-0.0	102	0.00	7.16- 7.22
47		AR1260-B	993.962	1089.537 E3	-9.6	113	0.00	7.31- 7.37
48		AR1260-C	909.103	992.104 E3	-9.1	112	0.00	7.64- 7.71
49		AR1260-D	2.880	3.233 E6	-12.3	113	0.00	8.09- 8.15
50		AR1260-E	1.731	1.854 E6	-7.1	111	0.00	8.48- 8.54
51	S	Decachlorobiphenyl	21.162	22.259 E6	-5.2	109	0.00	10.01-10.08
*****		Signal #2 *****						
1	S	Tetrachloro-m-xylene	11.139	12.232 E6	-9.8	112	0.00	3.32- 3.38
41		AR1016-A	187.295	188.889 E3	-0.9	103	0.00	3.96- 4.02
42		AR1016-B	386.236	406.162 E3	-5.2	107	0.00	4.51- 4.57
43		AR1016-C	854.000	898.775 E3	-5.2	107	0.00	5.14- 5.20
44		AR1016-D	347.914	364.222 E3	-4.7	108	0.00	5.33- 5.39
45		AR1016-E	247.019	256.690 E3	-3.9	105	0.00	5.98- 6.04
46		AR1260-A	735.326	696.493 E3	5.3	96	0.00	8.59- 8.65
47		AR1260-B	553.265	586.990 E3	-6.1	108	0.00	8.71- 8.77
48		AR1260-C	523.633	555.791 E3	-6.1	107	0.00	9.14- 9.20
49		AR1260-D	1.307	1.422 E6	-8.8	108	0.00	9.49- 9.55
50		AR1260-E	796.347	849.098 E3	-6.6	107	0.00	10.04-10.10
51	S	Decachlorobiphenyl	9.819	9.755 E6	0.7	105	0.00	11.71-11.77

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:08 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5786-ICV5786
Lab FileID: XX195656.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...6\xx195656.D\ECD1A.CH Vial: 37
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195656.D\ECD2B.CH
Acq On    : 24 Aug 2016   1:26 pm                    Operator: josephr
Sample    : icv5786-1000                             Inst    : HP G1530A
Misc      : op96505,GXX5786,1.0,,,10,1               Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
2	AR1221-A	115.968	122.306 E3	-5.5	105	0.00	2.19- 2.39
3	AR1221-B	203.717	211.141 E3	-3.6	104	0.00	2.87- 3.07
4	AR1221-C	615.572	630.515 E3	-2.4	102	0.00	3.08- 3.28
5	AR1221-D	52.818	55.527 E3	-5.1	105	0.00	3.48- 3.68
6	AR1221-E	70.283	72.542 E3	-3.2	103	0.00	3.71- 3.91
24	AR1254-A	737.712	730.099 E3	1.0	99	0.00	5.20- 5.40
25	AR1254-B	954.289	938.756 E3	1.6	98	0.00	5.55- 5.75
26	AR1254-C	759.766	754.251 E3	0.7	99	0.00	5.91- 6.11
27	AR1254-D	1.527	1.509 E6	1.2	99	0.00	6.08- 6.28
28	AR1254-E	1.202	1.186 E6	1.3	99	0.00	6.46- 6.66
29	AR1254-F	1.077	1.068 E6	0.8	99	0.00	6.70- 6.90
30	AR1254-G	1.505	1.497 E6	0.5	99	0.00	7.09- 7.29
*****	Signal #2 *****						
2	AR1221-A	68.215	72.659 E3	-6.5	107	0.00	2.76- 2.82
3	AR1221-B	106.191	111.372 E3	-4.9	105	0.00	3.62- 3.82
4	AR1221-C	265.081	274.045 E3	-3.4	103	0.00	3.89- 4.09
5	AR1221-D	46.442	49.690 E3	-7.0	107	0.00	4.43- 4.63
6	AR1221-E	31.767	34.461 E3	-8.5	108	0.00	4.52- 4.72
24	AR1254-A	417.978	416.167 E3	0.4	100	0.00	6.51- 6.71
25	AR1254-B	465.593	461.935 E3	0.8	99	0.00	6.77- 6.97
26	AR1254-C	376.295	372.595 E3	1.0	99	0.00	7.27- 7.47
27	AR1254-D	770.648	765.276 E3	0.7	99	0.00	7.43- 7.63
28	AR1254-E	609.235	605.768 E3	0.6	99	0.00	7.75- 7.95
29	AR1254-F	599.395	597.515 E3	0.3	100	0.00	8.26- 8.46
30	AR1254-G	766.235	763.102 E3	0.4	100	0.00	8.52- 8.72

```
   (#) = Out of Range              SPCC's out = 0  CCC's out = 0
    xx195648.D PCB5786.M       Wed Aug 24 15:09:09 2016
```

8.10.28

8

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5786-ICV5786
Lab FileID: XX195657.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...6\xx195657.D\ECD1A.CH Vial: 38
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195657.D\ECD2B.CH
Acq On : 24 Aug 2016 1:43 pm Operator: josephr
Sample : icv5786-1000 Inst : HP G1530A
Misc : op96505,GXX5786,1.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
7	AR1232-A	513.144	494.661 E3	3.6	96	0.00	3.08- 3.28
8	AR1232-B	349.540	345.951 E3	1.0	99	0.00	3.48- 3.68
9	AR1232-C	778.245	763.396 E3	1.9	98	0.00	4.04- 4.24
10	AR1232-D	285.104	281.104 E3	1.4	99	0.00	4.20- 4.40
11	AR1232-E	274.868	271.148 E3	1.4	99	0.00	4.71- 4.91
31	AR1262-A	1.107	1.099 E6	0.7	99	0.00	6.70- 6.90
32	AR1262-B	1.792	1.799 E6	-0.4	100	0.00	7.24- 7.44
33	AR1262-C	1.375	1.374 E6	0.1	100	0.00	7.58- 7.78
34	AR1262-D	4.043	4.071 E6	-0.7	101	0.00	8.02- 8.22
35	AR1262-E	2.394	2.403 E6	-0.4	100	0.00	8.45- 8.65
*****	Signal #2 *****						
7	AR1232-A	231.586	229.081 E3	1.1	99	0.00	3.89- 4.09
8	AR1232-B	180.512	179.727 E3	0.4	100	0.00	4.44- 4.64
9	AR1232-C	396.146	391.833 E3	1.1	99	0.00	5.07- 5.27
10	AR1232-D	163.907	163.133 E3	0.5	100	0.00	5.26- 5.46
11	AR1232-E	106.029	107.017 E3	-0.9	101	0.00	5.91- 6.11
31	AR1262-A	613.156	614.246 E3	-0.2	100	0.00	7.99- 8.19
32	AR1262-B	970.145	971.357 E3	-0.1	100	0.00	8.64- 8.84
33	AR1262-C	727.743	735.212 E3	-1.0	101	0.00	9.07- 9.27
34	AR1262-D	1.758	1.773 E6	-0.9	101	0.00	9.42- 9.62
35	AR1262-E	1.086	1.101 E6	-1.4	101	0.00	9.94-10.14

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:10 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5786-ICV5786
Lab FileID: XX195658.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...6\xx195658.D\ECD1A.CH Vial: 39
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195658.D\ECD2B.CH
Acq On : 24 Aug 2016 2:00 pm Operator: josephr
Sample : icv5786-1000 Inst : HP G1530A
Misc : op96505,GXX5786,1.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
12	AR1242-A	593.808	600.737 E3	-1.2	101	0.00	3.48- 3.68
13	AR1242-B	1.384	1.396 E6	-0.9	101	0.00	4.04- 4.24
14	AR1242-C	507.434	515.637 E3	-1.6	102	0.00	4.20- 4.40
15	AR1242-D	550.341	548.099 E3	0.4	100	0.00	4.71- 4.91
16	AR1242-E	604.805	602.154 E3	0.4	100	0.00	5.30- 5.50
36	AR1268-A	3.924	3.952 E6	-0.7	101	0.00	8.45- 8.65
37	AR1268-B	4.578	4.677 E6	-2.2	102	0.00	8.51- 8.71
38	AR1268-C	3.485	3.493 E6	-0.2	100	0.00	8.78- 8.98
39	AR1268-D	1.353	1.368 E6	-1.1	101	0.00	9.28- 9.48
40	AR1268-E	9.700	9.948 E6	-2.6	103	0.00	9.68- 9.88
*****	Signal #2 *****						
12	AR1242-A	300.777	326.382 E3	-8.5	109	0.00	4.44- 4.64
13	AR1242-B	693.144	706.392 E3	-1.9	102	0.00	5.07- 5.27
14	AR1242-C	282.345	290.663 E3	-2.9	103	0.00	5.26- 5.46
15	AR1242-D	203.794	206.947 E3	-1.5	102	0.00	5.91- 6.11
16	AR1242-E	270.245	267.054 E3	1.2	99	0.00	6.51- 6.71
36	AR1268-A	1.945	1.971 E6	-1.3	101	0.00	9.94-10.14
37	AR1268-B	1.836	1.891 E6	-3.0	103	0.00	10.01-10.21
38	AR1268-C	1.532	1.549 E6	-1.1	101	0.00	10.38-10.58
39	AR1268-D	590.372	609.602 E3	-3.3	103	0.00	10.78-10.98
40	AR1268-E	4.342	4.391 E6	-1.1	101	0.00	11.26-11.46

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:11 2016

Initial Calibration Verification

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5786-ICV5786
Lab FileID: XX195659.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...6\xx195659.D\ECD1A.CH Vial: 40
Signal #2 : C:\msdchem\1\DATA\gxx5786\xx195659.D\ECD2B.CH
Acq On : 24 Aug 2016 2:17 pm Operator: josephr
Sample : icv5786-1000 Inst : HP G1530A
Misc : op96505,GXX5786,1.0,,,10,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Wed Aug 24 14:53:46 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

	Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
17	AR1248-A	306.591	289.515 E3	5.6	94	0.00	3.48- 3.68
18	AR1248-B	924.124	929.102 E3	-0.5	101	0.00	4.04- 4.24
19	AR1248-C	823.058	858.406 E3	-4.3	104	0.00	4.45- 4.65
20	AR1248-D	849.812	887.777 E3	-4.5	104	0.00	4.71- 4.91
21	AR1248-E	467.823	495.619 E3	-5.9	106	0.00	4.82- 5.02
22	AR1248-F	940.893	1032.620 E3	-9.7	110	0.00	5.30- 5.50
23	AR1248-G	1.025	1.104 E6	-7.7	108	0.00	5.55- 5.75
*****	Signal #2 *****						
17	AR1248-A	162.475	154.637 E3	4.8	95	0.00	4.44- 4.64
18	AR1248-B	450.220	452.940 E3	-0.6	101	0.00	5.07- 5.27
19	AR1248-C	246.380	253.110 E3	-2.7	103	0.00	5.53- 5.73
20	AR1248-D	327.428	340.601 E3	-4.0	104	0.00	5.91- 6.11
21	AR1248-E	373.318	399.393 E3	-7.0	107	0.00	6.09- 6.29
22	AR1248-F	466.998	506.339 E3	-8.4	108	0.00	6.51- 6.71
23	AR1248-G	424.369	466.444 E3	-9.9	110	0.00	6.84- 7.04

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Wed Aug 24 15:09:12 2016

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5823-CC5786
Lab FileID: XX198038.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...3\xx198038.D\ECD1A.CH Vial: 96
Signal #2 : C:\msdchem\1\DATA\gxx5823\xx198038.D\ECD2B.CH
Acq On : 06 Oct 2016 2:28 pm Operator: humarahb
Sample : cc5786-500 Inst : HP G1530A
Misc : op97555,GXX5823,1000,,,1,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 23 11:13:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	S	Tetrachloro-m-xylene	21.385	22.363 E6	-4.6	108	0.00	2.77- 2.83
2		AR1221-A		----------NA----------				
3		AR1221-B		----------NA----------				
4		AR1221-C		----------NA----------				
5		AR1221-D		----------NA----------				
6		AR1221-E		----------NA----------				
7		AR1232-A		----------NA----------				
8		AR1232-B		----------NA----------				
9		AR1232-C		----------NA----------				
10		AR1232-D		----------NA----------				
11		AR1232-E		----------NA----------				
12		AR1242-A		----------NA----------				
13		AR1242-B		----------NA----------				
14		AR1242-C		----------NA----------				
15		AR1242-D		----------NA----------				
16		AR1242-E		----------NA----------				
17		AR1248-A		----------NA----------				
18		AR1248-B		----------NA----------				
19		AR1248-C		----------NA----------				
20		AR1248-D		----------NA----------				
21		AR1248-E		----------NA----------				
22		AR1248-F		----------NA----------				
23		AR1248-G		----------NA----------				
24		AR1254-A		----------NA----------				
25		AR1254-B		----------NA----------				
26		AR1254-C		----------NA----------				
27		AR1254-D		----------NA----------				
28		AR1254-E		----------NA----------				
29		AR1254-F		----------NA----------				
30		AR1254-G		----------NA----------				
31		AR1262-A		----------NA----------				
32		AR1262-B		----------NA----------				
33		AR1262-C		----------NA----------				
34		AR1262-D		----------NA----------				
35		AR1262-E		----------NA----------				
36		AR1268-A		----------NA----------				
37		AR1268-B		----------NA----------				
38		AR1268-C		----------NA----------				
39		AR1268-D		----------NA----------				
40		AR1268-E		----------NA----------				
41		AR1016-A	391.249	393.159 E3	-0.5	100	0.00	3.16- 3.22

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198038.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42		AR1016-B	711.705	795.151	E3	-11.7	112	0.00	3.55- 3.61
43		AR1016-C	1.680	1.533	E6	8.8	92	0.00	4.12- 4.18
44		AR1016-D	612.273	642.657	E3	-5.0	105	0.00	4.28- 4.34
45		AR1016-E	648.408	682.878	E3	-5.3	106	0.00	4.77- 4.84
46		AR1260-A	2.105	1.814	E6	13.8	88	0.02	7.18- 7.24
47		AR1260-B	993.962	1039.411	E3	-4.6	107	0.00	7.30- 7.36
48		AR1260-C	909.103	785.499	E3	13.6	88	0.00	7.64- 7.71
49		AR1260-D	2.880	2.893	E6	-0.5	101	0.00	8.10- 8.16
50		AR1260-E	1.731	1.191	E6	31.2#	71	0.00	8.52- 8.58
51	S	Decachlorobiphenyl	21.162	22.761	E6	-7.6	113	0.00	9.99-10.06

***** Signal #2 *****

1	S	Tetrachloro-m-xylene	11.139	10.958	E6	1.6	102	0.00	3.31- 3.37
2		AR1221-A	----------NA----------						
3		AR1221-B	----------NA----------						
4		AR1221-C	----------NA----------						
5		AR1221-D	----------NA----------						
6		AR1221-E	----------NA----------						
7		AR1232-A	----------NA----------						
8		AR1232-B	----------NA----------						
9		AR1232-C	----------NA----------						
10		AR1232-D	----------NA----------						
11		AR1232-E	----------NA----------						
12		AR1242-A	----------NA----------						
13		AR1242-B	----------NA----------						
14		AR1242-C	----------NA----------						
15		AR1242-D	----------NA----------						
16		AR1242-E	----------NA----------						
17		AR1248-A	----------NA----------						
18		AR1248-B	----------NA----------						
19		AR1248-C	----------NA----------						
20		AR1248-D	----------NA----------						
21		AR1248-E	----------NA----------						
22		AR1248-F	----------NA----------						
23		AR1248-G	----------NA----------						
24		AR1254-A	----------NA----------						
25		AR1254-B	----------NA----------						
26		AR1254-C	----------NA----------						
27		AR1254-D	----------NA----------						
28		AR1254-E	----------NA----------						
29		AR1254-F	----------NA----------						
30		AR1254-G	----------NA----------						
31		AR1262-A	----------NA----------						
32		AR1262-B	----------NA----------						
33		AR1262-C	----------NA----------						
34		AR1262-D	----------NA----------						
35		AR1262-E	----------NA----------						
36		AR1268-A	----------NA----------						
37		AR1268-B	----------NA----------						
38		AR1268-C	----------NA----------						
39		AR1268-D	----------NA----------						
40		AR1268-E	----------NA----------						
41		AR1016-A	187.295	202.178	E3	-7.9	107	0.00	3.95- 4.01
42		AR1016-B	386.236	381.132	E3	1.3	99	0.00	4.49- 4.55
43		AR1016-C	854.000	782.272	E3	8.4	93	0.00	5.13- 5.19
44		AR1016-D	347.914	325.192	E3	6.5	95	0.00	5.31- 5.37
45		AR1016-E	247.019	224.798	E3	9.0	91	0.00	5.97- 6.03
46		AR1260-A	735.326	769.438	E3	-4.6	107	0.00	8.57- 8.63
47		AR1260-B	553.265	547.083	E3	1.1	101	0.00	8.69- 8.75

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198038.D
Project: HLANJPR: Study Area 6 Chrome Remedy

48		AR1260-C	523.633	486.651	E3	7.1	95	0.00	9.12- 9.18
49		AR1260-D	1.307	1.285	E6	1.7	100	0.00	9.48- 9.54
50		AR1260-E	796.347	649.721	E3	18.4	84	0.00	10.02-10.08
51	S	Decachlorobiphenyl	9.819	9.126	E6	7.1	101	-0.01	11.68-11.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195647.D PCB5786.M Thu Oct 06 15:47:59 2016

8.10.32
8

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5823-CC5786
Lab FileID: XX198044.D

Evaluate Continuing Calibration Report

Signal #1 : C:\msdchem\1\DATA\gx...3\xx198044.D\ECD1A.CH Vial: 3
Signal #2 : C:\msdchem\1\DATA\gxx5823\xx198044.D\ECD2B.CH
Acq On : 06 Oct 2016 4:24 pm Operator: humarahb
Sample : cc5786-1000 Inst : HP G1530A
Misc : op97535,GXX5823,16.4,,,10,1 Multiplr: 1.00
IntFile Signal #1: events.e IntFile Signal #2: events2.e

Method : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title :
Last Update : Fri Sep 23 11:13:15 2016
Response via : Multiple Level Calibration

Min. RRF : 0.000 Min. Rel. Area : 50% Max. R.T. Dev 0.10min
Max. RRF Dev : 20% Max. Rel. Area : 150%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	S	Tetrachloro-m-xylene	21.385	23.255 E6	-8.7	111	0.00	2.77- 2.83
2		AR1221-A		----------NA----------				
3		AR1221-B		----------NA----------				
4		AR1221-C		----------NA----------				
5		AR1221-D		----------NA----------				
6		AR1221-E		----------NA----------				
7		AR1232-A		----------NA----------				
8		AR1232-B		----------NA----------				
9		AR1232-C		----------NA----------				
10		AR1232-D		----------NA----------				
11		AR1232-E		----------NA----------				
12		AR1242-A		----------NA----------				
13		AR1242-B		----------NA----------				
14		AR1242-C		----------NA----------				
15		AR1242-D		----------NA----------				
16		AR1242-E		----------NA----------				
17		AR1248-A		----------NA----------				
18		AR1248-B		----------NA----------				
19		AR1248-C		----------NA----------				
20		AR1248-D		----------NA----------				
21		AR1248-E		----------NA----------				
22		AR1248-F		----------NA----------				
23		AR1248-G		----------NA----------				
24		AR1254-A		----------NA----------				
25		AR1254-B		----------NA----------				
26		AR1254-C		----------NA----------				
27		AR1254-D		----------NA----------				
28		AR1254-E		----------NA----------				
29		AR1254-F		----------NA----------				
30		AR1254-G		----------NA----------				
31		AR1262-A		----------NA----------				
32		AR1262-B		----------NA----------				
33		AR1262-C		----------NA----------				
34		AR1262-D		----------NA----------				
35		AR1262-E		----------NA----------				
36		AR1268-A		----------NA----------				
37		AR1268-B		----------NA----------				
38		AR1268-C		----------NA----------				
39		AR1268-D		----------NA----------				
40		AR1268-E		----------NA----------				
41		AR1016-A	391.249	397.901 E3	-1.7	103	0.00	3.16- 3.22

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198044.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42		AR1016-B	711.705	764.392	E3	-7.4	109	0.00	3.55- 3.61
43		AR1016-C	1.680	1.568	E6	6.7	94	0.00	4.12- 4.18
44		AR1016-D	612.273	657.374	E3	-7.4	108	0.00	4.28- 4.34
45		AR1016-E	648.408	706.503	E3	-9.0	109	0.00	4.77- 4.84
46		AR1260-A	2.105	1.935	E6	8.1	94	0.02	7.18- 7.24
47		AR1260-B	993.962	1096.388	E3	-10.3	113	0.00	7.30- 7.36
48		AR1260-C	909.103	837.828	E3	7.8	95	0.00	7.64- 7.71
49		AR1260-D	2.880	3.149	E6	-9.3	110	0.00	8.10- 8.16
50		AR1260-E	1.731	1.287	E6	25.6#	77	0.00	8.52- 8.58
51	S	Decachlorobiphenyl	21.162	24.923	E6	-17.8	122	0.00	9.99-10.06
*****		Signal #2 *****							
1	S	Tetrachloro-m-xylene	11.139	11.118	E6	0.2	102	0.00	3.31- 3.37
2		AR1221-A	----------NA----------						
3		AR1221-B	----------NA----------						
4		AR1221-C	----------NA----------						
5		AR1221-D	----------NA----------						
6		AR1221-E	----------NA----------						
7		AR1232-A	----------NA----------						
8		AR1232-B	----------NA----------						
9		AR1232-C	----------NA----------						
10		AR1232-D	----------NA----------						
11		AR1232-E	----------NA----------						
12		AR1242-A	----------NA----------						
13		AR1242-B	----------NA----------						
14		AR1242-C	----------NA----------						
15		AR1242-D	----------NA----------						
16		AR1242-E	----------NA----------						
17		AR1248-A	----------NA----------						
18		AR1248-B	----------NA----------						
19		AR1248-C	----------NA----------						
20		AR1248-D	----------NA----------						
21		AR1248-E	----------NA----------						
22		AR1248-F	----------NA----------						
23		AR1248-G	----------NA----------						
24		AR1254-A	----------NA----------						
25		AR1254-B	----------NA----------						
26		AR1254-C	----------NA----------						
27		AR1254-D	----------NA----------						
28		AR1254-E	----------NA----------						
29		AR1254-F	----------NA----------						
30		AR1254-G	----------NA----------						
31		AR1262-A	----------NA----------						
32		AR1262-B	----------NA----------						
33		AR1262-C	----------NA----------						
34		AR1262-D	----------NA----------						
35		AR1262-E	----------NA----------						
36		AR1268-A	----------NA----------						
37		AR1268-B	----------NA----------						
38		AR1268-C	----------NA----------						
39		AR1268-D	----------NA----------						
40		AR1268-E	----------NA----------						
41		AR1016-A	187.295	184.918	E3	1.3	101	0.00	3.95- 4.01
42		AR1016-B	386.236	378.236	E3	2.1	100	0.00	4.50- 4.56
43		AR1016-C	854.000	810.371	E3	5.1	97	0.00	5.13- 5.19
44		AR1016-D	347.914	352.170	E3	-1.2	104	0.00	5.31- 5.37
45		AR1016-E	247.019	233.262	E3	5.6	95	0.00	5.96- 6.02
46		AR1260-A	735.326	768.363	E3	-4.5	106	0.00	8.57- 8.63
47		AR1260-B	553.265	559.232	E3	-1.1	103	0.00	8.69- 8.75

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5823-CC5786
Lab FileID: XX198044.D

48		AR1260-C	523.633	506.163	E3	3.3	97	0.00	9.12- 9.18
49		AR1260-D	1.307	1.346	E6	-3.0	102	0.00	9.48- 9.54
50		AR1260-E	796.347	657.733	E3	17.4	83	0.00	10.02-10.08
51	S	Decachlorobiphenyl	9.819	9.429	E6	4.0	102	-0.01	11.68-11.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195648.D PCB5786.M Thu Oct 06 16:45:52 2016

8.10.33
8

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: GXX5823-CC5786
Lab FileID: XX198055.D

Evaluate Continuing Calibration Report

```
Signal #1 : C:\msdchem\1\DATA\gx...3\xx198055.D\ECD1A.CH Vial: 10
Signal #2 : C:\msdchem\1\DATA\gxx5823\xx198055.D\ECD2B.CH
Acq On    : 06 Oct 2016   7:37 pm                    Operator: humarahb
Sample    : cc5786-500                               Inst    : HP G1530A
Misc      : op97535,GXX5823,16.4,,,10,1              Multiplr: 1.00
IntFile Signal #1: events.e     IntFile Signal #2: events2.e

Method       : C:\MSDCHEM\1\METHODS\PCB5786.M (Chemstation Integrator)
Title        :
Last Update  : Fri Sep 23 11:13:15 2016
Response via : Multiple Level Calibration

Min. RRF     :   0.000  Min. Rel. Area :  50%  Max. R.T. Dev  0.10min
Max. RRF Dev :  20%     Max. Rel. Area : 150%
```

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)	RT Window
1	S	Tetrachloro-m-xylene	21.385	23.354 E6	-9.2	112	0.00	2.77- 2.83
2		AR1221-A		----------NA----------				
3		AR1221-B		----------NA----------				
4		AR1221-C		----------NA----------				
5		AR1221-D		----------NA----------				
6		AR1221-E		----------NA----------				
7		AR1232-A		----------NA----------				
8		AR1232-B		----------NA----------				
9		AR1232-C		----------NA----------				
10		AR1232-D		----------NA----------				
11		AR1232-E		----------NA----------				
12		AR1242-A		----------NA----------				
13		AR1242-B		----------NA----------				
14		AR1242-C		----------NA----------				
15		AR1242-D		----------NA----------				
16		AR1242-E		----------NA----------				
17		AR1248-A		----------NA----------				
18		AR1248-B		----------NA----------				
19		AR1248-C		----------NA----------				
20		AR1248-D		----------NA----------				
21		AR1248-E		----------NA----------				
22		AR1248-F		----------NA----------				
23		AR1248-G		----------NA----------				
24		AR1254-A		----------NA----------				
25		AR1254-B		----------NA----------				
26		AR1254-C		----------NA----------				
27		AR1254-D		----------NA----------				
28		AR1254-E		----------NA----------				
29		AR1254-F		----------NA----------				
30		AR1254-G		----------NA----------				
31		AR1262-A		----------NA----------				
32		AR1262-B		----------NA----------				
33		AR1262-C		----------NA----------				
34		AR1262-D		----------NA----------				
35		AR1262-E		----------NA----------				
36		AR1268-A		----------NA----------				
37		AR1268-B		----------NA----------				
38		AR1268-C		----------NA----------				
39		AR1268-D		----------NA----------				
40		AR1268-E		----------NA----------				
41		AR1016-A	391.249	421.343 E3	-7.7	107	0.00	3.16- 3.22

Continuing Calibration Summary

Job Number: JC28902 **Sample:** GXX5823-CC5786
Account: HWINJM Honeywell International Inc. **Lab FileID:** XX198055.D
Project: HLANJPR: Study Area 6 Chrome Remedy

42		AR1016-B	711.705	775.225	E3	-8.9	109	0.00	3.55- 3.61
43		AR1016-C	1.680	1.674	E6	0.4	101	0.00	4.12- 4.18
44		AR1016-D	612.273	655.047	E3	-7.0	107	0.00	4.28- 4.34
45		AR1016-E	648.408	688.110	E3	-6.1	107	0.00	4.77- 4.84
46		AR1260-A	2.105	1.940	E6	7.8	94	0.00	7.17- 7.23
47		AR1260-B	993.962	976.032	E3	1.8	100	0.00	7.30- 7.36
48		AR1260-C	909.103	796.438	E3	12.4	90	0.00	7.64- 7.71
49		AR1260-D	2.880	2.713	E6	5.8	95	0.00	8.09- 8.15
50		AR1260-E	1.731	1.254	E6	27.6#	75	0.00	8.51- 8.57
51	S	Decachlorobiphenyl	21.162	19.692	E6	6.9	97	0.00	10.00-10.07
*****		Signal #2 *****							
1	S	Tetrachloro-m-xylene	11.139	11.156	E6	-0.2	103	0.00	3.31- 3.37
2		AR1221-A	----------NA----------						
3		AR1221-B	----------NA----------						
4		AR1221-C	----------NA----------						
5		AR1221-D	----------NA----------						
6		AR1221-E	----------NA----------						
7		AR1232-A	----------NA----------						
8		AR1232-B	----------NA----------						
9		AR1232-C	----------NA----------						
10		AR1232-D	----------NA----------						
11		AR1232-E	----------NA----------						
12		AR1242-A	----------NA----------						
13		AR1242-B	----------NA----------						
14		AR1242-C	----------NA----------						
15		AR1242-D	----------NA----------						
16		AR1242-E	----------NA----------						
17		AR1248-A	----------NA----------						
18		AR1248-B	----------NA----------						
19		AR1248-C	----------NA----------						
20		AR1248-D	----------NA----------						
21		AR1248-E	----------NA----------						
22		AR1248-F	----------NA----------						
23		AR1248-G	----------NA----------						
24		AR1254-A	----------NA----------						
25		AR1254-B	----------NA----------						
26		AR1254-C	----------NA----------						
27		AR1254-D	----------NA----------						
28		AR1254-E	----------NA----------						
29		AR1254-F	----------NA----------						
30		AR1254-G	----------NA----------						
31		AR1262-A	----------NA----------						
32		AR1262-B	----------NA----------						
33		AR1262-C	----------NA----------						
34		AR1262-D	----------NA----------						
35		AR1262-E	----------NA----------						
36		AR1268-A	----------NA----------						
37		AR1268-B	----------NA----------						
38		AR1268-C	----------NA----------						
39		AR1268-D	----------NA----------						
40		AR1268-E	----------NA----------						
41		AR1016-A	187.295	189.093	E3	-1.0	100	0.00	3.95- 4.01
42		AR1016-B	386.236	393.610	E3	-1.9	102	0.00	4.49- 4.55
43		AR1016-C	854.000	802.521	E3	6.0	95	0.00	5.13- 5.19
44		AR1016-D	347.914	332.855	E3	4.3	97	0.00	5.31- 5.37
45		AR1016-E	247.019	232.324	E3	5.9	94	0.00	5.96- 6.02
46		AR1260-A	735.326	732.816	E3	0.3	102	0.00	8.57- 8.63
47		AR1260-B	553.265	523.349	E3	5.4	97	0.00	8.69- 8.75

8.10.34
8

Continuing Calibration Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy
Sample: GXX5823-CC5786
Lab FileID: XX198055.D

48		AR1260-C	523.633	481.526	E3	8.0	94	0.00	9.12- 9.18
49		AR1260-D	1.307	1.173	E6	10.3	91	0.00	9.47- 9.53
50		AR1260-E	796.347	659.268	E3	17.2	85	0.00	10.02-10.08
51	S	Decachlorobiphenyl	9.819	9.124	E6	7.1	101	-0.01	11.68-11.74

(#) = Out of Range SPCC's out = 0 CCC's out = 0
xx195647.D PCB5786.M Fri Oct 07 09:36:00 2016

SGS ACCUTEST New Jersey

Section 9

Metals Analysis

QC Data Summaries

Includes the following where applicable:

- Instrument Runlogs
- Initial and Continuing Calibration Blanks
- Initial and Continuing Calibration Checks
- High and Low Check Standards
- Interfering Element Check Standards
- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- IDL and Linear Range Summaries

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:15	MA40457-STD1	1		STDA
20:20	MA40457-STD2	1		STDB
20:26	ZZZZZZ	1		
20:32	ZZZZZZ	1		
20:38	MA40457-ICV1	1		
20:44	MA40457-ICB1	1		
20:50	MA40457-CCV1	1		
20:55	MA40457-CCB1	1		
21:01	MA40457-CRI1	1		
21:07	MA40457-CRID1	1		
21:13	MA40457-ICSA1	1		
21:19	MA40457-ICSAB1	1		
21:25	MA40457-HSTD1	1		
21:31	MA40457-HSTD2	1		Minerals
21:36	ZZZZZZ	1		
21:42	ZZZZZZ	1		
21:48	ZZZZZZ	1		
21:54	MA40457-CCV2	1		
22:00	MA40457-CCB2	1		
22:06	MA40457-CRIA1	1		
22:12	MP96352-MB2	1		
22:18	MP96352-B2	1		
22:24	ZZZZZZ	1		
22:30	MP96373-MB1	1		Zn=3ppm
22:35	MP96373-B1	1		
22:41	MP96373-S1	1		
22:47	MP96373-S2	1		
22:53	JC28910-1	1		(sample used for QC only; not part of login JC28902)
22:58	MP96373-SD1	5		
23:04	MA40457-CCV3	1		
23:10	MA40457-CCB3	1		
23:18	MP96373-MB1	1		Confirmation
23:24	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:30	JC28902-1	1		
---------->	Last reportable sample/prep for job JC28902			
23:35	ZZZZZZ	1		
23:41	ZZZZZZ	1		
23:47	MP96385-MB1	5		
23:53	MP96385-B1	5		
23:59	MP96385-S1	5		
00:04	MP96385-S2	5		
00:10	MA40457-CCV4	1		
00:16	MA40457-CCB4	1		
00:22	JC28768-1	5		(sample used for QC only; not part of login JC28902)
00:28	MP96385-SD1	25		
00:33	ZZZZZZ	5		
00:39	ZZZZZZ	5		
00:45	ZZZZZZ	5		
00:51	MP96289-MB3	1		
00:57	MP96289-B3	1		
01:03	ZZZZZZ	1		
01:09	ZZZZZZ	1		
01:14	ZZZZZZ	1		
01:20	MA40457-CCV5	1		
01:26	MA40457-CCB5	1		
01:32	ZZZZZZ	1		
01:38	ZZZZZZ	1		
01:44	MP96332-MB3	5		
01:50	MP96332-B3	5		
01:55	ZZZZZZ	5		
02:01	ZZZZZZ	1		
02:07	ZZZZZZ	1		
02:13	ZZZZZZ	1		
02:19	ZZZZZZ	2		
02:25	MA40457-CCV6	1		
02:30	MA40457-CCB6	1		
02:36	ZZZZZZ	2		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	02:42	ZZZZZZ	2		
	02:48	ZZZZZZ	1		
	02:54	ZZZZZZ	2		
	03:00	ZZZZZZ	1		
	03:05	ZZZZZZ	1		
	03:11	ZZZZZZ	3		
	03:17	MA40457-CCV7	1		
	03:23	MA40457-CCB7	1		
	03:29	MA40457-CRI2	1		
	03:35	MA40457-CRID2	1		
	03:41	MA40457-CRIA2	1		
	03:47	MA40457-ICSA2	1		
	03:53	MA40457-ICSAB2	1		
	03:58	MA40457-CCV8	1		
	04:04	MA40457-CCB8	1		
---------->		Last reportable CCB for job JC28902			
	04:10	ZZZZZZ	1		
	04:16	ZZZZZZ	1		
	04:22	ZZZZZZ	1		
	04:27	ZZZZZZ	2		
	04:33	ZZZZZZ	1		
	04:39	ZZZZZZ	1		
	04:45	ZZZZZZ	5		
	04:51	ZZZZZZ	10		
	04:57	ZZZZZZ	3		
	05:02	ZZZZZZ	2		
	05:08	MA40457-CCV9	1		
	05:14	MA40457-CCB9	1		
	05:20	ZZZZZZ	2		
	05:26	ZZZZZZ	1		
	05:32	ZZZZZZ	1		
	05:38	ZZZZZZ	1		
	05:43	ZZZZZZ	1		
	05:49	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
05:55	ZZZZZZ	1		
06:01	ZZZZZZ	1		
06:07	ZZZZZZ	1		
06:12	MA40457-CCV10	1		
06:18	MA40457-CCB10	1		
06:24	ZZZZZZ	1		
06:30	ZZZZZZ	1		
06:36	ZZZZZZ	1		
06:41	ZZZZZZ	1		
06:47	ZZZZZZ	1		
06:53	ZZZZZZ	1		
06:59	ZZZZZZ	1		
07:05	MA40457-CCV11	1		
07:11	MA40457-CCB11	1		
07:16	MA40457-CRI3	1		
07:22	MA40457-CRID3	1		
07:28	MA40457-CRIA3	1		
07:34	MA40457-CCV12	1		
07:40	MA40457-CCB12	1		
07:46	ZZZZZZ	1		
07:52	ZZZZZZ	1		
07:58	ZZZZZZ	1		
08:04	ZZZZZZ	1		
08:10	ZZZZZZ	1		
08:16	ZZZZZZ	1		
08:22	ZZZZZZ	1		
08:28	ZZZZZZ	1		
08:34	ZZZZZZ	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:15	MA40457-STD1	2761 R	80960 R	3496 R	6071 R
20:20	MA40457-STD2	2521	73433	3397	5149
20:26	ZZZZZZ	2598	75946	3405	5345
20:32	ZZZZZZ	2729	80633	3459	6016
20:38	MA40457-ICV1	2579	75767	3412	5328
20:44	MA40457-ICB1	2729	80849	3453	6030
20:50	MA40457-CCV1	2610	76404	3418	5400
20:55	MA40457-CCB1	2714	80520	3468	6036
21:01	MA40457-CRI1	2693	79946	3436	5893
21:07	MA40457-CRID1	2718	80967	3433	6009
21:13	MA40457-ICSA1	2407	70185	3331	4817
21:19	MA40457-ICSAB1	2392	70205	3310	4813
21:25	MA40457-HSTD1	2665	79579	3415	5845
21:31	MA40457-HSTD2	2421	71067	3274	4844
21:36	ZZZZZZ	2662	79604	3395	5984
21:42	ZZZZZZ	2629	78627	3405	6030
21:48	ZZZZZZ	2726	81765	3394	6107
21:54	MA40457-CCV2	2594	76900	3326	5421
22:00	MA40457-CCB2	2707	81328	3348	6081
22:06	MA40457-CRIA1	2700	81073	3335	6035
22:12	MP96352-MB2	2730	82170	3429	6139
22:18	MP96352-B2	2596	77519	3300	5510
22:24	ZZZZZZ	2738	84029	3470	6189
22:30	MP96373-MB1	2746	83522	3441	6205
22:35	MP96373-B1	2631	79354	3334	5647
22:41	MP96373-S1	2641	79506	3358	5636
22:47	MP96373-S2	2646	79043	3365	5641
22:53	JC28910-1	2740	82868	3371	6122
22:58	MP96373-SD1	2720	82203	3377	6114
23:04	MA40457-CCV3	2596	77543	3270	5458
23:10	MA40457-CCB3	2715	82069	3365	6116
23:18	MP96373-MB1	No results reported for the elements associated with this internal standard.			
23:24	ZZZZZZ	2720	83942	3387	6113

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:30	JC28902-1	2715	82557	3458	5891
23:35	ZZZZZZ	2629	79605	3425	5512
23:41	ZZZZZZ	2721	81422	3478	5628
23:47	MP96385-MB1	2553	75779	3262	5353
23:53	MP96385-B1	2562	76574	3313	5327
23:59	MP96385-S1	2550	75390	3331	5211
00:04	MP96385-S2	2558	75876	3292	5225
00:10	MA40457-CCV4	2603	78004	3280	5518
00:16	MA40457-CCB4	2714	80211	3288	6171
00:22	JC28768-1	2543	75909	3309	5238
00:28	MP96385-SD1	2632	80263	3287	5731
00:33	ZZZZZZ	2505	75673	3231	5140
00:39	ZZZZZZ	2524	75461	3254	5282
00:45	ZZZZZZ	2538	76864	3283	5350
00:51	MP96289-MB3	2732	84315	3390	6242
00:57	MP96289-B3	2636	80769	3314	5690
01:03	ZZZZZZ	2727	83603	3369	6075
01:09	ZZZZZZ	2738	83316	3387	6075
01:14	ZZZZZZ	2719	83265	3401	6001
01:20	MA40457-CCV5	2620	79311	3350	5546
01:26	MA40457-CCB5	2770	83780	3377	6260
01:32	ZZZZZZ	2760	83768	3424	6099
01:38	ZZZZZZ	2750	83795	3428	6059
01:44	MP96332-MB3	2612	77585	3341	5465
01:50	MP96332-B3	2614	78382	3349	5429
01:55	ZZZZZZ	2530	76360	3291	5241
02:01	ZZZZZZ	2727	82403	3413	5875
02:07	ZZZZZZ	2801	82695	3477	6367
02:13	ZZZZZZ	2755	80381	3536	5798
02:19	ZZZZZZ	2831	86035	3543	5985
02:25	MA40457-CCV6	2685	79801	3401	5630
02:30	MA40457-CCB6	2801	84843	3423	6321
02:36	ZZZZZZ	2791	83601	3518	5970

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
02:42	ZZZZZZ	2764	83687	3488	5890
02:48	ZZZZZZ	2767	84223	3526	5884
02:54	ZZZZZZ	2777	84519	3450	6021
03:00	ZZZZZZ	2840	86138	3572	5859
03:05	ZZZZZZ	2766	83399	3462	5889
03:11	ZZZZZZ	2835	86601	3498	6072
03:17	MA40457-CCV7	2644	80705	3285	5668
03:23	MA40457-CCB7	2753	85630	3338	6341
03:29	MA40457-CRI2	2709	84650	3277	6167
03:35	MA40457-CRID2	2734	85756	3318	6304
03:41	MA40457-CRIA2	2751	85570	3307	6355
03:47	MA40457-ICSA2	2404	74040	3183	5016
03:53	MA40457-ICSAB2	2411	74358	3183	5013
03:58	MA40457-CCV8	2661	81124	3287	5738
04:04	MA40457-CCB8	2751	83766	3312	6372
04:10	ZZZZZZ	2753	85993	3303	6390
04:16	ZZZZZZ	2657	82347	3281	5857
04:22	ZZZZZZ	2574	81289	3256	5310
04:27	ZZZZZZ	2699	84671	3348	6088
04:33	ZZZZZZ	2790	87098	3345	6432
04:39	ZZZZZZ	2665	83388	3316	5830
04:45	ZZZZZZ	2814	87384	3398	6221
04:51	ZZZZZZ	2819	86724	3384	6288
04:57	ZZZZZZ	2627	83105	3356	5878
05:02	ZZZZZZ	2825	86573	3464	6129
05:08	MA40457-CCV9	2681	81461	3331	5708
05:14	MA40457-CCB9	2818	86479	3369	6437
05:20	ZZZZZZ	2722	83733	3461	5986
05:26	ZZZZZZ	2769	84005	3369	5949
05:32	ZZZZZZ	2857	87989	3464	6485
05:38	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:43	ZZZZZZ	2846	87924	3457	6375
05:49	ZZZZZZ	999999 !a	81960	3485	999999 !a

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
Analyst: ND Run ID: MA40457
Parameters: Al,Sb,As,Ba,Be,Cd,Ca,Cr,Co,Cu,Fe,Pb,Mg,Mn,Ni,K,Se,Ag,Na,Tl,V,Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
05:55	ZZZZZZ	2733	82946	3523	5635
06:01	ZZZZZZ	2909	87637	3538	6229
06:07	ZZZZZZ	2826	85520	3642	5943
06:12	MA40457-CCV10	2764	82164	3404	5803
06:18	MA40457-CCB10	2911	87176	3454	6555
06:24	ZZZZZZ	3017	89753	3675	6059
06:30	ZZZZZZ	3038	90724	3712	6052
06:36	ZZZZZZ	2996	89894	3782	5747
06:41	ZZZZZZ	2805	84846	3493	5888
06:47	ZZZZZZ	2903	87678	3587	6113
06:53	ZZZZZZ	2739	83237	3508	5845
06:59	ZZZZZZ	2690	84090	3545	5905
07:05	MA40457-CCV11	2775	82871	3385	5826
07:11	MA40457-CCB11	2880	87469	3429	6523
07:16	MA40457-CRI3	2855	86343	3439	6353
07:22	MA40457-CRID3	2901	87851	3441	6511
07:28	MA40457-CRIA3	2879	87378	3426	6484
07:34	MA40457-CCV12	2782	83154	3409	5834
07:40	MA40457-CCB12	2896	88040	3460	6506
07:46	ZZZZZZ	2929	82735	3547	5825
07:52	ZZZZZZ	2909	87418	3486	6499
07:58	ZZZZZZ	2902	88003	3484	6481
08:04	ZZZZZZ	2934	88110	3505	6538
08:10	ZZZZZZ	2925	87615	3486	6518
08:16	ZZZZZZ	2906	88354	3514	6516
08:22	ZZZZZZ	2668	80455	3366	5593
08:28	ZZZZZZ	2683	79812	3401	5580
08:34	ZZZZZZ	2975	88454	3551	6608

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

(a) No samples reported for the elements associated with this internal standard.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time: / Sample ID:			20:44 ICB1		20:55 CCB1		22:00 CCB2		23:10 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	7.9	<500	3.1	<500	-16	<500	-3.6	<500
Antimony	20	1.2	0.70	<20	0.50	<20	0.30	<20	0.0	<20
Arsenic	20	1.5	1.0	<20	1.7	<20	0.80	<20	1.8	<20
Barium	200	.5	0.20	<200	0.60	<200	0.50	<200	0.60	<200
Beryllium	2.0	.3	0.40	<2.0	0.50	<2.0	0.30	<2.0	0.20	<2.0
Bismuth	20	2.3								
Boron	100	1.9								
Cadmium	5.0	.2	0.20	<5.0	0.50	<5.0	0.20	<5.0	0.50	<5.0
Calcium	2000	8.2	10.3	<5000	6.1	<5000	4.7	<5000	8.6	<5000
Chromium	10	.6	0.80	<10	0.50	<10	0.60	<10	0.80	<10
Cobalt	50	.2	0.10	<50	0.10	<50	0.10	<50	0.30	<50
Copper	10	.8	0.30	<25	0.60	<25	0.60	<25	0.0	<25
Iron	100	8.9	2.5	<500	-2.9	<500	-6.2	<500	6.2	<500
Lead	20	1	-0.30	<20	0.80	<20	0.90	<20	0.80	<20
Lithium	20	2.9								
Magnesium	2000	88	-16	<5000	8.5	<5000	6.8	<5000	53.7	<5000
Manganese	15	.1	0.20	<15	0.30	<15	0.20	<15	0.30	<15
Molybdenum	20	.3	anr							
Nickel	10	.4	0.10	<40	0.30	<40	0.10	<40	0.30	<40
Palladium	50	2.1								
Potassium	2000	78	-30	<10000	17.2	<10000	-17	<10000	23.4	<10000
Selenium	20	2.6	0.0	<20	0.60	<20	-1.3	<20	-1.6	<20
Silicon	200	2.6								
Silver	5.0	.7	-0.20	<5.0	0.10	<5.0	-0.50	<5.0	-0.50	<5.0
Sodium	2000	20	16.2	<10000	30.3	<10000	12.2	<10000	3.4	<10000
Strontium	10	.2								
Sulfur	50	4.8								
Thallium	10	1.2	0.60	<10	0.20	<10	0.40	<10	0.50	<10
Tin	10	.5								
Titanium	10	.7								
Tungsten	50	1.1								
Vanadium	50	.5	0.30	<50	0.20	<50	0.30	<50	0.70	<50
Zinc	20	.1	0.40	<50	0.50	<50	0.30	<50	0.60	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time: / Sample ID:			20:44 ICB1		20:55 CCB1		22:00 CCB2		23:10 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			00:16		01:26		02:30		03:23	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	20	1.6	<500	0.50	<200	17.9	<500	9.4	<500
Antimony	20	1.2	1.1	<20	0.90	<100	1.2	<20	1.9	<20
Arsenic	20	1.5	1.7	<20	1.2	<100	0.80	<20	1.6	<20
Barium	200	.5	0.70	<200	0.30	<200	0.80	<200	1.0	<200
Beryllium	2.0	.3	0.30	<2.0	0.30	<5.0	0.40	<2.0	0.70	<2.0
Bismuth	20	2.3								
Boron	100	1.9								
Cadmium	5.0	.2	0.40	<5.0	0.30	<5.0	0.60	<5.0	0.70	<5.0
Calcium	2000	8.2	6.3	<5000	6.1	<2000	11.4	<5000	20.0	<5000
Chromium	10	.6	0.90	<10	0.60	<10	0.80	<10	1.3	<10
Cobalt	50	.2	0.10	<50	0.10	<50	0.40	<50	0.40	<50
Copper	10	.8	0.70	<25	0.0	<10	-0.20	<25	0.50	<25
Iron	100	8.9	3.1	<500	13.0	<100	10.9	<500	26.1	<500
Lead	20	1	1.0	<20	1.2	<100	0.90	<20	0.80	<20
Lithium	20	2.9								
Magnesium	2000	88	-32	<5000	4.5	<2000	5.1	<5000	-66	<5000
Manganese	15	.1	0.40	<15	0.20	<15	0.40	<15	0.70	<15
Molybdenum	20	.3	anr							
Nickel	10	.4	0.0	<40	0.0	<10	0.40	<40	0.40	<40
Palladium	50	2.1								
Potassium	2000	78	-11	<10000	27.5	<2000	-30	<10000	-79	<10000
Selenium	20	2.6	0.0	<20	-0.10	<100	0.0	<20	0.20	<20
Silicon	200	2.6								
Silver	5.0	.7	-0.50	<5.0	-0.60	<10	-0.40	<5.0	-0.70	<5.0
Sodium	2000	20	73.4	<10000	39.7	<2000	47.1	<10000	46.4	<10000
Strontium	10	.2								
Sulfur	50	4.8								
Thallium	10	1.2	0.60	<10	0.50	<100	0.10	<10	0.40	<10
Tin	10	.5								
Titanium	10	.7								
Tungsten	50	1.1								
Vanadium	50	.5	0.50	<50	0.40	<50	0.70	<50	0.90	<50
Zinc	20	.1	0.50	<50	0.40	<20	0.70	<50	0.80	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time: / Sample ID:			00:16 CCB4		01:26 CCB5		02:30 CCB6		03:23 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.3								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			04:04	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Aluminum	200	20	33.4	<500
Antimony	20	1.2	0.40	<20
Arsenic	20	1.5	0.90	<20
Barium	200	.5	1.4	<200
Beryllium	2.0	.3	0.80	<2.0
Bismuth	20	2.3		
Boron	100	1.9		
Cadmium	5.0	.2	0.60	<5.0
Calcium	2000	8.2	27.9	<5000
Chromium	10	.6	1.3	<10
Cobalt	50	.2	0.50	<50
Copper	10	.8	1.1	<25
Iron	100	8.9	19.5	<500
Lead	20	1	0.80	<20
Lithium	20	2.9		
Magnesium	2000	88	20.8	<5000
Manganese	15	.1	0.80	<15
Molybdenum	20	.3	anr	
Nickel	10	.4	0.40	<40
Palladium	50	2.1		
Potassium	2000	78	-3.7	<10000
Selenium	20	2.6	-0.80	<20
Silicon	200	2.6		
Silver	5.0	.7	-0.60	<5.0
Sodium	2000	20	20.6	<10000
Strontium	10	.2		
Sulfur	50	4.8		
Thallium	10	1.2	1.0	<10
Tin	10	.5		
Titanium	10	.7		
Tungsten	50	1.1		
Vanadium	50	.5	0.80	<50
Zinc	20	.1	0.80	<50

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: result < RL Run ID: MA40457 Units: ug/l

Time:			04:04	
Sample ID:			CCB8	
Metal	RL	IDL	raw	final
Zirconium	10	.3		

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		20:38			20:50			21:54	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	41300	103.3	40000	40500	101.3	40000	40600	101.5
Antimony	2000	2000	100.0	2000	1990	99.5	2000	1980	99.0
Arsenic	2000	2000	100.0	2000	1980	99.0	2000	1990	99.5
Barium	2000	1990	99.5	2000	2030	101.5	2000	2070	103.5
Beryllium	2000	2050	102.5	2000	2050	102.5	2000	2050	102.5
Bismuth									
Boron									
Cadmium	2000	1980	99.0	2000	2000	100.0	2000	2010	100.5
Calcium	40000	41700	104.3	40000	40800	102.0	40000	41100	102.8
Chromium	2000	2020	101.0	2000	2020	101.0	2000	2000	100.0
Cobalt	2000	1980	99.0	2000	2010	100.5	2000	2010	100.5
Copper	2000	1950	97.5	2000	1980	99.0	2000	1990	99.5
Iron	40000	40900	102.3	40000	41200	103.0	40000	41900	104.8
Lead	2000	2000	100.0	2000	2020	101.0	2000	2010	100.5
Lithium									
Magnesium	40000	39900	99.8	40000	40800	102.0	40000	41100	102.8
Manganese	2000	2030	101.5	2000	2030	101.5	2000	2010	100.5
Molybdenum	anr								
Nickel	2000	2000	100.0	2000	2010	100.5	2000	1990	99.5
Palladium									
Potassium	40000	39400	98.5	40000	40000	100.0	40000	41400	103.5
Selenium	2000	1980	99.0	2000	2000	100.0	2000	2000	100.0
Silicon									
Silver	250	256	102.4	250	248	99.2	250	248	99.2
Sodium	40000	39300	98.3	40000	40300	100.8	40000	41300	103.3
Strontium									
Sulfur									
Thallium	2000	2090	104.5	2000	2070	103.5	2000	2060	103.0
Tin									
Titanium									
Tungsten									
Vanadium	2000	1990	99.5	2000	2010	100.5	2000	2000	100.0
Zinc	2000	2030	101.5	2000	2040	102.0	2000	2050	102.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		20:38			20:50			21:54	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		23:04			00:10			01:20	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	40700	101.8	40000	40300	100.8	40000	39400	98.5
Antimony	2000	1980	99.0	2000	1960	98.0	2000	1960	98.0
Arsenic	2000	2000	100.0	2000	1980	99.0	2000	1970	98.5
Barium	2000	2070	103.5	2000	2060	103.0	2000	2020	101.0
Beryllium	2000	2050	102.5	2000	2020	101.0	2000	1980	99.0
Bismuth									
Boron									
Cadmium	2000	2020	101.0	2000	2010	100.5	2000	2000	100.0
Calcium	40000	41100	102.8	40000	40700	101.8	40000	39800	99.5
Chromium	2000	1990	99.5	2000	1970	98.5	2000	1930	96.5
Cobalt	2000	2000	100.0	2000	1970	98.5	2000	1970	98.5
Copper	2000	1990	99.5	2000	2000	100.0	2000	1950	97.5
Iron	40000	42000	105.0	40000	42000	105.0	40000	41100	102.8
Lead	2000	2010	100.5	2000	1980	99.0	2000	1980	99.0
Lithium									
Magnesium	40000	41500	103.8	40000	41200	103.0	40000	40300	100.8
Manganese	2000	2000	100.0	2000	1980	99.0	2000	1950	97.5
Molybdenum	anr								
Nickel	2000	1980	99.0	2000	1950	97.5	2000	1940	97.0
Palladium									
Potassium	40000	41700	104.3	40000	41900	104.8	40000	40900	102.3
Selenium	2000	2000	100.0	2000	1980	99.0	2000	1980	99.0
Silicon									
Silver	250	247	98.8	250	247	98.8	250	242	96.8
Sodium	40000	41400	103.5	40000	41300	103.3	40000	40500	101.3
Strontium									
Sulfur									
Thallium	2000	2060	103.0	2000	2020	101.0	2000	2020	101.0
Tin									
Titanium									
Tungsten									
Vanadium	2000	2000	100.0	2000	1990	99.5	2000	1960	98.0
Zinc	2000	2070	103.5	2000	2050	102.5	2000	2050	102.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		23:04			00:10			01:20	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		02:25			03:17			03:58	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	40000	38800	97.0	40000	39400	98.5	40000	38800	97.0
Antimony	2000	1900	95.0	2000	1900	95.0	2000	1900	95.0
Arsenic	2000	1910	95.5	2000	1920	96.0	2000	1920	96.0
Barium	2000	1980	99.0	2000	2000	100.0	2000	1980	99.0
Beryllium	2000	1960	98.0	2000	1970	98.5	2000	1950	97.5
Bismuth									
Boron									
Cadmium	2000	1930	96.5	2000	1970	98.5	2000	1970	98.5
Calcium	40000	39500	98.8	40000	39700	99.3	40000	39400	98.5
Chromium	2000	1920	96.0	2000	1890	94.5	2000	1870	93.5
Cobalt	2000	1930	96.5	2000	1910	95.5	2000	1900	95.0
Copper	2000	1920	96.0	2000	1930	96.5	2000	1930	96.5
Iron	40000	40600	101.5	40000	41000	102.5	40000	40800	102.0
Lead	2000	1930	96.5	2000	1920	96.0	2000	1910	95.5
Lithium									
Magnesium	40000	39800	99.5	40000	40000	100.0	40000	40000	100.0
Manganese	2000	1940	97.0	2000	1900	95.0	2000	1880	94.0
Molybdenum	anr								
Nickel	2000	1900	95.0	2000	1870	93.5	2000	1850	92.5
Palladium									
Potassium	40000	39900	99.8	40000	41000	102.5	40000	40400	101.0
Selenium	2000	1910	95.5	2000	1920	96.0	2000	1920	96.0
Silicon									
Silver	250	239	95.6	250	240	96.0	250	239	95.6
Sodium	40000	39500	98.8	40000	39900	99.8	40000	39300	98.3
Strontium									
Sulfur									
Thallium	2000	1970	98.5	2000	1950	97.5	2000	1940	97.0
Tin									
Titanium									
Tungsten									
Vanadium	2000	1940	97.0	2000	1910	95.5	2000	1900	95.0
Zinc	2000	1990	99.5	2000	2010	100.5	2000	2020	101.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		02:25			03:17			03:58	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time: / Sample ID: / Metal	HSTD True	21:25 HSTD1 Results	% Rec	HSTD True	21:31 HSTD2 Results	% Rec
Aluminum				300000	299000	99.7
Antimony	5000	4980	99.6			
Arsenic	5000	4900	98.0			
Barium	5000	5070	101.4			
Beryllium	5000	5090	101.8			
Bismuth						
Boron						
Cadmium	5000	4950	99.0			
Calcium				150000	150000	100.0
Chromium	5000	5030	100.6			
Cobalt	5000	4910	98.2			
Copper	5000	5090	101.8			
Iron				150000	147000	98.0
Lead	5000	5000	100.0			
Lithium						
Magnesium				300000	299000	99.7
Manganese	5000	5020	100.4			
Molybdenum	anr					
Nickel	5000	4900	98.0			
Palladium						
Potassium				150000	162000	108.0
Selenium	5000	4920	98.4			
Silicon						
Silver	625	611	97.8			
Sodium				150000	153000	102.0
Strontium						
Sulfur						
Thallium	5000	5160	103.2			
Tin						
Titanium						
Tungsten						
Vanadium	5000	4970	99.4			
Zinc	5000	5130	102.6			

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40457 Units: ug/l

Time:		21:25			21:31	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				21:01		21:07		22:06	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	205	102.5	84.5	84.5	521	104.2
Antimony	6.0	20	3.0	5.4	90.0	4.3	143.3*(a	23.4	117.0
Arsenic	8.0	20	3.0	8.9	111.3	3.7	123.3	21.5	107.5
Barium	200		4.0	210	105.0	4.3	107.5		
Beryllium	2.0		1.0	2.2	110.0	1.1	110.0		
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	3.1	103.3	1.2	120.0		
Calcium	5000	2000	1000	5100	102.0	1040	104.0	2100	105.0
Chromium	10		2.0	11.0	110.0	2.6	130.0		
Cobalt	50		3.0	53.1	106.2	2.9	96.7		
Copper	10		2.0	10.7	107.0	2.4	120.0		
Iron	100	500		104	104.0			515	103.0
Lead	3.0	20	2.5	2.8	93.3	3.3	132.0*(a	21.2	106.0
Lithium	20								
Magnesium	5000	2000	100	5060	101.2	113	113.0	2070	103.5
Manganese	15		3.0	16.4	109.3	3.2	106.7		
Molybdenum	20			anr					
Nickel	10		4.0	10.0	100.0	3.7	92.5		
Palladium	50								
Potassium	5000		2000	4850	97.0	2060	103.0		
Selenium	10	20	5.0	9.2	92.0	4.4	88.0	18.7	93.5
Silicon	200								
Silver	5.0		2.0	5.0	100.0	1.8	90.0		
Sodium	5000		1000	5010	100.2	1040	104.0		
Strontium	10								
Sulfur	50								
Thallium	10		2.0	11.4	114.0	2.4	120.0		
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	52.8	105.6	2.4	120.0		
Zinc	20		10	21.8	109.0	10.6	106.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				21:01		21:07		22:06	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				03:29		03:35		03:41	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	201	100.5	98.0	98.0	496	99.2
Antimony	6.0	20	3.0	6.3	105.0	4.1	136.7*(a	22.6	113.0
Arsenic	8.0	20	3.0	9.5	118.8	3.6	120.0	20.9	104.5
Barium	200		4.0	211	105.5	4.8	120.0		
Beryllium	2.0		1.0	2.0	100.0	1.0	100.0		
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	3.1	103.3	1.1	110.0		
Calcium	5000	2000	1000	5000	100.0	1010	101.0	2030	101.5
Chromium	10		2.0	10.7	107.0	2.3	115.0		
Cobalt	50		3.0	51.1	102.2	2.8	93.3		
Copper	10		2.0	12.1	121.0	2.9	145.0*(a		
Iron	100	500		99.2	99.2			515	103.0
Lead	3.0	20	2.5	2.1	70.0	3.5	140.0*(a	19.8	99.0
Lithium	20								
Magnesium	5000	2000	100	5010	100.2	102	102.0	2150	107.5
Manganese	15		3.0	15.3	102.0	2.9	96.7		
Molybdenum	20			anr					
Nickel	10		4.0	9.8	98.0	3.7	92.5		
Palladium	50								
Potassium	5000		2000	5080	101.6	2060	103.0		
Selenium	10	20	5.0	8.8	88.0	4.0	80.0	19.2	96.0
Silicon	200								
Silver	5.0		2.0	4.5	90.0	1.4	70.0		
Sodium	5000		1000	5050	101.0	1050	105.0		
Strontium	10								
Sulfur	50								
Thallium	10		2.0	10.7	107.0	1.9	95.0		
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	50.6	101.2	2.3	115.0		
Zinc	20		10	21.9	109.5	10.7	107.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: CRI 70-130% CRIA 70-130% Run ID: MA40457 Units: ug/l

Time:				03:29		03:35		03:41	
Sample ID:	CRI	CRIA	CRID	CRI2		CRID2		CRIA2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested
(a) No samples reported for this element at this RL in the area bracketed by this QC.

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40457 Units: ug/l

Time:			21:13		21:19		03:47		03:53	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	495000	99.0	492000	98.4	487000	97.4	481000	96.2
Antimony		1000	2.2		1000	100.0	2.6		973	97.3
Arsenic		1000	-0.80		1040	104.0	-0.10		1020	102.0
Barium		500	-0.60		508	101.6	-0.10		505	101.0
Beryllium		500	0.50		495	99.0	0.30		479	95.8
Bismuth		500	10.8		518	103.6	7.7		504	100.8
Boron		500	1.2		484	96.8	0.20		474	94.8
Cadmium		1000	0.60		1020	102.0	0.60		1020	102.0
Calcium	400000	400000	381000	95.3	373000	93.3	373000	93.3	363000	90.8
Chromium		500	-1.5		495	99.0	-0.40		464	92.8
Cobalt		500	0.40		490	98.0	-0.10		473	94.6
Copper		500	-6.3		498	99.6	-1.2		490	98.0
Iron	200000	200000	186000	93.0	185000	92.5	187000	93.5	184000	92.0
Lead		1000	-0.40		950	95.0	4.0		920	92.0
Lithium		500	-26		592	118.4	-23		552	110.4
Magnesium	500000	500000	485000	97.0	481000	96.2	477000	95.4	473000	94.6
Manganese		500	3.6		497	99.4	4.0		464	92.8
Molybdenum		500	0.30		485	97.0	0.70		481	96.2
Nickel		1000	-1.5		976	97.6	-1.8		919	91.9
Palladium		500	-46		469	93.8	-44		432	86.4
Potassium			66.3		124		41.4		15.4	
Selenium		1000	7.6		997	99.7	5.4		971	97.1
Silicon		500	-22		484	96.8	-20		470	94.0
Silver		1000	5.3		958	95.8	3.8		930	93.0
Sodium			3.9		6.0		23.7		22.3	
Strontium		500	6.1		521	104.2	6.4		516	103.2
Sulfur		500	1.5		484	96.8	2.1		478	95.6
Thallium		1000	1.3		973	97.3	0.0		937	93.7
Tin		500	-4.2		469	93.8	-4.3		463	92.6
Titanium		500	-3.8		483	96.6	-3.3		456	91.2
Tungsten		500	2.9		482	96.4	4.9		473	94.6
Vanadium		500	-1.8		485	97.0	-1.4		461	92.2
Zinc		1000	-4.6		965	96.5	-4.8		966	96.6

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SC100516M1.ICP Date Analyzed: 10/05/16 Methods: SW846 6010B, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40457 Units: ug/l

Time:			21:13		21:19		03:47		03:53	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	5.5		498	99.6	6.0		465	93.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
Analyst: JPM Run ID: MA40466
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:20	MA40466-STD1	1		B=1.0658e-004,C=-2.2890e-002,R=0.9998783
11:21	MA40466-STD2	1		STDB
11:23	MA40466-STD3	1		STDC
11:24	MA40466-STD4	1		STDD
11:26	MA40466-STD5	1		STDE
11:27	MA40466-STD6	1		STDF
11:30	MA40466-STD7	1		STDE
11:32	MA40466-STD8	1		STDF
11:34	MA40466-ICV1	1		
11:35	MA40466-ICB1	1		
11:37	MA40466-CCV1	1		
11:38	MA40466-CCB1	1		
11:40	MA40466-CRI1	1		
11:42	MP96393-MB1	1		
11:43	MP96393-B1	1		
11:45	MP96393-S1	1		
11:46	MP96393-S2	1		
11:48	JC28910-1	1		(sample used for QC only; not part of login JC28902)
11:50	ZZZZZZ	1		
11:51	JC28902-1	1		
---------->	Last reportable sample/prep for job JC28902			
11:52	ZZZZZZ	1		
11:53	ZZZZZZ	1		
11:55	MA40466-CCV2	1		
11:57	MA40466-CCB2	1		
---------->	Last reportable CCB for job JC28902			
11:58	ZZZZZZ	1		
12:00	ZZZZZZ	1		
12:01	ZZZZZZ	1		
12:03	ZZZZZZ	1		
12:05	ZZZZZZ	1		
12:06	ZZZZZZ	1		
12:08	ZZZZZZ	1		
12:09	ZZZZZZ	1		
12:11	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
Analyst: JPM Run ID: MA40466
Parameters: Hg

Time	Sample Description	Dilution Factor	PS Recov	Comments
12:13	ZZZZZZ	1		
12:14	MA40466-CCV3	1		
12:16	MA40466-CCB3	1		
12:18	ZZZZZZ	1		
12:19	ZZZZZZ	1		
12:20	ZZZZZZ	1		
12:22	ZZZZZZ	1		
12:23	ZZZZZZ	1		
12:24	MP96353-MB2	1		
12:26	MP96353-B2	1		
12:27	ZZZZZZ	1		
12:29	MA40466-CCV4	1		
12:30	MA40466-CCB4	1		

Refer to raw data for calibration curve and standards.

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
QC Limits: result < RL Run ID: MA40466 Units: ug/l

Time:			11:35		11:38		11:57	
Sample ID:			ICB1		CCB1		CCB2	
Metal	RL	IDL	raw	final	raw	final	raw	final
Mercury	0.20	.039	-0.025	<0.20	-0.031	<0.20	-0.027	<0.20

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
QC Limits: 90 to 110 % Recovery Run ID: MA40466 Units: ug/l

Time:		11:34			11:37			11:55	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Mercury	3.0	3.0	100.0	2.5	2.5	100.0	2.5	2.5	100.0

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: H5100616S1.CSV Date Analyzed: 10/06/16 Methods: SW846 7471A, SW846 7471B
QC Limits: 70 to 130 % Recovery Run ID: MA40466 Units: ug/l

Time:			11:40	
Sample ID:	CRI	CRIA	CRI1	
Metal	True	True	Results	% Rec
Mercury	0.20		0.21	105.0

(*) Outside of QC limits
(anr) Analyte not requested

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
16:48	MA40471-STD1	1		STDA
16:54	MA40471-STD2	1		STDB
17:00	ZZZZZZ	1		
17:06	ZZZZZZ	1		
17:13	MA40471-ICV1	1		
17:23	MA40471-ICB1	1		
17:28	MA40471-ICCV1	1		
17:40	MA40471-CCB1	1		
17:47	MA40471-CRI1	1		
17:53	MA40471-CRID1	1		TLNJ out
17:59	MA40471-CRIA1	1		
18:05	MA40471-ICSA1	1		
18:11	MA40471-ICSAB1	1		
18:17	MA40471-HSTD1	1		
18:23	MA40471-HSTD2	1		Minerals
18:30	ZZZZZZ	1		
18:36	ZZZZZZ	1		
18:42	ZZZZZZ	1		
18:48	MA40471-CCV1	1		
18:54	MA40471-CCB2	1		
19:00	MA40471-CRID2	1		
19:06	ZZZZZZ	5		
19:12	ZZZZZZ	5		
19:18	MP96360-S1	5		
19:24	MP96360-S2	5		
19:30	MP96360-SD1	25		
19:36	MP96377-B1	1		
19:42	MP96377-MB1	1		
19:48	MP96377-S1	1		
19:54	MP96377-S2	1		
20:00	MA40471-CCV2	1		
20:06	MA40471-CCB3	1		
20:13	JC28888-2	1		(sample used for QC only; not part of login JC28902)

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
20:19	MP96377-SD1	5		
20:25	ZZZZZZ	1		
20:31	ZZZZZZ	1		
20:37	ZZZZZZ	1		
20:43	ZZZZZZ	1		
20:50	ZZZZZZ	1		
20:56	ZZZZZZ	1		
21:02	ZZZZZZ	1		
21:08	MA40471-CCV3	1		
21:14	MA40471-CCB4	1		
21:20	MP96277-MB1	1		
21:26	MP96277-MB2	1		
21:32	MP96277-B1	1		
21:38	MP96277-B2	1		
21:44	MP96277-S1	1		
21:50	MP96277-S2	1		
21:56	JC28495-2	1		(sample used for QC only; not part of login JC28902)
22:02	MP96277-SD1	5		
22:08	MP96277-S3	1		
22:14	MA40471-CCV4	1		
22:20	MA40471-CCB5	1		
22:27	MP96277-S4	1		
22:33	JC28495-2F	1		(sample used for QC only; not part of login JC28902)
22:39	MP96277-SD2	5		
22:45	ZZZZZZ	1		
22:51	ZZZZZZ	1		
22:57	ZZZZZZ	1		
23:03	ZZZZZZ	1		
23:09	ZZZZZZ	1		
23:15	ZZZZZZ	1		
23:21	MA40471-CCV5	1		
23:27	MA40471-CCB6	1		
23:34	MA40471-CRID3	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
23:40	MA40471-CRI2	1		
23:46	MA40471-CRIA2	1		
23:52	MA40471-ICSA2	1		
23:58	MA40471-ICSAB2	1		
00:04	MA40471-CCV6	1		
00:10	MA40471-CCB7	1		
00:16	ZZZZZZ	1		
00:22	ZZZZZZ	1		
00:28	ZZZZZZ	1		
00:34	ZZZZZZ	1		
00:40	ZZZZZZ	1		
00:47	ZZZZZZ	1		
00:53	ZZZZZZ	1		
00:59	ZZZZZZ	1		
01:05	ZZZZZZ	1		
01:11	ZZZZZZ	1		
01:17	MA40471-CCV7	1		
01:23	MA40471-CCB8	1		
01:29	ZZZZZZ	1		
01:35	ZZZZZZ	1		
01:41	MP96382-B1	1		
01:47	MP96382-MB1	1		
01:53	MP96382-MB2	1		
01:59	MP96382-B2	1		
02:05	MP96382-S1	1		
02:11	MP96382-S2	1		
02:17	JC28861-2	1		(sample used for QC only; not part of login JC28902)
02:24	MP96382-SD1	5		
02:30	MA40471-CCV8	1		
02:36	MA40471-CCB9	1		
02:42	ZZZZZZ	1		
02:48	ZZZZZZ	1		
02:54	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
03:01	ZZZZZZ	1		
03:07	ZZZZZZ	1		
03:13	ZZZZZZ	1		
03:19	ZZZZZZ	1		
03:25	ZZZZZZ	1		
03:31	ZZZZZZ	1		
03:37	MA40471-CCV9	1		
03:43	MA40471-CCB10	1		
03:49	ZZZZZZ	1		
03:55	ZZZZZZ	1		
04:02	ZZZZZZ	1		
04:08	ZZZZZZ	1		
04:14	ZZZZZZ	1		
04:20	ZZZZZZ	1		
04:26	ZZZZZZ	1		
04:32	ZZZZZZ	1		
04:38	ZZZZZZ	1		
04:44	MA40471-CCV10	1		
04:50	MA40471-CCB11	1		
04:57	ZZZZZZ	1		
05:03	ZZZZZZ	1		
05:09	MP96373-MB1	1		
---------->	Last reportable sample/prep for job JC28902			
05:15	ZZZZZZ	1		
05:21	ZZZZZZ	1		
05:27	ZZZZZZ	1		
05:33	ZZZZZZ	1		
05:39	ZZZZZZ	1		
05:45	ZZZZZZ	1		
05:51	MA40471-CCV11	1		
05:57	MA40471-CCB12	1		
06:03	ZZZZZZ	1		
06:09	ZZZZZZ	1		
06:15	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

	Time	Sample Description	Dilution Factor	PS Recov	Comments
	06:21	ZZZZZZ	1		
	06:27	ZZZZZZ	1		
	06:33	ZZZZZZ	1		
	06:39	ZZZZZZ	1		
	06:45	ZZZZZZ	1		
	06:51	ZZZZZZ	1		
	06:57	MA40471-CCV12	1		
	07:03	MA40471-CCB13	1		
	07:09	MA40471-CRI3	1		
	07:15	MA40471-CRID4	1		TLNJ out
	07:21	MA40471-CRIA3	1		
	07:27	MA40471-ICSA3	1		
	07:33	MA40471-ICSAB3	1		
	07:40	MA40471-CCV13	1		
	07:46	MA40471-CCB14	1		
---------->	Last reportable CCB for job JC28902				
	07:52	MP96388-MB1	1		
	07:58	MP96388-B1	1		
	08:25	MP96388-S1	1		
	08:31	MP96388-S2	1		
	08:37	JC28915-6	1		(sample used for QC only; not part of login JC28902)
	08:43	MP96388-SD1	5		
	08:49	ZZZZZZ	1		
	08:55	ZZZZZZ	1		
	09:01	ZZZZZZ	1		
	09:07	MA40471-CCV14	1		
	09:13	MA40471-CCB15	1		
	09:20	ZZZZZZ	1		
	09:26	ZZZZZZ	1		
	09:30	ZZZZZZ	1		
	09:35	ZZZZZZ	1		
	09:40	ZZZZZZ	1		
	09:45	ZZZZZZ	1		
	10:20	MP96398-B1	1		To be reanalyzed with the batch.

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:24	ZZZZZZ	1		
10:30	MP96398-MB1	1		To be reanalyzed with the batch.
10:34	MA40471-CRI4	1		
10:39	MA40471-CCV15	1		
10:44	MA40471-CCB16	1		

Refer to raw data for calibration curve and standards.

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
16:48	MA40471-STD1	3604 R	174060 R	29730 R	7820 R
16:54	MA40471-STD2	3325	161780	28839	6691
17:00	ZZZZZZ	3426	166240	29183	6954
17:06	ZZZZZZ	3577	171890	29218	7772
17:13	MA40471-ICV1	3422	165020	29090	6961
17:23	MA40471-ICB1	3584	172150	29229	7792
17:28	MA40471-ICCV1	3435	167040	29319	6987
17:40	MA40471-CCB1	3588	173150	29296	7812
17:47	MA40471-CRI1	3542	172320	29369	7599
17:53	MA40471-CRID1	3568	172880	29444	7733
17:59	MA40471-CRIA1	3579	174840	29721	7752
18:05	MA40471-ICSA1	3180	154190	27981	6199
18:11	MA40471-ICSAB1	3162	152970	27984	6188
18:17	MA40471-HSTD1	3478	169540	29079	7438
18:23	MA40471-HSTD2	3222	156670	28437	6234
18:30	ZZZZZZ	3466	168770	28970	7615
18:36	ZZZZZZ	3508	174490	29325	7771
18:42	ZZZZZZ	3566	171650	29389	7727
18:48	MA40471-CCV1	3382	163420	29037	6875
18:54	MA40471-CCB2	3556	169630	29292	7706
19:00	MA40471-CRID2	3525	169710	29206	7626
19:06	ZZZZZZ	3547	171000	29504	7714
19:12	ZZZZZZ	3485	169250	29495	7435
19:18	MP96360-S1	3447	166810	29281	7291
19:24	MP96360-S2	3448	166570	29263	7284
19:30	MP96360-SD1	3509	169510	29491	7621
19:36	MP96377-B1	3416	165550	29610	7120
19:42	MP96377-MB1	3527	170600	29777	7778
19:48	MP96377-S1	3105	154750	28134	6267
19:54	MP96377-S2	3121	152960	27908	6279
20:00	MA40471-CCV2	3364	160240	28938	6861
20:06	MA40471-CCB3	3526	169340	29390	7697
20:13	JC28888-2	3150	155870	28149	6377

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
20:19	MP96377-SD1	3344	163100	28756	7059
20:25	ZZZZZZ	3477	168170	31410	6599
20:31	ZZZZZZ	3158	156540	28521	6390
20:37	ZZZZZZ	3445	166540	31320	6581
20:43	ZZZZZZ	3175	154770	27991	6426
20:50	ZZZZZZ	3296	161160	29238	6937
20:56	ZZZZZZ	3175	155900	28276	6409
21:02	ZZZZZZ	3215	159600	28905	6686
21:08	MA40471-CCV3	3395	162170	28688	6921
21:14	MA40471-CCB4	3514	167240	28842	7658
21:20	MP96277-MB1	3511	167680	28936	7674
21:26	MP96277-MB2	3550	169860	29531	7760
21:32	MP96277-B1	3407	164100	29178	7078
21:38	MP96277-B2	3440	165160	29528	7160
21:44	MP96277-S1	3310	162510	29195	6741
21:50	MP96277-S2	3293	162240	29113	6703
21:56	JC28495-2	3311	164140	29015	6875
22:02	MP96277-SD1	3471	169570	29337	7435
22:08	MP96277-S3	3291	161770	29211	6739
22:14	MA40471-CCV4	3416	164810	28915	6980
22:20	MA40471-CCB5	3583	170310	28971	7825
22:27	MP96277-S4	3319	164190	29472	6786
22:33	JC28495-2F	3319	164740	29005	6899
22:39	MP96277-SD2	3475	169370	29187	7434
22:45	ZZZZZZ	3215	160550	28720	6606
22:51	ZZZZZZ	3175	156670	28339	6182
22:57	ZZZZZZ	3251	162530	28709	6636
23:03	ZZZZZZ	3153	155450	28282	6140
23:09	ZZZZZZ	3570	173560	29602	7828
23:15	ZZZZZZ	3601	174700	29523	7886
23:21	MA40471-CCV5	3447	166690	28901	7021
23:27	MA40471-CCB6	3578	172920	29218	7822
23:34	MA40471-CRID3	3614	174410	29291	7854

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
23:40	MA40471-CRI2	3552	171260	28706	7627
23:46	MA40471-CRIA2	3585	173310	28967	7797
23:52	MA40471-ICSA2	3185	154410	27957	6220
23:58	MA40471-ICSAB2	3186	153870	28010	6241
00:04	MA40471-CCV6	3473	168140	29041	7060
00:10	MA40471-CCB7	3603	173030	28787	7850
00:16	ZZZZZZ	3426	169220	29300	7174
00:22	ZZZZZZ	3334	165030	28926	6852
00:28	ZZZZZZ	3340	167010	29271	6867
00:34	ZZZZZZ	3550	175150	29829	7565
00:40	ZZZZZZ	3509	172450	29753	7490
00:47	ZZZZZZ	3603	173960	29423	7861
00:53	ZZZZZZ	3464	170240	29066	7257
00:59	ZZZZZZ	3333	166270	29163	6867
01:05	ZZZZZZ	3355	164190	29742	6888
01:11	ZZZZZZ	3591	173820	29233	7621
01:17	MA40471-CCV7	3454	165910	28746	7038
01:23	MA40471-CCB8	3692	177860	29605	8047
01:29	ZZZZZZ	3562	174510	29412	7591
01:35	ZZZZZZ	3650	177550	29795	7959
01:41	MP96382-B1	3510	170290	29196	7273
01:47	MP96382-MB1	3655	178580	29734	7991
01:53	MP96382-MB2	3649	176480	29643	7975
01:59	MP96382-B2	3544	172160	29462	7349
02:05	MP96382-S1	3395	166950	29137	6967
02:11	MP96382-S2	3464	169770	29553	7096
02:17	JC28861-2	3485	171570	29556	7300
02:24	MP96382-SD1	3613	175150	29485	7773
02:30	MA40471-CCV8	3540	171100	29104	7192
02:36	MA40471-CCB9	3704	178790	29653	8047
02:42	ZZZZZZ	3232	160840	28052	6424
02:48	ZZZZZZ	3455	171060	28958	7296
02:54	ZZZZZZ	3360	167230	28598	6929

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
03:01	ZZZZZZ	3498	171510	28956	7302
03:07	ZZZZZZ	3552	174010	29394	7377
03:13	ZZZZZZ	3245	157730	28255	6248
03:19	ZZZZZZ	3192	159990	27760	6400
03:25	ZZZZZZ	3316	165950	28469	6752
03:31	ZZZZZZ	3227	162010	27892	6516
03:37	MA40471-CCV9	3492	167910	28529	7088
03:43	MA40471-CCB10	3662	177300	28964	7952
03:49	ZZZZZZ	3257	161790	27956	6563
03:55	ZZZZZZ	3217	157860	27970	6161
04:02	ZZZZZZ	3215	160400	27623	6459
04:08	ZZZZZZ	3300	164750	28212	6712
04:14	ZZZZZZ	3248	163200	28025	6566
04:20	ZZZZZZ	3388	169310	28589	6982
04:26	ZZZZZZ	3587	175900	29416	7619
04:32	ZZZZZZ	3529	173800	29314	7454
04:38	ZZZZZZ	3288	163620	27919	6730
04:44	MA40471-CCV10	3528	170450	28756	7152
04:50	MA40471-CCB11	3679	178510	28876	7999
04:57	ZZZZZZ	3331	165370	28430	6810
05:03	ZZZZZZ	3526	170910	28428	7291
05:09	MP96373-MB1	3687	177950	29022	8025
05:15	ZZZZZZ	3732	180150	29816	7691
05:21	ZZZZZZ	3710	177400	29762	7623
05:27	ZZZZZZ	3757	180790	29781	7686
05:33	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:39	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:45	ZZZZZZ	No results reported for the elements associated with this internal standard.			
05:51	MA40471-CCV11	3546	170500	28362	7186
05:57	MA40471-CCB12	3709	178290	29019	8042
06:03	ZZZZZZ	No results reported for the elements associated with this internal standard.			
06:09	ZZZZZZ	3792	181790	30168	7701
06:15	ZZZZZZ	3795	177300	29635	7716

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
06:21	ZZZZZZ	3648	173690	29130	7488
06:27	ZZZZZZ	3696	175230	29705	7610
06:33	ZZZZZZ	3823	182350	30514	7461
06:39	ZZZZZZ	3788	181800	30149	7387
06:45	ZZZZZZ	3783	180670	29744	7655
06:51	ZZZZZZ	3743	178790	29662	7599
06:57	MA40471-CCV12	3553	169190	28783	7218
07:03	MA40471-CCB13	3728	180400	29083	8106
07:09	MA40471-CRI3	3638	176640	28936	7823
07:15	MA40471-CRID4	3669	178810	28880	7949
07:21	MA40471-CRIA3	3673	178080	29240	7960
07:27	MA40471-ICSA3	3291	159380	28018	6391
07:33	MA40471-ICSAB3	3293	157590	28057	6421
07:40	MA40471-CCV13	3549	171860	28791	7184
07:46	MA40471-CCB14	3674	177310	28665	7972
07:52	MP96388-MB1	3718	179530	29672	8149
07:58	MP96388-B1	3605	171320	29546	7459
08:25	MP96388-S1	3334	163380	27978	6734
08:31	MP96388-S2	3339	163850	28601	6747
08:37	JC28915-6	3409	165890	28542	6906
08:43	MP96388-SD1	3595	174510	28952	7567
08:49	ZZZZZZ	3545	173290	29840	7532
08:55	ZZZZZZ	3614	175540	29864	7796
09:01	ZZZZZZ	3525	171460	29415	7475
09:07	MA40471-CCV14	3509	168790	28600	7115
09:13	MA40471-CCB15	3624	176640	29581	7852
09:20	ZZZZZZ	3642	175930	29354	7866
09:26	ZZZZZZ	3640	175980	29348	7908
09:30	ZZZZZZ	3681	176820	29277	7994
09:35	ZZZZZZ	3626	174460	28861	7876
09:40	ZZZZZZ	3616	174230	29412	7865
09:45	ZZZZZZ	3632	175530	29486	7886
10:20	MP96398-B1	No results reported for the elements associated with this internal standard.			

INTERNAL STANDARD SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
Analyst: KS Run ID: MA40471
Parameters: Zn

Time	Sample Description	Istd#1	Istd#2	Istd#3	Istd#4
10:24	ZZZZZZ	3678	178810	32513	6837
10:30	MP96398-MB1	No results reported for the elements associated with this internal standard.			
10:34	MA40471-CRI4	3615	175550	29977	7803
10:39	MA40471-CCV15	3517	169670	29087	7166
10:44	MA40471-CCB16	3725	180600	30336	8156

R = Reference for ISTD limits. ! = Outside limits.

LEGEND:

Istd#	Parameter	Limits
Istd#1	Yttrium (2243)	70-130 %
Istd#2	Yttrium (3600)	70-130 %
Istd#3	Yttrium (3710)	70-130 %
Istd#4	Indium	70-130 %

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			17:23		17:40		18:54		20:06	
Sample ID:			ICB1		CCB1		CCB2		CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr							
Antimony	6.0	1.6	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.05	anr							
Bismuth	20	1.5	anr							
Boron	100	1.1								
Cadmium	3.0	.2	anr							
Calcium	5000	13	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	9.7	anr							
Lead	3.0	1.2	anr							
Lithium	20	1.3								
Magnesium	5000	19	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	10000	35	anr							
Selenium	10	1.9	anr							
Silicon	200	5.1								
Silver	10	.5	anr							
Sodium	10000	11	anr							
Sulfur	50	2.2	anr							
Strontium	10	.1								
Thallium	2.0	1.3	anr							
Tin	10	.9								
Titanium	10	.4								
Tungsten	50	2.3								
Vanadium	50	.3	anr							
Zinc	20	1	0.0	<20	0.10	<20	0.0	<20	0.0	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time: / Sample ID:			17:23 ICB1		17:40 CCB1		18:54 CCB2		20:06 CCB3	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			21:14		22:20		23:27		00:10	
Sample ID:			CCB4		CCB5		CCB6		CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr							
Antimony	6.0	1.6	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.05	anr							
Bismuth	20	1.5	anr							
Boron	100	1.1								
Cadmium	3.0	.2	anr							
Calcium	5000	13	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	9.7	anr							
Lead	3.0	1.2	anr							
Lithium	20	1.3								
Magnesium	5000	19	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	10000	35	anr							
Selenium	10	1.9	anr							
Silicon	200	5.1								
Silver	10	.5	anr							
Sodium	10000	11	anr							
Sulfur	50	2.2	anr							
Strontium	10	.1								
Thallium	2.0	1.3	anr							
Tin	10	.9								
Titanium	10	.4								
Tungsten	50	2.3								
Vanadium	50	.3	anr							
Zinc	20	1	0.10	<20	0.20	<20	0.20	<20	0.30	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time: / Sample ID:			21:14 CCB4		22:20 CCB5		23:27 CCB6		00:10 CCB7	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			01:23		02:36		03:43		04:50	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr							
Antimony	6.0	1.6	anr							
Arsenic	3.0	1.5	anr							
Barium	200	.2	anr							
Beryllium	1.0	.05	anr							
Bismuth	20	1.5	anr							
Boron	100	1.1								
Cadmium	3.0	.2	anr							
Calcium	5000	13	anr							
Chromium	10	.4	anr							
Cobalt	50	.3	anr							
Copper	10	.6	anr							
Iron	100	9.7	anr							
Lead	3.0	1.2	anr							
Lithium	20	1.3								
Magnesium	5000	19	anr							
Manganese	15	.1	anr							
Molybdenum	20	.3								
Nickel	10	.3	anr							
Palladium	50	1.7								
Potassium	10000	35	anr							
Selenium	10	1.9	anr							
Silicon	200	5.1								
Silver	10	.5	anr							
Sodium	10000	11	anr							
Sulfur	50	2.2	anr							
Strontium	10	.1								
Thallium	2.0	1.3	anr							
Tin	10	.9								
Titanium	10	.4								
Tungsten	50	2.3								
Vanadium	50	.3	anr							
Zinc	20	1	0.20	<20	0.30	<20	0.50	<20	0.50	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			01:23		02:36		03:43		04:50	
Sample ID:			CCB8		CCB9		CCB10		CCB11	
Metal	RL	IDL	raw	final	raw	final	raw	final	raw	final
Zirconium	10	.2								

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			05:57		07:03		07:46	
Sample ID:			CCB12		CCB13		CCB14	
Metal	RL	IDL	raw	final	raw	final	raw	final
Aluminum	200	6.8	anr					
Antimony	6.0	1.6	anr					
Arsenic	3.0	1.5	anr					
Barium	200	.2	anr					
Beryllium	1.0	.05	anr					
Bismuth	20	1.5	anr					
Boron	100	1.1						
Cadmium	3.0	.2	anr					
Calcium	5000	13	anr					
Chromium	10	.4	anr					
Cobalt	50	.3	anr					
Copper	10	.6	anr					
Iron	100	9.7	anr					
Lead	3.0	1.2	anr					
Lithium	20	1.3						
Magnesium	5000	19	anr					
Manganese	15	.1	anr					
Molybdenum	20	.3						
Nickel	10	.3	anr					
Palladium	50	1.7						
Potassium	10000	35	anr					
Selenium	10	1.9	anr					
Silicon	200	5.1						
Silver	10	.5	anr					
Sodium	10000	11	anr					
Sulfur	50	2.2	anr					
Strontium	10	.1						
Thallium	2.0	1.3	anr					
Tin	10	.9						
Titanium	10	.4						
Tungsten	50	2.3						
Vanadium	50	.3	anr					
Zinc	20	1	0.60	<20	-0.10	<20	0.10	<20

BLANK RESULTS SUMMARY
Part 1 - Initial and Continuing Calibration Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: result < RL Run ID: MA40471 Units: ug/l

Time:			05:57		07:03		07:46	
Sample ID:			CCB12		CCB13		CCB14	
Metal	RL	IDL	raw	final	raw	final	raw	final
Zirconium	10	.2						

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:28	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Aluminum	anr		
Antimony	anr		
Arsenic	anr		
Barium	anr		
Beryllium	anr		
Bismuth	anr		
Boron			
Cadmium	anr		
Calcium	anr		
Chromium	anr		
Cobalt	anr		
Copper	anr		
Iron	anr		
Lead	anr		
Lithium			
Magnesium	anr		
Manganese	anr		
Molybdenum			
Nickel	anr		
Palladium			
Potassium	anr		
Selenium	anr		
Silicon			
Silver	anr		
Sodium	anr		
Sulfur	anr		
Strontium			
Thallium	anr		
Tin			
Titanium			
Tungsten			
Vanadium	anr		
Zinc	2000	2040	102.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial Continuing Calibration Check

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:28	
Sample ID:	ICCV	ICCV1	
Metal	True	Results	% Rec
Zirconium			

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:13			18:48			20:00	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2030	101.5	2000	2070	103.5	2000	2050	102.5

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		17:13			18:48			20:00	
Sample ID:	ICV	ICV1		CCV	CCV1		CCV	CCV2	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		21:08			22:14			23:21	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2060	103.0	2000	2060	103.0	2000	2060	103.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		21:08			22:14			23:21	
Sample ID:	CCV	CCV3		CCV	CCV4		CCV	CCV5	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		00:04			01:17			02:30	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2050	102.5	2000	2080	104.0	2000	2020	101.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		00:04			01:17			02:30	
Sample ID:	CCV	CCV6		CCV	CCV7		CCV	CCV8	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		03:37			04:44			05:51	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Aluminum	anr								
Antimony	anr								
Arsenic	anr								
Barium	anr								
Beryllium	anr								
Bismuth	anr								
Boron									
Cadmium	anr								
Calcium	anr								
Chromium	anr								
Cobalt	anr								
Copper	anr								
Iron	anr								
Lead	anr								
Lithium									
Magnesium	anr								
Manganese	anr								
Molybdenum									
Nickel	anr								
Palladium									
Potassium	anr								
Selenium	anr								
Silicon									
Silver	anr								
Sodium	anr								
Sulfur	anr								
Strontium									
Thallium	anr								
Tin									
Titanium									
Tungsten									
Vanadium	anr								
Zinc	2000	2060	103.0	2000	2050	102.5	2000	2040	102.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		03:37			04:44			05:51	
Sample ID:	CCV	CCV9		CCV	CCV10		CCV	CCV11	
Metal	True	Results	% Rec	True	Results	% Rec	True	Results	% Rec
Zirconium									

(*) Outside of QC limits
(anr) Analyte not requested

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		06:57			07:40	
Sample ID:	CCV	CCV12		CCV	CCV13	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum	anr					
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth	anr					
Boron						
Cadmium	anr					
Calcium	anr					
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron	anr					
Lead	anr					
Lithium						
Magnesium	anr					
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Potassium	anr					
Selenium	anr					
Silicon						
Silver	anr					
Sodium	anr					
Sulfur	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	2000	2070	103.5	2000	2060	103.0

CALIBRATION CHECK STANDARDS SUMMARY
Initial and Continuing Calibration Checks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 95 to 105 % Recovery Run ID: MA40471 Units: ug/l

Time:		06:57			07:40	
Sample ID:	CCV	CCV12		CCV	CCV13	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40471 Units: ug/l

Time:		18:17			18:23	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Aluminum						
Antimony	anr					
Arsenic	anr					
Barium	anr					
Beryllium	anr					
Bismuth	anr					
Boron						
Cadmium	anr					
Calcium						
Chromium	anr					
Cobalt	anr					
Copper	anr					
Iron						
Lead	anr					
Lithium						
Magnesium						
Manganese	anr					
Molybdenum						
Nickel	anr					
Palladium						
Potassium						
Selenium	anr					
Silicon						
Silver	anr					
Sodium						
Sulfur	anr					
Strontium						
Thallium	anr					
Tin						
Titanium						
Tungsten						
Vanadium	anr					
Zinc	5000	5210	104.2			

HIGH STANDARD CHECK SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 90 to 110 % Recovery Run ID: MA40471 Units: ug/l

Time:		18:17			18:23	
Sample ID:	HSTD	HSTD1		HSTD	HSTD2	
Metal	True	Results	% Rec	True	Results	% Rec
Zirconium						

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				17:47		17:53		17:59	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20			anr					
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500		anr					
Lead	3.0	20	2.5	anr					
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Sulfur	50			anr					
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	21.8	109.0	10.4	104.0		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				17:47		17:53		17:59	
Sample ID:	CRI	CRIA	CRID	CRI1		CRID1		CRIA1	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				19:00		23:34		23:40	
Sample ID:	CRI	CRIA	CRID	CRID2		CRID3		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0	anr					
Beryllium	2.0		1.0	anr					
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0	anr					
Calcium	5000	2000	1000	anr					
Chromium	10		2.0	anr					
Cobalt	50		3.0	anr					
Copper	10		2.0	anr					
Iron	100	500							
Lead	3.0	20	2.5	anr					
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0	anr					
Molybdenum	20								
Nickel	10		4.0	anr					
Palladium	50								
Potassium	5000		2000	anr					
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0	anr					
Sodium	5000		1000	anr					
Sulfur	50								
Strontium	10								
Thallium	10		2.0	anr					
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0	anr					
Zinc	20		10	10.5	105.0	10.5	105.0	22.3	111.5

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				19:00		23:34		23:40	
Sample ID:	CRI	CRIA	CRID	CRID2		CRID3		CRI2	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				23:46		07:09		07:15	
Sample ID:	CRI	CRIA	CRID	CRIA2		CRI3		CRID4	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	200	500	100	anr					
Antimony	6.0	20	3.0	anr					
Arsenic	8.0	20	3.0	anr					
Barium	200		4.0						
Beryllium	2.0		1.0						
Bismuth	20								
Boron	100		10						
Cadmium	3.0		1.0						
Calcium	5000	2000	1000	anr					
Chromium	10		2.0						
Cobalt	50		3.0						
Copper	10		2.0						
Iron	100	500		anr					
Lead	3.0	20	2.5	anr					
Lithium	20								
Magnesium	5000	2000	100	anr					
Manganese	15		3.0						
Molybdenum	20								
Nickel	10		4.0						
Palladium	50								
Potassium	5000		2000						
Selenium	10	20	5.0	anr					
Silicon	200								
Silver	5.0		2.0						
Sodium	5000		1000						
Sulfur	50								
Strontium	10								
Thallium	10		2.0						
Tin	10								
Titanium	10								
Tungsten	50								
Vanadium	50		2.0						
Zinc	20		10			21.9	109.5	10.5	105.0

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				23:46		07:09		07:15	
Sample ID:	CRI	CRIA	CRID	CRIA2		CRI3		CRID4	
Metal	True	True	True	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium	10								

(*) Outside of QC limits
(anr) Analyte not requested

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				07:21	
Sample ID:	CRI	CRIA	CRID	CRIA3	
Metal	True	True	True	Results	% Rec
Aluminum	200	500	100	anr	
Antimony	6.0	20	3.0	anr	
Arsenic	8.0	20	3.0	anr	
Barium	200		4.0		
Beryllium	2.0		1.0		
Bismuth	20				
Boron	100		10		
Cadmium	3.0		1.0		
Calcium	5000	2000	1000	anr	
Chromium	10		2.0		
Cobalt	50		3.0		
Copper	10		2.0		
Iron	100	500		anr	
Lead	3.0	20	2.5	anr	
Lithium	20				
Magnesium	5000	2000	100	anr	
Manganese	15		3.0		
Molybdenum	20				
Nickel	10		4.0		
Palladium	50				
Potassium	5000		2000		
Selenium	10	20	5.0	anr	
Silicon	200				
Silver	5.0		2.0		
Sodium	5000		1000		
Sulfur	50				
Strontium	10				
Thallium	10		2.0		
Tin	10				
Titanium	10				
Tungsten	50				
Vanadium	50		2.0		
Zinc	20		10		

LOW CALIBRATION CHECK STANDARDS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 70 to 130 % Recovery Run ID: MA40471 Units: ug/l

Time:				07:21	
Sample ID:	CRI	CRIA	CRID	CRIA3	
Metal	True	True	True	Results	% Rec
Zirconium	10				

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			18:05		18:11		23:52		23:58	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Aluminum	500000	500000	487000	97.4	476000	95.2	483000	96.6	474000	94.8
Antimony		1000	-1.5		987	98.7	0.10		976	97.6
Arsenic		1000	0.90		1020	102.0	1.4		1010	101.0
Barium		500	-0.80		495	99.0	-1.0		500	100.0
Beryllium		500	-0.50		480	96.0	-0.50		479	95.8
Bismuth		500	-2.7		509	101.8	-1.7		506	101.2
Boron		500	-1.9		472	94.4	-2.3		471	94.2
Cadmium		1000	-0.80		1030	103.0	-0.50		1030	103.0
Calcium	400000	400000	370000	92.5	360000	90.0	368000	92.0	354000	88.5
Chromium		500	-1.4		494	98.8	-2.2		489	97.8
Cobalt		500	1.5		473	94.6	1.3		477	95.4
Copper		500	6.6		513	102.6	6.1		513	102.6
Iron	200000	200000	183000	91.5	180000	90.0	180000	90.0	176000	88.0
Lead		1000	3.6		943	94.3	-0.20		938	93.8
Lithium		500	-19		528	105.6	-19		536	107.2
Magnesium	500000	500000	489000	97.8	478000	95.6	484000	96.8	472000	94.4
Manganese		500	-0.20		498	99.6	0.40		499	99.8
Molybdenum		500	-1.1		473	94.6	-1.5		469	93.8
Nickel		1000	0.0		972	97.2	-0.10		968	96.8
Palladium		500	0.60		529	105.8	-1.5		536	107.2
Potassium			99.8		90.6		163		138	
Selenium		1000	5.8		978	97.8	5.2		974	97.4
Silicon		500	23.9		524	104.8	25.0		522	104.4
Silver		1000	-0.10		1000	100.0	4.1		994	99.4
Sodium			-4.4		13.3		28.9		33.5	
Sulfur		500	41.9		509	101.8	39.1		518	103.6
Strontium		500	5.4		498	99.6	6.0		503	100.6
Thallium		1000	-3.1		979	97.9	0.10		988	98.8
Tin		500	-9.7		458	91.6	-9.4		458	91.6
Titanium		500	-2.9		486	97.2	-3.0		483	96.6
Tungsten		500	4.8		475	95.0	4.5		469	93.8
Vanadium		500	-0.20		479	95.8	-0.60		471	94.2
Zinc		1000	-0.70		951	95.1	-0.10		958	95.8

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			18:05		18:11		23:52		23:58	
Sample ID:	ICSA	ICSAB	ICSA1		ICSAB1		ICSA2		ICSAB2	
Metal	True	True	Results	% Rec	Results	% Rec	Results	% Rec	Results	% Rec
Zirconium		500	-2.4		482	96.4	-2.4		482	96.4

(*) Outside of QC limits
(anr) Analyte not requested

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			07:27		07:33	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Aluminum	500000	500000	481000	96.2	471000	94.2
Antimony		1000	-1.7		959	95.9
Arsenic		1000	1.2		988	98.8
Barium		500	-1.0		491	98.2
Beryllium		500	-0.50		459	91.8
Bismuth		500	-1.2		494	98.8
Boron		500	-3.1		460	92.0
Cadmium		1000	-0.70		1010	101.0
Calcium	400000	400000	359000	89.8	351000	87.8
Chromium		500	-1.6		489	97.8
Cobalt		500	1.3		466	93.2
Copper		500	5.6		503	100.6
Iron	200000	200000	173000	86.5	169000	84.5
Lead		1000	0.20		930	93.0
Lithium		500	-18		528	105.6
Magnesium	500000	500000	470000	94.0	456000	91.2
Manganese		500	-0.50		493	98.6
Molybdenum		500	-1.2		462	92.4
Nickel		1000	0.20		957	95.7
Palladium		500	-0.70		523	104.6
Potassium			151		180	
Selenium		1000	2.3		952	95.2
Silicon		500	23.7		510	102.0
Silver		1000	-1.3		985	98.5
Sodium			-11		-3.6	
Sulfur		500	33.9		496	99.2
Strontium		500	5.8		494	98.8
Thallium		1000	-0.70		957	95.7
Tin		500	-8.9		450	90.0
Titanium		500	-2.9		480	96.0
Tungsten		500	4.0		462	92.4
Vanadium		500	-0.20		471	94.2
Zinc		1000	-0.10		945	94.5

INTERFERING ELEMENT CHECK STANDARDS SUMMARY
Part 1 - ICSA and ICSAB Standards

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: SD100616M2.ICP Date Analyzed: 10/06/16 Methods: EPA 200.7, SW846 6010C
QC Limits: 80 to 120 % Recovery Run ID: MA40471 Units: ug/l

Time:			07:27		07:33	
Sample ID:	ICSA	ICSAB	ICSA3		ICSAB3	
Metal	True	True	Results	% Rec	Results	% Rec
Zirconium		500	-2.6		476	95.2

(*) Outside of QC limits
(anr) Analyte not requested

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	RL	IDL	MDL	MB raw	final
Aluminum	50	.68	2	0.68	<50
Antimony	2.0	.12	.29	0.020	<2.0
Arsenic	2.0	.15	.21	0.15	<2.0
Barium	20	.02	.081	0.12	<20
Beryllium	0.20	.005	.022	-0.010	<0.20
Bismuth	2.0	.15	.24		
Boron	10	.11	.45		
Cadmium	0.50	.02	.05	-0.010	<0.50
Calcium	500	.82	1.9	14.2	<500
Chromium	1.0	.04	.12	0.060	<1.0
Cobalt	5.0	.02	.059	-0.010	<5.0
Copper	2.5	.06	.22	0.44	<2.5
Iron	50	.89	.79	2.2	<50
Lead	2.0	.1	.22	0.050	<2.0
Lithium	2.0	.13	.45		
Magnesium	500	1.9	5.9	-0.39	<500
Manganese	1.5	.01	.036	0.050	<1.5
Molybdenum	2.0	.03	.081		
Nickel	4.0	.03	.076	0.050	<4.0
Palladium	5.0	.17	.47		
Potassium	1000	3.5	18	-5.2	<1000
Selenium	2.0	.19	.46	-0.15	<2.0
Silicon	20	.26	3.7		
Silver	0.50	.05	.099	-0.040	<0.50
Sodium	1000	1.1	3.9	3.4	<1000
Strontium	1.0	.01	.024		
Sulfur	5.0	.22	.59		
Thallium	1.0	.12	.4	-0.030	<1.0
Tin	5.0	.05	.53		
Titanium	1.0	.04	.13		
Tungsten	5.0	.11	.33		
Vanadium	5.0	.03	.083	0.050	<5.0
Zinc	5.0	.1	.22	3.2	<5.0 (a)

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	RL	IDL	MDL	MB raw	final
Zirconium	2.0	.02	.13		

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) All reported results >10x MB value or with RL> 2X of this value.

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original	MS	Spikelot MPSPK1	% Rec	QC Limits
Aluminum	376	3450	2540	121.2	75-125
Antimony	0.14	186	203	91.6	75-125
Arsenic	0.45	190	203	93.4	75-125
Barium	1.8	199	203	97.2	75-125
Beryllium	0.0	196	203	96.6	75-125
Bismuth					
Boron					
Cadmium	0.030	191	203	94.1	75-125
Calcium	25.6	2550	2540	99.5	75-125
Chromium	1.7	191	203	93.3	75-125
Cobalt	0.081	190	203	93.6	75-125
Copper	0.37	192	203	94.4	75-125
Iron	641	3180	2540	100.1	75-125
Lead	0.90	191	203	93.7	75-125
Lithium					
Magnesium	0.0	2540	2540	100.1	75-125
Manganese	1.8	192	203	93.7	75-125
Molybdenum	anr				
Nickel	0.23	187	203	92.0	75-125
Palladium					
Potassium	13.4	2580	2540	101.2	75-125
Selenium	0.0	188	203	92.6	75-125
Silicon					
Silver	0.0	23.8	25.4	93.8	75-125
Sodium	8.1	2540	2540	99.8	75-125
Strontium					
Sulfur					
Thallium	0.0	196	203	96.6	75-125
Tin					
Titanium					
Tungsten					
Vanadium	1.4	192	203	93.9	75-125
Zinc	1.0	197	203	96.6	75-125

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original MS	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original	MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Aluminum	376	3410	2610	116.1	1.2	20
Antimony	0.14	190	209	90.8	2.1	20
Arsenic	0.45	194	209	92.5	2.1	20
Barium	1.8	205	209	97.2	3.0	20
Beryllium	0.0	200	209	95.6	2.0	20
Bismuth						
Boron						
Cadmium	0.030	196	209	93.7	2.6	20
Calcium	25.6	2600	2610	98.5	1.9	20
Chromium	1.7	196	209	92.9	2.6	20
Cobalt	0.081	194	209	92.7	2.1	20
Copper	0.37	196	209	93.5	2.1	20
Iron	641	3390	2610	105.2	6.4	20
Lead	0.90	196	209	93.3	2.6	20
Lithium						
Magnesium	0.0	2610	2610	99.8	2.7	20
Manganese	1.8	196	209	92.9	2.1	20
Molybdenum	anr					
Nickel	0.23	192	209	91.7	2.6	20
Palladium						
Potassium	13.4	2630	2610	100.1	1.9	20
Selenium	0.0	192	209	91.8	2.1	20
Silicon						
Silver	0.0	24.1	26.1	92.2	1.3	20
Sodium	8.1	2600	2610	99.1	2.3	20
Strontium						
Sulfur						
Thallium	0.0	201	209	96.1	2.5	20
Tin						
Titanium						
Tungsten						
Vanadium	1.4	197	209	93.5	2.6	20
Zinc	1.0	201	209	95.6	2.0	20

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/05/16

Metal	JC28910-1 Original	MSD	Spikelot MPSPK1	% Rec	MSD RPD	QC Limit
Zirconium						

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Aluminum	2270	2450	92.6	80-120
Antimony	176	196	89.8	80-120
Arsenic	175	196	89.3	80-120
Barium	179	196	91.3	80-120
Beryllium	178	196	90.8	80-120
Bismuth				
Boron				
Cadmium	177	196	90.3	80-120
Calcium	2310	2450	94.2	80-120
Chromium	171	196	87.2	80-120
Cobalt	173	196	88.2	80-120
Copper	175	196	89.3	80-120
Iron	2350	2450	95.9	80-120
Lead	174	196	88.7	80-120
Lithium				
Magnesium	2320	2450	94.7	80-120
Manganese	174	196	88.7	80-120
Molybdenum	anr			
Nickel	170	196	86.7	80-120
Palladium				
Potassium	2300	2450	93.8	80-120
Selenium	173	196	88.2	80-120
Silicon				
Silver	21.8	24.5	88.9	80-120
Sodium	2320	2450	94.7	80-120
Strontium				
Sulfur				
Thallium	181	196	92.3	80-120
Tin				
Titanium				
Tungsten				
Vanadium	173	196	88.2	80-120
Zinc	180	196	91.8	80-120

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: mg/kg

Prep Date: 10/05/16

Metal	BSP Result	Spikelot MPSPK1	% Rec	QC Limits
Zirconium				

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373
Matrix Type: SOLID

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/05/16

Metal	JC28910-1 Original	SDL 1:5	%DIF	QC Limits
Aluminum	3710	3620	2.4	0-10
Antimony	1.40	0.00	100.0(a)	0-10
Arsenic	4.40	9.00	104.5(a)	0-10
Barium	17.3	19.9	15.0 (a)	0-10
Beryllium	0.00	0.00	NC	0-10
Bismuth				
Boron				
Cadmium	0.300	0.00	100.0(a)	0-10
Calcium	252	357	41.7 (a)	0-10
Chromium	16.3	20.1	23.3 (a)	0-10
Cobalt	0.800	0.00	100.0(a)	0-10
Copper	3.60	0.00	100.0(a)	0-10
Iron	6320	6300	0.3	0-10
Lead	8.90	10.5	18.0 (a)	0-10
Lithium				
Magnesium	0.00	0.00	NC	0-10
Manganese	17.7	18.0	1.7	0-10
Molybdenum	anr			
Nickel	2.30	0.00	100.0(a)	0-10
Palladium				
Potassium	133	0.00	100.0(a)	0-10
Selenium	0.00	0.00	NC	0-10
Silicon				
Silver	0.00	0.00	NC	0-10
Sodium	80.2	117	46.0 (a)	0-10
Strontium				
Sulfur				
Thallium	0.00	0.00	NC	0-10
Tin				
Titanium				
Tungsten				
Vanadium	14.1	15.6	10.6 (a)	0-10
Zinc	10.1	13.3	31.7*(b)	0-10

SERIAL DILUTION RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96373 Methods: SW846 6010C
Matrix Type: SOLID Units: ug/l

Prep Date: 10/05/16

Metal	JC28910-1 Original	SDL 1:5	%DIF	QC Limits
Zirconium				

Associated samples MP96373: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Percent difference acceptable due to low initial sample concentration (< 50 times IDL).
(b) Serial dilution indicates possible matrix interference.

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/06/16

Metal	RL	IDL	MDL	MB raw	final
Mercury	0.033	.0065	.0053	-0.0019	<0.033

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/06/16

Metal	JC28910-1 Original	MS	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.0	0.33	0.322	102.6	80-120

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393 Methods: SW846 7471B
Matrix Type: SOLID Units: mg/kg

Prep Date: 10/06/16

Metal	JC28910-1 Original	MSD	Spikelot HGPWS1	% Rec	MSD RPD	QC Limit
Mercury	0.0	0.35	0.337	103.9	5.9	20

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

QC Batch ID: MP96393
Matrix Type: SOLID

Methods: SW846 7471B
Units: mg/kg

Prep Date: 10/06/16

Metal	BSP Result	Spikelot HGPWS1	% Rec	QC Limits
Mercury	0.37	0.333	111.1	80-120

Associated samples MP96393: JC28902-1

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Instrument Detection Limits

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: LEEMANHG5 **Effective Date:** 09/08/16

Analyte	IDL ug/l
Mercury	.0388

The above applies to the following instrument runs:
MA40466

Instrument Detection Limits

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE3 **Effective Date:** 10/04/16

Analyte	IDL ug/l
Aluminum	19.7
Antimony	1.2
Arsenic	1.5
Barium	.5
Beryllium	.3
Bismuth	2.3
Boron	1.9
Cadmium	.2
Calcium	8.2
Chromium	.6
Cobalt	.2
Copper	.8
Iron	8.9
Lead	1
Lithium	2.9
Magnesium	88.1
Manganese	.1
Molybdenum	.3
Nickel	.4
Palladium	2.1
Potassium	77.9
Selenium	2.6
Silicon	2.6
Silver	.7
Sodium	19.9
Sulfur	4.8
Strontium	.2
Thallium	1.2
Tin	.5
Titanium	.7
Tungsten	1.1
Vanadium	.5
Yttrium	5
Zinc	.1
Zirconium	.3

The above applies to the following instrument runs:
MA40457

Instrument Detection Limits

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE4 **Effective Date:** 09/02/16

Analyte	IDL ug/l
Aluminum	6.8
Antimony	1.6
Arsenic	1.5
Barium	.2
Beryllium	.05
Bismuth	1.5
Boron	1.1
Cadmium	.2
Calcium	12.6
Chromium	.4
Cobalt	.3
Copper	.6
Iron	9.7
Lead	1.2
Lithium	1.3
Magnesium	19.2
Manganese	.1
Molybdenum	.3
Nickel	.3
Palladium	1.7
Potassium	35.1
Selenium	1.9
Silicon	5.1
Silver	.5
Sodium	11
Sulfur	2.2
Strontium	.1
Thallium	1.3
Tin	.9
Titanium	.4
Tungsten	2.3
Vanadium	.3
Zinc	1
Zirconium	.2

The above applies to the following instrument runs:
MA40471

Instrument Linear Ranges

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: LEEMANHG5 **Effective Date:** 05/13/13

Analyte	Linear Range ug/l
Mercury	5

The above applies to the following instrument runs:
MA40466

Instrument Linear Ranges

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE3 **Effective Date:** 12/09/15

Analyte	Linear Range ug/l
Aluminum	600000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Bismuth	10000
Boron	10000
Cadmium	10000
Calcium	300000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	300000
Lead	10000
Lithium	10000
Magnesium	600000
Manganese	10000
Molybdenum	10000
Nickel	10000
Palladium	10000
Potassium	300000
Selenium	10000
Silicon	50000
Silver	1250
Sodium	300000
Sulfur	100000
Strontium	10000
Thallium	10000
Tin	10000
Titanium	10000
Tungsten	10000
Vanadium	10000
Zinc	10000
Zirconium	10000

The above applies to the following instrument runs:
MA40457

Instrument Linear Ranges

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Instrument ID: SSTRACE4 **Effective Date:** 12/09/15

Analyte	Linear Range ug/l
Aluminum	600000
Antimony	10000
Arsenic	10000
Barium	10000
Beryllium	10000
Bismuth	10000
Boron	10000
Cadmium	10000
Calcium	300000
Chromium	10000
Cobalt	10000
Copper	10000
Iron	300000
Lead	10000
Lithium	10000
Magnesium	600000
Manganese	10000
Molybdenum	10000
Nickel	10000
Palladium	10000
Potassium	300000
Selenium	10000
Silicon	50000
Silver	1250
Sodium	300000
Sulfur	100000
Strontium	10000
Thallium	10000
Tin	10000
Titanium	10000
Tungsten	10000
Vanadium	10000
Zinc	10000
Zirconium	10000

The above applies to the following instrument runs:
MA40471

SGS ACCUTEST New Jersey

Section 10

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- Instrument Runlogs/QC
- Percent Solids Raw Data Summary

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Chromium, Hexavalent	GP574/GN53097	0.40	0.0	mg/kg	40	34.4	86.0	80-120%
Chromium, Hexavalent	GP574/GN53097			mg/kg	1260	1110	88.4	80-120%
Chromium, Hexavalent	GP574/GN53097			mg/kg	551	471	75.7	71-95%
Chromium, Hexavalent	GP648/GN53231	0.40	0.0	mg/kg	40	40.9	102.3	80-120%
Chromium, Hexavalent	GP648/GN53231			mg/kg	952	842	88.4	80-120%
Chromium, Hexavalent	GP648/GN53231			mg/kg	551	487	88.4	71-95%
Cyanide	GP585/GN53120	0.24	0.0	mg/kg	1	0.997	99.7	90-110%

Associated Samples:
Batch GP574: JC28902-1
Batch GP585: JC28902-1
Batch GP648: JC28902-1R
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Chromium, Hexavalent	GP574/GN53097	JC28902-1	mg/kg	0.0	0.18	200.0(a)	0-20%
Chromium, Hexavalent	GP648/GN53231	JC28902-1R	mg/kg	0.37	0.19	64.3(a)	0-20%
Cyanide	GP585/GN53120	JC28906-1	mg/kg	0.092	0.080	14.0	0-21%
Redox Potential Vs H2	GN52967	JC28819-1	mv	335	339	1.2	0-18%
pH	GN52968	JC28819-1	su	7.77	7.90	1.7	0-5%

Associated Samples:
Batch GP574: JC28902-1
Batch GP585: JC28902-1
Batch GP648: JC28902-1R
Batch GN52967: JC28902-1
Batch GN52968: JC28902-1
(*) Outside of QC limits
(a) RPD acceptable due to low duplicate and sample concentrations.

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chromium, Hexavalent	GP574/GN53097	JC28902-1	mg/kg	0.0	45.2	3.0	6.6N(a)	75-125%
Chromium, Hexavalent	GP574/GN53097	JC28902-1	mg/kg	0.0	860	1150	133.7N(b)	75-125%
Chromium, Hexavalent	GP648/GN53231	JC28902-1R	mg/kg	0.37	46.6	1.1	1.6N(c)	75-125%
Chromium, Hexavalent	GP648/GN53231	JC28902-1R	mg/kg	0.37	1010	1.7	0.1N(b)	75-125%
Cyanide	GP585/GN53120	JC28906-1	mg/kg	0.092	0.947	0.20	11.4N(d)	21-163%

Associated Samples:
Batch GP574: JC28902-1
Batch GP585: JC28902-1
Batch GP648: JC28902-1R
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (102%) on this sample.
(b) Insoluble XCR matrix spike recovery indicates possible matrix interference. See additional comments on soluble matrix spike recovery.
(c) Soluble XCR matrix spike recovery indicates possible matrix interference. Good post spike recovery (97.2%) on this sample.
(d) Spike recovery indicates possible matrix interference.

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816100701.TXT Date Analyzed: 10/07/16 Methods: SW846 3060A/7199
Analyst: TT Run ID: GN53097
Parameters: Chromium, Hexavalent

Time	Sample Description	Dilution Factor	PS Recov	Comments
08:48	GN53097-STD1	1		STDA
08:56	GN53097-STD2	1		STDB
09:04	GN53097-STD3	1		STDC
09:12	GN53097-STD4	1		STDD
09:20	GN53097-STD5	1		STDE
09:29	GN53097-CCV1	1		
09:37	GN53097-CCB1	1		
09:45	GP574-MB1	1		
09:53	GP574-MB1	1		
10:00	GP574-B1	4		
10:08	GP574-B1	4		
10:16	GP574-B2	130		
10:24	GP574-B2	130		
10:32	GP574-LC1	1		
10:40	GP574-LC1	10		
10:48	GP574-LC1	10		corrected for 97.3% sol
10:56	JC28902-1	1		
11:04	JC28902-1	1		
11:12	GP574-S1	1		
11:20	GP574-S1	1		
11:27	GP574-S2	1		
11:35	GP574-S2	1		
11:43	ZZZZZZ	1		
11:51	ZZZZZZ	1		
11:59	GP574-PS1	4		
12:07	GP574-PS1	4		
12:15	GN53097-CCV2	1		
12:23	GN53097-CCB2	1		
12:31	GP574-S2	100		
12:39	GP574-S2	100		
12:47	GN53097-CCV3	1		
12:55	GN53097-CCB3	1		
13:23	GP574-D1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816100701.TXT Date Analyzed: 10/07/16 Methods: SW846 3060A/7199
Analyst: TT Run ID: GN53097
Parameters: Chromium, Hexavalent

Time	Sample Description	Dilution Factor	PS Recov	Comments
13:31	GP574-D1	1		
13:57	GN53097-CCV4	1		
14:04	GN53097-CCB4	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816100701.TXT Date Analyzed: 10/07/16 Methods: SW846 3060A/7199
Run ID: GN53097 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN53097-CCV1	Chromium, Hexavalent	0.24	0.010	0.0028	.25	96.0	90-110
GN53097-CCB1	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53097-CCV2	Chromium, Hexavalent	0.24	0.010	0.0028	.25	96.0	90-110
GN53097-CCB2	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53097-CCV3	Chromium, Hexavalent	0.24	0.010	0.0028	.25	96.0	90-110
GN53097-CCB3	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53097-CCV4	Chromium, Hexavalent	0.23	0.010	0.0028	.25	92.0	90-110
GN53097-CCB4	Chromium, Hexavalent	0.0028 U	0.010	0.0028			

(!) Outside of QC limits

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
09:36	GN53120-STD1	1		STDA
09:37	GN53120-STD2	1		STDB
09:39	GN53120-STD3	1		STDC
09:40	GN53120-STD4	1		STDD
09:41	GN53120-STD5	1		STDE
09:43	GN53120-STD6	1		STDF
09:44	GN53120-STD7	1		STDG
09:45	GN53120-ICV1	1		
09:47	GN53120-ICB1	1		
09:48	GN53120-CCV1	1		
09:50	GN53120-CCB1	1		
09:51	GP561-MB2	1		
09:52	GP561-B2	1		
09:54	ZZZZZZ	1		
09:55	ZZZZZZ	1		
09:56	ZZZZZZ	1		
09:58	ZZZZZZ	1		
09:59	GP585-MB1	1		
10:00	GP585-B1	1		
10:02	GP585-S1	1		
10:03	GP585-S2	1		
10:05	GN53120-CCV2	1		
10:06	GN53120-CCB2	1		
10:07	GP585-D1	1		
10:09	JC28902-1	1		
10:10	ZZZZZZ	1		
10:11	JC28906-1	1		(sample used for QC only; not part of login JC28902)
10:13	JC28906-2	1		(sample used for QC only; not part of login JC28902)
10:14	ZZZZZZ	1		
10:16	ZZZZZZ	1		
10:17	ZZZZZZ	1		
10:18	ZZZZZZ	1		
10:20	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
10:21	GN53120-CCV3	1		
10:22	GN53120-CCB3	1		
10:24	ZZZZZZ	1		
10:25	ZZZZZZ	1		
10:26	ZZZZZZ	1		
10:28	ZZZZZZ	1		
10:29	ZZZZZZ	1		
10:31	ZZZZZZ	1		
10:32	GP586-MB1	1		
10:33	GP586-B1	1		
10:35	GP586-S1	1		
10:36	GP586-S2	1		
10:37	GN53120-CCV4	1		
10:39	GN53120-CCB4	1		
10:40	GP586-D1	1		
10:41	JC28920-2	1		(sample used for QC only; not part of login JC28902)
10:43	JC28920-4	1		(sample used for QC only; not part of login JC28902)
10:44	ZZZZZZ	1		
10:46	ZZZZZZ	1		
10:47	ZZZZZZ	1		
10:48	ZZZZZZ	1		
10:50	ZZZZZZ	1		
10:51	ZZZZZZ	1		
10:52	ZZZZZZ	1		
10:54	GN53120-CCV5	1		
10:55	GN53120-CCB5	1		
10:57	ZZZZZZ	1		
10:58	ZZZZZZ	1		
10:59	ZZZZZZ	1		
11:01	ZZZZZZ	1		
11:02	ZZZZZZ	1		
11:03	ZZZZZZ	1		
11:05	ZZZZZZ	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:06	GP588-MB1	1		
11:08	GP588-B1	1		
11:09	GP588-D1	1		
11:10	GN53120-CCV6	1		
11:12	GN53120-CCB6	1		
11:13	LA26022-2A	1		(sample used for QC only; not part of login JC28902)
11:14	ZZZZZZ	1		
11:16	ZZZZZZ	1		
11:17	ZZZZZZ	1		
11:18	ZZZZZZ	1		
11:20	ZZZZZZ	1		
11:21	ZZZZZZ	1		
11:23	ZZZZZZ	1		
11:24	ZZZZZZ	1		
11:25	ZZZZZZ	1		
11:27	GN53120-CCV7	1		
11:28	GN53120-CCB7	1		
11:29	ZZZZZZ	1		
11:31	ZZZZZZ	1		
11:32	ZZZZZZ	1		
11:33	ZZZZZZ	1		
11:35	ZZZZZZ	1		
11:36	ZZZZZZ	1		
11:38	ZZZZZZ	1		
11:39	GP488-MB3	1		
11:40	GP488-B3	1		
11:42	ZZZZZZ	1		
11:43	GN53120-CCV8	1		
11:44	GN53120-CCB8	1		
11:46	ZZZZZZ	1		
11:47	ZZZZZZ	1		
11:49	ZZZZZZ	1		
11:50	GP589-MB1	1		

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Analyst: YZ Run ID: GN53120
Parameters: Cyanide

Time	Sample Description	Dilution Factor	PS Recov	Comments
11:51	GP589-B1	1		
11:53	GP589-D1	1		
11:54	LA26009-3	1		(sample used for QC only; not part of login JC28902)
11:55	ZZZZZZ	1		
11:57	ZZZZZZ	1		
12:00	GN53120-CCV9	1		
12:01	GN53120-CCB9	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: E100716W1.CN Date Analyzed: 10/07/16 Methods: EPA 335.4/LACHAT, SW846 9012B/LACHAT, SW846 CHAP
Run ID: GN53120 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN53120-ICV1	Cyanide	0.32	0.010	0.0027	.3	106.7	90-110
GN53120-ICB1	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV1	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB1	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV2	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB2	Cyanide	-0.0027	0.010	0.0027			
GN53120-CCV3	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB3	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV4	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB4	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV5	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB5	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV6	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB6	Cyanide	-0.0040	0.010	0.0027			
GN53120-CCV7	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB7	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV8	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB8	Cyanide	0.0027 U	0.010	0.0027			
GN53120-CCV9	Cyanide	0.41	0.010	0.0027	.4	102.5	90-110
GN53120-CCB9	Cyanide	0.0027 U	0.010	0.0027			

(!) Outside of QC limits

SGS Accutest Instrument Runlog
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816101002.TXT Date Analyzed: 10/10/16 Methods: SW846 3060A/7199
Analyst: AT Run ID: GN53231
Parameters: Chromium, Hexavalent

Time	Sample Description	Dilution Factor	PS Recov	Comments
17:32	GN53231-STD1	1		STDA
17:40	GN53231-STD2	1		STDB
17:48	GN53231-STD3	1		STDC
17:56	GN53231-STD4	1		STDD
18:04	GN53231-STD5	1		STDE
18:12	GN53231-CCV1	1		
18:20	GN53231-CCB1	1		
18:28	GP648-MB1	1		
18:36	GP648-MB1	1		
18:43	GP648-B1	4		
18:51	GP648-B1	4		
18:59	GP648-B2	100		
19:07	GP648-B2	100		
19:15	GP648-LC1	1		
19:23	GP648-LC1	10		corrected for 97.3%sol
19:31	GP648-LC1	10		
19:39	JC28902-1R	1		
19:47	JC28902-1R	1		
19:55	GP648-S1	1		
20:03	GP648-S1	1		
20:10	GP648-S2	1		
20:18	GP648-S2	1		
20:26	GP648-D1	1		
20:34	GP648-D1	1		
20:54	GP648-PS1	4		
21:02	GP648-PS1	4		
21:10	GN53231-CCV2	1		
21:18	GN53231-CCB2	1		

Refer to raw data for calibration curve and standards.

Instrument QC Summary
Inorganics Analyses

Login Number: JC28902
Account: HWINJM - Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

File ID: 816101002.TXT Date Analyzed: 10/10/16 Methods: SW846 3060A/7199
Run ID: GN53231 Units: mg/l

Sample Number	Parameter	Result	RL	IDL/MDL	True Value	% Recov.	QC Limits
GN53231-CCV1	Chromium, Hexavalent	0.27	0.010	0.0028	.25	108.0	90-110
GN53231-CCB1	Chromium, Hexavalent	0.0028 U	0.010	0.0028			
GN53231-CCV2	Chromium, Hexavalent	0.27	0.010	0.0028	.25	108.0	90-110
GN53231-CCB2	Chromium, Hexavalent	0.0028 U	0.010	0.0028			

(!) Outside of QC limits

Percent Solids Raw Data Summary

Job Number: JC28902
Account: HWINJM Honeywell International Inc.
Project: HLANJPR: Study Area 6 Chrome Remedy

Sample: JC28902-1 **Analyzed:** 05-OCT-16 by AT **Method:** SM2540 G-97
ClientID: WOOLSTON-TS-002

Wet Weight (Total)	26.06	g
Tare Weight	19.98	g
Dry Weight (Total)	25.24	g
Solids, Percent	86.5	%

ATTACHMENT B

GEOTECHNICAL RESULTS (RUTGERS SOIL TESTING LABORATORY)

RUTGERS
New Jersey Agricultural Experiment Station

Soil Testing Laboratory
Rutgers, The State University
ASB II
57 US Highway 1 South
New Brunswick, NJ 08901-8554

Soil Test Report
Lab #: 2016-54830

Entact
Caroline Panico
60 Kellogg St.
(Honeywell SA6)
Jersey City, NJ 07305

cpanico@entact.com
(630)669-4257

Date Received: 2016-10-03
Date Reported: 2016-10-11

Sample ID: Woolston-TS-002

Results and Interpretations

Sandy Loam

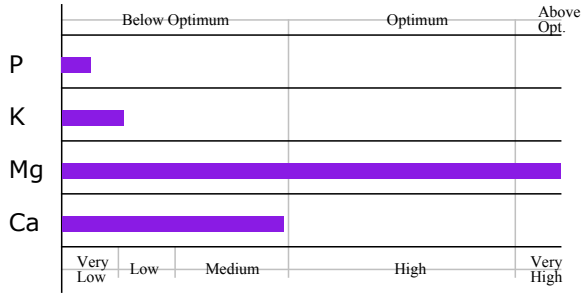
pH: 5.94 Moderately acidic; below optimum for many plants but tolerated by acid-loving species.

Lime Requirement Index: 7.72

The Lime Requirement Index (LRI) is a measure of the buffering capacity of the soil, its resistance to pH change, and is used to determine the appropriate amount of limestone, when necessary. LRI value near 8.0 indicates low buffering capacity of soil and a lower rate of limestone amendment compared to soil with high buffering capacity (LRI near 7.0).

Macronutrients (pounds per acre)

Phosphorus:	12	(Below Optimum)
Potassium:	42	(Below Optimum)
Magnesium:	520	(Above Optimum)
Calcium:	1397	(Below Optimum)



by Mehlich 3 extraction

Micronutrients (parts per million)

Zinc(Zn)	Copper(Cu)	Manganese(Mn)	Boron(B)	Iron(Fe)
1.46 (Adequate)	1.51 (Adequate)	5.28 (Adequate)	0.78 (Adequate)	101.30 (High)

Special Tests Results

Soluble Salts- Electrical conductivity= 0.15 mmho/cm

(Satisfactory)

Organic Matter by Carbon Analysis: Organic Matter=5.7%

Very High for Sandy Loam

Gravel Content- Larger than 2mm: 4.3%

Mechanical Analysis- Sand= 73% Silt=13% Clay= 14% Texture: Sandy Loam

USDA sieve analysis of sand fraction:

Very Coarse	Coarse	Medium	Fine	Very Fine
1-2mm	0.5-1mm	0.25-0.5mm	0.1-0.25mm	0.05-0.1mm
1.6%	3.0%	18.0%	60.5%	16.9%

Comments:

Find Rutgers Cooperative Extension Fact Sheets at www.njaes.rutgers.edu/pubs

Soil Program 2015
NAPT
Participating Laboratory

10/19/16 E-mail Transmittal: Response to Email -- 101716 Horizon A Analytical Results 21319
(Attachment 15: EME Soils)

Graham, Stephanie

From: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Sent: Friday, December 09, 2016 10:52 AM
To: Graham, Stephanie
Cc: Ambrose, David M
Subject: FW: Response to Email -- 101716 Horizon A Analytical Results 21319
Attachments: EME Topsoil Organic Matter Cert.png

From: Clifford, Joseph T
Sent: Wednesday, October 19, 2016 6:29 PM
To: Kim Bell Hosea (k.bell@cea-enviro.com) <k.bell@cea-enviro.com>
Cc: Hague, William <william.hague@honeywell.com>; 'Egnaczyk, Steve' <segnaczyk@louisberger.com>; aalcorn@tpmlaw.com; Jeremy.Karpatkin@aporter.com
Subject: Response to Email -- 101716 Horizon A Analytical Results 21319

Kim,

EME has confirmed that they needed to increase the % organic matter to meet our site specifications for Horizon A Topsoil. They confirmed that the organic additive used is Sphagnum Peat Moss.
A copy of the supplier's letter certifying that the Peat Moss is also a virgin source material is attached. The analytical and geotechnical data provided in our new Horizon A source data package was run on the actual blended soils with this Peat Moss added.

Per agreed upon protocols going back to the SA7 project implementation, Honeywell provides the full analytical data packages to all parties to demonstrate acceptability of each new source prior to beginning import. Subsequent sample data collected per the frequency identified in the specifications is provided at the end of the project in the final closeout documentation. Honeywell is continuing that process for SA6.

Please let us know if you have any further questions.

Thank you. -Joe

From: Kim Hosea [mailto:k.hosea@cea-enviro.com]
Sent: Monday, October 17, 2016 11:05 AM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>; Egnaczyk, Steve <segnaczyk@louisberger.com>; Alicia Clark Alcorn <aalcorn@tpmlaw.com>
Subject: 101716 Horizon A Analytical Results 21319

Good afternoon Joe –

We have reviewed the New Source of Horizon A Topsoil data for EME and have one question. During the Technical All-Parties pre-call on October 4, you stated that the EME soil was mostly acceptable but might need some amendments with on-site material to meet the required % of organic matter as specified in the 100% design and DC 2014-09-17. The

clean fill certification states that the material has not been comingled with other materials. Please confirm that amending the material was not required or, provide additional information regarding the use of an amendment.

Also, please provide confirmation data for the Horizon A, B, and C soils used on site to date and going forward. Our records contain one set of data each for Horizon C and B dated October 26, 2015, and September 15, 2015, respectively. The data is to be collected on an on-going basis from every 5,000 cubic yards of material brought on-site.

Thank you –

Kim

Kim Bell Hosea
Senior Vice-President
Carpenter Environmental Associates, Inc.
610 County Route 1, Unit 2F
Pine Island, New York 10969

k.hosea@cea-enviro.com
(O) 845-781-4844 ext. 309
(F) 845-782-5591
(M) 862-812-3397

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PARTAC PEAT CORPORATION
ONE KELSEY PARK, GREAT MEADOWS, NEW JERSEY 07838
800-247-BEAM (2326) • 908-637-4191 • FAX 908-637-8421
sales@beamclay.com • sales@partac.com

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GOLF COURSE
TOP-DRESSINGS
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October 18, 2016

EME, Inc.
849 Route 539
New Egypt, NJ 08533

Att: Keith Prince

Dear Keith:

This is to certify that our **SPHAGNUM PEAT MOSS** comes from a virgin, non-contaminated source in Maine.

Sincerely yours,

PARTAC PEAT CORPORATION

Jim

James C. Kelsey, President

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 16 OF 25

- **DCBs Applicable to SA-6 South Part 1**
  (DCB 001 and 003-007.5)

FINAL DCB 001 – SURCHARGE INSTRUMENTATION REVISION

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 001 Minor (a) Effective Date: 2/26/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Surcharge Instrumentation Revision	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

1. **72 inch force main**. The Surcharge Monitoring Plan (Appendix N of 100% Design Report) has been modified to match the changes in surcharge pile geometry associated with the relocation of the Hydraulic Barrier Wall near the 72" force main. The Barrier wall has been moved to a minimum distance of 25 feet from the centerline of the force main. The surcharge pile has also been reconfigured so that the surcharge will not result in any stress increase on the 72 inch force main. Details of changes to the Design Drawings stemming from the Barrier Wall Relocation are included in DCB-002. Details related to changes to the Surcharge Monitoring Instrumentation are included in this DCB 001.
2. **Station Relocations due to interferences.** In addition to the changes related to the 72 inch force main Amec has relocated some instrument location on both SA6 North and SA-6 South to avoid foundations and traffic routes. Relocated instruments are in the same general area and will serve the same objectives as the original locations.
3. **Form revisions.** Amec has modified several of the reporting forms to allow for direct entry using a tablet application. Templates for the Daily Report Form, Instrument Installation and Monitoring Data Forms are attached.

SUMMARY OF CHANGES

- SA-6 North Area 1 Figure B1
  - Half setups 6 and 8 have been removed due to the reduced footprint of the surcharge pile.
  - Settlement Platforms # 4-10 along the force main have been eliminated - no fill is being placed over the force main and therefore no settlement platforms are required.
  - Survey Points on the FM will be reduced from 3 to 2. Survey Points are no longer required; however, two points will be retained for background information (See Figure B1)
  - 6 Acoustical Sensors have been added along the JCMUA 72" force main. Acoustical Monitoring is not part of Honeywell/Amec's Scope. PVSC/HMM/Pure Technologies will conduct the Acoustical Monitoring. Pure Technology is monitoring the system remotely and will advise PVSC/HMM if there is any noise detected during sheetpile driving and surcharging activities that would be attributable to failure of the wire wrap. Any detected wire breaks will initiate actions per the PVSC Response Plan.
  - Inclinometers. Inclinometers are no longer required however they have been retained as a contingency monitoring measure. Due to the change in role of these instruments a trigger level will no longer be required.
  - Vibration Monitoring. Vibration Monitoring will be conducted during sheetpile driving. HMM concluded that the force main should be able to tolerate accelerations of up to 1.9 in/sec. Honeywell/PVSC have agreed to an Upper Limit of 1 inch/second to provide a Factor of Safety of approximately 2.
- Figures C1 and D1 for SA-6 North
  - Figures have been updated to only show the instrument locations in the specific Area. For example on the original issue Figure C1 included the instrument locations for Area 2 and also the instrument locations for Area 1 and Area 3. In this revision Fig. C1 only shows the Area 2 instrumentation locations.
  - Half setup locations in Figure D1 were relabeled.
- Figures F1, G1 and H1 for SA-6 South
  - Figures have been updated to only show the instrument locations in the specific Area (1-3).
  - Figures have been updated to show changes in instrument locations made to avoid foundations and traffic routes.

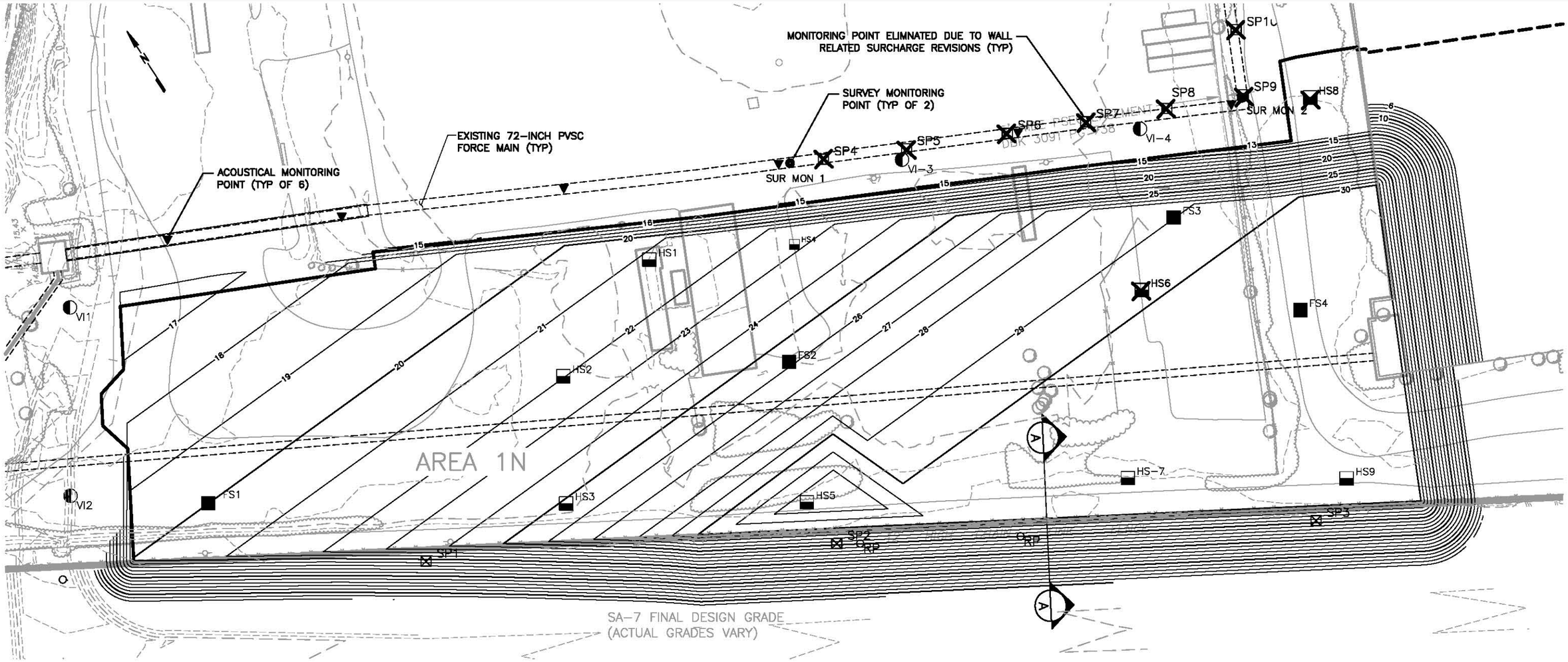
Reason for Change/Modification:	Explanation or Reason: Modified due to changes in surcharge adjacent to the 72" force main
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The Figures showing instrument locations have also be updated to reflect minor adjustments made in field to avoid conflicts with foundations and traffic routing. Field forms contain the same information. The forms have been reformatted to allow for tablet data entry.	Design Documents Affected: Appendix N: Surcharge Monitoring Plan

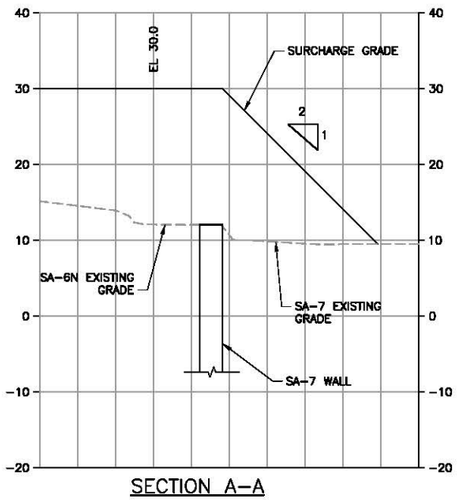
Honeywell (AP) Review:			
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:
Samuel G Shallard	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





SECTION A-A

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
VI-1	686123	602109
VI-2	686029	602048
VI-3	685960.00	602503.63
VI-4	685865.62	602701.07
FS1	685981	602115.11
FS2	685863.13	602450.59
FS3	685810.51	602689.13
FS4	685723.32	602722.54
HS1	685959.45	602413.93
HS2	685929.16	602333.31
HS3	685864.91	602293.50
HS4	685919.95	602491.27
HS5	685787.46	602414.04
~~HS6~~	~~685784.69~~	~~602649.88~~
HS7	685695.59	602582.07
~~HS8~~	~~685828.15~~	~~602795.09~~
HS9	685624.48	602691.07

SP1	685881.42	602204.89
SP2	685757.23	602415.64
SP3	685613.33	602662.16
~~SP4~~	~~685953.03~~	~~602533.30~~
~~SP5~~	~~685931.28~~	~~602578.16~~
~~SP6~~	~~685906.49~~	~~602633.51~~
~~SP7~~	~~685886.78~~	~~602676.31~~
~~SP8~~	~~685867.20~~	~~602721.11~~
~~SP9~~	~~685849.22~~	~~602763.68~~
~~SP10~~	~~685833.92~~	~~602781.17~~

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. COMMENCE FILL AT THE SEDIMENTATION BASIN AND WORK TOWARDS THE HACKENSACK RIVER.
5. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
6. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

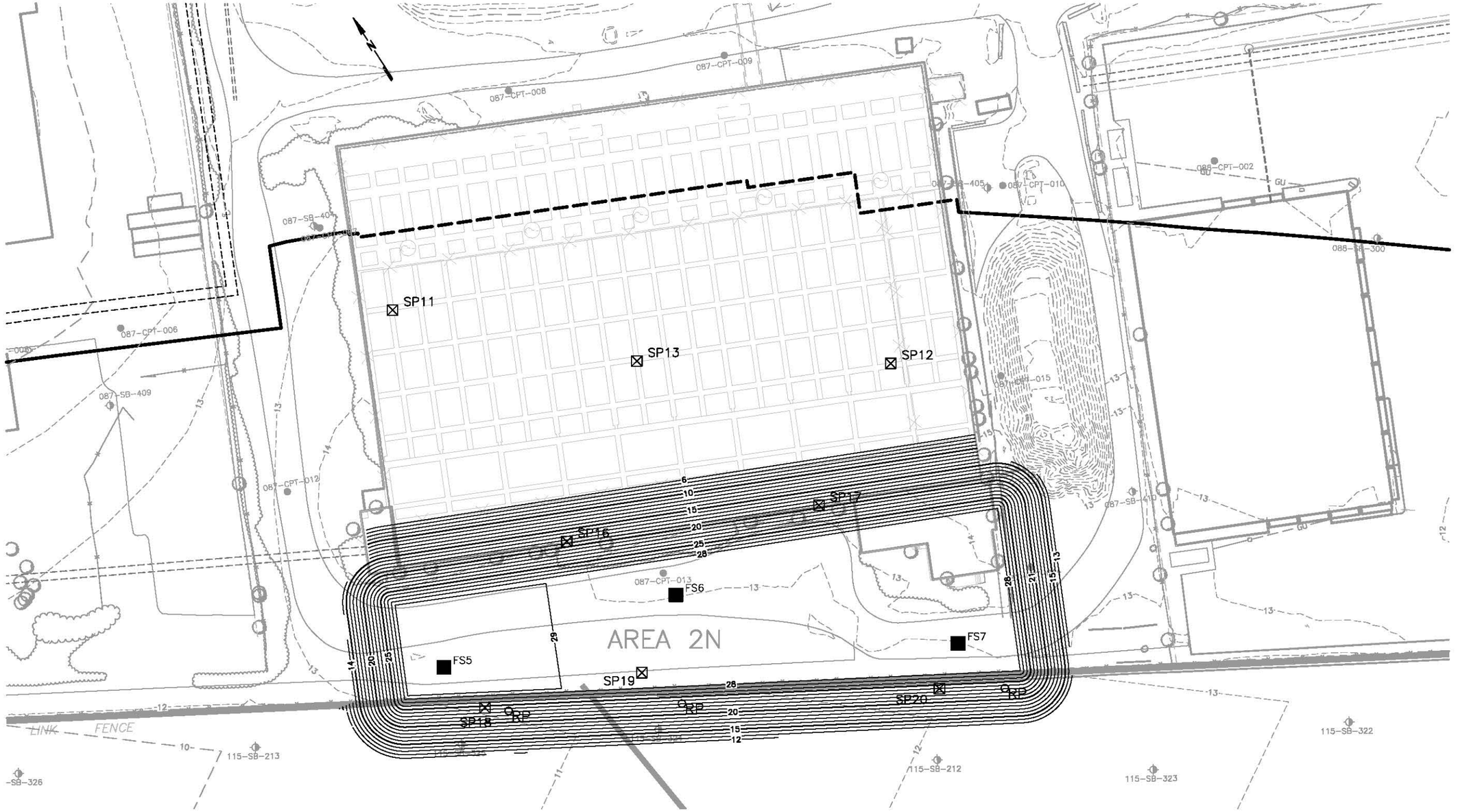
VI-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL - SETUP
HS-1-1	SETTLEMENT MONITORING POINT HALF - SETUP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 6)
	72-INCH FM ACOUSTICAL MONITORING POINT
SUR MON 1	72-INCH FM SURVEY MONITORING POINT
	STATION RELOCATED OR ELIMINATED DUE TO SURCHARGE PILE RECONFIGURATION

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 NORTH JERSEY CITY, NEW JERSEY HONEYWELL SITE ID - 37472	amec	INSTRUMENTATION LOCATION PLAN AREA 1N Project 3480-09-0006 Figure B1

Z:\Projects\HONEYWELL\JERSEY CITY\Dwg Design-Sht-ASD\ASD\SMR\150 Percent\Figure 1 Surcharge Settling Monitoring Plan - Area 1.dwg Wed, 26 Feb 2014 - 11:15am kary.dickson



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS5	685595	602745
FS6	685557	602880
FS7	685445	603001
SP11	685784	602832
SP12	685602	603057
SP13	685683	602935
SP16	685618	602844
SP17	685556	602977
SP18	685563	602752
SP19	685531	602839
SP20	685429	602978

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

VI-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS12	SETTLEMENT MONITORING POINT HALF – SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 5)

Revised/Date: TDD 02/26/14
Checked/Date: SGS 02/26/14

0 15 30 60
SCALE IN FEET

Honeywell
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MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 2N
Project 3480-09-0006
Figure C1



SETTLEMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS8	685406.37	603094.37
FS9	685500.70	603127.23
FS10	685585.02	603165.50
FS11	685387.04	603338.90
HS10	685499.90	603327.97
HS11	685329.97	603205.81
HS12	685428.53	603407.96
HS13	685253.14	603316.22
SP14	685625	603120
SP15	685568	603093
SP21	685302.66	603197.35

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

$\oplus_{I-2}$	INCLINOMETER LOCATION
$\blacksquare^{FS-1-1}$	SETTLEMENT MONITORING POINT FULL - SET UP
$\blacksquare^{HS-1-1}$	SETTLEMENT MONITORING POINT HALF - SET UP
$\boxtimes^{SP12}$	SETTLEMENT MONITORING PLATFORM
$\bigcirc^{RP}$	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 5)

0 15 30 60
SCALE IN FEET

Revised/Date: TDD 02/26/14
Checked/Date: SGB 02/26/14

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INSTRUMENTATION LOCATION PLAN
AREA 3N
Project 3480-09-0006
Figure D1

X:\Projects\HONEYWELL\PROJECT CITY\Site Design\~SHE~1\SHEET\SHEET\192 Personal\Figure 3 Surcharge Retrofitting Monitoring Plan - Area 3.dwg Wed, 26 Feb 2014 - 12:19pm tony.simmons



SETTELMENT MONITORING POINT		
DESCRIPTION	NORTHING	EASTING
FS12	685304	603419
FS13	685207	603389
SP22	685186	603357
SP23	685368	603473
SP24	685357	603491
SP25	685077	603485

INCLINOMETER LOCATION

FS12 — SETTLEMENT MONITORING POINT FULL – SET UP

HS12 — SETTLEMENT MONITORING POINT HALF – SET UP

SP12 — SETTLEMENT MONITORING PLATFORM

RP — APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 5)

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. RELOCATE POWER SUPPLY TO PW1 AND PW2 PRIOR TO SURCHARGE.
3. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
4. SURCHARGE PILE TO BE SLOPED TO THE SHED FACE WATER TO THE NORTH.
5. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.

Revised/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

0 15 30 60
SCALE IN FEET

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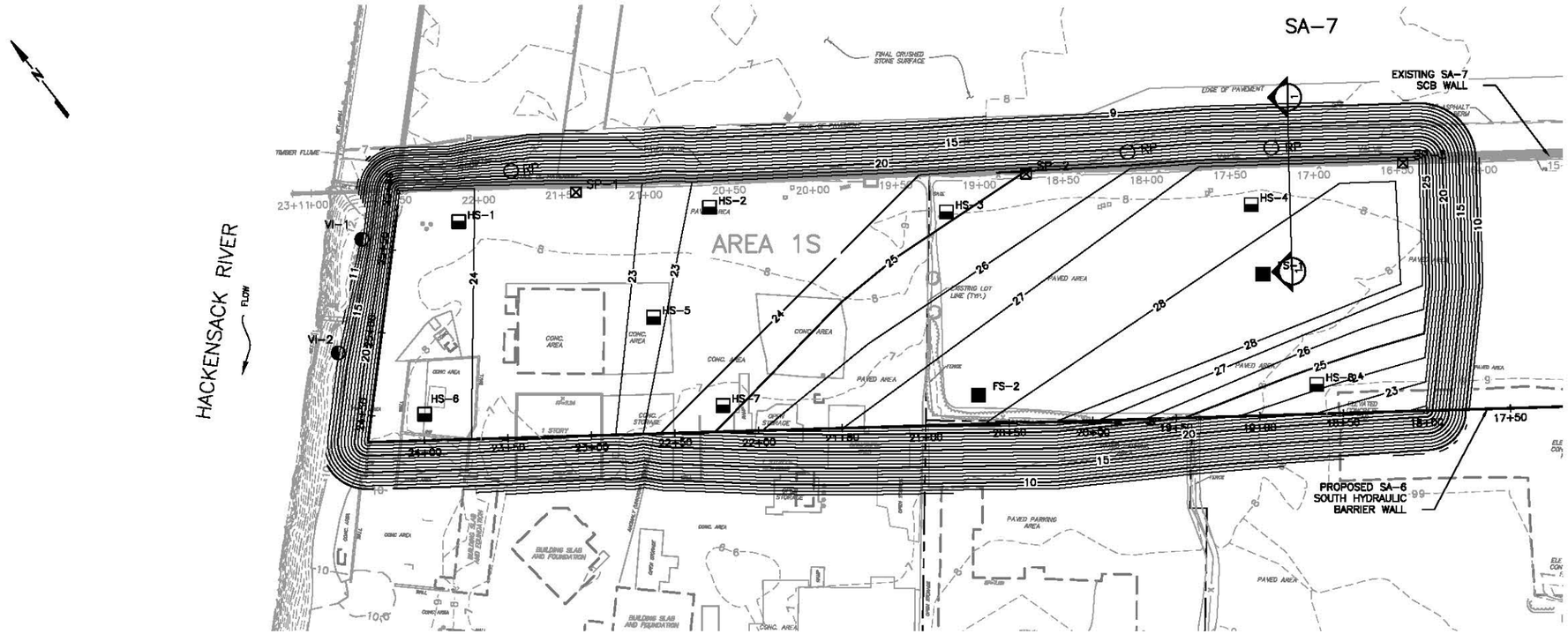
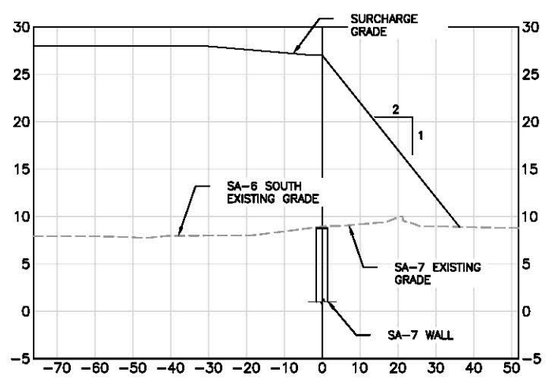
CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec

INSTRUMENTATION LOCATION PLAN
AREA 4N
Project 3480-09-0006
Figure E1

X:\Projects\CHEMICAL\JERSEY CITY\Data Design-SWE-GDR\GDR\SWMP\100 Percent\Figure 4 Surcharge Pad\Log Monitoring Plan - Area 4.dwg Wed, 05 Feb 2014 - 12:55pm tony.dimmon





SECTION A-A

SETTELMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-1	685276	601927
FS-2	685324	601749
HS-1	685597	601567
HS-2	685511	601691
HS-3	685422	601801
HS-4	685313	601947
HS-5	685480	601624
HS-6	685519	601480
HS-7	685413	601624
HS-8	685204	601912
VI-1	685624	601515
VI-2	685580	601462
SP-1	685568	601633
SP-2	685411	601852
SP-3	685277	602034

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARD ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE AREA 2.

VI-2	INCLINOMETER LOCATION
FS-1-1	SETTLEMENT MONITORING POINT FULL - SET UP
HS-1-1	SETTLEMENT MONITORING POINT HALF - SET UP
SP12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: TDD 02/28/14
Checked/Date: SGS 02/28/14

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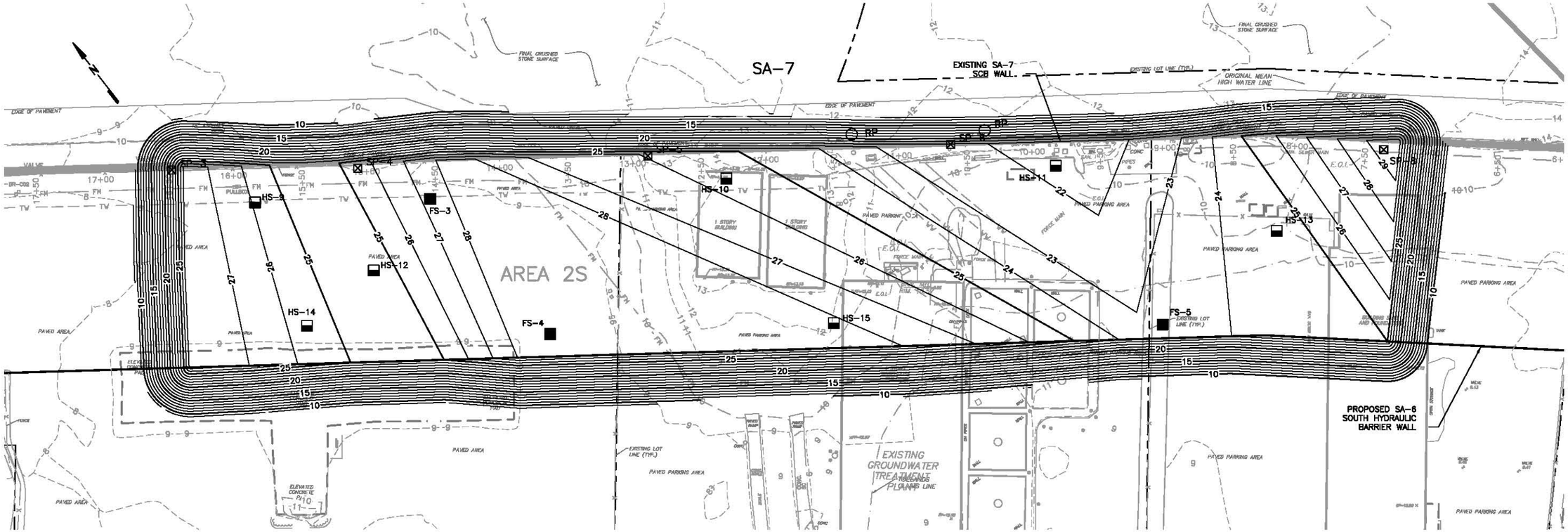
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 1S
Project 3480-12-0317
Figure F1



SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-3	685147	602186
FS-4	685000	602180
FS-5	684747	602531
HS-9	685226	602078
HS-10	685015	602358
HS-11	684873	602566
HS-12	685122	602109
HS-13	684729	602660
HS-14	685108	602032
HS-15	684880	602355
SP-4	685192	602145
SP-5	685065	602322
SP-6	684932	602507
SP-7	684732	602766
SP-8	684728	602761

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
4. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

VI-2 INCLINOMETER LOCATION

FS-1 SETTLEMENT MONITORING POINT FULL – SET UP

HS-1 SETTLEMENT MONITORING POINT HALF – SET UP

SP-12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: TDD 02/26/14
Checked/Date: SGS 02/26/14

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

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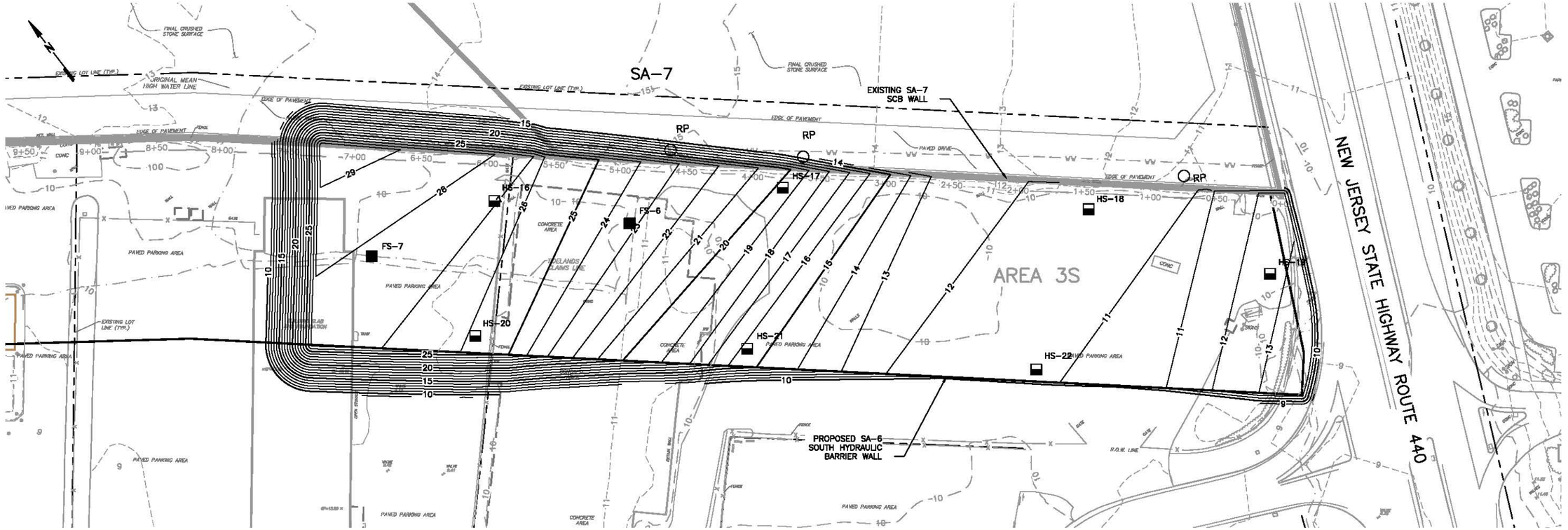
INSTRUMENTATION LOCATION PLAN
AREA 2S
Project 3480-12-0317
Figure G1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-S&S-C30\CAD\SAB5\Figure - Surcharge Area2 Instrumentation Plan.dwg Wed, 26 Feb 2014 - 12:31pm tony.donovan



SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-6	684538	602919
FS-7	684638	602751
HS-16	684678	602808
HS-17	684488	603027
HS-18	684333	603198
HS-19	684211	603276
HS-20	684542	602775
HS-21	684409	602931
HS-22	684263	603093

NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARDS ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

VI-2 INCLINOMETER LOCATION

FS-1 SETTLEMENT MONITORING POINT FULL – SET UP

HS-1 SETTLEMENT MONITORING POINT HALF – SET UP

SP-12 SETTLEMENT MONITORING PLATFORM

RP APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)

0 20 40 80
SCALE IN FEET

Prepared/Date: TDD 02/26/14
Checked/Date: SGB 02/26/14

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

INSTRUMENTATION LOCATION PLAN
AREA 3S
Project 3480-12-0317
Figure H1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SAS\Figure - Surcharge Area3 Instrumentation Plan.dwg Wed, 26 Feb 2014 - 10:50am tony.lenovan

amec	**Project:**	Study Area 6	**Report Date**
	Location:	Jersey City, New Jersey	**Report By**
	Client:	Honeywell	

DAILY FIELD REPORT

SURCHARGE MONITORING PROGRAM

General Information		Today's Areas of Activity	
Active Surcharge Areas		General Fill Placement Areas	
Weather Conditions		Instrument Reading Areas	

FILL PLACEMENT

General Fill Placement Locations

Area 1N	Area 2N	Area 3N	Area 4N	Sed. Basin

Area 1S	Area 2S	Area 3S

Details of Today's Fill Placement

Photos Taken?	1N	2N	3N	4N	Sed. Basin	1S	2S	

Area 1N	Area 2N	Area 3N	Area 4N	Sed. Basin

Area 1S	Area 2S	Area 3S

Today's Fill Material Description	In-Place Density of Fill (tested)	In-Place Density of Fill (est.)

INSTRUMENT READINGS

Today's Instrument Types Read (By Area)

Area 1N	Area 2N	Area 3N	Area 4N	Sed. Basin

Area 1S	Area 2S	Area 3S

Instrument Damage/Concerns

SLOPE STABILITY/SETTLEMENT OBSERVATIONS

Existing Fill Slopes Stable (Y/N)	Excess Settlement (Y/N)

ADDITIONAL NOTES/DISCUSSIONS

amec	**Project:**	Study Area 6	**SETTLEMENT PLATFORM #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SETTLEMENT PLATFORM - FIELD DATA SHEET

Baseline Location	
Northing:	
Easting:	
Date/Recorded By:	

Baseline Elevations	
Existing Ground Surface Elev.[1,2] (ft):	
Initial Reference Clamp Elev.[1] (ft):	
Date/Recorded By:	

Survey the Reference Clamp Elevation
BEFORE and AFTER adding riser pipe!

Date	**Recorded by**	**Settlement Platform**	**Fill Placement**	**Notes**
		Reference Clamp Elevation[1] (ft)	**Ground Surface Elevation[1,3] (ft)**	**(note when riser pipe is added)**

Notes:

1. Measure/record elevations to the nearest 0.01 feet.
2. At installation, record existing ground surface elev. at/proximate to the installed platform; for determining fill thickness above existing grade.
3. During surcharge fill placement/monitoring period, record existing ground surface elev. (i.e., top of fill) at/proximate to the installed platform.

amec	**Project:**	Study Area 6	**STANDPIPE PIEZOMETER #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

STANDPIPE PIEZOMETER - INSTALLATION SHEET

Baseline Location/Elevation	
Northing:	
Easting:	
Existing Ground Surface Elev.[1](ft):	
Initial Top of Riser (TOR) Elev.[1] (ft):	
Date/Recorded By:	

Piezometer Construction Details[2]				
Item	**Depth**		**Elevation**	
	Top[2] (ft bgs)	**Bottom[2] (ft bgs)**	**Top[2] (ft)**	**Bottom[2] (ft)**
Riser:	(-)			
Grout:				
Bentonite Plug:				
Sand:				
Screen:				

Baseline Readings			
Date	**Recorded By**	**Depth to Water[1] (ft btor)**	**Notes**

Notes:

1. Measure/record elevations and groundwater depths to the nearest 0.01 feet.
2. Measure/record piezometer construction details to the nearest 0.01 feet.

amec	**Project:**	Study Area 6	**SONDEX SYSTEM #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SONDEX SYSTEM - INSTALLATION DATA SHEET

Baseline Survey Location & Elevation	
Northing:	
Easting:	
Top of Riser (TOR) Elev. (ft):	
Date/Recorded By:	

Baseline Depths and Elevations		
Item	**Depth (ft bgs)[1]**	**Elevation (ft)[1]**
Riser Stick-Up (ft):	(-)	**-**
Existing Ground Surface:	-	
Top O:		
Bottom O/Top D:		
Bottom D:		
GWT:		
Bottom of Sondex:		

Ring Installation					
Ring Number	**Target Depth (ft bgs)[1]**	**Target Stratum**	**Baseline Depth Readings**		
			Reading No. 1 (ft btor)[1]	**Reading No. 2 (ft btor)[1]**	**Reading No. 3 (ft btor)[1]**
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					

Notes: 1. Measure/record to nearest 0.01 feet.

amec	**Project:**	Study Area 6	**MONITORING POINT (STATION) #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

VIBRATING WIRE PIEZOMETERS - INSTALLATION DATA SHEET

Baseline Locations (VWP Shallow Boring No. 1)	
Northing:	
Easting:	
Ground Elev.:	
Date/Recorded By:	

Baseline Locations (VWP Shallow Boring No. 2, if applicable)	
Northing:	
Easting:	
Ground Elev.:	
Date/Recorded By:	

Baseline Locations (VWP Deep/RC Boring, if applicable)	
Northing:	
Easting:	
Ground Elev.:	
Date/Recorded By:	

Baseline Strata Depths/Elevations		
Item	**Depth (ft bgs)[1]**	**Elevation (ft)[1,2]**
Existing Ground Surface:	-	
Top of Stratum O:		
Bottom O / Top D:		
Bottom of Stratum D:		
Top of Stratum RC:		
Bottome of Stratum RC:		
Groundwater Table		

VWP Installation Record					
VWP Designation	**VWP Serial No.**	**Depth (ft bgs)[1]**	**Elevation (ft)[1,2]**	**Stratum**	**VWP Boring No.**
				Center O	
				Upper D	
				Center D	
				Lower D	
				RC	

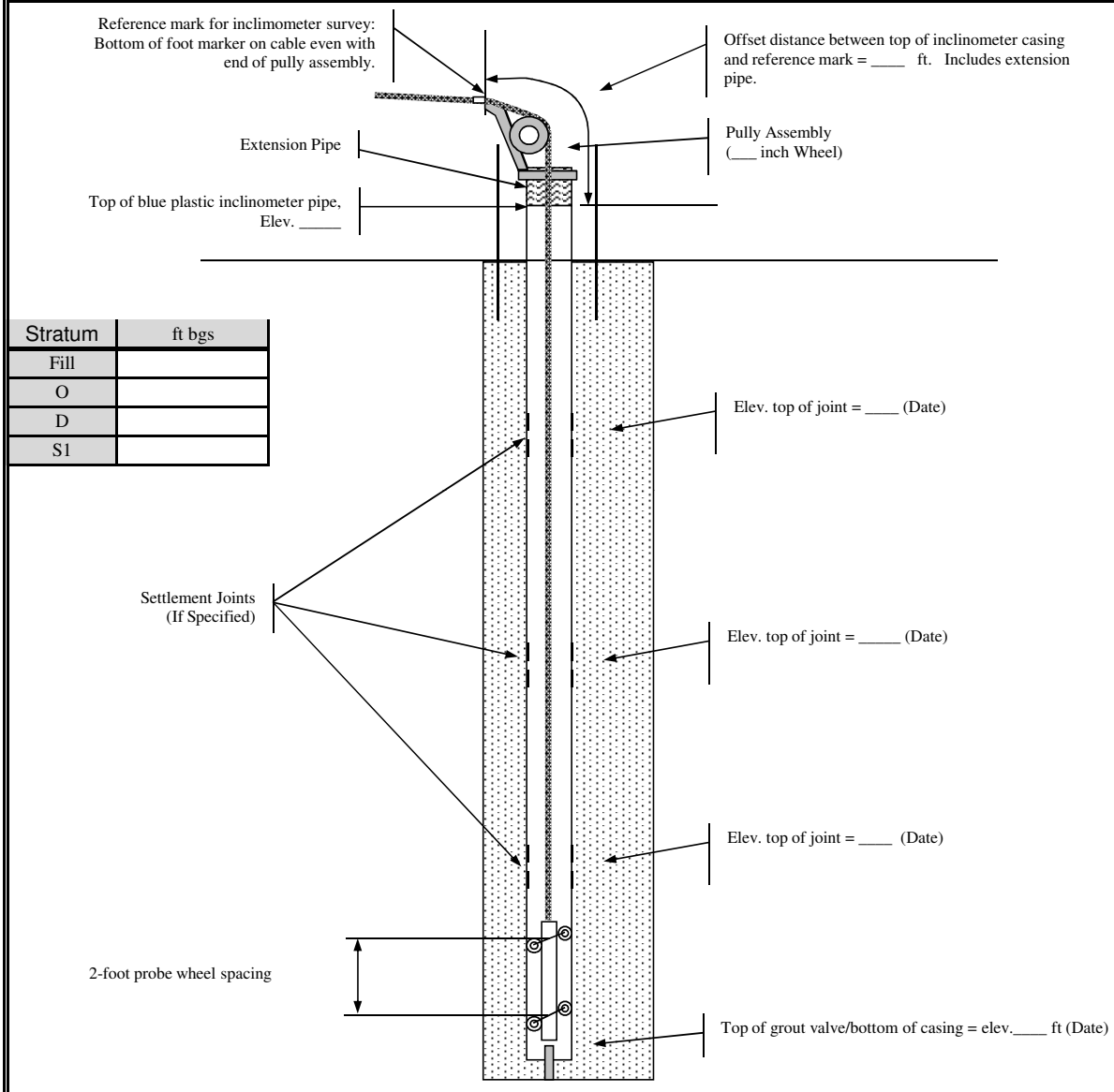
VWP Baseline Readings													
		VWP Designation:											**Notes**
		VWP Serial No.:											
Date	**Recorded By:**	**Ground Surface Elev. (ft)[1]**	**Frequency (Hz)**	**Temperature (deg C)**	**Frequency (Hz)**	**Temperature (deg C)**	**Frequency (Hz)**	**Temperature (deg C)**	**Frequency (Hz)**	**Temperature (deg C)**	**Frequency (Hz)**	**Temperature (deg C)**	

Notes:
1. Measure/record to nearest 0.01 feet.
2. Establish a single/representative baseline ground surface elevation (to the extent practical), based on elevation of associated Settlement Platform and compilation of VWP Borings.

amec	**Project:**	Study Area 6 South	**Inclinometer #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

INCLINOMETER - INSTALLATION DATA SHEET

Existing Grade (ft.):		Cable No.:	
Reference Elevation (ft):		Cable Length:	
Date:		Readout SN:	
Time (start):		Probe SN:	
Time (finish):		Read By:	
Installation Date:		Datamate File Name:	



Stratum	ft bgs
Fill	
O	
D	
S1	

Bottom Depth Readings

	Initial	Current
A0		
A180		
B0		
B180		

Settlement Joint Readings

Depth to Joint No 1: _____

Depth to Joint No 2: _____

Depth to Joint No 3: _____

Depth to bottom of Inclinometer: _____

Notes:

Northing:_____

Easting:_____

A+ Axis Orientation:_____

amec	**Project:**	Study Area 6	**SETTLEMENT PLATFORM #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SETTLEMENT PLATFORM - FIELD DATA SHEET

Baseline Location	
Northing:	
Easting:	
Date/Recorded By:	

Baseline Elevations	
Existing Ground Surface Elev.[1,2] (ft):	
Initial Reference Clamp Elev.[1] (ft):	
Date/Recorded By:	

Survey the Reference Clamp Elevation
BEFORE and AFTER adding riser pipe!

Date	**Recorded by**	**Settlement Platform**	**Fill Placement**	**Notes**
		Reference Clamp Elevation[1] (ft)	**Ground Surface Elevation[1,3] (ft)**	**(note when riser pipe is added)**

Notes:

1. Measure/record elevations to the nearest 0.01 feet.
2. At installation, record existing ground surface elev. at/proximate to the installed platform; for determining fill thickness above existing grade.
3. During surcharge fill placement/monitoring period, record existing ground surface elev. (i.e., top of fill) at/proximate to the installed platform.

amec	**Project:**	Study Area 6	**STANDPIPE PIEZOMETER #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

STANDPIPE PIEZOMETER - FIELD DATA SHEET

Date	Recorded By	Depth to Water [1] (ft btor)	Riser Added Today? (Yes/No)	Depth to Water [1, 2] (ft btor)	Riser Surveyed? [3] (Yes/No)	Riser Elevation [4] (ft)

Notes:

1. Measure/record groundwater depths to the nearest 0.01 feet.
2. If riser is added on this date, re-measure the depth to water after adding riser.
3. **Measure/record TOR elev. periodically.**
4. Measure/record elevations to the nearest 0.01 feet.

amec	**Project:**	Study Area 6	**SONDEX SYSTEM #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

SONDEX SYSTEM - FIELD DATA SHEET

Date:								
Recorded By:								
Ring Number	**Depth (ft below top of riser)[1]**							
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								
12								
13								
14								
15								
16								

Notes:

1. Measure/record to nearest 0.01 feet.
2. Note when riser pipe is added.
3. **Take Sondex depth readings immediately BEFORE (all) and AFTER (a few rings) adding riser pipe.**

amec	**Project:**	Study Area 6	**MONITORING POINT (STATION) #**
	Location:	Jersey City, New Jersey	
	Client:	Honeywell	

VIBRATING WIRE PIEZOMETERS - FIELD DATA SHEET

VWP Readings												
VWP Designation:												**Notes**
VWP Serial No.:												
Date	**Recorded By:**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	**Frequency (Hz)**	**Temp. (deg C)**	

FINAL DCB 003 – SA-6 GROUTED ANGLES

Honeywell RES →Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 003 Minor (a) Effective Date: 8/14/13
Project Location: SA6-SOUTH Title: SA-6S grouted angle Sta 0+00 to Sta 18+50	Associated RFI: ☐ Yes, RFI No. ___ ☑ None
Contractor (Subcontractor): Entact / JD Fields	Project No.: 3480130377

Description of Change/Modification:

Beginning at Sta 0+00 and continuing to Sta18+50 on SA-6 South grouted angle is to be included on the back of the sheetpile wall. Groundwater sampling and analysis for pH has confirmed that the hydraulic barrier seal from Sta 0+00 to Sta 17+80 should be constructed using grouted joints. The design originally presented additional grouting as an option pending pH data from Sta 5+50 to 17+80. pH data has since confirmed that grouting is necessary to Sta 18+50. Drawing G-003, Note HB19 is to be revised to read:

NOTE HB19

"THE AREA INDICATED ON SHEETS S-201 TO S-203 FROM STATION 0+00 TO STATION ~~17+80~~ 18+50 WILL BE SEALED WITH A CEMENT BENTONITE GROUT IN LIEU OF HYDRAULIC SEALANT. THIS PORTION OF THE WALL WILL BE FABRICATED WITH A 2 ½" X 3/8" ANGLE AND ½" HDPE GROUT PIPE FROM THE TOP OF THE INTERLOCK TO THE DEPTH OF STRATUM D SOILS. SEE DRAWING S-203 DETAIL BF AND SPECIFICATION SECTION 02180 FOR ADDITIONAL INFORMATION."

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: High pH groundwater conditions necessitate grout seal. Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments: • Cost impacts to be determined by Construction Manager • Content has been conveyed to the contractor prior to formal issue of this DCB	Design Documents Affected: Drawing G-003 Note HB19

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): [signature]	Does DCB Result in CCO? ☐ Yes (b) ☐No Date: 5/2/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Memo

Date:	**8/12/2013**	cc:	**John Mojka, Honeywell** **Maria Kaouris, Honeywell** **Joe Clifford** **Steve Mitchell** **Dennis Nagg** **Stu Bills**
From:	**Geoff Shallard**		
To:	**Bill Hague, Honeywell**		
Subject:	**Groundwater pH sampling**		

Amec collected groundwater pH readings from Study Area 6 North and South along the proposed hydraulic barrier wall alignment at 19 different locations as per the preapproved methodology. The locations and results are included in the attached figure.

Groundwater sampling screens were driven using direct push methodology to the desired depth of 12 feet below ground surface above Stratum D (aka meadow mat) which underlies the fill. From that depth, the outer casing of the drill rod was pulled back to expose a 2.5-foot long stainless steel screen. Utilizing a peristaltic pump, 3/8" poly tubing, and a multi-water quality checker, Horiba U-52, groundwater was purged from the screen and passed over the Horiba U-52 sensors in a flow through cell. Chemical parameters pH, turbidity, specific conductivity, temperature, ORP and DO were monitored and recorded in 5-minute intervals using the Low Flow Stabilization purging procedures as outlined in the New Jersey DEP Field Sampling Procedures Manual, 2005.

Calibration of the Horiba U-52 was performed onsite prior to sampling each day. The U-52 was calibrated for temperature, pH, specific conductivity, ORP, dissolved oxygen, and turbidity according to AMEC calibration Standard Operating Procedure which is based directly on the manufacturer's instructions.

Based on the groundwater pH sample results the hydraulic barriers between stations 0+00 and 5+00 at Study Area 6 North and between stations 0+00 and 18+50 at Study Area 6 South will be sealed with a cement grout as per Hydraulic Barrier Technical Requirements "HB19" in the Chromium Remedy 100% Design Drawings, dated June 2013.

Amec is certified with the NJDEP Office of Quality Assurance to perform field analysis of non-potable water for specific conductance, turbidity, dissolved oxygen, pH and temperature. The above mentioned field work was performed by Amec personnel.

Attachments:
Groundwater sample results (pH) figure

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GENERAL NOTES

GN1. COORDINATE USE OF SITE WITH HONEYWELL, THE ENGINEER, SITE OWNER, AND THE CURRENT TENANT ON THE SITE.

GN2. CONTRACTOR SHALL VISUALLY INSPECT THE SITE TO ASCERTAIN THE CONDITION IF EXISTING FEATURES AND FAMILIARIZE THEMSELVES WITH THE WORK.

GN3. THE CONTRACTOR SHALL BE RESPONSIBLE TO SECURE ALL NECESSARY PERMITS EXCEPT FOR SPECIFIED PERMITS SECURED BY HONEYWELL AND/OR THE SITE OWNER OR TENANT.

GN4. KNOWN UNDERGROUND UTILITIES AND STRUCTURES ARE SHOWN ON THE DRAWINGS. THE LOCATION OF THESE EXISTING UNDERGROUND UTILITIES AND STRUCTURES SHOULD BE CONSIDERED APPROXIMATE. THEREFORE, PRIOR TO THE COMMENCEMENT OF SITE ACTIVITIES, THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING UTILITIES OR STRUCTURES IN THE AREAS OF WORK (CALL BEFORE YOU DIG: NJ 1 CALL – 1–800–272–1000). IF UTILITIES ARE TO REMAIN IN PLACE, PROVIDE ADEQUATE MEANS OF PROTECTION. THE CONTRACTOR SHALL CONFIRM THAT ANY ABANDONED UTILITY LOCATED WITHIN THE LIMIT OF WORK HAS BEEN ABANDONED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UTILITY OWNER AND THE CITY OF JERSEY CITY.

GN5. ALL SPECIFIED WORK SHALL BE IN ACCORDANCE WITH ALL FEDERAL, STATE AND LOCAL REGULATIONS AND ORDINANCES.

GN6. BITUMINOUS PAVEMENT, CURBS, UTILITIES, FENCING AND ALL OTHER ASPECTS OF OFF–SITE FEATURES SHALL BE RESTORED UPON COMPLETION OF THE WORK UNLESS OTHERWISE INDICATED. ON–SITE DISTURBED AREAS SHALL BE FINISHED WITH TOPSOIL AND SEEDED, FINISHED WITH A GRAVEL SURFACE, OR PAVED AS INDICATED. IF SITE REDEVELOPMENT ACTIVITIES ARE SCHEDULED FOR STARTUP WITHIN 30 DAYS OF COMPLETION OF REMEDIAL CONSTRUCTION, ON–SITE AREAS (OUTSIDE NJDOT R.O.W.) INDICATED TO BE PAVED MAY BE FINISHED WITH GRAVEL.

GN7. A DECONTAMINATION PAD SHALL BE PLACED ADJACENT TO THE CURRENT WORK AREA. AS THE AREA OF EXCAVATION CHANGES THE PAD SHALL BE RELOCATED AS REQUIRED.

GN8. CONSTRUCTION WATER MANAGEMENT AND DEWATERING WILL BE REQUIRED DURING REMEDIAL CONSTRUCTION ACTIVITIES. GROUNDWATER DEPTH VARIES FROM APPROXIMATELY 4 FEET TO 7 FEET BELOW GROUND SURFACE. SOIL EXCAVATION WILL BE CONDUCTED TO A MAXIMUM APPROXIMATELY 18 FEET BELOW GROUND SURFACE IN CHROMIUM EXCAVATION AREAS. EXCAVATION AREAS ARE TO BE DEWATERED PRIOR TO EXCAVATION. SURFACE WATER AND GROUNDWATER THAT POTENTIALLY CONTACTS CONTAMINATED MATERIALS AND/OR IS REMOVED FROM AN EXCAVATION BY SUMPS OR DEWATERING WILL BE PROCESSED AT A CONSTRUCTION WATER TREATMENT SYSTEM AND DISCHARGED TO THE JCMUA SEWER SYSTEM. TREATMENT AND DISCHARGE OF DEWATERING WATER WILL BE PERFORMED IN ACCORDANCE WITH THE REQUIREMENTS OF JCMUA, AND THE APPLICABLE TWA AND PVSC PERMITS AND APPROVALS TO BE SECURED BY HONEYWELL. CONTRACTOR TO PROVIDE ALL LAB TESTING.

GN9. THE DEWATERING DISCHARGE FROM SA–6 SOUTH WILL BE ROUTED TO THE CONSTRUCTION WATER TREATMENT SYSTEM LOCATED ON SA–6 NORTH.

GN10. SEQUENCING OF SITE PREPARATION, PAVEMENT REMOVAL, DEMOLITION ACTIVITIES, SET UP OF SCALES, MATERIALS STORAGE, ON–SITE TRAFFIC PLANNING/ROUTING, ESTABLISHMENT OF WORKER PARKING AREAS, OFFICE OR STORAGE TRAILERS, PERIMETER FENCING, DECONTAMINATION PADS, AND ANY OTHER NON–GROUND INTRUSIVE ACTIVITIES SHALL BE COORDINATED WITH THE SEQUENCE OF CONSTRUCTION.

GN11. DELINEATION OF EXCAVATION LIMITS AND DEPTHS ARE BASED ON THE LIMITS OF CHROMIUM IMPACT ESTABLISHED DURING THE SOIL SAMPLING AND TESTING PROGRAMS CONDUCTED TO ESTABLISH PRE–EXCAVATION SOIL CHARACTERIZATION LEVELS. ONLY LIMITED VERIFICATION SAMPLING WILL BE REQUIRED. CONTRACTOR SHALL MAKE PROVISIONS FOR WORKING IN ALTERNATE REMEDIATION AREAS WHILE SAMPLE RESULTS ARE BEING PROCESSED. IMPACTED SOIL SHALL BE LOADED DIRECTLY INTO HAUL TRUCKS TO THE EXTENT PRACTICAL. SOIL SUITABLE FOR REUSE ON–SITE SHALL BE SEGREGATED FROM IMPACTED SOIL TO BE DISPOSED OFF–SITE. REFER TO THE SOIL MANAGEMENT PLAN FOR ADDITIONAL REQUIREMENTS.

GN12. DURING SHORING INSTALLATION AND SOIL EXCAVATION ACTIVITIES ADJACENT TO AND AT ELEVATIONS BELOW ACTIVE/OCCUPIED EXISTING UTILITIES OR STRUCTURES, THE UTILITIES OR STRUCTURES SHALL BE MONITORED FOR SIGNS OF SOIL DISPLACEMENT OR MOVEMENT THAT WOULD INDICATE LOSS OF SOIL SUPPORT OR SETTLEMENT.

GN13. CONTRACTOR WILL BE REQUIRED TO MAINTAIN THE INTEGRITY OF BUILDINGS, EXISTING BULKHEAD, UTILITIES AND OTHER SITE FEATURES AND REPAIR ANY DAMAGE AT NO ADDITIONAL COST TO HONEYWELL.

GN14. DURING EXCAVATION ACTIVITIES, PROTECT THE EXPOSED SOIL FROM EXCESS DRYING (KEEP MOIST BUT NOT WET). ALSO PROTECT CUT SLOPES FROM EROSION DUE TO PRECIPITATION OR STORM RUNOFF AND DETERIORATION DUE TO CONSTRUCTION ACTIVITIES (FOOT OR EQUIPMENT TRAFFIC). USE OF A TACKAFIER OR TEMPORARY STABILIZATION FABRIC IS PERMITTED.

GN15. HONEYWELL WILL CONTRACT THE SOIL TRANSPORTATION AND DISPOSAL DIRECTLY WITH THE DISPOSAL FACILITY. THE CONTRACTOR WILL ASSIST IN THE PREPARATION OF DISPOSAL DOCUMENTATION (I.E. MANIFESTS, CHARACTERIZATION) REQUIRED BY THE DISPOSAL FACILITY.

GN16. THE HEPSCD AND JCMUA RESPECTIVELY WILL BE NOTIFIED 72 HOURS PRIOR TO THE START OF WORK AND/OR RESTART OF SEWER CONSTRUCTION.

GN17. ELEVATIONS ARE BASED ON NGVD 1929 DATUM. COORDINATES ARE IN THE NEW JERSEY STATE PLANE COORDINATE SYSTEM, NAD 1983.

GN18. EXISTING CONDITIONS SHOWN ON THESE PLANS ARE BASED ON THE UTILITY AND TOPOGRAPHIC SURVEY OF STUDY AREA 6 SOUTH FOR LOTS 9H, 9L, 10E, 10H, 11H, 11Y, 12A, 17, 18, 19, AND 20 IN BLOCK 1290.1 SITUATED IN HUDSON COUNTY, NEW JERSEY PREPARED BY MASER CONSULTING P.A. ON DECEMBER 17, 2010 UNDER THE DIRECT SUPERVISION GLEN J. LLOYD, P.L.S. LICENSE NO. GS037598.

GN19. FLOOD HAZARD AREA (EL 10.2 NGVD) SHOWN ON THESE PLANS IS BASED ON STATE OF NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION – DIVISION OF WATER RESOURCES TITLED DELINEATION OF FLOODWAY AND FLOOD HAZARD AREA FLOOD PROFILES – PASSAIC RIVER STA 410+00 TO 920+00.

GN20. WORK WITHIN THE N.J.D.O.T. R.O.W. WILL REQUIRE CO–ORDINATION WITH AND MAY REQUIRE SUBCONTRACTING WITH N.J.D.O.T. FOR TRAFFIC CONTROL AND OTHER SERVICES. THE COST OF ALL SUCH SERVICES WILL BE BORNE BY THE CONTRACTOR. WORK WITHIN 3 FEET OF THE 24 INCH GAS LINE WILL REQUIRE PSE&G OVERSIGHT.

GN21. CHROMIUM IMPACTED SOIL THAT ALSO CONTAIN NON–CHROMIUM COC'S THAT DO NOT MEET THE NJDEP'S DEFINITION OF HISTORIC FILL AS IDENTIFIED ON DRAWING C–104, WILL BE DISPOSED OFF SITE. SOILS THAT CONTAIN CONCENTRATIONS BELOW 20 MG/KG FOR HEXAVALENT CHROMIUM AND CONTAIN NON–CHROMIUM COC'S THAT MEET THE NJDEP'S DEFINITION OF HISTORIC FILL, WILL BE EXCAVATED, STAGED AND MANAGED SEPARATELY FROM CHROMIUM–IMPACTED SOILS. AS IDENTIFIED IN THE SMP, STOCKPILES OF SUCH HISTORIC FILL SOILS WILL BE TESTED TO CONFIRM THAT THE HEXAVALENT CHROMIUM CONCENTRATIONS ARE BELOW 20 MG/KG. IF SUCH SOILS ARE CONFIRMED TO BE BELOW 20 MG/KG FOR HEXAVALENT CHROMIUM, THIS SOIL MAY BE USED AS TEMPORARY SURCHARGE IN THE CAP AREAS, BACKFILL FOR EXCAVATIONS, OR TO RAISE THE GRADES FOR THE REDEVELOPMENT PROJECT OUTSIDE OF THE CAP AREA.

GN22. ACCESS RAMP TO THE GWTP WILL BE COMPLETED PRIOR TO THE IMPLEMENTATION OF THE CHROMIUM REMEDY.

GN23. GROUNDWATER TREATMENT PLANT AND ASSOCIATED UTILITIES, TRUCK CONTAINMENT PAD, AND THE GRAVEL BYPASS WILL BE COMPLETED EARLY IN THE IMPLEMENTATION OF THE CHROMIUM REMEDY.

STRUCTURAL STEEL

SS1. STEEL FILLER PLATES AND WEDGE PAIRS SHALL BE INSTALLED TO PROVIDE FULL BEARING BETWEEN SHEET PILES AND WALES.

SS2. SHOP AND FIELD WELDING PROCEDURES, ELECTRODE CLASSIFICATION, AND PREHEAT TEMPERATURE SHALL CONFORM TO AWS D1.1. WELDERS SHALL BE CERTIFIED IN ACCORDANCE WITH AWS D1.1 CRITERIA.

SS3. WHERE EXCAVATIONS ARE TO BE CONDUCTED ADJACENT TO THE HYDRAULIC BARRIER OR TEMPORARY EXCAVATION SUPPORT IS TO BE INSTALLED, THAT SHEETING OR SUPPORT SYSTEM WILL EXTEND A MINIMUM OF 1 FT ABOVE THE SURROUNDING GRADE UNTIL SUCH TIME AS THE EXCAVATION IS COMPLETED, AT WHICH TIME THE BARRIER WALL MAY BE TRIMMED TO THE GEOMEMBRANE SUBGRADE ELEVATION AND TEMPORARY SUPPORT MAY BE REMOVED. AT NO TIME DURING EXCAVATION WILL THE TOP OF THE BARRIER WALL OR TEMPORARY SUPPORT BE LESS THAN ELEVATION 10.7 OR LESS THAN THE ELEVATION OF THE GEOMEMBRANE LINER (WHICHEVER IS THE GREATER)

HYDRAULIC BARRIER TECHNICAL REQUIREMENTS

HB1. PERMANENT SHEET PILE SHALL BE ORDERED IN LENGTHS CONSISTENT WITH THAT REQUIRED TO MEET THE MINIMUM TOE AND TOP ELEVATIONS. FIELD SPLICING OF SHEETS WILL NOT BE PERMITTED. SHEETS WILL BE DRIVEN TO THE TOP DESIGN ELEVATION TO MINIMIZE THE NEED TO CUT SHEETS. SHEETS MAY BE DRIVEN DEEPER THAN THE "MINIMUM" DESIGN TOE TO MEET THE TOP ELEVATION REQUIREMENT. REFER TO DRAWINGS S–201 THRU S–203 FOR TOP OF SHEET ELEVATIONS.

HB2. HANDLE SHEET PILES IN A MANNER WHICH PREVENTS DAMAGE TO THE SHEET PILE AND EPOXY COATING. ANY DAMAGE TO THE SHEET OR EPOXY COATING WILL BE REPAIRED MEETING THE REQUIREMENTS NOTED IN HB11 BELOW. USE LIFTING HOLES AND STANDARD SAFETY LIFTING DEVICES OR PROVIDE SECONDARY SUPPORT DURING LIFTING.

HB3. SUPPORT SHEETS ON BLOCKS SPACED NOT MORE THAN 10 FT APART, AND NOT MORE THAN 2 FT FROM THE ENDS. SUPPORTS BETWEEN SHEETS, AND BETWEEN SHEET LIFTS, SHALL BE IN A VERTICAL PLANE.

HB4. IF SPUDDING IS REQUIRED DISCONTINUE SPUDDING MORE THAN 5 FT ABOVE THE MINIMUM TIP ELEVATIONS.

HB5. REMOVE AND REPLACE STEEL SHEET PILES FOUND TO BE OUT OF INTERLOCK, OUT OF TOLERANCE, DAMAGED, OR OTHERWISE DEFICIENT.

HB6. STAGE PILE DRIVING AND STEP SHEET PILE TIPS AS NECESSARY TO PREVENT PILE DISPLACEMENT FROM PLUMB.

HB7. SHEET PILES MAY BE WELDED TO ADJACENT SHEETS IF OTHER MEANS TO CONTROL SETTLEMENT DURING DRIVING IS PROVIDED. HOWEVER ANY WELDED AREAS WILL REQUIRE REPAIR CONSISTENT WITH THE REQUIREMENTS OF HB11 BELOW.

HB8. SHEETS WILL BE PITCHED AND DRIVEN IN A MANNER TO AVOID DAMAGE TO THE EPOXY COATING WHILE MAINTAINING THE SHEET PILE IN THE CORRECT PLAN LOCATION AND VERTICALITY. THE CONTRACTOR WILL UTILIZE MEANS AND METHODS TO PREVENT SHEETS FROM WARPING OR WRACKING.

HB9. PROVIDE CONTINUOUS INSPECTION OF SHEET PILE DRIVING. INSPECT LOCATION AND VERTICALITY WHEN SETTING SHEETS, AND WHEN SHEETS ARE DRIVEN HALF DEPTH.

HB10. MAINTAIN PILE DRIVING INSPECTION RECORD FOR EACH PAIR DRIVEN. INDICATE PILE HAMMER, RATE OF OPERATION, ENERGY, USE OF DRIVE HELMET AND CAP, ETC. PROVIDE A UNIQUE NUMBER FOR EACH PAIR, AND INDICATE LOCATION ON ALIGNMENT. DOCUMENT INSTALLATION DATE, SET TIME, DRIVE DURATION, AND TIME DRIVE COMPLETED, INITIAL PILE LENGTH, RE–HEADING OR CUTTING LENGTH(S), AND ANY ADDITIONAL INFORMATION REQUIRED FOR RECORD DRAWINGS. RECORD UNUSUAL CONDITIONS OR PROBLEM OBSERVED DURING DRIVING.

HB11. COAL TAR EPOXY COATING REQUIREMENTS:

a. COAT STEEL SHEET PILES, CONNECTOR PILES AND FABRICATED CONNECTOR PILES WITH TWO COATS, 8 MILS DRY FILM THICKNESS (DFT) EACH, COAL TAR EPOXY. COAL TAR EPOXY COATING SHALL BE APPLIED FROM THE FINAL TOP OF SHEET (WHEN TRIMMED FOR LINER INSTALLATION) TO THE BOTTOM OF THE SHEET OR A MAXIMUM OF 5 FEET BELOW THE INTERPRETED TOP OF STRATUM D ON BOTH THE OUTBOARD AND INBOARD FACES OF THE SHEETPILES.

b. COAL TAR EPOXY COATING SHALL BE "BITUMASTIC NO. 300–M" A MANUFACTURED BY CARBOLINE OR APPROVED EQUAL.

c. ALL SURFACES TO BE COATED SHALL BE SAND–BLASTED IN PREPARATION FOR APPLICATION OF THE COATING. SAND–BLASTING SHALL BE TO NEAR WHITE METAL, AT LEAST EQUIVALENT TO A COMMERCIAL BLAST AS DEFINED BY SSPC–SP–10. ALL SURFACES TO BE COATED MUST BE COMPLETELY DRY, FREE OF MOISTURE, SOIL, DUST AND GRIT AT THE TIME THE COATING IS APPLIED.

d. APPLICATION OF THE COATINGS AND CURING REQUIREMENTS SHALL BE IN CONFORMANCE WITH THE MANUFACTURER'S REQUIREMENTS.

e. WHERE WELDING, FASTENINGS, CUTTING OR OTHER WORK ARE TO BE ACCOMPLISHED AFTER INSTALLATION OF PILES, FIELD APPLIED PROTECTIVE COATS SHALL BE COMPLETED.

f. THE CONTRACTOR SHALL APPOINT AND PAY FOR AN INDEPENDENT INSPECTION AND TESTING AGENCY, APPROVED BY THE ENGINEER, TO INSPECT AND CERTIFY THE COATING PROCEDURE DURING EACH OF THE FOLLOWING CERTIFICATIONS:

i) CERTIFY THAT THE STEEL HAS BEEN PREPARED FOR COATING IN ACCORDANCE WITH THE COATING MANUFACTURER'S RECOMMENDATIONS AND ADDITIONAL REQUIREMENTS NOTED HEREIN.

i) CERTIFY THE THICKNESS OF THE TWO EPOXY COATS AND THAT EACH COAT IS APPLIED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND TO THE DRY FILM THICKNESS SPECIFIED.

iii) THE OWNER SHALL RESERVE THE RIGHT TO CONDUCT INDEPENDENT QUALITY ASSURANCE INSPECTIONS. REJECTED SHEETS WILL BE REPAIRED OR REPLACED ON NO ADDITIONAL COST TO THE OWNER.

HB12. SEALANT SHALL BE GUN GRADE SWELL SEAL WA HYDROPHILIC POLYURETHANE WATER STOP, MANUFACTURED BY DENEEF CONSTRUCTION CHEMICALS OF HOUSTON, TX. OR APPROVED EQUAL. REFER TO SPECIFICATIONS 01010 SECTION 5 SUBSECTION 5.

HB13. INSTALLATION OF SWELL SEAL SHALL BE PERFORMED IN ACCORDANCE WITH SPECIFICATION 02180 "SPECIAL INSTRUCTIONS" SECTION 3.03.

HB14. SHEET PILE WILL BE PROVIDED IN PREWELDED, PRECOATED PAIRS.

HB15. TEMPORARY SHEET PILE FOR EXCAVATIONS WILL BE LEFT A MINIMUM OF 1 FOOT ABOVE EXISTING GRADE OR 6–INCHES ABOVE 100 YEAR FLOOD ELEVATION WHICHEVER IS HIGHER.

HB16. AFTER CUTTING SHEETPILE TO FINAL ELEVATION, AS PART OF CAP CONSTRUCTION A SECTION OF GCL WILL BE PLACED BETWEEN THE TOP OF SHEETING AND THE CAP LINER IN AREAS BELOW THE SITE HISTORIC WATER SEE DRAWING C–301 DETAIL G FOR ADDITIONAL INFORMATION.

HB17. THE HYDRAULIC BARRIER WILL EXHIBIT FLOW PROPERTIES EQUAL OR BETTER THAN THAN A ONE FOOT WIDE BARRIER WITH A HYDRAULIC CONDUCTIVITY OF 1X10–6 CM/SEC.

HB18. FOR SHEET SEALING AND GROUTING BEFORE AND AFTER DRIVING, SEE SHEET C–515 DETAIL BF.

HB19. THE AREA INDICATED ON SHEETS S–201 TO S–203 FROM STATION 0+00 TO STATION 17+80 18+50 WILL BE SEALED WITH A CEMENT BENTONITE GROUT IN LIEU OF HYDRAULIC SEALANT. THIS PORTION OF THE WALL WILL BE FABRICATED WITH A 2 ½" X 3/8" ANGLE AND ½" HDPE GROUT PIPE FROM THE TOP OF THE INTERLOCK TO THE DEPTH OF STRATUM D SOILS. SEE DRAWING S–203 DETAIL BF AND SPECIFICATION SECTION 02180 FOR ADDITIONAL INFORMATION.

HB20. IN LOCATIONS WHERE CPT OR BORING ENCOUNTER REFUSAL AT DEPTHS OF <10 FEET TEST PITS OR PRE–TRENCHING WILL BE CONDUCTED TO VERIFY THAT POTENTIAL OBSTRUCTIONS HAVE BEEN REMOVED PRIOR TO DRIVING SHEETS.

HB21 PSE&G IS EVALUATING POLE RELOCATION AND RE–ROUTING OF ELECTRICAL SERVICE TEMPORARILY TO THE EAST SIDE OF ROUTE 440 TO FACILITATE HYDRAULIC BARRIER INSTALLATION. PSE&G PLANNING MAY ALSO BE IMPACTED BY THE ROUTE 440 WIDENING. IF CHANGES CANNOT BE IMPLEMENTED IT MAY BE NECESSARY TO INSTALL THE WALL INBOARD OF EXISTING LOCATIONS TO COMPLY WITH OSHA OVERHEAD CLEARANCE REQUIREMENTS AND DEFER REMEDIATION OF THE REMAINING STRIP.

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	05/02/14	REVISION OF GROUTED STATIONING - DCB003	TDD	RJR		RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD		TDD	SHM
		REVISION					SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GENERAL NOTES

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200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 587-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	G-003
SHEET	3 OF 66

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FINAL DCB 004 – HB STRAIGHTENING

Honeywell RES → Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 004 Minor (a) Effective Date: 8/14/13
Project Location: SA6-SOUTH	Associated RFI:
Title: Hydraulic Barrier Straightening SA6 South	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

The hydraulic barrier alignment for SA-6 South between Station 21+00 and 22+00 is to be straightened to eliminate an offset in the wall that was an artifact of historic property lines that are no longer applicable. Corners, and the Stationing from 21+00 on is to be adjusted to account for the elimination of the 3-ft offset in the wall.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified straighten alignment and facilitate installation. Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Drawings # S 203 and S 206 have been issued signed and sealed for replacement in design sets. CAD files of the change in the electronic file to the drawings noted are also included. The magnitude of the change is so small it is not readily discernible on the other drawings.	Design Documents Affected: Design Drawings 9-13, 16-26, 29, 32, 33, 35, 36, 46-49, 51, 52, 55, 58

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

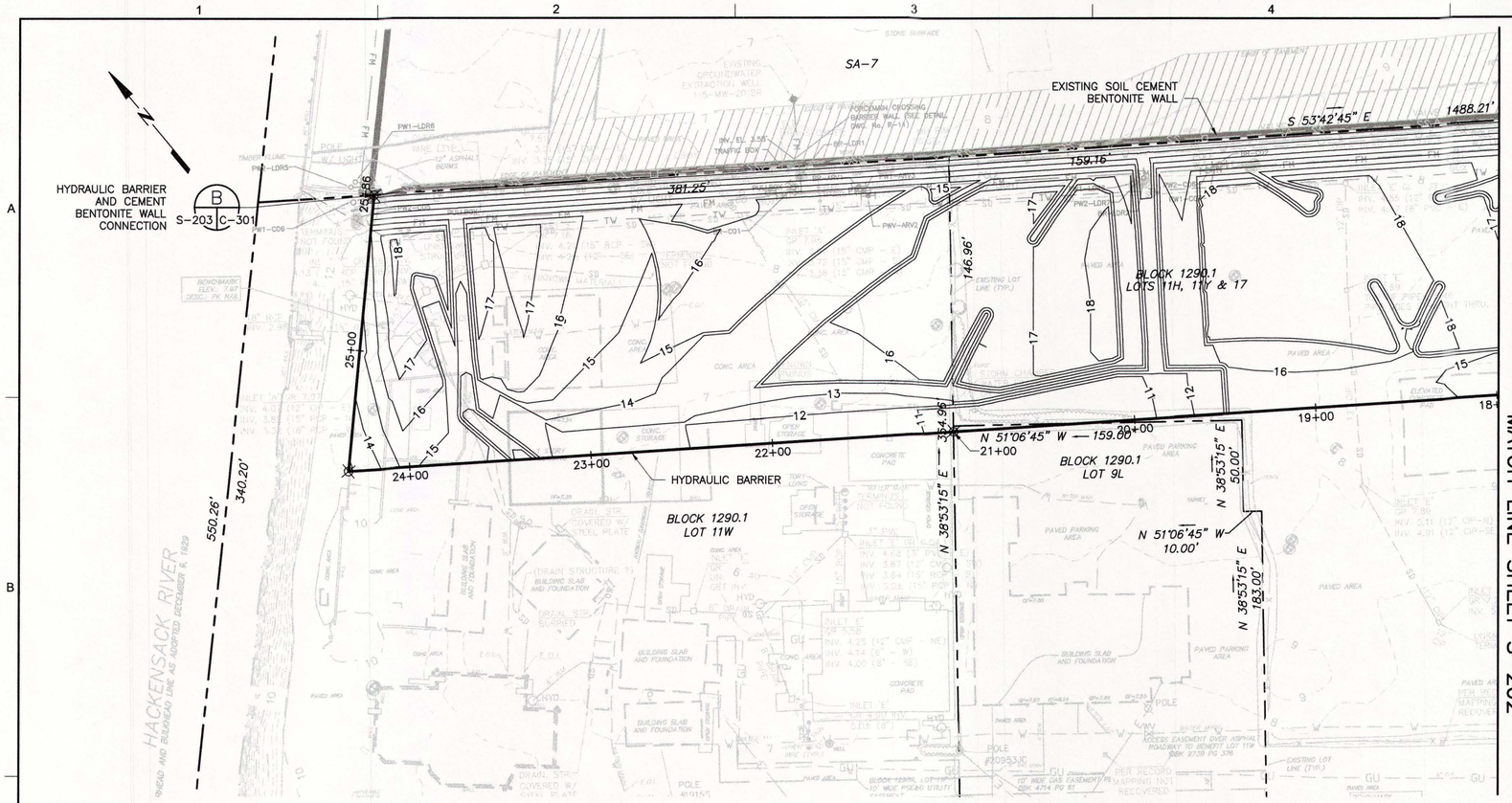
(Name / Signature): Samuel G. Shuttleworth

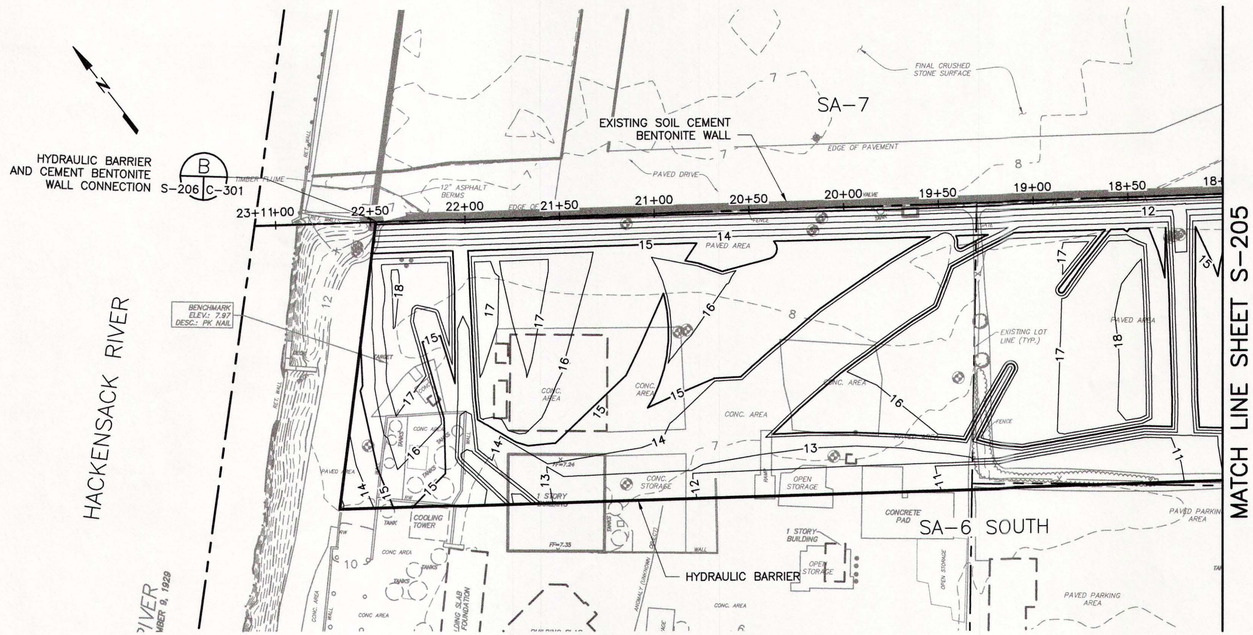
Does DCB Result in CCO? ☐ Yes(b) ☑ No

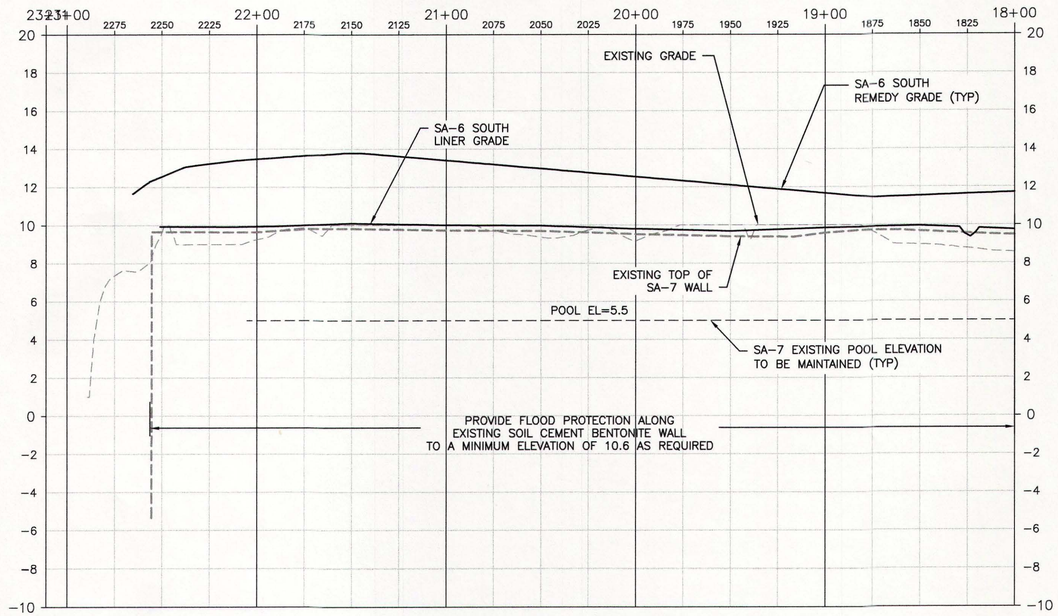
Date: 5/2/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.


SA-7
EXISTING SOIL CEMENT BENTONITE WALL
S 53°42'45" E
1488.21'
159.16
381.25'
HYDRAULIC BARRIER AND CEMENT BENTONITE WALL CONNECTION
B
S-203 C-301
25+86
146.96'
BLOCK 1290.1
LOTS 11H, 11V & 17
25+00
N 51°06'45" W — 159.00'
21+00
BLOCK 1290.1
LOT 9L
N 38°53'15" E
50.00'
N 51°06'45" W
10.00'
N 38°53'15" E
183.00'
354.96'
20+00
19+00
18+
24+00
23+00
22+00
HYDRAULIC BARRIER
BLOCK 1290.1
LOT 11W
550.26'
340.20'
HACKENSACK RIVER
(HEAD AND BULKHEAD LINE AS ADOPTED DECEMBER 6, 1923)
BENCHMARK
ELEV. 7.67
DESC.: PK NAIL
EXISTING GROUNDWATER EXTRACTION WELL I-5-MW-21VER
FORCEMAIN/CROSSING BARRIER WALL SEE DETAIL (WMS, No.) (S-11)
MH EL 3.56
TRAFFIC BOX
PW1-LDR6
PW1-LDR5
PW1-CD6
PW1-LDR1
PW1-CD1
PW2-LDR2
PW2-LDR1
PWV-ARV2
EXISTING LOT LINE (TYP.)
PAVED AREA
CONC. AREA
CONC. STORAGE
PAVED PARKING AREA
CONCRETE PAD
BUILDING SLAB AND FOUNDATION
DRAIN STRUCTURE
COVERED W/ STEEL PLATE
POLE #209530
POLE #209531
POLE #209532
INLET E
RIM EL 7.39
INV. EL 4.25 (12" CMP)
INV. EL 4.14 (6" CMP)
INV. EL 3.67 (12" CMP)
INV. EL 3.67 (12" CMP)
INV. EL 3.61 (12" CMP)
INV. EL 3.61 (12" CMP)
INV. EL 3.61





NOTES:

1. SEE SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. SEE SHEET G-003 AND G-004 FOR GENERAL NOTES.
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE LINER GRADE.

0 2 4 8
SCALE IN FEET
VERTICAL SCALE: 1" = 4'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APVD
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	

TDD RJR SHM

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

EXISTING SA-7 SCB WALL PLAN AND PROFILE

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Hamilton, NJ, 08619
(609) 689-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-206
SHEET	58 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR58-S-206 SCB Wall Plan Profile.dwg PLOT DATE: Fri, 02 May 2014 PLOT TIME: 10:59 AM

FINAL DCB 005 – ANALYTICAL TESTING OF BACKFILL

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 005 Minor(a) Effective Date: 9/24/13
Project Location: SA-6 NORTH SA6-SOUTH Title: Analytical Testing Frequency for Imported Borrow Materials	Associated RFI: ☐ Yes, RFI No. ___ ☑ None
Contractor (Subcontractor): Entact	Project No.: 3480130377

Description of Change/Modification:

The testing frequency for analytic parameters for imported borrow materials is to be modified to 1 test/ 5,000 CY of borrow material anticipated to be needed.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☑ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Honeywell directed modification. Attachments: ☐ Yes ☑ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The original specified minimum frequency was 1 sample per source. The frequency was increased to 1 sample per 5000 CY at the request of Honeywell, consistent with frequencies tested on imported virgin source materials on SA7.	Design Documents Affected: Technical Specifications Section 02315-10 2.13 Borrow Source Testing A. 1,2,3 Frequency

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): [signature]	Does DCB Result in CCO? ☐ Yes(b) ☑ No Date: 5/2/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

placed. Horizon B soils will be a uniform sandy loam having the following properties:

Sandy loam classification having 80% sand, ≤ 10% silt, 10% clay.
Ph range 5.5 – 7.0.
Organic Matter (by weight) 1.5-3.5%.

C. Soil Horizon C – During Interim Grading Horizon C Soil will be placed between the root barrier and the Horizon A soil. The first 6 inches of Horizon C soils to be placed directly above the root barrier will be compacted to a minimum 90% of Standard Proctor. To meet Final Grading and planting requirements Horizon A soils will be stripped as necessary and Horizon C soils shall be re-graded to provide an appropriate depth of 18 inches. Horizon C soil shall consist of uniform sandy loam having the following properties:

1. Sandy loam classification with 70-80% sand, ≤ 10% silt, 15-20% clay.
2. pH range 5.0 – 7.5.
3. Organic Matter (by weight) 1 % max.

2.13 BORROW SOURCE TESTING

A. Borrow source testing, including geotechnical characterization requirements, shall be conducted on all soil materials proposed for construction. Minimum third-party geotechnical laboratory testing requirements and frequency for materials are listed as follows:

1. Common Borrow, Geocomposite Drainage Layer Cover Soil, Cushion Fill, Dense Graded Aggregate, Planting Soils (Horizons B and C):

Test	Methodology[1]	Frequency[2]
Particle-Size Analysis	ASTM D 422	1 test/5000 cy/material (to #200 Sieve)
Standard Proctor	ASTM D 698	Min. 3 test/source/material 1 test/5000 cy

2. Topsoil (Horizon A):
   Refer to Section 02900, "Topsoil and Seeding".
3. Crushed Stone:

Test	Methodology[1]	Frequency[2]
Particle-Size Analysis	ASTM D 422	1 test/5000 cy/material (to #200 Sieve)

B. Borrow Source Testing Notes:

1. Other testing methods may be considered acceptable, based on prior approval of the Engineer.
2. Testing frequency shall be as listed, at any change in borrow source, or at any discernable change in material delivered to the site (as determined by the Engineer).
   a. Common Borrow shall be certified clean from the borrow source or origin, based on analytical testing data, as approved by the Engineer.
      1. Soils shall be tested and certified "clean" relative to the NJDEP Technical Requirements pursuant to 7:26E 5.2(d) 2.

FINAL DCB 006 – EXCAVATION SHAPES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 006 Major (a)(b) Effective Date: 12/12/13
Project Location: SA6-SOUTH	Associated RFI:
Title: Revised Excavation Shapes, Bottom of Excavation Elevations, and Post-Excavation Samples	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

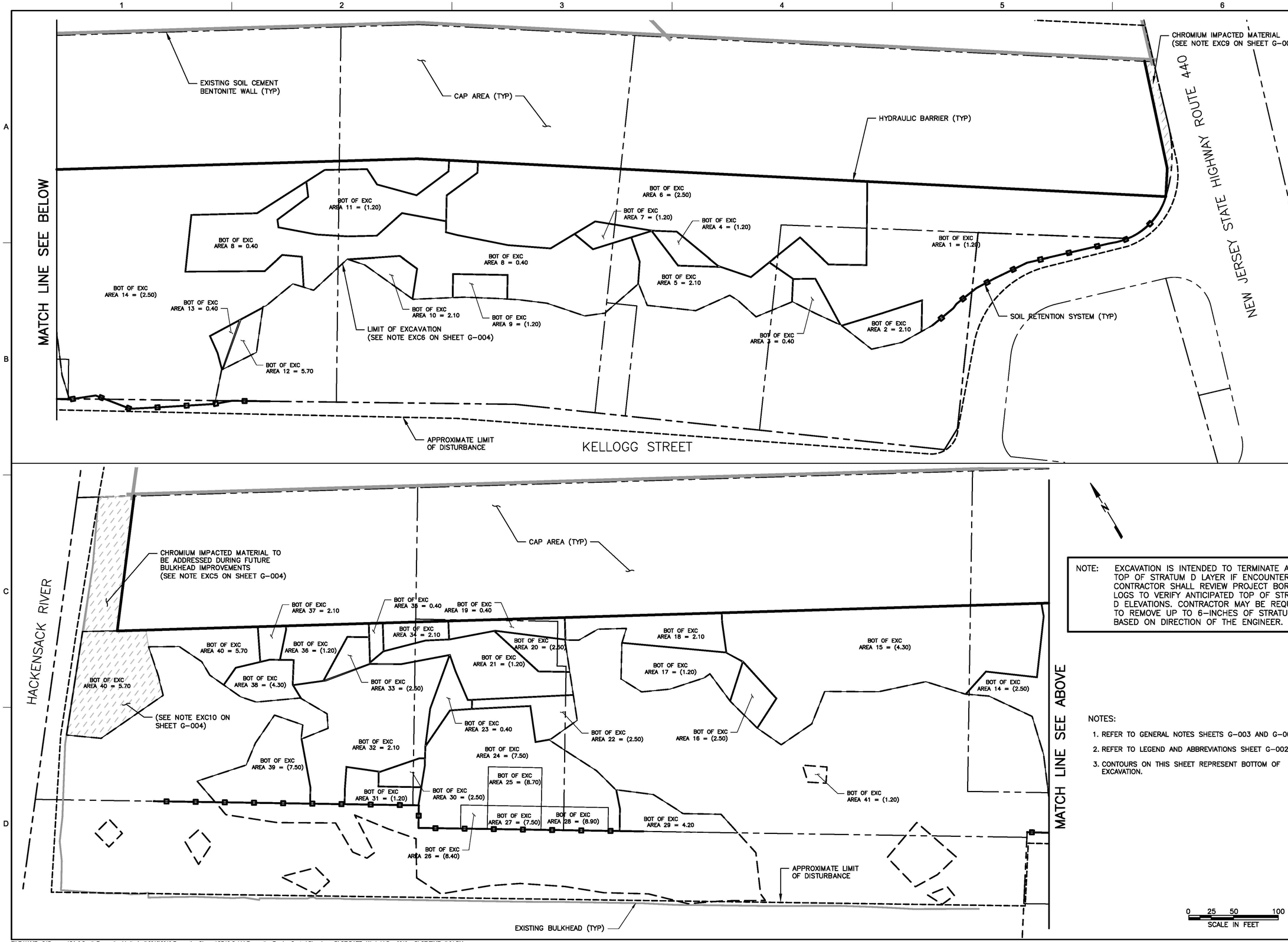
Description of Change/Modification:

The proposed bottom of excavation elevations have been modified in limited areas to expose Post-Excavation Samples as reported on the revised PDI summary tables which are attached to this DCB. Excavation Interval shapes have been revised to coincide with the revised bottom of excavation elevations and limits. This DCB also includes a color coded excavation bottom map to assist with interpreting the bottom of excavation elevations as depicted on the revised design drawings. In addition this DCB includes a table summarizing- Post-Excavation Reference (R) Samples for each area. These (R) samples are to be referenced in the weekly reports when a base PDI sample is not present in a specific 15 ft wide cells being used by Entact for construction control. This DCB includes the following documents:

- Design Drawings 16-25
- PDI Tables 1, 2, 3B, and 3C
- Figure 2 SA-6 South Color Coded Excavation Bottom
- Table 1 SA-6 South Reference Confirmation Samples

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Expose Confirmation Samples as Indentified in Revised PDI Tables Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☑ Yes ☐ No
Additional Comments: Major DCB anticipated to require review and approval by third parties. The changes result in an increase to the excavation quantity.	Design Documents Affected: Drawings 16-25 PDI Tables 1, 2, 3B, and 3C
Honeywell (AP) Review: Individual Discipline	Initial [signature] Date 12/20/16
(Name / Signature):	Does DCB Result in CCO? ☑ Yes(b) ☐ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6–INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

NOTES:

1. REFER TO GENERAL NOTES SHEETS G–003 AND G–004
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002
3. CONTOURS ON THIS SHEET REPRESENT BOTTOM OF EXCAVATION.

0 25 50 100
SCALE IN FEET

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS	
1	01/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	
			TDD	RJR	SHM

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DRAWING STATUS
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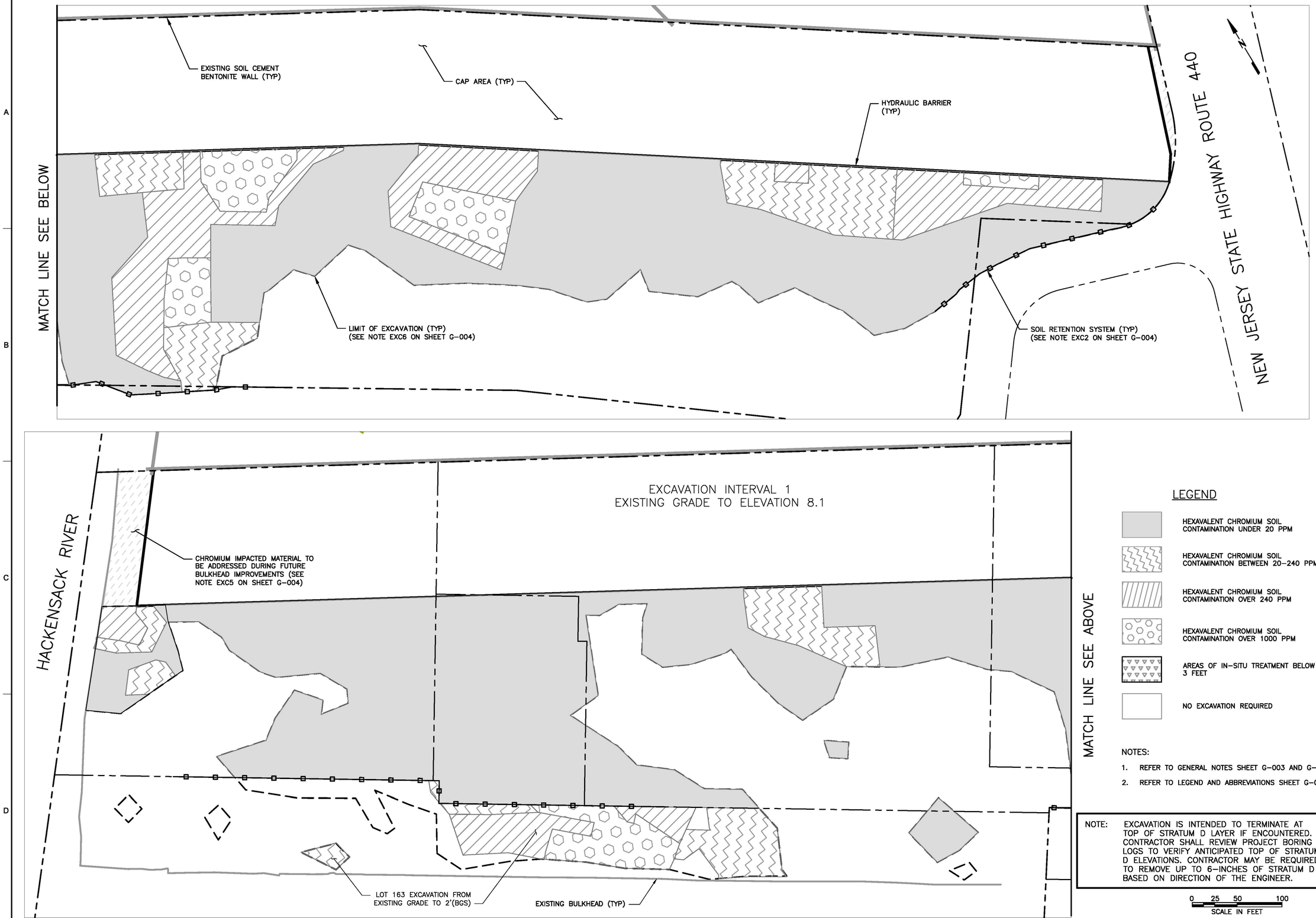
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-111
SHEET	16 OF 66

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR16-C-111 Excavation Erosion Control Plan.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 7:01 PM



LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

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0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	

TDD RJR TDD SHM

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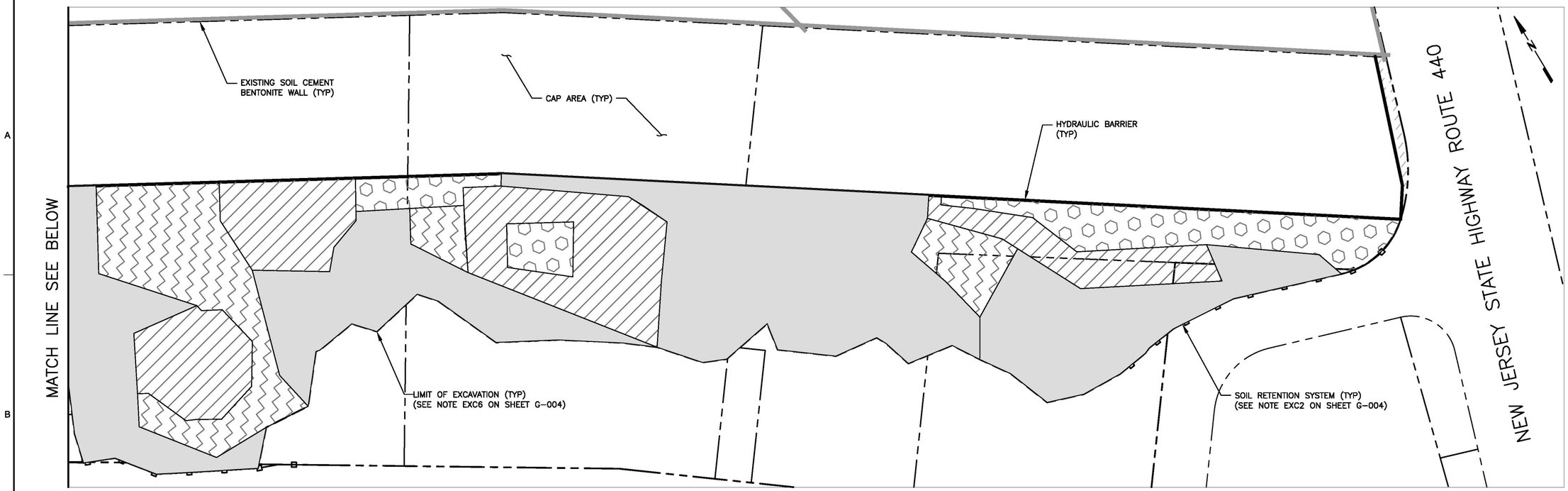
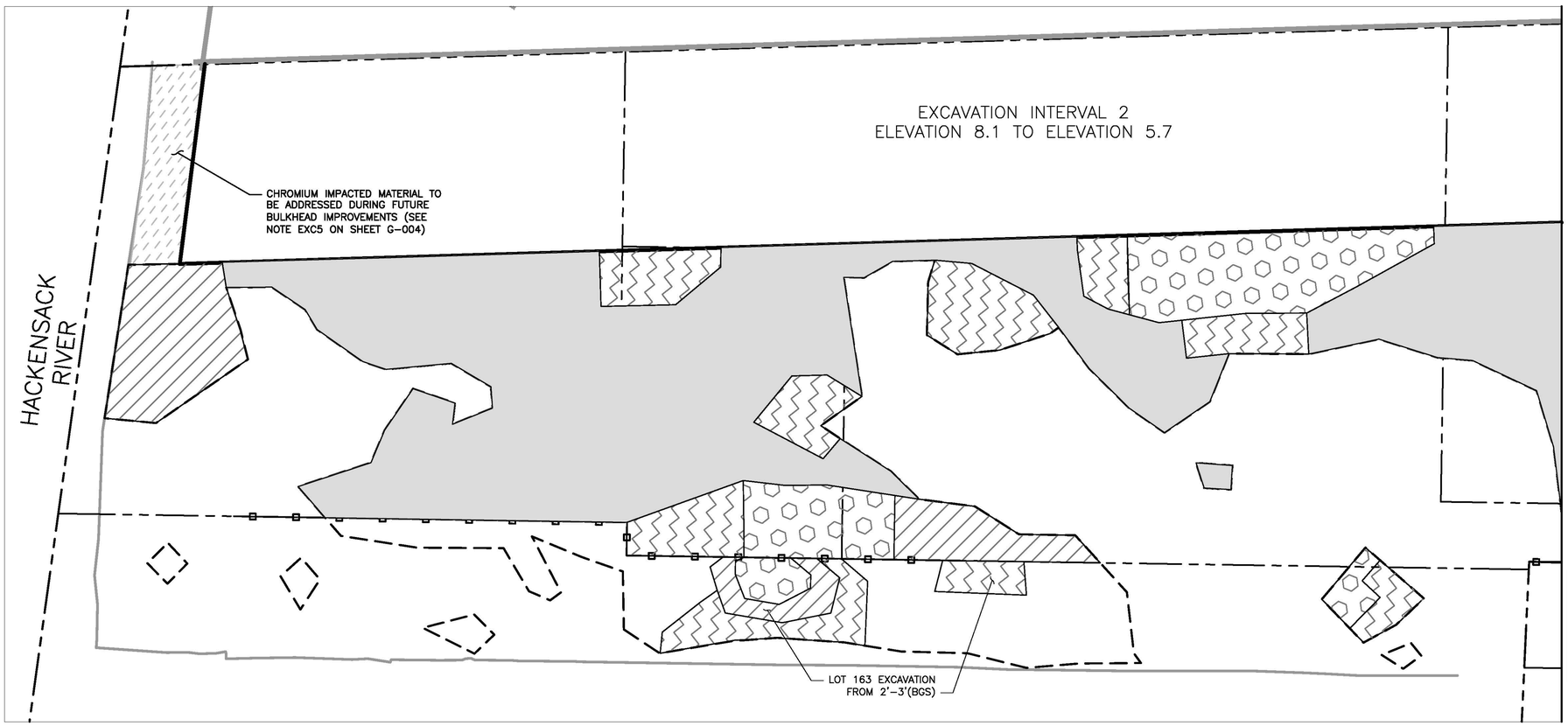
0 1"

DATE
PROJ 3480-12-0317
DWG C-112
SHEET 17 OF 66

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR17-C-112 Chromium Excavation Interval 1.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:04 PM





MATCH LINE SEE ABOVE

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED

NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

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0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD			TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT		RJR		RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD	TDD	SHM
		REVISION	TDD	RJR	TDD		SHM

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LICENSE NUMBER 24GE04322400

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DATE
PROJ 3480-12-0317
DWG C-113
SHEET 18 OF 66

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FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR18-C-113 Chromium Excavation Interval 2.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:08 PM



LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
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- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
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NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

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0 25 50 100
SCALE IN FEET

STEPHEN H. MITCHELL

NO.	DATE	REVISION	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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DATE	
PROJ	3480-12-0317
DWG	C-114
SHEET	19 OF 66

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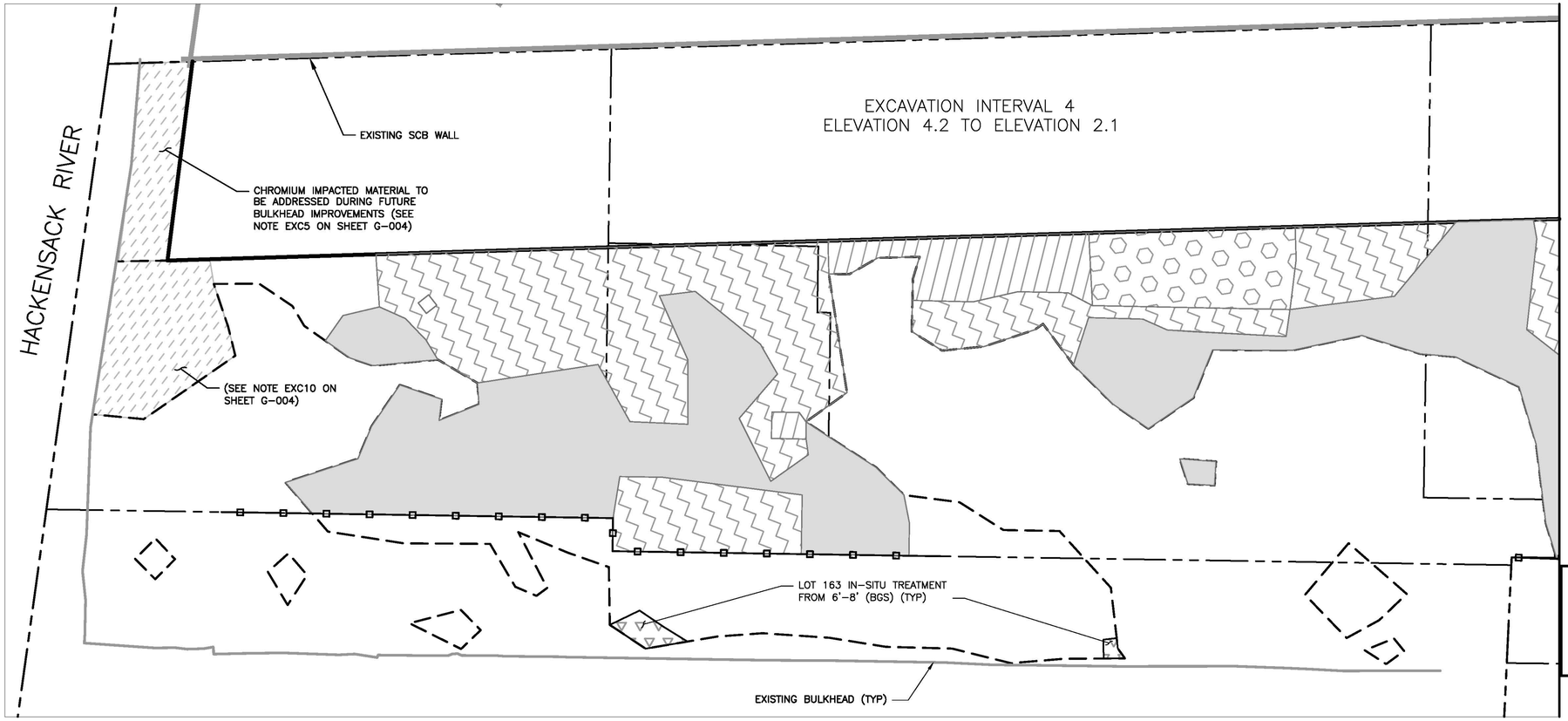
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR19-C-114 Chromium Excavation Interval 3.dwg PLOT DATE: Tue, 07 Jan 2014 PLOT TIME: 8:55 PM





MATCH LINE SEE ABOVE

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD			TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT		RJR		RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			TDD	TDD	SHM
		REVISION				BY	APVD

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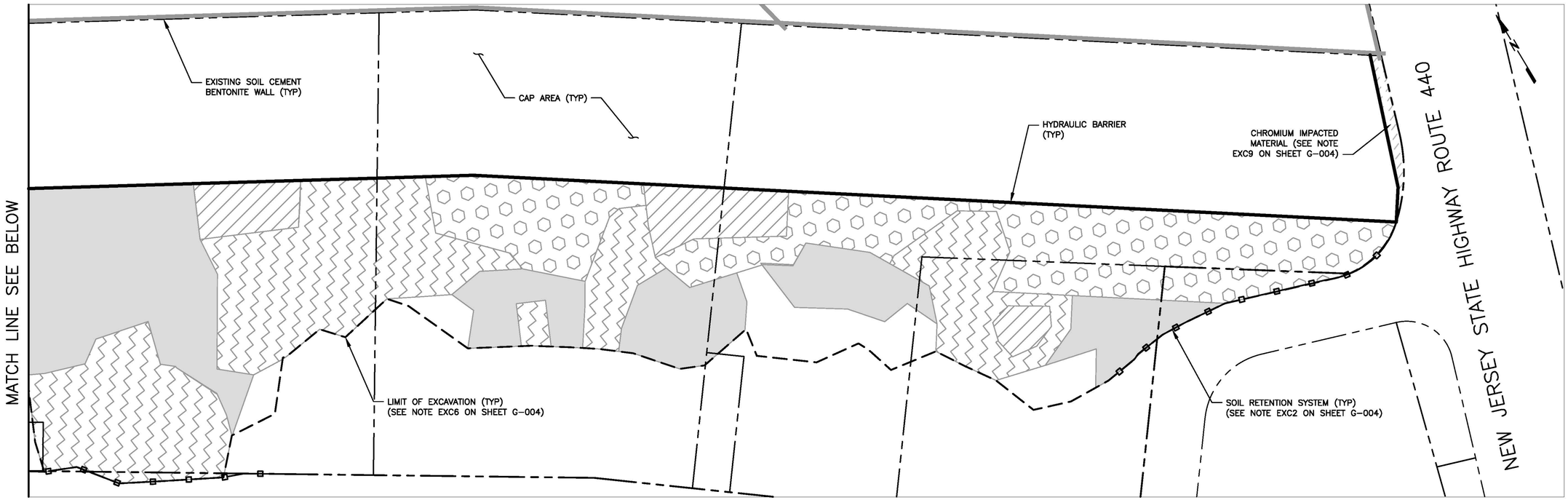
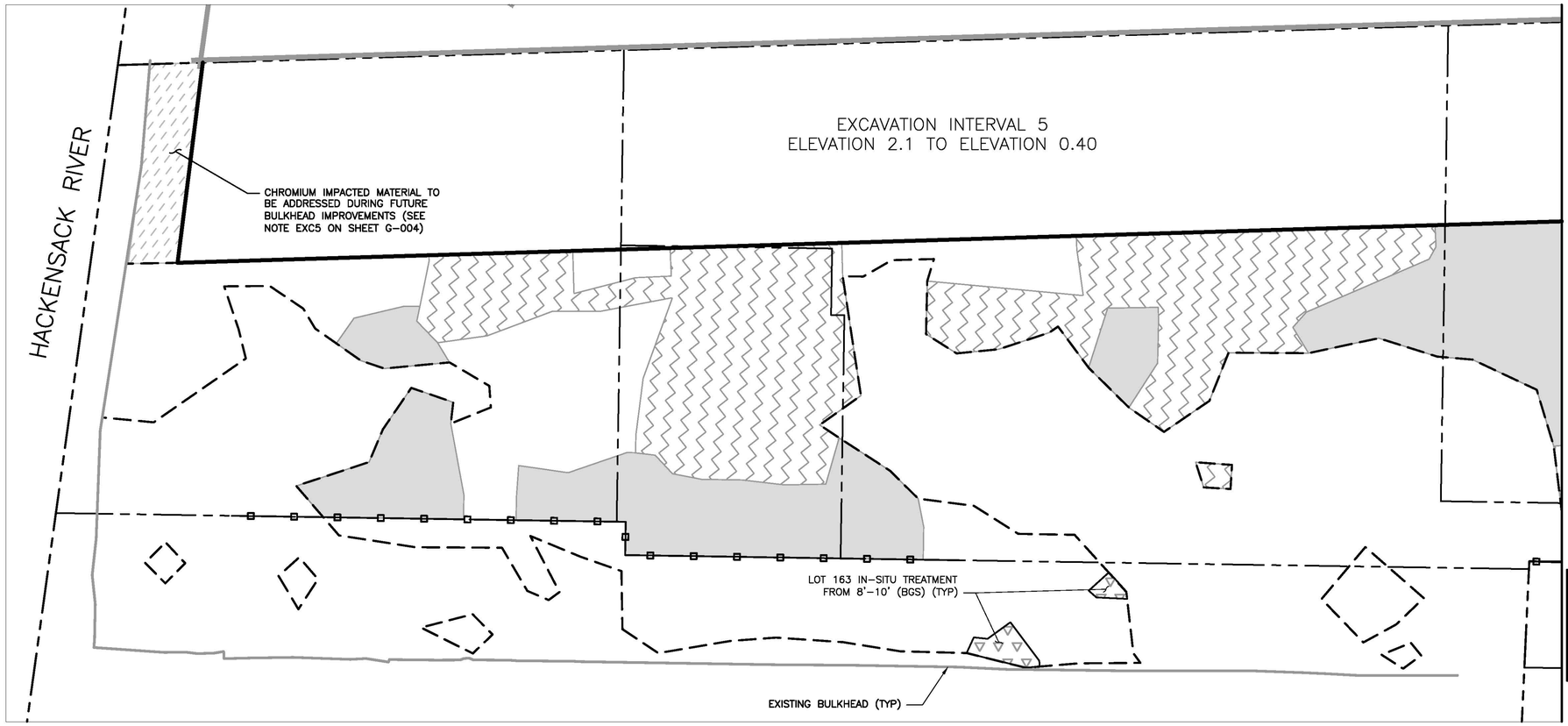
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-115
SHEET	20 OF 66

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR20-C-115 Chromium Excavation Interval 4.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:10 PM





MATCH LINE SEE ABOVE

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
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- AREAS OF IN–SITU TREATMENT BELOW 3 FEET
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NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND G–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6–INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	
		TDD	RJR	TDD	SHM

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NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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CHROMIUM EXCAVATION INTERVAL 5

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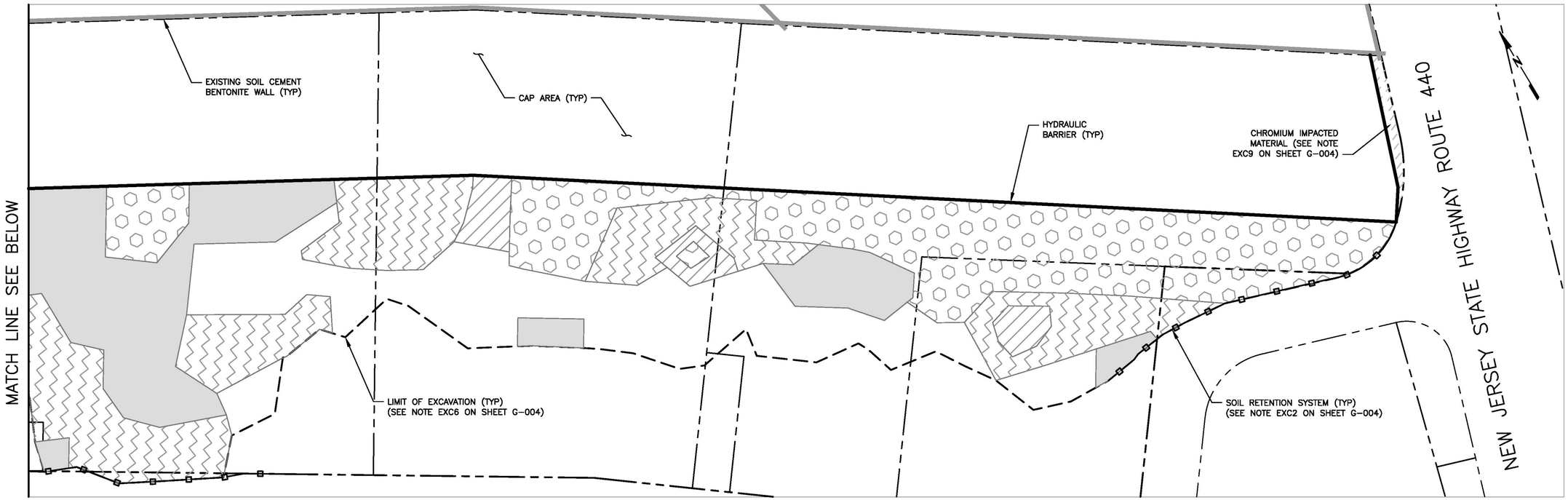
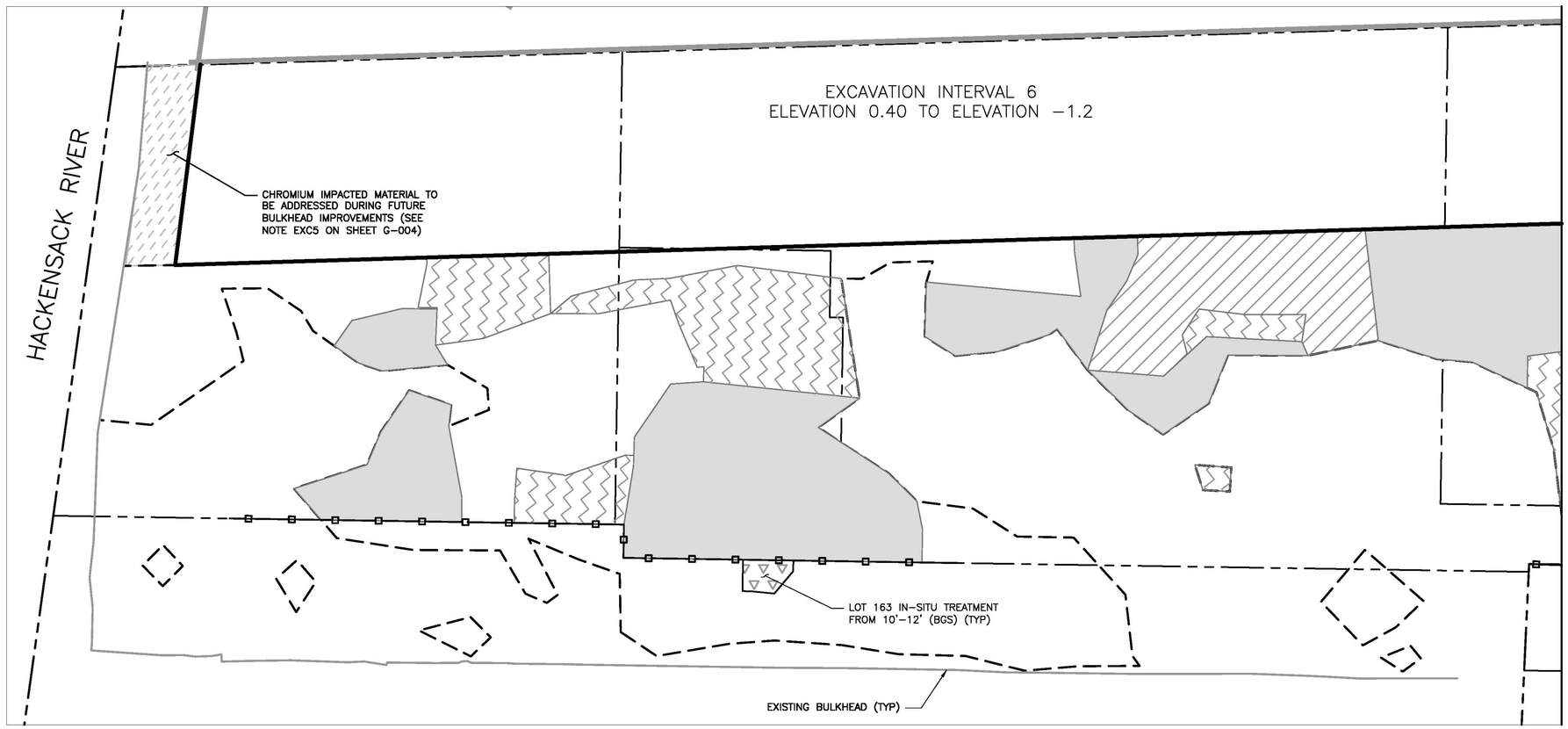
Hamilton, NJ, 08619
(609) 890-2283
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-116
SHEET	21 OF 66

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR21-C-116 Chromium Excavation Interval 5.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:03 PM





MATCH LINE SEE ABOVE

LEGEND

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- NO EXCAVATION REQUIRED

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD			TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	TDD	RJR	TDD	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	RJR	TDD	TDD	SHM

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400
SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CHROMIUM EXCAVATION INTERVAL 6

amec
Environment & Infrastructure, Inc.
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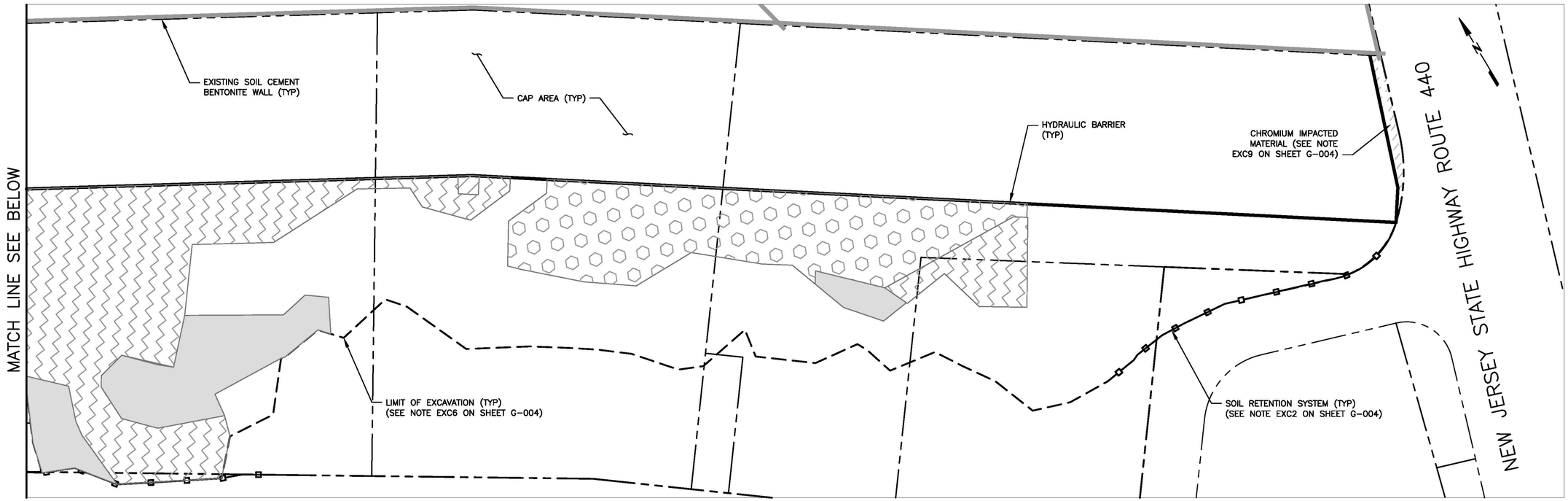
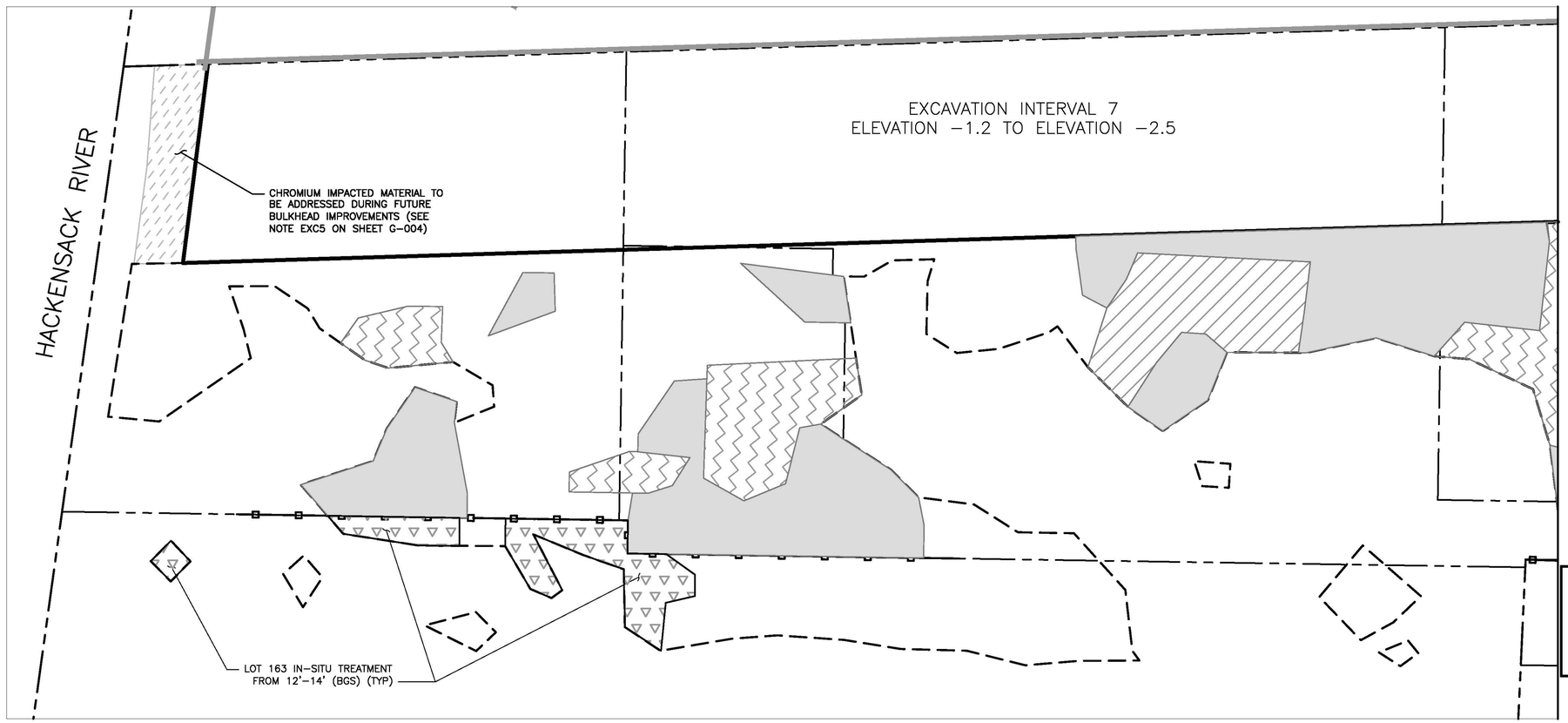
Hamilton, NJ, 08619
(609) 890-2500
NJ Certification of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-117
SHEET	22 OF 66

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR22-C-117 Chromium Excavation Interval 6.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:13 PM





LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

STEPHEN H. MITCHELL

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	REVISION	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CHROMIUM EXCAVATION INTERVAL 7

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-118
SHEET	23 OF 66

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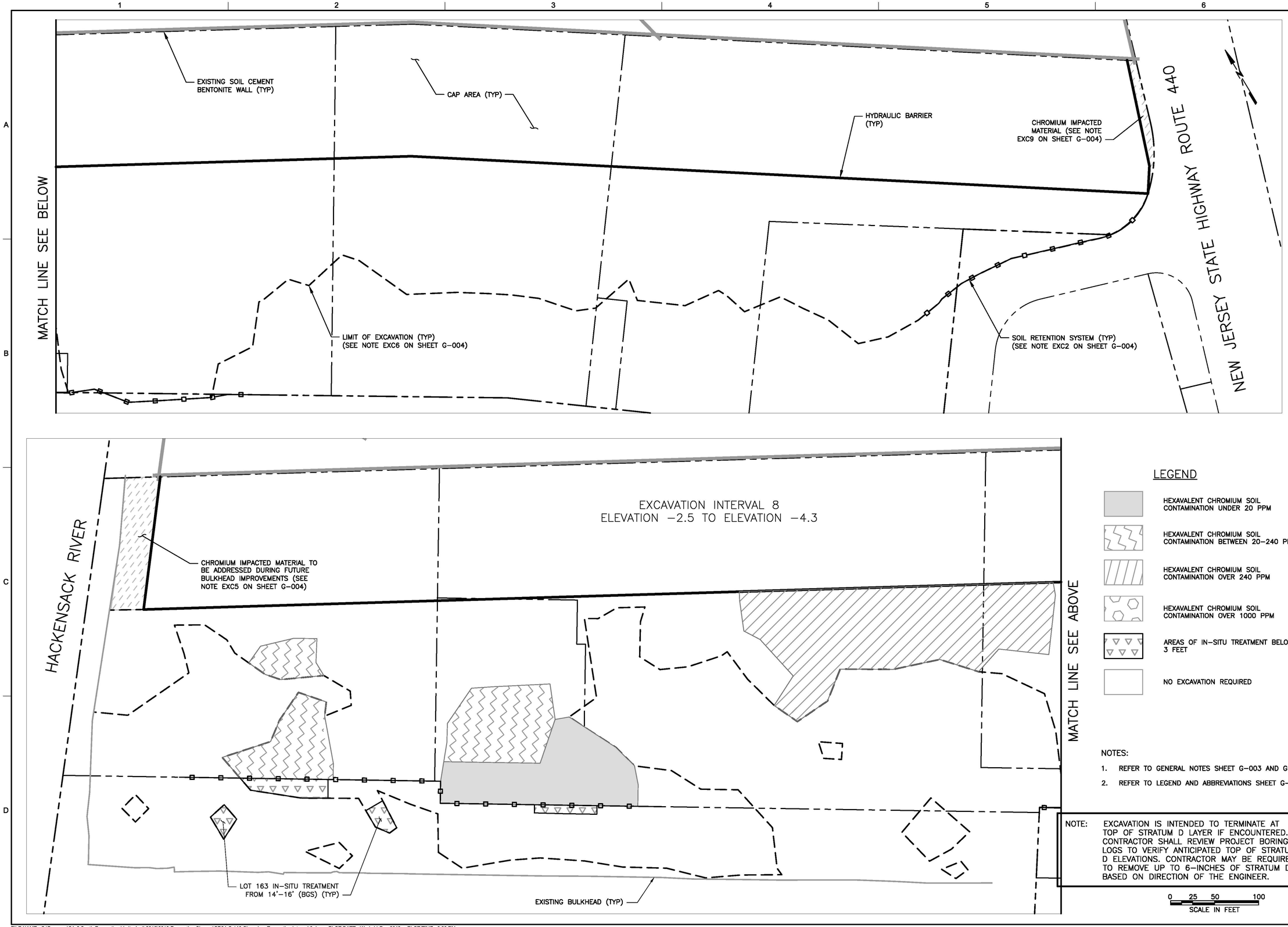
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR23-C-118 Chromium Excavation Interval 7.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:18 PM



LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

STEPHEN H. MITCHELL

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	REVISION	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CHROMIUM EXCAVATION INTERVAL 8

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-119
SHEET	24 OF 66

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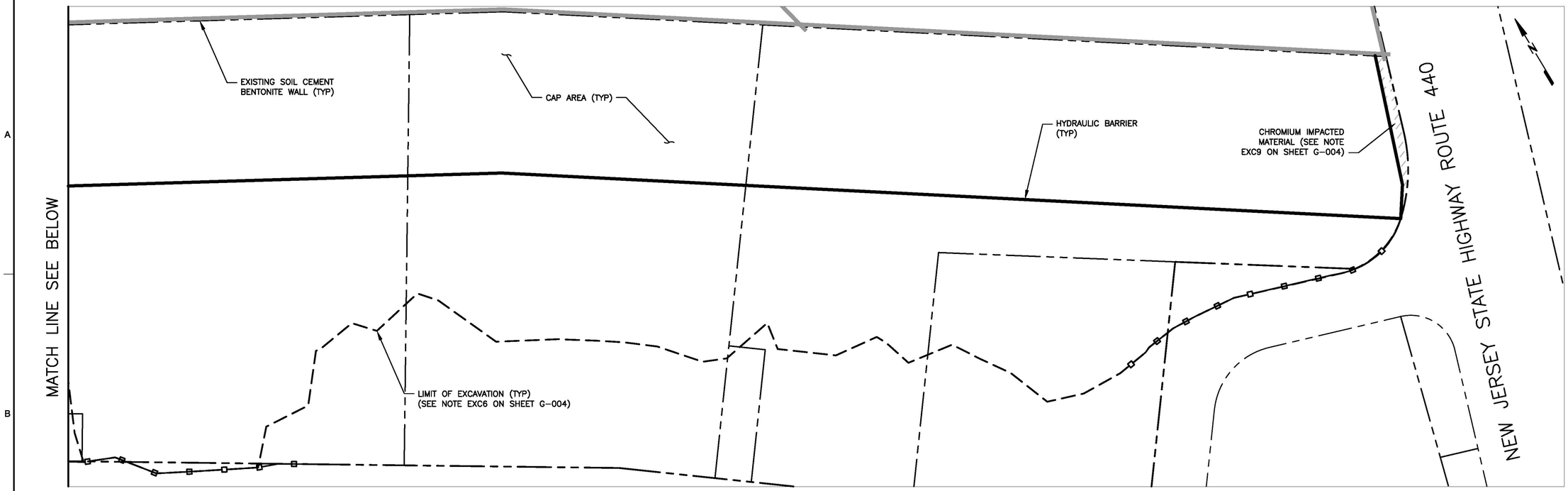
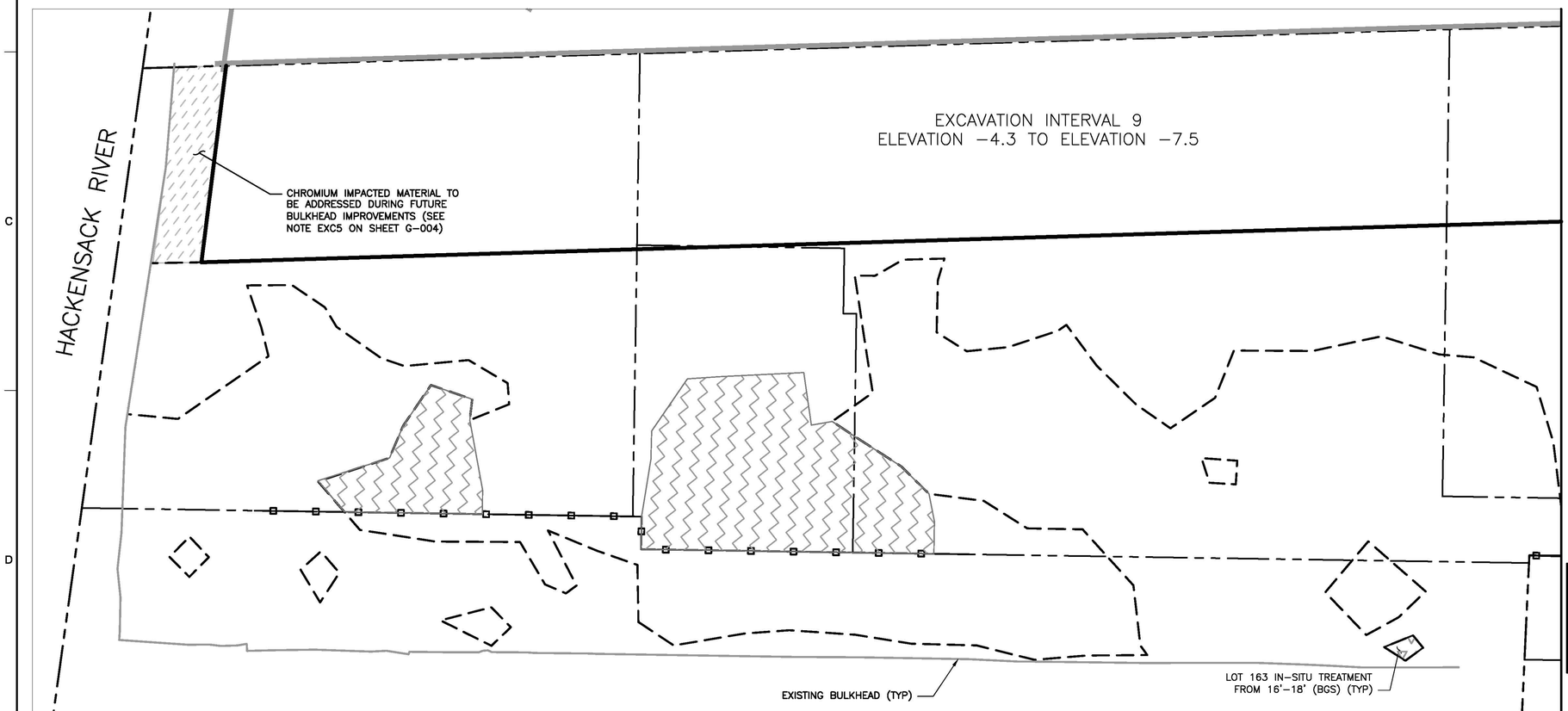
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR24-C-119 Chromium Excavation Interval 8.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:20 PM





LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	REVISION	BY	APVD
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CHROMIUM EXCAVATION INTERVAL 9

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-120
SHEET	25 OF 66

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FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR25-C-120 Chromium Excavation Interval 9.dwg PLOT DATE: Wed, 11 Dec 2013 PLOT TIME: 8:22 PM

EXISTING SOIL CEMENT BENTONITE WALL (TYP)

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

NEW JERSEY STATE HIGHWAY ROUTE 440

MATCH LINE SEE BELOW

BOT OF EXC AREA 14 = (2.50)

BOT OF EXC AREA 13 = 0.40

BOT OF EXC AREA 12 = 5.70

BOT OF EXC AREA 11 = (1.20)

BOT OF EXC AREA 8 = 0.40

BOT OF EXC AREA 10 = 2.10

BOT OF EXC AREA 9 = (1.20)

BOT OF EXC AREA 8 = 0.40

BOT OF EXC AREA 7 = (1.20)

BOT OF EXC AREA 6 = (2.50)

BOT OF EXC AREA 4 = (1.20)

BOT OF EXC AREA 5 = 2.10

BOT OF EXC AREA 7 = 0.40

BOT OF EXC AREA 2 = 2.10

BOT OF EXC AREA = (1.20)

SOIL RETENTION SYSTEM (TYP)

KELLOGG STREET

HACKENSACK RIVER

CAP AREA (TYP)

BOT OF EXC AREA 37 = 2.10

BOT OF EXC AREA 39 = 0.40

BOT OF EXC AREA 19 = 0.40

BOT OF EXC AREA 40 = 5.70

BOT OF EXC AREA 36 = (1.20)

BOT OF EXC AREA 38 = (4.30)

BOT OF EXC AREA 33 = (2.50)

BOT OF EXC AREA 21 = (1.20)

BOT OF EXC AREA 20 = (2.50)

BOT OF EXC AREA 17 = (1.20)

BOT OF EXC AREA 15 = 2.10

BOT OF EXC AREA 15 = (4.30)

BOT OF EXC AREA 14 = (2.50)

BOT OF EXC AREA 10 = 5.70

BOT OF EXC AREA 23 = 0.40

BOT OF EXC AREA 22 = (2.50)

BOT OF EXC AREA 16 = (2.50)

BOT OF EXC AREA 32 = 2.10

BOT OF EXC AREA 39 = (7.50)

BOT OF EXC AREA 24 = (7.50)

BOT OF EXC AREA 25 = (5.70)

BOT OF EXC AREA 41 = (1.20)

BOT OF EXC AREA 31 = (1.20)

BOT OF EXC AREA 30 = (2.50)

BOT OF EXC AREA 27 = (7.50)

BOT OF EXC AREA 28 = (5.9)

BOT OF EXC AREA 26 = (8.40)

MATCH LINE SEE ABOVE

EXCAVATION BOTTOM ELEVATION 5.7

EXCAVATION BOTTOM ELEVATION 4.2

EXCAVATION BOTTOM ELEVATION 2.1

EXCAVATION BOTTOM ELEVATION 0.4

EXCAVATION BOTTOM ELEVATION (1.2)

EXCAVATION BOTTOM ELEVATION (2.5)

EXCAVATION BOTTOM ELEVATION (4.3)

EXCAVATION BOTTOM ELEVATION (7.5)

EXCAVATION BOTTOM ELEVATION (8.4)

EXCAVATION BOTTOM ELEVATION (8.7)

EXCAVATION BOTTOM ELEVATION (8.9)

NOTES:

1. CONTOURS ON THIS SHEET REPRESENT BOTTOM OF EXCAVATION.
2. THE APPROVED 100% DESIGN DOCUMENTS OUTLINE CONDITIONS WHERE THE FINAL EXCAVATION BOTTOM MAY BE SHALLOWER IF STRATUM D IS ENCOUNTERED.

0 25 50 100
SCALE IN FEET

Prepared/Date: TDD 12/02/13
Checked/Date: SGS 12/02/13

Honeywell
101 COLUMBIA RD., P.O. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

SA-6 SOUTH
COLOR CODED EXCAVATION BOTTOM
FIGURE 2

EXISTING SOIL CEMENT BENTONITE WALL (TYP)

CAP AREA (TYP)

BOTTOM OF EXCAVATION ANTICIPATED TO EXTEND TO STRATUM D (SEE NOTE 1)

HYDRAULIC BARRIER (TYP)

MATCH LINE SEE BELOW

NEW JERSEY STATE HIGHWAY ROUTE 440

BOT OF EXC AREA 1 = (1.20)

BOT OF EXC AREA 2 = 2.10

BOT OF EXC AREA 3 = 0.40

BOT OF EXC AREA 4 = (1.20)

BOT OF EXC AREA 5 = 2.10

BOT OF EXC AREA 6 = (2.50)

BOT OF EXC AREA 7 = (1.20)

BOT OF EXC AREA 8 = 0.40

BOT OF EXC AREA 9 = (1.20)

BOT OF EXC AREA 10 = 2.10

BOT OF EXC AREA 11 = (1.20)

BOT OF EXC AREA 12 = 5.70

BOT OF EXC AREA 13 = 0.40

BOT OF EXC AREA 14 = (2.50)

KELLOGG STREET

HACKENSACK RIVER

CAP AREA (TYP)

BOT OF EXC AREA 15 = (4.30)

BOT OF EXC AREA 16 = (2.50)

BOT OF EXC AREA 17 = (1.20)

BOT OF EXC AREA 18 = 0.40

BOT OF EXC AREA 19 = 2.10

BOT OF EXC AREA 20 = (2.50)

BOT OF EXC AREA 21 = (1.20)

BOT OF EXC AREA 22 = (2.50)

BOT OF EXC AREA 23 = 0.40

BOT OF EXC AREA 24 = (7.50)

BOT OF EXC AREA 25 = (5.70)

BOT OF EXC AREA 26 = (8.40)

BOT OF EXC AREA 27 = (7.50)

BOT OF EXC AREA 28 = (5.70)

BOT OF EXC AREA 29 = (5.70)

BOT OF EXC AREA 30 = (2.50)

BOT OF EXC AREA 31 = (1.20)

BOT OF EXC AREA 32 = 2.10

BOT OF EXC AREA 33 = (2.50)

BOT OF EXC AREA 34 = 0.40

BOT OF EXC AREA 35 = (4.30)

BOT OF EXC AREA 36 = (1.20)

BOT OF EXC AREA 37 = 2.10

BOT OF EXC AREA 38 = (7.50)

BOT OF EXC AREA 39 = 2.10

BOT OF EXC AREA 40 = 5.70

BOT OF EXC AREA 41 = (1.20)

BOT OF EXC AREA 42 = (2.50)

BOT OF EXC AREA 43 = (1.20)

MATCH LINE SEE ABOVE

ANTICIPATED STRATUM D EXPOSURE

NOTES:

1. BOTTOM OF EXCAVATION IN STRATUM D AREAS REFLECT AVERAGE ELEVATIONS BASED ON GEOTECHNICAL BORINGS.
2. THE APPROVED 100% DESIGN DOCUMENTS OUTLINE CONDITIONS WHERE THE FINAL EXCAVATION BOTTOM MAY BE SHALLOWER IF STRATUM D IS ENCOUNTERED.

0 25 50 100
SCALE IN FEET

Prepared/Date: TDD 01/07/14
Checked/Date:

Honeywell
101 COLUMBIA RD., P.O. BOX 2106
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

SA-6 SOUTH
ANTICIPATED STRATUM D EXPOSURE
FIGURE 3

TABLE 1 REVISED
Post-Excavation Sidewall Sample Statistics
Study Area 6 South
Sites 073, 124, 125, 134, 140, 163
Jersey City, NJ

Site ID	Sidewall Length (ft)	No. of Samples per proposed alternative frequency	No. of samples collected/analyzed	Frequency per ft.
073	790	16	16	1:49
124	750	15	13	1:58
125	325	7	11	1:30
134*	1,080	22	29	1:37
140	620	13	13	1:48
163**	2,055	42	41	1:50
All Sites	5,620	115	123	1:45

NOTES:
NJDEP-approved alternative frequency = 1 Sample per 50 ft. of excavation sidewall
* Site 134 includes Boatyard
** Includes horizontal delineation samples
Revised Information since the June 28, 2013 100% Design Report.

TABLE 2 REVISED
Post-Excavation Base Soil Sample Statistics
Study Area 6 South
Sites 073, 124, 125, 134, 140, 163
Jersey City, NJ

Site ID	Excavation Area (ft^2)	No. of Samples per proposed alternative frequency	No. of samples collected/analyzed	Frequency per ft^2
073	50,655	39	41	1:1235
124	76,500	59	62	1:1234
125	45,720	36	53	1:862
134*	87,420	68	67	1:1305
140	79,970	62	52	1:1538
163***	36,640	29	39	1:940
All Sites	376,905	293	314	1:1200

NOTES:
NJDEP-approved alternative frequency = 1 Sample per 1,300 sq. ft. of excavation base
* Site 134 includes Boatyard
*** Includes vertical delineation samples
Revised Information since the June 28, 2013 100% Design Report.

Created by: EGC 01/16/14
Checked by: DEN 01/16/14

TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
073-SB-003		7/14/2008		0.90	UJ	SW
073-SB-003		7/14/2008		1.70		
073-SB-003		7/14/2008	5.8	0.97	U	
073-SB-004		7/31/2008	5.9	10.70		SW
073-SB-006		7/31/2008		2.50		SW
073-SB-006		7/31/2008	3.8	0.88	U	
073-SB-016		8/7/2008		2.20	UJ	SW
073-SB-016		8/7/2008		6.40		
073-SB-016		8/7/2008		5.80		
073-SB-016		8/7/2008		8.90	J	
073-SB-016		8/7/2008		4.90		
073-SB-016		8/7/2008		13.10		
073-SB-016		8/7/2008	-6.2	1.90	UJ	
073-SB-022		4/19/2010		12.30		SW
073-SB-022	D	4/19/2010		13.80		
073-SB-022		4/19/2010		8.50		
073-SB-022		4/19/2010		8.10		
073-SB-022		4/19/2010	-5.4	7.70		
073-SB-027		4/20/2010	7.8	0.90	U	SW
073-SB-044		4/21/2010	4	8.40		SW*
073-SB-046		4/21/2010		7.20		SW
073-SB-046		4/21/2010		4.90		
073-SB-046		4/21/2010		17.20		
073-SB-046		4/21/2010	2.9	14.90	J	
073-SB-048		4/21/2010		12.60		SW
073-SB-048		4/21/2010		5.40		
073-SB-048		4/21/2010		0.55	U	
073-SB-048		4/21/2010	-5.7	0.81	J	
073-SB-051		5/24/2010		12.50		SW
073-SB-051		5/24/2010	-5.8	5.00		
073-SB-052		5/24/2010	-0.6	5.00		SW*
073-SB-060		8/5/2010	0.9	13.60		SW
073-SB-063		10/25/2010	8.8	17.00		SW
073-SB-064		10/25/2010	5.92	2.10		SW
073-SB-071		11/29/2010	-3.6	5.10		SW
073-SB-073		11/29/2010	1.6	5.10		SW*
073-SB-076		2/15/2011	-4.1	17.20	J	SW
073-SB-077		3/21/2011	0.4	16.30		SW

Created by: EGC 01/16/14
Checked by: DEN 01/16/14

TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
073-SB-078		1/16/2012		0.70		SW
073-SB-078		1/16/2012	6.7	2.70		
124-PT-01		3/12/2008		0.86	U	SW
124-PT-01		3/12/2008		0.90	U	
124-PT-01		3/12/2008		11.10		
124-PT-01		3/12/2008	3.3	18.60	J	
124-PT-02		3/12/2008		2.10		SW
124-PT-02		3/12/2008		0.89	U	
124-PT-02		3/12/2008		2.60		
124-PT-02		3/12/2008	3.4	0.97	UJ	
124-SB-014		9/7/2006		2.26	U	SW
124-SB-014		9/7/2006		2.38	U	
124-SB-014		9/7/2006		2.62	U	
124-SB-014		9/7/2006	4.5	17.40	J	
124-SB-017		9/7/2006		2.28	U	SW
124-SB-017		9/7/2006		2.99	U	
124-SB-017		9/7/2006		2.48	U	
124-SB-017		9/7/2006		2.69	U	
124-SB-017		9/7/2006	-0.6	2.39	U	
124-SB-019		9/7/2006		2.25	U	SW
124-SB-019		9/7/2006		2.74	U	
124-SB-019		9/7/2006		2.52	U	
124-SB-019	D	9/7/2006		2.60	U	
124-SB-019		9/7/2006		2.28	U	
124-SB-019		9/7/2006	0.9	2.47	U	
124-SB-048		8/5/2009	1.2	1.00	U	SW
124-SB-050		8/6/2009		1.10	U	SW
124-SB-050		8/6/2009		1.80		
124-SB-050		8/6/2009	2.9	1.20		
124-SB-056		8/6/2009		1.20		SW
124-SB-056		8/6/2009	4.7	2.70		
124-SB-063		5/7/2010	3.3	1.70		SW
124-SB-065		5/7/2010		0.98	U	SW
124-SB-065		5/7/2010		0.68		
124-SB-065		5/7/2010	3.9	15.90		
124-SB-074		5/21/2010	-2.2	15.90		SW*
124-SB-075		5/21/2010	-1.8	15.90		SW*
124-SB-075	D	5/21/2010	-1.8	15.90		

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
124-SB-076		5/21/2010	-1.8	15.90		SW*
124-SB-090		8/18/2010	3.8	15.20		SW
124-SB-108		7/7/2008		0.90	U	SW
124-SB-108		7/7/2008		0.93	U	
124-SB-108		7/7/2008		1.00	U	
124-SB-108		7/7/2008		10.00		
124-SB-108		7/7/2008	2.6	1.00	U	
124-SB-108	D	7/7/2008	2.6	2.80		
124-SB-126		10/26/2010	4.3	8.20		SW
124-SB-126	D	10/26/2010	4.3	9.40		
125-PT-15		4/16/2008		1.80	U	SW
125-PT-15		4/16/2008		1.90	U	
125-PT-15		4/16/2008		0.95	UJ	
125-PT-15		4/16/2008	1.1	0.95	U	
125-SB-058		7/6/2009		5.70		SW
125-SB-058		7/6/2009		4.90		
125-SB-058		7/6/2009	0.4	1.00	U	
125-SB-067		8/6/2009		3.80		SW
125-SB-067		7/8/2009	1.8	2.00	U	
125-SB-068		8/7/2009		8.70		SW
125-SB-068		8/7/2009	3	7.00		
125-SB-079		5/6/2010		0.62	UJ	SW
125-SB-079		5/6/2010	2.5	5.90		
125-SB-080		5/6/2010		1.00	J	SW
125-SB-080		5/6/2010	2.3	17.10		
125-SB-081		5/6/2010		0.68		SW
125-SB-081		5/6/2010	3.7	17.70		
125-SB-081	D	5/6/2010	3.7	17.20		
125-SB-087		8/18/2010	3.5	18.80	J	SW
125-SB-088		10/26/2010		2.50	J	SW
125-SB-088		10/26/2010	2.2	3.60		
125-SB-091		3/23/2011	0.8	13.80	J	SW
125-SB-092		3/23/2011	0.6	10.80		SW
125-SB-118		1/16/2012	-3.5	10.80	J	SW*
125-SB-118		1/16/2012	-3.5	10.80	J	

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
134-SB-017		6/18/2008		0.90	UJ	SW
134-SB-017		6/18/2008		1.00	UJ	
134-SB-017		6/18/2008		5.40	J	
134-SB-017		6/18/2008		19.40	J	
134-SB-017		6/18/2008		14.60	J	
134-SB-017	D	6/18/2008		10.70	J	
134-SB-017		6/18/2008	-2.3	5.70	J	
134-SB-021		6/19/2008		6.60	J	SW
134-SB-021		6/19/2008		6.10	J	
134-SB-021		6/19/2008		13.90	J	
134-SB-021		6/19/2008	-0.1	15.40	J	
134-SB-023		6/19/2008		2.20	UJ	SW
134-SB-023		6/19/2008		1.90	UJ	
134-SB-023		6/19/2008		1.90	UJ	
134-SB-023		6/19/2008		9.00	J	
134-SB-023		6/19/2008	-0.3	9.10	J	
134-SB-025		6/19/2008		1.80	UJ	SW
134-SB-025		6/19/2008		1.90	UJ	
134-SB-025		6/19/2008		1.80	J	
134-SB-025		6/19/2008		14.20	J	
134-SB-025		6/19/2008		5.40	J	
134-SB-025		6/19/2008		0.97	UJ	
134-SB-025		6/19/2008	-4.3	7.00	J	
134-SB-027		6/19/2008		4.40		SW
134-SB-027		6/19/2008		1.10	J	
134-SB-027		6/19/2008		6.60		
134-SB-027		6/19/2008		14.50		
134-SB-027		6/19/2008		11.40		
134-SB-027	D	6/19/2008		9.20		
134-SB-027		6/19/2008	-2.7	1.00	U	
134-SB-034		6/19/2008	6	1.10		SW
134-SB-050		7/15/2009		2.10		SW
134-SB-050		7/15/2009		2.20	U	
134-SB-050		7/15/2009		0.99	J	
134-SB-050		7/15/2009		5.10		
134-SB-050		7/15/2009		1.20	J	
134-SB-050		7/15/2009		2.20	U	
134-SB-050		7/15/2009	-4.2	4.20	U	

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
134-SB-053		7/15/2009	-3	6.10		SW*
134-SB-058		7/28/2009		9.60	J	SW
134-SB-058		7/28/2009		4.40		
134-SB-058		7/28/2009	-0.7	2.00	UJ	
134-SB-072		4/22/2010	-0.8	0.48	U	SW
134-SB-073		4/23/2010	2.7	17.40		SW
134-SB-074		4/22/2010	2.2	18.00		SW
134-SB-075		4/22/2010	2.2	16.50		SW
134-SB-087		4/30/2010	-0.4	9.90		SW
134-SB-088		4/30/2010	0.5	6.60		SW
134-SB-089		4/30/2010	0.1	8.30		SW
134-SB-090		4/30/2010	0.2	1.80		SW
134-SB-092		5/25/2010	3	17.50	J	SW
134-SB-094		8/6/2010	3.47	8.60		SW
134-SB-097		8/6/2010		14.50		SW
134-SB-097		8/6/2010		0.48	U	
134-SB-097		8/6/2010		12.40		
134-SB-097		8/6/2010	-0.5	6.60		
134-SB-099		8/6/2010		9.70		SW
134-SB-099		8/6/2010		1.20	J	
134-SB-099		8/6/2010		7.60	J	
134-SB-099		8/6/2010		7.20	J	
134-SB-099	D	8/6/2010		6.80	J	
134-SB-099		8/6/2010		2.40	J	
134-SB-099		8/6/2010	-3.2	0.93	J	
134-SB-100		8/6/2010		2.00	J	SW
134-SB-100		8/6/2010		1.40	J	
134-SB-100		8/6/2010		2.60	J	
134-SB-100		8/6/2010		13.70	J	
134-SB-100	D	8/6/2010		10.70	J	
134-SB-100		8/6/2010		0.58	J	
134-SB-100		8/6/2010	-2.1	18.70	J	
134-SB-101		8/6/2010	0.9	1.40	J	SW*
134-SB-111		10/25/2010	0.8	8.20		SW
134-SB-126		6/23/2011		1.4		SW
134-SB-126		6/23/2011		0.61	J	
134-SB-126		6/23/2011		1.2		
134-SB-126		6/23/2011		8.4		
134-SB-126		6/23/2011		7.9	J	
134-SB-126		6/23/2011	-1.7	10.5	J	

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
134-SB-142		9/27/2011		13.7		SW
134-SB-142		9/27/2011	-6.5	3.4		
134-SB-144		10/19/2011	6.1	6.6		SW
134-SB-145		10/19/2011	6.1	14.5		SW
134-SB-146		10/19/2011	5.9	3.2		SW**
134-SB-152		12/7/2011	6	15.5	J	SW
134-SB-152	D	12/7/2011	6	16.9		
134-SB-156		1/13/2012	6	10.1	J	SW
134-SB-157		1/16/2012		10.7		SW
134-SB-157		1/16/2012	-6	15.2	J	
140-SB-003		6/20/2005		4.40	J	SW
140-SB-003		6/20/2005		2.00	UJ	
140-SB-003		6/20/2005	-0.8	7.60	J	
140-SB-014		6/25/2008		1.70	UJ	SW
140-SB-014		6/25/2008	6.8	1.80	UJ	
140-SB-025		7/30/2008	-3.2	5.70	J	SW*
140-SB-027		10/27/2008	-2.1	7.40		SW
140-SB-031		7/16/2009		5.80		SW
140-SB-031		7/16/2009		1.40	U	
140-SB-031		7/16/2009		3.10		
140-SB-031		7/16/2009	1.5	6.00		
140-SB-032		7/16/2009		0.87		SW
140-SB-032		7/16/2009		0.95	U	
140-SB-032		7/16/2009		1.40	U	
140-SB-032		7/16/2009		13.00		
140-SB-032		7/16/2009	-0.8	9.10		
140-SB-034		7/16/2009		1.00	U	SW
140-SB-034		7/16/2009		1.90	U	
140-SB-034		7/16/2009		7.60		
140-SB-034		7/16/2009		0.93	U	
140-SB-034		7/16/2009	-2	2.40		
140-SB-059		5/3/2010	-0.8	2.70	J	SW
140-SB-060		5/3/2010	-4.8	2.70	J	SW*
140-SB-061		5/3/2010	-6.4	2.70	UJ	SW*
140-SB-061	D	5/3/2010	-6.4	2.70	UJ	
140-SB-069		5/4/2010		0.95	U	SW
140-SB-069		5/4/2010		1.20	UJ	
140-SB-069		5/4/2010		8.80		
140-SB-069		5/4/2010		11.70		
140-SB-069		5/4/2010		0.55	U	
140-SB-069		5/4/2010	-2.3	0.65	U	
140-SB-071		5/5/2010	-1	13.20		SW
140-SB-072		5/5/2010	6.1	1.50	J	SW

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
140-SB-076		5/5/2010	0.7	4.30		SW
140-SB-077		8/18/2010		1.00		SW
140-SB-077		8/18/2010		6.80		
140-SB-077		8/18/2010	-1.9	4.60		
140-SB-105		1/16/2012		14.20		SW
140-SB-105		1/16/2012	-0.8	17.10		
163-SB-019		11/8/2010		2.2		HD
163-SB-019		11/8/2010		0.94	U	
163-SB-019		11/8/2010		1		
163-SB-019		11/8/2010		0.95	U	
163-SB-019		11/8/2010		0.92	U	
163-SB-019		11/8/2010		12.5		
163-SB-019		11/8/2010		3.5		
163-SB-019		11/8/2010		9.5		
163-SB-019		11/8/2010		1.1		
163-SB-019		11/8/2010		1.5	U	
163-SB-021		11/8/2010		0.81	U	HD
163-SB-021		11/8/2010		0.92	UJ	
163-SB-021		11/8/2010		0.85	UJ	
163-SB-021		11/8/2010		0.95	UJ	
163-SB-021		11/8/2010		0.9		
163-SB-021		11/8/2010		9.2		
163-SB-021		11/8/2010		4.7		
163-SB-021		11/8/2010		5.2		
163-SB-021		11/8/2010		4		
163-SB-021		11/8/2010		4.1		
163-SB-026		9/15/2011		3.1	U	HD
163-SB-027		9/15/2011		6.9		HD
163-SB-028		9/14/2011		8.7		HD
163-SB-029		9/15/2011		12.6		HD
163-SB-030		9/14/2011		7.2		HD
163-SB-030	D	9/14/2011		9.9		
163-SB-031		9/14/2011		13.2		HD
163-SB-032A		3/22/2012		0.68		HD
163-SB-032A	D	3/22/2012		2.9		
163-SB-035		9/12/2011		0.5		HD
163-SB-036		9/12/2011		0.7		HD
163-SB-037		9/12/2011		10.6		HD
163-SB-038		9/14/2011		14.8		HD
163-SB-039		9/12/2011		8		HD

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
163-SB-040		9/9/2011		0.59	UJ	HD
163-SB-040	D	9/9/2011		0.58	UJ	
163-SB-051		9/7/2011		18.5		HD
163-SB-051		9/7/2011		2.1		
163-SB-051	D	9/7/2011		2.8		
163-SB-052		9/8/2011		0.9		HD
163-SB-057		9/7/2011		1.9	J	HD
163-SB-058		9/7/2011		19.4		HD
163-SB-058		9/7/2011		4.1		
163-SB-058		9/14/2011		7.6		
163-SB-059		9/7/2011		0.61	UJ	HD
163-SB-061		9/12/2011		0.62		HD
163-SB-062		9/9/2011		2.2	J	HD
163-SB-062		9/12/2011		4.7		
163-SB-066		9/12/2011		10.4		HD
163-SB-066		9/8/2011		6.8		
163-SB-067		9/8/2011		3.4	J	HD
163-SB-068		9/8/2011		16.4	J	HD
163-SB-068		9/14/2011		0.52	U	
163-SB-069		9/7/2011		15.2		HD
163-SB-069		9/12/2011		0.81		
163-SB-071		10/19/2011		11.4		HD
163-SB-076		10/19/2011		1.5		HD
163-SB-077		10/19/2011		15.1		HD
163-SB-078		10/19/2011		1.5		HD
163-SB-078		10/19/2011		8.3		
163-SB-078	D	10/19/2011		14.1		
163-SB-079		10/19/2011		3.7		HD
163-SB-080		10/19/2011		2		HD
163-SB-080		10/19/2011		3.7	J	
163-SB-080		10/19/2011		3.9	J	
163-SB-080		10/19/2011		11.6	J	
163-SB-081		11/21/2011		1.2	J	HD
163-SB-081		11/21/2011		1.1	J	
163-SB-081		11/21/2011		9.8	J	
163-SB-081		11/21/2011		7.3	J	

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TABLE 3B
Final Post-Excavation Sidewall Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Target Elevation	Hex Cr Concentration (mg/kg)	Qual	Designation
163-SB-082		10/24/2011		4.5		HD
163-SB-084		10/24/2011		3.9		HD
163-SB-085		10/24/2011		17.3		HD
163-SB-091		12/7/2011		13		HD
163-SB-097		1/13/2012		0.48	UJ	HD
163-SB-100		1/16/2012		9.4	J	HD
163-SB-100	D	1/16/2012		5.2	J	
163-SB-100		1/16/2012		0.48	U	
163-SB-110		3/22/2012		1	UJ	HD
163-SB-113		3/22/2012		4.7	J	HD

NOTES:
mg/kg = milligrams per kilogram
SW = post-excavation sidewall sample
SW* = sample defines horizontal limit of hexavalent chromium impacts, but is below the target bottom of excavation elevation. These samples are not counted in Table 1.
SW** = 134-SB-146 delineates an area in the northern portion of Site 163, so it is not counted in the tally for Site 134.
HD = soil sample defines horizontal limit of hexavalent chromium impacts
D = duplicate sample
U = detected below indicated value
J = Estimated Value

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
073-SB-002		7/14/2008	0.48	7.20	J	B
073-SB-007		7/11/2008	-3.88	6.80		B
073-SB-008		8/1/2008	-0.55	18.30		B
073-SB-009		7/9/2008	-6.72	1.20	UJ	B
073-SB-010		7/11/2008	-0.43	15.60		B*
073-SB-011		7/9/2008	-1.37	5.10		B
073-SB-017		4/19/2010	0.61	9.60		B
073-SB-018		4/19/2010	0.32	14.30		B
073-SB-019		4/19/2010	-3.17	9.00		B*
073-SB-020		4/19/2010	-5.30	19.80		B*
073-SB-021		4/19/2010	-5.32	5.80		B
073-SB-024		4/19/2010	-0.81	1.00	U	B
073-SB-025		4/19/2010	5.05	6.10		B
073-SB-028		4/20/2010	3.27	8.90		B
073-SB-029		4/20/2010	3.79	9.20		B
073-SB-030		4/20/2010	2.13	11.20		B
073-SB-031		12/8/2010	0.06	15.20		B
073-SB-032		4/20/2010	2.29	14.00	J	B*
073-SB-033		4/20/2010	-1.84	19.90		B
073-SB-034		4/20/2010	-0.19	5.30	J	B
073-SB-035		4/20/2010	1.45	10.90	J	B
073-SB-036		4/20/2010	-1.01	7.30		B
073-SB-037		4/21/2010	-4.23	9.10		B
073-SB-038		4/21/2010	2.26	16.80		B
073-SB-039		4/21/2010	0.62	14.80		B
073-SB-040		4/21/2010	0.18	14.10		B*
073-SB-041		4/21/2010	3.83	5.10		B*
073-SB-042		4/21/2010	5.98	3.40		B*
073-SB-045		4/21/2010	-2.19	7.60		B
073-SB-047		10/25/2010	-6.90	8.30		B
073-SB-049		4/23/2010	1.10	6.00		B
073-SB-050		4/23/2010	0.28	4.10		B
073-SB-053		10/25/2010	4.27	6.80		B
073-SB-054		5/24/2010	4.44	0.96	U	B***
073-SB-056		8/5/2010	7.50	1.40		B*
073-SB-057		8/5/2010	7.52	0.89		B*
073-SB-059		8/5/2010	2.48	2.10		B
073-SB-062		8/5/2010	-4.82	10.70		B

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
073-SB-065		12/8/2010	-5.04	0.53	U	B
073-SB-066		12/8/2010	-0.58	3.80		B
073-SB-075		2/15/2011	-5.22	0.74		B
124-PT-03		3/12/2008	1.69	1.00	UJ	B
124-PT-04		3/12/2008	-0.07	11.00	J	B
124-PT-14		3/14/2008	2.57	19.50		B
124-SB-011		9/7/2006	1.42	4.00		B
124-SB-012		10/26/2010	-1.65	0.43	U	B
124-SB-013		10/26/2010	-3.48	0.48	U	B
124-SB-021		6/24/2009	3.50	9.10	J	B
124-SB-022		6/24/2009	4.65	19.40	J	B
124-SB-023		6/24/2009	-1.25	2.40	U	B
124-SB-024		7/7/2009	-2.81	12.00	U	B
124-SB-025		7/7/2009	-3.28	12.00	U	B
124-SB-026		7/8/2009	-2.80	9.30	U	B
124-SB-027		7/8/2009	-2.33	2.40	U	B
124-SB-029		7/8/2009	-2.84	3.80	U	B
124-SB-030		8/3/2009	-3.35	16.00	U	B
124-SB-031		8/3/2009	-2.52	13.00	U	B
124-SB-032		8/3/2009	-2.59	16.00	U	B
124-SB-033		8/3/2009	-1.27	9.10	U	B
124-SB-035		8/3/2009	-2.03	13.00	U	B*
124-SB-036		8/3/2009	-2.15	16.00	U	B*
124-SB-037		8/4/2009	-1.44	13.00	U	B***
124-SB-038		8/4/2009	-0.77	14.00		B
124-SB-039		8/4/2009	-2.66	0.96	U	B
124-SB-040		8/4/2009	-2.88	8.90		B
124-SB-042		8/4/2009	0.28	2.60	U	B
124-SB-043		8/4/2009	-0.81	4.10	U	B***
124-SB-044		10/26/2010	-3.05	7.50	U	B
124-SB-045		8/5/2009	-1.75	7.60	U	B
124-SB-046		8/5/2009	0.79	16.80		B*
124-SB-047		8/5/2009	0.39	13.00	U	B
124-SB-049		8/5/2009	1.68	2.80		B
124-SB-051		8/6/2009	1.57	3.00		B
124-SB-053		8/6/2009	0.12	2.30		B
124-SB-054		8/6/2009	1.79	6.10		B

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
124-SB-066		5/7/2010	1.75	2.00		B
124-SB-067		10/26/2010	-2.88	0.69		B***
124-SB-068		5/7/2010	-2.81	6.30	U	B
124-SB-069		5/18/2010	-0.42	8.30		B
124-SB-071		5/18/2010	0.69	18.00		B*
124-SB-073		5/18/2010	2.35	0.57		B
124-SB-077		10/26/2010	-2.23	1.60	U	B
124-SB-078		5/21/2010	-0.99	7.20	U	B
124-SB-079		5/21/2010	0.70	1.90		B*
124-SB-091		12/8/2010	-2.80	7.10	U	B
124-SB-092		12/8/2010	-2.20	6.80	U	B
124-SB-109		7/7/2008	3.23	10.80	J	B*
124-SB-110		7/7/2008	-2.25	7.30	U	B
124-SB-117A		3/25/2011	4.73	17.20		B
124-SB-121A		3/25/2011	2.02	0.51	UJ	B
124-SB-122		12/6/2010	-2.23	8.50	U	B
124-SB-123		10/26/2010	-2.75	7.00	U	B
124-SB-124		10/26/2010	3.16	12.20		B*
124-SB-125		12/6/2010	-1.51	6.10	U	B
124-SB-127		11/8/2010	1.94	1.00		B
124-SB-129		3/25/2011	-0.02	0.55	UJ	B
124-SB-130		11/3/2011	-0.82	11.00	U	B
124-SB-133		11/3/2011	-2.30	14.00	U	B
124-SB-134		11/3/2011	-2.25	14.00	U	B
124-SB-135		11/11/2011	-1.79	4.90	U	B
124-SB-136		1/17/2012	-2.29	12.00	U	B
124-SB-138		1/17/2012	-1.58	17.00	U	B
124-SB-139		3/22/2012	-1.73	6.80	U	B
125-PT-16		4/16/2008	0.95	2.10	U	B*
125-PT-17		10/26/2010	-4.74	7.60	U	B***
125-PT-20		4/16/2008	0.73	12.50	J	B
125-PT-21		4/16/2008	0.30	11.20	J	B*
125-PT-22		4/17/2008	-4.33	13.10	J	B
125-SB-007		7/7/2008	0.60	9.20		B
125-SB-009		6/26/2008	0.85	6.60		B*
125-SB-009A		7/30/2008	-2.68	2.30	U	B
125-SB-017		6/23/2009	-3.49	9.20	U	B

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
125-SB-018	D	6/23/2009	-3.85	7.60	U	B
125-SB-019		6/23/2009	-3.28	11.00	U	B
125-SB-020		6/23/2009	-3.42	12.00	U	B
125-SB-021		6/23/2009	-4.00	7.80	U	B
125-SB-022		6/23/2009	-3.74	6.20	U	B
125-SB-024		6/23/2009	0.34	2.30	U	B*
125-SB-025		6/23/2009	0.41	2.00	U	B
125-SB-026		6/24/2009	1.25	2.60	U	B
125-SB-027		6/24/2009	1.04	2.10	U	B
125-SB-028		6/24/2009	0.46	2.00	U	B*
125-SB-029		6/25/2009	0.40	2.20	U	B
125-SB-030		6/25/2009	0.75	2.40		B
125-SB-031		6/25/2009	1.08	2.00	UJ	B
125-SB-032		6/25/2009	0.63	2.30	U	B
125-SB-033		6/26/2009	0.70	1.20		B*
125-SB-034		6/26/2009	-3.61	9.20	U	B
125-SB-035		6/26/2009	-1.52	2.30	U	B
125-SB-037		6/26/2009	-3.45	12.00	U	B
125-SB-038		6/29/2009	-3.34	4.50	U	B
125-SB-039		6/29/2009	-3.35	4.70	U	B
125-SB-044		7/2/2009	0.70	1.20	U	B
125-SB-045		7/2/2009	3.10	2.60		B*
125-SB-046		7/2/2009	0.60	8.50		B
125-SB-048		7/2/2009	0.50	7.70		B
125-SB-049		7/2/2009	0.60	7.10		B
125-SB-050		7/2/2009	1.20	4.00		B
125-SB-052		7/2/2009	-2.40	2.90		B
125-SB-053		7/2/2009	0.20	9.80		B
125-SB-055		7/6/2009	-2.20	1.60	U	B
125-SB-057		7/6/2009	0.20	0.98	U	B
125-SB-061		7/6/2009	-2.40	3.20		B
125-SB-062		7/6/2009	-2.30	2.40		B*
125-SB-065		7/7/2009	0.40	2.00	U	B
125-SB-066		7/7/2009	0.60	4.00		B
125-SB-069		8/7/2009	2.07	2.00	U	B
125-SB-070		5/4/2010	-2.10	5.40	J	B
125-SB-071		5/4/2010	-3.30	4.00	UJ	B

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
125-SB-072		5/4/2010	-3.40	2.50	UJ	B
125-SB-073		5/4/2010	-1.20	13.90	J	B
125-SB-074		5/4/2010	-1.40	7.70	J	B
125-SB-078		5/6/2010	-0.94	0.49	U	B
125-SB-086		5/7/2010	-1.70	2.50	U	B
125-SB-089		10/26/2010	1.67	11.70		B
125-SB-090		3/23/2011	-1.00	15.00		B
134-SB-012		8/1/2008	-1.07	18.00	J	B
134-SB-013		8/1/2008	-5.63	2.00	UJ	B
134-SB-014		6/24/2008	2.40	11.00		B
134-SB-015		8/1/2008	-0.58	14.80		B
134-SB-016R		9/27/2011	-6.65	2.20		B
134-SB-019		6/18/2008	-0.60	6.40		B
134-SB-024		6/19/2008	-5.65	3.00	UJ	B
134-SB-026		6/19/2008	-0.43	3.30		B
134-SB-032		6/19/2008	-6.12	1.40	UJ	B
134-SB-033		6/19/2008	2.38	2.50		B
134-SB-042		7/8/2009	-7.80	6.50	U	B
134-SB-043		7/8/2009	-7.40	5.90	U	B
134-SB-044		7/8/2009	-7.60	7.30	U	B
134-SB-046		7/8/2009	-7.00	2.90	U	B
134-SB-047		7/15/2009	-6.50	8.60	U	B
134-SB-049		10/25/2010	-7.97	4.50	U	B
134-SB-051		7/15/2009	1.78	16.80		B
134-SB-052		7/15/2009	-1.20	1.00	U	B
134-SB-054		7/16/2009	-7.13	6.50	U	B
134-SB-056		7/28/2009	1.37	15.00		B
134-SB-057		7/28/2009	0.77	12.70		B
134-SB-060		7/28/2009	0.42	10.50	J	B
134-SB-061		7/29/2009	1.24	15.70		B*
134-SB-062		7/29/2009	0.89	13.90		B*
134-SB-063		7/29/2009	-6.65	2.80	U	B
134-SB-064		7/29/2009	-5.20	3.20	U	B
134-SB-065		7/30/2009	-6.67	1.40	UJ	B
134-SB-078		4/22/2010	-5.20	1.30	U	B
134-SB-080		4/22/2010	-7.94	5.30	U	B
134-SB-083		4/22/2010	-6.38	1.20		B

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
134-SB-084		4/23/2010	-5.60	4.30		B
134-SB-085		4/23/2010	-6.40	2.90	U	B
134-SB-086		4/23/2010	-6.40	3.50		B
134-SB-098		8/6/2010	0.08	0.49	U	B*
134-SB-113		3/25/2011	-7.50	3.10	U	B
134-SB-114		6/20/2011	-6.59	0.6	UJ	B
134-SB-115		6/20/2011	-8.38	4	J	B
134-SB-116		6/20/2011	1.20	1.8		B
134-SB-117		6/20/2011	0.85	1.3	J	B*
134-SB-118		6/22/2011	-7.89	0.71	U	B
134-SB-119		6/22/2011	-5.20	10.1		B*
134-SB-120		6/22/2011	-8.68	6.3	J	B
134-SB-121		6/22/2011	-7.69	10.8	J	B
134-SB-122		6/22/2011	-5.77	12.5	J	B
134-SB-123		6/23/2011	-2.71	16.9		B
134-SB-124		6/23/2011	-2.30	17.6		B
134-SB-125		6/23/2011	-0.79	17.5		B*
134-SB-127		6/24/2011	-4.47	0.87	J	B
134-SB-129		6/23/2011	-6.68	1.3		B
134-SB-130		6/23/2011	-0.70	16		B*
134-SB-131		6/24/2011	-6.10	1.4	J	B
134-SB-132		6/24/2011	-0.64	9.9		B
134-SB-133		6/24/2011	-0.71	15.6		B
134-SB-134		6/24/2011	1.30	16.2	J	B*
134-SB-135		6/27/2011	4.48	0.5	U	B*
134-SB-136		6/27/2011	-1.25	12.1		B
134-SB-137		6/27/2011	-1.46	10.8		B
134-SB-138		6/27/2011	-1.13	0.79	J	B
134-SB-139		6/27/2011	2.00	2.1		B*
134-SB-140		6/27/2011	-1.18	7.6	J	B
134-SB-141		9/27/2011	-8.91	3		B
134-SB-147		10/19/2011	-6.80	0.71		B***
134-SB-150		11/11/2011	-6.40	16.00	U	B
134-SB-154		1/13/2012	4.10	9.6	J	B
134-SB-155		1/13/2012	4.10	0.49	U	B
134-SB-158		1/18/2012	-5.80	0.85		B
134-SB-S08		5/30/1997	-7.41	3.70	UJ	B

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
140-SB-007		10/25/2010	-6.06	2.20	J	B
140-SB-009		7/11/2008	-5.36	11.90		B
140-SB-010		10/25/2010	-4.43	18.70		B
140-SB-011		7/7/2008	1.86	16.70	J	B*
140-SB-012		6/24/2008	0.80	9.50	J	B*
140-SB-013		6/25/2008	-0.04	17.50	J	B*
140-SB-018		8/7/2008	-4.80	12.00	U	B
140-SB-026		9/22/2008	-2.68	19.60		B
140-SB-028		7/16/2009	4.30	1.80		B*
140-SB-029		7/16/2009	-0.98	16.30	J	B
140-SB-030		7/16/2009	2.54	0.98	U	B*
140-SB-033		7/16/2009	5.76	12.10		B*
140-SB-035		7/17/2009	-6.86	3.00	U	B
140-SB-038		7/17/2009	-6.60	13.00	U	B
140-SB-040		7/30/2009	-5.30	3.20	UJ	B
140-SB-041		7/31/2009	-6.74	15.00	U	B
140-SB-042		7/31/2009	-6.46	4.10	UJ	B
140-SB-043		7/31/2009	-0.15	5.10		B
140-SB-044		7/31/2009	-4.80	16.50		B*
140-SB-046		8/7/2009	-4.18	4.30	U	B
140-SB-047		8/10/2009	-5.70	2.00	UJ	B
140-SB-048		8/10/2009	-5.00	1.60	U	B
140-SB-049		8/10/2009	0.30	2.30		B*
140-SB-050		8/10/2009	-4.24	2.70	UJ	B
140-SB-051		8/11/2009	-6.50	8.30	U	B
140-SB-062		5/3/2010	-7.80	4.60	U	B
140-SB-063		5/3/2010	-7.80	7.90	U	B
140-SB-064		5/3/2010	-6.20	0.85	UJ	B
140-SB-065		5/3/2010	-5.80	0.82	UJ	B
140-SB-066		5/4/2010	-6.30	1.70		B
140-SB-067		5/4/2010	-3.59	5.30	U	B***
140-SB-068		5/4/2010	-2.72	1.40		B
140-SB-070		5/5/2010	-0.56	17.50		B
140-SB-074		5/5/2010	-2.86	2.80	U	B
140-SB-075		5/5/2010	-3.30	5.30	UJ	B
140-SB-078		10/27/2010	-1.40	11.10		B
140-SB-079		10/27/2010	0.10	15.00		B*

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
140-SB-080	D	10/27/2010	2.60	7.40		B*
140-SB-081		10/27/2010	-0.40	11.20		B*
140-SB-082		10/27/2010	-5.40	0.94	U	B
140-SB-083		10/29/2010	-1.40	7.60		B
140-SB-084		10/29/2010	0.60	1.00	U	B*
140-SB-085		10/29/2010	0.60	6.70		B*
140-SB-086		10/29/2010	-0.40	1.40		B*
140-SB-088		11/1/2010	0.10	1.80		B*
140-SB-089		11/1/2010	0.94	11.10	J	B*
140-SB-090		11/1/2010	-3.00	4.90	UJ	B
140-SB-091		11/2/2010	1.00	0.92	UJ	B*
140-SB-094		3/23/2011	-3.40	1.10	U	B
140-SB-103		11/8/2011	-7.30	9.00	U	B
140-SB-104		11/11/2011	-2.00	4.60	U	B
140-SB-N07		8/22/1997	-7.00	2.80	U	B
163-SB-002A		9/9/2011		4.1	UJ	VD
163-SB-003		11/2/2010		3.3		VD
163-SB-006		11/2/2010		2.1	J	VD
163-SB-007		11/2/2010		0.93		VD
163-SB-008		11/3/2010		10.8		VD
163-SB-009		11/3/2010		12.5		VD
163-SB-010		11/3/2010		9.6		VD
163-SB-011		11/3/2010		12.3		VD
163-SB-012		11/3/2010		0.78		VD
163-SB-013		11/3/2010		0.9	U	VD
163-SB-014		11/3/2010		13.9		VD
163-SB-015		11/3/2010		9.5	J	VD
163-SB-015		11/3/2010		1	U	VD
163-SB-016		11/3/2010		2.8	J	VD
163-SB-017		11/8/2010		15.5		VD
163-SB-018		11/8/2010		1	U	VD
163-SB-020		11/8/2010		1.1		VD
163-SB-023		11/8/2010		1.1	UJ	VD
163-SB-025		11/8/2010		1.9		VD
163-SB-044		9/8/2011		1.4	J	VD
163-SB-050		9/8/2011		9.9	J	VD
163-SB-060		9/7/2011		6.1		VD

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TABLE 3C
Final Post-Excavation Base Samples
Hexavalent Chromium Results
Study Area 6 South
Sites 073, 124, 125, 134, 140, & 163
Jersey City, New Jersey

Location ID	D	Date Sampled	Bottom Sample Elevation (msl)	Hex Cr Concentration (mg/kg)	Qual	Designation
163-SB-063		9/9/2011		5.4	J	VD
163-SB-064		9/9/2011		0.48	UJ	VD*
163-SB-072		10/19/2011		10.2		VD
163-SB-073		10/19/2011		0.55		VD
163-SB-092		12/7/2011		0.44	U	VD
163-SB-093		12/7/2011		1.8		VD
163-SB-096		1/13/2012		4.8		VD
163-SB-101		1/16/2012		2		VD
163-SB-102		1/19/2012		3		VD
163-SB-103		1/19/2012		7.1	J	VD
163-SB-104		2/2/2012		0.64	J	VD
163-SB-105		2/2/2012		4.1	J	VD
163-SB-106		2/2/2012		10.8	J	VD
163-SB-107		2/2/2012		1.6		VD
163-SB-108		2/2/2012		15.2	J	VD
163-SB-112		3/22/2012		15.1	J	VD
163-SB-114		3/22/2012		5.8	J	VD

NOTES:
mg/kg = milligrams per kilogram
B = post-excavation base sample
B* = post-excavation base sample that may be excavated due to multi-depth excavation extensions.
B** = post-excavation base sample not counted in Table 2 due to the proximity of a shallower post-excavation base sample that is counted in Table 2.
B*** = new bottom samples added based upon excavation means and methods
VD = soil sample defines vertical limit of hexavalent chromium impacts
VD* = vertical delineation sample that may be excavated due to multi-depth excavation extensions.
D = duplicate sample
U = detected below indicated value
J = Estimated Value

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Table 1. SA-6 South Reference Confirmation Samples

Excavation Area	Base Confirmation Reference Boring	Northing	Easting	Base Confirmation Target Elevation (ft)	Proposed Bottom of Excavation (ft)
Area 1	124-SB-043	684256.35	602965.47	-0.8	(1.20)
Area 2	124-SB-073	684204.71	602890.72	2.4	2.10
Area 3	124-SB-051	684296.42	602850.46	1.6	0.40
Area 4	124-SB-121A	684412.86	602766.12	2.0	(1.20)
Area 5	124-SB-021	684412.28	602733.90	3.5	2.10
Area 6	124-SB-136	684463.22	602783.72	-2.3	(2.50)
Area 7	125-PT-21	684473.00	602698.00	0.3	(1.20)
Area 8	125-SB-029	684538.33	602583.70	0.4	0.40
Area 9	125-SB-090	684511.63	602592.12	-1.0	(1.20)
Area 10	125-SB-069	684576.57	602529.91	2.1	2.10
Area 11	125-SB-073	684675.38	602508.17	-1.2	(1.20)
Area 12	140-SB-033	684629.91	602309.51	5.8	5.70
Area 13	140-SB-089	684660.67	602300.11	0.9	0.40
Area 14	140-SB-083	684744.90	602306.70	-1.4	(2.50)
Area 15	134-SB-032	685001.00	602117.00	-6.1	(4.30)
Area 16	134-SB-061	685068.47	601973.95	1.2	(2.50)
Area 17	134-SB-052	685126.33	601904.53	-1.2	(1.20)
Area 18	134-SB-033	685159.00	601914.00	2.4	2.10
Area 19	134-SB-014	685266.00	601776.00	2.4	0.40
Area 20	134-SB-137	685234.55	601798.48	-1.5	(2.50)
Area 21	134-SB-136	685225.05	601760.91	-1.2	(1.20)
Area 22	134-SB-124	685159.89	601776.21	-2.3	(2.50)
Area 23	134-SB-134	685242.19	601665.81	1.3	0.40
Area 24	134-SB-129	685165.87	601710.70	-6.7	(7.50)
Area 25	134-SB-120	685113.61	601700.17	-8.7	(8.70)
Area 26	134-SB-115	685122.79	601623.09	-8.4	(8.40)
Area 27	134-SB-116	685100.03	601649.96	1.2	(7.50)
Area 28	134-SB-141	685042.31	601722.72	-8.9	(8.90)
Area 29	134-SB-154	685024.00	601763.40	4.1	4.20
Area 30	073-SB-011	685212.00	601570.00	-1.4	(2.50)
Area 31	073-SB-017	685193.11	601579.80	0.6	(1.20)
Area 32	073-SB-030	685300.26	601630.92	2.1	2.10
Area 33	073-SB-033	685344.33	601618.92	-1.8	(2.50)
Area 34	073-SB-032	685324.74	601663.53	2.3	2.10
Area 35	073-SB-032	685324.74	601663.53	2.3	0.40
Area 36	073-SB-008	685390.00	601606.00	-0.6	(1.20)
Area 37	073-SB-038	685395.78	601557.27	2.3	2.10
Area 38	073-SB-037	685378.76	601531.70	-4.2	(4.30)
Area 39	073-SB-009	685288.00	601466.00	-6.7	(7.50)
Area 40	073-SB-042	685448.92	601515.04	6.0	5.70
Area 41	134-SB-026	684916.00	601955.00	-0.4	(1.20)

Notes:

1. This table identifies the base confirmation sample to be referneced when no sample falls within a particular excavation cell.
2. Refer to Figure 2 Color Coded Excavation Bottoms for cell and excavation area locations.

FINAL DCB 007 –SA-6 DCB FRENCH DRAIN

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Major (a) Effective Date: 3/25/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: CONTINGENT GW EXTRACTION SYSTEM	☐ Yes, RFI No. ___ ☑ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. This Bulletin describes a major change to that extraction system and explains the basis for that change.

Section 10.2 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (58) of the Consent Decree. Additionally, Note 3 on the Contingent GW Extraction System Drawings SA-6 South C-201,202 and 203 and SA-6 North CN-201, 202 and 203 further elaborated that "Honeywell will continue to evaluate pertinent information gathered through dewatering and other construction operations. This information will be used to calibrate the groundwater capture model. Subject to the results of that model calibration and evaluation of the system design Honeywell may propose alternative groundwater extraction designs".

The SA-6 South Groundwater Modeling Report Appendix B Section 5 indicates that Honeywell evaluated various pumping scenarios including the option of French Drains/Central drain. The results of the central/French drain scenario were shown in Figure 5-3. From a modeling perspective it was concluded that the drain provided equivalent performance to the 9 wells.

Consistent with the approach indicated in the Design report, Honeywell has continued to evaluate data collected during the construction dewatering and excavation. Observations of the well point dewatering system have indicated a great deal of variability in hydraulic properties from point to point. Observation of the excavation has also shown significant variability in soil types and permeabilities.

Based on an evaluation of this variability and in consideration of the reduced maintenance advantages associated with the French drain system, Honeywell is proposing to modify the design to change the wells to a French Drain. This proposal is consistent with paragraph 58 of the First Amended Consent Decree on Remediation and Redevelopment of Study Area 6 North. This design change will impact drawings C-201, 202, 203 and CN-201,202,203. The use of trenches also

reduces the number of pumps, control panels, and cap penetrations. This will result in changes to the electrical drawings E-301, 302, 303 and EN-301-302 and 303.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and Profiles 201-103 Electrical Drawings 301-303 C306 Well/Pump Detail
Honeywell (AP) Review: Individual Discipline	Initial [signature] Date 12/20/16
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

FINAL DCB 007.1 – SA-6 SOUTH CGWES TRENCH

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.1 Major Effective Date: 06/10/14
Project Location: SA-6 NORTH, SA6-SOUTH Title: CONTINGENT GW EXTRACTION SYSTEM	Associated RFI: ☐ Yes, RFI No. ___ ☑ None
REPLACE WELLS WITH TRENCHES Contractor (Subcontractor): Entact	Project No.: 3480130377

Description of Change/Modification:

DCB-007 has been issued to document changes to the Groundwater Removal System Design. This change includes changing from recovery wells to a "French drain" system. DCB 007 design will be issued is sections to allow for a "fast tracked" design and installation process.

Stage 1 (DCB-007.1) is limited to the French drain installation and the lower sections of the pump and access station manholes for SA-6 South. (see attached memo)

The Drawings have certain design details clouded. These details have not been finalized and have not been issued for construction.

Subsequent stages of the design including the design for the SA-6N Groundwater Collection System will be issued under the DCB – 007 number. Examples DCB -007.2, DCB- 007.3.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☑ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and Profiles 201-103 Electrical Drawings 301-303 C306 Well/Pump Detail

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): 6/10/14	Does DCB Result in CCO? ☑ Yes(b) ☐ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Date:	**June 6, 2014**	cc:	**Joe Clifford, PE – Amec** **Eric Christodoulatos - Amec**
From:	**Geoff Shallard, P.E.**		
To:	**Stuart Bills - Amec**		
Subject:	**DCB-007.1**		

DCB-007 has been issued to document changes to the Groundwater Removal System Design. This change includes changing from recovery wells to a "French drain" system

The new design will include installation of the following.

- a french drain including 8 inch HDPE perforated piping and 1 ½ inch crushed stone
- pump station manholes and associate frames and covers
- cleanout/access manholes and associated covers
- pumps and associated power and controls
- forcemain

Incidental to the basic design changes will include

- revisions to geomembrane liner grading
- revisions to final grades in the vicinity of pump stations

To facilitate progress the design details will be released in stages.

Stage 1 (DCB-007.1) is limited to the French drain installation and the lower sections of the pump and access station manholes for SA-6 South.

The Drawings have certain design details clouded. These details have not been finalized and <u>have not been</u> issued for construction.

Subsequent stages of the design including the design for SA-6N will be issued under the DCB – 007 number. Examples DCB -007.2, DCB- 007.3.

The pump station manhole should be constructed to the surcharge grade to allow for use of the system for groundwater control during surcharge and remedy construction prior to

capping. Manholes and the drain system will settle as the site consolidates. As a result flexibility needs to be retained to allow for setting access hatches to final grades. Temporary pumps will be used during the remedy.

Drawing #	Title	Comments	Location
C-307	Groundwater Extraction Trench Details		STUDY AREA 6-South
C-201	Groundwater Extraction Trench Plan and Profile	0+00 to 9+50	STUDY AREA 6-South
C-202	Groundwater Extraction Trench Plan and Profile	9+50 to 19+00	STUDY AREA 6-South
C-203	Groundwater Extraction Trench Plan and Profile	19+00 to 22+40	STUDY AREA 6-South

Sincerely,

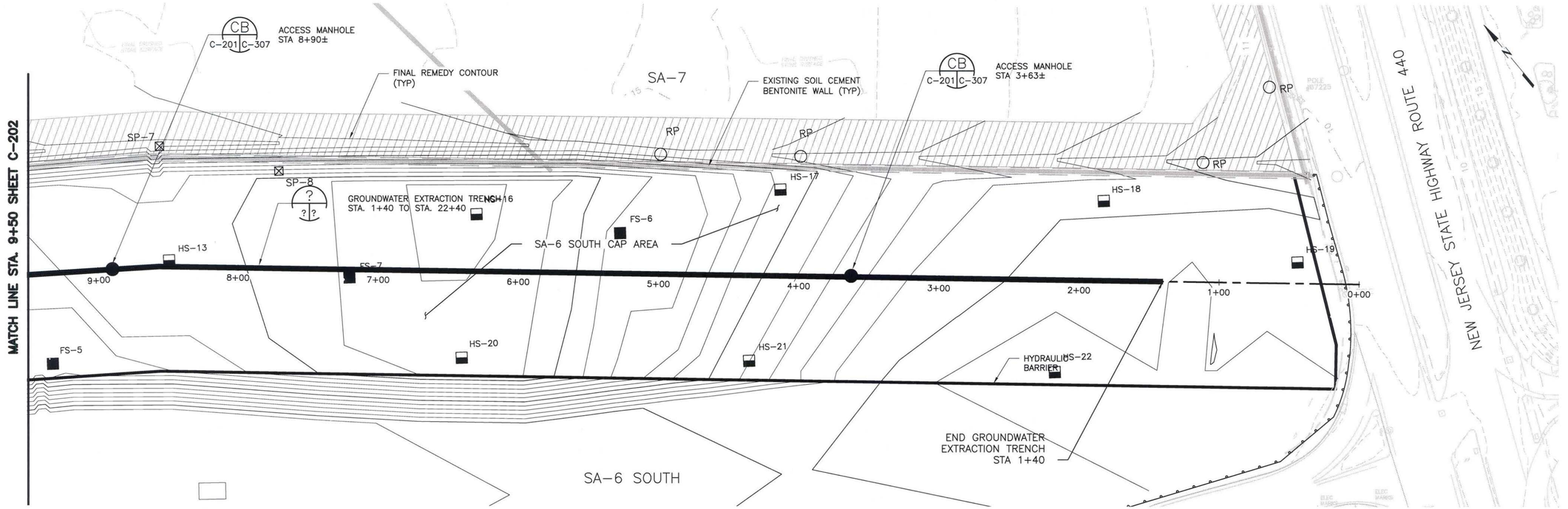
Amec Environment & Infrastructure, Inc.

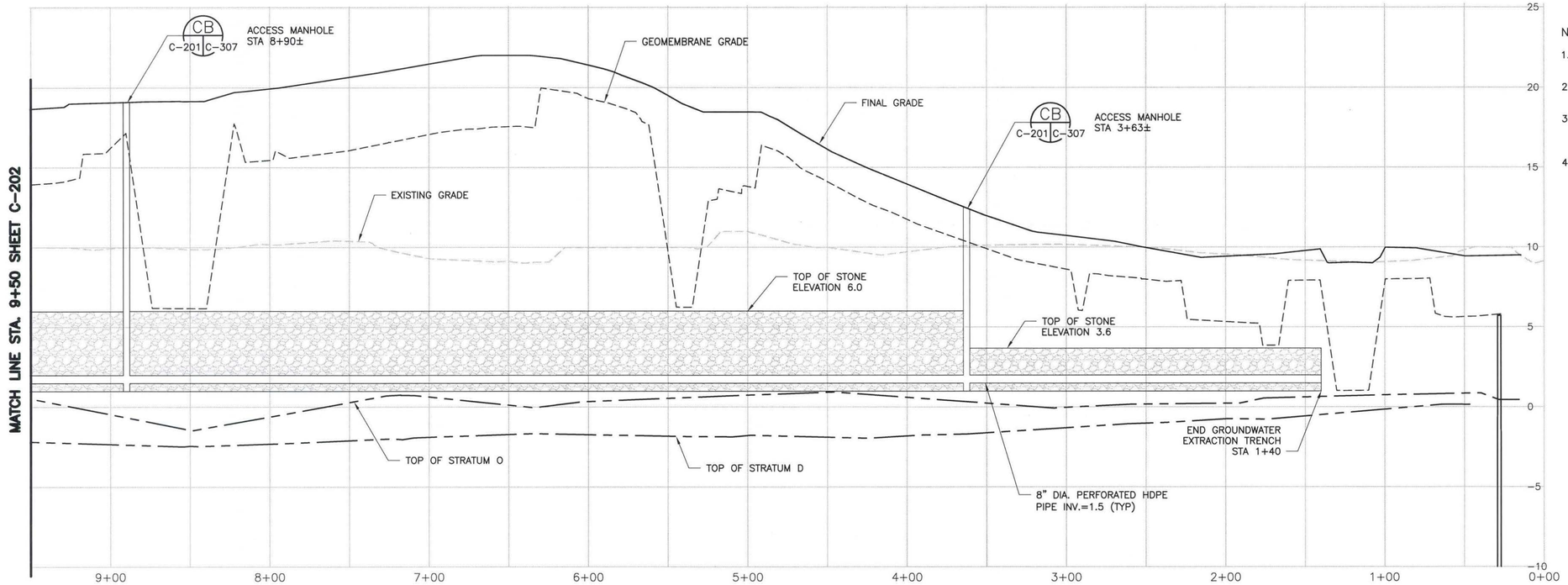
Geoff Shallard

Associate Project Manager

Attachments:

Drawings C-201, C-202, C-203 C-307





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	06/06/14	DCB 007-1	TDD	SGS
DSGN	TDD	DR	RJR	CHK	TDD	APVD	SGS

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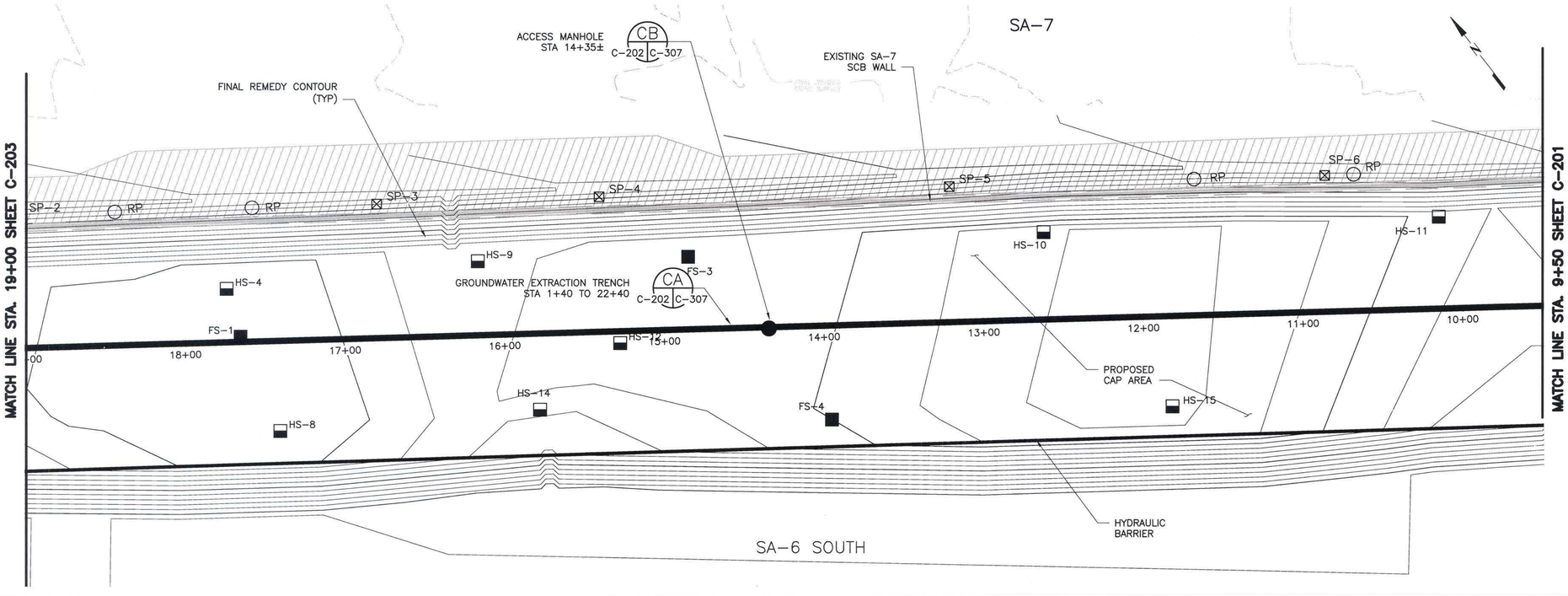
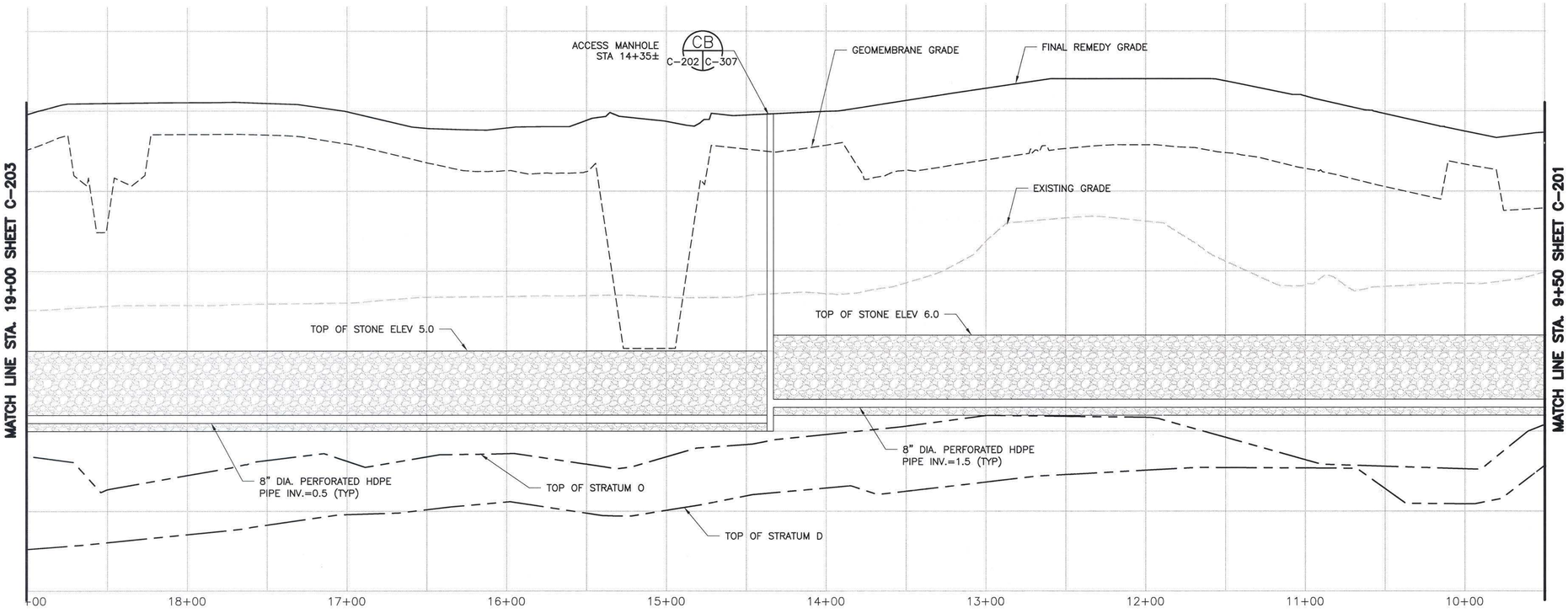
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\C-201 Cont Ground Water Extraction Sys.dwg PLOT DATE: Fri, 06 Jun 2014 PLOT TIME: 12:52 PM





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HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY
1	06/06/14	DCB 007-1	TDD	RJR	TDD	TDD SGS
DSGN	TDD					SGS APVD

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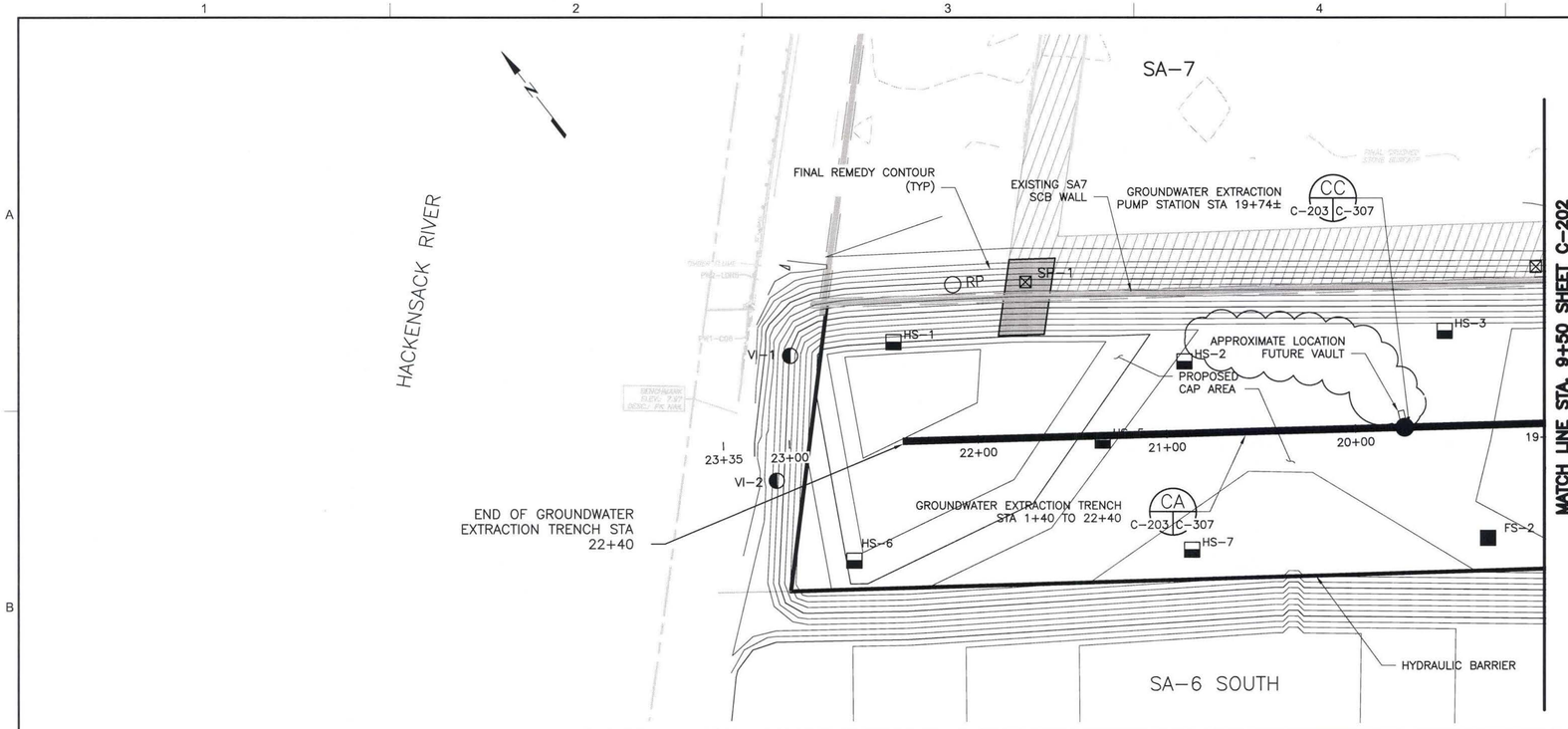
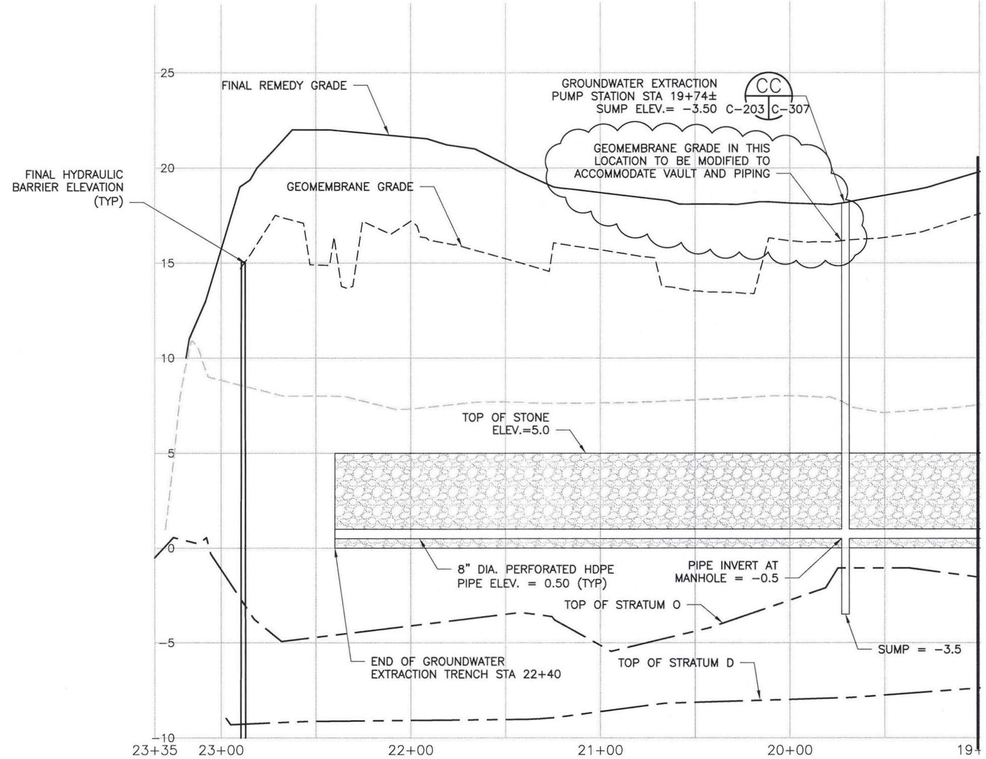
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\C-202 Cont Ground Water Extraction Sys.dwg PLOT DATE: Fri, 06 Jun 2014 PLOT TIME: 1:00 PM





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0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	06/06/14	DCB 007-1	TDD	SHM

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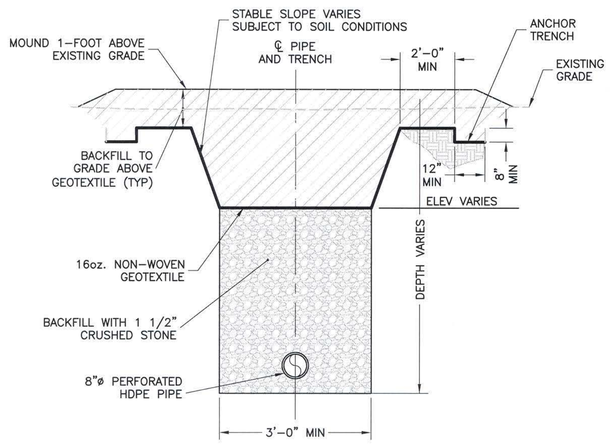
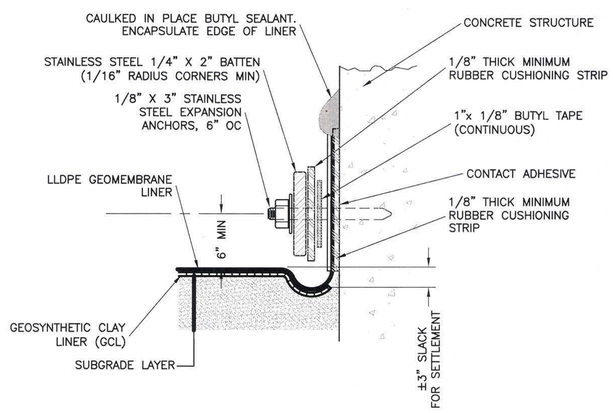


GROUNDWATER TRENCH TEMPORARY CONDITION (CA)

NTS

C–201 | C–307
C–202
C–203



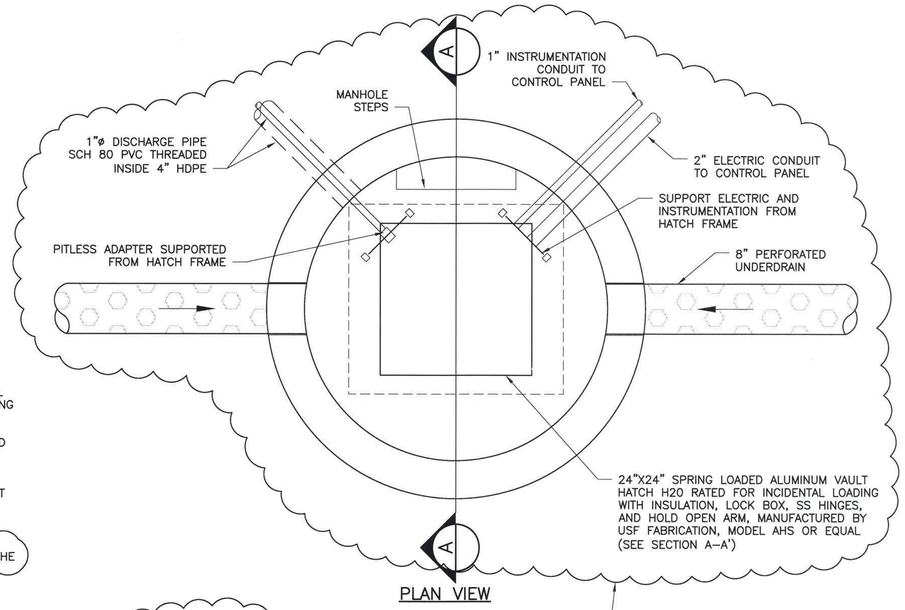
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

NTS

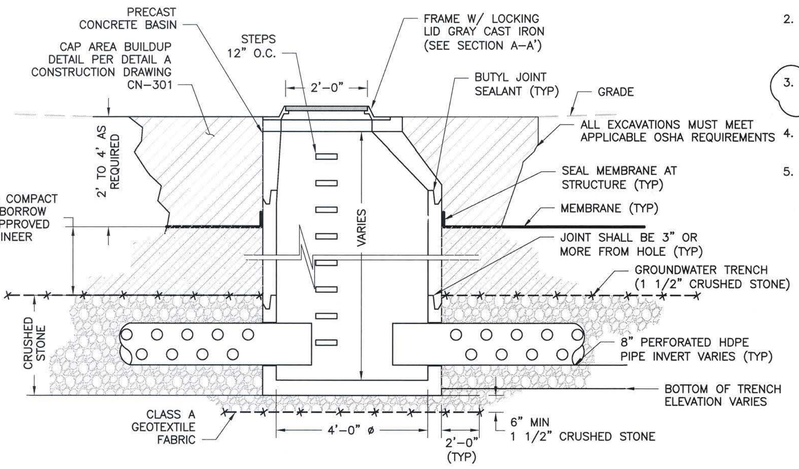
TYP | C–307

NOTES:

1. THE CONTRACTOR WILL LAY OUT THE ALIGNMENT. THE ALIGNMENT WILL BE INSPECTED BY THE CONTRACTOR AND ENGINEER PRIOR TO INITIATING INSTALLATION IN ANY AREA. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES, PILES, AND SURCHARGE MONITORING STATIONS.
2. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
3. CONTRACTOR TO USE PLATE BOLTED TO MANHOLE OR SIMILAR ARRANGEMENT TO BE APPROVED BY THE ENGINEER FOR COMBINING THE PITLESS ADAPTER AND SECONDARY CONTAINMENT.
4. PLACE STONE LOOSE IN TRENCH. RUN PLATE COMPACTOR OR EQUAL PRIOR TO INSTALLING FABRIC.
5. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.



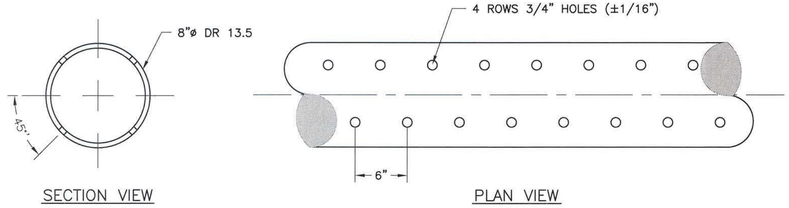
PLAN VIEW



TYPICAL ACCESS MANHOLE FINAL CONDITION STA.=3+63±, STA.=8+90±, STA.=14+35± (CB)

NTS

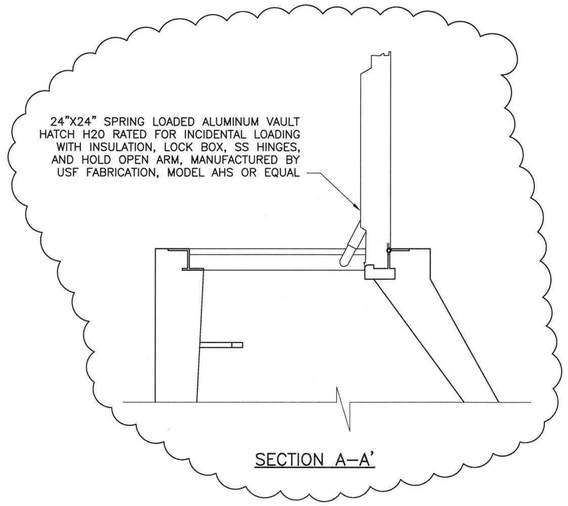
C–201 | C–307
C–202

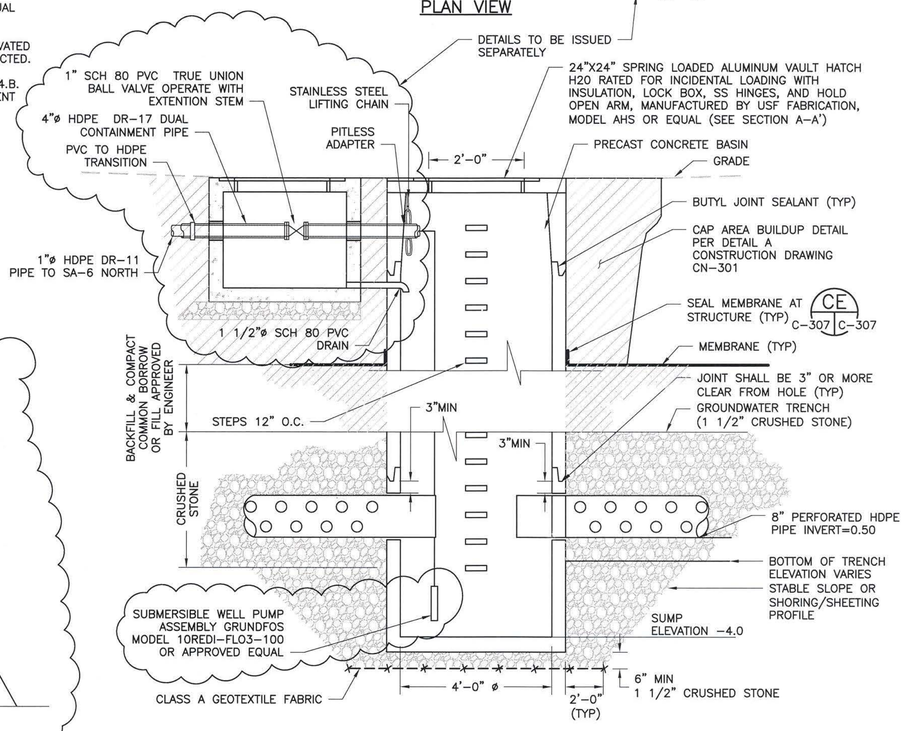


PIPE PERFORATIONS (CD)

NTS

TYP | C–307





GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C–203 | C–307

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
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	REVISION			BY	APVD
	DCB 007-1			TDD	SGS

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100 PERCENT DESIGN DRAWINGS

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SHEET	OF 66

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FINAL DCB 007.3 – SA-6 SOUTH CGWES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.3 Major (a) Effective Date: 02/12/15
Project Location: SA-6 SOUTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. NA_ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench had not been finalized.
DCB-007.2 provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.
DCB-007.3 provides the details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.3 impacts the following drawings
The following Issued for Construction Drawings Extraction System that was based on 9 extraction wells are deleted

- C-201 Plan and Profile
- C-202 Plan and Profile
- C-203 Plan and Profile
- C-304 System Details

The following drawings for the Trench design were added.

- C-201 Trench Plan and Profile
- C-202 Trench Plan and Profile
- C-203 Trench Plan and Profile
- C-204 Discharge Force Main Plan and Profile)
- C-304 Details
- C-306 Details
- C-310 Details).

The changes from the well concept to the trench will also impact the Electrical Drawings. E-101, E-301, E-302 and E-303. The Electrical changes will be issued separately under DCB 007.4. It is noted that DCB 007.2 and DCB 007.3 does show the details for all pumps, motors and controls for the trench design.

The changes from the well concept to the trench will also impact the Geomembrane Liner Grading. The Geomembrane liner changes will be issued separately under DCB 007.5.

Note; piezometric pairs will be installed as shown on both SA-6N and SA-6S. The piezometers on north were previously shown as clouded/temporarily deferred.

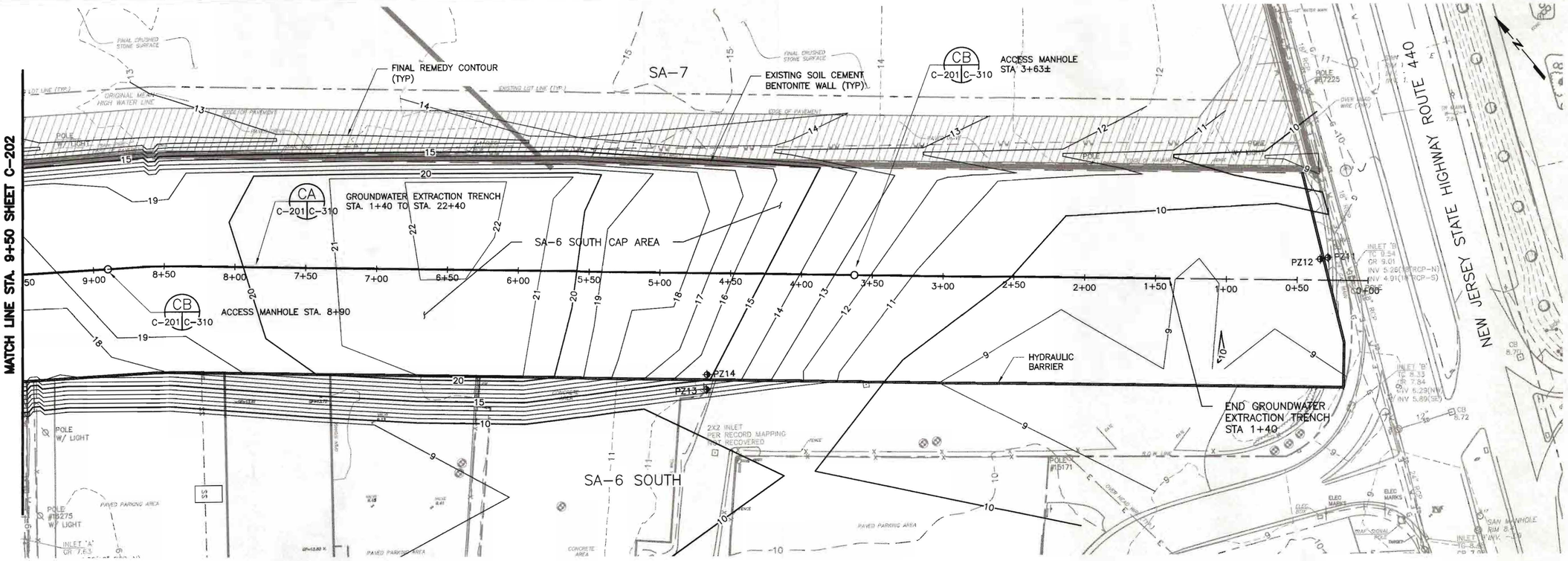
Reason for Change/Modification:	Explanation or Reason: Design changed based on information gathered during construction
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description

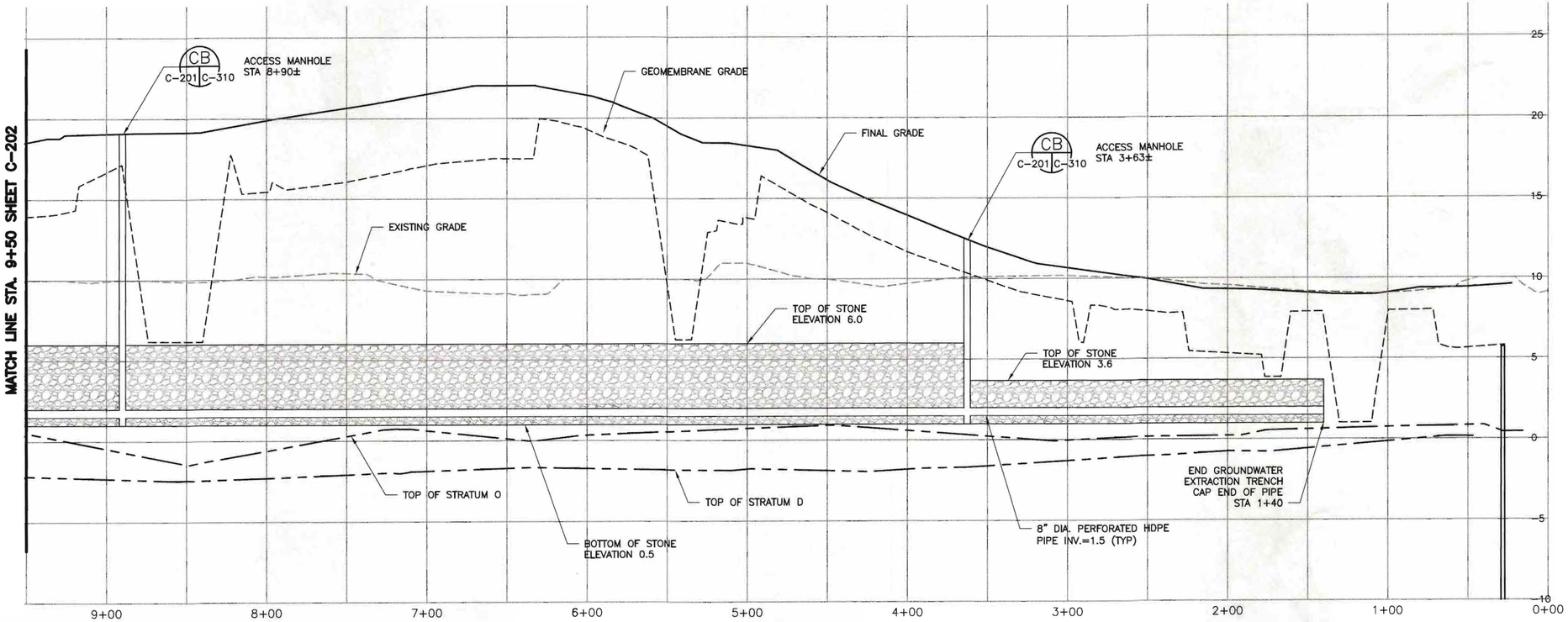
Honeywell (AP) Review:			
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No
Samuel G Shallard	Date: 2/16/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL, OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON CASKETS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	02/13/15	TDD			TDD	SGS	SGS
1	06/06/14					TDD	SGS

REVISION
DCB 007.3
DCB 007

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
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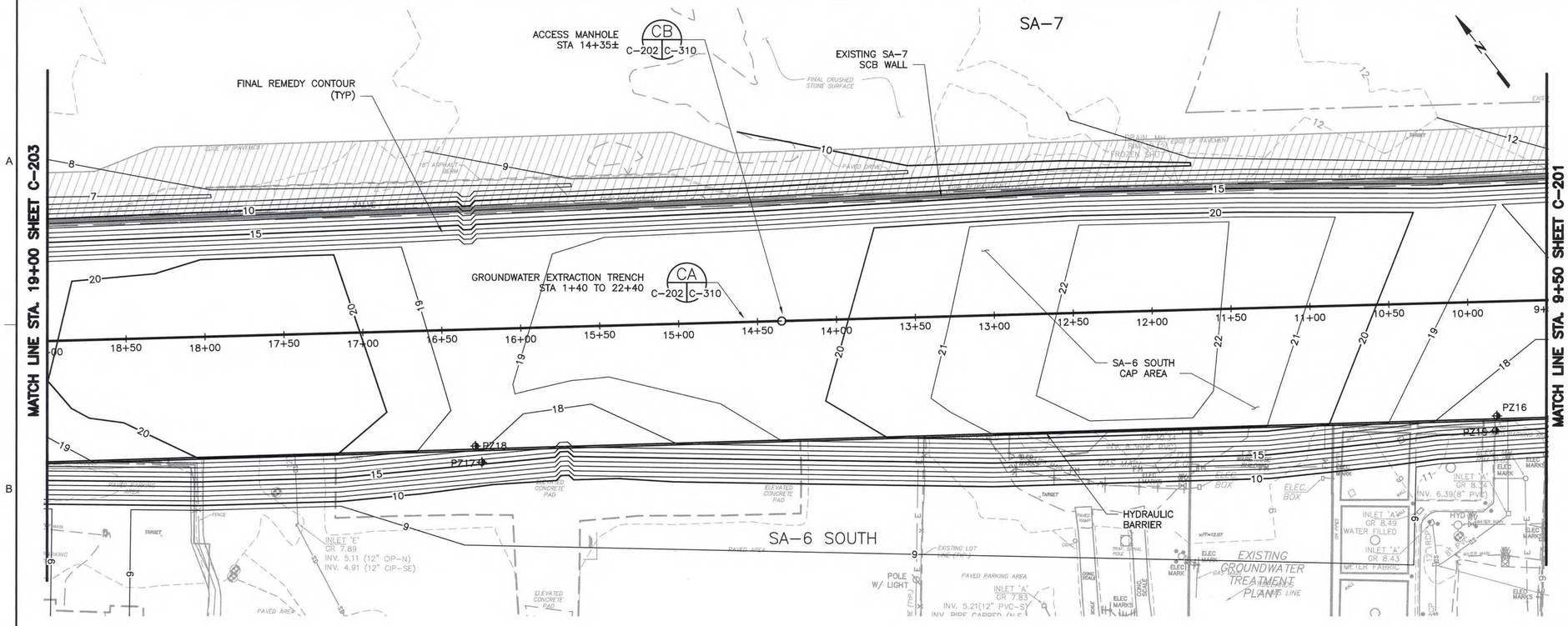
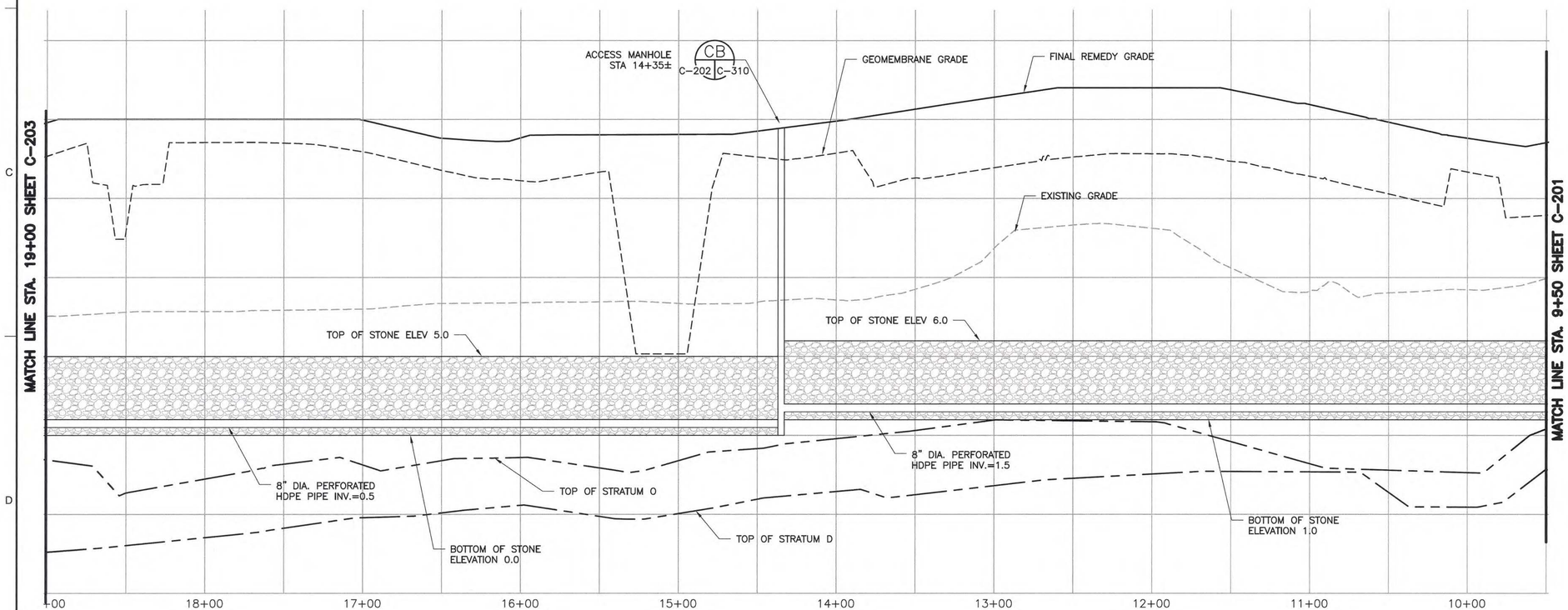
200 American Metro Blvd. Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELLUERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:44 PM





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

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NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
			TDD	RJR	TDD
1	06/06/14	DCB 007	TDD	SGS	SGS
2	07/30/14	DCB 007.1	TDD	SGS	SGS
3	02/13/15	DCB 007.3	TDD	SGS	SGS
		REVISION	BY	APVD	

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DWG	C-202
SHEET	OF 66

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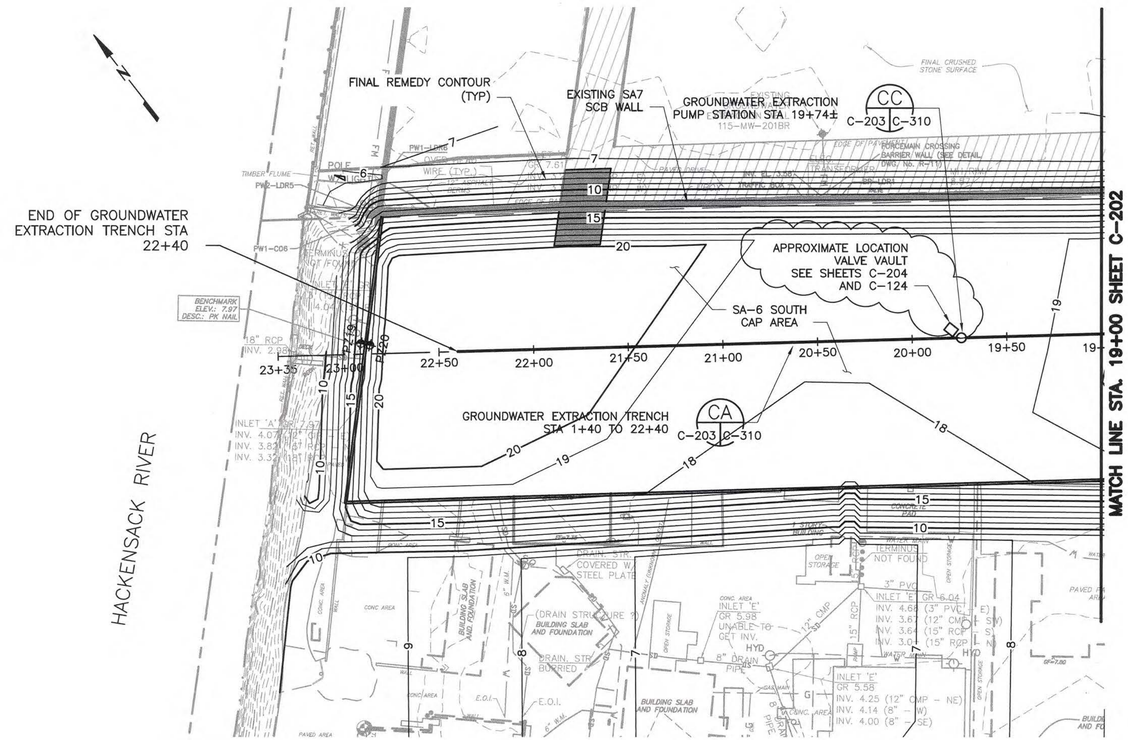

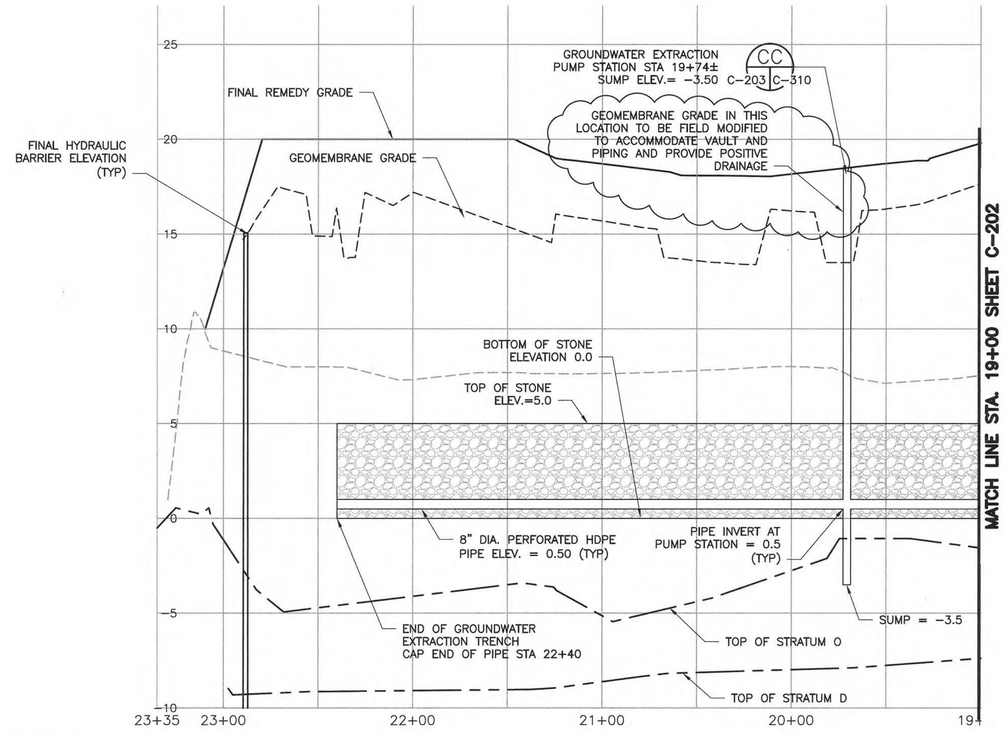

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3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	REVISION	CHK	APVD
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM
DSGN	TDD	DR RJR	CHK TDD	APVD SGS

SAMUEL G. SHALLARD
2/13/15
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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PROJ	3480-12-0317
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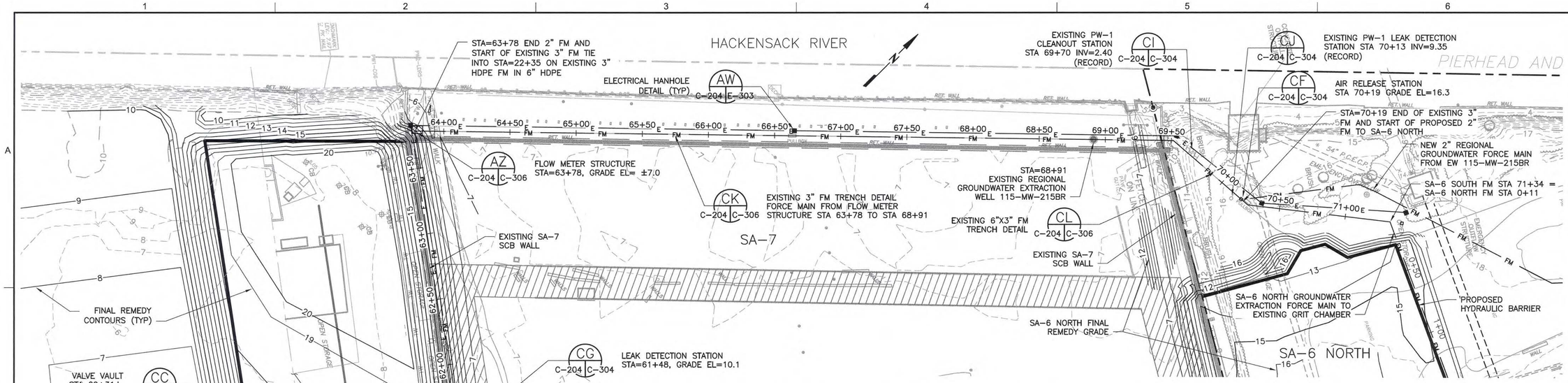

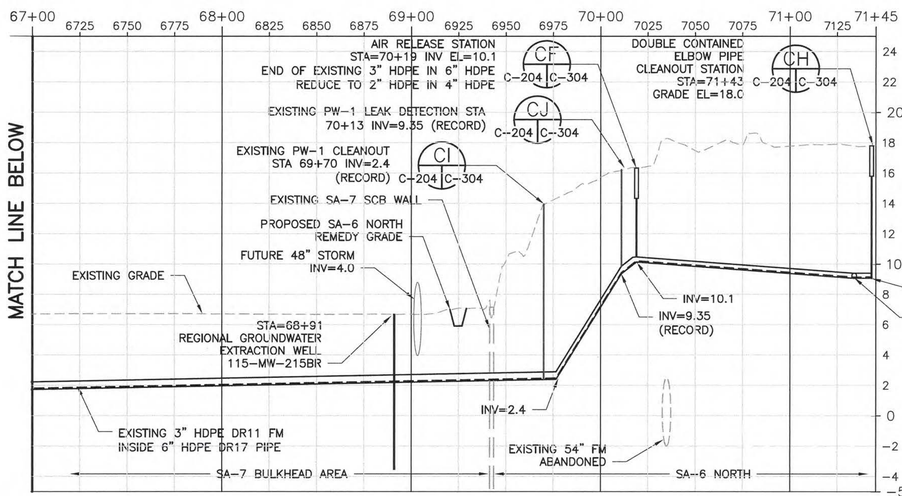

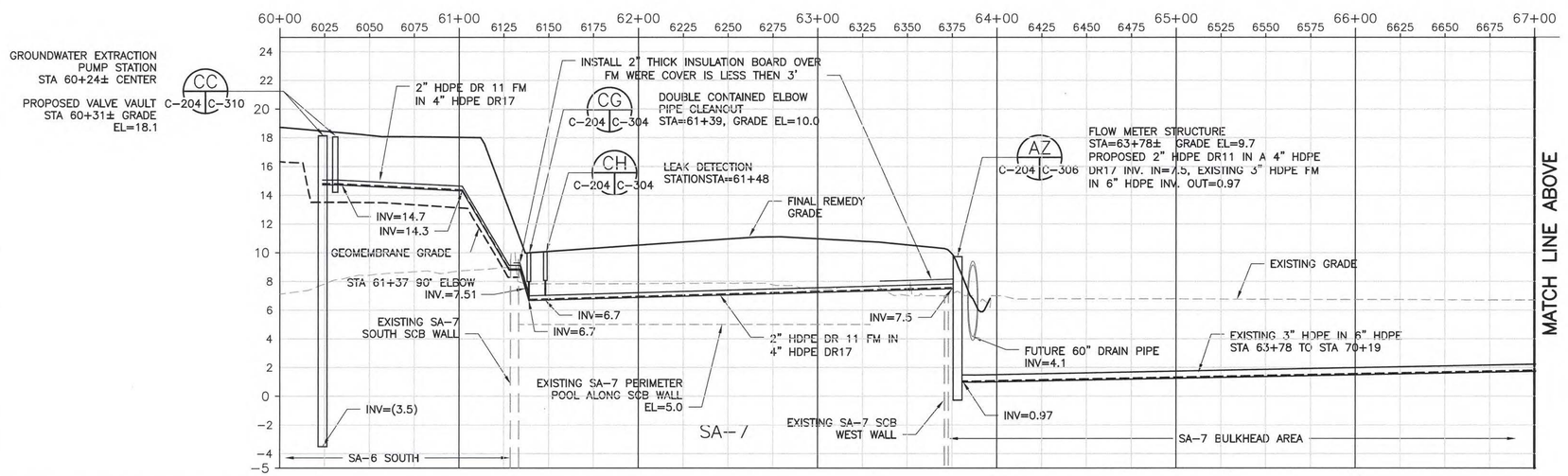

NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
				BY	APVD
3	02/13/15	TDD	TDD	RJR	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION		RJR	SGS
1	05/14/14	DCB 007		TDD	SHM
		REVISION		RJR	APVD
		DCB 007.3	TDD	TDD	SGS

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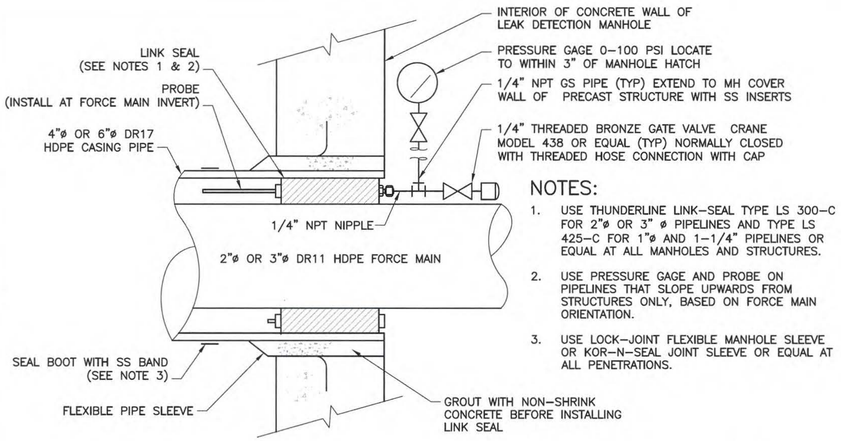
PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

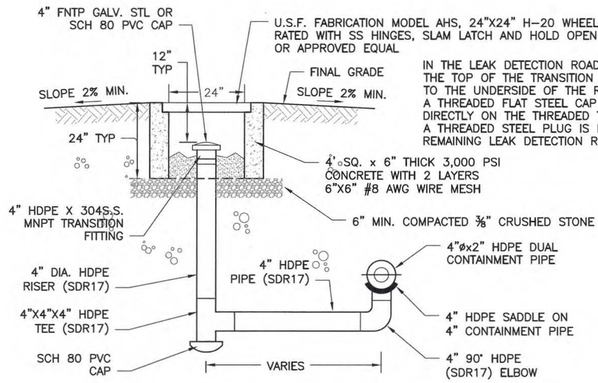


NOTES:

1. USE THUNDERLINE LINK–SEAL TYPE LS 300–C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425–C FOR 1"ø AND 1–1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK–JOINT FLEXIBLE MANHOLE SLEEVE OR KOR–N–SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL — X

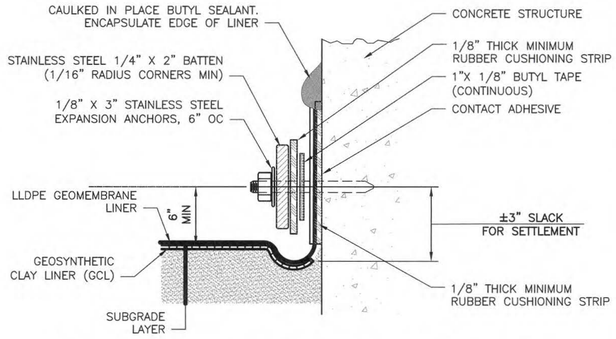
NTS — C–304 | C–306



IN THE LEAK DETECTION ROAD BOXES WHERE THE TOP OF THE TRANSITION PIECE IS CLOSE TO THE UNDERSIDE OF THE ROAD BOX COVER A THREADED FLAT STEEL CAP IS INSTALLED DIRECTLY ON THE THREADED TRANSITION PIECE. A THREADED STEEL PLUG IS INSTALLED IN THE REMAINING LEAK DETECTION RISERS.

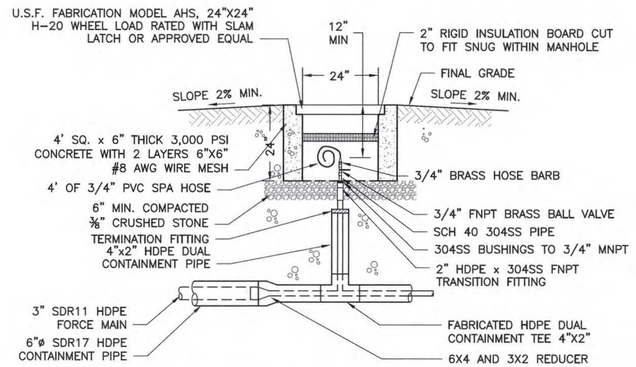
LEAK DETECTION STATION — CG

NTS — C–204 | C–304



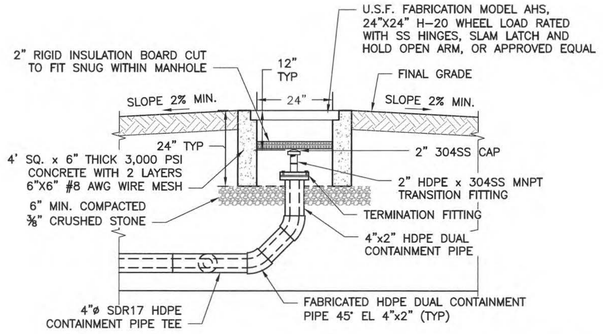
LINER ANCHOR TO CONCRETE STRUCTURE — CE

NTS — TYP | C–304



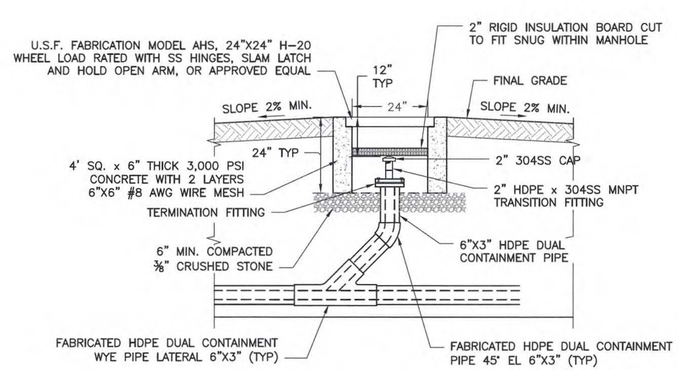
AIR RELEASE STATION — CF

NTS — C–204 | C–304



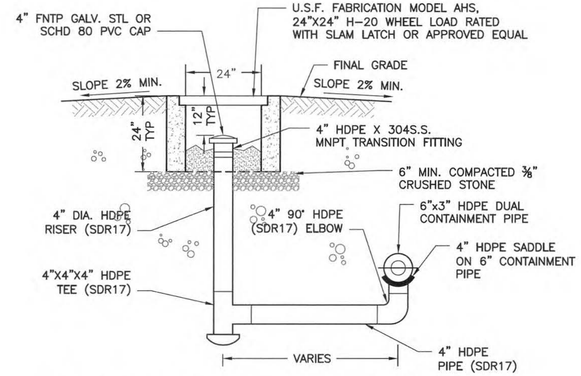
DOUBLE CONTAINED ELBOW PIPE CLEANOUT — CH

NTS — C–204 | C–304



EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT — CI

NTS — C–204 | C–304



EXISTING 3" LEAK DETECTION STATION — CJ

NTS — C–204 | C–304

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND C–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

SAMUEL G. SHALLARD — NJ PROFESSIONAL ENGINEER — LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	02/13/15	REO	RJR	REO	APVD	TDD SGS
0	06/07/13					TDD SHM

DCB 007.3
ISSUED FOR CONSTRUCTION
REVISION

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CHROMIUM REMEDY
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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
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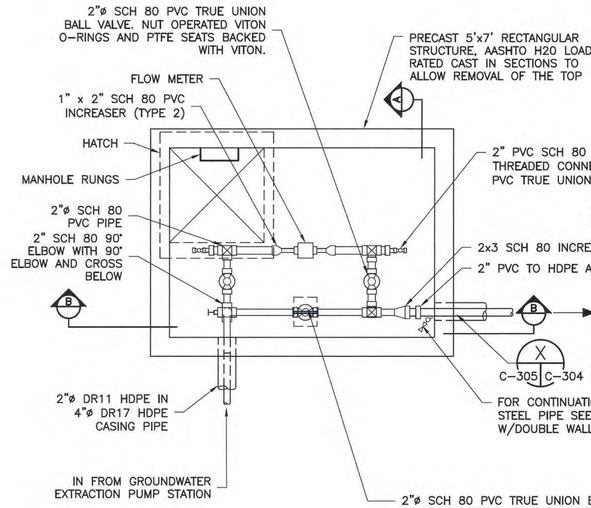
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

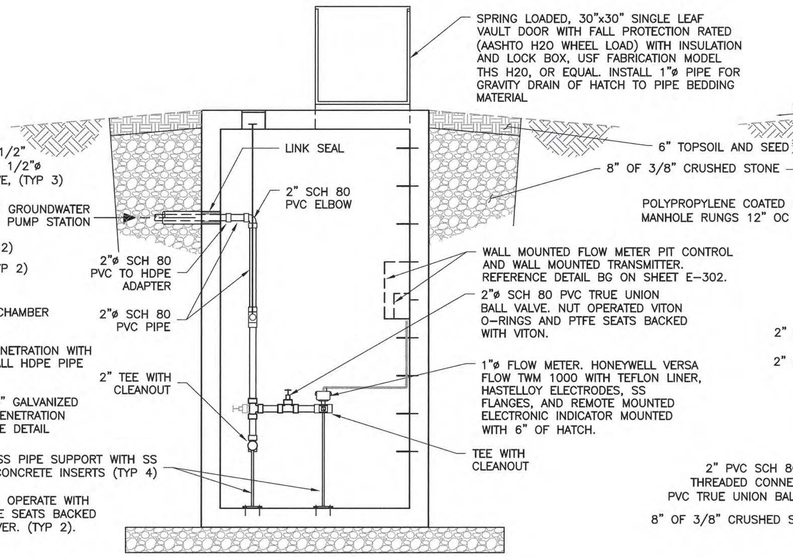
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

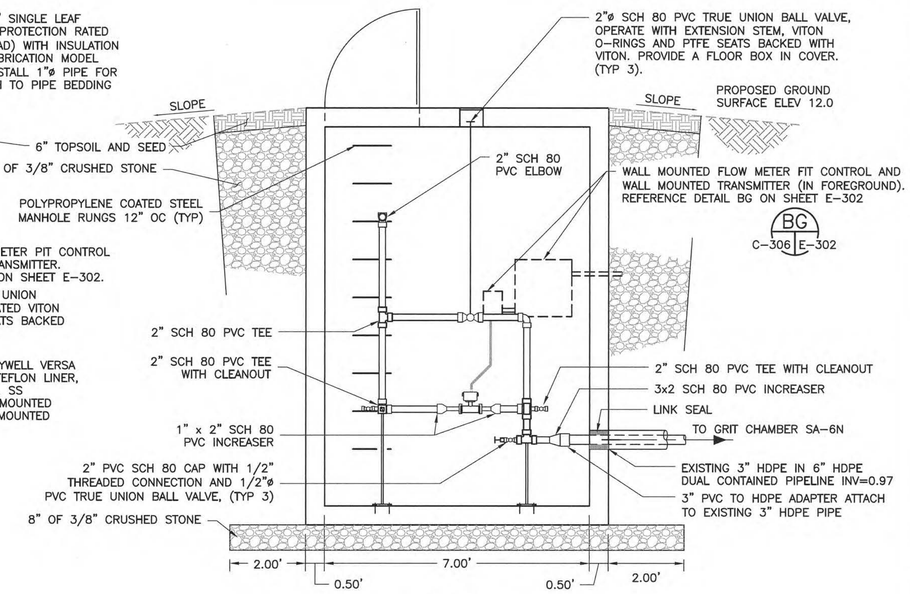
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR41-C-304_GWFM_Details.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:51 PM



PLAN

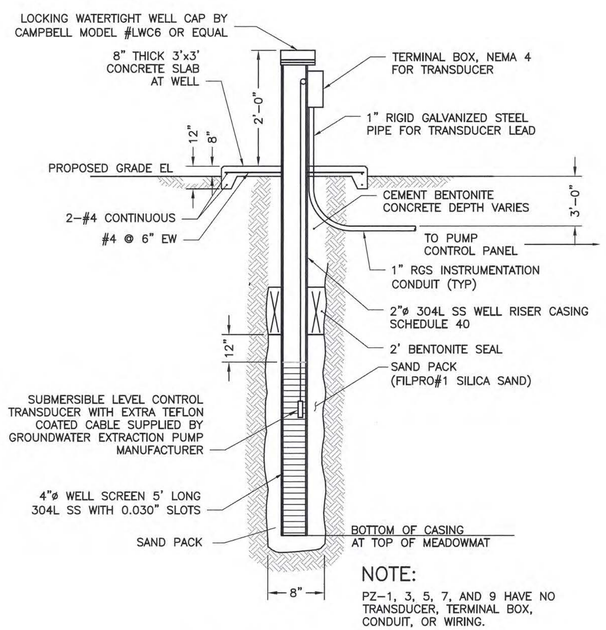


SECTION AA



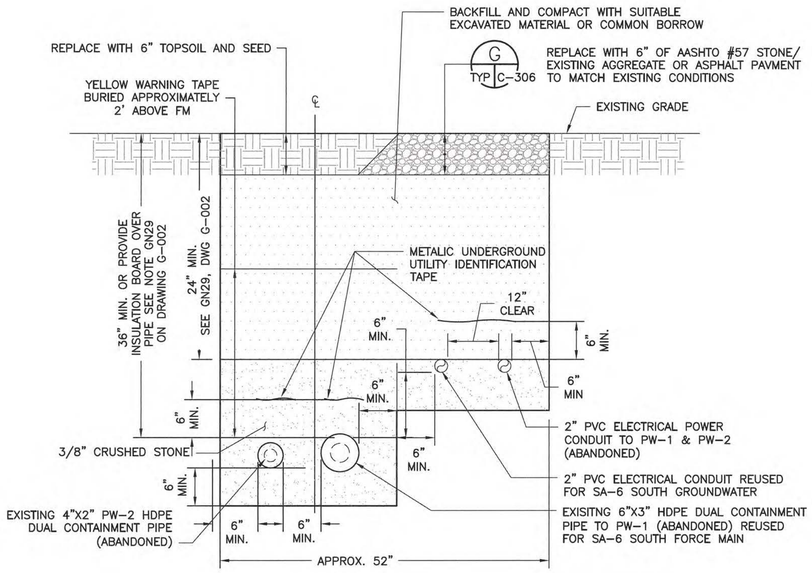
SECTION BB

FLOW METER STRUCTURE DETAIL AZ
NTS STA 63+78 C-204 C-306

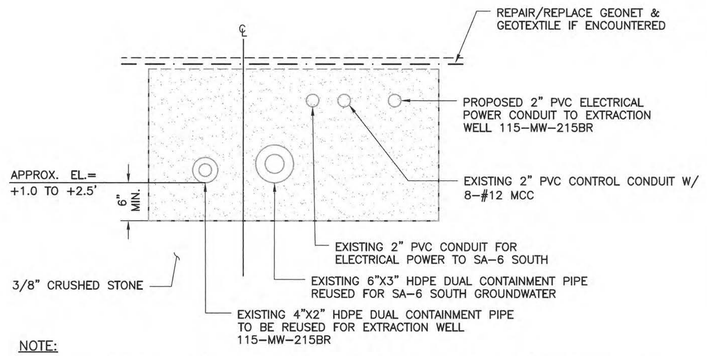


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL AE
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL CK
NTS STA 63+78 TO STA 68+91 C-204 C-306



NOTE:
SUBCONTRACTOR IS REQUIRED TO VERIFY PRIOR TO BEGINNING WORK FROM STA. 68+91 TO STA. 70+19

TRENCH DETAIL CL
NTS C-204 C-306

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. SEE SHEET C-304 FOR HATCH SPEC.

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	
1	02/13/15	TDD	SGS
0	06/07/13	TDD	SHM

DCB 007.3
ISSUED FOR CONSTRUCTION

REVISION	BY	CHK	APVD
REO	DR	RJR	SHM

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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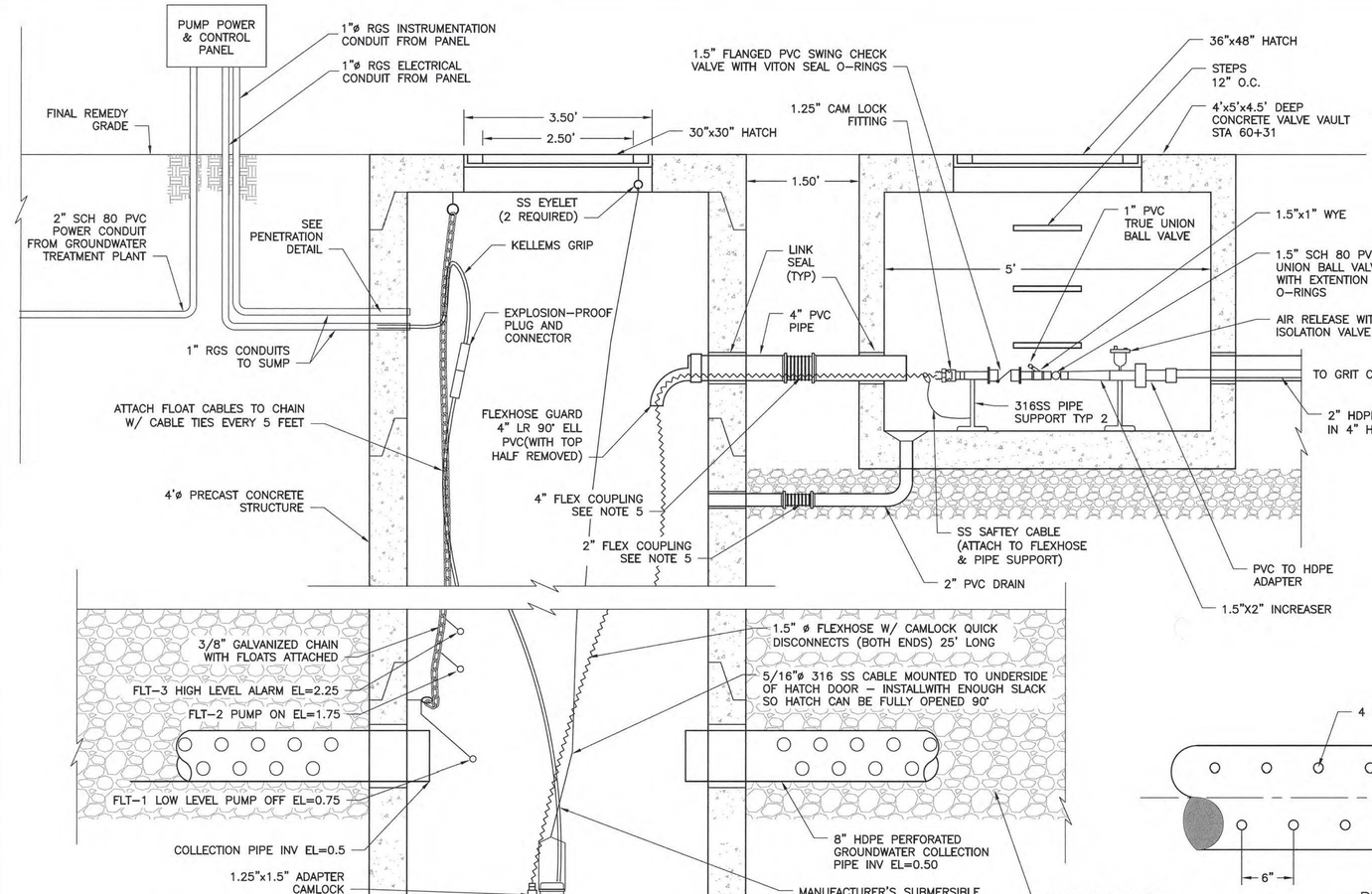
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

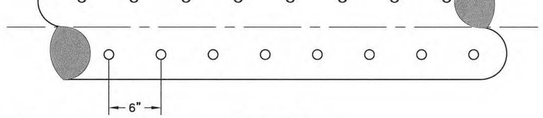
NTS

C-203 | C-310
C-204

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1-MALE 1-FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14
EXPLOSION-PROOF PLUG AND CONNECTOR	2-SETS	MELTRIC 22-14043 22-18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423-015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

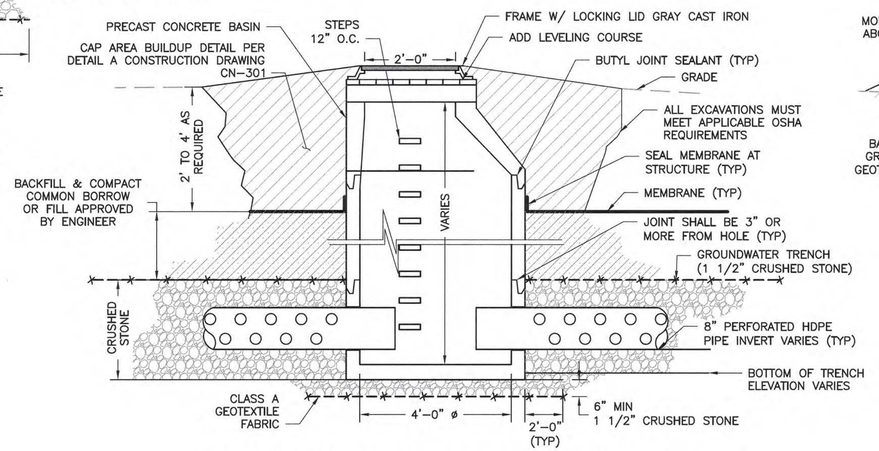


PLAN VIEW

PIPE PERFORATIONS (CD)

NTS

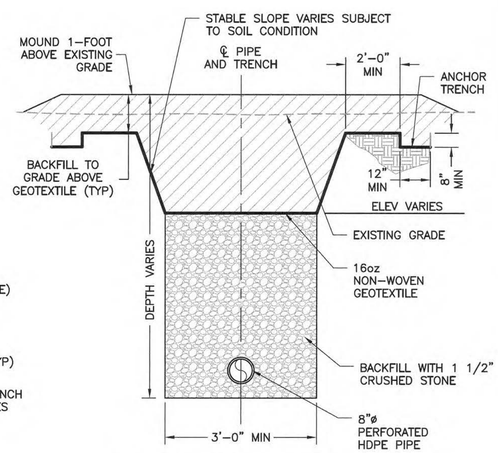
TYP C-310



TYPICAL ACCESS MANHOLE FINAL CONDITION STA.=3+63, STA.=8+90, STA.=14+35 (CB)

NTS

C-201 | C-310
C-202



GROUNDWATER TRENCH TEMPORARY CONDITION (CA)

NTS

C-201 | C-310
C-202
C-203

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD	BY
2	02/02/15	DCB 007.3	TDD	SGS	TDD
1	06/06/14	DCB 007	TDD	SGS	SGS
DSGN	TDD	DR	RJR	TDD	APVD

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION TRENCH DETAILS

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DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

FINAL DCB 007.4 – SA-6 SOUTH CGWES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 007.4 **DCB Type:** Major(a) **Effective Date:** 9/3/15; **Rev. 1**
Project Location: SA-6	**Associated RFI:**
Title: GW Extraction System – Revisions of Electrical to Replace Wells with Trenches	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 provides the revised electrical plan, one line electrical drawings and electrical details for SA-6S.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.4 is applicable to the Groundwater Extraction System electrical drawings for SA-6S (electrical plan and one line electrical drawing).

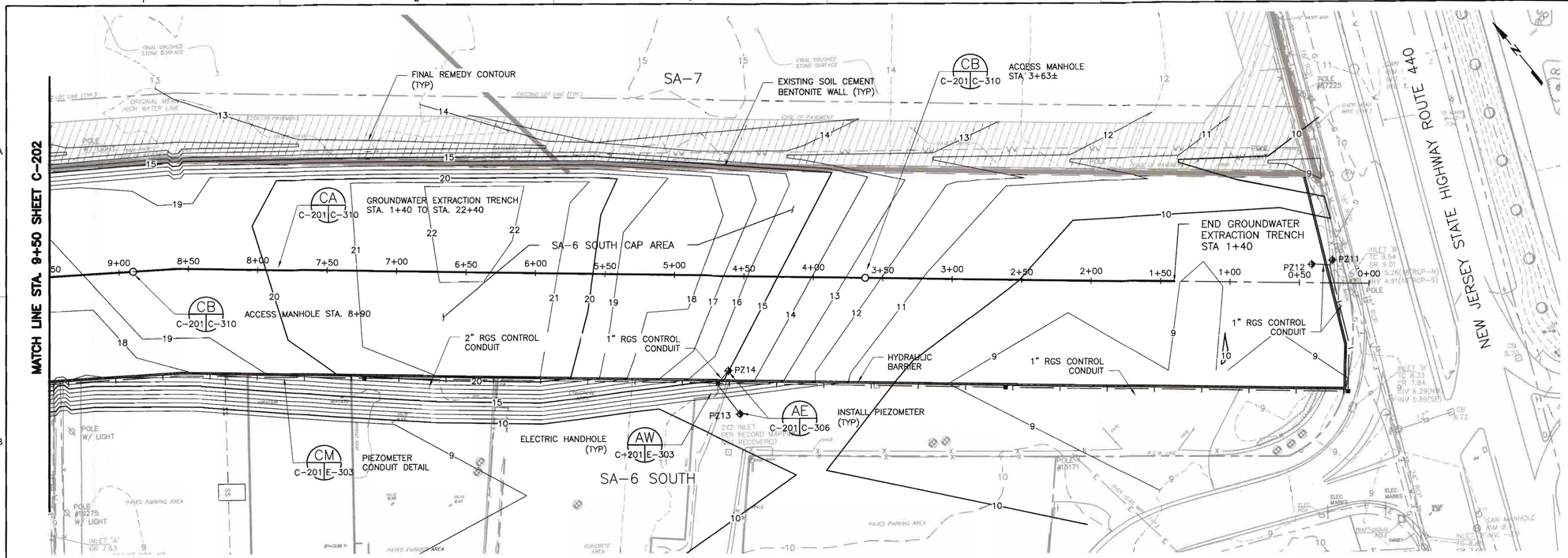
Drawings that are revised in this DCB are:
SA-6S

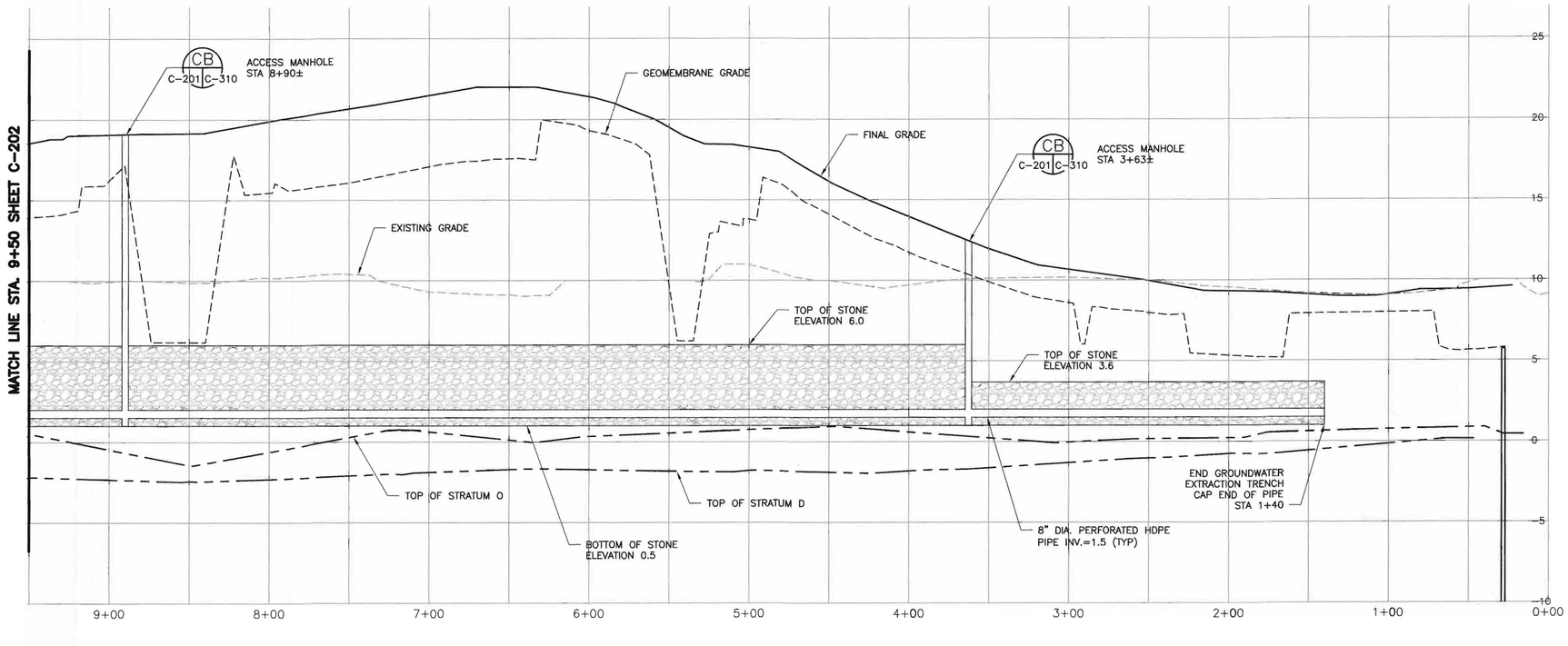
- C-201
- C-202
- C-203
- C-204
- C-306
- C-310
- E-301
- E-302
- E-303

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction
	Attachments: ☑ Yes ☐ No C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No

Additional Comments:		**Design Documents Affected:** C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303	
Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?**	☑ **Yes (b)** ☐ **No**
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
10. INSTALL INSTRAMENTATION CONDUIT FOR PAIRE PIEZOMETERSREADIED WITH PULL STRINGS FOR FUTURE INSTRAMENTATION CABLE INSTALLED BY OTHERS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	08/14/15	DCB 007.4	TDD	RJR	TDD	RJR	SGS
2	02/13/15	DCB 007.3				TDD	SGS
1	06/06/14	DCB 007				TDD	SGS

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2333
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

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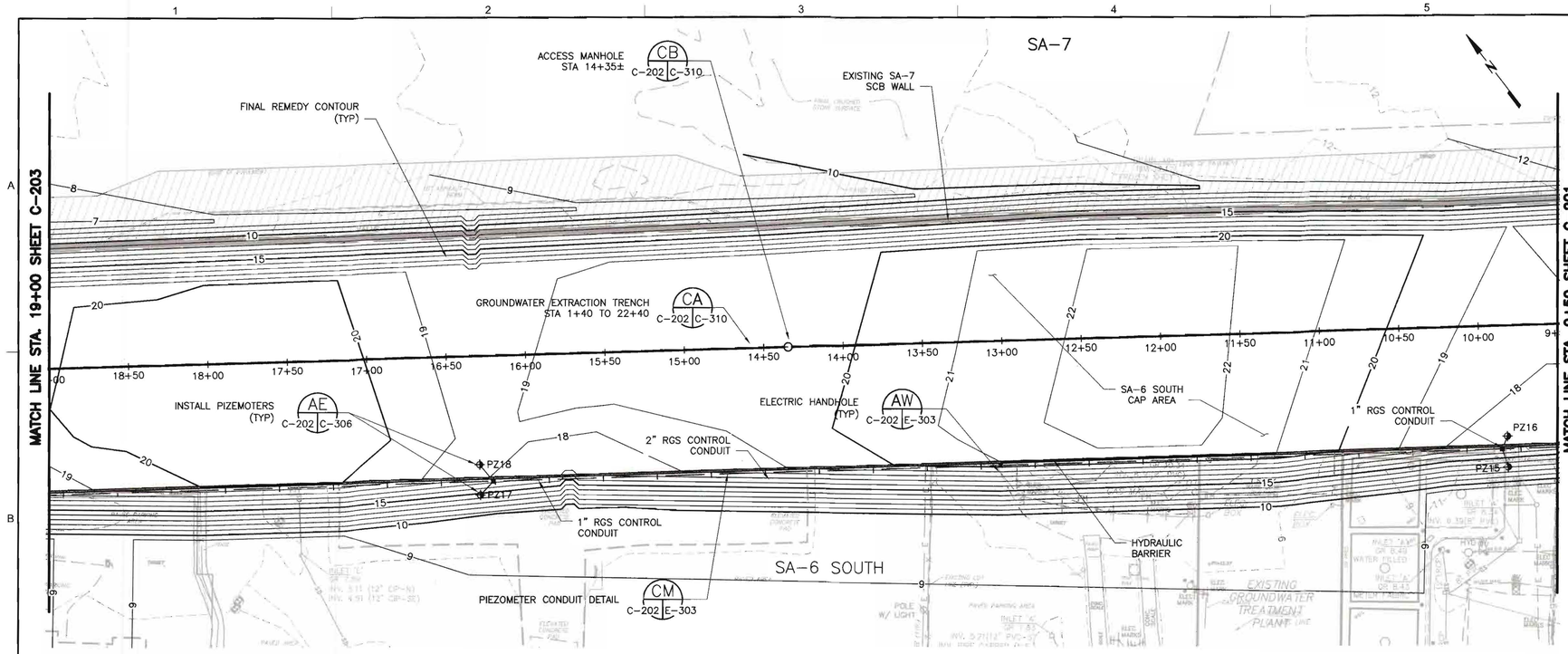
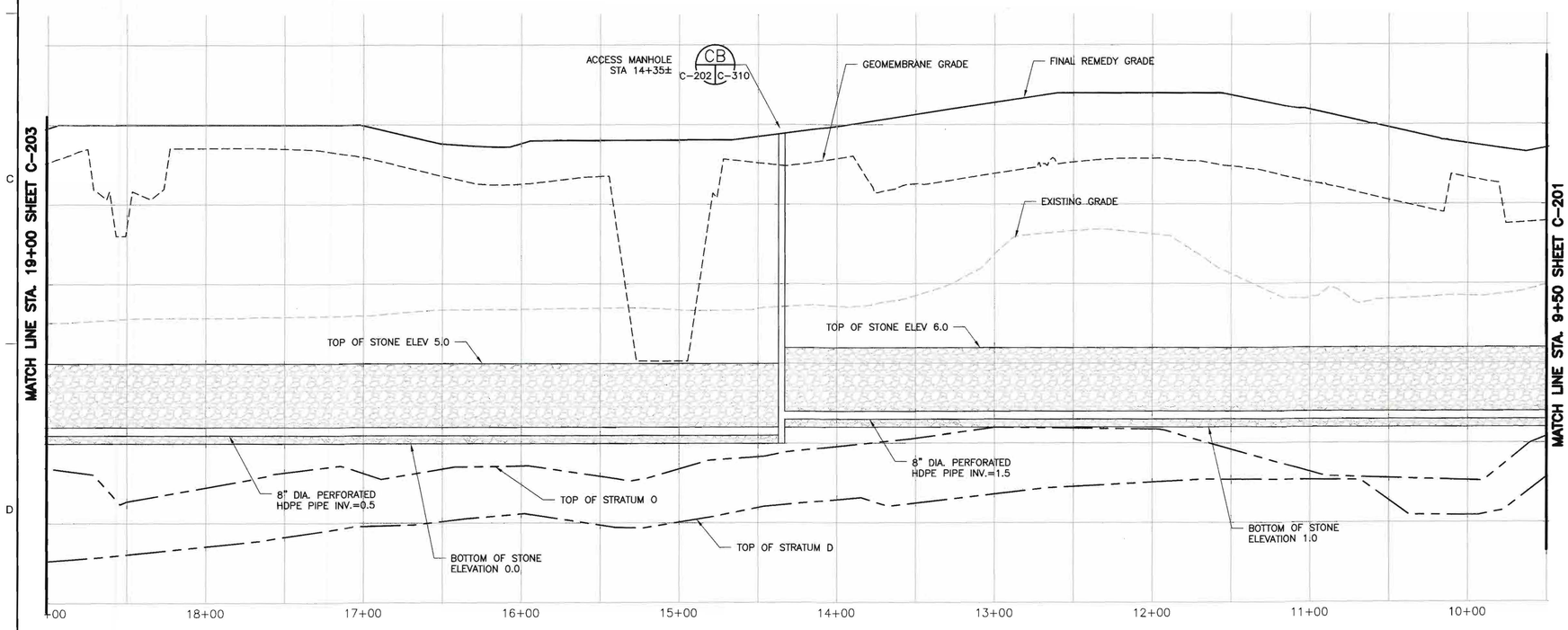
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:13 AM





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

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SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
9/2/15

NO.	DATE	REVISION	BY	APVD
4	08/14/15	DCB 007.4	RJR	SGS
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

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CIVIL
GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

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SHEET	OF 66

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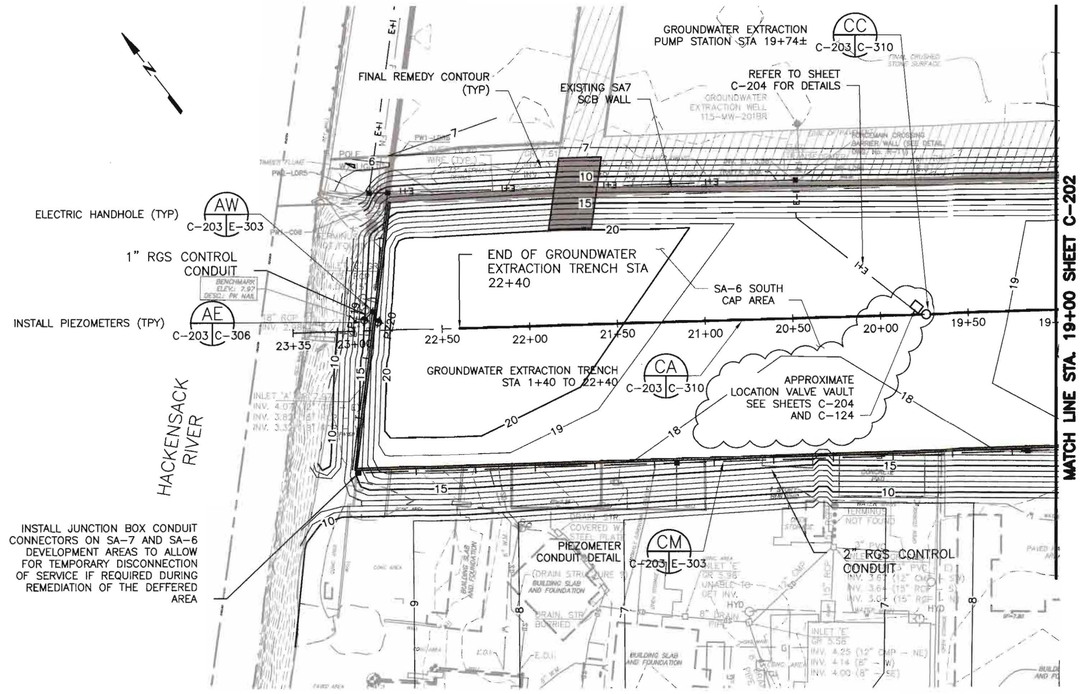
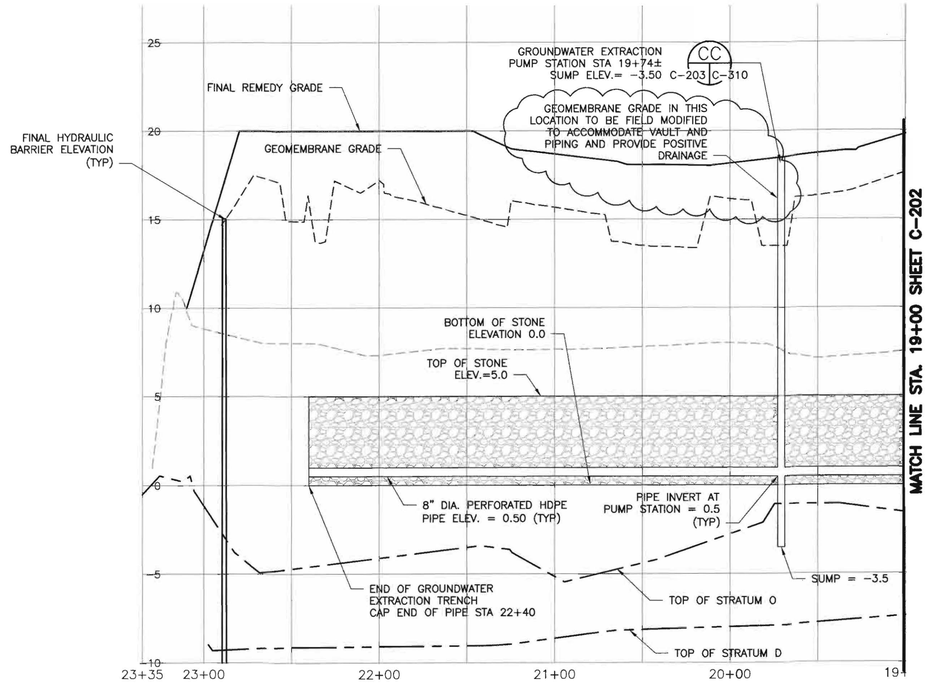
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR35-C-202_Cont_GWE_Trench.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:11 AM





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SCALE IN FEET

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0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
9/2/15
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DSGN TDD | DR RJR | CHK TDD | APVD SGS

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HACKENSACK RIVER

PIERHEAD AND BULKH

SA-7

SA-6 SOUTH

SA-6 NORTH

NOTE:
CONTRACTOR TO VERIFY CONDITION OF EXISTING E&I AND FM AND STATION OF TIE-INS PRIOR TO INITIATING WORK.

AZ C-204 | C-306 DROP STRUCTURE STA=63+78 END NEW 2" FM AND START OF EXISTING 3" HDPE FM IN 6" HDPE

AW C-204 | E-303 ELECTRICAL HANHOLE DETAIL (TYP) NOTE IF AVAILABLE REUSE EXISTING ELECTRICAL PULL BOX IN THIS LOCATION

CI C-204 | C-304 EXISTING PW-1 CLEANOUT STATION STA 69+70 INV=2.40 (RECORD)

CJ C-204 | C-304 EXISTING PW-1 LEAK DETECTION STATION STA 70+11 INV=9.35 (RECORD)

CF C-204 | C-304 AIR RELEASE STATION STA 70+19 GRADE EL=16.3

STA=70+19 END OF EXISTING 3" FM AND START OF NEW 2" FM TO SA-6 NORTH

EXISITNG 2" REGIONAL GROUNDWATER FORCE MAIN FROM EW 115-MW-215BR

EXISITNG 3" EFFLUENT AND 1½" SANITARY FM

EXISTING 2"I AND 2"E CONDUITS

CK C-204 | C-306 EXISTING 3" FM TRENCH DETAIL FORCE MAIN FROM FLOW METER STRUCTURE STA 63+78 TO STA 68+91

STA=68+91 EXISTING REGIONAL GROUNDWATER EXTRACTION WELL 115-MW-215BR

CL C-204 | C-306 EXISTING 6"X3" FM TRENCH DETAIL

EXISTING SA-7 SCB WALL

EXTRACTION TRENCH

FINAL REMEDY CONTOURS (TYP)

CM C-204 | E-303 PIEZOMETER CONDUIT DETAIL

CG C-204 | C-304 LEAK DETECTION STATION STA=61+48, GRADE EL=10.1

CH C-204 | C-304 DOUBLE CONTAINED ELBOW PIPE CLEANOUT STATION STA=61+39, GRADE EL=10.0

SA-6 NORTH FINAL REMEDY GRADE

CH C-204 | C-304 DOUBLE CONTAINED ELBOW PIPE CLEANOUT STATION STA=72+50, GRADE EL=10.0

1" RGS CONDUIT 2" SCH 80 PVC

2" HDPE IN 4" HDPE

EXISITNG 2"I AND 3"E CONDUITS

SA-6 NORTH GROUNDWATER EXTRACTION FORCE MAIN (SEE SHEET CN-203)

EXISTING HYDRAULIC BARRIER

CAP TWO 2" HDPE IN 4" HDPE GW FORCE MAINE 5 FEET OUTSIDE FOUNDATION OF GWTP

EXISTING GROUNDWATER TREATMENT BUILDING

EXISTING 72 IN. FM

SA-6 SOUTH CAP AREA

2" RGS CONTROL CONDUIT 2" PVC SCH 40 POWER CONDIT

PROPOSED HYDRAULIC BARRIER

CC C-204 | C-310 VALVE VAULT STA 60+31±, GRADE EL=18.1

GROUNDWATER EXTRACTION PUMP STATION STA 19+74 EXTRACTION TRENCH= STA 60+24 EXTRACTION FORCE MAIN

MATCH LINE SHEET C-203, C-204

MATCH LINE SHEET C-202

MATCH LINE BELOW

END EXISTING 3" HDPE IN 6" HDPE REDUCE TO 2" HDPE IN 4" HDPE STA=70+19, INV= 10.1

AIR RELEASE STATION STA=71+75 GRADE EL=17.8 C-204 | C-304 CF

EXISTING PW-1 LEAK DETECTION STA 70+13 INV=9.35 (RECORD) C-204 | C-304 CJ

EXISTING 3" CLEANOUT STA 69+70 INV=2.4 (RECORD) C-204 | C-304 CI

EXISTING SA-7 SCB WALL

PROPOSED SA-6 NORTH REMEDY GRADE

FUTURE DEVELOPMENT 48" STORM INV=4.0 BY OTHERS

STA=68+91 REGIONAL GROUNDWATER EXTRACTION WELL 115-MW-215BR

INV=10.1

INV=9.35 (RECORD)

EXISTING 72" FORCE MAIN, TOP OF PIPE EL= ± 13.8

CAP TWO 2" HDPE IN 4" HDPE GW FORCE MAINS 5 FEET OUTSIDE FOUNDATION OF GWTPSTA 73+38 INV=11.16

EXISTING GROUNDWATER TREATMENT BUILDING STA 73+43

INV=2.4

EXISTING 54" FM ABANDONED

SA-7 BULKHEAD AREA

SA-6 NORTH

GROUNDWATER EXTRACTION PUMP STATION STA 60+24± CENTER C-204 | C-310 CC

PROPOSED VALVE VAULT STA 60+31± GRADE EL=18.1

2" HDPE DR 11 FM IN 4" HDPE DR17

INSTALL 2" THICK INSULATION BOARD OVER FM WERE COVER IS LESS THEN 3'

CG C-204 | C-304 DOUBLE CONTAINED ELBOW PIPE CLEANOUT STA=61+39, GRADE EL=10.0

CH C-204 | C-304 LEAK DETECTION STATION STA=61+48

AZ C-204 | C-306 DROP STRUCTURE STA=63+78± GRADE EL=9.7 PROPOSED 2" HDPE DR11 IN A 4" HDPE DR17 INV. IN=7.5, EXISTING 3" HDPE FM IN 6" HDPE INV. OUT=0.97

INV=14.7

INV=14.3

GEOMEMBRANE GRADE

STA 61+37 90° ELBOW INV.=7.51

FINAL REMEDY GRADE

FUTURE DEVELOPMENT 60" DRAIN PIPE INV=4.1 BY OTHERS

EXISTING GRADE

EXISTING GRADE

INV=6.7

INV=6.7

INV=7.5

EXISTING SA-7 SOUTH SCB WALL

2" HDPE DR 11 FM IN 4" HDPE DR17

EXISTING 3" HDPE IN 6" HDPE STA 63+78 TO STA 70+19

EXISTING SA-7 PERIMETER POOL ALONG SCB WALL EL=5.0

INV=(3.5)

EXISTING SA-7 SCB WEST WALL

INV=0.97

EXISTING 3" HDPE DR11 FM INSIDE 6" HDPE DR17 PIPE

SA-7

SA-6 SOUTH

SA-7 BULKHEAD AREA

MATCH LINE ABOVE

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.
5. AT STATION 66+65, IF AVAILABLE, REUSE EXISITNG ELECTRICAL PULL BOX.
6. FROM STATION 63+78 TO STATION 68+91 REMOVE ANY EXISTING WIRING REMAINING IN THE 2" E+I CONDUITS.
7. FORCEMAIN TO BE CAPPED AND TEMINATED 5 FEET OUTSIDE THE GROUNDWATER TREATMENT PLANT. INSTALL 4'x4'x4' GRANITE MARKER AT END OF FORCEMAIN. TOP 2" ABOVE GRADE TO DOCUMENTATION LOCATION.
8. 2" PVC POWER CONDUIT TO BE INSTALLED. WIRING TO BE INSTALLED BY OTHERS UNDER FUTURE CONTRACT. INSTALL NON-DEGRADABLE PULL STRINGS FOR FUTURE USE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
Date 8/18/15

NO.	DATE	REVISION	DR	CHK	APVD
4	08/14/15	DCB 007.4	RJR	TDD	SGS
3	02/13/15	DCB 007.3	TDD	SGS	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION	RJR	SGS	
1	05/14/14	DCB 007	TDD	SHM	
DSGN			TDD	BY	APVD

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION FORCE MAIN PLAN AND PROFILE

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(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

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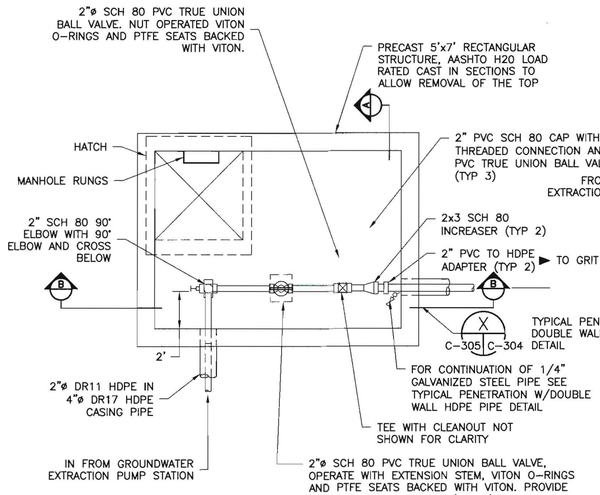
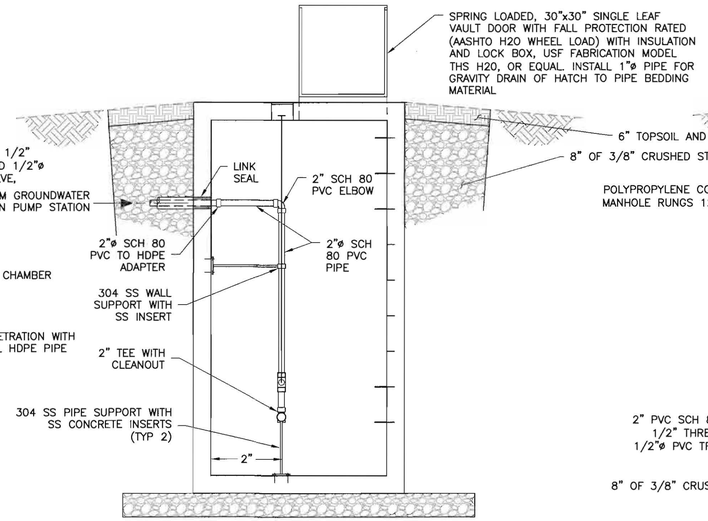
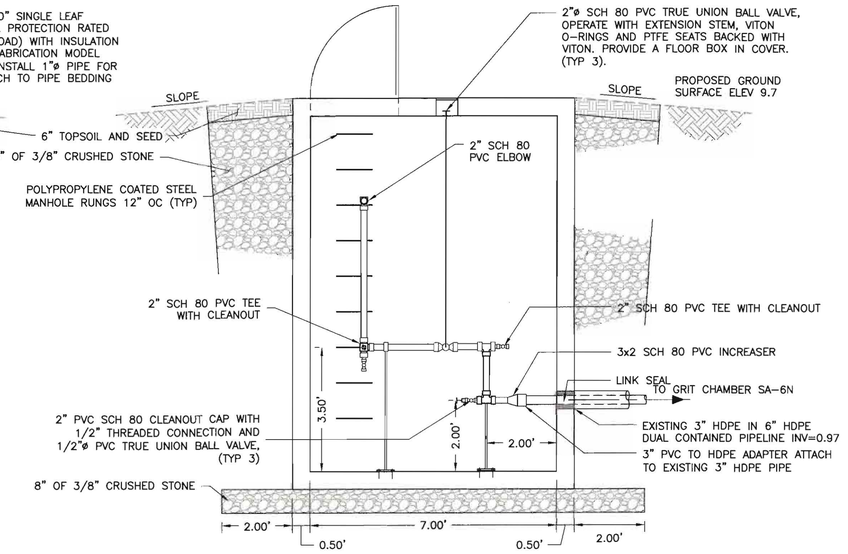


PLAN

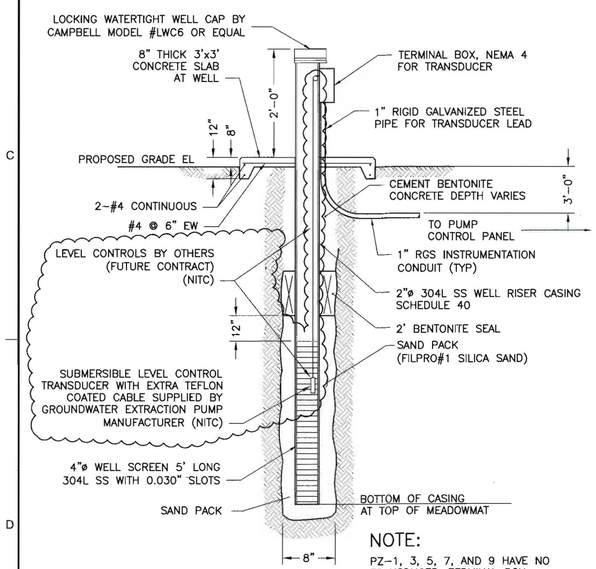


SECTION AA



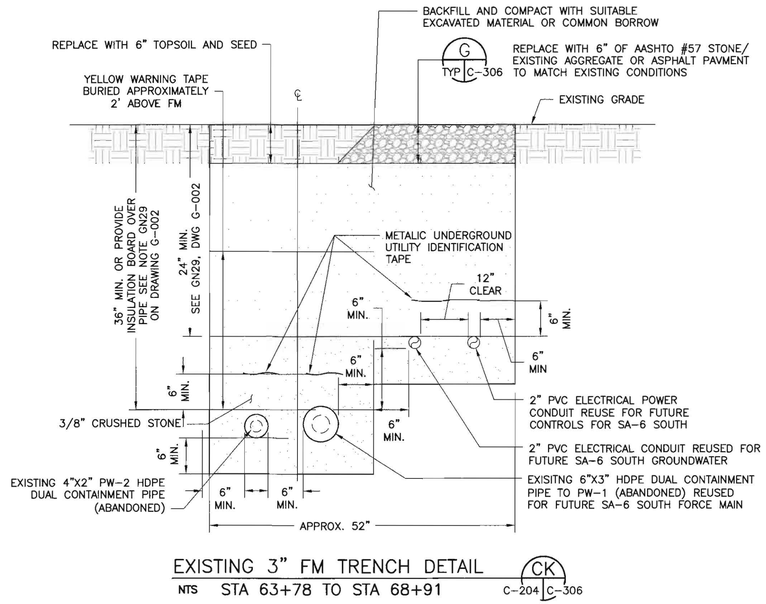
SECTION BB

DROP STRUCTURE DETAIL (AZ)
NTS STA 63+78 C-204 C-306

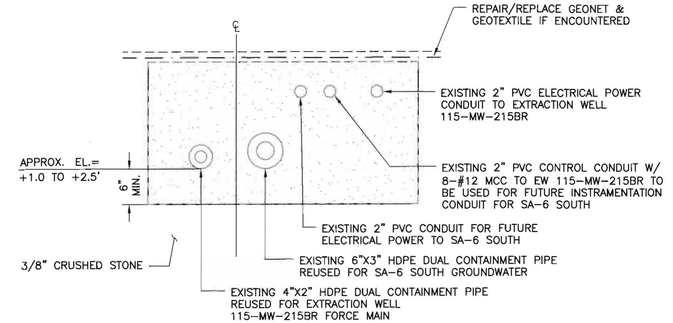


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AE)
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL (CK)
NTS STA 63+78 TO STA 68+91 C-204 C-306



TRENCH DETAIL (CL)
NTS C-204 C-306

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
9/2/15

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
			REO	RJR	REO	SHM	SHM
						RJR	SGS
						TDD	SGS
						TDD	SHM
0	06/07/13	ISSUED FOR CONSTRUCTION					
1	02/13/15	DCB 007.3					
2	08/14/15	DCB 007.4					

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66

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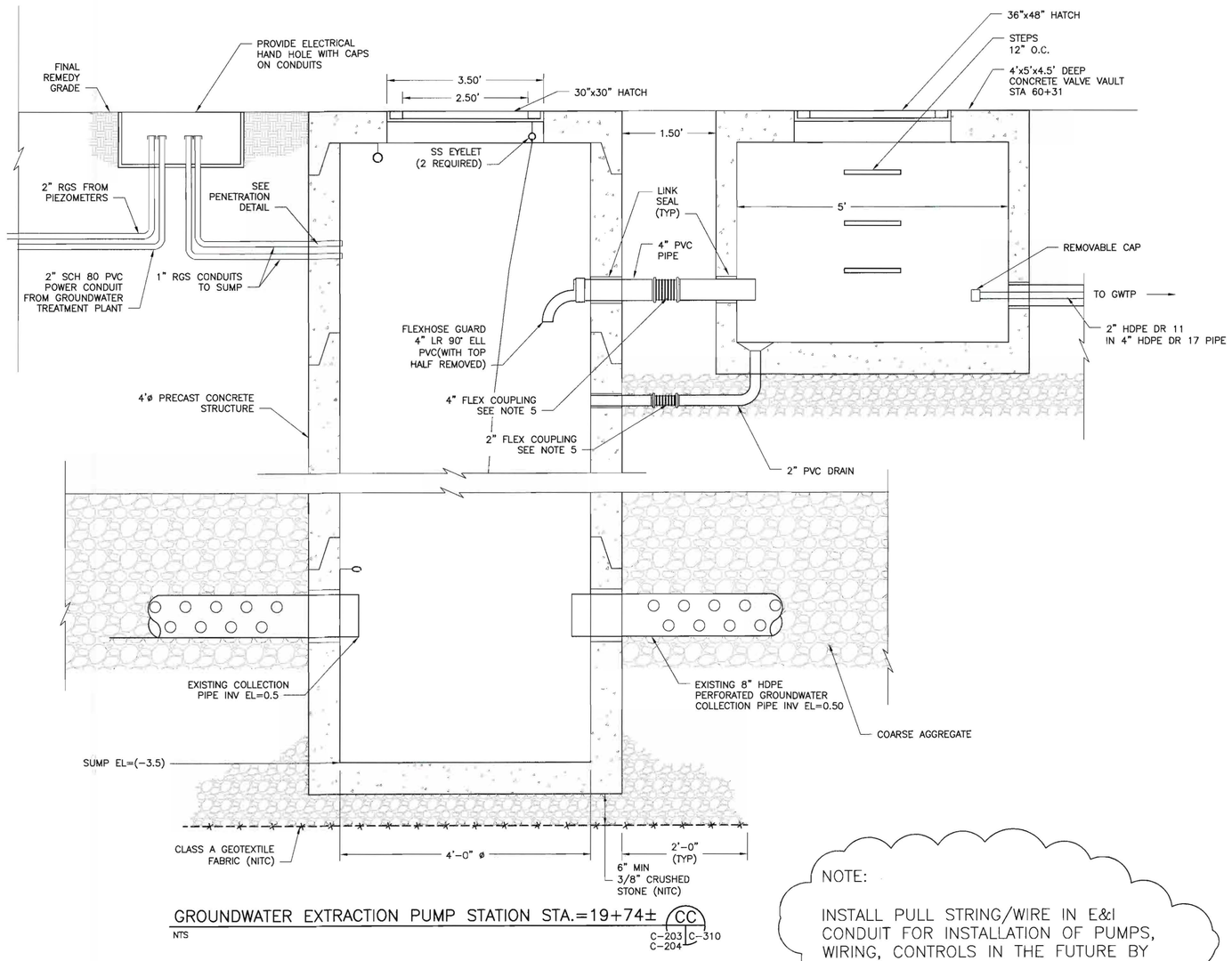

GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 | C-204 | C-310

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY
DSGN			TDD	RJR	TDD	SGS
1	06/06/14	DCB 007			TDD	SGS
2	02/02/15	DCB 007.3			TDD	SGS
3	08/14/15	DCB 007.4			RJR	SGS

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CHROMIUM REMEDY
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION TRENCH DETAILS

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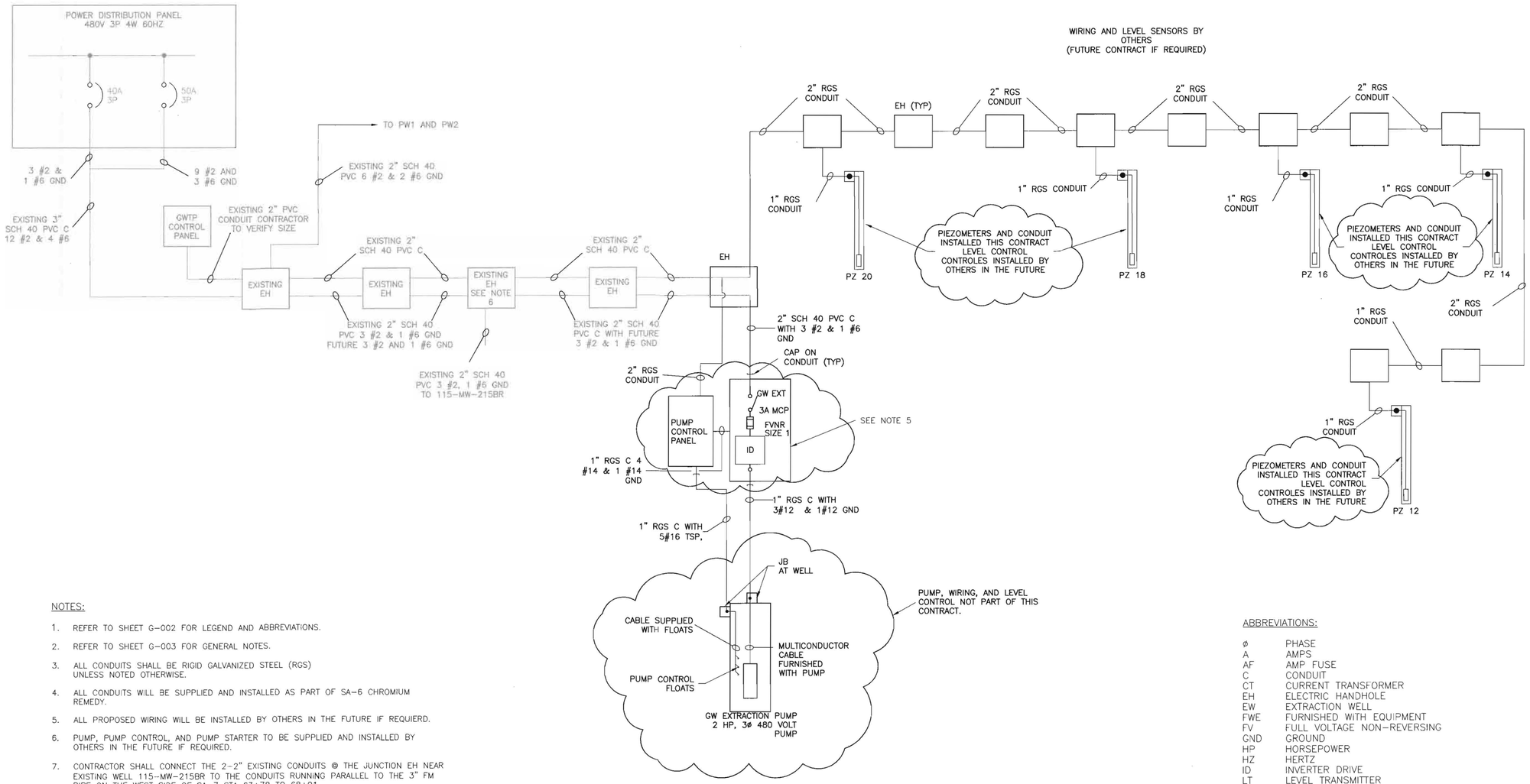

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS) UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIERD.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

NO.	DATE	DSGN	DR	CHK	APVD
1	08/14/15	TDD	RJR	SHM	SGS
0	06/07/13				

REVISION BY: RJR TDD SHM SGS

ISSUED FOR CONSTRUCTION

DCB 007.4

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CHROMIUM REMEDY
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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DATE	
PROJ	3480-12-0317
DWG	E-301
SHEET	64 OF 66

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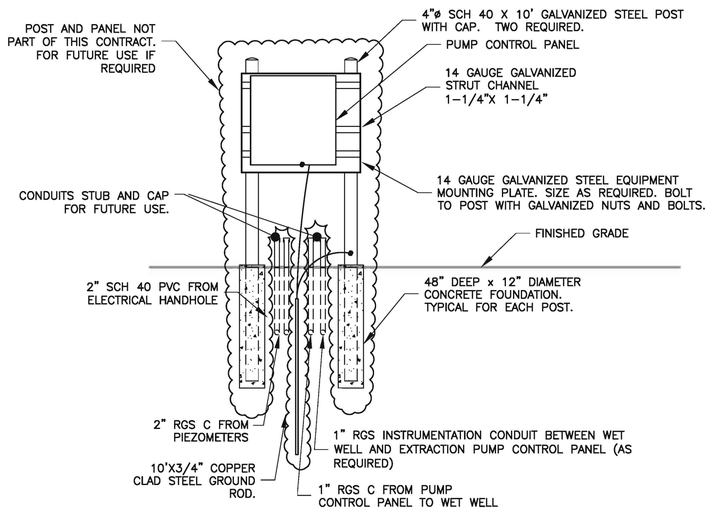


EXTRACTION WELL PUMP CONTROL PANEL DETAIL — AO

NTS — TYP E-302

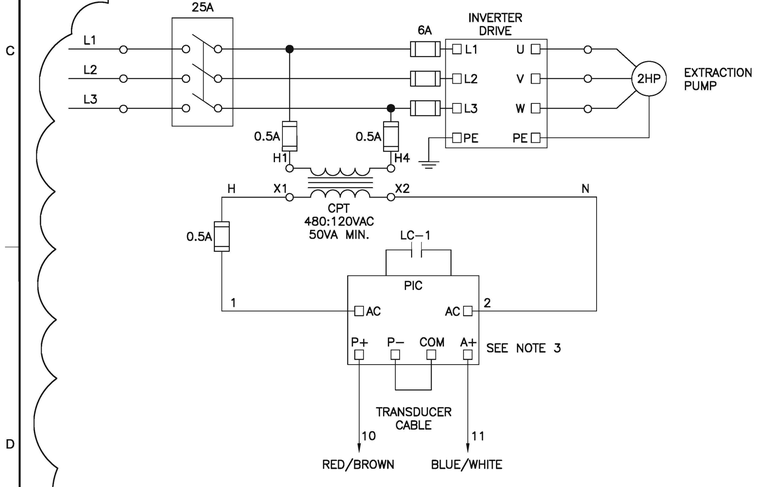
NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM, UNLESS OTHERWISE SHOWN. WHEN DISTANCE IS LESS THAN 6 FEET, LIQUID TIGHT METAL FLEXIBLE CONDUIT MAY BE USED.
2. LOCATE THE PUMP MOTOR STARTER WITHIN 3' OF THE EXTRACTION WELL PUMP STATION.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

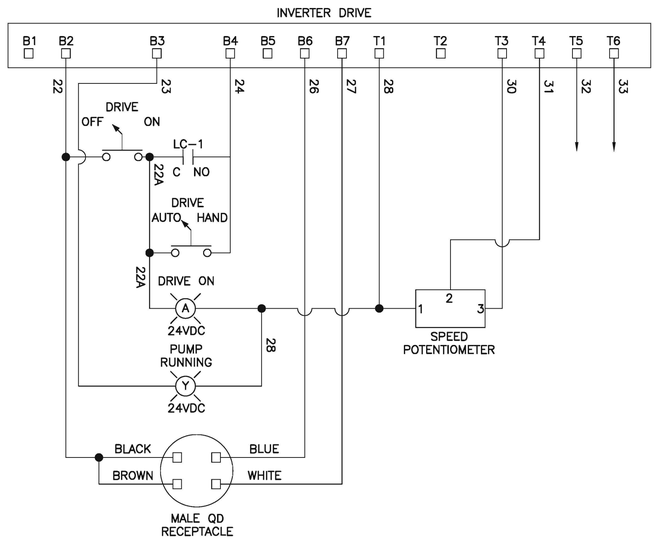
NOT PART OF THIS CONTRACT
ELECTRICAL POWER AND INSTRUMENTATION CONTROLS TO BE RE-EVALUATED FOLLOWING INITIAL DRAWDOWN AND TRENCH PERFORMANCE EVALUATION.



PUMP CONTROL PANEL WIRING DIAGRAM — AP

NTS — TYP E-302

TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 3)



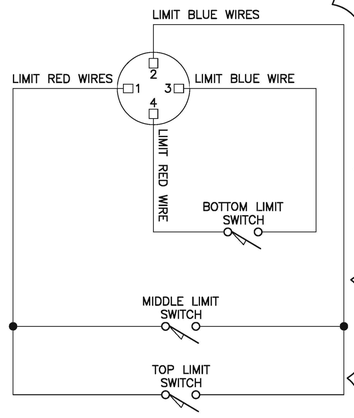
INVERTER DRIVE WIRING DIAGRAM — AQ

NTS — TYP E-302

FIELD TERMINAL STRIP CONNECTION SUMMARY

GND	EARTH GROUND
10	RED TRANSDUCER WIRE
11	BLUE TRANSDUCER WIRE
22	MALE QD RECEPTACLE BROWN AND BLACK
26	MALE QD RECEPTACLE BLUE
27	MALE QD RECEPTACLE WHITE
32	FAULT CONTACT SUPPLY
33	FAULT CONTACT RETURN

FEMALE QUICK DISCONNECT PLUG



PLUG & TERMINAL STRIP WIRING DIAGRAM — AR

NTS — TYP E-302

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	08/14/15	RJR	SGS		
0	06/07/13	TDD	TDD	RJR	SHM

DCB 007.4
ISSUED FOR CONSTRUCTION
REVISION
BY APVD
SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAMS

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DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

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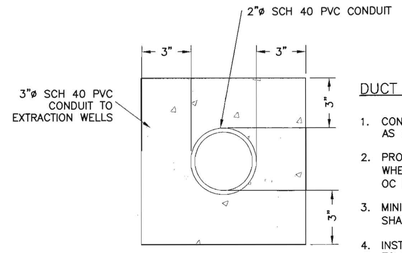
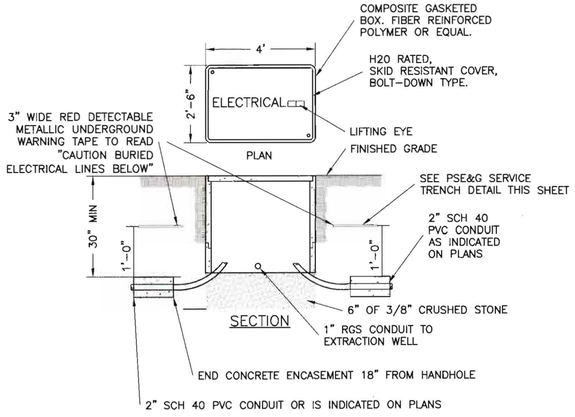


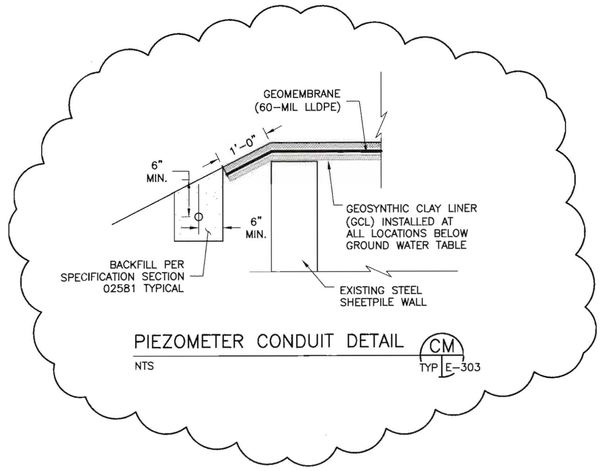
DUCT WAY NOTES:

1. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
2. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

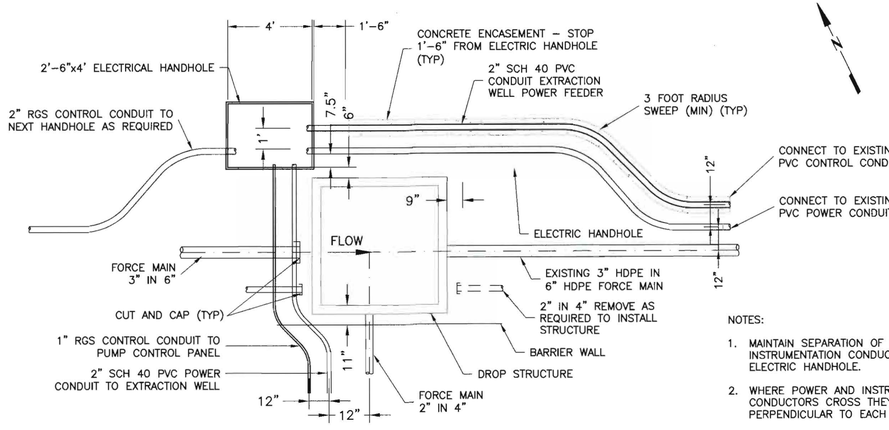
DUCT BANK DETAILS — NTS — AT — TYP E-303



ELECTRICAL HANDHOLE DETAIL — NTS — AW — C-201, C-202, C-203 — E-303



PIEZOMETER CONDUIT DETAIL — NTS — CM — TYP E-303



NOTES:

1. MAINTAIN SEPARATION OF POWER AND INSTRUMENTATION CONDUCTORS IN ELECTRIC HANDHOLE.
2. WHERE POWER AND INSTRUMENTATION CONDUCTORS CROSS THEY SHALL CROSS PERPENDICULAR TO EACH OTHER.
3. ELECTRICAL HAND HOLES SHALL BE LOCATED TO AVOID CLEANOUT MANHOLES.

ELECTRICAL HANDHOLE ORIENTATION DETAIL — NTS — AY — C-201, C-202, C-203 — E-303

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

DSGN	DR	CHK	APVD
TDD	RJR	SGS	SGS

NO.	DATE	REVISION	BY	APVD
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

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NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
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DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ELECTRICAL DETAILS

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DATE	
PROJ	3480-12-0317
DWG	E-303
SHEET	66 OF 66

FINAL DCB 007.4.1 – SA-6 SOUTH CGWES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 7.4.1 **DCB Type:** Major(a) **Effective Date:** 5/24/16
Project Location: SA-6 South	**Associated RFI:**
Title: GW Extraction System – Revisions of Electrical to Replace Wells with Trenches	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007 series has documented changes to the contingent GW system design. Details related to the administrative basis for the change are provided in DCB 007.1 (issued to Entact on 6/12/14).

Several major changes have been issued in the past covering the change from Individual Wells to a Trench Drain system and the elimination of all wiring, pumps, and controls from the Entact Chromium Remedy scope of work.

This DCB 7.4.1 is being issued to address further changes in the SA-6 South design, including but not limited to:

- Elimination of Drop Structure at the junction of SA-6 / SA7
- Elimination of flow meter
- Conduit sizing changes

Drawings that are revised in this DCB are:

- C-201
- C-202
- C-203
- C-204
- C-304
- C-305
- C-306
- C-310
- E-301 (Not for Construction)
- E-302 (Not for Construction)
- E-303

Clarification of Entact Scope of Work:

- The provision of pumps, electrical wiring and instrumentation for the Contingent Groundwater system has been removed from Entact's scope of work.
- The installation of the FM and E&I conduits remain in Entact's scope, as depicted on the drawings.
- Running of conduit to the piezometers remains in Entact's scope. No instrumentation or wiring will be installed in the piezometers as part of the initial Chromium Remedy. The need and type of instrumentation will be determined based on the initial rounds and evaluation of the performance of the Contingent System.
- All E&I conduit will be, at a minimum, Sched 40 PVC meeting the National Electric Code.

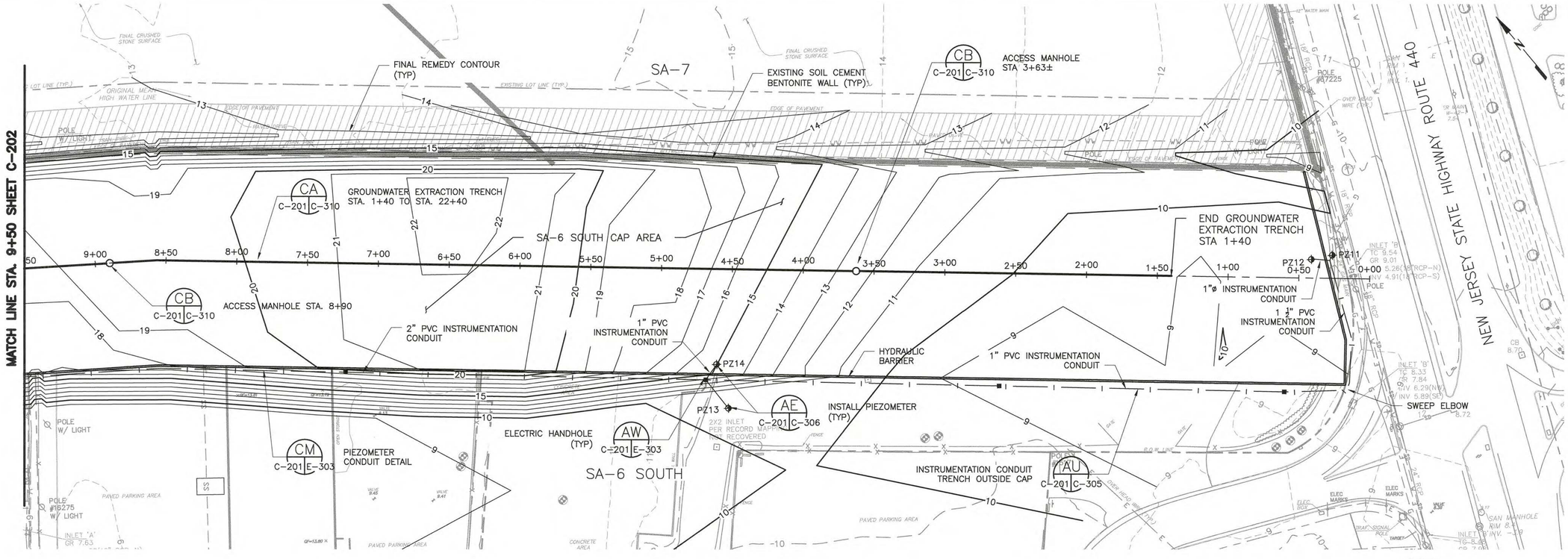
Clarification of Entact Scope of Work (continued):

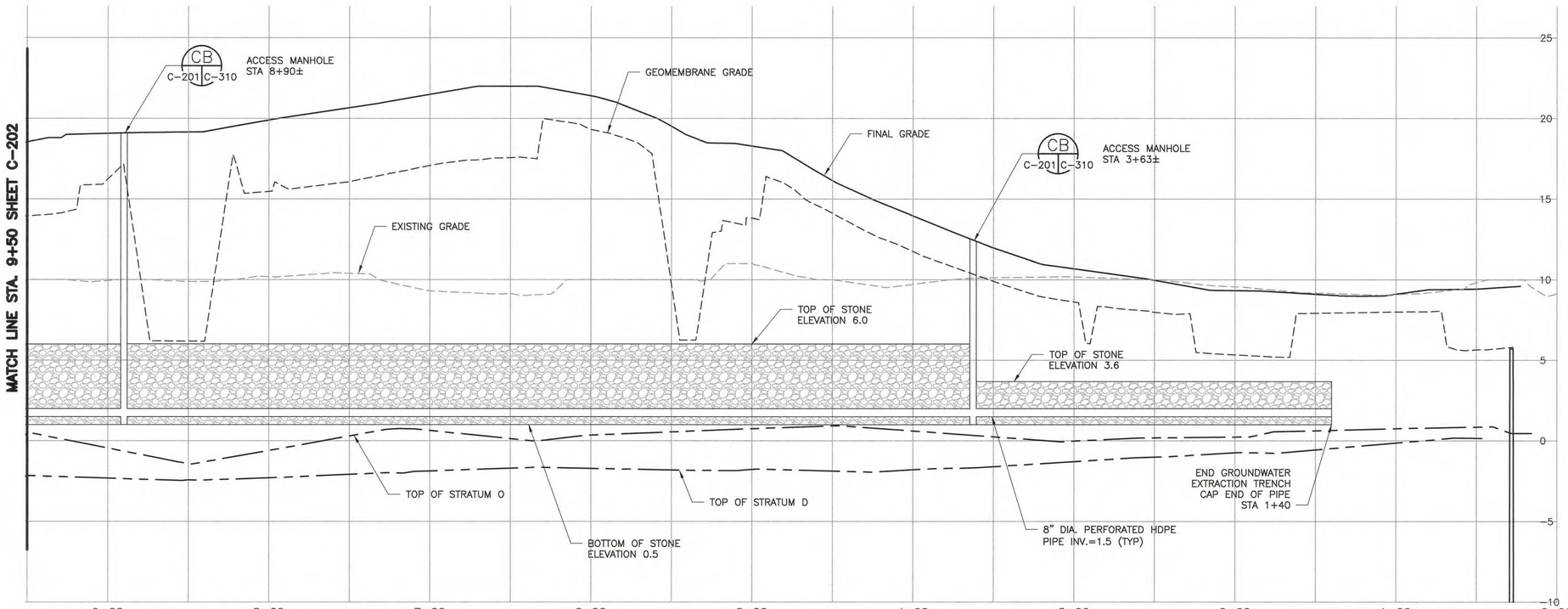
- SA-6/7 Meter / Drop structure has been eliminated and replaced with two 45 degree transitions. This detail needs to be reviewed with the fabricator and details shall be submitted to the engineer for approval.
- In the SA-6S east end, AmecFW had to relocate the last pull box and build in some bends. Therefore, the conduit was increased to 1.5 inch.
- The revised design calls for a minimum 24" of cover for direct burial of conduit.
- The E&I conduit from SA-7 to the SA-6S Pump Station is now shown as concrete encased (location shown on Drawing C-203, Detail AA shown on C-305).

DCB 7.2.2 will document changes to the SA-6 North Contingent GW Extraction system. DCB 7.2.2 will follow in a separate submittal.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed due to changes in the recovery concept, permitted discharge location and site grading
	Attachments: ☑ Yes ☐ No C-201, C-202, C-203, C-204, C-304, C-305, C-306, C-310, E-301 (Not IFC), E-302 (Not IFC), E-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** C-201, C-202, C-203, C-204, C-304, C-305, C-306, C-310, E-301 (Not IFC), E-302 (Not IFC), E-303
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 5/24/16
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON CASKETS.
10. INSTALL INSTRUMENTATION CONDUIT FOR PAIRED PIEZOMETERS READIED WITH PULL STRINGS FOR FUTURE INSTRUMENTATION CABLE INSTALLED BY OTHERS.
11. CONCRETE ENCASEMENT REQUIRED IF BURIAL DEPTH IS LESS THAN 24" OR OTHERWISE NOTED FOR E&I CONDUIT.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
4	05/20/16	DCB 007.4.1	TDD	SGS
3	08/14/15	DCB 007.4	RJR	SGS
2	02/13/15	DCB 007.3	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS
DSGN		DR TDD CHK RJR APVD SGS		

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

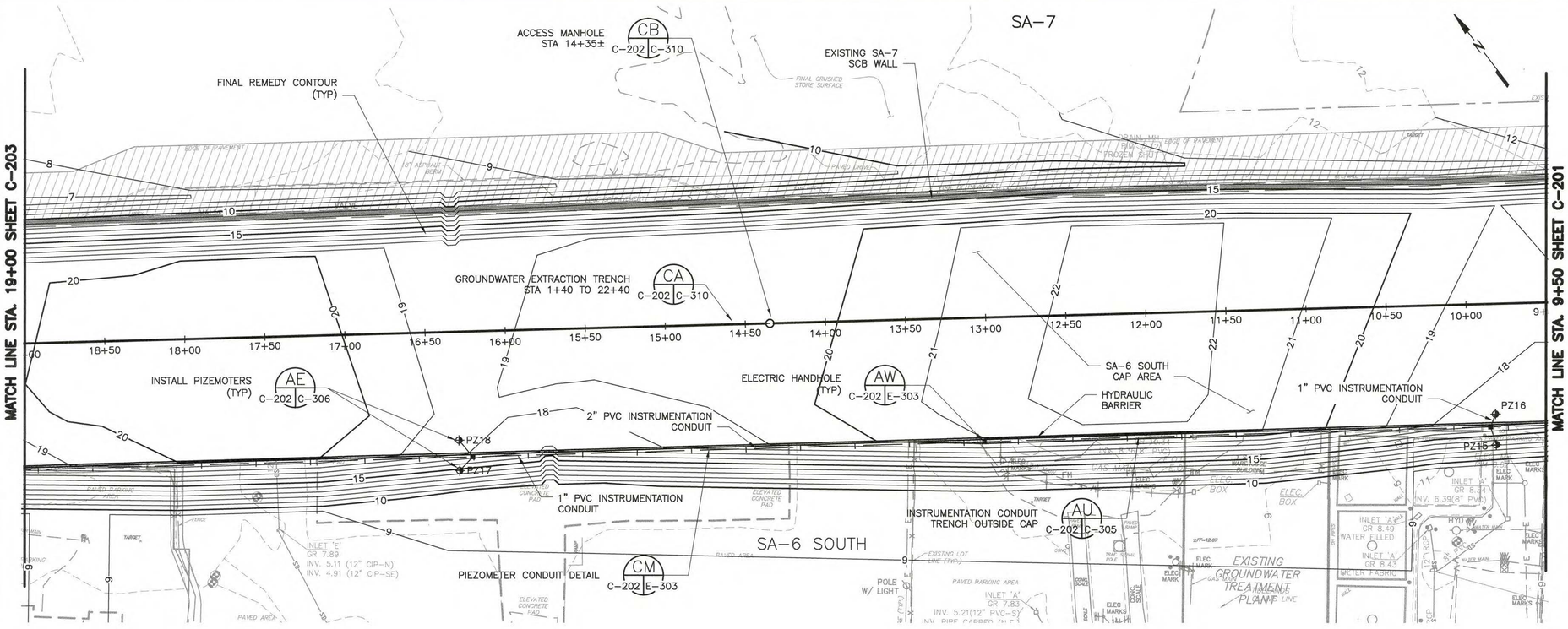
GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

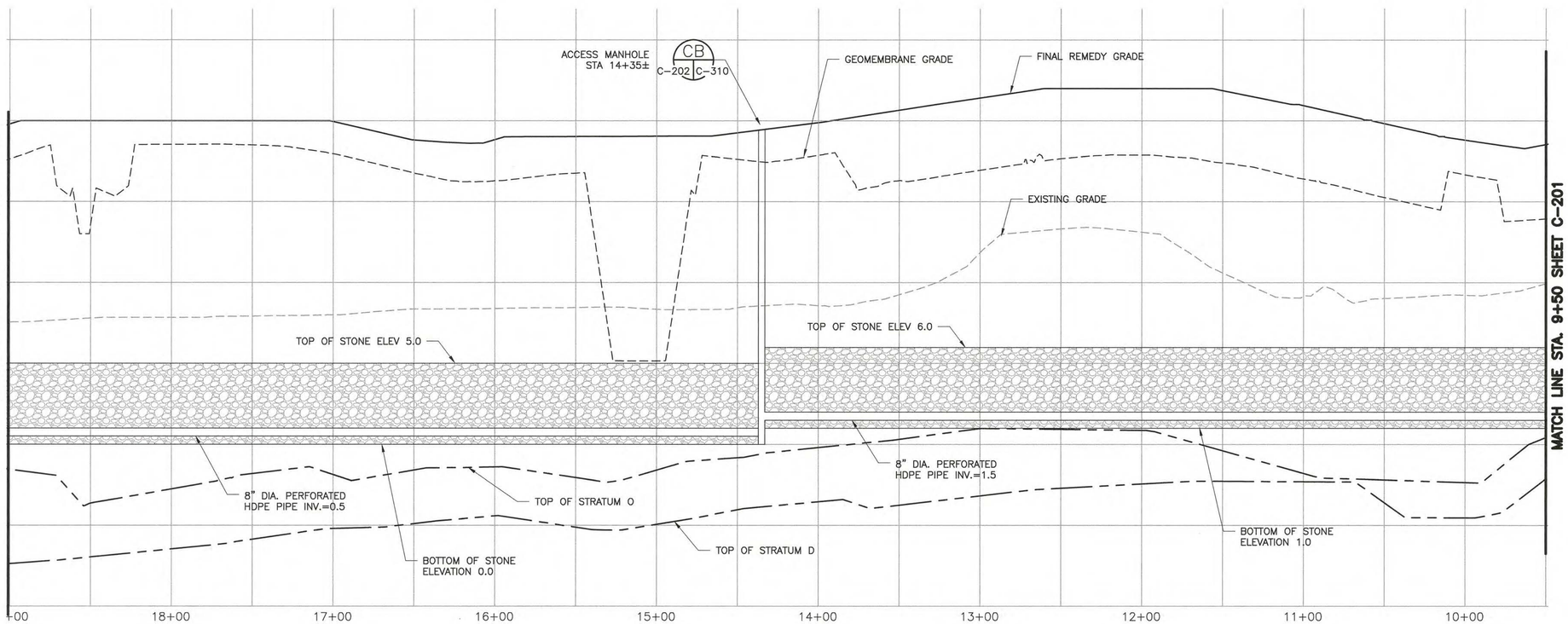
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 9:24 AM





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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

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SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

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0 1"

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PROJ	3480-12-0317
DWG	C-202
SHEET	OF 66

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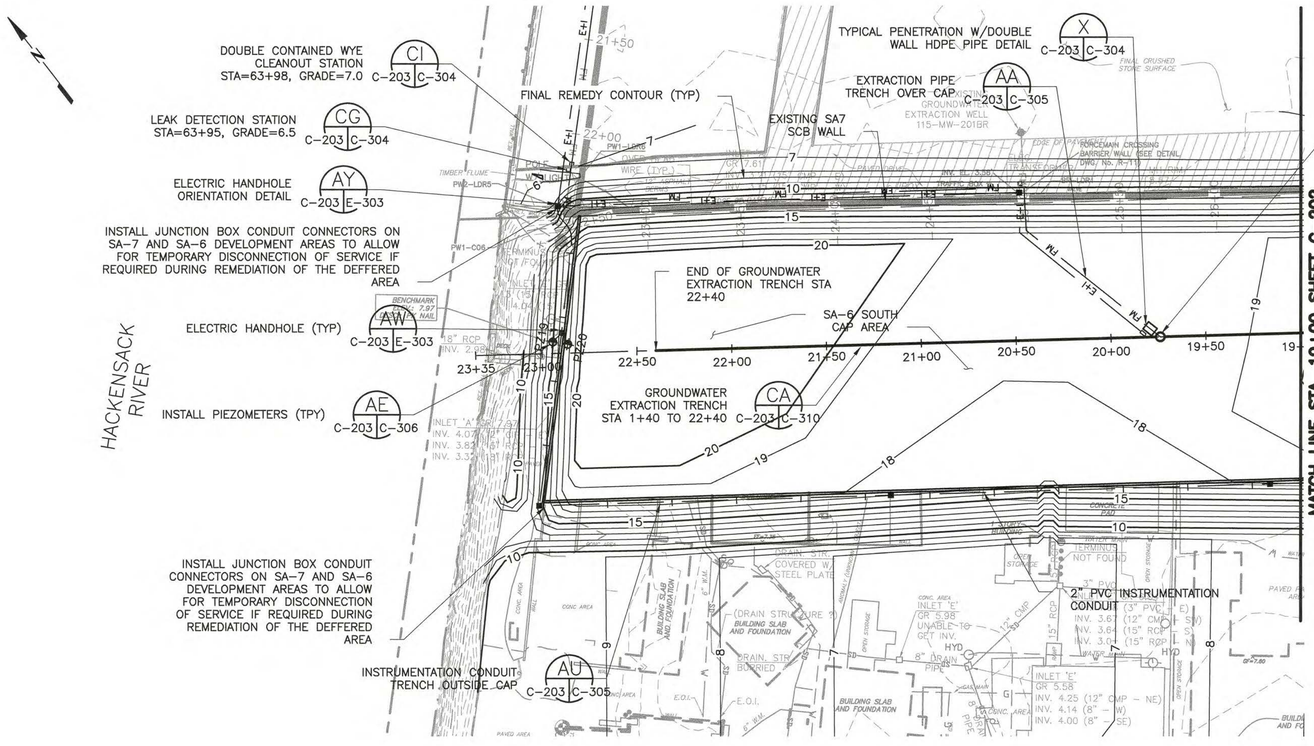
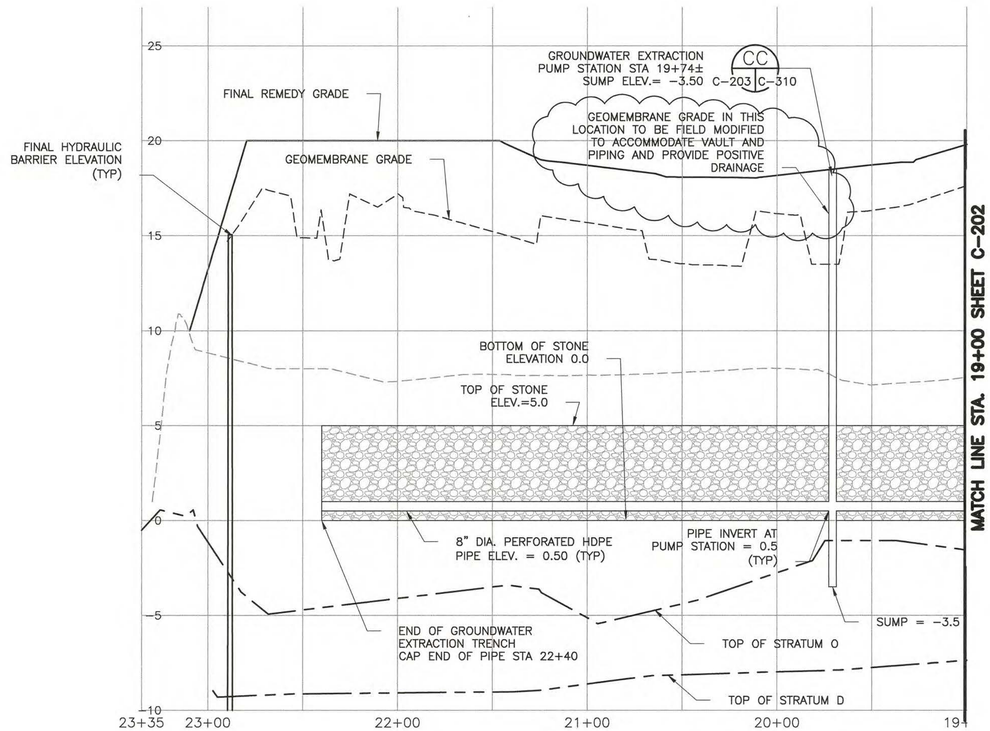
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR35-C-202_Cont_GWE_Trench.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 9:26 AM





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SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

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DSGN		DR	RJR	APVD	SGS

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NJ Certificate of Authorization Number 24GA28010900

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BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-203
SHEET	OF 66

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HACKENSACK RIVER

PIERHEAD AND BULKHEA

LEAK DETECTION STATION STA=63+95, GRADE EL=6.5 (CG C-204 C-304)

1" PVC CONDUIT

DOUBLE CONTAINED WYE PIPE CLEANOUT STATION STA=63+98, GRADE=7.0 (CI C-204 C-304)

CONTRACTOR TO SUBMIT FORCE MAIN FABRICATION DETAILS FOR ENGINEERS APPROVAL.

ELECTRICAL HANHOLE DETAIL (TYP) NOTE IF AVAILABLE REUSE EXISTING ELECTRICAL PULL BOX IN THIS LOCATION (AW C-204 E-303)

EXISTING 2"ø CONTROL AND 2"ø POWER CONDUITS

EXISTING PW-1 CLEANOUT STATION STA 69+70 INV=2.40 (RECORD) (CI C-204 C-304)

STA=70+19 END OF EXISTING 3" FM AND START OF NEW 2" FM TO SA-6 NORTH FIELD VERIFY END OF EXISTING 3" PIPE.

EXISITNG 2" REGIONAL GROUNDWATER FORCE MAIN FROM EW 115-MW-215BR

EXISITNG 3" EFFLUENT AND 1½" SANITARY FM

EXISTING 2"ø CONTROL AND 2"ø POWER CONDUITS

DOUBLE CONTAINED WYE PIPE CLEANOUT STATION STA=72+20, GRADE=17.4 (CI C-204 C-304)

SA-6 SOUTH 2" HDPE IN 4" HDPE

EXISTING 2"ø CONTROL AND 3"ø POWER CONDUITS

SA-6 NORTH 2" HDPE IN 4" HDPE

EXISTING 3" FM TRENCH DETAIL FORCE MAIN FROM STA 64+00 TO STA 68+91 (CK C-204 C-306)

STA=68+91 EXISTING REGIONAL GROUNDWATER EXTRACTION WELL 115-MW-215BR

EXISTING 6"X3" FM TRENCH DETAIL (CL C-204 C-306)

VERIFY PRESENCE/CONDITION OF EXISTING PW-1 LEAK DETECTION STATION/ STA 70+17 INV=9.35 (RECORD) (REPLACE IF NECESSARY) (CL C-204 C-306)

1"ø PVC CONDUIT (SEE SHEET CN-203)

AIR RELEASE STATION STA 71+50 GRADE EL=18.5 (CF C-204 C-304)

SA-6 NORTH GROUNDWATER EXTRACTION FORCE MAINS (SEE SHEET CN-203)

EXISTING HYDRAULIC BARRIER

EXISTING 72" FM

EXISTING GROUNDWATER TREATMENT BUILDING

SA-6 NORTH FORCE MAINS FROM EWP#1 AND EWP#2 2" HDPE IN 4" HDPE

SA-6 NORTH

JUNCTION MANHOLE #1 INSTALL 4'X6'X4' DEEP STRUCTURE AGAINST GROUNDWATER TREATMENT PLANT FOUNDATION GRADE=16.15. CAP SA-6 NORTH AND SOUTH FORCE MAINS. (AZ C-204 C-304)

SA-7

EXISTING SA-7 SCB WALL

EXTRACTION TRENCH

2" PVC INSTRUMENTATION CONDUIT

FINAL REMEDY CONTOURS (TYP)

PROPOSED HYDRAULIC BARRIER

EXTRATION PIPE TRENCH OUTSIDE SA-6 SOUTH CAP (AB C-204 C-305)

DOUBLE CONTAINED ELBOW PIPE CLEANOUT STATION STA=61+39, GRADE EL=10.0 (CH C-204 C-304)

NOTE:
CONTRACTOR TO VERIFY CONDITION OF EXISTING E&I AND FM AND STATION OF TIE-INS PRIOR TO INITIATING WORK.

SA-6 NORTH FINAL REMEDY GRADE

EXISTING SA-7 SCB WALL

SA-6 SOUTH

SA-6 SOUTH CAP AREA

EXTRACTION PIPE TRENCH OVER CAP (AA C-204 C-305)

INSTRUMENTATION CONDUIT TRENCH (AU C-204 C-305)

VALVE VAULT STA 60+31±, GRADE EL=18.1 (CC C-204 C-310)

GROUNDWATER EXTRACTION PUMP STA 19+74 EXTRACTION TRENCH= STA 60+24 EXTRACTION FORCE MAIN (CC C-204 C-310)

MATCH LINE SHEET C-203, C-204

MATCH LINE SHEET C-202

MATCH LINE BELOW

END EXISTING 3" HDPE IN 6" HDPE REDUCE TO 2" HDPE IN 4" HDPE STA=70+19, INV= 10.1

EXISTING PW-1 LEAK DETECTION STA 70+13 INV=9.35 (RECORD) (CJ C-204 C-304)

EXISTING 3" CLEANOUT STA 69+70 INV=2.4 (RECORD) (CI C-204 C-304)

EXISTING SA-7 SCB WALL

PROPOSED SA-6 NORTH REMEDY GRADE

FUTURE DEVELOPMENT 48" STORM INV=4.0 BY OTHERS

STA=68+91 REGIONAL GROUNDWATER EXTRACTION WELL 115-MW-215BR

DOUBLE CONTAINED WYE PIPE CLEANOUT STATION STA=70+20, RADE=17.4 (CF C-204 C-304)

AIR RELESE STATION STA=71+50, GRADE=18.5 (CF C-204 C-304)

EXISTING GROUNDWATER TREATMENT BUILDING STA 73+85.2

INSTALL 2" THICK INSULATION BOARD OVER FM WERE COVER IS LESS THEN 3'

INV=13.3
INV=13.3

STA=73+77 INV=13.2
STA=73+82 INV=13.2

INV=10.1
INV=9.35 (RECORD DRAWING)

INV=2.4

EXISTING

NEW

EXISTING 54" FM ABANDONED

SA-7 BULKHEAD AREA

SA-6 NORTH

GROUNDWATER EXTRACTION PUMP STATION STA 60+24± CENTER (CC C-204 C-331)

PROPOSED VALVE VAULT STA 60+31± GRADE EL=18.1

INSTALL 2" THICK INSULATION BOARD OVER FM WERE COVER IS LESS THAN 3'

2" HDPE DR 11 FM IN 4" HDPE DR17

DOUBLE CONTAINED ELBOW PIPE CLEANOUT STA=61+39, GRADE EL=10.0 (CH C-204 C-304)

CONTRACTOR TO SUBMIT FORCE MAIN FABRICATION DETAILS FOR ENGINEERS APPROVAL.

FUTURE DEVELOPMENT 60" DRAIN PIPE INV=4.1 BY OTHERS

LEAK DETECTION STATION STA=63+95, GRADE=6.5 (CG C-204 C-304)

DOUBLE CONTAINED WYE PIPE CLEANOUT STATION STA=63+98, GRADE=7.0 (CI C-204 C-304)

INV=14.7
INV=14.3

GEOMEMBRANE GRADE

FINAL REMEDY GRADE

EXISTING GRADE

EXISTING GRADE

STA 61+37 90° ELBOW INV.=7.51

EXISTING SA-7 SOUTH SCB WALL

INV=6.7

2" HDPE DR 11 FM IN 4" HDPE DR17

INV=5.8

4"x2" TO 6"x3" TRANSITION TO BE SUBMITTED FOR ENGINEERS APPROVAL

EXISTING 3" HDPE IN 6" HDPE STA 64+10 TO STA 70+19

INV=5.3

INV=2.8

INV=1.1

EXISTING SA-7 PERIMETER POOL ALONG SCB WALL EL=5.0

EXISTING SA-7 SHEET PILE WEST WALL TOP EL=4.00

INV=(3.5)

SA-7

NEW

SA-6 SOUTH

SA-7 BULKHEAD AREA

EXISTING

EXISTING 3" HDPE DR11 FM INSIDE 6" HDPE DR17 PIPE

MATCH LINE ABOVE

NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.
5. AT STATION 66+65, IF AVAILABLE, REUSE EXISTING ELECTRICAL PULL BOX.
6. FROM STATION 63+78 TO STATION 68+91 REMOVE ANY EXISTING WIRING REMAINING IN THE 2" E+I CONDUITS.
7. FORCE MAIN TO BE CAPPED AND TERMINATED INSIDE THE INSTALLED 4'x6'x4' DEEP JUNCTION STRUCTURE OUTSIDE THE GROUNDWATER TREATMENT PLANT.
8. 2" PVC POWER CONDUIT TO BE INSTALLED. WIRING TO BE INSTALLED BY OTHERS UNDER FUTURE CONTRACT. INSTALL NON-DEGRADABLE PULL STRINGS FOR FUTURE USE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

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3	02/13/15	DCB 007.3	TDD	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION	RJR	SGS
1	05/14/14	DCB 007	TDD	SHM
DSGN	TDD	DR RJR	CHK TDD	APVD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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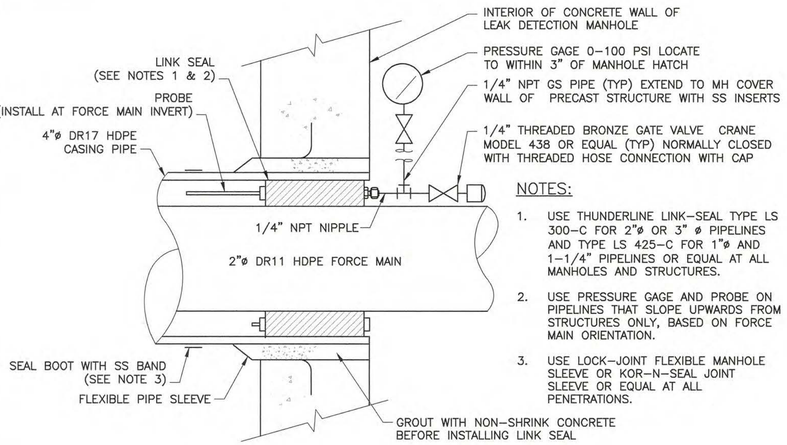
0 1"

DATE
PROJ 3480-12-0317
DWG C-204
SHEET OF 66

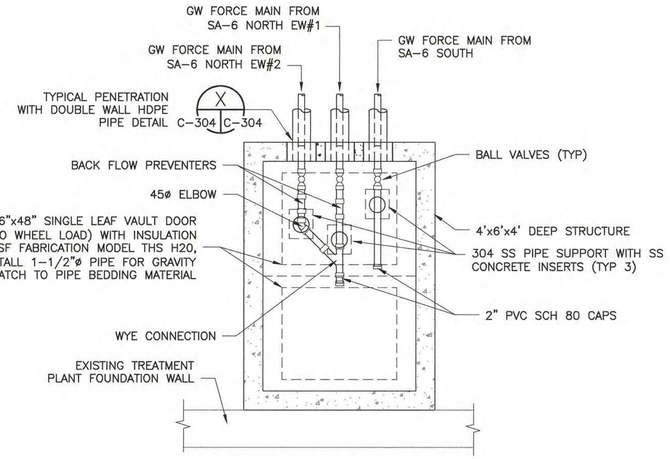


NOTES:

1. USE THUNDERLINE LINK–SEAL TYPE LS 300–C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425–C FOR 1"ø AND 1–1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK–JOINT FLEXIBLE MANHOLE SLEEVE OR KOR–N–SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

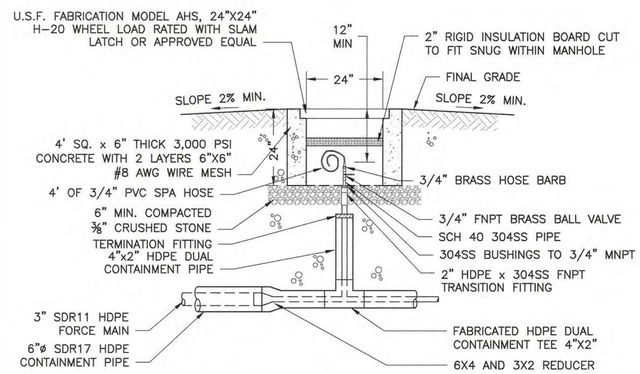
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X | C–304 | C–304)

NTS



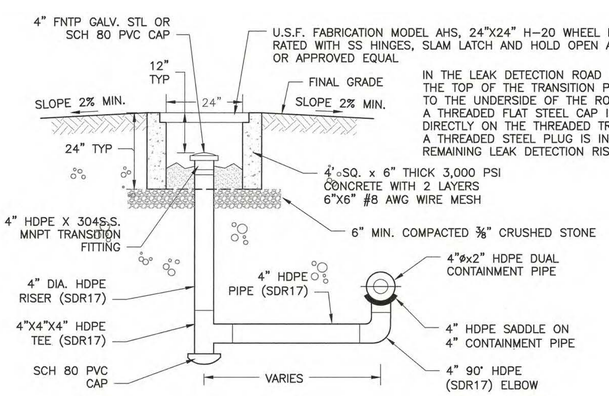
JUNCTION MANHOLE #1 @ GWTP (AZ | C–204 | C–304)

NTS



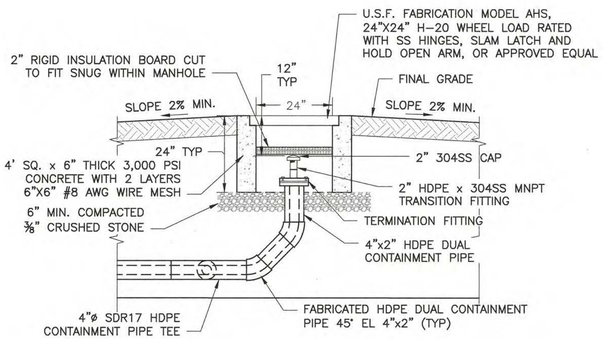
AIR RELEASE STATION (CF | C–204 | C–304)

NTS



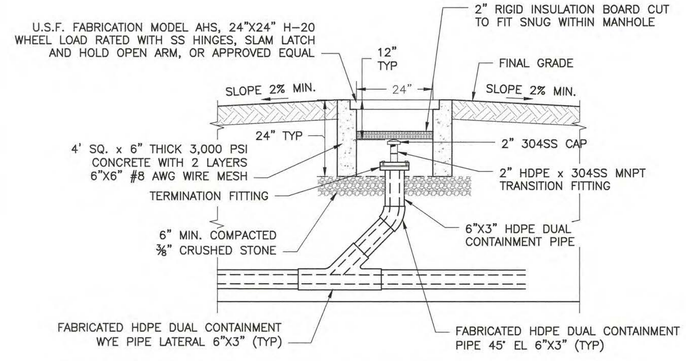
LEAK DETECTION STATION (CG | C–204 | C–304)

NTS



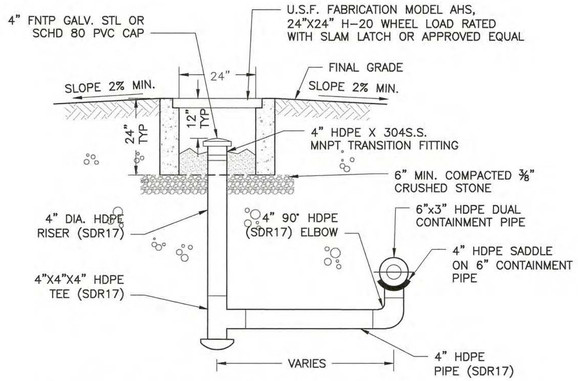
DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH | C–204 | C–304)

NTS



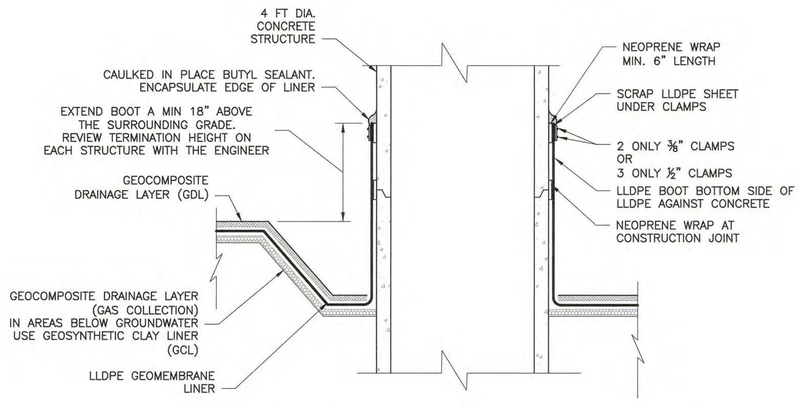
EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI | C–204 | C–304)

NTS



EXISTING 3" LEAK DETECTION STATION (CJ | C–204 | C–304)

NTS



LINER ANCHOR TO CONCRETE STRUCTURE (CE | TYP | C–304)

NTS

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND C–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

NO.	DATE	REVISION	CHK	APVD
DSGN	REO	DR	RJR	REO
4	05/20/16	DCB 007.4.1	TDD	SGS
3	08/05/15	DCB 37.1 REVISED DETAIL CE	RJR	SGS
2	07/28/15	DCB 37 REVISED DETAIL CE	RJR	SGS
1	02/13/15	DCB 007.3	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
			BY	APVD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SHM

Honeywell
115 FABER RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019900

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PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

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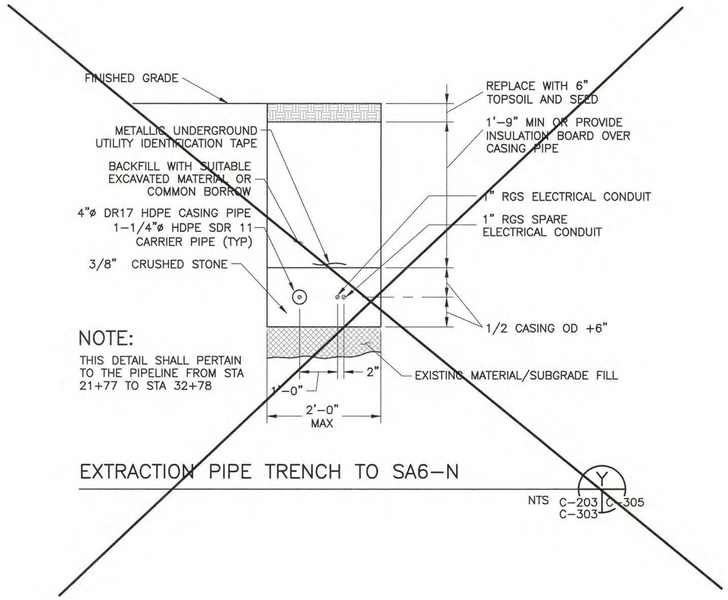
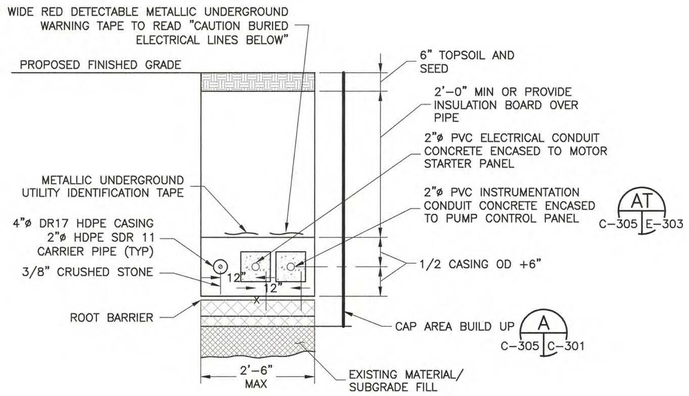


EXTRACTION PIPE TRENCH TO SA6-N

NTS Y C-203 C-303 C-305

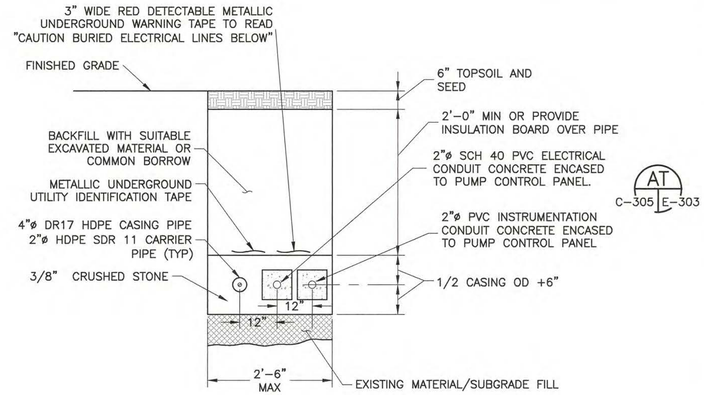


EXTRACTION PIPE TRENCH OVER CAP

(INSIDE SA-6S CAP AREA)

VALVE VAULT TO STA 61+32±

NTS AA C-201 C-202 C-203 C-305

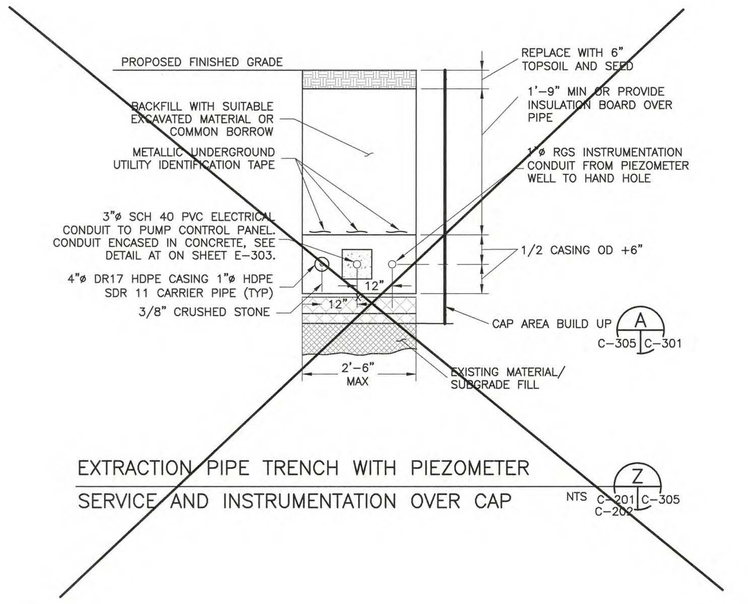


EXTRACTION PIPE TRENCH

(OUTSIDE SA-6S CAP AREA)

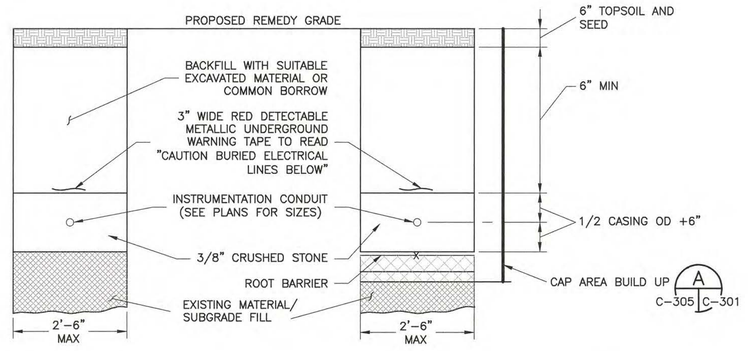
STA. 61+32 TO STA. 63+72±

NTS AB C-201 C-202 C-203 C-305



EXTRACTION PIPE TRENCH WITH PIEZOMETER SERVICE AND INSTRUMENTATION OVER CAP

NTS Z C-201 C-202 C-305



OUTSIDE CAP

(SEE DETAIL CM ON E-303)

OVER CAP

PIEZOMETER INSTRUMENTATION CONDUIT TRENCH

NTS AU C-201 C-203 C-305

NOTE:

1. PROVIDE CONCRETE ENCASEMENT IF CONDUIT IS LESS THAN 24-INCHES BELOW DEVELOPMENT GRADE.
2. INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	05/20/16	TDD	REO	RJR	REO	SGS
0	06/07/13	TDD				SHM

DCB 007 4.1

ISSUED FOR CONSTRUCTION

REVISION

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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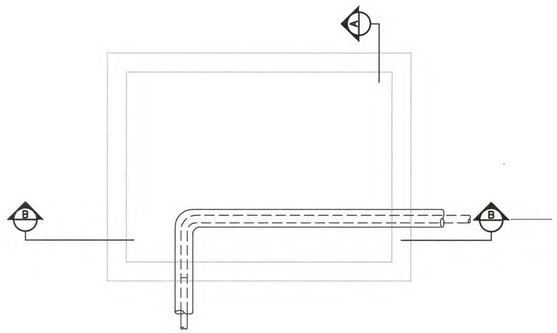
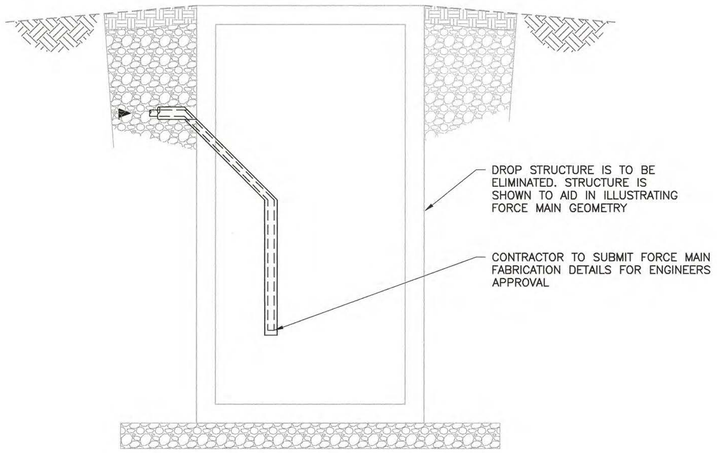
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR41-C-305 Conting Pump Well Details.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 9:35 AM



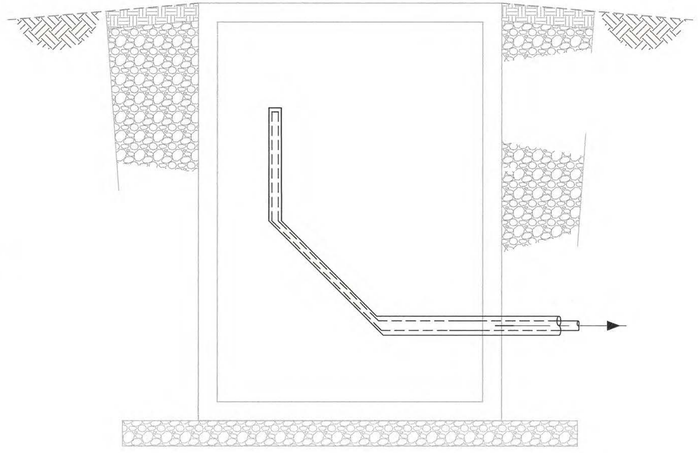
PLAN



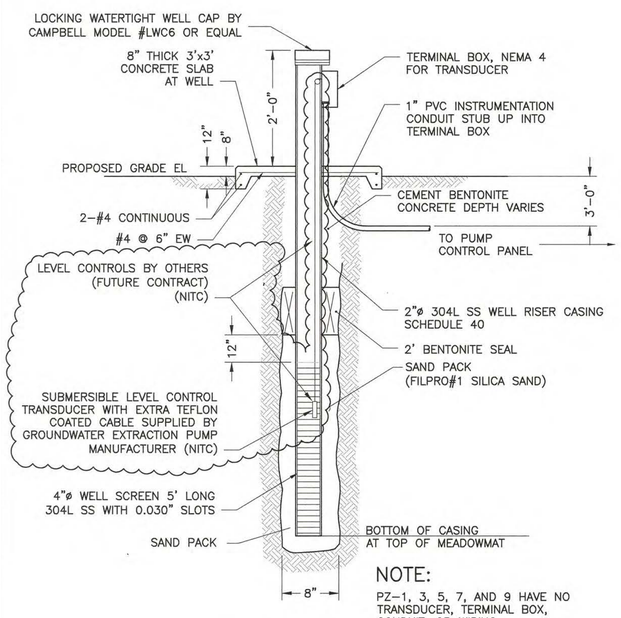
SECTION AA

ELIMINATION OF STRUCTURE
STA 64+10
NTS

AZ
C-204 | C-306



SECTION BB

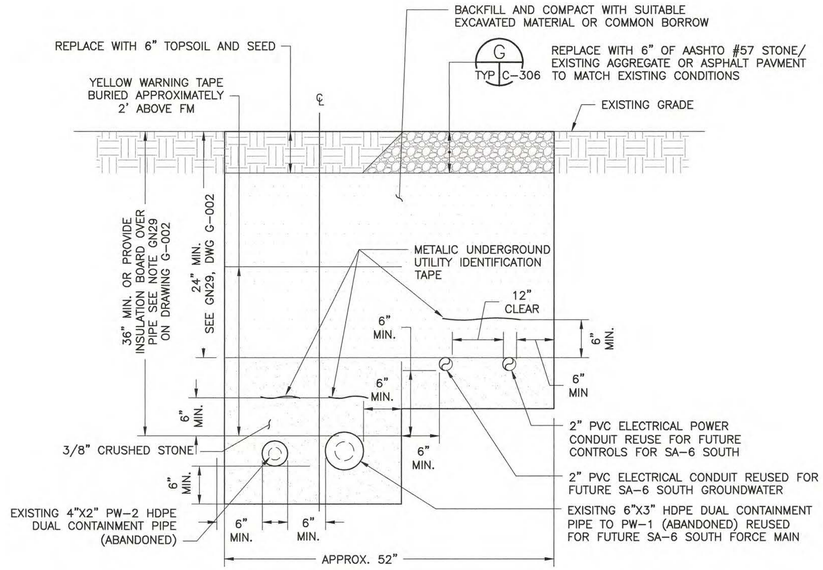


NOTE:

PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

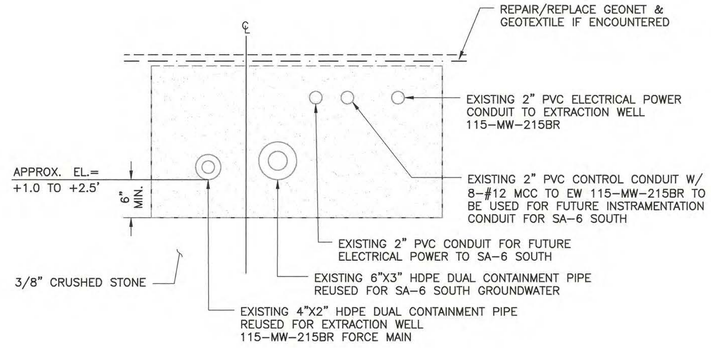
PIEZOMETER DETAIL
NTS

AE
C-201 | C-306
C-202
C-203



EXISTING 3" FM TRENCH DETAIL
NTS STA 63+78 TO STA 68+91

CK
C-204 | C-306



TRENCH DETAIL
NTS

CL
C-204 | C-306

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO	DATE	DSGN	DR	CHK	APVD	BY	APVD
		REO	REO	RJR	REO	SHM	SHM
3	05/20/16			DCB 007.4.1		TDD	SGS
2	08/14/15			DCB 007.4		RJR	SGS
1	02/13/15			DCB 007.3		TDD	SGS
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CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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NJ Certificate of Authorization Number 24GA28010900

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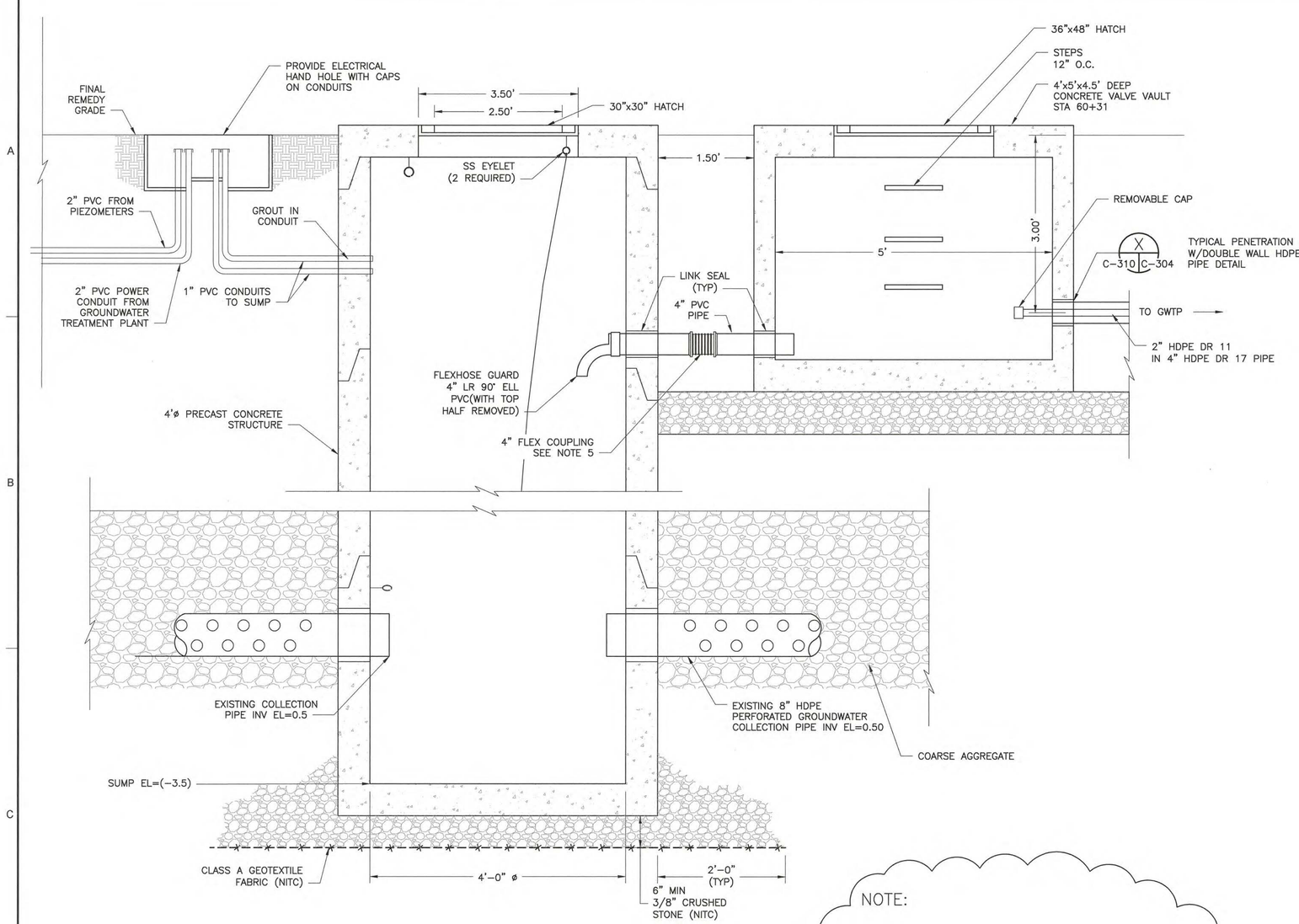
DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR43-C-306 Extraction Well Details.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 9:36 AM



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 C-204 C-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO	DATE	REVISION	CHK	APVD
4	05/20/16	DCB 007.4.1	TDD	SGS
3	08/14/15	DCB 007.4	RJR	SGS
2	02/02/15	DCB 007.3	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS
DSGN	TDD	DR	RJR	BY	APVD

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION TRENCH DETAILS

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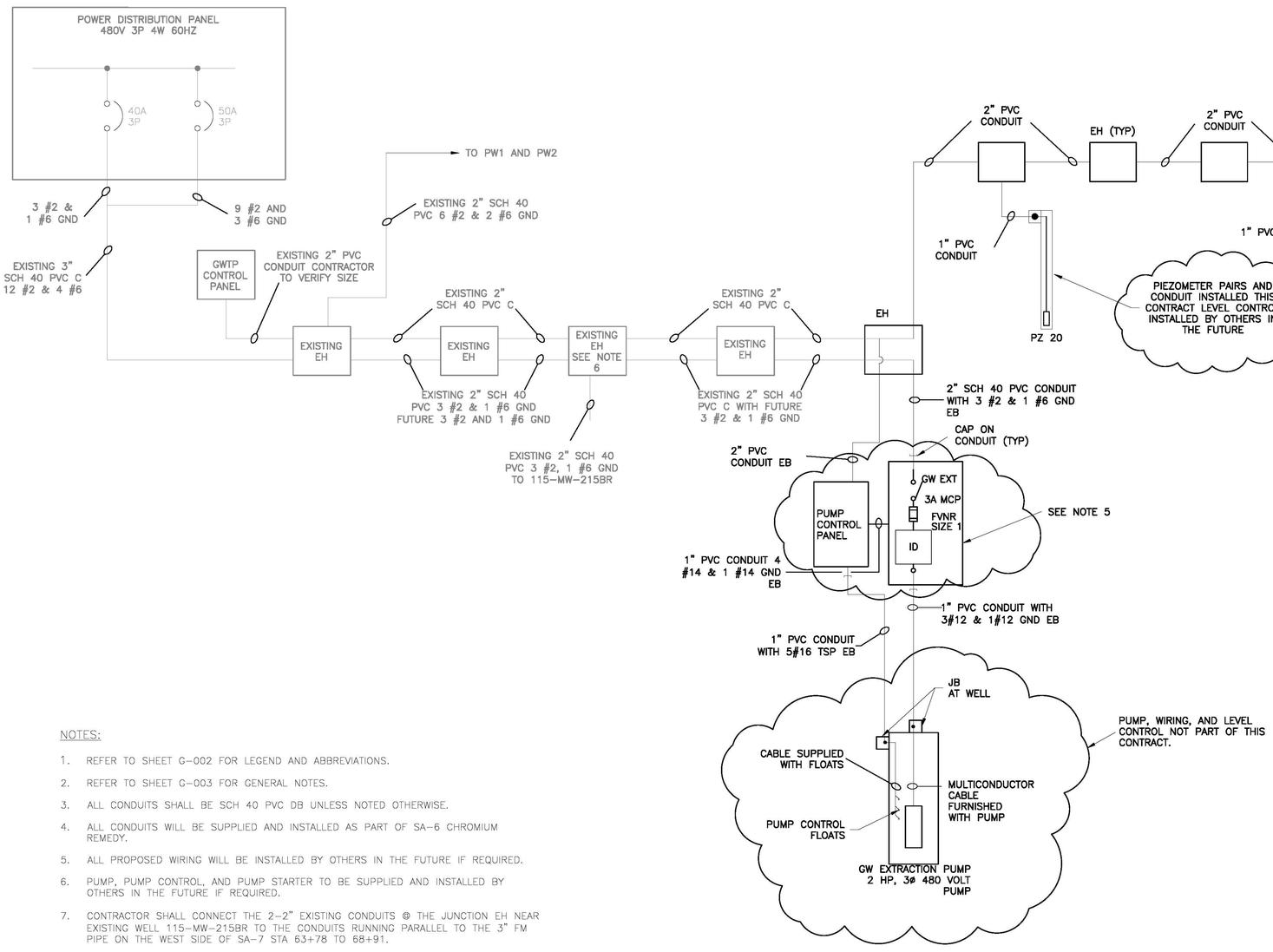
DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE SCH 40 PVC DB UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
EB	ENCASED BURIAL
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

NOT FOR CONSTRUCTION

Fri, 20 May 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DR	CHK	APVD
DSGN	TDD	RJR	SHM	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD SHM SGS
1	08/14/15	DCB 007.4		RJR SGS
2	05/20/16	DCB 007.4.1		TDD SGS

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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Hamilton, NJ, 08619
(609) 689 - 2828
NJ Certificate of Authorization Number
24GA28010800

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DATE	
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DWG	E-301
SHEET	64 OF 66

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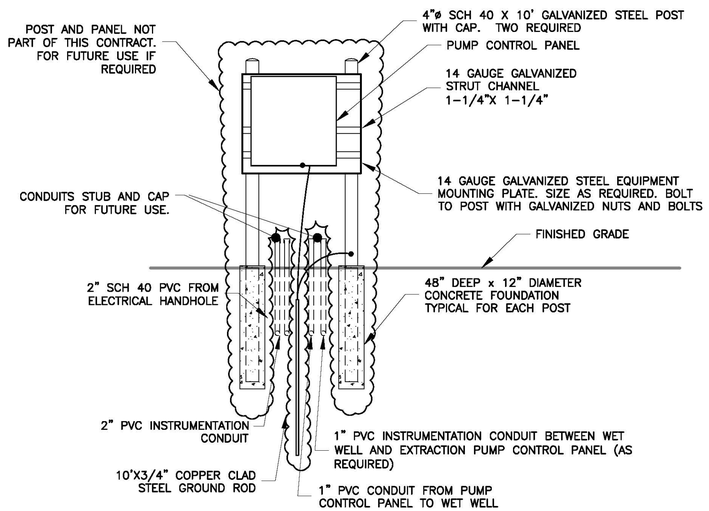


EXTRACTION WELL PUMP CONTROL PANEL DETAIL (AO)

NTS

TYP E-302

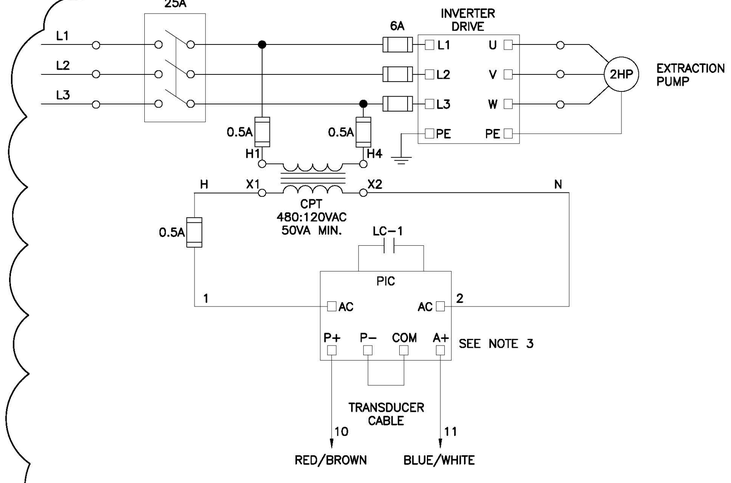
NOTES:

1. ALL CONDUITS SHALL BE 1" PVC MINIMUM, UNLESS OTHERWISE SHOWN. WHEN DISTANCE IS LESS THAN 6 FEET, LIQUID TIGHT METAL FLEXIBLE CONDUIT MAY BE USED.
2. LOCATE THE PUMP MOTOR STARTER WITHIN 3' OF THE EXTRACTION WELL PUMP STATION.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

NOT PART OF THIS CONTRACT
ELECTRICAL POWER AND INSTRUMENTATION CONTROLS TO BE RE-EVALUATED FOLLOWING INITIAL DRAWDOWN AND TRENCH PERFORMANCE EVALUATION

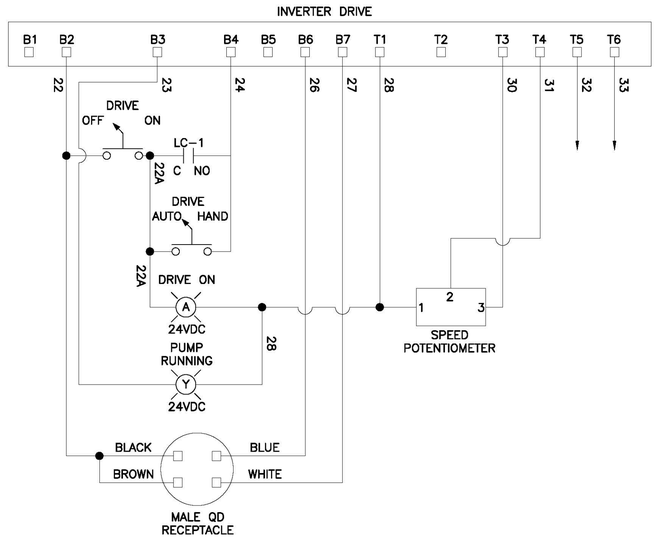


PUMP CONTROL PANEL WIRING DIAGRAM (AP)

NTS

TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 3)

TYP E-302



INVERTER DRIVE WIRING DIAGRAM (AQ)

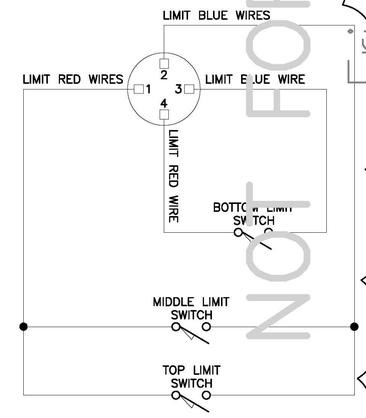
NTS

TYP E-302

FIELD TERMINAL STRIP CONNECTION SUMMARY

GND	EARTH GROUND
10	RED TRANSDUCER WIRE
11	BLUE TRANSDUCER WIRE
22	MALE QD RECEPTACLE BROWN AND BLACK
26	MALE QD RECEPTACLE BLUE
27	MALE QD RECEPTACLE WHITE
32	FAULT CONTACT SUPPLY
33	FAULT CONTACT RETURN

FEMALE QUICK DISCONNECT PLUG



PLUG & TERMINAL STRIP WIRING DIAGRAM (AR)

NTS

TYP E-302

NOT FOR CONSTRUCTION

FRI, 20 May 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	05/20/16	TDD			SHM	TDD	SHM
1	08/14/15		DCB 007.4.1			RJR	SGS
0	06/07/13		DCB 007.4			TDD	SHM
		TDD	RJR	SHM	APVD	ISSUED FOR CONSTRUCTION	
						REVISION	

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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100 PERCENT DESIGN DRAWINGS

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WIRING DIAGRAMS

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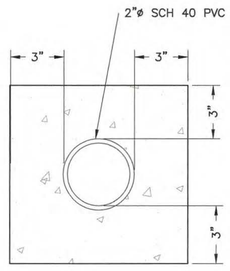
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

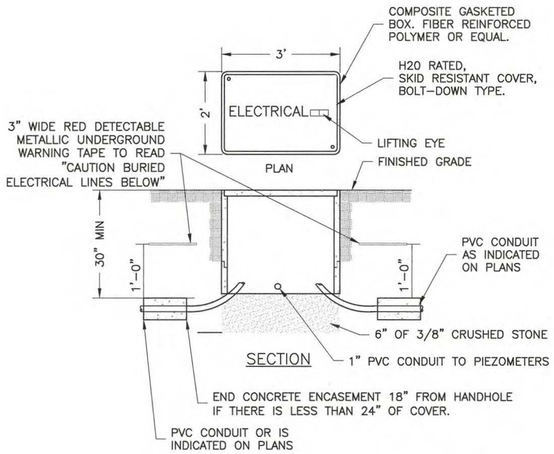
FILE NAME: Pr... HONEYWELL JERSEY CITY C... D... SA6-C3D CAD SA6-N r... S... GW E r... Tr... CR65-E-302 W r... D r... d... PLOT DATE: Fr, 20 M... 2016 PLOT TIME: 3:05 PM



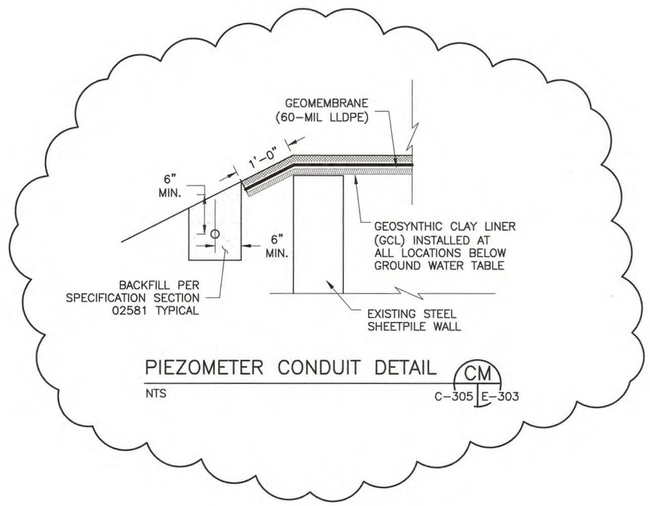
DUCT WAY NOTES:

1. ENCASED BURIAL REQUIRED IF THE COVER DEPTH IS LESS THAN 24" OR OTHERWISE SPECIFIED
2. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
3. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY WITH LESS THAN 24" OF COVER #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
4. ~~CONCRETE ENVELOPE SHALL BE 24" [610mm].~~
5. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

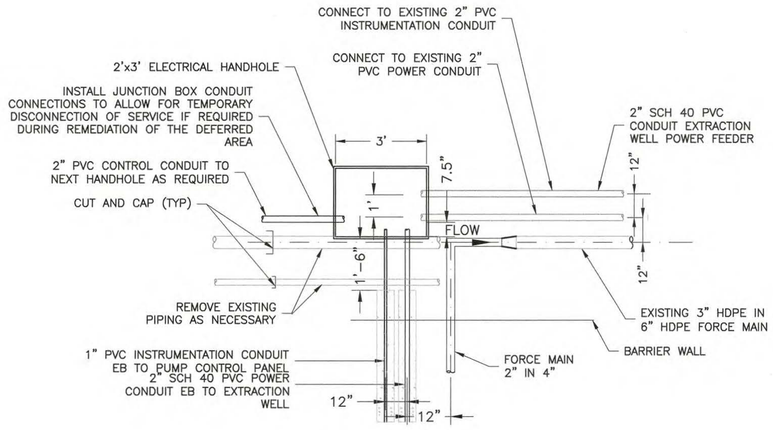
DUCT BANK DETAILS (AT)
NTS
C-201 | E-303
C-203



ELECTRICAL HANDHOLE DETAIL (AW)
NTS
C-201 | E-303
C-202
C-203



PIEZOMETER CONDUIT DETAIL (CM)
NTS
C-305 | E-303



ELECTRICAL HANDHOLE ORIENTATION DETAIL (AY)
NTS
C-201 | E-303
C-202
C-203

ELECTRICAL NOTES:

1. MAINTAIN SEPARATION OF POWER AND INSTRUMENTATION CONDUCTORS IN ELECTRIC HANDHOLE.
2. WHERE POWER AND INSTRUMENTATION CONDUCTORS CROSS THEY SHALL CROSS PERPENDICULAR TO EACH OTHER.
3. ELECTRICAL HAND HOLES SHALL BE LOCATED TO AVOID CLEANOUT MANHOLES.
4. INSTALL ELECTRICAL HANDHOLES AT MAXIMUM 250 FOOT SPACING.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

NO	DATE	DSGN	DR	CHK	APVD
2	05/20/16	TDD	DCB 007.4.1	TDD	SGS
1	08/14/15	RJR	DCB 007.4	RJR	SGS
0	06/07/13	TDD	ISSUED FOR CONSTRUCTION	TDD	SGS
			REVISION	BY	APVD

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

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SHEET	66 OF 66

FINAL DCB 007.4.2 – EI REVISIONS CONTINGENT GROUNDWATER

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB 7.4.2 **Type:** Minor(a) **Effective Date:** 12/20/2016
Project Location: SA-6 North and South	**Associated RFI:**
Title: Contingent GW E&I Revisions	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The Contingent GW system was modified from wells to trenches. This resulted in a reduction in from 9 pumps on the North, and 9 pumps on the South, to 2 pump stations on North, and 1 pump station on South. The electrical and instrumentation (E&I) requirements and associated conduit runs changed accordingly.

This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.

The IFC conduit runs were designed to allow for hard wiring of the piezometric pairs used to monitor the gradients. The piezometric instrumentation conduit run has been eliminated on SA-6S. The piezometric pairs will initially be monitored manually. Manual monitoring may be supplemented by use of data loggers (Solinst Levelogger or similar) in selected wells. Based on the technical advancement in data loggers subsequent to the IFC design, data collection options that do not require hard wiring are a viable and preferred. Wireless data loggers eliminate the risk of damage and associated subsurface repair in the future. As a result, conduit runs for the piezometers were deleted from SA-6S. Due to the progress of work and scheduling, a piezometer conduit was installed on SA-6N; however, wiring has not been installed and it is the engineer's recommendation that wireless installation be used.

Investigation of existing conduit runs at the west end of SA-7 indicated that one 2-inch conduit shown on the IFC design as existing was not present. A new conduit run was added in its place.

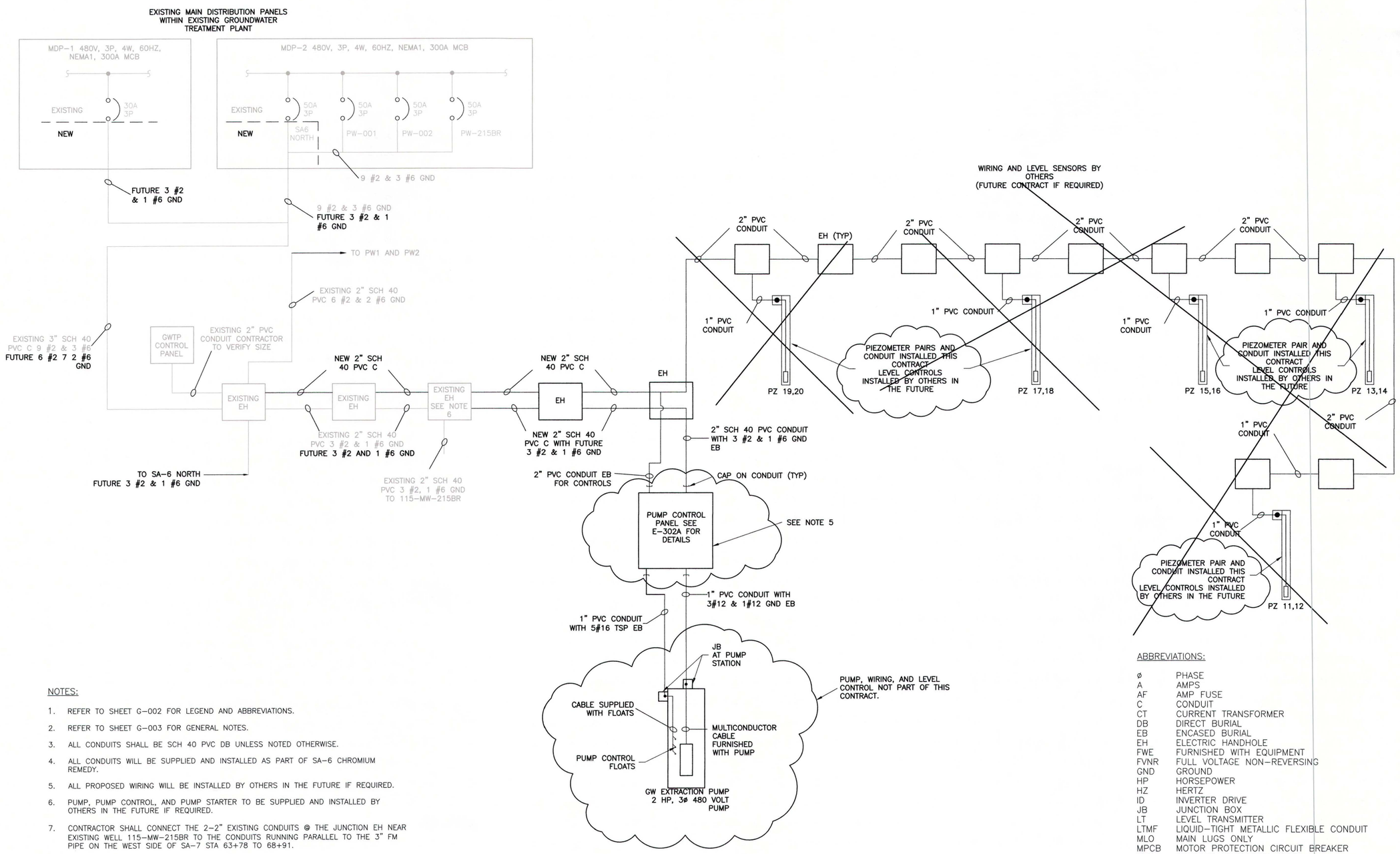
All pump stations, force-mains and E&I conduit runs except as noted above have been installed.

The reason for considering this a "Contingent" System is that modeling predictions indicate that **no pumping** will be required i.e. there is no technical design basis for determining a flow rate. In the absence of a theoretical or verified design flow the forcemains have been sized at 2 inches in diameter and the pumps and associated wiring to operate at 5 GPM. Larger pumps and wire sizes could be readily installed in the unlikely event they are required. As of the date of issue of this DCB, pumping has not been required. This covers a period of more than 12 months on SA-6S, and 4 months on SA-6N. To provide an allowance for pumping at some nominal flow rate, pumps and power have been sized assuming a steady 5 GPM flow rate. The pump and controls design is based on operation of only one pump station at a time. The 5 GPM is based on the capacity of the existing GWTP effluent pumps. The forcemain and pumps have been sized for greater capacity, and greater flows could be readily achieved, if the effluent pump capacity was increased. It is recommended that a final decision on pump sizes, and related wiring and instrumentation, be revisited if it is determined that pumping is required. The GWTP has been modified under separate contract with BSTI to accommodate the flow and E&I controls.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No

Additional Comments:		**Design Documents Affected:** E-301, E-302 and E-302A (SA-6S). EN-301, EN-302 and EN-302A (SA-6N)	
Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:** 12/21/16
(Name / Signature):		**Does DCB Result in CCO?**	☐ **Yes (b)** ☑ **No**
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE SCH 40 PVC DB UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDUIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.
9. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
EB	ENCASED BURIAL
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FVNR	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
JB	JUNCTION BOX
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
MPCB	MOTOR PROTECTION CIRCUIT BREAKER
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	DSGN	DR	CHK	APVD	BY
		TDD	RJR	SHM	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD SHM APVD
1	08/14/15	DCB 007.4				RJR SGS
2	05/20/16	DCB 007.4.1				TDD SGS
3	12/02/16	DCB 007.4.2				SGS TCK

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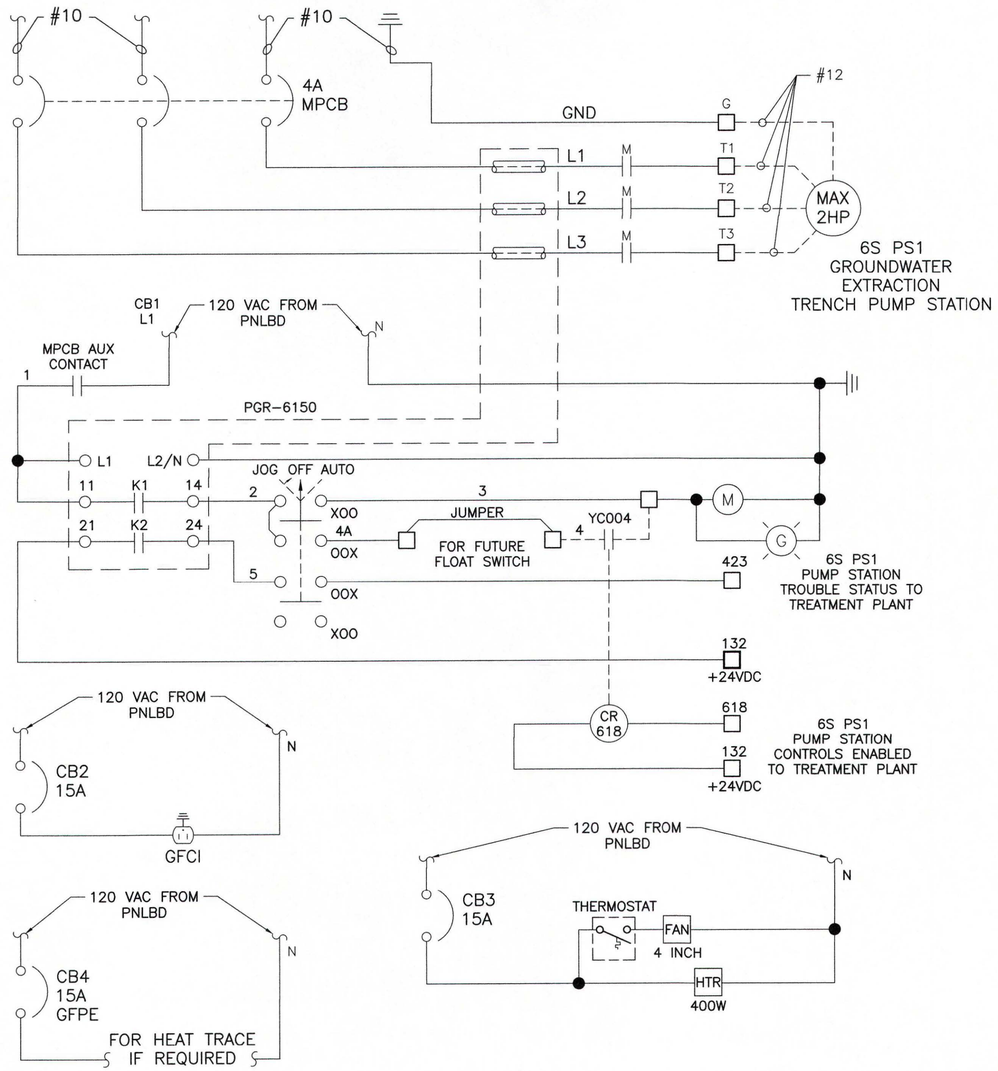
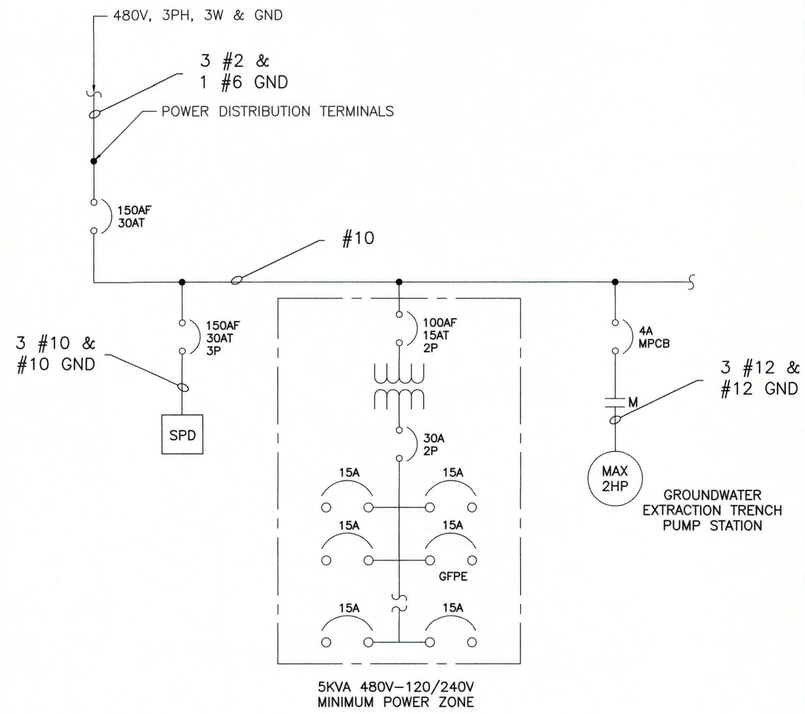


6 SOUTH PUMP STATION CONTROL SCHEMATIC
NTS



5KVA 480V–120/240V
MINIMUM POWER ZONE

TYPICAL PUMP STATION ONE LINE
NTS

NOTE:

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☐ TERMINAL IN PUMP PANEL

FIELD WIRING

TIMOTHY C. KESSLER, P.E.

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	DSGN	DR	CHK	APVD
3	12/02/16	SGS	TCK		
2	05/20/16	TDD	SGS		
1	08/14/15	RJR	SGS		
0	06/07/13	TDD	SHM		APVD
	ISSUED FOR CONSTRUCTION		BY		SGS
	REVISION				

DCB 007.4.2
DCB 007.4.1
DCB 007.4

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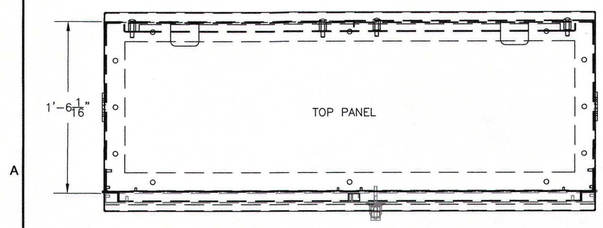
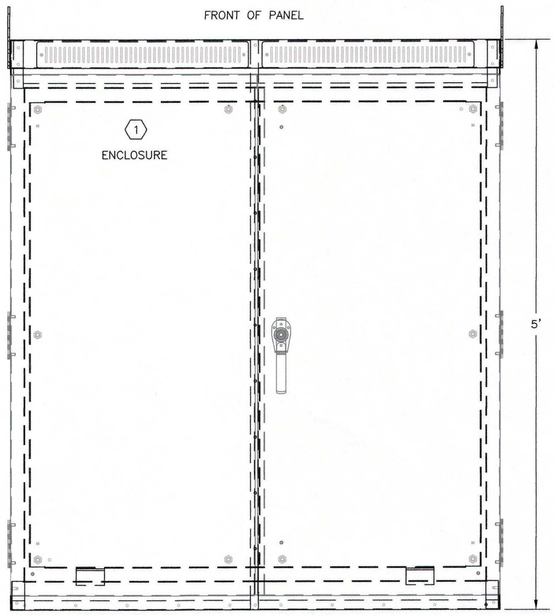
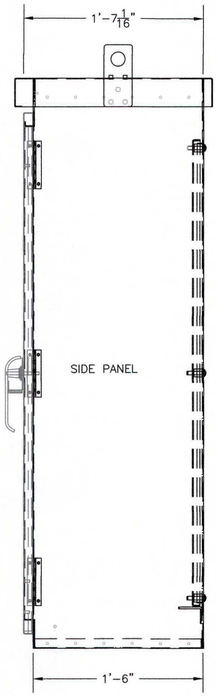
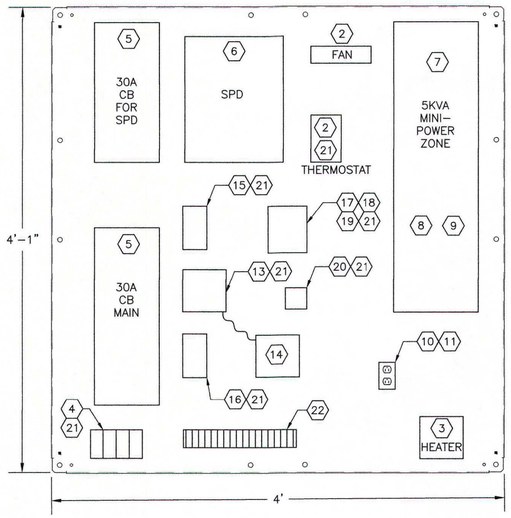






PUMP STATION CONTROL PANEL DETAIL
NTS



PUMP STATION CONTROL PANEL BACK DETAIL
NTS

NOTE:

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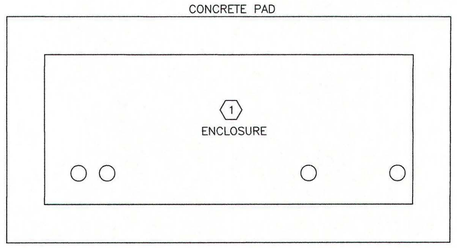
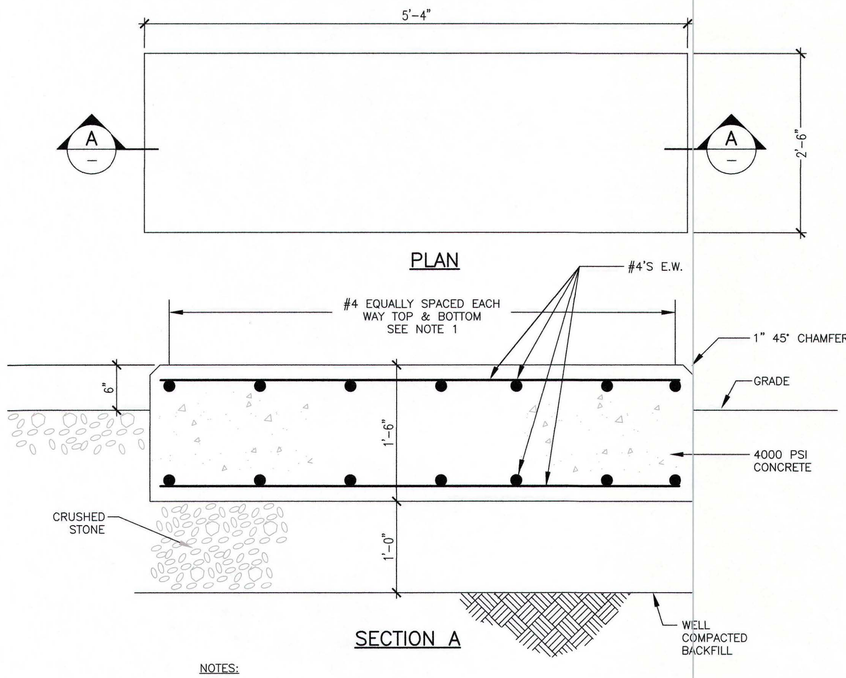
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36

EXTRACTION WELL PUMP CONTROL PANEL DETAIL
NTS

AO
TYP E-302A





SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL
NTS

TIMOTHY C. KESSLER, P.E.
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

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0	06/07/13	TDD	ISSUED FOR CONSTRUCTION	BY	APVD
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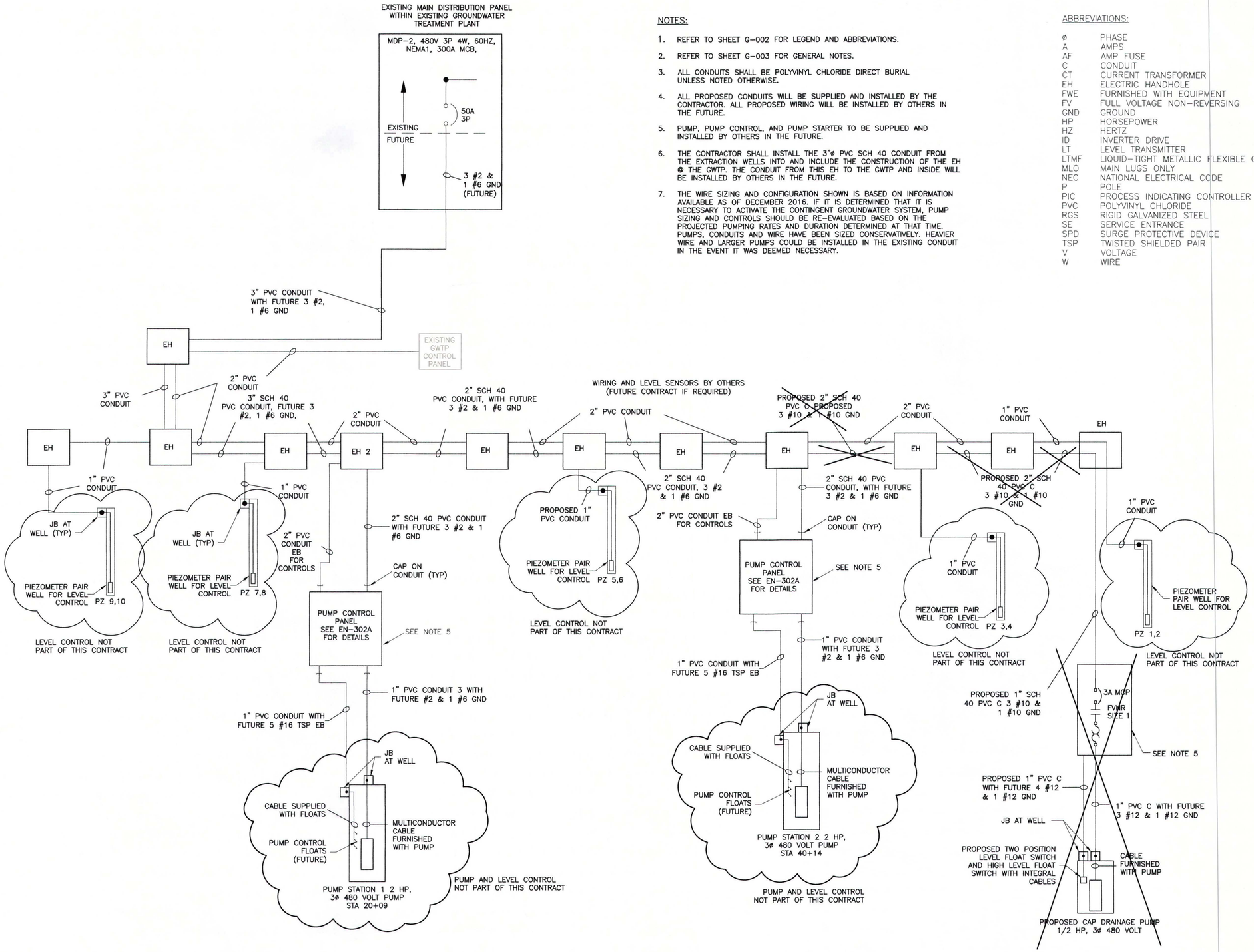
DWG	E-302A
SHEET	65A OF 66



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.
7. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

NO.	DATE	DR	CHK	APVD	BY	APVD
DSGN		GCP	RJR	GCP	SGS	SGS
3	12/02/16	DCB 007.4.2			SGS	TCK
2	05/06/16	DCB 007.2.2			TDD	SGS
1	09/02/15	DCB 007.2.1			TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			GCP	SGS

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CHROMIUM REMEDIUM
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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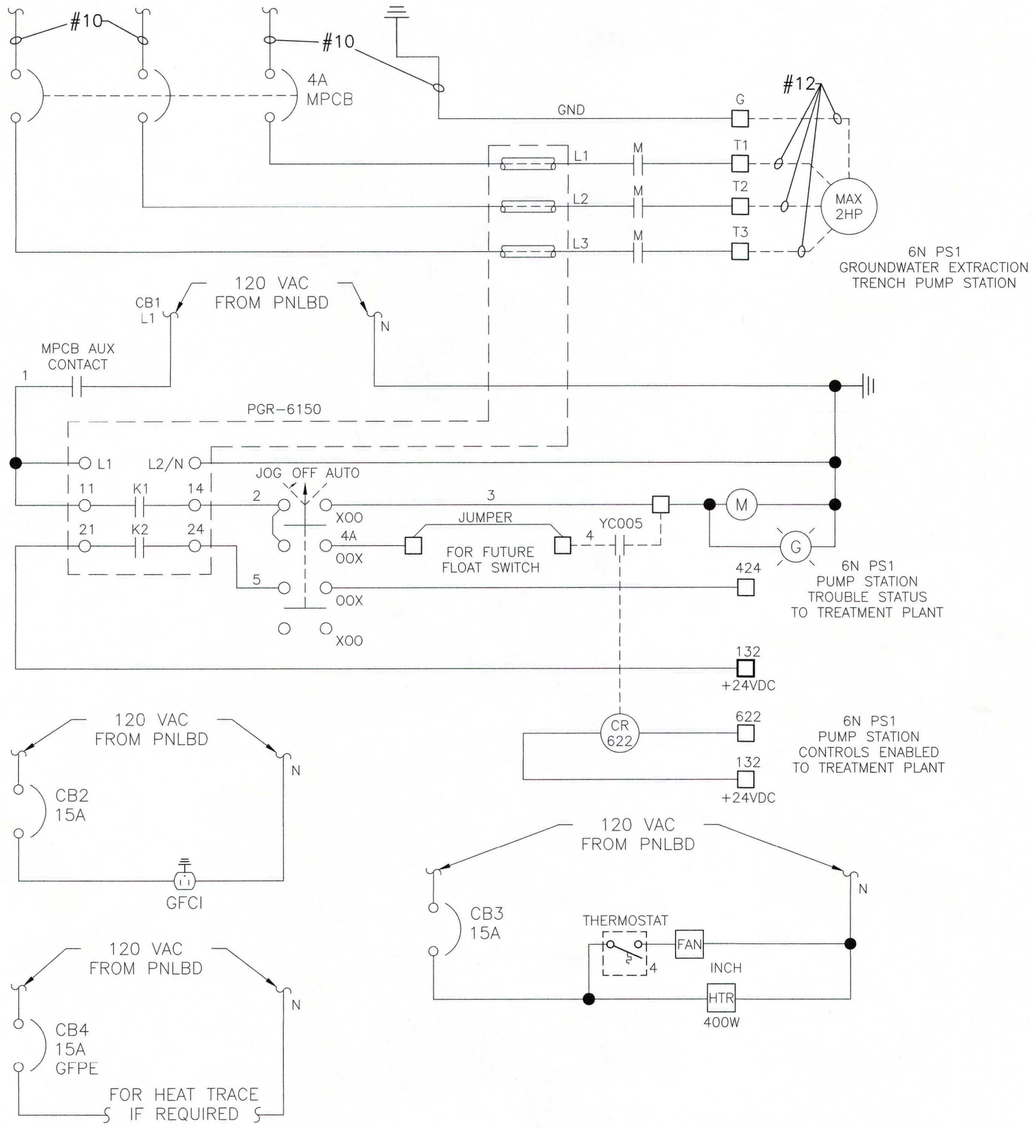
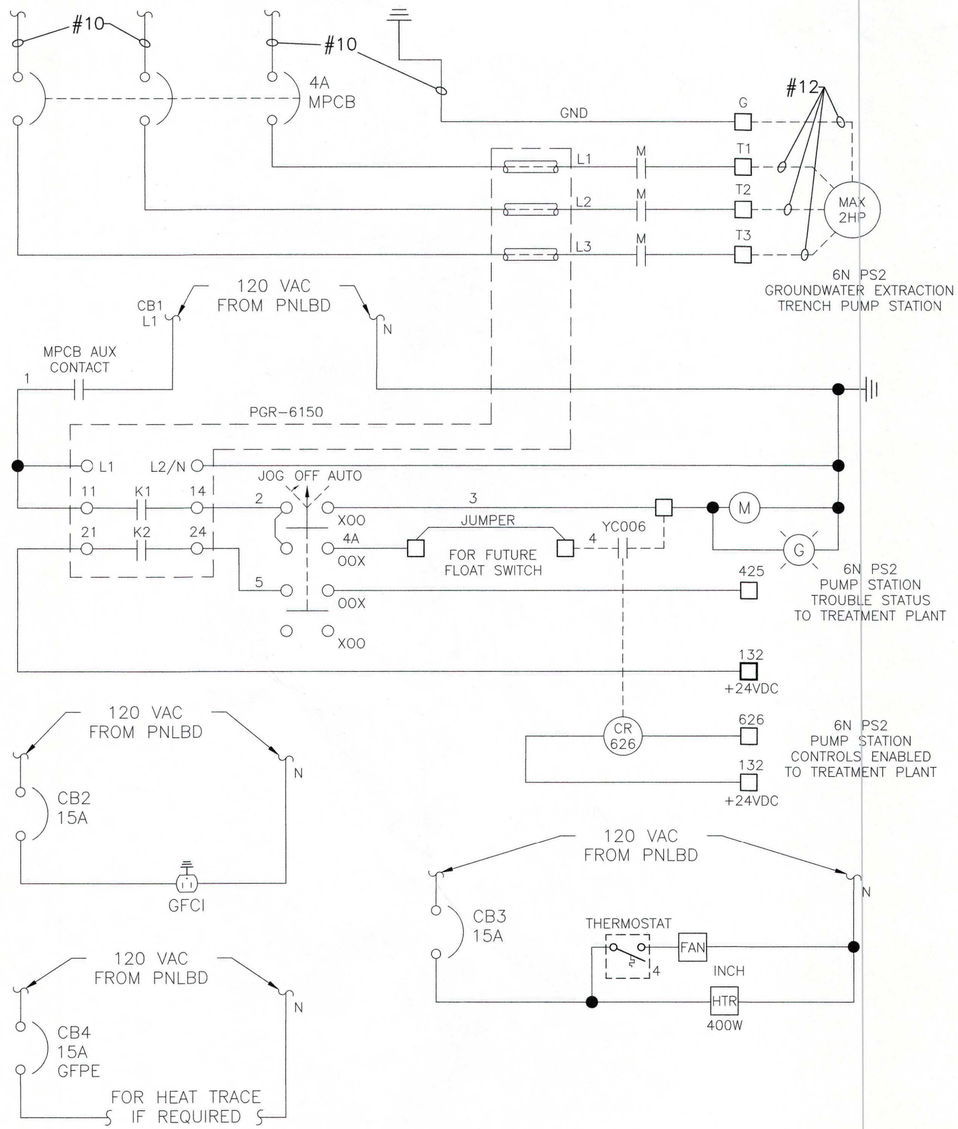
DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR67-EN-301 ONE LINE DIAGRAM.dwg PLOT DATE: Thu, 15 Dec 2016 PLOT TIME: 3:43 PM



6 NORTH PUMP STATION 1 CONTROL SCHEMATIC

NTS



6 NORTH PUMP STATION 2 CONTROL SCHEMATIC

NTS

NOTE:

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□ TERMINAL IN PUMP PANEL

_ _ _ _ _ _ _ _ _ FIELD WIRING

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	DSGN	DR	CHK	BY	APVD
3	12/02/16				SGS	TCK
2	05/06/16				TDD	SGS
1	09/02/15				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			GCP	SGS
		DCB 007.4.2	GCP	RJR	GCP	APVD
		DCB 007.2.2				
		DCB 007.2.1				

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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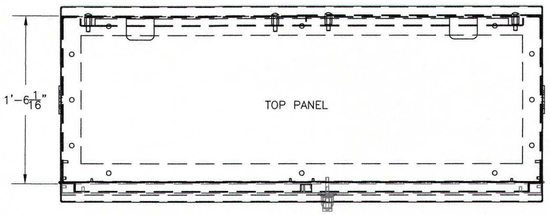
DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70



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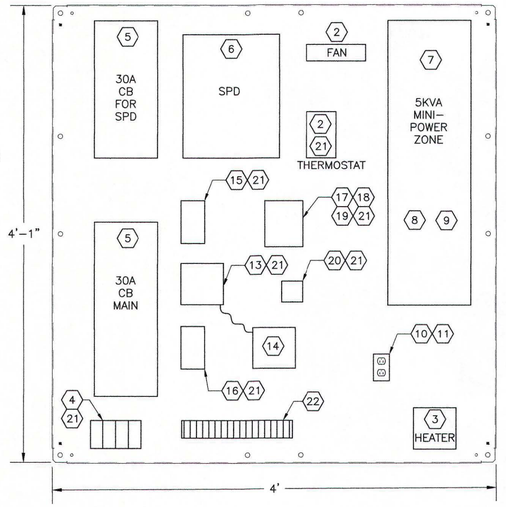
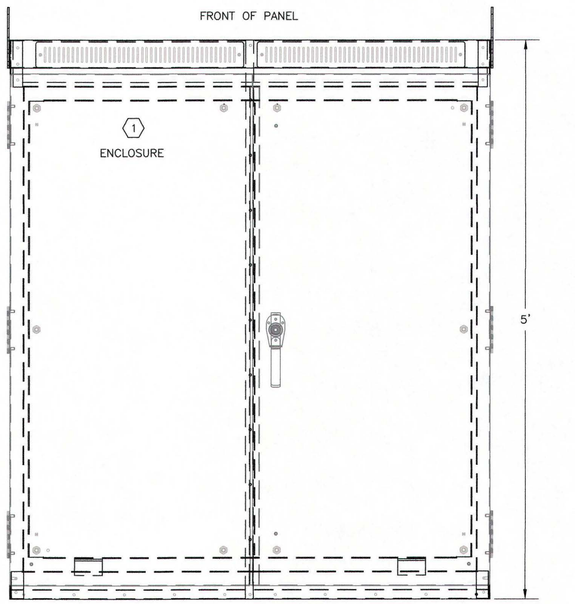


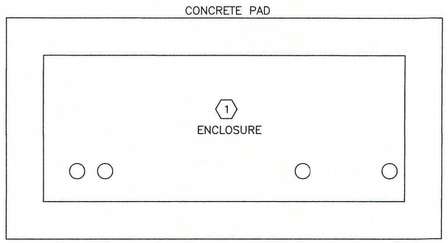
EXTRACTION WELL PUMP CONTROL PANEL BACK DETAIL
NTS

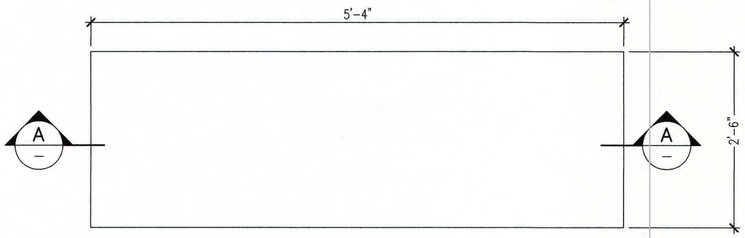
BILL OF MATERIALS

ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OP1
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36

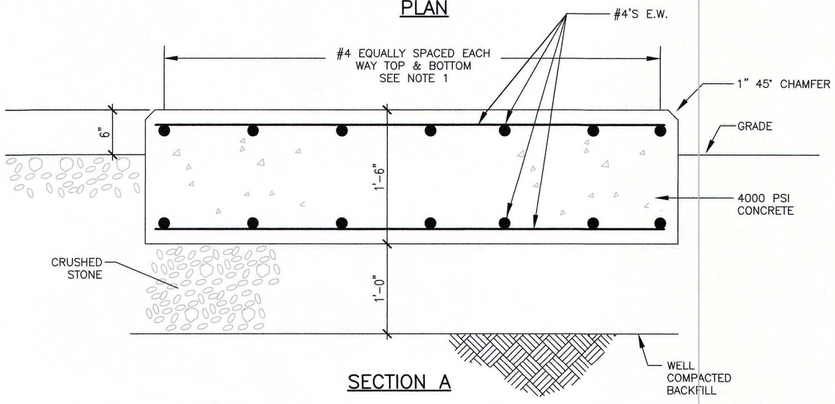


PUMP STATION CONTROL PANEL DETAIL
NTS





PLAN

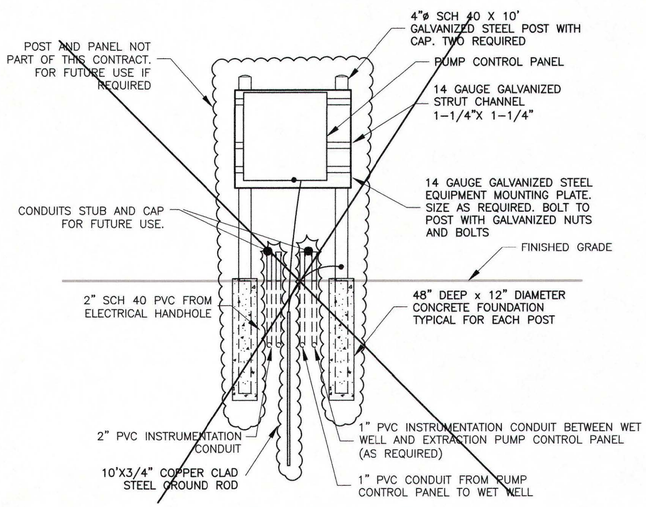


SECTION A

NOTES:

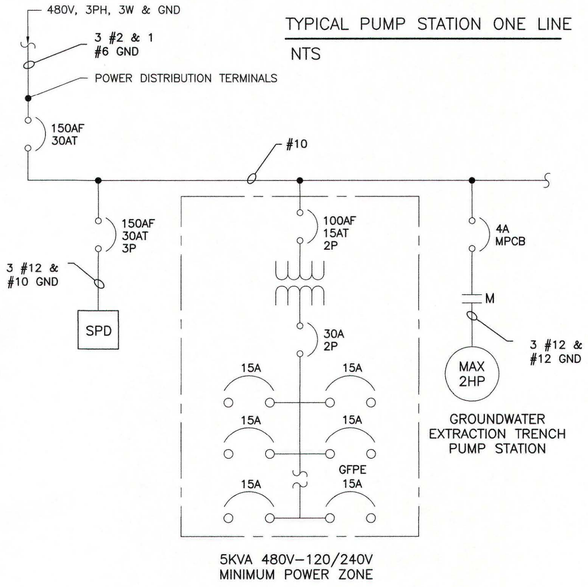
1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL
NTS



PUMP STATION CONTROL PANEL DETAIL
NTS

AQ
TYP E-302A



TYPICAL PUMP STATION ONE LINE
NTS

5KVA 480V-120/240V MINIMUM POWER ZONE

TIMOTHY C. KESSLER, P.E.
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	REVISION	CHK	APVD
3	12/02/16	DCB 007.4.2	TDD	SGS
2	05/20/16	DCB 007.4.1	TDD	SGS
1	08/14/15	DCB 007.4	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
DSGN		DR	RJR	BY
		TDD	SHM	APVD

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

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DATE	
PROJ	3480-12-0317
DWG	EN-302A
SHEET	65A OF 70

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FINAL DCB 007.5 – CONTINGENT SYSTEM

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.5 Major Effective Date: 02/24/15
Project Location: SA-6 SOUTH	
Title: GW EXTRACTION SYSTEM	
Revision to the Geomembrane/Subgrade surface.	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 issue pending. This DCB will provide the revised one line electrical drawings for SA-6N and SA-6S. In the revised design there is one extraction manhole on SA-6S and two extraction manholes in SA-6N.

DCB-007.5 provides a revised subgrade/Geomembrane surface as discussed below.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each Open Space Area and common header system. The trench design has one pump station in SA-6S and 2 pump stations in SA-6N.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.5 is applicable to the SA-6N and SA-6S subgrade/Geomembrane surface. The change from wells to trenches resulted in numerous changes in grading. There were typically depression in the subgrade around each well to allow for installation of control vaults at each well and associated force mains leading from each well. These depressions have been eliminated and the Geomembrane surface smoothed at these locations. A depressed area has been added at each pump station and associated force main. The changes simplify the grading and Geomembrane installation

The changes impact the following drawings.
For 6A-South:

- C-122
- C-123
- C-124

For 6A-North:

- CN-123
- CN-124

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system one line electrical design.
Honeywell (AP) Review: Individual Discipline	Initial Date
(Name / Signature): 2/24/15	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

SA-7

MATCH LINE SHEET C-123

D C-122 C-301 TYPICAL EDGE DETAIL ALONG EXISTING SCB WALL

EXISTING SOIL CEMENT BENTONITE WALL

HYDRAULIC BARRIER/SCB CONNECTION C-122 C-301 B

CB C-122 C-310 ACCESS MANHOLE

2X2 INLET PER RECORD MAPPING NOT RECOVERED

A C-122 C-301 5+00 CAP AREA BUILDUP (TYP) (SEE NOTE 3)

6+00 4+00 3+00 2+00 1+00

UTILITY CORRIDOR

PROPOSED HYDRAULIC BARRIER SEE PLAN AND PROFILE SHEETS S-201 THRU S-203

F C-122 C-301 TYPICAL EDGE DETAIL ALONG PROPOSED HYDRAULIC BARRIER

G C-122 C-301 TYPICAL EDGE DETAIL GCL INSTALLATION BELOW GROUNDWATER TABLE

P C-122 C-309 TYPICAL UTILITY CORRIDOR/ HYDRAULIC BARRIER WALL CROSSING DETAIL

INLET 'B' TC 9.54 GR 9.01 INV 5.26(18" RCP-N) INV 4.91(18" RCP-S)

INLET 'B' TC 8.33 GR 7.84 INV 6.29(NW) INV 5.89(SE)

INLET 'B' TC 8.48 GR 7.98 INV 4.66(N) INV 4.56(S)

MANHOLE RIM 10.17 INV. 3.70(8"-N,E,& W) INV. 3.67(S) FILLED W/DEBRIS UNABLE TO DETERMINE PIPE TYPE

TERMINUS NOT FOUND (TYP.)

KELLOGG STREET

NEW JERSEY STATE HIGHWAY ROUTE 440

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
					SHM
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0	06/07/13	TDD	SHM	TDD	SHM

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

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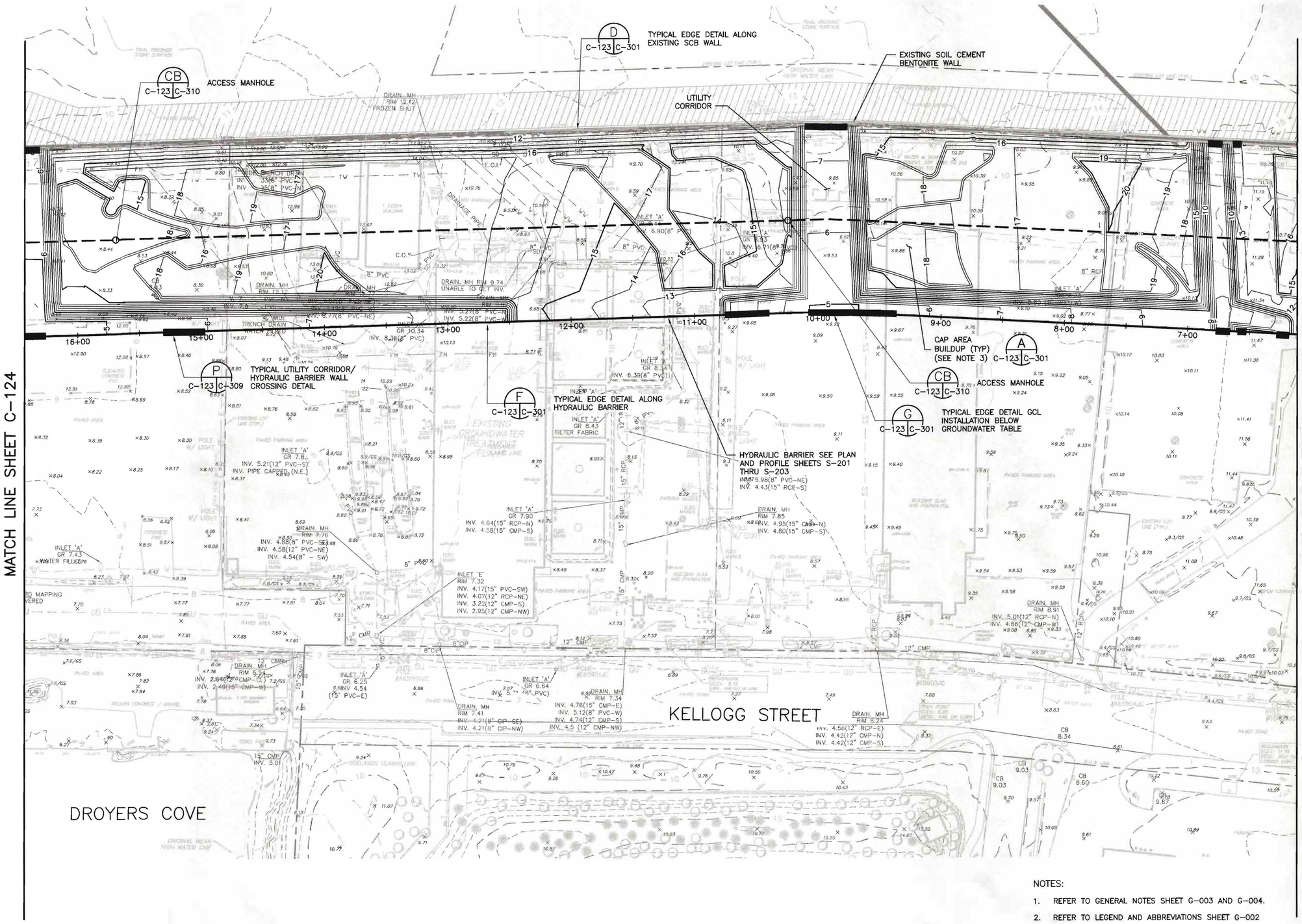
DATE	
PROJ	3480-12-0317
DWG	C-122
SHEET	27 OF 66



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NO.	DATE	REVISION	BY	APVD
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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PROJ	3480-12-0317
DWG	C-123
SHEET	28 OF 66

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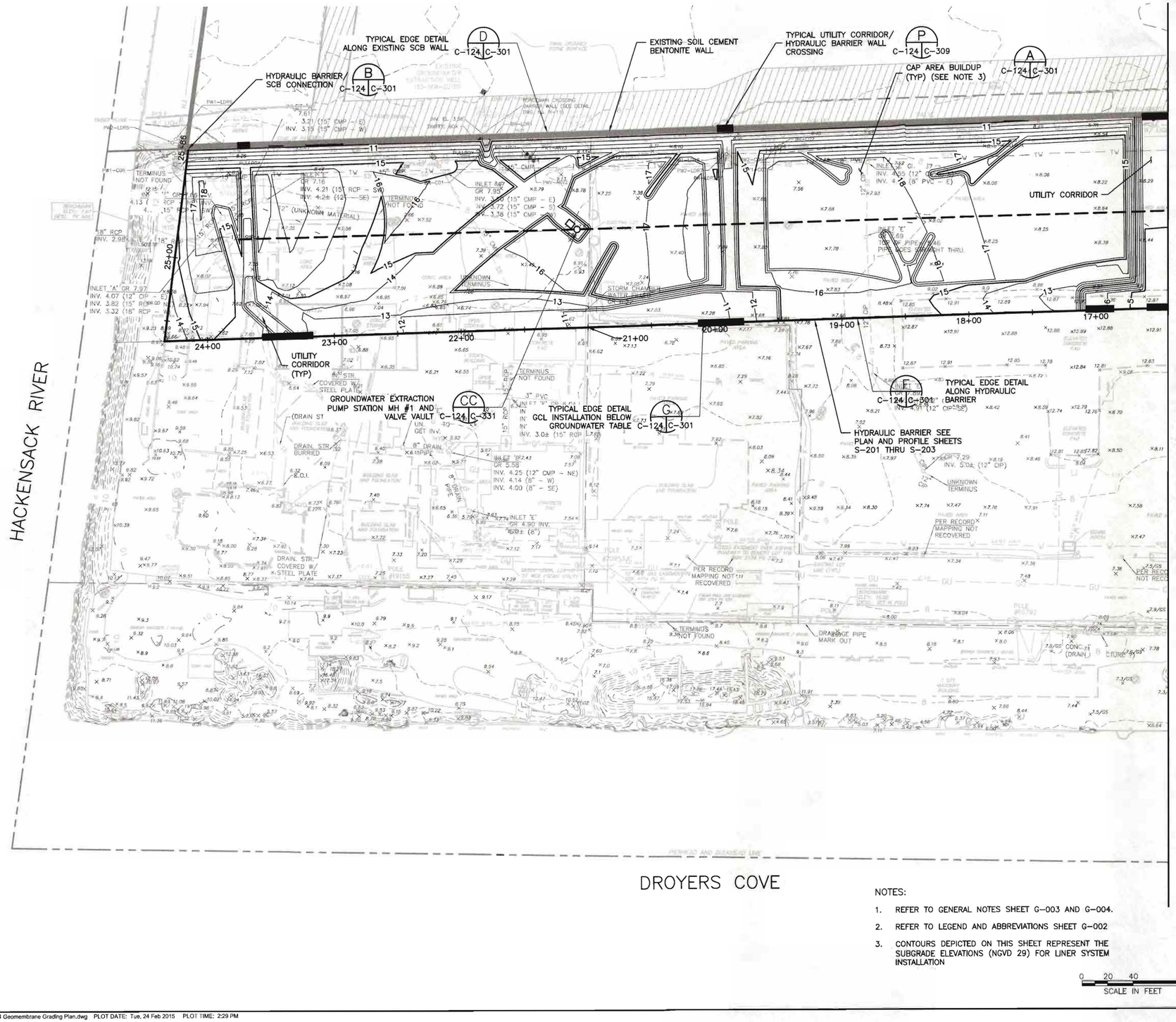

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2	02/24/15	TDD	TDD	RJR	SHM
1	10/11/13				
0	06/07/13				

DCB 007.5
MODIFIED BARRIER WALL ALIGNMENT
ISSUED FOR CONSTRUCTION

REVISION	BY	APVD
	TDD	SGS
	RJR	SGS
	TDD	SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

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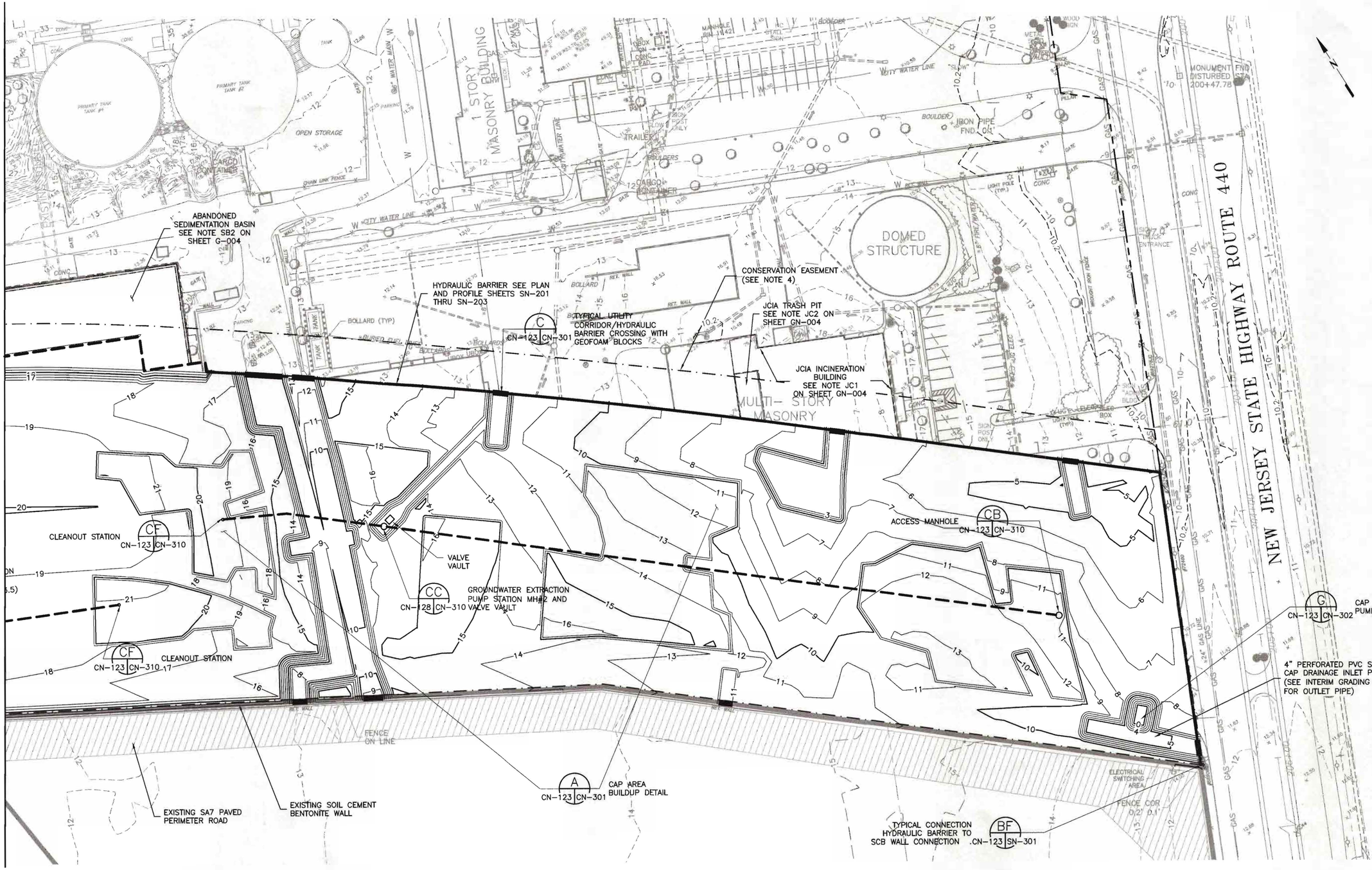
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-124
SHEET	29 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR29-C-124 Geomembrane Grading Plan.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:29 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
			TDD	RJR	TDD
1	02/24/15	DCB 007.5	TDD	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS	
		REVISION	BY	APVD	

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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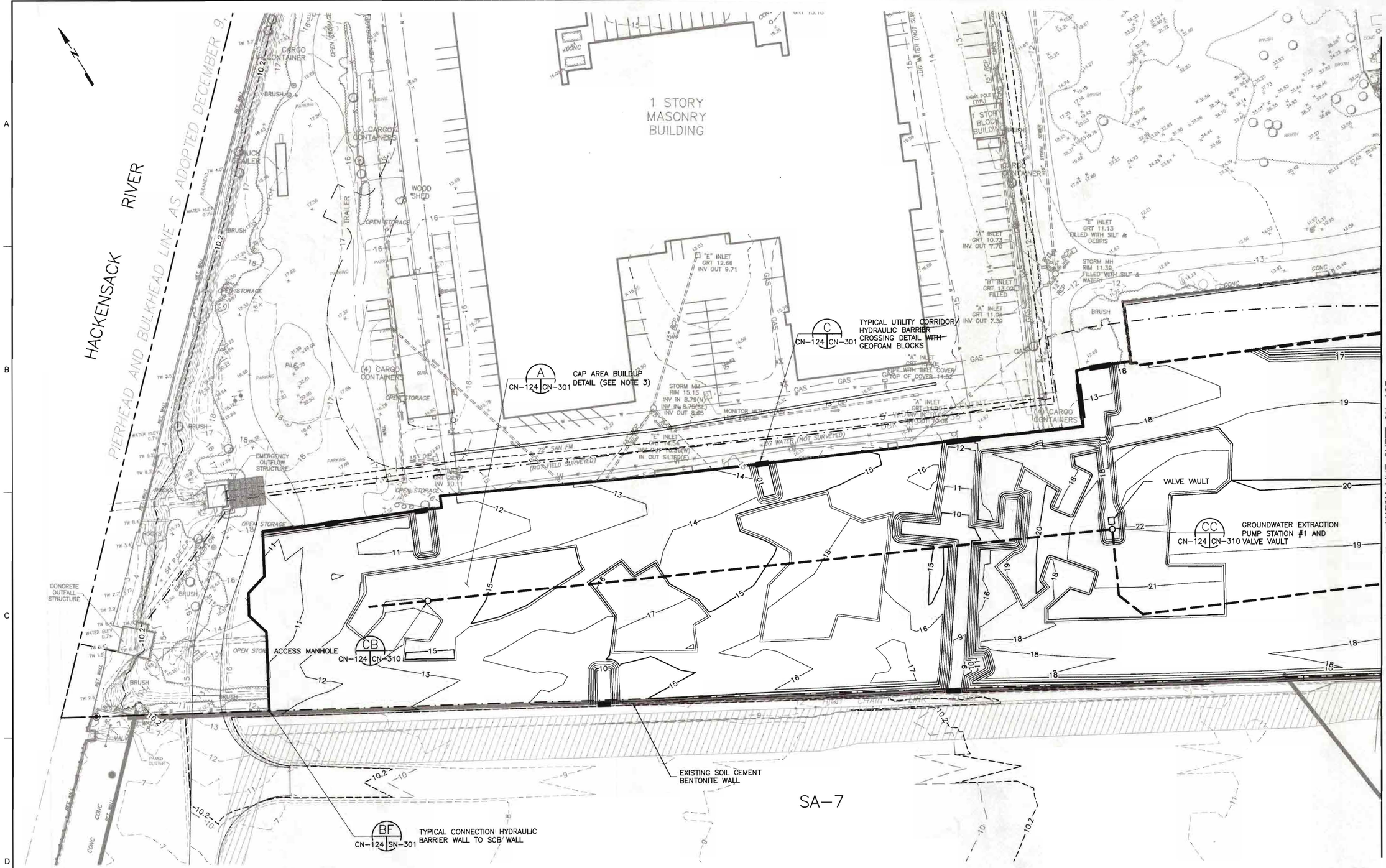
DATE	
PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR28-C-123 Geomembrane Grade.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:33 PM



MATCH LINE SHEET CN-123

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	02/24/15	TDD	RJR	TDD	APVD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM		RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD	SGS
		DCB 007.5		TDD	SGS

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Wed, 25 Feb 2015 PLOT TIME: 7:42 AM

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 17 OF 25

- **DCBs Applicable to SA-6 South Part 2**
  (DCB 008.1 and 009)

FINAL DCB 008.1 – AREA 1S SURCHARGE PILE GEOMETRY

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 008.1 Major (a) Effective Date: 8/14/13
Project Location: SA-6 NORTH Title: 1S Surcharge Pile Geometry	Associated RFI: ☐ Yes, RFI No. ___ ☑ None
Contractor (Subcontractor): Entact	Project No.: 3480130377

Description of Change/Modification:
Due to decisions to defer shallow excavation adjacent to the bulkhead, Amec has made a minor modification in the surcharge pile geometry and final grading geometry along the western edge of Area S1 to reduce the re-work that will be required when the bulkhead is completed and the deferred area remediated.

DCB-008 will be issued in two sections
DCB-008.1 Surcharge Pile Revisions
DCN-008.2 Subgrade and Final Grading

DCB-008.1 The crest of the surcharge (elevation 24) is being moved approximately 16 ft. to the east of the Barrier Wall.
The top of the Barrier Wall "as installed" steps from elevation 14 to elevation 16.
Where the Barrier wall is at elevation 14 the toe of slope will extend beyond the wall as shown in Figure 1.
Where the Barrier Wall is at elevation 16 the toe will terminate at the Barrier Wall.
It is anticipated that displacement will be seen at the inclinometers. It is also anticipated that the rate of fill placement will be limited within 75 ft. of the Barrier Wall by displacement at the inclinometers. It is considered likely that filling from elevation 13 to elevation 16 may take a week or more between lifts.
All materials placed outside the Barrier Wall will be imported clean surcharge fill. A placement plan should be developed for the toe between the bulkhead and Barrier Wall to minimize equipment loading on the bulkhead. At a minimum the top 12 inches of the constructed pile will be "imported surcharge"
The west face of the slope will be covered with erosion control fabric.

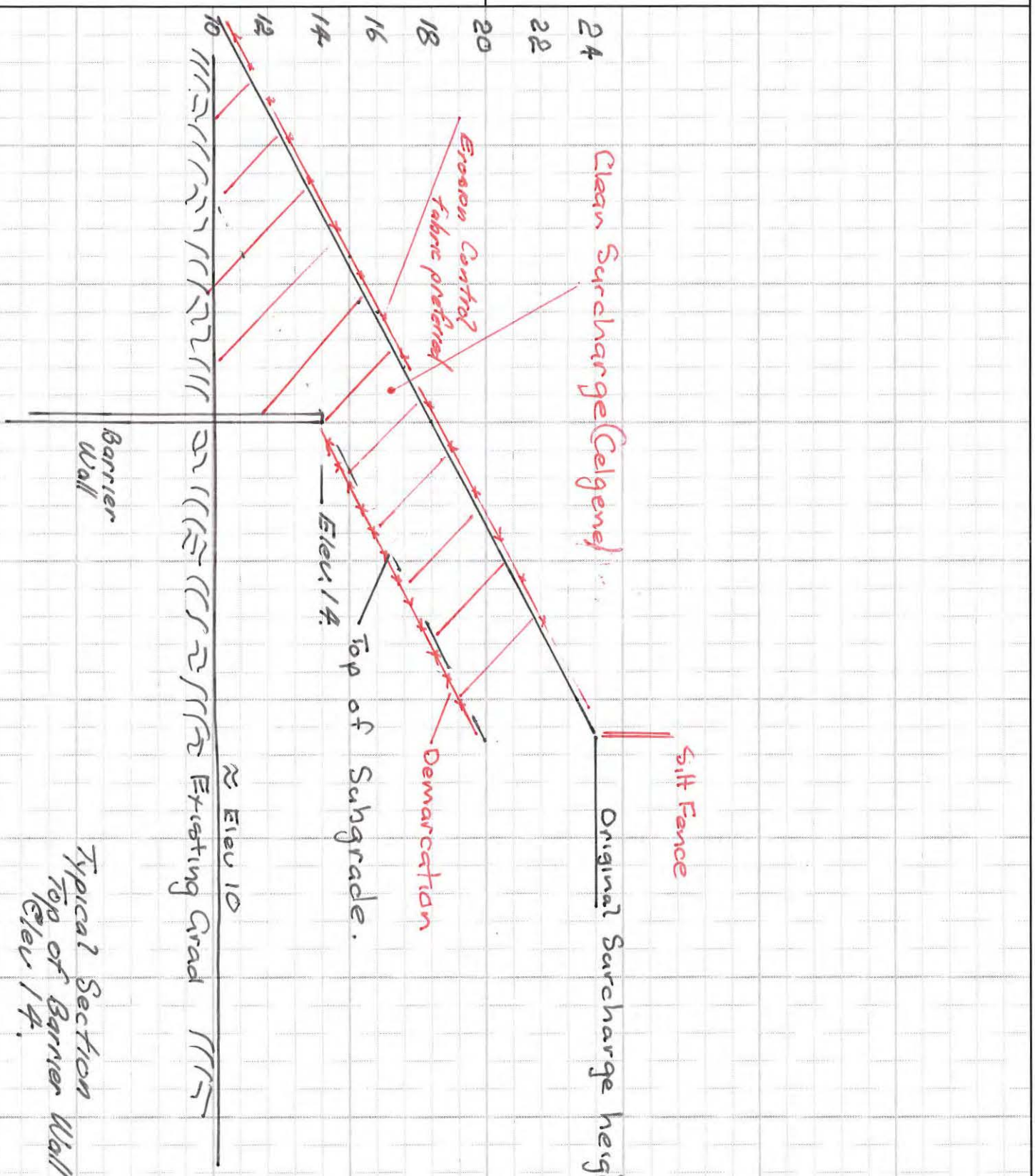
Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason Reduce construction loads on the existing bulkhead pending bulkhead improvements. Minimize re-work in the "deferred area". Attachments: ☑ Yes ☐ No Cost Implication: ☐Yes ☑ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Major DCB anticipated, requires review and approval by third parties.	Design Documents Affected: Drawings C 108 Rev 2

Honeywell (AP) Review:			
Individual	Discipline	Initial	Date
(Name / Signature): Shallard		Does DCB Result in CCO? Date:	☐ Yes Yes (b) ☑ No
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

JOB NO. SA-65 SHEET 1 OF 2
PHASE Surcharge 15 TASK
JOB NAME DCB 008.1
BY S.G. Ballard DATE 6/23/14
CHECKED BY DATE

amec
511 Congress Street Suite 200
Portland, ME 04101
+1 (207) 775-5401 Fax +1 (207) 772-4762



Typical Section
Top of Barrier Wall
Elev 14.

Fig 1

JOB NO. SA-65 SHEET 2 OF 2
PHASE Surcharge 15 TASK
JOB NAME DCB 008.1
BY SGS DATE 6/23/14
CHECKED BY DATE

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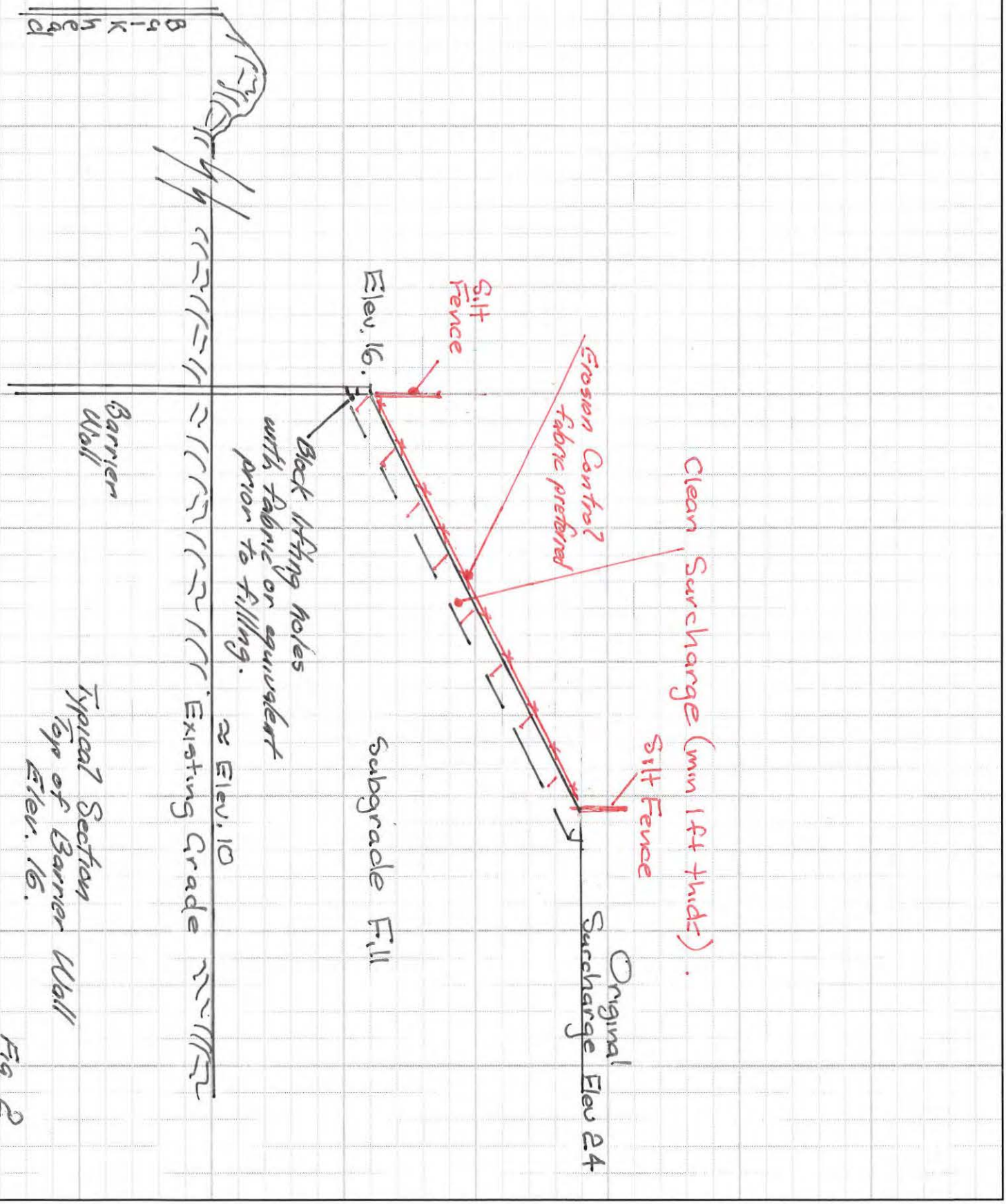
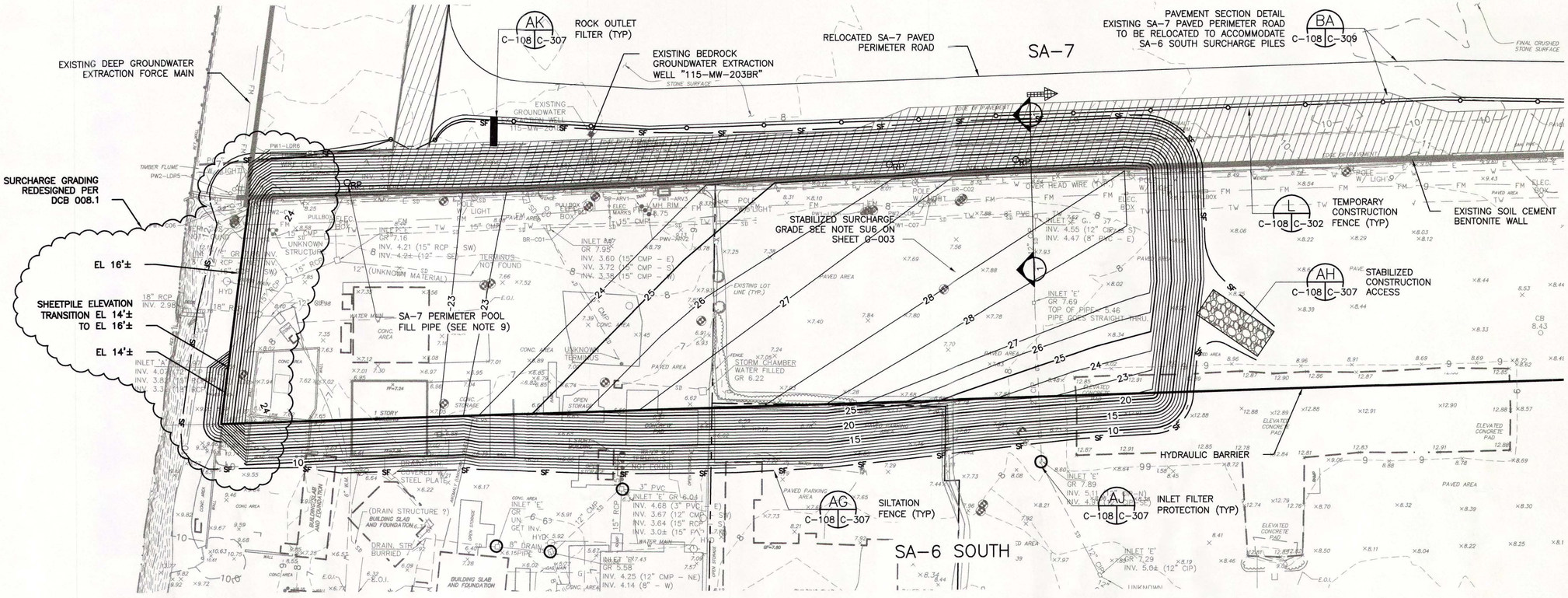
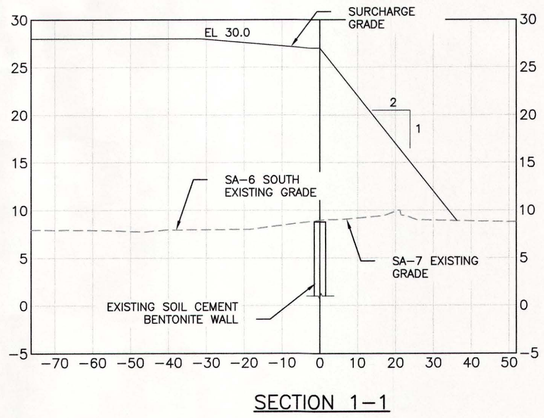


Typical Section
Top of Barrier Wall
Elev. 16.

Fig 2





SECTION 1-1

NOTES:

1. REFER TO GENERAL NOTES SHEETS G-003, G-004, AND THE SURCHARGE MONITORING PLAN FOR SA-6 SOUTH.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. REFER TO NOTES ON SHEET C-107.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	06/20/14	TDD	RJR	RJR	SHM
1	10/11/13	TDD	RJR	SGS	SHM
0	06/07/13	TDD	TDD	SHM	SHM

DCB 008.1
MODIFIED BARRIER WALL ALIGNMENT
ISSUED FOR CONSTRUCTION
REVISION

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CAP AREA SURCHARGE GRADING PLAN
AREA 1S

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DATE	
PROJ	3480-12-0317
DWG	C-108
SHEET	13 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR13-C-108 Cap Area Surcharge Grading Plan Area 1.dwg PLOT DATE: Fri, 20 Jun 2014 PLOT TIME: 2:11 PM

FINAL DCB 009 – SITE 163 EXCAVATION

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB No.: 009, Minor(a)** **Effective Date: 7/28/14**
Project Location: SA-6 North & South	**Associated RFI:**
Title: Site 163 Excavation	☐ Yes, RFI No. _____ ☒ None
Contractor (*Subcontractor*): ENTACT	**Project No.: 3480130377**

Description of Change/Modification:

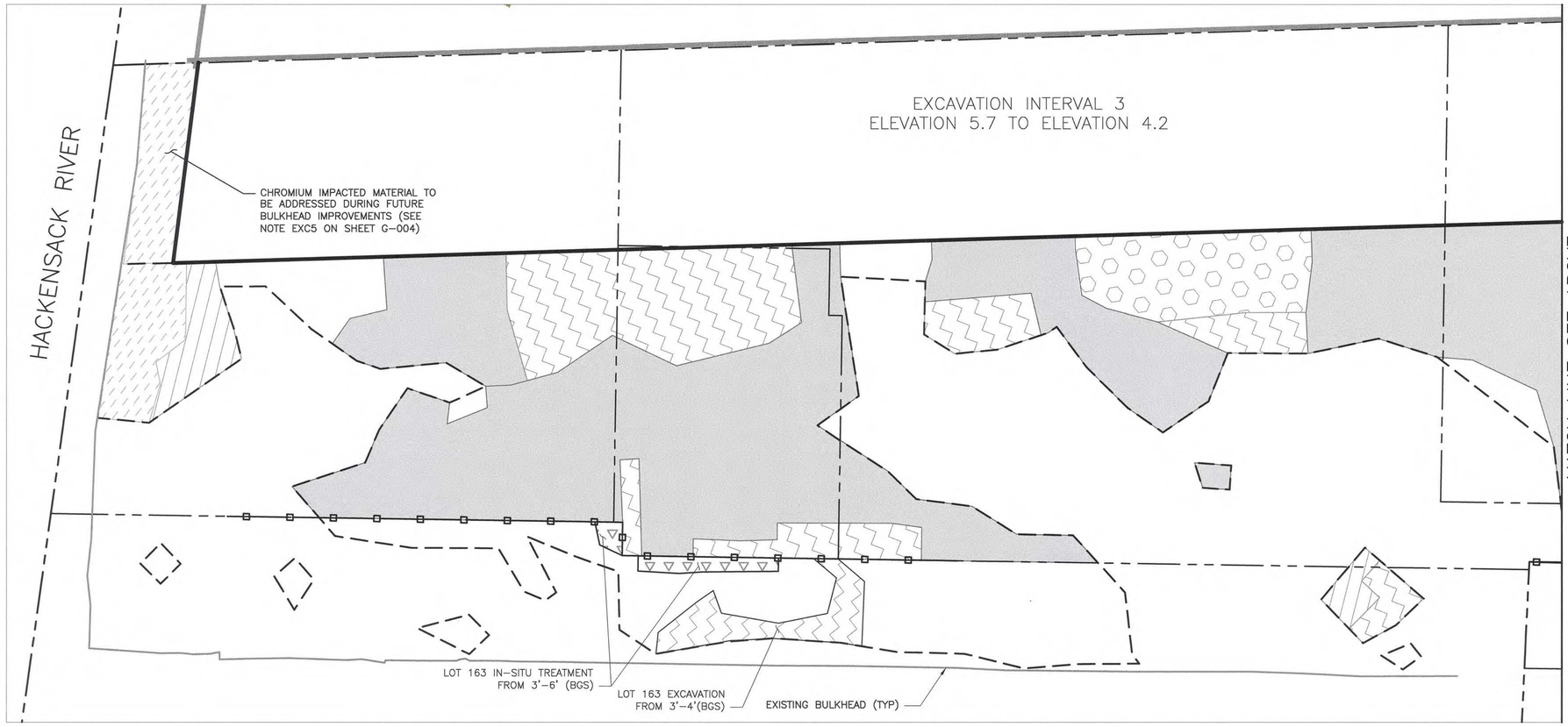
In lieu of in-situ treatment of an area of soil from 3 to 4 feet below grade on Site 163, Entact will now excavate those soils pre-characterized as 20-240 mg/kg for hexavalent chromium and consolidate the soils in the Open Space AOC. The area shown on revised Drawing C-114. This is a change from excavating only to 3 ft bgs as stipulated in the 100% Design. Volume of additional pre-characterized 20 – 240 mg/kg soil generated in this area is estimated to be 155 CYs.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Increase depth of excavation in one area at Site 163 **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☐ Yes ☒ No **>$50K** ☐ Yes ☒ No **Schedule Impact** ☐ Yes ☒ No
Additional Comments: It is noted that	**Design Documents Affected:** Drawing C-114
Honeywell (AP) Review: **Individual: Geoff Shallard Discipline: EOR**	**Initial** 8/20/14 **Date**
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☒ No **Date**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN–SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED
- DEFERRED AREA

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND G–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6–INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD	REVISION
4	08/05/14	TDD	RJR	TDD		DCB9 SITE 163 EXCAVATION, DCB10 DEFERRED AREA
3	05/16/14					LOT 163 EXCAVATION 3 TO 4 FT BGS
2	12/12/13					EXCAVATION REVISIONS
1	10/11/13					MODIFIED BARRIER WALL ALIGNMENT
0	06/07/13					ISSUED FOR CONSTRUCTION

	BY	APVD
TDD	SGS	
TDD	DEN	
TDD	SGS	
RJR	SGS	
TDD	SHM	
TDD	APVD	

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
SHM LICENSE NUMBER 43607

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CHROMIUM EXCAVATION INTERVAL 3

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-114
SHEET	19 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR19-C-114 Chromium Excavation Interval 3.dwg PLOT DATE: Tue, 05 Aug 2014 PLOT TIME: 1:39 PM

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 18 OF 25

- **DCBs Applicable to SA-6 South Part 3 (DCB 010-032)**

FINAL DCB 010 – DEGEN DEFERRED AREA

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB Type: 010, Minor (a)** **Effective Date: 05/19/14**
Project Location: SA-6 South **Title: Degen Deferred Area**	**Associated RFI:** ☐ Yes, RFI No. _____ ☒ None
Contractor (*Subcontractor*): ENTACT	**Project No.: 3480130377**

Description of Change/Modification:

Honeywell will defer all excavation in the area shown on the attached **Figure 1**. This area includes a portion of Cell 153 and Cell 154 through Cell 156 in their entirety (see Photo 1). This design change is necessary due to unanticipated subsurface conditions. Approximately 5 feet of concrete was encountered in the subgrade of this area during excavation in Cell 153 (see cross-section A-A'). The concrete was also observed to have flowed around structural elements of the bulkhead. Demolition of the concrete to facilitate the excavation as shown on the Issued for Construction Design posed an unacceptably high potential for damage and loss of integrity to the bulkhead in this area (see Photo 2). Therefore, removal of the concrete/asphalt berm, demolition of subsurface concrete, and excavation to the specified design elevations will be deferred until implementation of the bulkhead portion of the Bayfront Redevelopment Plan.
Note Exc. 10 on sheet C-104 should be hand annotated as deleted. A new sheet C-104 will not be issued.

Reason for Change/Modification: ☒ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Deferred Excavation Due to Unanticipated Excessive Concrete **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☒ Yes ☐ No **>$50K** TBD **Schedule Impact** ☐ Yes ☒ No
Additional Comments: DCB anticipated to require review and approval by third parties.	**Design Documents Affected:** Drawings C-112, C-113, C- 114, C-115 and C-104
Honeywell (AP) Review: **Individual: Geoff Shallard** **Discipline: EOR**	**Initial** **Date** 5/20/14
(Name / Signature):	**Does DCB Result in CCO?** ☒ Yes ☐ No **Date**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

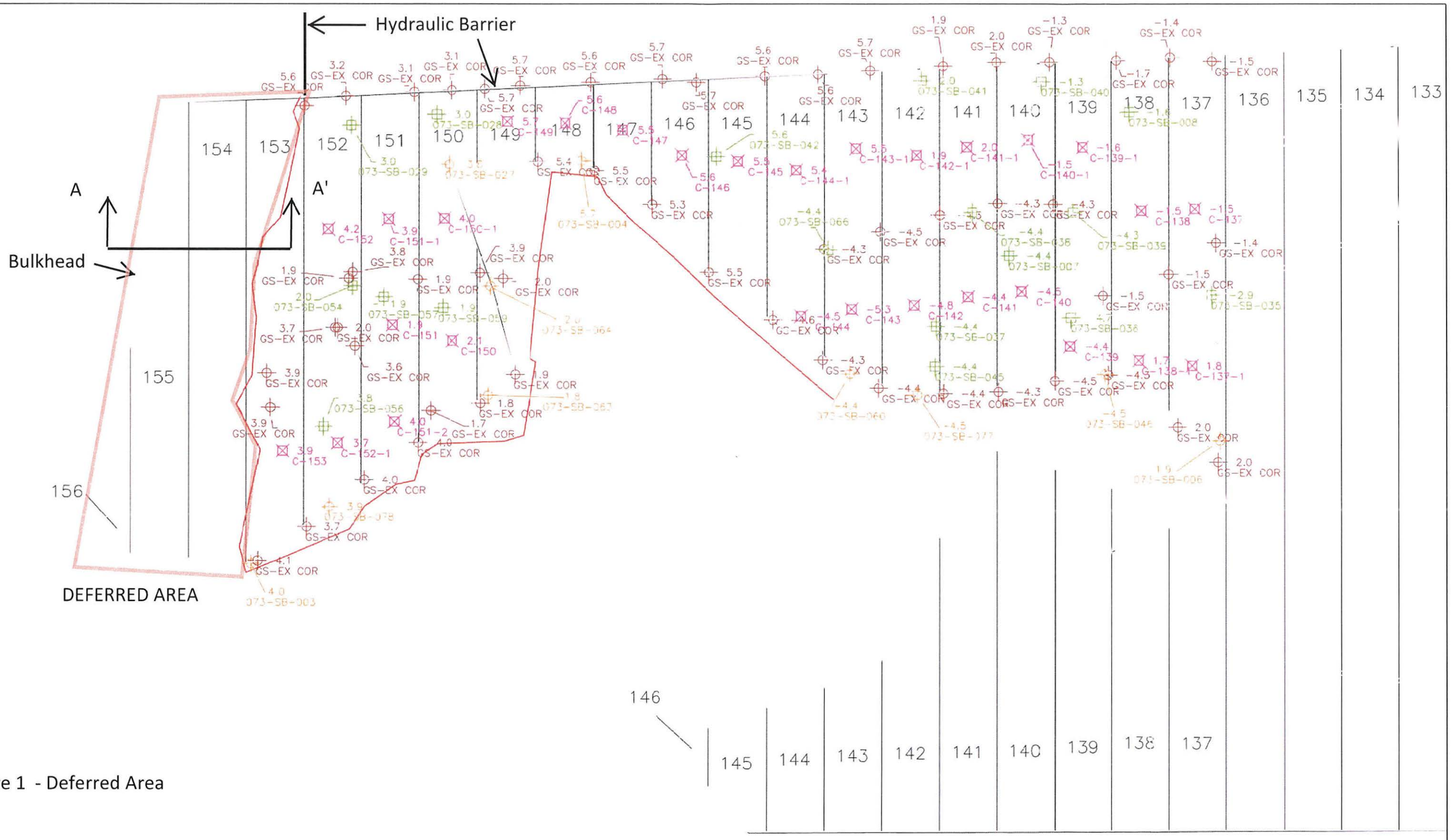


Figure 1 - Deferred Area

LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
  PCINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM D EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 332 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 04-14-14 TO 05-01-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



Photo 1 - Deferred Area at SA-6 South (Site 073)

JOB NO. 3480130377 SHEET 1 OF 1
PHASE TASK
JOB NAME SA-6 CHROMIUM REMEDY
BY DEM DATE 5/13/14
CHECKED BY DATE

amec
American Metro Center 200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
+1 (609) 689-2829 Fax +1 (609) 689-2838

SECTION A-A'

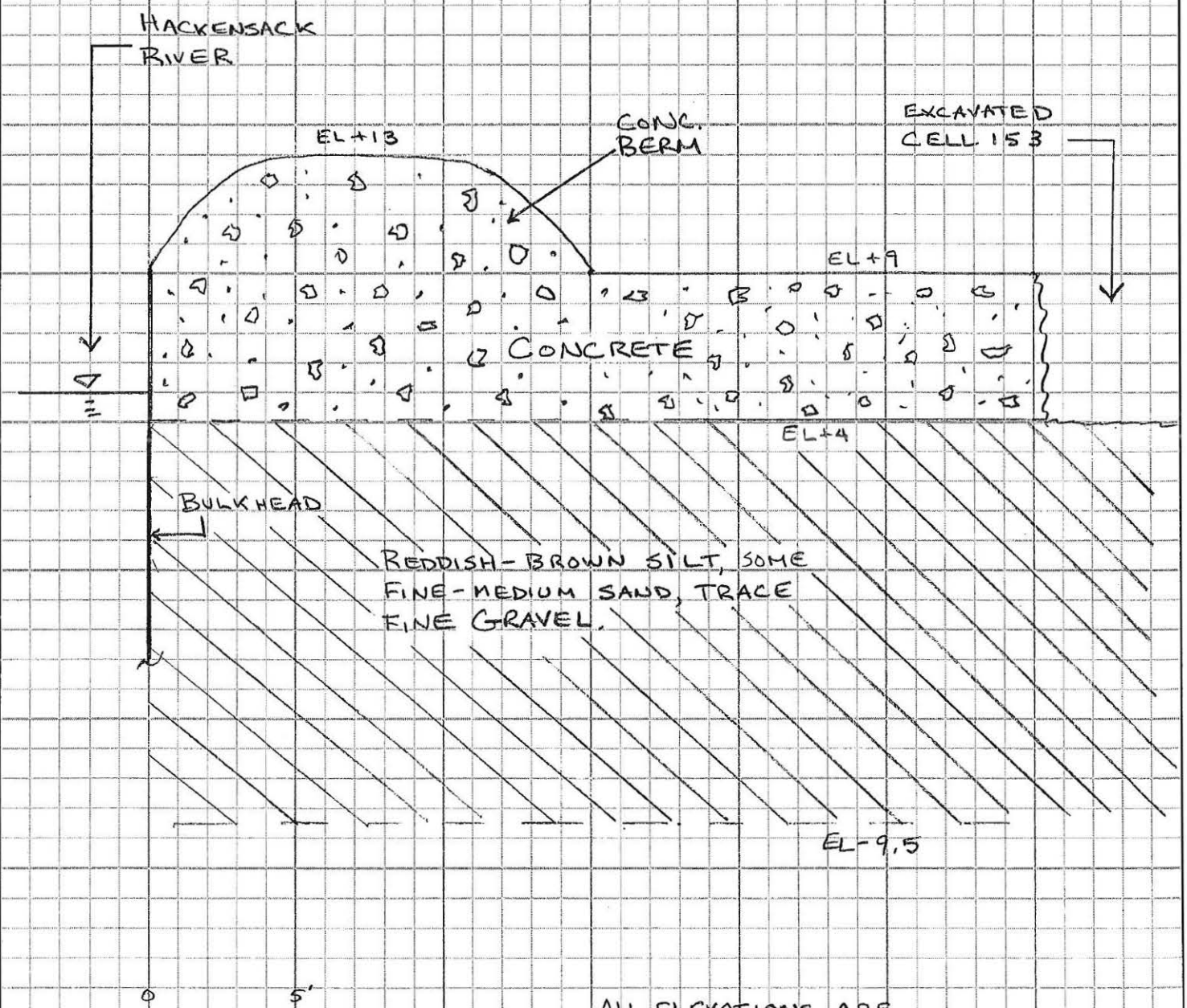
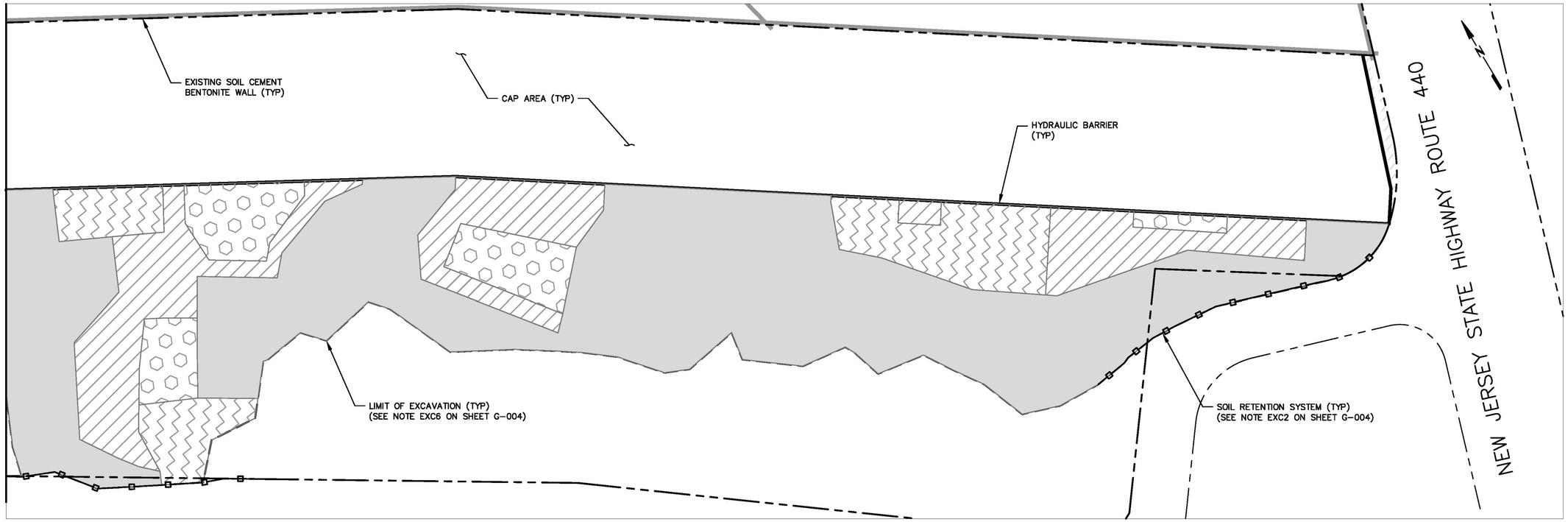
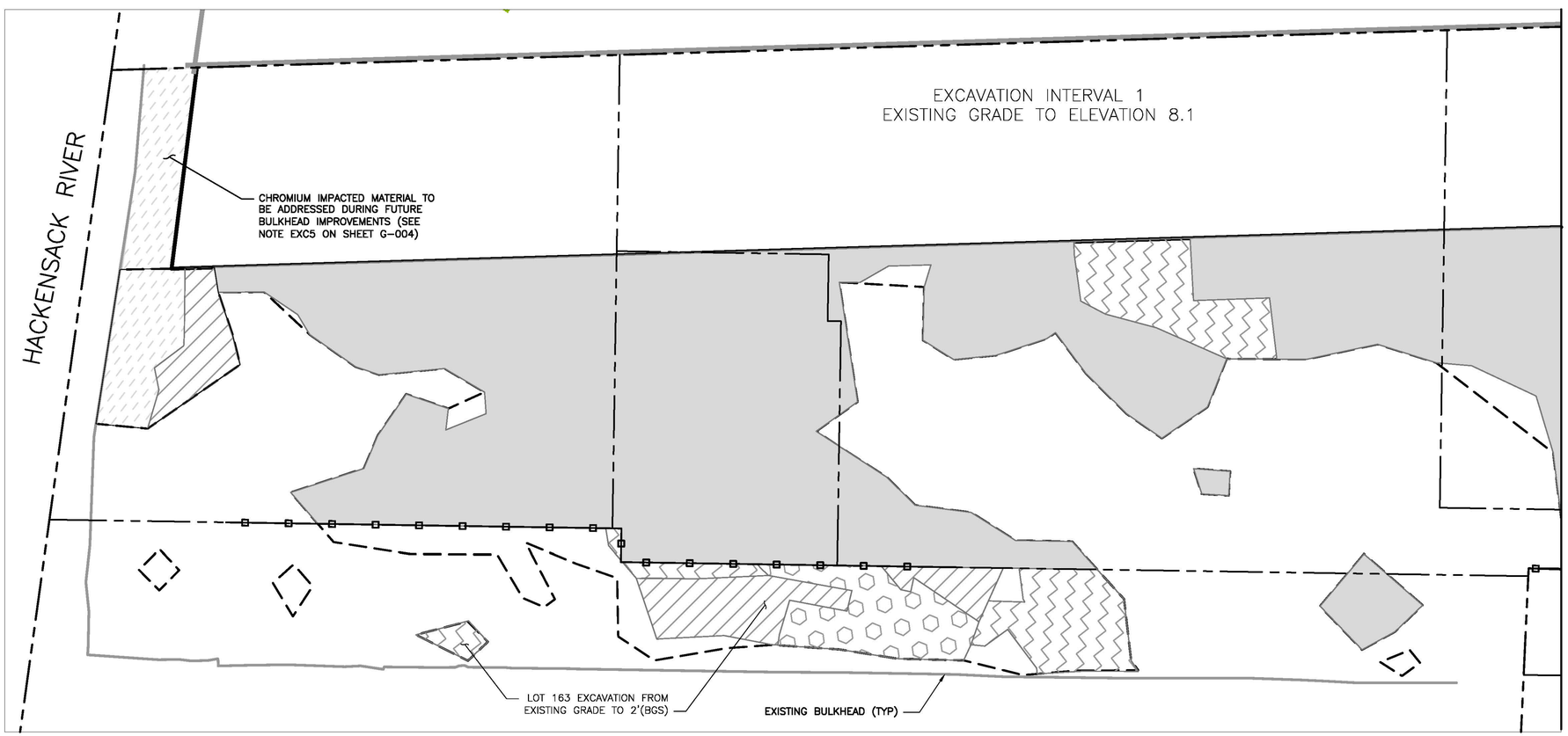




Photo 2 - Bulkhead at Deferred Area at SA-6 South (Site 073)





LEGEND

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- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20–240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED
- DEFERRED AREA

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	08/05/14	DCB9 SITE 163 EXCAVATION, DCB10 DEFERRED AREA	TDD	SGS
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
CHROMIUM EXCAVATION INTERVAL 1

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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BAR IS ONE INCH ON ORIGINAL DRAWING.
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PROJ	3480-12-0317
DWG	C-112
SHEET	17 OF 66

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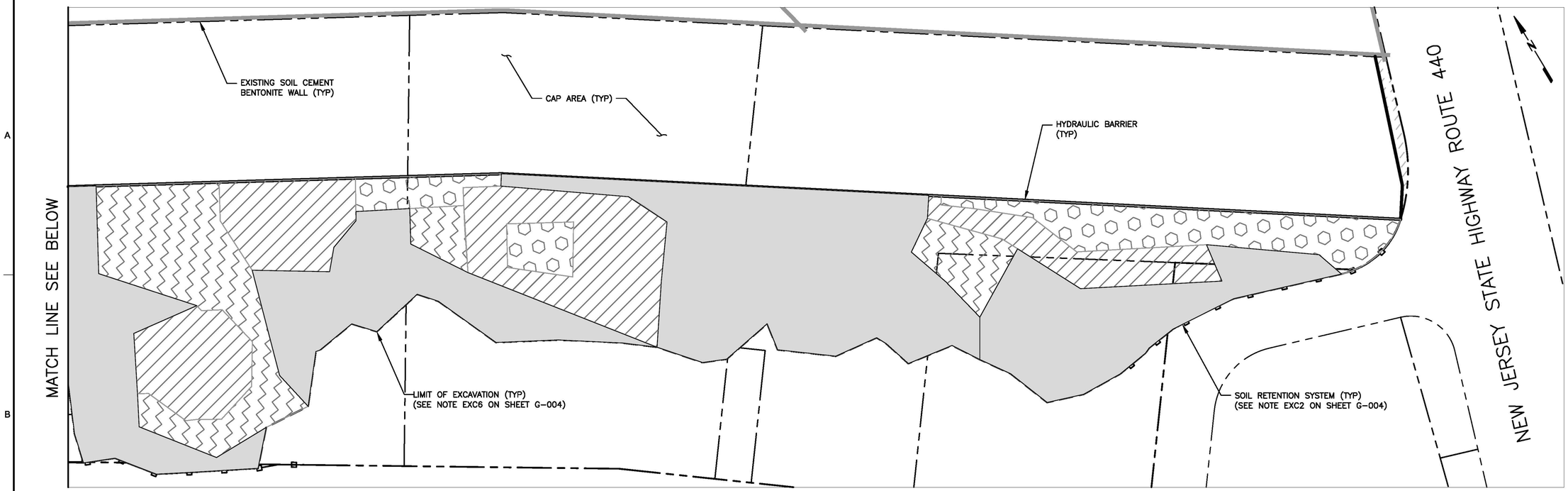
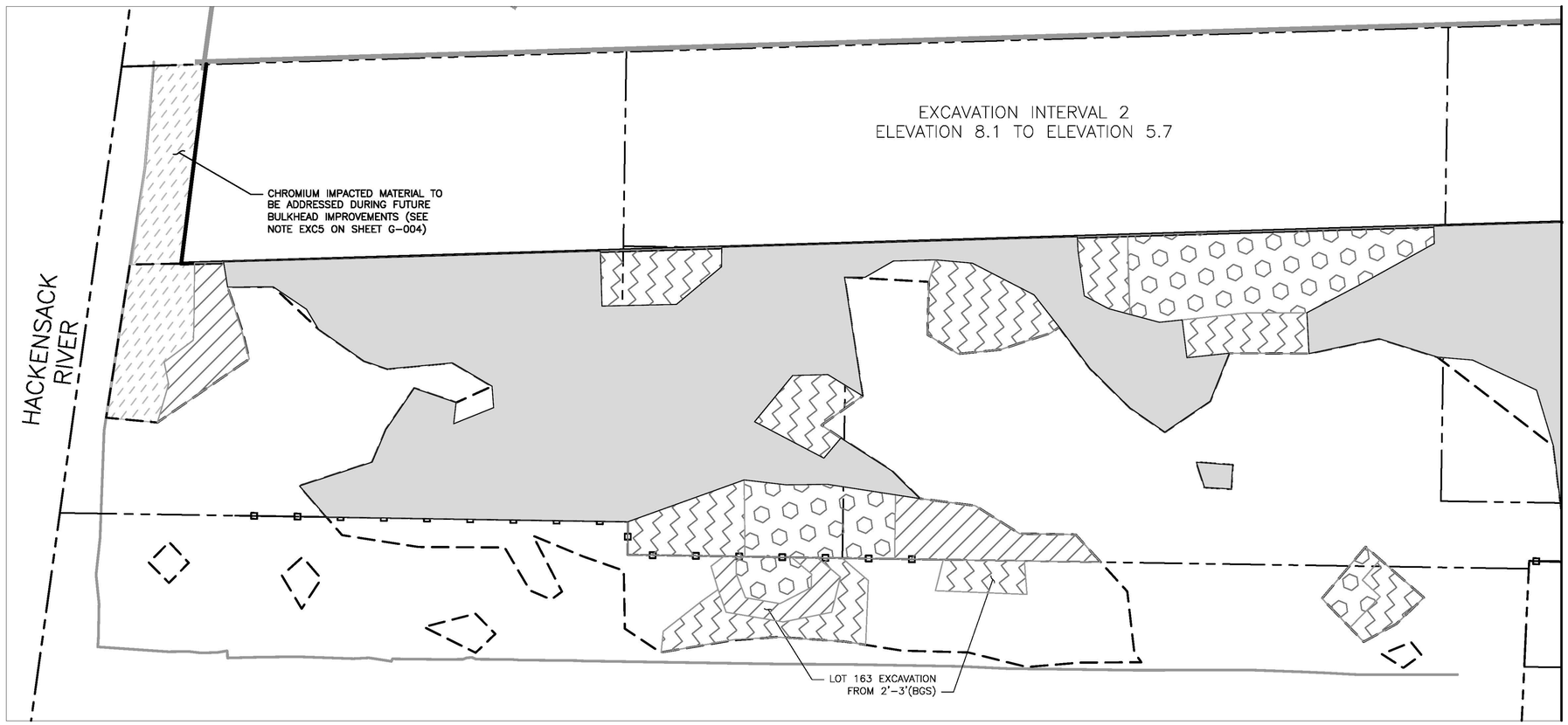
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR17-C-112 Chromium Excavation Interval 1.dwg PLOT DATE: Wed, 20 Aug 2014 PLOT TIME: 2:53 PM





MATCH LINE SEE ABOVE

LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION BETWEEN 20-240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
- AREAS OF IN-SITU TREATMENT BELOW 3 FEET
- NO EXCAVATION REQUIRED
- DEFERRED AREA

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NOTE: EXCAVATION IS INTENDED TO TERMINATE AT TOP OF STRATUM D LAYER IF ENCOUNTERED. CONTRACTOR SHALL REVIEW PROJECT BORING LOGS TO VERIFY ANTICIPATED TOP OF STRATUM D ELEVATIONS. CONTRACTOR MAY BE REQUIRED TO REMOVE UP TO 6-INCHES OF STRATUM D BASED ON DIRECTION OF THE ENGINEER.

0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
3	08/05/14	DCB9 SITE 163 EXCAVATION, DCB10 DEFERRED AREA	TDD		SGS
2	12/12/13	EXCAVATION REVISIONS	TDD		SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR		SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD		SHM
		REVISION	BY		APVD
			TDD	RJR	SHM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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CHROMIUM EXCAVATION INTERVAL 2

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LEGEND

- HEXAVALENT CHROMIUM SOIL CONTAMINATION UNDER 20 PPM
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- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 240 PPM
- HEXAVALENT CHROMIUM SOIL CONTAMINATION OVER 1000 PPM
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0 25 50 100
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	REVISION	BY	APVD
4	08/05/14	DCB9 SITE 163 EXCAVATION, DCB10 DEFERRED AREA	TDD	SGS
3	05/16/14	LOT 163 EXCAVATION 3 TO 4 FT BGS	TDD	DEN
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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LICENSE NUMBER 43507

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
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DWG	C-114
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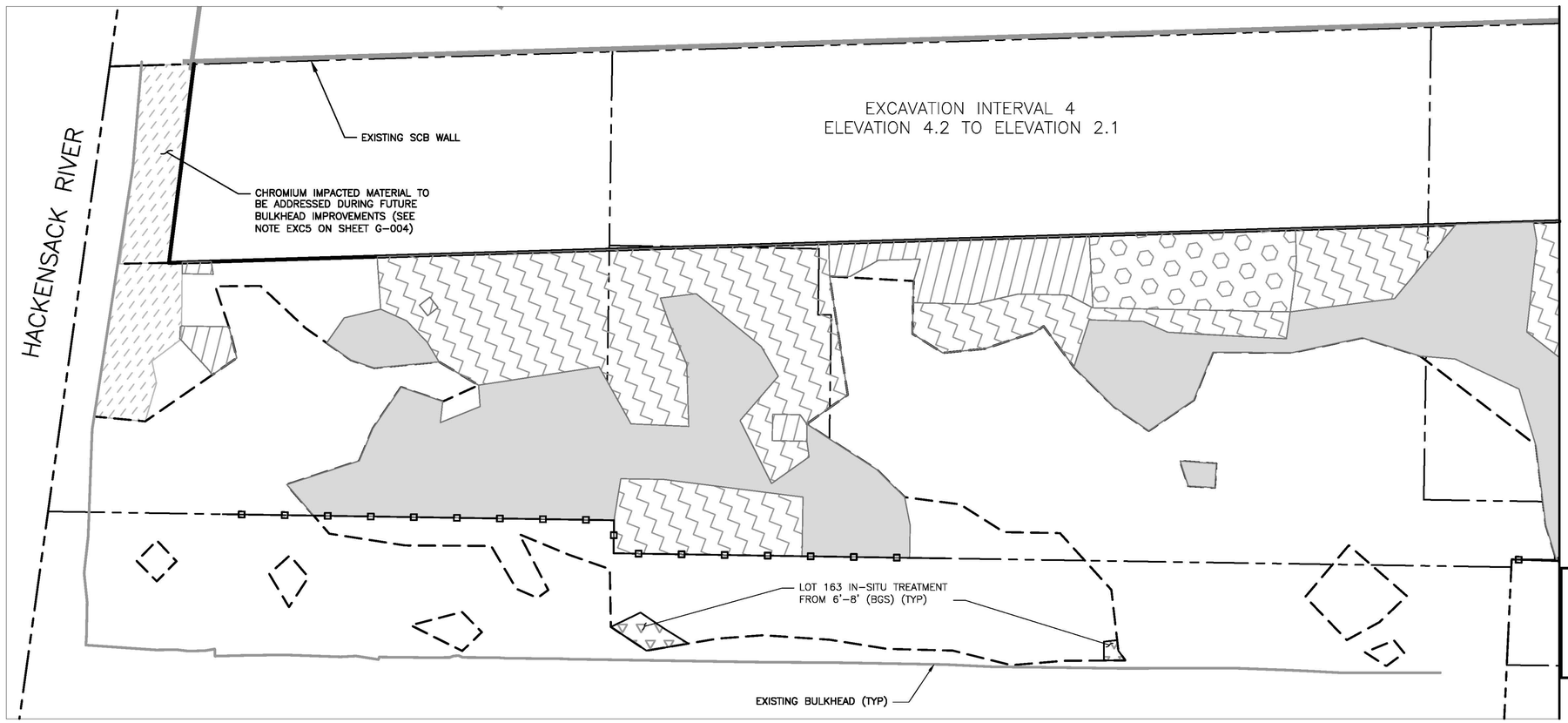

MATCH LINE SEE ABOVE

LEGEND

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0 25 50 100
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
3	08/05/14	DCB 10 DEFERRED AREA	TDD	SGS	
2	12/12/13	EXCAVATION REVISIONS	TDD	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	
		TDD	RJR	TDD	SHM

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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DATE	
PROJ	3480-12-0317
DWG	C-115
SHEET	20 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR20-C-115 Chromium Excavation Interval 4.dwg PLOT DATE: Wed, 20 Aug 2014 PLOT TIME: 2:53 PM

FINAL DCB 011 – MWAP REVISED TABLES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB No.: 011, Minor(a)** **Effective Date: 7/28/14**
Project Location: SA-6 North & South	**Associated RFI:** ☐ Yes, RFI No. _____ ☒ None
Title: Revised Monitoring Well Abandonment Plan Tables	**Project No.: 3480130377**
Contractor (*Subcontractor*): ENTACT	

Description of Change/Modification:

Revised tables of wells to be abandoned and retained are provided. The designation (abandon/retain) of several wells has been modified to accommodate the changing site conditions and future work at the site.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Clarify well abandonment requirements **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☐ Yes ☒ No **>$50K** ☐ Yes ☒ No **Schedule Impact** ☐ Yes ☒ No
Additional Comments:	**Design Documents Affected:** Appendix A-2, Monitoring Well Abandonment Plan Tables
Honeywell (AP) Review: **Individual: Geoff Shallard Discipline: EOR**	**Initial** GS **Date** 7/30/14
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☒ No **Date**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-EW-4 (aka 087-MW-142)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-5	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-6	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-7	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-001	**Abandon**	S-3 Injection Program	Plaintiffs Requested Monitoring of this Well
		087-MW-101	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-102	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-103	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-104	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-105	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106 (aka 087-MW-121)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-107	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-108	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-109	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-110	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-111	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-112	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-113	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-114	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-115	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-116	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-117	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-118	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-119	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-120	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-121 (aka 087-MW-106)		See Above	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-MW-122	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-123	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-124	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-125	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-126	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-127	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-128	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-129	**Retain**	Non-Cr - JCMUA-1A UST AOC	UST AOC Monitoring
		087-MW-140	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-141	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-142 (aka 087-EW-4)		See Above	
		087-MW-A26	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		087-MW-I30	Retain	None	
		087-MW-O19	Abandon	None	
		087-MW-O23	**Retain**	Non-Cr - CEA	Monitoring for CEA
		087-MW-O29	**Retain**	In-Situ	Monitoring GW for In-Situ Program
		087-MW-S19	Abandon (hold off)	None	
		087-MW-U28	Abandon	None	
		087-MW-W25	Abandon	None	
		087-MW-Y20	Abandon	None	
		ME-02 (aka 087-SB-410)	Abandon	Geotech - Methane Monitoring	
		ME-03 (aka 087-SB-409)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 087-SB-408)	Abandon	Geotech - Methane Monitoring	
		087-PZ-001	Abandon	None	
		087-PZ-003	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-PZ-005	Abandon	None	
	088	088-MW-001	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		088-MW-002	Abandon	None	
		088-MW-101	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-102	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-103	Abandon	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-105	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-106	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-107	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-108	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-109	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-110	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-111	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-112	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-113	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-114	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-115	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-G19	Abandon	None	
		ME-01 (aka 088-SB-306)	Abandon	Geotech - Methane Monitoring	
		088-PZ-001	Abandon	None	
		088-PZ-003	Abandon	None	
SA-6 South	73	073-MW-3	**Retain**	None	
		073-MW-4	Abandon	None	
		073-MW-5	Abandon	None	
		073-MW-BB11	Abandon	None	
		073-MW-Y10	Abandon	None	
		073-PZ-001	Abandon	None	
	124	124-MW-01	Abandon		

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		124-MW-02	Abandon	None	
		124-MW-07	Abandon		
		124-MW-09	Abandon		
		124-MW-10	**Retain**	None	Potential additional offsite GW monitoring
		124-MW-11	**Retain**	None	Potential additional offsite GW monitoring
		ME-01 (aka 124-SB-503)	Abandon	Geotech - Methane Monitoring	
	125	125-MW-01	Abandon	None	
		ME-02 (aka 125-SB-501)	Abandon	Geotech - Methane Monitoring	
		125-PZ-001	Abandon	None	
		125-PZ-003	Abandon	None	
	134	134-MW-01	Abandon		
		134-MW-02	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		134-MW-Q08	Abandon	None	
		134-MW-V09	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		ME-03 (aka 134-SB-503)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 134-SB-504)	Abandon	Geotech - Methane Monitoring	
		134-PZ-001	Abandon	None	
		134-PZ-003	Abandon	None	
	140	140-MW-01	Abandon		
		140-MW-04	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-MW-06	Abandon	None	
		140-MW-07	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		140-MW-08	Retain	Non-Cr	In Non-Cr Former UST AOC Excavation
		140-MW-1R	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-PZ-001	Abandon	None	
		140-MW-106	Abandon	None	
	163	163-MW-1	**Retain**	Non-Cr - CEA	Monitoring for CEA
		163-MW-CC8R	Abandon		
		163-MW-R05	Abandon	None	
		163-MW-2R	**Retain**	Non-Cr & Chromium	Quarterly monitoring of VOC plume fringe (See Table 1b)
		163-MW-Y6R	Abandon		

* Retain if feasible, monitoring well is in excavation area.

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
SA-6 North	115-W1-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W6-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E4-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E5-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6N-PZ1-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ1-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
SA-6 South	115-E1-SO	Abandon	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E1A-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W3-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W5-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6S-PZ1-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ1-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
	SA6S-PZ5-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ5-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-MW-01	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-02	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-03	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-04	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-05	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-06	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-07	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-08	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-09	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-10	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-11	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	163-MW-2R (SA6S-MW-12)	Retain	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC

* Retain if feasible, monitoring well is in excavation area.

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-13	**Retain**		
		087-MW-A26D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-O29D	**Retain**	S-3 Injection	Monitor S-3 Injection
		087-MW-O19D	**Retain***	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-35	Abandon	GWET LTMP	
		087-OBS-1D	**Retain**	GWET LTMP	
		087-OBS-1L	**Retain**	GWET LTMP	
		087-OBS-2D	**Retain**	GWET LTMP	
		087-OBS-3L	**Retain**	GWET LTMP	
		087-OBS-5D	**Retain**	GWET LTMP	
		087-OBS-6D	Abandon	GWET LTMP	
		087-PZ-002	Abandon	SA-6N Design Investigation	
		087-PZ-004	Abandon	SA-6N Design Investigation	
		087-PZ-006	Abandon	SA-6N Design Investigation	
	088	088-MW-15	**Retain**	GWET LTMP	Define regional flow direction quarterly
		088-PZ-002	Abandon	SA-6N Design Investigation	
		088-PZ-004	Abandon	SA-6N Design Investigation	
SA-6 South	73	073-PZ-002	Abandon	SA-6S Design Investigation	
	124	124-MW-102D	Abandon	Deep Overburden Invest.	
		124-MW-103D	Abandon	Deep Overburden Invest.	
		124-MW-104D	Abandon	Deep Overburden Invest.	
		124-MW-105D	Abandon	Deep Overburden Invest.	
		124-MW-GO2D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly
	125	125-PZ-002	Abandon	SA-6S Design Investigation	
		125-PZ-004	Abandon	SA-6S Design Investigation	
	134	134-PZ-002	**Retain**	SA-6S Design Investigation	Define regional flow direction quarterly
		134-PZ-004	Abandon	SA-6S Design Investigation	
	140	140-PZ-002	Abandon	SA-6S Design Investigation	
		140-MW-P05D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

SA-7	115	115-E1-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E1-DO	Abandon	SA-7 Perimeter Pools	
		115-E2-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E2-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DO	Abandon	SA-7 Perimeter Pools	
		115-E5-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E5-DO	Abandon	SA-7 Perimeter Pools	
		115-E6-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E6-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-17	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-20	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-A12T	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-E14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-U14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W1-DO	Abandon	SA-7 Perimeter Pools	
		115-W4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W4-DO	Abandon		

*Optionally, to be re-located north of the open space area

TABLE 3
PROPOSED DEEP ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Related

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-A26T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-OBS-1T	**Retain**		
		087-OBS-4T	**Retain**	GWET LTMP	Monitor GWET drawdown
		087-OBS-5T	**Retain**		
		087-MW-01	**Retain**	GWET LTMP	Monitor S-3 Injection
		087-MW-02	**Retain**		
		087-MW-03	Abandon	None	
		087-MW-08	**Retain**		
		087-MW-34	**Retain**		
		087-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
	088	088-MW-G19T	**Retain**	S-3 Injection	Monitor S-3 Injection
		088-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
		088-IW-02	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
SA-6 South	124	124-MW-GO2T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-102T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-103L	Abandon	Plume Diversion	Collect In-situ groundwater sample prior to capping
		124-MW-104T	Abandon*	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-104L	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-105T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-106T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-107T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-06	Abandon	None	
SA-7	115	115-MW-04	**Retain**		
		115-MW-05	**Retain**		

		115-MW-21	**Retain**		
		115-MW-E14T	**Retain**		
		115-MW-U14T	**Retain**		
Offsite, South of SA-6 South	119	119-MW-01T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		119-MW-02T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling

* Retain if feasible, monitoring well is in excavation area.
*Abandon: monitoring well could not be retained durnig excavation.

TABLE 4
PROPOSED BEDROCK WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-O29T	Abandon	None	
		087-MW-I30T	Abandon	None	
		087-MW-14	Abandon	None	
SA-6 South	073	073-MW-1BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		073-MW-10BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	119	119-MW-16BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	124	124-MW-8BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-1	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-2	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	140	140-MW-9BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
SA-7	115	115-MW-208BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-211BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-215BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-216BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling

FINAL DCB 012 – HYDROCARBON SOILS IN CAP

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB No.: 012, Minor(a)** **Effective Date: 10/28/14**
Project Location: SA-6 North & South	**Associated RFI:**
Title: Hydrocarbon Soils in Cap Area	☐ Yes, RFI No. _____ ☒ None
Contractor (*Subcontractor*): ENTACT	**Project No.: 3480130377**

Description of Change/Modification:

Hydrocarbon-impacted soils have been identified based on odor and PID readings as being co-mingled with the chromium-impacted soil in the SA-6 South chromium excavation. Hydrocarbon-impacted soil will be stockpiled separately from the non-hydrocarbon-impacted soil. Stockpiles will be sampled and analyzed for characterization as described in correspondence with NJDEP. It was determined that some of the hydrocarbon-impacted soil containing elevated levels of VOCs were to be disposed offsite, but certain other of hydrocarbon-impacted soil could be consolidated within the SA-6 South Open Space Area as long as the soil meets all other applicable reuse requirements of the Soil Management Plan (Appendix G – SA-6 North 100% Design Report). Hydrocarbon soils approved by the Engineer for placement under the SA-6 South cap will be consolidated in defined areas.

Placement and consolidation of the identified hydrocarbon-impacted soil will be conducted according to Specification 02315 – Earthwork. To the extent possible, the hydrocarbon-impacted soil should be placed in the Open Space Area and covered with non-hydrocarbon-impacted, chromium-impacted soil prior to construction of the cap over the soils. The vertical and horizontal limits of these areas will be documented in the final remedial action report.

Placement of hydrocarbon soils within the SA-6 South Open Space AOC was approved by the Plaintiffs in an email dated June 19, 2014 and by the NJDEP in an email dated October 2, 2014.

Reason for Change/Modification: ☒ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Develop guidelines and requirements for the handling of hydrocarbon-impacted soils in the Open Space AOC
	Attachments: ☐ Yes ☒ No
	Cost Implication: ☒ Yes ☐ No **>$50K** ☒ Yes ☐ No **Schedule Impact** ☒ Yes ☐ No
Additional Comments:	**Design Documents Affected:** None

Honeywell (AP) Review:

Individual: Geoff Shallard **Discipline: EOR** **Initial** GS **Date** 11/5/14

DESIGN CHANGE BULLETIN

(Name / Signature):	**Does DCB Result in CCO?** ☒ Yes (b) ☐ No **Date**
Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

FINAL DCB 015 – ASPHALT AND CONCRETE UNDER CAP

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No: 015; DCB Type: Minor(a)**
	Effective Date: 10/31/14
Project Location: SA-6 NORTH and SOUTH	**Associated RFI:**
Title: Asphalt / Concrete under the Cap	☐Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description of Change/Modification:

Amec has revised the Soil Management Plan (Appendix G – SA-6 North 100% Design Report) to indicate that any asphalt or concrete that meets NJDEP reuse requirements or is granted a variance by the NJDEP may be reused onsite as backfill or placed underneath the cap.

Prior excavation on SA-6 South, sixteen (16) samples of the asphalt pavement were collected in-situ throughout the excavation footprint. Concentrations of arsenic in six (6) of the samples exceed the RDCSRS of 19 mg/kg for arsenic. Entact has removed the arsenic-impacted asphalt from the excavation area and stockpiled it in the cap area. Honeywell requested approval from NJDEP and Plaintiffs to consolidate the asphalt in either the SA-6 North or SA-6 South Open Space Areas, in lieu of disposing of the arsenic-impacted asphalt offsite. Placement of the arsenic-impacted asphalt in either the SA-6 North or SA-6 South Open Space Area was approved by the Plaintiffs in an email dated September 9, 2014 and by the NJDEP in an email dated October 15, 2014.

Therefore, Entact is hereby directed to consolidate the subject arsenic-impacted asphalt in either the SA-6 North or SA-6 South Open Space Areas in a footprint that does not exceed 44,000 SF and cover the asphalt with chromium-impacted soil prior to construction of the cap over the soils. The vertical and horizontal limits of these areas will be documented in the final remedial action report.

Placement and consolidation of concrete or asphalt underneath the cap will be conducted according to Specification 02315 – Earthwork.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** NJDEP variance required to place impacted asphalt and concrete under the cap
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No **>$50k** ☐ Yes ☑ No **Schedule Implication** ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** SA-6 North 100% Design Appendix G - Soil Management Plan

Honeywell (AP) Review:

Individual: Samuel G. Shallard **Discipline:** **Initial:** **Date:** 11/6/14

(Name / Signature): Samuel G. Shallard	**Does DCB Result in CCO?** ☐ Yes (b)☑ No **Date:**
Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

All above grade demolition activities will be conducted by Jersey City entities or by others.

Concrete and asphalt will be characterized by sampling per NJDEP's procedure on "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" for recycling purposes pursuant to N.J.A.C. 7:26A or for beneficial reuse onsite pursuant to N.J.A.C. 7:26-1.7(g). Concrete determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be reused onsite as backfill in excavations or placed under the cap. Asphalt determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be used as sub-grade fill under new asphalt paved areas or placed under the cap. Concrete and asphalt that do not meet these NJDEP reuse or variance requirements will be disposed of offsite.

2.4 SA-6 SOUTH CONSTRUCTION DEBRIS MANAGEMENT

Asphalt and concrete removal at SA-6 South will be as shown on the Chromium Remedy Design Drawings. All concrete and asphalt materials will be managed in accordance with Section 02220 of the Technical Specifications. Honeywell has or is in the process of implementing demolition of building superstructures at SA-6 South prior to the implementation of the remedial actions. All buildings have been or will be demolished to their concrete slab foundations. All aboveground superstructure materials (concrete, steel, wood, etc) have or will be disposed of offsite. To the extent possible, any remaining concrete, asphalt and steel materials that do not interfere with remedial construction will be left in place. Concrete and asphalt will be generated during the remedial process from the following areas:

- Paved surfaces within the SA-6 South Open Space Area; and
- Paved surfaces and building slabs within the excavation areas within the SA-6 South Development Area.

Concrete and asphalt will be characterized by sampling per NJDEP's procedure on "Guidance for Characterization of Concrete and Clean Material Certification for Recycling" for recycling purposes pursuant to N.J.A.C. 7:26A or for beneficial reuse onsite pursuant to N.J.A.C. 7:26-1.7(g). Concrete determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be reused onsite as backfill in excavations or placed under the cap. Asphalt

determined to meet NJDEP reuse requirements, or which is granted a variance by NJDEP to meet reuse requirements, may be used as sub-grade fill under new asphalt paved areas or placed under the cap. Concrete and asphalt that do not meet these NJDEP reuse or variance requirements will be disposed of offsite.

FINAL DCB 016 – SITE 163 RESTORATION

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No: 016; DCB Type: Minor(a)**
	Effective Date: 12/01/14
Project Location: SA-6 NORTH and SOUTH	**Associated RFI:**
Title: Site 163 Backfill Protection	☐Yes, RFI No. ____ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description of Change/Modification:

The Southern limits of the Site 163 Chromium remediation extend close to the existing bulkhead. The bulkhead is in a dilapidated condition and has deteriorated subsequent to design of the remedy. During implementation of the remedy the condition of the bulkhead was visually assessed. As a result of this assessment it was determined that it was necessary to add additional protection to the backfill placed in Site 163 pending installation of the permanent replacement bulkhead. It was necessary to implement the restoration of the site rapidly after excavation to avoid the potential for inundation under high tides.

The design was modified in the field to include placement of geotextile fabrics and a sloped rip-rap facing to provide additional protection to the backfill.

The bulkhead condition is considered to be dynamic. It is recommended that this section of the bulkhead continue to be monitored pending replacement of the bulkhead.

Field Sketches were prepared to convey the general concepts and the final detailing was field engineered. Photos of the finished stabilized outer face are attached.

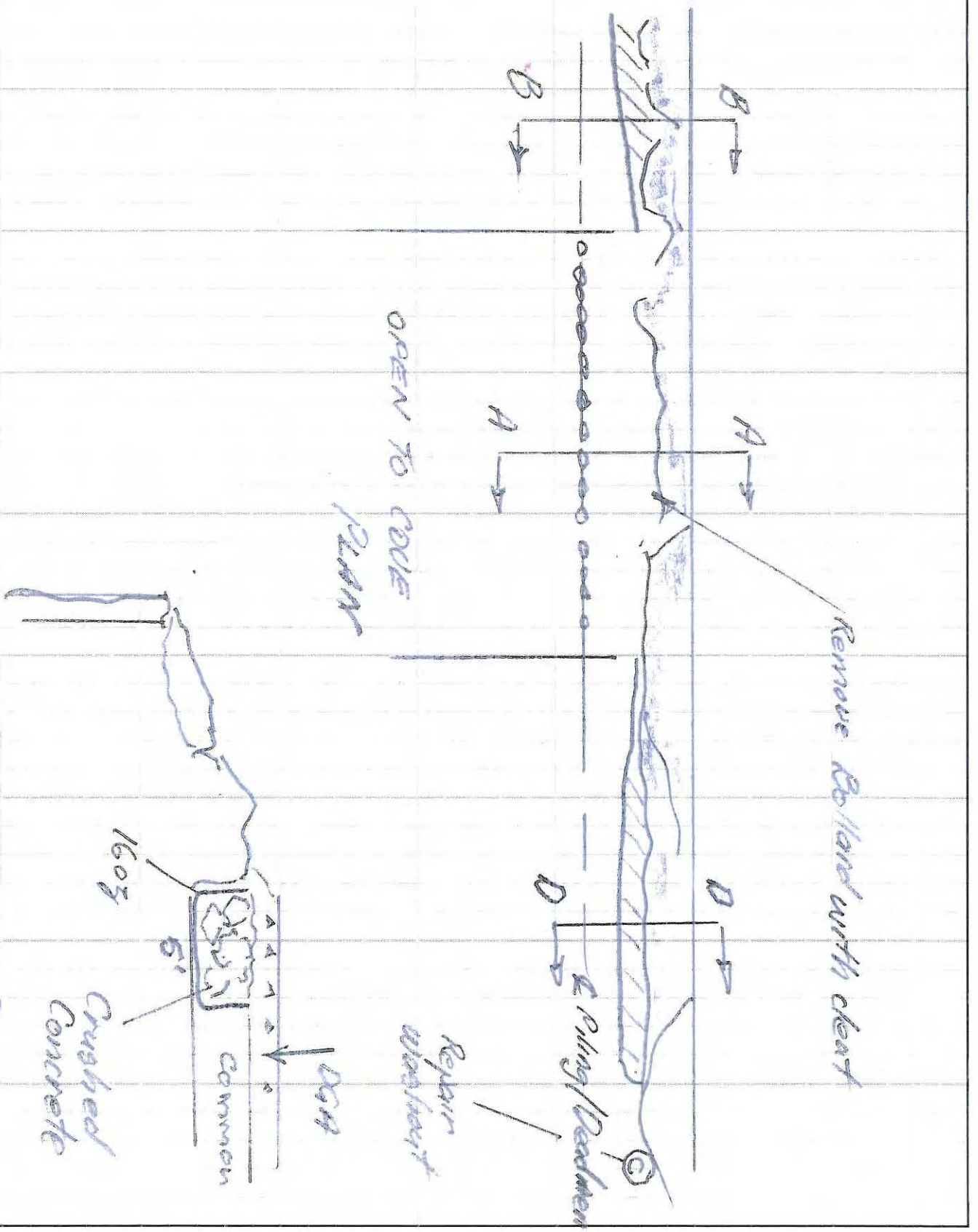
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Condition of bulkhead deteriorated between design and implementation.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☑ Yes ☐ No **>$50k** ☐ Yes ☑ No **Schedule Implication** ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual: Samuel G. Shallard** **Discipline:**	**Initial:**  **Date:** 12/17
(Name / Signature): Samuel G. Shallard	**Does DCB Result in CCO?** ☑ Yes (b)☐ No **Date: 12/03/14**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

JOB NO. _____ SHEET _____ OF _____
PHASE _____ TASK _____
JOB NAME Site 163 Restoration
BY SDS DATE 11/12/14
CHECKED BY _____ DATE _____

amec
American Metro Center 200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
+1 (609) 689-2829 Fax +1 (609) 689-2838



JOB NO. _____ SHEET _____ OF _____
PHASE _____ TASK _____
JOB NAME Site 163 Restoration
BY SGS DATE 11/12/14
CHECKED BY _____ DATE _____

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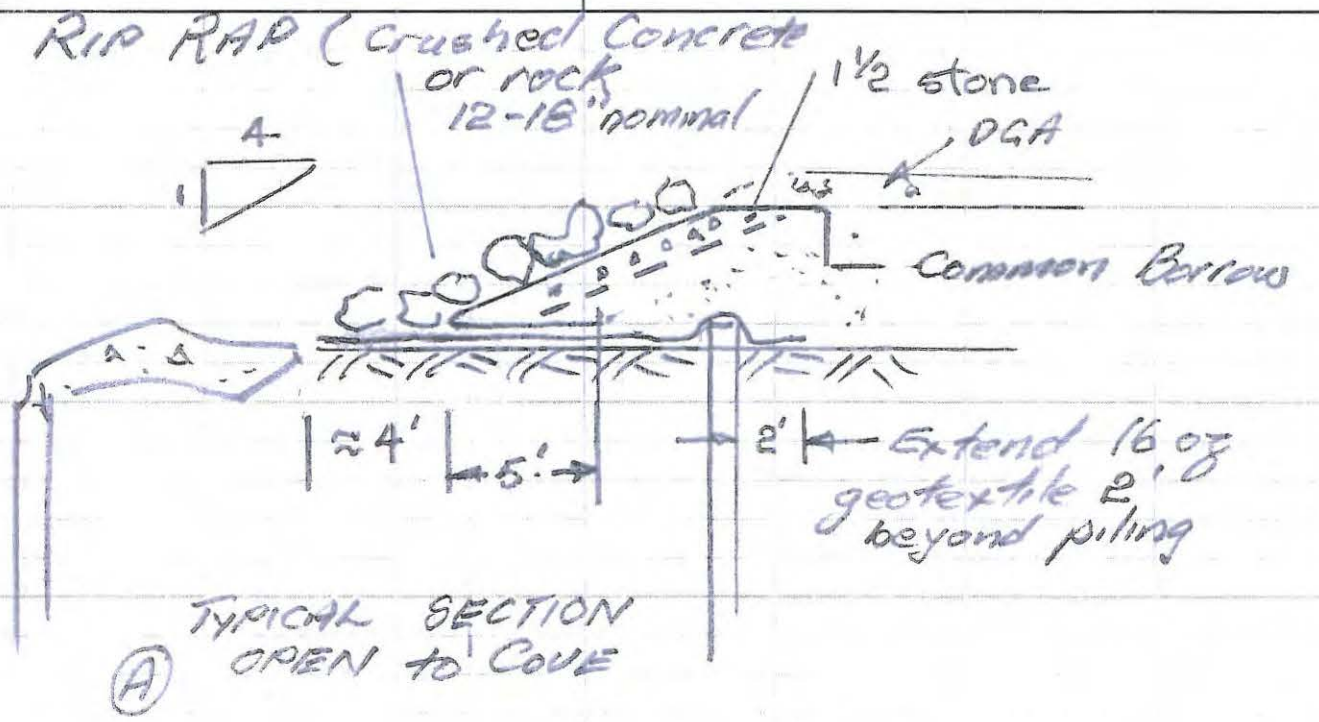

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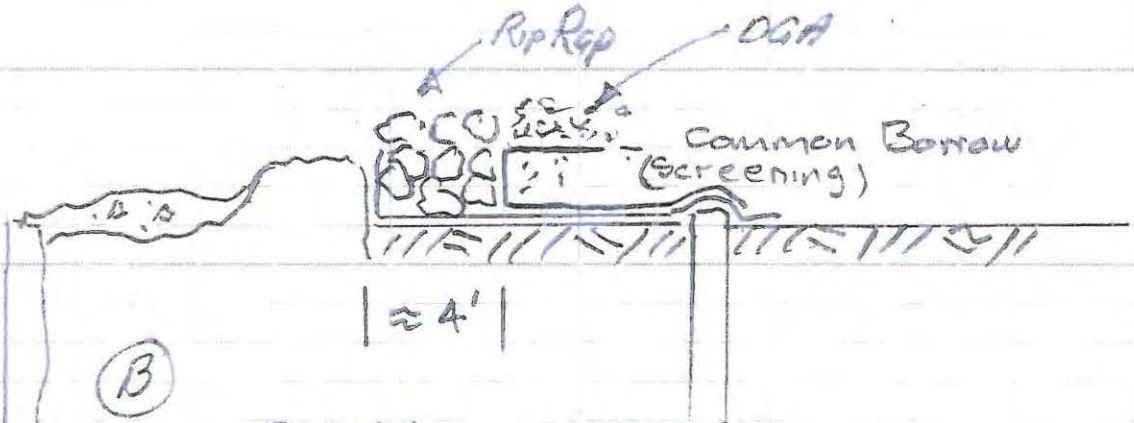
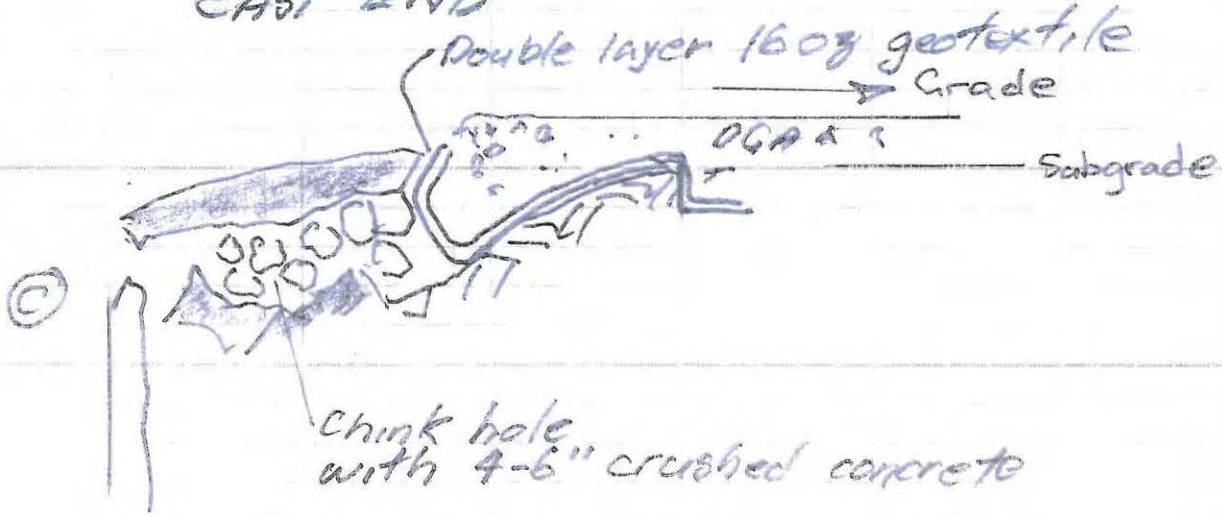


(B) TYPICAL SECTION EAST END



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11.19.2014 12:55


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FINAL DCB 017 – SA-6 NORTH AREA 1N HISTORIC FILL

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 017 Minor (a) Effective Date:
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: SA-6N Area 1N 2 ft. Cut Historic Fill	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The SA-6 North Remedial Action Work Plan, SA-6 100% Remedial Design Report, and the SA-6 North Consent Decree provides for the removal of the upper 2 ft., of historic fill from the SA-6 North Open Space Area. It is recognized that the original surface grade fluctuated significantly on SA-6N. For practical excavation control a more uniform excavation surface has been developed. That surface is based on a 2 ft. nominal cut +/- 1 ft. The areas selected for cut will be areas previously identified as historic fill with hexavalent chromium concentration of <20 mg/kg.

To increase capacity for movement of 20-240 mg/kg chromium impacted soils from SA-6 South to SA-6 North approximately 10,000 CY of historic fill will be excavated from SA-6 North. The final quantity may be adjusted based on survey quantities of impacted soils compacted and stockpiled in SA-6 South.

The excavation will be conducted to the lines and grades shown on Drawing CN XXX attached.

The bottom of excavation will be surveyed by a registered land surveyor.

Contractor shall stockpile the excavated material in designated location(s) mutually agreeable to Honeywell and Amec Foster Wheeler. The excavated materials will be sampled by Amec Foster Wheeler to determine the final disposition according to Section 2.2.4 of the Soil Management Plan (copy of section attached), as summarized as follows:

- Excavated materials that are confirmed <20 mg/kg for hexavalent chromium will be designated for reuse as backfill in excavations with the SA-6 North or SA-6 South Development Areas in accordance with the placement and compaction requirements of the Earthwork specifications (Section 02315) or may be placed above the cap but below the two feet of clean fill required by paragraph 56(c) of the SA-6 North Consent Decree.
- Excavated materials that are confirmed >20 mg/kg for hexavalent chromium will be designated for placement within the SA-6 North or SA-6 South Open Space Areas to be later covered with the cap.

The contractor will be notified by Amec Foster Wheeler as to the final disposition of the stockpiled excavated material.

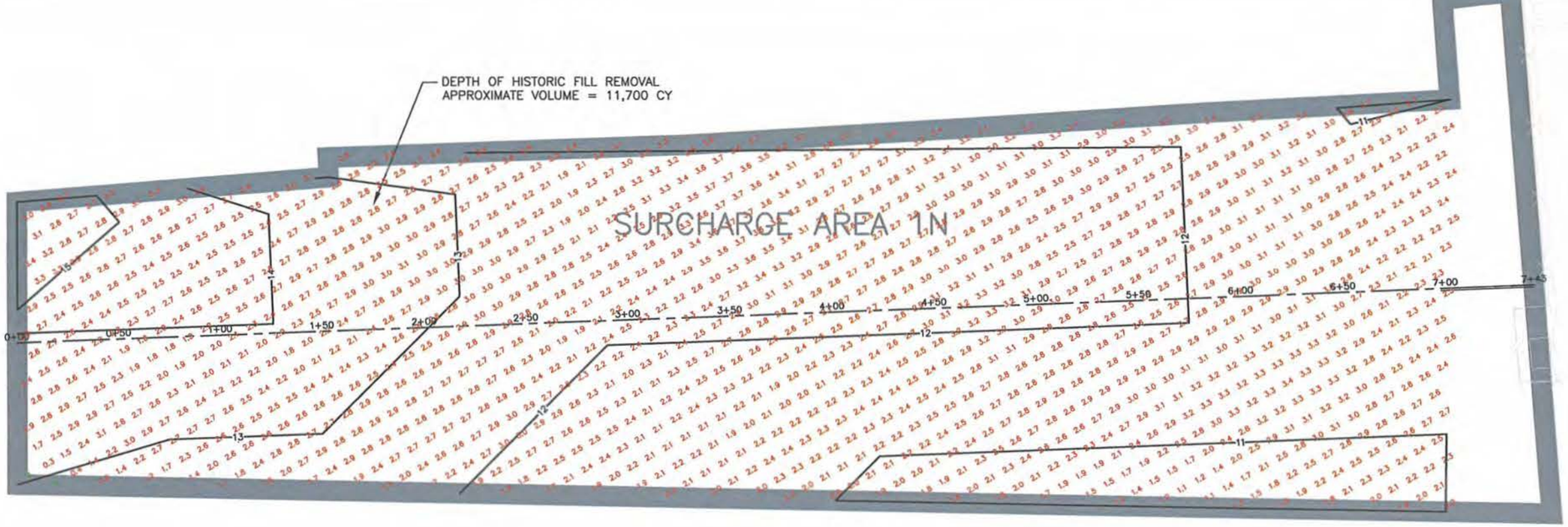
Reason for Change/Modification:	Explanation or Reason: Increase impacted soil capacity under the SA-6N Open Space cap.
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

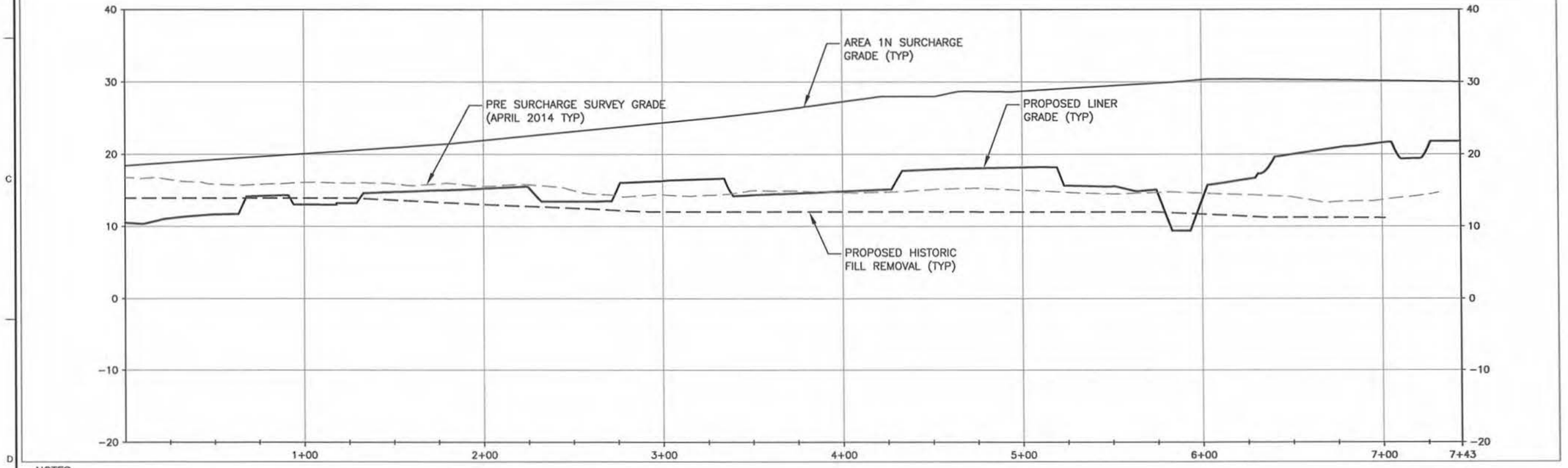
Honeywell (AP) Review:			
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No
Samuel G Shallard	Date: 3/20/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. CONTOURS SHOWN HEREON REPRESENT THE PROPOSED BOTTOM OF EXCAVATION TO REMOVE APPROXIMATELY 2 FEET OF HISTORIC FILL FROM SURCHARGE AREA 1N.
2. EXCAVATION OF HISTORICAL FILL WILL BEGIN UPON APPROVED REMOVAL OF ALL SURCHARGE MATERIAL AND COMPLETION OF A PRE-EXCAVATION SURVEY BY A REGISTERED LAND SURVEYOR.
3. BOTTOM OF EXCAVATION CONTOURS MAY BE ADJUSTED BASED ON PRE-EXCAVATION SURVEY AND VERIFICATION OF ACTUAL SURCHARGE SETTLEMENT.
4. EXCAVATED HISTORIC FILL MATERIAL WILL BE STOCKPILED IN AN AREA DESIGNATED BY AMEC PERSONNEL FOR UTILIZATION DURING FUTURE DEVEOPMENT OR SAMPLED IN ACCORDANCE WITH THE SOIL MANAGEMENT PLAN TO DETERMINE FINAL DISPOSITION.

0 15 30 60
SCALE IN FEET

FILE NAME: C:\Dorsovri\SA-6 North\2013 Excavation Surfaces\Area 1N Historic Fill Removal\Area 1N Historic Fill Removal.dwg PLOT DATE: Thu, 19 Mar 2015 PLOT TIME: 3:46 PM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		TDD	TDD	SGS	SGS		

REVISION

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07960

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
SURCHARGE AREA 1N
HISTORIC FILL REMOVAL
GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ 08619
(609) 585 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	2/26/15
PROJ	3480-13-0377
DWG	CN-101
SHEET	1 OF

FINAL DCB 018 – SA-6S SITE 163 DCB FOR CONCRETE

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Minor (a) Effective Date: 12/23/2014
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Site 163 Deferred Areas	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

When conducting the Site 163 shallow excavation remedy along the cove, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. These locations were inspected by the Amec engineer and it was determined that removal could be detrimental to the integrity of the bulkhead.

The location and description of the three isolated and small Deferred Areas are shown on the attached drawing.

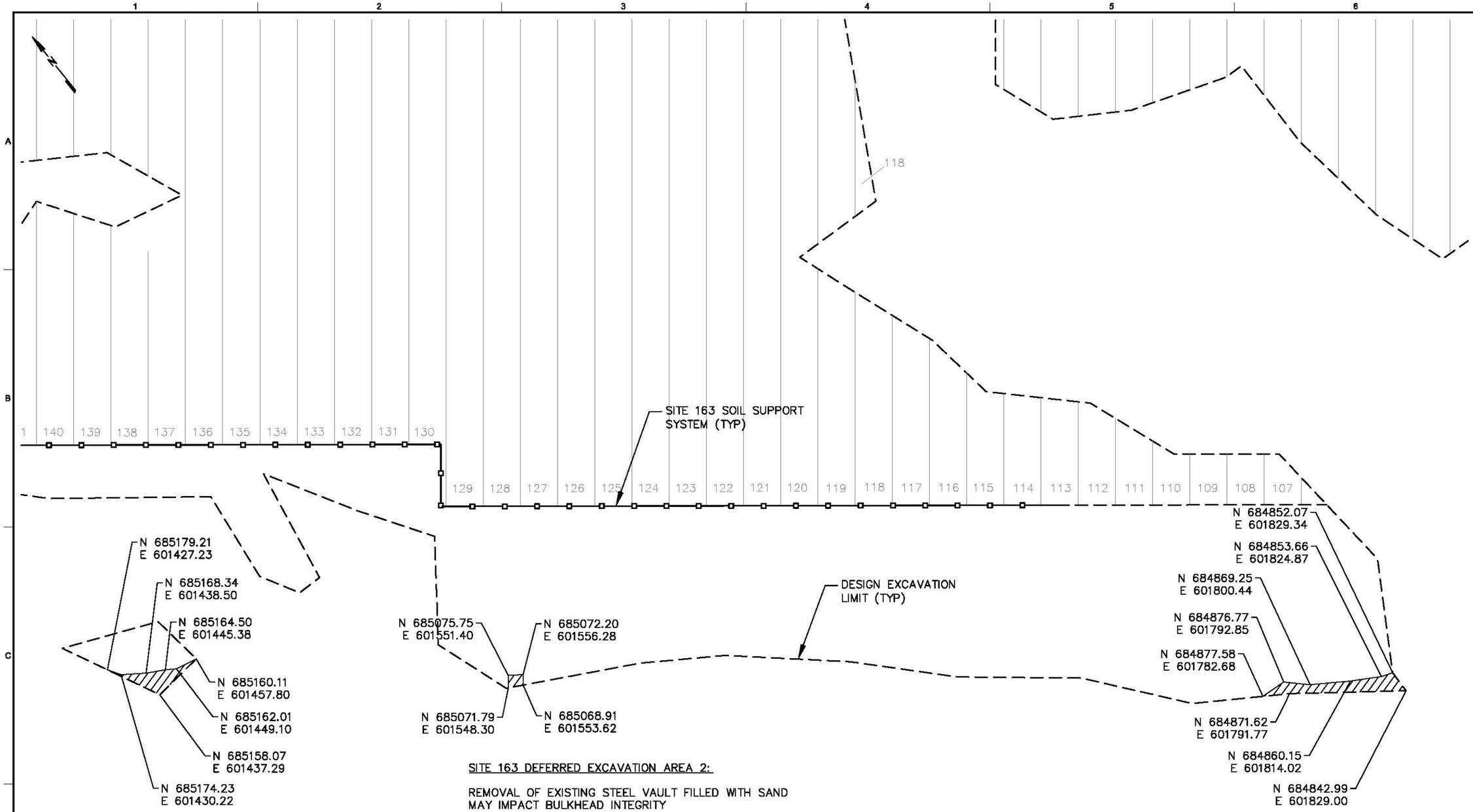
The total volume of the materials left in place is estimated to be less than 35 cubic yards.

As noted the material left in place was concrete. There was no visible sign of the concrete being "chromium impacted".

The remediation of this de minimis material will be completed along with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to field conditions. Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:
Honeywell (AP) Review: Individual Discipline	Initial [signature] Date 12/20/16
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



SITE 163 DEFERRED EXCAVATION AREA 1:

REMOVAL OF EXISTING CONCRETE MAY IMPACT BULKHEAD INTEGRITY

DESIGN EXCAVATION BOTTOM = 5.20 FT (NGVD 29)

PROJECTED REMOVAL VOLUME = 10 CY

SITE 163 DEFERRED EXCAVATION AREA 2:

REMOVAL OF EXISTING STEEL VAULT FILLED WITH SAND MAY IMPACT BULKHEAD INTEGRITY

DESIGN EXCAVATION BOTTOM = 3.60 FT (NGVD 29)

PROJECTED REMOVAL VOLUME = 5 CY

SITE 163 DEFERRED EXCAVATION AREA 3:

REMOVAL OF EXISTING SOIL AND CONCRETE MAY IMPACT BULKHEAD INTEGRITY

DESIGN EXCAVATION BOTTOM = 5.60 FT (NGVD 29)

PROJECTED REMOVAL VOLUME = 20 CY

0 10 20 40
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
DSGN	TDD	DR RJR	CHK TDD	APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
CONSTRUCTION DRAWINGS

SITE 163
DEFERRED EXCAVATION
AREAS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2828

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	01/21/15
PROJ	3480-10-0027
DWG	001
SHEET	1 OF 1

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FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 Deferment Areas\Figure 1 Site 163 Deferment Areas.dwg PLOT DATE: Wed, 21 Jan 2015 PLOT TIME: 11:46 AM

FINAL DCB 021 – SURCHARGE IN AREA

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 021 Minor (a) Effective Date: 3/4/15
Project Location: SA-6 SOUTH	Associated RFI:
Title: 3S Surcharge Pile Geometry on East End	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

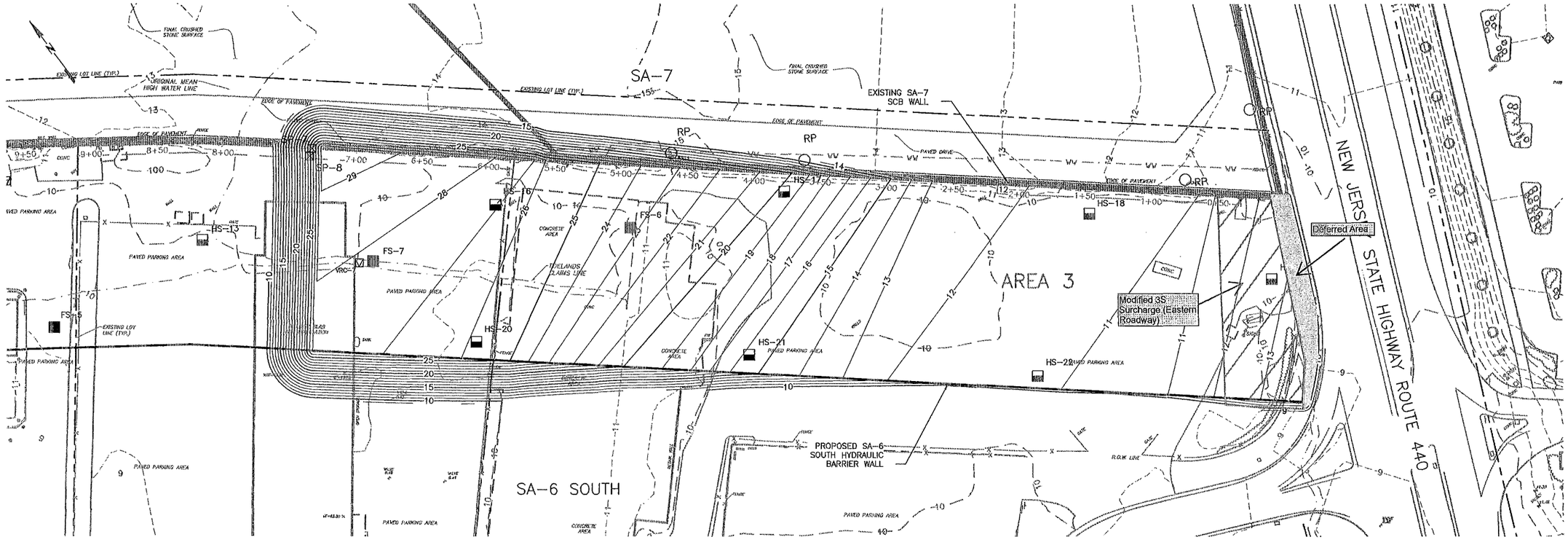
Reason for deferral:

The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. See attached figure. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason. Avoids placement of fill outside of the protective limits of the Barrier Wall.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Changes the limit of surcharge fill however no specification of drawing change is considered to be necessary.

Honeywell (AP) Review:			
Individual	Discipline	Initial	Date
(Name / Signature): Samuel Shallard		Does DCB Result in CCO? Date: 3/25/15	☐ Yes Yes (b) ☑ No
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARDS ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

SETTLEMENT MONITORING POINTS

DESCRIPTION	NORTHING	EASTING
FS-6	684538	602919
FS-7	684638	602751
HS-16	684678	602808
HS-17	684488	603027
HS-18	684333	603198
HS-19	684211	603276
HS-20	684542	602775
HS-21	684409	602931
HS-22	684263	603093
SP-8	684728	602761
VRC-7	684643	602742

VI-2	INCLINOMETER LOCATION
FS-1	SETTLEMENT MONITORING POINT FULL – SET UP
HS-1	SETTLEMENT MONITORING POINT HALF – SET UP
SP-12	SETTLEMENT MONITORING PLATFORM
RP	APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
VRC1	VIBRATING WIRE PIEZOMETER IN STRATUM RC

Attachment A

DCB 021 Eliminate Surcharge Area 3S Deferred Area

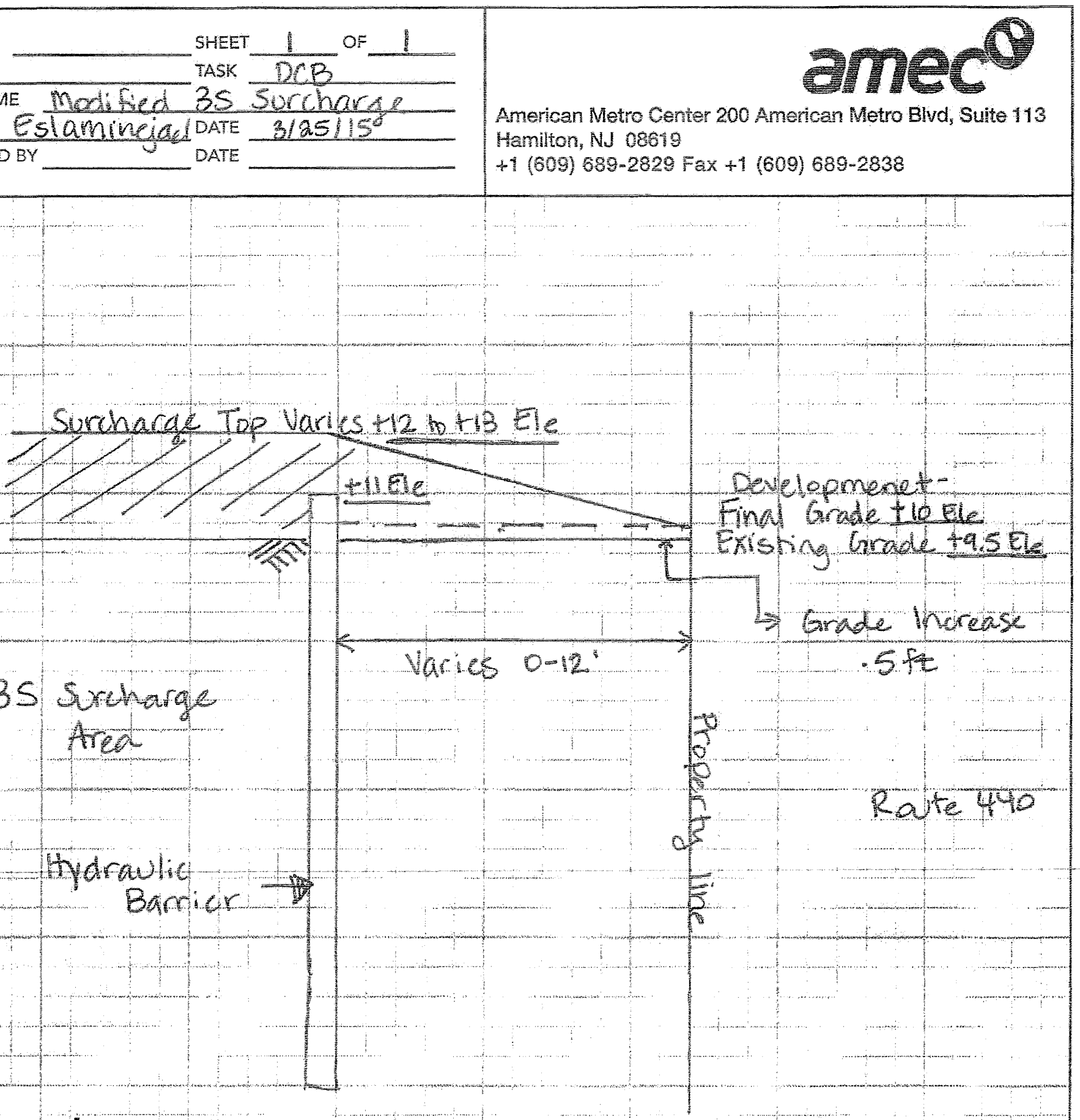
0 20 40 80
SCALE IN FEET

Prepared/Date: RJR 12/16/13
Checked/Date: AE 12/16/13

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	INSTRUMENTATION LOCATION PLAN 3S Figure H1

JOB NO. _____ SHEET 1 OF 1
PHASE _____ TASK DCB
JOB NAME Modified 3S Surcharge
BY Ari Eslamineja DATE 3/25/15
CHECKED BY _____ DATE _____

amec
American Metro Center 200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
+1 (609) 689-2829 Fax +1 (609) 689-2838



Attachment B

DCB 021 Area 3S Eliminate Surcharge Deferred Area

FINAL DCB 026.1 – CGWS DELETE PUMPS AND CONTROLS

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No 026.1: Minor (a)
	Effective Date: 05/19/2015
Project Location: SA-6	Associated RFI:
Title: Contingent GW System Delete Pumps & Controls	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB 026.1 serves to provide notice to Entact that specific components related to the Contingent GW system are being removed from the scope. Associated drawing revisions and supplemental detail will be provided in DCB 026.2.

Supply and installation of items listed below will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6N and 6S. These changes impact the three Groundwater extraction Pump Stations and associated electrical and instrumentation wiring.

Revised Contingent Groundwater drawings will be issued under DCB 026.2

- DWG C-310 Detail CC
  - Submersible Grinder Pump Model HPGR200 and associated electrical wiring.
  - Level switches, level alarm, Pump Power Control Panel and associated electrical and instrumentation cable.
  - 1.5 inch flex discharge hose.
- DWG C-204. Flow Meter and Flow Meter Structure as detailed on DWG 306. Delete in its entirety including all associated instrument cable and conduit.

Contingent GW force mains, electrical and instrument conduit will be installed as shown with pull string/wire to permit installation of electrical and instrumentation wire by others.

Please Note that the above Geomembrane pump station including all pumps, wiring and controls will be installed as shown.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision √ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Attachments: ☐ Yes √ No Cost Implication: √ Yes ☐ No >$50k √ Yes ☐ No Schedule Implication ☐ Yes √ No
Additional Comments:	Design Documents Affected: C-204,C-310, E-301, E-302 CN-201,CN-301,CN-302 CN-305 EN-301, EN-302

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature): Samuel Shallard			Does DCB Result in CCO? ☐ Yes (b) ☐ No Date: May 19, 2015

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

FINAL DCB 027 – ELIMINATE UTILITY CORRIDOR

Honeywell RES

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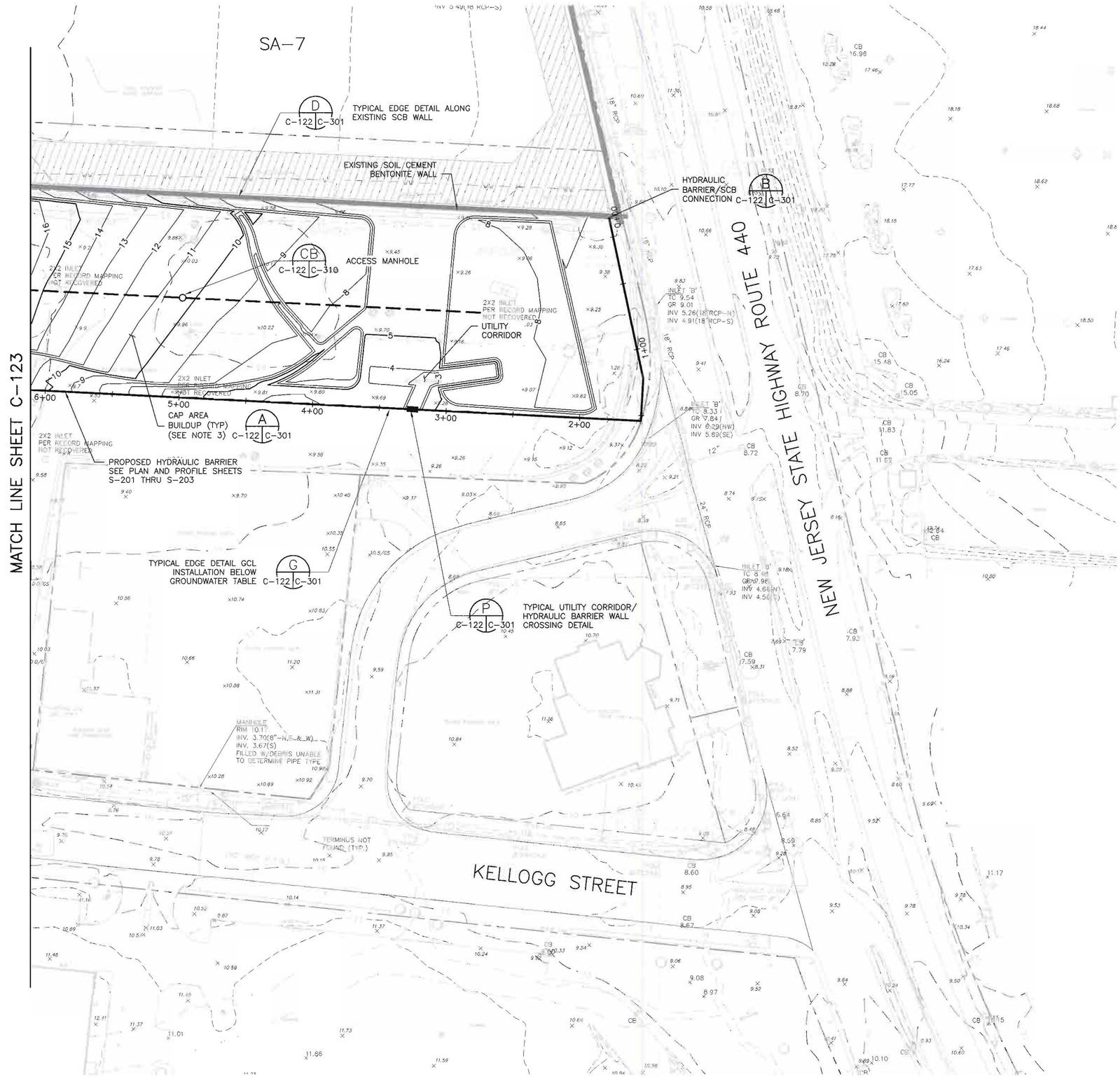
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 27 **DCB Type:** Major (a) **Effective Date:** 6/15/15
Project Location: SA-6 South	**Associated RFI:**
Title: Eliminate Utility Corridor by Route 440	☐ Yes, RFI Nos. ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Bayfront Redevelopment Civil Designer has eliminated one utility corridor along the eastern portion of SA-6 South (water main and sewer line were relocated to another utility corridor). This DCB provides the associated adjustment in the Geomembrane Subgrade design. In addition, it was identified that minor changes in the Bayfront final grades of up to 0.25 ft may be made in the landscaped areas (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Final Grade surface has been verified to meet the minimum and average requirements of the SA-6 South Consent Decree and the 100% Design.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Drawing C-122 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: CHA revisions to the Development utilities resulted in the relocation of a firewater and sanitary sewer line near Route 440. The relocation eliminated the necessity for a utility corridor. Eliminating the corridor from the subgrade simplifies the geomembrane installation, eliminates two penetrations of the SA-7 SCB Wall, and reduces the extent of submerged barrier wall to geomembrane connection. Final and Subgrade surfaces have been prepared for use with the Machine Control. A Construction Control Grid has also been established for the purpose of documenting compliance with the 100% Design.	**Design Documents Affected:** Drawing C-122
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	05/29/15	ELIMINATE UTILITY CORRIDOR	TDD	SGS
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Certificate of Authorization Number 24GA28019300

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-122
SHEET	27 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR27-C-122 Geomembrane Grading Plan.dwg PLOT DATE: Mon, 01 Jun 2015 PLOT TIME: 12:21 PM

FINAL DCB 028 – SCB WALL CONNECTION

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 28 **DCB Type:** Minor (a) **Effective Date:** 5/29/15
Project Location: SA-6	**Associated RFI:**
Title: Revised Gas Venting System and Cap Details	☑ Yes, RFI Nos. 38, 42, 45 ☐ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

This DCB was prepared in response to RFIs related to the cap termination details beyond the SCB/VHB wall, GCL to SCB/sheetpile barriers and Geofoam Block locations above the liner.

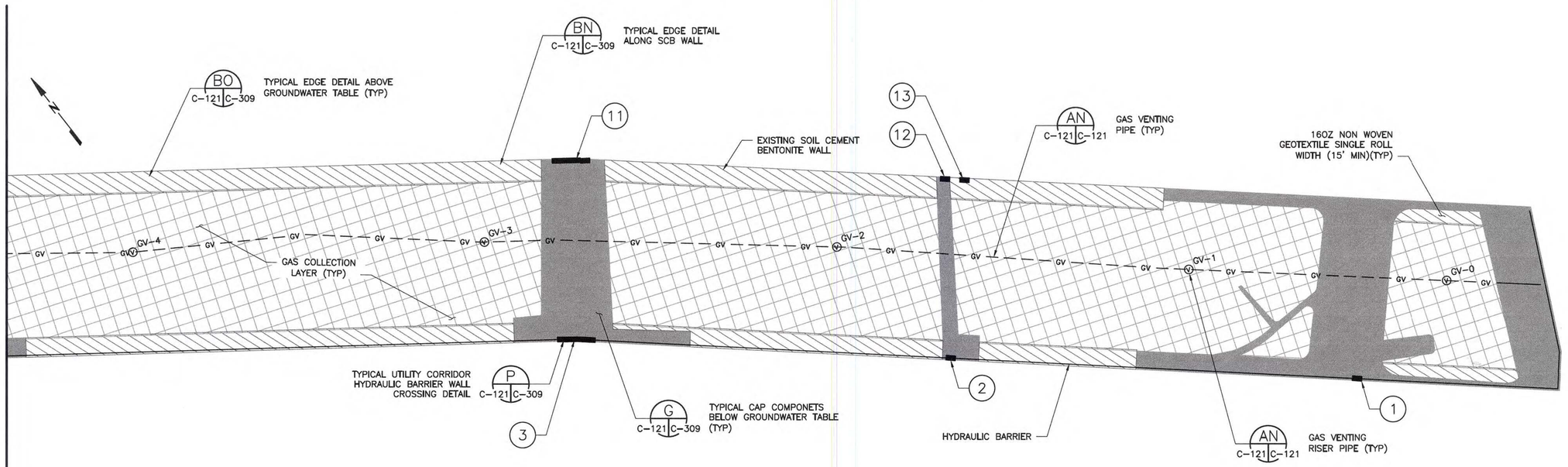
These clarifications have been made by modifying the Cap Details.

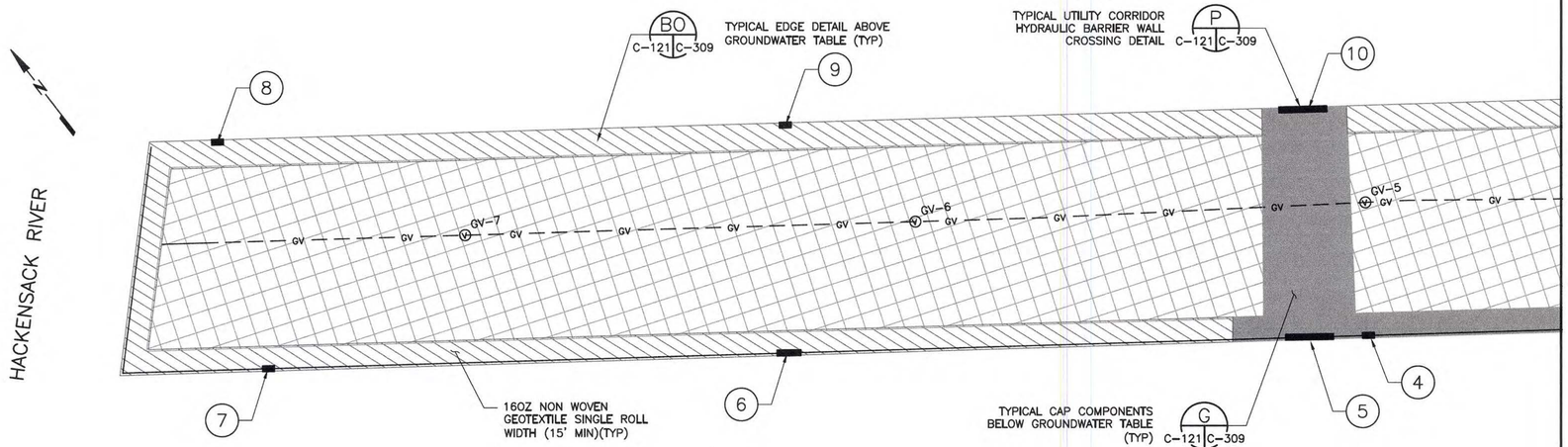
The original drawing sheets will be voided and replaced by the following revised sheets:

- C-121 – Gas Venting System and Details, Rev. 3 (5/29/15)
- C-301 – Cap Details, Rev. 3 (5/29/15)
- C-309 – Miscellaneous Details, Rev. 3 (5/27/15)

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Design clarification **Attachments:** ☑ Yes ☐ No C-121, C-301 and C-309 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 6/12/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





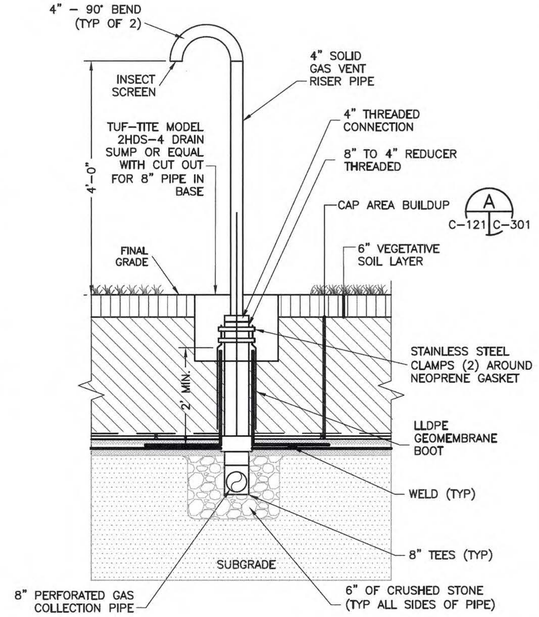
GEOFOAM BLOCK SUMMARY

NUMBER	LENGTH
1	8'
2	8'
3	32'
4	8'
5	32'
6	16'
7	8'
8	8'
9	8'
10	32'
11	32'
12	8'
13	8'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. WHERE BLOCKS ARE PLACED BELOW THE WATER TABLE, MEASURES WILL BE IMPLEMENTED TO CONTROL GROUNDWATER LEVELS AND FILL PLACEMENT SO THAT BLOCKS DO NOT FLOAT.
4. GEOFOAM BLOCKS ARE DEPICTED ON THIS DRAWING FOR PLAN LOCATION. BLOCKS WILL BE PLACED ABOVE THE LLDPE.
5. THE CLASS A GEOSYNTHETIC WHICH LAPS OVER THE SCB AND SHEETPILE BARRIER WALLS IS DESIGNED TO PROTECT THE LLDPE FROM PUNCTURING FROM THE STRUCTURAL WALL. THE 15 FT. DIMENSION WAS SELECTED TO PROVIDE FOR DEPLOYMENT OF A SINGLE ROLL WIDTH. GCL AREAS ARE MINIMUMS. IF THE CONTRACTOR WISHES TO USE FULL ROLL WIDTHS THE AREA OF GAS VENT OR CLASS A GEOTEXTILE MAY BE REDUCED ACCORDINGLY. PANEL DEPLOYMENT SHOULD BE REVIEWED WITH THE ENGINEER PRIOR TO DEPLOYMENT.



NOTE:
PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.

GAS VENT DETAIL
NTS
AN
C-121 C-121

0 25 50 100
SCALE IN FEET

SAMUEL G. SHALLARD
N.J. PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	05/29/15	CAP/EDGE DETAILS AND CORRIDORS	TDD	RJR	TDD	RJR	SHM
2	05/20/15	REVISED EDGE DETAILS				RJR	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT				RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SHM
		REVISION					

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GAS VENTING SYSTEM AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Certificate of Authorization number 24GA28000300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-121
SHEET	26 OF 66

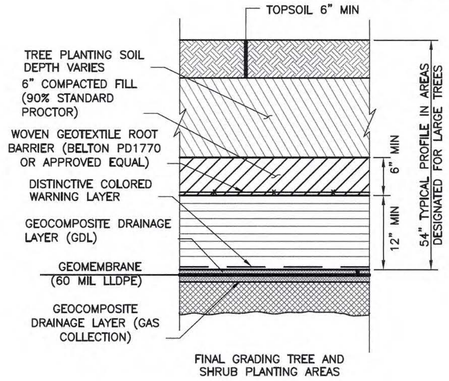
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR26-C-121 Gas Venting System and Details.dwg PLOT DATE: Mon, 01 Jun 2015 PLOT TIME: 12:19 PM

CONSENT DECREE NOTES:

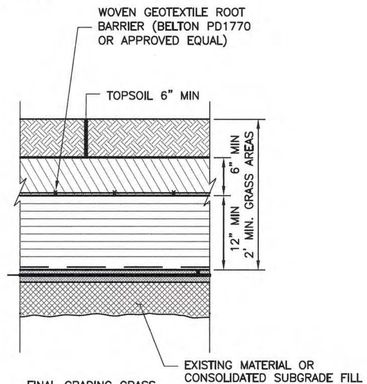
THE CAP SHALL BE INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF THE UNITED STATES DISTRICT COURT, DISTRICT OF NEW JERSEY, CONSENT DECREE REGARDING REMEDIATION AND REDEVELOPMENT OF STUDY AREA 6 NORTH AS FOLLOWS:

- ARTICLE III CHROMIUM REMEDIATION, SECTION A CHROMIUM REMEDY, SUBSECTION 56(a): EXCLUSIVE OF ROADWAYS, THE CAP SHALL BE OVERLAIN BY LAYERS OF CLEAN FILL, BACKFILL AND/OR OVERBURDEN WITH AN AVERAGE DEPTH OF AT LEAST THREE FEET AND A MINIMUM DEPTH OF AT LEAST TWO FEET PROVIDED THAT ANY LAYER THAT INCORPORATES OVERBURDEN SHALL BE BELOW AT LEAST TWO FEET OF CLEAN FILL. ONE FOOT OF CLEAN FILL, COVERED WITH BITUMINOUS BLACKTOP, SHALL BE SUFFICIENT COVER WHERE ROADS, WALKWAYS, OR OTHER PAVED SURFACES ARE LOCATED WITHIN THE AOC 1 OPEN SPACE AREA.
- ARTICLE III CHROMIUM REMEDIATION, SECTION B LONG-TERM MONITORING, MAINTENANCE, AND PROTECTION OF ENGINEERING AND INSTITUTIONAL CONTROLS, SUBSECTION 60(j)(v)(6): IF THE LOWEST ELEVATION FOR THE BEDDING FOR ANY UTILITY LINE, INCLUDING IRRIGATION OR SPRINKLER LINES, IS TWO FEET FROM THE TOP OF THE WARNING LAYER OF THE CAP, THE UTILITY LINE SHALL BE PLACED IN A UTILITY CORRIDOR.
- ARTICLE III SUBSECTION 56(a) "AND A DISTINCTIVE COLORED WARNING LAYER WITH MARKINGS IN ENGLISH AND SPANISH THAT WOULD DETER PENETRATION OF THE CAP IN THE EVENT THAT DIGGING OCCURRED IN THE VICINITY OF THE CAP.

LANDSCAPING AREAS

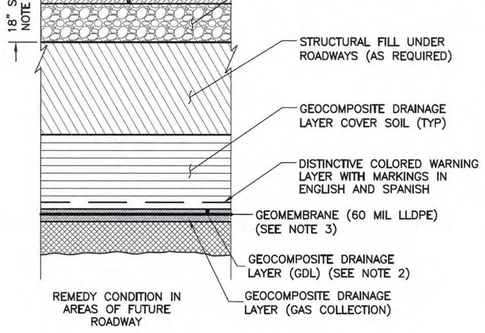


FINAL GRADING TREE AND SHRUB PLANTING AREAS



FINAL GRADING GRASS AREAS

EXISTING MATERIAL OR CONSOLIDATED SUBGRADE FILL COMPACTED PER SUBGRADE PREPARATION SECTION OF SPECIFICATION 02315 "EARTHWORK".(TYP)

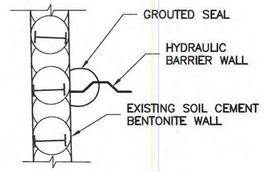


REMEDY CONDITION IN AREAS OF FUTURE ROADWAY

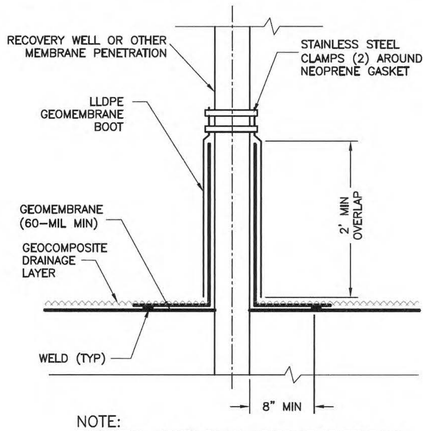
NOTES:

1. THE INITIAL 12 INCHES OF MATERIAL PLACED OVER THE GDL THE SHALL MEET THE SPECIFICATION FOR GEOCOMPOSITE DRAINAGE LAYER PROTECTIVE COVER SOIL.
2. THE CONSENT DECREE REQUIRES INSTALLATION OF A WARNING LAYER ABOVE THE GEOMEMBRANE LINER. (SEE CONSENT DECREE NOTES.) THIS REQUIREMENT MAY BE MET BY THE FOLLOWING.
   (A) SUPPLYING AND INSTALLING A GDL WHICH IS FABRICATED WITH TOP LAYER OF GEOTEXTILE THAT BOTH MEETS THE TECHNICAL SPECIFICATIONS FOR THE GDL AND THE CONSENT DECREE REQUIREMENTS FOR THE WARNING LAYER
   (B) INSTALLING A SEPARATE WARNING LAYER THAT MEETS THE REQUIREMENTS OF THE CONSENT DECREE.
3. STRUCTURAL FILL UNDER ROADWAYS SPECIFICATION 2315. NJDOT I-5 & I-8 COMPACTED TO 95% ASTM D698.
4. FOR FINAL DEVELOPMENT CUT OUT "ROADBOX" 18" DEEP AND REPLACE WITH 12" SUBGRADE FILL AND 6" PF FLEXIBLE PAVEMENT OR AS REQUIRED BY JERSEY CITY STANDARD ENGINEERING.

CAP AREA BUILD UP DETAIL (A) TYP C-301
NTS

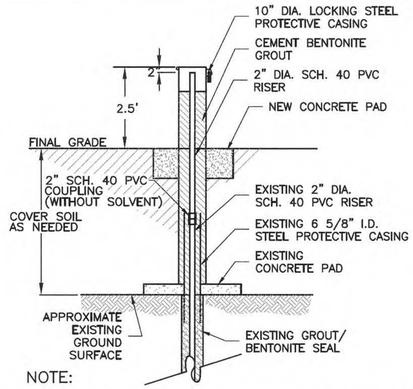


TYPICAL HYDRAULIC BARRIER / SCB CONNECTION DETAIL (B) TYP C-301
NTS



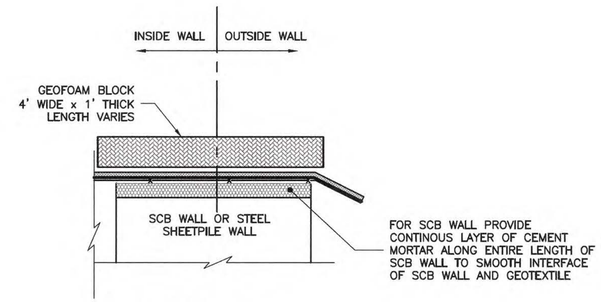
NOTE:
THIS DETAIL APPLIES TO ALL MEMBRANE PENETRATIONS.

PIPE BOOT (C) TYP C-301
NTS

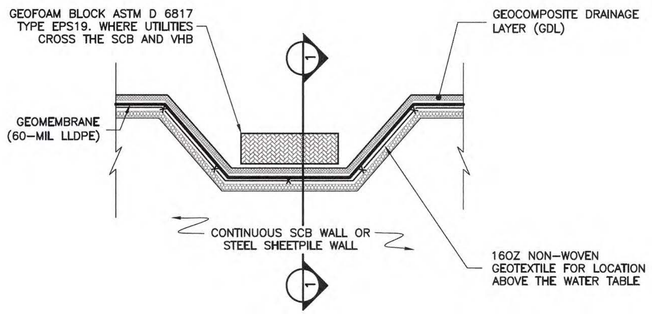


NOTE:
WELL EXTENSION CONCRETE SHALL BE PERFORMED IN ACCORDANCE WITH THE NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION, FIELD SAMPLING PROCEDURE MANUAL, APPENDIX 6.1, AUGUST 2005, EXCEPT DEPTH OF NEW CONCRETE PAD SHALL BE AS SHOWN.

PIEZOMETER/WELL EXTENSION DETAIL (E) TYP C-301
NTS



SECTION 1-1
NTS



TYPICAL UTILITY CORRIDOR HYDRAULIC BARRIER WALL CROSSING DETAIL (P) C-121 C-122 C-123 C-124 C-301
NTS

NOTE:
1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
3	05/29/15	TDD	RJR	TDD	APVD
2	05/13/15	REVISED DETAILS	TDD	SGS	
1	05/05/15	REVISED DETAIL	TDD	SGS	
0	06/07/13	REVISED EDGE DETAILS	TDD	SGS	
		ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

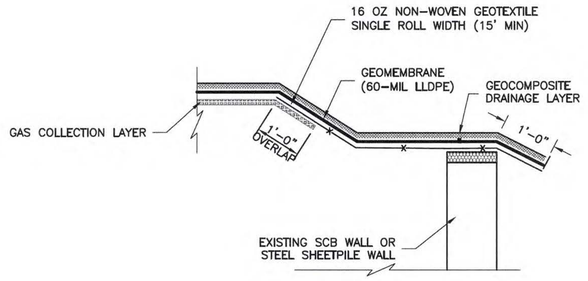
CIVIL
CAP DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 585-7229
NJ Certificate of Authorization Number 24GA28010500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-301
SHEET	37 OF 66

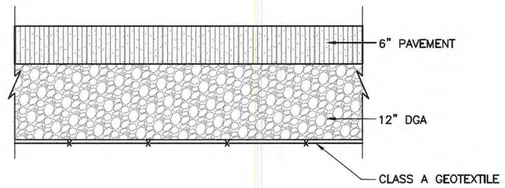
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR37-C-301 Cap Details.dwg PLOT DATE: Mon, 01 Jun 2015 PLOT TIME: 12:25 PM



TYPICAL EDGE DETAIL ABOVE GROUNDWATER TABLE

NTS

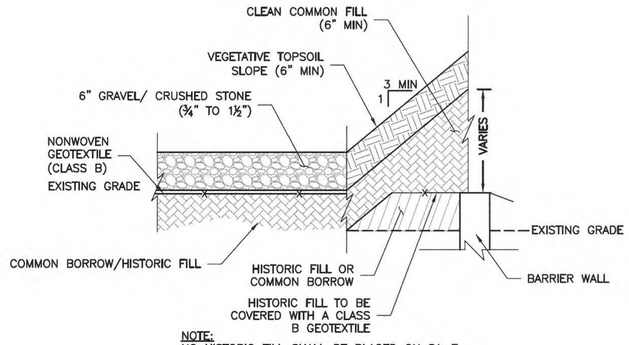
BO
C-121 | C-309



PAVEMENT SECTION DETAIL

NTS

BA
C-108 | C-309
C-109
C-110

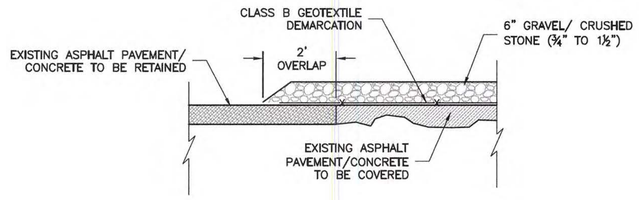


NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

EXCAVATION AREA

NTS

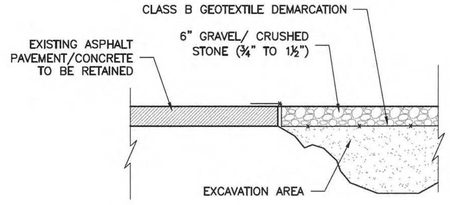
BJ
TYP | C-309



PAVEMENT TRANSITION DETAIL

NTS

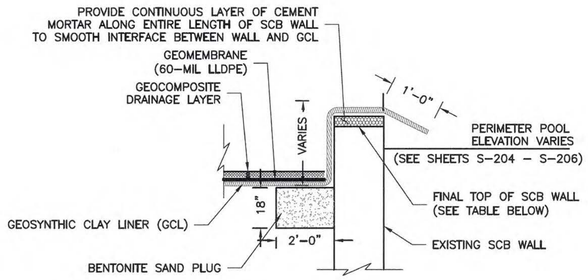
BL
TYP | C-309



EXCAVATION EDGE RESTORATION DETAIL

NTS

BM
TYP | C-309



BELOW GROUNDWATER

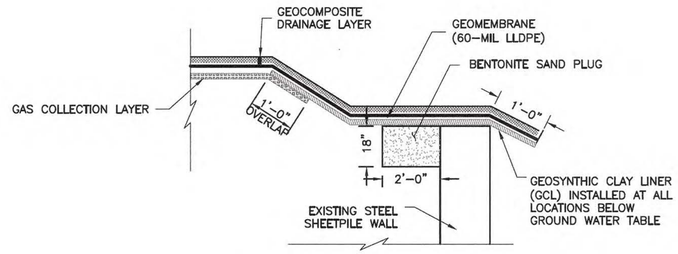
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL - LINER BELOW FINAL SCB ELEVATION

NTS

BN
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G
TYP | C-309

NOTE:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
3	05/27/15	TDD	RJR	TDD	SHM
2	05/20/15	REVISED DETAILS			
1	05/05/15	REVISED DETAILS			
0	06/07/13	REVISED DETAIL			
		ISSUED FOR CONSTRUCTION			
		REVISION			

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
MISCELLANEOUS DETAILS

amec foster wheeler
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200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-3939
N:\Certificate of Authorization Number\24GA27013900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-309
SHEET	45 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR45-C-309 Miscellanious Details.dwg PLOT DATE: Mon, 01 Jun 2015 PLOT TIME: 12:31 PM

FINAL DCB 029 – PIEZOMETER LOCATIONS

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: 29 DCB Type: Minor (a)**
	Effective Date: 6/5/15
Project Location: SA-6 South	**Associated RFI:**
Title: SA-6 South Contingent GW Piezometer Locations	☐ Yes, RFI No. __ ☑ None (Request via e-mail)
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description of Change/Modification:

The general location of the paired piezometers was depicted in the Plan view of the Contingent system.

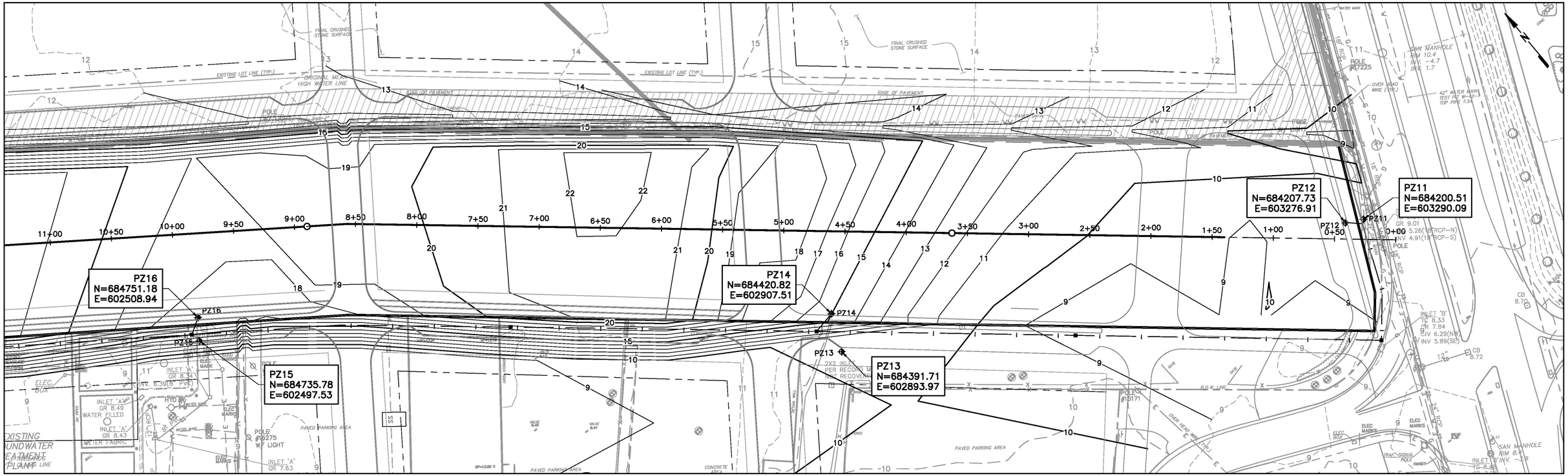
Specific coordinates were not included.

ENTACT has requested specific coordinates.

In preparing the coordinates Amec Foster Wheeler reviewed the locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the barrier wall.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☑ Other (See Explanation)	**Explanation or Reason:** Adjustments to avoid conflicts with future development and to keep piezometers out of roadways.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial** **Date**
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date: 6/15/15
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



HORIZONTAL SCALE: 1" = 40'

0 20 40 80

SCALE IN FEET

Prepared/Date: RJR 07/09/15
Checked/Date: SGS 07/09/15

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010800

Piezometer Location
Project 3480-13-0377
Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg Thu, 09 Jul 2015 - 8:47am roger.riquier

FINAL DCB 030 – SA-6 SOUTH FINAL GRADING

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB 030 Type:** Minor(a) **Effective Date: 11/12/2015**
Project Location: SA-6 **Title:** Final Grade Revisions	**Associated RFI:** ☑ Yes, RFI Nos. 057 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

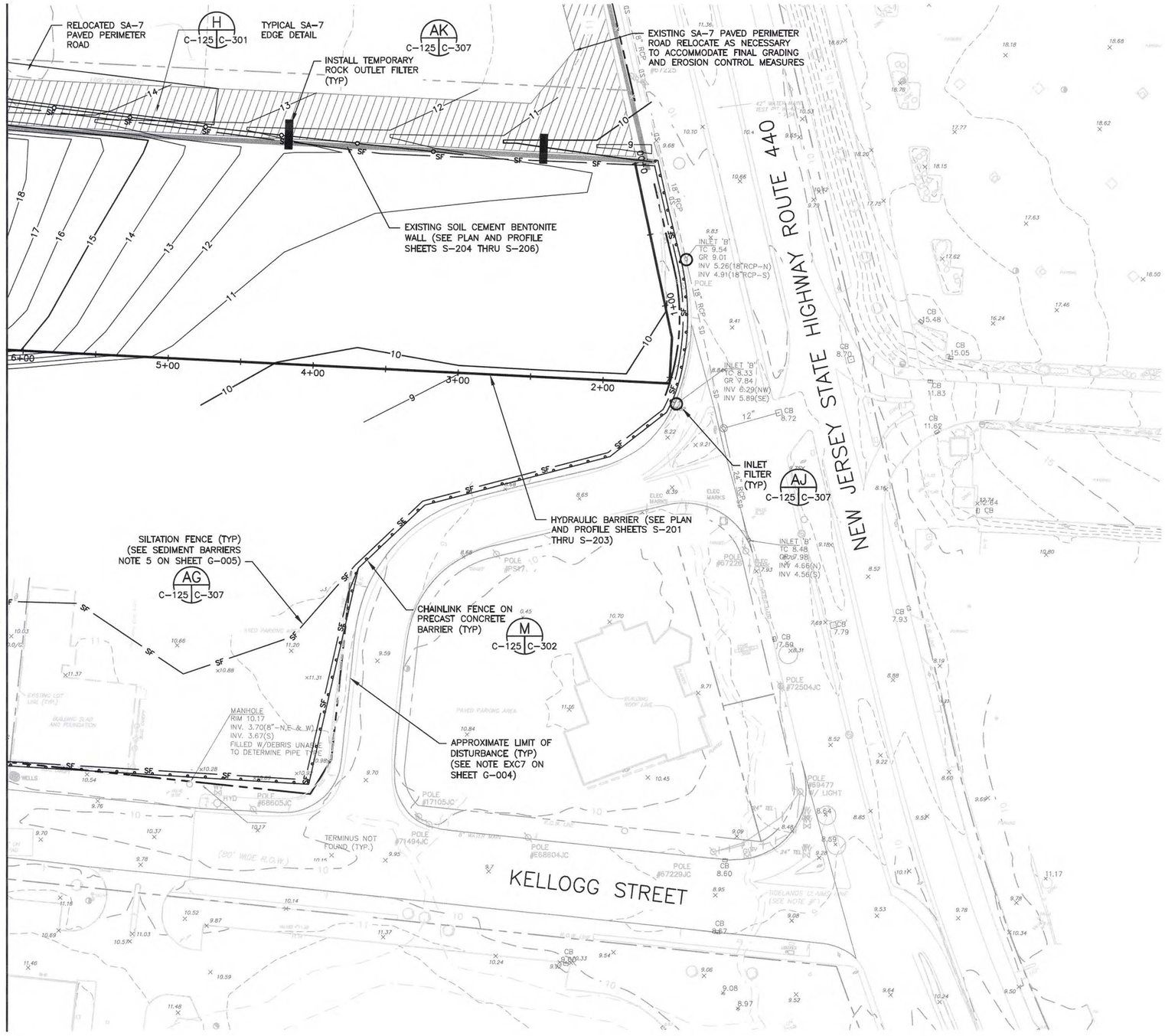
Description. The Final Grades were revised to allow for a 0.25 increase in subgrade elevations eastern portions of SA-6 where subgrade had not been completed at the time (July 2015). The changes in subgrade were made in conjunction with the elimination of the utility corridor near the jug handle. The Subgrade changes were conveyed in DCB 027.

In parallel with the grade changes Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.

Offsets from the final cover soil will be used in the Machine Control to complete cover soil grading as noted in RFI 057. This DCB impacts Final Grade Drawings C-125, C-126 and C-127 and the associated electronic files.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description above **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings C-125, C-126, C-127
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 11/19/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR30-C-125 Final Grade Plan.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 10:45 AM

SA-7

MATCH LINE SHEET C-127

MATCH LINE SHEET C-125

TYPICAL SA-7 EDGE DETAIL (H, C-126 | C-301)

TEMPORARY CONSTRUCTION FENCE (L, C-126 | C-302)

INSTALL TEMPORARY ROCK OUTLET FILTER (TYP) (AK, C-126 | C-307)

SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005) (AG, C-126 | C-307)

EXISTING SOIL CEMENT BENTONITE WALL, SEE PLAN AND PROFILE SHEETS S-204 THRU S-206

EXISTING SA-7 PERIMETER ROAD RELOCATE AS NECESSARY TO ACCOMMODATE FINAL GRADING AND EROSION CONTROL MEASURES

RELOCATED SA-7 PAVED PERIMETER ROAD

TYPICAL VEGETATED SWALE (Q, C-126 | C-303)

HYDRAULIC BARRIER, SEE PLAN AND PROFILE SHEETS S-201 THRU S-203

SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005) (AG, C-126 | C-307)

TEMPORARY CONSTRUCTION TRAILERS

CHAINLINK FENCE ON PRECAST CONCRETE BARRIER (TYP) (M, C-126 | C-302)

INSTALL 186 LF 12" HDPE @ 0.5%

MATERIAL STORAGE AREA

KELLOGG STREET

DROYERS COVE

CHAIN LINK FENCE WITH DOUBLE GATE

STABILIZED CONSTRUCTION ACCESS (J, C-126 | C-302; AH, C-126 | C-307)

APPROXIMATE LIMIT OF DISTURBANCE (TYP) (SEE NOTE EXC7 ON SHEET G-004)

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	11/16/15	TDD	SGS	SHM	SHM
0	06/07/13	TDD	SHM	APVD	
	REVISION		BY		

DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'
ISSUED FOR CONSTRUCTION

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

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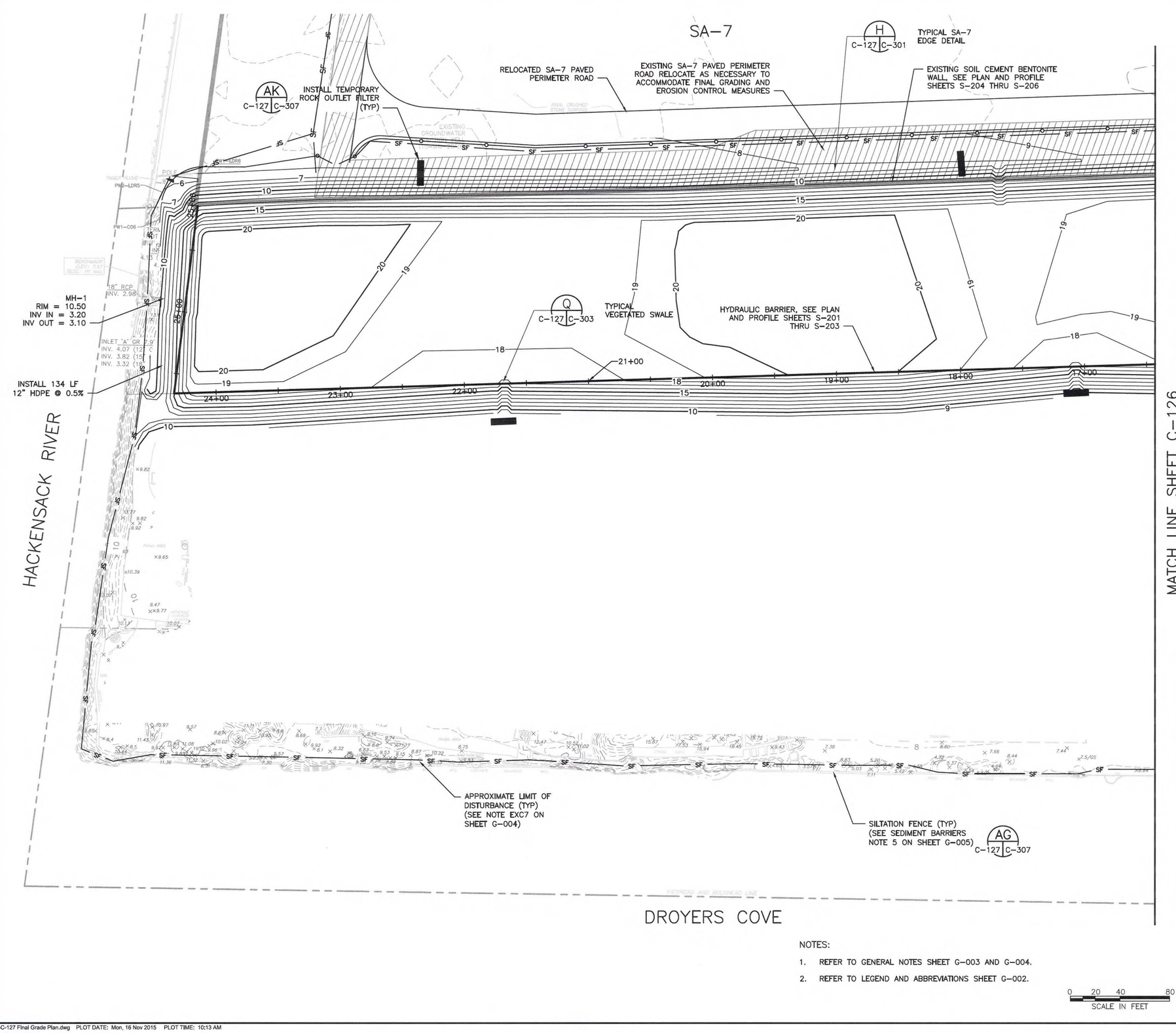
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	

TDD RJR TDD

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NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SHM

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 10:13 AM

FINAL DCB 030.1 – SA-6 SOUTH FINAL GRADE

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 030.1 **DCB Type:** Minor(a) **Effective Date:** 4/15/16
Project Location: SA-6 South **Title:** Final Grade Revisions	**Associated RFI:** ☐ Yes: ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 030 provided for revision to the Final Grades to allow for a 0.25 foot increase in subgrade elevations in the eastern portions of SA-6S Open Space AOC.

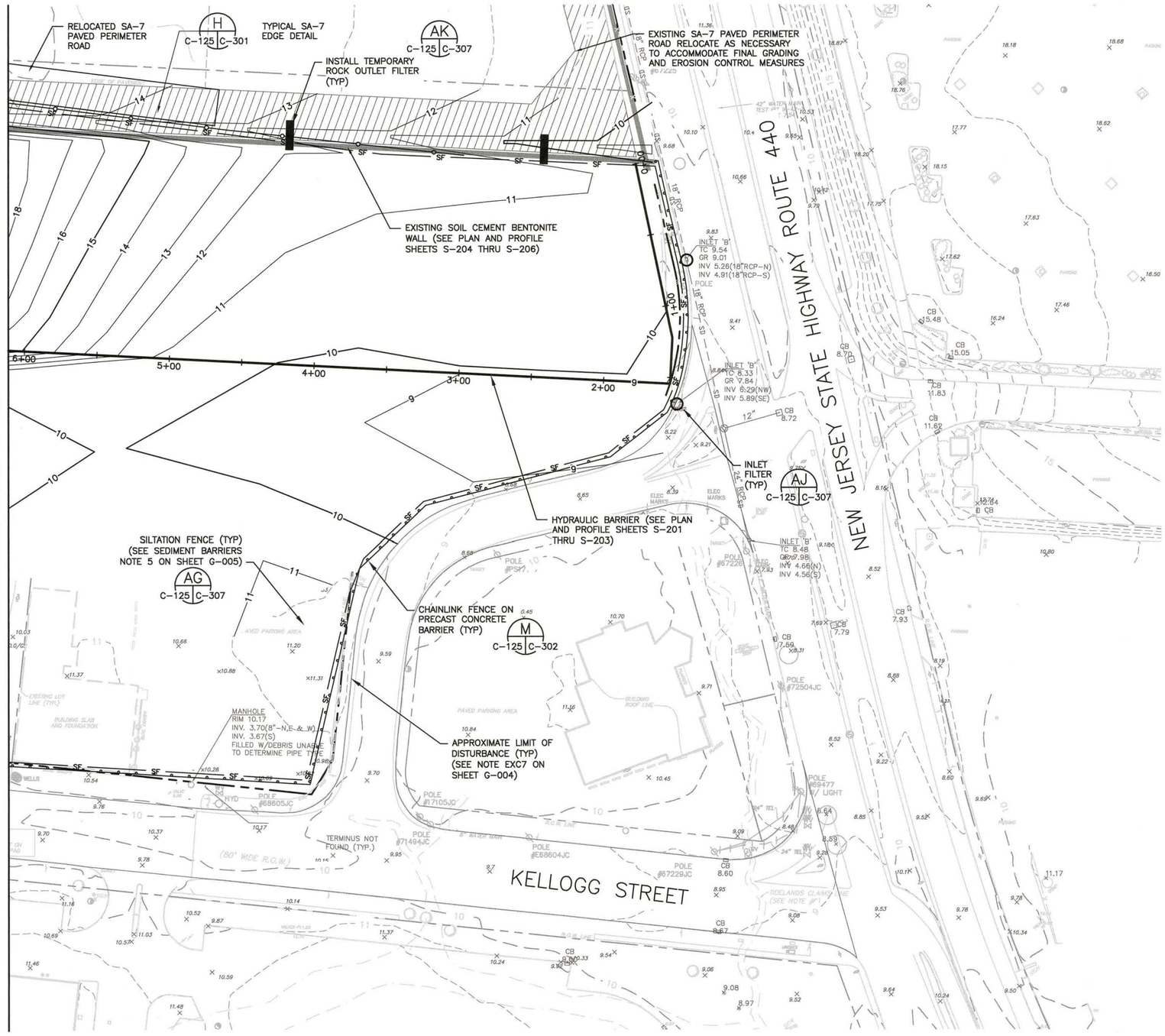
DCB 030.1 relates to the Final Grades in the "Development AOC" south of the Open Space AOC. Both the Open Space AOC and the Development AOC grading is shown on the Final Grade Drawings C-125, C-126 and C-127.

The associated electronic files for the grading will be transmitted as part of this DCB. The Development Plan grading is shown at 1 ft. contours. Due to the relatively "flat" final grades,p 1 ft. contours as shown in the hard copy do not provide details on break points. The electronic files provided as part of this DCB do provide detailed information on the grading. Therefore the electronic files will be used for grading.

The Final Cover Soil types are shown on the Restoration Plan C-128. Sheet C 309 Civil Details has been updated to reflect the use of Skaps 121 as the demarcation layer.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description above
	Attachments: ☑ Yes ☐ No Drawings C-125, C-126, C-127, C-128, C-309
	Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings C-125, C-126, C-127, C-128, C-309
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.


RELOCATED SA-7 PAVED PERIMETER ROAD
H C-125 C-301
TYPICAL SA-7 EDGE DETAIL
AK C-125 C-307
INSTALL TEMPORARY ROCK OUTLET FILTER (TYP)
EXISTING SA-7 PAVED PERIMETER ROAD RELOCATE AS NECESSARY TO ACCOMMODATE FINAL GRADING AND EROSION CONTROL MEASURES
EXISTING SOIL CEMENT BENTONITE WALL (SEE PLAN AND PROFILE SHEETS S-204 THRU S-206)
INLET 'B' TC 9.54 GR 9.01 INV 5.26(18"RCP-N) INV 4.91(18"RCP-S)
INLET 'B' TC 8.33 GR 7.84 INV 6.29(NW) INV 5.89(SE)
INLET 'B' TC 8.48 GR 8.98 INV 4.66(N) INV 4.56(S)
INLET FILTER (TYP) A2 C-125 C-307
HYDRAULIC BARRIER (SEE PLAN AND PROFILE SHEETS S-201 THRU S-203)
SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005) AG C-125 C-307
CHAINLINK FENCE ON PRECAST CONCRETE BARRIER (TYP) M C-125 C-302
APPROXIMATE LIMIT OF DISTURBANCE (TYP) (SEE NOTE EXC7 ON SHEET G-004)
MANHOLE RIM 10.17 INV. 3.70(8"-N,E,& W) INV. 3.67(S) FILLED W/DEBRIS UNABLE TO DETERMINE PIPE TYPE
TERMINUS NOT FOUND (TYP.)
MATCH LINE SHEET C-126
KELLOGG STREET
(80' WIDE R.O.W.)
NEW JERSEY STATE HIGHWAY ROUTE 440
POLE #68605JC
POLE #71494JC
POLE #E68604JC
POLE #67229JC
POLE #67226
POLE #72504JC
POLE #69477 W/ LIGHT
POLE #71105JC
CB 8.72
CB 8.60
CB 8.67
CB 7.93
CB 7.79
CB 15.48
CB 15.05
CB 11.83
CB 11.62
CB 10.14
CB 10.24
CB 8.70
CB 8.59
CB 8.64
CB 8.85
CB 9.53
CB 9.78
CB 10.34
CB 10.80
CB 11.17
CB 8.97
CB 9.08
CB 9.64
CB 10.24
CB 9.50
CB 8.52
CB 8.88
CB 9.22
CB 8.60
CB 9.69
CB 9.19
CB 8.23
CB 8.52
CB 8.16
CB 10.74
CB 10.14
CB 7.69
CB 8.31
CB 8.52
CB 8.48
CB 9.09
CB 9.28
CB 8.95
CB 9.08
CB 8.97
CB 9.52
CB 9.54
CB 9.33
CB 9.25
CB 10.24
CB 10.57
CB 11.03
CB 10.69
CB 10.52
CB 9.87
CB 11.18
CB 11.46
CB 11.48
CB 10.59
CB 10.54
CB 9.76
CB 10.03
CB 10.66
CB 11.20
CB 11.37
CB 10.88
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CB 10.05
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CB 10.17
CB 9.70
CB 10.37
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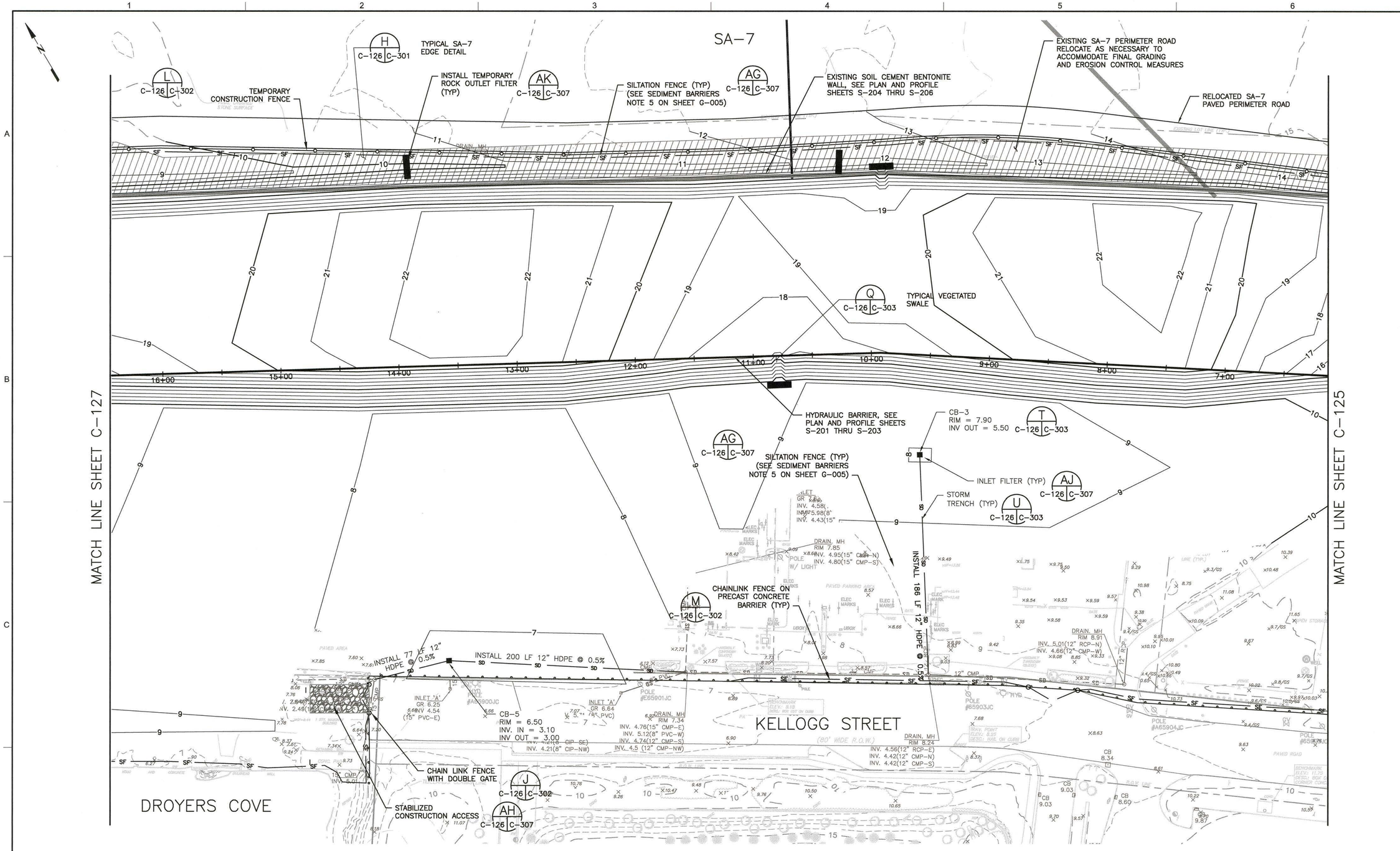
CB 9.50
CB 10.17
CB 11.17
CB 9.78
CB 10.34
CB 10.80



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66

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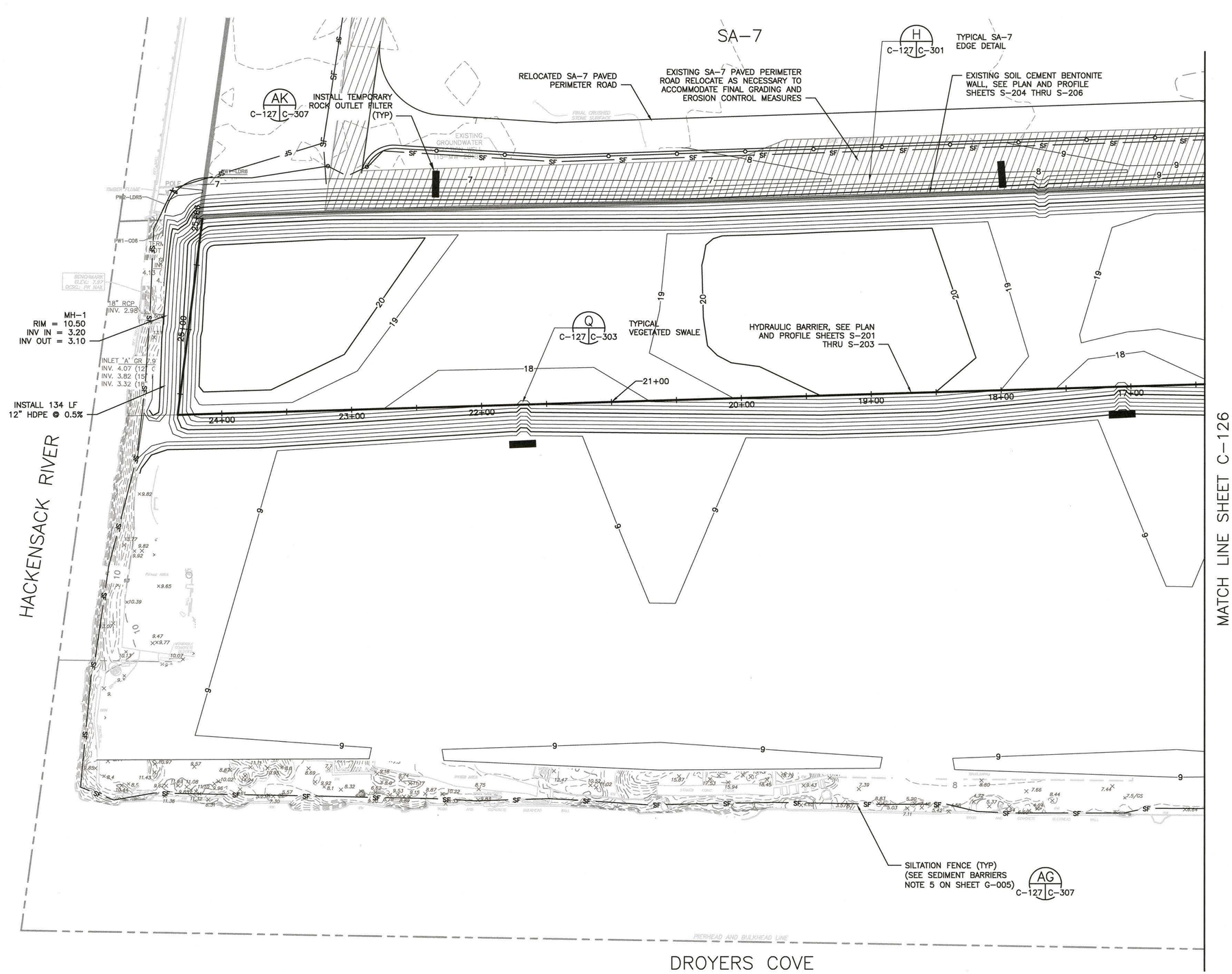
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR31-C-126 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:02 PM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

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NO.	DATE	DSGN	DR	CHK	APVD
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS	
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	

TDD RJR TDD SHM

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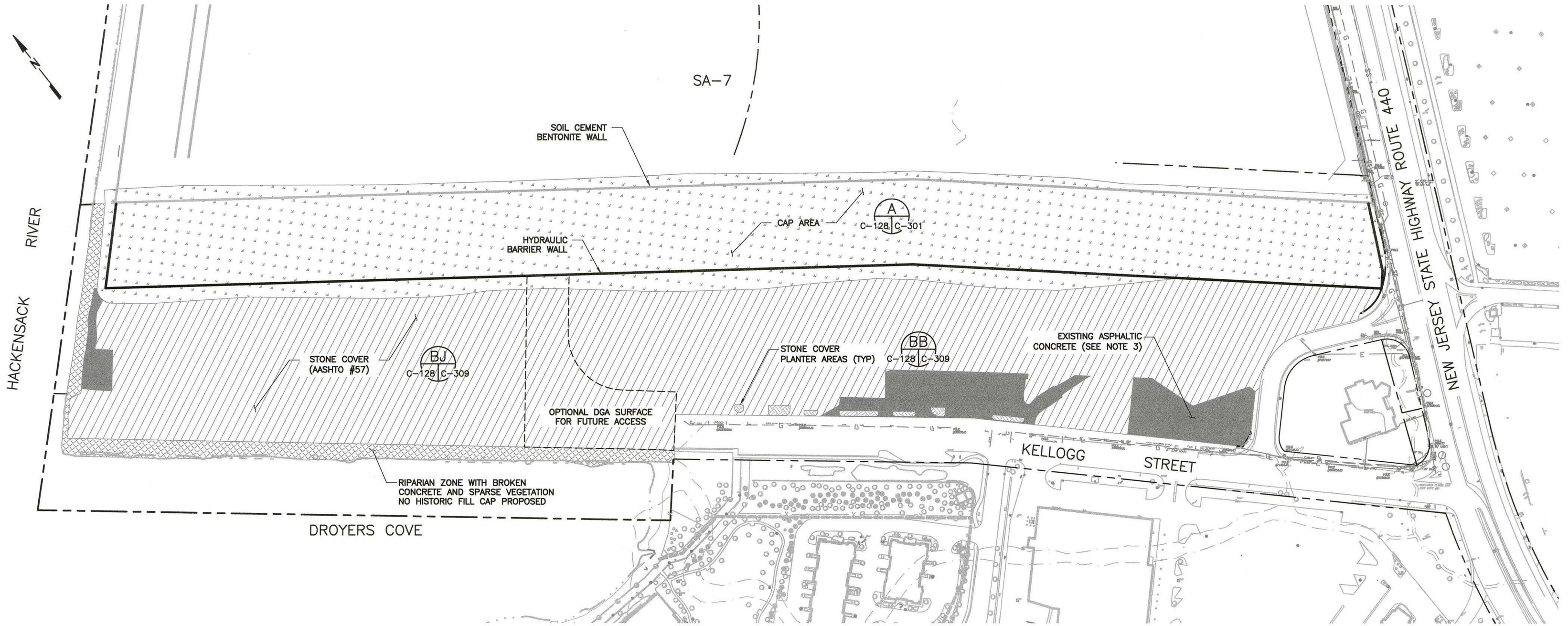
DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:05 PM



NOTE:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND
3. EXISTING ASPHALTIC PAVEMENT AREAS TO BE FIELD INSPECTED BY LSRP DURING RESTORATION ACTIVITIES. FINAL HISTORIC FILL CAP IN THESE AREAS MAY INCLUDE CRACK FILLING OR INSTALLING A GRAVEL COVER SYSTEM.

0 50 100 200
SCALE IN FEET

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LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	05/06/15	REVISED EDGE DETAIL	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK TDD APVD SHM

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RESTORATION PLAN

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PROJ	3480-12-0317
DWG	C-128
SHEET	33 OF 66

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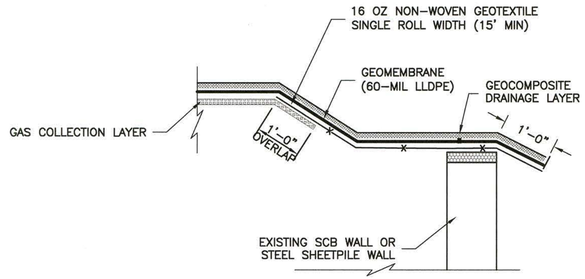
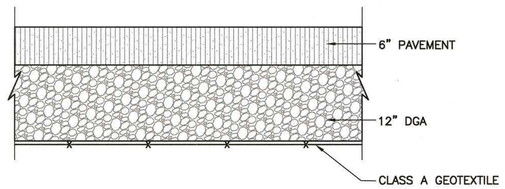
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR33-C-128 Surface Restoration Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:17 PM



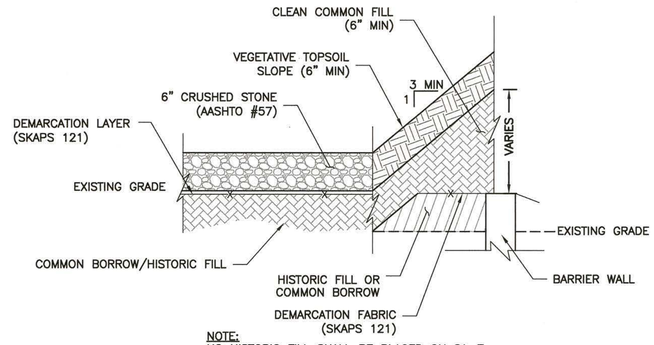
TYPICAL EDGE DETAIL ABOVE GROUNDWATER TABLE

NTS — BO — C-121 | C-309



PAVEMENT SECTION DETAIL

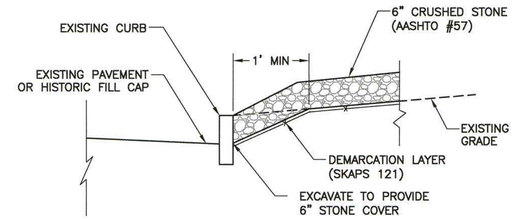
NTS — BA — C-108 | C-109 | C-110 | C-309



NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

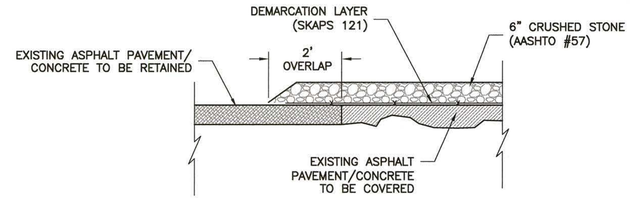
EXCAVATION AREA

NTS — BJ — TYP | C-309



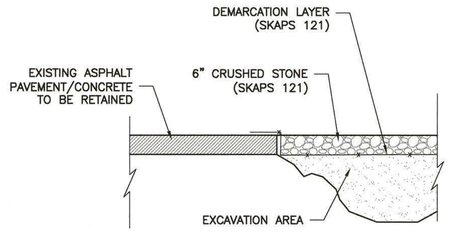
HISTORIC FILL CAP PLANTER AREAS

BB — TYP | C-309



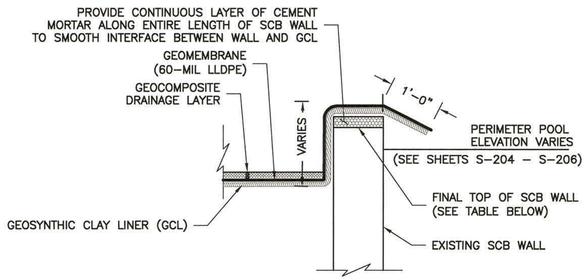
PAVEMENT TRANSITION DETAIL

NTS — BL — TYP | C-309



EXCAVATION EDGE RESTORATION DETAIL

NTS — BM — TYP | C-309



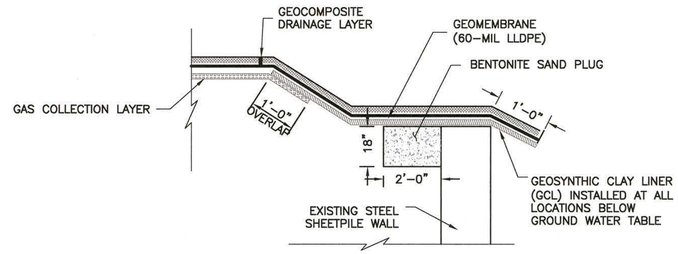
BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 15+00

TYPICAL EDGE DETAIL - LINER BELOW FINAL SCB ELEVATION

NTS — BN — C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS — G — TYP | C-309

NOTE:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NO.	DATE	REVISION	CHK	DR
5	04/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
4	07/21/15	REVISED DETAIL BN	RJR	SGS
3	05/27/15	REVISED DETAILS	TDD	SGS
2	05/20/15	REVISED DETAILS	RJR	SGS
1	05/05/15	REVISED DETAIL	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
DSGN			BY	APVD
	TDD		TDD	SHM

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MISCELLANEOUS DETAILS

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DATE	
PROJ	3480-12-0317
DWG	C-309
SHEET	45 OF 66

FINAL DCB 030.2 – SA-6 SOUTH FINAL GRADING AND RESTORATION

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 030.2 **Type:** Minor(a) **Effective Date:** September 2016
Project Location: SA-6 South	**Associated RFI:**
Title: Cap Final Grading and Development Area grading and Restoration	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB summarizes several field engineering directions provided to Entact. This DCB includes several minor revisions to the final grading in the SA-6 South Chromium Remedy Cap and Development Areas. The changes have been made to improve surface water flows and enhance Sedimentation and Erosion Control Drawings C-125, C-126 and C-127 cover the area of both the Cap and the Development Area. The Restoration details previously shown on drawing C-128 have been added to these three drawings. C-128 has been deleted from the set.

- Installation of a crushed stone toe drain along SA-7 toe, and use of the former asphalt roadway to conduct stormwater to the Hackensack River, in lieu of the "in-slope" parabolic swale shown in the IFC design. The drain is located where the toe of slope temporarily terminates in SA-7 pending raising SA-7 to the Bayfront Development grades. The toe drain is considered to be more resilient than the original swale design and will provide equal or better sedimentation and erosion control.
- Adding topsoil over the eastern 300 ft. of the cap along SA-7/SA-6S boundary to provide for a gradual transition from the SA-7 paved road to the SA-6S Final Grades.
- Extent of demarcation geotextile, crushed stone, and DGA placed over the Development Area to meet covering of Historic Fill regulations. The restoration grades were modified to accommodate placement of gravel over foundations and pavement in a number of areas that were not included in the IFC restoration drawing.
- Installation of Erosion Control mat on the steep edge slopes on the north and south sides of SA-6S. The precise limits of mat will be determined in the field based on observed performance.
- Installation of supplement diversion berms to direct water through the culverts under the temporary roads. The location and size of the berms shown on the drawings may be modified in the field based on observation of the performance in storm events
- Installation/restoration of stone check dams and diversion dams near the surface water outfall to the Hackensack River on SA-7. The precise location and dimension of the check dams will be field engineered based on observed flow during storm events.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Documents minor changes in grading and improved stormwater control. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** C-125, C-126, C-127. C-128 deleted.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 12/01/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	



NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND G–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		TDD		RJR	TDD	SHM	SHM
3	11/29/16	DCB 030.2				TDD	SGS
2	4/15/16	DCB 30.1 - REVISED GRADING AND RESTORATION				TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SHM

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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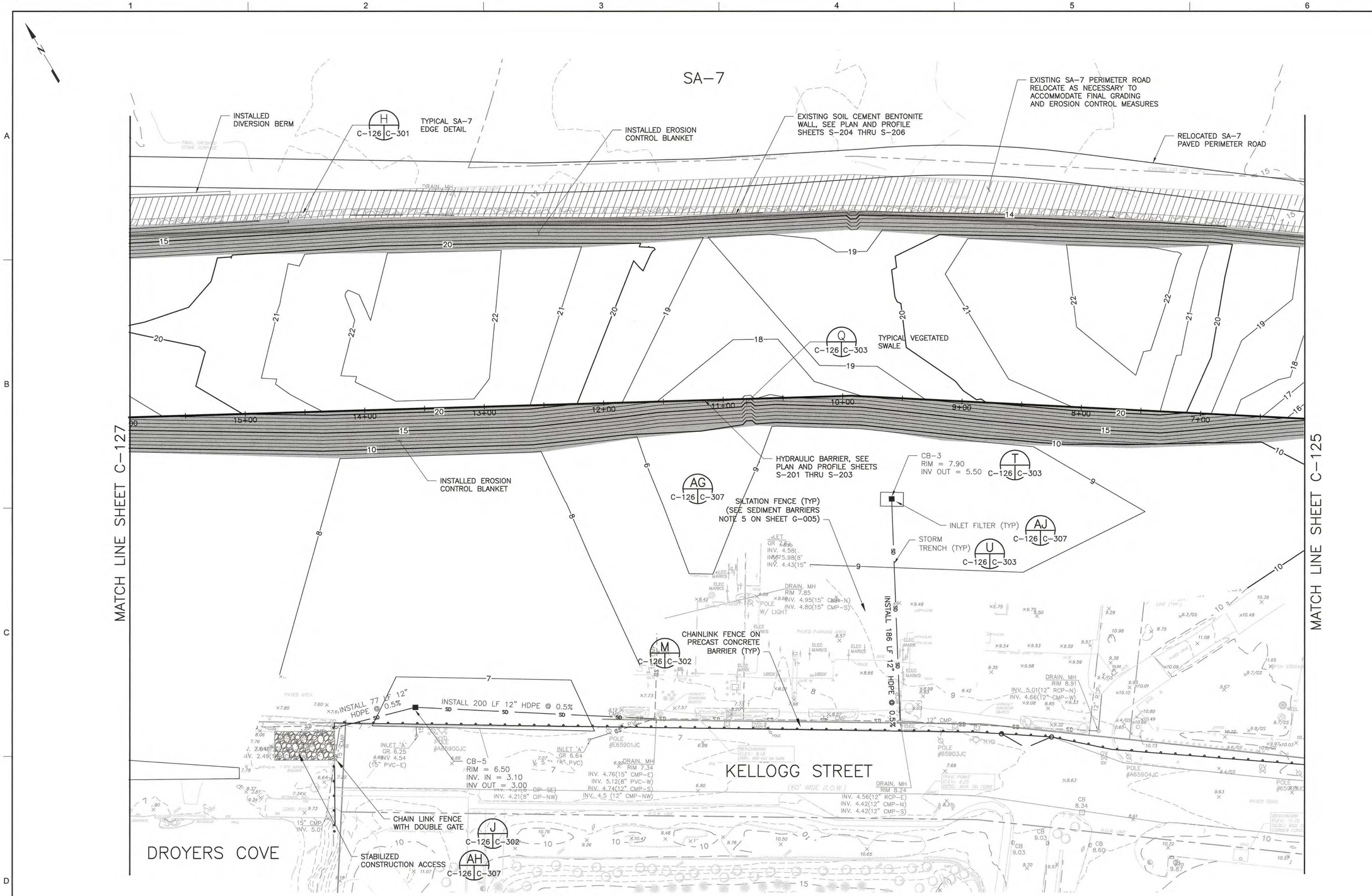
DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
DSGN	TDD	DR RJR	TDD	SHM
3	11/29/16	DCB 030.2	TDD	SGS
2	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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SHEET	31 OF 66

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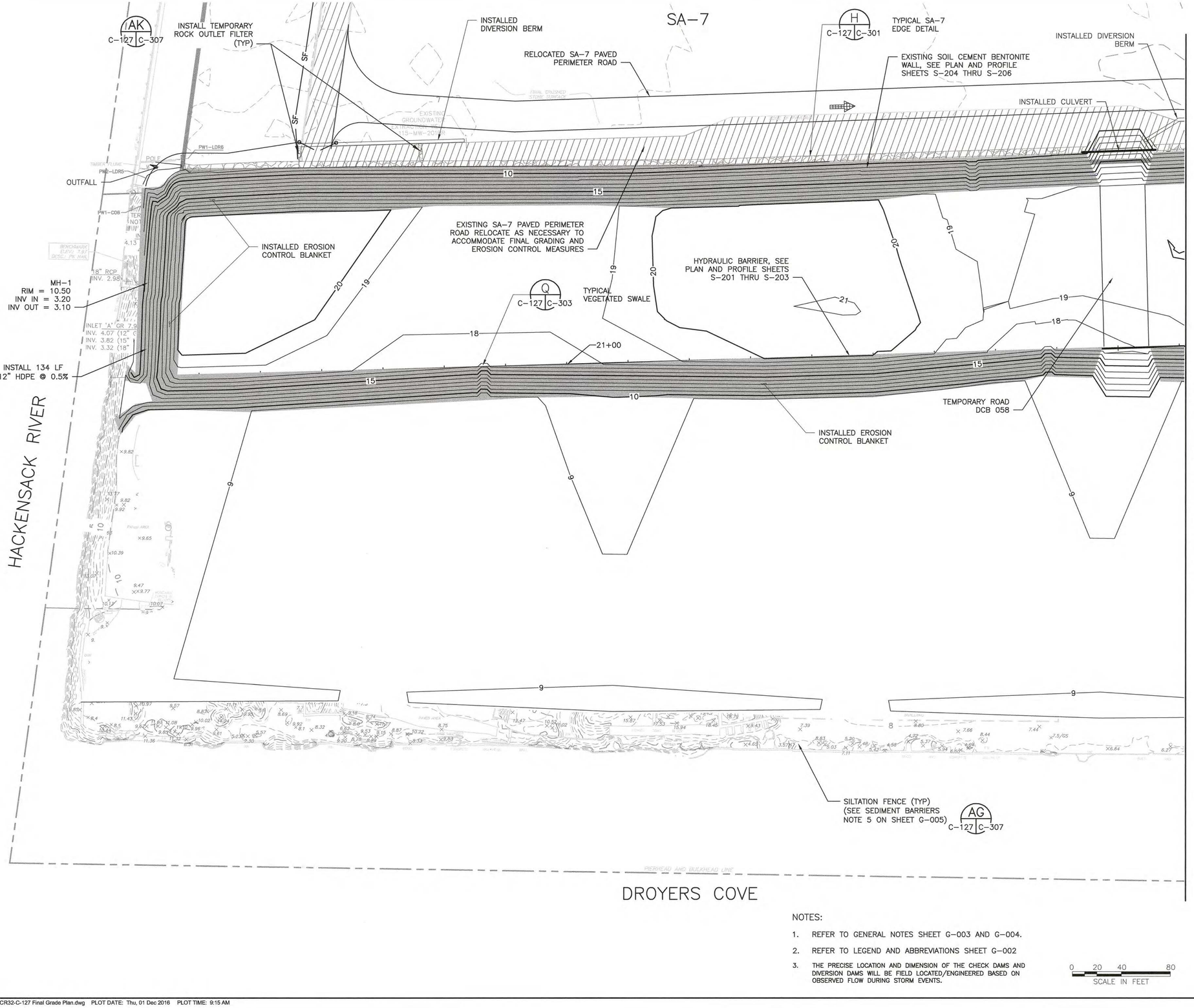
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR31-C-126 Final Grade Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:11 AM



NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND G–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
4	11/29/16	TDD		RJR	TDD
3	4/18/16	DCB 030.2			
2	11/16/15	DCB 30.1 - REVISED GRADING AND RESTORATION			
1	10/11/13	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'			
0	06/07/13	MODIFIED BARRIER WALL ALIGNMENT			
		ISSUED FOR CONSTRUCTION			
		REVISION	BY	CHK	APVD
			TDD	SGS	SGS
			TDD	SGS	SHM
			RJR	SGS	
			TDD	SHM	

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:15 AM

FINAL DCB 032 – SA-6 SOUTH IN-SITU

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB Type:** Major (a) **Effective Date:** 6/18/15
Project Location: SA-6 South	**Associated RFI:**
Title: SA-6 South, Site 163 In-situ Injections	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480150438.5710.571001
Contractor (Subcontractor): ERFS	

Amec Foster Wheeler and ERFS performed in-situ injections of calcium polysulfide (CAPS) at SA-6 South, Site 163 in July & August 2014. 6-month performance assessment soil samples were collected and analytical results indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI). Honeywell will implement additional CAPS injections at several of the areas that remain >20 m/kg for Cr(VI). See attached memorandum, figures, and Table 1 prepared by Amec Foster Wheeler. While the specific scope of this next field phase is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved *Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated September 2012.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Initial injections did not fully reduce soil sample concentrations of Cr(VI) to 20 m/kg.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** *Work Plan for In-Situ Treatment of Chromium Impacted Soil* (Amec Work Plan), dated September 2012

Honeywell (AP) Review:			
Individual: Dennis Nagg	**Discipline:**	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?**	☑ **Yes (b)** ☐ **No**
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Memo

Date: June 18, 2015

From: Joe Clifford/Dennis Nagg/Ted Toskos – Amec Foster Wheeler

To: Bill Hague – Honeywell

cc: John Morris, Maria Kaouris, John Mojka – Honeywell
Jeremy Karpatkin, Michael Daneker – Arnold & Porter

Subject: Summary of Proposed Additional In-Situ Treatment Program for Hexavalent Chromium Impacted Soils, SA-6 South, Site 163

Amec Foster Wheeler E & I (Amec Foster Wheeler), on behalf of Honeywell, has prepared this memorandum to summarize the proposed additional injections of calcium polysulfide (CAPS) for in-situ treatment of hexavalent chromium (Cr(VI)) impacted soils at SA-6 South at Site 163, the former Posnak and Turkish location (the Site). Analytical results from the 6-month performance assessment soil sampling were summarized in a submittal to All Parties, dated June 10, 2015 and indicated that seven of the fifteen treatment areas at the Site are now <20 milligrams per kilogram (m/kg) for Cr(VI).

As indicated at the Special Master All-Hands meeting on May 19, 2015 and in the 6-month performance assessment soil sampling summary memo, Honeywell will implement additional CAPS injections at seven of the eight areas that remain >20 m/kg for Cr(VI). Although the Amec Work Plan specified that results of soil sampling conducted 3 years after the completion of injections would determine treatment efficacy, due to the planned start of the Bayfront Redevelopment project expected by the second quarter 2016, Honeywell has decided to implement the additional injections at this time to increase the probability of program success prior to the 3 year sampling event.

These seven areas which will have this additional treatment include Areas H, I, J, K, L, M, and N. **Figure 2D** through **Figure 2F** (revised from the September 5, 2014 summary of the completed CAPS injection program) are included and show proposed injection point (IP) and temporary well point (TWP) locations for the seven areas. Due to the proximity of Area F to the bulkhead along Droyers Cove and the potential for unpredictable subsurface preferential pathways in that area, additional injections will not be implemented in this area. Instead, Honeywell will defer

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addressing this area until the bulkhead improvements are implemented as part of the Bayfront Redevelopment project.

Scope of Proposed Additional In-Situ Injection Program

The attached **Table 1** indicates the injection volume estimates for the additional in-situ injection program for Areas H, I, J, K, L, M, & N. The calculation of injection volume estimates are generally similar to those for the original injection program with the following exceptions:

- The factor for the CAPS Stoichiometric Dosage Solution was increased from 2.5X to 5X; and
- The injection approach may be differentiated in treatment areas based on whether the areas lie north or south of the northern edge of the curbline of the new Kellogg Street proposed for the Bayfront Redevelopment.

The doubling of the CAPS Stoichiometric Dosage factor is recommended for these remaining areas for the following reasons:

- Initial treatment in these zones did not demonstrate the same efficacy as was observed in other Site 163 areas and SA-6 North Treatment areas 7 and 8
- The imminent timing pressures to complete implementation of remaining in-situ measures so as not to impact the Bayfront Redevelopment which is planned to start with the Kellogg Street properties.

As shown on **Figure 2D** through **Figure 2F,** the spacing between IPs may be reduced (increased number of IPSs) in treatment areas or portions of treatment areas that lie north of the new Kellogg Street curbline. This increased injection point density will potentially invoke a more robust dispersion of CAPS solution.

The proposed additional in-situ injection program for Areas H, I, J, K, L, M, & N as indicated on the attached **Figure 2D** through **Figure 2F** and **Table 1** is summarized as follows.

- Means and methods will generally follow the Amec Work Plan; ERFS' In-Situ Chemical Reduction Implementation Work Plan, dated September 2013; and ERFS Health and Safety Plan, dated June 2013 (Revised July 2014).
- Additional injections to occur in Areas H, I, J, K, L, M, & N from approximately 8 to 18 feet below grade.

- Injections in each area are to occur over a 6-foot vertical profile.
- A total of 4,100 gallons of 29% CAPS will be mixed with approximately 37,300 gallons of potable water to produce the CAPS solution.
- The 41,400 gallons of CAPS solution will be injected into approximately 86 injection locations.
- Areas surrounding injection locations will be monitored for evidence of daylighting.
- If daylighting occurs, the liquid will be contained at the daylighting site and be allowed to seep back into the ground.
- Injection activities will be adjusted as necessary to eliminate excessive daylighting.
- Thirty-four (34) 1-inch diameter PVC TWPs will be drilled and installed within and adjacent to the treatment areas.
- The following measurements will be taken and recorded in TWPs prior to the start of injections (baseline), during injections, and following completion of injections:
    - Depth to groundwater;
    - Groundwater quality parameters, including pH, oxidation/reduction potential (ORP), specific conductivity (SC), and total dissolved solids (TDS);
    - Hydrogen sulfide (H2S) and volatile organic compounds (VOCs) in the headspace of the PVC riser pipe; and
    - Groundwater color and/or odor.
- The breathing zones at storage, mixing, and injection areas will be monitored for hydrogen sulfide (H_2S).
- The breathing zones at drilling locations will be monitored for volatile organic compounds (VOCs) and H_2S.
- Honeywell will obtain a new Discharge to Groundwater – Permit By Rule from NJDEP for the injection activities.
- All as-built IP and TWP locations will be surveyed to determine their position.

Interim Performance Assessment Soil Sampling and Reporting

Approximately six months after the completion of these additional injections in Areas H, I, J, K, L, M, and N (weather permitting), Honeywell will collect soil samples at generally the same

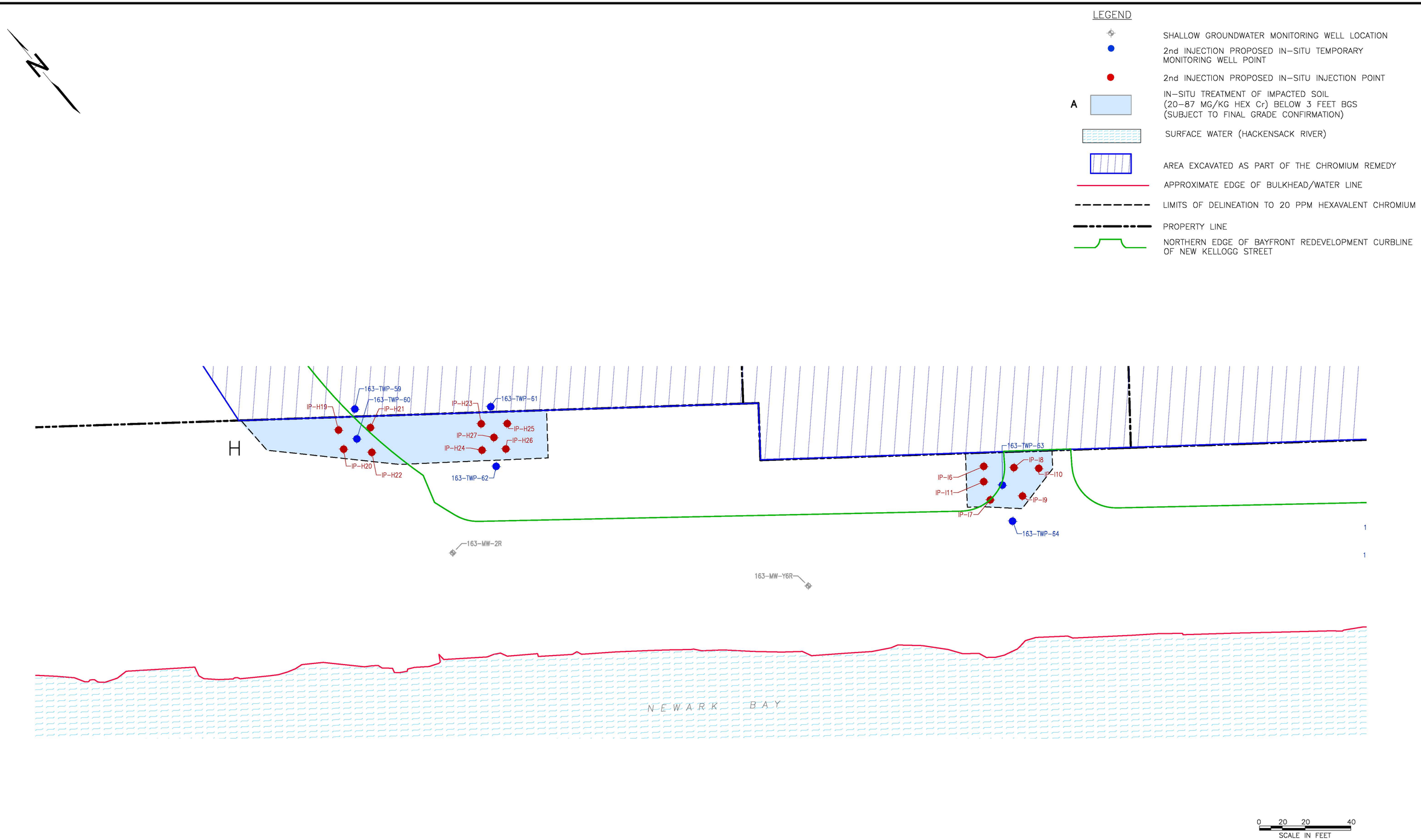
locations as those collected in April 2015 and generally using the same protocol. All of the 6-month performance assessment soil samples will be analyzed for the following:

- Total chromium;
- Hexavalent chromium;
- Sulfide;
- pH; and
- Oxidation Reduction Potential (ORP).

Upon receipt of final validated analytical results, the 6-month performance assessment soil sampling will be summarized in a memorandum and on tables and “chem-box” figures and will be transmitted to All Parties in a timely manner.

The Amec Work Plan also called for a performance assessment three years after completion of the injections. As has been previously discussed with the parties, Honeywell has advised it may seek to conduct the second performance assessment sooner than 3 years after completion of the Site 163 injection program, and in that case will provide a proposal to the parties for their review and comment.

FIGURES



REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480110298
DRAWING: 3480110298-4100-RAP0-000F

PREPARED/DATE: STR 08/13/12

CHECKED/DATE: DEN 08/13/12

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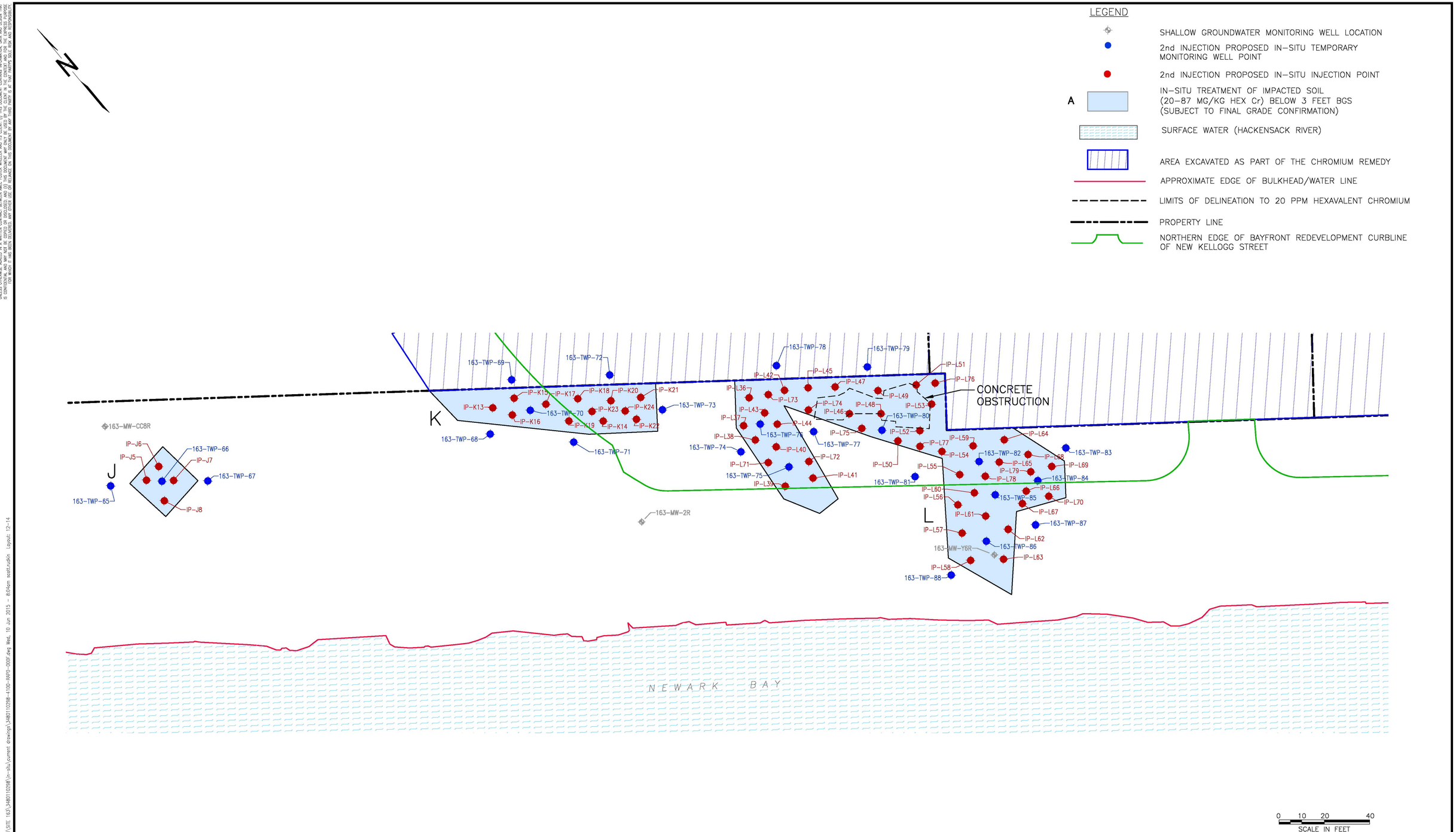
FIGURE 2D
2□d INJECTION PROPOSED IN-SITU TREATMENT AREAS - AS-BUILT INJECTION POINT & TEMPORARY WELL POINT LOCATIONS
10□- 12□DEPTH INTERVAL
SITE 163 CHROMIUM
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY



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Amec Foster Wheeler PROJECT No. 3480110298
DRAWING: 3480110298-4100-RAP0-000F

PREPARED/DATE: STR 07/01/14

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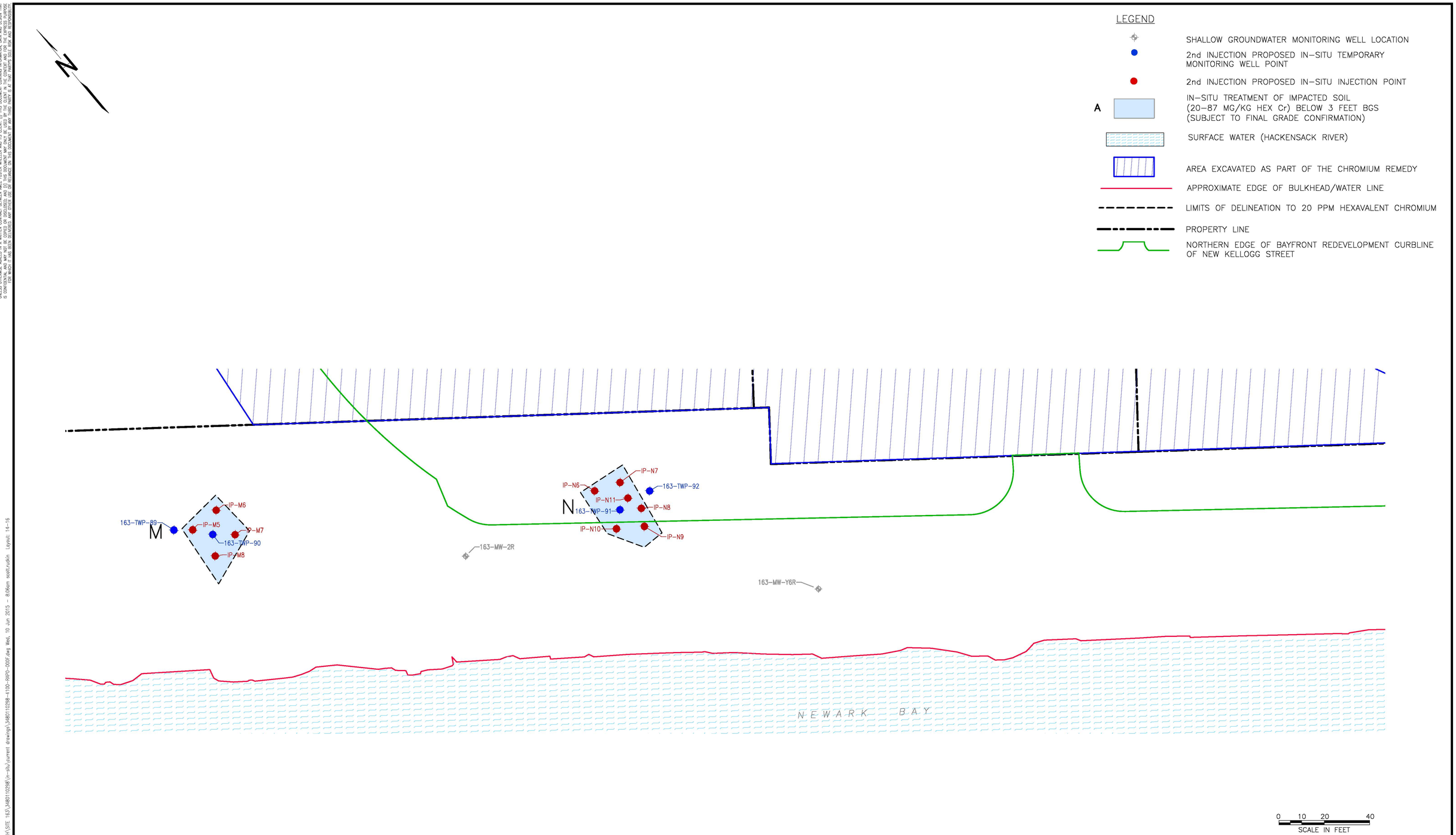
FIGURE 2E
2nd INJECTION PROPOSED IN-SITU TREATMENT AREAS - AS-BUILT INJECTION POINT & TEMPORARY WELL POINT LOCATIONS
12 - 14 DEPTH INTERVAL
SITE 163 CHROMIUM
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY



REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480110298
DRAWING: 3480110298-4100-RAP0-000F

PREPARED/DATE: STR 07/01/14

CHECKED/DATE: DEN 07/01/14

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FIGURE 2F
2□d INJECTION PROPOSED IN-SITU TREATMENT AREAS - AS-BUILT INJECTION POINT & TEMPORARY WELL POINT LOCATIONS
14□- 16□DEPTH INTERVAL
SITE 163 CHROMIUM
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

TABLE 1

TABLE 1
INJECTION ESTIMATES
SA-6 SOUTH, SITE 163

Honeywell Inc.
Jersey City, New Jersey

SOUTH OF THE CURBLINE

Treatment Area	Totals	H	I	J	K	L	M	N
Depth Interval (ft bgs)		10-12	10-12	12-14	12-14	12-14	14-16	14-16
Thickness (ft)		2	2	2	2	2	2	2
Area (ft^2)		562	472	464	622	1,461	581	200
Area of injection, SF	3,801	562	472	464	622	900	581	200
Zone of Injection (feet below grade)		10-12	10-12	12-14	12-14	12-14	14-16	14-16
Height of Injection (feet)		2	2	2	2	2	2	2
Soil Volume for reagent addition (bcy)		42	35	34	46	67	43	15
Soil Pore Volume (gallons at 30%)	17,060	2522	2118	2083	2792	4039	2608	898
Hex Cr Concentration, ppm		39.0	35.0	32.9	81.0	51.0	27.0	93.0
Assumed Soil Density (tons/cy)		1.6	1.6	1.6	1.6	1.6	1.6	1.6
Weight of soil in treatment zone (lbs)		133,215	111,881	109,985	147,437	213,333	137,719	47,407
Total mass load exceeding 20 ppm Hex Cr	26	3	2	1	9	7	1	3.5
CaSx Dose at 1X ==> 25.3 lbs of CsSx 29% solution per 1 lb of Cr (VI) **[x=5]**		25.3	25.3	25.3	25.3	25.3	25.3	25.3
CaSx Stoichiometric Dosage @29% Solution		5.00	5.00	5.00	5.00	5.00	5.00	5.00
CaSx Dose at 10X [at 1X ==> 25.3 lbs of CsSx 29% solution per 1 lb of Cr (VI)]		126.5	126.5	126.5	126.5	126.5	126.5	126.5
CaSx (lbs) @29% Solution for total Hex Cr Mass at 2.5X		320	212	179	1,138	837	122	438
CaSx 29% solution Density, lbs/gal		10.6	10.6	10.6	10.6	10.6	10.6	10.6
CaSx (Gallons) @29% Solution for total Hex Cr Mass at 2.5X		30	20	17	107	79	12	41
CaSx solution application volume (gallons at 25% volume exchange)		631	530	521	698	1,010	652	224
Additional CaSx (Gallons) @29% Solution for 2-ft interval above and below		60	40	34	215	158	23	83
Additional CaSx solution application volume (gallons at 25% volume exchange) for 2-ft interval above and below		1,261	1,059	1,041	1,396	2,020	1,304	449
Total CaSx (Gallons) @29% Solution (from 2-ft above to 2-ft below zone)		91	60	51	322	237	35	124
Total CaSx solution application volume (gallons at 25% volume exchange) from 2-ft above to 2-ft below zone		1,892	1,589	1,562	2,094	3,030	1,956	673
Additional 10% CaSx (Gallons) @29% Solution safety factor		9	6	5	32	24	3	12
Additional 10% CaSx solution application volume (gallons at 25% volume exchange) from 2-ft above to 2-ft below zone		189	159	156	209	303	196	67
TOTAL CaSx (Gallons) @29% Solution (Calculated)	1,011	100	66	56	354	260	38	136
TOTAL CaSx (Gallons) @29% Solution (Rounded up)	1,030	**100**	**70**	**60**	**360**	**260**	**40**	**140**
TOTAL CaSx solution application volume (gallons at 25% volume exchange)	14,075	**2,081**	**1,748**	**1,718**	**2,303**	**3,333**	**2,151**	**741**
CaSx Solutiuon Injected Concentration		1.4%	1.2%	1.0%	4.5%	2.3%	0.5%	5.5%
Max # DP Injectors (depth = midpoint of treatment interval, 150 sf coverage/pt)	29	4	3	3	4	10	4	1
# of Injectors Rounded Up	**32**	**4**	**3**	**4**	**5**	**10**	**4**	**2**

NORTH OF THE CURBLINE

Treatment Area	Totals	H	I	K	L-1	L-2	N
Depth Interval (ft bgs)		10-12	10-12	12-14	12-14	12-14	14-16
Thickness (ft)		2	2	2	2	2	2
Area (ft^2)		562	337	817	900	3,162	478
Area of injection, SF	6,256	562	337	817	900	3162	478
Zone of Injection (feet below grade)		10-12	10-12	12-14	12-14	12-14	14-16
Height of Injection (feet)		2	2	2	2	2	2
Soil Volume for reagent addition (bcy)		42	25	61	67	234	35
Soil Pore Volume (gallons at 30%)	28,079	2522	1513	3667	4039	14192	2145
Hex Cr Concentration, ppm		39.0	35.0	81.0	102.0	68.0	93.0
Assumed Soil Density (tons/cy)		1.6	1.6	1.6	1.6	1.6	1.6
Weight of soil in treatment zone (lbs)		133,215	79,881	193,659	213,333	749,511	113,304
Total mass load exceeding 20 ppm Hex Cr	77	3	1	12	17	36	8.3
CaSx Dose at 1X ==> 25.3 lbs of CsSx 29% solution per 1 lb of Cr (VI) **[x=5]**		25.3	25.3	25.3	25.3	25.3	25.3
CaSx Stoichiometric Dosage @29% Solution		5.00	5.00	5.00	5.00	5.00	5.00
CaSx Dose at 10X [at 1X ==> 25.3 lbs of CsSx 29% solution per 1 lb of Cr (VI)]		126.5	126.5	126.5	126.5	126.5	126.5
CaSx (lbs) @29% Solution for total Hex Cr Mass at 2.5X		320	152	1,494	2,213	4,551	1,046
CaSx 29% solution Density, lbs/gal		10.6	10.6	10.6	10.6	10.6	10.6
CaSx (Gallons) @29% Solution for total Hex Cr Mass at 2.5X		30	14	141	209	429	99
CaSx solution application volume (gallons at 25% volume exchange)		631	378	917	1,010	3,548	536
Additional CaSx (Gallons) @29% Solution for 2-ft interval above and below		60	29	282	418	859	197
Additional CaSx solution application volume (gallons at 25% volume exchange) for 2-ft interval above and below		1,261	756	1,833	2,020	7,096	1,073
Total CaSx (Gallons) @29% Solution (from 2-ft above to 2-ft below zone)		91	43	423	626	1,288	296
Total CaSx solution application volume (gallons at 25% volume exchange) from 2-ft above to 2-ft below zone		1,892	1,134	2,750	3,030	10,644	1,609
Additional 10% CaSx (Gallons) @29% Solution safety factor		9	4	42	63	129	30
Additional 10% CaSx solution application volume (gallons at 25% volume exchange) from 2-ft above to 2-ft below zone		189	113	275	303	1,064	161
TOTAL CaSx (Gallons) @29% Solution (Calculated)	3,044	100	47	465	689	1,417	326
TOTAL CaSx (Gallons) @29% Solution (Rounded up)	3,070	**100**	**50**	**470**	**700**	**1,420**	**330**
TOTAL CaSx solution application volume (gallons at 25% volume exchange)	23,165	**2,081**	**1,248**	**3,025**	**3,333**	**11,708**	**1,770**
CaSx Solutiuon Injected Concentration		1.4%	1.2%	4.5%	6.1%	3.5%	5.4%
Max # DP Injectors (depth = midpoint of treatment interval, 150 sf coverage/pt)	42	4	2	5	6	21	3
Add 25% more injection pts	12	1	1	2	2	5	1
Total Injection Pts	**54**	**5**	**3**	**7**	**8**	**26**	**4**

Prepared By: DN 06/09/15
Checked By:

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 19 OF 25

- **DCBs Applicable to SA-6 South Part 4**
  (DCB 034-060)

FINAL DCB 034 – CONSTRUCTION CONTROL GRID

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 34 **DCB Type:** Minor (a)
	Effective Date: 6/15/15
Project Location: SA-6	**Associated RFI:**
Title: Survey Clarification	☐ Yes, RFI Nos. ☐ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Design Surface. The 100% Design CAD files defines the subgrade surface. The surface is developed in CAD as a Triangular Irregular Network (TIN). For construction control and verification of compliance with Cover thickness requirements in the Consent Decree and Open Space Design Standards the Construction Control Grid (as noted above) will be applied to the TIN.

Specification 01460 sets out the requirements for survey. In conducting a detailed review of the design of the subgrade, and methods of implementation including the use of GPS based machine control the following clarifications to the documentation requirements at defined in following sections.

- SECTION 1.04. C. The Contractor shall establish a grid system (Construction Control Grid) with a maximum spacing of 25 feet with additional grid points as required for grade breaks (toe, top of slopes) over the entire limits of Work. The grid system shall be established for the purpose of determining required excavation and fill thickness.

- SECTION 1.04 E. Vertical and horizontal control shall be sufficient to assure work is constructed within 0.1 foot of proposed fill thickness requirements (or proposed grades as indicated) and location.

- SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5').

- The slopes shall be visually inspected to verify that they are uniform (straight line) for top of slope to bottom of slope.

- The net result of these clarifications is an increase in the number of points on the Construction Control Grid.

The elevation at each 25 ft. grid node will be documented as the "Design Elevation". Where nodes fell on steep slopes the single node will be deleted and replaced with two points at the top of slope and bottom of slope. Points will also added to the Construction Control Grid along the boundaries of the cap and isolated supplemental points added at specific locations to provide supplemental information. Points falling in the 25 ft grid will be subject to the tolerances specified in SECTION 1.04 E. Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in SECTION 1.05 F.

The Contractor (QC), Engineer (QA) and Surveyor (licensed surveyor) will all record elevations at the same locations.

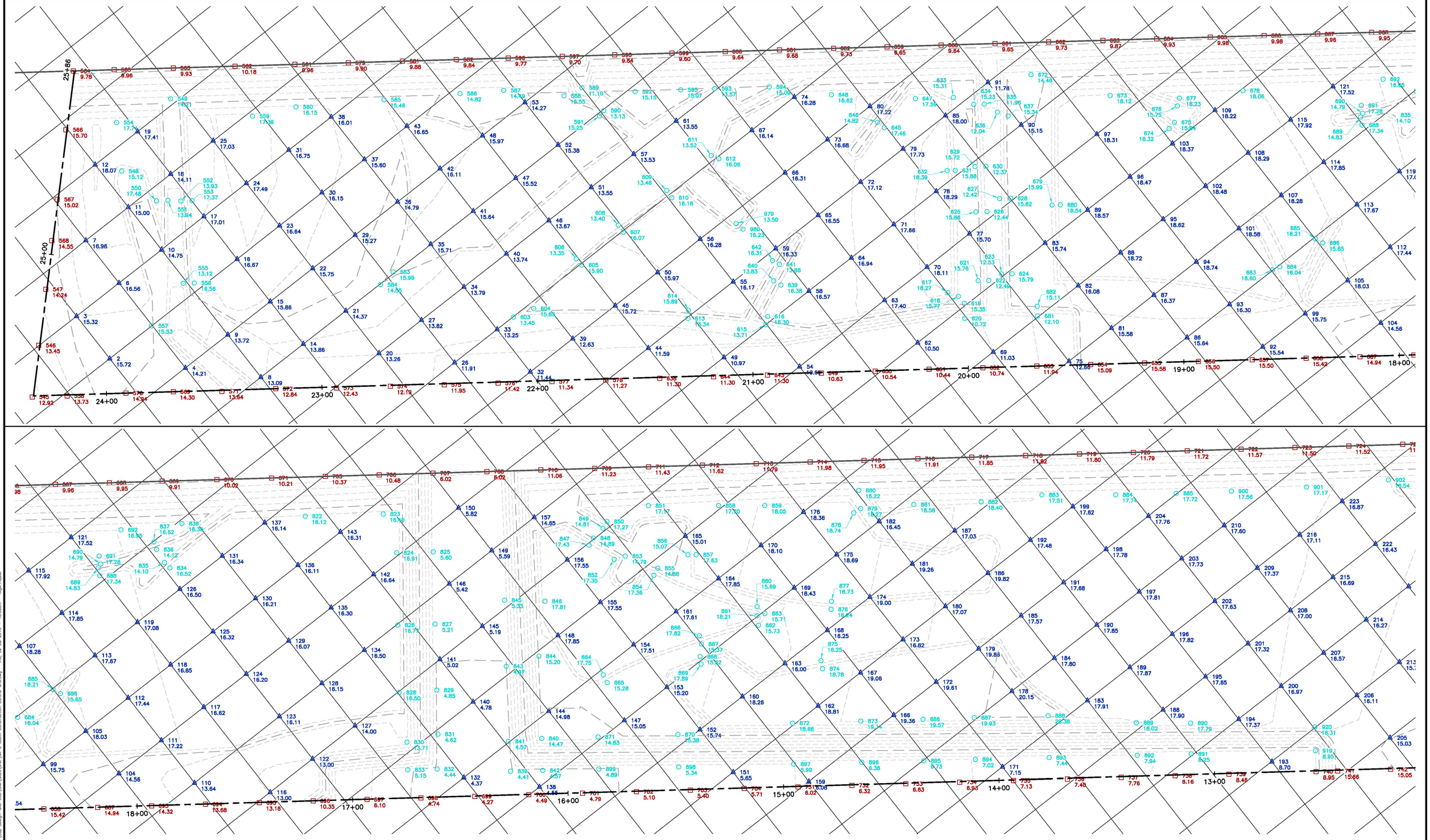
Contractor Layout. The contractor will add points based on the TIN and utilize the contour plots produced from the TIN to aid in layout of the work as necessary.

Registered Survey Documentation. The registered surveyor will survey and record the elevations on the Construction Control Grid. This information will be used to certify that the subgrade has been built to the design elevations.

The Contractor (QC), Engineer (QA) and Surveyor (licensed surveyor) will all record elevations at the same locations.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Clarification only. See "additional comments". **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The subgrade surface is very complex. The DCB clarifies how the 25 ft. Construction Control Grid and supplemental break points should be used to meet the design intent.	**Design Documents Affected:** Add as an addendum to Spec 01460.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 7/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



195 17.65 GRID POINT

890 17.79 BREAK POINT

738 8.16 BOUND POINT

0 10 20 40
SCALE IN FEET

Prepared/Date: RJR 07/02/15
Checked/Date: TDD 07/02/15

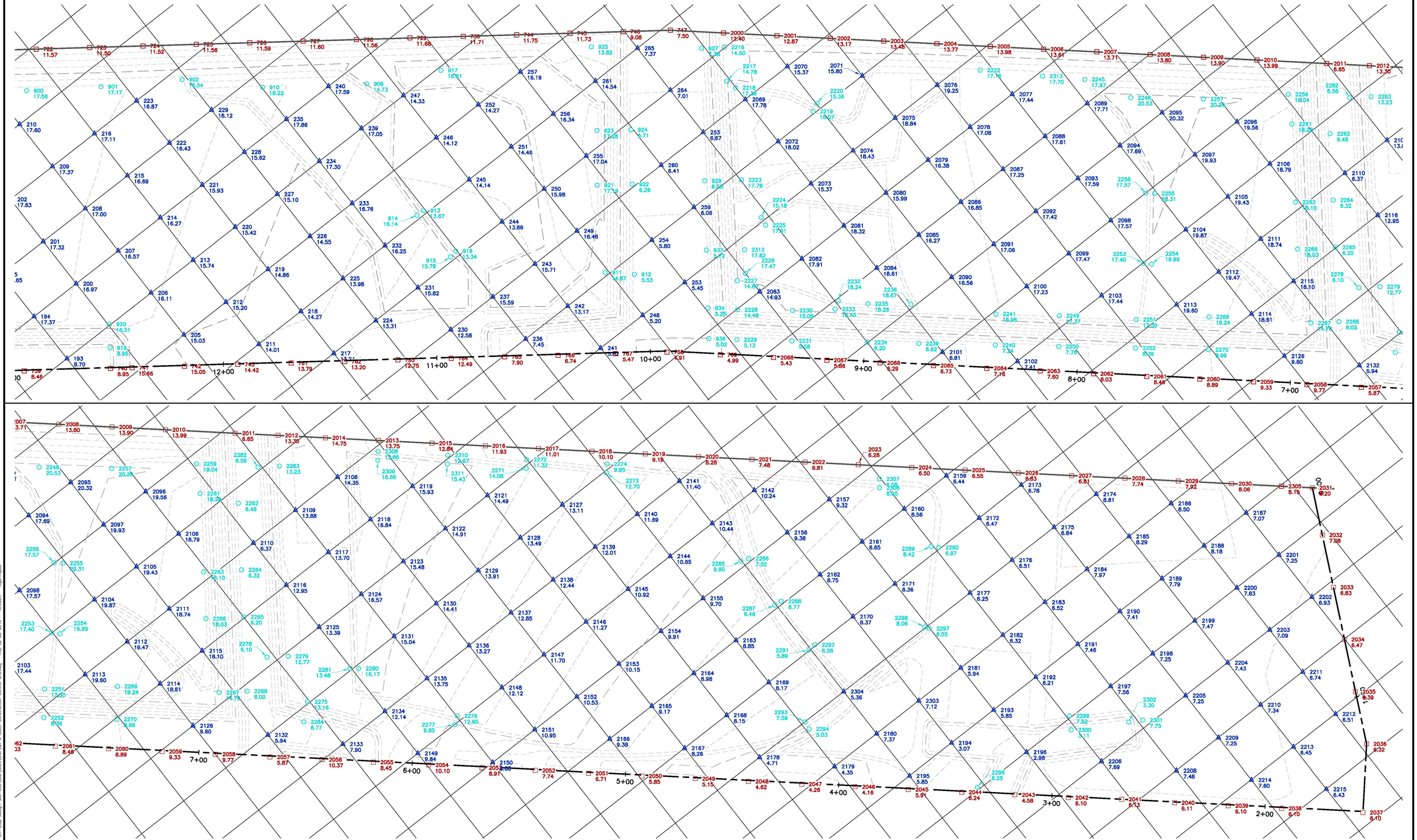
Honeywell
101 COLUMBIA RD, BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010800

SA-6 SOUTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 2
Project 3480-13-0377
Figure 1.1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\Xref\SA-6 South Construction Control Grid.dwg Thu, 02 Jul 2015 - 10:59am roger.riquier



Prepared/Date: RJR 07/02/15
Checked/Date: TDD 07/02/15

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

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200 American Metro Blvd, Suite 113
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NJ Certificate of Authorization Number 24GA28010800

SA-6 SOUTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 2
Project 3480-13-0377
Figure 1.2

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\Xref\SA-6 South Construction Control Grid.dwg Thu, 02 Jul 2015 - 10:59am roger.riquier

FINAL DCB 035 – GAS VENT SYSTEM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 35 **DCB Type:** Minor (a) **Effective Date:** 7/16/15
Project Location: SA-6	**Associated RFI:**
Title: Revised Gas Vent System Alignment	☑ Yes, RFI Nos. 50 & 51 ☐ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description

The alignment of the gas vent system piping and trench was modified in the west portion of the SA-6 South cap to establish smooth grades in the utility corridors and avoid contingent groundwater extraction system components.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 7/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

REQUEST FOR INFORMATION

GENERAL INFORMATION	
Project Name: Honeywell SA-6	**RFI No.: 50**
	Date Information Required: ASAP
Project Location: Jersey City, NJ	**Date Information Provided: 7/8/15**
Site Owner: Honeywell	**Project No.: 8140C**
Client: AMEC	**RFI Results in a Design Change Bulletin:**
Contractor(*Subcontractor*): ENTACT	☐ Yes, DCB No. _____ ☒ No

REQUEST

Information Requested:
ENTACT requests the elimination of gas vent pipe/trench within the utility corridors in locations shown (in red) on the attached drawing due to constructability issues.

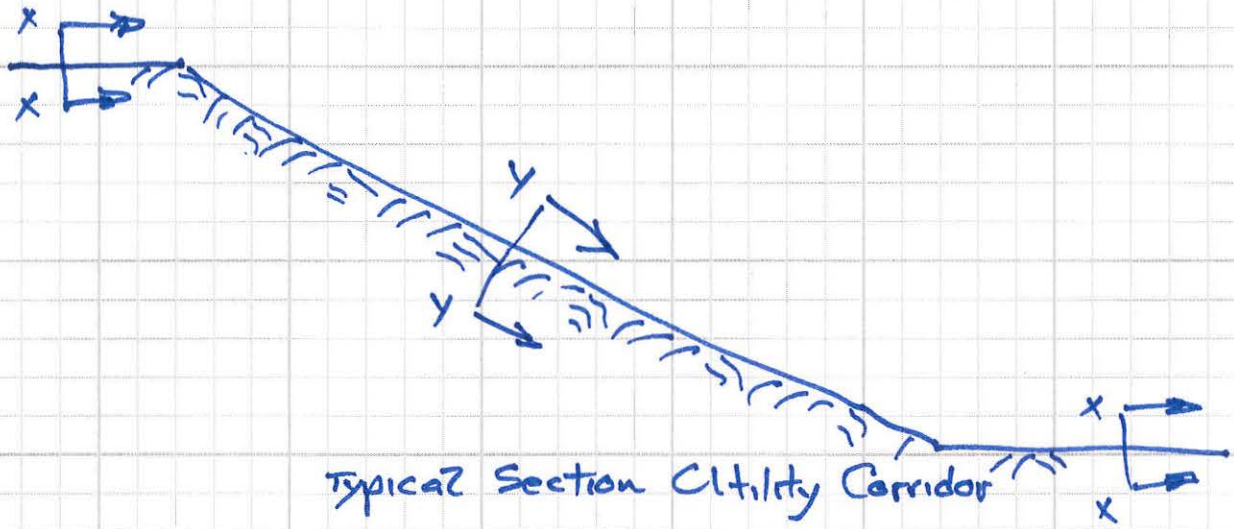
Relevant Design Documents: Honeywell SA6 100% Chromium Remedy Design Drawings C-121	**Attachments:** Yes ☒ No ☐	
RFI Originator: Caroline Panico	**Initial: CP**	**Date: 7/8/15**

RESPONSE		
RFI Received By:	**Initial:**	**Date:**
AMEC Response: See Fig 1 gas vent slope detail. Detail to be used in steep slopes of utility corridors. The 8" pipe will remain continuous from east to west as depicted in the original design		
AMEC Review:		
Individual SC Shalland	**Discipline** EOR	**Initial** [signature] **Date** 7/16/15
Distribution:		

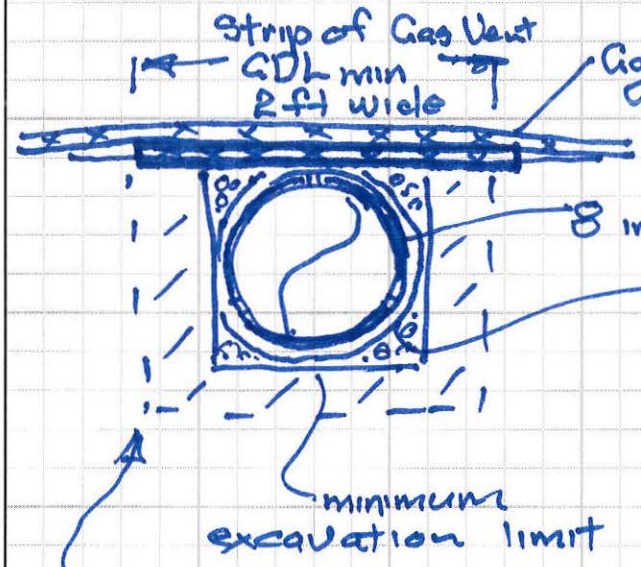
JOB NO. _____ SHEET _____ OF _____
PHASE _____ TASK _____
JOB NAME SA-6 Gas Vent Slope
BY SCS DATE 7/16/15
CHECKED BY _____ DATE _____

amec
511 Congress Street Suite 200
Portland, ME 04101
+1 (207) 775-5401 Fax +1 (207) 772-4762

NTS.



Typical Section Utility Corridor



SECTION XX is typical detail as shown on GAS VENT DETAIL AN C-121

Wrap Gas Vent Pipe with min 1 layer of GDL or Class A Geotextile. Overlap wrap min 1/4 of pipe circumference

SEQUENCE,

1. Excavate trench on slope. Extra 6" on typical detail is not required but can be used
2. Wrap HDPE as noted
3. Backfill with sand or 3/8 quarry screenings
4. Install 2-3 ft wide strip of gas vent GDL over pipe on slope.
5. Place gas vent GDL over entire subgrade per design. In locations where GDL is required install GCL in lieu of gas vent

Fig 1

REQUEST FOR INFORMATION

GENERAL INFORMATION	
Project Name: Honeywell SA-6	**RFI No.: 51**
	Date Information Required: ASAP
Project Location: Jersey City, NJ	**Date Information Provided: 7/16/15**
Site Owner: Honeywell	**Project No.: 8140C**
Client: AMEC	**RFI Results in a Design Change Bulletin:**
Contractor(*Subcontractor*): ENTACT	☐ Yes, DCB No. _____ ☒ No

REQUEST

Information Requested:
Attached is ENTACT's proposed re-alignment of the gas vent pipe/trench on the west side of the SA6 South cap.
ENTACT also requests the latest version of Drawing C-121 in AutoCAD.

Relevant Design Documents: Honeywell SA6 100% Chromium Remedy Design Drawings C-121	**Attachments:** Yes ☒ No ☐	
RFI Originator: Caroline Panico	**Initial: CP**	**Date: 7/16/15**

RESPONSE

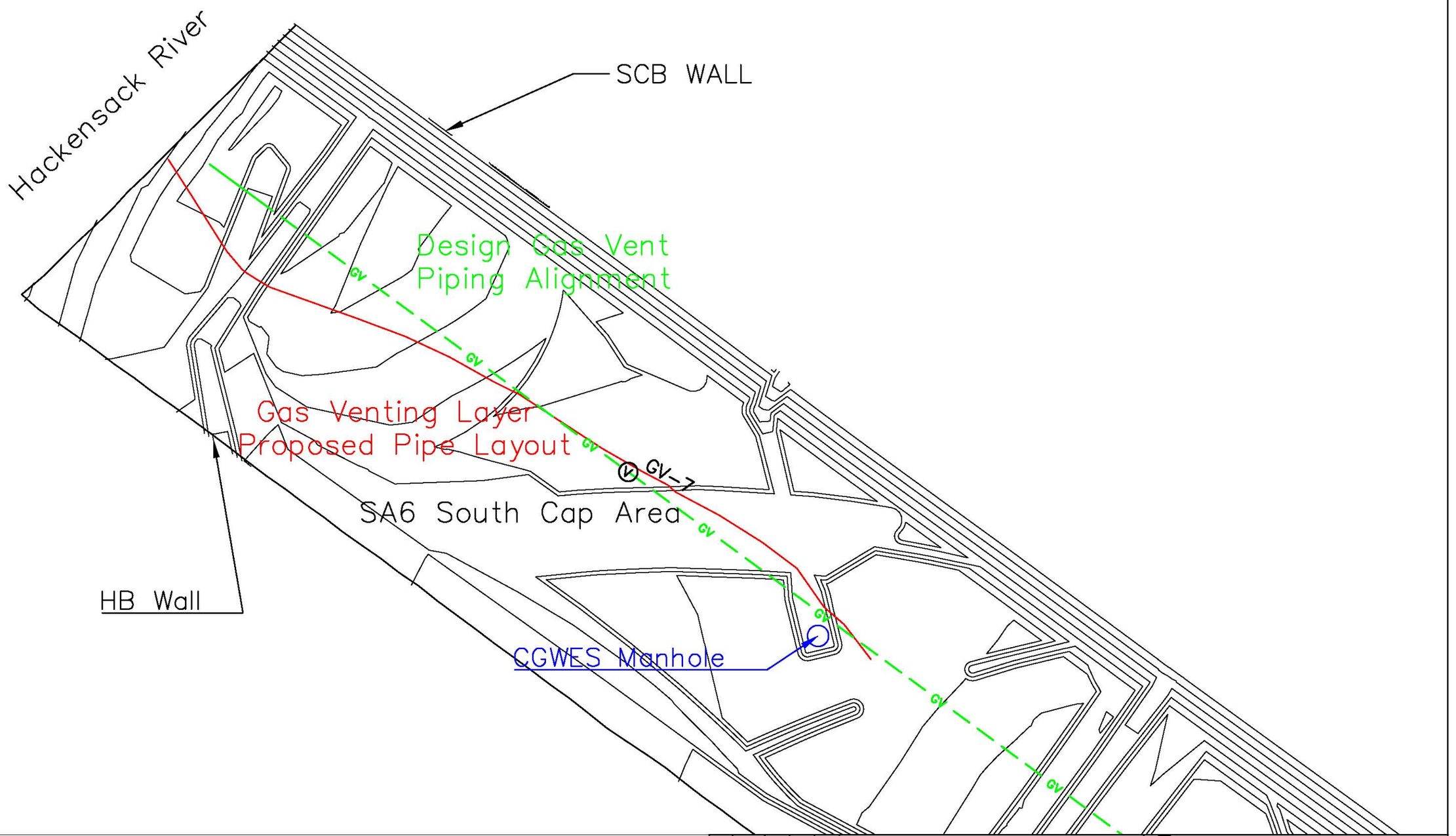
RFI Received By: Eric Christodoulatos	**Initial:** EGC	**Date:** 7/16/15

AMEC Response:
Gas vent layout as shown in red is acceptable. In response to a separate verbal request today amec fw is issuing the C-121 linework associated with the GCL.

AMEC Review:

Individual	Discipline	Initial	Date
SC Shallard	EOR		7/16/15

Distribution:



Proposed Adjustment to Gas Venting Pipe Alignment

Design Gas Venting System Pipe Alignment

REV	DATE	BY	CHK'D	APR'VD	DESCRIPTION

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME
PROPOSED GAS VENT PIPING ALIGNMENT

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

FINAL DCB 035.2 – GAS VENT SYSTEM – DETAIL AN

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 035.2 **DCB Type:** Minor (a) **Effective Date:8/18/15**
Project Location: SA-6	**Associated RFI:**
Title: Gas Vent Goose Neck Assembly Detail AN	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. The Design detail assembly has been modified to reflect changes resulting from collaboration between Entact and AmecFW.	
Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The gas vent system was designed based on modeling by Dr. J Chanton and will be subject to performance monitoring upon cap completion. The assembly modification will allow for easier changes in size of elimination upon based on actual emissions.	**Design Documents Affected:** C-121, Detail AN
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 8/19/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

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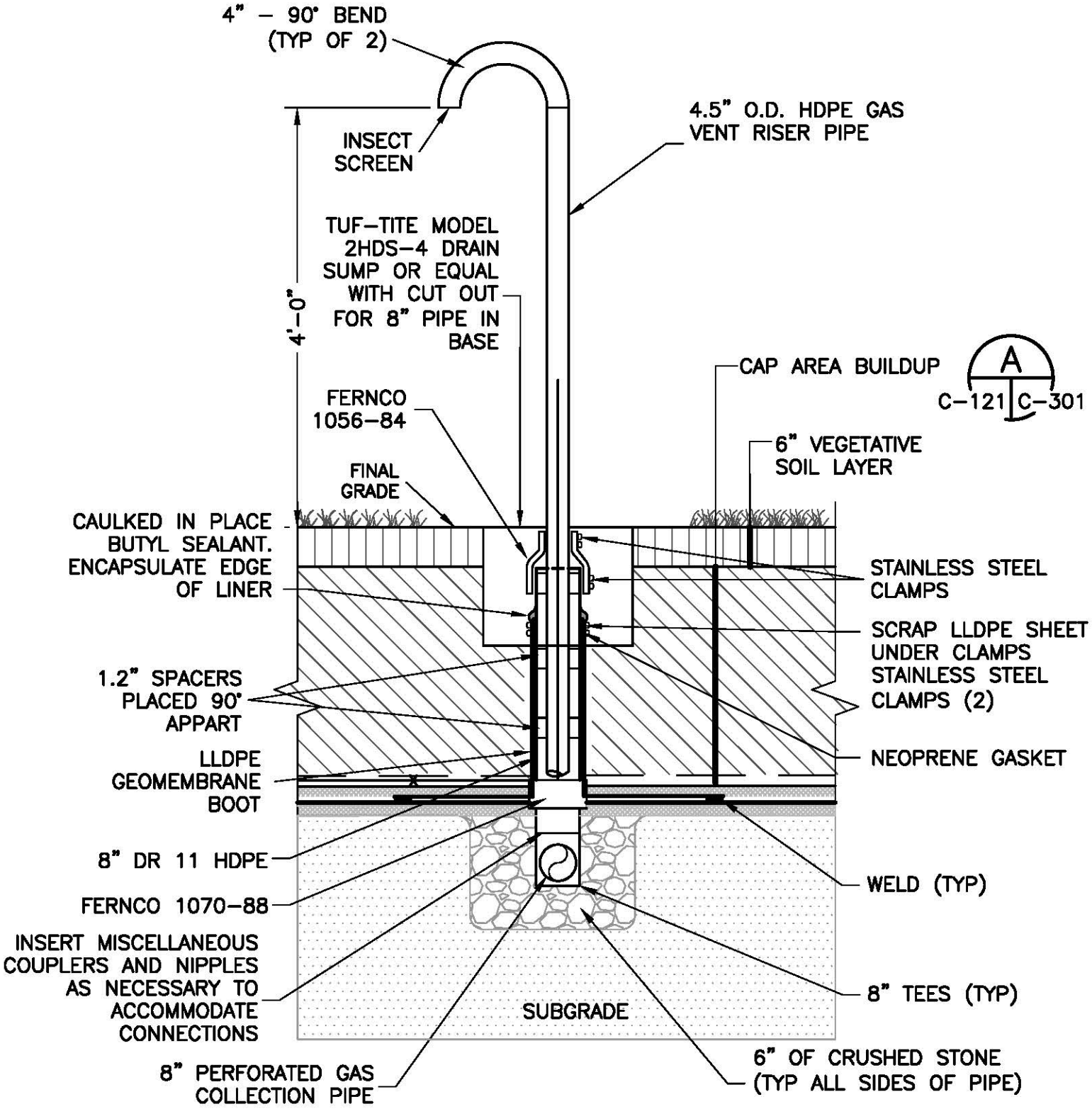


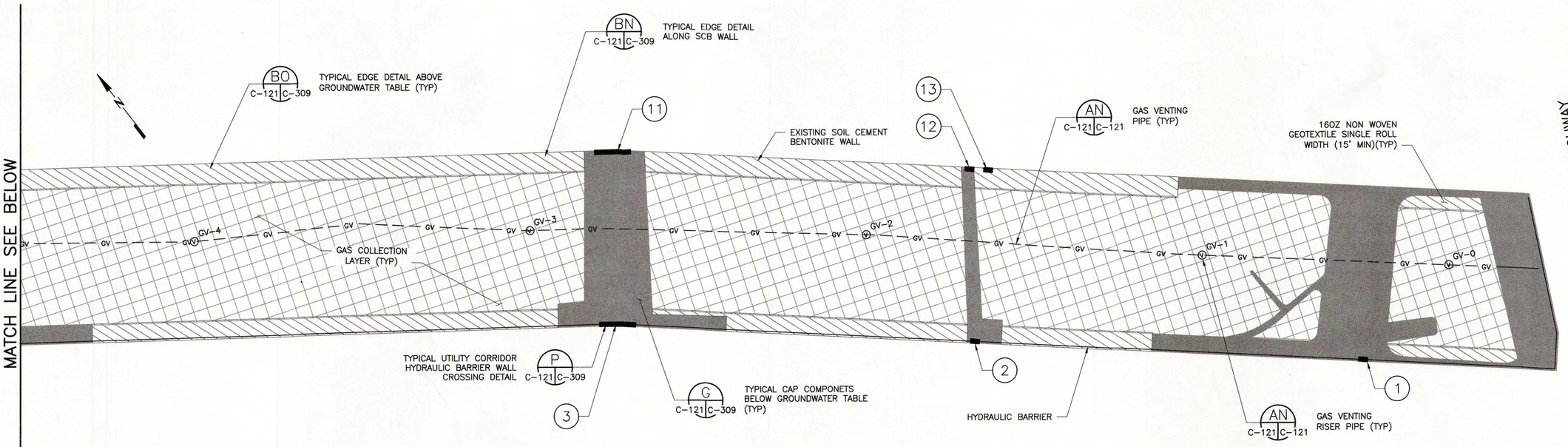
NOTES:

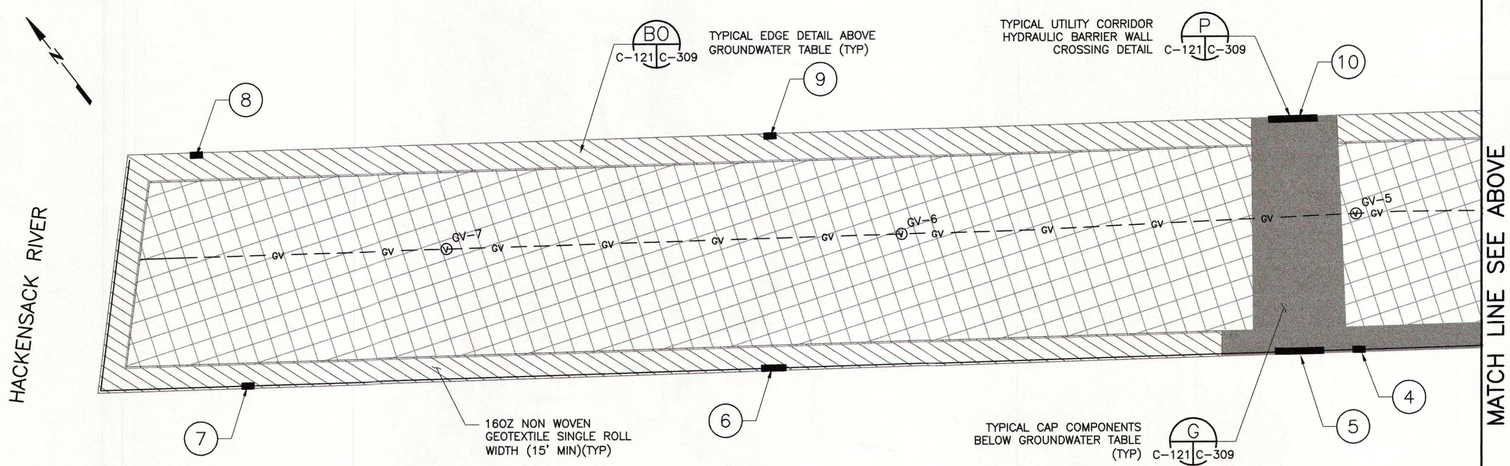
1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL

NTS

AN
C–121 C–121





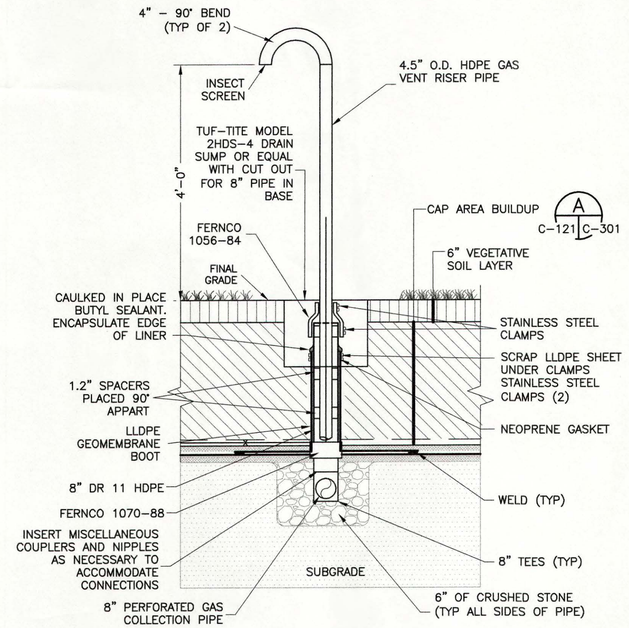
GEOFOAM BLOCK SUMMARY

NUMBER	LENGTH
1	8'
2	8'
3	32'
4	8'
5	32'
6	16'
7	8'
8	8'
9	8'
10	32'
11	32'
12	8'
13	8'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. WHERE BLOCKS ARE PLACED BELOW THE WATER TABLE, MEASURES WILL BE IMPLEMENTED TO CONTROL GROUNDWATER LEVELS AND FILL PLACEMENT SO THAT BLOCKS DO NOT FLOAT.
4. GEOFOAM BLOCKS ARE DEPICTED ON THIS DRAWING FOR PLAN LOCATION. BLOCKS WILL BE PLACED ABOVE THE LLDPE.
5. THE CLASS A GEOSYNTHETIC WHICH LAPS OVER THE SCB AND SHEETPILE BARRIER WALLS IS DESIGNED TO PROTECT THE LLDPE FROM PUNCTURING FROM THE STRUCTURAL WALL. THE 15 FT. DIMENSION WAS SELECTED TO PROVIDE FOR DEPLOYMENT OF A SINGLE ROLL WIDTH. GCL AREAS ARE MINIMUMS. IF THE CONTRACTOR WISHES TO USE FULL ROLL WIDTHS THE AREA OF GAS VENT OR CLASS A GEOTEXTILE MAY BE REDUCED ACCORDINGLY. PANEL DEPLOYMENT SHOULD BE REVIEWED WITH THE ENGINEER PRIOR TO DEPLOYMENT.



NOTES:

1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL

NTS

AN
C-121 C-121

0 25 50 100
SCALE IN FEET

SAMUEL G. SHALLARD
N.J PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DSGN	DR	CHK	APVD
4	08/13/15	REVISED DETAIL AN	TDD	RJR	TDD	APVD
3	05/29/15	CAP/EDGE DETAILS AND CORRIDORS		RJR	SGS	
2	05/20/15	REVISED EDGE DETAILS		RJR	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT		RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD	SHM	
				BY	APVD	
				SHM		

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GAS VENTING SYSTEM AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 888 - 2828
In Collaboration with Arcadis and Langan

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-121
SHEET	26 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR26-C-121 Gas Venting System and Details.dwg PLOT DATE: Thu, 13 Aug 2015 PLOT TIME: 8:30 AM

FINAL DCB 035.3 – GCL AND GEOTEXT CLARIFICATION

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 35.3 **DCB Type:** Minor (a) **Effective Date:** 10/06/15
Project Location: SA-6 South	**Associated RFI:**
Title: Revised Gas Venting System and Cap Details	☑ Yes, RFI No. 60 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB was prepared in response to RFI-060 regarding the strip of 16 oz. geotextile adjacent to the SCB wall and Barrier Wall as shown with the red balloon in the attached annotated PDF of C-121 (rev 4, 8/13/15). This area was inspected in the field and this DCB serves to verify direction provided by the EOR at that time.

GCL is required to be installed over the SCB wall and Barrier Wall at these locations as shown. The GCL serves to protect the geomembrane from the Barrier Wall/SCB walls and acts as a redundant hydraulic barrier under the geomembrane in areas where the geomembrane may be immersed below the groundwater. The GCL should extend from the walls and associated utility corridor onto the elevated subgrade plateau where the 16 oz. geotextile is shown. It is acceptable to substitute either GCL or Gas Vent layer for the 16 oz. geotextile. A substitution using the materials noted will have no impact on the remedy.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Design clarification **Attachments:** ☑ Yes ☐ No Annotated C-121 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/6/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
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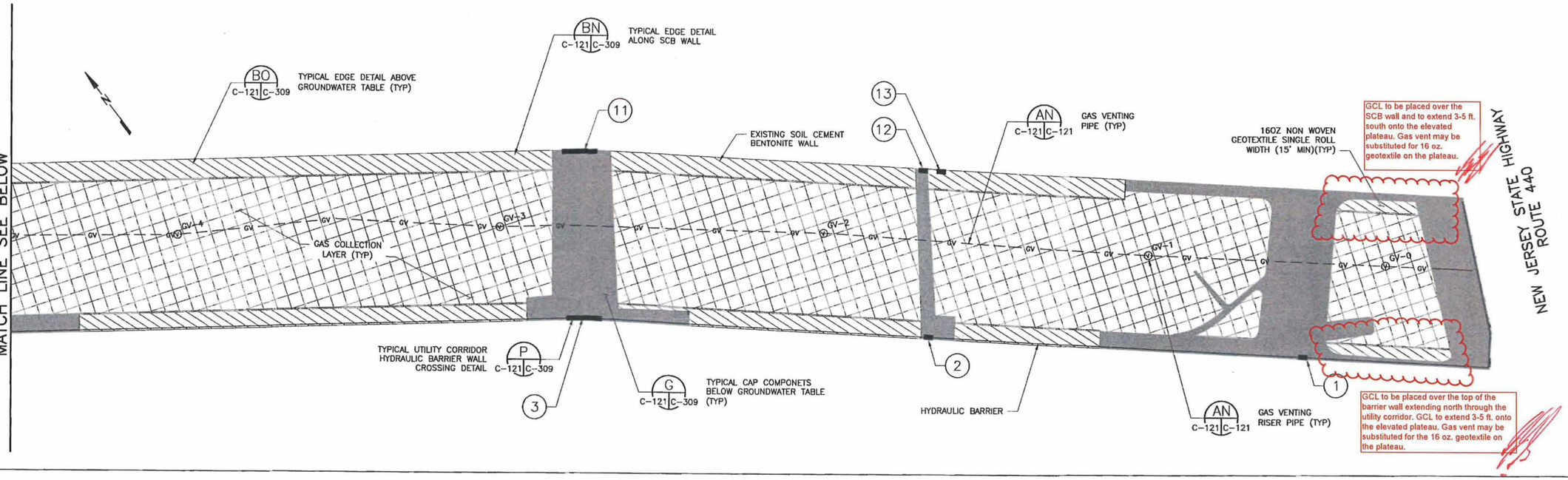

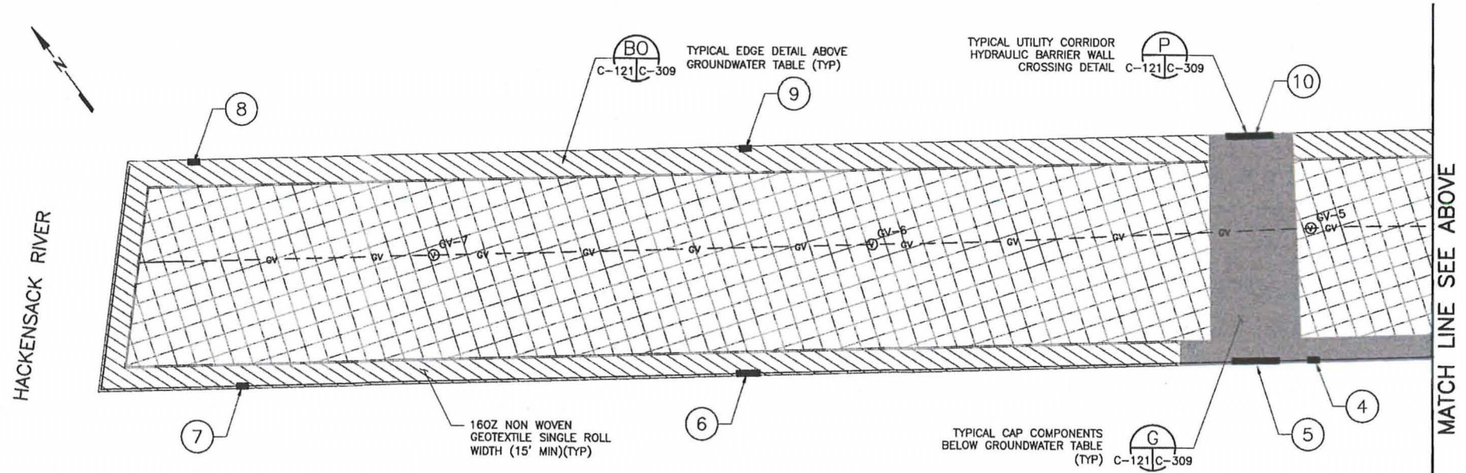

GEOFOAM BLOCK SUMMARY

NUMBER	LENGTH
1	8'
2	8'
3	32'
4	8'
5	32'
6	16'
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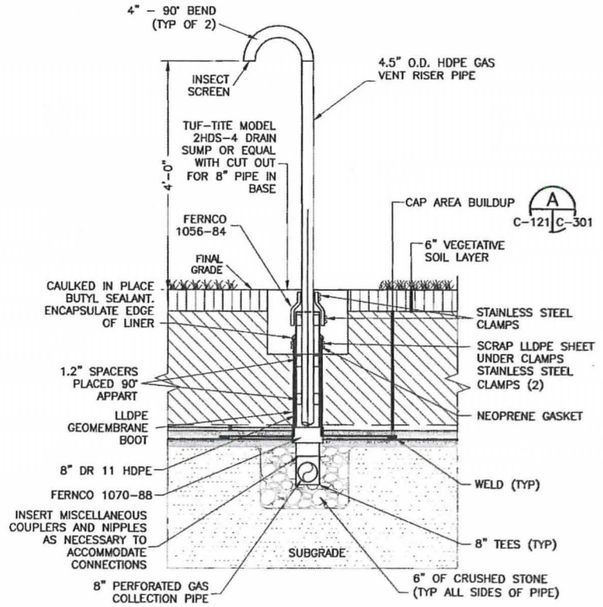
9	8'
10	32'
11	32'
12	8'
13	8'

GEOFOAM BLOCKS EPS 19 4' WIDE x 1' THICK LENGTH VARIES

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. WHERE BLOCKS ARE PLACED BELOW THE WATER TABLE, MEASURES WILL BE IMPLEMENTED TO CONTROL GROUNDWATER LEVELS AND FILL PLACEMENT SO THAT BLOCKS DO NOT FLOAT.
4. GEOFOAM BLOCKS ARE DEPICTED ON THIS DRAWING FOR PLAN LOCATION. BLOCKS WILL BE PLACED ABOVE THE LLDPE.
5. THE CLASS A GEOSYNTHETIC WHICH LAPS OVER THE SCB AND SHEETPILE BARRIER WALLS IS DESIGNED TO PROTECT THE LLDPE FROM PUNCTURING FROM THE STRUCTURAL WALL. THE 15 FT. DIMENSION WAS SELECTED TO PROVIDE FOR DEPLOYMENT OF A SINGLE ROLL WIDTH. GCL AREAS ARE MINIMUMS. IF THE CONTRACTOR WISHES TO USE FULL ROLL WIDTHS THE AREA OF GAS VENT OR CLASS A GEOTEXTILE MAY BE REDUCED ACCORDINGLY. PANEL DEPLOYMENT SHOULD BE REVIEWED WITH THE ENGINEER PRIOR TO DEPLOYMENT.



NOTES:

1. PERFORATED PIPE TO BE CORRUGATED SLOTTED PE PIPE.
2. SPACERS MAY BE PREFABRICATED AS PART OF THE 4.5" DIA VENT PIPE.

GAS VENT DETAIL — AN C-121 C-121

NTS

0 25 50 100
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
4	08/13/15	TDD	RJR	TDD	SHM	RJR SGS
3	05/29/15					RJR SGS
2	05/20/15					RJR SGS
1	10/11/13					RJR SGS
0	06/07/13					TDD SHM

REVISED DETAIL AN
CAP/EDGE DETAILS AND CORRIDORS
REVISED EDGE DETAILS
MODIFIED BARRIER WALL ALIGNMENT
ISSUED FOR CONSTRUCTION
REVISION

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GAS VENTING SYSTEM AND DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 Horsehill & Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2929
NJ Certificate of Authorization number 24GA28018400

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-121
SHEET	26 OF 66

FINAL DCB 036 – REVISED C-309

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 36 **DCB Type:** Minor (a) **Effective Date:** 7/22/15
Project Location: SA-6	**Associated RFI:**
Title: Revision to Detail BN Sheet C-309	☐ Yes, RFI Nos. ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description

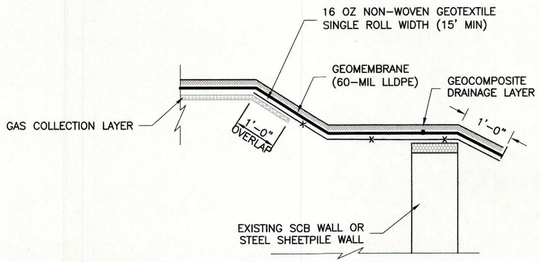
Detail BN has been modified to extend the LLDPE up and over the SCB Wall. The prior detail showed both the GDL and geomembrane terminating at the wall.

Extending the LLDPE over the SCB wall raise the connection above the water table and perimeter pool elevations and a "below groundwater connection condition" and the related sand bentonite connection detail below the GCL as shown on the Rev 3 dated 5/27/15 BN detail.

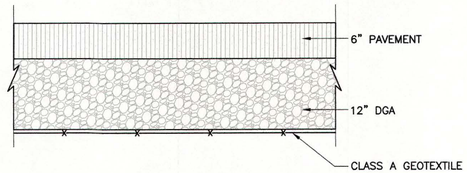
The submerged detail (Detail G) will still be required where the GCL overlaps the sheetpile Hydraulic Barrier. This does include the "sand bentonite plug". The Bentonite to Sand ratio shall be a nominal amount of 8% bentonite by weight. The Bentonite should be a sodium bentonite, min 90 BBL yield, equal or better than Baroid Aquagel.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 7/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

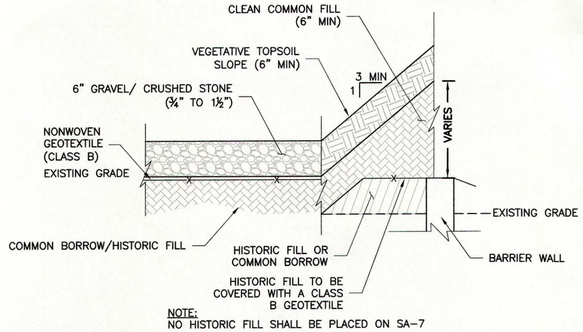
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



TYPICAL EDGE DETAIL ABOVE GROUNDWATER TABLE
NTS
BO
C-121 | C-309

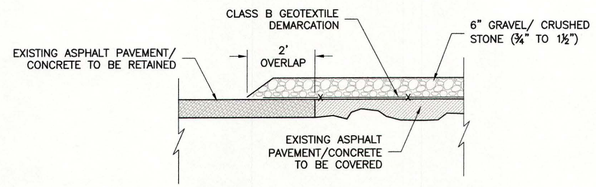


PAVEMENT SECTION DETAIL
NTS
BA
C-108 | C-309
C-109
C-110

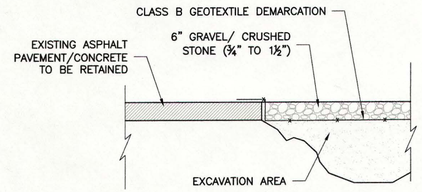


NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

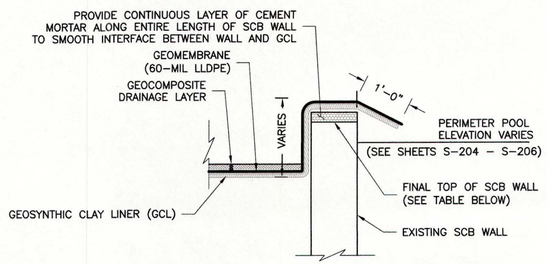
EXCAVATION AREA
NTS
BJ
TYP | C-309



PAVEMENT TRANSITION DETAIL
NTS
BL
TYP | C-309



EXCAVATION EDGE
RESTORATION DETAIL
NTS
BM
TYP | C-309

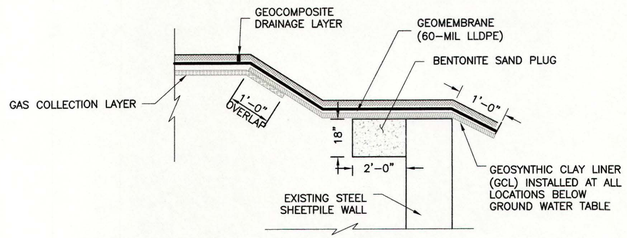


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 15+00

TYPICAL EDGE DETAIL - LINER BELOW FINAL SCB ELEVATION
NTS
BN
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER
NTS
G
TYP | C-309

NOTE:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
4	07/21/15	TDD	TDD	RJR	TDD	RJR
3	05/27/15					TDD
2	05/20/15					RJR
1	05/05/15					TDD
0	06/07/13					TDD

REVISED DETAIL BN
REVISED DETAILS
REVISED DETAILS
REVISED DETAIL
ISSUED FOR CONSTRUCTION
REVISION

SGS
SGS
SGS
SGS
SHM
APVD

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
MISCELLANEOUS DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28046600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-309
SHEET	45 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR45-C-309 Miscellanious Details.dwg PLOT DATE: Tue, 21 Jul 2015 PLOT TIME: 3:15 PM

FINAL DCB 037 – DETAIL CD DWG 304

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 37 **DCB Type:** Minor (a) **Effective Date:** 7/28/15
Project Location: SA-6	**Associated RFI:**
Title: Add notes to Detail CE to address above and below GW connection detail	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description

Detail CE Drawing C-304. Sheet 304 is reissued to include the changes noted below on Detail CE. As with many other components in the design this detail requires a submittal from ENTACT/ESI to show their proposed installation details. It is possible that the submittal may result in changes to the fastening method.

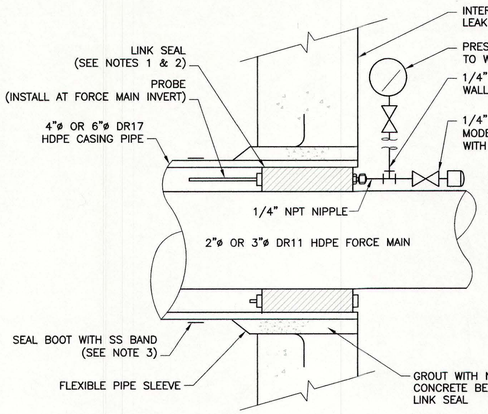
Detail CE, as issued, showed GCL under the LLDPE. GCL will only be placed under the geomembrane at locations where the connection detail is below the groundwater table. Gas Vent will be placed at all locations above the groundwater table.

Several revisions have been made as noted below. The notes and components added cover conditions where the connection detail may be below groundwater and where structures/connections are above groundwater. The following changes have been made.

- GDL has been shown above the LLDPE geomembrane.
- Notations have been added to indicate that Gas Vent layer will be used under the LLDPE where the connection is above groundwater and GCL where the detail is below the groundwater.
- The amount of slack was reduced from approx. 3 inches to approx. 1 inch. This reduction is based upon the fact that the site has already been surcharged and primary consolidation removed. One inch of slack is adequate to accommodate any secondary consolidation.
- Note added to indicate that the top of the boot will be a minimum of 6 inches above the groundwater table if the structure is located below the groundwater.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** C-304
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 7/29/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

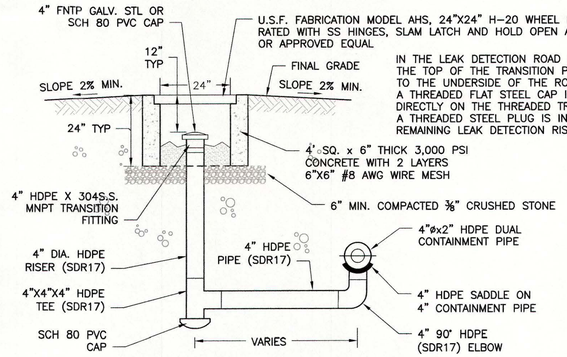


NOTES:

1. USE THUNDERLINE LINK–SEAL TYPE LS 300–C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425–C FOR 1"ø AND 1–1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK–JOINT FLEXIBLE MANHOLE SLEEVE OR KOR–N–SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X)

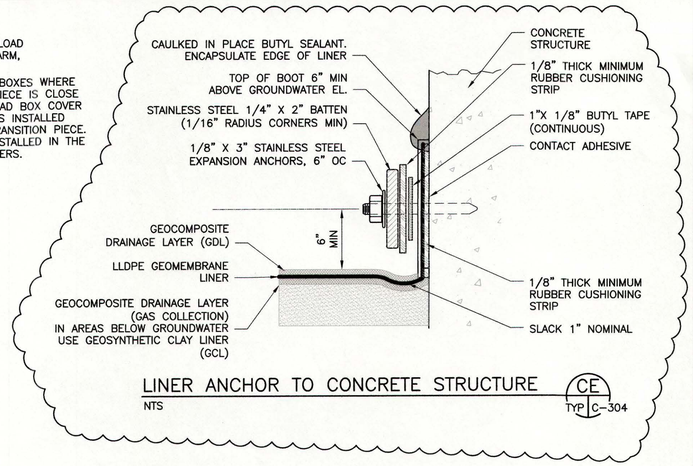
NTS — C–304 | C–306



IN THE LEAK DETECTION ROAD BOXES WHERE THE TOP OF THE TRANSITION PIECE IS CLOSE TO THE UNDERSIDE OF THE ROAD BOX COVER A THREADED FLAT STEEL CAP IS INSTALLED DIRECTLY ON THE THREADED TRANSITION PIECE. A THREADED STEEL PLUG IS INSTALLED IN THE REMAINING LEAK DETECTION RISERS.

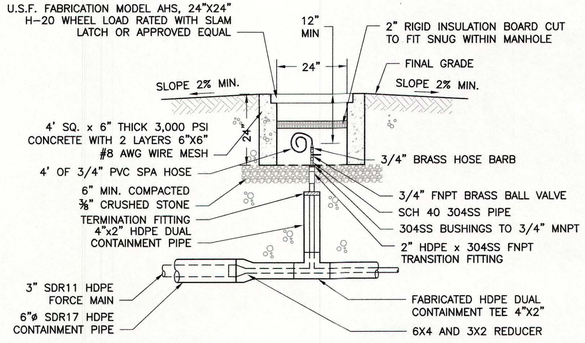
LEAK DETECTION STATION (CG)

NTS — C–204 | C–304



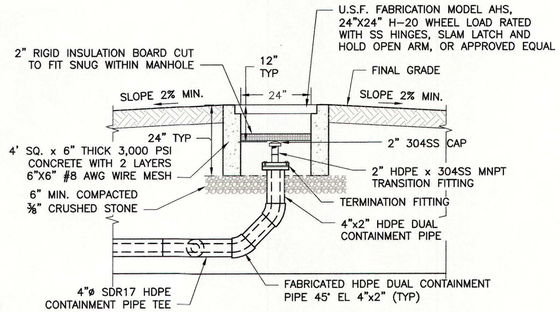
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

NTS — TYP | C–304



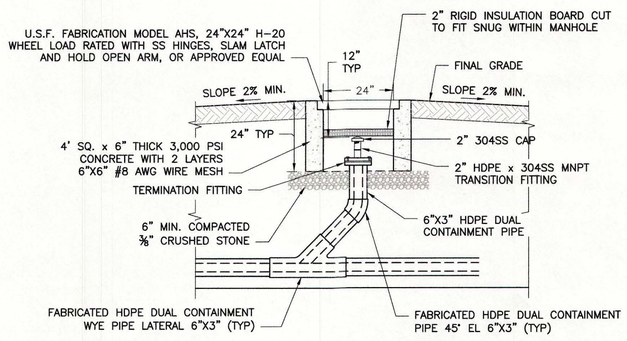
AIR RELEASE STATION (CF)

NTS — C–204 | C–304



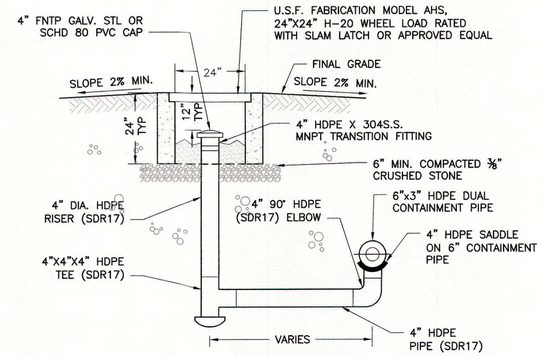
DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH)

NTS — C–204 | C–304



EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI)

NTS — C–204 | C–304



EXISTING 3" LEAK DETECTION STATION (CJ)

NTS — C–204 | C–304

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND C–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	REO	CHK	RJR	REO	APVD	BY	APVD
2	07/28/15	DCB 37 REVISED DETAIL CE				RJR	SGS		SHM	
1	02/13/15	DCB 007.3				TDD	SGS		SHM	
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SHM		SHM	

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
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CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 Horizon Center Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR41-C-304_GWFM_Details.dwg PLOT DATE: Tue, 28 Jul 2015 PLOT TIME: 10:56 AM

FINAL DCB 037.2 – MANHOLE BOOT DETAIL

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No. 037.2: Type: Minor** (a) **Effective Date:** 8/7/15
Project Location: SA-6	**Associated RFI:**
Title: Revised Final 4ft manhole Boot Detail	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

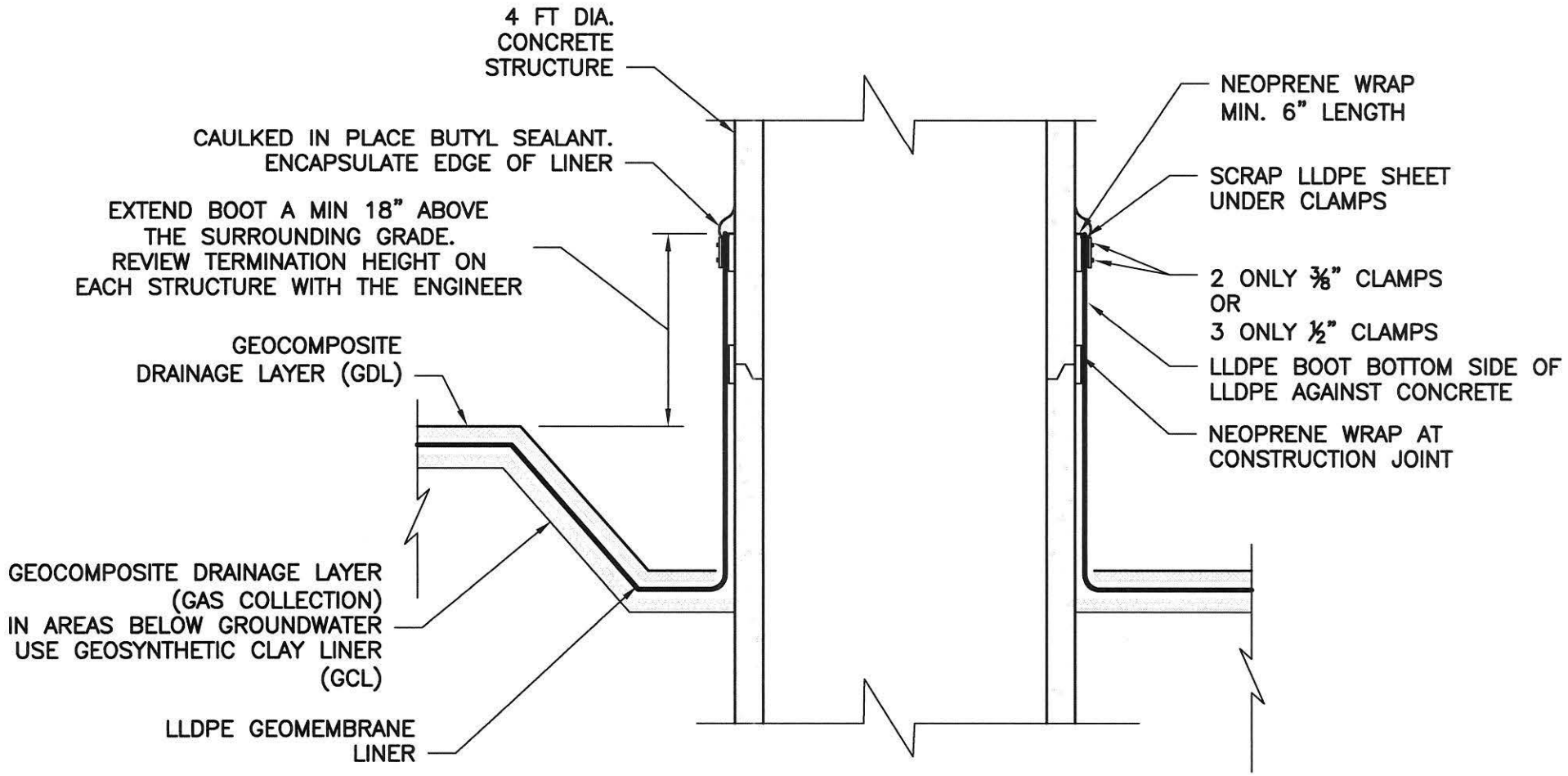
Description.

AmecFW has conducted further review of this detail with Entact/ESI including field review to improve constructability.

DCB 037.2 supersedes DCB 037.1.

Reason for Change/Modification: ☐Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See comments
	Attachments: ☑ Yes ☐ No Revised Detail CE
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The detail provides for an extended boot to accommodate any secondary consolidation rather than attempting to fabricate folds/slack into a circular boot. 1 inch of settlement would result in approximately 2% strain. The LLDPE can tolerate in excess of 200% strain. This detail simplifies fabrication, eliminates folds and will be capable of accommodating more settlement than either the original batten design or DCB 037.1 design.	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 8/7/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

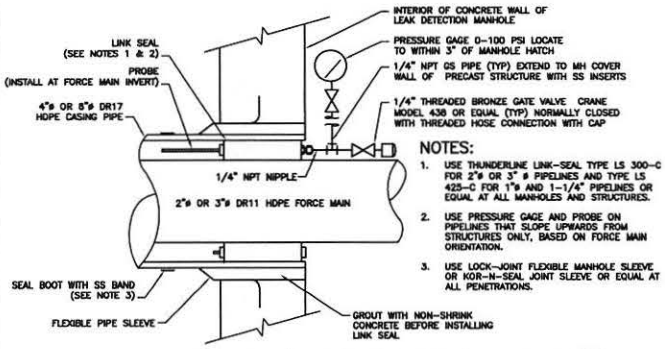
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



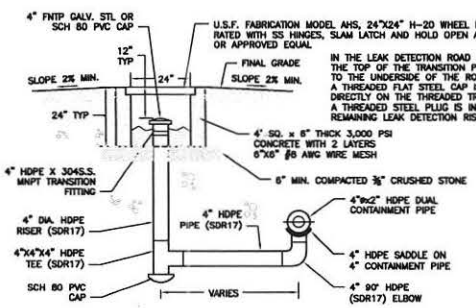
LINER ANCHOR TO CONCRETE STRUCTURE

NTS

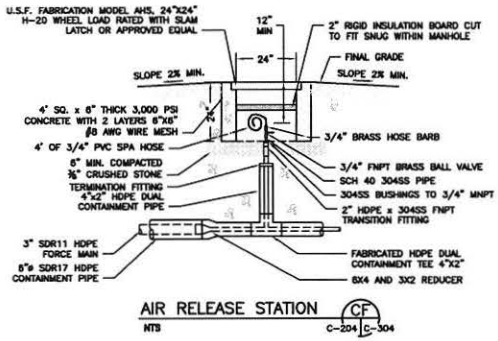
CE
TYP | C-304



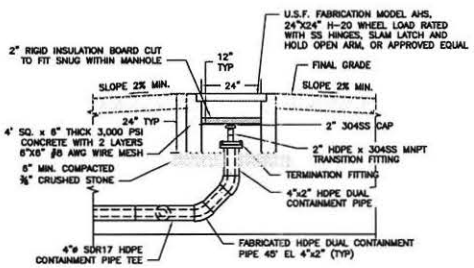
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X)
NTS
C-304 | C-306



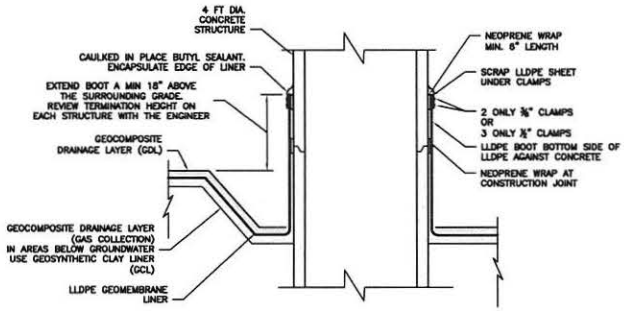
LEAK DETECTION STATION (CG)
NTS
C-204 | C-304



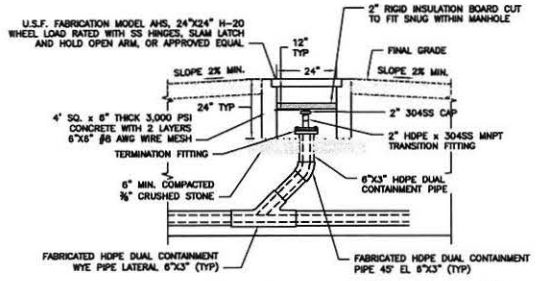
AIR RELEASE STATION (CF)
NTS
C-204 | C-304



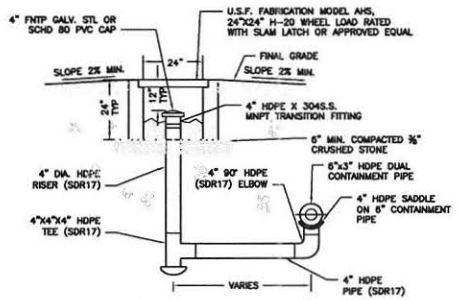
DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH)
NTS
C-204 | C-304



LINER ANCHOR TO CONCRETE STRUCTURE (CE)
NTS
TYP C-304



EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI)
NTS
C-204 | C-304



EXISTING 3" LEAK DETECTION STATION (CJ)
NTS
C-204 | C-304

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NO.	DATE	BY	CHK	APVD
3	08/05/15	RJR	SGS	
2	07/28/15	RJR	SGS	
1	02/13/15	TDD	SGS	
0	06/07/13	TDD	SHM	

REVISION

DSGN | DR | CHK | APVD
REQ | REQ | REQ

DCB 37.1 REVISED DETAIL CE
DCB 37 REVISED DETAIL CE
DCB 007.3
ISSUED FOR CONSTRUCTION

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 183
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 131
Hamilton, NJ 08619
(609) 587-3500
NJ Certificate of Authorization Number 24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE
PROJ 3480-12-0317
DWG C-304
SHEET 41 OF 66

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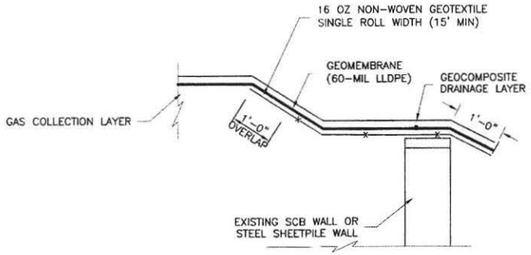
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SAR-CSD\CAD\SA6-North-South-DW_Extraction_Trench\ICR41-C-304_DWFM_Details.dwg PLOT DATE: Wed, 05 Aug 2015 PLOT TIME: 3:49 PM

FINAL DCB 039 – SUBGRADE SOIL WEDGE

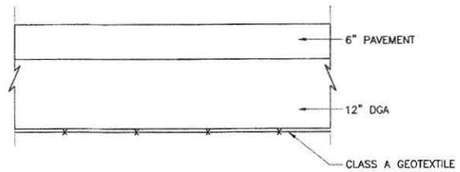
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 039 **DCB Type:** (a) **Effective Date:** 7/30/15
Project Location: SA-6 **Title:** Corridor B SCB Detail	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Entact was granted approval to install a wedge of soil in the B Street corridor against the SCB wall. There is a step up in this location from the corridor subgrade to the top of the SCB wall. The intent of the Entact request was to provide a more gradual transition between the corridor subgrade and SCB Wall. Amec reviewed the CHA utility drawings and determined that there were no utility structures within this location that would be impacted by the change i.e. the change has no impact on the future development, The remaining corridor to SCB wall detail will be installed as shown on the contract drawings.	
Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other-Entact Request	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Annotated Detail BN Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 8/7/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

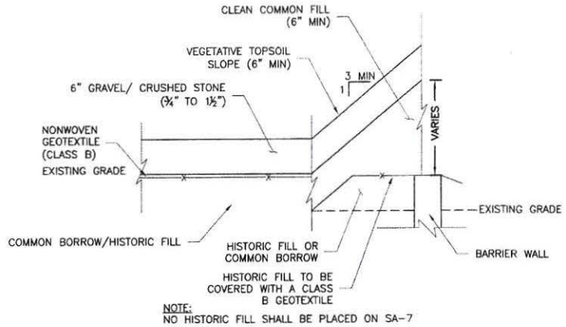
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



TYPICAL EDGE DETAIL ABOVE GROUNDWATER TABLE (B0)
NTS
C-121 | C-309

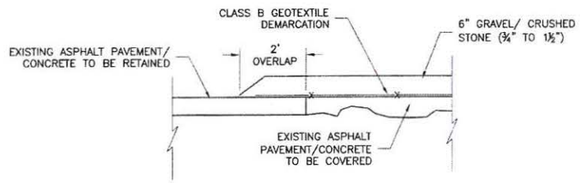


PAVEMENT SECTION DETAIL (BA)
NTS
C-108 | C-309
C-109
C-110

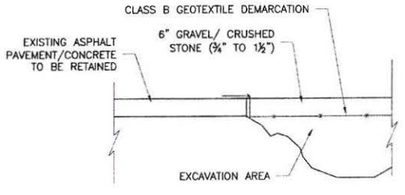


NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

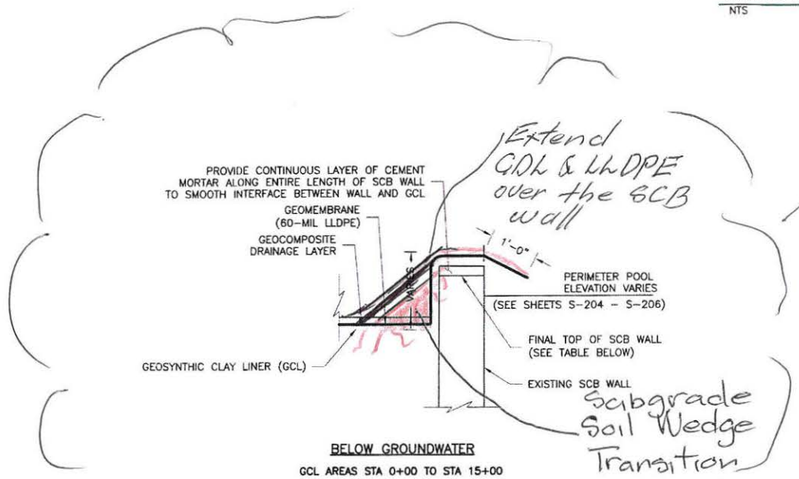
EXCAVATION AREA (BJ)
NTS
TYP | C-309



PAVEMENT TRANSITION DETAIL (BL)
NTS
TYP | C-309



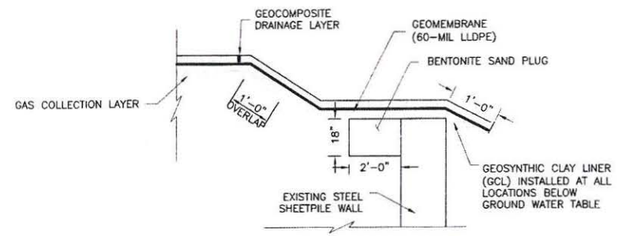
EXCAVATION EDGE RESTORATION DETAIL (BM)
NTS
TYP | C-309



DCB 039
DETAIL BN B STREET
8/7/15

TYPICAL EDGE DETAIL - LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP | C-309

NOTE:
1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

NO.	DATE	DSGN	DR	CHK	REVISION
4	07/21/15	TDD	RJR	TDD	REVISED DETAIL BN
3	05/27/15				REVISED DETAILS
2	05/20/15				REVISED DETAILS
1	05/05/15				REVISED DETAIL
0	06/07/13				ISSUED FOR CONSTRUCTION

APVD: BY | APVD
RJR | SGS
TDD | SGS
RJR | SGS
TDD | SGS
TDD | SHM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD, BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
MISCELLANEOUS DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2029
NJ Certificate of Authorization Number 24GA28000400

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-309
SHEET	45 OF 66

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FINAL DCB 041 – WARNING LAYER

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 041 **DCB Type:** Minor (a) **Effective Date:8/19/15**
Project Location: SA-6	**Associated RFI:**
Title: Warning Tape with Do Not Dig Markings	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Drawings C-301 1and CN-301 provide a Typical Utility Corridor/Hydraulic Barrier Wall Crossing Detail which calls for "Distinctive colored warning layer with markings in English and Spanish."

Entact Notified AmecFW that the vendor had experienced difficulty during set up and could not produce an acceptable quality of lettering on the orange non-woven geotextile (due to ink blurring).

As an option Entact proposed installing a standard direct burial utility marking tape.

AmecFW approved use of a 6 inch wide yellow PE tape with 3.5 inch bold back lettering as meeting the specified requirements for a distinctive colored high visibility marking. The tape will be placed at no more than 5 ft. on center.

Reason for Change/Modification: ☐Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** See comments **Attachments:** ☑ Yes ☐ No Revised Detail CE Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: The 6 inch wide yellow tape provides a greater contrast and higher visibility against the orange background than the black lettering printed on the orange fabric. It is considered to be "an or-equal" or better option and was approved accordingly.	**Design Documents Affected:** Attached PDF from tape manufacturer with size and lettering. Letters from manufacturer regarding suitability for application.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 8/19/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Systems Pack Inc.
649 E. HIGHLAND ROAD
MACEDONIA, OHIO 44056
"Manufacturers of Design Ideas"
(330) 467-5729
FAX (330) 468-2299

July 13, 2015

Adam Ewert
ENTACT, LLC
1 E. Oak Hill Drive, Suite 102
Westmont, IL 60559

RE: Warning Tape Certification/Warranty Statement

Dear Adam,

Please use this letter as confirmation that the polyethylene tape we have quoted for the Entact – Honeywell - Jersey City project is suitable for burial applications.

Polyethylene (PE resin) tapes are suitable for a buried warning barrier as they are inert and not biodegradable. Deterioration is only noted when PE is exposed to prolonged sunlight. PE does not migrate in soil and floats in water. PE produces no effects on aquatic or terra environments. When placed in landfills, they do not release gases or other compounds (known to pollute water resources.)

SPI warrants to the buyer that its products are free from defects in material and workmanship, but limits its obligation to replacement of the product. This warranty is in lieu of any other warranty, expresses or implied, including but not limited to any implied warranty of merchantability or fitness for a particular use, and of any other obligations or liability on SPI's part. SPI shall not be liable for any loss, damage, expense or consequential damages of any kind arising in connection with the use, or inability to use, its products.

If you have any questions or need further information on this or any of our products, please let Peter Daly @ IWT Cargoguard or myself know.

Best regards,

Trish Righetti

Trish Righetti

Systems Pack Inc.
649 E. HIGHLAND ROAD
MACEDONIA, OHIO 44056

"Manufacturers of Design Ideas"

(330) 467-5729
FAX (330) 468-2299

July 15, 2015

Adam Ewert
ENTACT, LLC
1 E. Oak Hill Drive, Suite 102
Westmont, IL 60559

RE: Warning Tape Certification/Warranty Statement – Inks and Printing

Dear Adam,

Please use this letter in conjunction with our initial Certification/Warranty as confirmation that the inks used to print polyethylene tape we have quoted for the Entact – Honeywell - Jersey City project is suitable for burial applications.

Solvent inks are permanently adhered to the polyethylene tapes and (once ink is dry) can only be removed by applied, chemical means. This particular tape and ink combination was designed and been used as an underground marking tape for over 25 years with no quality or sustainability issues. We are confident in its performance for your current application.

If you have any questions or need further information on this or any of our products, please let Peter Daly @ IWT Cargoguard or myself know.

Best regards,

Trish Righetti

Trish Righetti

Systems Pack Inc.
649 E. HIGHLAND ROAD
MACEDONIA, OHIO 44056
"Manufacturers of Design Ideas"
(330) 467-5729
FAX (330) 468-2299

4 mil Mil PE Barricade Tape

I. SPECIFICATIONS:
Barricade warning tapes will consist of high visibility safety yellow or red polyethylene with bold black letters. Standard letter height minimum of two inches (2"+). Tapes help prevent accidents by increasing visibility of hazards and can be tied, stapled or nailed in place.

II. TEST DATA:
Material Identification: Nominal 4 Mil Polyethylene,
6" wide
Test Procedure: ASTM-D-882, Method A
Specimen Conditions: 73ºF / 50% R.H.
Test Temperature: 73ºF
Elongation: 552%
Tensile Strength (Transverse): 2,100 psi
Tensile Strength (Longitudinal): 2,870 psi
Roll Weight (6" x 1000') 9.0 lbs.

Suitable for burial



Sales Order Number:	24106040 / 0030 v2	Material:	4 MIL POLYETHYLENE (PE)
Date:	07.10.2015	Colors:	yellow/black
Artist: RP Revised By:	RP	Size:	6" x 1000'

Prepared by Trish Righetti 7/10/2015
Revised by T. Righetti 7/15/2015 – Tape width and minimum print height

FINAL DCB 042 – ANCHOR TRENCHES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 042 **DCB Type:** Minor(a) **Effective Date: 8/21/15**
Project Location: SA-6 **Title:** Anchor Trench Applicability	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The anchor trench section of the Specification 02372 CAP GEOMEMBRANE LINER Section 3.02 is standard industry language and part of AmecFW's standard Geomembrane Specification. During the process of finalizing development of the capping system in the 100% Design, the Engineer determined that anchor trenches were not required for either the SA-6N or SA-6S Caps. As such, Paragraph 3.02 is no longer required and therefore the following is deleted in its entirety.

SECTION 02372

CAP GEOMEMBRANE LINER

3.02 ANCHOR TRENCH

A. The anchor trench shall be constructed as shown on the Drawings and/or as specified herein.

B. The anchor trench shall be adequately drained to prevent water ponding and softening of adjacent soils. The anchor trench shall be backfilled and compacted.

C. Geosynthetic material in the anchor trench shall be temporarily anchored with sandbags or other suitable materials until final approvals are obtained.

D. Backfilling of the anchor trench shall be conducted when the geomembrane is in its most contracted (taut) state.

E. Care shall be taken when backfilling and compacting the trenches to prevent any damage to the lining materials.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☐ Yes ☑ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Delete Section 3.02 Anchor Trench from Spec 02372

Honeywell (AP) Review:

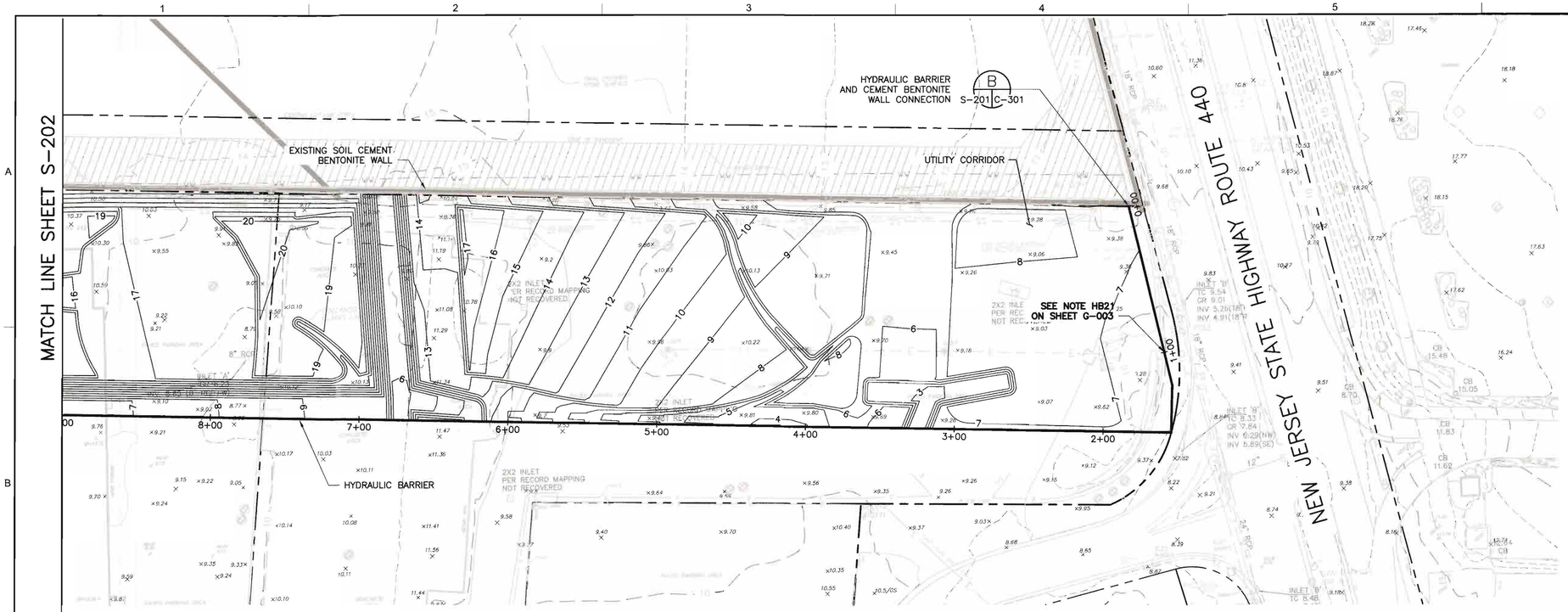
Individual: Geoff Shallard **Discipline:** EOR **Initial:** **Date:** 8/21

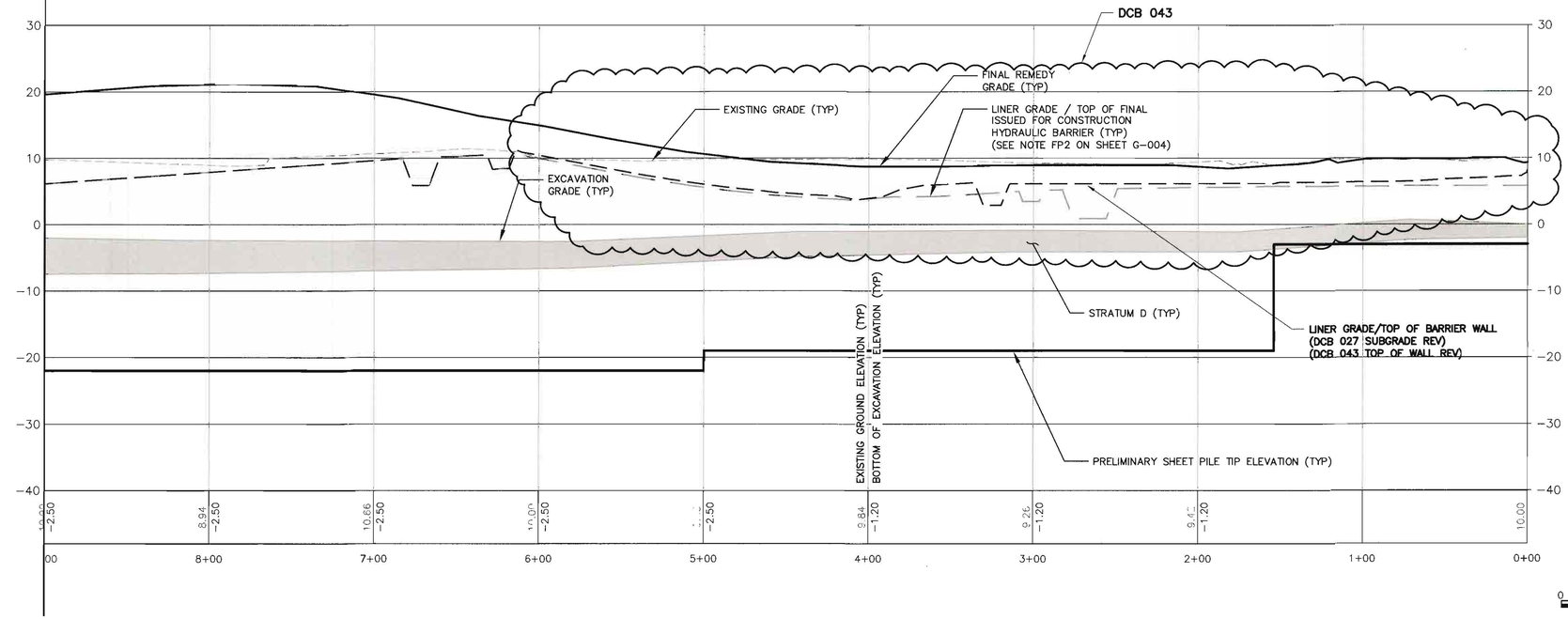
FINAL DCB 043 – TOP OF HB AND SCB

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 043 **DCB Type:** Minor(a) **Effective Date: 8/20/15**
Project Location: SA-6	**Associated RFI:**
Title: Top of Barrier Wall/SCB Wall Revisions (S-201 and S-204), Utility Corridor Changes	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. The most easterly utility corridor was eliminated from the Development Plan allowing for a revision to the cap subgrade and related revisions to the top of the Barrier Wall and SCB Wall.	
Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Drawings S-201 and S-204 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Eliminating the corridor allows grades and top of wall to be lifted in this area. This change reduces the amount of cap and cap wall connection that is immersed. Cap subgrade and Final Grade revisions were issued under DCB 027.	**Design Documents Affected:** Drawings S-201 and S-204
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 9/2/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	1+54	-3	AZ 19-700
STRUCTURAL	1+54	5+00	-19	AZ 19-700
STRUCTURAL	5+00	12+60	-22	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FUTURE UTILITIES WILL REQUIRE WALL PENETRATIONS AT THESE TWO LOCATIONS.
4. REFER TO SHEET G-003, NOTE HB19 AND DETAIL "BE" ON SHEET C-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	08/20/15	TDD	RJR	TDD		TDD	SHM
0	06/07/13					TDD	SGS

REVISION
ISSUED FOR CONSTRUCTION
DCB 043

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

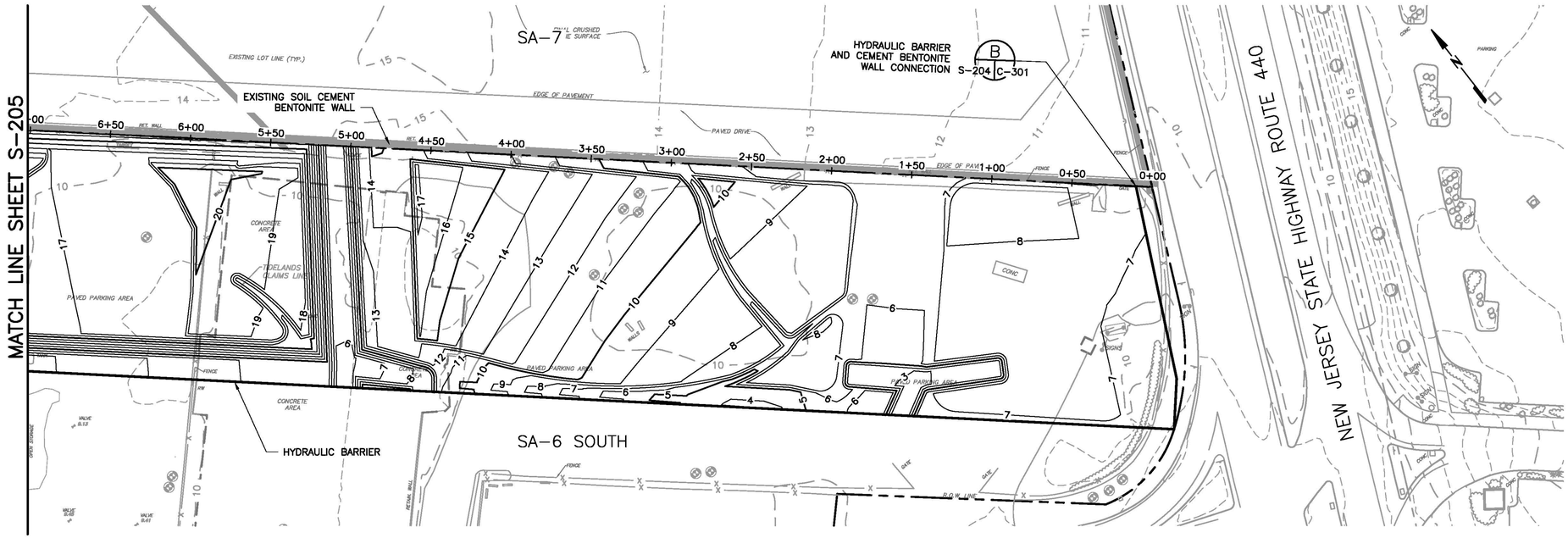
CIVIL
HYDRAULIC BARRIER PLAN & PROFILE

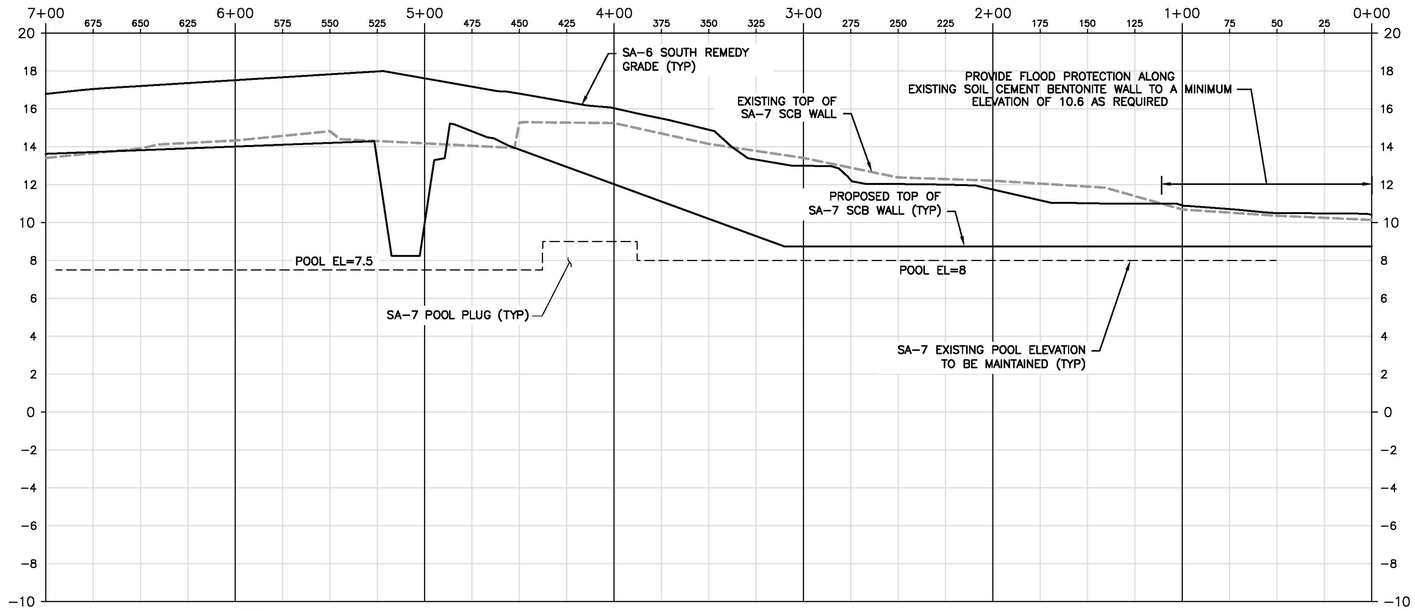
amec foster wheeler
Environment & Infrastructure, Inc.
2 Princess Road, Lawrenceville, NJ 08648
Hamilton, NJ, (609) 895-0071 Fax (609) 689-2829
NJ Certificate of Authorization Number 24GA28018800

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-201
SHEET	53 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR53-S-201 Hydraulic Barrier Wall Plan Profile.dwg PLOT DATE: Thu, 20 Aug 2015 PLOT TIME: 2:27 PM





NOTES:

1. SEE SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. SEE SHEET G-003 AND G-004 FOR GENERAL NOTES.
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE LINER GRADE.

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

0 2 4 8
SCALE IN FEET
VERTICAL SCALE: 1" = 4'

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	09/02/15	PROPOSED SCB WALL ELEVATION	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
EXISTING SA-7 SCB WALL
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Certificate of Authorization Number 24GA28019000

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	S-204
SHEET	56 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR56-S-204 SCB Wall Plan Profile.dwg PLOT DATE: Thu, 03 Sep 2015 PLOT TIME: 9:33 AM

FINAL DCB 046 – PLANTING SOILS

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 046 **DCB Type:** Minor (a) **Effective Date:** 9/17/15
Project Location: SA-6 **Title:** Planting Soil Specifications	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Planting soil Specifications.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter Specification 02315, Section 2.12 , Table 1 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Extensive searching of available soil suppliers (including 6 identified by Dr. Grabosky/Rutgers University) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 10/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

RUTGERS
School of Environmental and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

September 17, 2015

To whom it may concern:

I was contacted by the Mr Shallard of ***Amec Foster Wheeler Environment & Infrastructure, Inc*** with regard to questions on the soil materials available for a NJ Project. Honeywell/AmecFW submitted results of analysis of Planting Soil samples from multiple vendors, selected from a list provided by Rutgers, for Horizon A, B and C that are under consideration for use on the SA-6 Project (refer to attached excel table). These data were to be used to select the vendor and soil products available for each of the soil layers to be used on the project. It is my understanding that multiple vendors have been contacted including those provided by Rutgers (email May 13th 2015) as potential sources and, that the list and samples provided, is indicative of what is available in the market place at this time.

While the list of criteria (Sand/Silt/clay/organics/pH) is applicable to all samples the importance of each of these criteria varies due to the intended purpose of each Horizon.
In my review I have identified samples listed which I consider acceptable, or acceptable subject to minor modification, to meet the project goals. The following samples are acceptable to accomplish the goals of the many design demands on this system.

Horizon A topsoil:
Nature's Choice (NC-TS-002-NCCWS) as the preferred or Nature's Choice (NC-TS-002-NCCW).
Both exceed the gravel percentage component of the specification, however one might envision the percentages as targets, and the excess of gravel in these cases does not change the functional behavior of the material for plant growth or drainage potential. NCCW has a higher organic component which is high enough to exhibit shrinkage as the organic materials decompose, so while a functionally acceptable soil material for the purpose, the shrinkage will be noticed on landscape edges next to structures such as sidewalks, thus CCCWS is preferred. The acceptable gravel content of the specification should be revised upward from 5% to <10%.

Horizon B:
Nature's Choice (NC-HC-001) would be a good choice, as the lower organic level is not problematic, and actually sets a natural layering and gradation as underlayment to the topsoil. The pH increases from 5.0 in the topsoil to 5.96, and I do not see this as an issue, several species may well prefer the nutrient availability afforded by the higher pH. One might consider adding some organic content and blending into the B horizon material. I am not in favor of the effort and expense, as the proposed layers will change in organic content and develop a natural progression on their own over time. The Sand % should be changed from a single number of 80% to a range of 80-90%. The pH maximum should be increased from 7 to 7.5. Organic content should be changed from a range of 1.5 - 3.5% to <4%.

Horizon C:
Nature's Choice Sample (NC-HC1-002) is very close to meeting the originally specified requirements. The Clay content is 12% as compared with the specified maximum of 15-20% and the pH was reported to be

RUTGERS
School of Environmental
and Biological Sciences

7.57 as compared with the 7.5 specified. These deviations are not considered to be significant. This sample will meet the original design objectives. The Clay Content specification should be broadened to 10-20% and pH specification modified to less than 7.7 to provide for consistency between the sample and specifications.
Advanced Soil Technologies (AST-HB-002) is also a potential candidate if the sand content could be reduced to <80%. The organic level is elevated, but not problematic. Organic content should be changed from 1% maximum to <4%.

Table 1 attached summarizes the proposed changes.

In total the three layers would be very reasonable for acceptable landscape growth expectations, and provide available moisture for plants and drainage potential in a normal manner *as long as the materials are not heavily compacted after placement by construction equipment.*

As with any project, the key to success will ultimately be in the construction management/traffic controls/equipment storage planning as related to the protection of the soil investment after placement. This will be particularly important with the landscape contractor equipment in planting the trees and other landscape elements, as much as with the pavement contracting for sidewalks and structures.

Respectfully submitted,



Jason Grabosky
John and Eleanor Faculty Scholar in Urban and Community Forestry
Department of Ecology, Evolution and Natural Resources
Rutgers University
New Brunswick, NJ

RUTGERS
School of Environmental and Biological Sciences

Table 1 summarizes the modified criteria based on availability. Provision of soils meeting the criteria listed in Table 1 below will meet the objectives of providing soils that are suitable for the SA-6 project. These changes have been reviewed with the AmecFW Engineer of Record and it is recommended that both the project specification and Open Space Design Standard be amended as noted in the Table 1 below.

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Modified	Friable Fertile Sandy loam/loamy sand	60-80	▫20	<20	3.5-6	5-6.5
Horizon B Modified	Loamy sand	80-90	<10	10-15	<4%	5.5-7.5
Horizon C Modified	Sandy loam to loamy sand	70-80	<10	10-20	<4%	5-7.7

1. *Horizon C. Clay content lowered from a minimum of 15% to a minimum of 10%. Organic content increased from <1 to <4%. pH content maximum increased from 7.5 to 7.7.*
2. *Horizon B. Sand changed from a single number of 80% to a range of 80-90%. pH maximum increased from 7 to 7.5. Organic content changed from a range of 1.5- 3.5% to <4%.*
3. *Horizon A. Gravel content increased from 5% maximum to <10%.*
4. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Topsoil	Friable fertile loam, fine sandy loam or sandy loam	--	--	--	3.5-6%	5.0-6.5
Horizon A Modified 9/16/15	Friable Fertile Sandy loam/loamy sand	60-80	<=20	<20	3.5-6	5-6.5
Horizon B	Sandy Loam	80-85%	≤10%	10-15%	1.5-3.5%	5.5-7.0
Horizon B Modified 9/16/15	Loamy sand	80-90	<10	10-15%	<4%	5.5-7.5
Horizon C	Uniform Sandy Loam	70-80%	≤10%	15-20%	1% max	5.0-7.5
Horizon C Modified 9/16/15	Sandy loam to loamy sand	70-80	<10	10 – 20%	<4%	5-7.7

1. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

2.12 PLANTING SOILS

Planting Soils have been designated as Horizon A, B and C. Soil Horizon A – Topsoil will be a nominal thickness of 6 inches and shall conform to the requirement noted below.

A. Topsoil - Topsoil shall be placed over the Horizon B and C planting soils to final development grades shown in the design drawings. Topsoil will have a nominal depth of 6 inches. Topsoil shall be in accordance with Section 02900, "Topsoil and Seeding". Topsoil shall be certified clean from the borrow source or origin, based on analytical testing data, as approved by the Engineer. Topsoil shall be natural, friable, fertile loam, fine sandy loam or loamy sand with an organic matter content of 3.5% - 6% and a pH range of 5.0 – 6.5. Sand 60-80%, Silt ≤20%, Clay <20%. Specification 02900 requires that all materials pass a 1.5 inch sieve. Spec 02900 will be modified to allow <10% Gravel.

B. Soil Horizon B - soils will only be used in areas where the total depth of cover soils exceeds 36 inches. During the Interim Phase no Horizon B soil will be placed. Horizon B soils will be a loamy sand having the following properties:

Loamy Sand classification having ~~80~~ 80-90% sand, < 10% silt, 10-15% clay.
pH range 5.5 – 7.5 ~~7.0~~.
Organic Matter (by weight) ~~1.5-3.5~~ < 4 %

C. Soil Horizon C – During Interim Grading Horizon C Soil will be placed between the root barrier and the Horizon A soil. The first 6 inches of Horizon C soils to be placed directly above the root barrier will be compacted to a minimum 90% of Standard Proctor. To meet Final Grading and planting requirements Horizon A soils will be stripped as necessary and Horizon C soils shall be re-graded to provide an appropriate depth of 18 inches. Horizon C soil shall consist of sandy loam to loamy sand having the following properties:

1. Sandy loam to loamy sand classification with 70-80% sand, <10% silt, ~~10 – 15%~~ 10 - 20% clay.
2. pH range 5.0 – 7.7 ~~7.5~~.
3. Organic Matter (by weight) ~~1~~ < 4 % ~~max~~.

Horizon A Soils- Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Gravel[2]	% Organic Matter	pH
	Revised Specification Values[1]	**60 - 80%**	**≤20%**	**<20%**	**<10%**	**3.5 - 6%**	**5.0 - 6.5**
6/11/2015	Advanced Soil Technologies Topsoil (AST TS -001)	80.0%	10.0%	10.0%	11.7%	4.3%	7.84
6/15/2015	Natures Choice Topsoil (NC TS-001)	75.0%	13.0%	11.0%	21.6%	5.4%	7.33
6/29/2015	Advanced Soil Technologies (AST HA-002)	74.0%	14.0%	12.0%	11.4%	9.0%	7.48
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	13.3%	3.9%	7.46
7/7/2015	Nature's Choice (NC-TS-002-NCCWS)	68.0%	20.0%	12.0%	5.8%	3.8%	5
7/7/2015	Nature's Choice (NC-TS-002-NCCW)	64.0%	22.0%	14.0%	6.9%	6.4%	5

Notes:

1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015.
Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

2.) Refer to Specification 02900 - Topsoil and Seeding, Section 2.01.B.2.

Horizon B Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**80 - 90%**	**<10%**	**10 - 15%**	**<4%**	**5.5 - 7.5**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	3.9%	6.66

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015. Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

Horizon C Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**70 - 80%**	**<10%**	**10 - 20%**	**<4%**	**5.0 - 7.7**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HC1-002)	79.0%	9.0%	12.0%	0.3%	7.57
7/6/2015	Nature's Choice (NC-HC2-002)	85.0%	9.0%	6.0%	0.3%	8.25
7/6/2015	Nature's Choice (NC-HC3-002)	85.0%	11.0%	4.0%	0.1%	8.37

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015. Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

FINAL DCB 048 – SA-6S SITE 163 DCB

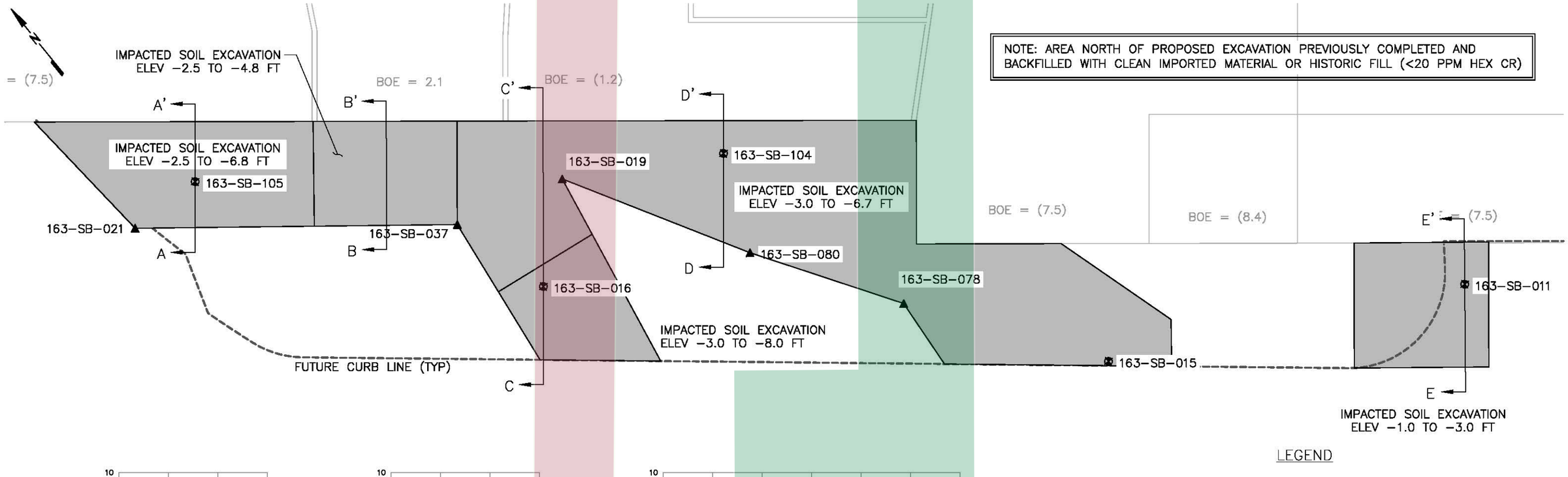
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **DCB Type:** Major (a) **Effective Date:** 9/28/15
Project Location: SA-6 South, Site 163 **Title:** Site 163 Excavation	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

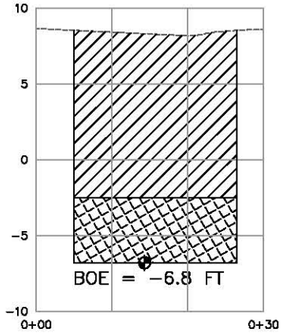
Description: Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling. The residential footprint includes the area north of the northern curbline of the future River Front Park/Riverside Drive/Kellogg Street to be constructed during the Bayfront Redevelopment project. A plan view and cross sections of the excavation area are included in the attached Figure 1. Soils that were treated successfully will not be subject to excavation or to further sampling. The remaining chromium-impacted soils identified in the area south of the northern curbline are within the future River Front Park/Riverside Drive /Kellogg Street as depicted on the attached Figure 2 and will be subject to a deed restriction and not be subject to further sampling.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Noted in Description **Attachments:** ☑ Yes ☐ No Figure 1 Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** A new drawing C-129 will be issued showing the limits of excavation depicted on Figure 1.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/1/15
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

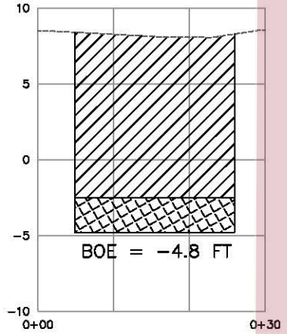
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE: AREA NORTH OF PROPOSED EXCAVATION PREVIOUSLY COMPLETED AND BACKFILLED WITH CLEAN IMPORTED MATERIAL OR HISTORIC FILL (<20 PPM HEX CR)



SECTION A−A'



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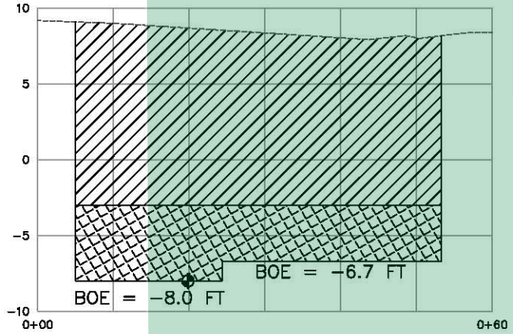

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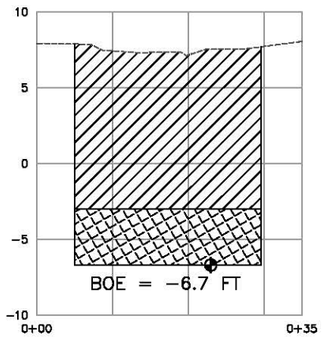
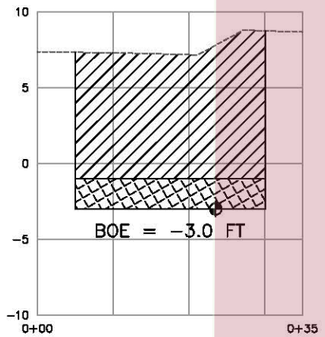


SECTION D−D'



SECTION E−E'



LEGEND

- PDI BOTTOM SAMPLE LOCATION
- PDI SIDEWALL SAMPLE LOCATION
- LIMIT OF EXCAVATION
- OVERBURDEN (<20 PPM HEX CR)
- CHROMIUM IMPACTED SOIL (20−240 PPM HEX CR)

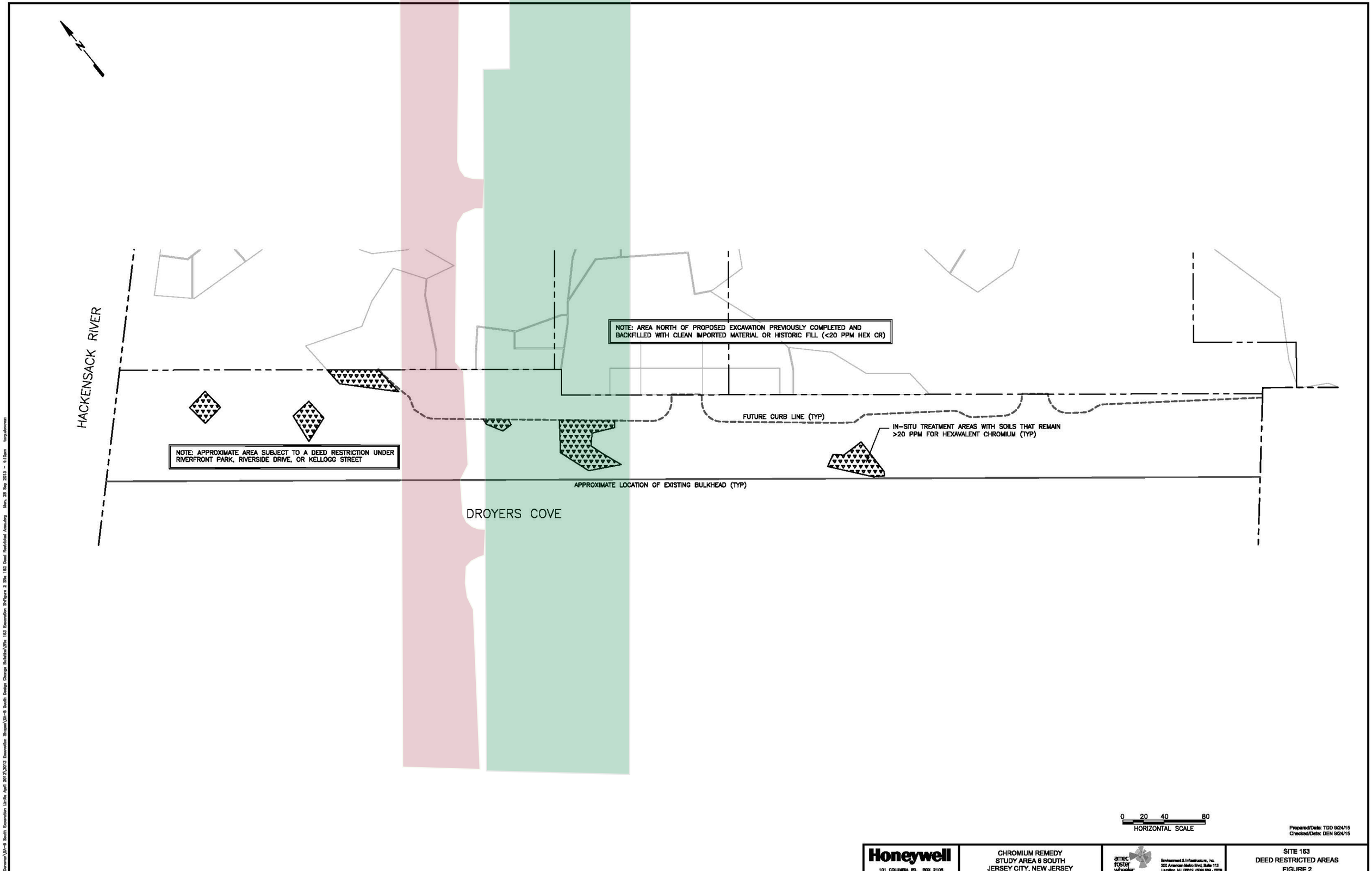
NOTES:

1. HONEYWELL WILL EXCAVATE THE AREA DEPICTED ON THIS FIGURE AND IS PLANNING LOGISTICS WITH IT'S CONSTRUCTION MANAGEMENT TEAM AND REMEDIAL CONTRACTOR(S).
1. UNDER THE EXCAVATION SCENARIO, HONEYWELL WILL CONTINUE TO EVALUATE USING SHEETPILE FOR TEMPORARY EXCAVATION SUPPORT, BACKSLOPING, OR A COMBINATION OF BOTH.
2. OVERBURDEN MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
3. CHROMIUM−IMPACTED MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
4. BACKFILLING WILL OCCUR UPON VERIFICATION BY INDEPENDENT THIRD PARTY LICENSED LAND SURVEYOR THAT HORIZONTAL AND VERTICAL EXTENTS OF EXCAVATION HAVE BEEN ACHIEVED.
5. HONEYWELL MAY IMPLEMENT THIS EXCAVATION BY THE END OF 2015.
6. HONEYWELL MAY ELECT TO USE A CONTRACTOR OTHER THAN ENTACT TO IMPLEMENT THIS EXCAVATION ACTIVITY.
7. THE PROPOSED EXCAVATION FOOTPRINT IS 6,335 SF AND 5 BOTTOM SAMPLES SATISFIES THE NJDEP APPROVED FREQUENCY OF 1:1300 SF AS IDENTIFIED IN THE 100% DESIGN REPORT.

Prepared/Date: TDD 9/22/15
Checked/Date: DEN 9/22/15

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689 - 2529	SITE 163 - ADDITIONAL CHROMIUM EXCAVATION AREAS FIGURE 1

C:\Donovan\SA−6 South Excavation Limits April 2012\2013 Excavation Shapes\SA−6 South Design Change Bulletin\Site 163 Excavation Shp\Figure 1 Site 163 Additional Excavation Areas.dwg Thu, 26 Sep 2013 − 10:28am tony.donovan



Prepared/Date: TDD 9/24/15
Checked/Date: DEN 9/24/15

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689 - 2929 NJ Certificate of Authorization Number 24GA28013900	SITE 163 DEED RESTRICTED AREAS FIGURE 2

FINAL DCB 048.1 – SA-6S SITE 163 EXCAVATION SURVEY

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 48.1 **DCB Type:** Minor (a) **Effective Date:** 12/21/15
Project Location: SA-6 South, Site 163	**Associated RFI:**
Title: Site 163 Survey Control	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Amec Foster Wheeler (AmecFW), Entact and Maser Consulting have developed alternative methods for documentation/survey of the excavation bottom in Site 163. The alternative methods were developed in light of safety considerations for surveyor access into a sheet piled excavation to elevation –8.0. The bottom of the excavation will be in very low strength Stratum O soils. These alternative survey control methods are different from those previously used in the SA-6 South Development Area.

The existing SOP requires "excavation to grade" using the Machine Control, followed by use of a GPS Rover to check grade by the Entact QC engineer, and finally the GPS Rover documentation survey of the Bottom of Excavation by Maser (the registered surveyor). Through this process a high level of confidence has been developed in the accuracy of the Machine Control.

The Site 163 SOP is based on the use of GPS based Machine Control for documentation of the bottom of excavation elevation.

SITE 163 EXCAVATION SOP

Temporary Sheetpile will form the perimeter of the Cr excavation. The sheetpile limits have been designed to extend to the defined <20 ppm PDI Sidewall locations. The location of the installed sheetpile will be surveyed by Maser to document the lateral limits of excavation.

Excavation Equipment. The excavator used for survey documentation will be equipped with twin Trimble Model MS990 Receivers and Model CB430 Display. The Model MS990 Receivers are linked to a Model SPS852 Base Station located on the project site.

Excavation: During excavation, Entact will conduct a daily calibration check at ground surface prior to excavation. Entact QC will verify the bottom of excavation is at or below the design elevation by means of the Machine Control.

When the design bottom elevation has been reached, calibration will be rechecked in the presence of the Maser Surveyor.

Following the Surveyor Calibration check, the following steps will be performed:

- *The bucket will be set at the "Bottom" PDI points and the elevations recorded.*
- *Elevations (Z) will be recorded at locations (X,Y) designated by the Surveyor, based on the Surveyor's professional opinion of the number and location of points that are necessary to generate the required Bottom of Excavation Topographic Map.*
- *If Stratum D is observed, readings will be taken to record the "plan" limit of the Stratum D.*
- *The above information will be entered into the Excavation Table to be signed by Maser.*

Excavation Submittal: Due to the small size of Site 163, a single submittal package will be prepared and submitted by Honeywell to the Special Master and Plaintiffs.

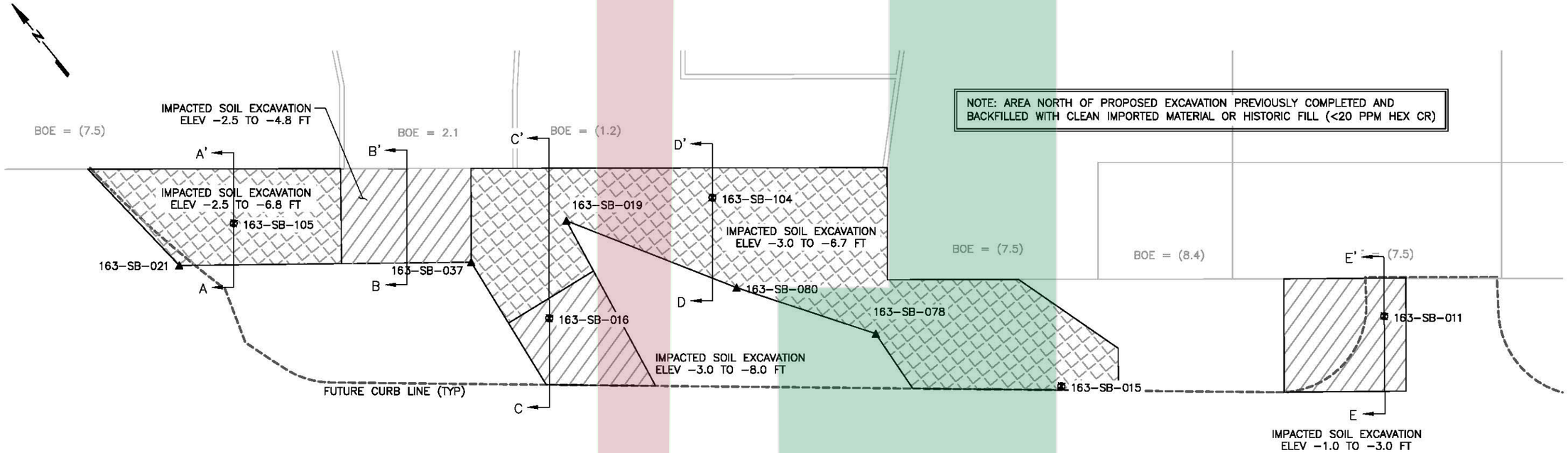
The submittal will include:

- *Excavation Table listing all Bottom PDI points*
- *Excavation Plan (Entact) showing limits of excavation, PDI locations and spot elevations.*
- *Summary Statement regarding observations (Honeywell/AmecFW)*

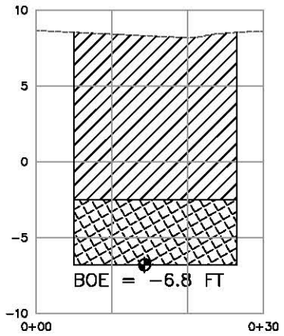
For inclusion in the Declarations, Maser will also prepare a bottom of excavation topographic map which will also show the limits of excavation (sheet pile alignment).

Reason for Change/Modification:	**Explanation or Reason:**
☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Attachments:** ☑ Yes ☐ No Site 163 Figure 2
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 1/14/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE: AREA NORTH OF PROPOSED EXCAVATION PREVIOUSLY COMPLETED AND BACKFILLED WITH CLEAN IMPORTED MATERIAL OR HISTORIC FILL (<20 PPM HEX CR)



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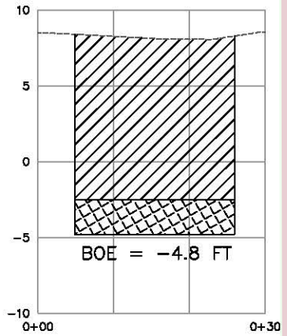

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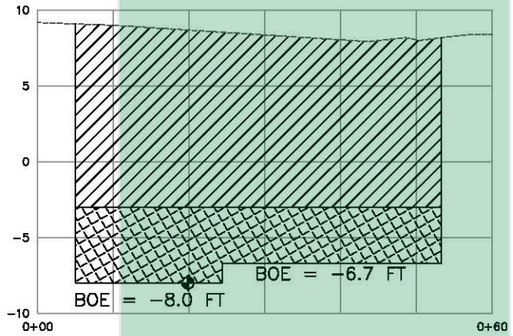

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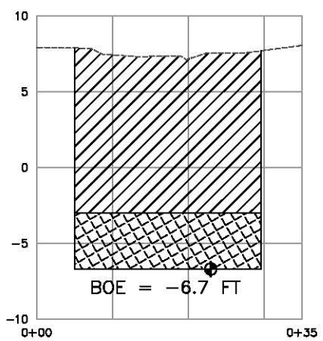

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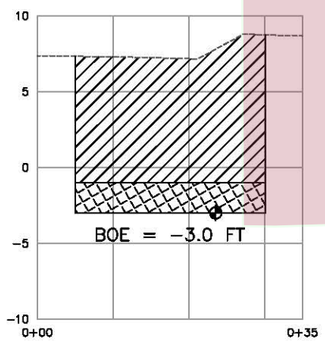


SECTION E−E'

LEGEND

- PDI BOTTOM SAMPLE LOCATION
- PDI SIDEWALL SAMPLE LOCATION
- OVERBURDEN (<20 PPM HEX CR)
- CHROMIUM IMPACTED SOIL (20−240 PPM HEX CR)

NOTES:

1. HONEYWELL WILL EXCAVATE THE AREA DEPICTED ON THIS FIGURE AND IS PLANNING LOGISTICS WITH IT'S CONSTRUCTION MANAGEMENT TEAM AND REMEDIAL CONTRACTOR(S).
1. UNDER THE EXCAVATION SCENARIO, HONEYWELL WILL CONTINUE TO EVALUATE USING SHEETPILE FOR TEMPORARY EXCAVATION SUPPORT, BACKSLOPING, OR A COMBINATION OF BOTH.
2. OVERBURDEN MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
3. CHROMIUM−IMPACTED MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
4. BACKFILLING WILL OCCUR UPON VERIFICATION BY INDEPENDENT THIRD PARTY LICENSED LAND SURVEYOR THAT HORIZONTAL AND VERTICAL EXTENTS OF EXCAVATION HAVE BEEN ACHIEVED.
5. HONEYWELL MAY IMPLEMENT THIS EXCAVATION BY THE END OF 2015.
6. HONEYWELL MAY ELECT TO USE A CONTRACTOR OTHER THAN ENTACT TO IMPLEMENT THIS EXCAVATION ACTIVITY.
7. THE PROPOSED EXCAVATION FOOTPRINT IS 6,335 SF AND 5 BOTTOM SAMPLES SATISFIES THE NJDEP APPROVED FREQUENCY OF 1:1300 SF AS IDENTIFIED IN THE 100% DESIGN REPORT.

Prepared/Date: TDD 9/22/15
Checked/Date: DEN 9/22/15

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2529

SITE 163 - ADDITIONAL
CHROMIUM EXCAVATION AREAS
FIGURE 2

C:\Denover\SA−6 South Excavation Limits April 2012\2013 Excavation Shapes\SA−6 South Design Change Bulletins\Site 163 Excavation Shpfls 163 Additional Excavation Areas.dwg Thu, 24 Sep 2015 − 3:09pm tony.dunsmore

FINAL DCB 050 – WARNING TAPE ABOVE ROOT BARRIER

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 50 **DCB Type:** Minor (a) **Effective Date:** 10/02/15
Project Location: SA-6 North and South	**Associated RFI:**
Title: Warning Tape above Root Barrier	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. ENTACT installed warning tape above the geocomposite drainage layer (GDL), as called for in Drawings C-301 and CN-301. As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.

The warning tape will be the same tape used above the orange GDL warning fabric, i.e. a 6 inch wide yellow PE tape with 3.5 inch bold back lettering which meets the specified requirements for a distinctive colored high-visibility marking. The tape will be placed at no more than 5 ft. on center.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☐ Yes ☑ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/2/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

FINAL DCB 055 – USDA CLASSIFICATION

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 55 **DCB Type:** Minor(a) **Effective Date:**
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Gradations USDA Clarification	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than USCS.

The ASTM methodology, which includes hydrometer, remains the same, with the exception that a #270 sieve should be added to align with the USDA classification of silt at 0.05 mm.

The laboratory reports should clearly designate that the classification is based on USDA and any values stated for Gravel/Sand/Silt &Clay should also be calculated based on the USDA analysis.

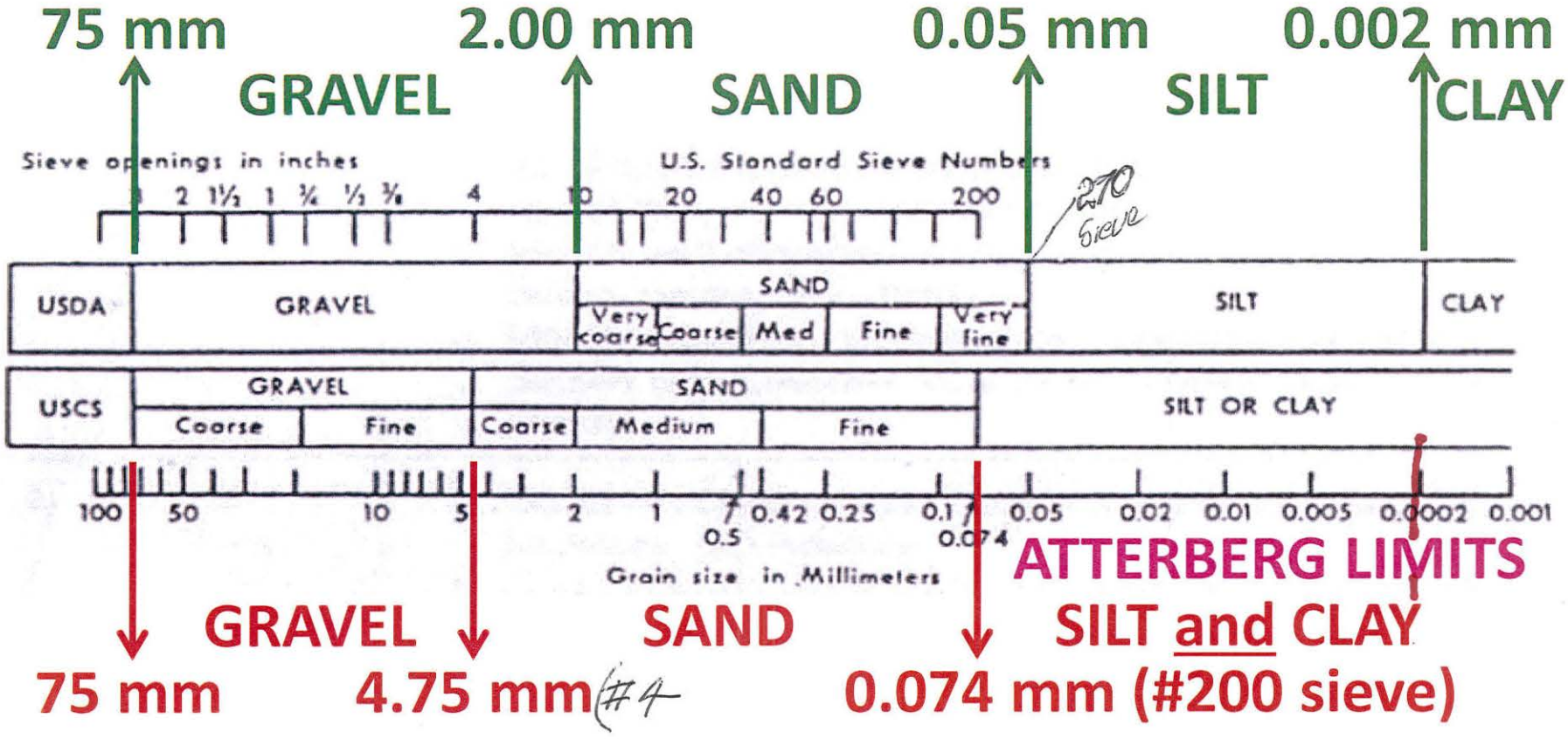
The Specification values for the Horizon A, Horizon B and Horizon C soils are all defined based on the USDA Soil Classification. When calculating the Sand, Silt and Clay percentage, the Gravel component (% retained on the #10 sieve), should be removed from the calculation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Otherp	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No USCS and USDA Classification Comparison
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

USCS vs. USDA Particle Size Comparison

USDA Soil Classification System



Unified Soil Classification System

OhioEPA

FINAL DCB 057 – NATURE'S CHOICE – HORIZON C ONLY

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 057 **DCB Type:** Minor (a) **Effective Date:** 03/21/16
Project Location: SA-6 **Title:** Planting Soil Specifications (Nature's Choice - Horizon C ONLY)	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Horizon C planting soil specifications for the Nature's Choice Horizon C Soil Source Only.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Laboratory reports of chemical analysis Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the Parties. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DCB 046.	**Design Documents Affected:** Specification 02315, Section 2.12.C Open Space Design Standards, Section 2.1.2
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Attachment A – Supplemental Requirements for DCB 057

During the March 17 teleconference, Honeywell explained that the proposed material would come from an excavation pit (with concentration characteristics similar to those from which data was previously collected). Based on the information provided by Honeywell, plaintiffs will accept Honeywell's proposal to use the Nature's Choice material as Horizon C soils at Study Areas 6 North and South so long as Honeywell agrees to the following conditions:

1. Plaintiffs' agreement to use soils in excess of the 100% Design 1 ppm hexavalent chromium standard is limited to the Nature's Choice materials in question for use as Horizon C soils and is not a modification of the 100% Design standards as they apply to any future fill, repair or restoration work. This limited deviation from the 100% Design is set forth in this Design Change Bulletin.

2. The Nature's Choice materials shall contain less than 1.8 mg/kg hexavalent chromium. In addition, Honeywell shall use best efforts to maintain an average hexavalent chromium concentration as estimated based on the upper limit of the 95th percentile confidence interval around the mean of 1.1 mg/kg in the Horizon C soils.

3. The Nature's Choice materials shall be sampled for hexavalent chromium no less frequently than once every 5,000 cubic yards. Hexavalent chromium sampling shall use composite samples that are made up of a minimum of 10 grab samples. The grab samples shall be collected as evenly as possible throughout the volume of material being sampled to ensure true representation of the hexavalent chromium concentrations coming onto the Study Area 6 sites.

4. All other sampling and analysis protocols will follow the customarily used NJDEP and USEPA protocols. To be consistent with the NJDEP protocols, one of the individual 10 grab samples will be used for all other required analytical parameters (VOCs, SVOCs, metals, etc.) to demonstrate compliance with clean fill requirements.

FINAL DCB 058 – SA-6 SOUTH CP TEMP CONSTRUCTION ROAD

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 058 **DCB Type:** Minor (a) **Effective Date:** 5/6/16
Project Location: SA-6 South	**Associated RFI:**
Title: Temporary Construction Road in SA-6 South Cap	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor.

The Chromium Remedy Design indicates that the Open Space AOC will be finished with topsoil and be seeded. Section 2.2.1.B of the Open Space Design Standards ("OSDS," Appendix L of the SA-6 North 100% Design Report) was written in anticipation of the need for "temporary construction roads" across the cap, post Chromium Remedy completion, and prior to construction of the final redevelopment roads. These construction road(s) will initially be used to provide access for general site inspections, access for the long term monitoring plan and maintenance activities such as mowing.

The roads will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade". The Topsoil shown within the construction road limits would be replaced with a load bearing geotextile (min 8 oz. non-woven) and 6 inches of Dense Grade Aggregate consistent with the OSDS "temporary construction road" requirements.

Table I of the OSDS was developed to show the minimum cover requirements for specific traffic loading conditions. The analysis supporting Table 1 was shared with the Plaintiffs during development of the OSDS. These communications were documented in Response to Plaintiff's Comments dated 07/13/2012. The calculation provided indicates that a 36 inch cover was adequate to provide protection of the cap when subject to H20 truck loading. When graded to the Chromium Remedy grades the typical fill depth in "B Street" is 8 ft. (OSDS Figure 4I is attached for reference). At the northern end of B Street, as the remedy surface transitions into SA-7, the minimum depth is 4 ft. These conditions meet the 36 inch cover requirement stated in Table 1.

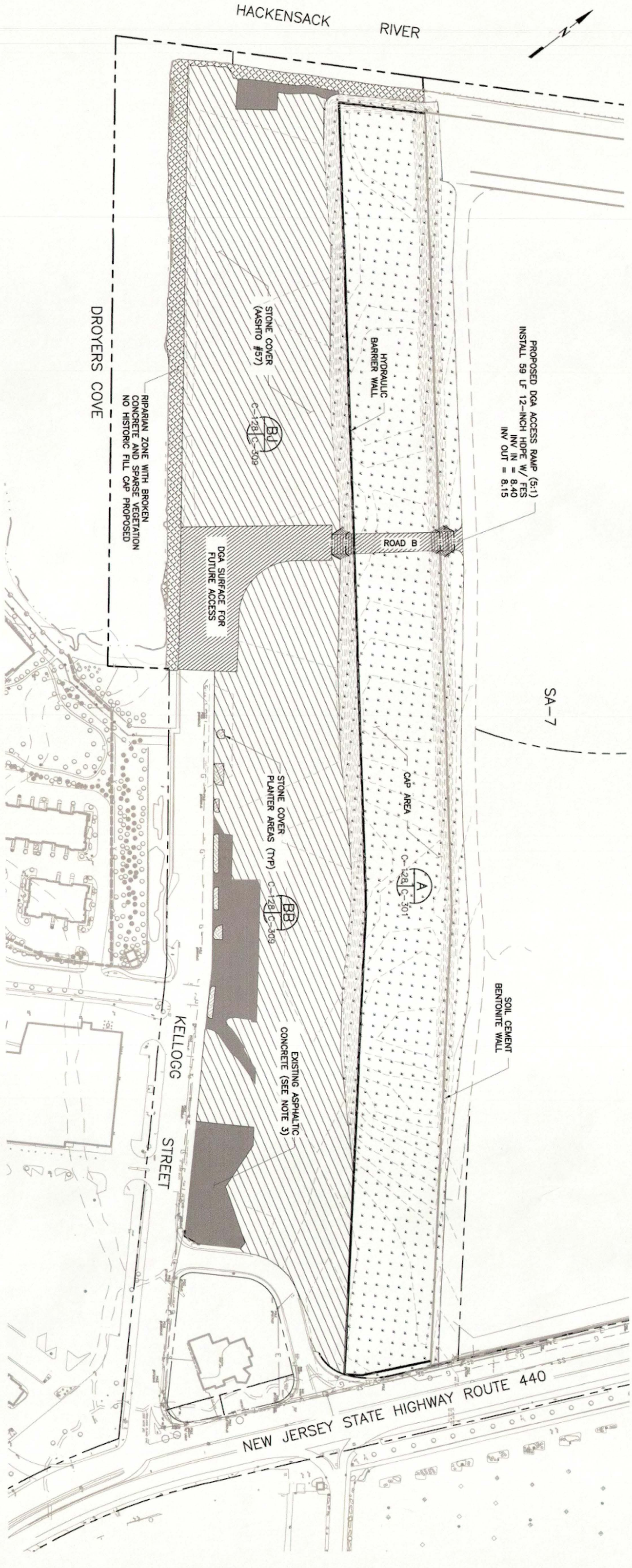
The road as constructed during the Chromium Remedy will therefore meet Section 2.2.1.B of the OSDS.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Table 1 (Page 20 of OSDS); Section 2.2.1.B of OSDS (pages 24 – 25); Figure 4I Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 6/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

NOTE:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND
3. EXISTING ASPHALTIC PAVEMENT AREAS TO BE FIELD INSPECTED BY LSRP DURING RESTORATION ACTIVITIES. FINAL HISTORIC FILL CAP IN THESE AREAS MAY INCLUDE CRACK FILLING OR INSTALLING A GRAVEL COVER SYSTEM.



SHEET	33 OF
DWG	C-128
PROJ	3480-12-0317
DATE	

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

VERIFY SCALE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization 24GA28010900

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

RESTORATION PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

NO.	DATE	REVISION	BY	APVD
4	6/20/16	DCB 30.2 - ROAD B ACCESS GRADING	TDD	SGS
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	05/06/15	REVISED EDGE DETAIL	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN	DR	CHK	APVD
TDD	RJR	TDD	SHM

SAMUEL G. SHALLARD
6/21/16
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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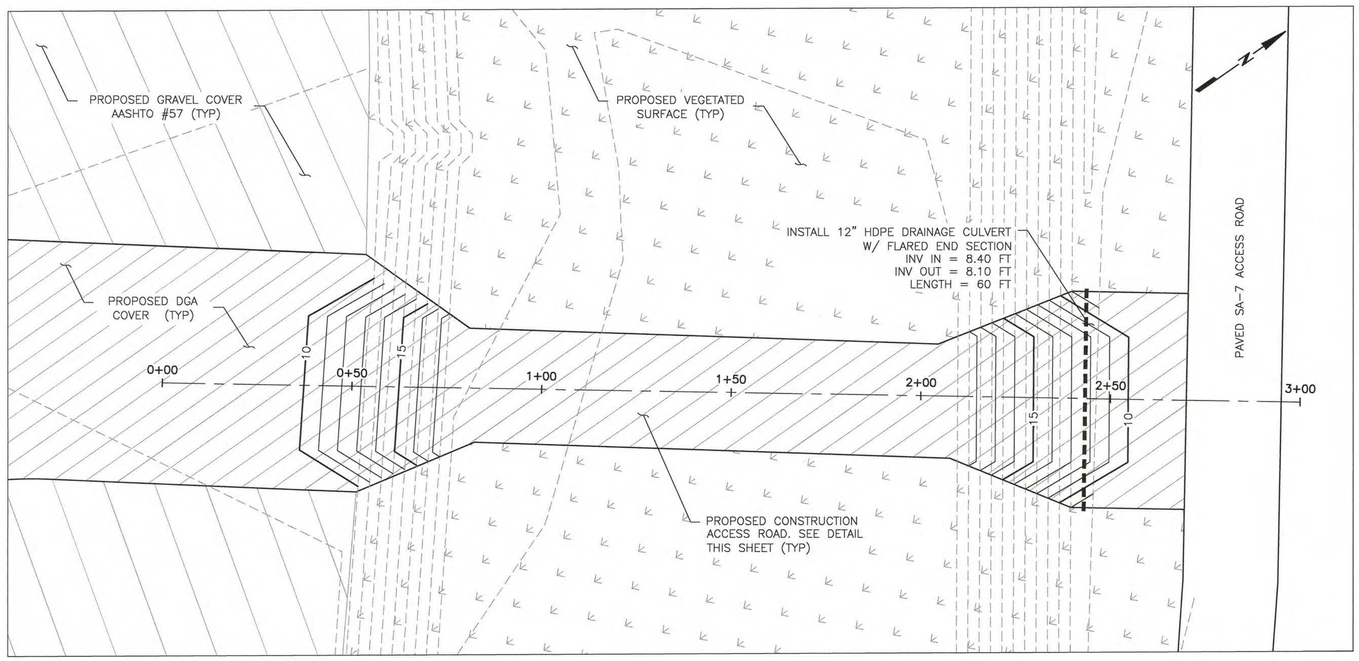
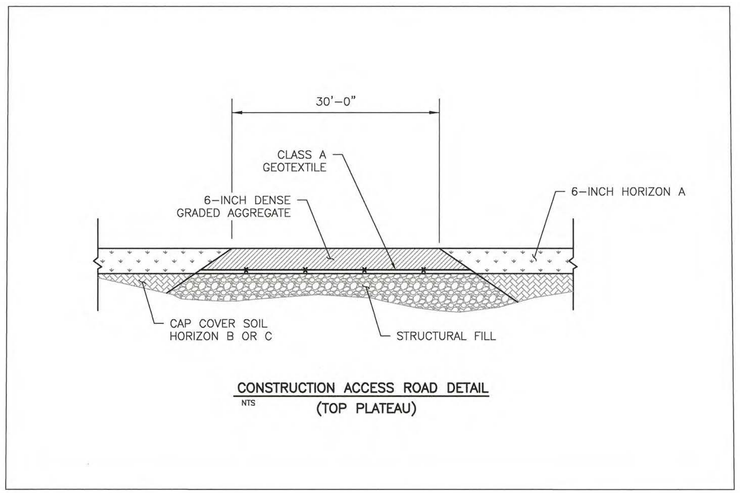
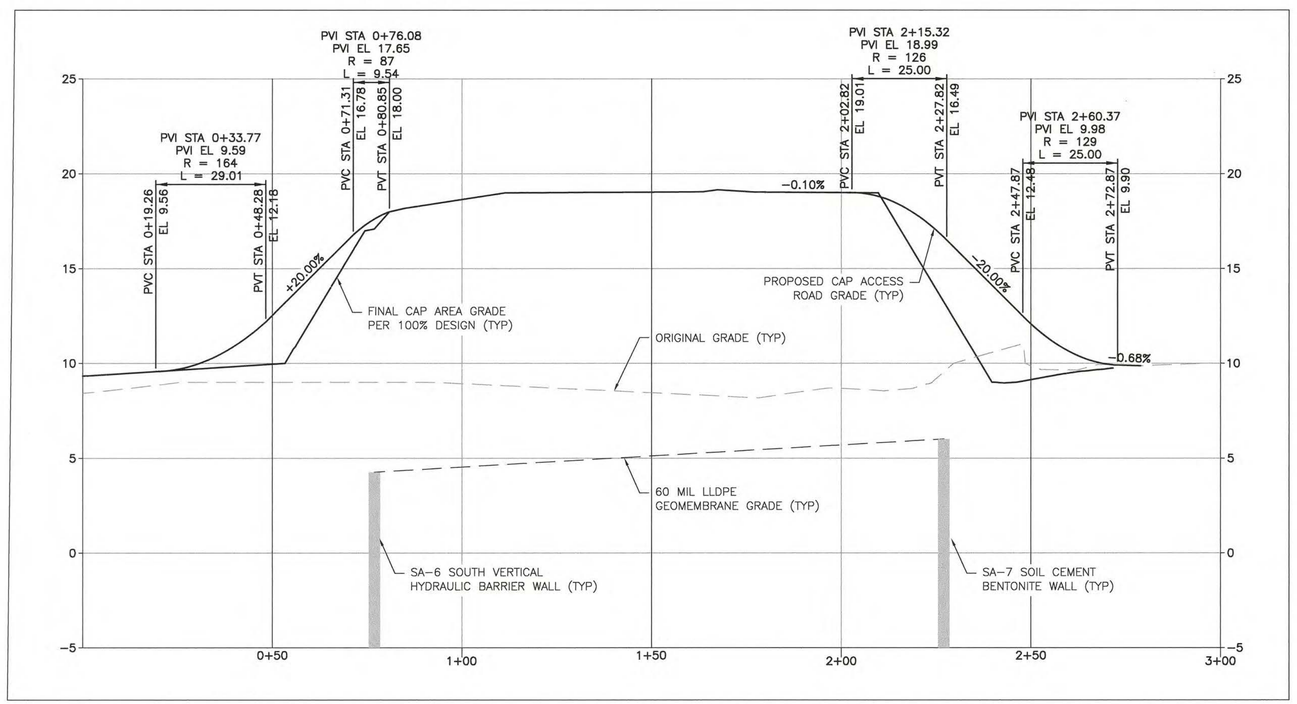
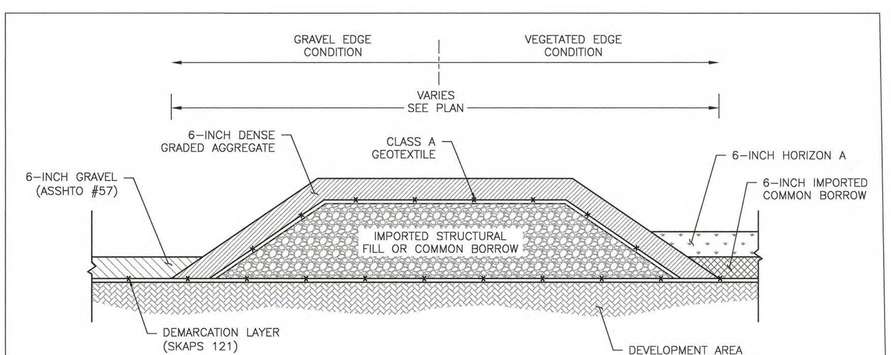
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR33-C-128 Surface Restoration Plan.dwg PLOT DATE: Mon, 20 Jun 2016 PLOT TIME: 2:15 PM





CONSTRUCTION ACCESS ROAD DETAIL
NTS
(TOP PLATEAU)





CONSTRUCTION ACCESS ROAD DETAIL
NTS
(APPROACH SLOPE)

0 10 20 40
HORIZONTAL SCALE FEET

0 4 8
VERTICAL SCALE FEET

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Cap Grading\C-128A Cap Access Road.dwg PLOT DATE: Mon, 25 Jul 2016 PLOT TIME: 12:26 PM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY
0	7/25/16	30-65 temp Const Road Details	TDD	SGS	SGS	TDD
DSGN	TDD		TDD			

Honeywell
101 COLUMBIA RD. BOX 2245, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONSTRUCTION ACCESS ROAD
FUTURE B STREET

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
(609) 689 - 2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-128A
SHEET	33A OF 66

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Table 1: Allowable Ground Pressure versus Fill Depth

Maximum Ground Pressure	Fill Depth Over Warning Layer/Liner
Maximum Ground Pressure for Maintenance Equipment	
< 5 psi	12 inches
5-10 psi	18 inches
>10-40 psi	24 inches
Additional Maximum Ground Pressure for Temporary Roads	
Fully Loaded Highway Truck (>40-80 psi)	36 inches
Permanent Roadways	
No maximum ground pressure limit	36 inches

The load limits on temporary roads and on Landscape and Hardscape Areas allow for heavier loads where a rigid pavement or temporary load spreading system such as matts is used to spread the load and reduce the bearing pressures to below the limits specified in Table 1, and where a licensed New Jersey Professional Engineer has certified to Honeywell and Jersey City that the rigid pavement or temporary load spreading system will reduce the bearing pressures to below the limits specified in Table 1.

E. Bearing Area – Foundations, Footers and Separation from Cap

1. Each point load from a Permissible Development Element shall have a minimum bearing area of 2 square feet except that traffic light poles and street light poles shall have a minimum bearing area of 3.5 square feet.
2. Each Permissible Development Element requiring a footer shall have a shallow footer.
3. Anchoring systems for Permissible Development Elements such as site furnishings shall be designed for surface mounting on spread footings. Hardscape areas shall accommodate surface mounted anchoring on spread footings.

Remedy and such certification will be included in a Development Plan reviewed and approved by the Special Master or the Federal Court. No curb and pavement box design shall be certified or approved unless it is demonstrated that it will not jeopardize the integrity of the Chromium Remedy.

8. Through trucks are prohibited on Roadways. Roadways shall be posted to prohibit through trucks. Jersey City shall prohibit through trucks and require the posting of such prohibition in an ordinance prior to the installation of the Roadways. The standard becomes effective upon the effective date of a Jersey City ordinance prohibiting through trucks on Roadways.

9. Every five years from the initial surfacing, a licensed New Jersey Professional Engineer shall inspect all Roadways in the Open Space Areas to evaluate whether the condition of any Roadway or segment thereof has compromised or is likely to compromise the structural integrity of the underlying subgrade or utilities. Within 30 days of the completion of the inspection, the licensed New Jersey Professional Engineer shall submit a certified report to Honeywell and Jersey City that describes the inspection undertaken and the repairs needed, if any, in order to address any condition that has compromised or is likely to compromise the structural integrity of the underlying subgrade or utilities. Within 18 months of the submission of the report, the repairs described in the report shall be completed. In the event that in the report the licensed New Jersey Professional Engineer deems a condition to constitute an emergency requiring immediate repair, such repair shall be made as soon as possible, and, if necessary, interim measures shall be employed to protect the cap, subgrade and utilities. Within 60 days of completion of the repairs, emergency or otherwise, a licensed New Jersey Professional Engineer shall inspect the repairs and certify that the repairs have been satisfactorily completed.

B. Temporary Construction Roads. The following requirements apply to all temporary construction roads:

1. In the event temporary construction roads are installed, these roads shall be limited to the locations designated for Roadways in the 100% Design on Drawings CN-515 and C-516. Temporary roads shall be installed using a load bearing geotextile fabric to isolate the wearing surface from the

subgrade. A wearing surface shall be installed that is sufficient to handle the intended temporary traffic loadings. Temporary roads shall be designed consistent with the projected loads and frequency. Temporary roads shall be designed to be protective of the Chromium Remedy. A licensed New Jersey Professional Engineer shall certify that the temporary road design is protective of the Chromium Remedy and such certification shall be included in a Development Plan reviewed and approved by the Special Master or the Federal Court. No temporary road design shall be certified or approved unless it is demonstrated that it will not jeopardize the integrity of the Chromium Remedy.

2. The load limitations specificed in Section 2.1.4.D of the OSDS and Section 02374 Part 3.3 G 7 of the Technical Specifications shall apply to all loads on the temporary roadways.

2.2.2 Hardscape Areas including Pedestrian Thoroughfare

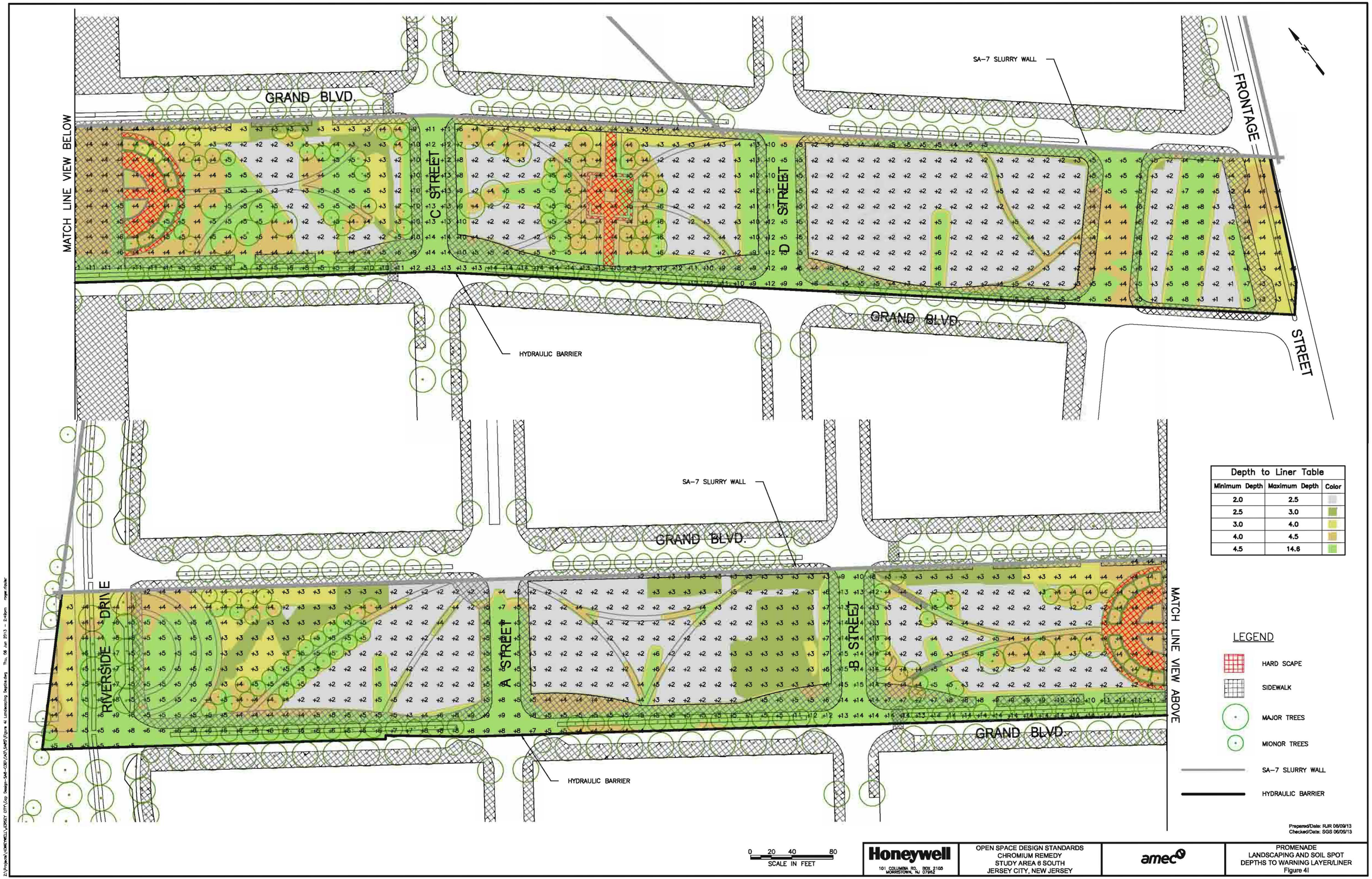
Hardscape Areas shall have a minimum separation of 12 inches between the Warning Layer/Liner and the underside of the hard surfacing. The surface and subgrade materials shall be of sufficient strength to accommodate Maintenance Equipment.

2.2.3 Utilities

All utilities including those supporting the pump and treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the Cap as required in Paragraph 56(b) of the Study Area 6 North Consent Decree.

2.2.4 Utility Corridors

A. Public Utilities. All public utilities shall be located in a designated utility corridor and shall be installed in accordance with Paragraphs 60(j)(v)(6) and (7) of the Study Area 6 North Consent Decree. The location of the utility corridors is shown on Drawing CN-515 of the Study Area 6 North 100% Design and C-516 of the Study Area 6 South 100% Design. During the Initial Development Period, the modification of designated utility corridors or the designation of additional utility corridors, if necessary shall be subject to the review and approval of Honeywell, Jersey City, and the Special Master.



Depth to Liner Table		
Minimum Depth	Maximum Depth	Color
2.0	2.5	
2.5	3.0	
3.0	4.0	
4.0	4.5	
4.5	14.6	

Prepared/Date: RJR 06/09/13
Checked/Date: SGS 06/09/13

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

OPEN SPACE DESIGN STANDARDS
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

PROMENADE
LANDSCAPING AND SOIL SPOT
DEPTHS TO WARNING LAYER/LINER
Figure 4I

FINAL DCB 059 – HORIZON B AND C SOILS

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 059 **DCB Type:** Minor (a) **Effective Date:** 4/20/16
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Specifications	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Planting Soil Source Acceptance Variance for Select Horizon B and C Soils.

DCB-046 expanded the ranges of acceptable physical parameters (gradations, pH and organic content) in Horizon B and C soils that were included in the Earthwork Specification 02315. DCB-046 was accepted by all Parties and Specification 02315 was revised accordingly.

Subsequent to the acceptance of DCB-046, Entact encountered difficulty locating available Horizon B and C sources that comply with the revised Specification and meet hexavalent chromium design criteria of 1 mg/kg or less.

This DCB-059 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016. Based on the agreement, Honeywell will proceed to import fill material from suppliers as noted below to support the project needs for Horizon B and Horizon C soils to meet the demands for fill quantity and schedule for cover soils on SA-6 South and North.

It is noted that an exhaustive search of potential sources resulted in a short list of potentially viable Horizon B and C sources being recommended, following consultation with Dr. Grabosky who provided his recommendations in correspondence dated March 17, 2016. Dr. Grabosky's recommendation is attached and made part of this DCB. The specific sub set of soil sources agreed to by all parties is as follows:

Horizon B Approved Sources	Horizon C Approved Sources
Cedar Hill	Natures Choice (Per DCB-057)
EME - B001	Impact - AB33
Impact - AD17	Impact - AD25

DCB-059 applies to the completion of importing soils for SA-6 North and South grades as presented in the 100% design and does not permanently change the Earthwork Specification 02315 for physical parameters (gradations, pH and organic content) in Horizon B and C soils that were memorialized in DCB-046.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter (3/17/16) Plaintiffs' letter dated 04/15/16. Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments: See DCB-057 for acceptability conditions of Nature's Choice Horizon C soils.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DR. JASON GRABOSKY RECOMMENDATION

RUTGERS
School of Environmental and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

March 17, 2016

To all concerned:

I spoke on the phone with Geoff in between meetings during the past week. For all concerned, there was a delay in this set of conversations due to some snags in our e-mail communications (I was not getting e-mails through my server for some reason), but we developed some work arounds to share the soils tables under review and spoke during a brief conversation on Tuesday Morning from 8:00-8:15 a.m. once I had the soils tables in front of me while chatting over the phone.

There are issues with the Nature's choice source, in terms of supply and in terms of some testing results. For that reason, it has been necessary to identify alternative Horizon B and Horizon C sources. To reduce risks in material supply, chemistry and gradation, I have identified multiple sources/mixes for both Horizon B and Horizon C. In making specific recommendations I also considered both the expense of shipping, and the environmental cost (or the carbon footprint) in shipping, and the limitations in time management from the haulage/transportation logistics.

Horizon B:
In a technical sense, Nature's choice remains an approved and acceptable layer B material. However, there is an open question of availability of material in the volume needed for project execution.

The Cedar Hill material can fit the B Layer source designation. Clay is at 10% right at the lower end of the clay specification. As discussed with Geoff Shallard, in an engineering/drainage view, this is a good material. We would also have to consider a lower the min clay value in the specification to account for variability. The pH of this material (6.22) seems to be in line with the goals for the specification. Given a concession in lowering the clay content also opens consideration of the Impact Materials.

Impact AD17 : While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the material would suit for the B horizon. In the clay component, this material is comparable to the Cedar Hill material. The silts exceed the specified maximum percentage. However, this maximum is largely in consideration of frost heave susceptibility. For the depths of the B layer relative to expected frost penetration to depth in Jersey City, especially in consideration of all future climate predictions of warmer temperatures, the frost potential is deemed less critical. Indeed, the pH is a tad high, but not so much as to consider it unworkable from a horticulture management sense. The sand portion of the Impact AD17 blend (which is the bulk of the blend) sits 10 minutes away from the site in Kearny, NJ and therefore has a low carbon footprint and ease of logistics. Additionally, it may yield a continuum in similarity if the C horizon also is determined to come from an Impact source.

EME B001-HORB: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question,

there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Horizon C

Impact AB33 and Impact AD25: While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the materials would suit for the C horizon. pH is in line with the specification. I have a preference for the AB33 for the lower pH and slight increase in clay, but both would be suitable. Of the materials in the tables, a discussion with Geoff indicated the sands in the Impact materials are coarse and to our benefit in workability and drainage capacity, which for the level of construction traffic on site, works toward the stability of the system in a physical-mechanical sense. The sand portion which is the bulk of the Impact blends also is located in Kearny, NJ and therefore has a low carbon footprint and ease of logistics.

EME B002-HORC: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question, there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Recommendations:
I would retain EME as a Vendor option for both Horizon B and Horizon C with an assumption the organic fractions can be reduced. While the materials seem very good, the costs likely outweigh the advantages for the B and C horizons. The vast majority of the plant root systems are in the A horizon, thus the goals for the lower levels are about support, drainage and depth/distance to cap. Given the timing and the difficulty associated with getting materials into conformance I make the following recommendations. Pragmatically, one might argue I am siding on convenience. However, upon the consideration of developing a system, I feel what we develop from the recommendations provides a working solution, albeit with a higher system pH than originally targeted. The plant palette was chosen to bias toward shallower rooting species, and the higher ph will encourage the proliferation of roots where the mineral nutrition is available, which biases toward the surface with the increased pH of the lower layers. We provide a loamy-sand to sandy loam transition in the b to c horizon depths, which would provide a continuum for the water column through the layers provided compaction of each layer is not excessive and the interface blending described in the early documentation occurs. The increase of pH does not place the plant species selected into peril to my knowledge.

I would recommend:

Horizon B soils:

Adopt Impact AD17% as the primary source, and Cedar Hill as the secondary source. To accomplish this in specification language, adjust the B layer % Silt to <15% and % Clay to 5-15%. Raise acceptable pH to 7.6 from 7.5 or figure out how to lower the AD17 pH in the mix process.

RUTGERS
School of Environmental
and Biological Sciences

Horizon C soils:

Adopt Impact AB33% as the primary source. To accomplish this in specification language, adjust the C layer % Silt to <15% and % Clay to 5-15%. Retain the Impact AD25 as an alternative to Impact AB33%.

Respectfully submitted,



Jason Grabosky
John and Eleanor Kuser Faculty Scholar in Urban and Community Forestry
Director: S.E.B.S. General Honors Program
Co-Director: Center for Resilient Landscapes, a USDA FS/Rutgers Joint Venture
Editor-in-Chief; Arboriculture & Urban Forestry
Department of Ecology, Evolution and Natural Resources

PLAINTIFFS' RESPONSE LESTTER (4/15/16)

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April 15, 2016

VIA ELECTRONIC MAIL

Jeremy Karpatkin
Arnold & Porter, LLP
Thurman Arnold Building
555 12th Street, N.W.
Washington, DC 20004-1206

Re: Study Areas 6 North and South – DCB 2016-3-18 Horizon B and C Soil Specifications

Dear Jeremy:

We write to provide plaintiffs' position with respect to the Design Change Bulletin (DCB) DCB 2016-03-18 that seeks to modify the geotechnical specifications for Horizon B and C soils, which the parties previously modified in September 2015. We note that, like the September 2015 modification, the current proposal of Honeywell would apply to all Horizon B and C soils to be brought to the site, not just in the initial phases of development, but permanently. As set forth in the 100% Design and the Open Space Design Standards (OSDS), there is to be a distinction between the characteristics of the soils in Horizon B and Horizon C to ensure the growth of only appropriate types of vegetation and trees on top of the cap, so as not to endanger the cap. *See* Technical Specification 2315 Earthwork, 2.12 Planting Soils; OSDS 2.1.2 Restrictions on the Use and Placement of Fill, Subsection D Specific Requirements for Fill Soils in Landscaped Areas.

On April 7, 2016, plaintiffs requested additional information regarding the planned schedule for the importation and use of the Horizon B soils. Honeywell provided the requested information on April 12, 2016. Plaintiffs and their experts have reviewed the April 12 response. Plaintiffs agree with Honeywell's analysis that Horizon B soils may be imported and placed now in the Study Area 6 South Open Space, and that Horizon B soils cannot be placed in the Study Area 6 North Open Space until the redevelopment.

Plaintiffs understand that Honeywell wishes to have multiple sources of Horizon B and C soils available for use so that it will not incur delays such as those incurred this winter with respect to Horizon C soils. However, Honeywell is proposing to change permanently the geotechnical specifications for both Horizon B and C soils based on the analysis by Dr. Grabosky of particular sources for the Horizon B and C soils. Dr. Grabosky's analysis establishes that the particular soil sources that he recommends, based upon the potential sources

provided to him by Honeywell, will maintain the necessary distinction between the soil horizons even though the recommended sources may deviate slightly from the geotechnical specifications as modified in September 2015.

Based upon the recommendations of Dr. Grabosky as set forth in his correspondence of March 17, 2016, which was included with DCB 2016-03-18, as set forth below, plaintiffs will agree to the use at Study Area 6 of certain particular sources for Horizon B and C soils addressed by Dr. Grabosky, even though some of the sources may deviate slightly from the geotechnical specifications in the 100% Design for Horizon B and C soils. However, plaintiffs are not willing to agree to modify permanently the geotechnical specifications for the Horizon B and C soils of the 100% Design standards to accommodate use of the sources for Horizon B and C soils under consideration by Honeywell at this time.

Plaintiffs agree to the use of Horizon B soils for the Study Area 6 North and South Open Space areas from Nature's Choice, Cedar Hill, and EME (EME-B001 blend) because these sources meet the geotechnical specifications. In addition, plaintiffs agree to the use of Horizon B soils from Impact Environmental, which deviate from the geotechnical specifications, as a secondary source should the Nature's Choice, Cedar Hill, and EME (EME-B001 blend) soils not be available. Plaintiffs do not agree to the use of the EME (Horizon "B" Modified) soils because of the high organic material content of the soils.

Plaintiffs agree to the use of Horizon C soils for the Study Areas 6 North and South Open Space areas from Nature's Choice as set forth in DCB 2016-03-21. In addition, plaintiffs agree to the use of Horizon C soils from Impact Environmental (Impact AB33 and Impact AD25), which deviate from the geotechnical specifications, as secondary sources should Nature's Choice not be available. Plaintiffs do not agree to the use of the Horizon C soils from EME because Dr. Grabosky did not recommend the use of these sources and because of the high organic material content of those soils.

Plaintiffs' agreement to the use of certain Horizon B and C sources that deviate from the geotechnical standards, as set forth above, is not an agreement to modify the 100% Design standards as they apply to any future fill, repair, or restoration work. This more limited agreement to deviate from the 100% Design should be set forth in a modified Design Change Bulletin.

Please contact me with any questions. We look forward to your response.

Sincerely,



Bruce J. Terris
Kathleen L. Millian
Alicia C. Alcorn
Counsel for Plaintiffs

cc: Senator Robert Torricelli
Tom Lewis/Steve Egnaczyk
Michael Daneker
William Hague
John Morris
Kevin Coakley/Liza Walsh/Agnes Antonian
Jeremy Farrell/Jason Watson/Bhavini Doshi
Frank Borin/Kevin Kinsella
Davis Isabel/ Eric Tomaszewski

FINAL DCB 060 – REVISED DRAWING C-310

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

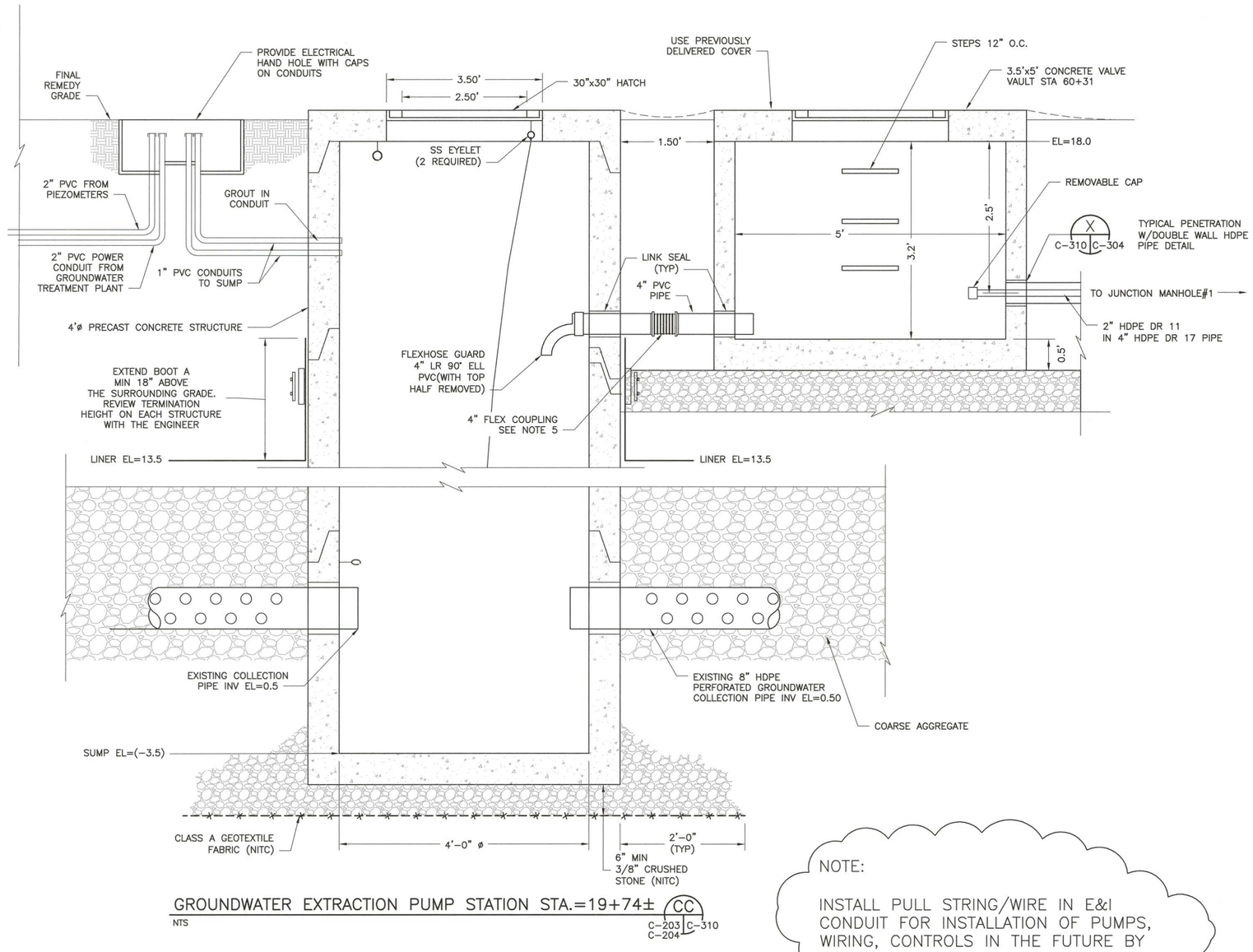
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 060 **DCB Type:** Minor (a) **Effective Date:** 5/31/16
Project Location: SA-6 South	**Associated RFI:**
Title: Revised Drawing C-310	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

Updated Drawing C-310 (Rev. 5, 5/31/16) is attached. The drawing documents the vault sketch transmitted to Entact on 5/20/16.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No Drawing C-310
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 6/15/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 C-204 C-310

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

1. FIELD SHIM WITH TOPSOIL TO GRADE UP TO THE TOP OF THE COVER.
2. USE PREVIOUSLY DELIVERED COVER BY PRECAST MANUFACTURING CO. DATED 4/16/14 STOCK# ATH3050D.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY
5	05/31/16	REVISION TO VAULT DCB 007.4.1	TDD	TDD	APVD	SGS
4	05/20/16	DCB 007.4	TDD	TDD		SGS
3	08/14/15	DCB 007.3	RJR	SGS		SGS
2	02/02/15	DCB 007	TDD	SGS		SGS
1	06/06/14		TDD	SGS		SGS

DSGN

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Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR46-C-310_Cont_GWE_Trench_Details.dwg PLOT DATE: Tue, 31 May 2016 PLOT TIME: 2:02 PM

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 20 OF 25

- **Initial Declaration #1**

CHROMIUM REMEDY
SA-6 SOUTH

INITIAL DECLARATION #1

UNITED STATES DISTRICT COURT
DISTRICT OF NEW JERSEY

JERSEY CITY INCINERATOR AUTHORITY,

Plaintiffs,

v.

HONEYWELL INTERNATIONAL INC., et al.,

Defendants.

Civil Action No. 05-5993 Consolidated with Docket No 05-5955 under Docket No. 95-2097 (DMC)
Civil Action No 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

Civil Action No. 06-0022 (JLL)
(Consolidated under Civ. No. 05-5955 (JLL))

Initial SA-6 South Consent Decree Declaration

On August 14, 2012, the USDC DNJ entered into the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South ("SA 6 South Consent Decree"); pursuant to Article III, Honeywell may file one or more Declarations showing compliance with said SA 6 South Consent Decree. The Initial SA 6 South Consent Decree Declaration is filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA 6 South Consent Decree.

We, the undersigned, declare as follows:

1. William J. Hague, Director of Remediation Design and Construction for Honeywell International Inc. ("Honeywell") for Study Area 6 South (SA-6 South) New Jersey Department of Environmental Protection (NJDEP) Sites 073, 124, 125, 134, 140 and 163. Mr. Hague has direct responsibility on behalf of Honeywell for the management of remediation construction activities at SA-6 South related to the implementation of the Chromium Remedy as defined in Article III of the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South, filed August 14, 2012 ("Consent Decree"). Remediation and site restoration activities were performed in accordance with the Consent Decree, the NJDEP Technical Requirements for Site

Remediation, and the NJDEP-approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan for Chromium* to address chromium contamination at SA-6 South, dated December 23, 2008; NJDEP-approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan,* to address chromium contamination at Site 163 only, dated, May 18th 2012 (collectively referred to as the RAWPs), the SA-6 Chromium Remedy 100% Design Report dated June 28, 2013 ("100% Design"); and the 5 field changes that materially impacted the 100% Design, listed on page 4 and 5 of this Declaration (referred to herein as "Related Field Changes") with the continued oversight and supervision of the appointed Special Master. The SA-6 Chromium Remedy 100% Design, including Design Drawings and Technical Specifications was developed consistent with the Consent Decree and NJDEP-approved RAWPs and was approved by all Parties. On June 12, 2013, the Special Master approved the SA-6 100% Design for submittal to the Court so that the proposed implementation of the remedy could start on time, subject to Honeywell's confirmation regarding several issues. On June 28, 2013 Honeywell submitted the Final 100% Design Submittal for the Study Area 6 North and South projects ("Final 100% Design").

2. The elements of the remedy that are the subject of this Declaration were substantially completed between July 2013 and March 31, 2015.

3. This is an initial Declaration. Future Declarations will document the work on the elements of the remedy set forth in the Consent Decree implemented or completed after March 31, 2015.

4. To implement the requirements of the Consent Decree, Honeywell retained AMEC Environment and Infrastructure, Inc. (now Amec Foster Wheeler) to design and coordinate the construction activities related to the Chromium Remedy of SA-6 South. Amec Foster Wheeler is the Engineer of Record for the design and implementation of construction activities related to the Chromium Remedy of Study Area 6 South. Mr. Joseph T. Clifford is a licensed Professional Engineer in the State of New Jersey, a Principal Engineer (Professional Engineer, NJ, GE38067) at Amec Foster Wheeler and is the engineer at Amec Foster Wheeler with primary responsibility for management of the design and construction coordination activities at SA-6 South.

5. For planning and implementation purposes, the work was divided into the following elements; excavation, barrier wall installation, backfill activities and soil management. Based on our professional opinion, the data and information set forth for the specific work elements noted in and attached to this Declaration -- excavation, barrier wall installation, backfill activities and soil management -- were performed consistent with the 100% Design and Related Field Changes.

Declaration #1 pertains to the following elements of the SA-6 South Chromium Remedy.

I. Excavation

II. Barrier Wall Installation

III. Backfill Activities

IV. Soil Management

Further details related to elements I-IV are provided below.

Supporting Documentation is provided in the Attachments.

Excavation. This Declaration addresses excavation of soils at SA- 6 South containing hexavalent chromium at levels greater than 20 milligrams/kilogram ("mg/kg") to meet the requirements of Paragraphs 59(a), (b) and (c) of the Consent Decree during the period of October 22, 2013 through December 22, 2014. SA-6 South was divided into two general areas as defined in the Consent Decree: the "Open Space Area of Concern (AOC)" and the "Development AOC".

Pre-Design Investigation (PDI) sampling and analytical results delineated the lateral and vertical limits of excavation and 156 15-foot wide cells were established to subdivide the SA6 South excavation for tracking and reporting. This PDI program was based on standards and conditions set forth in the RAWP, which was approved by the NJDEP, and supplemental discussions held during a January 11, 2012 meeting with the NJDEP wherein sampling frequency was discussed. The PDI sample results established the original depth(s) of excavation for an excavation cell or general area, with the understanding that if Stratum D (i.e., "meadow mat") was encountered or if other field conditions impacted achieving the design excavation depth, the excavation may be halted at a shallower depth.

Honeywell conducted the excavation operations as detailed in the SA-6 South Standard Operating Procedure (SOP) - Confirmation of Excavation Limits, dated March 3, 2014 (and including Honeywell's April 24, 2014 letter and attachments). In addition, Honeywell collected the survey data necessary to prepare a topographic map.

Following the excavation of distinct portions (or cells) of the excavation, the horizontal and vertical extents of the completed cells were surveyed and Honeywell submitted documentation confirming the completion of excavation. In their submittals, Honeywell summarized the activities undertaken to complete the excavation of the referenced cells as required by the 100% Design and included the following statement from Honeywell's engineer, Amec Foster Wheeler: "Amec inspectors certify to the best of our technical ability

that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling had been met." Honeywell also noted, where applicable/appropriate, that the excavation in the referenced cells terminated [by depth] in the Stratum D and provided an Excavation Bottom Map that included the surveyed post-excavation bottom elevations for the cell(s). In addition, Honeywell provided an updated figure depicting the 156 cells comprising the SA6 South excavation that was used as an excavation progress chart, attached a figure of the excavation cells, and included an excavation bottom map. Honeywell further requested approval to backfill cells. During the course of the excavation, the Special Master acknowledged receipt of Honeywell's submittals and the notification that the contractor was ready to backfill the respective cells.

- The hexavalent chromium impacted soils in the SA-6 Development AOC were excavated so as to meet or exceed the lines and grades (i.e., lateral and vertical limits of excavation) established in the 100% Design and Related Field Changes. A topographic map of the bottom of the excavation is provided on the Drawing titled "SA-6 South As-Built Excavation Plan," Drawing No. C-111 – Excavation Plan (Attachment A-1) and prepared by R. Thomas Hugg NJ Professional Land Surveyor.
- The extent of Stratum D exposed by the excavation is also shown on the SA-6 South As-Built Excavation Plan, Drawing No. C-111 (Attachment A-1).
- The Limits of Excavation are shown on a drawing titled "Figure 1.1 - SA-6 South As-Built Limit of Excavation Map" (Attachment A-2).
- The horizontal and vertical limits of excavation were adjusted in several areas. The adjustments were documented in the following field changes that were submitted to Plaintiffs and the Special Master in the form of emails or Design Change Bulletins:
    - Proposed Bottom of Excavation Elevation (dated, 2013-12-12)
    - Increase Excavation from 3 to 4 feet Below Grade at Site 163 to Reduce In-Situ Treatment of Shallow Soils (dated, 2014-05-06)
    - Deferral of Concrete/Asphalt Berm along Bulkhead at Site 073 (dated 2014-5-19)
    - Deferral of Excavation along Bulkhead at Site 163 due to Unanticipated Subsurface Concrete and Steel Structures (dated, 2015-01-23)
- Excavation tables which document the PDI locations and depths and actual excavation depths are provided in Attachment B. Three sets of tables are provided. Attachment B-1 addresses the eastern portion of the main excavation area starting at Route 440 moving west. Attachment B-2 addresses the remainder of the main excavation area up to the "deferred Area" by the bulkhead. Attachment B-3 addresses the excavation areas at Site 163.

- Attachments B-1 and B-2 each contain three sets of tables. Tables 1.0 and 3.0 provide the coordinates of the PDI bottom and sidewall points and a comparison of the actual excavation depth and design depth at the established PDI locations. Table 2.0 tabulates the design elevation and final excavation elevation at the center points of the cells used for excavation control. Attachment B-3 includes Tables 1.0 and 3.0 (Table 2.0 is not included because the excavation cells were not extended into Site 163). The tables were prepared by R. Thomas Hugg, NJ Professional Land Surveyor.
- As presented in the 100% Design, the location of confirmatory analytical points developed during the PDI soil sampling were surveyed by a registered surveyor to verify that the excavation was carried to or beyond the confirmatory points. Attachments B-1 and B-2 provide a list of confirmatory points by cell and indicate the original coordinates and both the original and final grade elevations. An as-built figure of the excavation confirmatory points is provided as Attachment B-4.
- As demonstrated by completion reports prepared by Amec Foster Wheeler which have been periodically submitted to the Special Master, the bottom and lateral limits (and to the extent that an excavation cell bordered the perimeter barrier wall, the perimeter barrier wall as well) of each excavation cell were visually inspected by personnel from Amec Foster Wheeler for the potential presence of visible hexavalent chromium-impacted materials and/or any visually suspect ("anomalous") material. To the extent that additional hexavalent-chromium-impacted materials and/or visually suspect material were observed, Honeywell contractors conducted further removal activities until Amec Foster Wheeler inspectors were satisfied upon visual inspection that the materials had been removed and/or confirmation samples were collected to confirm that the requirements of the 100% Design for SA-6 South ("Approved Design") were met.
- Each cell identified in paragraph 3 has been excavated down to Stratum D or to the elevation indicated in the Approved Design. The bottom of excavation was surveyed by a New Jersey Licensed Surveyor and a plot of the survey results is included in Attachment A-1.

A drawing titled SA-6 South As-Built: Excavation Confirmation Points shows the PDI locations in plan view.

Items listed above will also be provided in the final Remedial Action Report.

I. Barrier Wall. The SA-6 South Chromium Remedy includes a containment system consisting of a vertical hydraulic barrier wall, a flexible geomembrane liner cap, and contingent groundwater pumping system. The vertical barrier wall "encloses" the Open Space AOC

utilizing the existing SA-7 Soil-Cement-Bentonite (SCB) Barrier Wall on the northern boundary and new steel sheet pile hydraulic barriers that have been constructed along the, southern perimeter of the Open Space AOC, the western perimeter (adjacent to the Hackensack River bulkhead), and along the eastern perimeter of the Open Space AOC (adjacent to Route 440). The steel sheet pile barrier wall was installed along the southern, eastern and western sides of the Open Space AOC and keyed into the meadow mat (Stratum D) or Stratum O to meet the requirements of paragraph 69(b) of the Consent Decree. Barrier wall driving commenced on August 15, 2013 and was completed on July 22, 2014. The barrier wall consists of welded pairs of sheets. The (connecting) field joints were sealed with a cement bentonite grout between Station 0+00 and Station 17+80 (east wall and eastern portion of south wall) and with hydrophilic sealant between Station 17+80 and Station 25+86 (west portion of southern wall and west wall).

- The Barrier wall was installed to the line and grade defined in the 100% Design and Related Field Changes.
- Field Change 2013-9-12, related to a minor straightening of the alignment and increase in cap area following acquisition of the "Boatyard Property" as part of Site 134.
- The top of the Barrier Wall is currently at the installed elevation consistent with temporary flood control and subgrade/surcharge requirements. The top of the wall will be trimmed to final elevations prior to cap deployment. The final elevations will be included in a supplemental Declaration.
- As-Built drawings of the Barrier Wall Plan and Profile are provided in Attachment C.

II. Backfill. Soil excavated from the Site is required by paragraph 67 of the Consent Decree to be replaced by backfill soil. Backfilling within the Open Space AOC includes the spreading/placing, compacting, and grading of onsite non-chromium impacted and chromium-impacted soils in accordance with the approved RAWP. Any backfill soil brought to the Site is required to either meet all applicable federal and NJDEP criteria, including NJDEP residential soil criteria, or comply with the beneficial soil reuse plan that is approved by the NJDEP and subject to review and comment by the Parties and approval by the Special Master.

- Compaction tables showing field compaction test results and a drawing showing test locations for work completed through March 31, 2015 are provided in Attachment D. Backfill compaction testing was performed as described in the SA6 South 100% Design, in accordance with the specifications set forth in NJDEP-approved SA 6 South RAWP and Soil Reuse Plan. The Final Site grading will be provided in a future Declaration.

- Drawing D-1 indicates the top of the backfill grade in the Development AOC as of March 31, 2015.
- Attachment D-2 comprises 5 drawings showing the locations of Backfill Compaction Test results conducted at the specified frequency of 1 test per 2,500 square feet of backfilled area. Attachment D-3 comprises tables summarizing Backfill Compaction Test results conducted at a reduced frequency of 5 tests per acre as provided for in the 100% Design Technical Specifications. If any area failed to meet the requirements for compaction, the area was reworked and retested. All test results are included. The final test result at every location met the specified compaction criteria.

III. Soil Management. Excavated soils were managed consistent with paragraph 59 of the Consent Decree from October 2013 through March 31, 2015. The Consent Decree provided for different soil management requirements for soils containing hexavalent chromium at concentrations greater than 20 mg/kg. The Soil Management Plan (SMP) (Appendix G of the 100% Design) establishes guidelines and the minimum requirements for the reuse and disposal of soil, concrete, and asphalt during the implementation of the chromium (and non-chromium) remedies at the Site.

Soils with a concentration of 1,000 mg/kg or greater of hexavalent chromium were removed from the site for disposal at Heritage Environmental Services, Indianapolis, in accordance with paragraph 59(a)i of the Consent Decree. Excavated soils with hexavalent chromium concentrations of 20-1,000 mg/kg were managed in accordance with the requirements of paragraph 59(b) of the Consent Decree. Petroleum contaminated soil containing less than 240 mg/kg and classified as non-hazardous was disposed at the Middlesex County Landfill and Bayshore Recycling or placed under the SA-6 South cap. Non-Hazardous mercury soil was disposed at the Middlesex County Landfill and Bayshore Recycling. Non-Hazardous Concrete was disposed of at the New Jersey Meadowlands Commission (NJMC).

The Summary of Soil Management Activities is tabulated in Attachment E. The Soil Management Activities table shows the disposition of the designated soil classifications, as defined by paragraph 50 of the Consent Decree, managed during excavation activities at SA-6 South as of March 31, 2015. Excavated soils used as subgrade fill and placed in the Open Space AOC were graded to the design subgrade following removal of the clean surcharge materials.

1. Based on our professional experience, the data and information set forth in and attached to this Declaration, and our supervision of the SA-6 South construction activities, we believe that hexavalent chromium-impacted materials greater than 20 mg/kg and as defined in the 100% Design have been removed from the excavated areas and areas on the perimeter barrier wall in the Development AOC in accordance with the Consent Decree and the Approved Design.

2. We certify that the foregoing is true and correct to the best of our respective knowledge.

William J Hague

Date March 2, 2016

Joseph P Clifford PE NJ, GE38067

Date March 7, 2016

List of Attachments

A. Excavation Limits

A1 – Drawing – SA-6 South As-Built Excavation Plan (Drawing No. C-111 – Excavation Plan)

A2 – Figure 1.1 - SA-6 South As-Built Limit of Excavation Map

B. Confirmatory Survey

B1 – SA-6 South Excavation Confirmatory Points (east)

- Table 1.0 – 1.8 PDI Locations
- Table 2.0 - 2.7 Center Points
- Table 3.0 – 3.2 Sidewall

B2 - SA-6 South Excavation Confirmatory Points (west)

- Table 1.0 – 1.8 PDI Locations
- Table 2.0 – 2.7 Center Points
- Table 3.0 – 3.2 Sidewall

B3 – SA-6 South Excavation Site 163

- Table 1.0 PDI Locations
- Table 3.0 Sidewall

B4 – Figure 1.2 - SA-6 South As-Built Excavation Confirmation Points

B5 – Figure 1.3 - SA-6 South Excavation Cell Layout

C. Drawings S-201, S-202, S-203 Hydraulic Barrier Plan & Profile

D. Backfill

D1 – Figure 2.1 - SA-6 South As-Built - Backfill Topographic Progress Map

D2 – Figure Backfill Compaction Locations BF-01 to B-45

Figure Backfill Compaction Locations BF-46 to BF-94

Figure Backfill Compaction Locations BF-95 to BF-136

Figure Backfill Compaction Locations RF-01 to RF-21

Figure Backfill Compaction Locations RF 22 to RF-39

D3 – Field Density Test Summary Log Table (Pages 1 to 7)

Field Density Test Summary Log Table (Pages 1 to 4)

E. Table Summary of Soil Management Activities

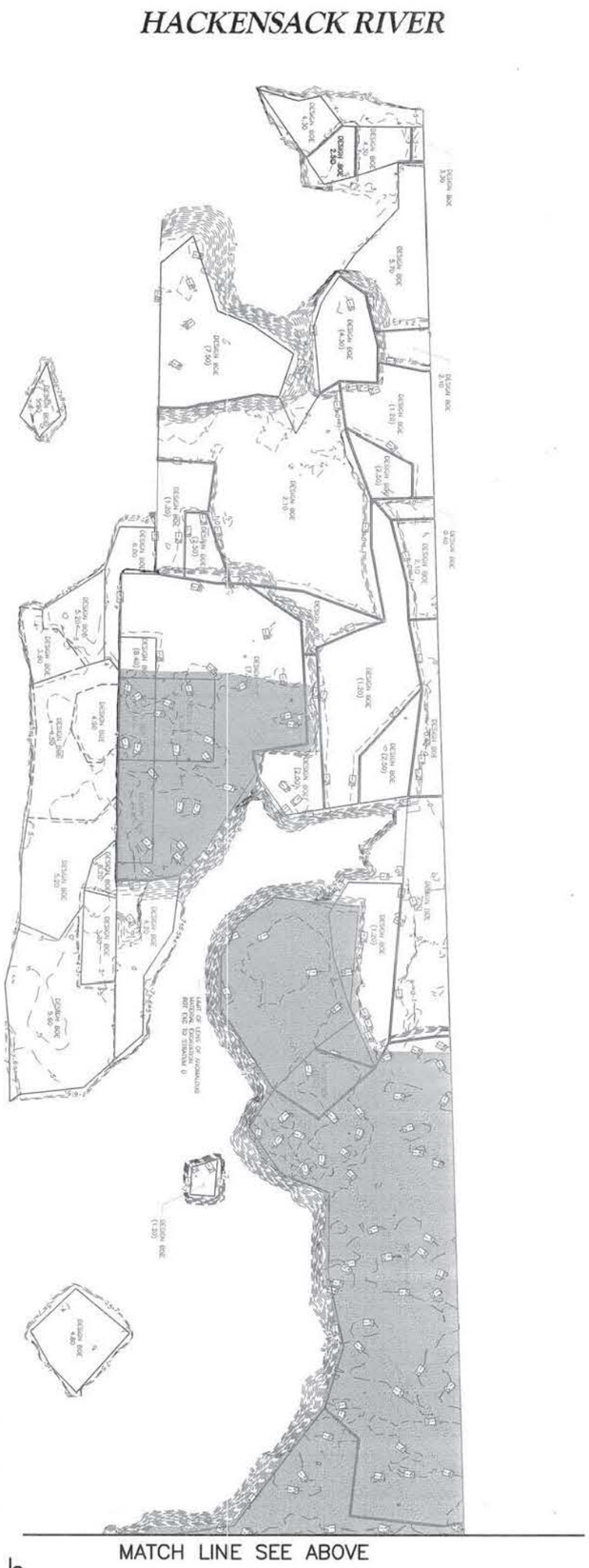
ATTACHMENT A

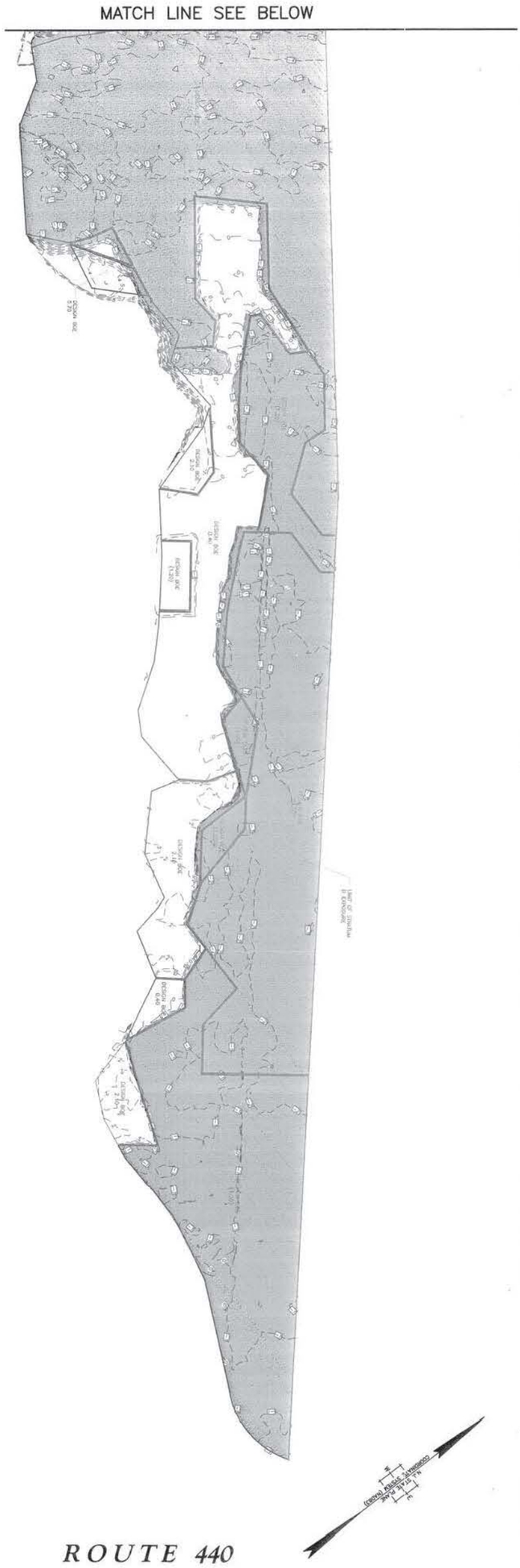
EXCAVATION LIMITS

ATTACHMENT A-1

DRAWING – SA-6 SOUTH AS-BUILT EXCAVATION PLAN

(DRAWING NO. C-111 – EXCAVATION PLAN)





GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 SOUTH EXCAVATION AREA AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 10/23/13 THROUGH 12/22/14. POST EXCAVATION SURFACES AND CONTOURS WERE GENERATED BY ENTACT AND CONFIRMED BY MASER CONSULTING P.A. WITH MINOR ADJUSTMENTS.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

LEGEND:

- MAJOR CONTOUR
- MINOR CONTOUR
- POSITIVE ELEVATION
- NEGATIVE ELEVATION
- DESIGN EXCAVATION LIMIT
- EXCAVATED TO STRATUM D

0 25 50 100
SCALE IN FEET

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER
XXXXX

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	3/3/15
PROJ	3480-10-0027
DWG	C-111
SHEET	1 OF 1

DRAWING STATUS
A.S BUILT DRAWINGS

CIVIL
EXCAVATION PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
1	3/13/15	REVISED PER CLIENT COMMENTS 3/4/15	BSB	RTH

DSGN	DR	CHK	APVD
BSB		JR	RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Civil 3D Projects\12001511A\Survey\V-SURV-SA6S-FINAL.dwg PLOT DATE: Wed, 14 Oct 2015 PLOT TIME: 11:42 AM

ATTACHMENT A-2

FIGURE 1.1 – SA-6 SOUTH AS-BUILT LIMIT OF EXCAVATION MAP

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

DESIGN EXCAVATION LIMIT

AS BUILT BOTTOM OF EXCAVATION LIMIT

DEFERRED EXCAVATION AREAS (DC 2014-05-19)

0 40 80 160

SCALE IN FEET

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

FIGURE 1.1
LIMIT OF EXCAVATION MAP

PROJECT NAME & LOCATION

HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

ATTACHMENT B

CONFIRMATORY SURVEY

ATTACHMENT B-1

SA-6 SOUTH EXCAVATION CONFIRMATORY POINTS (EAST)

Table 1.0 – 1.8 PDI Locations

Table 2.0 – 2.7 Center Points

Table 3.0 – 3.2 Sidewall

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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Marmora, NJ 08223
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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-0.8	124-SB-043R	1	10/24/2013	-1.7	Stratum D Reached
684134.6	603208.6	-0.8	124-SB-130	2	10/24/2013	-1.2	Stratum D Reached
684150.2	603204.3	-1.4	124-SB-037	3	10/31/2013	-0.8	Stratum D Reached
684138.4	603182.8	-0.8	124-SB-043R	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-0.8	124-SB-043R	5	10/31/2013	-0.6	Stratum D Reached
684145.4	603158.6	-0.8	124-SB-038	6	11/5/2013	-0.7	Stratum D Reached
684186.5	603160.3	-2.1	124-SB-036	7	11/5/2013	-0.8	Stratum D Reached
684142.9	603119.3	0.7	124-SB-079	7	11/7/2013	-0.7	Stratum D Reached
684156.2	603128.2	-1.8	124-SB-045	8	11/7/2013	-1.3	Stratum D Reached
684180.8	603117.2	-1.3	124-SB-033	9	11/7/2013	-1.3	Stratum D Reached
684208.6	603119.4	-4.5	124-SB-C04	10	11/14/2013	-1.4	Stratum D Reached
684204.6	603115.9	-1.6	124-SB-138	10	11/14/2013	-1.3	Stratum D Reached
684221.9	603112.3	-2.9	124-SB-067	11	11/14/2013	-1.3	Stratum D Reached
684191.5	603080.1	-3.1	124-SB-044	12	11/14/2013	-2.0	Stratum D Reached
684181.7	603072.3	-1.0	124-SB-078	12	11/14/2013	-0.2	Stratum D Reached
684217.2	603081.8	-2.0	124-SB-035	13	11/21/2013	-1.3	Stratum D Reached
684241.3	603065.1	-2.2	124-SB-122	14	11/21/2013	-1.3	Stratum D Reached
684196.6	603033.7	-2.2	124-SB-077	14	11/25/2013	-0.7	Stratum D Reached
684184.0	603001.0	-3.5	124-SB-013	15	12/5/2013	-0.8	Stratum D Reached
684258.4	603074.7	-2.6	124-SB-032	15	12/5/2013	-1.9	Stratum D Reached
684221.8	603013.0	-0.8	124-SB-043R	16	12/5/2013	-0.7	Stratum D Reached
684262.7	603034.6	-1.7	124-SB-139	17	12/10/2013	-1.3	Stratum D Reached
684220.6	603006.7	0.8	124-SB-046	17	12/10/2013	-0.8	Stratum D Reached
684181.0	602955.9	1.7	124-SB-049	18	12/10/2013	-1.1	Stratum D Reached
684215.6	602967.4	0.4	124-SB-047	18	12/10/2013	-0.5	Stratum D Reached
684211.8	602961.2	-1.5	124-SB-125	19	12/10/2013	-0.6	Stratum D Reached
684304.7	603027.7	-2.5	124-SB-031	19	12/12/2013	-1.5	Stratum D Reached
684187.4	602932.2	2.4	124-SB-073R	19	12/12/2013	2.0	Target Elevation Reached
684283.2	602988.7	-2.8	124-SB-068	20	12/12/2013	-1.7	Stratum D Reached

* Elevations based on NGVD 1929 Datum. Coordinates are in the New Jersey state plane coordinate system, NAD 1983.

SA-6 South Excavation: Confirmatory Points (Table 1.1)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684257.2	602964.2	0.7	124-SB-071	20	12/12/2013	-1.2	Stratum D Reached
684256.4	602965.5	-0.8	124-SB-043	20	12/12/2013	-0.7	Stratum D Reached
684229.0	602947.0	-1.6	124-SB-012	20	12/12/2013	-1.5	Stratum D Reached
684217.9	602935.3	-1.8	124-SB-135	20	12/12/2013	-1.6	Stratum D Reached
684198.3	602920.8	2.4	124-SB-073R	20	12/12/2013	2.0	Target Elevation Reached
684291.1	602978.2	-2.3	124-SB-134	21	12/19/2013	-2.1	Stratum D Reached
684200.8	602904.5	2.4	124-SB-073R	21	12/19/2013	1.9	Target Elevation Reached
684204.7	602890.6	2.4	124-SB-073	22	1/9/2014	2.0	Target Elevation Reached
684218.2	602907.9	1.8	124-SB-054	22	1/9/2014	-0.1	Target Elevation Reached
684272.8	602944.8	-0.8	124-SB-043R	22	12/19/2013	-0.9	Stratum D Reached
684258.9	602918.2	0.1	124-SB-053	23	12/19/2013	-0.8	Stratum D Reached
684338.0	602980.2	-2.9	124-SB-040	23	12/19/2013	-2.1	Stratum D Reached
684217.2	602879.5	2.4	124-SB-073R	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-0.8	124-SB-043R	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.4	124-SB-073R	24	1/2/2014	2.1	Target Elevation Reached
684338.6	602935.1	-3.4	124-SB-030	25	1/2/2014	-1.7	Stratum D Reached
684300.2	602911.6	0.3	124-SB-042	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	1.6	124-SB-051R	25	1/2/2014	0.4	Target Elevation Reached
684264.7	602869.3	0.0	124-SB-129	26	1/2/2014	-1.3	Stratum D Reached
684273.8	602864.2	1.6	124-SB-051R	26	1/16/2014	0.3	Target Elevation Reached
684294.0	602874.0	1.4	124-SB-011	27	1/10/2014	-1.2	Stratum D Reached
684373.8	602937.7	-2.3	124-SB-133	27	1/10/2014	-2.4	Stratum D Reached
684285.9	602856.5	1.6	124-SB-051R	27	1/10/2014	0.4	Target Elevation Reached
684296.4	602850.5	1.6	124-SB-051	28	1/16/2014	0.2	Target Elevation Reached
684308.9	602854.3	1.9	124-SB-127	28	1/16/2014	-1.7	Stratum D Reached
684398.5	602909.7	-2.7	124-SB-039	29	1/16/2014	-2.7	Stratum D Reached
684343.7	602873.5	-0.4	124-SB-069	29	1/16/2014	-1.7	Stratum D Reached
684305.4	602833.3	3.5	124-SB-021R	29	1/16/2014	2.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684392.6	602878.7	-2.8	124-SB-123	30	1/23/2014	-2.4	Stratum D Reached
684311.9	602821.5	3.5	124-SB-021R	30	1/23/2014	1.9	Target Elevation Reached
684381.0	602861.0	-2.3	124-SB-110	31	1/23/2014	-2.3	Stratum D Reached
684362.9	602837.4	3.2	124-SB-124	31	1/23/2014	-2.1	Stratum D Reached
684340.0	602818.0	3.2	124-SB-109	31	1/23/2014	-1.6	Stratum D Reached
684318.6	602806.8	3.5	124-SB-021R	31	1/23/2014	1.9	Target Elevation Reached
684416.9	602861.1	-2.8	124-SB-029	32	1/30/2014	-2.5	Stratum D Reached
684335.2	602800.6	3.5	124-SB-021R	32	1/30/2014	2.0	Target Elevation Reached
684411.9	602839.0	-2.2	124-SB-092	33	1/30/2014	-2.5	Stratum D Reached
684348.7	602791.2	3.5	124-SB-021R	33	1/30/2014	2.0	Target Elevation Reached
684372.0	602797.0	2.6	124-PT-14	34	2/4/2014	-1.9	Stratum D Reached
684355.8	602781.0	3.5	124-SB-021R	34	2/4/2014	2.0	Target Elevation Reached
684458.4	602838.3	-2.3	124-SB-027	35	2/4/2014	-2.7	Stratum D Reached
684367.5	602768.5	3.5	124-SB-021R	35	2/4/2014	2.0	Target Elevation Reached
684440.8	602806.0	-2.8	124-SB-091	36	2/11/2014	-2.7	Stratum D Reached
684371.2	602753.4	3.5	124-SB-021R	36	2/11/2014	2.1	Target Elevation Reached
684394.0	602777.3	4.7	124-SB-117A	36	2/11/2014	-1.6	Stratum D Reached
684473.9	602819.4	-2.8	124-SB-026	37	2/11/2014	-2.9	Stratum D Reached
684430.7	602784.0	-1.3	124-SB-023	37	2/11/2014	-3.6	Stratum D Reached
684412.9	602766.1	2.0	124-SB-121A	37	2/11/2014	-2.5	Stratum D Reached
684400.0	602762.0	-0.1	124-PT-04	37	2/11/2014	-2.2	Stratum D Reached
684380.7	602742.6	3.5	124-SB-021R	37	2/11/2014	2.1	Target Elevation Reached
684463.2	602783.7	-2.3	124-SB-136	38	2/20/2014	-2.9	Stratum D Reached
684397.4	602736.2	3.5	124-SB-021R	38	2/20/2014	2.1	Target Elevation Reached
684448.4	602763.0	4.7	124-SB-022	39	2/20/2014	-2.7	Stratum D Reached
684412.3	602733.9	3.5	124-SB-021	39	2/20/2014	2.0	Target Elevation Reached
684505.3	602786.0	-2.8	124-SB-024	40	2/27/2014	-3.4	Stratum D Reached
684482.9	602770.8	-3.3	124-SB-025	40	2/27/2014	-3.0	Stratum D Reached
684430.0	602730.0	1.7	124-PT-03	40	2/27/2014	0.0	Target Elevation Reached
684468.5	602745.2	1.8	124-SB-066	40	2/27/2014	-2.2	Stratum D Reached
684491.3	602754.6	-2.3	124-SB-136R	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	125-SB-029R	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684524.5	602765.0	-3.5	125-SB-017	42	3/5/2014	-3.1	Stratum D Reached
684439.6	602692.4	0.4	125-SB-029R	42	3/5/2014	0.1	Target Elevation Reached
684513.0	602736.0	-4.3	125-PT-22	43	3/5/2014	-3.5	Stratum D Reached
684496.0	602718.9	-1.7	125-SB-086	43	3/5/2014	-2.6	Stratum D Reached
684473.0	602698.0	0.3	125-PT-21	43	3/17/2014	-3.0	Stratum D Reached
684446.6	602677.9	0.5	125-SB-028	43	3/5/2014	0.1	Target Elevation Reached
684543.1	602743.1	-3.9	125-SB-018	44	3/11/2014	-3.6	Stratum D Reached
684431.0	602654.0	0.7	125-PT-20	44	3/11/2014	0.2	Target Elevation Reached
684467.4	602652.6	1.0	125-SB-027	45	3/11/2014	0.2	Target Elevation Reached
684495.1	602674.9	0.4	125-SB-025	45	3/11/2014	0.3	Target Elevation Reached
684512.8	602689.3	0.3	125-SB-024	45	3/11/2014	-3.6	Stratum D Reached
684561.9	602720.2	-3.3	125-SB-019	46	3/17/2014	-3.0	Stratum D Reached
684543.0	602699.0	-4.7	125-PT-17	46	3/17/2014	-3.2	Stratum D Reached
684539.5	602702.1	-3.7	125-SB-022	46	3/17/2014	-3.3	Stratum D Reached
684503.0	602661.0	1.0	125-PT-16	46	3/17/2014	-2.9	Stratum D Reached
684472.4	602641.2	0.4	125-SB-029R	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.3	124-SB-136R	47	3/17/2014	-3.2	Stratum D Reached
684481.2	602625.7	1.7	125-SB-089	47	3/17/2014	0.1	Target Elevation Reached
684488.7	602626.5	1.3	125-SB-026	47	3/17/2014	0.2	Target Elevation Reached
684581.0	602697.1	-3.4	125-SB-020	48	3/20/2014	-2.9	Stratum D Reached
684558.6	602678.9	-4.0	125-SB-021	48	3/20/2014	-3.4	Stratum D Reached
684492.6	602619.5	0.4	125-SB-029R	48	3/20/2014	0.4	Target Elevation Reached
684545.6	602650.2	-3.3	125-SB-038	49	3/20/2014	-3.3	Stratum D Reached
684597.3	602676.1	-3.5	125-SB-037	49	3/25/2014	-2.6	Stratum D Reached
684574.9	602657.9	-3.4	125-SB-039	49	3/25/2014	-3.3	Stratum D Reached
684535.1	602625.9	0.6	125-SB-032	49	3/25/2014	-3.3	Stratum D Reached
684516.6	602611.2	1.1	125-SB-031	49	3/25/2014	0.1	Target Elevation Reached
684511.6	602592.1	-1.0	125-SB-090	50	3/25/2014	-1.3	Target Elevation Reached
684526.0	602608.3	0.4	125-SB-029R	50	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.3	124-SB-136R	50	3/25/2014	-3.6	Stratum D Reached
684514.6	602580.4	-1.0	125-SB-090R	51	3/28/2014	-1.4	Target Elevation Reached
684535.3	602597.8	0.4	125-SB-029R	51	3/28/2014	0.3	Target Elevation Reached
684584.1	602636.9	-2.3	124-SB-136R	51	3/28/2014	-3.0	Stratum D Reached
684619.0	602648.6	-1.5	125-SB-035	52	3/28/2014	-2.5	Stratum D Reached
684596.6	602630.5	-3.6	125-SB-034	52	3/28/2014	-3.0	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684574.5	602612.8	0.7	125-SB-033	52	3/28/2014	-3.4	Stratum D Reached
684556.8	602598.4	0.8	125-SB-030	52	3/28/2014	0.3	Target Elevation Reached
684538.3	602583.7	0.4	125-SB-029	52	3/28/2014	0.4	Target Elevation Reached
684523.8	602562.3	-0.9	125-SB-078	52	3/28/2014	-1.4	Target Elevation Reached
684579.0	602588.0	0.9	125-SB-009	53	4/1/2014	-2.2	Stratum D Reached
684557.0	602576.5	0.4	125-SB-029R	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.0	125-SB-090R	53	4/1/2014	-1.4	Target Elevation Reached
684620.4	602605.9	0.4	125-SB-065	54	4/1/2014	-2.3	Stratum D Reached
684641.2	602623.7	-2.1	125-SB-070	54	4/1/2014	-2.3	Stratum D Reached
684597.0	602588.0	-2.7	125-SB-009A	54	4/1/2014	-2.2	Stratum D Reached
684573.7	602577.0	0.7	125-SB-044	54	4/1/2014	0.3	Target Elevation Reached
684557.6	602564.1	1.2	125-SB-050	54	4/1/2014	0.2	Target Elevation Reached
684632.0	602597.9	-1.4	140-SB-083R	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	125-SB-029R	55	4/4/2014	0.3	Target Elevation Reached
684664.6	602597.6	-3.3	125-SB-071	56	4/4/2014	-2.5	Stratum D Reached
684642.2	602579.5	0.2	125-SB-053	56	4/4/2014	-2.4	Stratum D Reached
684601.1	602556.0	3.1	125-SB-045	56	4/4/2014	0.2	Target Elevation Reached
684583.0	602540.8	0.6	125-SB-066	56	4/4/2014	0.2	Target Elevation Reached
684576.6	602529.9	2.1	125-SB-069	56	4/4/2014	0.2	Target Elevation Reached
684574.5	602511.9	2.1	125-SB-069R	57	4/9/2014	1.6	Target Elevation Reached
684606.0	602536.9	0.4	125-SB-029R	57	4/9/2014	0.1	Target Elevation Reached
684636.4	602554.1	-2.4	125-SB-052	57	4/9/2014	-1.2	Stratum D Reached
684591.8	602507.6	2.1	125-SB-069R	58	4/9/2014	1.5	Target Elevation Reached
684679.9	602578.9	-2.3	125-SB-062	58	4/9/2014	-2.6	Stratum D Reached
684620.0	602524.0	0.6	125-SB-007	58	4/9/2014	0.2	Target Elevation Reached
684600.1	602523.2	0.6	125-SB-049	58	4/9/2014	-0.1	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684123.8	603224.1	-1.2	C1	1	10/24/2013	-1.7	Stratum D Reached
684124.9	603209.0	-1.2	C2	2	10/31/2013	-0.9	Stratum D Reached
684132.1	603196.4	-1.2	C3	3	10/31/2013	-1.1	Stratum D Reached
684138.4	603182.8	-1.2	C4	4	10/31/2013	-0.5	Stratum D Reached
684146.2	603165.7	-1.2	C5	5	10/31/2013	-0.6	Stratum D Reached
684153.8	603153.9	-1.2	C6	6	11/5/2013	-0.6	Stratum D Reached
684163.6	603140.8	-1.2	C7	7	11/7/2013	-1.0	Stratum D Reached
684171.5	603131.4	-1.2	C8	8	11/7/2013	-1.1	Stratum D Reached
684179.9	603119.5	-1.2	C9	9	11/7/2013	-1.2	Stratum D Reached
684187.6	603106.3	-1.2	C10	10	11/14/2013	-1.4	Stratum D Reached
684195.7	603093.1	-1.2	C11	11	11/14/2013	-1.5	Stratum D Reached
684200.6	603078.4	-1.2	C12	12	11/14/2013	-1.8	Stratum D Reached
684206.7	603063.8	-1.2	C13	13	11/21/2013	-1.6	Stratum D Reached
684214.8	603050.6	-1.2	C14	14	11/21/2013	-1.7	Stratum D Reached
684222.7	603033.3	-1.2	C15	15	12/5/2013	-0.8	Stratum D Reached
684221.8	603013.0	-1.2	C16	16	12/5/2013	-0.7	Stratum D Reached
684234.5	603010.3	-1.2	C17	17	12/10/2013	-0.5	Stratum D Reached
684247.3	602999.0	-1.2	C18	18	12/10/2013	-0.5	Stratum D Reached
684238.6	602972.8	-1.2	C19	19	12/12/2013	-1.0	Stratum D Reached
684187.4	602932.2	2.1	C19-1	19	12/12/2013	2.0	Target Elevation Reached
684248.1	602961.0	-1.2	C20	20	12/12/2013	-1.7	Stratum D Reached
684198.3	602920.8	2.1	C20-1	20	12/12/2013	2.0	Target Elevation Reached
684267.7	602959.2	-1.2	C-21	21	12/19/2013	-0.9	Stratum D Reached
684200.8	602904.5	2.1	C-21-1	21	12/19/2013	1.9	Target Elevation Reached
684272.8	602944.8	-1.2	C-22	22	12/19/2013	-0.9	Stratum D Reached
684207.2	602890.0	2.1	C-22-1	22	1/9/2014	2.1	Target Elevation Reached
684281.0	602931.9	-1.2	C-23	23	12/19/2013	-0.9	Stratum D Reached
684217.2	602879.5	2.1	C-23-1	23	12/19/2013	1.9	Target Elevation Reached
684293.5	602922.8	-1.2	C-24	24	1/2/2014	-0.9	Stratum D Reached
684227.9	602869.9	2.1	C-24-1	24	1/2/2014	2.1	Target Elevation Reached
684302.0	602910.0	-1.2	C-25	25	1/2/2014	-1.1	Stratum D Reached
684247.0	602862.1	0.4	C-25-1	25	1/2/2014	0.4	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684325.2	602907.2	-1.2	C-26	26	1/10/2014	-1.5	Stratum D Reached
684273.8	602864.2	0.4	C-26-1	26	1/10/2014	0.3	Target Elevation Reached
684335.7	602896.8	-1.2	C-27	27	1/10/2014	-1.5	Stratum D Reached
684285.9	602856.5	0.4	C-27-1	27	1/10/2014	0.4	Target Elevation Reached
684347.4	602890.7	-1.2	C-28	28	1/16/2014	-1.8	Stratum D Reached
684295.1	602846.5	0.4	C-28-1	28	1/16/2014	0.3	Target Elevation Reached
684357.8	602876.2	-1.2	C-29	29	1/16/2014	-2.1	Stratum D Reached
684305.4	602833.3	2.1	C-29-1	29	1/16/2014	2.1	Target Elevation Reached
684373.5	602871.7	-2.5	C-30	30	1/23/2014	-2.1	Stratum D Reached
684311.9	602821.5	2.1	C-30-1	30	1/23/2014	1.9	Target Elevation Reached
684384.9	602861.2	-2.5	C-31	31	1/23/2014	-2.3	Stratum D Reached
684318.6	602806.8	2.1	C-31-1	31	1/23/2014	1.9	Target Elevation Reached
684383.8	602841.5	-2.5	C-32	32	1/30/2014	-1.8	Stratum D Reached
684335.2	602800.6	2.1	C-32-1	32	1/30/2014	2.0	Target Elevation Reached
684393.5	602830.6	-2.5	C-33	33	1/30/2014	-1.9	Stratum D Reached
684348.7	602791.2	2.1	C-33-1	33	1/30/2014	2.0	Target Elevation Reached
684412.7	602824.5	-2.5	C-34	34	2/4/2014	-2.1	Stratum D Reached
684355.8	602781.0	2.1	C-34-1	34	2/4/2014	2.0	Target Elevation Reached
684422.4	602815.2	-2.5	C-35	35	2/4/2014	-2.1	Stratum D Reached
684367.5	602768.5	2.1	C-35-1	35	2/4/2014	2.0	Target Elevation Reached
684432.1	602801.8	-2.5	C-36	36	2/11/2014	-2.4	Stratum D Reached
684371.2	602753.4	2.1	C-36-1	36	2/11/2014	2.1	Target Elevation Reached
684440.7	602791.6	-2.5	C-37	37	2/11/2014	-2.5	Stratum D Reached
684380.7	602742.6	2.1	C-37-1	37	2/11/2014	2.1	Target Elevation Reached
684460.4	602787.7	-2.5	C-38	38	2/20/2014	-2.8	Stratum D Reached
684397.4	602736.2	2.1	C-38-1	38	2/20/2014	2.1	Target Elevation Reached
684471.9	602777.2	-2.5	C-39	39	2/20/2014	-2.9	Stratum D Reached
684416.4	602732.1	2.1	C-39-1	39	2/20/2014	2.1	Target Elevation Reached
684481.8	602765.6	-2.5	C-40	40	2/27/2014	-3.1	Stratum D Reached
684427.0	602721.5	0.4	C-40-1	40	2/27/2014	0.2	Target Elevation Reached
684491.3	602754.6	-2.5	C-41	41	2/27/2014	-2.9	Stratum D Reached
684432.9	602706.0	0.4	C-41-1	41	2/27/2014	0.1	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684496.7	602740.4	-2.5	C-42	42	3/5/2014	-3.3	Stratum D Reached
684439.6	602692.4	0.4	C-42-1	42	3/5/2014	0.1	Target Elevation Reached
684507.5	602729.5	-2.5	C-43	43	3/5/2014	-3.3	Stratum D Reached
684447.1	602679.0	0.4	C-43-1	43	3/5/2014	0.1	Target Elevation Reached
684524.2	602722.2	-2.5	C-44	44	3/11/2014	-3.5	Stratum D Reached
684454.3	602665.7	0.4	C-44-1	44	3/11/2014	0.2	Target Elevation Reached
684536.0	602714.2	-2.5	C-45	45	3/11/2014	-3.2	Stratum D Reached
684464.6	602655.3	0.4	C-45-1	45	3/11/2014	0.2	Target Elevation Reached
684535.1	602693.1	-2.5	C-46	46	3/17/2014	-3.2	Stratum D Reached
684472.4	602641.2	0.4	C-46-1	46	3/17/2014	0.2	Target Elevation Reached
684544.9	602683.5	-2.5	C-47	47	3/17/2014	-3.2	Stratum D Reached
684483.8	602632.5	0.4	C-47-1	47	3/17/2014	0.2	Target Elevation Reached
684551.5	602667.8	-2.5	C-48	48	3/20/2014	-3.0	Stratum D Reached
684492.6	602619.5	0.4	C-48-1	48	3/20/2014	0.4	Target Elevation Reached
684564.6	602658.9	-2.5	C-49	49	3/25/2014	-3.0	Stratum D Reached
684501.1	602607.9	0.4	C-49-1	49	3/25/2014	0.3	Target Elevation Reached
684574.8	602647.4	-2.5	C-50	50	3/25/2014	-3.6	Stratum D Reached
684526.0	602608.3	0.4	C-50-1	50	3/25/2014	0.3	Target Elevation Reached
684507.7	602591.7	-1.2	C-50-2	50	3/25/2014	-1.3	Target Elevation Reached
684584.1	602636.9	-2.5	C-51	51	3/28/2014	-3.0	Stratum D Reached
684535.3	602597.8	0.4	C-51-1	51	3/28/2014	0.3	Target Elevation Reached
684514.6	602580.4	-1.2	C-51-2	51	3/28/2014	-1.4	Target Elevation Reached
684596.7	602626.3	-2.5	C-52	52	3/28/2014	-2.9	Stratum D Reached
684547.0	602587.9	0.4	C-52-1	52	3/28/2014	0.2	Target Elevation Reached
684524.8	602569.7	-1.2	C-52-2	52	3/28/2014	-1.3	Target Elevation Reached
684602.1	602612.0	-2.5	C-53	53	4/1/2014	-2.3	Stratum D Reached
684557.0	602576.5	0.4	C-53-1	53	4/1/2014	0.3	Target Elevation Reached
684533.6	602556.0	-1.2	C-53-2	53	4/1/2014	-1.4	Target Elevation Reached
684610.8	602599.7	-2.5	C-54	54	4/4/2014	-2.0	Stratum D Reached
684560.2	602558.1	0.4	C-54-1	54	4/4/2014	0.3	Target Elevation Reached
684632.0	602597.9	-2.5	C-55	55	4/4/2014	-2.4	Stratum D Reached
684576.2	602552.1	0.4	C-55-1	55	4/4/2014	0.3	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684641.4	602586.6	-2.5	C-56	56	4/4/2014	-2.5	Stratum D Reached
684586.1	602541.3	0.4	C-56-1	56	4/4/2014	0.2	Target Elevation Reached
684656.7	602578.2	-2.5	C-57	57	4/9/2014	-2.4	Stratum D Reached
684606.0	602536.9	0.4	C-57-1	57	4/9/2014	0.1	Target Elevation Reached
684574.5	602511.9	2.1	C-57-2	57	4/9/2014	1.6	Target Elevation Reached
684662.3	602565.2	-2.5	C-58	58	4/9/2014	-2.7	Stratum D Reached
684616.2	602527.5	0.4	C-58-1	58	4/9/2014	0.3	Target Elevation Reached
684591.8	602507.6	2.1	C-58-2	58	4/9/2014	1.5	Target Elevation Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684162.0	603071.0	0.6	124-SB-017	11	11/14/2013	-0.2	Stratum D Reached
684174.6	603009.0	-1.8	124-SB-075	14	11/21/2013	-0.1	Stratum D Reached
684170.5	603030.7	-1.8	124-SB-076	13	11/21/2013	-0.1	Stratum D Reached
684173.5	602976.5	-2.2	124-SB-074	16	12/5/2013	-0.6	Stratum D Reached
684174.4	602980.6	1.2	124-SB-048	16	12/5/2013	-0.5	Stratum D Reached
684172.0	602944.6	4.3	124-SB-126	18	12/10/2013	-0.9	Stratum D Reached
684178.0	602906.0	4.5	124-SB-014	20	12/12/2013	2.0	Stratum D Reached
684192.9	602874.5	3.8	124-SB-090	22	12/19/2013	2.1	Target Elevation Reached
684234.9	602864.2	0.9	124-SB-019	25	1/2/2014	0.5	Target Elevation Reached
684289.2	602837.4	2.9	124-SB-050	28	1/16/2014	0.3	Target Elevation Reached
684301.0	602795.0	2.6	124-SB-108	31	1/23/2014	1.9	Target Elevation Reached
684328.2	602790.2	3.3	124-SB-063	32	1/30/2014	1.8	Target Elevation Reached
684338.1	602786.6	4.7	124-SB-056	33	1/30/2014	1.7	Target Elevation Reached
684348.0	602746.0	3.4	124-PT-02	35	2/4/2014	2.0	Target Elevation Reached
684386.0	602707.0	3.3	124-PT-01	39	2/20/2014	2.0	Target Elevation Reached
684411.1	602714.2	3.9	124-SB-065	40	2/27/2014	0.2	Target Elevation Reached
684408.4	602664.2	2.2	125-SB-088	42	3/5/2014	0.1	Target Elevation Reached
684419.7	602644.6	1.8	125-SB-067	44	3/11/2014	0.2	Target Elevation Reached
684457.0	602620.0	1.1	125-PT-15	47	3/17/2014	0.1	Target Elevation Reached
684479.5	602597.5	3.7	125-SB-081	49	3/20/2014	0.1	Target Elevation Reached
684495.3	602579.6	0.8	125-SB-091	50	3/25/2014	-1.4	Target Elevation Reached
684499.2	602575.0	2.3	125-SB-080	51	3/28/2014	-1.3	Target Elevation Reached
684513.9	602557.6	0.6	125-SB-092	52	3/28/2014	-1.3	Target Elevation Reached
684519.3	602551.3	2.5	125-SB-079	53	4/1/2014	-1.5	Target Elevation Reached
684552.7	602504.6	3.5	125-SB-087	56	4/4/2014	0.2	Target Elevation Reached

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

R. Thomas Hugg 9/22/15

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

ATTACHMENT B-2

SA-6 SOUTH EXCAVATION CONFIRMATORY POINTS (WEST)

Table 1.0 – 1.8 PDI Locations

Table 2.0 – 2.7 Center Points

Table 3.0 – 3.2 Sidewall

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SA-6 South Excavation: Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685514.6	601446.5	3.8	073-SB-029	152	4/25/2014	3.0	Target Elevation Reached
685482.2	601420.6	4.4	073-SB-054	152	4/24/2014	2.0	Target Elevation Reached
685458.7	601392.0	7.5	073-SB-056	152	4/24/2014	3.8	Target Elevation Reached
685474.8	601425.1	7.5	073-SB-057	151	4/24/2014	1.9	Target Elevation Reached
685502.9	601465.5	3.3	073-SB-028	150	4/25/2014	3.0	Target Elevation Reached
685463.0	601435.2	2.5	073-SB-059	150	4/24/2014	1.9	Target Elevation Reached
685490.0	601478.5	6.0	073-SB-042R	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	6.0	073-SB-042R	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	6.0	073-SB-042R	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	6.0	073-SB-042R	146A	4/24/2014	5.6	Target Elevation Reached
685448.9	601515.0	6.0	073-SB-042	145A	4/24/2014	5.6	Target Elevation Reached
685433.1	601528.8	6.0	073-SB-042R	144A	4/24/2014	5.4	Target Elevation Reached
685403.0	601506.0	-4.2	073-SB-037R	144A	4/24/2014	-4.5	Target Elevation Reached
685411.9	601522.2	-0.6	073-SB-066	143A	4/24/2014	-4.4	Target Elevation Reached
685427.6	601544.4	6.0	073-SB-042R	143A	4/24/2014	5.5	Target Elevation Reached
685430.7	601568.7	3.8	073-SB-041	142A	4/24/2014	2.0	Target Elevation Reached
685378.8	601531.7	-4.2	073-SB-037	142A	4/24/2014	-4.4	Target Elevation Reached
685371.0	601525.0	-2.2	073-SB-045	142A	4/24/2014	-4.4	Target Elevation Reached
685395.8	601557.3	2.3	073-SB-038	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.3	073-SB-038R	141A	4/24/2014	2.0	Target Elevation Reached
685410.7	601592.8	0.2	073-SB-040	140A	4/24/2014	-1.3	Target Elevation Reached
685381.0	601558.0	-3.9	073-SB-007	140A	4/24/2014	-4.4	Target Elevation Reached
685379.3	601577.9	0.6	073-SB-039	139A	4/24/2014	-4.3	Target Elevation Reached
685358.5	601560.3	-1.0	073-SB-036	139A	4/24/2014	-4.7	Target Elevation Reached
685390.7	601590.5	-0.6	073-SB-008R	139A	4/24/2014	-1.6	Target Elevation Reached
685390.0	601606.0	-0.6	073-SB-008	138A	4/29/2014	-1.6	Target Elevation Reached
685338.6	601567.5	2.1	073-SB-030R	138A	4/29/2014	1.7	Target Elevation Reached
685339.7	601592.9	1.5	073-SB-035	137A	4/29/2014	-2.9	Target Elevation Reached

* Elevations based on NGVD 1929 Datum. Coordinates are in the New Jersey state plane coordinate system, NAD 1983.

SA-6 South Excavation: Confirmatory Points (Table 1.1)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685328.7	601577.4	2.1	073-SB-030R	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-6.7	073-SB-009R	146B	5/5/2014	-8.0	Target Elevation Reached
685329.7	601419.3	-6.9	073-SB-047	145B	5/5/2014	-8.0	Target Elevation Reached
685314.6	601432.4	-6.7	073-SB-009R	144B	5/8/2014	-8.2	Target Elevation Reached
685318.9	601448.7	-5.3	073-SB-021	143B	5/8/2014	-7.9	Target Elevation Reached
685306.3	601465.9	-6.7	073-SB-009R	142B	5/12/2014	-7.6	Target Elevation Reached
685329.1	601510.6	-5.2	073-SB-075	141B	5/12/2014	-7.7	Target Elevation Reached
685310.4	601484.5	-4.8	073-SB-062	141B	5/12/2014	-8.0	Target Elevation Reached
685321.1	601501.8	-5.0	073-SB-065	141B	5/12/2014	-7.6	Target Elevation Reached
685288.0	601466.0	-6.7	073-SB-009	141B	5/12/2014	-7.7	Target Elevation Reached
685284.5	601485.3	-5.3	073-SB-020	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-6.7	073-SB-009R	139B	5/14/2014	-7.8	Target Elevation Reached
685256.2	601505.4	-3.2	073-SB-019	138B	5/14/2014	-7.7	Target Elevation Reached
685277.8	601539.2	2.1	073-SB-030R	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-0.6	073-SB-008R	136	5/5/2014	-1.5	Target Elevation Reached
685344.3	601618.9	-1.8	073-SB-033	136	5/5/2014	-2.9	Target Elevation Reached
685315.0	601587.9	2.1	073-SB-030R	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-0.6	073-SB-008R	135	5/8/2014	-1.4	Target Elevation Reached
685362.2	601641.7	-0.2	073-SB-034	135	5/8/2014	-2.8	Target Elevation Reached
685272.1	601572.6	2.1	073-SB-030R	135	5/19/2014	1.7	Target Elevation Reached
685248.2	601551.5	0.3	073-SB-050	135	5/19/2014	-1.2	Target Elevation Reached
685230.4	601535.5	0.3	073-SB-018	135	5/19/2014	-1.2	Target Elevation Reached
685358.1	601659.9	-0.6	073-SB-008R	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-1.8	073-SB-033R	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	073-SB-030R	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	0.6	073-SB-017R	134	5/19/2014	-1.2	Target Elevation Reached
685212.0	601570.0	-1.4	073-SB-011	133	5/22/2014	-3.3	Target Elevation Reached
685324.0	601643.0	-0.4	073-SB-010	133	5/14/2014	-2.7	Target Elevation Reached
685300.3	601630.9	2.1	073-SB-030	133	5/14/2014	1.8	Target Elevation Reached
685338.7	601665.5	2.3	073-SB-032R	133	5/12/2014	-0.1	Target Elevation Reached
685322.3	601651.3	-1.2	134-SB-136R	133	5/14/2014	-1.7	Target Elevation Reached
685215.0	601563.9	0.6	073-SB-017R	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.3	073-SB-032R	132	5/12/2014	1.7	Target Elevation Reached
685257.3	601619.3	2.1	073-SB-030R	132	5/19/2014	1.8	Target Elevation Reached
685194.1	601565.5	0.6	073-SB-017R	132	5/22/2014	-1.6	Target Elevation Reached
685216.3	601579.5	1.1	073-SB-049	132	5/22/2014	-3.0	Target Elevation Reached
685324.7	601663.5	2.3	073-SB-032	132	5/14/2014	-1.5	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.2)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685193.1	601579.8	0.6	073-SB-017	131	5/22/2014	-2.7	Target Elevation Reached
685301.9	601671.1	0.1	073-SB-031	131	5/14/2014	-1.5	Target Elevation Reached
685328.1	601694.6	2.3	073-SB-032R	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	073-SB-030R	131	5/19/2014	2.0	Target Elevation Reached
685202.7	601594.7	-1.4	073-SB-011R	131	5/22/2014	-2.9	Target Elevation Reached
685321.3	601708.0	2.3	073-SB-032R	130	5/19/2014	1.9	Target Elevation Reached
685300.8	601690.9	-1.2	134-SB-136R	130	5/19/2014	-1.5	Target Elevation Reached
685240.0	601641.1	2.1	073-SB-030R	130	5/19/2014	1.9	Target Elevation Reached
685193.4	601601.4	-1.4	073-SB-011R	130	5/22/2014	-2.5	Target Elevation Reached
685176.5	601589.8	0.6	073-SB-017R	130	5/22/2014	-1.9	Target Elevation Reached
685195.4	601621.6	-2.7	134-SB-123	129	5/27/2014	-7.9	Target Elevation Reached
685212.1	601635.4	-0.6	134-SB-132	129	5/27/2014	-8.2	Target Elevation Reached
685242.2	601665.8	1.3	134-SB-134	129	5/27/2014	0.2	Target Elevation Reached
685305.3	601707.9	-1.2	134-SB-140	129	5/19/2014	-1.2	Target Elevation Reached
685158.2	601591.1	-6.6	134-SB-114	129	5/27/2014	-7.6	Target Elevation Reached
685311.8	601720.4	2.3	073-SB-032R	129	5/22/2014	1.9	Target Elevation Reached
685263.1	601682.1	2.1	073-SB-030R	129	5/22/2014	1.8	Target Elevation Reached
685289.8	601729.8	2.0	134-SB-139	128	5/27/2014	-1.3	Target Elevation Reached
685303.5	601732.5	2.3	073-SB-032R	128	5/22/2014	1.9	Target Elevation Reached
685269.5	601703.1	2.1	073-SB-030R	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	1.3	134-SB-134R	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-6.7	134-SB-129R	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	2.4	134-SB-014R	127	5/29/2014	0.3	Target Elevation Reached
685276.2	601720.2	4.5	134-SB-135	127	5/27/2014	-1.2	Target Elevation Reached
685237.1	601700.2	1.3	134-SB-134R	127	6/2/2014	0.1	Target Elevation Reached
685258.0	601714.0	-1.1	134-SB-012	127	5/29/2014	-1.4	Target Elevation Reached
685226.8	601681.6	-0.7	134-SB-133	127	6/2/2014	-7.6	Target Elevation Reached
685172.0	601639.0	-5.6	134-SB-013	127	6/5/2014	-7.7	Target Elevation Reached
685285.7	601758.3	2.4	134-SB-014R	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	134-SB-136R	126	6/2/2014	-1.4	Target Elevation Reached
685122.8	601623.1	-8.4	134-SB-115	126	6/10/2014	-8.8	Target Elevation Reached
685155.2	601653.8	-5.8	134-SB-122	126	6/10/2014	-7.8	Target Elevation Reached
685178.8	601676.4	-6.1	134-SB-131	126	6/10/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.3)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685212.9	601702.0	-0.7	134-SB-130	126	6/10/2014	-7.7	Target Elevation Reached
685277.9	601769.3	2.4	134-SB-014R	125	6/2/2014	-0.6	Target Elevation Reached
685269.3	601754.4	-1.1	134-SB-138	125	6/2/2014	-1.7	Target Elevation Reached
685158.0	601676.7	-6.7	134-SB-129R	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	134-SB-115R	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	2.4	134-SB-014R	124	6/10/2014	0.1	Target Elevation Reached
685266.0	601776.0	2.4	134-SB-014	124	6/10/2014	-2.9	Target Elevation Reached
685100.0	601650.0	1.2	134-SB-116	124	6/17/2014	-8.2	Stratum D Reached
685136.1	601677.4	-7.7	134-SB-121	124	6/17/2014	-8.1	Stratum D Reached
685262.3	601792.9	2.4	134-SB-014R	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-1.5	134-SB-137R	123	6/10/2014	-2.8	Target Elevation Reached
685225.1	601760.9	-1.3	134-SB-136	123	6/10/2014	-1.7	Target Elevation Reached
685165.9	601710.7	-6.7	134-SB-129	123	6/17/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	134-SB-120R	123	6/20/2014	-7.8	Stratum D Reached
685252.4	601807.4	2.4	134-SB-014R	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601798.5	-1.5	134-SB-137	122	6/17/2014	-2.8	Target Elevation Reached
685207.9	601771.1	-1.3	134-SB-136R	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-6.7	134-SB-129R	122	6/20/2014	-7.5	Stratum D Reached
685113.6	601700.2	-8.7	134-SB-120	122	6/20/2014	-6.9	Stratum D Reached
685242.2	601818.1	2.4	134-SB-014R	121	6/17/2014	0.3	Target Elevation Reached
685201.0	601787.0	-0.6	134-SB-015	121	6/20/2014	-2.5	Target Elevation Reached
685189.3	601776.9	-1.3	134-SB-136R	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.3	124-SB-124R	121	6/25/2014	-2.5	Target Elevation Reached
685175.7	601754.9	-4.5	134-SB-127	121	6/20/2014	-7.8	Stratum D Reached
685140.4	601734.6	-0.8	134-SB-125	121	6/20/2014	-7.4	Stratum D Reached
685104.7	601708.0	-8.7	134-SB-120R	121	6/25/2014	-6.1	Stratum D Reached
685079.9	601677.2	0.9	134-SB-117	121	6/20/2014	-6.8	Stratum D Reached
685233.4	601829.1	2.4	134-SB-014R	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-1.5	134-SB-137R	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.3	134-SB-136R	120	6/20/2014	-1.5	Target Elevation Reached
685112.0	601735.0	-6.7	134-SB-016	120	6/25/2014	-7.5	Stratum D Reached
685094.8	601725.1	-5.2	134-SB-119	120	6/25/2014	-6.9	Stratum D Reached
685062.9	601695.5	-7.9	134-SB-118	120	6/25/2014	-6.4	Stratum D Reached
685159.9	601776.2	-2.3	134-SB-124	120	6/25/2014	-2.5	Target Elevation Reached
685223.8	601840.5	2.4	134-SB-014R	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-1.5	134-SB-137R	119	6/25/2014	-2.8	Target Elevation Reached
685170.4	601797.8	0.4	134-SB-060	119	6/25/2014	-1.4	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.4)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.7	601780.4	-2.3	124-SB-124R	119	6/25/2014	-2.8	Target Elevation Reached
685208.4	601850.6	2.4	134-SB-033R	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.4	134-SB-033R	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.4	134-SB-033R	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.4	134-SB-033R	115A	6/25/2014	-0.1	Target Elevation Reached
685069.9	601738.9	4.1	134-SB-155	118B	6/30/2014	-7.1	Stratum D Reached
685042.3	601722.7	-8.9	134-SB-141	118B	7/8/2014	-7.1	Stratum D Reached
685057.7	601744.9	-8.9	134-SB-141R	117B	7/8/2014	-6.5	Stratum D Reached
685040.6	601747.5	-6.8	134-SB-147	116B	7/8/2014	-6.9	Stratum D Reached
685024.0	601763.4	4.1	134-SB-154	115B	7/10/2014	-5.6	Stratum D Reached
685177.7	601903.0	2.4	134-SB-033R	114A	6/30/2014	0.5	Target Elevation Reached
685132.0	601873.0	-5.5	134-SB-019	114A	12/8/2014	-5.7	Stratum D Reached
685014.9	601776.3	4.1	134-SB-154R	114B	7/10/2014	3.9	Target Elevation Reached
685159.0	601914.0	2.4	134-SB-033	113A	7/3/2014	0.7	Target Elevation Reached
685116.0	601878.0	0.8	134-SB-057	113A	7/3/2014	-2.0	Stratum D Reached
685006.3	601780.6	4.1	134-SB-154R	113B	7/17/2014	3.6	Target Elevation Reached
685157.5	601925.6	2.4	134-SB-033R	112A	7/8/2014	0.0	Target Elevation Reached
685126.3	601904.5	-1.2	134-SB-052	112A	7/8/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.1	134-SB-154R	112B	7/17/2014	3.6	Target Elevation Reached
685145.9	601933.8	2.4	134-SB-033R	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	134-SB-052R	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.1	134-SB-154R	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.4	134-SB-033R	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	134-SB-052R	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.1	134-SB-154R	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.4	134-SB-033R	109A	7/10/2014	1.5	Target Elevation Reached
685111.5	601936.0	1.4	134-SB-056	109A	7/10/2014	-1.3	Target Elevation Reached
684960.2	601820.4	4.1	134-SB-154R	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.4	134-SB-033R	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	134-SB-052R	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.1	134-SB-154R	108B	7/17/2014	3.6	Target Elevation Reached
685117.6	601982.8	0.9	134-SB-062	107A	7/17/2014	-5.0	Stratum D Reached
685087.5	601965.4	1.8	134-SB-051	107A	7/17/2014	-5.1	Stratum D Reached
684939.3	601841.8	4.1	134-SB-154R	107B	7/17/2014	3.6	Target Elevation Reached

SA-6 South Excavation: Confirmatory Points (Table 1.5)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684928.5	601848.2	4.1	134-SB-154R	106B	7/17/2014	3.8	Target Elevation Reached
685068.4	601974.0	-3.3	134-SB-061	106A	11/20/2014	-5.7	Stratum D Reached
685046.6	601950.7	1.2	134-SB-061R	106A	7/23/2014	-2.8	Target Elevation Reached
685076.6	601999.1	-6.7	134-SB-065	105	7/23/2014	-4.7	Stratum D Reached
685029.8	601954.8	1.2	134-SB-061R	105	7/23/2014	-2.8	Target Elevation Reached
685087.0	602018.0	-5.7	134-SB-024	104	7/29/2014	-5.1	Stratum D Reached
685017.7	601961.5	1.2	134-SB-061R	104	7/29/2014	-5.7	Stratum D Reached
685065.1	602014.9	-5.2	134-SB-064	103	7/29/2014	-5.1	Stratum D Reached
685036.9	601997.8	-5.2	134-SB-078	103	7/29/2014	-6.2	Stratum D Reached
685012.7	601978.2	-7.5	134-SB-113	103	11/20/2014	-7.6	Stratum D Reached
685021.0	602007.9	-7.9	134-SB-080	102	7/31/2014	-6.0	Stratum D Reached
685024.9	602029.4	-7.8	134-SB-042	101	8/4/2014	-5.6	Stratum D Reached
684982.2	601991.3	0.1	134-SB-098	101	8/4/2014	-8.0	Stratum D Reached
685016.6	602043.2	-6.1	134-SB-032R	100	8/6/2014	-6.2	Stratum D Reached
685003.8	602054.0	-6.4	134-SB-083	99	8/6/2014	-5.4	Stratum D Reached
685001.8	602054.2	-7.4	134-SB-S08	99	8/6/2014	-5.2	Stratum D Reached
685033.1	602098.5	-6.7	134-SB-063	98	8/8/2014	-5.4	Stratum D Reached
684988.8	602075.4	-7.4	134-SB-043	97	8/8/2014	-4.6	Stratum D Reached
684959.7	602075.1	-7.1	134-SB-054	96	8/12/2014	-5.1	Stratum D Reached
685001.0	602117.0	-6.1	134-SB-032	95	8/12/2014	-5.5	Stratum D Reached
684972.2	602122.1	-6.1	134-SB-032R	94	8/14/2014	-4.6	Stratum D Reached
684941.6	602113.9	-7.6	134-SB-044	93	8/14/2014	-5.1	Stratum D Reached
684945.3	602113.6	-5.6	134-SB-084	93	8/14/2014	-5.1	Stratum D Reached
684966.5	602131.5	-6.4	134-SB-085	93	8/14/2014	-4.4	Stratum D Reached
684994.9	602150.7	-6.4	134-SB-086	93	8/14/2014	-5.0	Stratum D Reached
684955.8	602150.0	-6.1	134-SB-032R	92	8/18/2014	-4.6	Stratum D Reached
684946.6	602152.9	-7.0	134-SB-046	91	8/18/2014	-4.9	Stratum D Reached
684969.5	602171.1	-6.5	134-SB-047	91	8/18/2014	-5.2	Stratum D Reached
684915.0	602157.9	-6.4	134-SB-150	90	8/20/2014	-5.9	Stratum D Reached
684948.5	602187.3	-5.8	134-SB-158	90	8/20/2014	-5.2	Stratum D Reached
684908.2	602155.7	-8.0	134-SB-049	89	8/20/2014	-5.9	Stratum D Reached
684943.6	602214.1	-6.9	140-SB-035	88	8/25/2014	-6.7	Stratum D Reached
684905.5	602180.6	-7.8	140-SB-063	88	8/25/2014	-6.1	Stratum D Reached
684875.3	602175.3	-7.8	140-SB-062	87	8/25/2014	-5.8	Stratum D Reached
684875.5	602187.9	-7.3	140-SB-103	86	8/29/2014	-5.8	Stratum D Reached
684915.0	602239.0	-6.1	140-SB-007	85	8/29/2014	-5.7	Stratum D Reached
684896.1	602229.3	-6.6	140-SB-038	85	8/29/2014	-5.7	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.6)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684862.9	602228.0	-6.1	134-SB-032R	84	9/4/2014	-5.6	Stratum D Reached
684901.7	602269.3	-5.3	140-SB-040	83	9/4/2014	-5.7	Stratum D Reached
684826.5	602208.8	-6.5	140-SB-051	83	9/4/2014	-4.7	Stratum D Reached
684854.3	602237.3	-6.7	140-SB-041	83	9/4/2014	-4.9	Stratum D Reached
684771.0	602188.4	-4.8	140-SB-044	82	9/10/2014	-5.2	Stratum D Reached
684800.2	602210.9	-6.5	140-SB-042	82	9/10/2014	-4.7	Stratum D Reached
684865.2	602271.1	-6.2	140-SB-064	82	9/10/2014	-4.8	Stratum D Reached
684830.9	602252.5	-6.3	140-SB-066	81	9/17/2014	-3.1	Stratum D Reached
684716.6	602169.4	-0.2	140-SB-043	81	9/17/2014	-5.0	Stratum D Reached
684755.4	602222.4	-5.7	140-SB-047	80	9/23/2014	-4.6	Stratum D Reached
684823.4	602275.4	-5.0	140-SB-048	80	9/17/2014	-2.8	Stratum D Reached
684687.1	602171.5	0.3	140-SB-049	79	9/23/2014	-3.9	Stratum D Reached
684721.0	602200.6	-4.2	140-SB-046	79	9/23/2014	-5.1	Stratum D Reached
684680.8	602178.0	-3.3	140-SB-075	79	9/23/2014	-3.3	Stratum D Reached
684695.5	602194.5	-4.8	140-SB-018	79	9/23/2014	-4.4	Stratum D Reached
684767.0	602244.0	-4.4	140-SB-010	79	9/23/2014	-4.0	Stratum D Reached
684818.0	602299.0	-5.4	140-SB-009	78	9/23/2014	-3.3	Stratum D Reached
684855.0	602329.0	-5.8	140-SB-065	78	9/23/2014	-2.7	Stratum D Reached
684656.0	602192.0	-2.7	140-SB-026	77	9/29/2014	-2.3	Stratum D Reached
684740.4	602255.2	-5.4	140-SB-082	77	9/29/2014	-3.5	Stratum D Reached
684815.0	602348.7	-3.4	140-SB-094	76	10/2/2014	-3.0	Stratum D Reached
684787.4	602330.2	-0.4	140-SB-086	75	10/2/2014	-4.0	Stratum D Reached
684744.9	602306.7	-1.4	140-SB-083	75	10/2/2014	-4.5	Stratum D Reached
684713.1	602276.0	-0.4	140-SB-081	75	10/2/2014	-3.2	Stratum D Reached
684668.4	602240.2	0.1	140-SB-079	75	10/2/2014	-2.9	Stratum D Reached
684643.7	602221.3	-4.2	140-SB-050	75	10/2/2014	-3.6	Stratum D Reached
684628.7	602233.7	-2.9	140-SB-074	74	10/2/2014	-3.1	Stratum D Reached
684703.0	602285.6	2.6	140-SB-080	74	10/2/2014	-3.1	Stratum D Reached
684733.7	602322.4	0.6	140-SB-084	74	10/2/2014	-3.2	Stratum D Reached
684799.9	602371.9	0.1	140-SB-088	74	10/2/2014	-2.9	Stratum D Reached
684653.9	602259.3	-1.4	140-SB-078	73	10/2/2014	-3.6	Stratum D Reached
684755.3	602343.3	0.6	140-SB-085	73	10/7/2014	-1.6	Stratum D Reached
684660.7	602300.1	0.9	140-SB-089	72	10/9/2014	-2.8	Stratum D Reached
684693.1	602326.3	-3.0	140-SB-090	72	10/7/2014	-3.3	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.7)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684745.4	602367.1	1.0	140-SB-091	72	10/7/2014	-0.1	Target Elevation Reached
684640.0	602295.0	1.9	140-SB-011	71	10/9/2014	-4.0	Stratum D Reached
684734.3	602372.2	0.4	125-SB-029R	71	10/9/2014	0.2	Target Elevation Reached
684629.9	602309.5	5.8	140-SB-033	70	10/9/2014	2.4	Target Elevation Reached
684725.2	602383.8	0.4	125-SB-029R	70	10/9/2014	0.1	Target Elevation Reached
684642.9	602315.4	0.9	140-SB-089R	70	10/9/2014	-0.4	Target Elevation Reached
684764.0	602429.2	-7.0	140-SB-N07	69	10/14/2014	-2.4	Stratum D Reached
684715.1	602395.2	0.4	125-SB-029R	69	10/14/2014	0.1	Target Elevation Reached
684632.0	602327.7	5.8	140-SB-033R	69	10/14/2014	3.2	Target Elevation Reached
684669.3	602386.6	-0.6	140-SB-070	68	10/21/2014	-2.3	Stratum D Reached
684679.0	602393.0	0.0	140-SB-013	68	10/14/2014	-2.4	Stratum D Reached
684760.1	602448.4	-1.4	140-SB-083R	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	125-SB-029R	68	10/14/2014	0.1	Target Elevation Reached
684629.6	602343.1	5.8	140-SB-033R	68	10/14/2014	3.5	Target Elevation Reached
684749.9	602465.0	-1.4	140-SB-083R	67	10/21/2014	-2.1	Stratum D Reached
684700.0	602423.0	0.8	140-SB-012	67	10/21/2014	-0.1	Target Elevation Reached
684715.4	602440.1	-1.0	140-SB-029	67	10/21/2014	-1.4	Stratum D Reached
684662.8	602394.7	-1.4	140-SB-083R	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-1.4	140-SB-083R	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	125-SB-029R	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	125-SB-073R	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	125-SB-029R	66	10/21/2014	0.1	Target Elevation Reached
684666.6	602417.0	-2.7	140-SB-068	66	10/21/2014	-3.0	Stratum D Reached
684735.5	602488.2	-1.4	140-SB-083R	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	125-SB-029R	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	125-SB-073R	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	125-SB-029R	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-1.4	140-SB-083R	65	10/21/2014	-3.2	Stratum D Reached
684666.2	602452.6	2.5	140-SB-030	64	10/21/2014	-3.4	Stratum D Reached
684735.4	602510.4	-3.6	140-SB-067	64	10/24/2014	-2.3	Stratum D Reached
684713.8	602503.3	4.3	140-SB-028	63	10/27/2014	-2.4	Stratum D Reached
684727.7	602515.9	-2.0	140-SB-104	63	10/27/2014	-2.2	Stratum D Reached
684648.6	602457.4	0.4	125-SB-029R	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	125-SB-073R	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	125-SB-029R	62	10/21/2014	-0.3	Target Elevation Reached
684653.2	602490.5	0.2	125-SB-057	61	10/24/2014	-2.6	Stratum D Reached
684675.4	602508.2	-1.2	125-SB-073	61	10/27/2014	-2.5	Stratum D Reached

SA-6 South Excavation: Confirmatory Points (Table 1.8)							
Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684697.8	602526.3	-2.2	125-SB-055	61	10/28/2014	-2.9	Stratum D Reached
684707.1	602549.9	-3.4	125-SB-072	61	10/28/2014	-2.8	Stratum D Reached
684639.4	602487.5	0.4	125-SB-029R	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	125-SB-073R	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	125-SB-029R	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	125-SB-069R	60	10/21/2014	1.7	Target Elevation Reached
684678.4	602552.4	-2.4	125-SB-061	59	10/28/2014	-2.9	Stratum D Reached
684615.0	602501.1	0.5	125-SB-048	59	10/21/2014	-0.1	Target Elevation Reached
684633.9	602516.6	0.6	125-SB-046	59	10/24/2014	-2.5	Stratum D Reached
684656.3	602534.7	-1.4	125-SB-074	59	10/27/2014	-2.6	Stratum D Reached
684604.5	602498.0	2.1	125-SB-069R	59	10/21/2014	1.7	Target Elevation Reached
684916.0	601955.0	-0.4	134-SB-026	Area 41	12/10/2014	-2.0	Target Elevation Reached

143-SB-43R: "R" designation indicates Reference Confirmatory Point for a designated Bottom Excavation Area. Coordinates come from Center Points within that specific cell.

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

SA-6 South Excavation: Center Points (Table 2.0)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685460.6	601379.6	5.7	C-153	153	4/24/2014	3.9	Target Elevation Reached- Cell only partially excavated
685497.5	601425.0	5.7	C-152	152	4/24/2014	4.2	Target Elevation Reached
685453.0	601392.1	5.7	C-152-1	152	4/24/2014	3.7	Target Elevation Reached
685467.8	601422.4	5.7	C-151	151	4/24/2014	1.9	Target Elevation Reached
685489.7	601438.8	5.7	C-151-1	151	4/24/2014	3.9	Target Elevation Reached
685448.1	601407.0	5.7	C-151-2	151	4/24/2014	4.0	Target Elevation Reached
685511.4	601454.1	3.3	C-151-3	151	4/25/2014	3.0	Target Elevation Reached
685455.0	601431.7	5.7	C-150	150	4/24/2014	2.1	Target Elevation Reached
685480.8	601450.0	5.7	C-150-1	150	4/24/2014	4.0	Target Elevation Reached
685502.2	601463.5	2.8	C-150-2	150	4/25/2014	2.8	Target Elevation Reached
685490.0	601478.5	5.7	C-149	149	4/24/2014	5.7	Target Elevation Reached
685480.3	601489.8	5.7	C-148	148	4/24/2014	5.6	Target Elevation Reached
685469.5	601500.3	5.7	C-147	147	4/24/2014	5.5	Target Elevation Reached
685454.7	601508.1	5.7	C-146	146A	4/24/2014	5.6	Target Elevation Reached
685444.3	601518.5	5.7	C-145	145A	4/24/2014	5.5	Target Elevation Reached
685403.0	601506.0	-4.3	C-144	144A	4/24/2014	-4.5	Target Elevation Reached
685433.1	601528.8	5.7	C-144-1	144A	4/24/2014	5.4	Target Elevation Reached
685396.1	601517.4	-4.3	C-143	143A	4/24/2014	-5.3	Target Elevation Reached
685427.6	601544.4	5.7	C-143-1	143A	4/24/2014	5.5	Target Elevation Reached
685386.6	601530.7	-4.3	C-142	142A	4/24/2014	-4.8	Target Elevation Reached
685416.3	601555.6	5.7	C-142-1	142A	4/24/2014	1.9	Target Elevation Reached
685379.5	601542.9	-4.3	C-141	141A	4/24/2014	-4.4	Target Elevation Reached
685409.8	601567.0	2.1	C-141-1	141A	4/24/2014	2.0	Target Elevation Reached
685371.7	601554.8	-4.3	C-140	140A	4/24/2014	-4.5	Target Elevation Reached
685401.1	601580.7	2.1	C-140-1	140A	4/24/2014	-1.5	Target Elevation Reached
685352.9	601555.6	-4.3	C-139	139A	4/24/2014	-4.4	Target Elevation Reached
685390.7	601590.5	-1.2	C-139-1	139A	4/24/2014	-1.6	Target Elevation Reached
685368.1	601592.3	-1.2	C-138	138A	4/29/2014	-1.5	Target Elevation Reached
685338.6	601567.5	2.1	C-138-1	138A	4/29/2014	1.7	Target Elevation Reached
685359.7	601603.5	-1.2	C-137	137A	4/29/2014	-1.5	Target Elevation Reached
685328.7	601577.4	2.1	C-137-1	137A	4/29/2014	1.8	Target Elevation Reached
685333.1	601413.4	-7.5	C-146-B	146B	5/5/2014	-8.0	Target Elevation Reached
685320.3	601420.2	-7.5	C-145-B	145B	5/5/2014	-7.8	Target Elevation Reached
685314.6	601432.4	-7.5	C-144-B	144B	5/8/2014	-8.2	Target Elevation Reached
685307.0	601446.0	-7.5	C-143-B	143B	5/8/2014	-8.0	Target Elevation Reached
685306.3	601465.9	-7.5	C142-B	142B	5/12/2014	-7.6	Target Elevation Reached
685304.8	601483.2	-7.5	C-141-B	141B	5/12/2014	-7.9	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.1)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685295.5	601493.5	-7.5	C-140-B	140B	5/14/2014	-7.8	Target Elevation Reached
685283.3	601504.6	-7.5	C-139-B	139B	5/14/2014	-7.8	Target Elevation Reached
685266.5	601506.3	-7.5	C-138-B	138B	5/14/2014	-7.8	Target Elevation Reached
685277.8	601539.2	2.1	C-137-B	137B	5/19/2014	1.6	Target Elevation Reached
685368.8	601630.8	-1.2	C-136-2	136	5/5/2014	-1.5	Target Elevation Reached
685343.4	601610.1	-2.5	C-136	136	5/5/2014	-2.8	Target Elevation Reached
685315.0	601587.9	2.1	C-136-1	136	5/5/2014	1.7	Target Elevation Reached
685366.5	601648.5	-1.2	C-135-1	135	5/8/2014	-1.4	Target Elevation Reached
685348.8	601634.5	-2.5	C-135	135	5/8/2014	-2.6	Target Elevation Reached
685272.1	601572.6	2.1	C-135-2	135	5/19/2014	1.7	Target Elevation Reached
685236.7	601544.8	-1.2	C-135-3	135	5/19/2014	-1.3	Target Elevation Reached
685358.1	601659.9	-1.2	C-134-1	134	5/8/2014	-1.5	Target Elevation Reached
685338.6	601644.9	-2.5	C-134	134	5/8/2014	-2.9	Target Elevation Reached
685276.4	601595.5	2.1	C-134-2	134	5/19/2014	1.9	Target Elevation Reached
685225.7	601553.7	-1.2	C-134-3	134	5/19/2014	-1.2	Target Elevation Reached
685322.3	601651.3	-1.2	C-133-1	133	5/14/2014	-1.7	Target Elevation Reached
685338.7	601665.5	0.4	C-133	133	5/12/2014	-0.1	Target Elevation Reached
685264.0	601607.6	2.1	C-133-2	133	5/19/2014	1.8	Target Elevation Reached
685215.0	601563.9	-1.2	C-133-3	133	5/19/2014	-1.4	Target Elevation Reached
685332.3	601683.5	2.1	C-132-1	132	5/12/2014	1.7	Target Elevation Reached
685314.3	601666.4	-1.2	C-132	132	5/14/2014	-1.5	Target Elevation Reached
685210.3	601579.7	-2.5	C-132-B	132	5/22/2014	-3.2	Target Elevation Reached
685194.1	601565.5	-1.2	C-132-B1	132	5/22/2014	-1.6	Target Elevation Reached
685257.3	601619.3	2.1	C-132-2	132	5/19/2014	1.8	Target Elevation Reached
685307.8	601677.9	-1.2	C-131	131	5/14/2014	-1.4	Target Elevation Reached
685202.7	601594.7	-2.5	C-131-B	131	5/22/2014	-2.9	Target Elevation Reached
685184.3	601577.4	-1.2	C-131-B1	131	5/22/2014	-2.1	Target Elevation Reached
685328.1	601694.6	2.1	C-131-1	131	5/14/2014	1.9	Target Elevation Reached
685248.7	601630.4	2.1	C-131-2	131	5/19/2014	2.0	Target Elevation Reached
685193.4	601601.4	-2.5	C-130-B	130	5/22/2014	-2.5	Target Elevation Reached
685300.8	601690.9	-1.2	C-130	130	5/19/2014	-1.5	Target Elevation Reached
685176.5	601589.8	-1.2	C-130-B1	130	5/22/2014	-1.9	Target Elevation Reached
685240.0	601641.1	2.1	C-130-2	130	5/19/2014	1.9	Target Elevation Reached
685321.3	601708.0	2.1	C-130-1	130	5/19/2014	1.9	Target Elevation Reached
685294.8	601706.8	-1.2	C-129-A	129	5/22/2014	-1.4	Target Elevation Reached
685311.8	601720.4	2.1	C-129-A1	129	5/22/2014	1.9	Target Elevation Reached
685186.2	601619.2	-7.5	C-129-B	129	5/27/2014	-8.0	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.2)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685236.4	601661.1	0.4	C-129-1	129	5/27/2014	0.1	Target Elevation Reached
685263.1	601682.1	2.1	C-129-2	129	5/22/2014	1.8	Target Elevation Reached
685303.5	601732.5	2.1	C-128-A-1	128	5/22/2014	1.9	Target Elevation Reached
685286.6	601718.1	-1.2	C-128-A	128	5/22/2014	-1.4	Target Elevation Reached
685269.5	601703.1	2.1	C-128-A-2	128	5/22/2014	1.7	Target Elevation Reached
685245.3	601687.9	0.4	C-128-A-3	128	5/29/2014	0.2	Target Elevation Reached
685174.0	601627.1	-7.5	C-128-B	128	6/2/2014	-7.5	Target Elevation Reached
685295.0	601745.8	0.4	C-127-A	127	5/29/2014	0.3	Target Elevation Reached
685271.3	601725.5	-1.2	C-127-A-1	127	5/29/2014	-1.3	Target Elevation Reached
685237.1	601700.2	0.4	C-127-A-2	127	6/2/2014	0.1	Target Elevation Reached
685171.9	601645.3	-7.5	C-127-B	127	6/5/2014	-7.5	Target Elevation Reached
685285.7	601758.3	0.4	C-126-A-1	126	6/2/2014	0.4	Target Elevation Reached
685254.1	601730.8	-1.2	C-126-A	126	6/2/2014	-1.4	Target Elevation Reached
685166.8	601663.7	-7.5	C-126-3	126	6/10/2014	-7.6	Target Elevation Reached
685122.3	601624.7	-8.4	C-126-4	126	6/10/2014	-8.8	Target Elevation Reached
685277.9	601769.3	0.4	C-125	125	6/2/2014	-0.6	Target Elevation Reached
685241.9	601742.6	-1.2	C-125-1	125	6/5/2014	-1.4	Target Elevation Reached
685158.0	601676.7	-7.5	C-125-2	125	6/17/2014	-8.0	Stratum D Reached
685110.5	601637.9	-8.4	C-125-3	125	6/17/2014	-8.1	Stratum D Reached
685270.5	601782.3	0.4	C-124	124	6/10/2014	0.1	Target Elevation Reached
685261.7	601778.9	-2.5	C-124-1	124	6/10/2014	-2.8	Target Elevation Reached
685230.8	601752.7	-1.2	C-124-2	124	6/10/2014	-1.4	Target Elevation Reached
685172.8	601704.6	-7.5	C-124-4	124	6/17/2014	-7.7	Stratum D Reached
685128.8	601669.1	-8.7	C-124-5	124	6/17/2014	-7.8	Stratum D Reached
685104.8	601647.4	-7.5	C-124-6	124	6/17/2014	-8.6	Stratum D Reached
685262.3	601792.9	0.4	C-123	123	6/10/2014	0.3	Target Elevation Reached
685250.2	601784.5	-2.5	C-123-1	123	6/10/2014	-2.8	Target Elevation Reached
685221.2	601763.9	-1.2	C-123-2	123	6/10/2014	-1.7	Target Elevation Reached
685162.4	601719.5	-7.5	C-123-3	123	6/20/2014	-7.7	Stratum D Reached
685121.9	601682.4	-8.7	C-123-4	123	6/20/2014	-7.8	Stratum D Reached
685091.7	601659.6	-7.5	C-123-5	123	6/20/2014	-8.1	Stratum D Reached
685252.4	601807.4	0.4	C-122	122	6/13/2014	0.2	Target Elevation Reached
685234.5	601792.7	-2.5	C-122-1	122	6/13/2014	-2.6	Target Elevation Reached
685207.9	601771.1	-1.2	C-122-2	122	6/13/2014	-1.7	Target Elevation Reached
685154.7	601728.1	-7.5	C-122-5	122	6/20/2014	-7.5	Stratum D Reached
685108.5	601694.5	-8.7	C-122-6	122	6/20/2014	-6.9	Stratum D Reached
685086.9	601671.6	-7.5	C-122-3	122	6/20/2014	-7.4	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.3)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685242.2	601818.1	0.4	C-121	121	6/17/2014	0.3	Target Elevation Reached
685214.5	601794.9	-2.5	C-121-3	121	6/20/2014	-2.6	Target Elevation Reached
685189.3	601776.9	-1.2	C-121-2	121	6/20/2014	-1.7	Target Elevation Reached
685163.9	601758.7	-2.5	C-121-5	121	6/25/2014	-2.5	Target Elevation Reached
685127.3	601725.9	-7.5	C-121-6	121	6/25/2014	-7.0	Stratum D Reached
685104.7	601708.0	-8.7	C-121-7	121	6/25/2014	-6.1	Stratum D Reached
685073.0	601686.3	-7.5	C-121-8	121	6/25/2014	-7.1	Stratum D Reached
685233.4	601829.1	0.4	C-120-1	120	6/20/2014	0.1	Target Elevation Reached
685205.7	601808.2	-2.5	C-120	120	6/20/2014	-2.7	Target Elevation Reached
685179.5	601790.4	-1.2	C-120-2	120	6/20/2014	-1.5	Target Elevation Reached
685153.6	601765.8	-2.5	C-120-3	120	6/25/2014	-2.7	Target Elevation Reached
685095.6	601718.8	-7.5	C-120-4	120	6/25/2014	-6.9	Stratum D Reached
685223.8	601840.5	0.4	C-119	119	6/25/2014	0.0	Target Elevation Reached
685196.9	601820.6	-2.5	C-119-1	119	6/25/2014	-2.8	Target Elevation Reached
685172.6	601798.3	-1.2	C-119-2	119	6/25/2014	-1.2	Target Elevation Reached
685145.7	601780.4	-2.5	C-119-3	119	6/25/2014	-2.8	Target Elevation Reached
685080.0	601724.8	-7.5	C-119-4	119	6/30/2014	-6.9	Stratum D Reached
685208.4	601850.6	2.1	C-118	118A	6/25/2014	-0.2	Target Elevation Reached
685197.6	601860.1	2.1	C-117	117A	6/25/2014	-0.4	Target Elevation Reached
685189.6	601872.3	2.1	C-116	116A	6/25/2014	-0.3	Target Elevation Reached
685176.1	601884.2	2.1	C-115	115A	6/25/2014	-0.1	Target Elevation Reached
685069.7	601734.8	-7.5	C-118-1	118B	6/30/2014	-6.1	Stratum D Reached
685057.7	601744.9	-7.5	C-117-1	117B	7/8/2014	-6.5	Stratum D Reached
685031.8	601746.6	-7.5	C-116-1	116B	7/8/2014	-7.0	Stratum D Reached
685022.1	601754.6	-7.5	C-115-1	115B	7/10/2014	-5.9	Stratum D Reached
685177.7	601903.0	2.1	C-114	114A	6/30/2014	0.5	Target Elevation Reached
685147.1	601873.7	-1.2	C-114-1	114A	6/30/2014	-1.3	Target Elevation Reached
685014.9	601776.3	4.2	C-114-2	114B	7/10/2014	3.9	Target Elevation Reached
684985.2	601787.3	4.2	C-114-3	114B	7/17/2014	-1.8	Increased excavation depth - UST location
685166.0	601912.1	2.1	C-113-1	113A	7/3/2014	0.9	Target Elevation Reached
685134.0	601884.4	-1.2	C-113-2	113A	7/3/2014	-1.7	Target Elevation Reached
685006.3	601780.6	4.2	C-113-3	113B	7/17/2014	3.6	Target Elevation Reached
684998.3	601772.8	4.2	C-113-4	113B	7/17/2014	-2.1	Increased excavation depth - UST location
685157.5	601925.6	2.1	C-112	112A	7/8/2014	0.0	Target Elevation Reached
685124.9	601894.4	-1.2	C-112-1	112A	7/3/2014	-1.6	Target Elevation Reached
684996.9	601793.0	4.2	C-112-2	112B	7/17/2014	3.6	Target Elevation Reached
685002.7	601764.7	4.2	C-112-3	112B	7/17/2014	-2.0	Increased excavation depth - UST location

SA-6 South Excavation: Center Points (Table 2.4)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685145.9	601933.8	2.1	C-111-1	111A	7/8/2014	1.6	Target Elevation Reached
685114.0	601907.9	-1.2	C-111	111A	7/8/2014	-1.6	Target Elevation Reached
684986.6	601802.0	4.2	C-111-4	111B	7/17/2014	3.7	Target Elevation Reached
685137.8	601946.4	2.1	C-110	110A	7/10/2014	1.6	Target Elevation Reached
685105.5	601922.1	-1.2	C-110-1	110A	7/8/2014	-2.0	Target Elevation Reached
684971.7	601811.5	4.2	C-110-4	110B	7/17/2014	3.9	Target Elevation Reached
685129.5	601955.7	2.1	C-109	109A	7/10/2014	1.5	Target Elevation Reached
685097.4	601930.7	-1.2	C-109-1	109A	7/10/2014	-1.5	Target Elevation Reached
684960.2	601820.4	4.2	C-109-4	109B	7/17/2014	3.5	Target Elevation Reached
685119.7	601973.5	2.1	C-108-1	108A	7/17/2014	1.6	Target Elevation Reached
685087.5	601946.0	-1.2	C-108	108A	7/10/2014	-1.4	Target Elevation Reached
684950.4	601832.8	4.2	C-108-4	108B	7/17/2014	3.6	Target Elevation Reached
685110.1	601981.8	-4.3	C-107-1	107A	7/17/2014	-4.8	Stratum D Reached
685069.0	601948.1	-1.2	C-107-2	107A	7/17/2014	-1.3	Target Elevation Reached
684939.3	601841.8	4.2	C-107-4	107B	7/17/2014	3.6	Target Elevation Reached
684928.5	601848.2	4.2	C-106-4	106B	7/17/2014	3.8	Target Elevation Reached
685089.2	601980.6	-4.3	C-106	106A	7/23/2014	-5.3	Stratum D Reached
685046.6	601950.7	-2.5	C-106-1	106A	7/23/2014	-2.8	Target Elevation Reached
685080.0	601994.5	-4.3	C-105	105	7/23/2014	-5.2	Stratum D Reached
685029.8	601954.8	-2.5	C-105-1	105	7/23/2014	-2.8	Target Elevation Reached
685062.9	602000.7	-4.3	C-104	104	7/29/2014	-5.3	Stratum D Reached
685017.7	601961.5	-2.5	C-104-1	104	7/29/2014	-5.7	Stratum D Reached
685027.6	601993.5	-4.3	C-103	103	7/29/2014	-6.5	Stratum D Reached
685021.1	602004.8	-4.3	C-102	102	7/31/2014	-6.1	Stratum D Reached
685014.2	602023.1	-4.3	C-101	101	8/4/2014	-5.8	Stratum D Reached
685016.6	602043.2	-4.3	C-100	100	8/6/2014	-6.2	Stratum D Reached
685015.8	602057.5	-4.3	C-99	99	8/6/2014	-5.6	Stratum D Reached
685008.9	602072.0	-4.3	C-98	98	8/8/2014	-5.2	Stratum D Reached
685000.4	602084.6	-4.3	C-97	97	8/8/2014	-4.8	Stratum D Reached
684989.2	602093.1	-4.3	C-96	96	8/12/2014	-5.5	Stratum D Reached
684975.6	602105.6	-4.3	C-95	95	8/12/2014	-5.6	Stratum D Reached
684972.2	602122.1	-4.3	C-94	94	8/14/2014	-4.6	Stratum D Reached
684974.5	602139.6	-4.3	C-93	93	8/14/2014	-4.2	Stratum D Reached
684955.8	602150.0	-4.3	C-92	92	8/18/2014	-4.6	Stratum D Reached
684946.7	602163.1	-4.3	C-91	91	8/18/2014	-4.8	Stratum D Reached
684941.7	602173.1	-4.3	C-90	90	8/20/2014	-4.9	Stratum D Reached
684922.3	602179.9	-4.3	C-89	89	8/20/2014	-5.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.5)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684912.0	602189.2	-4.3	C-88	88	8/25/2014	-6.3	Stratum D Reached
684895.8	602194.1	-4.3	C-87	87	8/25/2014	-6.0	Stratum D Reached
684880.8	602203.6	-4.3	C-86	86	8/29/2014	-5.8	Stratum D Reached
684872.8	602212.7	-4.3	C-85	85	8/29/2014	-5.2	Stratum D Reached
684862.9	602228.0	-4.3	C-84	84	9/4/2014	-5.6	Stratum D Reached
684820.9	602207.7	-2.5	C-83	83	9/4/2014	-4.5	Stratum D Reached
684812.4	602218.7	-2.5	C-82	82	9/10/2014	-4.1	Stratum D Reached
684788.9	602227.5	-2.5	C-81	81	9/17/2014	-5.0	Stratum D Reached
684778.7	602237.4	-2.5	C-80	80	9/17/2014	-4.6	Stratum D Reached
684759.2	602240.0	-2.5	C-79	79	9/23/2014	-4.1	Stratum D Reached
684758.4	602256.3	-2.5	C-78	78	9/23/2014	-3.4	Stratum D Reached
684753.6	602273.9	-2.5	C-77	77	9/29/2014	-3.8	Stratum D Reached
684731.1	602272.7	-2.5	C-76	76	9/29/2014	-3.0	Stratum D Reached
684735.0	602292.1	-2.5	C-75	75	10/2/2014	-3.2	Stratum D Reached
684732.6	602313.2	-2.5	C-74	74	10/2/2014	-3.2	Stratum D Reached
684799.5	602381.3	-2.5	C-73	73	10/7/2014	-2.7	Stratum D Reached
684752.7	602351.0	0.4	C-73-1	73	10/7/2014	0.1	Target Elevation Reached
684662.4	602274.6	-2.5	C-73-2	73	10/7/2014	-2.1	Stratum D Reached
684788.0	602395.1	-2.5	C-72	72	10/7/2014	-2.5	Stratum D Reached
684743.1	602361.9	0.4	C-72-1	72	10/7/2014	-0.2	Target Elevation Reached
684664.8	602296.2	-2.5	C-72-2	72	10/7/2014	-3.0	Stratum D Reached
684783.1	602411.4	-2.5	C-71	71	10/9/2014	-2.7	Stratum D Reached
684734.3	602372.2	0.4	C-71-1	71	10/9/2014	0.2	Target Elevation Reached
684652.0	602308.3	-2.5	C-71-2	71	10/9/2014	-2.4	Stratum D Reached
684772.6	602425.4	-2.5	C-70	70	10/9/2014	-2.5	Stratum D Reached
684725.2	602383.8	0.4	C-70-1	70	10/9/2014	0.1	Target Elevation Reached
684674.6	602346.3	-2.5	C-70-2	70	10/9/2014	-2.4	Stratum D Reached
684642.9	602315.4	0.4	C-70-3	70	10/9/2014	-0.4	Target Elevation Reached
684626.5	602306.7	5.7	C-70-4	70	10/9/2014	4.8	Target Elevation Reached
684762.8	602431.3	-2.5	C-69	69	10/14/2014	-2.7	Stratum D Reached
684715.1	602395.2	0.4	C-69-1	69	10/14/2014	0.1	Target Elevation Reached
684670.5	602360.9	-2.5	C-69-2	69	10/14/2014	-2.4	Stratum D Reached
684632.0	602327.7	5.7	C-69-3	69	10/14/2014	3.2	Target Elevation Reached
684760.1	602448.4	-2.5	C-68	68	10/14/2014	-2.5	Stratum D Reached
684706.4	602407.6	0.4	C-68-1	68	10/14/2014	0.1	Target Elevation Reached
684671.6	602375.8	-2.5	C-68-2	68	10/14/2014	-2.2	Stratum D Reached
684629.6	602343.1	5.7	C-68-3	68	10/14/2014	3.5	Target Elevation Reached

SA-6 South Excavation: Center Points (Table 2.6)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
684749.9	602465.0	-2.5	C-67	67	10/21/2014	-2.1	Stratum D Reached
684698.4	602419.3	0.4	C-67-1	67	10/21/2014	-0.2	Target Elevation Reached
684662.8	602394.7	-2.5	C-67-2	67	10/21/2014	-2.8	Stratum D Reached
684743.0	602477.1	-2.5	C-66	66	10/21/2014	-2.1	Stratum D Reached
684726.5	602463.1	0.4	C-66-1	66	10/21/2014	-0.1	Target Elevation Reached
684704.4	602442.0	-1.2	C-66-2	66	10/21/2014	-1.6	Stratum D Reached
684689.4	602431.1	0.4	C-66-3	66	10/21/2014	0.1	Target Elevation Reached
684664.0	602411.1	-2.5	C-66-4	66	10/21/2014	-3.1	Stratum D Reached
684735.5	602488.2	-2.5	C-65	65	10/24/2014	-2.5	Stratum D Reached
684719.9	602481.3	0.4	C-65-1	65	10/24/2014	0.1	Target Elevation Reached
684701.3	602460.9	-1.2	C-65-2	65	10/24/2014	-2.4	Stratum D Reached
684680.3	602442.8	0.4	C-65-3	65	10/21/2014	-0.2	Target Elevation Reached
684657.6	602419.2	-2.5	C-65-4	65	10/21/2014	-3.2	Stratum D Reached
684713.4	602487.7	-1.2	C-64	64	10/24/2014	-1.8	Stratum D Reached
684653.2	602444.8	0.4	C-64-1	64	10/21/2014	-4.0	Increased excavation depth - UST location
684701.6	602502.1	-1.2	C-63	63	10/27/2014	-2.6	Stratum D Reached
684648.6	602457.4	0.4	C-63-1	63	10/21/2014	-0.3	Target Elevation Reached
684686.3	602512.3	-1.2	C-62	62	10/27/2014	-2.6	Stratum D Reached
684645.5	602469.8	0.4	C-62-1	62	10/21/2014	-0.3	Target Elevation Reached
684689.4	602527.1	-1.2	C-61	61	10/28/2014	-2.7	Stratum D Reached
684639.4	602487.5	0.4	C-61-1	61	10/21/2014	-0.2	Target Elevation Reached
684675.5	602538.7	-1.2	C-60	60	10/28/2014	-3.1	Stratum D Reached
684629.9	602496.7	0.4	C-60-1	60	10/21/2014	-0.4	Target Elevation Reached
684613.5	602491.1	2.1	C-60-2	60	10/21/2014	1.7	Target Elevation Reached
684665.2	602547.7	-1.2	C-59	59	10/27/2014	-2.8	Stratum D Reached
684620.0	602510.0	0.4	C-59-1	59	10/21/2014	-0.1	Target Elevation Reached
684604.5	602498.0	2.1	C-59-2	59	10/21/2014	1.7	Target Elevation Reached
685023.9	601966.6	-2.5	C-104L	104	11/20/2014	-6.9	Stratum D Reached
685033.9	601960.1	-2.5	C-105L	105	11/20/2014	-6.6	Stratum D Reached
685039.4	601938.6	-2.5	C-106L	106	11/20/2014	-6.3	Stratum D Reached
685043.6	601927.9	Stratum D	C-107L	Lens Area	11/25/2014	-6.2	Stratum D Reached
685042.9	601906.9	Stratum D	C-108L	Lens Area	11/25/2014	-6.8	Stratum D Reached
685057.6	601895.2	Stratum D	C-109L	Lens Area	12/8/2014	-6.6	Stratum D Reached
685055.4	601873.1	Stratum D	C-110L	Lens Area	12/8/2014	-7.5	Stratum D Reached
685071.5	601867.1	Stratum D	C-111L	Lens Area	12/8/2014	-7.6	Stratum D Reached
685086.2	601861.8	Stratum D	C-112L	Lens Area	12/8/2014	-7.3	Stratum D Reached

SA-6 South Excavation: Center Points (Table 2.7)							
Bottom Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685092.3	601848.6	Stratum D	C-113L	Lens Area	12/8/2014	-7.0	Stratum D Reached

2 This is the Bottom Elevation identified in the 100% design. It is one of the predetermined bottom elevations that correspond with the 9 excavation intervals shown in the design.

Green shading indicates 100% Design Bottom Elevation Field Modified to reach < 20 PPM soils .

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685443.0	601355.0	5.8	073-SB-003	153	4/24/2014	4.0	Target Elevation Reached
685441.6	601380.0	6.7	073-SB-078	152	4/24/2014	3.9	Target Elevation Reached
685490.9	601459.8	7.8	073-SB-027	150	4/24/2014	3.8	Target Elevation Reached
685459.6	601448.4	5.9	073-SB-064	149	4/24/2014	2.0	Target Elevation Reached
685438.1	601430.2	8.8	073-SB-063	149	4/24/2014	1.8	Target Elevation Reached
685470.0	601487.0	5.9	073-SB-004	148	4/24/2014	5.7	Target Elevation Reached
685471.0	601475.6	4.3	073-SB-079	148	7/31/2014	4.3	Expanded Excavation 4
685451.0	601460.9	7.1	073-SB-082	148	7/31/2014	2.2	Expanded Excavation 4
685441.0	601496.0	4.0	073-SB-044	146A	4/24/2014	5.4	Expanded Excavation 3
685383.5	601506.5	0.9	073-SB-060	143A	4/24/2014	-4.4	Target Elevation Reached
685368.1	601516.7	0.4	073-SB-077	142A	4/24/2014	-4.5	Target Elevation Reached
685341.4	601558.3	2.9	073-SB-046	139A	4/24/2014	-4.5	Target Elevation Reached
685309.0	601571.0	3.8	073-SB-006	137A	4/29/2014	1.9	Target Elevation Reached
685339.2	601410.1	-5.7	073-SB-048	146B	5/5/2014	-7.7	Target Elevation Reached
685319.6	601464.4	-5.4	073-SB-022	143B	5/8/2014	-7.5	Target Elevation Reached
685332.6	601487.8	-3.6	073-SB-071	142B	5/12/2014	-7.6	Target Elevation Reached
685344.0	601523.8	-4.1	073-SB-076	141B	5/12/2014	-7.6	Target Elevation Reached
685316.0	601542.0	-6.2	073-SB-016	138B	5/14/2014	-7.8	Target Elevation Reached
685304.5	601530.7	-5.8	073-SB-051	138B	5/14/2014	-7.5	Target Elevation Reached
685296.0	601562.0	-0.6	073-SB-052	136	5/19/2014	2.1	Expanded Excavation 3
685423.8	601494.3	1.6	073-SB-073	145A	4/24/2014	5.4	Expanded Excavation 3
685132.7	601748.9	-1.7	134-SB-126	120	6/25/2014	-7.2	Stratum D Reached
685210.2	601831.4	-0.8	134-SB-072	119	6/25/2014	-2.5	Target Elevation Reached
685116.0	601754.5	-6.0	134-SB-157	119	6/30/2014	-6.9	Stratum D Reached
685201.0	601844.0	0.9	134-SB-101	118A	6/25/2014	-0.1	Target Elevation Reached
685165.3	601806.2	3.5	134-SB-094	118B	6/25/2014	-1.6	Target Elevation Reached
685131.0	601787.0	-2.3	134-SB-017	118B	6/25/2014	-3.3	Target Elevation Reached
685197.0	601868.0	6.0	134-SB-034	117A	6/25/2014	-0.3	Target Elevation Reached
685073.0	601769.4	-6.5	134-SB-142	116B	7/8/2014	-6.3	Stratum D Reached
685168.1	601879.4	-0.7	134-SB-058	115A	6/30/2014	-1.6	Target Elevation Reached
685137.3	601854.1	2.7	134-SB-073	115A	6/30/2014	-1.4	Target Elevation Reached
685043.3	601773.2	6.0	134-SB-152	115B	7/10/2014	-5.5	Stratum D Reached
685178.1	601893.6	-3.0	134-SB-053	114	6/25/2014	-0.1	Expanded Excavation 3
685111.7	601863.3	2.2	134-SB-074	113A	7/3/2014	-1.3	Expanded Excavation 3
685013.2	601803.0	6.0	134-SB-156	112B	7/17/2014	3.7	Target Elevation Reached
685095.0	601890.0	2.2	134-SB-075	111A	7/8/2014	-1.6	Expanded Excavation 3
684976.1	601816.3	6.1	134-SB-144	110B	7/17/2014	3.9	Target Elevation Reached

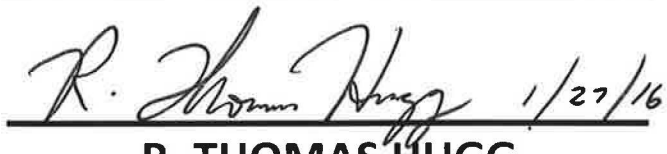
SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.1)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685081.0	601928.1	-5.5	134-SB-021	109A	11/25/2014	-5.8	Expanded Excavation 3
685081.0	601936.0	3.0	134-SB-092	108	7/10/2014	-1.6	Expanded Excavation 3
685042.0	601935.0	-0.3	134-SB-023	107A	7/17/2014	-2.7	Expanded Excavation 3
684949.4	601849.3	6.1	134-SB-145	107B	7/17/2014	3.8	Target Elevation Reached
684999.6	601940.6	-4.5	134-SB-097	104	11/20/2014	-7.2	Stratum D Reached
684969.0	601950.0	-4.3	134-SB-025	103	7/31/2014	-5.3	Stratum D Reached
684966.4	601991.2	0.8	134-SB-111	100	8/4/2014	-5.8	Stratum D Reached
684986.0	602025.0	-2.7	134-SB-027	100	8/6/2014	-6.3	Stratum D Reached
684948.7	602072.2	-3.2	134-SB-099	96	8/12/2014	-5.4	Stratum D Reached
684925.0	602120.8	-4.2	134-SB-050	92	8/18/2014	-5.5	Stratum D Reached
684887.0	602147.0	-2.1	134-SB-100	89	8/20/2014	-5.8	Stratum D Reached
684869.0	602167.0	-6.4	140-SB-061	87	8/25/2014	-5.9	Expanded Excavation 3
684821.2	602190.7	-4.8	140-SB-060	84	9/4/2014	-5.2	Stratum D Reached
684779.8	602174.6	-0.8	140-SB-059	83	9/10/2014	-5.6	Stratum D Reached
684727.5	602143.2	0.7	140-SB-076	83	9/10/2014	-4.5	Stratum D Reached
684701.3	602132.8	-0.8	140-SB-003	82	9/10/2014	-4.8	Stratum D Reached
684686.4	602158.8	-0.8	140-SB-105	80	9/17/2014	-4.8	Stratum D Reached
684651.0	602180.0	-2.1	140-SB-027	77	9/29/2014	-2.8	Stratum D Reached
684630.0	602210.0	-1.9	140-SB-077	75	10/2/2014	-3.0	Stratum D Reached
684622.2	602287.4	-2.0	140-SB-034	71	10/9/2014	-3.0	Stratum D Reached
684597.0	602258.0	-3.2	140-SB-025	71	10/9/2014	-3.2	Stratum D Reached
684626.0	602343.0	6.8	140-SB-014	68	10/14/2014	3.5	Target Elevation Reached
684613.7	602330.2	6.1	140-SB-072	68	10/14/2014	4.5	Target Elevation Reached
684649.1	602367.2	-1.0	140-SB-071	68	10/14/2014	-2.8	Stratum D Reached
684648.1	602370.8	-0.8	140-SB-032	67	10/21/2014	-3.1	Stratum D Reached
684649.1	602409.4	-2.3	140-SB-069	65	10/21/2014	-3.4	Stratum D Reached
684629.1	602423.3	1.5	140-SB-031	64	10/21/2014	-3.5	Stratum D Reached
684633.2	602474.4	0.4	125-SB-058	61	10/21/2014	-0.1	Target Elevation Reached
684616.1	602485.8	3.0	125-SB-068	60	10/21/2014	1.8	Target Elevation Reached
684588.4	602494.2	-3.5	125-SB-119	59	10/21/2014	1.5	Expanded Excavation 3
685087.0	601829.1	-6.0	134-SB-171	Lens Area	12/8/2014	-6.1	Expanded Excavation 4
685053.5	601827.8	-6.5	134-SB-170	Lens Area	12/8/2014	-6.8	Expanded Excavation 4

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.2)							
Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 2	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685029.7	601840.0	-5.5	134-SB-175	Lens Area	12/8/2014	-6.7	Expanded Excavation 4
685003.5	601868.2	-5.8	134-SB-177	Lens Area	12/8/2014	-5.9	Expanded Excavation 4
684917.7	601947.9	-1.2	134-SB-087	Area 41	12/10/2014	-2.1	Target Elevation Reached
684936.3	601954.8	-1.2	134-SB-088	Area 41	12/10/2014	-2.4	Target Elevation Reached
684918.0	601975.0	-1.2	134-SB-089	Area 41	12/10/2014	-1.7	Target Elevation Reached
684904.3	601963.0	-1.2	134-SB-090	Area 41	12/10/2014	-1.6	Target Elevation Reached

3 Horizontal and/or vertical expansion of excavation due to visual inspection and analytical sampling resulted in removal of the PDI Sidewall Sample. The objectives of the 100% design and the target excavation limits were achieved.

4 Additional sidewall sample collected and analyzed to establish expanded excavation limit.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.



1/27/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

ATTACHMENT B-3

SA-6 SOUTH EXCAVATION SITE 163

Table 1.0 PDI Locations

Table 3.0 Sidewall

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Excavation (Site 163): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685185.6	601432.8	5.8	163-SB-107	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685169.6	601446.1	6.0	163-SB-020	N/A	10/30/2014	4.8	Area 43 - Target Elevation Reached
685102.9	601588.4	5.2	163-SB-015	N/A	10/30/2014	4.9	Area 163 - Target Elevation Reached
685125.0	601586.5	6.3	163-SB-043	N/A	10/30/2014	5.7	Area 163 - Target Elevation Reached
685037.6	601660.2	4.5	163-SB-010	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685029.9	601632.6	5.2	163-SB-013	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685028.1	601625.3	6.8	163-SB-064	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685064.3	601635.5	4.9	163-SB-112	N/A	11/5/2014	4.9	Area 163 - Target Elevation Reached
685069.7	601654.2	5.0	163-SB-011	N/A	11/5/2014	4.2	Area 163 - Target Elevation Reached
685054.7	601600.3	3.6	163-SB-063	N/A	10/31/2014	3.5	Area 163 - Target Elevation Reached
685062.5	601603.2	4.6	163-SB-014	N/A	10/31/2014	3.4	Area 163 - Target Elevation Reached
685100.1	601617.6	5.3	163-SB-012	N/A	10/31/2014	3.7	Area 163 - Target Elevation Reached
684984.0	601680.9	5.5	163-SB-101	N/A	11/7/2014	5.0	Area 163 - Target Elevation Reached
684997.7	601696.5	5.5	163-SB-093	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685012.8	601711.3	5.6	163-SB-092	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
685001.4	601739.4	6.6	163-SB-086	N/A	11/7/2014	4.8	Area 163 - Target Elevation Reached
684854.7	601827.8	5.7	163-SB-008	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684889.4	601833.1	6.2	163-SB-072	N/A	11/12/2014	4.7	Area 163 - Target Elevation Reached
684901.6	601758.2	7.6	163-SB-065	N/A	11/12/2014	4.0	Area 163 - Target Elevation Reached
684913.3	601758.5	5.7	163-SB-009	N/A	11/12/2014	5.1	Area 163 - Target Elevation Reached
684943.7	601757.2	5.9	163-SB-073	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684970.6	601767.7	3.3	163-SB-007	N/A	11/12/2014	3.1	Area 163 - Target Elevation Reached
684970.3	601782.2	3.3	163-SB-060	N/A	11/12/2014	2.6	Area 163 - Target Elevation Reached
684784.2	602004.7	4.9	163-SB-114	N/A	12/12/2014	4.0	Area 42 - Target Elevation Reached
684779.6	601989.9	4.8	163-SB-003	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684756.5	602015.6	5.8	163-SB-108	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached

1 This is the actual elevation of the PDI Bottom sample included in the 100% design.

* Elevations based on NGVD 1929 Datum. Coordinates are in the New Jersey state plane coordinate system, NAD 1983.

SA-6 South Excavation: Sidewall Confirmatory Points (Table 3.0)

Sidewall Target Coordinates					As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Corresponding Cell #	Date Obtained	Elevation	Comments
685197.1	601418.1	5.2	163-SB-097	N/A	10/30/2014	5.0	Area 43 - Target Elevation Reached
685181.4	601455.3	6.0	163-SB-035	N/A	10/30/2014	5.1	Area 43 - Target Elevation Reached
685158.1	601437.3	7.0	163-SB-061	N/A	10/30/2014	8.9	Area 43 - Deferred to preserve Bulk Head 2
685160.1	601457.8	7.5	163-SB-036	N/A	10/30/2014	4.6	Area 43 - Target Elevation Reached
685026.9	601624.6	7.8	163-SB-076	N/A	11/5/2014	4.0	Area 163 - Target Elevation Reached
685045.9	601596.1	7.9	163-SB-077	N/A	10/31/2014	3.2	Area 163 - Target Elevation Reached
685072.2	601547.5	7.1	163-SB-062	N/A	10/30/2014	3.6	Area 163 - Target Elevation Reached
684993.2	601662.1	6.4	163-SB-100	N/A	11/7/2014	4.2	Area 163 - Target Elevation Reached
684961.1	601691.9	7.3	163-SB-113	N/A	11/7/2014	4.9	Area 163 - Target Elevation Reached
684871.6	601791.8	5.6	163-SB-066	N/A	11/12/2014	7.2	Area 163 - Deferred to preserve Bulk Head 2
684893.3	601758.8	5.6	163-SB-085	N/A	11/12/2014	4.8	Area 163 - Target Elevation Reached
684929.4	601730.4	5.2	163-SB-084	N/A	11/12/2014	5.0	Area 163 - Target Elevation Reached
684891.6	601853.5	6.9	163-SB-051	N/A	11/12/2014	4.5	Area 163 - Target Elevation Reached
684852.1	601829.3	5.6	163-SB-052	N/A	11/12/2014	4.9	Area 163 - Target Elevation Reached
684843.0	601829.0	5.6	163-SB-067	N/A	11/12/2014	6.8	Area 163 - Deferred to preserve Bulk Head 2
684797.0	601966.1	5.7	163-SB-069	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684807.5	602016.1	5.9	134-SB-146	N/A	12/12/2014	4.1	Area 42 - Target Elevation Reached
684750.1	602027.2	6.4	163-SB-091	N/A	12/12/2014	4.5	Area 42 - Target Elevation Reached
684747.0	601998.4	6.0	163-SB-058	N/A	12/12/2014	4.4	Area 42 - Target Elevation Reached
684751.6	601971.2	5.6	163-SB-071	N/A	12/12/2014	4.2	Area 42 - Target Elevation Reached
685138.0	601563.6	6.2	163-SB-078	N/A	12/22/2014	4.7	Area 163-1 - Target Elevation reached
685083.7	601558.5	6.0	163-SB-017	N/A	12/22/2014	4.3	Area 163-1 - Target Elevation reached
685165.5	601546.0	6.5	163-SB-080	N/A	12/22/2014	5.6	Area 163-1 - Target Elevation reached

2 Work adjacent the bulkhead had been deferred and will be completed in accordance with the Consent Order Consolidating the 100% Design for Study Area 6 North and Study Area 6 South filed into the court on July 9, 2013.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades.

R. Thomas Hugg 1/26/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

ATTACHMENT B-4

FIGURE 1.2 - SA-6 SOUTH AS-BUILT EXCAVATION CONFIRMATION POINTS

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

CONFIRMATORY BOTTOM SAMPLE ELEVATION

CONFIRMATORY SIDEWALL SAMPLE ELEVATION

0.0 POINT ELEVATION

POINT POINT DESCRIPTION

EXCAVATION TO STRATUM D

DESIGN EXCAVATION AREA

DESIGN EXCAVATION LIMIT

0 40 80 160

SCALE IN FEET

J.H. 02/01/16

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

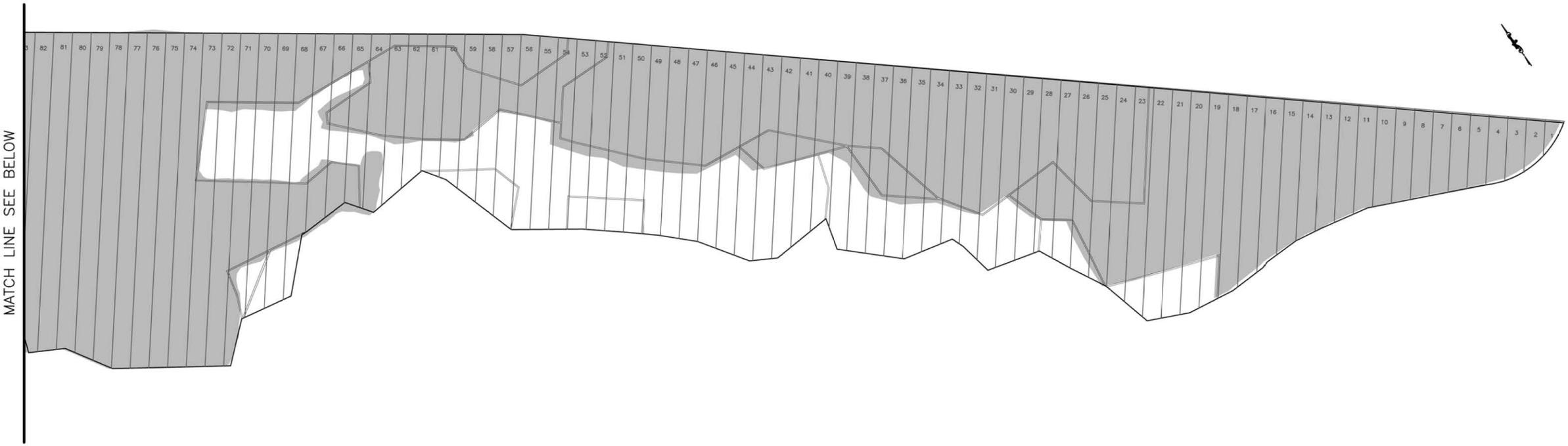
FIGURE 1.2
EXCAVATION CONFIRMATION POINTS

PROJECT NAME & LOCATION

HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

ATTACHMENT B-5

FIGURE 1.3 - SA-6 SOUTH EXCAVATION CELL LAYOUT



ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

FIGURE 1.3
EXCAVATION CELL LAYOUT

PROJECT NAME & LOCATION

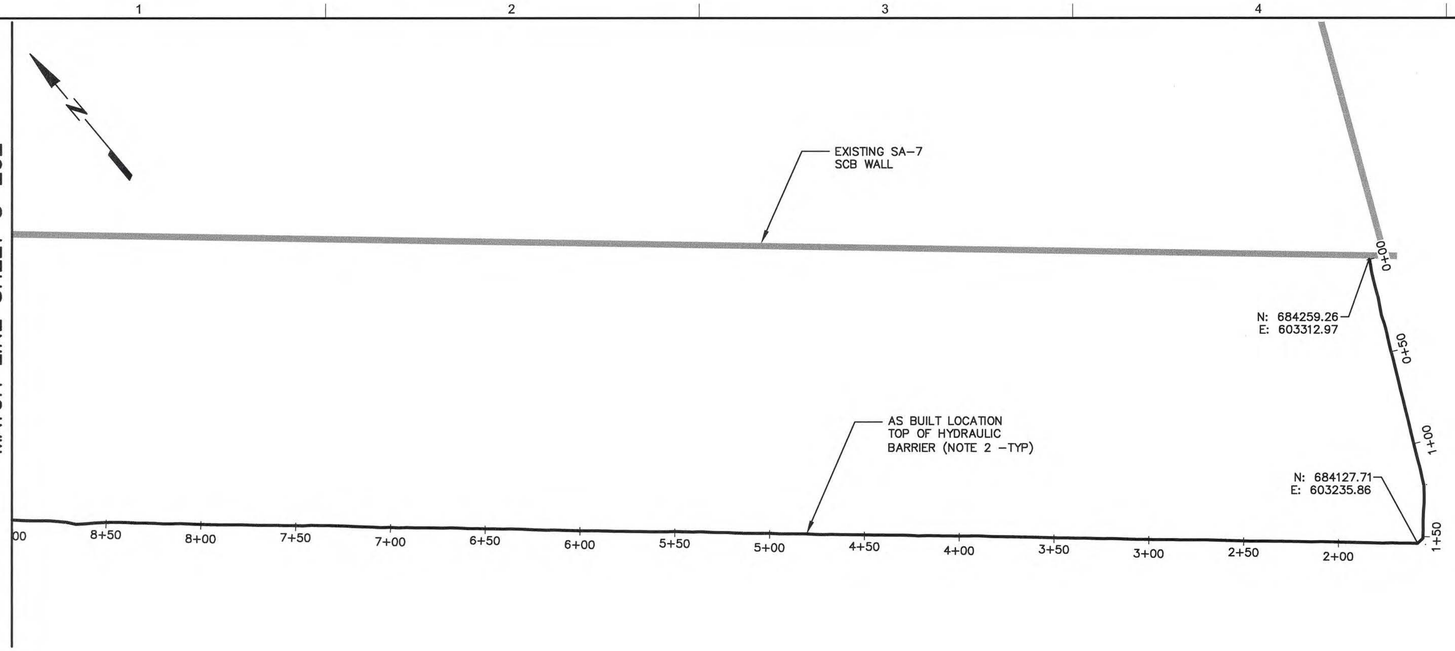
HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

J.H. 02/01/16

ATTACHMENT C

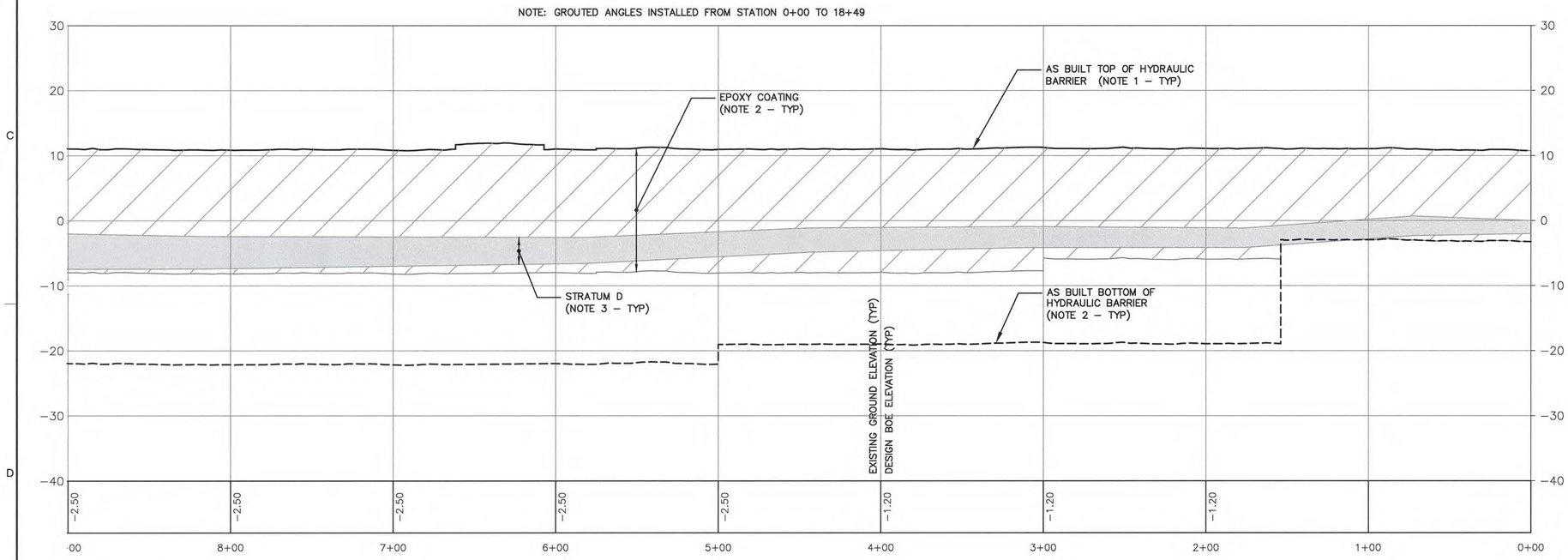
DRAWINGS S-201, S-202, S-203

HYDRAULIC BARRIER PLAN & PROFILE



NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY COMPLETED BY ENTACT DURING INSTALLATION. ADDITIONAL SURVEY WILL BE COMPLETED WHEN THE HYDRAULIC BARRIER IS CUT TO FINAL DESIGN ELEVATION DURING LINER INSTALLATION.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.



SCALE IN FEET
VERTICAL SCALE: 1" = 10'

SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APV'D
1	3/20/15	TDD	RJR	TDD	

DECLARATION #1 - ISSUED FOR CLIENT REVIEW

REVISION	BY	APV'D
	TDD	SGS

SGS
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER

3/20/15

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

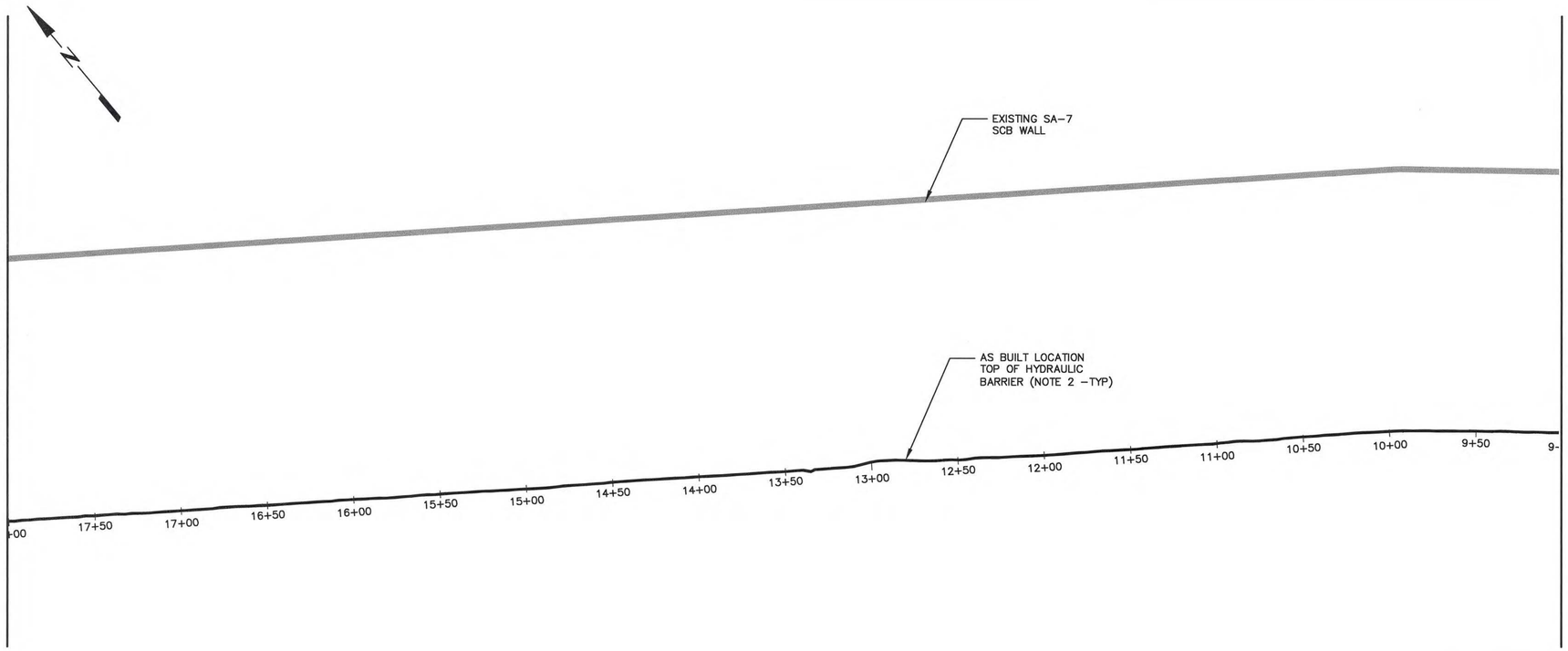
CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

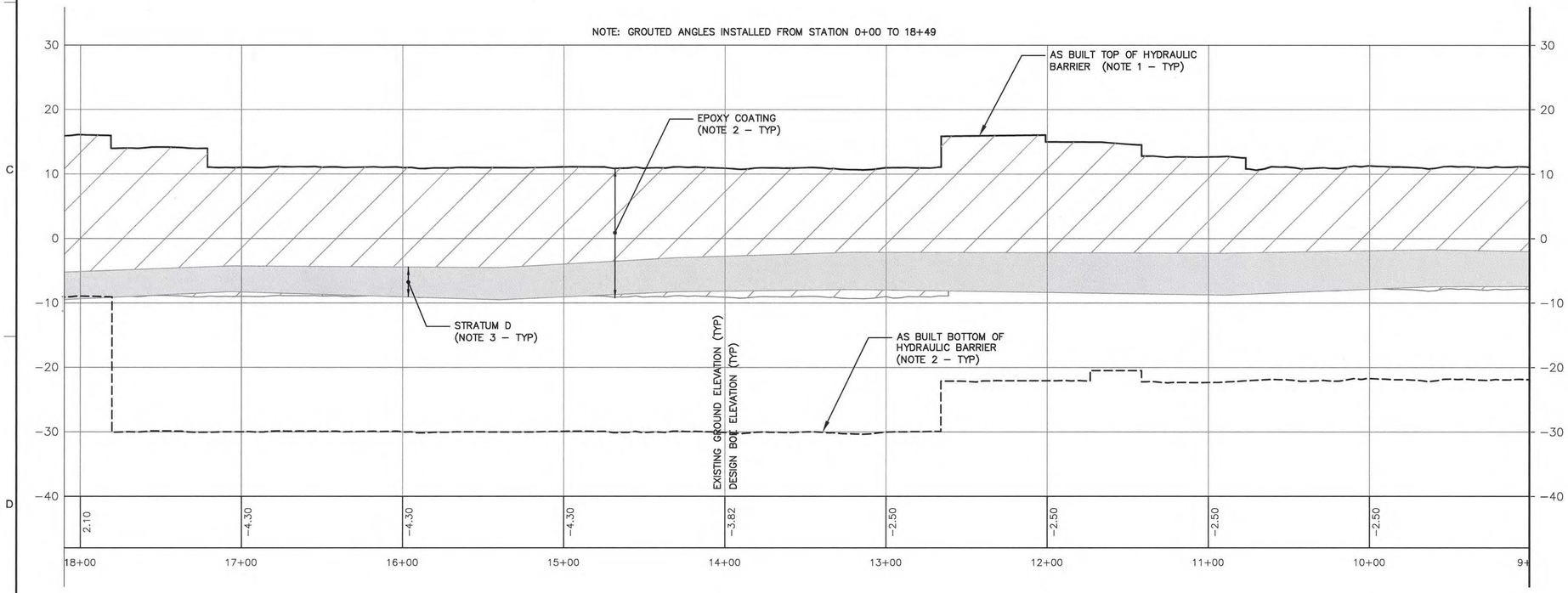
DATE	2/17/15
PROJ	3480-10-0027
DWG	S-201
SHEET	OF

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 North and South As-Builts\SA-6 South VHBIS-201 Hydraulic Barrier Profile.dwg PLOT DATE: Sat, 28 Mar 2015 PLOT TIME: 3:23 PM



NOTES:

1. REFER TO NOTES 1 THRU 4 ON SHEET S-201



0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APVD
1	3/20/15	TDD	DR	RJR	TDD

DECLARATION #1 - ISSUED FOR CLIENT REVIEW

REVISION	BY	APVD
	TDD	SGS

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

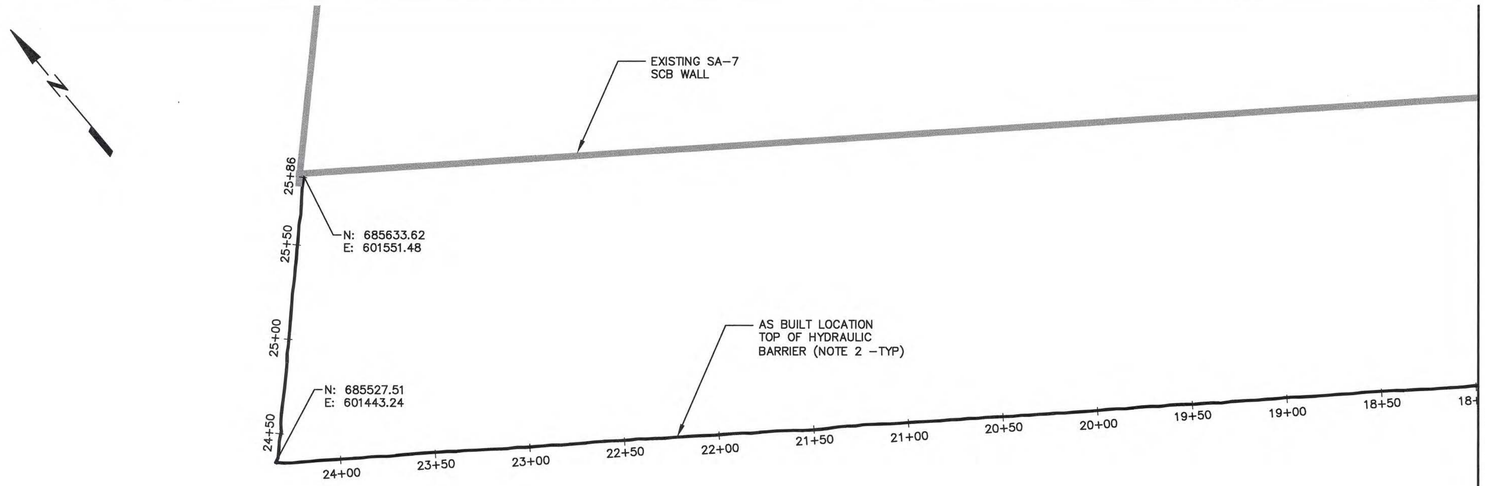
DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 888 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

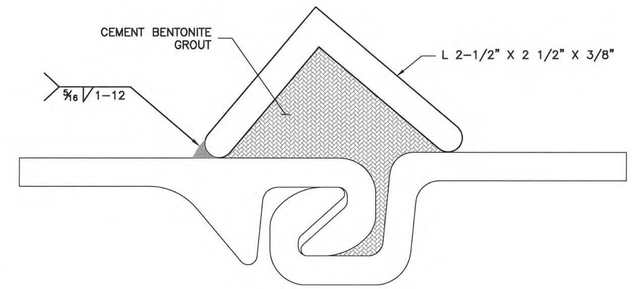
DATE	2/17/15
PROJ	3480-10-0027
DWG	S-202
SHEET	OF



MATCH LINE SHEET S-202

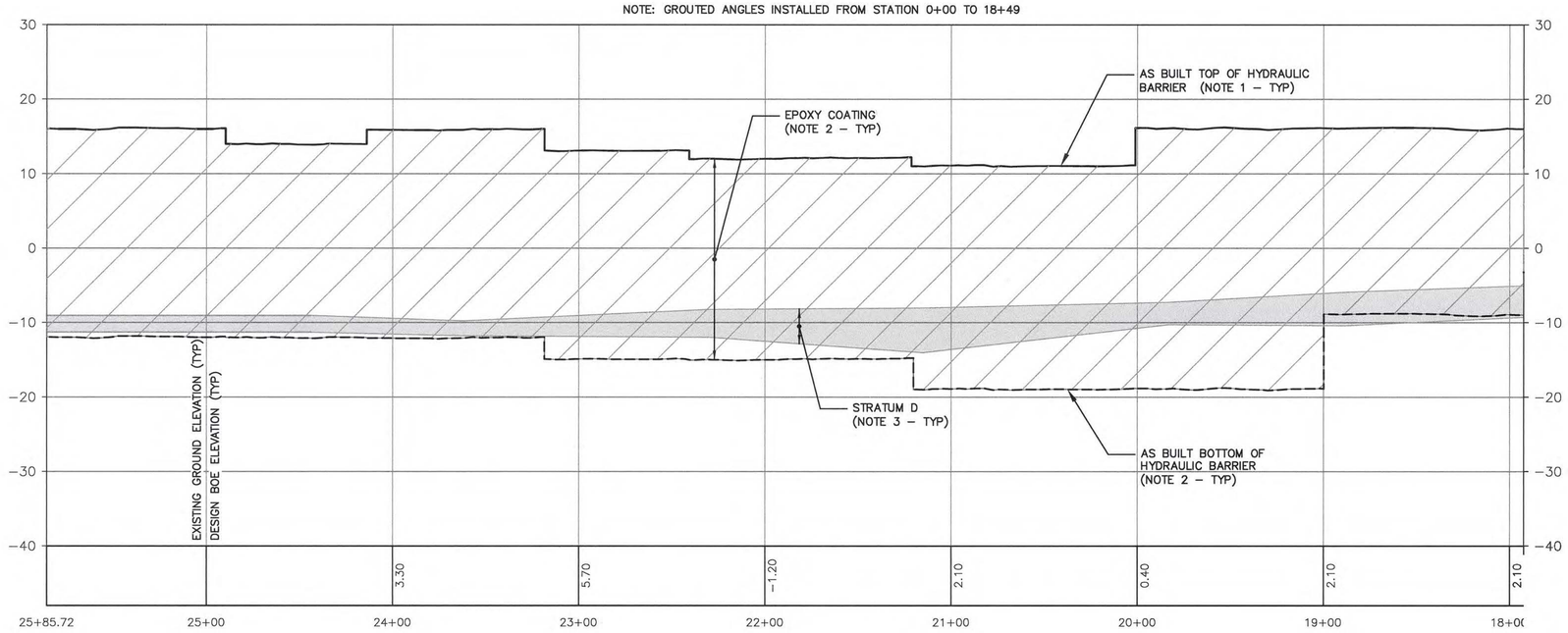
NOTES:

1. REFER TO NOTES 1 THRU 4 ON SHEET S-201



SEE NOTE HB19 ON SHEET GN-003

SHEET SEALING DETAIL F
NTS
SN-201 CN-301



0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APVD
1	3/20/15	TDD	TDD	RJR	TDD

REVISION

1 - DECLARATION #1 - ISSUED FOR CLIENT REVIEW

BY	APVD
TDD	SGS

SGS NJ PROFESSIONAL ENGINEER LICENSE NUMBER

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suites 113
Hamilton, NJ, 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/17/15
PROJ	3480-10-0027
DWG	S-203
SHEET	OF

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

ATTACHMENT D

BACKFILL

ATTACHMENT D-1

FIGURE 2.1 - SA-6 SOUTH AS-BUILT - BACKFILL TOPOGRAPHIC PROGRESS MAP

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

NOTE:
CONTOURS SHOWN HEREON REPRESENT THE CURRENT TOP OF BACKFILL AS SURVEYED BY ENTACT ON 12/29/2014.

AS BUILT BOTTOM OF EXCAVATION LIMIT

MAJOR CONTOUR

MINOR CONTOUR

0 40 80 160
SCALE IN FEET

ENTACT 302 UnRy Plaza Latrobe, PA 15650

DRAWING NAME:
FIGURE 2.1
BACKFILL TOPOGRAPHIC PROGRESS MAP

PROJECT NAME & LOCATION:
HONEYWELL SA-6 SOUTH REMEDIATION
JERSEY CITY, NJ

JH 9/15/15

ATTACHMENT D-2

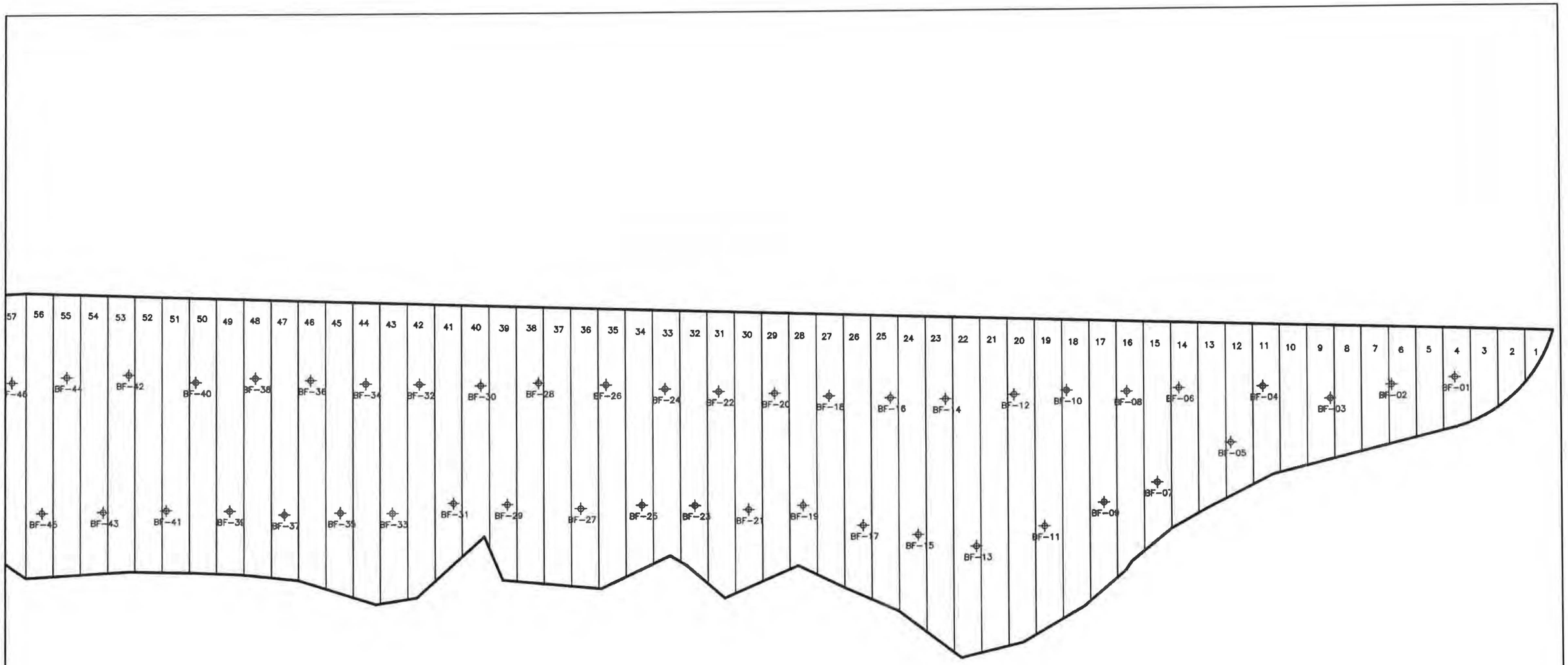
Figure Backfill Compaction Locations BF-01 to B-45

Figure Backfill Compaction Locations BF-46 to BF-94

Figure Backfill Compaction Locations BF-95 to BF-136

Figure Backfill Compaction Locations RF-01 to RF-21

Figure Backfill Compaction Locations RF 22 to RF-39



NOTE:

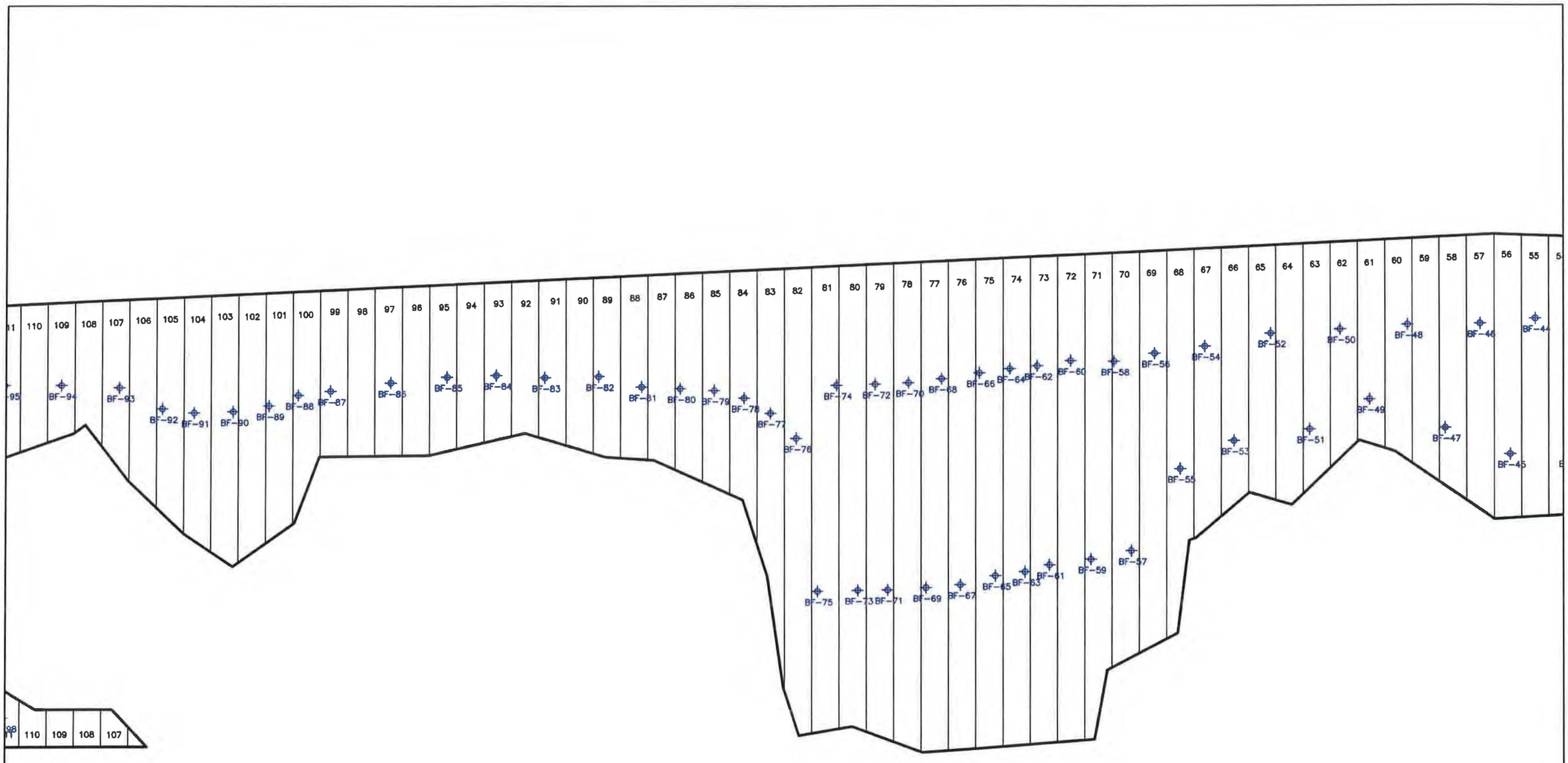
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JN 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-01 TO BF-45

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

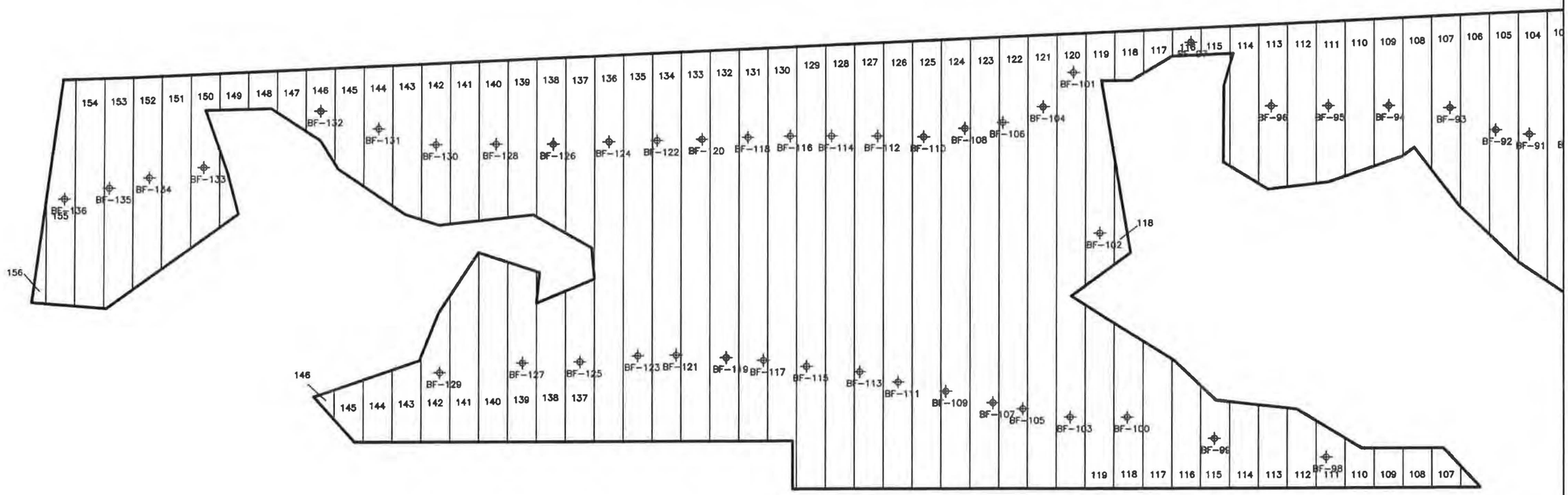
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-46 TO BF-94

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

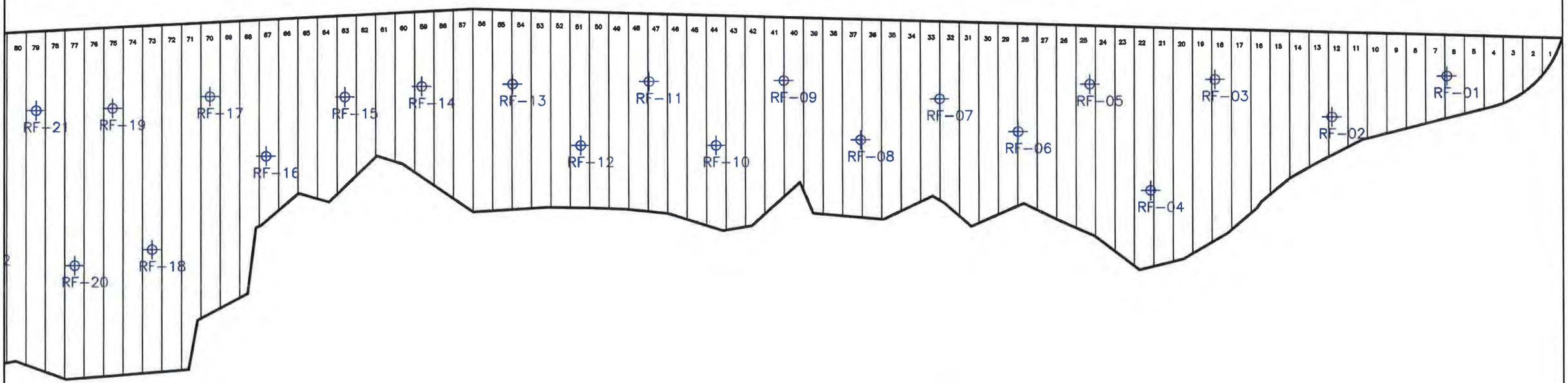
Testing locations are based on testing frequency specified in 02315 3.13 A. 2. a.

						JH	9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS EVERY 2,500 SF BF-95 TO BF-136

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ



NOTE:

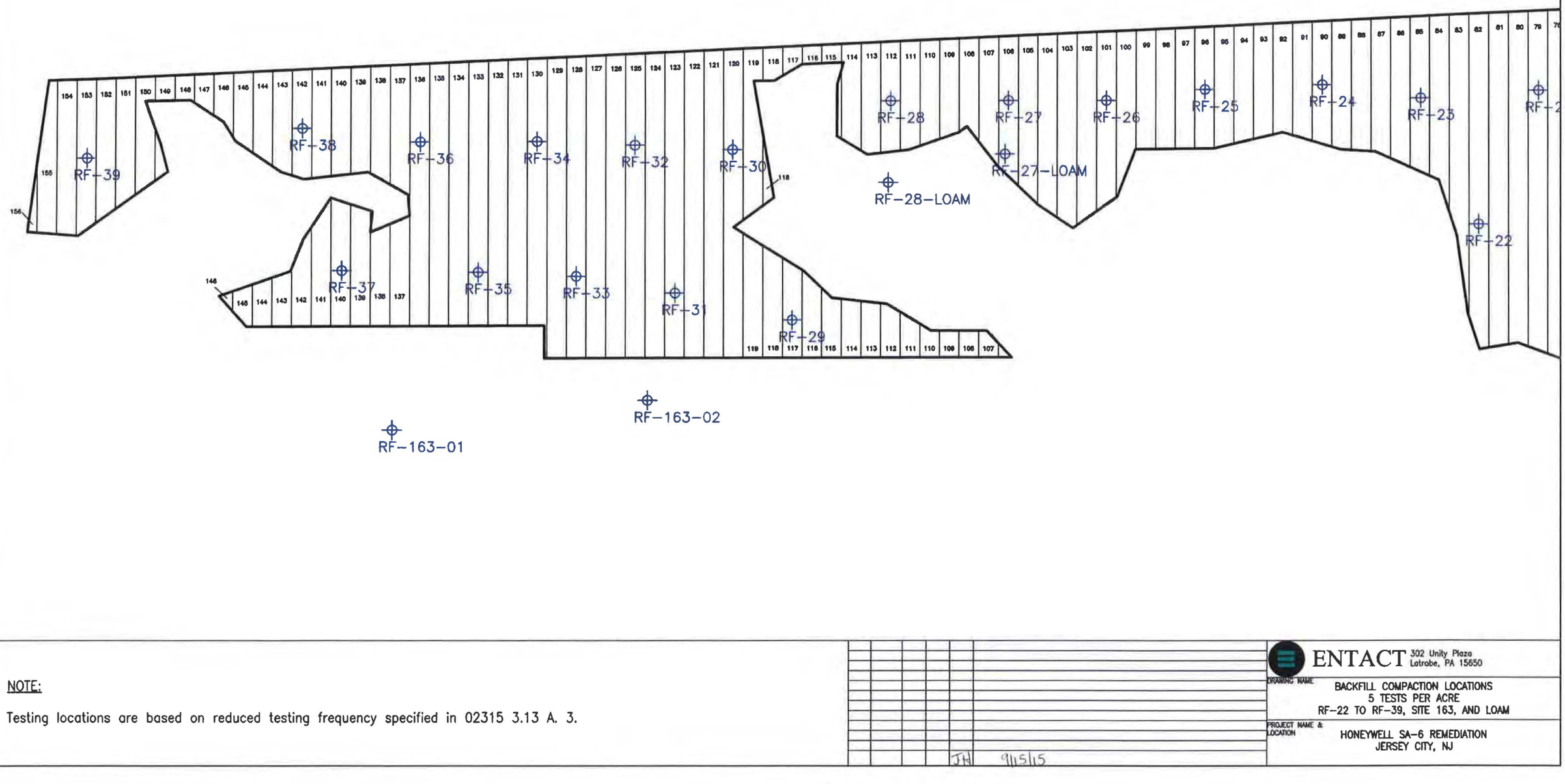
Testing locations are based on reduced testing frequency specified in 02315 3.13 A. 3.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-01 TO RF-21

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ



NOTE:

Testing locations are based on reduced testing frequency specified in 02315 3.13 A. 3.

JH 9/15/15

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: BACKFILL COMPACTION LOCATIONS
5 TESTS PER ACRE
RF-22 TO RF-39, SITE 163, AND LOAM

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-3

Field Density Test Summary Log Table (Pages 1 to 7)

Field Density Test Summary Log Table (Pages 1 to 4)

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-01		684138.4	603182.3	-0.5							4	Crushed concrete	Bottom of excavation elevation	
2	BF-01-01	12/5/2013	684144.2	603184.2	1.0	136.4	3.7	142.6	7.8	96	95	4	Weldon WC QP		Sor
3	BF-01-02	12/5/2013	684137.8	603181.7	1.9	139.9	4.3	142.6	7.8	98	95	4	Weldon WC QP		Sor
4	BF-01-03	12/6/2013	684140.2	603182.7	2.5	141.2	5.0	142.6	7.8	99	95	4	Weldon WC QP		Sor
5	BF-01-04	12/6/2013	684136.6	603190.0	3.5	141.2	5.6	142.6	7.8	99	95	4	Weldon WC QP		Sor
6	BF-01-05	12/6/2013	684134.9	603186.7	4.5	143.2	4.8	142.6	7.8	100	95	4	Weldon WC QP		Sor
7	BF-01-06	12/6/2013	684141.1	603182.6	5.8	139.6	6.0	142.6	7.8	98	95	4	Weldon WC QP		Sor
8	BF-01-07	12/10/2013	684147.6	603186.8	6.2	146.7	5.1	142.6	7.8	103	95	4	Weldon WC QP		Sor
9	BF-01-08	12/10/2013	684140.2	603189.6	7.1	120.1	3.4	128.9	12.1	93	95	4	Weldon WC Screenings	recompact lift	Sor
9	BF-01-08R	12/10/2013	684140.2	603189.6	7.1	129.9	4.9	128.9	12.1	101	95	4	Weldon WC Screenings	second reading after addl compaction	Sor
10	BF-01-09	12/12/2013	684130.1	603175.5	8.1	126.4	3.3	128.9	12.1	98	95	4	Weldon WC Screenings		Sor
11	BF-01-10	12/31/2013	684140.0	603184.3	9.0	139.6	7.4	128.9	12.1	108	95	4	Weldon WC Screenings		Sor
1	BF-02		684153.8	603153.9	-0.6							6	Crushed concrete	Bottom of excavation elevation	
2	BF-02-01	12/5/2013	684162.8	603161.3	1.4	138.2	5.7	142.6	7.8	97	95	6	Weldon WC QP		Sor
3	BF-02-02	12/5/2013	684160.8	603162.3	2.4	136.2	4.5	142.6	7.8	96	95	6	Weldon WC QP		Sor
4	BF-02-03	12/6/2013	684157.7	603161.3	2.7	147.2	5.6	142.6	7.8	103	95	6	Weldon WC QP		Sor
5	BF-02-04	12/6/2013	684145.7	603162.1	3.7	143.5	5.0	142.6	7.8	101	95	6	Weldon WC QP		Sor
6	BF-02-05	12/6/2013	684156.9	603171.0	4.4	145.7	4.1	142.6	7.8	102	95	6	Weldon WC QP		Sor
7	BF-02-06	12/6/2013	684150.1	603155.4	5.6	140.4	4.6	142.6	7.8	98	95	6	Weldon WC QP		Sor
8	BF-02-07	12/10/2013	684135.5	603153.5	6.1	149.4	4.0	142.6	7.8	105	95	6	Weldon WC QP		Sor
9	BF-02-08	12/10/2013	684157.9	603174.9	7.2	125.8	5.2	128.9	12.1	98	95	6	Weldon WC Screenings		Sor
1	BF-03		684179.9	603119.5	-1.2							9	Crushed concrete	Bottom of excavation elevation	
2	BF-03											9	Type A Material	No compaction testing required	
3	BF-03-01*	11/22/2013	684198.1	603131.6	0.2	133.3	3.4	142.6	7.8	93	95	9	Weldon WC QP		Sor
4	BF-03-02*	11/22/2013	684155.7	603111.6	1.5	130.8	2.8	142.6	7.8	92	95	9	Weldon WC QP		Sor
5	BF-03-03	12/5/2013	684177.4	603121.5	2.5	135.7	2.0	128.9	12.1	105	95	9	Weldon WC Screenings		Sor
6	BF-03-04	12/12/2013	684180.5	603126.9	4.6	124.7	3.2	128.9	12.1	97	95	9	Weldon WC Screenings		Sor
7	BF-03-05	12/12/2013	684177.1	603132.4	5.3	132.5	2.8	128.9	12.1	103	95	9	Weldon WC Screenings		Sor
8	BF-03-06	12/16/2013	684172.4	603128.5	6.4	128.3	2.9	128.9	12.1	100	95	9	Weldon WC Screenings		Sor
9	BF-03-07	1/6/2014	684177.1	603113.8	6.6	131.2	10.4	128.9	12.1	102	95	9	Weldon WC Screenings		Sor
10	BF-03-08	1/9/2014	684178.2	603121.8	8.2	128.2	5.9	128.9	12.1	99	95	9	Weldon WC Screenings		Sor
1	BF-04		684195.7	603093.1	-1.5							11	Crushed concrete	Bottom of excavation elevation	
2	BF-04											11	Type A Material	No compaction testing required	
3	BF-04-01	12/5/2013	684198.0	603094.8	2.6	131.0	3.6	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
4	BF-04-02	12/12/2013	684206.6	603104.7	3.5	125.8	3.9	128.9	12.1	98	95	11	Weldon WC Screenings		Sor
5	BF-04-03	12/16/2013	684217.5	603111.1	4.9	129.9	2.9	128.9	12.1	101	95	11	Weldon WC Screenings		Sor
6	BF-04-04	12/31/2013	684213.6	603115.0	5.9	124.6	3.2	128.9	12.1	97	95	11	Weldon WC Screenings		Sor
7	BF-04-05	1/9/2014	684195.8	603100.0	8.2	131.2	4.8	128.9	12.1	102	95	11	Weldon WC Screenings		Sor
1	BF-05		684200.8	603078.4	-1.8							12	Crushed concrete	Bottom of excavation elevation	
2	BF-05											12	Type A Material	No compaction testing required	
3	BF-05-01	12/5/2013	684185.2	603057.9	2.6	133.8	4.7	128.9	12.1	104	95	12	Weldon WC Screenings		Sor
4	BF-05-02	12/12/2013	684179.9	603057.7	3.0	121.5	3.0	128.9	12.1	94	95	12	Weldon WC Screenings	recompact lift	Sor
4	BF-05-02R	12/16/2013	684186.2	603070.2	3.1	133.0	9.3	128.9	12.1	103	95	12	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-05-03	12/31/2013	684181.6	603060.8	4.5	124.7	2.9	128.9	12.1	97	95	12	Weldon WC Screenings		Sor
6	BF-05-04	1/9/2013	684186.1	603053.5	5.8	129.7	3.3	128.9	12.1	101	95	12	Weldon WC Screenings		Sor
7	BF-05-05	1/9/2013	684180.6	603048.6	6.5	131.1	3.4	128.9	12.1	102	95	12	Weldon WC Screenings		Sor
8	BF-05-06	3/19/2014	684180.6	603060.4	7.5	122.5	4.9	128.9	12.1	95	95	12	Weldon WC Screenings		Sor
1	BF-06		684214.8	603050.6	-1.7							14	Crushed concrete	Bottom of excavation elevation	
2	BF-06											14	Crushed concrete	No compaction testing required	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
3	BF-06-01	12/31/2013	684229.9	603061.3	2.2	137.7	3.4	128.9	12.1	107	95	14	Weldon WC Screenings		Sor
4	BF-06-02	12/31/2013	684228.8	603062.8	3.5	133.1	3.4	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
5	BF-06-03	1/6/2014	684234.0	603066.8	4.2	123.7	9.5	128.9	12.1	96	95	14	Weldon WC Screenings		Sor
6	BF-06-04	1/9/2014	684230.8	603071.3	6.2	133.1	4.2	128.9	12.1	103	95	14	Weldon WC Screenings		Sor
7	BF-06-05	1/9/2014	684213.9	603095.7	7.3	133.8	5.0	128.9	12.1	104	95	14	Weldon WC Screenings		Sor
1	BF-07		684222.7	603033.3	-0.8							15	Crushed concrete	Bottom of excavation elevation	
2	BF-07											15	Crushed concrete	No compaction testing required	
3	BF-07-01	12/31/2013	684196.2	603014.9	2.5	133.1	2.6	128.9	12.1	103	95	15	Weldon WC Screenings		Sor
4	BF-07-02	12/31/2013	684192.8	603021.1	3.9	133.2	3.4	128.9	12.1	103	95	15	Weldon WC Screenings	Numbering error; skipped from 02 to 04	Sor
6	BF-07-04	1/9/2014	684196.9	603018.8	5.7	118.5	3.9	128.9	12.1	92	95	15	Weldon WC Screenings	recompact lift	Sor
6	BF-07-04R	1/9/2014	684196.9	603018.8	5.7	122.6	4.3	128.9	12.1	95	95	15	Weldon WC Screenings	second reading after addl compaction	Sor
7	BF-07-05	1/9/2014	684195.0	603021.0	6.4	128.4	6.7	128.9	12.1	100	95	15	Weldon WC Screenings		Sor
1	BF-08		684221.8	603013.0	-0.7							16	Crushed concrete	Bottom of excavation elevation	
2	BF-08											16	Crushed concrete	No compaction testing required	
3	BF-08-01	12/31/2013	684246.9	603039.8	2.0	127.2	3.2	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
4	BF-08-02	12/31/2013	684240.5	603043.2	3.1	132.7	2.9	128.9	12.1	103	95	16	Weldon WC Screenings		Sor
5	BF-08-03	1/6/2014	684231.7	603038.8	3.9	127.0	8.4	128.9	12.1	99	95	16	Weldon WC Screenings		Sor
6	BF-08-04	1/9/2014	684242.3	603046.8	5.4	130.1	4.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
7	BF-08-05	1/9/2014	684236.3	603066.0	7.1	129.8	6.2	128.9	12.1	101	95	16	Weldon WC Screenings		Sor
1	BF-09		684208.5	602989.4	-0.5							17	Crushed concrete	Bottom of excavation elevation	
2	BF-09											17	Crushed concrete	No compaction testing required	
3	BF-09-01	1/28/2014	684209.7	602987.6	2.5	124.0	7.9	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
4	BF-09-02	1/28/2014	684213.6	602980.4	3.4	123.4	6.1	128.9	12.1	96	95	17	Weldon WC Screenings		Sor
5	BF-09-03	1/28/2014	684204.2	602981.5	4.2	124.9	7.1	128.9	12.1	97	95	17	Weldon WC Screenings		Sor
1	BF-10		684269.0	603014.0	-0.5							18	Crushed concrete	Bottom of excavation elevation	
2	BF-10											18	Crushed concrete	No compaction testing required	
3	BF-10-01	1/20/2014	684275.4	603018.2	2.2	133.1	7.7	128.9	12.1	103	95	18	Weldon WC Screenings		Sor
4	BF-10-02	1/28/2014	684267.5	603026.1	3.2	118.8	3.1	128.9	12.1	92	95	18	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-10-02R	1/28/2014	684267.5	603026.1	3.2	133.3	6.1	128.9	12.1	103	95	18	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-10-03	1/28/2014	684271.8	603014.4	4.1	125.7	5.4	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
6	BF-10-04	3/21/2014	684267.9	603017.5	5.2	126.4	6.8	128.9	12.1	98	95	18	Weldon WC Screenings		Sor
1	BF-11		684208.5	602989.4	-1.0							19	Crushed concrete	Bottom of excavation elevation	
2	BF-11											19	Crushed concrete	No compaction testing required	
3	BF-11-01	1/28/2014	684216.6	602952.7	2.1	125.2	8.8	128.9	12.1	97	95	19	Weldon WC Screenings		Sor
4	BF-11-02	1/28/2014	684223.4	602953.8	3.4	129.8	4.2	128.9	12.1	101	95	19	Weldon WC Screenings		Sor
5	BF-11-03	1/28/2014	684211.6	602949.0	4.0	123.4	6.6	128.9	12.1	96	95	19	Weldon WC Screenings		Sor
1	BF-12		684286.7	602988.6	-1.7							20	Crushed concrete	Bottom of excavation elevation	
2	BF-12											20	Crushed concrete	No compaction testing required	
3	BF-12-01	1/20/2014	684291.7	602995.2	1.8	133.3	8.3	128.9	12.1	103	95	20	Weldon WC Screenings		Sor
4	BF-12-02	1/28/2014	684288.5	602989.8	2.9	121.6	4.0	128.9	12.1	94	95	20	Weldon WC Screenings	Scraped and re-rolled due to frost	Sor
4	BF-12-02R	1/28/2014	684288.5	602989.8	2.9	128.5	5.8	128.9	12.1	100	95	20	Weldon WC Screenings	second reading after addl compaction	Sor
5	BF-12-03	1/28/2014	684291.3	602995.4	3.7	136.9	7.5	128.9	12.1	106	95	20	Weldon WC Screenings		Sor
1	BF-13		684235.7	602919.6	-0.9							22	Crushed concrete	Bottom of excavation elevation	
2	BF-13											22	Crushed concrete	No compaction testing required	
3	BF-13-01	1/28/2014	684235.6	602919.1	2.1	130.1	5.8	128.9	12.1	101	95	22	Weldon WC Screenings		Sor
3	BF-13-01R	3/12/2014	684238.5	602922.0	2.1	132.0	2.9	135.8	6.4	97	95	22	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-13-02	3/12/2014	684238.4	602918.2	3.4	133.0	1.4	135.8	6.4	98	95	22	Tilcon MH DGA		V5N
5	BF-13-03	3/19/2014	684235.1	602916.0	4.5	124.0	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
1	BF-14		684312.1	602956.0	-0.9							23	Crushed concrete	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
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HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
2	BF-14											23	Crushed concrete	No compaction testing required	
3	BF-14-01	1/20/2014	684312.7	602965.2	1.8	133.9	7.0	128.9	12.1	104	95	23	Weldon WC Screenings		Sor
3	BF-14-01R	3/13/2013	684289.6	602935.7	1.8	132.0	1.7	135.8	6.4	97	95	23	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-14-02	3/14/2014	684301.9	602952.7	2.6	133.0	1.6	135.8	6.4	98	95	23	Tilcon MH DGA		V5N
1	BF-15		684260.7	602896.7	-0.9							24	Crushed concrete	Bottom of excavation elevation	
2	BF-15											24	Crushed concrete	No compaction testing required	
3	BF-15-01	1/28/2014	684259.0	602897.1	2.1	123.6	9.0	128.9	12.1	96	95	24	Weldon WC Screenings		Sor
3	BF-15-01R	3/12/2014	684264.5	602902.2	2.1	131.0	2.4	135.8	6.4	96	95	24	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-15-02	3/12/2014	684260.5	602900.2	2.8	133.0	1.3	135.8	6.4	98	95	24	Tilcon MH DGA		V5N
1	BF-16		684326.7	602937.0	-1.1							25	Crushed concrete	Bottom of excavation elevation	
2	BF-16											25	Crushed concrete	No compaction testing required	
3	BF-16-01	1/20/2014	684331.9	602942.7	1.6	136.1	7.4	128.9	12.1	106	95	25	Weldon WC Screenings		Sor
3	BF-16-01R	3/13/2014	6844330.0	602937.2	1.8	132.2	1.4	135.8	6.4	97	95	25	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-16-02	3/14/2014	684326.7	602930.0	2.5	134.0	1.2	135.8	6.4	99	95	25	Tilcon MH DGA		V5N
1	BF-17		684283.7	602879.0	0.4							26	Crushed concrete	Bottom of excavation elevation-Stratum O	
2	BF-17											26	Crushed concrete	No compaction testing required	
3	BF-17-01	3/12/2014	684284.6	602882.1	2.1	130.0	2.9	135.8	6.4	96	95	26	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-17-02	3/14/2014	684273.7	602879.1	3.1	132.0	2.2	135.8	6.4	97	95	26	Tilcon MH DGA		V5N
1	BF-18		684350.8	602909.6	-1.5							27	Crushed concrete	Bottom of excavation elevation	
2	BF-18											27	Crushed concrete	No compaction testing required	
3	BF-18-01	3/13/2014	684313.5	602885.6	1.5	132.4	1.4	135.8	6.4	97	95	27	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-18-02	3/14/2014	684344.0	602911.5	2.7	134.0	1.1	135.8	6.4	99	95	27	Tilcon MH DGA		V5N
1	BF-19		684313.2	602860.4	0.3							28	Crushed concrete	Bottom of excavation elevation - Stratum O	
2	BF-19											28	Crushed concrete	No compaction testing required	
3	BF-19-01	3/14/2014	684322.1	602872.7	2.8	134.0	0.9	135.8	6.4	99	95	28	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-19-02	3/17/2014	684301.4	602851.5	3.6	133.0	1.3	135.8	6.4	98	95	28	Tilcon MH DGA		V5N
1	BF-20		684370.9	602887.4	-1.7							29	Crushed concrete	Bottom of excavation elevation	
2	BF-20											29	Crushed concrete	No compaction testing required	
3	BF-20-01	3/17/2014	6843640.5	602862.1	2.0	133.0	1.7	135.8	6.4	98	95	29	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
1	BF-21		684330.4	602835.9	1.9							30	Crushed concrete	Bottom of excavation elevation - Startum O	
2	BF-21-01	3/14/2014	684343.3	602842.2	2.4	132.0	1.6	135.8	6.4	97	95	30	Tilcon MH DGA	Removed wet screenings to crushed concrete and placed Brid	V5N
3	BF-21-02	3/17/2014	684307.4	602827.3	3.3	134.0	0.8	135.8	6.4	99	95	30	Tilcon MH DGA	Bridge Lift over Stratum O	V5N
4	BF-21-03	3/19/2014	684314.6	602830.9	3.9	122.5	5.1	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
5	BF-21-04	3/20/2014	684314.4	602815.1	4.5	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
6	BF-21-05	3/20/2014	684321.1	602814.1	5.2	124.0	3.9	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
7	BF-21-06	3/20/2014	684308.3	602802.2	5.8	122.5	5.0	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
8	BF-21-07	3/20/2014	684305.8	602806.3	6.7	123.3	4.0	128.9	12.1	96	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
9	BF-21-08	3/20/2014	684314.4	602804.8	7.6	122.5	4.9	128.9	12.1	95	95	30	Weldon WC Screenings	Truck Ramp to Kellogg Street	V5N
10	BF-21-09	3/20/2014	684310.5	602806.6	8.4	132.5	1.9	135.8	6.4	98	95	30	Tilcon MH DGA	Truck Ramp to Kellogg Street	V5N
1	BF-22		684391.2	602864.3	-2.3							31	Crushed concrete	Bottom of excavation elevation	
2	BF-22											31	Crushed concrete	No compaction testing required	
3	BF-22-01	3/17/2014	684387.3	602845.0	1.4	134.0	0.8	135.8	6.4	99	95	31	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
1	BF-23		684350.9	602814.5	-1.6							32	Crushed concrete	Bottom of excavation elevation	
2	BF-23											32	Crushed concrete	No compaction testing required	
3	BF-23-01	3/14/2014	684360.9	602818.8	2.4	132.0	2.0	135.8	6.4	97	95	32	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-23-02	3/17/2014	684339.8	602809.6	3.5	134.0	1.1	135.8	6.4	99	95	32	Tilcon MH DGA		V5N
1	BF-24		684411.0	602842.4	-1.8							33	Crushed concrete	Bottom of excavation elevation	
2	BF-24											33	Crushed concrete	No compaction testing required	
3	BF-24-01	3/17/2014	684402.4	602827.4	1.1	134.0	0.8	135.8	6.4	99	95	33	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N

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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-25		684369.5	602729.2	-1.8							34	Crushed concrete	Bottom of excavation elevation	
2	BF-25											34	Crushed concrete	No compaction testing required	
3	BF-25-01	3/14/2014	684379.5	602796.3	2.0	131.0	2.1	135.8	6.4	96	95	34	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-25-02	3/17/2014	684354.8	602790.5	3.4	133.0	1.5	135.8	6.4	98	95	34	Tilcon MH DGA		V5N
1	BF-26		684433.4	602818.8	-2.1							35	Crushed concrete	Bottom of excavation elevation	
2	BF-26											35	Crushed concrete	No compaction testing required	
3	BF-26-01	3/18/2014	684433.9	602828.3	0.3	134.0	0.8	135.8	6.4	99	95	35	Tilcon MH DGA	Removed wet screenings to crushed concrete and replaced wi	V5N
4	BF-26-02	3/18/2014	684431.7	602817.7	0.8	133.0	1.3	135.8	6.4	98	95	35	Tilcon MH DGA		V5N
1	BF-27		684389.4	602765.0	-1.8							36	Crushed concrete	Bottom of excavation elevation	
2	BF-27											36	Crushed concrete	No compaction testing required	
3	BF-27-01	3/14/2014	684398.2	602773.8	1.8	133.0	1.6	135.8	6.4	98	95	36	Tilcon MH DGA		V5N
0	BF-28		684457.0	602790.8	-2.8							38	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-28-01	3/12/2014	684461.2	602789.3	-0.4	133.2	1.0	135.8	6.4	98	95	38	Tilcon MH DGA		V5N
0	BF-29		684418.8	602735.2	2.1							39	Stratum O	Bottom of excavation elevation	
1	BF-29-01	3/26/2014	684404.6	602731.3	3.3	134.0	1.2	135.8	6.4	99	95	39	Tilcon MH DGA		V5N
0	BF-30		684476.8	602765.1	-3.1							40	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-30-01	3/12/2014	684478.9	602766.2	-0.7	133.2	1.1	135.8	6.4	98	95	40	Tilcon MH DGA		V5N
0	BF-31		684436.0	602712.8	0.1							41	Stratum O	Bottom of excavation elevation	
0	BF-32		684498.7	602739.5	-2.2							42	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-32-01	3/12/2014	684496.6	602743.0	-0.9	131.0	2.3	135.8	6.4	96	95	42	Tilcon MH DGA		V5N
0	BF-33		684453.0	602683.2	0.1							43	Stratum O	Bottom of excavation elevation	
0	BF-34		684517.5	602716.8	-2.5							44	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-34-01	3/12/2014	684515.6	602715.4	-1.1	131.0	2.0	135.8	6.4	96	95	44	Tilcon MH DGA		V5N
0	BF-35		684471.3	602661.2	0.2							45	Stratum O	Bottom of excavation elevation	
0	BF-36		684538.2	602694.6	-3.0							46	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-36-01	3/18/2014	684535.1	602700.7	-1.9	134.5	0.5	135.8	6.4	99	95	46	Tilcon MH DGA		V5N
0	BF-37		684490.0	602636.8	0.2							47	Stratum O	Bottom of excavation elevation	
0	BF-38		684558.4	602671.7	-3.0							48	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-38-01	3/21/2014	684551.4	602683.6	-1.7	131.9	1.9	135.8	6.4	97	95	48	Tilcon MH DGA		V5N
0	BF-39		684510.6	602614.8	0.4							49	Stratum O	Bottom of excavation elevation	
0	BF-40		684557.4	602644.9	-3.6							50	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-40-01	3/26/2014	684572.2	602653.5	-1.4	134.8	0.5	135.8	6.4	99	95	50	Tilcon MH DGA		V5N
0	BF-62		684776.7	602362.5	-2.5							73 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-62-1	10/15/2014	684764.3	602354.7	0.6	125.0	2.0	128.5	10.5	97	95	73 (No)	Weldon LH Screenings	Placed on Tilcon MH DGA	V5N
0	BF-64		684785.0	602349.9	-2.5							74 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-64-1	10/3/2014	684773.5	602338.3	-1.2	128.5	4.7	128.5	10.5	100	95	74 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
3	BF-64-2	10/15/2014	684772.1	602344.3	0.6	126.0	2.2	128.5	10.5	98	95	74 (No)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-65		684701.4	602272.1	-2.5							75 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-65-1	10/3/2014	684679.6	602257.6	-1.6	127.0	3.1	128.5	10.5	99	95	75 (So)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
0	BF-66		684793.7	602335.5	-2.5							75 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
1	BF-66-1	10/3/2014	684788.5	602328.1	-0.9	128.5	4.3	128.5	10.5	100	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
2	BF-66-2	10/15/2014	684783.5	602334.9	0.6	125.0	2.9	128.5	10.5	97	95	75 (No)	Weldon LH Screenings	Screenings removed 10/8/14 and replaced with Tilcon MH DG	V5N
0	BF-67		684709.6	602254.1	-3.0							76 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-67-1	10/3/2014	684686.5	602239.8	-1.3	124.0	2.5	128.5	10.5	96	95	76 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-67-2	10/27/2014	684684.5	602237.6	5.3	122.5	3.5	128.5	10.5	95	95	76 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-68		684804.3	602317.4	-3.5							77 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-68-1	10/3/2014	684796.5	602311.9	-0.9	128.5	4.5	128.5	10.5	100	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-68-2	10/15/2014	684800.9	602313.3	0.5	125.0	2.2	128.5	10.5	97	95	77 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
0	BF-69		684720.3	602238.4	-3.5							77 (So)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	

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2	BF-69-1	10/3/2014	684698.8	602228.5	-1.1	124.6	2.9	128.5	10.5	97	95	77 (So)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
5	BF-69-2	10/27/2014	684700.3	602225.0	5.5	122.0	3.2	128.5	10.5	95	95	77 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-70		684813.9	602301.9	-3.5							78 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
2	BF-70-1	10/3/2014	685808.5	602301.5	-0.9	128.5	4.0	128.5	10.5	100	95	78 (No)	Weldon LH Screenings	Placed on processed concrete bridge lift	V5N
3	BF-70-2	10/15/2014	685811.9	602297.1	0.7	127.0	4.0	128.5	10.5	99	95	78 (No)	Weldon LH Screenings		V5N
0	BF-71		684732.5	602221.3	-3.3							79 (So)	Stratum D		
5	BF-71-1	10/27/2014	684725.0	602212.2	5.6	125.0	2.5	128.5	10.5	97	95	79 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-72		684824.9	602287.1	-3.3						95	79 (No)	Stratum D	Bottom of excavation elevation. Excavated to Meadow Mat	
3	BF-72-1	10/15/2014	684820.2	602286.1	0.4	125.5	1.9	128.5	10.5	98	95	79 (No)	Weldon LH Screenings	Placed on Weldon WC Screenings	V5N
0	BF-73		684742.6	602208.4	-5.0						95	80	Stratum D	Bottom of excavation elevation	
6	BF-73-1	10/27/2014	684743.1	602204.3	5.5	127.0	6.2	128.5	10.5	99	95	80	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-74		684837.6	602270.4	-4.8							81 (No)	Concrete/DGA	Bottom of excavation elevation	
3	BF-74-1	9/18/2014	684834.9	602268.1	-1.5	126.0	4.5	131.9	9.5	96	95	81 (No)	Weldon WC QP	Placed on Type A Material	V5N
1	BF-75		684756.2	602190.9	-5.0							81 (So)	Concrete/DGA	Bottom of excavation elevation	
2	BF-75-1	9/18/2014	684755.1	602200.0	-2.4	128.0	3.6	131.9	9.5	97	95	81 (So)	Weldon WC QP		V5N
6	BF-75-2	10/27/2014	684759.2	602193.9	5.4	128.5	6.5	128.5	10.5	100	95	81 (So)	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-76		684829.0	602234.8	-4.8							82		Bottom of excavation elevation	
2	BF-76-1	9/18/2014	684826.4	602234.0	-2.4	126.0	4.5	131.9	9.5	96	95	82	Weldon WC QP	Placed on processed concrete	V5N
6	BF-76-2	10/27/2014	684794.7	602203.1	5.5	128.0	4.6	128.5	10.5	100	95	82	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-77		684848.6	602232.5	-4.5							83	Concrete/DGA	Bottom of excavation elevation	
3	BF-77-1	9/18/2014	684844.7	602224.8	-1.2	126.0	5.0	131.9	9.5	96	95	83	Weldon WC QP	Placed on Type A Material	V5N
6	BF-77-2	10/27/2014	684807.1	609195.1	5.4	128.5	5.4	128.5	10.5	100	95	83	Weldon LH Screenings	Placed on Type A Material	V5N
1	BF-78		684864.2	602226.5	-5.6							84	Concrete/DGA	Bottom of excavation elevation	
3	BF-78-1	9/18/2014	684851.2	602210.9	-0.7	128.0	3.4	131.9	9.5	97	95	84	Weldon WC QP	Placed on Type A Material	V5N
7	BF-78-2	10/27/2014	684830.5	602190.3	5.4	128.5	7.1	128.5	10.5	100	95	84	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-79		684877.8	602216.4	-5.2							85		Bottom of excavation elevation	
4	BF-79-1	9/18/2014	684856.5	602180.7	1.0	128.0	2.9	131.9	9.5	97	95	85	Weldon WC QP	Placed on Weldon WC Screenings	V5N
0	BF-80		684890.3	602202.5	-5.8							86		Bottom of excavation elevation	
4	BF-80-1	9/18/2014	684874.0	602174.3	1.3	125.0	3.9	131.9	9.5	95	95	86	Weldon WC QP	Placed on Weldon WC Screenings	V5N
7	BF-80-2	10/27/2014	684873.1	602169.9	5.1	128.5	4.1	128.5	10.5	100	95	86	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-81		684904.5	602186.6	-6.1							88		Bottom of excavation elevation. Excavated to Meadow mat	
4	BF-81-1	9/18/2014	684886.9	602163.0	1.8	128.0	3.1	131.9	9.5	97	95	88	Weldon WC QP		V5N
7	BF-81-2	10/27/2014	684883.9	602156.7	5.0	127.0	4.7	128.5	10.5	99	95	88	Weldon LH Screenings	Placed on Type A Material	V5N
0	BF-82		684923.8	602171.9	-4.8							89	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
5	BF-82-1	9/18/2014	684898.0	602149.9	3.1	128.0	3.4	131.9	9.5	97	95	89	Weldon WC QP		V5N
6	BF-82-2	10/27/2014	684915.2	602163.5	5.3	128.5	3.2	128.5	10.5	100	95	89	Weldon LH Screenings		V5N
0	BF-83		684941.9	602148.5	-4.8							91	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-83-1	8/26/2014	684958.8	602165.2	-3.0	129.7	7.0	131.9	9.5	98	95	91	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
6	BF-83-2	9/18/2014	684920.6	602131.1	4.1	126.0	3.7	131.9	9.5	96	95	91	Weldon WC QP		V5N
7	BF-83-3	10/27/2014	684933.2	602141.4	5.6	128.5	3.6	128.5	10.5	100	95	91	Weldon LH Screenings		V5N
0	BF-84		684959.7	602128.6	-4.2							93	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-84-1	8/15/2014	684969.1	602137.6	-3.2	129.3	3.2	131.9	9.5	98	95	93	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-84-2	9/18/2014	684937.9	602110.2	4.7	126.0	3.6	131.9	9.5	96	95	93	Weldon WC QP		V5N
6	BF-84-3	10/27/2014	684953.2	602121.7	5.6	128.5	3.2	128.5	10.5	100	95	93	Weldon LH Screenings		V5N
0	BF-85		684976.0	602107.0	-4.8							95	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-85-1	8/15/2014	684987.2	602117.0	-3.4	126.0	3.6	131.9	9.5	96	95	95	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-85-2	9/18/2014	684960.1	602086.7	4.8	125.0	4.9	131.9	9.5	95	95	95	Weldon WC QP		V5N
6	BF-85-3	10/27/2014	684973.5	602102.2	5.7	128.5	5.7	128.5	10.5	100	95	95	Weldon LH Screenings		V5N
0	BF-86		684993.0	602080.9	-4.8							97	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
1	BF-86-1	8/15/2014	684999.9	602082.3	-3.4	126.0	3.7	131.9	9.5	96	95	97	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
5	BF-86-2	10/27/2014	684990.4	602076.5	5.5	128.5	5.7	128.5	10.5	100	95	97	Weldon LH Screenings		V5N
0	BF-87		685010.3	602052.3	-5.0							99	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-87-1	8/15/2014	685010.8	602056.6	-3.7	125.0	4.2	131.9	9.5	95	95	99	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-88		685019.7	602037.1	-5.1							100	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-88-1	8/8/2014	685025.4	602022.1	-3.9	126.6	3.9	131.9	9.5	96	95	100	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-89		685025.3	602021.0	-4.8							101	Stratum D	Bottom of excavation elevation. Excavated to Meadow mat	
1	BF-89-1	8/26/2014	685029.3	602037.1	-3.3	131.9	7.3	131.9	9.5	100	95	101	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-90		685035.2	602003.7	-5.1							103	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-90-1	8/6/2014	685049.1	602012.4	-3.5	128.0	3.1	131.9	9.5	97	95	103	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-91		685048.2	601986.6	-5.2							104	Stratum D	Bottom of excavation elevation; Excavated to Meadow mat	
1	BF-91-01	7/30/2014	685067.2	602016.2	-4.2	136.5	4.3	142.6	7.8	96	95	104	Weldon WC QP		V5N
2	BF-91-02	8/1/2014	685062.8	602085.0	-3.2	121.4	6.5	142.6	7.8	85	95	104	Weldon WC QP	New blast area. QP visually changed.	V5N
2	BF-91-02R	8/1/2014	685062.8	602085.0	-3.2	121.0	7.4	142.6	9.5	85	95	104	Weldon WC QP	Rerolled area still fails. Collect sample for Proctor	V5N
2	BF-91-02RR	8/4/2014	685062.8	602085.0	-2.9	125.3	7.4	131.9	9.5	95	95	104	Weldon WC QP	Used new dry density of 131.9 PCF per new Proctor results	V5N
0	BF-93		685084.9	601963.3	-1.2								Stratum O	Bottom of excavation elevation	
1	BF-93-01	7/18/2014	685112.8	601983.8	-0.4	136.5	3.5	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
2	BF-93-02	7/30/2014	685091.5	601975.9	1.1	136.5	3.9	142.6	7.8	96	95	107 (No)	Weldon WC QP		V5N
1	BF-94		685105.9	601939.3	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-94-01	7/18/2014	685104.8	601941.5	1.7	136.0	3.8	142.6	7.8	95	95	109 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-95		685125.6	601915.0	-1.2							111 (No)	Crushed concrete	Bottom of excavation elevation	
2	BF-95-01	7/16/2014	685121.8	601910.5	1.7	135.0	3.6	142.6	7.8	95	95	111 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-96		685144.3	601891.9	-1.2								Crushed concrete	Bottom of excavation elevation	
2	BF-96-01	7/10/2014	685150.5	601896.1	1.9	137.0	4.8	142.6	7.8	96	95	113 (No)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-97		685196.4	601880.1	2.1								Stratum O	Bottom of excavati0n elevation	
1	BF-97-01	7/7/2014	685187.0	601867.3	2.7	135.5	4.6	142.6	7.8	95	95	116 (No)	Weldon WC QP		V5N
0	BF-101		685222.6	601822.8	0.4							120 (No)	Stratum O	Bottom of excavation elevation	
1	BF-101-01	6/27/2014	685213.8	601814.2	1.0	136.0	3.4	142.6	7.8	95	95	120 (No)	Weldon WC QP		V5N
0	BF-102		685148.9	601780.9	-2.5							119	Stratum O	Bottom of excavation elevation	
1	BF-102-01	6/27/2014	685148.8	601788.7	-0.8	135.5	3.4	142.6	7.8	95	95	119	Weldon WC QP		V5N
1	BF-103		685084.0	601708.8	-7.5							120 (So)			
2	BF-103-01	7/1/2014	685102.8	601721.9	-4.9	137.5	2.5	142.6	7.8	96	95	120 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-105		685102.9	601692.4	-7.5							122 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-105-01	6/27/2014	685126.9	601702.6	-5.7	135.5	3.4	142.6	7.8	95	95	122 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-104		685218.6	601799.3	-2.5							121 (No)	Stratum O	Bottom of excavation elevation	
1	BF-104-01	6/27/2014	685205.5	601790.7	0.9	135.5	3.4	142.6	7.8	95	95	121 (No)	Weldon WC QP		V5N
0	BF-106		685225.5	601777.9	-1.2							122 (No)	Stratum O	Bottom of excavation elevation	
1	BF 106-01	6/18/2014	685230.1	601784.7	0.5	140.0	1.7	142.6	7.8	98	95	122 (No)	Weldon WC QP		V5N
2	BF 106-02	6/27/2014	685221.4	601777.8	1.0	135.4	3.4	142.6	7.8	95	95	122 (No)	Weldon WC QP		V5N
1	BF-107		685115.2	601682.1	-7.5							123 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF 107-01	6/24/2014	685134.6	601695.5	-5.9	136.9	2.5	142.6	7.8	96	95	123 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-108		685235.5	601760.6	-1.2							124 (No)	Stratum O	Bottom of excavation elevation	
1	BF-108-01	6/18/2014	685235.2	601757.6	0.8	138.0	2.6	142.6	7.8	97	95	124 (No)	Weldon WC QP		V5N
2	BF-108-02	6/27/2014	685253.4	601761.5	1.4	135.0	3.4	142.6	7.8	95	95	124 (No)	Weldon WC QP		V5N
1	BF-109		685135.2	601666.9	-7.5							124 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-109-01	6/18/2014	685144.9	601672.5	-5.8	136.0	5.1	142.6	7.8	95	95	124 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
1	BF-111		685154.6	601650.7	-7.5							126 (So)	Crushed concrete	Bottom of excavation elevation	
2	BF-111-01	6/18/2014	685157.7	601655.0	-5.4	140.0	1.5	142.6	7.8	98	95	126 (So)	Weldon WC QP	Placed on concrete/QP bridge lift	V5N
0	BF-124		685346.3	601612.6	-1.2							136	Stratum O	Bottom of excavation elevation	
1	BF-124-01	5/9/2014	685359.1	601618.5	0.3	130.8	1.3	135.8	6.4	96	95	136	Tilcon MH DGA		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 1 Test per 2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
0	BF-126		685363.5	601589.4	-1.2							138	Stratum O	Bottom of excavation elevation	
1	BF-126-01	5/9/2014	685355.3	601576.3	0.2	128.0	3.3	128.9	12.1	99	95	138	Weldon WC Screenings		V5N
0	BF-128		685382.2	601566.3	-2.5							140 (No)	Stratum O	Bottom of excavation elevation	
1	BF-128-01	4/29/2014	685369.8	601556.5	-1.8	130.0	1.2	135.8	6.4	96	95	140	Tilcon MH DGA		V5N
2	BF-128-02	4/29/2014	685381.4	601569.9	-0.8	132.2	1.5	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
3	BF-128-03	4/29/2014	685382.7	601573.8	0.3	132.0	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
4	BF-128-04	4/29/2014	685386.7	601571.4	1.5	132.3	1.3	135.8	6.4	97	95	140	Tilcon MH DGA		V5N
5	BF-128-05	4/29/2014	685389.9	601573.7	2.7	133.9	1.4	135.8	6.4	99	95	140	Tilcon MH DGA		V5N
0	BF-129		685308.1	601468.7	-7.5							142 (So)	Stratum O	Bottom of excavation elevation	
1	BF-129-01	5/9/2014	685315.6	601465.0	-6.4	135.5	1.3	135.8	6.4	100	95	142 (So)	Tilcon MH DGA		V5N
0	BF-130		685401.7	601541.7	1.9							142 (No)	Stratum O	Bottom of excavation elevation	
1	BF-130-01	4/28/2014	685410.7	601558.5	2.7	132.0	2.2	135.8	6.4	97	95	142 (No)	Tilcon MH DGA		V5N
2	BF-130-02	4/28/2014	685414.5	601553.3	3.6	133.0	1.7	135.8	6.4	98	95	142 (No)	Tilcon MH DGA		V5N
3	BF-130-03	4/28/2014	685414.9	601555.5	4.8	136.0	1.6	135.8	6.4	100	95	142 (No)	Tilcon MH DGA		V5N
4	BF-130-04	4/28/2014	685420.1	601558.2	5.5	135.0	1.9	135.8	6.4	99	95	142 (No)	Tilcon MH DGA		V5N
0	BF-131		685426.9	601523.7	3.2							144	Stratum O	Bottom of excavation elevation	
1	BF-131-01	4/25/2014	685440.9	601531.9	5.9	120.0	1.4	135.8	6.4	88	95	144	Tilcon MH DGA	recompact lift	V5N
1	BF-131-01R	4/28/2014	685440.9	601531.9	5.9	139.9	1.4	135.8	6.4	103	95	144	Tilcon MH DGA	second reading after addl compaction	V5N
0	BF-132		685452.9	601506.1	5.6							146	Stratum O	Bottom of excavation elevation	
1	BF-132-01	4/25/2014	685438.7	601505.6	6.1	135.0	1.0	135.8	6.4	99	95	144	Tilcon MH DGA		V5N

Notes: Maximum Dry Density (gravel corrected) for Weldon WC QP based on Sor Testing Laboratories Report No. 13-2027 dated 12/9/13. Sample collected from on site soils.
Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Maximum Dry Density for Weldon LH Screenings based on Vertical V Laboratory Report No. 12643 dated 9/29/14.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID BF-01-01 where:

BF = Backfill (At frequency of 1 test/2500 SF)
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again
= Area subject to re-compaction

* *Initial field testing indicated compaction of greater then 95% (see attached Sor Testing Lab (STL) memo). Laboratory results for initially provided Weldon WC QP sample indicated a maximum dry density of 136.7 pcf. Using this density the compaction results are greater than the 95%. Laboratory tests on later deliveries indicated density results of 142.6 pcf. This range is typical of what can be expected for this type of source. The Engineer of Record (EOR) directed that the results be reported using the higher more conservative value and that the STL field test report verifying the higher passing results be attached to the final documentation. It is further noted that the Design Documents do not designate this area for compaction as Structural Fill per Specification Section 02315 Section 3.12, Structural Fill 95%; Non Structural Fill 90% Standard Proctor. The 95% value noted in this Table was implemented to provide for uniform compaction in areas slated for future development. It is the EOR's opinion that these two samples meet the 100% Design and project requirements.*

SOR TESTING LABORATORIES, INC.

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Orhun Sor, P.E.
Yilmaz Arhan, Ph.D.
Kenneth Rowbotham, P.E.
Atilla Sencar, P.E.

This report is the confidential property of the Client, and information
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Client:	Entact Environmental Services		
Project:	Honeywell SA-6, Jersey City NJ		
Subject:	In-Place Density Tests		
Job No.:	13-208	Report No.: 13-1994	Date: 12/3/13

At the request of the client, on November 22, 2013 a field technician from Sor Testing Laboratories, Inc. reported to the project site for the purpose of performing in-place density tests over previously compacted lifts of materials at locations indicated by the client's representative.

Using a nuclear density gauge, our technician performed two density tests at locations 01BF-2 and 02BF-2 per the client's instructions. The proctor value of 136.7 pcf at our optimum moisture content of 8.1% was also provided by the client.

Test results were 97.5% and 95.7% compaction.

Technician: J.C. Jean-Toussaint

Very truly yours,

SOR TESTING LABORATORIES, INC.

Atilla Sencar, P.E.
Senior Engineer

AS/jh
Attachment

cc: (1) Client, Attn: Craig Cymbor (Email: ccymbor@entact.com)
(1) Client, Attn: Caroline Panico (Email: cpanico@entact.com)
(1) Client, Attn: Andrew Rizzuto (Email: arizzuto@entact.com)

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Kamil Sor, Ph.D.
Orhun Sor, P.E.
Peter G. Mickus, P.E.

NUCLEAR DENSITY TEST DATA

Client: Entact Date: 11-22-2013
Project: HoneyWell SA-6 Job No.: 13-208 Report No. 13-1994
Daily Standard Count: _____ Density: 1975 Moisture 627

TEST NUMBER	1	X	2	X			
Station							
Offset							
Elevation	01BF-2		02BF-2				
Mode & Depth (inches)	NORMAL/+10"		NORMAL +10"				
Density Count	N/A		N/A				
Wet Density (P.C.F.)	137.8		134.6				
Moisture Count	N/A		N/A				
Dry Density (P.C.F.)	133.3		130.8				
Moisture (P.C.F.)	4.5		3.6				
Moisture (%)	3.4		2.8				
Proctor Density (P.C.F.)	136.7		136.7				
Optimum Moisture (%)							
% Compaction	97.5		95.7				
Moisture Correction							

REMARKS:

Jean C. Jean Mouaint
INSPECTOR

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
	RF-03		684270.2	603012.0								18			
7	RF-03-01	3/21/2014	684267.9	603017.5	6.1	124.0	3.6	128.9	12.1	96	95	18	Weldon WC Screenings		V5N
8	RF-03-02	4/8/2014	684272.9	605018.7	7.6	122.4	8.1	128.9	12.1	95	95	18	Weldon WC Screenings		V5N
	RF-04		684235.2	602919.8								22			
6	RF-04-01	3/21/2014	684227.0	602916.6	5.5	124.0	3.6	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
7	RF-04-02	3/26/2014	684266.5	602908.5	6.2	123.6	3.7	128.9	12.1	96	95	22	Weldon WC Screenings		V5N
8	RF-04-03	4/1/2014	684384.8	602904.9	7.1	125.8	3.0	128.9	12.1	98	95	22	Weldon WC Screenings		V5N
9	RF-04-04	4/3/2014	684220.8	602926.9	8.2	120.0	3.6	128.9	12.1	93	95	22	Weldon WC Screenings	Recompact lift	V5N
9	RF-04-04R	4/3/2014	684220.8	602926.9	8.2	125.0	4.1	128.9	12.1	97	95	22	Weldon WC Screenings	Second reading after re-rolling	V5N
10	RF-04-05	4/17/2014	684241.5	602924.2	8.8	130.0	3.0	128.9	12.1	101	95	22	Weldon WC Screenings		V5N
	RF-05		684328.5	602935.0								25			
5	RF-05-01	3/24/2014	684347.1	602947.5	3.3	122.5	4.5	128.9	12.1	95	95	25	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
6	RF-05-02	3/26/2014	684348.1	602942.0	4.1	123.5	3.7	128.9	12.1	96	95	25	Weldon WC Screenings		V5N
7	RF-05-03	4/1/2014	684351.4	602937.8	5.4	125.0	2.6	128.9	12.1	97	95	25	Weldon WC Screenings		V5N
8	RF-05-04	4/3/2014	684339.0	602933.4	6.4	128.9	4.7	128.9	12.1	100	95	25	Weldon WC Screenings		V5N
9	RF-05-05	4/8/2014	684327.1	602942.3	7.6	126.4	8.3	128.9	12.1	98	95	25	Weldon WC Screenings		V5N
10	RF-05-06	4/17/2014	684348.8	602945.1	8.2	135.0	6.4	128.9	12.1	105	95	25	Weldon WC Screenings		V5N
	RF-06		684335.0	602869.1								29			
2	RF-06-01	4/1/2014	684383.7	602908.8	3.0	126.0	2.7	128.9	12.1	98	95	29	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
3	RF-06-02	4/1/2014	684384.8	602904.9	4.1	125.0	2.8	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
4	RF-06-03	4/3/2014	684358.9	602890.5	5.9	127.6	4.0	128.9	12.1	99	95	29	Weldon WC Screenings		V5N
5	RF-06-04	4/8/2014	684340.1	602867.1	6.9	123.0	4.6	128.9	12.1	95	95	29	Weldon WC Screenings		V5N
6	RF-06-05	4/14/2014	684340.1	602867.1	7.5	124.8	3.0	128.9	12.1	97	95	29	Weldon WC Screenings		V5N
7	RF-06-06	4/17/2014	684337.1	602897.4	8.5	118.5	3.0	128.9	12.1	92	95	29	Weldon WC Screenings	Recompact lift	V5N
7	RF-06-06R	4/17/2014	684337.1	602897.4	8.5	122.0	3.2	128.9	12.1	95	95	29	Weldon WC Screenings	Second reading after re-rolling	V5N
	RF-07		684392.9	602838.1								32			
4	RF-07-01	4/3/2014	684425.2	602890.4	3.0	125.3	5.1	128.9	12.1	97	95	32	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-07-02	4/3/2014	684418.6	602854.9	4.1	126.3	5.5	128.9	12.1	98	95	32	Weldon WC Screenings		V5N
6	RF-07-03	4/8/2014	684410.5	602847.3	5.6	122.7	2.5	128.9	12.1	95	95	32	Weldon WC Screenings		V5N
7	RF-07-04	4/14/2014	684410.5	602847.3	6.3	123.1	2.7	128.9	12.1	96	95	32	Weldon WC Screenings		V5N
8	RF-07-05	4/17/2014	684394.3	602842.1	7.1	135.0	6.1	128.9	12.1	105	95	32	Weldon WC Screenings		V5N
9	RF-07-06	4/21/2014	684394.8	602836.9	8.2	128.9	2.2	128.9	12.1	100	95	32	Weldon WC Screenings		V5N
	RF-08		684406.9	602771.1								36			
4	RF-08-01	4/3/2014	684421.7	602797.1	2.9	129.0	6.0	128.9	12.1	100	95	36	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
5	RF-08-02	4/8/2014	684429.7	602790.1	4.0	124.9	3.0	128.9	12.1	97	95	36	Weldon WC Screenings		V5N
6	RF-08-03	4/15/2014	684439.0	602813.0	5.0	124.2	4.7	128.9	12.1	96	95	36	Weldon WC Screenings		V5N
7	RF-08-04	4/17/2014	684400.4	602773.4	6.1	137.0	5.6	128.9	12.1	106	95	36	Weldon WC Screenings		V5N
8	RF-08-05	4/21/2014	684429.8	602794.0	6.8	128.9	3.5	128.9	12.1	100	95	36	Weldon WC Screenings		V5N
9	RF-08-06	4/21/2014	684443.6	602550.4	8.0	122.5	6.9	128.9	12.1	95	95	36	Weldon WC Screenings		V5N
	RF-09		684479.9	602754.0								40			
3	RF-09-01	4/7/2014	684489.3	602750.3	0.8	128.7	6.8	128.9	12.1	100	95	40	Weldon WC Screenings	Placed on Tilcon MH DGA	V5N
4	RF-09-02	4/11/2014	684498.7	602757.9	2.1	122.4	3.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
5	RF-09-03	4/11/2014	684503.3	602770.3	3.2	129.3	8.5	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
6	RF-09-04	4/14/2014	684503.3	602770.3	4.1	128.9	5.7	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
7	RF-09-05	4/21/2014	684479.1	602753.1	5.4	128.9	5.3	128.9	12.1	100	95	40	Weldon WC Screenings		V5N
8	RF-09-06	4/21/2014	684446.9	602799.1	6.4	123.0	2.0	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
9	RF-09-07	5/15/2014	684479.0	602751.5	6.9	124.5	4.4	128.9	12.1	97	95	40	Weldon WC Screenings		V5N
10	RF-09-08	5/19/2014	684494.7	602760.2	8.1	122.5	5.9	128.9	12.1	95	95	40	Weldon WC Screenings		V5N
1	RF-10		684474.1	602682.1	0.2							44	Crushed Concrete	Bottom of excavation elevation	
2	RF-10		684474.1	602682.1								44	Type A Material	No compaction testing required	
3	RF-10-01	4/25/2014	684476.1	602679.3	2.5	138.0	1.4	128.9	12.1	107	95	44	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-10-02	5/8/2014	684445.5	602680.1	5.8	132.0	6.6	128.9	12.1	102	95	44	Weldon WC Screenings		V5N
5	RF-10-03	5/15/2014	684463.8	602677.8	7.1	124.1	4.2	128.9	12.1	96	95	44	Weldon WC Screenings		V5N
6	RF-10-04	5/19/2014	684466.2	602672.2	8.2	122.5	6.8	128.9	12.1	95	95	44	Weldon WC Screenings		V5N
2	RF-11		684545.0	602673.2								48	Type A Material	Placed on Tilcon MH DGA	
3	RF-11-01	4/11/2014	684533.0	602676.0	1.0	126.0	3.8	128.9	12.1	98	95	48	Weldon WC Screenings	Placed on Type A Material; Against HB wall	V5N
4	RF-11-02	4/11/2014	684575.1	602679.9	2.1	125.6	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
5	RF-11-03	4/14/2014	684575.1	602679.9	2.8	126.8	2.2	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
6	RF-11-04	4/17/2014	684579.8	602684.6	3.8	122.5	3.0	128.9	12.1	95	95	48	Weldon WC Screenings	Against HB wall	V5N
7	RF-11-05	4/17/2014	684585.7	602686.5	4.5	126.8	4.0	128.9	12.1	98	95	48	Weldon WC Screenings	Against HB wall	V5N
8	RF-11-06	5/15/2014	684569.9	602672.5	7.3	124.5	4.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
9	RF-11-07	5/19/2014	685562.2	602686.4	8.3	124.5	3.5	128.9	12.1	97	95	48	Weldon WC Screenings	Against HB wall	V5N
1	RF-12		684540.0	602601.3	0.3							51	Crushed Concrete	Bottom of excavation elevation	
2	RF-12		684540.0	602601.3								51	Type A Material	No compaction testing required	
3	RF-12-01	4/25/2014	684557.9	602605.6	2.3	130.2	2.2	128.9	12.1	101	95	51	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-12-02	5/6/2014	684516.3	602580.6	6.0	128.6	5.6	128.9	12.1	100	95	51	Weldon WC Screenings		V5N
5	RF-12-03	5/15/2014	684526.7	602594.1	7.3	124.8	3.9	128.9	12.1	97	95	51	Weldon WC Screenings		V5N
6	RF-12-04	5/20/2014	684522.6	602585.3	8.1	121.3	7.1	128.9	12.1	94	95	51	Weldon WC Screenings	Recompact lift	V5N
6	RF-12-04R	5/20/2014	684522.6	602585.3	8.1	122.0	5.9	128.9	12.1	95	95	51	Weldon WC Screenings	Second reading after re-rolling	V5N
1	RF-13		684610.2	602590.4	-2.3							54	Crushed Concrete	Bottom of excavation elevation	
2	RF-13		684610.2	602590.4								54	Type A Material	No compaction testing required	
3	RF-13-01	4/11/2014	684619.5	602515.3	1.6	126.5	7.8	128.9	12.1	98	95	54	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-13-02	4/14/2014	684619.5	602515.3	2.7	124.5	2.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	ENTACT CELL #	LIFT MATERIAL	NOTES	TESTING COMPANY
5	RF-13-03	4/17/2014	684641.5	602614.6	3.6	123.0	4.1	128.9	12.1	95	95	54	Weldon WC Screenings	Against HB	V5N
6	RF-13-04	4/17/2014	684646.7	602619.5	4.4	132.9	5.5	128.9	12.1	103	95	54	Weldon WC Screenings	Against HB	V5N
7	RF-13-05	5/15/2014	684640.0	602620.1	5.4	125.0	3.7	128.9	12.1	97	95	54	Weldon WC Screenings	Against HB	V5N
8	RF-13-06	5/15/2014	684613.8	602605.5	6.9	125.0	4.5	128.9	12.1	97	95	54	Weldon WC Screenings		V5N
9	RF-13-07	5/20/2014	684614.3	602606.0	7.8	121.3	8.0	128.9	12.1	94	95	54	Weldon WC Screenings	Top lift. Will retest prior to final restoration	V5N
0	RF-14		684653.1	602535.0	-2.6							59	Stratum D	Bottom of excavation elevation	
1	RF-14-1	10/30/2014	684656.5	602532.8	-1.3	133.0	2.0	135.8	6.4	98	95	59	Tilcon MH DGA	Bridge lift	V5N
1	RF-14-2	11/5/2014	684662.9	602542.6	0.0	134.0	0.6	135.8	6.4	99	95	59	Tilcon MH DGA	Bridge lift	V5N
0	RF-15		684684.3	602484.0	-2.2							63	Stratum D	Bottom of excavation elevation	
1	RF-15-1	10/27/2014	684656.4	602466.0	0.6	135.8	2.0	135.8	6.4	100	95	63	Tilcon MH DGA	Bridge lift	V5N
0	RF-16		684687.2	602408.0	-2.2							67	Stratum D	Bottom of excavation elevation	
1	RF-16-1	10/27/2014	684767.7	602426.9	0.3	129.0	2.3	135.8	6.4	95	95	67	Tilcon MH DGA	Bridge lift	V5N
2	RF-16-2	11/5/2014	684767.6	602428.4	1.2	124.0	4.1	128.9	12.1	96	95	67	Weldon WC Screenings		V5N
0	RF-17		684750.4	602403.5	-2.2							70	Stratum D	Bottom of excavation elevation	
1	RF-17-1	10/10/2014	684773.5	602414.1	-0.8	134.5	1.0	135.8	6.4	99	95	70	Tilcon MH DGA	Bridge lift	V5N
2	RF-17-2	11/5/2014	684723.7	602387.9	1.5	124.0	3.8	128.9	12.1	96	95	70	Weldon WC Screenings		V5N
0	RF-18		684686.8	602294.5	-2.4							73	Stratum D	Bottom of excavation elevation	
1	RF-18-1	10/10/2014	684659.1	602250.1	-1.3	134.5	1.0	135.8	6.4	99	95	73	Tilcon MH DGA	Bridge lift	V5N
6	RF-18-2	11/5/2014	684636.8	602258.1	5.5	124.0	3.7	128.9	12.1	96	95	73	Weldon WC Screenings	Placed on Type A material	V5N
	RF-19		684790.8	602339.5	-2.5							75	Stratum D	Bottom of excavation elevation	
3	RF-19-1	11/5/2014	684776.9	602328.5	1.8	124.0	3.9	128.9	12.1	96	95	75	Weldon WC Screenings		V5N
	RF-21		684826.8	602292.8	-3.3							79		Bottom of excavation elevation	
2	RF-21-1	9/24/2014	684821.0	602290.8	-1.2	126.0	1.8	128.9	12.1	98	95	79	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
4	RF-21-2	11/5/2014	684823.4	602288.0	1.8	133.0	1.7	135.8	6.4	98	95	79	Tilcon MH DGA		V5N
	RF-22		684775.9	602192.8	-4.8							82		Bottom of excavation elevation	
3	RF-22-1	9/24/2014	684777.7	602191.8	-1.1	125.0	2.5	128.9	12.1	97	95	82	Weldon WC Screenings	Placed on concrete/QP bridge lift	V5N
	RF-23		684878.7	602219.3	-5.6							85		Bottom of excavation elevation	
1	RF-23-01	9/2/2014	684887.1	602212.2	-4.2	133.0	2.0	135.8	6.4	98	95	85	Tilcon MH DGA		V5N
2	RF-23-02	9/12/2014	684873.8	602198.8	-1.2	128.9	7.6	128.9	12.1	100	95	85	Weldon WC Screenings	Placed on Type A material	V5N
3	RF-23-03	9/24/2014	684867.7	602209.0	0.0	122.0	4.7	128.9	12.1	95	95	85	Weldon WC Screenings		V5N
5	RF-23-04	11/5/2014	684877.6	602222.8	2.5	134.0	0.7	135.8	6.4	99	95	85	Tilcon MH DGA		V5N
	RF-24		684934.2	602167.2	-4.8							90		Bottom of excavation elevation	
1	RF-24-01	9/2/2014	684928.8	602165.1	-3.5	133.5	1.3	135.8	6.4	98	95	90	Tilcon MH DGA		V5N
2	RF-24-02	9/8/2014	684921.5	602154.5	-2.1	122.0	4.4	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
3	RF-24-03	9/12/2014	684903.2	602144.2	0.9	128.9	6.2	128.9	12.1	100	95	90	Weldon WC Screenings		V5N
4	RF-24-04	9/24/2014	684931.9	602159.7	1.7	122.0	12.0	128.9	12.1	95	95	90	Weldon WC Screenings		V5N
	RF-25		684988.1	602095.1	-4.8							96	Weldon WC QP	Bottom of excavation elevation	
2	RF-25-01	9/8/2014	684973.3	602081.8	1.6	123.0	3.9	128.9	12.1	95	95	96	Weldon WC Screenings		V5N
4	RF-25-02	9/12/2014	684969.6	602072.9	3.7	122.5	5.6	128.9	12.1	95	95	96	Weldon WC Screenings	Placed on Type A Material	V5N
	RF-26		685029.1	602031.1	-4.8							101	Weldon WC QP	Bottom of excavation elevation	
2	RF-26-01	9/2/2014	685038.3	602030.1	-2.5	125.0	3.3	128.9	12.1	97	95	101	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-26-02	9/8/2014	685029.6	602011.4	1.4	122.0	4.2	128.9	12.1	95	95	101	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-26-03	9/12/2014	685013.2	602014.1	3.2	128.9	3.1	128.9	12.1	100	95	101	Weldon WC Screenings		V5N
	RF-27		685076.1	601973	-1.2							106	Weldon WC QP	Bottom of excavation elevation	
3	RF-27-01	9/8/2014	685054.4	601963.6	2.4	122.0	4.8	128.9	12.1	95	95	106	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-27-02	9/12/2014	685064.1	601957.1	3.5	128.9	4.1	128.9	12.1	100	95	106	Weldon WC Screenings		V5N
NA	RF-27-LOAM	12/15/2014	685045.9	601945.1	-4.4	129.0	3.0	135.8	6.4	95	95	106	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
	RF-28		685132.5	601902.9	2.1							112 (No)	Weldon WC QP	Bottom of excavation elevation	
3	RF-28-01	7/28/2014	685136.7	601901.8	3.7	122.5	6.1	128.9	12.1	95	95	112 (No)	Weldon WC Screenings	Placed on Weldon WC QP	V5N
4	RF-28-02	9/2/2014	685126.1	601909.3	4.9	125.0	3.0	128.9	12.1	97	95	112	Weldon WC Screenings		V5N
5	RF-28-03	9/8/2014	685135.2	601900.4	6.4	125.0	3.3	128.9	12.1	97	95	112 (No)	Weldon WC Screenings		V5N
NA	RF-28-LOAM	12/15/2014	685085.0	601862.1	-4.7	135.8	4.0	135.8	6.4	100	95	112	Tilcon MH DGA	Bottom of lens of anomalous material excavation	V5N
1	RF-29		685049.3	601738.7	-4.3							117	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-29-01	7/16/2014	685064.7	601757.6	-2.9	131.7	3.5	135.8	6.4	97	95	117	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-29-02	7/22/2014	685068.9	601785.4	-0.8	125.0	3.4	128.9	12.1	97	95	117	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-29-03	7/28/2014	685071.0	601762.7	-0.1	122.5	7.7	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
5	RF-29-04	7/28/2014	685068.0	601754.7	0.8	117.0	9.0	128.9	12.1	91	95	117	Weldon WC Screenings		V5N
5	RF-29-04R	7/30/2014	685068.0	601754.7	0.8	122.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings	Re-rolled area and let dry	V5N
6	RF-29-05	7/30/2014	685070.3	601762.8	1.7	122.0	5.6	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
7	RF-29-06	8/1/2014	685079.5	601759.0	3.2	120.9	4.5	128.9	12.1	94	95	117	Weldon WC Screenings		V5N
7	RF-29-06R	8/1/2014	685079.5	601759.0	2.8	123.5	5.8	128.9	12.1	96	95	117	Weldon WC Screenings	Re-rolled area	V5N
8	RF-29-07	8/4/2014	685070.6	601753.8	3.7	126.1	7.2	128.9	12.1	98	95	117	Weldon WC Screenings		V5N
9	RF-29-08	8/6/2014	685072.8	601758.1	4.3	123.0	6.8	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
10	RF-29-09	8/8/2014	685074.4	601753.5	5.2	123.0	5.4	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
11	RF-29-10	8/11/2014	685078.3	601760.5	6.1	123.0	4.5	128.9	12.1	95	95	117	Weldon WC Screenings		V5N
12	RF-29-11	8/15/2014	685079.8	601756.2	7.5	123.7	3.7	128.9	12.1	96	95	117	Weldon WC Screenings		V5N
	RF-30		685179.4	601785.6	0.4							120			
2	RF-30-01	7/1/2014	685218.1	601814.2	2.0	122.0	7.5	128.9	12.1	95	95	120	Weldon WC Screenings	Placed on Weldon WC QP	V5N
3	RF-30-02	7/25/2014	685216.3	601818.6	3.0	124.0	4.3	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
4	RF-30-03	7/30/2014	685213.1	601816.1	3.8	123.5	5.0	128.9	12.1	96	95	120	Weldon WC Screenings		V5N
5	RF-30-04	8/6/2014	685205.4	601798.5	4.6	123.0	6.3	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
6	RF-30-05	8/8/2014	685215.8	601802.1	5.2	123.0	5.8	128.9	12.1	95	95	120	Weldon WC Screenings		V5N

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT			LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
7	RF-30-06	8/11/2014	685218.8	601812.7	6.2	123.0	6.9	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
8	RF-30-07	8/15/2014	685216.3	6018806.8	7.2	123.0	5.4	128.9	12.1	95	95	120	Weldon WC Screenings		V5N
1	RF-31		685121.7	601682.3	-4.3							123	Concrete Bridge Lift	Bottom of excavation elevation	
2	RF-31-01	7/22/2014	685126.3	601690.0	-2.2	126.3	3.4	128.9	12.1	98	95	123 (So)	Weldon WC Screenings		V5N
3	RF-31-02	7/28/2014	685124.5	601686.4	-0.1	122.5	7.7	128.9	12.1	95	95	123 (So)	Weldon WC Screenings	Placed on Type A Material	V5N
4	RF-31-03	7/30/2014	685115.0	601683.8	1.1	122.0	6.2	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
5	RF-31-04	7/30/2014	685123.7	601688.2	2.3	122.0	6.9	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
6	RF-31-05	8/1/2014	685120.9	601687.7	3.0	128.9	6.2	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
7	RF-31-06	8/4/2014	685122.7	601686.6	3.9	128.9	5.8	128.9	12.1	100	95	123 (So)	Weldon WC Screenings		V5N
8	RF-31-07	8/6/2014	685132.5	601689.3	4.8	123.0	6.6	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
9	RF-31-08	8/8/2014	685118.7	601690.5	5.5	125.0	2.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
10	RF-31-09	8/11/2014	685136.4	601690.8	6.6	125.0	3.5	128.9	12.1	97	95	123 (So)	Weldon WC Screenings		V5N
11	RF-31-10	8/15/2014	685122.6	601682.9	7.6	123.0	7.4	128.9	12.1	95	95	123 (So)	Weldon WC Screenings		V5N
0	RF-32		684498.6	602739.4	-1.2							125	Stratum O	Bottom of excavation elevation	
1	RF-32-01	6/12/2014	685241.5	601740.7	0.0	134.0	1.3	135.8	6.4	99	95	125	Tilcon MH DGA		V5N
2	RF-32-02	7/16/2014	685227.6	601725.4	0.9	122.0	5.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
3	RF-32-03	7/16/2014	685239.4	601736.4	2.0	122.0	5.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
4	RF-32-04	7/30/2014	685248.5	601750.7	3.4	123.5	6.0	128.9	12.1	96	95	125	Weldon WC Screenings		V5N
5	RF-32-05	8/6/2014	685249.6	601745.6	4.6	123.0	5.9	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
6	RF-32-06	8/8/2014	685249.1	601742.7	5.6	123.0	5.7	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
7	RF-32-07	8/11/2014	685237.6	601735.2	6.5	123.0	6.5	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
8	RF-32-08	8/15/2014	685238.9	601747.0	7.3	123.0	7.0	128.9	12.1	95	95	125	Weldon WC Screenings		V5N
1	RF-33		685179.2	601631.6	-7.5							128	Crushed Concrete	Bottom of excavation elevation	
2	RF-33-01	6/5/2014	685182.8	601626.5	-5.1	132.0	3.7	135.8	6.4	97	95	128	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-33-02	7/28/2014	685146.0	601639.6	-0.9	123.7	6.4	128.9	12.1	96	95	128	Weldon WC Screenings	Placed on Type A Material/QP Ramp	V5N
4	RF-33-03	7/30/2014	685159.9	601630.8	0.8	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
5	RF-33-04	7/30/2014	685144.1	601632.9	1.3	122.0	6.5	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
6	RF-33-05	8/1/2014	685171.2	601638.5	3.2	128.9	6.0	128.9	12.1	100	95	128	Weldon WC Screenings		V5N
7	RF-33-06	8/1/2014	685156.8	601643.7	3.9	127.0	5.0	128.9	12.1	99	95	128	Weldon WC Screenings		V5N
8	RF-33-07	8/6/2014	685176.1	601633.1	4.7	123.0	6.6	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
9	RF-33-08	8/8/2014	685166.7	601630.5	5.5	123.0	6.2	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
10	RF-33-09	8/11/2014	685166.3	601631.6	6.6	123.0	6.0	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
11	RF-33-10	8/15/2014	685165.2	601633.6	7.9	123.0	6.9	128.9	12.1	95	95	128	Weldon WC Screenings		V5N
0	RF-34		685278.4	601673.3	-1.2							130	Stratum O	Bottom of excavation elevation	
1	RF-34-01	6/5/2014	685303.0	601691.1	0.3	132.0	3.6	135.8	6.4	97	95	130	Tilcon MH DGA		V5N
2	RF-34-02	6/24/2014	685298.9	601690.4	1.6	122.0	5.5	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
3	RF-34-03	6/27/2014	685295.5	601692.8	2.5	122.5	7.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
4	RF-34-04	7/16/2014	685293.1	601684.6	3.2	122.0	6.4	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
5	RF-34-05	7/30/2014	685290.2	601690.3	4.5	123.5	6.5	128.9	12.1	96	95	130	Weldon WC Screenings		V5N
6	RF-34-06	8/8/2014	685289.5	601690.7	5.5	123.0	6.9	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
7	RF-34-07	8/8/2014	685292.7	601686.1	6.6	123.0	6.3	128.9	12.1	95	95	130	Weldon WC Screenings		V5N
8	RF-34-08	8/15/2014	685286.1	601677.8	7.6	126.0	2.3	128.9	12.1	98	95	130	Weldon WC Screenings		V5N
0	RF-35		6852228.7	601575.4	2.1							133		Bottom of excavation elevation	
1	RF-35-01	7/16/2014	685219.7	601566.3	3.5	123.3	6.2	128.9	12.1	96	95	133	Weldon WC Screenings		V5N
2	RF-35-02	7/16/2014	685234.2	601582.4	4.3	124.9	4.9	128.9	12.1	97	95	133	Weldon WC Screenings		V5N
3	RF-35-03	7/25/2014	685238.5	601578.0	5.8	122.0	5.0	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
4	RF-35-04	8/8/2014	685239.0	601569.1	6.9	123.0	6.6	128.9	12.1	95	95	133	Weldon WC Screenings		V5N
0	RF-36		685334.4	601603.7	-1.2							136		Bottom of excavation elevation	
1	RF-36-01	6/24/2014	685349.2	601617.6	1.7	125.0	3.4	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
2	RF-36-02	6/27/2014	685330.9	601606.5	2.6	125.0	6.5	128.9	12.1	97	95	136	Weldon WC Screenings		V5N
3	RF-36-03	6/27/2014	685339.9	601612.8	3.4	123.7	6.8	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
4	RF-36-04	7/16/2014	685343.2	601621.5	4.3	123.8	5.5	128.9	12.1	96	95	136	Weldon WC Screenings		V5N
5	RF-36-05	7/28/2014	685346.6	601606.1	5.4	122.0	5.2	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
6	RF-36-06	8/8/2014	685345.5	601605.6	6.7	126.0	1.6	128.9	12.1	98	95	136	Weldon WC Screenings		V5N
7	RF-36-07	8/15/2014	685335.6	601611.4	7.7	123.0	6.4	128.9	12.1	95	95	136	Weldon WC Screenings		V5N
1	RF-37		685295.3	601495.2	-7.8							140 (So)	Crushed Concrete	Bottom of excavation elevation	
2	RF-37-01	5/15/2014	685286.1	601481.2	-5.1	132.0	2.5	135.8	6.4	97	95	140 (So)	Tilcon MH DGA	Placed on concrete bridge lift	V5N
3	RF-37-02	5/21/2014	685294.5	601489.0	-4.2	122.5	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
4	RF-37-03	7/7/2014	685282.8	601485.7	4.5	128.9	6.1	128.9	12.1	100	95	140 (So)	Weldon WC Screenings	1st lift over Type A Material	V5N
5	RF-37-04	7/28/2014	685281.8	601490.5	5.9	123.7	5.4	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
6	RF-37-05	7/28/2014	685310.0	601513.3	6.6	123.0	4.7	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
7	RF-37-06	8/8/2014	685297.5	601485.6	7.1	124.0	4.1	128.9	12.1	96	95	140 (So)	Weldon WC Screenings		V5N
8	RF-37-07	8/15/2014	685288.7	601489.2	8.0	123.0	5.0	128.9	12.1	95	95	140 (So)	Weldon WC Screenings		V5N
0	RF-38		685399.1	601540.2	-1.2							142 (No)	Stratum O	Bottom of excavation elevation	
1	RF-38-01	5/9/2014	685391.8	601532.2	-0.2	124.6	2.5	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
2	RF-38-02	5/21/2014	685389.4	601534.3	0.2	122.5	5.6	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
3	RF-38-03	6/24/2014	685386.6	601538.7	4.0	125.0	3.4	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
4	RF-38-04	6/27/2014	685392.8	601538.8	5.3	124.0	6.0	128.9	12.1	96	95	142 (No)	Weldon WC Screenings		V5N
5	RF-38-05	7/28/2014	685385.3	601533.9	6.3	122.0	6.4	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
6	RF-38-06	8/8/2014	685382.7	601533.1	7.1	125.0	3.2	128.9	12.1	97	95	142 (No)	Weldon WC Screenings		V5N
7	RF-38-07	8/15/2014	685382.8	601528.2	7.9	123.0	6.0	128.9	12.1	95	95	142 (No)	Weldon WC Screenings		V5N
0	RF-39		685485.1	601397.7	3.8							153	Stratum O	Bottom of excavation elevation	

FIELD DENSITY TEST SUMMARY LOG
Testing Frequency - 5 Tests per Acre
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT			LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT	ENTACT			TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	CELL #	LIFT MATERIAL	NOTES	COMPANY
1	RF-39-01	5/5/2014	685451.1	601421.7	4.3	126.3	3.9	128.9	12.1	98	95	153	Weldon WC Screenings		V5N
2	RF-39-02	5/5/2014	685477.5	601397.7	5.6	123.3	4.1	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
3	RF-39-03	5/5/2014	685492.5	601460.8	6.4	123.8	7.4	128.9	12.1	96	95	153	Weldon WC Screenings		V5N
0	Site 163-1				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-1-1	10/30/2014	685176.1	601448.3	5.7	126.0	2.4	128.9	12.1	98	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
2	Site 163 -1-2	10/30/2014	685173.8	601449.0	7.4	123.0	5.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 West Excavation	V5N
0	Site 163-2				4.5							Site 163		Bottom of excavation elevation	
1	Site 163-2-1	11/5/2014	685070.9	601614.2	6.1	122.0	6.3	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N
2	Site 163-2-2	11/14/2014	685070.5	601616.0	7.5	122.0	5.4	128.9	12.1	95	95	Site 163	Weldon WC Screenings	Site 163 Main Excavation	V5N

Notes: Maximum Dry Density for Weldon WC Screenings based on Sor Testing Laboratories Report No. 13-1877 dated 11/6/13.
Maximum Dry Density (gravel corrected) for Tilcon MH DGA based on Sor Testing Laboratories Report No. 13-1334 dated 8/7/13.
Re-used on site historical fill material (Type A) will not be tested for compaction per Specification Section 02315-3.13 A.2.b
Moisture content not to exceed 3% above optimum per Specification Section 02315-2.04C
Bottom of excavation elevation based on Maser survey data (Center Point elevations)
Sample ID RF-01-01 where:

RF = Reduced Frequency
01 = Test Location (as noted on Backfill Compaction Location Figure)
01 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again
= Area subject to re-compaction

ATTACHMENT E

TABLE SUMMARY OF SOIL MANAGEMENT ACTIVITIES

ATTACHMENT E
SUMMARY OF SOIL MANAGEMENT ACTIVITIES

STUDY AREA 6 SOUTH
SA-6 CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY

Excavated Material Description	Approximate Excavation Volume (CYs)	Approximate Off Site Disposal Volume (CYs)	Approximate Reused As Backfill in Development Area Volume (CYs)	Approximate Volume Consolidated Under South Cap (CYs)	Approximate Volume Consolidated Under North Cap (CYs)
<20 mg/kg Overburden Non-Chromium-Impacted	65,000	21,500	15,000	20,000	8,500
20-240 mg/kg Chromium-Impacted	48,000	15,200	0	11,800	21,000
240-1,000 mg/kg Chromium-Impacted	20,000	5,300	0	14,700	0
>1,000 mg/kg Chromium-Impacted	23,500	17,500	0	6,000	0
Concrete	6,500	1,500	5,000	0	0
Total	**163,000**	**61,000**	**20,000**	**52,500**	**29,500**

Notes:

1. 6,000 CYs (>1,000) consolidated under South cap is soil that was re-classified as <1,000 Hex Cr based upon stockpile reuse sampling results.
2. The volumes provided on this table are estimated and may be based upon conversion factors or other non-surveyed means of soil measurement procedures.

Revised By: TDD 09/14/15
Checked By: DEN 09/14/15

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 21 OF 25

- **Declaration #2 Part 1**

Attachments A – F (Part 1)

CHROMIUM REMEDY
SA-6 SOUTH

DECLARATION #2

3458855-3

UNITED STATES DISTRICT COURT DISTRICT OF NEW JERSEY

JERSEY CITY INCINERATOR AUTHORITY,

Plaintiffs, v.

HONEYWELL INTERNATIONAL INC., et al.,

Defendants.

Civil Action No. 05-5993 Consolidated with Docket No 05-5955 under Docket No. 95-2097 (DMC)
Civil Action No 06-22 Consolidated with Docket No. 05-5955 (DMC) under Docket No. 95-2097

Civil Action No. 06-0022 (JLL)
(Consolidated under Civ. No. 05-5955 (JLL))

Second SA-6 South Consent Decree Declaration

On August 14, 2012, the USDC DNJ entered the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 South ("SA-6 South Consent Decree"). Pursuant to Article III, Honeywell may file one or more Declarations showing compliance with the SA-6 South Consent Decree. The initial SA-6 South Consent Decree Declaration ("Declaration #1) was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 South Consent Decree on March 18, 2016. This second SA-6 South Declaration ("Declaration #2) is hereby filed by Honeywell with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 South Consent Decree completed subsequent to Declaration #1.

We, the undersigned, declare as follows:

1. William J. Hague is Director of Remediation Design and Construction for Honeywell International Inc. ("Honeywell") for SA-6 South New Jersey Department of Environmental Protection (NJDEP) Sites 073, 124, 125, 134, 140 and 163. Mr. Hague has direct responsibility on behalf of Honeywell for the management of remediation construction activities at SA-6 South related to the implementation of the Chromium Remedy as defined in Article III of the SA-6 South Consent Decree.

2. Remediation and site restoration activities were performed in accordance with the SA-6 South Consent Decree, the NJDEP Technical Requirements for Site Remediation, the NJDEP-approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan for Chromium* to address chromium contamination at SA-6 South, dated December 23, 2008, the NJDEP- approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan,* to address chromium contamination at Site 163 only, dated, May 18, 2012 (collectively referred to as the RAWPs), the Chromium Remedy 100% Design Report for Study Area 6 North & Study Area 6 South dated June 28, 2013 ("SA-6 100% Design"), and three field changes (DC 2014-3-25 - "Contingent GW Extraction System: Replace Wells with Trenches," DC 2015-3-04 – " 3S Surcharge Pile Geometry on East End" and DC 2015-2-24 - "GW Extraction System: Revision to Geomembrane / Subgrade Surface") that materially impacted the 100% Design (referred to herein as "Design Changes"), with the continued oversight and supervision of the appointed Special Master. The SA-6 100% Design, including Design Drawings and Technical Specifications, was developed consistent with the SA-6 North & SA-6 South Consent Decrees and NJDEP-approved RAWPs and was approved by all Parties. On June 12, 2013, the Special Master approved the SA-6 100% Design for submittal to the Court, subject to Honeywell's confirmation regarding several issues. On June 28, 2013 Honeywell submitted the Final – Issued for Construction Chromium Remedy 100% Design Submittal for the Study Area 6 North and South projects ("Final 100% Design") to the Court, and the Court entered the 100% Design on July 9, 2013.

3. The elements of the remedy that are the subject of this Declaration were substantially completed between April 2015 and November 2015.

4. This is the second Declaration for SA-6 South. Future Declarations will document the work on the elements of the remedy set forth in the SA-6 South Consent Decree implemented or completed after November 2015.

5. To implement the requirements of the SA-6 South Consent Decree, Honeywell retained AMEC Environment and Infrastructure, Inc. (now Amec Foster Wheeler Environment & Infrastructure, Inc., "Amec Foster Wheeler") to design and coordinate the construction activities related to the Chromium Remedy of SA-6 South. Amec Foster Wheeler is the Engineer of Record for the design and implementation of construction

activities related to the Chromium Remedy of SA-6 South. Amec Foster Wheeler engaged Entact, LLC ("Entact") to perform the construction. Entact was responsible for implementing the SA-6 South construction in accordance with the Final 100% Design and Design Changes. Entact reported directly to Amec Foster Wheeler and provided the final construction details, including as-built drawings, upon project completion. Mr. Joseph T. Clifford is a licensed Professional Engineer in the State of New Jersey, a Principal Engineer (Professional Engineer, NJ, GE38067) at Amec Foster Wheeler and is the engineer at Amec Foster Wheeler with primary responsibility for management of the design and construction coordination activities at SA-6 South.

6. Based on our professional opinion, the data and information set forth for the specific work elements noted in and attached to this Declaration were performed consistent with the Final 100% Design and Design Changes.

7. Declaration #2 pertains to the following elements of the SA-6 South Chromium Remedy:

I. Contingent Groundwater Collection Trench,

II. Cap Subgrade,

III. Cap Geosynthetics, and

IV. Hydraulic Barrier Wall Final Elevation

Further details related to elements I-IV are provided below. Supporting documentation is provided in the Attachments.

I. Contingent Groundwater Collection Trench. This Declaration addresses installation of the Contingent Groundwater Collection Trench and associated manhole structures and piezometers to be used for documenting hydraulic gradients across the Barrier Walls at SA-6 South. The contingent groundwater system design was changed from a well-based collection system to a trench-based collection system in DC 2014-3-25. The trench was installed between May 22, 2014 and February 11, 2015 and is designed to meet the requirements of Paragraphs 69(c) of the Consent Decree. Piezometric pairs were installed to allow for the collection of groundwater elevation data to meet the requirements of Paragraphs 69(e) of the Consent Decree. The Contingent Groundwater Collection Trench is located within the SA-6 South Open Space Area of Concern (AOC).

The Contingent Groundwater Collection Trench runs along the east-west axis of the SA-6 South Open Space. The bottom of the trench is designed to be just above the top of the Stratum D soils. Groundwater modeling

indicated that the trench will be effective in meeting the capture zone specified in Section 69(d).

Honeywell collected the survey data necessary to document the plan and profile of the collection trench. The Contingent Groundwater Collection Trench Record Drawing is provided in this Declaration as Attachment A. Specific piezometer locations are provided on Figure 1 in Attachment A-1.

II. Cap Subgrade

a. Surcharge Program. The main purpose of the surcharge program in the Open Space Cap AOC was to remove settlement that would be detrimental to the remedy and permissible development. Surcharging was performed by placing fill materials to reach the surcharge design loads and then monitoring the areas to confirm that the objectives of the program had been met. The Surcharge Program was implemented moving from West to East. For planning and documentation purposes the Surcharge was split into 3 areas: Area 1S, Area 2S and Area 3S. Individual reports were submitted monthly during the course of the program. Surcharge Monitoring Plan Monthly Report No. 12, for the March 2015 reporting period, dated April 2015 indicated that surcharging in Areas 1S, 2S and 3S was complete. In addition, during the course of the surcharge program, DC 2015-3-4 was submitted concerning surcharge in the 0-12 foot-wide Deferred Area strip along Route 440. Mueser Rutledge Consulting Engineers (”MRCE”) prepared a letter dated September 29, 2015 stating that truncation of the easterly tip of the Surcharge pile in the deferred area by Route 440 would have no material impact on evaluation of achievement of the surcharge goals on SA-6 South. (Work adjacent to Route 440 had been deferred and will be completed in accordance with the Consent Order Consolidating the 100% Design for Study Area 6 North and Study Area 6 South filed into the Court on July 9, 2013.) The surcharge reports, which were peer reviewed by MRCE, concluded that the surcharge goal had been met for each area. MRCE letters acknowledging achievement of surcharge goals in Areas 1S, 2S, and 3S, as well as the September 29, 2015 letter, are included in Attachment C. The surcharge reports were also reviewed by O’Connell and Lawrence Inc. on behalf of the Plaintiffs. The Surcharge Completion Evaluation tables for each area are included in Attachment B.

b. Grading. Following surcharge, the cap was graded and compacted in accordance with the lines, grades and compaction requirements indicated in the Final 100% Design and Design Change DC 2015-02-24. Subgrade preparation was performed between May 11, 2015 and October 9, 2015. To document compliance with the grading requirements, a Construction Control Grid was established consistent with Specification 01460. The Construction Control Grid is included as Attachment D-1. Summary tables prepared by Maser Consulting PA (NJ licensed surveyor) comparing the design grades and actual grades at the Construction Control Grid nodes are included as Attachment D-2 confirming that all nodes are within tolerance. A topographic survey of the SA-6 South subgrade was prepared by Maser Consulting (Attachment E).

III. Cap Geosynthetics. Installation of the cap geosynthetics followed Maser Consulting's certification that the subgrade surface conformed to the specified Construction Control Grid. Amec Foster Wheeler provided QA approval of Maser's documented subgrade elevations prior to issuing to Langan Engineering and Environmental Services, Inc, ("Langan") for approval for geosynthetics deployment. In addition, as part of the subgrade approvals, Amec Foster Wheeler provided QA approval of the sand bentonite GCL to barrier wall connections (signed GCL to barrier wall logs are included in Appendix H of the Langan Cap Geosynthetic Quality Assurance (QA) Report for Study Area 6 South). The cap geosynthetics were placed between July 20, 2015 and November 4, 2015. The cap geosynthetics included components that were designed to meet the technical requirements of Section 65(a) of the Consent Decree. The cap geosynthetics scope included the following key tasks:

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

Honeywell contracted with Langan to provide Independent QA for the SA-6 cap geosynthetics installation. As the Independent QA Engineer, Langan performed the QA activities specified in the Langan Cap Geosynthetic Quality Assurance (QA) Report for Study Area 6 South ("Langan Report"),

including monitoring, field oversight, and documentation. The report certifies that placement of the SA-6 South cap geosynthetics was completed in compliance with the construction design documents (see Attachment F).

Acceptance of the geosynthetic materials used for the SA-6 South Cap Construction was completed by Amec Foster Wheeler based on the results of the manufacturer's production quality testing (AGRU America, Inc. and their subcontracted companies). The Amec Foster Wheeler Engineer of Record provided a full-time site Geosynthetics Inspector to inspect materials deployment, installation and documentation for compliance with the Final 100% Design of the capping system. The Geosynthetics Inspector observed the placement of the GDL cover soil to verify that the soil was placed in accordance with the Earthwork and GDL specifications (02315 and 02374, respectively) and that the GDL was not damaged or unnecessarily stressed. The GDL cover soil will be included in a future Declaration. The Geosynthetics Inspector also observed the fabrication, installation and extrusion welding and vacuum testing of all boots.

QC for geosynthetics installation was provided by Entact and their specialty installer ESI. Entact also contracted with Geotechnics, Inc. to conduct the specified offsite laboratory testing required as part of the capping project, such as destructive seam testing. All ESI field QC and Geotechnics laboratory testing is incorporated into the Langan QA Report and are the subject of the Langan QA Certification. Langan offsite QA laboratory testing was completed by TRI Environmental, Inc. The Langan Report and the Langan engineer certification are included in Attachment F. As-built drawings of the cap geosynthetics (i.e, 60 mil Textured LLDPE Geomembrane, Gas vent Layer/Geosynthetic Clay Liner (GVL/GCL) Layout, Geocomposite Drainage Layer (GDL) Layout) are included as Attachment G.

IV. Hydraulic Barrier Wall Final Elevation. In Declaration #1, Honeywell declared the completion of hydraulic barrier installation at SA-6 South in accordance with the Final 100% Design and Related Design Changes. At the time of the Initial Declaration, the top of hydraulic barrier wall had been left at elevations consistent with the temporary flood control and subgrade/surcharge requirements.

The top of the hydraulic barrier wall was then trimmed to final elevation in preparation for cap placement. Hydraulic barrier wall cutting began June 9,

2015 and was completed on October 7, 2015. In Declaration #1, Honeywell indicated that "the final elevations will be included in a supplemental Declaration". The As-Built Drawings submitted as part of Declaration #1 have been updated to show the final top of wall of both the SCB wall and hydraulic sheet pile wall (Attachment H).

Items listed above will also be provided in the final Remedial Action Report.

1. Based on our professional experience, the data and information set forth in and attached to this Declaration, and our supervision of the SA-6 South construction activities, we believe that the Contingent Groundwater Collection Trench, Cap Subgrade, Cap Geosynthetics, and Hydraulic Barrier Wall Final Elevations were installed/completed in accordance with the SA-6 South Consent Decree and the Final 100% Design and Related Design Changes.

2. We certify that the foregoing is true and correct to the best of our respective knowledge.

William J. Hague

Date

Joseph T. Clifford PE NJ, GE38067

Date

List of Attachments

A. Contingent Groundwater Collection Trench Record Drawing

A-1 – Figure 1: Monitoring Well Locations

B. Surcharge Completion Evaluation Tables

C. MRCE Surcharge Completion Letters

D. SA-6 South Cap Subgrade Approval

D-1 – Construction Control Grid

D-2 – SA-6 South Subgrade Grid Points

E. SA-6 South Cap Subgrade Topographic Survey

F. Langan SA-6 South Cap Quality Assurance Report

G. SA-6 South Cap As-Built Drawings

G-1 – SA-6 South Cap Panel Layout (60 mil Textured LLDPE Geomembrane)

G-2 – SA-6 South Cap GVL / GCL Layout (Class A Geotextile / Gas Vent Layer / Geosynthetic Clay Liner)

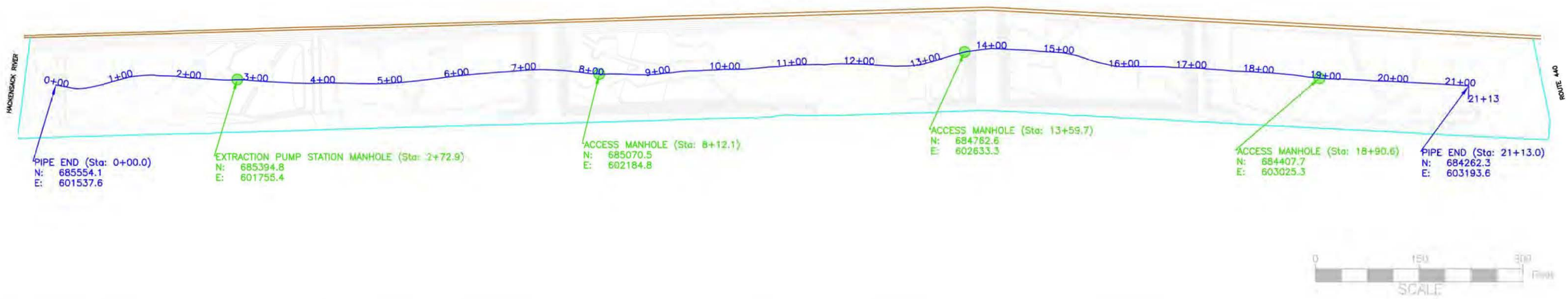
G-3 – SA-6 South Cap GDL Layout (Geocomposite Drainage Layer)

H. SA-6 South Hydraulic Barrier Wall Plan and Profile As-Built

I. Design Changes

ATTACHMENT A
CONTINGENT GROUNDWATER COLLECTION TRENCH
RECORD DRAWING

PLAN VIEW



PROFILE VIEW

LEGEND

- 8" PERFORATED HDPE PIPE INVER (ELEV. TYPICAL)
- 4FT DIA. MANHOLE RISER PROFILE
- SCB WALL
- HYDRAULIC BARRIER WALL
- CAP SUBGRADE CONTOUR (DESIGN)
- CAP FINAL GRADE CONTOUR (DESIGN)
- 4FT DIA. MANHOLE
- 1.5" CLEAN STONE TRENCH (WIDTH VARIES 3' TO 12')

REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	1/13/16	CDC	AE	AE	RECORD DRAWING
1	2/10/16	CDC	AE	AE	ADDED ANNOTATION EDITS
2	2/19/16	CDC	AE	AE	REVISED ANNOTATION EDITS AND ADJUSTED MANHOLE REFERNCES

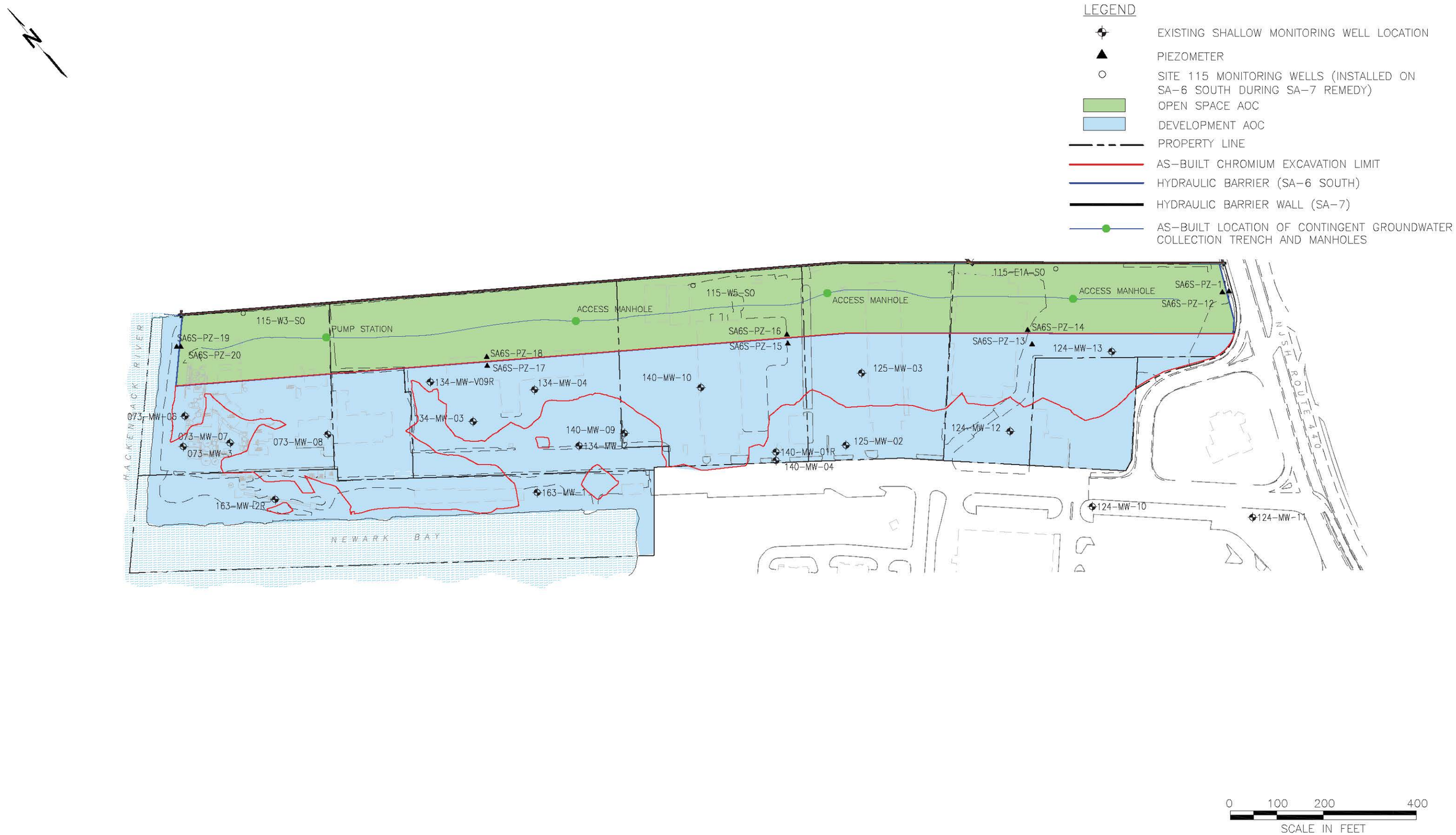
J.H. 06/21/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP
CONTINGENT GROUNDWATER COLLECTION TRENCH
RECORD DRAWING 02/19/15

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT A-1
FIGURE 1: MONITORING WELL LOCATIONS



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

REV.	DATE	STATUS	PRPD BY	CHKD BY
2	02/01/16	UPDATE WITH NEW WELLS / REMOVE ABANDONED WELLS	STR	DEN
1	04/10/13	ADDED 2 NEW MONITORING WELLS	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-MWL0-F900

PREPARED/DATE: STR 04/20/16

CHECKED/DATE: DEN 05/06/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 1
MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

ATTACHMENT B
SURCHARGE COMPLETION EVALUATION TABLES

TABLE 1S-1
SURCHARGE COMPLETION EVALUATION
SUMMARY OF EFFECTIVE STRESS

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-01	2616	3236	**124%**	Data as of November 2014. Pore pressure elevated 5 ft in Stratum D and 3 ft in Stratum RC.
S_FS-02	2627	3201	**122%**	Data as of November 2014. Pore pressure elevated 4.5 ft in Stratum D.
S_HS-01	3064	3292	**107%**	Data as of November 2014.
S_HS-02	2571	2962	**115%**	Data as of November 2014. Pore pressure elevated 3 ft in Stratum D.
S_HS-03	2400	2541	**106%**	Data as of November 2014. Pore pressure elevated 11 ft in Stratum D and 5.5 ft in Stratum RC.
S_HS-04	2548	3053	**120%**	Data as of November 2014. Pore pressure elevated 5 ft in Stratum D.
S_HS-05	2583	2919	**113%**	Data as of November 2014.
S_HS-06	2881	3205	**111%**	Data as of November 2014. Pore pressure elevated 1.5 ft in Stratum D and 7 ft in Stratum RC.
S_HS-07	2494	3130	**126%**	Data as of November 2014.
S_HS-08	2595	2880	**111%**	Data as of November 2014. Pore pressure elevated 5 ft in Stratum D.

TABLE 2S-1
SURCHARGE COMPLETION EVALUATION
AMEC CORRECTED RESULTS JANUARY 2015

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-03	2343	2984	127%	VWP data through 1/12/15; SP data through 1/30/15.
S_FS-04	2359	2909	123%	VWP data through 1/18/15; SP data through 1/30/15.
S_FS-05	1839	1833	100%	VWP data through 1/29/15; SP data through 1/30/15.
S_HS-09	2232	3194	143%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-10	2479	2777	112%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-11	2342	2656	113%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-12	2482	2877	116%	VWP data through 1/12/15; SP data through 1/30/15.
S_HS-13	2100	2412	115%	VWP data as of 1/29/15; SP data through 1/30/15.
S_HS-14	2138	2839	133%	VWP data as of 1/12/15; SP data through 1/30/15.
S_HS-15	2637	3234	123%	VWP data as of 1/12/15; SP data through 1/30/15.

TABLE 3S-1
SURCHARGE COMPLETION EVALUATION

SURCHARGE MONITORING POINT	FINAL DEVELOPMENT CONDITION	SURCHARGE CONDITIONS	SURCHARGE COMPLETION EVALUATION	
	Middle of Stratum D	Middle of Stratum D	Middle of Stratum D Effective Stress Conditions / Comparisons	
	Effective Stress (psf)	Effective Stress (psf)	Percent Complete	Comments
S_FS-06	2099	2664	**127%**	Data through March 2015
S_FS-07	2376	2691	**113%**	Data through March 2015
S_HS-16	2522	2619	**104%**	Data through March 2015
S_HS-17	1751	2046	**117%**	Data through March 2015
S_HS-18	970	1458	**150%**	Data through March 2015
S_HS-19	845	1206	**143%**	Data through March 2015
S_HS-20	2484	2499	**101%**	Data through March 2015
S_HS-21	1504	1978	**132%**	Data through March 2015
S_HS-22	966	1198	**124%**	Data through March 2015

ATTACHMENT C
MRCE SURCHARGE COMPLETION LETTERS

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14 Penn Plaza · 225 West 34th Street · New York, NY 10122
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Director of Finance and Administration

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April 24, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 1S Surcharge Review
SA-6 South
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) October 27, 2014 review of Area 1S indicated settlement monitoring location S_FS-02 did not meet the defined surcharge program goal as of September 23, 2014. AMEC provided MRCE with updated settlement and piezometer monitoring data for Area 1S location S_FS-02 on April 14, 2015. The MRCE review of April 14, 2015 AMEC settlement and piezometer monitoring data for Area 1S location S_FS-02 is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated November 18, 2014 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressure. Post-surcharge total stress was calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken on November 25, 2014. Calculated post-surcharge effective stress for S_FS-02 is presented in Table 1. MRCE compared the calculated post-surcharge effective stress with the "Final Post-Development Conditions" effective stress estimate provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 1S monitoring locations have met the surcharge program goal as of November 25, 2014.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

Table 1. MRCE SA-6 South Surcharge Monitoring Review for Area 1S (April 2015)

Source:		AMEC				MRCE								AMEC
Settlement Monitoring Point	Layer	Center of the Layer EL. (ft)	Pre-Surcharge Conditions Total Stress (psf)	Final Development Condition Effective Stress (psf)	Surcharge Conditions Effective Stress	Settlement Monitoring Data		VWP Monitoring Data		Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion (November 2014)
						Date of Recording	Fill Thickness (ft)	Date of Recording	Elevation Head (ft)					
S_FS-01	Center D	-8.6	1852.5	2616.3	2451.0	9/22/2014	17.15	9/23/2014	11.83	3996.3	1274.8	2721.4	104%	124%
S_FS-02	Center D	-11.16	2083.8	2627.1	2428.0	11/25/2014	21.17	11/18/2014	11.6	4730.1	1420.2	3309.8	126%	122%
S_HS-01	Center D	-11.2	2260.0	3064.0	3196.0	9/22/2014	15.31	9/23/2014	3.09	4173.8	891.7	3282.1	107%	107%
S_HS-02	Center D	-9.6	2103.8	2570.7	2774.0	9/22/2014	15.22	9/23/2014	7.11	4006.3	1042.7	2963.6	115%	115%
S_HS-03	Center D	-9.4	1942.5	2400.1	2440.0	9/22/2014	15.9	9/23/2014	12.19	3930.0	1347.2	2582.8	108%	106%
S_HS-04	Center D	-8.3	1841.3	2548.2	2595.0	9/22/2014	15.54	9/23/2014	9.4	3783.8	1104.5	2679.3	105%	120%
S_HS-05	Center D	-8.5	2031.3	2583.0	2703.0	9/22/2014	13.89	9/23/2014	6.25	3767.6	920.4	2847.2	110%	113%
S_HS-06	Center D	-10.4	2126.3	2880.7	3214.0	9/22/2014	16.24	9/23/2014	2.75	4156.3	820.6	3335.7	116%	111%
S_HS-07	Center D	-9.5	1867.5	2493.7	2894.0	9/22/2014	17.84	9/23/2014	6.65	4097.5	1007.8	3089.7	124%	126%
S_HS-08	Center D	-7.7	1787.5	2595.0	2707.0	9/22/2014	16.29	9/23/2014	7.74	3823.8	963.5	2860.3	110%	111%

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Director of Finance and Administration

Martha J. Huguet
Director of Marketing

February 06, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 2S Surcharge Review
SA-6 North
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of February 06, 2015 AMEC settlement and piezometer monitoring data for Area 2S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between January 12-29, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken at corresponding dates, between January 14-30, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 2S monitoring locations have met the surcharge program goal as of 01/30/2015.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

Table 1. MRCE SA-6 Surcharge Monitoring Review for Area 2S

Settlement Monitoring Point	Layer	Existing EL (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-03	Center O	-3.3	1332.5	2208.4	1/14/2015	1/12/2015	19.7	9.9	3798.8	823.7	2975.1	135%	-
	Top D	-5.8	1525.0	2291.7			19.7	13.0	3991.3	1172.5	2818.8	123%	-
	Center D	-7.0	1716.3	2342.5			19.7	13.4	4182.6	1273.6	2909.0	124%	145%
	Bottom D	-8.3	1907.5	2393.4			19.7	6.5	4373.8	926.0	3447.7	144%	-
S_FS-04	Center O	-1.5	1204.5	2223.3	1/23/2015	1/18/2015	19.8	7.6	3683.3	566.0	3117.3	140%	-
	Top D	-4.5	1353.0	2287.6			19.8	12.4	3831.8	1050.2	2781.6	122%	-
	Center D	-6.2	1620.8	2358.7			19.8	13.0	4099.6	1196.8	2902.7	123%	134%
	Bottom D	-7.7	1888.5	2429.9			19.8	10.6	4367.3	1143.8	3223.5	133%	-
	RC	-46.5	6613.5	4771.3			19.8	3.9	9092.3	3147.5	5944.8	125%	-
S_FS-05	Center O	-0.6	1185.0	1696.9	1/30/2015	1/29/2015	14.5	5.9	2992.5	406.8	2585.7	152%	-
	Top D	-3.6	1350.0	1768.3			14.5	8.1	3157.5	730.1	2427.4	137%	-
	Center D	-5.1	1617.8	1839.5			14.5	20.3	3425.3	1583.1	1842.2	100%	115%
	Bottom D	-6.6	1885.5	1910.7			14.5	9.8	3693.0	1022.7	2670.3	140%	-
S_HS-09	Center O	-4.0	1272.5	2097.7	1/14/2015	1/12/2015	18.2	9.1	3547.5	818.7	2728.8	130%	-
	Center D	-8.0	1656.3	2231.9			18.2	6.4	3931.3	896.7	3034.6	136%	156%
S_HS-10	Center O	-2.1	1831.3	2384.9	1/14/2015	1/12/2015	12.6	6.6	3406.3	545.4	2860.9	120%	-
	Center D	-4.4	2088.8	2478.6			12.6	10.2	3663.8	912.3	2751.5	111%	131%
S_HS-11	Center O	-5.2	1660.0	2218.6	1/14/2015	1/12/2015	12.8	9.0	3253.8	887.3	2366.4	107%	-
	Center D	-7.5	1986.3	2342.0			12.8	7.4	3580.1	927.9	2652.2	113%	132%
	RC	-50.2	7257.5	4930.1			12.8	3.8	8851.3	3372.7	5478.5	111%	-
S_HS-12	Center O	-3.9	1485.0	2350.9	1/14/2015	1/12/2015	15.9	10.1	3477.5	871.7	2605.8	111%	-
	Center D	-7.9	1875.3	2482.1			15.9	9.4	3867.8	1076.4	2791.4	112%	130%
	RC	-52.4	7238.0	5077.5			15.9	1.8	9230.5	3382.1	5848.4	115%	-
S_HS-13	Center O	-2.0	1261.5	1962.8	1/30/2015	1/292015	16.0	17.0	3255.3	1183.7	2071.5	106%	-
	Center D	-5.2	1664.0	2100.1			16.0	14.9	3657.8	1253.6	2404.1	114%	129%
S_HS-14	Center O	-2.0	1365.0	2023.3	1/14/2015	1/12/2015	17.6	10.6	3563.8	783.7	2780.0	137%	-
	Center D	-6.3	1691.5	2137.6			17.6	10.4	3890.3	1039.6	2850.7	133%	148%
S_HS-15	Center O	-2.8	1858.8	2539.5	1/14/2015	1/12/2015	16.6	11.5	3928.8	889.8	3039.0	120%	-
	Center D	-6.8	2111.9	2636.6			4181.9	964.7	3217.2	122%	3217.2	122%	140%

"Note that the Amec calculations referenced by MRCE were subsequently updated. Please refer to Table 2S-1 for the final values used. The correction does not impact the conclusion."

Mueser Rutledge
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14 Penn Plaza · 225 West 34th Street · New York, NY 10122
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April 24, 2015

AMEC Environment & Infrastructure
511 Congress Street
Portland Me 04101

Attention: Mr. Geoff Shallard

Re: Area 3S Surcharge Review
SA-6 South
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

The Mueser Rutledge Consulting Engineers (MRCE) review of March 30, 2015 AMEC settlement and piezometer monitoring data for Area 3S is summarized below:

AMEC indicated from borings and sampling the Vibrating Wire Piezometers (VWP) were set at the center of the compressible clay layer, which provides the most conservative pore water pressure reading for the effective stress evaluation. All the stress calculations are at the center of the compressible layers.

MRCE used latest measured elevation head dated between March 24-13, 2015 from "Vibrating Wire Piezometer – Data Report" to calculate the post-surcharge pore water pressures. Post-surcharge total stresses were calculated based on the fill thickness measurements from the "Settlement Platform – Data Report" taken on March 19, 2015. Calculated post-surcharge effective stresses are presented in Table 1. MRCE compared the calculated post-surcharge effective stresses with the "Final Post-Development Conditions" effective stress estimates provided by AMEC. The defined goal of surcharge program was to achieve an effective stress greater than the "Final Post-Development Conditions."

This review finds all Area 3S monitoring locations have met the surcharge program goal as of 03/30/2015.

Very truly yours,

MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, P.E.

MP:F:\111\11173\2014 Surcharge Removal Review\SA-6_Area 3S\MRCE Review-Area 3S-April15.docx

Table 1. MRCE SA-6 South Surcharge Monitoring Review for Area 3S (April 2015)

Settlement Monitoring Point	Layer	Existing EL (ft)	Pre-Surcharge Conditions	Proposed Final Development Conditions	Date of Recording used in calculations		Fill Thickness (ft)	Elevation Head (ft)	Post-Surcharge Conditions			MRCE	AMEC
			Total Stress (psf)	Effective Stress (psf)	Fill Thickness	VWP Elevation			Total Stress (psf)	Pore Water Pressure (psf)	Effective Stress (psf)	% Completion	% Completion
S_FS-06	Top D	-2.7	1365.0	2031.3	3/19/2015	3/24/2015	14.3	6.6	3148.8	574.1	2574.7	127%	-
	Center D	-3.9	1620.0	2099.1			14.3	7.2	3403.8	693.3	2710.5	129%	127%
	Bottom D	-5.2	1875.0	2166.9			14.3	9.6	3658.8	919.8	2739.0	126%	-
S_FS-07	Center O	-0.8	1234.0	2256.5	3/19/2015	3/24/2015	16.9	4.8	3346.5	348.9	2997.6	133%	-
	Top D	-3.0	1388.0	2323.2			16.9	5.2	3500.5	510.7	2989.8	129%	-
	Center D	-4.3	1587.8	2376.3			16.9	11.8	3700.3	999.5	2700.8	114%	113%
	Bottom D	-5.5	1787.5	2429.4			16.9	6.9	3900.0	775.1	3124.9	129%	-
	RC	-34.3	5220.0	4145.9			16.9	3.4	7332.5	2352.4	4980.1	120%	-
S_HS-16	Center O	-0.6	1222.5	2420.6	3/19/2015	3/24/2015	18.0	5.3	3472.5	368.2	3104.3	128%	-
	Center D	-4.1	1551.5	2521.8			18.0	14.7	3801.5	1173.1	2628.4	104%	104%
S_HS-17	Center D	-3.8	1460.0	1750.9	3/19/2015	3/24/2015	10.3	7.4	2743.8	697.6	2046.1	117%	117%
S_HS-18	Center D	-2.5	1406.0	969.9	3/19/2015	3/24/2015	3.5	3.6	1841.0	382.5	1458.5	150%	150%
S_HS-19	Center D	-0.6	1207.5	844.5	3/19/2015	3/24/2015	3.0	4.9	1578.8	345.1	1233.7	146%	143%
S_HS-20	Center O	-1.2	1209.5	2392.7	3/19/2015	3/24/2015	15.1	5.3	3093.3	403.7	2689.5	112%	-
	Center D	-4.4	1494.3	2484.0		3/13/2015	15.1	9.7	3378.0	878.6	2499.4	101%	101%
S_HS-21	Center D	-4.3	1581.5	1503.7	3/19/2015	3/24/2015	6.1	1.6	2339.0	367.5	1971.5	131%	132%
S_HS-22	Center D	-2.6	1436.8	966.3	3/19/2015	3/24/2015	1.7	4.6	1651.8	450.5	1201.2	124%	124%

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September 29, 2015

AMEC Environmental & Infrastructure
511 Congress Street
Portland, ME 04101

Attn: Mr. Samuel G. Shallard
Re: DC 03-04-15
Area 3S Surcharge Pile Geometry on East End
Jersey City, NJ
MRCE File 11173

Dear Mr. Shallard:

This letter is in response to DC-03-04-15 "3S Surcharge Pile Geometry on East End," which requests change of the surcharge program at Area 3S to eliminate surcharge pre-load of a small area at the east end of the fill along the west side of Route 440.The April 24, 2015 MRCE letter summarized the settlement and piezometer monitoring data and confirmed that all monitoring locations in Area 3S satisfied the surcharge program goals. However, MRCE was not aware of the request of DC-03-04-15 at that review.

AMEC suggested that truncating the eastern tip of the wedge shaped surcharge fill will not significantly affect the goals of the Remedy/Surcharge program since the change in grade is from 0 – 5 ft. MRCE agrees with AMEC that since the increase in final grade is small, surcharging will have no significant affect. MRCE also reviewed available geotechnical data for the area in question, and finds that the compressible strata is pre-loaded such that no settlement will occur.

Examining Pre-Consolidation Stress

MRCE reviewed the soil profile closest to the "Deferred Area" and laboratory testing for compressible Stratum D. Boring location plan and summary of consolidation tests for Stratum D are attached (see Drawing B-1, Figure S-1, Plate 13 & Plate 18). The pre-consolidation stress (P'c) of the compressible layer Stratum D was tested for design of the Study Area 7 remediation. This test data was used to compute the pre-consolidation stress using two methods. The first method calculated the average P'c from the laboratory consolidation tests, resulting in P'c = 1930 psf. The second method calculated the effective overburden pressure at midpoint of Stratum D and multiplied it by the average OCR (overconsolidation ratio) defined by consolidation testing. With the average OCR = 2.23 and the average effective overburden stress = 1064 psf, the resulting average P'c = 2372 psf.

(see Appendix A). Settlement would only occur at the compressible layer if the effective stress due to filling exceeds 1930 to 2372 psf.

Estimated Stress at Final Conditions

Based on DC-03-04-15, the final grade will increase by 0 to 0.5 ft. The additional soil placed on top of the 12 ft wide area ranges from a height of 0 to 3 ft. Assuming an average height of the added soil as 1.5 ft and the maximum increase of grade, the final effective stress at the midpoint of Stratum D = 1314 psf, which is less than the lower bound of P'c = 1930 psf. (see Appendix A)

Since the effective vertical stress due to the final grade including planned added soil is less than the P'c of Stratum D, no settlement is expected. This technical review supports the AMEC evaluation that surcharging is not needed in the area addressed by DC-03-04-15.

Very truly yours,
MUESER RUTLEDGE CONSULTING ENGINEERS

By: _____
Peter W. Deming, NJ PE # 24GE04652200

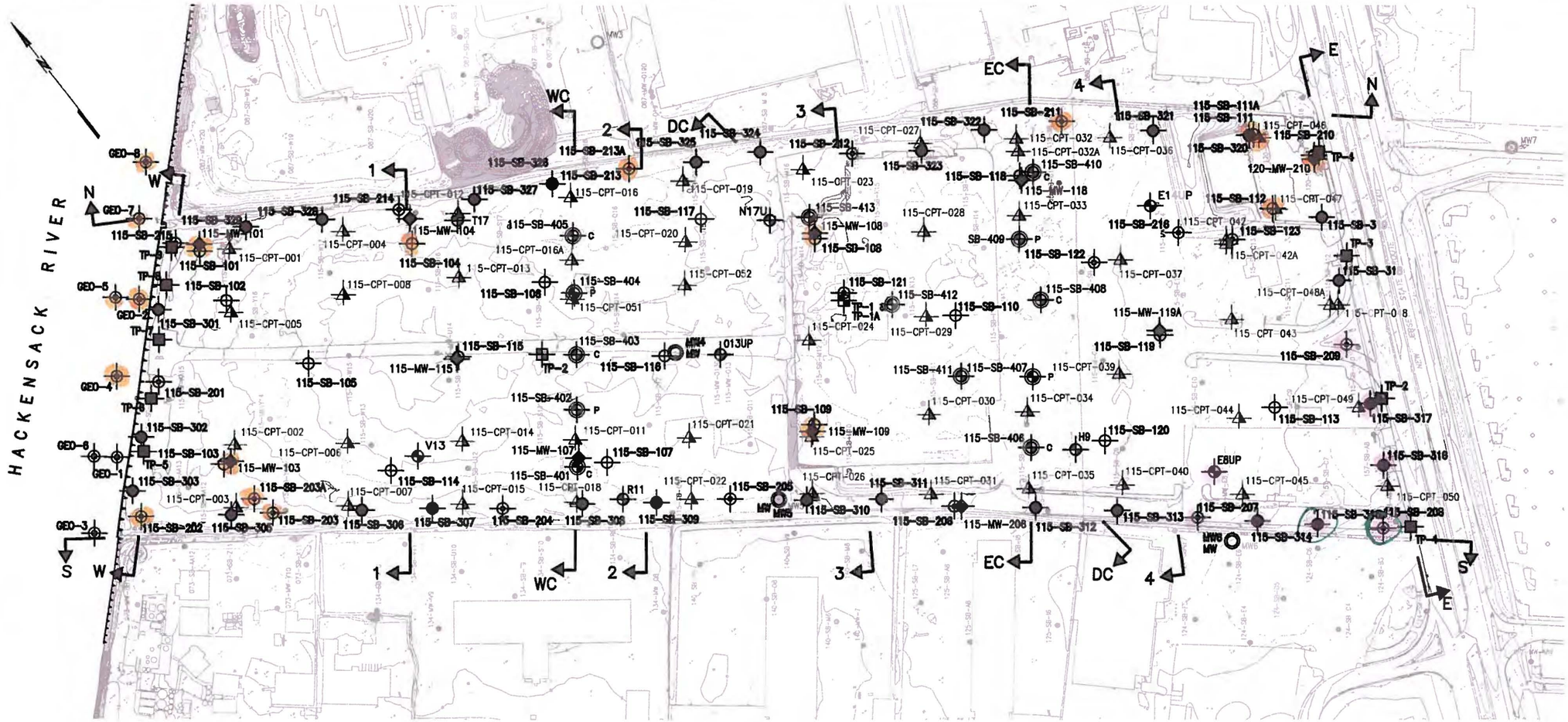
Attachments

Drawing B-1	Boring Location Plan
Figure S-1	Soil Profile
Plate 18	Consolidation Test Boring SB-210D
Plate 13	Consolidation Test Boring SB-211D

Appendices

Appendix A	Calculations of Stresses

ATTACHMENTS



GRAPHIC SCALE

100' 50' 0 100' 200'

LEGEND:

- – Geotechnical borings performed by CT&E under the inspection of MRCE in 1997.
- – Environmental borings performed by CT&E under the inspection of Brown and Root.
- – Nested monitoring wells performed by CT&E under the inspection of Parsons.
- – SB-100 Series: Shallow COPR characterization borings performed by B&B under the inspection of MRCE in 2003.
- – GEO Series: Geotechnical water borings performed by CMI under the inspection of MRCE in 2003.
- – SB-200 Series: Perimeter geotechnical borings performed by B&B under the inspection of MRCE in 2003.
- – SB-300 Series: Phase 2 Perimeter geotechnical borings performed by B&B under the inspection of MRCE in 2004.
- – MW Series: Shallow monitoring wells performed by CMI under the inspection of MRCE in 2003.
- – CPT Probes performed by Furgo Geosciences under the inspection of Parsons and MRCE in 2003.
- – SB-400 Series: Phase 2 geotechnical borings performed by B&B under the inspection of MRCE in 2004.
- – Test pits performed under the inspection of MRCE in 1997.
- – Test pits performed by Conti under the inspection of MRCE in 2004.

NOTES:

1. See drawing K-1 for section location.
2. See drawing T-2 for general strata descriptions, notes and legend.

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REV.	DATE	BY	DESCRIPTION
1	7/9/04		PHASE 2 SUBSURFACE INVESTIGATION UPDATE

STUDY AREA 7

JERSEY CITY NEW JERSEY

Honeywell

101 COLUMBIA ROAD, MORRISTOWN, NEW JERSEY 07962

PROJECT NO. 35037

MUESER RUTLEDGE CONSULTING ENGINEERS

14 PENN PLAZA – 225 W. 34TH STREET, NEW YORK, NY 10122

SCALE	MADE BY	DATE	FILE NO.
GRAPHIC	B.B.	2/18/04	10210
	CHK'D BY K.R.	DATE 7/8/04	DRAWING NO.

BORING LOCATION PLAN

B-1

MUESER RUTLEDGE CONSULTING ENGINEERS

SHEET ____ OF ____

FILE 11173

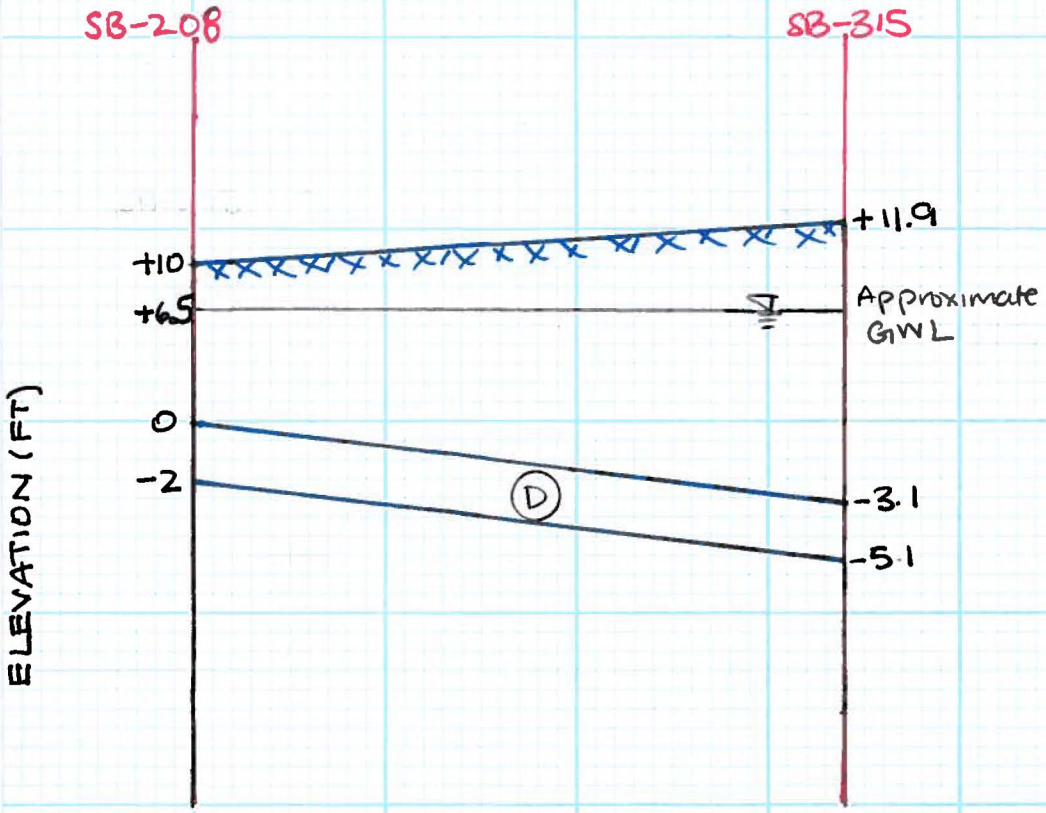
MADE BY APS DATE 9/28/15

PROJECT CHROMIUM REMEDY SA-6

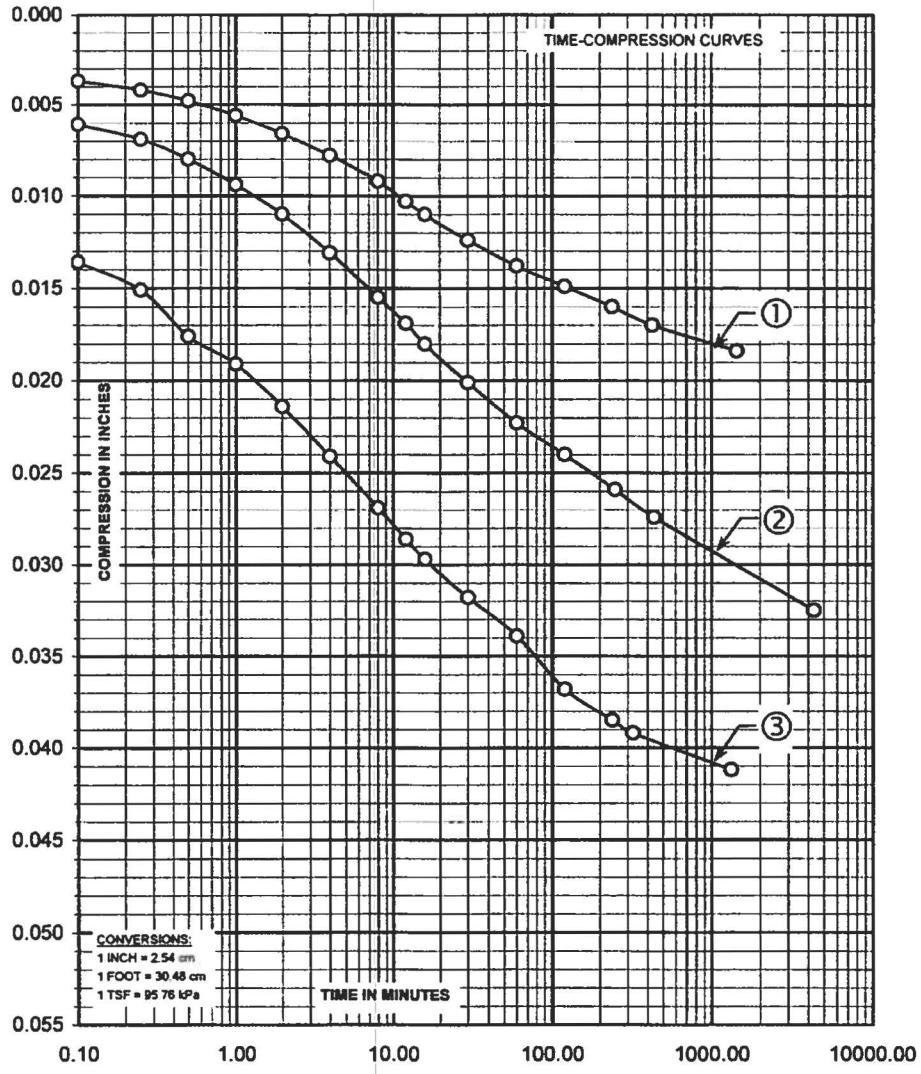
CHECKED BY ____ DATE ____

SUBJECT SOIL PROFILE

FIGURE S-1



(D) Compressible Layer



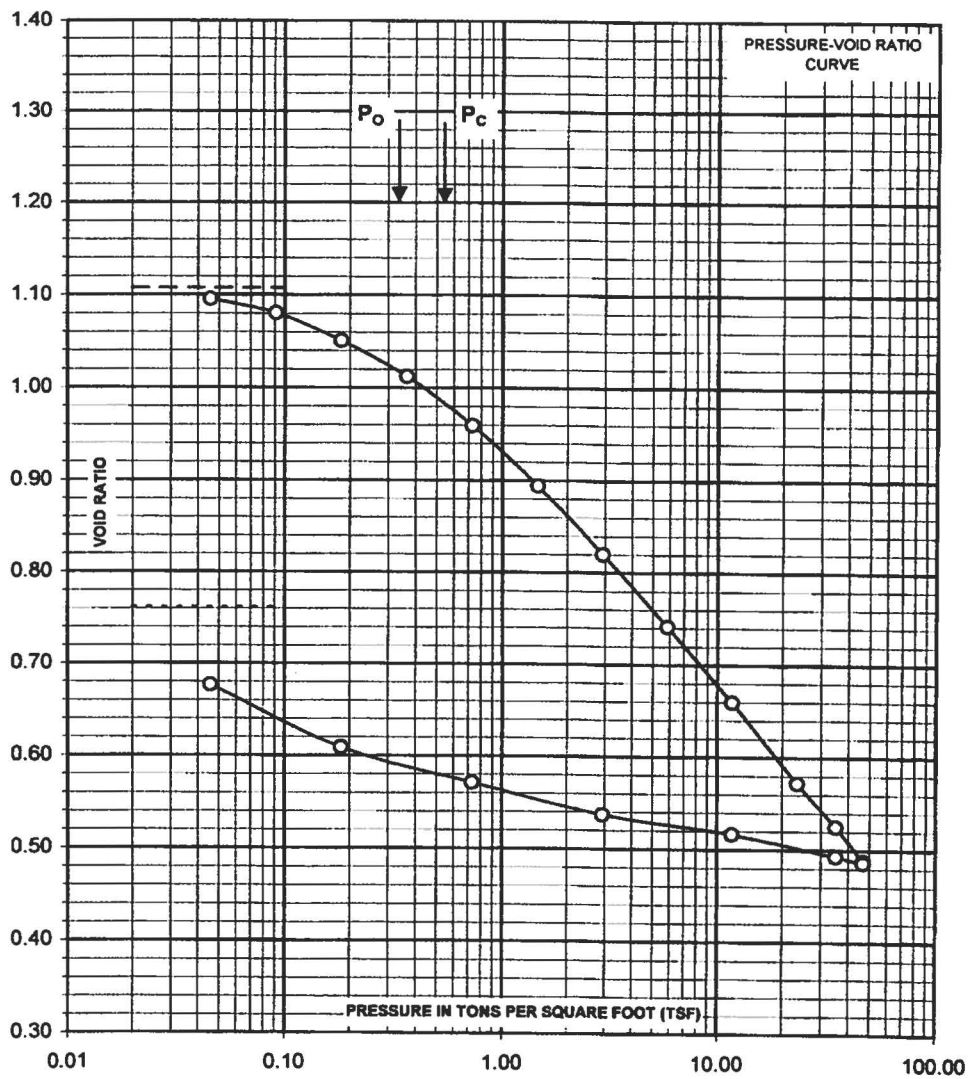


PLATE NO. 18

CURVE NO.	INCREMENT FROM (TSF)	INCREMENT TO (TSF)
①	0.18	0.37
②	0.73	1.46
③	11.69	23.39

SPECIMEN DESCRIPTION: SOFT BLACK ORGANIC SILTY CLAY, TRACE FINE SAND, FINE SAND POCKETS (OL)

STRATUM D

PROPERTIES OF PLASTICITY LIMIT SPECIMEN

UNIFIED SOILS CLASSIFICATION - OL
LIQUID LIMIT, w_L = 36
PLASTICITY LIMIT, w_p = 22
PLASTICITY INDEX, I_p = 14
NATURAL WATER CONT., $\%_w$ = 42.9
LIQUIDITY INDEX, $(w-w_p)/I_p$ = 1.5
SPECIFIC GRAVITY, G_s = 2.61

PROPERTIES OF CONSOLIDATION SPECIMEN

ELEVATION OF SPECIMEN = -3.2
DEPTH OF SPECIMEN (FT) = 16.0
DIAMETER OF SPECIMEN (IN) = 2.5
INITIAL THICKNESS OF SPECIMEN (IN) = 1.0045
INITIAL WATER CONTENT, % = 38.9
FINAL WATER CONTENT, % = 27.1
INITIAL DEGREE OF SATURATION, % = 91.8
FINAL DEGREE OF SATURATION, % = 92.8

— — — — INITIAL VOID RATIO, e_o = 1.107
- - - - - - - FINAL VOID RATIO, e_f = 0.761
ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c = 0.53
EXISTING OVERBURDEN STRESS (TSF), P_o = 0.347
COMPRESSION INDEX, C_c = 0.292
SWELLING INDEX, C_s =0.06 REBOUND FROM e = 0.486

STUDY AREA 7

JERSEY CITY NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34TH STREET, NEW YORK, N.Y. 10122

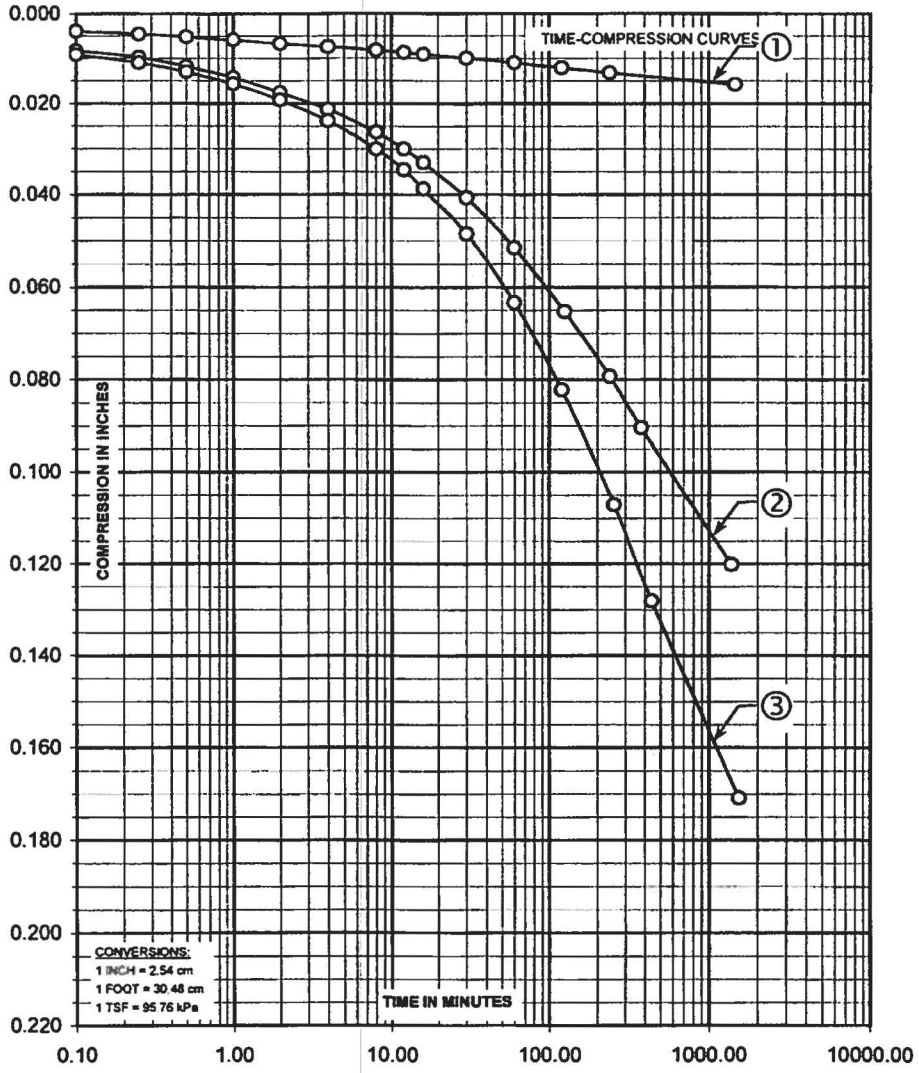
MADE BY. BEE/MM DATE: 01-22-04
CHKD BY. WJP DATE: 02-02-04

FILE NO. 10028

CONSOLIDATION TEST
BORING 120-SB-210D SAMPLE 1U

PLATE NO. 18

MRCE Form CONSOL-1



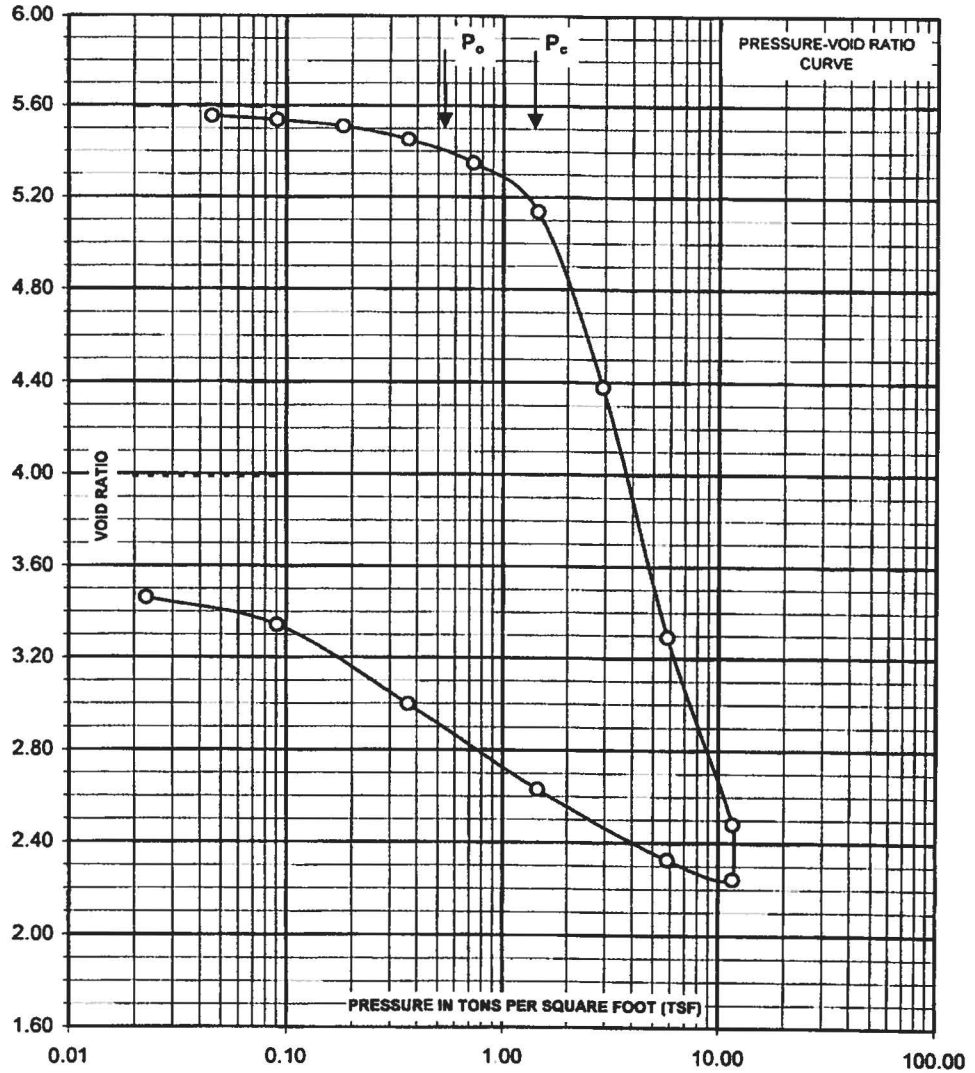


PLATE NO. 13

CURVE NO.	INCREMENT FROM (TSF)	INCREMENT TO (TSF)
①	0.36	0.73
②	1.46	2.91
③	2.91	5.82

SPECIMEN DESCRIPTION: STIFF BROWN PEAT (Pt)

STRATUM D

PROPERTIES OF PLASTICITY LIMIT SPECIMEN

UNIFIED SOILS CLASSIFICATION - Pt
LIQIUD LIMIT, w_L = 541
PLASTICITY LIMIT, w_P = 379
PLASTICITY INDEX, I_P = 161
NATURAL WATER CONT., $\%_w$ = 229 6
LIQUIDITY INDEX, $(w-w_P)/I_P$ = -0.93
SPECIFIC GRAVITY, G_s = 1.78

PROPERTIES OF CONSOLIDATION SPECIMEN

ELEVATION OF SPECIMEN = -5.0
DEPTH OF SPECIMEN (FT) = 19.5
DIAMETER OF SPECIMEN (IN) = 150
INITIAL THICKNESS OF SPECIMEN (IN) = 0.9946
INITIAL WATER CONTENT, % = 289.0
FINAL WATER CONTENT, % = 212.4
INITIAL DEGREE OF SATURATION, % = 91.8
FINAL DEGREE OF SATURATION, % = 94.7

INITIAL VOID RATIO, e_o = 5.597
FINAL VOID RATIO, e_f = 3.989
ESTIMATED PRECONSOLIDATION STRESS (TSF), P_c = 1.4
EXISTING OVERBURDEN STRESS (TSF), P_o = 0.52
COMPRESSION INDEX, C_c = 3.62
SWELLING INDEX, C_s = 0 58, REBOUND FROM e = 2.242

STUDY AREA 7

JERSEY CITY NEW JERSEY

MUESER RUTLEDGE CONSULTING ENGINEERS
225 WEST 34TH STREET, NEW YORK, N.Y. 10122

MADE BY: BEE DATE: 01-06-04
CHKD BY: WJP DATE: 01-27-04

FILE NO. 10028

CONSOLIDATION TEST
BORING 115-SB-211D SAMPLE 1U

PLATE NO. 13

MRCE Form CONSOL-1

APPENDIX A

MUESER RUTLEDGE CONSULTING ENGINEERS

FILE 11173

MADE BY APS DATE 9/28/15

PROJECT CHROMIUM REMEDY SA-6

CHECKED BY ____ DATE ____

SUBJECT CALCULATION OF STRESSES

APPENDIX A

① Using average Pc from consolidation tests:

Pc (SB-210D) = 0.53 tsf = 1060 psf

Pc (SB-211D) = 1.4 tsf = 2800 psf

Pc (average) = 1930 psf

② Using OCR from consolidation tests:

At ELEV. -2.5 ⇒ σ'_v = 120pcf x 13.5 ft − 62.4pcf x 10 ft

= 1064 psf

OCR(SB-210D) = 1.77

OCR(SB-211D) = 2.69

OCR(average) = 2.23

1064 psf x 2.23 = 2372 psf

AVERAGE ① & ② = 2151 psf

③ Stress at Final Condition



Final Effective overburden stress:

σ'_{vf} = 1064 + (1.5+0.5) x 125pcf

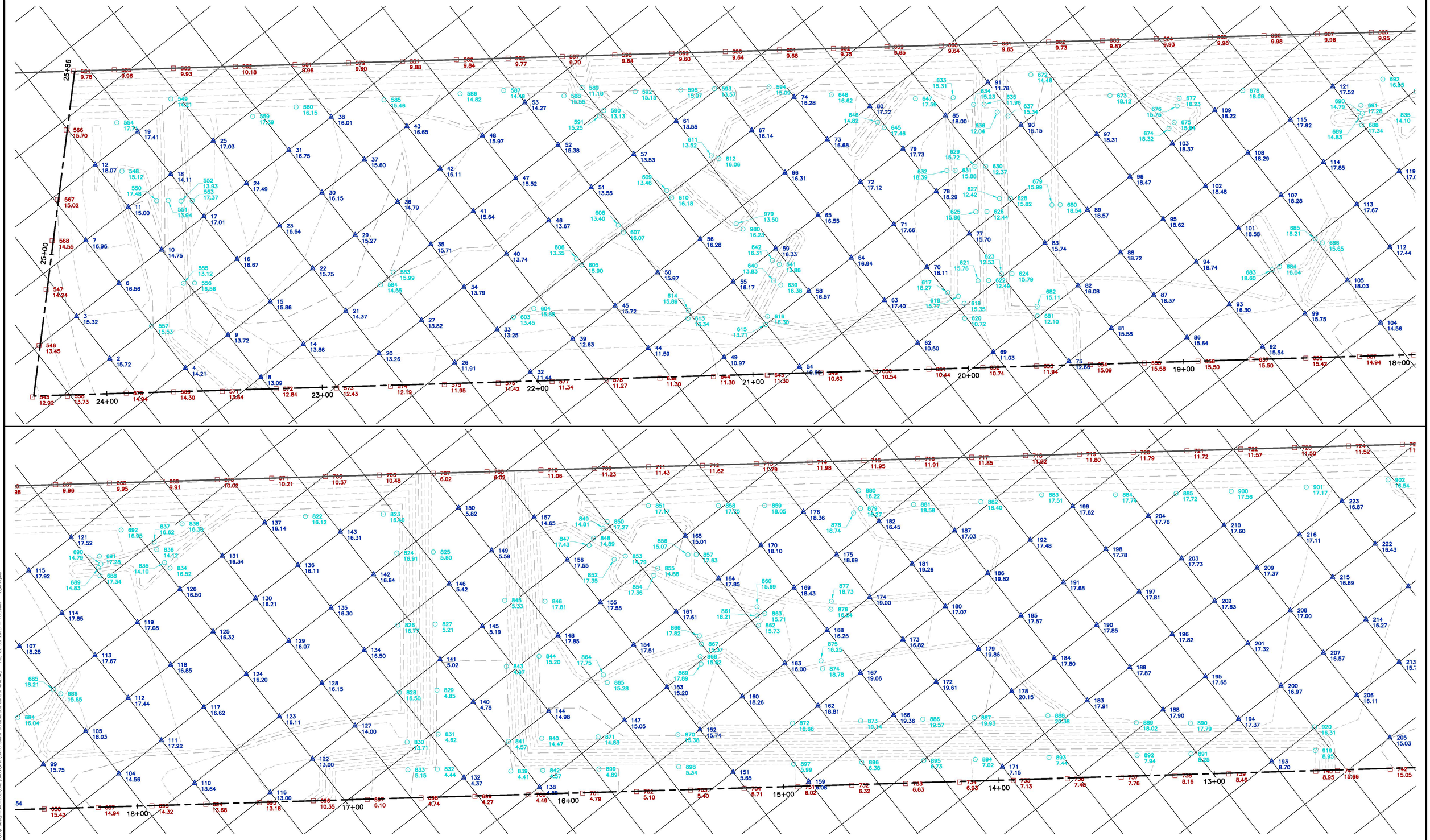
= 1314 psf < 1930 psf

Added soil avg height = 1.5'

Max. increase in grade = 0.5'

ATTACHMENT D
SA-6 SOUTH CAP SUBGRADE APPROVAL

ATTACHMENT D-1
CONSTRUCTION CONTROL GRID



195 17.65 GRID POINT

890 17.79 BREAK POINT

738 8.16 BOUND POINT

0 10 20 40
SCALE IN FEET

Pr d/D RJR 07/02/15
C d/D TDD 07/02/15

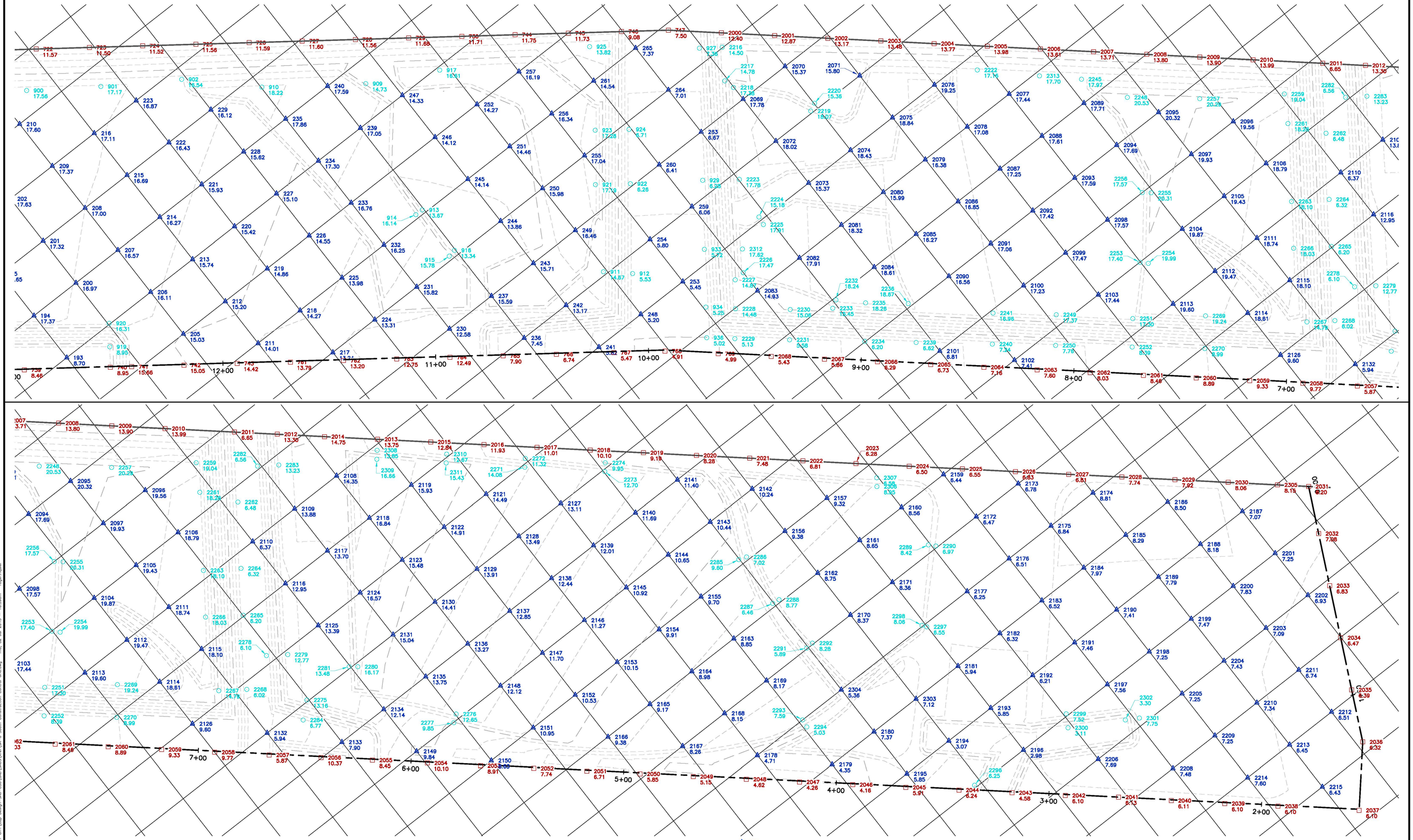
Honeywell
101 COLUMBIA RD, BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010800

SA-6 SOUTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 2
Pr 3480-13-0377
F 11

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\Xref\SA-6 South Construction Control Grid.dwg Thu, 02 Jul 2015 - 10:59am roger.riquier



Pr d/D RJR 07/02/15
C d/D TDD 07/02/15

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CHROMIUM REMEDY
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NJ Certificate of Authorization Number 24GA28010800

SA-6 SOUTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 2
Pr 3480-13-0377
F r 1:2

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\Xref\SA-6 South Construction Control Grid.dwg Thu, 02 Jul 2015 - 10:59am roger.riquier

ATTACHMENT D-2
SA-6 SOUTH SUBGRADE GRID POINTS

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

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Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Cap Subgrade: Grid Points (Table 1.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2	685518.44	601481.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
3	685543.44	601481.51	15.3	GRID	7/2/2015	15.3	0.0	Point surveyed within Tolerance
4	685493.44	601506.51	14.2	GRID	7/2/2015	14.2	0.0	Point surveyed within Tolerance
6	685543.44	601506.51	16.6	GRID	7/2/2015	16.6	0.0	Point surveyed within Tolerance
7	685568.44	601506.51	17.0	GRID	7/2/2015	16.9	-0.1	Point surveyed within Tolerance
8	685468.44	601531.51	13.1	GRID	7/2/2015	13.1	0.0	Point surveyed within Tolerance
9	685493.44	601531.51	13.7	GRID	7/2/2015	13.8	0.1	Point surveyed within Tolerance
10	685543.44	601531.51	14.8	GRID	7/2/2015	14.8	0.0	Point surveyed within Tolerance
11	685568.44	601531.51	15.0	GRID	7/2/2015	15.1	0.1	Point surveyed within Tolerance
12	685593.44	601531.51	18.1	GRID	7/2/2015	18.0	-0.1	Point surveyed within Tolerance
14	685468.44	601556.51	13.9	GRID	7/2/2015	13.9	0.0	Point surveyed within Tolerance
15	685493.44	601556.51	15.9	GRID	7/2/2015	15.8	-0.1	Point surveyed within Tolerance
16	685518.44	601556.51	16.7	GRID	7/2/2015	16.8	0.1	Point surveyed within Tolerance
17	685543.44	601556.51	17.0	GRID	7/2/2015	17.0	0.0	Point surveyed within Tolerance
18	685568.44	601556.51	14.1	GRID	7/2/2015	14.2	0.1	Point surveyed within Tolerance
19	685593.44	601556.51	17.4	GRID	7/2/2015	17.5	0.1	Point surveyed within Tolerance
20	685443.44	601581.51	13.3	GRID	7/2/2015	13.3	0.0	Point surveyed within Tolerance
21	685468.44	601581.51	14.4	GRID	7/2/2015	14.4	0.0	Point surveyed within Tolerance
22	685493.44	601581.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
23	685518.44	601581.51	16.6	GRID	7/2/2015	16.6	0.0	Point surveyed within Tolerance
24	685543.44	601581.51	17.5	GRID	7/2/2015	17.5	0.0	Point surveyed within Tolerance
25	685568.44	601581.51	17.0	GRID	7/2/2015	17.1	0.1	Point surveyed within Tolerance
26	685418.44	601606.51	11.9	GRID	7/2/2015	12.0	0.1	Point surveyed within Tolerance
27	685443.44	601606.51	13.8	GRID	7/2/2015	13.8	0.0	Point surveyed within Tolerance
29	685493.44	601606.51	15.3	GRID	7/2/2015	15.3	0.0	Point surveyed within Tolerance
30	685518.44	601606.51	16.2	GRID	7/2/2015	16.2	0.0	Point surveyed within Tolerance
31	685543.44	601606.51	16.7	GRID	7/2/2015	16.8	0.1	Point surveyed within Tolerance
32	685393.44	601631.51	11.4	GRID	7/2/2015	11.5	0.1	Point surveyed within Tolerance
33	685418.44	601631.51	13.2	GRID	7/2/2015	13.3	0.1	Point surveyed within Tolerance
34	685443.44	601631.51	13.8	GRID	7/2/2015	13.8	0.0	Point surveyed within Tolerance
35	685468.44	601631.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
36	685493.44	601631.51	14.8	GRID	7/2/2015	14.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
37	685518.44	601631.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
38	685543.44	601631.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
39	685393.44	601656.51	12.6	GRID	7/2/2015	12.7	0.1	Point surveyed within Tolerance
40	685443.44	601656.51	13.7	GRID	7/2/2015	13.7	0.0	Point surveyed within Tolerance
41	685468.44	601656.51	15.6	GRID	7/2/2015	15.7	0.1	Point surveyed within Tolerance
42	685493.44	601656.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
43	685518.44	601656.51	16.6	GRID	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
44	685368.44	601681.51	11.6	GRID	7/2/2015	11.6	0.0	Point surveyed within Tolerance
45	685393.44	601681.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
46	685443.44	601681.51	13.7	GRID	7/2/2015	13.6	-0.1	Point surveyed within Tolerance
47	685468.44	601681.51	15.5	GRID	7/2/2015	15.5	0.0	Point surveyed within Tolerance
48	685493.44	601681.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
49	685343.44	601706.51	11.0	GRID	7/2/2015	10.9	-0.1	Point surveyed within Tolerance
50	685393.44	601706.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
51	685443.44	601706.51	13.6	GRID	7/2/2015	13.5	-0.1	Point surveyed within Tolerance
52	685468.44	601706.51	15.4	GRID	7/2/2015	15.4	0.0	Point surveyed within Tolerance
53	685493.44	601706.51	14.3	GRID	7/2/2015	14.3	0.0	Point surveyed within Tolerance
54	685318.44	601731.51	10.7	GRID	7/2/2015	10.6	-0.1	Point surveyed within Tolerance
55	685368.44	601731.51	16.2	GRID	7/2/2015	16.1	-0.1	Point surveyed within Tolerance
56	685393.44	601731.51	16.3	GRID	7/2/2015	16.2	-0.1	Point surveyed within Tolerance
57	685443.44	601731.51	13.5	GRID	7/2/2015	13.5	0.0	Point surveyed within Tolerance
58	685343.44	601756.51	16.6	GRID	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
59	685368.44	601756.51	16.3	GRID	7/2/2015	16.4	0.1	Point surveyed within Tolerance
61	685443.44	601756.51	13.5	GRID	7/2/2015	13.6	0.1	Point surveyed within Tolerance
62	685293.44	601781.51	10.5	GRID	7/2/2015	10.4	-0.1	Point surveyed within Tolerance
63	685318.44	601781.51	17.4	GRID	7/2/2015	17.4	0.0	Point surveyed within Tolerance
64	685343.44	601781.51	16.9	GRID	7/2/2015	16.9	0.0	Point surveyed within Tolerance
65	685368.44	601781.51	16.5	GRID	7/2/2015	16.5	0.0	Point surveyed within Tolerance
66	685393.44	601781.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
67	685418.44	601781.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
69	685268.44	601806.51	11.0	GRID	7/2/2015	11.0	0.0	Point surveyed within Tolerance
70	685318.44	601806.51	18.1	GRID	7/2/2015	18.1	0.0	Point surveyed within Tolerance
71	685343.44	601806.51	17.7	GRID	7/2/2015	17.6	-0.1	Point surveyed within Tolerance
72	685368.44	601806.51	17.1	GRID	7/2/2015	17.1	0.0	Point surveyed within Tolerance
73	685393.44	601806.51	16.7	GRID	7/2/2015	16.6	-0.1	Point surveyed within Tolerance
74	685418.44	601806.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
75	685243.44	601831.51	12.7	GRID	7/2/2015	12.6	-0.1	Point surveyed within Tolerance
77	685318.44	601831.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
78	685343.44	601831.51	18.3	GRID	7/2/2015	18.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
79	685368.44	601831.51	17.7	GRID	7/2/2015	17.7	0.0	Point surveyed within Tolerance
80	685393.44	601831.51	17.2	GRID	7/2/2015	17.3	0.1	Point surveyed within Tolerance
81	685243.44	601856.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
82	685268.44	601856.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
83	685293.44	601856.51	15.7	GRID	7/2/2015	15.8	0.1	Point surveyed within Tolerance
85	685368.44	601856.51	18.0	GRID	7/2/2015	18.0	0.0	Point surveyed within Tolerance
86	685218.44	601881.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
87	685243.44	601881.51	16.4	GRID	7/2/2015	16.4	0.0	Point surveyed within Tolerance
88	685268.44	601881.51	18.7	GRID	7/2/2015	18.7	0.0	Point surveyed within Tolerance
89	685293.44	601881.51	18.6	GRID	7/2/2015	18.5	-0.1	Point surveyed within Tolerance
90	685343.44	601881.51	15.2	GRID	7/2/2015	15.2	0.0	Point surveyed within Tolerance
91	685368.44	601881.51	11.8	GRID	7/2/2015	11.8	0.0	Point surveyed within Tolerance
92	685193.44	601906.51	15.5	GRID	7/2/2015	15.5	0.0	Point surveyed within Tolerance
93	685218.44	601906.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
94	685243.44	601906.51	18.7	GRID	7/2/2015	18.7	0.0	Point surveyed within Tolerance
95	685268.44	601906.51	18.6	GRID	7/2/2015	18.6	0.0	Point surveyed within Tolerance
96	685293.44	601906.51	18.5	GRID	7/2/2015	18.4	-0.1	Point surveyed within Tolerance
97	685318.44	601906.51	18.3	GRID	7/2/2015	18.3	0.0	Point surveyed within Tolerance
99	685193.44	601931.51	15.7	GRID	7/2/2015	15.8	0.1	Point surveyed within Tolerance
101	685243.44	601931.51	18.6	GRID	7/2/2015	18.5	-0.1	Point surveyed within Tolerance
102	685268.44	601931.51	18.5	GRID	7/2/2015	18.4	-0.1	Point surveyed within Tolerance
103	685293.44	601931.51	18.4	GRID	7/2/2015	18.4	0.0	Point surveyed within Tolerance
104	685168.44	601956.51	14.6	GRID	7/2/2015	14.6	0.0	Point surveyed within Tolerance
105	685193.44	601956.51	18.0	GRID	7/14/2015	18.1	0.1	Point surveyed within Tolerance
107	685243.44	601956.51	18.3	GRID	7/14/2015	18.4	0.1	Point surveyed within Tolerance
108	685268.44	601956.51	18.3	GRID	7/14/2015	18.4	0.1	Point surveyed within Tolerance
109	685293.44	601956.51	18.2	GRID	7/14/2015	18.3	0.1	Point surveyed within Tolerance
110	685143.44	601981.51	13.6	GRID	7/14/2015	13.7	0.1	Point surveyed within Tolerance
111	685168.44	601981.51	17.2	GRID	7/14/2015	17.3	0.1	Point surveyed within Tolerance
112	685193.44	601981.51	17.4	GRID	7/14/2015	17.5	0.1	Point surveyed within Tolerance
113	685218.44	601981.51	17.7	GRID	7/14/2015	17.8	0.1	Point surveyed within Tolerance
114	685243.44	601981.51	17.8	GRID	7/14/2015	17.9	0.1	Point surveyed within Tolerance
115	685268.44	601981.51	17.9	GRID	7/14/2015	18.0	0.1	Point surveyed within Tolerance
116	685118.44	602006.51	13.0	GRID	7/14/2015	13.1	0.1	Point surveyed within Tolerance
117	685168.44	602006.51	16.6	GRID	7/14/2015	16.7	0.1	Point surveyed within Tolerance
118	685193.44	602006.51	16.8	GRID	7/14/2015	16.9	0.1	Point surveyed within Tolerance
119	685218.44	602006.51	17.1	GRID	7/14/2015	17.2	0.1	Point surveyed within Tolerance
121	685268.44	602006.51	17.5	GRID	7/14/2015	17.6	0.1	Point surveyed within Tolerance
122	685118.44	602031.51	13.0	GRID	7/14/2015	13.1	0.1	Point surveyed within Tolerance
123	685143.44	602031.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
124	685168.44	602031.51	16.2	GRID	7/14/2015	16.3	0.1	Point surveyed within Tolerance
125	685193.44	602031.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
126	685218.44	602031.51	16.5	GRID	7/14/2015	16.6	0.1	Point surveyed within Tolerance
127	685118.44	602056.51	14.0	GRID	7/14/2015	13.9	-0.1	Point surveyed within Tolerance
128	685143.44	602056.51	16.2	GRID	7/14/2015	16.2	0.0	Point surveyed within Tolerance
129	685168.44	602056.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
130	685193.44	602056.51	16.2	GRID	7/14/2015	16.3	0.1	Point surveyed within Tolerance
131	685218.44	602056.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
132	685068.44	602081.51	4.4	GRID	7/14/2015	4.5	0.1	Point surveyed within Tolerance
134	685143.44	602081.51	16.5	GRID	7/14/2015	16.6	0.1	Point surveyed within Tolerance
135	685168.44	602081.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
136	685193.44	602081.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
137	685218.44	602081.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
140	685093.44	602106.51	4.8	GRID	7/14/2015	4.9	0.1	Point surveyed within Tolerance
141	685118.44	602106.51	5.0	GRID	7/14/2015	5.1	0.1	Point surveyed within Tolerance
142	685168.44	602106.51	16.6	GRID	7/14/2015	16.7	0.1	Point surveyed within Tolerance
143	685193.44	602106.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
146	685143.44	602131.51	5.4	GRID	7/14/2015	5.5	0.1	Point surveyed within Tolerance
138	685043.44	602106.51	4.6	GRID	7/24/2015	4.5	-0.1	Point surveyed within Tolerance
144	685068.44	602131.51	15.0	GRID	7/24/2015	15.0	0.0	Point surveyed within Tolerance
145	685118.44	602131.51	5.2	GRID	7/24/2015	5.1	-0.1	Point surveyed within Tolerance
147	685043.44	602156.51	15.1	GRID	7/24/2015	15.1	0.0	Point surveyed within Tolerance
148	685093.44	602156.51	17.9	GRID	7/24/2015	17.8	-0.1	Point surveyed within Tolerance
149	685143.44	602156.51	5.6	GRID	7/24/2015	5.6	0.0	Point surveyed within Tolerance
150	685168.44	602156.51	5.8	GRID	7/24/2015	5.9	0.1	Point surveyed within Tolerance
151	684993.44	602181.51	5.6	GRID	7/24/2015	5.6	0.0	Point surveyed within Tolerance
152	685018.44	602181.51	15.7	GRID	7/24/2015	15.8	0.1	Point surveyed within Tolerance
153	685043.44	602181.51	15.2	GRID	7/24/2015	15.3	0.1	Point surveyed within Tolerance
154	685068.44	602181.51	17.5	GRID	7/24/2015	17.6	0.1	Point surveyed within Tolerance
155	685093.44	602181.51	17.5	GRID	7/24/2015	17.6	0.1	Point surveyed within Tolerance
156	685118.44	602181.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
157	685143.44	602181.51	14.7	GRID	7/24/2015	14.7	0.0	Point surveyed within Tolerance
159	684968.44	602206.51	6.1	GRID	7/24/2015	6.1	0.0	Point surveyed within Tolerance
160	685018.44	602206.51	18.3	GRID	7/24/2015	18.3	0.0	Point surveyed within Tolerance
161	685068.44	602206.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
162	684993.44	602231.51	18.8	GRID	7/24/2015	18.8	0.0	Point surveyed within Tolerance
163	685018.44	602231.51	16.0	GRID	7/24/2015	15.9	-0.1	Point surveyed within Tolerance
164	685068.44	602231.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
165	685093.44	602231.51	15.0	GRID	7/24/2015	15.1	0.1	Point surveyed within Tolerance
166	684968.44	602256.51	19.4	GRID	7/24/2015	19.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
167	684993.44	602256.51	19.1	GRID	7/24/2015	19.1	0.0	Point surveyed within Tolerance
168	685018.44	602256.51	16.3	GRID	7/24/2015	16.3	0.0	Point surveyed within Tolerance
169	685043.44	602256.51	18.4	GRID	7/24/2015	18.4	0.0	Point surveyed within Tolerance
170	685068.44	602256.51	18.1	GRID	7/24/2015	18.1	0.0	Point surveyed within Tolerance
171	684918.44	602281.51	7.1	GRID	7/24/2015	7.2	0.1	Point surveyed within Tolerance
172	684968.44	602281.51	19.6	GRID	7/24/2015	19.6	0.0	Point surveyed within Tolerance
173	684993.44	602281.51	16.8	GRID	7/24/2015	16.8	0.0	Point surveyed within Tolerance
174	685018.44	602281.51	19.0	GRID	7/24/2015	19.0	0.0	Point surveyed within Tolerance
175	685043.44	602281.51	18.7	GRID	7/24/2015	18.7	0.0	Point surveyed within Tolerance
176	685068.44	602281.51	18.4	GRID	7/24/2015	18.4	0.0	Point surveyed within Tolerance
178	684943.44	602306.51	20.2	GRID	7/24/2015	20.2	0.0	Point surveyed within Tolerance
179	684968.44	602306.51	19.9	GRID	7/24/2015	19.9	0.0	Point surveyed within Tolerance
180	684993.44	602306.51	17.1	GRID	7/24/2015	17.1	0.0	Point surveyed within Tolerance
181	685018.44	602306.51	19.3	GRID	7/24/2015	19.3	0.0	Point surveyed within Tolerance
182	685043.44	602306.51	16.4	GRID	7/24/2015	16.4	0.0	Point surveyed within Tolerance
183	684918.44	602331.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
184	684943.44	602331.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
185	684968.44	602331.51	17.6	GRID	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
186	684993.44	602331.51	19.8	GRID	7/24/2015	19.8	0.0	Point surveyed within Tolerance
187	685018.44	602331.51	17.0	GRID	7/24/2015	16.9	-0.1	Point surveyed within Tolerance
188	684893.44	602356.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
189	684918.44	602356.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
190	684943.44	602356.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
191	684968.44	602356.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
192	684993.44	602356.51	17.5	GRID	7/24/2015	17.5	0.0	Point surveyed within Tolerance
193	684843.44	602381.51	8.7	GRID	7/24/2015	8.7	0.0	Point surveyed within Tolerance
194	684868.44	602381.51	17.4	GRID	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
195	684893.44	602381.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
196	684918.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
197	684943.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
198	684968.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
199	684993.44	602381.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
200	684868.44	602406.51	17.0	GRID	7/24/2015	17.0	0.0	Point surveyed within Tolerance
201	684893.44	602406.51	17.3	GRID	7/24/2015	17.3	0.0	Point surveyed within Tolerance
202	684918.44	602406.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
203	684943.44	602406.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
204	684968.44	602406.51	17.8	GRID	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
206	684843.44	602431.51	16.1	GRID	7/24/2015	16.1	0.0	Point surveyed within Tolerance
207	684868.44	602431.51	16.6	GRID	7/24/2015	16.6	0.0	Point surveyed within Tolerance
208	684893.44	602431.51	17.0	GRID	7/24/2015	16.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
209	684918.44	602431.51	17.4	GRID	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
210	684943.44	602431.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
214	684868.44	602456.51	16.3	GRID	7/24/2015	16.3	0.0	Point surveyed within Tolerance
215	684893.44	602456.51	16.7	GRID	7/24/2015	16.7	0.0	Point surveyed within Tolerance
216	684918.44	602456.51	17.1	GRID	7/24/2015	17.1	0.0	Point surveyed within Tolerance
222	684893.44	602481.51	16.4	GRID	7/24/2015	16.4	0.0	Point surveyed within Tolerance
223	684918.44	602481.51	16.9	GRID	7/24/2015	16.8	-0.1	Point surveyed within Tolerance
205	684818.44	602431.51	15.0	GRID	8/10/2015	15.1	0.1	Point surveyed within Tolerance
211	684793.44	602456.51	14.0	GRID	8/10/2015	14.0	0.0	Point surveyed within Tolerance
212	684818.44	602456.51	15.2	GRID	8/10/2015	15.2	0.0	Point surveyed within Tolerance
213	684843.44	602456.51	15.7	GRID	8/10/2015	15.7	0.0	Point surveyed within Tolerance
218	684793.44	602481.51	14.3	GRID	8/10/2015	14.2	-0.1	Point surveyed within Tolerance
219	684818.44	602481.51	14.9	GRID	8/10/2015	14.9	0.0	Point surveyed within Tolerance
220	684843.44	602481.51	15.4	GRID	8/10/2015	15.4	0.0	Point surveyed within Tolerance
221	684868.44	602481.51	15.9	GRID	8/10/2015	15.9	0.0	Point surveyed within Tolerance
224	684768.44	602506.51	13.3	GRID	8/10/2015	13.3	0.0	Point surveyed within Tolerance
225	684793.44	602506.51	14.0	GRID	8/10/2015	14.0	0.0	Point surveyed within Tolerance
226	684818.44	602506.51	14.6	GRID	8/10/2015	14.5	-0.1	Point surveyed within Tolerance
227	684843.44	602506.51	15.1	GRID	8/10/2015	15.0	-0.1	Point surveyed within Tolerance
228	684868.44	602506.51	15.6	GRID	8/10/2015	15.6	0.0	Point surveyed within Tolerance
229	684893.44	602506.51	16.1	GRID	8/10/2015	16.2	0.1	Point surveyed within Tolerance
232	684793.44	602531.51	16.3	GRID	8/10/2015	16.2	-0.1	Point surveyed within Tolerance
233	684818.44	602531.51	16.8	GRID	8/10/2015	16.7	-0.1	Point surveyed within Tolerance
234	684843.44	602531.51	17.3	GRID	8/10/2015	17.3	0.0	Point surveyed within Tolerance
235	684868.44	602531.51	17.9	GRID	8/10/2015	17.9	0.0	Point surveyed within Tolerance
239	684843.44	602556.51	17.1	GRID	8/10/2015	17.1	0.0	Point surveyed within Tolerance
240	684868.44	602556.51	17.6	GRID	8/10/2015	17.6	0.0	Point surveyed within Tolerance
217	684768.44	602481.51	13.2	GRID	8/12/2015	13.2	0.0	Point surveyed within Tolerance
230	684743.44	602531.51	12.6	GRID	8/12/2015	12.6	0.0	Point surveyed within Tolerance
231	684768.44	602531.51	15.8	GRID	8/12/2015	15.8	0.0	Point surveyed within Tolerance
245	684793.44	602581.51	14.1	GRID	8/12/2015	14.1	0.0	Point surveyed within Tolerance
246	684818.44	602581.51	14.1	GRID	8/12/2015	14.1	0.0	Point surveyed within Tolerance
247	684843.44	602581.51	14.3	GRID	8/12/2015	14.4	0.1	Point surveyed within Tolerance
252	684818.44	602606.51	14.3	GRID	8/12/2015	14.3	0.0	Point surveyed within Tolerance
236	684718.44	602556.51	7.5	GRID	8/13/2015	7.4	-0.1	Point surveyed within Tolerance
237	684743.44	602556.51	15.6	GRID	8/13/2015	15.7	0.1	Point surveyed within Tolerance
241	684693.44	602581.51	5.8	GRID	8/13/2015	5.8	0.0	Point surveyed within Tolerance
242	684718.44	602581.51	13.2	GRID	8/13/2015	13.3	0.1	Point surveyed within Tolerance
243	684743.44	602581.51	15.7	GRID	8/13/2015	15.7	0.0	Point surveyed within Tolerance
244	684768.44	602581.51	13.9	GRID	8/13/2015	13.8	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
249	684743.44	602606.51	16.5	GRID	8/13/2015	16.5	0.0	Point surveyed within Tolerance
250	684768.44	602606.51	16.0	GRID	8/13/2015	16.0	0.0	Point surveyed within Tolerance
251	684793.44	602606.51	14.5	GRID	8/13/2015	14.4	-0.1	Point surveyed within Tolerance
255	684768.44	602631.51	17.0	GRID	8/13/2015	17.1	0.1	Point surveyed within Tolerance
256	684793.44	602631.51	16.3	GRID	8/13/2015	16.4	0.1	Point surveyed within Tolerance
257	684818.44	602631.51	16.2	GRID	8/13/2015	16.2	0.0	Point surveyed within Tolerance
261	684793.44	602656.51	14.5	GRID	8/13/2015	14.6	0.1	Point surveyed within Tolerance
248	684693.44	602606.51	5.2	GRID	9/4/2015	5.3	0.1	Point surveyed within Tolerance
253	684693.44	602631.51	5.5	GRID	9/4/2015	5.5	0.0	Point surveyed within Tolerance
254	684718.44	602631.51	5.8	GRID	9/4/2015	5.9	0.1	Point surveyed within Tolerance
259	684718.44	602656.51	6.1	GRID	9/4/2015	6.0	-0.1	Point surveyed within Tolerance
260	684743.44	602656.51	6.4	GRID	9/4/2015	6.4	0.0	Point surveyed within Tolerance
263	684743.44	602681.51	6.7	GRID	9/4/2015	6.7	0.0	Point surveyed within Tolerance
264	684768.44	602681.51	7.0	GRID	9/4/2015	7.0	0.0	Point surveyed within Tolerance
265	684793.44	602681.51	7.4	GRID	9/4/2015	7.3	-0.1	Point surveyed within Tolerance
2069	684743.44	602706.51	17.8	GRID	9/4/2015	17.8	0.0	Point surveyed within Tolerance
2070	684743.44	602731.51	15.4	GRID	9/4/2015	15.4	0.0	Point surveyed within Tolerance
2071	684718.44	602756.51	15.8	GRID	9/4/2015	15.8	0.0	Point surveyed within Tolerance
2072	684718.44	602706.51	18.0	GRID	9/4/2015	18.0	0.0	Point surveyed within Tolerance
2073	684693.44	602706.51	15.4	GRID	9/4/2015	15.3	-0.1	Point surveyed within Tolerance
2074	684693.44	602731.51	18.4	GRID	9/4/2015	18.5	0.1	Point surveyed within Tolerance
2075	684693.44	602756.51	18.8	GRID	9/4/2015	18.8	0.0	Point surveyed within Tolerance
2076	684693.44	602781.51	19.2	GRID	9/4/2015	19.3	0.1	Point surveyed within Tolerance
2079	684668.44	602756.51	16.4	GRID	9/4/2015	16.4	0.0	Point surveyed within Tolerance
2080	684668.44	602731.51	16.0	GRID	9/4/2015	15.9	-0.1	Point surveyed within Tolerance
2081	684668.44	602706.51	18.3	GRID	9/4/2015	18.3	0.0	Point surveyed within Tolerance
2082	684668.44	602681.51	17.9	GRID	9/4/2015	17.8	-0.1	Point surveyed within Tolerance
2083	684668.44	602656.51	14.9	GRID	9/4/2015	14.9	0.0	Point surveyed within Tolerance
2084	684643.44	602706.51	18.6	GRID	9/4/2015	18.6	0.0	Point surveyed within Tolerance
2085	684643.44	602731.51	16.3	GRID	9/4/2015	16.2	-0.1	Point surveyed within Tolerance
2086	684643.44	602756.51	16.8	GRID	9/4/2015	16.8	0.0	Point surveyed within Tolerance
2090	684618.44	602731.51	16.6	GRID	9/4/2015	16.6	0.0	Point surveyed within Tolerance
2101	684593.44	602706.51	6.8	GRID	9/4/2015	6.8	0.0	Point surveyed within Tolerance
2077	684668.44	602806.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2078	684668.44	602781.51	17.1	GRID	9/9/2015	17.1	0.0	Point surveyed within Tolerance
2087	684643.44	602781.51	17.3	GRID	9/9/2015	17.2	-0.1	Point surveyed within Tolerance
2088	684643.44	602806.51	17.6	GRID	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2089	684643.44	602831.51	17.7	GRID	9/9/2015	17.7	0.0	Point surveyed within Tolerance
2091	684618.44	602756.51	17.1	GRID	9/9/2015	17.1	0.0	Point surveyed within Tolerance
2092	684618.44	602781.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.7)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2093	684618.44	602806.51	17.6	GRID	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2094	684618.44	602831.51	17.7	GRID	9/9/2015	17.6	-0.1	Point surveyed within Tolerance
2095	684618.44	602856.51	20.3	GRID	9/9/2015	20.3	0.0	Point surveyed within Tolerance
2096	684593.44	602881.51	19.6	GRID	9/9/2015	19.5	-0.1	Point surveyed within Tolerance
2097	684593.44	602856.51	19.9	GRID	9/9/2015	19.9	0.0	Point surveyed within Tolerance
2098	684593.44	602806.51	17.6	GRID	9/9/2015	17.5	-0.1	Point surveyed within Tolerance
2099	684593.44	602781.51	17.5	GRID	9/9/2015	17.5	0.0	Point surveyed within Tolerance
2100	684593.44	602756.51	17.2	GRID	9/9/2015	17.2	0.0	Point surveyed within Tolerance
2102	684568.44	602731.51	7.4	GRID	9/9/2015	7.5	0.1	Point surveyed within Tolerance
2103	684568.44	602781.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2104	684568.44	602831.51	19.9	GRID	9/9/2015	19.9	0.0	Point surveyed within Tolerance
2105	684568.44	602856.51	19.4	GRID	9/9/2015	19.4	0.0	Point surveyed within Tolerance
2106	684568.44	602881.51	18.8	GRID	9/9/2015	18.8	0.0	Point surveyed within Tolerance
2111	684543.44	602856.51	18.7	GRID	9/9/2015	18.8	0.1	Point surveyed within Tolerance
2112	684543.44	602831.51	19.5	GRID	9/9/2015	19.5	0.0	Point surveyed within Tolerance
2113	684543.44	602806.51	19.6	GRID	9/9/2015	19.6	0.0	Point surveyed within Tolerance
2114	684518.44	602831.51	18.6	GRID	9/9/2015	18.6	0.0	Point surveyed within Tolerance
2115	684518.44	602856.51	18.1	GRID	9/9/2015	18.2	0.1	Point surveyed within Tolerance
2126	684493.44	602831.51	9.6	GRID	9/9/2015	9.6	0.0	Point surveyed within Tolerance
2109	684543.44	602931.51	13.9	GRID	9/16/2015	14.0	0.1	Point surveyed within Tolerance
2110	684543.44	602906.51	6.4	GRID	9/16/2015	6.5	0.1	Point surveyed within Tolerance
2116	684518.44	602906.51	12.9	GRID	9/16/2015	13.0	0.1	Point surveyed within Tolerance
2132	684468.44	602856.51	5.9	GRID	9/16/2015	6.0	0.1	Point surveyed within Tolerance
2108	684543.44	602956.51	14.3	GRID	9/18/2015	14.3	0.0	Point surveyed within Tolerance
2117	684518.44	602931.51	13.7	GRID	9/18/2015	13.8	0.1	Point surveyed within Tolerance
2118	684518.44	602956.51	16.8	GRID	9/18/2015	16.8	0.0	Point surveyed within Tolerance
2119	684518.44	602981.51	15.9	GRID	9/18/2015	15.9	0.0	Point surveyed within Tolerance
2121	684493.44	603006.51	14.5	GRID	9/18/2015	14.4	-0.1	Point surveyed within Tolerance
2122	684493.44	602981.51	14.9	GRID	9/18/2015	14.9	0.0	Point surveyed within Tolerance
2123	684493.44	602956.51	15.5	GRID	9/18/2015	15.5	0.0	Point surveyed within Tolerance
2124	684493.44	602931.51	16.6	GRID	9/18/2015	16.7	0.1	Point surveyed within Tolerance
2125	684493.44	602906.51	13.4	GRID	9/18/2015	13.4	0.0	Point surveyed within Tolerance
2127	684468.44	603031.51	13.1	GRID	9/18/2015	13.1	0.0	Point surveyed within Tolerance
2128	684468.44	603006.51	13.5	GRID	9/18/2015	13.5	0.0	Point surveyed within Tolerance
2129	684468.44	602981.51	13.9	GRID	9/18/2015	13.9	0.0	Point surveyed within Tolerance
2130	684468.44	602956.51	14.4	GRID	9/18/2015	14.5	0.1	Point surveyed within Tolerance
2131	684468.44	602931.51	15.0	GRID	9/18/2015	15.1	0.1	Point surveyed within Tolerance
2133	684443.44	602881.51	7.9	GRID	9/18/2015	7.9	0.0	Point surveyed within Tolerance
2134	684443.44	602906.51	12.1	GRID	9/18/2015	12.1	0.0	Point surveyed within Tolerance
2135	684443.44	602931.51	13.8	GRID	9/18/2015	13.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.8)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2136	684443.44	602956.51	13.3	GRID	9/18/2015	13.3	0.0	Point surveyed within Tolerance
2137	684443.44	602981.51	12.8	GRID	9/18/2015	12.9	0.1	Point surveyed within Tolerance
2138	684443.44	603006.51	12.4	GRID	9/18/2015	12.5	0.1	Point surveyed within Tolerance
2139	684443.44	603031.51	12.0	GRID	9/18/2015	12.0	0.0	Point surveyed within Tolerance
2146	684418.44	603006.51	11.3	GRID	9/18/2015	11.4	0.1	Point surveyed within Tolerance
2147	684418.44	602981.51	11.7	GRID	9/18/2015	11.7	0.0	Point surveyed within Tolerance
2148	684418.44	602956.51	12.1	GRID	9/18/2015	12.1	0.0	Point surveyed within Tolerance
2149	684418.44	602906.51	9.8	GRID	9/21/2015	9.8	0.0	Point surveyed within Tolerance
2150	684393.44	602931.51	8.6	GRID	9/18/2015	8.6	0.0	Point surveyed within Tolerance
2151	684393.44	602956.51	11.0	GRID	9/18/2015	10.9	-0.1	Point surveyed within Tolerance
2152	684393.44	602981.51	10.5	GRID	9/18/2015	10.6	0.1	Point surveyed within Tolerance
2140	684443.44	603056.51	11.7	GRID	9/22/2015	11.6	-0.1	Point surveyed within Tolerance
2141	684443.44	603081.51	11.4	GRID	9/22/2015	11.4	0.0	Point surveyed within Tolerance
2142	684418.44	603106.51	10.2	GRID	9/22/2015	10.2	0.0	Point surveyed within Tolerance
2143	684418.44	603081.51	10.4	GRID	9/22/2015	10.5	0.1	Point surveyed within Tolerance
2144	684418.44	603056.51	10.7	GRID	9/22/2015	10.6	-0.1	Point surveyed within Tolerance
2145	684418.44	603031.51	10.9	GRID	9/22/2015	10.8	-0.1	Point surveyed within Tolerance
2153	684393.44	603006.51	10.1	GRID	9/22/2015	10.1	0.0	Point surveyed within Tolerance
2154	684393.44	603031.51	9.9	GRID	9/22/2015	9.9	0.0	Point surveyed within Tolerance
2155	684393.44	603056.51	9.7	GRID	9/22/2015	9.6	-0.1	Point surveyed within Tolerance
2156	684393.44	603106.51	9.4	GRID	9/23/2015	9.3	-0.1	Point surveyed within Tolerance
2157	684393.44	603131.51	9.3	GRID	9/23/2015	9.2	-0.1	Point surveyed within Tolerance
2161	684368.44	603131.51	8.6	GRID	9/23/2015	8.6	0.0	Point surveyed within Tolerance
2162	684368.44	603106.51	8.8	GRID	9/23/2015	8.7	-0.1	Point surveyed within Tolerance
2163	684368.44	603056.51	8.8	GRID	9/22/2015	8.8	0.0	Point surveyed within Tolerance
2164	684368.44	603031.51	9.0	GRID	9/22/2015	9.0	0.0	Point surveyed within Tolerance
2165	684368.44	603006.51	9.2	GRID	9/22/2015	9.1	-0.1	Point surveyed within Tolerance
2166	684368.44	602981.51	9.4	GRID	9/22/2015	9.3	-0.1	Point surveyed within Tolerance
2167	684343.44	603006.51	8.3	GRID	9/22/2015	8.2	-0.1	Point surveyed within Tolerance
2168	684343.44	603031.51	8.1	GRID	9/22/2015	8.1	0.0	Point surveyed within Tolerance
2169	684343.44	603056.51	8.2	GRID	9/23/2015	8.2	0.0	Point surveyed within Tolerance
2170	684343.44	603106.51	8.4	GRID	9/23/2015	8.4	0.0	Point surveyed within Tolerance
2178	684318.44	603031.51	4.7	GRID	9/23/2015	4.8	0.1	Point surveyed within Tolerance
2179	684293.44	603056.51	4.3	GRID	9/23/2015	4.3	0.0	Point surveyed within Tolerance
2304	684318.44	603081.51	5.4	GRID	9/23/2015	5.3	-0.1	Point surveyed within Tolerance
2160	684368.44	603156.51	8.6	GRID	9/23/2015	8.5	-0.1	Point surveyed within Tolerance
2171	684343.44	603131.51	8.4	GRID	9/23/2015	8.4	0.0	Point surveyed within Tolerance
2180	684293.44	603081.51	7.4	GRID	9/23/2015	7.3	-0.1	Point surveyed within Tolerance
2195	684268.44	603081.51	5.8	GRID	9/23/2015	5.9	0.1	Point surveyed within Tolerance
2303	684293.44	603106.51	7.1	GRID	9/23/2015	7.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.9)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2159	684368.44	603181.51	6.4	GRID	9/24/2015	6.4	0.0	Point surveyed within Tolerance
2172	684343.44	603181.51	6.5	GRID	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2173	684343.44	603206.51	6.8	GRID	9/24/2015	6.7	-0.1	Point surveyed within Tolerance
2174	684318.44	603231.51	8.8	GRID	9/28/2015	8.7	-0.1	Point surveyed within Tolerance
2175	684318.44	603206.51	6.8	GRID	9/24/2015	6.9	0.1	Point surveyed within Tolerance
2176	684318.44	603181.51	6.5	GRID	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2177	684318.44	603156.51	6.2	GRID	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2181	684293.44	603131.51	5.9	GRID	9/24/2015	5.9	0.0	Point surveyed within Tolerance
2182	684293.44	603156.51	6.3	GRID	9/24/2015	6.3	0.0	Point surveyed within Tolerance
2183	684293.44	603181.51	6.5	GRID	9/24/2015	6.6	0.1	Point surveyed within Tolerance
2184	684293.44	603206.51	8.0	GRID	9/28/2015	8.0	0.0	Point surveyed within Tolerance
2185	684293.44	603231.51	8.3	GRID	9/28/2015	8.2	-0.1	Point surveyed within Tolerance
2190	684268.44	603206.51	7.4	GRID	9/28/2015	7.5	0.1	Point surveyed within Tolerance
2191	684268.44	603181.51	7.5	GRID	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2192	684268.44	603156.51	6.2	GRID	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2193	684268.44	603131.51	5.9	GRID	9/24/2015	5.9	0.0	Point surveyed within Tolerance
2194	684268.44	603106.51	3.1	GRID	9/24/2015	3.1	0.0	Point surveyed within Tolerance
2196	684243.44	603131.51	3.0	GRID	9/24/2015	3.0	0.0	Point surveyed within Tolerance
2197	684243.44	603181.51	7.6	GRID	9/28/2015	7.5	-0.1	Point surveyed within Tolerance
2198	684243.44	603206.51	7.3	GRID	9/28/2015	7.3	0.0	Point surveyed within Tolerance
2206	684218.44	603156.51	7.7	GRID	9/28/2015	7.7	0.0	Point surveyed within Tolerance
2186	684293.44	603256.51	8.5	GRID	9/28/2015	8.5	0.0	Point surveyed within Tolerance
2188	684268.44	603256.51	8.2	GRID	9/28/2015	8.1	-0.1	Point surveyed within Tolerance
2189	684268.44	603231.51	7.8	GRID	9/28/2015	7.8	0.0	Point surveyed within Tolerance
2199	684243.44	603231.51	7.5	GRID	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2205	684218.44	603206.51	7.3	GRID	9/28/2015	7.2	-0.1	Point surveyed within Tolerance
2208	684193.44	603181.51	7.5	GRID	9/28/2015	7.4	-0.1	Point surveyed within Tolerance
2187	684268.44	603281.51	7.1	GRID	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2200	684243.44	603256.51	7.8	GRID	10/7/2015	7.8	0.0	Point surveyed within Tolerance
2201	684243.44	603281.51	7.3	GRID	10/7/2015	7.2	-0.1	Point surveyed within Tolerance
2202	684218.44	603281.51	6.9	GRID	10/7/2015	6.9	0.0	Point surveyed within Tolerance
2203	684218.44	603256.51	7.1	GRID	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2204	684218.44	603231.51	7.4	GRID	10/7/2015	7.4	0.0	Point surveyed within Tolerance
2209	684193.44	603206.51	7.3	GRID	10/7/2015	7.3	0.0	Point surveyed within Tolerance
2210	684193.44	603231.51	7.3	GRID	10/7/2015	7.3	0.0	Point surveyed within Tolerance
2211	684193.44	603256.51	6.7	GRID	10/7/2015	6.8	0.1	Point surveyed within Tolerance
2212	684168.44	603256.51	6.5	GRID	10/7/2015	6.5	0.0	Point surveyed within Tolerance
2213	684168.44	603231.51	6.4	GRID	10/7/2015	6.5	0.1	Point surveyed within Tolerance
2214	684168.44	603206.51	7.6	GRID	10/7/2015	7.6	0.0	Point surveyed within Tolerance
2215	684143.44	603231.51	6.4	GRID	10/7/2015	6.5	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
548	685583.37	601539.44	15.1	BRK	7/2/2015	15.2	0.1	Point surveyed within Tolerance
549	685595.90	601578.00	14.2	BRK	7/2/2015	14.3	0.1	Point surveyed within Tolerance
550	685562.63	601543.70	17.5	BRK	7/2/2015	17.5	0.0	Point surveyed within Tolerance
551	685559.49	601547.97	13.9	BRK	7/2/2015	14.0	0.1	Point surveyed within Tolerance
552	685555.56	601552.54	13.9	BRK	7/2/2015	14.0	0.1	Point surveyed within Tolerance
553	685552.50	601556.70	17.4	BRK	7/2/2015	17.3	-0.1	Point surveyed within Tolerance
554	685602.63	601551.44	17.7	BRK	7/2/2015	17.6	-0.1	Point surveyed within Tolerance
555	685524.90	601529.98	13.1	BRK	7/2/2015	13.2	0.1	Point surveyed within Tolerance
556	685521.85	601534.13	16.6	BRK	7/2/2015	16.4	-0.2	Point surveyed within Tolerance
557	685518.43	601506.14	15.5	BRK	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
559	685566.10	601602.95	17.4	BRK	7/2/2015	17.3	-0.1	Point surveyed within Tolerance
560	685557.11	601621.51	16.2	BRK	7/2/2015	16.1	-0.1	Point surveyed within Tolerance
583	685469.10	601609.94	16.0	BRK	7/2/2015	15.9	-0.1	Point surveyed within Tolerance
584	685468.06	601601.70	14.5	BRK	7/2/2015	14.6	0.1	Point surveyed within Tolerance
585	685534.63	601655.70	15.5	BRK	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
586	685515.15	601685.29	14.8	BRK	7/2/2015	14.6	-0.2	Point surveyed within Tolerance
587	685503.84	601702.15	14.5	BRK	7/2/2015	14.4	-0.1	Point surveyed within Tolerance
588	685484.63	601722.61	15.5	BRK	7/8/2015	15.5	0.0	Point surveyed within Tolerance
589	685482.47	601731.53	11.1	BRK	7/2/2015	11.1	0.0	Point surveyed within Tolerance
590	685467.89	601733.01	13.1	BRK	7/2/2015	13.2	0.1	Point surveyed within Tolerance
591	685467.14	601729.90	15.3	BRK	7/2/2015	15.2	-0.1	Point surveyed within Tolerance
592	685465.84	601749.83	15.2	BRK	7/2/2015	15.1	-0.1	Point surveyed within Tolerance
593	685444.26	601779.76	13.6	BRK	7/2/2015	13.7	0.1	Point surveyed within Tolerance
594	685429.29	601800.21	15.1	BRK	7/2/2015	15.0	-0.1	Point surveyed within Tolerance
595	685453.48	601767.05	15.1	BRK	7/2/2015	15.0	-0.1	Point surveyed within Tolerance
603	685418.25	601641.07	13.5	BRK	7/2/2015	13.4	-0.1	Point surveyed within Tolerance
604	685415.60	601650.93	15.9	BRK	7/2/2015	15.6	-0.3	Point surveyed within Tolerance
605	685417.81	601680.87	15.9	BRK	7/2/2015	15.8	-0.1	Point surveyed within Tolerance
606	685421.62	601680.64	13.4	BRK	7/2/2015	13.4	0.0	Point surveyed within Tolerance
607	685417.84	601705.42	16.1	BRK	7/2/2015	15.9	-0.2	Point surveyed within Tolerance
608	685421.83	601705.56	13.4	BRK	7/2/2015	13.4	0.0	Point surveyed within Tolerance
609	685420.68	601733.21	13.5	BRK	7/2/2015	13.5	0.0	Point surveyed within Tolerance
610	685416.60	601732.96	16.2	BRK	7/2/2015	16.2	0.0	Point surveyed within Tolerance
611	685420.69	601759.40	13.5	BRK	7/2/2015	13.6	0.1	Point surveyed within Tolerance
612	685417.42	601761.34	16.1	BRK	7/2/2015	16.1	0.0	Point surveyed within Tolerance
613	685367.91	601704.46	13.3	BRK	7/2/2015	13.4	0.1	Point surveyed within Tolerance
614	685370.79	601706.98	15.9	BRK	7/2/2015	15.7	-0.2	Point surveyed within Tolerance
615	685343.44	601731.17	13.7	BRK	7/2/2015	13.7	0.0	Point surveyed within Tolerance
616	685345.91	601734.17	16.3	BRK	7/2/2015	16.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
617	685303.14	601806.86	18.3	BRK	7/2/2015	18.3	0.0	Point surveyed within Tolerance
618	685298.77	601809.67	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
619	685294.54	601809.78	15.4	BRK	7/2/2015	15.4	0.0	Point surveyed within Tolerance
620	685288.92	601805.68	10.7	BRK	7/2/2015	10.7	0.0	Point surveyed within Tolerance
621	685298.85	601821.38	15.8	BRK	7/2/2015	15.7	-0.1	Point surveyed within Tolerance
622	685295.94	601825.31	12.5	BRK	7/2/2015	12.6	0.1	Point surveyed within Tolerance
623	685294.65	601831.82	12.5	BRK	7/2/2015	12.6	0.1	Point surveyed within Tolerance
624	685291.75	601835.75	15.8	BRK	7/2/2015	15.5	-0.3	Point surveyed within Tolerance
625	685324.58	601840.13	15.9	BRK	7/2/2015	15.7	-0.2	Point surveyed within Tolerance
626	685321.52	601844.26	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
627	685322.67	601852.58	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
628	685319.64	601856.68	15.8	BRK	7/2/2015	15.7	-0.1	Point surveyed within Tolerance
629	685341.40	601852.72	15.7	BRK	7/2/2015	15.4	-0.3	Point surveyed within Tolerance
630	685338.40	601856.76	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
631	685345.65	601844.39	15.9	BRK	7/2/2015	15.9	0.0	Point surveyed within Tolerance
632	685347.89	601841.36	18.4	BRK	7/8/2015	18.3	-0.1	Point surveyed within Tolerance
633	685372.85	601864.55	15.3	BRK	7/2/2015	15.4	0.1	Point surveyed within Tolerance
634	685364.47	601869.99	15.2	BRK	7/8/2015	15.1	-0.1	Point surveyed within Tolerance
635	685361.56	601873.92	12.0	BRK	7/2/2015	12.1	0.1	Point surveyed within Tolerance
636	685354.92	601876.46	12.0	BRK	7/2/2015	12.1	0.1	Point surveyed within Tolerance
637	685350.44	601879.24	15.3	BRK	7/2/2015	15.2	-0.1	Point surveyed within Tolerance
639	685353.62	601747.98	16.4	BRK	7/8/2015	16.3	-0.1	Point surveyed within Tolerance
640	685357.16	601746.52	13.8	BRK	7/2/2015	13.8	0.0	Point surveyed within Tolerance
641	685361.58	601753.32	13.9	BRK	7/2/2015	13.9	0.0	Point surveyed within Tolerance
642	685364.98	601751.93	16.3	BRK	7/2/2015	16.2	-0.1	Point surveyed within Tolerance
645	685381.55	601830.67	17.5	BRK	7/8/2015	17.4	-0.1	Point surveyed within Tolerance
646	685385.39	601829.73	14.8	BRK	7/2/2015	14.8	0.0	Point surveyed within Tolerance
647	685383.26	601850.36	17.6	BRK	7/8/2015	17.5	-0.1	Point surveyed within Tolerance
648	685408.65	601820.74	16.6	BRK	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
672	685359.01	601899.40	14.5	BRK	7/2/2015	14.4	-0.1	Point surveyed within Tolerance
673	685328.78	601922.42	18.1	BRK	7/2/2015	18.2	0.1	Point surveyed within Tolerance
674	685299.89	601934.58	18.3	BRK	7/2/2015	18.4	0.1	Point surveyed within Tolerance
675	685300.62	601938.23	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
676	685305.79	601944.00	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
677	685308.02	601946.97	18.2	BRK	7/2/2015	18.1	-0.1	Point surveyed within Tolerance
679	685305.33	601869.91	16.0	BRK	7/2/2015	16.1	0.1	Point surveyed within Tolerance
680	685303.05	601872.98	18.5	BRK	7/2/2015	18.1	-0.4	Point surveyed within Tolerance
681	685268.99	601832.99	12.1	BRK	7/2/2015	12.2	0.1	Point surveyed within Tolerance
682	685272.64	601835.66	15.1	BRK	7/2/2015	14.7	-0.4	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
683	685218.81	601931.92	18.6	BRK	7/2/2015	18.2	-0.4	Point surveyed within Tolerance
684	685217.81	601935.62	16.0	BRK	7/2/2015	16.1	0.1	Point surveyed within Tolerance
979	685388.74	601749.07	13.5	BRK	7/2/2015	13.4	-0.1	Point surveyed within Tolerance
980	685384.77	601750.03	16.2	BRK	7/2/2015	16.3	0.1	Point surveyed within Tolerance
678	685292.65	601972.35	18.1	BRK	7/14/2015	18.1	0.0	Point surveyed within Tolerance
685	685217.77	601956.54	18.2	BRK	7/14/2015	18.1	-0.1	Point surveyed within Tolerance
686	685214.25	601958.05	15.7	BRK	7/14/2015	15.7	0.0	Point surveyed within Tolerance
688	685246.08	602006.05	17.3	BRK	7/14/2015	17.4	0.1	Point surveyed within Tolerance
689	685249.42	602007.82	14.8	BRK	7/14/2015	14.9	0.1	Point surveyed within Tolerance
690	685250.13	602009.68	14.8	BRK	7/14/2015	14.8	0.0	Point surveyed within Tolerance
691	685253.44	602011.40	17.3	BRK	7/14/2015	17.3	0.0	Point surveyed within Tolerance
692	685256.80	602026.88	16.9	BRK	7/14/2015	17.0	0.1	Point surveyed within Tolerance
822	685209.17	602098.14	16.1	BRK	7/14/2015	16.2	0.1	Point surveyed within Tolerance
823	685187.68	602127.24	16.4	BRK	7/14/2015	16.5	0.1	Point surveyed within Tolerance
824	685169.69	602121.14	16.9	BRK	7/14/2015	17.0	0.1	Point surveyed within Tolerance
825	685159.60	602134.77	5.6	BRK	7/14/2015	5.7	0.1	Point surveyed within Tolerance
826	685142.99	602100.91	16.8	BRK	7/14/2015	16.7	-0.1	Point surveyed within Tolerance
827	685132.68	602114.85	5.2	BRK	7/14/2015	5.3	0.1	Point surveyed within Tolerance
828	685117.94	602082.20	16.5	BRK	7/14/2015	16.5	0.0	Point surveyed within Tolerance
829	685108.04	602096.62	4.9	BRK	7/14/2015	4.9	0.0	Point surveyed within Tolerance
830	685097.56	602070.88	13.7	BRK	7/14/2015	13.8	0.1	Point surveyed within Tolerance
831	685091.62	602084.47	4.6	BRK	7/14/2015	4.7	0.1	Point surveyed within Tolerance
832	685079.08	602074.23	4.4	BRK	7/14/2015	4.5	0.1	Point surveyed within Tolerance
833	685087.23	602063.24	5.1	BRK	7/14/2015	5.2	0.1	Point surveyed within Tolerance
834	685228.90	602033.89	16.5	BRK	7/14/2015	16.5	0.0	Point surveyed within Tolerance
835	685232.50	602033.47	14.1	BRK	7/14/2015	14.2	0.1	Point surveyed within Tolerance
836	685239.46	602034.31	14.1	BRK	7/14/2015	14.2	0.1	Point surveyed within Tolerance
837	685243.00	602035.55	16.6	BRK	7/14/2015	16.5	-0.1	Point surveyed within Tolerance
838	685241.70	602050.98	16.3	BRK	7/14/2015	16.3	0.0	Point surveyed within Tolerance
839	685057.33	602100.46	4.4	BRK	7/24/2015	4.5	0.1	Point surveyed within Tolerance
840	685060.41	602121.19	14.5	BRK	7/24/2015	14.5	0.0	Point surveyed within Tolerance
841	685068.93	602108.10	4.6	BRK	7/24/2015	4.7	0.1	Point surveyed within Tolerance
842	685048.44	602112.41	4.6	BRK	7/24/2015	4.6	0.0	Point surveyed within Tolerance
843	685096.92	602128.82	5.0	BRK	7/24/2015	5.0	0.0	Point surveyed within Tolerance
844	685091.28	602143.63	15.2	BRK	7/24/2015	15.3	0.1	Point surveyed within Tolerance
845	685121.55	602147.05	5.3	BRK	7/24/2015	5.4	0.1	Point surveyed within Tolerance
846	685109.62	602161.54	17.8	BRK	7/24/2015	17.8	0.0	Point surveyed within Tolerance
847	685117.56	602193.69	17.4	BRK	7/24/2015	17.4	0.0	Point surveyed within Tolerance
848	685118.92	602197.25	14.9	BRK	7/24/2015	15.0	0.1	Point surveyed within Tolerance
849	685119.73	602203.55	14.8	BRK	7/24/2015	14.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
850	685121.10	602206.98	17.3	BRK	7/24/2015	17.3	0.0	Point surveyed within Tolerance
851	685114.98	602226.59	17.2	BRK	7/24/2015	17.1	-0.1	Point surveyed within Tolerance
852	685105.19	602198.82	17.4	BRK	7/24/2015	17.4	0.0	Point surveyed within Tolerance
853	685103.22	602203.76	14.8	BRK	7/24/2015	14.8	0.0	Point surveyed within Tolerance
854	685088.02	602208.76	17.4	BRK	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
855	685089.52	602212.18	14.9	BRK	7/24/2015	15.0	0.1	Point surveyed within Tolerance
856	685085.84	602227.09	15.1	BRK	7/24/2015	15.2	0.1	Point surveyed within Tolerance
857	685083.49	602230.12	17.6	BRK	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
858	685094.99	602252.22	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
859	685081.79	602269.14	18.1	BRK	7/24/2015	18.1	0.0	Point surveyed within Tolerance
860	685047.09	602237.51	15.7	BRK	7/24/2015	15.7	0.0	Point surveyed within Tolerance
861	685043.77	602234.95	18.2	BRK	7/24/2015	18.1	-0.1	Point surveyed within Tolerance
862	685039.91	602232.72	15.7	BRK	7/24/2015	15.7	0.0	Point surveyed within Tolerance
863	685042.37	602238.43	15.7	BRK	7/24/2015	15.8	0.1	Point surveyed within Tolerance
864	685066.11	602161.84	17.8	BRK	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
865	685062.13	602161.07	15.3	BRK	7/24/2015	15.4	0.1	Point surveyed within Tolerance
866	685052.96	602208.15	17.8	BRK	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
867	685049.31	602206.51	15.4	BRK	7/24/2015	15.4	0.0	Point surveyed within Tolerance
868	685045.11	602202.48	15.6	BRK	7/24/2015	15.6	0.0	Point surveyed within Tolerance
869	685042.10	602200.70	17.9	BRK	7/24/2015	17.8	-0.1	Point surveyed within Tolerance
870	685022.96	602172.09	15.4	BRK	7/24/2015	15.3	-0.1	Point surveyed within Tolerance
871	685044.91	602142.21	14.8	BRK	7/24/2015	14.8	0.0	Point surveyed within Tolerance
872	684994.42	602217.26	18.7	BRK	7/24/2015	18.7	0.0	Point surveyed within Tolerance
873	684975.68	602242.79	19.1	BRK	7/24/2015	19.1	0.0	Point surveyed within Tolerance
874	685005.71	602243.75	18.8	BRK	7/24/2015	18.7	-0.1	Point surveyed within Tolerance
875	685009.09	602245.47	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
876	685025.00	602263.80	16.2	BRK	7/24/2015	16.3	0.1	Point surveyed within Tolerance
877	685027.83	602266.24	18.7	BRK	7/24/2015	18.6	-0.1	Point surveyed within Tolerance
878	685053.73	602299.58	18.7	BRK	7/24/2015	18.7	0.0	Point surveyed within Tolerance
879	685053.33	602303.33	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
880	685060.48	602307.84	16.2	BRK	7/24/2015	16.1	-0.1	Point surveyed within Tolerance
881	685039.62	602323.93	18.6	BRK	7/24/2015	18.5	-0.1	Point surveyed within Tolerance
882	685021.34	602349.28	18.4	BRK	7/24/2015	18.3	-0.1	Point surveyed within Tolerance
883	685006.56	602373.52	17.5	BRK	7/24/2015	17.5	0.0	Point surveyed within Tolerance
884	684985.52	602400.52	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
885	684968.75	602423.06	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
886	684958.59	602266.06	19.6	BRK	7/24/2015	19.5	-0.1	Point surveyed within Tolerance
887	684944.51	602285.23	19.9	BRK	7/24/2015	20.0	0.1	Point surveyed within Tolerance
888	684924.17	602312.77	20.4	BRK	7/24/2015	20.3	-0.1	Point surveyed within Tolerance
889	684896.37	602343.10	18.0	BRK	7/24/2015	17.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
890	684880.77	602362.80	17.8	BRK	7/24/2015	17.8	0.0	Point surveyed within Tolerance
891	684869.32	602354.21	8.2	BRK	7/24/2015	8.3	0.1	Point surveyed within Tolerance
892	684884.22	602334.10	7.9	BRK	7/24/2015	8.0	0.1	Point surveyed within Tolerance
893	684908.58	602301.22	7.4	BRK	7/24/2015	7.5	0.1	Point surveyed within Tolerance
894	684928.96	602273.71	7.0	BRK	7/24/2015	7.0	0.0	Point surveyed within Tolerance
895	684943.18	602254.50	6.7	BRK	7/24/2015	6.7	0.0	Point surveyed within Tolerance
896	684960.30	602231.40	6.4	BRK	7/24/2015	6.4	0.0	Point surveyed within Tolerance
897	684979.15	602205.95	6.0	BRK	7/24/2015	6.0	0.0	Point surveyed within Tolerance
898	685010.86	602163.13	5.3	BRK	7/24/2015	5.4	0.1	Point surveyed within Tolerance
899	685032.93	602133.34	4.9	BRK	7/24/2015	4.9	0.0	Point surveyed within Tolerance
900	684953.81	602443.85	17.6	BRK	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
901	684933.84	602472.48	17.2	BRK	7/24/2015	17.2	0.0	Point surveyed within Tolerance
919	684835.00	602400.55	9.0	BRK	7/24/2015	9.0	0.0	Point surveyed within Tolerance
920	684843.87	602407.12	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
902	684913.09	602504.45	16.5	BRK	8/10/2015	16.6	0.1	Point surveyed within Tolerance
910	684887.04	602531.88	18.2	BRK	8/10/2015	18.2	0.0	Point surveyed within Tolerance
909	684858.28	602571.33	14.7	BRK	8/12/2015	14.8	0.1	Point surveyed within Tolerance
913	684795.24	602555.71	13.7	BRK	8/12/2015	13.8	0.1	Point surveyed within Tolerance
914	684795.33	602552.00	16.1	BRK	8/12/2015	16.2	0.1	Point surveyed within Tolerance
915	684770.38	602552.44	15.8	BRK	8/12/2015	15.7	-0.1	Point surveyed within Tolerance
916	684771.04	602556.03	13.3	BRK	8/12/2015	13.4	0.1	Point surveyed within Tolerance
917	684841.91	602602.61	16.6	BRK	8/12/2015	16.5	-0.1	Point surveyed within Tolerance
911	684720.03	602604.99	14.7	BRK	8/13/2015	14.6	-0.1	Point surveyed within Tolerance
921	684754.50	602627.17	17.2	BRK	8/13/2015	17.1	-0.1	Point surveyed within Tolerance
923	684774.69	602642.80	17.3	BRK	8/13/2015	17.2	-0.1	Point surveyed within Tolerance
925	684807.26	602664.88	13.8	BRK	8/13/2015	13.7	-0.1	Point surveyed within Tolerance
912	684710.93	602615.25	5.5	BRK	9/4/2015	5.6	0.1	Point surveyed within Tolerance
922	684744.74	602640.33	6.3	BRK	9/4/2015	6.3	0.0	Point surveyed within Tolerance
924	684765.25	602655.54	6.7	BRK	9/4/2015	6.8	0.1	Point surveyed within Tolerance
927	684774.96	602705.07	7.4	BRK	9/4/2015	7.4	0.0	Point surveyed within Tolerance
929	684725.10	602668.09	6.3	BRK	9/4/2015	6.3	0.0	Point surveyed within Tolerance
933	684699.13	602648.83	5.7	BRK	9/4/2015	5.8	0.1	Point surveyed within Tolerance
934	684677.32	602632.66	5.2	BRK	9/4/2015	5.3	0.1	Point surveyed within Tolerance
936	684665.76	602624.13	5.0	BRK	9/4/2015	5.0	0.0	Point surveyed within Tolerance
2216	684768.70	602713.78	14.5	BRK	9/4/2015	14.5	0.0	Point surveyed within Tolerance
2217	684755.49	602705.02	14.8	BRK	9/4/2015	14.9	0.1	Point surveyed within Tolerance
2218	684750.54	602706.29	17.4	BRK	9/4/2015	17.3	-0.1	Point surveyed within Tolerance
2219	684719.51	602728.09	18.1	BRK	9/4/2015	18.0	-0.1	Point surveyed within Tolerance
2220	684721.25	602731.77	15.4	BRK	9/4/2015	15.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2223	684714.82	602681.95	17.8	BRK	9/4/2015	17.7	-0.1	Point surveyed within Tolerance
2224	684695.23	602678.31	15.2	BRK	9/4/2015	15.3	0.1	Point surveyed within Tolerance
2225	684691.16	602677.76	17.9	BRK	9/4/2015	17.9	0.0	Point surveyed within Tolerance
2226	684679.26	602656.42	17.5	BRK	9/4/2015	17.4	-0.1	Point surveyed within Tolerance
2227	684678.94	602651.43	14.9	BRK	9/4/2015	14.8	-0.1	Point surveyed within Tolerance
2228	684668.13	602643.12	14.5	BRK	9/4/2015	14.5	0.0	Point surveyed within Tolerance
2229	684657.26	602634.26	5.1	BRK	9/4/2015	5.2	0.1	Point surveyed within Tolerance
2230	684652.03	602663.18	15.1	BRK	9/4/2015	15.1	0.0	Point surveyed within Tolerance
2231	684641.00	602654.19	5.6	BRK	9/4/2015	5.6	0.0	Point surveyed within Tolerance
2232	684642.38	602682.88	18.2	BRK	9/4/2015	18.2	0.0	Point surveyed within Tolerance
2233	684640.23	602679.29	15.5	BRK	9/4/2015	15.5	0.0	Point surveyed within Tolerance
2234	684618.68	602681.55	6.2	BRK	9/4/2015	6.3	0.1	Point surveyed within Tolerance
2235	684632.71	602692.99	18.3	BRK	9/4/2015	18.2	-0.1	Point surveyed within Tolerance
2236	684620.10	602708.58	18.7	BRK	9/4/2015	18.6	-0.1	Point surveyed within Tolerance
2239	684603.43	602700.25	6.6	BRK	9/4/2015	6.7	0.1	Point surveyed within Tolerance
2312	684688.25	602662.99	17.6	BRK	9/4/2015	17.7	0.1	Point surveyed within Tolerance
2222	684686.52	602801.63	17.2	BRK	9/9/2015	17.2	0.0	Point surveyed within Tolerance
2240	684580.79	602728.00	7.2	BRK	9/9/2015	7.3	0.1	Point surveyed within Tolerance
2241	684592.09	602737.22	17.0	BRK	9/9/2015	17.0	0.0	Point surveyed within Tolerance
2245	684652.97	602837.52	18.0	BRK	9/9/2015	17.9	-0.1	Point surveyed within Tolerance
2248	684632.99	602849.23	20.5	BRK	9/9/2015	20.5	0.0	Point surveyed within Tolerance
2249	684573.19	602760.13	17.4	BRK	9/9/2015	17.3	-0.1	Point surveyed within Tolerance
2250	684562.02	602751.01	7.8	BRK	9/9/2015	7.9	0.1	Point surveyed within Tolerance
2251	684549.64	602787.35	17.3	BRK	9/9/2015	17.3	0.0	Point surveyed within Tolerance
2252	684539.27	602778.90	8.4	BRK	9/9/2015	8.4	0.0	Point surveyed within Tolerance
2253	684568.32	602806.28	17.4	BRK	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2254	684565.58	602809.03	20.0	BRK	9/9/2015	19.9	-0.1	Point surveyed within Tolerance
2255	684590.81	602830.43	20.3	BRK	9/9/2015	20.3	0.0	Point surveyed within Tolerance
2256	684593.43	602827.27	17.6	BRK	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2257	684611.57	602875.64	20.3	BRK	9/9/2015	20.2	-0.1	Point surveyed within Tolerance
2261	684576.88	602901.09	18.3	BRK	9/9/2015	18.3	0.0	Point surveyed within Tolerance
2266	684529.13	602867.21	18.0	BRK	9/9/2015	18.0	0.0	Point surveyed within Tolerance
2269	684529.62	602815.05	19.2	BRK	9/9/2015	19.2	0.0	Point surveyed within Tolerance
2270	684517.71	602805.33	9.0	BRK	9/9/2015	9.0	0.0	Point surveyed within Tolerance
2313	684666.34	602822.94	17.7	BRK	9/9/2015	17.6	-0.1	Point surveyed within Tolerance
2259	684588.87	602908.31	19.0	BRK	9/16/2015	19.1	0.1	Point surveyed within Tolerance
2262	684562.28	602912.39	6.5	BRK	9/16/2015	6.6	0.1	Point surveyed within Tolerance
2263	684546.99	602879.91	18.1	BRK	9/16/2015	18.0	-0.1	Point surveyed within Tolerance
2264	684536.89	602894.42	6.3	BRK	9/16/2015	6.4	0.1	Point surveyed within Tolerance
2265	684518.89	602881.69	6.2	BRK	9/16/2015	6.3	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2267	684498.05	602850.83	14.8	BRK	9/16/2015	14.8	0.0	Point surveyed within Tolerance
2268	684490.45	602861.57	6.0	BRK	9/16/2015	6.1	0.1	Point surveyed within Tolerance
2275	684469.16	602880.75	13.2	BRK	9/16/2015	13.2	0.0	Point surveyed within Tolerance
2278	684497.26	602878.64	6.1	BRK	9/16/2015	6.1	0.0	Point surveyed within Tolerance
2279	684491.48	602886.80	12.8	BRK	9/16/2015	12.7	-0.1	Point surveyed within Tolerance
2282	684569.90	602930.04	6.6	BRK	9/16/2015	6.6	0.0	Point surveyed within Tolerance
2283	684564.16	602938.23	13.2	BRK	9/16/2015	13.3	0.1	Point surveyed within Tolerance
2284	684462.82	602873.57	6.8	BRK	9/16/2015	6.9	0.1	Point surveyed within Tolerance
2271	684492.19	603028.63	14.1	BRK	9/18/2015	14.2	0.1	Point surveyed within Tolerance
2272	684495.31	603031.35	11.3	BRK	9/18/2015	11.4	0.1	Point surveyed within Tolerance
2276	684420.78	602931.95	12.7	BRK	9/18/2015	12.7	0.0	Point surveyed within Tolerance
2277	684418.27	602928.58	9.9	BRK	9/18/2015	9.9	0.0	Point surveyed within Tolerance
2280	684466.73	602909.21	16.2	BRK	9/18/2015	16.2	0.0	Point surveyed within Tolerance
2281	684469.26	602906.05	13.5	BRK	9/18/2015	13.5	0.0	Point surveyed within Tolerance
2308	684541.16	602978.86	13.9	BRK	9/18/2015	13.8	-0.1	Point surveyed within Tolerance
2309	684537.93	602976.16	16.7	BRK	9/18/2015	16.7	0.0	Point surveyed within Tolerance
2310	684519.64	603003.49	12.7	BRK	9/18/2015	12.6	-0.1	Point surveyed within Tolerance
2311	684516.52	603000.77	15.4	BRK	9/18/2015	15.5	0.1	Point surveyed within Tolerance
2273	684467.44	603056.98	12.7	BRK	9/22/2015	12.6	-0.1	Point surveyed within Tolerance
2274	684470.54	603059.69	10.0	BRK	9/22/2015	10.0	0.0	Point surveyed within Tolerance
2285	684396.21	603081.17	9.6	BRK	9/22/2015	9.5	-0.1	Point surveyed within Tolerance
2286	684394.95	603084.82	7.0	BRK	9/22/2015	6.9	-0.1	Point surveyed within Tolerance
2287	684370.17	603081.08	6.5	BRK	9/22/2015	6.5	0.0	Point surveyed within Tolerance
2288	684369.73	603084.51	8.8	BRK	9/22/2015	8.8	0.0	Point surveyed within Tolerance
2291	684343.83	603080.68	5.9	BRK	9/23/2015	5.9	0.0	Point surveyed within Tolerance
2292	684344.02	603084.27	8.3	BRK	9/23/2015	8.2	-0.1	Point surveyed within Tolerance
2293	684318.43	603058.47	7.6	BRK	9/23/2015	7.5	-0.1	Point surveyed within Tolerance
2294	684314.63	603057.98	5.0	BRK	9/23/2015	5.1	0.1	Point surveyed within Tolerance
2306	684383.22	603153.36	9.0	BRK	9/23/2015	8.9	-0.1	Point surveyed within Tolerance
2307	684386.53	603155.86	6.6	BRK	9/23/2015	6.5	-0.1	Point surveyed within Tolerance
2289	684346.82	603155.61	8.4	BRK	9/24/2015	8.3	-0.1	Point surveyed within Tolerance
2290	684344.28	603158.02	7.0	BRK	9/24/2015	7.0	0.0	Point surveyed within Tolerance
2296	684244.61	603103.27	6.2	BRK	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2297	684317.01	603131.31	6.5	BRK	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2298	684318.88	603129.97	8.1	BRK	9/24/2015	8.1	0.0	Point surveyed within Tolerance
2299	684244.49	603157.76	7.5	BRK	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2300	684238.78	603154.40	3.1	BRK	9/28/2015	3.1	0.0	Point surveyed within Tolerance
2301	684221.74	603183.65	7.8	BRK	9/28/2015	7.7	-0.1	Point surveyed within Tolerance
2302	684225.10	603177.88	3.3	BRK	9/28/2015	3.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
545	685526.43	601442.32	12.9	BNDY	7/2/2015	13.0	0.1	Point surveyed within Tolerance
546	685543.45	601459.45	13.4	BNDY	7/2/2015	13.4	0.0	Point surveyed within Tolerance
547	685561.91	601478.03	14.2	BNDY	7/2/2015	14.2	0.0	Point surveyed within Tolerance
558	685516.84	601455.37	13.7	BNDY	7/2/2015	13.7	0.0	Point surveyed within Tolerance
561	685572.96	601633.24	10.0	BNDY	7/2/2015	10.0	0.0	Point surveyed within Tolerance
562	685589.38	601610.88	10.2	BNDY	7/2/2015	10.1	-0.1	Point surveyed within Tolerance
563	685606.33	601587.78	9.9	BNDY	7/2/2015	10.0	0.1	Point surveyed within Tolerance
564	685633.80	601550.37	9.8	BNDY	7/2/2015	9.8	0.0	Point surveyed within Tolerance
565	685622.62	601565.61	10.0	BNDY	7/2/2015	10.0	0.0	Point surveyed within Tolerance
566	685614.41	601530.85	15.7	BNDY	7/2/2015	15.8	0.1	Point surveyed within Tolerance
567	685591.47	601507.77	15.0	BNDY	7/2/2015	15.1	0.1	Point surveyed within Tolerance
568	685577.88	601494.10	14.6	BNDY	7/2/2015	14.6	0.0	Point surveyed within Tolerance
569	685488.06	601495.42	14.3	BNDY	7/2/2015	14.3	0.0	Point surveyed within Tolerance
570	685501.08	601477.69	14.9	BNDY	7/2/2015	15.0	0.1	Point surveyed within Tolerance
571	685474.31	601513.30	13.6	BNDY	7/2/2015	13.6	0.0	Point surveyed within Tolerance
572	685459.92	601533.74	12.8	BNDY	7/2/2015	12.8	0.0	Point surveyed within Tolerance
573	685442.87	601556.12	12.4	BNDY	7/2/2015	12.4	0.0	Point surveyed within Tolerance
574	685428.08	601576.27	12.2	BNDY	7/2/2015	12.2	0.0	Point surveyed within Tolerance
575	685413.27	601596.44	11.9	BNDY	7/2/2015	12.0	0.1	Point surveyed within Tolerance
576	685398.47	601616.59	11.4	BNDY	7/2/2015	11.4	0.0	Point surveyed within Tolerance
577	685383.68	601636.74	11.3	BNDY	7/2/2015	11.3	0.0	Point surveyed within Tolerance
578	685368.88	601656.89	11.3	BNDY	7/2/2015	11.2	-0.1	Point surveyed within Tolerance
579	685558.28	601653.23	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
581	685543.38	601673.52	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
582	685528.60	601693.65	9.8	BNDY	7/2/2015	9.8	0.0	Point surveyed within Tolerance
596	685514.37	601713.04	9.8	BNDY	7/2/2015	9.7	-0.1	Point surveyed within Tolerance
597	685499.50	601733.28	9.7	BNDY	7/2/2015	9.8	0.1	Point surveyed within Tolerance
598	685485.10	601752.90	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
599	685469.40	601774.28	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
600	685454.74	601794.25	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
601	685439.85	601814.53	9.7	BNDY	7/2/2015	9.6	-0.1	Point surveyed within Tolerance
602	685425.01	601834.73	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
638	685354.08	601677.04	11.3	BNDY	7/2/2015	11.1	-0.2	Point surveyed within Tolerance
643	685324.49	601717.35	10.8	BNDY	7/2/2015	10.6	-0.2	Point surveyed within Tolerance
644	685339.29	601697.19	11.0	BNDY	7/2/2015	10.6	-0.4	Point surveyed within Tolerance
649	685309.86	601737.62	10.6	BNDY	7/2/2015	10.6	0.0	Point surveyed within Tolerance
650	685295.20	601757.86	10.5	BNDY	7/2/2015	10.6	0.1	Point surveyed within Tolerance
651	685280.51	601778.09	10.4	BNDY	7/2/2015	10.3	-0.1	Point surveyed within Tolerance
652	685265.70	601798.24	10.7	BNDY	7/2/2015	10.8	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
653	685250.90	601818.38	11.9	BNDY	7/2/2015	11.9	0.0	Point surveyed within Tolerance
654	685236.09	601838.53	15.1	BNDY	7/2/2015	15.1	0.0	Point surveyed within Tolerance
655	685221.28	601858.68	15.6	BNDY	7/2/2015	15.6	0.0	Point surveyed within Tolerance
656	685206.48	601878.81	15.5	BNDY	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
657	685191.67	601898.96	15.5	BNDY	7/2/2015	15.5	0.0	Point surveyed within Tolerance
658	685176.87	601919.10	15.4	BNDY	7/2/2015	15.4	0.0	Point surveyed within Tolerance
659	685410.29	601854.79	9.6	BNDY	7/2/2015	9.6	0.0	Point surveyed within Tolerance
660	685395.44	601875.02	9.6	BNDY	7/2/2015	9.6	0.0	Point surveyed within Tolerance
661	685380.66	601895.14	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
662	685365.91	601915.23	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
663	685351.03	601935.49	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
664	685336.28	601955.58	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
687	685162.06	601939.25	14.9	BNDY	7/2/2015	14.9	0.0	Point surveyed within Tolerance
665	685321.52	601975.69	10.0	BNDY	7/14/2015	9.9	-0.1	Point surveyed within Tolerance
666	685306.70	601995.87	10.0	BNDY	7/14/2015	9.9	-0.1	Point surveyed within Tolerance
667	685292.04	602015.84	10.0	BNDY	7/14/2015	10.0	0.0	Point surveyed within Tolerance
668	685277.22	602036.03	10.0	BNDY	7/14/2015	10.0	0.0	Point surveyed within Tolerance
669	685262.73	602055.75	9.9	BNDY	7/14/2015	9.9	0.0	Point surveyed within Tolerance
670	685247.66	602076.28	10.0	BNDY	7/14/2015	10.1	0.1	Point surveyed within Tolerance
671	685232.64	602096.74	10.2	BNDY	7/14/2015	10.1	-0.1	Point surveyed within Tolerance
693	685147.26	601959.39	14.3	BNDY	7/14/2015	14.4	0.1	Point surveyed within Tolerance
694	685132.45	601979.53	13.7	BNDY	7/14/2015	13.8	0.1	Point surveyed within Tolerance
695	685117.65	601999.68	13.2	BNDY	7/14/2015	13.2	0.0	Point surveyed within Tolerance
696	685102.93	602019.90	10.3	BNDY	7/14/2015	10.4	0.1	Point surveyed within Tolerance
697	685088.04	602039.97	6.1	BNDY	7/14/2015	6.1	0.0	Point surveyed within Tolerance
698	685073.23	602060.11	4.7	BNDY	7/14/2015	4.8	0.1	Point surveyed within Tolerance
699	685058.42	602080.25	4.3	BNDY	7/14/2015	4.4	0.1	Point surveyed within Tolerance
705	685217.90	602116.82	10.4	BNDY	7/14/2015	10.3	-0.1	Point surveyed within Tolerance
706	685203.10	602136.97	10.5	BNDY	7/14/2015	10.6	0.1	Point surveyed within Tolerance
700	685043.62	602100.40	4.5	BNDY	7/24/2015	4.4	-0.1	Point surveyed within Tolerance
701	685028.81	602120.54	4.8	BNDY	7/24/2015	4.9	0.1	Point surveyed within Tolerance
702	685014.01	602140.69	5.1	BNDY	7/24/2015	5.2	0.1	Point surveyed within Tolerance
703	684999.20	602160.83	5.4	BNDY	7/24/2015	5.4	0.0	Point surveyed within Tolerance
704	684984.40	602180.97	5.7	BNDY	7/24/2015	5.7	0.0	Point surveyed within Tolerance
707	685188.31	602157.12	6.0	BNDY	7/24/2015	6.1	0.1	Point surveyed within Tolerance
708	685173.51	602177.27	6.0	BNDY	7/24/2015	6.0	0.0	Point surveyed within Tolerance
709	685143.92	602217.57	11.2	BNDY	7/24/2015	11.2	0.0	Point surveyed within Tolerance
710	685158.71	602197.42	11.1	BNDY	7/24/2015	11.0	-0.1	Point surveyed within Tolerance
711	685129.12	602237.73	11.4	BNDY	7/24/2015	11.4	0.0	Point surveyed within Tolerance
712	685114.32	602257.88	11.6	BNDY	7/24/2015	11.6	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
713	685099.53	602278.03	11.8	BNDY	7/24/2015	11.7	-0.1	Point surveyed within Tolerance
714	685084.73	602298.18	12.0	BNDY	7/24/2015	12.0	0.0	Point surveyed within Tolerance
715	685069.94	602318.33	12.0	BNDY	7/24/2015	12.0	0.0	Point surveyed within Tolerance
716	685055.15	602338.47	11.9	BNDY	7/24/2015	11.9	0.0	Point surveyed within Tolerance
717	685040.35	602358.63	11.9	BNDY	7/24/2015	11.9	0.0	Point surveyed within Tolerance
718	685025.55	602378.78	11.8	BNDY	7/24/2015	11.9	0.1	Point surveyed within Tolerance
719	685010.76	602398.93	11.8	BNDY	7/24/2015	11.9	0.1	Point surveyed within Tolerance
720	684995.96	602419.08	11.8	BNDY	7/24/2015	11.7	-0.1	Point surveyed within Tolerance
721	684981.17	602439.24	11.7	BNDY	7/24/2015	11.7	0.0	Point surveyed within Tolerance
722	684966.37	602459.39	11.6	BNDY	7/24/2015	11.6	0.0	Point surveyed within Tolerance
723	684951.57	602479.54	11.5	BNDY	7/24/2015	11.5	0.0	Point surveyed within Tolerance
724	684936.78	602499.69	11.5	BNDY	7/24/2015	11.6	0.1	Point surveyed within Tolerance
731	684969.59	602201.11	6.0	BNDY	7/24/2015	6.0	0.0	Point surveyed within Tolerance
732	684954.79	602221.26	6.3	BNDY	7/24/2015	6.4	0.1	Point surveyed within Tolerance
733	684939.98	602241.40	6.6	BNDY	7/24/2015	6.6	0.0	Point surveyed within Tolerance
734	684925.18	602261.55	6.9	BNDY	7/24/2015	6.8	-0.1	Point surveyed within Tolerance
735	684910.37	602281.69	7.1	BNDY	7/24/2015	7.2	0.1	Point surveyed within Tolerance
736	684895.57	602301.83	7.4	BNDY	7/24/2015	7.4	0.0	Point surveyed within Tolerance
737	684880.76	602321.98	7.8	BNDY	7/24/2015	7.8	0.0	Point surveyed within Tolerance
738	684865.95	602342.12	8.2	BNDY	7/24/2015	8.2	0.0	Point surveyed within Tolerance
739	684851.15	602362.27	8.5	BNDY	7/24/2015	8.5	0.0	Point surveyed within Tolerance
740	684827.24	602394.80	9.0	BNDY	7/24/2015	8.9	-0.1	Point surveyed within Tolerance
741	684821.28	602402.91	15.7	BNDY	7/24/2015	15.7	0.0	Point surveyed within Tolerance
725	684921.98	602519.84	11.6	BNDY	8/10/2015	11.5	-0.1	Point surveyed within Tolerance
726	684907.19	602539.99	11.6	BNDY	8/10/2015	11.6	0.0	Point surveyed within Tolerance
727	684892.39	602560.14	11.6	BNDY	8/10/2015	11.7	0.1	Point surveyed within Tolerance
728	684877.59	602580.30	11.6	BNDY	8/10/2015	11.6	0.0	Point surveyed within Tolerance
742	684806.74	602422.70	15.0	BNDY	8/10/2015	15.0	0.0	Point surveyed within Tolerance
743	684792.02	602442.92	14.4	BNDY	8/10/2015	14.4	0.0	Point surveyed within Tolerance
729	684862.80	602600.45	11.7	BNDY	8/12/2015	11.7	0.0	Point surveyed within Tolerance
730	684848.00	602620.60	11.7	BNDY	8/12/2015	11.8	0.1	Point surveyed within Tolerance
761	684777.12	602462.99	13.8	BNDY	8/12/2015	13.8	0.0	Point surveyed within Tolerance
762	684762.31	602483.14	13.2	BNDY	8/12/2015	13.1	-0.1	Point surveyed within Tolerance
763	684747.51	602503.28	12.8	BNDY	8/12/2015	12.7	-0.1	Point surveyed within Tolerance
744	684833.20	602640.76	11.7	BNDY	8/13/2015	11.8	0.1	Point surveyed within Tolerance
745	684818.41	602660.91	11.7	BNDY	8/13/2015	11.8	0.1	Point surveyed within Tolerance
764	684732.70	602523.42	12.5	BNDY	8/13/2015	12.4	-0.1	Point surveyed within Tolerance
765	684717.90	602543.56	7.9	BNDY	8/13/2015	7.9	0.0	Point surveyed within Tolerance
766	684703.09	602563.72	6.7	BNDY	8/13/2015	6.8	0.1	Point surveyed within Tolerance
767	684687.11	602585.46	5.5	BNDY	8/13/2015	5.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
746	684803.61	602681.06	9.1	BNDY	9/4/2015	9.1	0.0	Point surveyed within Tolerance
747	684790.60	602698.78	7.5	BNDY	9/4/2015	7.6	0.1	Point surveyed within Tolerance
768	684672.87	602604.82	4.9	BNDY	9/4/2015	5.0	0.1	Point surveyed within Tolerance
769	684656.51	602623.72	5.0	BNDY	9/4/2015	5.0	0.0	Point surveyed within Tolerance
2000	684774.23	602717.67	12.4	BNDY	9/4/2015	12.5	0.1	Point surveyed within Tolerance
2001	684757.86	602736.57	12.9	BNDY	9/4/2015	12.8	-0.1	Point surveyed within Tolerance
2002	684741.50	602755.47	13.2	BNDY	9/4/2015	13.1	-0.1	Point surveyed within Tolerance
2003	684725.13	602774.36	13.5	BNDY	9/4/2015	13.4	-0.1	Point surveyed within Tolerance
2004	684708.76	602793.26	13.8	BNDY	9/4/2015	13.7	-0.1	Point surveyed within Tolerance
2065	684591.05	602699.29	6.7	BNDY	9/4/2015	6.7	0.0	Point surveyed within Tolerance
2066	684607.42	602680.39	6.3	BNDY	9/4/2015	6.3	0.0	Point surveyed within Tolerance
2067	684623.78	602661.50	5.9	BNDY	9/4/2015	5.8	-0.1	Point surveyed within Tolerance
2068	684640.15	602642.60	5.4	BNDY	9/4/2015	5.4	0.0	Point surveyed within Tolerance
2005	684692.39	602812.16	14.0	BNDY	9/9/2015	13.9	-0.1	Point surveyed within Tolerance
2006	684676.02	602831.05	13.6	BNDY	9/9/2015	13.7	0.1	Point surveyed within Tolerance
2007	684659.66	602849.95	13.7	BNDY	9/9/2015	13.7	0.0	Point surveyed within Tolerance
2008	684643.29	602868.85	13.8	BNDY	9/9/2015	13.8	0.0	Point surveyed within Tolerance
2009	684626.92	602887.74	13.9	BNDY	9/9/2015	13.9	0.0	Point surveyed within Tolerance
2010	684610.55	602906.64	14.0	BNDY	9/9/2015	14.1	0.1	Point surveyed within Tolerance
2058	684476.47	602831.57	9.8	BNDY	9/9/2015	9.8	0.0	Point surveyed within Tolerance
2059	684492.84	602812.67	9.3	BNDY	9/9/2015	9.4	0.1	Point surveyed within Tolerance
2060	684509.31	602793.66	8.9	BNDY	9/9/2015	9.0	0.1	Point surveyed within Tolerance
2061	684525.58	602774.88	8.5	BNDY	9/9/2015	8.4	-0.1	Point surveyed within Tolerance
2062	684541.94	602755.98	8.0	BNDY	9/9/2015	8.1	0.1	Point surveyed within Tolerance
2063	684558.31	602737.08	7.6	BNDY	9/9/2015	7.6	0.0	Point surveyed within Tolerance
2064	684574.68	602718.19	7.2	BNDY	9/9/2015	7.1	-0.1	Point surveyed within Tolerance
2011	684589.12	602931.38	6.6	BNDY	9/16/2015	6.7	0.1	Point surveyed within Tolerance
2012	684575.96	602946.57	13.3	BNDY	9/16/2015	13.3	0.0	Point surveyed within Tolerance
2057	684459.70	602850.93	5.9	BNDY	9/16/2015	5.9	0.0	Point surveyed within Tolerance
2013	684545.08	602982.23	13.8	BNDY	9/18/2015	13.8	0.0	Point surveyed within Tolerance
2014	684561.45	602963.33	14.7	BNDY	9/18/2015	14.8	0.1	Point surveyed within Tolerance
2015	684528.71	603001.12	12.8	BNDY	9/18/2015	12.8	0.0	Point surveyed within Tolerance
2016	684512.34	603020.02	11.9	BNDY	9/18/2015	12.0	0.1	Point surveyed within Tolerance
2017	684495.97	603038.92	11.0	BNDY	9/18/2015	11.1	0.1	Point surveyed within Tolerance
2051	684361.89	602963.84	6.7	BNDY	9/18/2015	6.8	0.1	Point surveyed within Tolerance
2052	684378.26	602944.95	7.7	BNDY	9/18/2015	7.8	0.1	Point surveyed within Tolerance
2053	684394.63	602926.05	8.9	BNDY	9/18/2015	9.0	0.1	Point surveyed within Tolerance
2054	684411.00	602907.15	10.1	BNDY	9/18/2015	10.0	-0.1	Point surveyed within Tolerance
2055	684427.94	602887.59	8.4	BNDY	9/18/2015	8.5	0.1	Point surveyed within Tolerance
2056	684443.73	602869.36	10.4	BNDY	9/18/2015	10.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2018	684479.61	603057.81	10.1	BNDY	9/23/2015	10.1	0.0	Point surveyed within Tolerance
2019	684463.24	603076.71	9.2	BNDY	9/22/2015	9.1	-0.1	Point surveyed within Tolerance
2020	684446.87	603095.61	8.3	BNDY	9/22/2015	8.3	0.0	Point surveyed within Tolerance
2021	684430.50	603114.50	7.5	BNDY	9/22/2015	7.5	0.0	Point surveyed within Tolerance
2022	684414.13	603133.40	6.8	BNDY	9/23/2015	6.9	0.1	Point surveyed within Tolerance
2023	684397.77	603152.30	6.3	BNDY	9/23/2015	6.4	0.1	Point surveyed within Tolerance
2046	684280.05	603058.33	4.2	BNDY	9/23/2015	4.2	0.0	Point surveyed within Tolerance
2047	684296.42	603039.43	4.3	BNDY	9/23/2015	4.3	0.0	Point surveyed within Tolerance
2048	684312.79	603020.53	4.6	BNDY	9/23/2015	4.6	0.0	Point surveyed within Tolerance
2049	684329.16	603001.64	5.1	BNDY	9/22/2015	5.1	0.0	Point surveyed within Tolerance
2050	684345.53	602982.74	5.8	BNDY	9/22/2015	5.8	0.0	Point surveyed within Tolerance
2024	684381.40	603171.20	6.5	BNDY	9/23/2015	6.5	0.0	Point surveyed within Tolerance
2045	684263.69	603077.22	5.9	BNDY	9/23/2015	5.9	0.0	Point surveyed within Tolerance
2025	684365.03	603190.09	6.6	BNDY	9/24/2015	6.5	-0.1	Point surveyed within Tolerance
2026	684348.66	603208.99	6.8	BNDY	9/24/2015	6.8	0.0	Point surveyed within Tolerance
2027	684332.29	603227.89	6.8	BNDY	9/28/2015	6.8	0.0	Point surveyed within Tolerance
2028	684315.93	603246.78	7.7	BNDY	9/28/2015	7.8	0.1	Point surveyed within Tolerance
2041	684198.59	603153.14	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2042	684214.58	603133.91	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2043	684230.98	603114.98	4.6	BNDY	9/24/2015	4.6	0.0	Point surveyed within Tolerance
2044	684247.32	603096.12	6.2	BNDY	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2029	684299.56	603265.68	7.9	BNDY	9/28/2015	7.9	0.0	Point surveyed within Tolerance
2040	684182.05	603171.63	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2030	684283.19	603284.58	8.1	BNDY	10/7/2015	8.1	0.0	Point surveyed within Tolerance
2031	684258.41	603313.18	8.2	BNDY	10/7/2015	8.1	-0.1	Point surveyed within Tolerance
2032	684238.18	603303.29	7.1	BNDY	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2033	684215.72	603292.32	6.8	BNDY	10/7/2015	6.9	0.1	Point surveyed within Tolerance
2034	684193.26	603281.34	6.5	BNDY	10/7/2015	6.5	0.0	Point surveyed within Tolerance
2035	684170.80	603270.36	6.4	BNDY	10/7/2015	6.4	0.0	Point surveyed within Tolerance
2036	684148.33	603259.38	6.3	BNDY	10/7/2015	6.4	0.1	Point surveyed within Tolerance
2037	684124.13	603238.34	6.1	BNDY	10/7/2015	6.2	0.1	Point surveyed within Tolerance
2038	684149.11	603209.50	6.1	BNDY	10/7/2015	6.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2039	684165.48	603190.60	6.1	BNDY	10/7/2015	6.2	0.1	Point surveyed within Tolerance
2305	684268.00	603302.11	8.1	BNDY	10/7/2015	8.2	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

3 Points in 0.1 - 0.5 ft. tolerance are due to a slight overcut in the top of slopes where it wouldn't be suitable for backfill due to compaction difficulties.

Per SPECIFICATION 01460 SURVEY. SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5'). Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in Section 1.05 F.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Grid Points depicted in Table 1, Break Points in Table 2, Boundary Points in Table 3, and topographic spot elevations are correct, and representative of the as-built cap subgrade throughout the SA6 South cap.

R. Thomas Hugg 2/12/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

ATTACHMENT E
SA-6 SOUTH GEOMEMBRANE GRADING PLAN

LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

0 20 40 80

SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GEOMEMBRANE GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GEOMEMBRANE GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 7/2/15 THROUGH 10/7/15. GEOMEMBRANE GRADING SURFACES AND CONTOURS WERE GENERATED BY ENTACT, CHECKED BY AMEC AND CONFIRMED BY MASER CONSULTING P.A.*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NO.	DATE	REVISION	BY	APVD
1	7/12/16	REVISED ASBUILT TOPO PER ENTACTS COMMENTS	BSB	RTH
DSGN		DR CHK		APVD

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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Honeywell
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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
GEOMEMBRANE GRADING
PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 889 - 2629

VERIFY SCALE

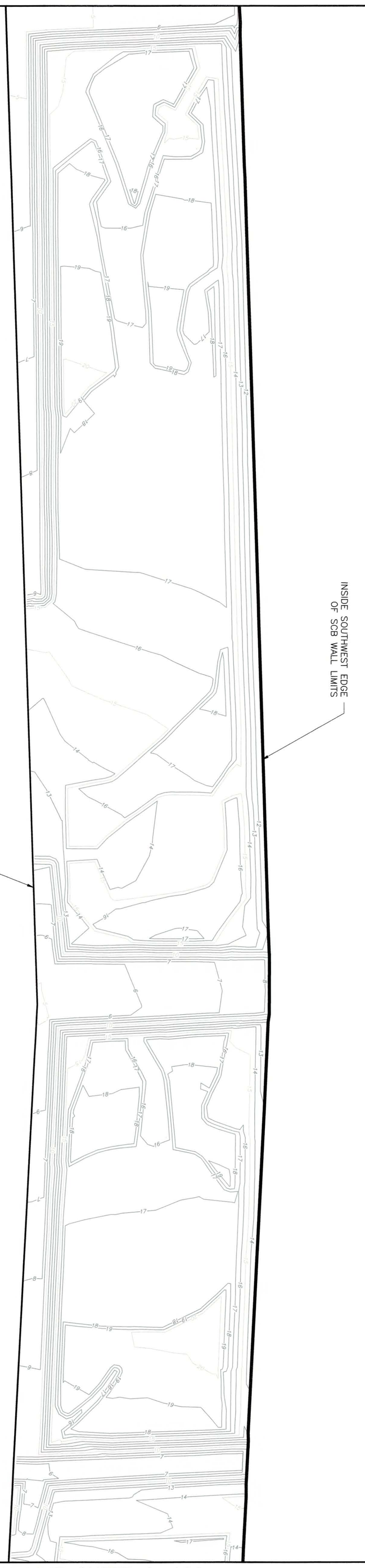
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/11/16
PROJ	3480-10-0027
DWG	C-122
SHEET	1 OF 3

FILE NAME: C:\Civil 3D Projects\12001511A\Survey\V-SURV-ASBT-SUBGRD-SOUTH-CAP-10-07-15.dwg PLOT DATE: Wed, 19 Oct 2016 PLOT TIME: 3:35 PM

FILE NAME: C:\Civil 3D Projects\12001511A\Survey\V-SURV-ASBT-SUBGRD-SOUTH-CAP-10-07-15.dwg PLOT DATE: Wed, 19 Oct 2016 PLOT TIME: 3:35 PM

MATCH LINE SHEET C-124



LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

SCALE IN FEET: 0 20 40 80

MATCH LINE SHEET C-122

NJ STATE PLANE COORDINATE SYSTEM (NAD83) W E

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

SHEET 2 OF 3 | DWG C-123 | PROJ 3480-10-0027 | DATE 2/11/16

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

VERIFY SCALE

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
1	7/12/16	REVISED ASBUILT TOPO PER ENTACT'S COMMENTS	BSB	RTH

DSGN | DR | CHK | APVD

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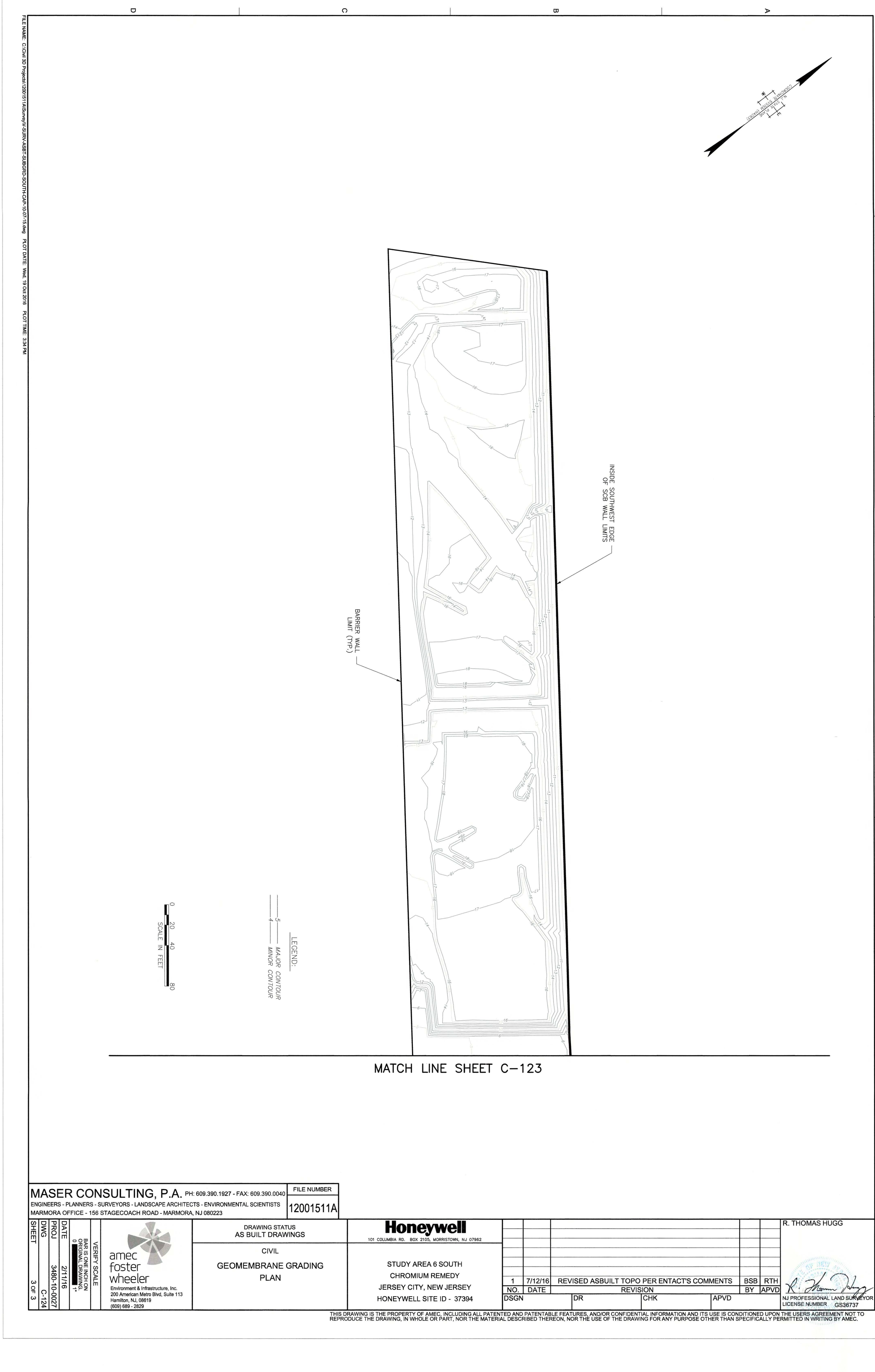

FILE NAME: C:\Civil 3D Projects\12001511A\Survey\V-SURV-ASBT-SUBGRD-SOUTH-CAP-10-07-15.dwg PLOT DATE: Wed, 19 Oct 2016 PLOT TIME: 3:34 PM

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FILE NUMBER 12001511A

SHEET 3 OF 3
DWG C-124
PROJ 3480-10-0027
DATE 2/11/16
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VERIFY SCALE

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
1	7/12/16	REVISED ASBUILT TOPO PER ENTACT'S COMMENTS	BSB	RTH

DSGN	DR	CHK	APVD

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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ATTACHMENT F
LANGAN SA-6 SOUTH CAP
QUALITY ASSURANCE REPORT
PART 1

ATTACHMENT F
LANGAN SA-6 SOUTH CAP QUALITY ASSURANCE REPORT

LANGAN

ENGINEERING & ENVIRONMENTAL SERVICES

Technical Excellence
Practical Experience
Client Responsiveness

Cap Geosynthetic Quality Assurance (QA) Report

Honeywell SA-6 South

SA-6 South
Jersey City, New Jersey
Project Number: 100530001

April 2016

Honeywell





Cap Geosynthetic Quality Assurance (QA) Report (SA-6 South)

for

SA-6 South
Jersey City, New Jersey

Prepared For:

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April 2016
Langan Project No. 100530001

LANGAN

CAP GEOSYNTHETIC QUALITY ASSURANCE (QA) REPORT

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LANGAN

ENGINEER'S CONSTRUCTION CERTIFICATION

I certify that the placement of the SA-6 South geosynthetics witnessed by myself, and / or a person under my direct supervision, was completed in compliance with the design documents.

Print Name: Jeffrey Stoicescu, P.E. Title: Senior Associate

Signature: Date: 10/14/2016

LANGAN

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LIST OF ACRONYMS

AO – Add-On
AOC – Area of Concern
BO – Burnout
CF – Custom Fit Repairs
CQA – Construction Quality Assurance
DCB – Design Change Bulletin
DO – Damage By Others
DS – Destruct Sample (Fusion)
DSX – Destruct Sample (Extrusion)
EOR – Engineer of Record
FS – Failed Seam
GCL – Geosynthetic Clay Liner
GDL – Geocomposite Drainage Layer
GVL – Geocomposite Venting Layer
HB – Hydraulic Barrier
IFC – Issued for Construction
LF – Linear Feet
LLDPE – Linear Low-Density Polyethylene
PB – Pipe Boot
PSI – Pounds per Square Inch
RCRA – Resource Conservation & Recovery Act
RFI – Request for Information
RAR – Remedial Action Report
RIR – Receiving Inspection Report
RP - Repair
RW – Roller Wrinkle
SA-6 – Study Area 6
SCB – Soil Cement Bentonite
SI – Subgrade Irregularity
SJ – Seam Joint
QA - Quality Assurance
QA Report – Cap Geosynthetic Quality Assurance Report
QC – Quality Control
WR - Wrinkle

1.0 INTRODUCTION

The purpose of this Cap Geosynthetic Quality Assurance Report (QA Report) is to present the observations made, and data collected during the construction of an engineered cap placed within the Study Area 6 (SA-6) South Open Space Area of Concern (AOC) located in Jersey City, New Jersey (Site). The capping activities at SA-6 South included the preparation of the soil subgrade, placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), linear low-density polyethylene (LLDPE) geomembrane, and a geocomposite drainage layer (GDL). Langan Engineering & Environmental Services, Inc. (Langan) was contracted by Honeywell International, Inc. (Honeywell) to provide independent Quality Assurance (QA) for the installation of the geosynthetic components of the cap.

The Chromium Remedy *100% Design* Issued for Construction dated June 2013, (*100% Design*) was prepared by AMEC Foster Wheeler Environment & Infrastructure, Inc. (Amec Foster Wheeler) on behalf of Honeywell, to address chromium contamination at SA-6 South. The *100% Design* required installation of a Resource Conservation and Recovery Act (RCRA) – equivalent geosynthetic cap system, including a venting layer for naturally occurring methane, covering approximately eight acres of the designated Open Space AOC. As part of this QA Report, the Record Drawings, which outline the placement and construction of the various geosynthetic components of the cap, have been provided as *Appendix A*. Other design details discussed herein, including the Issued for Construction (IFC) drawings, geosynthetics specifications, and geosynthetic products approved for this site are incorporated by reference only. Refer to Amec Foster Wheeler documents titled "*100% Design*," dated June 2013, and "*Remedial Action Report (RAR) for Chromium*" for these details.

This QA Report documents the results of the QA Geosynthetic activities conducted during the construction of the cap at SA-6 South by both Langan and Amec Foster Wheeler field personnel. Refer to the Construction Quality Assurance (CQA) Plan prepared by Langan in June 2015 (attached as *Appendix B*) for a description of the scope conducted by Langan, as well as the roles and responsibilities of the owner, Engineer of Record (EOR), earthwork contractor, and liner contractor. Design Change Bulletins (DCBs) and Requests for Information (RFIs) which were generated subsequent to the *100% Design*, and relevant to the QA scope were reviewed and approved by the EOR, and are further summarized in the EOR Closure Report.

This QA Report specifically includes the following documentation of the cap construction activities:

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

- Photographs depicting daily work activities and the various phases of the capping activities; and
- Independent QA's certification that the placement of the SA-6 South geosynthetics was implemented in general compliance with the design documents.

This QA Report addresses the cap construction of SA-6 South only. The cap construction at SA-6 North is proposed to commence in the spring of 2016 and will be addressed in a separate QA Report (to be provided upon completion of the SA-6 North cap).

2.0 SA-6 SOUTH CAP CONSTRUCTION AND DOCUMENTATION

2.1 General

This Section describes the construction methods used and the Quality Control (QC) and QA documentation completed as part of the construction of SA-6 South. This Section also provides the results of the QC and QA testing that was performed during field activities by Langan (QA Engineer), Environmental Specialties International (ESI) as the Geosynthetic Installer, and Entact, LLC (Entact) as the Construction Contractor and QC.

QA activities commenced on July 7, 2015, with Langan conducting observation of the soil subgrade preparation for the western end of SA-6 South (near the Hackensack River). Geocomposite / geotextile placement began on July 20, 2015 and continued until capping activities were completed by November 4, 2015. Relevant observations and QA/QC testing during this timeframe are defined further in this section. A project Certificate of Completion (completed and verified by Entact) certifying that the SA-6 South cap has been constructed and completed in compliance with the project drawings and technical specifications is attached as *Appendix C*.

2.2 Survey Control / Subgrade Elevations

Entact subcontracted Maser Consulting, P.A. (Maser), a licensed New Jersey land surveyor, who provided surveying services during the construction of the cap. Maser completed surveying of the cap from the initial subgrade preparation phases to the placement of the geomembrane. Maser surveyed the subgrade elevations of the cap prior to material placement and tabulated the survey results as compared to the design elevations on the construction control grid. These survey activities included:

1. Measurement of elevations of the subgrade surface in accordance with a pre-determined Construction Control Grid. Conformance to the design lines and grades was verified by Amec Foster Wheeler and Entact by comparing the actual elevations with the design elevations on the Construction Control Grid. The accepted subgrade elevations, and corresponding Construction Control Grid for SA-6 South are provided within *Appendix D1* and *Appendix D2*, respectively.
2. Measurement of the as-built conditions including the perimeter or termination of the geomembrane and geotextile over the hydraulic barrier (HB), and Soil Cement Bentonite

(SCB) wall, as well as, the location of the geomembrane repairs, boots / penetrations, and other pertinent information related to the construction of the cap.

3. The subgrade surface was observed to verify uniformity of grade between the construction control grid points.

This survey information is shown on the final Record Drawings attached in *Appendix A.* Amec Foster Wheeler provided QA review and verification of the Maser survey data.

2.3 Soil Subgrade Preparation

Soil subgrade preparation was required prior to the placement of the geotextile and the geomembrane in the areas to be capped. Soil subgrade preparation for the cap was completed by Entact using the following procedures:

- Step 1: Entact conducted rough grading of the subgrade surfaces with the use of track-mounted dozers to prepare the appropriate grades and to clear the surface of large objects (i.e. rocks, metals, debris, etc.);
- Step 2: The subgrade surface was fine-graded and compacted in accordance with the project specifications presented in the *100% Design* package. Subgrade sections not meeting survey or compaction requirements were re-worked by Entact until specified conditions were achieved. At the conclusion of this step, Entact provided a certification that the surface met the grading and compaction requirements. The certifications included the Construction Control Grid tabulation prepared by Maser (as defined in *Section 2.2*) and issuance of a Certificate of Subgrade Surface Acceptance as defined in further detail below;
- Step 3: When precipitation was forecast, the prepared subgrade surface was temporarily covered with a polyethylene plastic sheet to protect the soil from overnight precipitation; and
- Step 4: The subgrade surface would be uncovered in approximate 100 ft. sections (moving from west to east across SA-6), followed by extra fine grading conducted by laborers who cleared the surface of extraneous materials greater than ½-inch in diameter, followed by repair and re-compaction of any areas that became inadvertently wetted.

Entact and ESI also conducted their own observation of the subgrade surface to confirm if the surface was acceptable for the placement of the geosynthetic material. Upon notification by Entact that the grading was acceptable, Langan conducted an independent observation to identify that the subgrade was prepared in general accordance with the *100% Design*.

If the soil subgrade surface was deemed acceptable with no additional re-work required, the Langan QA and Entact QC representative signed and submitted an acceptance form for the approved subgrade. The daily QA subgrade approval forms are provided in *Appendix E*, with the ESI Certificate of Subgrade Surface Acceptance forms provided in *Appendix E1*, and the Langan Certificate of Soil Surface provided in *Appendix E2.* In the event the subgrade surface was not

deemed acceptable, Steps 2, 3, and 4 outlined above were repeated until an acceptable subgrade surface was achieved (based on conditions outlined in the Langan Certificate of Soil Surface forms) and confirmed by Langan and Entact.

Figure 1 below shows a typical section of subgrade approved for geomembrane placement. Additional photos and summaries of the subgrade preparation activities conducted each day are presented in the Daily Reports and Daily Photo Logs provided in *Appendix F.*

Figure 1 – Typical Soil Subgrade Approved for Geomembrane Placement



2.4 SA-6 South Cap Components

2.4.1 Geotextiles

After approval of various sections of the subgrade surface, a 16 oz. geotextile layer was placed over the HB and SCB barrier walls around the perimeter of the capped area. According to the *100% Design* package, this geotextile layer was designed to protect the 60-mil LLDPE geomembrane from potential puncture damage from the perimeter barriers / walls. The approved 16 oz. non-woven geotextile fabric layer (i.e., defined as SKAPS GE-116 in Amec Foster Wheeler's *EOR Closure Report*) was delivered to the project site, offloaded, and staged onsite by Entact. For each delivery, Amec Foster Wheeler prepared a Receiving Inspection Report (RIR) to document receipt of acceptable materials. The RIRs outlining the date, material, quantity, and other pertinent details of the geotextile rolls delivered to the Site are provided in *Appendix G*.

The 16 oz. geotextile was installed by ESI at locations shown on the Record Drawings. Geotextile was placed along the boundaries of SA-6 South over the HB and SCB wall located along the western, northern, southern, and eastern boundaries of the cap. The 15 ft. wide geotextile panels were placed with approximately 13 ft. inbound of the perimeter of the HB and SCB walls, along with 2 ft. of geotextile extending outbound of the perimeter containment walls.

Geotextile panels were overlapped at least 12-inches and seamed using a dual hot wedge welder that melted the two surfaces together to form a bond (also referred to as leistering). The 16 oz. geotextile was placed along the boundary areas of SA-6 at locations above the Site water table (i.e. locations where geosynthetic clay liner was not required). The geotextile (on the interior of the Cap) overlapped the geocomposite venting layer and was leistered in place following the procedure outlined above. *Figure 2* below shows the 16 oz. geotextile being placed over the HB wall (southern end of SA-6 South cap), and *Figure 3* shows the geotextile overlapping the GVL Note, the GVL roll was placed in a general north to south direction across SA-6, while the 16 oz. geotextile roll was placed in a general east to west direction.

Figure 2 – 16 oz. Geotextile Placed Over HB Wall (southern end of SA-6 South)



Figure 3 – 16 oz. Geotextile / GVL Over SCB Wall (northern end of SA-6 South)



2.4.2 Geocomposite Venting Layer (GVL)

Prior to placement of the 60-mil LLDPE geomembrane, GVL was placed over the soil subgrade at locations above the water table to serve as a venting layer for naturally occurring methane that may emanate from below the cap.

The approved GVL (i.e., defined as SKAPS TN-220-2-6 in *EOR Closure Report*) consisted of an extruded polyethylene drainage net structure (or geonet) sandwiched between two non-woven geotextile layers. The GVL was delivered to the Site, offloaded, and staged onsite by Entact. The RIRs for the GVL delivered to the Site are provided in *Appendix G*.

The GVL was placed by ESI, over the approved soil subgrade for areas above the Site water table at locations shown on the Record Drawings (*Appendix A1*).

The GVL rolls were typically oriented in a north to south direction. The leading edge of the GVL panels was held in place by sand bags until the subsequent panels could be placed and seamed. The placement strategy for this material was to limit the amount of GVL to be placed in a day, to an area that could also be covered by the LLDPE geomembrane that day. This strategy was used to minimize the risk of the GVL and underlying subgrade from becoming wet during overnight rain events. GVL panels were not placed during precipitation events, in the presence of excessive moisture, or during high winds.

GVL panels were placed according to Section 02380 – Gas Venting System as defined in *100% Design* package. GVL was generally placed with the predominant flow direction towards the edge of the cap with the GVL running parallel to any slopes or elevation changes (i.e. running up/down the slope and not across the slope). For adjacent GVL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GVL were placed so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped to ensure that no areas of the soil subgrade were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam to connect adjacent pieces of GVL. Additional fasteners were requested by the QA team when the seams extended down slopes or at significant subgrade elevation changes. *Figure 4* below shows placement of the white plastic fasteners; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GVL was continuously sewn as shown in *Figure 5* below.

Figure 4 – Typical Placement of GVL & Joining of the Net with Plastic Fasteners



Figure 5 – Typical Sewing of GVL (for top layer of geotextile)



During placement of the GVL, butt seams, rips, tears, or other damaged areas of the GVL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of geotextile which was leistered in-place. Additional details of the GVL placement are further described in the Langan Daily Reports and Photo Logs provided in *Appendix F*.

2.4.3 Geosynthetic Clay Liner (GCL)

The approved GCL consisted of granular sodium bentonite clay sandwiched between, supported, and encapsulated by two geotextiles, and held together by needled punching. The approved GCL (i.e., Cetco Bentomat DN) was delivered to the Site, offloaded, and staged onsite by Entact. The RIRs for the GCL rolls delivered to the Site are provided within *Appendix G*.

The approved GCL was deployed by ESI in accordance with Section 02375 – Geosynthetic Clay Liner as defined in the *100% Design* package. GCL was placed directly over the approved soil subgrade, at locations situated below (to 1 ft. above) the Site water table. These areas generally consisted of: the bottom of utility corridors, the bottom of drainage swales and Site elevation changes, and the eastern end of SA-6 South (where the subgrade is depressed to allow the surface grading to tie in with Route 440). These locations are shown on the Record Drawings.

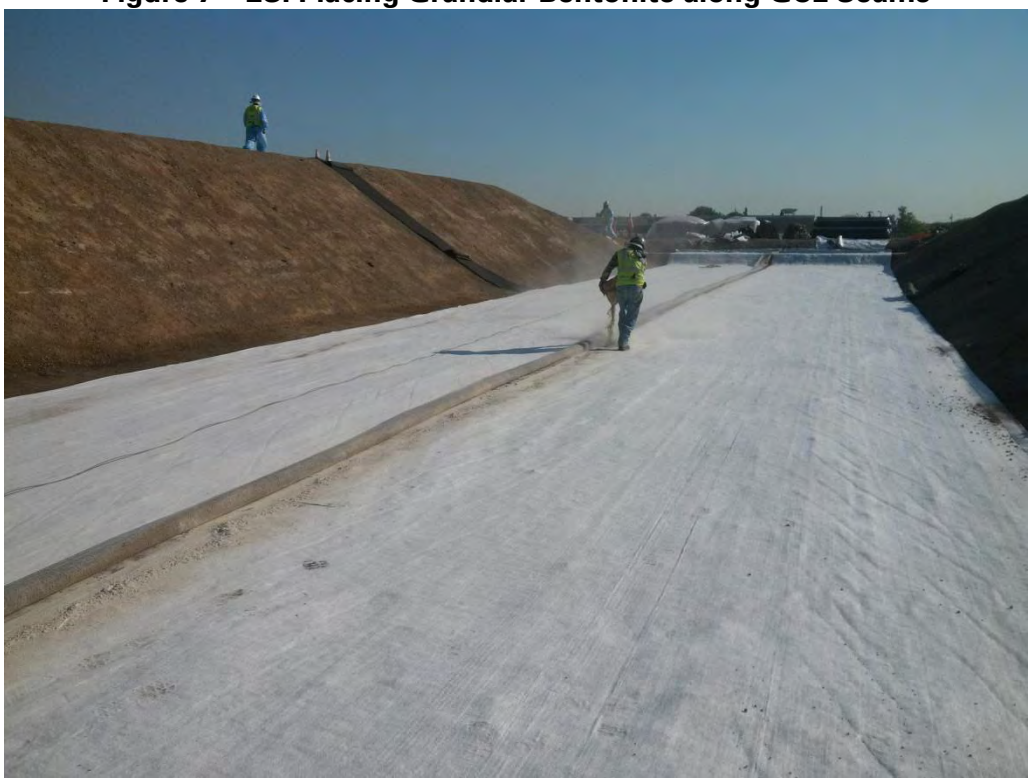
For areas where the edges of the GCL terminated on a slope, staples were used to secure the GCL in place as shown below in *Figure 6*. The staples were placed along the top 6-inches of the GCL edge and were placed through the GCL and secured into the underlying soil subgrade. The GVL overlapped the edge of the GCL a minimum of 12-inches and was then leistered to the GCL. When staples were used, the GVL was placed over the staples (at least of 1 ft. of overlap), to mitigate the potential of the staples coming in contact with the geomembrane.

Figure 6 – ESI Securing GCL with Staples



During placement of the GCL, granular bentonite was placed along the GCL seams as outlined in the project specifications and shown on *Figure 7* below. No GCL was placed during precipitation, in the presence of excessive moisture, or during high winds.

Figure 7 – ESI Placing Granular Bentonite along GCL Seams



Additional details on the placement of the GCL are further described in the Langan Daily Reports and supporting photo logs provided in *Appendix F*.

2.4.3.1 Bentonite Sand Plug

As outlined in specification Section 02375 – Geosynthetic Clay Liner of the *100% Design* package, a sand bentonite plug was constructed on the inboard side of the HB wall for the low-lying areas (below the Site groundwater table) along the edges of SA-6 South. This bentonite sand plug was constructed in the field by Entact by mixing clean sand with sodium montmorillonite at a 90% sand to 10% bentonite ratio.

The plug was constructed to a depth of approximately 18-inches below the HB wall elevation, and was approximately 2 ft. thick. Additional details on the edge connection details are provided below in *Section 2.4.3.2*. *Figure 8* below also shows the typical construction of the bentonite sand plug along the HB wall.

Figure 8 – Typical Construction of Bentonite Sand Plug along HB Wall



2.4.3.2 GCL to Barrier Wall Connection Details

GCL to Barrier Wall Logs are provided within *Appendix H*. As per the approved Langan CQA Plan, Amec Foster Wheeler completed a GCL to Barrier Wall (HB Wall & SCB) Connection Detail form for the low-lying areas of SA-6 South (below the Site water table). This form documented that the bentonite sand plug was appropriately constructed, that the barrier wall was clean and exposed, and that the appropriate GCL overlap (1 ft. minimum) was maintained.

2.4.4 60-mil Low Linear Density Polyethylene (LLDPE) Geomembrane

A textured LLDPE geomembrane manufactured to a nominal 60-mil thickness was placed over the GVL and GCL layers at the Site to mitigate groundwater infiltration through the cap. The rolls of the approved 60-mil LLDPE geomembrane were delivered to the Site, offloaded, and staged onsite by Entact. The RIRs for the LLDPE geomembrane are provided in *Appendix G*.

The 60-mil LLDPE geomembrane was placed directly over the GVL and GCL geotextiles. The 60-mil geomembrane was placed in accordance with specification Section 02372 – Cap Geomembrane Liner as defined in the *100% Design* Package. The location and placement of the LLDPE panels is documented on the ESI Panel Placement Logs provided in *Appendix I*.

ESI deployed the geomembrane rolls in a general north to south orientation. Hand clamps were used on the edge of the panels to aid in the final positioning, as required. The leading edge of the LLDPE geomembrane panels were held in place by sand bags until the subsequent panels

could be placed and seamed via fusion welding methodology. The number of panels deployed in a single day was limited to the amount that could be field seamed that day. No panels were placed during precipitation, in the presence of excessive moisture, or during high winds. The minimum temperature for seaming was specified as 32°F, with a maximum temperature of 104°F. No cold or hot weather seaming was conducted as temperatures did not reach below 32°F, or above 104°F during geomembrane installation.

Each individual LLDPE panel was observed for damage by ESI, Entact, and Langan during the installation process. Prior to seaming, the approved geomembrane was observed by Langan to ensure that the material was free of defects or damage prior to seaming. Areas observed to be damaged / defective, or areas where the geomembrane had to be custom cut to conform to the subgrade contours, were marked for repair. Repairs were completed in the field by ESI via patching and welding the geomembrane as further described below. All repairs were documented and recorded on the Record Drawings (*Appendix A2*). Additional details on the repair methodology and types of repairs are further described in *Section 2.4.4.4*.

The LLDPE geomembrane was seamed in the field by two welding methods: extrusion and double-fusion. Extrusion welding was used for repairs, short seams, and areas where the double fusion could not operate. Extrusion welding was performed with a hand held extrusion welding gun. The double-fusion seaming (fusion welding) was performed using a self-propelled "wedge welder" which formed an air channel between the two seams. Fusion welding was performed with a minimum of 4-inches overlap as per the project specifications.

The integrity of the welds was monitored by both destructive and non-destructive test methods. The destructive testing consisted of collecting samples from the completed seams at a minimum frequency of one sample per 500 ft. of weld (for both fusion and extrusion welds). A representative of Langan was onsite to confirm the locations of the destructive samples along with a representative of ESI.

The destructive samples were analyzed by Geotechnics, Inc. (Geotechnics) the Contractor's Material Quality Control Laboratory. Langan also collected additional QA samples (approximate 15% of total samples collected) and submitted samples to TRI Environmental, Inc. (TRI) for independent QA testing. Destructive sample locations were repaired in the field and tested with a vacuum box. All destructive sample locations have been recorded and are shown on the Record Drawings (*Appendix A2*). The laboratory results of the destruct samples are discussed further in *Section 2.4.4.3* below.

In addition to the destructive testing, non-destructive testing was completed by ESI during cap construction. Two types of non-destructive tests were used at the Site: air channel tests (pressure tests) and vacuum box tests as defined further below:

1. Pressure Testing - The pressure tests were conducted on 100% of all the double fusion welded seams where both ends of the seam were clamped and sealed and a pressure needle was inserted into the air channel. The air channel was then pressurized to thirty pounds per square inch (psi) and the pressure was maintained for a minimum of five minutes. If the pressure did not stabilize, or a pressure drop greater than four psi was noted over a five minute span, then the seam was deemed unacceptable and the faulty

area was isolated and repaired. Results of the non-destructive testing are discussed further in *Section 2.4.4.2* below.

2. Vacuum Box Testing - For patch / repair work and other areas where extrusion welding was required, the extrusion welds were vacuum box tested by ESI. A soapy solution was applied to the weld area, and a vacuum box was placed over the weld for a minimum of ten seconds and observed for the appearance of soap bubbles. Any areas where these bubbles appeared were marked, repaired, and retested. Any areas that failed the vacuum box test were identified as a non-compliance issue and are discussed further in *Section 2.4.6* below.

At seams or locations where vacuum box or pressure testing could not be conducted (i.e. boot penetrations), the extrusion welds were visually inspected by observing the welding process and checking the weld for uniformity and completeness. Individual forms were generated to document the installation of each boot / penetration. Additional details on the pipes / penetrations encountered on the cap are further described in *Section 2.4.4.5*.

For additional details on the geomembrane placement, destructive and non-destructive testing, patch / repair work, and other geomembrane related construction activities, refer to the Langan Daily Reports and Photo Logs provided in *Appendix F*.

2.4.4.1 Trial Weld Logs

Prior to any seaming of the geomembrane each day, the fusion and/or extrusion welding equipment was used to conduct trial welds (or test strips) to confirm that the material and equipment met the specification requirements. Test strips were collected (using the same 60 mil LLDPE geomembrane placed across the cap) by completing a sample fusion or extrusion weld. This activity included producing several types of seams to qualify that a specific seamer and apparatus would yield the desired specified performance requirements. These seam types included: smooth-to-smooth, smooth-to-textured, and textured-to-textured. It should be noted that the 60 mil geomembrane installed across the cap was textured (60-mil Microspike); however, the manufacturer's product has a smooth edge for welding.

The trial welds were cut and tested on a portable tensiometer by ESI. Langan and Entact observed the trial weld tests to confirm that the minimum peel and shear values were obtained (as per specification Section 02372 – Cap Geomembrane Liner defined in the *100% Design* package). These trial welds were completed prior to commencement of seaming at the start of each day, and once every four hours. The results of daily trial weld logs are provided in *Appendix J*.

2.4.4.2 Non-Destructive Testing Results

Non-Destructive Pressure Testing was conducted along the geomembrane panels, and the repaired / patched areas (i.e., using vacuum box testing) by ESI, as per the project specifications. The results of the non-destructive testing for each of the panel seams were provided in the Seam Control Logs shown in *Appendix K*. Additionally, the associated repairs

and the corresponding vacuum box testing results are presented in the ESI Repair Report attached in *Appendix L*.

During the construction of the cap at SA-6 South, there were two non-destructive tests (one pressure test and one vacuum box test) that failed during the field testing which consisted of the following:

1. Failed non-destructive (pressure) test for geomembrane panel seams Panel #7 / Panel #8 and identified as Repair (RP)-13 (as shown on the Record Drawings); and
2. Failed non-destructive test (vacuum box test) for repair RP-215 (Panel #50).

Both of these failures were subsequently repaired by ESI in general accordance with specification Section 02372 – Cap Geomembrane Liner and were documented as non-compliance issues which are further described in *Section 2.4.6* below.

2.4.4.3 Destructive Testing Results

Destructive testing was conducted for the fusion and extrusion welding that was completed along the edge of the geomembrane panels. Destruct samples were collected at a minimum sampling interval of 500 linear feet (LF) of seaming length for the initial twenty-five (25) samples. The locations of the destruct samples were identified in the field by the Independent QA Monitor (Langan) and are shown on the Record Drawings (*Appendix A2*). Once the destruct sample locations were determined, ESI cut and tested the destruct samples (as per the project specifications).

Six 1-inch wide specimens were cut from the destruct sample for field testing. These samples were then tested by a tensiometer equipped with a drive/pull apparatus rate of 20-inches per minute. Three of the specimens were tested for peel strength, and the remaining three for shear strength. The samples were tested to confirm that the geomembrane met the specified peel and shear strength values outlined in *Table 1* below. Additional details on the test results are provided on the Destructive Sample Information Logs attached as *Appendix M.*

Table 1 – LLDPE Geomembrane Seam Property Requirements

Property	Test Method	60-mil LLDPE Value
Shear Strength (min. avg.)	ASTM D 6392	90 lb/in
Peel Strength – Extrusion (min. avg.)	ASTM D 6392	66 lb/in
Peel Strength – Fusion (min. avg.)	ASTM D 6392	75 lb/in

In addition to the field testing completed by ESI, a total of twenty-nine (29) fusion weld destruct samples, and fifteen (15) extrusion weld samples were sent to Geotechnics for lab verification.

A total of twenty-nine (29) fusion weld destruct samples (DS-1 through DS-29) were collected during the capping of SA-6. For the first 25 QA samples collected, all samples met the specified destructive testing requirements outlined in *Table 1*. As per the specification, the frequency of fusion weld destruct sampling was reduced from every 500 LF of welded seam to every 1,500 LF of welded seam. A summary of the peel and shear QA testing conducted for the 29 fusion weld samples collected is summarized in *Appendix N*.

A total of fifteen (15) extrusion destruct samples were collected throughout the capping of SA-6 South. *Table 2* below summarizes the results of the extrusion weld destruct samples collected as well as the corresponding laboratory data, peel and shear averages, and compliance with specification Section 02372 – Cap Geomembrane Liner outlined in the *100% Design* package.

Table 2 – Summary of ESI / Langan QA Testing - Extrusion Welds

Honeywell SA-6 Capping										
Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds										
Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
EXT-DS-1	Extrusion	Langan	Peel	97	97	127	130	128	**116**	**Yes**
DSX-1		Entact	Peel	109.3	107.5	109.8	120.5	110	**111.4**	**Yes**
EXT-DS-1		Langan	Shear	133	172	148	181	146	**156**	**Yes**
DSX-1		Entact	Shear	115.7	119.8	118.1	117.5	116.2	**117.5**	**Yes**
DSX-2	Extrusion	Entact	Peel	133.5	118.8	126.4	120.1	115.4	**122.8**	**Yes**
			Shear	132.7	150.3	145.5	135.4	130.3	**138.8**	**Yes**
DSX-3	Extrusion	Entact	Peel	123.7	117.2	117.9	119.1	120.2	**119.6**	**Yes**
			Shear	126	128.6	125.1	124.5	125.1	**125.9**	**Yes**
DSX-4	Extrusion	Entact	Peel	128.4	132.1	133.5	134.4	139.5	**133.6**	**Yes**
			Shear	144.7	143.7	141.8	150.7	145.7	**145.3**	**Yes**
DSX-5	Extrusion	Entact	Peel	107.5	115.8	111.6	113.9	119.3	**113.6**	**Yes**
			Shear	131.7	136.9	151.8	137	149.5	**141.4**	**Yes**
DSX-6	Extrusion	Entact	Peel	151.4	144.8	130.9	139.9	150.1	**143.4**	**Yes**
			Shear	164.9	162.3	151.5	155.6	159.7	**158.8**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.7	126.8	128.7	122.2	120.7	**124.4**	**Yes**
			Shear	134.6	133.7	134.8	136.2	135.5	**135.0**	**Yes**
DSX-8	Extrusion	Entact	Peel	129.6	119.5	124.3	130.9	120	**124.9**	**Yes**
			Shear	131.6	130.7	129.7	134.4	127.8	**130.8**	**Yes**
DSX-9	Extrusion	Entact	Peel	108.7	124.4	120.8	112	111.6	**115.5**	**Yes**
			Shear	132.8	126.8	133.9	116.1	122.8	**126.5**	**Yes**
DSX-10	Extrusion	Entact	Peel	118.7	122.1	118.1	120.8	136.1	**123.2**	**Yes**
			Shear	123	145.2	149.5	130.7	145.6	**138.8**	**Yes**
DSX-11	Extrusion	Langan	Peel	125	134	123	121	124	**125**	**Yes**
		Entact	Peel	125.1	118.2	125.9	123.3	120.6	**122.6**	**Yes**
		Langan	Shear	164	157	141	137	142	**148**	**Yes**
		Entact	Shear	122.6	124.6	126.1	127.9	128.2	**125.9**	**Yes**
DSX-12	Extrusion	Entact	Peel	130.4	121.3	148.4	118.2	138.9	**131.4**	**Yes**
			Shear	126.2	123.7	125	124.2	122.7	**124.4**	**Yes**
DSX-13	Extrusion	Entact	Peel	117	97.9	123.5	66	55.6	**92.0**	**No**
			Shear	131.2	129	133	132.9	124.6	**130.1**	**Yes**
DSX-14	Extrusion	Entact	Peel	119	119.7	118.8	123.3	122.6	**120.7**	**Yes**
			Shear	120.9	121.4	121.7	129.5	127.4	**124.2**	**Yes**
DSX-15	Extrusion	Entact	Peel	119.5	114.1	123.8	111.4	106.8	**115.1**	**Yes**
			Shear	132.1	135.2	138.5	137.4	141.7	**137.0**	**Yes**

As highlighted above on *Table 2*, one destruct sample DSX-13 failed to meet the peel strength criteria for one of the five specimens tested. While the average of the five specimens tested for this specimen did comply with the project specifications, the extrusion weld in this area was designated as non-compliant. As such, the weld was subsequently patched, repaired, and re-tested and documented as Repair RP-487 in *Appendix L*. An additional extrusion weld destruct sample was collected and labeled as DSX-15. Additional details on this non-compliance issue are described in further detail in *Section 2.4.6*.

In addition, Langan collected a total of six QA samples (4 fusion weld samples and 2 extrusion weld samples) to verify the results of the Geosynthetic Installer's laboratory data. Langan's QA

samples were submitted to Texas Research Institute Environmental, Inc. (TRI). The results of the ESI and Langan destruct samples indicated that the peel and shear strength values met the requirements outlined in the project specifications. Furthermore, the additional QA samples collected by Langan yielded values that were in close proximity to the values obtained by ESI (which were generally lower than the values obtained by Langan's QA laboratory). The Laboratory Destruct Test Results are provided in *Appendix N*.

2.4.4.4 Repair Reports

The ESI Repair Report is provided in *Appendix L*. Several different types of repairs were observed and recorded during field activities by ESI. These corresponding repairs are shown on the Record Drawings (*Appendix A2*), and consisted of the following types:

- Custom Fit Repairs (CF) – Custom Fit Repairs consisted of areas of the geomembrane cap where the geomembrane was cut (and subsequently repaired) to allow the geomembrane to conform to the cap contours. These areas were typically located where there were abrupt elevation changes, such as drainage and utility swales, utility corridors, and planting areas;
- Wrinkles (WR) – Wrinkles consisted of areas where excess geomembrane was observed. Where the size of the wrinkle was determined to be detrimental to the geomembrane (i.e. wrinkles with the potential for folding), the wrinkle was cut, and the excess geomembrane was overlapped and sealed with an extrusion weld in accordance with the project specifications;
- Roller Wrinkles (RW) & Burnouts (BO) – Roller wrinkles can occur when slight differences in length between the two geomembrane edges being welded resulted in formation of a wrinkle along the geomembrane seam. Wedge burnouts occurred where the wedge became jammed thus causing the welder to burn / melt through the geomembrane seam. These areas were subsequently patched and repaired according to the project specifications;
- Destruct Samples (DS) – These areas consisted of the geomembrane destruct samples that were cut for laboratory testing. The removal of the sample creates a hole in the seam, thus these areas were subsequently patched according to the project specifications;
- Pipe Boots (PB) – Pipe boots were installed where penetrations of the geomembrane occurred such as at wells, piezometers, gas vents, and access manholes. Additional details are provided in *Section 2.4.4.5;*
- Add On (AO) – AO areas consisted of sections of SA-6 where an additional piece of geomembrane was required to finish a geomembrane run across the cap (from north to south);
- Seam Joints (SJ) – Seam joints consisted of the areas where non-destructive testing (pressure testing) was conducted along a "T" section of the geomembrane;
- Subgrade Irregularities (SI) – Subgrade Irregularities consisted of areas along the geomembrane cap where a rock or object larger than ½-inch in diameter was encountered underneath the geomembrane after the material had been placed. These

areas were subsequently cut, the rock/debris removed, and the area patched / repaired according to the project specifications. These SIs were identified as non-compliance issues and are discussed in further detail in *Section 2.4.6* below;

- Damage By Others (DO) – DO consisted of damage / punctures to the geomembrane cap caused by equipment or personnel during grading of the protective cover soil. These DO instances were identified as non-compliance issues and are discussed in further detail in *Section 2.4.6* below.
- Failed Seam (FS) – Failed seams consisted of fusion / extrusion weld samples that were collected, and failed to meet the strength criteria of the material as outlined in Section 02372 – Cap Geomembrane Liner presented in the *100% Design* Package (and summarized in *Table 1*). These FS instances were identified as non-compliance issues and are further described in *Section 2.4.6* below.

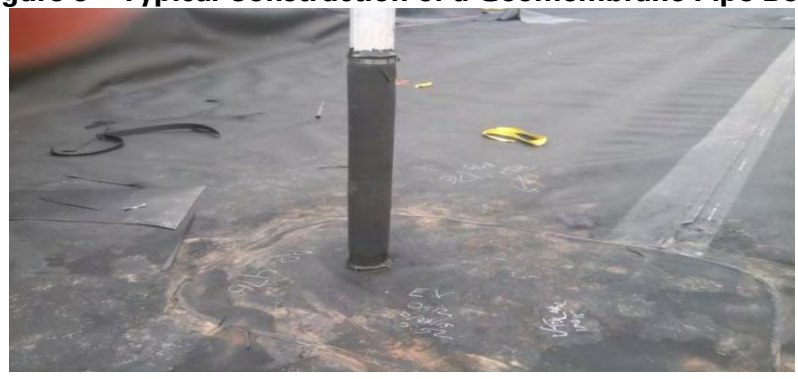
For additional details on the geomembrane repairs and non-compliance issues observed during field activities refer to the *Appendices L and P,* respectively.

2.4.4.5 Geomembrane Penetrations & Pipe Boot Installation

The geomembrane penetration and pipe boot logs are provided in *Appendix O*. The pipe boots were field fabricated by ESI, and the boots were installed at monitoring wells, gas vents, piezometers, and access manhole penetrations across the cap.

The geomembrane boots consisted of a vertical (minimum of 2 ft.) section of LLDPE being wrapped around the penetration (i.e. well, gas vent, etc.) from the base to the top of the penetration. The geomebrane wrap was then heat sealed and an extrusion weld was placed with a vertical seam connecting the two pieces of geomembrane. The end of the boot terminated in a skirt section which was placed over the boot. The skirt and the geomembrane overlapped a minimum of 18-inches and the skirt was welded to the geomembrane. A neoprene rubber gasket was used between the boot and the penetration and secured with a 1-inch wide stainless steel clamp (or two ½-inch clamps). An LLDPE sacrificial sheet was then placed between the boot and the clamp for protection and a butyl sealant was applied along the top of the boot. *Figure 9* below shows the typical construction of a geomembrane pipe boot in the field by ESI. The welding of each boot was observed by Langan, and each boot fabrication was documented on an individual boot fabrication form provided in *Appendix O*. The four typical types of penetrations present on the SA-6 South cap are defined below.

Figure 9 – Typical Construction of a Geomembrane Pipe Boot



2.4.4.5.1 Monitoring Wells

A total of four (4) monitoring wells were located within the SA-6 South cap. The monitoring wells were constructed with PVC and were encased in a 4-inch metal casing. Refer to *Appendix O* for the penetration and boot logs for monitoring wells: 073-MW-1BR, 115-E1A-SO, 115-W3-SO, and 115-W5-SO.

2.4.4.5.2 Gas Vents

A total of eight (8) gas vents were constructed through the cap. Gas vents were completed in accordance with Section 02380 – Gas Venting System of the *100% Design* Package to allow any naturally occurring methane to vent to the atmosphere. Refer to *Appendix O* for the penetration and boot logs for gas vents GV-0 through GV-7, with the corresponding locations shown on the Record Drawings (*Appendix A2*).

2.4.4.5.3 Piezometers

A total of five (5) piezometers were installed through the cap to allow the project team to compare the groundwater within capped area to the groundwater immediately outside of the cap. Piezometers were encased within a 4-inch steel casing. Refer to *Appendix O* for the penetration and boots logs for piezometers PZ-12, PZ-14, PZ-16, PZ-18, and PZ-20, and to the Record Drawings (*Appendix A2*) for the corresponding piezometer locations.

2.4.4.5.4 Pump Station and Access Manholes

A total of one pump station and three (3) access manholes were completed with field fabricated geomembrane boots. Refer to *Appendix O* for the penetration and boot logs for Access Manhole #1, Access Manhole #2, Access Manhole #3, and Access Manhole #4, with the corresponding locations shown on the Record Drawings (*Appendix A2).*

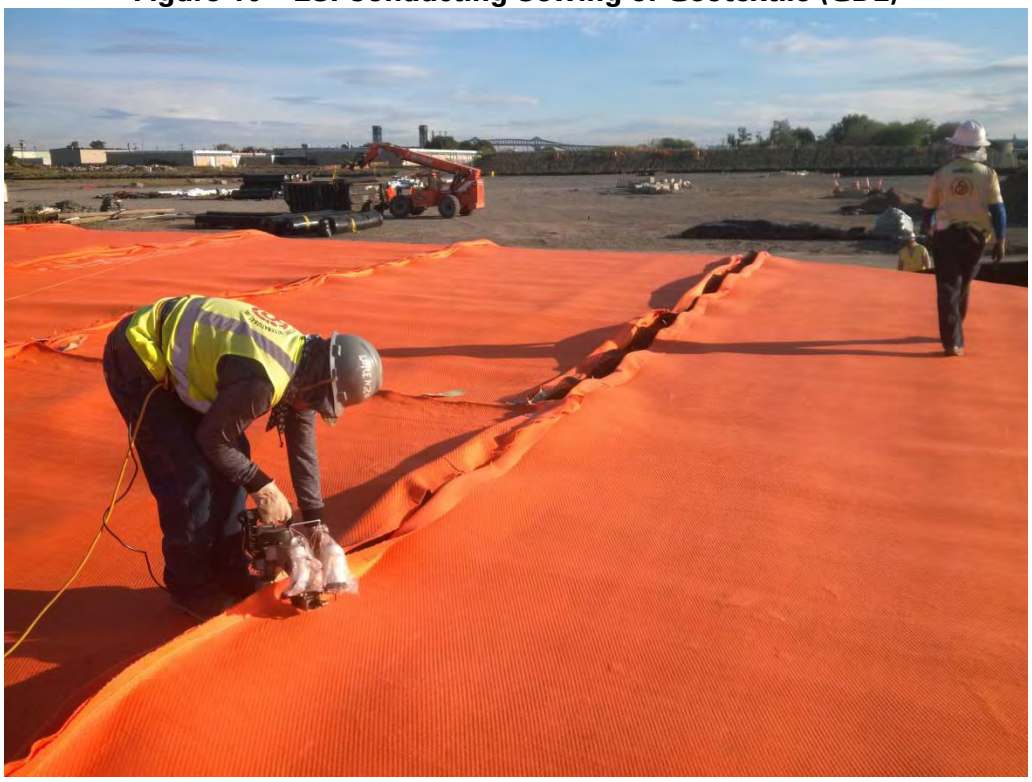
2.4.5 Geocomposite Drainage Layer (GDL)

To facilitate drainage and transport of infiltrated surface water off the cap, a geocomposite drainage layer (GDL) consisting of a geonet with a non-woven geotextile bonded to both sides (i.e., defined as SKAPS TN 330-2-6) was delivered to the Site, offloaded, and staged onsite by Entact in accordance with the project specifications. The RIRs for the delivered GDL rolls are provided in *Appendix G*. The GDL was placed at the Site by ESI and was placed directly over the geomembrane cap as shown on the Record Drawings (*Appendix A3*).

GDL panels were placed according to the specification Section 02374 – Geocomposite Drainage Layer as defined in the *100% Design* package. For adjacent GDL panels, the following minimum seaming requirements were met:

- Adjacent rolls of GDL were overlapped so that the geonet overlapped by 2 to 3-inches, and the geotextiles overlapped by at least 4-inches;
- The bottom layer of geotextile (underneath the geonet) was overlapped so that no areas of the underlying geomembrane were exposed;
- White plastic fasteners were placed at a maximum of every 5 ft. along the seam. Additional fasteners were requested by the QA team when the seams extended down the slopes or elevation changes were noted; and
- Once the geonet was tied with a sufficient number of fasteners, the top geotextile of the GDL was continuously sewn as shown in *Figure 10* below.

Figure 10 – ESI Conducting Sewing of Geotextile (GDL)



During placement of the GDL, butt seams, rips, tears, or other damaged areas of the GDL were repaired by exposing an appropriate area of geonet, placing fasteners as defined in the project specifications, and covering the area with a new piece of orange geotextile (same as the GDL geotextile) which was heat sealed in place.

Once the GDL was placed, Entact placed protective cover soil (i.e., 1 ft. layer of material) directly over the GDL. In addition, yellow caution tape was placed every 55-inches over the GDL prior to protective cover soil placement. The caution type had bold type which indicated "Danger Do Not Dig – Peligro No Excavar" in English and Spanish. Additional details on the GDL placement are provided in the Langan Daily Reports and Photo Logs provided in *Appendix F*.

2.4.6 Non-Compliance Issues

The Summary of Non-Compliance & Corrective Action Sheets are provided in *Appendix P*. During the SA-6 capping activities, any QA field tests, observations, or failed samples that did not comply with the project specifications were documented and recorded as a non-compliance issue. A total of twelve (12) non-compliance issues were identified throughout the capping of SA-6 South and are summarized below:

1. Subgrade Irregularities – Refer to Sheet Numbers 1, 2, 4, 6, and 8 of the Non-Compliance & Corrective Action Sheets (*Appendix P*). In general, the subgrade irregularities consisted of stones or other material greater than ½-inch in size that was encountered below the geomembrane cap after the material had been placed and

secured. These objects were removed by cutting the geomembrane, removing the object, and patching the geomembrane in accordance with the project specifications. The subgrade showed no indication of these items at the time of subgrade approval, and it is postulated that these items were dislodged from the subgrade as the GVL was drawn across the subgrade surface;

2. Subgrade Irregularity (Hydrated GCL) – Refer to Sheet Numbers 7, 9, and 10 (*Appendix P*). In general, the Hydrated GCL Subgrade Irregularities consisted of areas where the underlying GCL layer had become saturated following heavy rain events. The saturation of the GCL was due to the unfinished grading of the SA-6 cap, as well as equipment failures, which resulted in water ponding along the edges of the cap during high intensity rain events. This ponding caused the water to move laterally across limited portions of the cap thus wetting the GCL layer prior to cover soil placement. For these areas, the geomembrane was cut to expose the GCL followed by replacement of the wetted GCL. Visual observation of the underlying subgrade soils exhibited no damage or washout of the subgrade. Repair activities were conducted so that the resulting materials were placed in accordance with the project specifications;
3. Failed Vacuum Box Test – Refer to Sheet Number 5 (*Appendix P*). During vacuum box testing of repair RP-215, a failed extrusion weld was identified. As such, a new geomembrane patch (RP-222) was placed over the failed extrusion weld, and subsequently tested using the vacuum box to verify the integrity of the new weld;
4. Failed Non-Destruct Test – Refer to Sheet Number 3 (*Appendix P*). A failed non-destruct test (pressure test) was encountered along Panel Seams #7/8. Based on the length of the failed seam (approximately 6 ft. along the southern end of SA-6), the entire seam was patched and repaired (approximate 2 ft. by 6 ft. patch). Vacuum box testing was then conducted to confirm the integrity of the new extrusion welds;
5. Failed Destruct Sample – Refer to Sheet Number 11 (*Appendix P*). Extrusion weld destruct sample DSX-13, which was collected from repair RP-477, failed one of the five test specimens for peel strength testing (Note: averages of the five specimens conformed to the project specifications). A new patch was placed over RP-477, and was identified as a Failed Seam (FS). It should be noted that the new patch was identified as repair RP-486. Once completed, an additional extrusion weld destruct sample (DSX-15) was collected to confirm the new patch met the specification requirements. Subsequent laboratory testing confirmed that the DSX-15 destruct sample complied with the project specification strength requirements; and
6. Geomembrane Puncture (Equipment) – Refer to Sheet Number 12 (*Appendix P*). During final grading of the protective cover soil by Entact, an excavator bucket punctured the geomembrane liner along the northern end of SA-6 South (along the SCB Wall). This puncture was subsequently repaired / patched, welded, and vacuum box tested by ESI, according to the project specifications. The repair associated with the puncture was identified as repair RP-488, and was listed as Damage by Others (DO).

Additional details on the non-compliance issues encountered, as well as the subsequent repair activities, are further described in the Langan Daily Reports and Photo Logs provided in *Appendix F*.

3.0 DECLARATIONS

3.1 General

Langan personnel have monitored the construction and field activities completed for the capping of SA-6 South specific to the subgrade preparation and placement of the geotextile and geocomposite materials as defined herein. Based on the field observations made by Langan along with the field and laboratory test data collected by the Contractor and Subcontractors, it is our professional opinion that the construction observed at SA-6 South complied with the approved *100% Design* package. Additional details on the work and approval of materials is outlined in the *EOR Closure Report*.

3.2 Limitations

This Cap Geosynthetic Quality Assurance Report (QA Report) was prepared by Langan (in conjunction with Amec Foster Wheeler) for the exclusive use of Honeywell. This QA Report applies specifically to the subgrade preparation and construction of the geosynthetics components of the SA-6 South cap only.

The construction observations and monitoring were conducted under the conditions stated. Conclusions made in this report were based on these observations and data obtained from field and laboratory tests conducted on the QA samples collected.

The topographic survey measurements were completed by Entact and their licensed surveyor Maser and subject to review and approval by Amec Foster Wheeler. Langan did not independently verify the accuracy of this data.

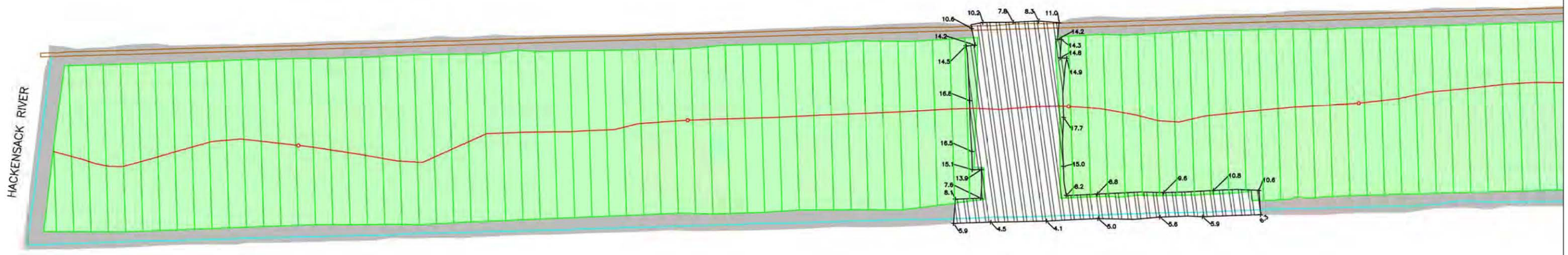
Acceptance of the geosynthetic materials used for the SA-6 South cap construction was completed by Amec Foster Wheeler. Furthermore, the QC laboratory testing was completed by Geotechnics (under the direction of Entact) and QA laboratory testing was completed by TRI (under the direction of Langan).

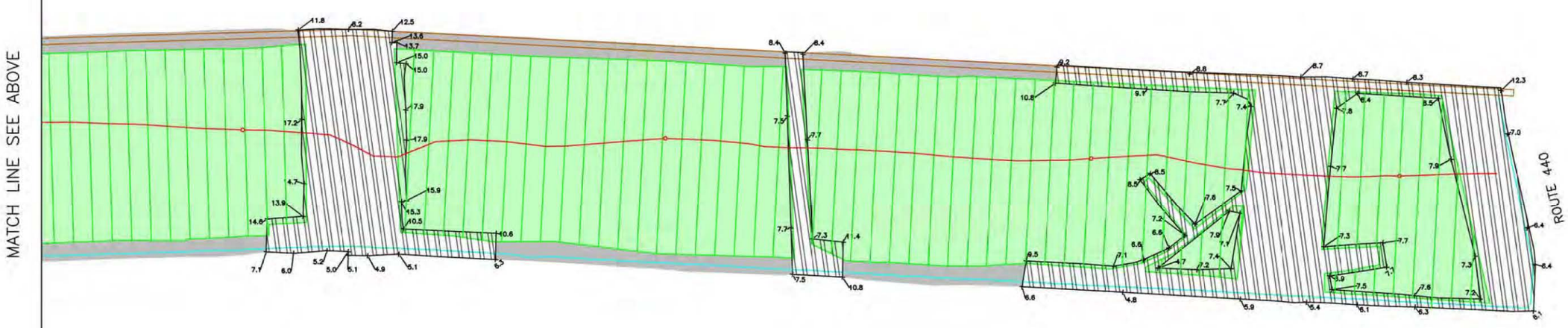
The approval of all materials used for this project was completed by Amec Foster Wheeler in the *EOR Closure Report*. The geosynthetic production quality testing was completed by AGRU America, Inc. and their subcontracted companies working on their behalf. Langan did not independently verify the accuracy of the conformance test data.

Appendix A : Record Drawings

A1. GVL / GCL Record Drawing
A2. LLDPE Geomembrane Record Drawing
A3. GDL Record Drawing

A1. GVL / GCL Record Drawing





0 80 160 Feet

LEGEND

- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)
- SPOT ELEVATION (ft) (X 0.0)

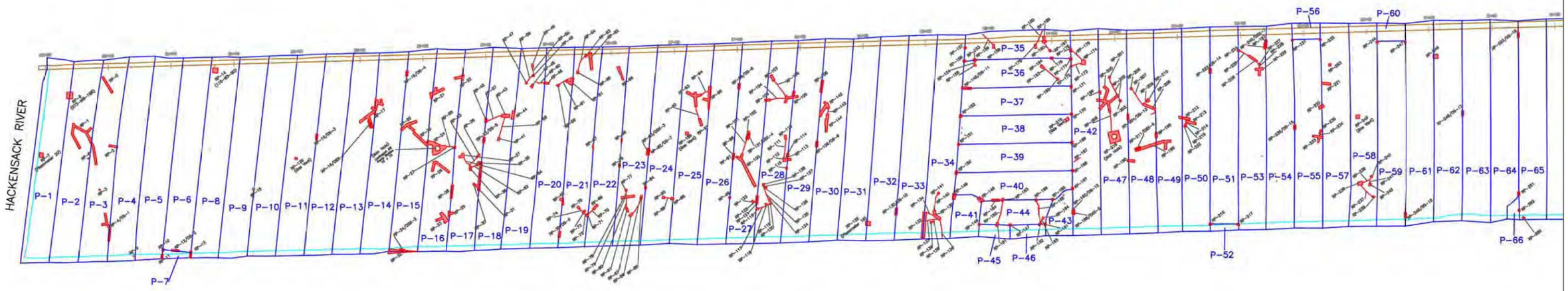
J.H. 01/28/2016

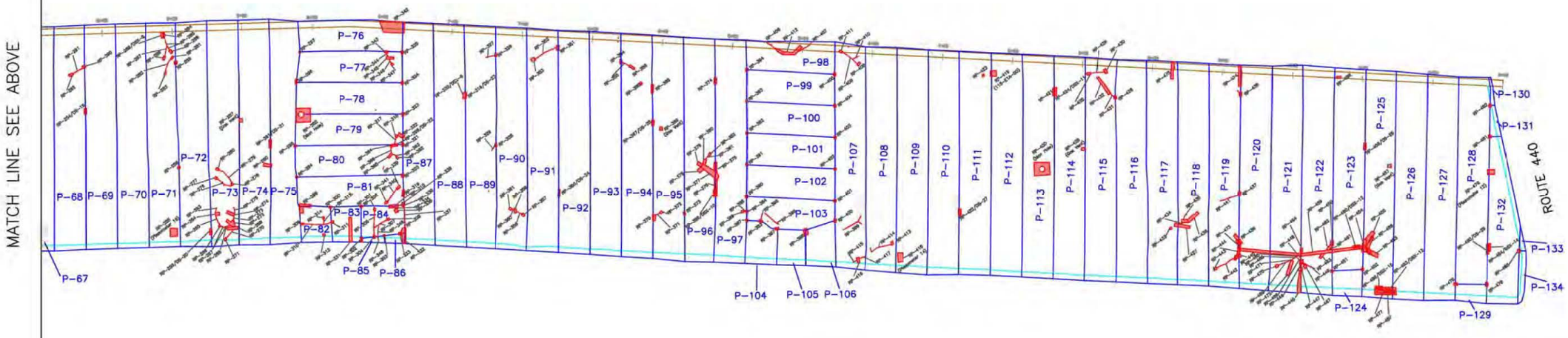
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosythetic Clay Liner
01/28/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A2. LLDPE Geomembrane Record Drawing





LEGEND

- RP-1 (Repair Number)
- LINER SEAM/EDGE
- SCB WALL
- HB WALL (Inner Edge)

RP: Repair
DSX: Destructive Extrusion Weld Test
DS: Destructive Fusion Weld Test
P: Panel
\- Bead

NOTE: Refer to ESI Repair Report for repair details

0 80 160 Feet

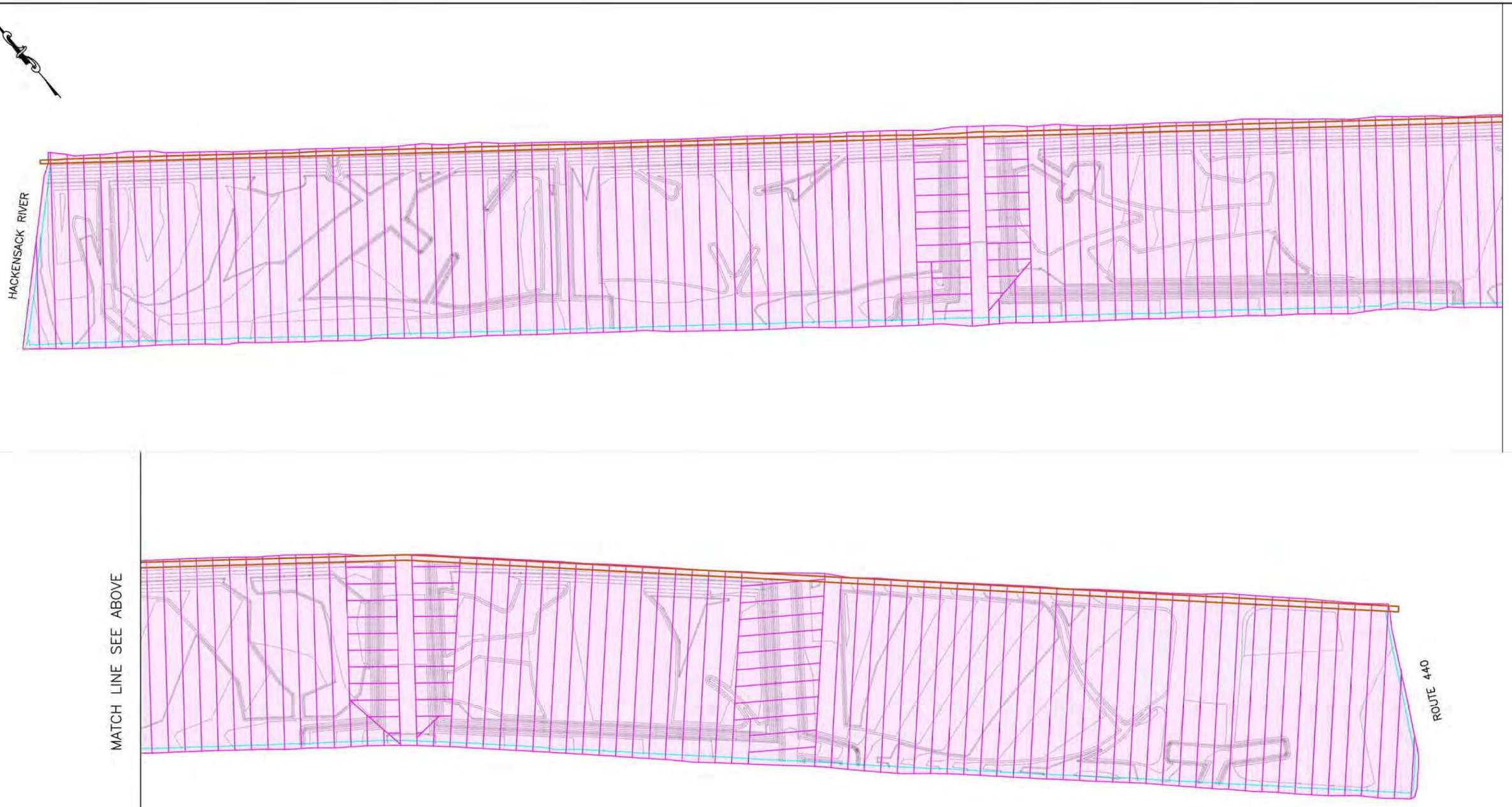
J.H. 01/28/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
01/28/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

A3. GDL Record Drawing



LEGEND

GEOCOMPOSITE DRAINAGE LAYER (GDL)

SCB WALL

HB WALL (Inner Edge)

0 80 160 Feet

J.H. 01/27/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

SA6 SOUTH CAP GDL LAYOUT
GEOCOMPOSITE DRAINAGE LAYER 01/27/16

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Appendix B
Langan CQA Plan

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

for

Geosynthetic Cap Installation
Study Area 6
Jersey City, New Jersey

Prepared For:

Honeywell International, Inc.
101 Columbia Rd.
Box 2105
Morristown, NJ 07962

Prepared By:

Langan Engineering and Environmental Services, Inc.
River Drive Center 1, 619 River Drive
Elmwood Park, NJ 07407

July 2015

Langan Project No. 10053001

LANGAN

CONSTRUCTION QUALITY ASSURANCE (CQA) PLAN

Prepared By:
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LANGAN

LANGAN

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TABLES

Table 1 Geosynthetic Material Testing Methods & Frequency

FIGURES

Figure 1 SA-6 Liner Installation Organization Chart

APPENDICES

Appendix A QA/QC Forms
- A1 – Certification of Completion
- A2 – Receiving Inspection Report Table
- A3 – Individual Photographic Log
- A4 – Geosynthetics Inventory and Certification Log
- A5 – Subgrade Surface Checklist
- A6 – Trial Weld Log
- A7 – Panel Placement Log
- A8 – Seam Testing Chain of Custody Form
- A9 – Seam Control and Non-Destructive Test Log
- A10 – Repair Log
- A11 – Conformance Test Chain of Custody Form
- A12 – Destructive Seam Field Test
- A13 – Destructive Sample Tracking Summary
- A14 – Penetration Sealing Observation / Cap to Barrier Installation Observation
- A15 – Geosynthetic Daily Inspection Report
- A16 – Notice of Non-Compliance and Corrective Action Form

1.0 INTRODUCTION

Honeywell International Inc. (Honeywell) is currently remediating Study Area 6 (SA-6), located in Jersey City, New Jersey (Site). SA-6 encompasses work in two areas: SA-6 North and SA-6 South, which are separated by Study Area 7 (SA-7). The Open Space areas at SA-6 North and SA-6 South will be covered with an engineered cap that includes a linear low-density polyethylene (LLDPE) geomembrane cover, a gas venting layer, a geocomposite drainage layer (GDL), a geosynthetic clay liner (GCL), and other related geosynthetic cap components. Technical specifications and design drawings for the engineered cap may be found in the document titled "100% Specification and Design Drawings."

Honeywell retained Langan Engineering and Environmental Services, Inc. (Langan) as the Independent Quality Assurance (QA) Engineer for the cap geosynthetics installation. This Construction Quality Assurance (CQA) Plan has been prepared in support of this site remediation project with pertinent supporting details outlined herein.

1.1 Purpose

The purpose of this CQA Plan is to describe the quality assurance and control procedures required for the construction of the geosynthetic components of the capping system for the Study Area 6 site, encompassing SA-6 North and SA-6 South.

The ultimate goal of this CQA program is to ensure that proper construction techniques and procedures are implemented throughout the course of this phase of the SA-6 project in accordance with the project specifications. Upon completion of the construction activities, a Cap Geosynthetics QA Report will be prepared.

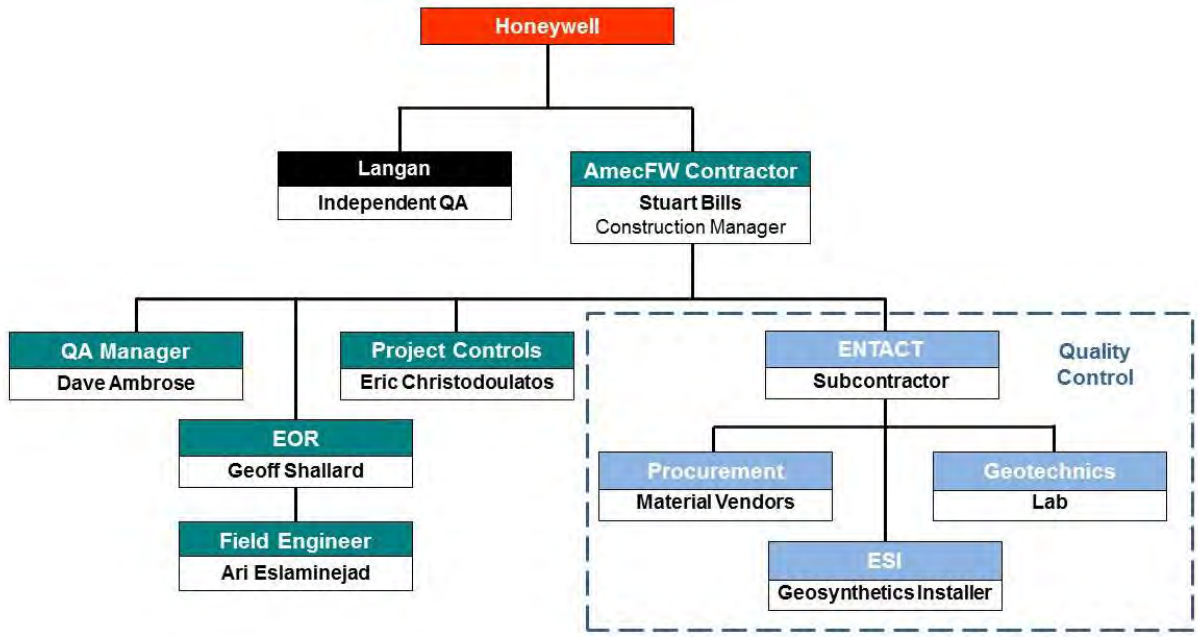
All of the involved parties will receive a copy of this CQA Plan including the Owner, Construction Contractor, Capping System Subcontractor, Geosynthetic Installer, and the Independent Quality Assurance Engineer. The roles and responsibilities of these parties are outlined further in Section 2.0.

2.0 PERSONNEL RESPONSBILITIES, AUTHORITY, AND QUALIFICATIONS

2.1 General

The principal parties involved in the permitting, design, and construction of the final capping system for the SA-6 site include the Owner, Design Engineer, Construction Contractor, and the Independent Quality Assurance Engineer. Additional entities include the Geosynthetic Installer and Material Quality Control Laboratory. The project organization chart is shown on Figure 1. Descriptions of the individual parties are provided in the sections below.

Figure 1 – SA-6 Liner Installation Organization Chart



2.2 Owner

Honeywell, as Owner, is ultimately responsible for the construction of the capping of SA-6. The Owner has retained the Design Engineer, Construction Contractor, and the Independent Quality Assurance Engineer.

2.3 Design Engineer

Amec Foster Wheeler Environment & Infrastructure, Inc. (AmecFW), as the Design Engineer, was responsible for preparing the final design of the capping system, as well as plans and specifications for the construction work. The final design includes relevant aspects of the capping system, including details of the subgrade preparation, gas venting system, utility trenches, geosynthetic placement details, soil cover requirements, and other relevant design considerations. Samuel G. Shallard is the Engineer of Record (EOR) for AmecFW.

Technical specifications and design can be found in the document titled "100% Specifications and Design Drawings."

Personnel involved with the design engineering portions of the project are outlined herein:

- **Engineer-of-Record**
  Mr. Samuel Shallard shall serve as the Engineer of Record (EOR) and technical lead. Mr. Shallard will also be the lead engineer in resolving technical questions that arise during project execution.

- **Quality Assurance Manager**
  Mr. David Ambrose shall serve as the Quality Assurance (QA) Manager. He shall be directly responsible for subcontractor conformance to the technical specifications and project requirements.

- **Field Engineering**
  Ms. Ari Eslaminejad will serve as the EOR site representative.

2.4 Construction Contractor

AmecFW shall also serve as Construction Contractor (Contractor), and is responsible for constructing the soil capping system in accordance with the design criteria, plans, and specifications while using the necessary construction procedures and techniques. The Contractor has engaged ENTACT (Subcontractor) to support AmecFW with these activities.

A New Jersey licensed land surveyor will be contracted to conduct the licensed surveying tasks required in the contract documents and in this CQA Plan as well as to prepare the required record documents.

The Contractor shall provide sufficient project management and project supervision staff to ensure the submission and approval of materials, and that the execution of the work is completed in a timely manner and in accordance with the plans and specifications. Work shall be completed to the standards defined by this CQA plan and the plans and specifications. The Construction Manager, or a designated representative, shall be present during construction activities to oversee work by contractor personnel and/or subcontractor personnel. The Construction Manager or designated representative will coordinate activities directly with the Owner's representative and representatives of the Independent Quality Assurance (QA) Engineer. The Contractor shall be responsible for the repair or replacement of any items or work found defective. The Construction Manager will be supported by the AmecFW Quality Assurance Manager.

For the SA-6 capping project, AmecFW has provided a list of the capping construction team including subcontractors and corresponding responsibilities. A summary of these team members is provided below and presented on the organization chart shown on Figure 1.

- **Construction Manager**
  Mr. Stuart Bills shall serve as the AmecFW Construction Manager and Site Health & Safety Officer with the responsibility for the day-to-day Site activities. He shall report directly to the Honeywell Manager of Construction and the Honeywell Remediation Manager. Mr. Bills shall be responsible for the project implementation schedule, budget, and subcontractor oversight.

- **Project Controls**
  Mr. Eric Christodoulatos shall be responsible for coordinating and tracking submittal approvals and Request for Information (RFI) responses with the EOR. He will also be responsible for project financial cost and schedule tracking and projections.

- **Capping System Subcontractor – ENTACT**
  ENTACT is contracted to AmecFW to perform the cap construction. ENTACT will be responsible for installing the SA-6 capping system in accordance with "100% Specifications and Design Drawings." ENTACT will also be responsible for coordinating scheduling, project deviations, work plans, and any other pertinent construction details directly with the project team. ENTACT will report directly to AmecFW, and will provide the final construction details, including as-built drawings, upon project completion.

- **Geosynthetic Installer – ESI**
  ESI (Installer) is subcontracted to ENTACT. ESI will be responsible for installing the SA-6 geosynthetic materials in accordance with the project plans and specifications, and will work directly with ENTACT. ESI will also be responsible for coordinating scheduling, project deviations, work plans, and any other pertinent construction details directly with the project team.

- **Material Quality Control Laboratory – Geotechnics**
  Geotechnics is subcontracted to ENTACT. Geotechnics will be responsible for supplying laboratory testing results required as part of the capping project, such as destructive seam testing.

2.5 Cap Geosynthetics Quality Assurance Engineer

Langan has been retained by Honeywell to provide Independent Quality Assurance for the SA-6 Cap Geosynthetics installation. The Quality Assurance (QA) Engineer will perform the activities specified in this CQA Plan (i.e. monitoring, field oversight, and documentation) and provide a Cap Geoynthetics QA report at the conclusion of the project for the work observed. At a minimum, the Independent QA engineering staff will include a Geosynthetic QA Manager, QA Engineer, and on-site Field Technician, as outlined herein.

Geosynthetic QA Manager – Mr. Jeffrey Stoicescu, P.E.

Duties:

- Review design criteria, plans, and specifications for clarity and completeness so that the CQA Plan can be implemented.
- Advise the Lead Quality Assurance Engineer and On-Site Field Technician on CQA requirements and procedures. For similar projects, the project manager will support the EOR and field team members on a variety of Requests for Information and Submittals that will vary either the construction sequence or materials.
- Schedule and coordinate CQA inspection activities.
- Routinely update the Owner and Design Engineer on cap geosynthetic status throughout the duration of the geosynthetic portion of the project.
- Attend conference calls as required to provide potential solutions to requests when requested by the EOR.

Authority:

The Geosynthetic QA manager has the authority to determine whether or not materials, procedures, and/or installed materials meet the minimum project requirements, and to reject any materials, procedures, and/or installed work that fails to meet the project requirements. The project manager will advise the EOR, Contractor, and Owner of the rejection of materials, procedures, or installed work.

Lead Quality Assurance Engineer – Mr. Dan Bosworth

Duties:

- Direct and support the CQA personnel in performing observations and material tests;
- Confirm that the testing data is accurately recorded and maintained;
- Verify that the raw data is properly recorded, validated, reduced, summarized, and interpreted;
- Review and interpretation of data sheets and reports;
- Notify the Geosynthetic QA Manager of potential conflicts with the design drawings;
- Coordinate with the EOR to reject defective work and verify that corrective measures are implemented;
- Identify work that should be accepted, rejected, or uncovered for observation, or that may require special testing, inspection or approval.

Authority:

The Lead QA Engineer shall have the authority to observe and test any material and/or work, and render a decision as to whether the work is acceptable (based on the testing), and ensure that any work that does fail is removed and replaced with acceptable materials and/or workmanship.

On-site Field Technician – Mr. Dan Bosworth and/or Mr. Connor Shields

Duties:

- Perform site monitoring of the work in progress to assess compliance with the design criteria, plans, and specifications;
- Observe deliveries received on site as required on the Receiving Inspection Report provided as Appendix A2;
- Verify that the tests are conducted according to this CQA Plan;
- Report to the Lead QA Engineer results of inspections, including work that is not of acceptable quality or that fails to meet the specified design; and
- Complete inspection and testing forms as necessary.

Authority:

The on-site technician will have the authority to observe and test material and render a decision of whether the work is acceptable based on observation of testing and help ensure that work that does not conform to the approved plans and specifications is removed and replaced with acceptable materials and/or workmanship.

3.0 QUALITY CONTROL MEETINGS

3.1 Daily Tailgate Safety Meeting

A daily tailgate meeting will be held prior to commencement of any work activities for the day at approximately 6 A.M or time designated by the Construction Manager. The Contractor, Subcontractor, Geosynthetic Installer, and on-site quality assurance personnel involved in the field work procedures for that specific day shall be present at this meeting. The Daily Meeting shall include relevant aspects of the work for the day and its potential relationship to relevant health and safety (H&S) aspects outlined in their respective H&S plans. Individuals who arrive after the tailgate meeting has been conducted shall convene with the Construction Manager or other designate for the H&S briefing prior to starting work.

3.2 QA/QC Coordination Meeting

A QA/QC coordination meeting will be held prior to the construction of the capping system. Representatives of Honeywell, the EOR, the Construction Contractor, and the Independent QA Engineer will be present. The agenda for this meeting may include, but not be limited to:

- Familiarize each involved party with the CQA Plan and its role relative to the design criteria, site construction and closure plans, specifications, and construction documentation;
- Review the responsibilities of each involved party;
- Review the Contractor's projected work schedule and methodology;
- Determine any changes, if necessary, to the CQA Plan that are needed to ensure that the capping system will be constructed to meet the specific design;
- Review lines of authority and communication for each organization;
- Discuss the established procedures or protocol for observations and tests including sampling strategies;
- Discuss the established procedures or protocol for handling design change bulletins, construction deficiencies, repairs, and retesting;
- Review methods for documenting and reporting inspection data;
- Review methods for distributing and storing documents and reports;
- Review work area security and safety protocol;
- Review procedures for the location and protection of construction materials and for the prevention of damage to the materials from inclement weather or other adverse events;
- Conduct a site walk-around to review construction materials where available and to inspect equipment storage locations; and
- Minutes of the preconstruction meeting will be prepared by the Quality Assurance On-site field technician and will be distributed to all parties.

3.3 Progress Meeting

Progress meetings will be held once a week on Tuesdays at 8:30 A.M or at an alternate time designated by the Construction Manager. These meetings shall be scheduled between the primary parties involved with this project. At a minimum, a Representative of Honeywell, the Contractor's Construction Manager, the EOR, and a representative of the Independent QA team shall be present. At times, a subcontractor may be requested to attend as well.

3.4 Geosynthetic Pre-Installation Meeting

A progress meeting will be held prior to commencing installation of the geomembrane and/or geosynthetic materials. At a minimum the attendees shall be the Contractor's Construction Manager, the Lead Quality Assurance Engineer and On-Site Field Technician, as well as representatives from ENTACT and ESI. The agenda for this meeting will include but is not limited to the following:

- Discussion of CQA procedures and requirements;
- Review Panel Layouts;
- Review of Repair tracking methods and drawings;
- Discussion of procedures or protocol for observations and tests including sampling strategies;
- Installation sequence and methods;
- Projected work schedule; and
- Minutes of the geosynthetic pre-installation meeting will be prepared by the Project Controls representative and will be distributed to all parties.

3.5 Observation and Testing Records

There will be observation and testing records that will be utilized in conjunction with the construction oversight performed by the Quality Assurance (QA) Field Technician. The observation logs listed below contain the data to be recorded by the Quality Control Representative and can be found in Appendix A. The QA on-site field Technician will complete the following observation and testing records:

- Geomembrane Observation Records – The geomembrane inspection records forms consisting of:
    - Material delivery checklist (see Appendix A4)
    - Subgrade surface acceptance records (see Appendix A5)
    - Trial weld logs (see Appendix A6)
    - Panel placement record (see Appendices A7)
    - Panel seaming log (see Appendix A8)
    - Non-destructive testing log (see Appendix A9)
    - Repair log (see Appendix A10)
    - Conformance Test Chain of Custody Form (A11)
    - Destructive testing log (see Appendices A12 and A13)
    - Penetration Sealing Observation / Cap to Barrier Installation Observation (see Appendix A14)
    - Daily inspection report for the geomembrane liner (see Appendix A15)
- Other related forms including certification of completion (see Appendix A1), receiving inspection report table (see Appendix A2), and notice of non-compliance and corrective action form (see Appendix A16).

The QA on-site field technician overseeing geomembrane installation will independently document related data contained within the records listed above to provide the information to review the Contractor's geomembrane capping system subcontractor documentation prior to acceptance of the installed geomembrane cap. The Contractor shall provide access to the work

site and shall provide the QA on-site field technician access to all field data and records, as built drawings, and shall collect duplicate samples as required for testing by the QA on-site field technician laboratory subcontractor as required.

In addition, the on-site field technician will maintain a field notebook onsite to document observations, test results, weather conditions, work defects, etc. that occur during observation of construction activities.

4.0 CONSTRUCTION QUALITY ASSURANCE

4.1 General

The final capping system consists of the following layers, from bottom to top:

- A gas venting system (geocomposite drainage layer and vents);
- A 60-mil geomembrane LLDPE layer;
- A geocomposite drainage layer with warning layer;
- 12-inch thick geocomposite drainage layer cover soil;
- 16 oz woven geotextile root barrier; and
- Soil layers consisting of structural fills, planting soils, and capped with a 6-inch minimum topsoil layer.

The layers of the capping system are described in the sections below.

4.2 Subgrade Preparation

The subgrade layer of the capping system is shown on construction drawing C-301, provided in "100% Specifications and Design Drawings." The soil surface for the capping system (subgrade) is currently under construction to prepare the surface in accordance with the subgrade specification. These subgrade surface conditions will require review and approval by the Independent QA Engineer and Capping System Contractor and geosynthetics installer prior to placement of the geosynthetic materials as defined below.

4.2.1 Quality Assurance

The subgrade observation and approval QA/QC forms have been provided in Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance to Section 02372 found in "100% Specifications and Design Drawings" and note deviations from the technical specifications;
- Observe subgrade preparation; and
- Review documentation to verify compliance.

Testing and installation documentation referenced above that is developed by the Subcontractor will be submitted to the QA Engineer for review. Copies of this documentation will be included as

part of the Cap Geosynthetics QA Report prepared by the Independent QA Engineer. The Cap Geosynthetics QA Report for the subgrade preparation shall, at a minimum, include the following:

- Documentation of qualifications of all contractors and CQA personnel.
- Daily reports prepared by the QA Engineer;
- Subgrade acceptance certificates for each area to be covered by the cap system, signed by the Geosynthetics Installer, the Subcontractor, and QA Engineer;
- Daily construction progress reports clearly showing subgrade preparation; and
- Quality control documentation, as detailed in this CQA Plan.

4.3 Gas Venting System

The gas vent layer shall be comprised of a layer of geocomposite drainage material and a gooseneck-shaped vent to facilitate communication between soil gas under the cap and the atmosphere. This gas venting system is shown on drawings C-121 and C-301 in "100% Specifications and Design Drawings."

Section 02374 from "100% Specifications and Design Drawings" is summarized on Table 1 and indicates the requirements for the geocomposite gas venting layer. Requirements include, but are not limited to:

- Packaging, shipment, and storage of material;
- Handling and placement requirements;
- Seaming procedures; and
- Material repairs.

The specification requirements for the goose-neck shaped vent, which have been provided in Section 02380 in "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Gas vent pipe materials; and
- Installation of the pipes via pipe laying, jointing, and pipe cutting.

4.3.1.1 Quality Assurance

The GDL and gas vent QA/QC forms have been provided as Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Sections 02372 and 02380, provided in "100% Specifications and Design Drawings," and note deviations from technical specifications;
- Observe subgrade preparation;
- Overlapping of geocomposite and connection procedures;
- Material repairs;
- Observe pipe materials handling and storage;
- Observe installation of gas vent system; and
- Review of QC Documents to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Contractor will be submitted to the QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the QA Engineer. The Cap Geosynthetics QA Report for the geocomposite layer shall, at a minimum, include the following:

- Documentation of qualifications of all installers and CQA personnel;
- Daily reports prepared by the QA Engineer; and
- Daily construction progress reports clearly showing geocomposite and piping materials placed by date.

4.4 Geomembrane Layer

The geomembrane selected for use in the cover system is a 60-mil (0.060 inch) thick LLDPE. A microspike double-sided textured geomembrane has been approved for use on this project. Work shall consist of installing the LLDPE geomembrane and the overlying geocomposite in the areas as shown on the construction drawing C-301 provided in "100% Specifications and Design Drawings."

The specification requirements for the geomembrane layer, which have been provided in Section 02372 of "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Packaging, shipment, and storage of material;
- Handling and placement requirements;
- Non-destructive and destructive seam testing procedures; and
- Material repairs.

4.4.1 Quality Assurance

Prior to the start of capping activities the geosynthetic installer shall provide the Design and Independent QA Engineers with a panel layout drawing.

The Subcontractor's installer shall furnish the certified test results for all geomembrane to be used to the EOR, or EOR representative, for review as part of the required shop submittals prior to shipment to the site. The EOR, or EOR representative, will review the test results for conformance with the criteria included in the contract specifications.

The geomembrane layer QA/QC forms have been provided as Appendix A. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Section 02372 provided in "100% Specifications and Design Drawings" and note deviations from technical specifications;
- Review subgrade preparation and approval to place geomembrane materials;
- Observe effect of weather conditions on geomembrane installation;
- Seam preparation;
- Seaming equipment and procedures;
- Overlapping and temporary bonding;
- Test seams;
- Non-destructive and destructive seam testing;

- Penetration sealing observations for gas vents, piezometers, and groundwater collection system manhole to the LLDPE.
    - Note cap to barrier exterior detail will be observed and documented by AmecFW field engineering representative.
- Repair procedures and testing ;
    - Defective areas may include:
        - Large holes, tears, cold bends, cracks, etc.:
        - Other localized flaws;
        - Small to large tears and large lengths of failed seams;
        - Areas of inadequate seams; and
- Documentation to demonstrate compliance.

Testing and installation documentation referenced above that is developed by the Capping System Subcontractor will be submitted to the QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the Independent QA Engineer. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The Cap Geosynthetics QA Report for the geomembrane layer shall, at a minimum, include the following:

- Summary of required submittals, documentation, and QC testing results outlined in Contractor's Construction Quality Assurance Plan (CQA)
- Daily reports prepared by the Quality Assurance Engineer.
- Record drawing(s) (panel layout with all associated data) received and approved by the QA Engineer.
- Subgrade acceptance certificates for each area to be covered by the cap system, signed by the Contractor's Installer and the Contractor.
- Relevant completed QA data sheets from Appendix A.

4.5 Geocomposite Drainage Layer 2 (Surface water infiltration drainage)

The cap cross-section will utilize two layers of drainage net. The geocomposite drainage layers (GDLs) will be both directly above and below the 60-mil geomembrane layer as shown on drawing C-301 in "100% Specifications and Design Drawings." The GDL above the membrane is allow for drainage and transport of infiltrated surface water, and the GDL below the membrane is for gas venting. This section focuses on the installation of the GDL above the membrane.

The specification requirements for the geomembrane layer, which have been provided in Section 02374 in "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Packaging, shipment, and storage of material;
- Handling and placement requirements;
- Seaming procedures;
- Material repairs; and
- Cover soil placement for the GDL above the geomembrane.

4.5.1 Quality Assurance

The geocomposite manufacturer shall provide certified copies of laboratory test results on the following specifications listed in Appendix A.

The Construction Contractor will furnish the certified test results for all geocomposite placed to the QA Engineer for review as part of the required shop submittals. The EOR, or EOR representative, will review the test results for conformance with the criteria included in the contract specifications.

The GDL QA/QC forms have been provided as Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Section 02372 of "100% Specifications and Design Drawings" and note deviations from technical specifications;
- Observe subgrade preparation;
- Overlapping and connection procedures;
- Material repairs; and
- Documentation to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Capping System Subcontractor will be submitted to the Independent QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the Independent QA Engineer. The report sections outlining the geocomposite layer shall, at a minimum, include the following:

- Daily reports prepared by the Independent QA Engineer; and
- Daily construction progress reports clearly showing geocomposite placed by date.

4.6 Root Barrier

The capping system shall contain a woven geotextile root barrier layer. This barrier layer is located directly above the GDL cover soil layer, as indicated in drawing C-301 in "100% Specifications and Design Drawings."

The specification requirements for the geotextile layer, which have been provided in Section 02373 of "100% Specifications and Design Drawings" and summarized on Table 1, includes, but are not limited to:

- Product materials;
- Application of geotextile; and
- Installation of geotextile fabrics.

4.6.1 Quality Assurance

The QA/QC forms have been provided as Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, are not limited to:

- Confirm work has been completed in accordance with Section 02373 of "100% Specifications and Design Drawings" and note deviations from technical specifications;
- Observe geotextile installation;
- Overlapping;
- Material repairs; and
- Documentation to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Contractor will be submitted to the QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the QA Engineer. The relevant sections of report outlining the geotextile layer shall, at a minimum, include the following:

- Daily reports prepared by the QA Engineer; and
- Daily construction progress reports clearly showing geotextiles placed by date.

4.7 Geosynthetic Clay Liner

The geosynthetic clay liner (GCL) shall be used as a secondary hydraulic barrier in locations where the cap may be submerged below the groundwater table, as indicated on drawing C-309 provided in "100% Specifications and Design Drawings."

The specification requirements for the clay liner, which have been provided in Section 02375 in "100% Specifications and Design Drawings" as well as summarized on Table 1, includes, but are not limited to:

- Material delivery, handling, and storage;
- GCL placement;
- Seaming; and
- Damage repairs.

4.7.1 Quality Assurance

The various technical specifications pertaining to the GCL are outlined within the QA/QC forms contained within Appendix A. The forms outlined in Appendix A shall be used as a guideline for the typical information required for the submittal. Actual form submitted by the Contractor may vary from those presented. The QA engineer observations may include, but are not limited to:

- Confirm work has been completed in accordance with Specification Section 02375 and note deviations from technical specifications;
- Observe geotextile installation;
- Observe overlapping and seaming of GCL;
- Material repairs;

- Observe GCL hydration; and
- Documentation to demonstrate compliance.

All testing and installation documentation referenced above that is developed by the Contractor will be submitted to the Independent QA Engineer for review. Copies of all of this documentation will be included as part of the Cap Geosynthetics QA Report prepared by the QA Engineer. The certification report for the GCL shall, at a minimum, include the following:

- Daily reports prepared by the QA Engineer; and
- Daily construction progress reports clearly showing GCL placed by date.

4.8 Earthwork

As shown on drawing C-301 in "100% Specifications and Design Drawings," the soil materials used in the construction of this capping system consist of the following layers:

- Geocomposite drainage soil;
- Planting soil layers consisting of topsoil underlain by soil layers capable of support tree and shrub growth;
- Structural fill to be placed under roadways;
- Common borrow placed in select areas under roadways or to raise the subgrade to appropriate elevations.

The relevant quality control/quality assurance observations and specifications governing placement and testing of each layer are summarized in a separate Construction Quality Control Plan prepared by AmecFW.

5.0 CAP GEOSYNTHETICS QA REPORT

The QA Engineer in conjunction with the EOR and Contractor shall prepare a Cap Geosynthetic QA Report documenting work completed in this CQA Plan. This report shall contain at a minimum:

- As-built drawings from the Contractor;
- Conformed technical specifications from the EOR;
- Summary of DCB, submittals, and RFIs by the EOR;
- Reference to the QC data reported by the Contractor;
- Summary of QA/QC forms outlined in Appendix A prepared by the Independent QA Engineer and Contractor; and
- Photographic logs and QA/QC forms by the Independent QA Engineer.

Tables

Table 1 – Geosynthetic Material Testing Methods & Frequency

ENTACT

TABLE 1: GEOSYNTHETIC MATERIAL TESTING METHODS & FREQUENCY
Honeywell SA6 South
Jersey City, New Jersey

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
60 mil LLDPE MicroSpike Double Sided Geomembrane	Manufacturer - AgruAmerica	*Conformance Testing:*									***394,910 Square Feet***
		Thickness	ASTM D5994	1/roll	57 MARV	02372-2.02 and Table 02372-1		34	0	0	***34 rolls***
		Density	ASTM D1505/D792	1/200,00 lbs	0.939 g/cc		Density value change approved per Submittal 091	1	0	0	***129,200 lbs***
		Tensile Properties	ASTM D6693	1/20,000 lbs	90 lbs/in (strength)/250% elongation			7	0	0	
		Tear Resistance	ASTM D1004	1/45,000 lbs	33 lbs			3	0	0	
		Puncture Resistance	ASTM D4833	1/45,000 lbs	66 lbs			3	0	0	
		Carbon Black Content	ASTM D1603	1/20,000 lbs	2%-3%			7	0	0	
		Carbon Black Dispersion	ASTM D5596	1/45,000 lbs	9 in Cat 1 or 2 and 1 in Cat 3			3	0	0	
		Asperity Height	ASTM D7466	1/Second roll	10 mils (min)		Asperity Test Method change approved per Submittal 091	17	0	0	
		Oxidative Induction Time	ASTM D3895	1/100,000 lbs	100 minutes			4	0	0	
	QC Laboratory - Geotechnics	*3rd Party Laboratory Testing*									
		Thickness	ASTM D5994	1/100,000 square feet	57 MARV	02372-2.02 and Table 02372-1		4	0	0	
		Density	ASTM D1505/D792	1/100,000 square feet	0.939 g/cc		Density value change approved per Submittal 091	4	0	0	
		Tensile Properties	ASTM D6693	1/100,000 square feet	90 lbs/in (strength)/250% elongation			4	0	0	
		Tear Resistance	ASTM D1004	1/100,000 square feet	33 lbs			4	0	0	
		Puncture Resistance	ASTM D4833	1/100,000 square feet	66 lbs			4	0	0	
		Carbon Black Content	ASTM D1603	1/100,000 square feet	2%-3%			4	0	0	
		Carbon Black Dispersion	ASTM D5596	1/100,000 square feet	9 in Cat 1 or 2 and 1 in Cat 3			4	0	0	
		Asperity Height	ASTM D7466	1/100,000 square feet	10 mils (min)		Asperity Test Method change approved per Submittal 091	4	0	0	
		Interface Strength	ASTM D5321	1/100,000 square feet	Peak = 26 degrees; Residual = 22.5 degrees			4	0	0	
		Field Quality Control Testing:									
		Start-Up Testing Peel (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Start-Up Testing Shear (Tensiometer)	ASTM D6392	Start of each shift and every 5 hrs	90 lb/in	02372-3.06.A.1	Test 3 peel/3 shear	100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Vacuum Testing	Full seam length (extrusion weld)	No bubbles in viewing window for 10 seconds	02372-3.06.B.2		100%	0	0	
		Non-Destructive Field Seam Continuity Testing	Air Pressure Testing	Full seam length (fusion weld)	<4 psi pressure loss over 5 min @ 25-30 psi pressure	02372-3.06.B.3		100%	0	0	
		Destructive Testing Shear (Tensiometer)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
		Destructive Testing Peel (Tensiometer)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.D	Test 3 peel/3 shear	35	0	0	
	Lab QC-Geotechnics	Destructive Testing Shear (Laboratory)	ASTM D6392	1/500 ft of seam	66 lb/in & FTB (extrusion weld); 75 lb/in & FTB (fusion weld)	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
		Destructive Testing Peel (Laboratory)	ASTM D6392	1/500 ft of seam	90 lb/in	02372-3.07.E	Test 5 peel/5 shear. 5 out of 5 must pass peel and shear	35	0	0	
Transnet 33-2-6 Geocomposite w/Warning Layer (Drainage Layer)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***394,800 Square Feet***
		Resin									***141 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD			
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD			
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			8	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			8	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	8	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			1	0	0	
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Normal compressive load load should be 750 psf at gradient of 0.316	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply AdhesionTest Method change approved per Submittal 081	4	0	0	
	QC Laboratory - Geotechnics	*Testing with Site Specific Soils*									
		Interface - GDL/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GDL/Cover Soil (Celgene)	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Transmissivity	ASTM D4716	1/100,000 sf	8.0x10-4		Normal compressive load load should be 750 psf at gradient of 0.316	4	0	0	

Materials to be Tested	Sample Location	Parameter	Test Method	Frequency	Value	Specification/ Reference	Notes	QC Tests Needed	QC Tests Completed	QA Tests Completed	Material Quantity
Transnet 22-2-6 Geocomposite (Gas Vent System)	Manufacturer - SKAPS	*Conformance Testing:*				02374-2.2.A					***311,750 Square Feet***
		Resin									***86 Rolls***
		Polymer Density	ASTM D1505	1/lot	>0.94 g/cm3			TBD	0	0	
		Melt Flow Index	ASTM D1238	1/lot	≤1.0 g/10 min			TBD	0	0	
		Geonet									
		Thickness, min avg	ASTM D5199	1/50,000 sf	200 mil			7	0	0	
		Carbon Black Content	ASTM D1603/D4218	1/50,000 sf	2-3%			7	0	0	
		Tensile Strength, MD	ASTM D7179	1/50,000 sf	45 lbs/in		Most current ASTM test method for tensile strength	7	0	0	
		Geotextile									
		Mass/Unit Area, MARV	ASTM D5261	1/100,000 sf	6 oz/sy			4	0	0	
		Grab Tensile, MARV	ASTM D4632	1/100,000 sf	158 lbs			4	0	0	
		Tear Strength, MARV	ASTM D4533	1/100,000 sf	57 lbs			4	0	0	
		Puncture Strength, MARV	ASTM D4833	1/100,000 sf	57 lbs			4	0	0	
		Permittivity, MARV	ASTM D4491	1/500,000 sf	0.5 sec^{-1}			1	0	0	
		AOS, US Sieve	ASTM D4751	1/500,000 sf	0.25 mm			1	0	0	
		UV Resistance	ASTM D4355/G 154	1/resin formulation	90% retained after 500 hrs			TBD			
		Geocomposite									
		Transmissivitiy, min	ASTM D4716	1/200,000 sf	$8.0x10^{-4}$		Transmissivity requirement for gas vent system deleted per Addendum #5; Clarification #3	2	0	0	
		Ply Adhesion, min avg	ASTM D7005	1/100,000 sf	0.5 lbs/in		Ply Adhesion Test Method change approved per Submittal 081	4	0	0	
	QC Laboratory - Geotechnics	*Testing with Site Specific Soils*									
		Interface - GVS/Geomembrane	ASTM D5321	1/100,000 sf		02374-2.3	Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
		Interface - GVS/Subgrade Soil	ASTM D5321	1/100,000 sf	Peak = 26 degrees; Residual = 22.5 degrees		Peform test at normal pressure of 1.5, 3.0, 4.5 psi with displacement rate of 0.04 in/min (wet condition)	4	0	0	
Bentomat DN Geosynthetic Clay Liner	Manufacturer - CETCO	*Manufacturer Certification:*									***69,600***
		Geotextile				02375 - Tables 1 & 2					***32 Rolls***
		Mass/Unit Cap, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	***83,200 lbs***
		Mass/Unit Carrier, MARV (Non-Woven)	ASTM D5261	1/200,000 sf	6.0 oz/sy			1	0	0	
		Bentonite									
		Swell Index	ASTM D5890	1/100,000 lb	24 ml min			1	0	0	
		Moisture Content	ASTM D4643	1/100,000 lb	35% max			1	0	0	
		Fluid Loss	ASTM D5891	1/100,000 lb	18 ml max			1	0	0	
		Finished GCL									
		Mass/Unit Area Bentonite	ASTM D5993	1/40,000 sf	0.75 lb/sf MARV			2	0	0	
		Tensile Strength, MD	ASTM D6768	1/40,000 sf	50 lb/in MARV		Testing frequency change approved per Submittal 092	2	0	0	
		Peel Strength	ASTM D6496	1/40,000 sf	12 lb/in MARV			2	0	0	
			ASTM D4632	1/40,000 sf	60 lb MARV			2	0	0	
		Hydraulic Conductivity	ASTM D5887	1/Week	5×10^{-11} m/sec			TBD			
		Index Flux	ASTM D5887	1/Week	1×10^{-8} m^3/m^2/sec			TBD			
		Internal Shear Strength	ASTM D6243	Periodically	150 psf Typical (non-slope areas); 500 psf Typical			1			

Appendix A

QA/QC Forms

A1 – Certification of Completion
A2 – Receiving Inspection Report Table
A3 – Individual Photographic Log
A4 – Geosynthetics Inventory and Certification Log
A5 – Subgrade Surface Checklist
A6 – Trial Weld Log
A7 – Panel Placement Log
A8 – Seam Testing Chain of Custody Form
A9 – Seam Control and Non-Destructive Test Log
A10 – Repair Log
A11 – Conformance Test Chain of Custody Form
A12 – Destructive Seam Field Test
A13 – Destructive Sample Tracking Summary
A14 – Penetration Sealing Observation / Cap to Barrier Installation Observation
A15 – Geosynthetic Daily Inspection
A16 – Notice of Non-Compliance and Corrective Action Form

Appendix A1

Certification of Completion

LANGAN

Certificate of Completion

Sheet # _____

Project Name		Material Desc.			
Project No.		Layer	Primary	Secondary	Tertiary
Owner/ Contr.		Type	Partial	Substantial	Final
QA Monitor		Date			

Description and Area of Work Being Certified:

I hereby certify that the above identified work has been inspected and it has been properly installed. I further certify all required testing has been completed and the results are acceptable to the CQA Officer. The liner system is suitable for its intended use.

Independent CQA Monitor	
Name:	
Date:	
Title	
Representing:	
Signature:	

Geosynthetic Installer Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	

Owner Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	

Notes, Observations, Comments:

PROJECT COMPLETION REPORT

Project Name: _____ Project Manager: _____

Job Number: _____ Superintendent: _____

Date Completed: _____

Item Number	Item Description	Completed Quantity
	Total Linear Feet of Anchor Trench	
	Vertical Feet of Liner in Trench (per Detail)	

Item Number	Item Description	Completed Quantity
	Total Linear Feet of Tie in to Existing	
	Total Linear Feet of Tie in Slope to Floor	

The Quantities Listed Above Are Based On The Following :

- ☐ Field measurements
- ☐ Quantities are agreed to at this time
- ☐ Quantities listed include geosynthetics in anchor trench
- ☐ Job 100% complete
- ☐ Field change orders were Issued How Many? _____

Check All Applicable Boxes Below:

- ☐ Quantities listed include tie in / run out details
- ☐ Quantities to be verified by survey
- ☐ Quantities listed are per completed survey
- ☐ Job is partially complete.
- ☐ Anticipated remob date is: _____

☐ The project has been left, by ESI, in a clean and orderly fashion acceptable to customer.

_____
Initial by Customer / Rep

☐ All work has been found satisfactorily completed and the work satisfies the Project plans and specifications

_____
Initial by Customer / Rep

ESI Owned Materials Left On Site

Material Description	Roll Count	Total Square Feet	Notes

_____
ESI Superintendent Signature

_____
Print Name

_____
Date

_____
Authorized Signature

_____
Print Name

_____
Title / Company

_____
Date

Rev 2-10-10

Appendix A2

Receiving Inspection Report Table

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location:									Contract Number:
Received From:									Receiving Report Number:
Address:									Date:
QC Inspection by:		QC Date:		Inv. Or Packing Slip No.:		Inv. Or Packing Slip Date:			PO Number:
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Reels	Total Packages	Received By:
									Received At:

Line	Quantity	Unit	Description	Over	Short
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via:		Car #	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:	Freight Bill (Pro) No.:	Weight:	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

Appendix A3

Individual Photographic Log

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.**
Date:		
Direction Taken:		
Description:		

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.**
Date:		
Direction Taken:		
Description:		

Appendix A4

Geosynthetics Inventory and Certification Log

LANGAN

Geosynthetics Inventory and Certification Log

Sheet # _____

Project Name		Material Desc.						
Project No.		Layer	Primary		Secondary			Tertiary
Owner/ Contr.		Material Type:	HDPE	GN	GT	GC	GCL	OTHER
QA Monitor		Texture: Smooth			Thickness:		Width:	

Roll Number	Lot/Batch Number	Roll Length	Roll Area	Date Roll Received	Date Cert.'s Received	Date Roll Approved
Total		-	-			
Running Total			-			
Notes, Observations, Comments:						

Geosynthetic Installer Representative _____ Date _____

Independent CQA Monitor _____ Date _____

Appendix A5

Subgrade Surface Checklist & Data Sheet

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: _____ PROJECT NO: _____

LOCATION: _____

AREA ACCEPTED: _____

PANEL NUMBERS: _____

GRADE ACCEPTANCE: INSPECTOR: _____

GENERAL CONTRACTOR: _____

OWNER: _____

AUTHORIZED REPRESENTATIVE: _____

The undersigned, _____,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on _____ and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

_____	_____	_____
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

_____	_____	_____
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

Appendix A6

Trial Weld Log

Environmental Specialties International, Inc.
Preweld Test Report

Project Name: _____ **Job #** _____ **Superintendent:** _____

Material Type: _____

Job Description: _____

Reported By _____ **Other** _____

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Pond		**Peel Test Extrusion Minimum** _____ PPI
Cell		**Peel Test Fusion Minimum** _____ PPI
Cap		**Shear Test Minimum** _____ PPI

Weld Date / Liner Type	Time am | pm	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A | B	Coupon 2 A | B	Coupon 3 A | B	Coupon 4 A | B	Coupon 5 A | B	Test Results
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
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	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						
	:							Peel						
TO								Shear						

Appendix A7

Panel Placement Log

Daily Panel Placement

Page ____

Project Name: Honeywell Job # 12-11-1399 Deployment Date ____

Superintendent: Fortino Ayala Material Type: LLPE 60 MIL

[ ] Primary Secondary [ ] Cell [ ] Pond [ ] Cap [X] Other: ____

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 22.5

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	-	SF
Total Pay Area This Page	-	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	-	SF
Total Pay Area To Date Including Anchor Trench	-	
Initial Quantity Previous	-	SF
Initial Quantity This Page	-	SF
Initial Quantity To Date	-	SF

Appendix A8

Seam Testing Chain of Custody Form

SEAM TESTING
CHAIN OF CUSTODY FORM

SEND YOUR SEAMS TO

PROJECT NAME / PROJECT NUMBER: _____
PROJECT LOCATION: _____

No.	Seam ID (Include Seam ID, Panel ID, welder, etc.)	MATERIAL DESCRIPTION	FUSION	EXTRUSION	Solvent Weld
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					

TEST METHOD
(Please check which test method is applicable)

O SHEAR – ASTM 04437
PEEL – ASTM 04437

O SHEAR – ASTM 06214
PEEL – ASTM 06214

O SHEAR – ASTM 04437 NSF Modified
Crosshead Speed = 2"/min
PEEL – ASTM 04437 NSF Modified
Crosshead Speed = 2"/min

O SHEAR – ASTM 04437 NSF Modified
Crosshead Speed = 20"/min
PEEL – ASTM 04437 NSF Modified
Crosshead Speed 20"/min

O SHEAR – ASTM 06392
PEEL – ASTM 06392
HDPE

O SHEAR – ASTM 03083
Crosshead Speed = 20"/min
PEEL – ASTM 0413
Crosshead Speed = 2"/min

O SHEAR – ASTM 06392
PEEL – ASTM 06392
LLDPE/PVC

O SHEAR – ASTM 0751
PEEL – ASTM 0413
Crosshead Speed = 2"/min

SPECIFICATIONS/NOTES:
OPEN on SATURDAYS for SEAM TESTING.
To ensure that your package is delivered/received on Saturdays; please fax, e-mail or call to let us know the AIRBILL # of your package. This helps us track for SATURDAY DELIVERY.

Thickness required? O Yes O NO
SOLVENT WELD
Curing Time: _____ Curing Temp:_____

REPORT TO:
Name: _____
Company: _____
Address: _____
_____
Tel No.: _____
Fax No.: _____
E-mail: _____

FIELD CONTACT:
Name: _____
Pager: _____
Mobil: _____
Phone: _____
Fax: _____
E-mail: _____

RELEASED BY:
Name: _____
Company: _____
Date/Time: _____

RECEIVED BY:
Name: _____
Precision Geosynthetic Labs
Date/Time: _____

Shipped Via
O Fedex
O UPS
O Airborne
O DHL
O US Mail
O Hand Carry
O Others

Appendix A9

Seam Control and Non-Destructive Test Log

Environmental Specialties International, Inc.

Seam Control Form

Page _____ of _____

Project Name: _____ **Job #** _____ **Superintendent:** _____

Material Type: _____ **Cell** ☐ **Air Pressure Test** _____ **PSI**

Job Description: _____ **Pond** ☐ **Air Pressure Hold Time** _____ **Minutes**

Reported By _____ **Other** _____ **Cap** ☐ **Allowable Air Pressure Loss** _____ **PSI**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														
	/		:								:	:		
Seam Notes														

Appendix A10

Repair Log

Environmental Specialties International, Inc.
Repair Report

Page _____ of _____

Reported By: _____ **Superintendent:** _____ **Job # :** _____

Project Name: _____ **Cell** ☐ **Cap** ☐

Material Type: _____ **Pond** ☐ **Other** _____

Job Description: _____

Damage Codes				**SF Patch Material**	**Test Type**	**Abbrv.**	**Repair Types**
CR –Crease	BO –Burn Out	PB –Pipe Boot	CF –Custom Fit		Vacuum	*S=South	C--Cap Strip
DS –Destruct Sample	FS --Failed Seam	MatD –Material Defect	LL –Lost Lap		Air Pressure	*N=North	P--Patch
SI –Subgrade Irregularity	WR –Wrinkle	WS –Welder Restart	MD –Mechanical Damage	**LF Welded**	Spark	*W=West	B--Extrusion Bead
SJ –Seam Joint	AV –Airvent	RW –Roller Wrinkle	DO –Damage By Others		Air Lance	*E=East	
	AO –Add On	FM –Fishmouth	AT –Air test				

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)	Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							
						x							

Rev 5-26-09

Appendix A11

Conformance Test Chain of Custody Form

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Page _____ of _____

PROJECT NAME / PROJECT NUMBER: _____

PROJECT LOCATION: _____

GEOMEMBRANE TESTING

Sample ID	Thickness ASTM D5199 or D5994	Density ASTM D1505 Or D792	Carbon Black Content ASTM D1603	Carbon Dispersion D3015 / D5596	Tensile ASTM D638 GM13 / NSF54	Tear Resistance ASTM D1004 (Die C)	Puncture D4833 /101CM2065	Melt Flow Index ASTM D1238, cond. E	Dimensional Stability ASTM D1204	Low Temp. Brittleness D746 / D1790	NCTL ASTM D5397 Hours _____	Other ASTM _____

NONWOVEN OR WOVEN GEOTXTILE TESTING

Sample ID	Thickness ASTM D5199 Or D1777	Mass Per Area ASTM D5261 or D3776	Grab Tensile ASTM D4632	Trapezoid Tear ASTM D4533	Puncture Resistance ASTM D4833	Mullen Burst ASTM D3776	Permittivity ASTM D4491	AOS ASTM D4751	Wide Width Tensile ASTM D4595	UV (hrs _____) ASTM D4355	Other ASTM _____	Other ASTM _____

GEOCOMPOSITE / GEONET / GEOGRID TESTING

Sample ID	Thickness ASTM D5199 or D1777	Density ASTM1505 or D792	Carbon Black Content ASTM D1603	Mass Per Area ASRM D5261 or D3776	Melt Flow Index ASTM D1238, cond. E	Peel ASTM D413 F904 or GRI-GC7	Transmissivity* ASTM D4716	Compression ASTM D1621	Tensile Strength ASTM D1682 or D5035	Wide Width Tensile ASTM D4595	Rib Tensile Strength GRI-GG1	Junction Strength GRI-GG2

* Transmissivity Test Parameters: Normal Load: _____, Gradient: _____, Seating Time: _____, Boundary Condition: _____

CONFORMANCE TEST CHAIN OF CUSTODY FORM

Page _____ of _____

REPORT TO:	**FIELD CONTACT:**	**Released by:**	**Shipped Via:**
Name: _____	Name: _____	Name: _____	O Fedex
Company: _____	Pager: _____	Date/Time: _____	O UPS
Address: _____	Mobil: _____	**Received by:**	O Airborne
_____	Phone: _____	Name: _____	O DHL
Tel No.: _____	Fax: _____	PGL	O US Mail
Fax No.: _____	E-mail: _____	Date/Time: _____	O Others
E-mail: _____			

Appendix A12

Destructive Seam Field Test

Environmental Specialties International, Inc.
Destructive Sample Information

Page _____ of _____

Project Name: _____ **Job #** _____ **Superintendent:** _____

Material Type: _____

Job Description: _____

Reported By _____ **Other** _____

Cell ☐ **Pond** ☐ **Cap** ☐

Peel Test Extrusion Minimum _____ PPI

Peel Test Fusion Minimum _____ PPI

Shear Test Minimum _____ PPI

D.S No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A / B	Coupon 2 A / B	Coupon 3 A / B	Coupon 4 A / B	Coupon 5 A / B	Test Results
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						
								Peel						
	DS Location and Notes							Shear						

Rev 2-26-10

Appendix A13

Destructive Sample Tracking Summary

LANGAN

Geosynthetic Installer
Destructive Sample Tracking Summary

Sheet #_____

Project Name		Material Desc.				Notes, Observations, Comments:
Project No.		Layer	Primary	Secondary	Tertiary	
Owner/Contr.						
QA Monitor						

DS No.	Seam No.	Machine/ Operator	Date Welded	Roll No.	Lot No.	QA Monitor	Average Test Results				Overall (P/F)	Comments and Subsequent Tracking No.'s
							Lab (P/F)		Field (P/F)			
							Peel	Shear	Peel	Shear		

LANGAN

Independent CQA Monitor
Destructive Sample Tracking Summary

Sheet #_____

Project Name		Material Desc.				Notes, Observations, Comments:
Project No.		Layer	Primary	Secondary	Tertiary	
Owner/Contr.						
QA Monitor						

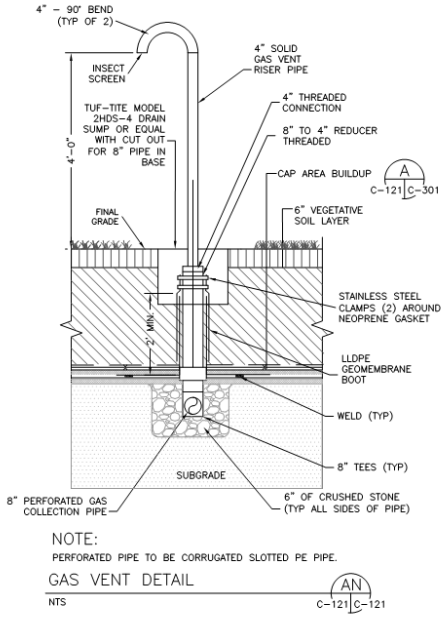
DS No.	Seam No.	Machine/ Operator	Date Welded	Roll No.	Lot No.	QA Monitor	Average Test Results				Overall (P/F)	Comments and Subsequent Tracking No.'s
							Lab (P/F)		Field (P/F)			
							Peel	Shear	Peel	Shear		

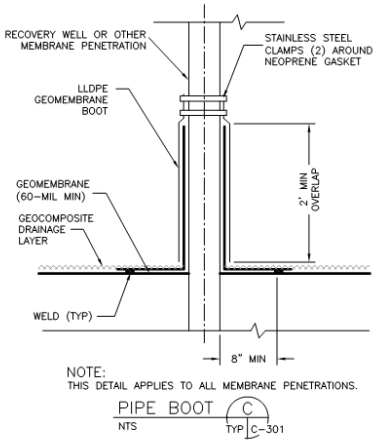
Appendix A14

Penetration Sealing Observations / Cap to Barrier Installation Observation

Project: Study Area 6 South	**Date:** _____

QA – Gas Vent and Piezometer Penetrations



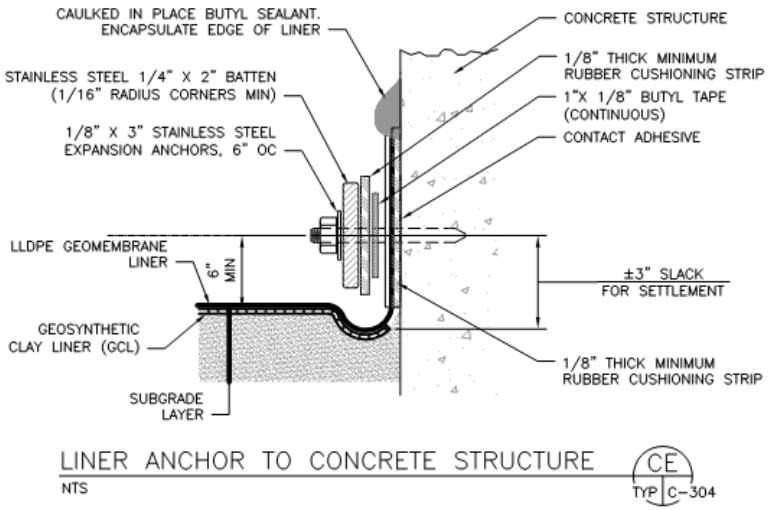


***Check applicable Detail:** ☐ Prefabricated material design dimensions ☐ 18-in. overlap between boot and geomembrane ☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure ☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection ☐ If penetration is greater than 4-in. in diameter, a second clamp shall be used. ☐ Boot connection field tested to ensure seal (ex. vacuum box testing)	**Location:** **Independent CQA Monitor Signature:** _____

Comments:

Project: Study Area 6 South	**Date:** _____

QA – Groundwater Collection Manhole Penetration



Note - GCL only required if the boot is located in an area where the LLDPE is below the water table

***Check applicable Detail:** ☐ Note any dimension changes in comments section ☐ 18-in. overlap between boot and geomembrane ☐ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure ☐ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection ☐ If penetration is greater than 4-in. in diameter, a second clamp shall be used ☐ Boot connection field tested to ensure seal (ex. vacuum box testing)	**Location:** **Independent CQA Monitor Signature:** _____

Comments:

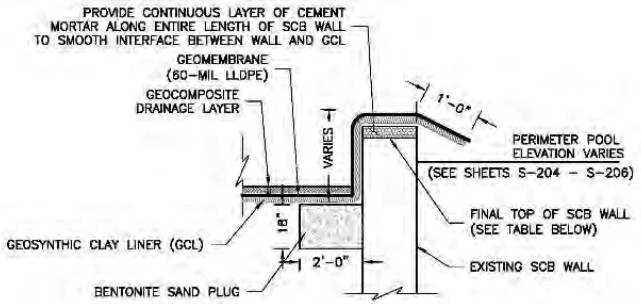
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** _____

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

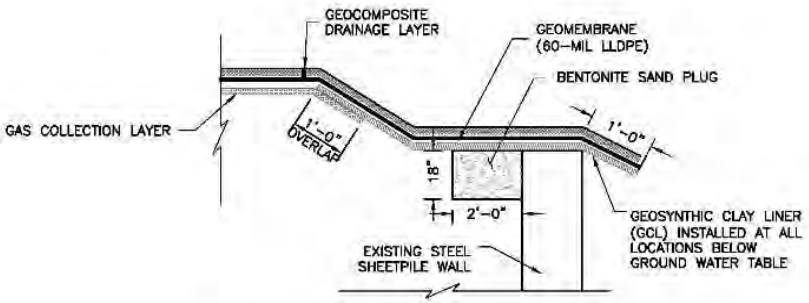
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:** ☐ Box Cut Dimension ☐ Barrier wall clean/exposed ☐ Sand Bentonite Mix	**Location:**
Comments:	**AmecFW QA Signature:** _____

Appendix A15

Geosynthetic Daily Inspection Report

LANGAN
ENGINEERING & ENVIRONMENTAL SERVICES

SITE OBSERVATION REPORT

PROJECT No.: **PROJECT:** **LOCATION:**	**CLIENT:** **TASK.:**	**DATE:** **WEATHER:** **TIME:**

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day**

Site Activities

Non-Conformance Item / Corrective Actions

Action Items Pending

Action Items – Weekly Completions

Near Misses / Incidents

Future Activities Scheduled

Photograph Log

Cc

By:

PROJECT No.: **PROJECT:** **LOCATION:**	**CLIENT:** **TASK.:**	**DATE:** **WEATHER:** **TIME:**

Daily QA Documents Completed					
	Sheet #'s	Comment		Sheet #'s	Comment
A2 – Receiving and Inspection			A11 – Conformance Test Chain of Custody		
A3 – Photo Log			A12 – Destructive Seam Field Test		
A4 – Geosynthetic Inventory Log			A13 – Destructive Lab Sample Tracking Summary		
A5 -Subgrade Surface			A14 – Penetration and Edge Detail Observations		
A6 – Trial Weld Log			A16 – Notice Non-Compliance / Corrective Action		
A7 – Panel Placement Log			*List Others:*		
A8 – Seam Testing Chain of Custody					
A9 – Seam / Non-Destructive Test Log					
A10 – Repair Log					

Appendix A16

Notice of Non-Compliance and Corrective Action Form

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # _____

General Project Information	
Project Name Project No. Owner/Contr. QA Monitor	Date Contractor in NC Non-Compliance No. Notes:
Reference	
Item Specification Sec. No.	Drawing No. Other:
Description of Non-Compliance	
Cross Reference (QA Inspection Form & Sheet No.):	
Contractor's Response	
Follow Up Action Required	
Follow Up Action Taken	
Cross Reference (QA Inspection Form & Sheet No.):	

Geosynthetic Installer Representative _____ Date _____

Independent CQA Monitor _____ Date _____

Appendix C
SA-6 South Certificate of Completion

LANGAN

Certificate of Completion

Sheet # 1

Project Name	Honeywell SA-6 South	Material Desc.	LLDPE Geomembrane Cap		
Project No.	100530001	Layer	**Primary**	Secondary	Tertiary
Owner/ Contr.	Honeywell / AmecFW	Type	Partial	Substantial	**Final**
QA Monitor	Langan	Date	12/01/2015		

Description and Area of Work Being Certified: Completion of capping of SA-6 South which included: placement of GVL/GCL, placement of LLDPE geomembrane, and placement of GDL. Material was placed in accordance with the Record Drawings and project specifications. To date, the geosynthetic components of SA-6 South are complete and summarized in the *QA Completion Report*.

I hereby certify that the above identified work has been inspected and it has been properly installed. I further certify all required testing has been completed and the results are acceptable to the CQA Officer. The liner system is suitable for its intended use.

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	3/30/16
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Fortino Ayala
Date:	3/30/16
Title	Superintendent
Representing:	Environmental Specialties International Inc.
Signature:	

Appendix D: Survey Construction Details

D1. Final Maser Subgrade Tables
D2. Subgrade Construction Control Grid

D1. Final Maser Subgrade Tables

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South Cap Subgrade: Grid Points (Table 1.0)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2	685518.44	601481.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
3	685543.44	601481.51	15.3	GRID	7/2/2015	15.3	0.0	Point surveyed within Tolerance
4	685493.44	601506.51	14.2	GRID	7/2/2015	14.2	0.0	Point surveyed within Tolerance
6	685543.44	601506.51	16.6	GRID	7/2/2015	16.6	0.0	Point surveyed within Tolerance
7	685568.44	601506.51	17.0	GRID	7/2/2015	16.9	-0.1	Point surveyed within Tolerance
8	685468.44	601531.51	13.1	GRID	7/2/2015	13.1	0.0	Point surveyed within Tolerance
9	685493.44	601531.51	13.7	GRID	7/2/2015	13.8	0.1	Point surveyed within Tolerance
10	685543.44	601531.51	14.8	GRID	7/2/2015	14.8	0.0	Point surveyed within Tolerance
11	685568.44	601531.51	15.0	GRID	7/2/2015	15.1	0.1	Point surveyed within Tolerance
12	685593.44	601531.51	18.1	GRID	7/2/2015	18.0	-0.1	Point surveyed within Tolerance
14	685468.44	601556.51	13.9	GRID	7/2/2015	13.9	0.0	Point surveyed within Tolerance
15	685493.44	601556.51	15.9	GRID	7/2/2015	15.8	-0.1	Point surveyed within Tolerance
16	685518.44	601556.51	16.7	GRID	7/2/2015	16.8	0.1	Point surveyed within Tolerance
17	685543.44	601556.51	17.0	GRID	7/2/2015	17.0	0.0	Point surveyed within Tolerance
18	685568.44	601556.51	14.1	GRID	7/2/2015	14.2	0.1	Point surveyed within Tolerance
19	685593.44	601556.51	17.4	GRID	7/2/2015	17.5	0.1	Point surveyed within Tolerance
20	685443.44	601581.51	13.3	GRID	7/2/2015	13.3	0.0	Point surveyed within Tolerance
21	685468.44	601581.51	14.4	GRID	7/2/2015	14.4	0.0	Point surveyed within Tolerance
22	685493.44	601581.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
23	685518.44	601581.51	16.6	GRID	7/2/2015	16.6	0.0	Point surveyed within Tolerance
24	685543.44	601581.51	17.5	GRID	7/2/2015	17.5	0.0	Point surveyed within Tolerance
25	685568.44	601581.51	17.0	GRID	7/2/2015	17.1	0.1	Point surveyed within Tolerance
26	685418.44	601606.51	11.9	GRID	7/2/2015	12.0	0.1	Point surveyed within Tolerance
27	685443.44	601606.51	13.8	GRID	7/2/2015	13.8	0.0	Point surveyed within Tolerance
29	685493.44	601606.51	15.3	GRID	7/2/2015	15.3	0.0	Point surveyed within Tolerance
30	685518.44	601606.51	16.2	GRID	7/2/2015	16.2	0.0	Point surveyed within Tolerance
31	685543.44	601606.51	16.7	GRID	7/2/2015	16.8	0.1	Point surveyed within Tolerance
32	685393.44	601631.51	11.4	GRID	7/2/2015	11.5	0.1	Point surveyed within Tolerance
33	685418.44	601631.51	13.2	GRID	7/2/2015	13.3	0.1	Point surveyed within Tolerance
34	685443.44	601631.51	13.8	GRID	7/2/2015	13.8	0.0	Point surveyed within Tolerance
35	685468.44	601631.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
36	685493.44	601631.51	14.8	GRID	7/2/2015	14.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
37	685518.44	601631.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
38	685543.44	601631.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
39	685393.44	601656.51	12.6	GRID	7/2/2015	12.7	0.1	Point surveyed within Tolerance
40	685443.44	601656.51	13.7	GRID	7/2/2015	13.7	0.0	Point surveyed within Tolerance
41	685468.44	601656.51	15.6	GRID	7/2/2015	15.7	0.1	Point surveyed within Tolerance
42	685493.44	601656.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
43	685518.44	601656.51	16.6	GRID	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
44	685368.44	601681.51	11.6	GRID	7/2/2015	11.6	0.0	Point surveyed within Tolerance
45	685393.44	601681.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
46	685443.44	601681.51	13.7	GRID	7/2/2015	13.6	-0.1	Point surveyed within Tolerance
47	685468.44	601681.51	15.5	GRID	7/2/2015	15.5	0.0	Point surveyed within Tolerance
48	685493.44	601681.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
49	685343.44	601706.51	11.0	GRID	7/2/2015	10.9	-0.1	Point surveyed within Tolerance
50	685393.44	601706.51	16.0	GRID	7/2/2015	16.0	0.0	Point surveyed within Tolerance
51	685443.44	601706.51	13.6	GRID	7/2/2015	13.5	-0.1	Point surveyed within Tolerance
52	685468.44	601706.51	15.4	GRID	7/2/2015	15.4	0.0	Point surveyed within Tolerance
53	685493.44	601706.51	14.3	GRID	7/2/2015	14.3	0.0	Point surveyed within Tolerance
54	685318.44	601731.51	10.7	GRID	7/2/2015	10.6	-0.1	Point surveyed within Tolerance
55	685368.44	601731.51	16.2	GRID	7/2/2015	16.1	-0.1	Point surveyed within Tolerance
56	685393.44	601731.51	16.3	GRID	7/2/2015	16.2	-0.1	Point surveyed within Tolerance
57	685443.44	601731.51	13.5	GRID	7/2/2015	13.5	0.0	Point surveyed within Tolerance
58	685343.44	601756.51	16.6	GRID	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
59	685368.44	601756.51	16.3	GRID	7/2/2015	16.4	0.1	Point surveyed within Tolerance
61	685443.44	601756.51	13.5	GRID	7/2/2015	13.6	0.1	Point surveyed within Tolerance
62	685293.44	601781.51	10.5	GRID	7/2/2015	10.4	-0.1	Point surveyed within Tolerance
63	685318.44	601781.51	17.4	GRID	7/2/2015	17.4	0.0	Point surveyed within Tolerance
64	685343.44	601781.51	16.9	GRID	7/2/2015	16.9	0.0	Point surveyed within Tolerance
65	685368.44	601781.51	16.5	GRID	7/2/2015	16.5	0.0	Point surveyed within Tolerance
66	685393.44	601781.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
67	685418.44	601781.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
69	685268.44	601806.51	11.0	GRID	7/2/2015	11.0	0.0	Point surveyed within Tolerance
70	685318.44	601806.51	18.1	GRID	7/2/2015	18.1	0.0	Point surveyed within Tolerance
71	685343.44	601806.51	17.7	GRID	7/2/2015	17.6	-0.1	Point surveyed within Tolerance
72	685368.44	601806.51	17.1	GRID	7/2/2015	17.1	0.0	Point surveyed within Tolerance
73	685393.44	601806.51	16.7	GRID	7/2/2015	16.6	-0.1	Point surveyed within Tolerance
74	685418.44	601806.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
75	685243.44	601831.51	12.7	GRID	7/2/2015	12.6	-0.1	Point surveyed within Tolerance
77	685318.44	601831.51	15.7	GRID	7/2/2015	15.7	0.0	Point surveyed within Tolerance
78	685343.44	601831.51	18.3	GRID	7/2/2015	18.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
79	685368.44	601831.51	17.7	GRID	7/2/2015	17.7	0.0	Point surveyed within Tolerance
80	685393.44	601831.51	17.2	GRID	7/2/2015	17.3	0.1	Point surveyed within Tolerance
81	685243.44	601856.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
82	685268.44	601856.51	16.1	GRID	7/2/2015	16.1	0.0	Point surveyed within Tolerance
83	685293.44	601856.51	15.7	GRID	7/2/2015	15.8	0.1	Point surveyed within Tolerance
85	685368.44	601856.51	18.0	GRID	7/2/2015	18.0	0.0	Point surveyed within Tolerance
86	685218.44	601881.51	15.6	GRID	7/2/2015	15.6	0.0	Point surveyed within Tolerance
87	685243.44	601881.51	16.4	GRID	7/2/2015	16.4	0.0	Point surveyed within Tolerance
88	685268.44	601881.51	18.7	GRID	7/2/2015	18.7	0.0	Point surveyed within Tolerance
89	685293.44	601881.51	18.6	GRID	7/2/2015	18.5	-0.1	Point surveyed within Tolerance
90	685343.44	601881.51	15.2	GRID	7/2/2015	15.2	0.0	Point surveyed within Tolerance
91	685368.44	601881.51	11.8	GRID	7/2/2015	11.8	0.0	Point surveyed within Tolerance
92	685193.44	601906.51	15.5	GRID	7/2/2015	15.5	0.0	Point surveyed within Tolerance
93	685218.44	601906.51	16.3	GRID	7/2/2015	16.3	0.0	Point surveyed within Tolerance
94	685243.44	601906.51	18.7	GRID	7/2/2015	18.7	0.0	Point surveyed within Tolerance
95	685268.44	601906.51	18.6	GRID	7/2/2015	18.6	0.0	Point surveyed within Tolerance
96	685293.44	601906.51	18.5	GRID	7/2/2015	18.4	-0.1	Point surveyed within Tolerance
97	685318.44	601906.51	18.3	GRID	7/2/2015	18.3	0.0	Point surveyed within Tolerance
99	685193.44	601931.51	15.7	GRID	7/2/2015	15.8	0.1	Point surveyed within Tolerance
101	685243.44	601931.51	18.6	GRID	7/2/2015	18.5	-0.1	Point surveyed within Tolerance
102	685268.44	601931.51	18.5	GRID	7/2/2015	18.4	-0.1	Point surveyed within Tolerance
103	685293.44	601931.51	18.4	GRID	7/2/2015	18.4	0.0	Point surveyed within Tolerance
104	685168.44	601956.51	14.6	GRID	7/2/2015	14.6	0.0	Point surveyed within Tolerance
105	685193.44	601956.51	18.0	GRID	7/14/2015	18.1	0.1	Point surveyed within Tolerance
107	685243.44	601956.51	18.3	GRID	7/14/2015	18.4	0.1	Point surveyed within Tolerance
108	685268.44	601956.51	18.3	GRID	7/14/2015	18.4	0.1	Point surveyed within Tolerance
109	685293.44	601956.51	18.2	GRID	7/14/2015	18.3	0.1	Point surveyed within Tolerance
110	685143.44	601981.51	13.6	GRID	7/14/2015	13.7	0.1	Point surveyed within Tolerance
111	685168.44	601981.51	17.2	GRID	7/14/2015	17.3	0.1	Point surveyed within Tolerance
112	685193.44	601981.51	17.4	GRID	7/14/2015	17.5	0.1	Point surveyed within Tolerance
113	685218.44	601981.51	17.7	GRID	7/14/2015	17.8	0.1	Point surveyed within Tolerance
114	685243.44	601981.51	17.8	GRID	7/14/2015	17.9	0.1	Point surveyed within Tolerance
115	685268.44	601981.51	17.9	GRID	7/14/2015	18.0	0.1	Point surveyed within Tolerance
116	685118.44	602006.51	13.0	GRID	7/14/2015	13.1	0.1	Point surveyed within Tolerance
117	685168.44	602006.51	16.6	GRID	7/14/2015	16.7	0.1	Point surveyed within Tolerance
118	685193.44	602006.51	16.8	GRID	7/14/2015	16.9	0.1	Point surveyed within Tolerance
119	685218.44	602006.51	17.1	GRID	7/14/2015	17.2	0.1	Point surveyed within Tolerance
121	685268.44	602006.51	17.5	GRID	7/14/2015	17.6	0.1	Point surveyed within Tolerance
122	685118.44	602031.51	13.0	GRID	7/14/2015	13.1	0.1	Point surveyed within Tolerance
123	685143.44	602031.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
124	685168.44	602031.51	16.2	GRID	7/14/2015	16.3	0.1	Point surveyed within Tolerance
125	685193.44	602031.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
126	685218.44	602031.51	16.5	GRID	7/14/2015	16.6	0.1	Point surveyed within Tolerance
127	685118.44	602056.51	14.0	GRID	7/14/2015	13.9	-0.1	Point surveyed within Tolerance
128	685143.44	602056.51	16.2	GRID	7/14/2015	16.2	0.0	Point surveyed within Tolerance
129	685168.44	602056.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
130	685193.44	602056.51	16.2	GRID	7/14/2015	16.3	0.1	Point surveyed within Tolerance
131	685218.44	602056.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
132	685068.44	602081.51	4.4	GRID	7/14/2015	4.5	0.1	Point surveyed within Tolerance
134	685143.44	602081.51	16.5	GRID	7/14/2015	16.6	0.1	Point surveyed within Tolerance
135	685168.44	602081.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
136	685193.44	602081.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
137	685218.44	602081.51	16.1	GRID	7/14/2015	16.2	0.1	Point surveyed within Tolerance
140	685093.44	602106.51	4.8	GRID	7/14/2015	4.9	0.1	Point surveyed within Tolerance
141	685118.44	602106.51	5.0	GRID	7/14/2015	5.1	0.1	Point surveyed within Tolerance
142	685168.44	602106.51	16.6	GRID	7/14/2015	16.7	0.1	Point surveyed within Tolerance
143	685193.44	602106.51	16.3	GRID	7/14/2015	16.4	0.1	Point surveyed within Tolerance
146	685143.44	602131.51	5.4	GRID	7/14/2015	5.5	0.1	Point surveyed within Tolerance
138	685043.44	602106.51	4.6	GRID	7/24/2015	4.5	-0.1	Point surveyed within Tolerance
144	685068.44	602131.51	15.0	GRID	7/24/2015	15.0	0.0	Point surveyed within Tolerance
145	685118.44	602131.51	5.2	GRID	7/24/2015	5.1	-0.1	Point surveyed within Tolerance
147	685043.44	602156.51	15.1	GRID	7/24/2015	15.1	0.0	Point surveyed within Tolerance
148	685093.44	602156.51	17.9	GRID	7/24/2015	17.8	-0.1	Point surveyed within Tolerance
149	685143.44	602156.51	5.6	GRID	7/24/2015	5.6	0.0	Point surveyed within Tolerance
150	685168.44	602156.51	5.8	GRID	7/24/2015	5.9	0.1	Point surveyed within Tolerance
151	684993.44	602181.51	5.6	GRID	7/24/2015	5.6	0.0	Point surveyed within Tolerance
152	685018.44	602181.51	15.7	GRID	7/24/2015	15.8	0.1	Point surveyed within Tolerance
153	685043.44	602181.51	15.2	GRID	7/24/2015	15.3	0.1	Point surveyed within Tolerance
154	685068.44	602181.51	17.5	GRID	7/24/2015	17.6	0.1	Point surveyed within Tolerance
155	685093.44	602181.51	17.5	GRID	7/24/2015	17.6	0.1	Point surveyed within Tolerance
156	685118.44	602181.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
157	685143.44	602181.51	14.7	GRID	7/24/2015	14.7	0.0	Point surveyed within Tolerance
159	684968.44	602206.51	6.1	GRID	7/24/2015	6.1	0.0	Point surveyed within Tolerance
160	685018.44	602206.51	18.3	GRID	7/24/2015	18.3	0.0	Point surveyed within Tolerance
161	685068.44	602206.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
162	684993.44	602231.51	18.8	GRID	7/24/2015	18.8	0.0	Point surveyed within Tolerance
163	685018.44	602231.51	16.0	GRID	7/24/2015	15.9	-0.1	Point surveyed within Tolerance
164	685068.44	602231.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
165	685093.44	602231.51	15.0	GRID	7/24/2015	15.1	0.1	Point surveyed within Tolerance
166	684968.44	602256.51	19.4	GRID	7/24/2015	19.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
167	684993.44	602256.51	19.1	GRID	7/24/2015	19.1	0.0	Point surveyed within Tolerance
168	685018.44	602256.51	16.3	GRID	7/24/2015	16.3	0.0	Point surveyed within Tolerance
169	685043.44	602256.51	18.4	GRID	7/24/2015	18.4	0.0	Point surveyed within Tolerance
170	685068.44	602256.51	18.1	GRID	7/24/2015	18.1	0.0	Point surveyed within Tolerance
171	684918.44	602281.51	7.1	GRID	7/24/2015	7.2	0.1	Point surveyed within Tolerance
172	684968.44	602281.51	19.6	GRID	7/24/2015	19.6	0.0	Point surveyed within Tolerance
173	684993.44	602281.51	16.8	GRID	7/24/2015	16.8	0.0	Point surveyed within Tolerance
174	685018.44	602281.51	19.0	GRID	7/24/2015	19.0	0.0	Point surveyed within Tolerance
175	685043.44	602281.51	18.7	GRID	7/24/2015	18.7	0.0	Point surveyed within Tolerance
176	685068.44	602281.51	18.4	GRID	7/24/2015	18.4	0.0	Point surveyed within Tolerance
178	684943.44	602306.51	20.2	GRID	7/24/2015	20.2	0.0	Point surveyed within Tolerance
179	684968.44	602306.51	19.9	GRID	7/24/2015	19.9	0.0	Point surveyed within Tolerance
180	684993.44	602306.51	17.1	GRID	7/24/2015	17.1	0.0	Point surveyed within Tolerance
181	685018.44	602306.51	19.3	GRID	7/24/2015	19.3	0.0	Point surveyed within Tolerance
182	685043.44	602306.51	16.4	GRID	7/24/2015	16.4	0.0	Point surveyed within Tolerance
183	684918.44	602331.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
184	684943.44	602331.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
185	684968.44	602331.51	17.6	GRID	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
186	684993.44	602331.51	19.8	GRID	7/24/2015	19.8	0.0	Point surveyed within Tolerance
187	685018.44	602331.51	17.0	GRID	7/24/2015	16.9	-0.1	Point surveyed within Tolerance
188	684893.44	602356.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
189	684918.44	602356.51	17.9	GRID	7/24/2015	17.9	0.0	Point surveyed within Tolerance
190	684943.44	602356.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
191	684968.44	602356.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
192	684993.44	602356.51	17.5	GRID	7/24/2015	17.5	0.0	Point surveyed within Tolerance
193	684843.44	602381.51	8.7	GRID	7/24/2015	8.7	0.0	Point surveyed within Tolerance
194	684868.44	602381.51	17.4	GRID	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
195	684893.44	602381.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
196	684918.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
197	684943.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
198	684968.44	602381.51	17.8	GRID	7/24/2015	17.8	0.0	Point surveyed within Tolerance
199	684993.44	602381.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
200	684868.44	602406.51	17.0	GRID	7/24/2015	17.0	0.0	Point surveyed within Tolerance
201	684893.44	602406.51	17.3	GRID	7/24/2015	17.3	0.0	Point surveyed within Tolerance
202	684918.44	602406.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
203	684943.44	602406.51	17.7	GRID	7/24/2015	17.7	0.0	Point surveyed within Tolerance
204	684968.44	602406.51	17.8	GRID	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
206	684843.44	602431.51	16.1	GRID	7/24/2015	16.1	0.0	Point surveyed within Tolerance
207	684868.44	602431.51	16.6	GRID	7/24/2015	16.6	0.0	Point surveyed within Tolerance
208	684893.44	602431.51	17.0	GRID	7/24/2015	16.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
209	684918.44	602431.51	17.4	GRID	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
210	684943.44	602431.51	17.6	GRID	7/24/2015	17.6	0.0	Point surveyed within Tolerance
214	684868.44	602456.51	16.3	GRID	7/24/2015	16.3	0.0	Point surveyed within Tolerance
215	684893.44	602456.51	16.7	GRID	7/24/2015	16.7	0.0	Point surveyed within Tolerance
216	684918.44	602456.51	17.1	GRID	7/24/2015	17.1	0.0	Point surveyed within Tolerance
222	684893.44	602481.51	16.4	GRID	7/24/2015	16.4	0.0	Point surveyed within Tolerance
223	684918.44	602481.51	16.9	GRID	7/24/2015	16.8	-0.1	Point surveyed within Tolerance
205	684818.44	602431.51	15.0	GRID	8/10/2015	15.1	0.1	Point surveyed within Tolerance
211	684793.44	602456.51	14.0	GRID	8/10/2015	14.0	0.0	Point surveyed within Tolerance
212	684818.44	602456.51	15.2	GRID	8/10/2015	15.2	0.0	Point surveyed within Tolerance
213	684843.44	602456.51	15.7	GRID	8/10/2015	15.7	0.0	Point surveyed within Tolerance
218	684793.44	602481.51	14.3	GRID	8/10/2015	14.2	-0.1	Point surveyed within Tolerance
219	684818.44	602481.51	14.9	GRID	8/10/2015	14.9	0.0	Point surveyed within Tolerance
220	684843.44	602481.51	15.4	GRID	8/10/2015	15.4	0.0	Point surveyed within Tolerance
221	684868.44	602481.51	15.9	GRID	8/10/2015	15.9	0.0	Point surveyed within Tolerance
224	684768.44	602506.51	13.3	GRID	8/10/2015	13.3	0.0	Point surveyed within Tolerance
225	684793.44	602506.51	14.0	GRID	8/10/2015	14.0	0.0	Point surveyed within Tolerance
226	684818.44	602506.51	14.6	GRID	8/10/2015	14.5	-0.1	Point surveyed within Tolerance
227	684843.44	602506.51	15.1	GRID	8/10/2015	15.0	-0.1	Point surveyed within Tolerance
228	684868.44	602506.51	15.6	GRID	8/10/2015	15.6	0.0	Point surveyed within Tolerance
229	684893.44	602506.51	16.1	GRID	8/10/2015	16.2	0.1	Point surveyed within Tolerance
232	684793.44	602531.51	16.3	GRID	8/10/2015	16.2	-0.1	Point surveyed within Tolerance
233	684818.44	602531.51	16.8	GRID	8/10/2015	16.7	-0.1	Point surveyed within Tolerance
234	684843.44	602531.51	17.3	GRID	8/10/2015	17.3	0.0	Point surveyed within Tolerance
235	684868.44	602531.51	17.9	GRID	8/10/2015	17.9	0.0	Point surveyed within Tolerance
239	684843.44	602556.51	17.1	GRID	8/10/2015	17.1	0.0	Point surveyed within Tolerance
240	684868.44	602556.51	17.6	GRID	8/10/2015	17.6	0.0	Point surveyed within Tolerance
217	684768.44	602481.51	13.2	GRID	8/12/2015	13.2	0.0	Point surveyed within Tolerance
230	684743.44	602531.51	12.6	GRID	8/12/2015	12.6	0.0	Point surveyed within Tolerance
231	684768.44	602531.51	15.8	GRID	8/12/2015	15.8	0.0	Point surveyed within Tolerance
245	684793.44	602581.51	14.1	GRID	8/12/2015	14.1	0.0	Point surveyed within Tolerance
246	684818.44	602581.51	14.1	GRID	8/12/2015	14.1	0.0	Point surveyed within Tolerance
247	684843.44	602581.51	14.3	GRID	8/12/2015	14.4	0.1	Point surveyed within Tolerance
252	684818.44	602606.51	14.3	GRID	8/12/2015	14.3	0.0	Point surveyed within Tolerance
236	684718.44	602556.51	7.5	GRID	8/13/2015	7.4	-0.1	Point surveyed within Tolerance
237	684743.44	602556.51	15.6	GRID	8/13/2015	15.7	0.1	Point surveyed within Tolerance
241	684693.44	602581.51	5.8	GRID	8/13/2015	5.8	0.0	Point surveyed within Tolerance
242	684718.44	602581.51	13.2	GRID	8/13/2015	13.3	0.1	Point surveyed within Tolerance
243	684743.44	602581.51	15.7	GRID	8/13/2015	15.7	0.0	Point surveyed within Tolerance
244	684768.44	602581.51	13.9	GRID	8/13/2015	13.8	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
249	684743.44	602606.51	16.5	GRID	8/13/2015	16.5	0.0	Point surveyed within Tolerance
250	684768.44	602606.51	16.0	GRID	8/13/2015	16.0	0.0	Point surveyed within Tolerance
251	684793.44	602606.51	14.5	GRID	8/13/2015	14.4	-0.1	Point surveyed within Tolerance
255	684768.44	602631.51	17.0	GRID	8/13/2015	17.1	0.1	Point surveyed within Tolerance
256	684793.44	602631.51	16.3	GRID	8/13/2015	16.4	0.1	Point surveyed within Tolerance
257	684818.44	602631.51	16.2	GRID	8/13/2015	16.2	0.0	Point surveyed within Tolerance
261	684793.44	602656.51	14.5	GRID	8/13/2015	14.6	0.1	Point surveyed within Tolerance
248	684693.44	602606.51	5.2	GRID	9/4/2015	5.3	0.1	Point surveyed within Tolerance
253	684693.44	602631.51	5.5	GRID	9/4/2015	5.5	0.0	Point surveyed within Tolerance
254	684718.44	602631.51	5.8	GRID	9/4/2015	5.9	0.1	Point surveyed within Tolerance
259	684718.44	602656.51	6.1	GRID	9/4/2015	6.0	-0.1	Point surveyed within Tolerance
260	684743.44	602656.51	6.4	GRID	9/4/2015	6.4	0.0	Point surveyed within Tolerance
263	684743.44	602681.51	6.7	GRID	9/4/2015	6.7	0.0	Point surveyed within Tolerance
264	684768.44	602681.51	7.0	GRID	9/4/2015	7.0	0.0	Point surveyed within Tolerance
265	684793.44	602681.51	7.4	GRID	9/4/2015	7.3	-0.1	Point surveyed within Tolerance
2069	684743.44	602706.51	17.8	GRID	9/4/2015	17.8	0.0	Point surveyed within Tolerance
2070	684743.44	602731.51	15.4	GRID	9/4/2015	15.4	0.0	Point surveyed within Tolerance
2071	684718.44	602756.51	15.8	GRID	9/4/2015	15.8	0.0	Point surveyed within Tolerance
2072	684718.44	602706.51	18.0	GRID	9/4/2015	18.0	0.0	Point surveyed within Tolerance
2073	684693.44	602706.51	15.4	GRID	9/4/2015	15.3	-0.1	Point surveyed within Tolerance
2074	684693.44	602731.51	18.4	GRID	9/4/2015	18.5	0.1	Point surveyed within Tolerance
2075	684693.44	602756.51	18.8	GRID	9/4/2015	18.8	0.0	Point surveyed within Tolerance
2076	684693.44	602781.51	19.2	GRID	9/4/2015	19.3	0.1	Point surveyed within Tolerance
2079	684668.44	602756.51	16.4	GRID	9/4/2015	16.4	0.0	Point surveyed within Tolerance
2080	684668.44	602731.51	16.0	GRID	9/4/2015	15.9	-0.1	Point surveyed within Tolerance
2081	684668.44	602706.51	18.3	GRID	9/4/2015	18.3	0.0	Point surveyed within Tolerance
2082	684668.44	602681.51	17.9	GRID	9/4/2015	17.8	-0.1	Point surveyed within Tolerance
2083	684668.44	602656.51	14.9	GRID	9/4/2015	14.9	0.0	Point surveyed within Tolerance
2084	684643.44	602706.51	18.6	GRID	9/4/2015	18.6	0.0	Point surveyed within Tolerance
2085	684643.44	602731.51	16.3	GRID	9/4/2015	16.2	-0.1	Point surveyed within Tolerance
2086	684643.44	602756.51	16.8	GRID	9/4/2015	16.8	0.0	Point surveyed within Tolerance
2090	684618.44	602731.51	16.6	GRID	9/4/2015	16.6	0.0	Point surveyed within Tolerance
2101	684593.44	602706.51	6.8	GRID	9/4/2015	6.8	0.0	Point surveyed within Tolerance
2077	684668.44	602806.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2078	684668.44	602781.51	17.1	GRID	9/9/2015	17.1	0.0	Point surveyed within Tolerance
2087	684643.44	602781.51	17.3	GRID	9/9/2015	17.2	-0.1	Point surveyed within Tolerance
2088	684643.44	602806.51	17.6	GRID	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2089	684643.44	602831.51	17.7	GRID	9/9/2015	17.7	0.0	Point surveyed within Tolerance
2091	684618.44	602756.51	17.1	GRID	9/9/2015	17.1	0.0	Point surveyed within Tolerance
2092	684618.44	602781.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.7)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2093	684618.44	602806.51	17.6	GRID	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2094	684618.44	602831.51	17.7	GRID	9/9/2015	17.6	-0.1	Point surveyed within Tolerance
2095	684618.44	602856.51	20.3	GRID	9/9/2015	20.3	0.0	Point surveyed within Tolerance
2096	684593.44	602881.51	19.6	GRID	9/9/2015	19.5	-0.1	Point surveyed within Tolerance
2097	684593.44	602856.51	19.9	GRID	9/9/2015	19.9	0.0	Point surveyed within Tolerance
2098	684593.44	602806.51	17.6	GRID	9/9/2015	17.5	-0.1	Point surveyed within Tolerance
2099	684593.44	602781.51	17.5	GRID	9/9/2015	17.5	0.0	Point surveyed within Tolerance
2100	684593.44	602756.51	17.2	GRID	9/9/2015	17.2	0.0	Point surveyed within Tolerance
2102	684568.44	602731.51	7.4	GRID	9/9/2015	7.5	0.1	Point surveyed within Tolerance
2103	684568.44	602781.51	17.4	GRID	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2104	684568.44	602831.51	19.9	GRID	9/9/2015	19.9	0.0	Point surveyed within Tolerance
2105	684568.44	602856.51	19.4	GRID	9/9/2015	19.4	0.0	Point surveyed within Tolerance
2106	684568.44	602881.51	18.8	GRID	9/9/2015	18.8	0.0	Point surveyed within Tolerance
2111	684543.44	602856.51	18.7	GRID	9/9/2015	18.8	0.1	Point surveyed within Tolerance
2112	684543.44	602831.51	19.5	GRID	9/9/2015	19.5	0.0	Point surveyed within Tolerance
2113	684543.44	602806.51	19.6	GRID	9/9/2015	19.6	0.0	Point surveyed within Tolerance
2114	684518.44	602831.51	18.6	GRID	9/9/2015	18.6	0.0	Point surveyed within Tolerance
2115	684518.44	602856.51	18.1	GRID	9/9/2015	18.2	0.1	Point surveyed within Tolerance
2126	684493.44	602831.51	9.6	GRID	9/9/2015	9.6	0.0	Point surveyed within Tolerance
2109	684543.44	602931.51	13.9	GRID	9/16/2015	14.0	0.1	Point surveyed within Tolerance
2110	684543.44	602906.51	6.4	GRID	9/16/2015	6.5	0.1	Point surveyed within Tolerance
2116	684518.44	602906.51	12.9	GRID	9/16/2015	13.0	0.1	Point surveyed within Tolerance
2132	684468.44	602856.51	5.9	GRID	9/16/2015	6.0	0.1	Point surveyed within Tolerance
2108	684543.44	602956.51	14.3	GRID	9/18/2015	14.3	0.0	Point surveyed within Tolerance
2117	684518.44	602931.51	13.7	GRID	9/18/2015	13.8	0.1	Point surveyed within Tolerance
2118	684518.44	602956.51	16.8	GRID	9/18/2015	16.8	0.0	Point surveyed within Tolerance
2119	684518.44	602981.51	15.9	GRID	9/18/2015	15.9	0.0	Point surveyed within Tolerance
2121	684493.44	603006.51	14.5	GRID	9/18/2015	14.4	-0.1	Point surveyed within Tolerance
2122	684493.44	602981.51	14.9	GRID	9/18/2015	14.9	0.0	Point surveyed within Tolerance
2123	684493.44	602956.51	15.5	GRID	9/18/2015	15.5	0.0	Point surveyed within Tolerance
2124	684493.44	602931.51	16.6	GRID	9/18/2015	16.7	0.1	Point surveyed within Tolerance
2125	684493.44	602906.51	13.4	GRID	9/18/2015	13.4	0.0	Point surveyed within Tolerance
2127	684468.44	603031.51	13.1	GRID	9/18/2015	13.1	0.0	Point surveyed within Tolerance
2128	684468.44	603006.51	13.5	GRID	9/18/2015	13.5	0.0	Point surveyed within Tolerance
2129	684468.44	602981.51	13.9	GRID	9/18/2015	13.9	0.0	Point surveyed within Tolerance
2130	684468.44	602956.51	14.4	GRID	9/18/2015	14.5	0.1	Point surveyed within Tolerance
2131	684468.44	602931.51	15.0	GRID	9/18/2015	15.1	0.1	Point surveyed within Tolerance
2133	684443.44	602881.51	7.9	GRID	9/18/2015	7.9	0.0	Point surveyed within Tolerance
2134	684443.44	602906.51	12.1	GRID	9/18/2015	12.1	0.0	Point surveyed within Tolerance
2135	684443.44	602931.51	13.8	GRID	9/18/2015	13.8	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.8)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2136	684443.44	602956.51	13.3	GRID	9/18/2015	13.3	0.0	Point surveyed within Tolerance
2137	684443.44	602981.51	12.8	GRID	9/18/2015	12.9	0.1	Point surveyed within Tolerance
2138	684443.44	603006.51	12.4	GRID	9/18/2015	12.5	0.1	Point surveyed within Tolerance
2139	684443.44	603031.51	12.0	GRID	9/18/2015	12.0	0.0	Point surveyed within Tolerance
2146	684418.44	603006.51	11.3	GRID	9/18/2015	11.4	0.1	Point surveyed within Tolerance
2147	684418.44	602981.51	11.7	GRID	9/18/2015	11.7	0.0	Point surveyed within Tolerance
2148	684418.44	602956.51	12.1	GRID	9/18/2015	12.1	0.0	Point surveyed within Tolerance
2149	684418.44	602906.51	9.8	GRID	9/21/2015	9.8	0.0	Point surveyed within Tolerance
2150	684393.44	602931.51	8.6	GRID	9/18/2015	8.6	0.0	Point surveyed within Tolerance
2151	684393.44	602956.51	11.0	GRID	9/18/2015	10.9	-0.1	Point surveyed within Tolerance
2152	684393.44	602981.51	10.5	GRID	9/18/2015	10.6	0.1	Point surveyed within Tolerance
2140	684443.44	603056.51	11.7	GRID	9/22/2015	11.6	-0.1	Point surveyed within Tolerance
2141	684443.44	603081.51	11.4	GRID	9/22/2015	11.4	0.0	Point surveyed within Tolerance
2142	684418.44	603106.51	10.2	GRID	9/22/2015	10.2	0.0	Point surveyed within Tolerance
2143	684418.44	603081.51	10.4	GRID	9/22/2015	10.5	0.1	Point surveyed within Tolerance
2144	684418.44	603056.51	10.7	GRID	9/22/2015	10.6	-0.1	Point surveyed within Tolerance
2145	684418.44	603031.51	10.9	GRID	9/22/2015	10.8	-0.1	Point surveyed within Tolerance
2153	684393.44	603006.51	10.1	GRID	9/22/2015	10.1	0.0	Point surveyed within Tolerance
2154	684393.44	603031.51	9.9	GRID	9/22/2015	9.9	0.0	Point surveyed within Tolerance
2155	684393.44	603056.51	9.7	GRID	9/22/2015	9.6	-0.1	Point surveyed within Tolerance
2156	684393.44	603106.51	9.4	GRID	9/23/2015	9.3	-0.1	Point surveyed within Tolerance
2157	684393.44	603131.51	9.3	GRID	9/23/2015	9.2	-0.1	Point surveyed within Tolerance
2161	684368.44	603131.51	8.6	GRID	9/23/2015	8.6	0.0	Point surveyed within Tolerance
2162	684368.44	603106.51	8.8	GRID	9/23/2015	8.7	-0.1	Point surveyed within Tolerance
2163	684368.44	603056.51	8.8	GRID	9/22/2015	8.8	0.0	Point surveyed within Tolerance
2164	684368.44	603031.51	9.0	GRID	9/22/2015	9.0	0.0	Point surveyed within Tolerance
2165	684368.44	603006.51	9.2	GRID	9/22/2015	9.1	-0.1	Point surveyed within Tolerance
2166	684368.44	602981.51	9.4	GRID	9/22/2015	9.3	-0.1	Point surveyed within Tolerance
2167	684343.44	603006.51	8.3	GRID	9/22/2015	8.2	-0.1	Point surveyed within Tolerance
2168	684343.44	603031.51	8.1	GRID	9/22/2015	8.1	0.0	Point surveyed within Tolerance
2169	684343.44	603056.51	8.2	GRID	9/23/2015	8.2	0.0	Point surveyed within Tolerance
2170	684343.44	603106.51	8.4	GRID	9/23/2015	8.4	0.0	Point surveyed within Tolerance
2178	684318.44	603031.51	4.7	GRID	9/23/2015	4.8	0.1	Point surveyed within Tolerance
2179	684293.44	603056.51	4.3	GRID	9/23/2015	4.3	0.0	Point surveyed within Tolerance
2304	684318.44	603081.51	5.4	GRID	9/23/2015	5.3	-0.1	Point surveyed within Tolerance
2160	684368.44	603156.51	8.6	GRID	9/23/2015	8.5	-0.1	Point surveyed within Tolerance
2171	684343.44	603131.51	8.4	GRID	9/23/2015	8.4	0.0	Point surveyed within Tolerance
2180	684293.44	603081.51	7.4	GRID	9/23/2015	7.3	-0.1	Point surveyed within Tolerance
2195	684268.44	603081.51	5.8	GRID	9/23/2015	5.9	0.1	Point surveyed within Tolerance
2303	684293.44	603106.51	7.1	GRID	9/23/2015	7.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Grid Points (Table 1.9)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2159	684368.44	603181.51	6.4	GRID	9/24/2015	6.4	0.0	Point surveyed within Tolerance
2172	684343.44	603181.51	6.5	GRID	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2173	684343.44	603206.51	6.8	GRID	9/24/2015	6.7	-0.1	Point surveyed within Tolerance
2174	684318.44	603231.51	8.8	GRID	9/28/2015	8.7	-0.1	Point surveyed within Tolerance
2175	684318.44	603206.51	6.8	GRID	9/24/2015	6.9	0.1	Point surveyed within Tolerance
2176	684318.44	603181.51	6.5	GRID	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2177	684318.44	603156.51	6.2	GRID	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2181	684293.44	603131.51	5.9	GRID	9/24/2015	5.9	0.0	Point surveyed within Tolerance
2182	684293.44	603156.51	6.3	GRID	9/24/2015	6.3	0.0	Point surveyed within Tolerance
2183	684293.44	603181.51	6.5	GRID	9/24/2015	6.6	0.1	Point surveyed within Tolerance
2184	684293.44	603206.51	8.0	GRID	9/28/2015	8.0	0.0	Point surveyed within Tolerance
2185	684293.44	603231.51	8.3	GRID	9/28/2015	8.2	-0.1	Point surveyed within Tolerance
2190	684268.44	603206.51	7.4	GRID	9/28/2015	7.5	0.1	Point surveyed within Tolerance
2191	684268.44	603181.51	7.5	GRID	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2192	684268.44	603156.51	6.2	GRID	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2193	684268.44	603131.51	5.9	GRID	9/24/2015	5.9	0.0	Point surveyed within Tolerance
2194	684268.44	603106.51	3.1	GRID	9/24/2015	3.1	0.0	Point surveyed within Tolerance
2196	684243.44	603131.51	3.0	GRID	9/24/2015	3.0	0.0	Point surveyed within Tolerance
2197	684243.44	603181.51	7.6	GRID	9/28/2015	7.5	-0.1	Point surveyed within Tolerance
2198	684243.44	603206.51	7.3	GRID	9/28/2015	7.3	0.0	Point surveyed within Tolerance
2206	684218.44	603156.51	7.7	GRID	9/28/2015	7.7	0.0	Point surveyed within Tolerance
2186	684293.44	603256.51	8.5	GRID	9/28/2015	8.5	0.0	Point surveyed within Tolerance
2188	684268.44	603256.51	8.2	GRID	9/28/2015	8.1	-0.1	Point surveyed within Tolerance
2189	684268.44	603231.51	7.8	GRID	9/28/2015	7.8	0.0	Point surveyed within Tolerance
2199	684243.44	603231.51	7.5	GRID	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2205	684218.44	603206.51	7.3	GRID	9/28/2015	7.2	-0.1	Point surveyed within Tolerance
2208	684193.44	603181.51	7.5	GRID	9/28/2015	7.4	-0.1	Point surveyed within Tolerance
2187	684268.44	603281.51	7.1	GRID	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2200	684243.44	603256.51	7.8	GRID	10/7/2015	7.8	0.0	Point surveyed within Tolerance
2201	684243.44	603281.51	7.3	GRID	10/7/2015	7.2	-0.1	Point surveyed within Tolerance
2202	684218.44	603281.51	6.9	GRID	10/7/2015	6.9	0.0	Point surveyed within Tolerance
2203	684218.44	603256.51	7.1	GRID	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2204	684218.44	603231.51	7.4	GRID	10/7/2015	7.4	0.0	Point surveyed within Tolerance
2209	684193.44	603206.51	7.3	GRID	10/7/2015	7.3	0.0	Point surveyed within Tolerance
2210	684193.44	603231.51	7.3	GRID	10/7/2015	7.3	0.0	Point surveyed within Tolerance
2211	684193.44	603256.51	6.7	GRID	10/7/2015	6.8	0.1	Point surveyed within Tolerance
2212	684168.44	603256.51	6.5	GRID	10/7/2015	6.5	0.0	Point surveyed within Tolerance
2213	684168.44	603231.51	6.4	GRID	10/7/2015	6.5	0.1	Point surveyed within Tolerance
2214	684168.44	603206.51	7.6	GRID	10/7/2015	7.6	0.0	Point surveyed within Tolerance
2215	684143.44	603231.51	6.4	GRID	10/7/2015	6.5	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
548	685583.37	601539.44	15.1	BRK	7/2/2015	15.2	0.1	Point surveyed within Tolerance
549	685595.90	601578.00	14.2	BRK	7/2/2015	14.3	0.1	Point surveyed within Tolerance
550	685562.63	601543.70	17.5	BRK	7/2/2015	17.5	0.0	Point surveyed within Tolerance
551	685559.49	601547.97	13.9	BRK	7/2/2015	14.0	0.1	Point surveyed within Tolerance
552	685555.56	601552.54	13.9	BRK	7/2/2015	14.0	0.1	Point surveyed within Tolerance
553	685552.50	601556.70	17.4	BRK	7/2/2015	17.3	-0.1	Point surveyed within Tolerance
554	685602.63	601551.44	17.7	BRK	7/2/2015	17.6	-0.1	Point surveyed within Tolerance
555	685524.90	601529.98	13.1	BRK	7/2/2015	13.2	0.1	Point surveyed within Tolerance
556	685521.85	601534.13	16.6	BRK	7/2/2015	16.4	-0.2	Point surveyed within Tolerance
557	685518.43	601506.14	15.5	BRK	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
559	685566.10	601602.95	17.4	BRK	7/2/2015	17.3	-0.1	Point surveyed within Tolerance
560	685557.11	601621.51	16.2	BRK	7/2/2015	16.1	-0.1	Point surveyed within Tolerance
583	685469.10	601609.94	16.0	BRK	7/2/2015	15.9	-0.1	Point surveyed within Tolerance
584	685468.06	601601.70	14.5	BRK	7/2/2015	14.6	0.1	Point surveyed within Tolerance
585	685534.63	601655.70	15.5	BRK	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
586	685515.15	601685.29	14.8	BRK	7/2/2015	14.6	-0.2	Point surveyed within Tolerance
587	685503.84	601702.15	14.5	BRK	7/2/2015	14.4	-0.1	Point surveyed within Tolerance
588	685484.63	601722.61	15.5	BRK	7/8/2015	15.5	0.0	Point surveyed within Tolerance
589	685482.47	601731.53	11.1	BRK	7/2/2015	11.1	0.0	Point surveyed within Tolerance
590	685467.89	601733.01	13.1	BRK	7/2/2015	13.2	0.1	Point surveyed within Tolerance
591	685467.14	601729.90	15.3	BRK	7/2/2015	15.2	-0.1	Point surveyed within Tolerance
592	685465.84	601749.83	15.2	BRK	7/2/2015	15.1	-0.1	Point surveyed within Tolerance
593	685444.26	601779.76	13.6	BRK	7/2/2015	13.7	0.1	Point surveyed within Tolerance
594	685429.29	601800.21	15.1	BRK	7/2/2015	15.0	-0.1	Point surveyed within Tolerance
595	685453.48	601767.05	15.1	BRK	7/2/2015	15.0	-0.1	Point surveyed within Tolerance
603	685418.25	601641.07	13.5	BRK	7/2/2015	13.4	-0.1	Point surveyed within Tolerance
604	685415.60	601650.93	15.9	BRK	7/2/2015	15.6	-0.3	Point surveyed within Tolerance
605	685417.81	601680.87	15.9	BRK	7/2/2015	15.8	-0.1	Point surveyed within Tolerance
606	685421.62	601680.64	13.4	BRK	7/2/2015	13.4	0.0	Point surveyed within Tolerance
607	685417.84	601705.42	16.1	BRK	7/2/2015	15.9	-0.2	Point surveyed within Tolerance
608	685421.83	601705.56	13.4	BRK	7/2/2015	13.4	0.0	Point surveyed within Tolerance
609	685420.68	601733.21	13.5	BRK	7/2/2015	13.5	0.0	Point surveyed within Tolerance
610	685416.60	601732.96	16.2	BRK	7/2/2015	16.2	0.0	Point surveyed within Tolerance
611	685420.69	601759.40	13.5	BRK	7/2/2015	13.6	0.1	Point surveyed within Tolerance
612	685417.42	601761.34	16.1	BRK	7/2/2015	16.1	0.0	Point surveyed within Tolerance
613	685367.91	601704.46	13.3	BRK	7/2/2015	13.4	0.1	Point surveyed within Tolerance
614	685370.79	601706.98	15.9	BRK	7/2/2015	15.7	-0.2	Point surveyed within Tolerance
615	685343.44	601731.17	13.7	BRK	7/2/2015	13.7	0.0	Point surveyed within Tolerance
616	685345.91	601734.17	16.3	BRK	7/2/2015	16.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
617	685303.14	601806.86	18.3	BRK	7/2/2015	18.3	0.0	Point surveyed within Tolerance
618	685298.77	601809.67	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
619	685294.54	601809.78	15.4	BRK	7/2/2015	15.4	0.0	Point surveyed within Tolerance
620	685288.92	601805.68	10.7	BRK	7/2/2015	10.7	0.0	Point surveyed within Tolerance
621	685298.85	601821.38	15.8	BRK	7/2/2015	15.7	-0.1	Point surveyed within Tolerance
622	685295.94	601825.31	12.5	BRK	7/2/2015	12.6	0.1	Point surveyed within Tolerance
623	685294.65	601831.82	12.5	BRK	7/2/2015	12.6	0.1	Point surveyed within Tolerance
624	685291.75	601835.75	15.8	BRK	7/2/2015	15.5	-0.3	Point surveyed within Tolerance
625	685324.58	601840.13	15.9	BRK	7/2/2015	15.7	-0.2	Point surveyed within Tolerance
626	685321.52	601844.26	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
627	685322.67	601852.58	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
628	685319.64	601856.68	15.8	BRK	7/2/2015	15.7	-0.1	Point surveyed within Tolerance
629	685341.40	601852.72	15.7	BRK	7/2/2015	15.4	-0.3	Point surveyed within Tolerance
630	685338.40	601856.76	12.4	BRK	7/2/2015	12.4	0.0	Point surveyed within Tolerance
631	685345.65	601844.39	15.9	BRK	7/2/2015	15.9	0.0	Point surveyed within Tolerance
632	685347.89	601841.36	18.4	BRK	7/8/2015	18.3	-0.1	Point surveyed within Tolerance
633	685372.85	601864.55	15.3	BRK	7/2/2015	15.4	0.1	Point surveyed within Tolerance
634	685364.47	601869.99	15.2	BRK	7/8/2015	15.1	-0.1	Point surveyed within Tolerance
635	685361.56	601873.92	12.0	BRK	7/2/2015	12.1	0.1	Point surveyed within Tolerance
636	685354.92	601876.46	12.0	BRK	7/2/2015	12.1	0.1	Point surveyed within Tolerance
637	685350.44	601879.24	15.3	BRK	7/2/2015	15.2	-0.1	Point surveyed within Tolerance
639	685353.62	601747.98	16.4	BRK	7/8/2015	16.3	-0.1	Point surveyed within Tolerance
640	685357.16	601746.52	13.8	BRK	7/2/2015	13.8	0.0	Point surveyed within Tolerance
641	685361.58	601753.32	13.9	BRK	7/2/2015	13.9	0.0	Point surveyed within Tolerance
642	685364.98	601751.93	16.3	BRK	7/2/2015	16.2	-0.1	Point surveyed within Tolerance
645	685381.55	601830.67	17.5	BRK	7/8/2015	17.4	-0.1	Point surveyed within Tolerance
646	685385.39	601829.73	14.8	BRK	7/2/2015	14.8	0.0	Point surveyed within Tolerance
647	685383.26	601850.36	17.6	BRK	7/8/2015	17.5	-0.1	Point surveyed within Tolerance
648	685408.65	601820.74	16.6	BRK	7/2/2015	16.5	-0.1	Point surveyed within Tolerance
672	685359.01	601899.40	14.5	BRK	7/2/2015	14.4	-0.1	Point surveyed within Tolerance
673	685328.78	601922.42	18.1	BRK	7/2/2015	18.2	0.1	Point surveyed within Tolerance
674	685299.89	601934.58	18.3	BRK	7/2/2015	18.4	0.1	Point surveyed within Tolerance
675	685300.62	601938.23	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
676	685305.79	601944.00	15.8	BRK	7/2/2015	15.8	0.0	Point surveyed within Tolerance
677	685308.02	601946.97	18.2	BRK	7/2/2015	18.1	-0.1	Point surveyed within Tolerance
679	685305.33	601869.91	16.0	BRK	7/2/2015	16.1	0.1	Point surveyed within Tolerance
680	685303.05	601872.98	18.5	BRK	7/2/2015	18.1	-0.4	Point surveyed within Tolerance
681	685268.99	601832.99	12.1	BRK	7/2/2015	12.2	0.1	Point surveyed within Tolerance
682	685272.64	601835.66	15.1	BRK	7/2/2015	14.7	-0.4	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
683	685218.81	601931.92	18.6	BRK	7/2/2015	18.2	-0.4	Point surveyed within Tolerance
684	685217.81	601935.62	16.0	BRK	7/2/2015	16.1	0.1	Point surveyed within Tolerance
979	685388.74	601749.07	13.5	BRK	7/2/2015	13.4	-0.1	Point surveyed within Tolerance
980	685384.77	601750.03	16.2	BRK	7/2/2015	16.3	0.1	Point surveyed within Tolerance
678	685292.65	601972.35	18.1	BRK	7/14/2015	18.1	0.0	Point surveyed within Tolerance
685	685217.77	601956.54	18.2	BRK	7/14/2015	18.1	-0.1	Point surveyed within Tolerance
686	685214.25	601958.05	15.7	BRK	7/14/2015	15.7	0.0	Point surveyed within Tolerance
688	685246.08	602006.05	17.3	BRK	7/14/2015	17.4	0.1	Point surveyed within Tolerance
689	685249.42	602007.82	14.8	BRK	7/14/2015	14.9	0.1	Point surveyed within Tolerance
690	685250.13	602009.68	14.8	BRK	7/14/2015	14.8	0.0	Point surveyed within Tolerance
691	685253.44	602011.40	17.3	BRK	7/14/2015	17.3	0.0	Point surveyed within Tolerance
692	685256.80	602026.88	16.9	BRK	7/14/2015	17.0	0.1	Point surveyed within Tolerance
822	685209.17	602098.14	16.1	BRK	7/14/2015	16.2	0.1	Point surveyed within Tolerance
823	685187.68	602127.24	16.4	BRK	7/14/2015	16.5	0.1	Point surveyed within Tolerance
824	685169.69	602121.14	16.9	BRK	7/14/2015	17.0	0.1	Point surveyed within Tolerance
825	685159.60	602134.77	5.6	BRK	7/14/2015	5.7	0.1	Point surveyed within Tolerance
826	685142.99	602100.91	16.8	BRK	7/14/2015	16.7	-0.1	Point surveyed within Tolerance
827	685132.68	602114.85	5.2	BRK	7/14/2015	5.3	0.1	Point surveyed within Tolerance
828	685117.94	602082.20	16.5	BRK	7/14/2015	16.5	0.0	Point surveyed within Tolerance
829	685108.04	602096.62	4.9	BRK	7/14/2015	4.9	0.0	Point surveyed within Tolerance
830	685097.56	602070.88	13.7	BRK	7/14/2015	13.8	0.1	Point surveyed within Tolerance
831	685091.62	602084.47	4.6	BRK	7/14/2015	4.7	0.1	Point surveyed within Tolerance
832	685079.08	602074.23	4.4	BRK	7/14/2015	4.5	0.1	Point surveyed within Tolerance
833	685087.23	602063.24	5.1	BRK	7/14/2015	5.2	0.1	Point surveyed within Tolerance
834	685228.90	602033.89	16.5	BRK	7/14/2015	16.5	0.0	Point surveyed within Tolerance
835	685232.50	602033.47	14.1	BRK	7/14/2015	14.2	0.1	Point surveyed within Tolerance
836	685239.46	602034.31	14.1	BRK	7/14/2015	14.2	0.1	Point surveyed within Tolerance
837	685243.00	602035.55	16.6	BRK	7/14/2015	16.5	-0.1	Point surveyed within Tolerance
838	685241.70	602050.98	16.3	BRK	7/14/2015	16.3	0.0	Point surveyed within Tolerance
839	685057.33	602100.46	4.4	BRK	7/24/2015	4.5	0.1	Point surveyed within Tolerance
840	685060.41	602121.19	14.5	BRK	7/24/2015	14.5	0.0	Point surveyed within Tolerance
841	685068.93	602108.10	4.6	BRK	7/24/2015	4.7	0.1	Point surveyed within Tolerance
842	685048.44	602112.41	4.6	BRK	7/24/2015	4.6	0.0	Point surveyed within Tolerance
843	685096.92	602128.82	5.0	BRK	7/24/2015	5.0	0.0	Point surveyed within Tolerance
844	685091.28	602143.63	15.2	BRK	7/24/2015	15.3	0.1	Point surveyed within Tolerance
845	685121.55	602147.05	5.3	BRK	7/24/2015	5.4	0.1	Point surveyed within Tolerance
846	685109.62	602161.54	17.8	BRK	7/24/2015	17.8	0.0	Point surveyed within Tolerance
847	685117.56	602193.69	17.4	BRK	7/24/2015	17.4	0.0	Point surveyed within Tolerance
848	685118.92	602197.25	14.9	BRK	7/24/2015	15.0	0.1	Point surveyed within Tolerance
849	685119.73	602203.55	14.8	BRK	7/24/2015	14.9	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.3)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
850	685121.10	602206.98	17.3	BRK	7/24/2015	17.3	0.0	Point surveyed within Tolerance
851	685114.98	602226.59	17.2	BRK	7/24/2015	17.1	-0.1	Point surveyed within Tolerance
852	685105.19	602198.82	17.4	BRK	7/24/2015	17.4	0.0	Point surveyed within Tolerance
853	685103.22	602203.76	14.8	BRK	7/24/2015	14.8	0.0	Point surveyed within Tolerance
854	685088.02	602208.76	17.4	BRK	7/24/2015	17.3	-0.1	Point surveyed within Tolerance
855	685089.52	602212.18	14.9	BRK	7/24/2015	15.0	0.1	Point surveyed within Tolerance
856	685085.84	602227.09	15.1	BRK	7/24/2015	15.2	0.1	Point surveyed within Tolerance
857	685083.49	602230.12	17.6	BRK	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
858	685094.99	602252.22	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
859	685081.79	602269.14	18.1	BRK	7/24/2015	18.1	0.0	Point surveyed within Tolerance
860	685047.09	602237.51	15.7	BRK	7/24/2015	15.7	0.0	Point surveyed within Tolerance
861	685043.77	602234.95	18.2	BRK	7/24/2015	18.1	-0.1	Point surveyed within Tolerance
862	685039.91	602232.72	15.7	BRK	7/24/2015	15.7	0.0	Point surveyed within Tolerance
863	685042.37	602238.43	15.7	BRK	7/24/2015	15.8	0.1	Point surveyed within Tolerance
864	685066.11	602161.84	17.8	BRK	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
865	685062.13	602161.07	15.3	BRK	7/24/2015	15.4	0.1	Point surveyed within Tolerance
866	685052.96	602208.15	17.8	BRK	7/24/2015	17.7	-0.1	Point surveyed within Tolerance
867	685049.31	602206.51	15.4	BRK	7/24/2015	15.4	0.0	Point surveyed within Tolerance
868	685045.11	602202.48	15.6	BRK	7/24/2015	15.6	0.0	Point surveyed within Tolerance
869	685042.10	602200.70	17.9	BRK	7/24/2015	17.8	-0.1	Point surveyed within Tolerance
870	685022.96	602172.09	15.4	BRK	7/24/2015	15.3	-0.1	Point surveyed within Tolerance
871	685044.91	602142.21	14.8	BRK	7/24/2015	14.8	0.0	Point surveyed within Tolerance
872	684994.42	602217.26	18.7	BRK	7/24/2015	18.7	0.0	Point surveyed within Tolerance
873	684975.68	602242.79	19.1	BRK	7/24/2015	19.1	0.0	Point surveyed within Tolerance
874	685005.71	602243.75	18.8	BRK	7/24/2015	18.7	-0.1	Point surveyed within Tolerance
875	685009.09	602245.47	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
876	685025.00	602263.80	16.2	BRK	7/24/2015	16.3	0.1	Point surveyed within Tolerance
877	685027.83	602266.24	18.7	BRK	7/24/2015	18.6	-0.1	Point surveyed within Tolerance
878	685053.73	602299.58	18.7	BRK	7/24/2015	18.7	0.0	Point surveyed within Tolerance
879	685053.33	602303.33	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
880	685060.48	602307.84	16.2	BRK	7/24/2015	16.1	-0.1	Point surveyed within Tolerance
881	685039.62	602323.93	18.6	BRK	7/24/2015	18.5	-0.1	Point surveyed within Tolerance
882	685021.34	602349.28	18.4	BRK	7/24/2015	18.3	-0.1	Point surveyed within Tolerance
883	685006.56	602373.52	17.5	BRK	7/24/2015	17.5	0.0	Point surveyed within Tolerance
884	684985.52	602400.52	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
885	684968.75	602423.06	17.7	BRK	7/24/2015	17.7	0.0	Point surveyed within Tolerance
886	684958.59	602266.06	19.6	BRK	7/24/2015	19.5	-0.1	Point surveyed within Tolerance
887	684944.51	602285.23	19.9	BRK	7/24/2015	20.0	0.1	Point surveyed within Tolerance
888	684924.17	602312.77	20.4	BRK	7/24/2015	20.3	-0.1	Point surveyed within Tolerance
889	684896.37	602343.10	18.0	BRK	7/24/2015	17.9	-0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
890	684880.77	602362.80	17.8	BRK	7/24/2015	17.8	0.0	Point surveyed within Tolerance
891	684869.32	602354.21	8.2	BRK	7/24/2015	8.3	0.1	Point surveyed within Tolerance
892	684884.22	602334.10	7.9	BRK	7/24/2015	8.0	0.1	Point surveyed within Tolerance
893	684908.58	602301.22	7.4	BRK	7/24/2015	7.5	0.1	Point surveyed within Tolerance
894	684928.96	602273.71	7.0	BRK	7/24/2015	7.0	0.0	Point surveyed within Tolerance
895	684943.18	602254.50	6.7	BRK	7/24/2015	6.7	0.0	Point surveyed within Tolerance
896	684960.30	602231.40	6.4	BRK	7/24/2015	6.4	0.0	Point surveyed within Tolerance
897	684979.15	602205.95	6.0	BRK	7/24/2015	6.0	0.0	Point surveyed within Tolerance
898	685010.86	602163.13	5.3	BRK	7/24/2015	5.4	0.1	Point surveyed within Tolerance
899	685032.93	602133.34	4.9	BRK	7/24/2015	4.9	0.0	Point surveyed within Tolerance
900	684953.81	602443.85	17.6	BRK	7/24/2015	17.5	-0.1	Point surveyed within Tolerance
901	684933.84	602472.48	17.2	BRK	7/24/2015	17.2	0.0	Point surveyed within Tolerance
919	684835.00	602400.55	9.0	BRK	7/24/2015	9.0	0.0	Point surveyed within Tolerance
920	684843.87	602407.12	16.3	BRK	7/24/2015	16.3	0.0	Point surveyed within Tolerance
902	684913.09	602504.45	16.5	BRK	8/10/2015	16.6	0.1	Point surveyed within Tolerance
910	684887.04	602531.88	18.2	BRK	8/10/2015	18.2	0.0	Point surveyed within Tolerance
909	684858.28	602571.33	14.7	BRK	8/12/2015	14.8	0.1	Point surveyed within Tolerance
913	684795.24	602555.71	13.7	BRK	8/12/2015	13.8	0.1	Point surveyed within Tolerance
914	684795.33	602552.00	16.1	BRK	8/12/2015	16.2	0.1	Point surveyed within Tolerance
915	684770.38	602552.44	15.8	BRK	8/12/2015	15.7	-0.1	Point surveyed within Tolerance
916	684771.04	602556.03	13.3	BRK	8/12/2015	13.4	0.1	Point surveyed within Tolerance
917	684841.91	602602.61	16.6	BRK	8/12/2015	16.5	-0.1	Point surveyed within Tolerance
911	684720.03	602604.99	14.7	BRK	8/13/2015	14.6	-0.1	Point surveyed within Tolerance
921	684754.50	602627.17	17.2	BRK	8/13/2015	17.1	-0.1	Point surveyed within Tolerance
923	684774.69	602642.80	17.3	BRK	8/13/2015	17.2	-0.1	Point surveyed within Tolerance
925	684807.26	602664.88	13.8	BRK	8/13/2015	13.7	-0.1	Point surveyed within Tolerance
912	684710.93	602615.25	5.5	BRK	9/4/2015	5.6	0.1	Point surveyed within Tolerance
922	684744.74	602640.33	6.3	BRK	9/4/2015	6.3	0.0	Point surveyed within Tolerance
924	684765.25	602655.54	6.7	BRK	9/4/2015	6.8	0.1	Point surveyed within Tolerance
927	684774.96	602705.07	7.4	BRK	9/4/2015	7.4	0.0	Point surveyed within Tolerance
929	684725.10	602668.09	6.3	BRK	9/4/2015	6.3	0.0	Point surveyed within Tolerance
933	684699.13	602648.83	5.7	BRK	9/4/2015	5.8	0.1	Point surveyed within Tolerance
934	684677.32	602632.66	5.2	BRK	9/4/2015	5.3	0.1	Point surveyed within Tolerance
936	684665.76	602624.13	5.0	BRK	9/4/2015	5.0	0.0	Point surveyed within Tolerance
2216	684768.70	602713.78	14.5	BRK	9/4/2015	14.5	0.0	Point surveyed within Tolerance
2217	684755.49	602705.02	14.8	BRK	9/4/2015	14.9	0.1	Point surveyed within Tolerance
2218	684750.54	602706.29	17.4	BRK	9/4/2015	17.3	-0.1	Point surveyed within Tolerance
2219	684719.51	602728.09	18.1	BRK	9/4/2015	18.0	-0.1	Point surveyed within Tolerance
2220	684721.25	602731.77	15.4	BRK	9/4/2015	15.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2223	684714.82	602681.95	17.8	BRK	9/4/2015	17.7	-0.1	Point surveyed within Tolerance
2224	684695.23	602678.31	15.2	BRK	9/4/2015	15.3	0.1	Point surveyed within Tolerance
2225	684691.16	602677.76	17.9	BRK	9/4/2015	17.9	0.0	Point surveyed within Tolerance
2226	684679.26	602656.42	17.5	BRK	9/4/2015	17.4	-0.1	Point surveyed within Tolerance
2227	684678.94	602651.43	14.9	BRK	9/4/2015	14.8	-0.1	Point surveyed within Tolerance
2228	684668.13	602643.12	14.5	BRK	9/4/2015	14.5	0.0	Point surveyed within Tolerance
2229	684657.26	602634.26	5.1	BRK	9/4/2015	5.2	0.1	Point surveyed within Tolerance
2230	684652.03	602663.18	15.1	BRK	9/4/2015	15.1	0.0	Point surveyed within Tolerance
2231	684641.00	602654.19	5.6	BRK	9/4/2015	5.6	0.0	Point surveyed within Tolerance
2232	684642.38	602682.88	18.2	BRK	9/4/2015	18.2	0.0	Point surveyed within Tolerance
2233	684640.23	602679.29	15.5	BRK	9/4/2015	15.5	0.0	Point surveyed within Tolerance
2234	684618.68	602681.55	6.2	BRK	9/4/2015	6.3	0.1	Point surveyed within Tolerance
2235	684632.71	602692.99	18.3	BRK	9/4/2015	18.2	-0.1	Point surveyed within Tolerance
2236	684620.10	602708.58	18.7	BRK	9/4/2015	18.6	-0.1	Point surveyed within Tolerance
2239	684603.43	602700.25	6.6	BRK	9/4/2015	6.7	0.1	Point surveyed within Tolerance
2312	684688.25	602662.99	17.6	BRK	9/4/2015	17.7	0.1	Point surveyed within Tolerance
2222	684686.52	602801.63	17.2	BRK	9/9/2015	17.2	0.0	Point surveyed within Tolerance
2240	684580.79	602728.00	7.2	BRK	9/9/2015	7.3	0.1	Point surveyed within Tolerance
2241	684592.09	602737.22	17.0	BRK	9/9/2015	17.0	0.0	Point surveyed within Tolerance
2245	684652.97	602837.52	18.0	BRK	9/9/2015	17.9	-0.1	Point surveyed within Tolerance
2248	684632.99	602849.23	20.5	BRK	9/9/2015	20.5	0.0	Point surveyed within Tolerance
2249	684573.19	602760.13	17.4	BRK	9/9/2015	17.3	-0.1	Point surveyed within Tolerance
2250	684562.02	602751.01	7.8	BRK	9/9/2015	7.9	0.1	Point surveyed within Tolerance
2251	684549.64	602787.35	17.3	BRK	9/9/2015	17.3	0.0	Point surveyed within Tolerance
2252	684539.27	602778.90	8.4	BRK	9/9/2015	8.4	0.0	Point surveyed within Tolerance
2253	684568.32	602806.28	17.4	BRK	9/9/2015	17.4	0.0	Point surveyed within Tolerance
2254	684565.58	602809.03	20.0	BRK	9/9/2015	19.9	-0.1	Point surveyed within Tolerance
2255	684590.81	602830.43	20.3	BRK	9/9/2015	20.3	0.0	Point surveyed within Tolerance
2256	684593.43	602827.27	17.6	BRK	9/9/2015	17.6	0.0	Point surveyed within Tolerance
2257	684611.57	602875.64	20.3	BRK	9/9/2015	20.2	-0.1	Point surveyed within Tolerance
2261	684576.88	602901.09	18.3	BRK	9/9/2015	18.3	0.0	Point surveyed within Tolerance
2266	684529.13	602867.21	18.0	BRK	9/9/2015	18.0	0.0	Point surveyed within Tolerance
2269	684529.62	602815.05	19.2	BRK	9/9/2015	19.2	0.0	Point surveyed within Tolerance
2270	684517.71	602805.33	9.0	BRK	9/9/2015	9.0	0.0	Point surveyed within Tolerance
2313	684666.34	602822.94	17.7	BRK	9/9/2015	17.6	-0.1	Point surveyed within Tolerance
2259	684588.87	602908.31	19.0	BRK	9/16/2015	19.1	0.1	Point surveyed within Tolerance
2262	684562.28	602912.39	6.5	BRK	9/16/2015	6.6	0.1	Point surveyed within Tolerance
2263	684546.99	602879.91	18.1	BRK	9/16/2015	18.0	-0.1	Point surveyed within Tolerance
2264	684536.89	602894.42	6.3	BRK	9/16/2015	6.4	0.1	Point surveyed within Tolerance
2265	684518.89	602881.69	6.2	BRK	9/16/2015	6.3	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Break Points (Table 2.6)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2267	684498.05	602850.83	14.8	BRK	9/16/2015	14.8	0.0	Point surveyed within Tolerance
2268	684490.45	602861.57	6.0	BRK	9/16/2015	6.1	0.1	Point surveyed within Tolerance
2275	684469.16	602880.75	13.2	BRK	9/16/2015	13.2	0.0	Point surveyed within Tolerance
2278	684497.26	602878.64	6.1	BRK	9/16/2015	6.1	0.0	Point surveyed within Tolerance
2279	684491.48	602886.80	12.8	BRK	9/16/2015	12.7	-0.1	Point surveyed within Tolerance
2282	684569.90	602930.04	6.6	BRK	9/16/2015	6.6	0.0	Point surveyed within Tolerance
2283	684564.16	602938.23	13.2	BRK	9/16/2015	13.3	0.1	Point surveyed within Tolerance
2284	684462.82	602873.57	6.8	BRK	9/16/2015	6.9	0.1	Point surveyed within Tolerance
2271	684492.19	603028.63	14.1	BRK	9/18/2015	14.2	0.1	Point surveyed within Tolerance
2272	684495.31	603031.35	11.3	BRK	9/18/2015	11.4	0.1	Point surveyed within Tolerance
2276	684420.78	602931.95	12.7	BRK	9/18/2015	12.7	0.0	Point surveyed within Tolerance
2277	684418.27	602928.58	9.9	BRK	9/18/2015	9.9	0.0	Point surveyed within Tolerance
2280	684466.73	602909.21	16.2	BRK	9/18/2015	16.2	0.0	Point surveyed within Tolerance
2281	684469.26	602906.05	13.5	BRK	9/18/2015	13.5	0.0	Point surveyed within Tolerance
2308	684541.16	602978.86	13.9	BRK	9/18/2015	13.8	-0.1	Point surveyed within Tolerance
2309	684537.93	602976.16	16.7	BRK	9/18/2015	16.7	0.0	Point surveyed within Tolerance
2310	684519.64	603003.49	12.7	BRK	9/18/2015	12.6	-0.1	Point surveyed within Tolerance
2311	684516.52	603000.77	15.4	BRK	9/18/2015	15.5	0.1	Point surveyed within Tolerance
2273	684467.44	603056.98	12.7	BRK	9/22/2015	12.6	-0.1	Point surveyed within Tolerance
2274	684470.54	603059.69	10.0	BRK	9/22/2015	10.0	0.0	Point surveyed within Tolerance
2285	684396.21	603081.17	9.6	BRK	9/22/2015	9.5	-0.1	Point surveyed within Tolerance
2286	684394.95	603084.82	7.0	BRK	9/22/2015	6.9	-0.1	Point surveyed within Tolerance
2287	684370.17	603081.08	6.5	BRK	9/22/2015	6.5	0.0	Point surveyed within Tolerance
2288	684369.73	603084.51	8.8	BRK	9/22/2015	8.8	0.0	Point surveyed within Tolerance
2291	684343.83	603080.68	5.9	BRK	9/23/2015	5.9	0.0	Point surveyed within Tolerance
2292	684344.02	603084.27	8.3	BRK	9/23/2015	8.2	-0.1	Point surveyed within Tolerance
2293	684318.43	603058.47	7.6	BRK	9/23/2015	7.5	-0.1	Point surveyed within Tolerance
2294	684314.63	603057.98	5.0	BRK	9/23/2015	5.1	0.1	Point surveyed within Tolerance
2306	684383.22	603153.36	9.0	BRK	9/23/2015	8.9	-0.1	Point surveyed within Tolerance
2307	684386.53	603155.86	6.6	BRK	9/23/2015	6.5	-0.1	Point surveyed within Tolerance
2289	684346.82	603155.61	8.4	BRK	9/24/2015	8.3	-0.1	Point surveyed within Tolerance
2290	684344.28	603158.02	7.0	BRK	9/24/2015	7.0	0.0	Point surveyed within Tolerance
2296	684244.61	603103.27	6.2	BRK	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2297	684317.01	603131.31	6.5	BRK	9/24/2015	6.5	0.0	Point surveyed within Tolerance
2298	684318.88	603129.97	8.1	BRK	9/24/2015	8.1	0.0	Point surveyed within Tolerance
2299	684244.49	603157.76	7.5	BRK	9/28/2015	7.5	0.0	Point surveyed within Tolerance
2300	684238.78	603154.40	3.1	BRK	9/28/2015	3.1	0.0	Point surveyed within Tolerance
2301	684221.74	603183.65	7.8	BRK	9/28/2015	7.7	-0.1	Point surveyed within Tolerance
2302	684225.10	603177.88	3.3	BRK	9/28/2015	3.3	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

Points in 0.1 - 0.5 ft. tolerance are due to a slight overcut in the top of slopes where it wouldn't be suitable for backfill due to compaction difficulties.

SA-6 South Cap Subgrade: Boundary Points (Table 3.0)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
545	685526.43	601442.32	12.9	BNDY	7/2/2015	13.0	0.1	Point surveyed within Tolerance
546	685543.45	601459.45	13.4	BNDY	7/2/2015	13.4	0.0	Point surveyed within Tolerance
547	685561.91	601478.03	14.2	BNDY	7/2/2015	14.2	0.0	Point surveyed within Tolerance
558	685516.84	601455.37	13.7	BNDY	7/2/2015	13.7	0.0	Point surveyed within Tolerance
561	685572.96	601633.24	10.0	BNDY	7/2/2015	10.0	0.0	Point surveyed within Tolerance
562	685589.38	601610.88	10.2	BNDY	7/2/2015	10.1	-0.1	Point surveyed within Tolerance
563	685606.33	601587.78	9.9	BNDY	7/2/2015	10.0	0.1	Point surveyed within Tolerance
564	685633.80	601550.37	9.8	BNDY	7/2/2015	9.8	0.0	Point surveyed within Tolerance
565	685622.62	601565.61	10.0	BNDY	7/2/2015	10.0	0.0	Point surveyed within Tolerance
566	685614.41	601530.85	15.7	BNDY	7/2/2015	15.8	0.1	Point surveyed within Tolerance
567	685591.47	601507.77	15.0	BNDY	7/2/2015	15.1	0.1	Point surveyed within Tolerance
568	685577.88	601494.10	14.6	BNDY	7/2/2015	14.6	0.0	Point surveyed within Tolerance
569	685488.06	601495.42	14.3	BNDY	7/2/2015	14.3	0.0	Point surveyed within Tolerance
570	685501.08	601477.69	14.9	BNDY	7/2/2015	15.0	0.1	Point surveyed within Tolerance
571	685474.31	601513.30	13.6	BNDY	7/2/2015	13.6	0.0	Point surveyed within Tolerance
572	685459.92	601533.74	12.8	BNDY	7/2/2015	12.8	0.0	Point surveyed within Tolerance
573	685442.87	601556.12	12.4	BNDY	7/2/2015	12.4	0.0	Point surveyed within Tolerance
574	685428.08	601576.27	12.2	BNDY	7/2/2015	12.2	0.0	Point surveyed within Tolerance
575	685413.27	601596.44	11.9	BNDY	7/2/2015	12.0	0.1	Point surveyed within Tolerance
576	685398.47	601616.59	11.4	BNDY	7/2/2015	11.4	0.0	Point surveyed within Tolerance
577	685383.68	601636.74	11.3	BNDY	7/2/2015	11.3	0.0	Point surveyed within Tolerance
578	685368.88	601656.89	11.3	BNDY	7/2/2015	11.2	-0.1	Point surveyed within Tolerance
579	685558.28	601653.23	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
581	685543.38	601673.52	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
582	685528.60	601693.65	9.8	BNDY	7/2/2015	9.8	0.0	Point surveyed within Tolerance
596	685514.37	601713.04	9.8	BNDY	7/2/2015	9.7	-0.1	Point surveyed within Tolerance
597	685499.50	601733.28	9.7	BNDY	7/2/2015	9.8	0.1	Point surveyed within Tolerance
598	685485.10	601752.90	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
599	685469.40	601774.28	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
600	685454.74	601794.25	9.6	BNDY	7/2/2015	9.7	0.1	Point surveyed within Tolerance
601	685439.85	601814.53	9.7	BNDY	7/2/2015	9.6	-0.1	Point surveyed within Tolerance
602	685425.01	601834.73	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
638	685354.08	601677.04	11.3	BNDY	7/2/2015	11.1	-0.2	Point surveyed within Tolerance
643	685324.49	601717.35	10.8	BNDY	7/2/2015	10.6	-0.2	Point surveyed within Tolerance
644	685339.29	601697.19	11.0	BNDY	7/2/2015	10.6	-0.4	Point surveyed within Tolerance
649	685309.86	601737.62	10.6	BNDY	7/2/2015	10.6	0.0	Point surveyed within Tolerance
650	685295.20	601757.86	10.5	BNDY	7/2/2015	10.6	0.1	Point surveyed within Tolerance
651	685280.51	601778.09	10.4	BNDY	7/2/2015	10.3	-0.1	Point surveyed within Tolerance
652	685265.70	601798.24	10.7	BNDY	7/2/2015	10.8	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.1)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
653	685250.90	601818.38	11.9	BNDY	7/2/2015	11.9	0.0	Point surveyed within Tolerance
654	685236.09	601838.53	15.1	BNDY	7/2/2015	15.1	0.0	Point surveyed within Tolerance
655	685221.28	601858.68	15.6	BNDY	7/2/2015	15.6	0.0	Point surveyed within Tolerance
656	685206.48	601878.81	15.5	BNDY	7/2/2015	15.4	-0.1	Point surveyed within Tolerance
657	685191.67	601898.96	15.5	BNDY	7/2/2015	15.5	0.0	Point surveyed within Tolerance
658	685176.87	601919.10	15.4	BNDY	7/2/2015	15.4	0.0	Point surveyed within Tolerance
659	685410.29	601854.79	9.6	BNDY	7/2/2015	9.6	0.0	Point surveyed within Tolerance
660	685395.44	601875.02	9.6	BNDY	7/2/2015	9.6	0.0	Point surveyed within Tolerance
661	685380.66	601895.14	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
662	685365.91	601915.23	9.7	BNDY	7/2/2015	9.7	0.0	Point surveyed within Tolerance
663	685351.03	601935.49	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
664	685336.28	601955.58	9.9	BNDY	7/2/2015	9.9	0.0	Point surveyed within Tolerance
687	685162.06	601939.25	14.9	BNDY	7/2/2015	14.9	0.0	Point surveyed within Tolerance
665	685321.52	601975.69	10.0	BNDY	7/14/2015	9.9	-0.1	Point surveyed within Tolerance
666	685306.70	601995.87	10.0	BNDY	7/14/2015	9.9	-0.1	Point surveyed within Tolerance
667	685292.04	602015.84	10.0	BNDY	7/14/2015	10.0	0.0	Point surveyed within Tolerance
668	685277.22	602036.03	10.0	BNDY	7/14/2015	10.0	0.0	Point surveyed within Tolerance
669	685262.73	602055.75	9.9	BNDY	7/14/2015	9.9	0.0	Point surveyed within Tolerance
670	685247.66	602076.28	10.0	BNDY	7/14/2015	10.1	0.1	Point surveyed within Tolerance
671	685232.64	602096.74	10.2	BNDY	7/14/2015	10.1	-0.1	Point surveyed within Tolerance
693	685147.26	601959.39	14.3	BNDY	7/14/2015	14.4	0.1	Point surveyed within Tolerance
694	685132.45	601979.53	13.7	BNDY	7/14/2015	13.8	0.1	Point surveyed within Tolerance
695	685117.65	601999.68	13.2	BNDY	7/14/2015	13.2	0.0	Point surveyed within Tolerance
696	685102.93	602019.90	10.3	BNDY	7/14/2015	10.4	0.1	Point surveyed within Tolerance
697	685088.04	602039.97	6.1	BNDY	7/14/2015	6.1	0.0	Point surveyed within Tolerance
698	685073.23	602060.11	4.7	BNDY	7/14/2015	4.8	0.1	Point surveyed within Tolerance
699	685058.42	602080.25	4.3	BNDY	7/14/2015	4.4	0.1	Point surveyed within Tolerance
705	685217.90	602116.82	10.4	BNDY	7/14/2015	10.3	-0.1	Point surveyed within Tolerance
706	685203.10	602136.97	10.5	BNDY	7/14/2015	10.6	0.1	Point surveyed within Tolerance
700	685043.62	602100.40	4.5	BNDY	7/24/2015	4.4	-0.1	Point surveyed within Tolerance
701	685028.81	602120.54	4.8	BNDY	7/24/2015	4.9	0.1	Point surveyed within Tolerance
702	685014.01	602140.69	5.1	BNDY	7/24/2015	5.2	0.1	Point surveyed within Tolerance
703	684999.20	602160.83	5.4	BNDY	7/24/2015	5.4	0.0	Point surveyed within Tolerance
704	684984.40	602180.97	5.7	BNDY	7/24/2015	5.7	0.0	Point surveyed within Tolerance
707	685188.31	602157.12	6.0	BNDY	7/24/2015	6.1	0.1	Point surveyed within Tolerance
708	685173.51	602177.27	6.0	BNDY	7/24/2015	6.0	0.0	Point surveyed within Tolerance
709	685143.92	602217.57	11.2	BNDY	7/24/2015	11.2	0.0	Point surveyed within Tolerance
710	685158.71	602197.42	11.1	BNDY	7/24/2015	11.0	-0.1	Point surveyed within Tolerance
711	685129.12	602237.73	11.4	BNDY	7/24/2015	11.4	0.0	Point surveyed within Tolerance
712	685114.32	602257.88	11.6	BNDY	7/24/2015	11.6	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.2)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
713	685099.53	602278.03	11.8	BNDY	7/24/2015	11.7	-0.1	Point surveyed within Tolerance
714	685084.73	602298.18	12.0	BNDY	7/24/2015	12.0	0.0	Point surveyed within Tolerance
715	685069.94	602318.33	12.0	BNDY	7/24/2015	12.0	0.0	Point surveyed within Tolerance
716	685055.15	602338.47	11.9	BNDY	7/24/2015	11.9	0.0	Point surveyed within Tolerance
717	685040.35	602358.63	11.9	BNDY	7/24/2015	11.9	0.0	Point surveyed within Tolerance
718	685025.55	602378.78	11.8	BNDY	7/24/2015	11.9	0.1	Point surveyed within Tolerance
719	685010.76	602398.93	11.8	BNDY	7/24/2015	11.9	0.1	Point surveyed within Tolerance
720	684995.96	602419.08	11.8	BNDY	7/24/2015	11.7	-0.1	Point surveyed within Tolerance
721	684981.17	602439.24	11.7	BNDY	7/24/2015	11.7	0.0	Point surveyed within Tolerance
722	684966.37	602459.39	11.6	BNDY	7/24/2015	11.6	0.0	Point surveyed within Tolerance
723	684951.57	602479.54	11.5	BNDY	7/24/2015	11.5	0.0	Point surveyed within Tolerance
724	684936.78	602499.69	11.5	BNDY	7/24/2015	11.6	0.1	Point surveyed within Tolerance
731	684969.59	602201.11	6.0	BNDY	7/24/2015	6.0	0.0	Point surveyed within Tolerance
732	684954.79	602221.26	6.3	BNDY	7/24/2015	6.4	0.1	Point surveyed within Tolerance
733	684939.98	602241.40	6.6	BNDY	7/24/2015	6.6	0.0	Point surveyed within Tolerance
734	684925.18	602261.55	6.9	BNDY	7/24/2015	6.8	-0.1	Point surveyed within Tolerance
735	684910.37	602281.69	7.1	BNDY	7/24/2015	7.2	0.1	Point surveyed within Tolerance
736	684895.57	602301.83	7.4	BNDY	7/24/2015	7.4	0.0	Point surveyed within Tolerance
737	684880.76	602321.98	7.8	BNDY	7/24/2015	7.8	0.0	Point surveyed within Tolerance
738	684865.95	602342.12	8.2	BNDY	7/24/2015	8.2	0.0	Point surveyed within Tolerance
739	684851.15	602362.27	8.5	BNDY	7/24/2015	8.5	0.0	Point surveyed within Tolerance
740	684827.24	602394.80	9.0	BNDY	7/24/2015	8.9	-0.1	Point surveyed within Tolerance
741	684821.28	602402.91	15.7	BNDY	7/24/2015	15.7	0.0	Point surveyed within Tolerance
725	684921.98	602519.84	11.6	BNDY	8/10/2015	11.5	-0.1	Point surveyed within Tolerance
726	684907.19	602539.99	11.6	BNDY	8/10/2015	11.6	0.0	Point surveyed within Tolerance
727	684892.39	602560.14	11.6	BNDY	8/10/2015	11.7	0.1	Point surveyed within Tolerance
728	684877.59	602580.30	11.6	BNDY	8/10/2015	11.6	0.0	Point surveyed within Tolerance
742	684806.74	602422.70	15.0	BNDY	8/10/2015	15.0	0.0	Point surveyed within Tolerance
743	684792.02	602442.92	14.4	BNDY	8/10/2015	14.4	0.0	Point surveyed within Tolerance
729	684862.80	602600.45	11.7	BNDY	8/12/2015	11.7	0.0	Point surveyed within Tolerance
730	684848.00	602620.60	11.7	BNDY	8/12/2015	11.8	0.1	Point surveyed within Tolerance
761	684777.12	602462.99	13.8	BNDY	8/12/2015	13.8	0.0	Point surveyed within Tolerance
762	684762.31	602483.14	13.2	BNDY	8/12/2015	13.1	-0.1	Point surveyed within Tolerance
763	684747.51	602503.28	12.8	BNDY	8/12/2015	12.7	-0.1	Point surveyed within Tolerance
744	684833.20	602640.76	11.7	BNDY	8/13/2015	11.8	0.1	Point surveyed within Tolerance
745	684818.41	602660.91	11.7	BNDY	8/13/2015	11.8	0.1	Point surveyed within Tolerance
764	684732.70	602523.42	12.5	BNDY	8/13/2015	12.4	-0.1	Point surveyed within Tolerance
765	684717.90	602543.56	7.9	BNDY	8/13/2015	7.9	0.0	Point surveyed within Tolerance
766	684703.09	602563.72	6.7	BNDY	8/13/2015	6.8	0.1	Point surveyed within Tolerance
767	684687.11	602585.46	5.5	BNDY	8/13/2015	5.5	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.3)

Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
746	684803.61	602681.06	9.1	BNDY	9/4/2015	9.1	0.0	Point surveyed within Tolerance
747	684790.60	602698.78	7.5	BNDY	9/4/2015	7.6	0.1	Point surveyed within Tolerance
768	684672.87	602604.82	4.9	BNDY	9/4/2015	5.0	0.1	Point surveyed within Tolerance
769	684656.51	602623.72	5.0	BNDY	9/4/2015	5.0	0.0	Point surveyed within Tolerance
2000	684774.23	602717.67	12.4	BNDY	9/4/2015	12.5	0.1	Point surveyed within Tolerance
2001	684757.86	602736.57	12.9	BNDY	9/4/2015	12.8	-0.1	Point surveyed within Tolerance
2002	684741.50	602755.47	13.2	BNDY	9/4/2015	13.1	-0.1	Point surveyed within Tolerance
2003	684725.13	602774.36	13.5	BNDY	9/4/2015	13.4	-0.1	Point surveyed within Tolerance
2004	684708.76	602793.26	13.8	BNDY	9/4/2015	13.7	-0.1	Point surveyed within Tolerance
2065	684591.05	602699.29	6.7	BNDY	9/4/2015	6.7	0.0	Point surveyed within Tolerance
2066	684607.42	602680.39	6.3	BNDY	9/4/2015	6.3	0.0	Point surveyed within Tolerance
2067	684623.78	602661.50	5.9	BNDY	9/4/2015	5.8	-0.1	Point surveyed within Tolerance
2068	684640.15	602642.60	5.4	BNDY	9/4/2015	5.4	0.0	Point surveyed within Tolerance
2005	684692.39	602812.16	14.0	BNDY	9/9/2015	13.9	-0.1	Point surveyed within Tolerance
2006	684676.02	602831.05	13.6	BNDY	9/9/2015	13.7	0.1	Point surveyed within Tolerance
2007	684659.66	602849.95	13.7	BNDY	9/9/2015	13.7	0.0	Point surveyed within Tolerance
2008	684643.29	602868.85	13.8	BNDY	9/9/2015	13.8	0.0	Point surveyed within Tolerance
2009	684626.92	602887.74	13.9	BNDY	9/9/2015	13.9	0.0	Point surveyed within Tolerance
2010	684610.55	602906.64	14.0	BNDY	9/9/2015	14.1	0.1	Point surveyed within Tolerance
2058	684476.47	602831.57	9.8	BNDY	9/9/2015	9.8	0.0	Point surveyed within Tolerance
2059	684492.84	602812.67	9.3	BNDY	9/9/2015	9.4	0.1	Point surveyed within Tolerance
2060	684509.31	602793.66	8.9	BNDY	9/9/2015	9.0	0.1	Point surveyed within Tolerance
2061	684525.58	602774.88	8.5	BNDY	9/9/2015	8.4	-0.1	Point surveyed within Tolerance
2062	684541.94	602755.98	8.0	BNDY	9/9/2015	8.1	0.1	Point surveyed within Tolerance
2063	684558.31	602737.08	7.6	BNDY	9/9/2015	7.6	0.0	Point surveyed within Tolerance
2064	684574.68	602718.19	7.2	BNDY	9/9/2015	7.1	-0.1	Point surveyed within Tolerance
2011	684589.12	602931.38	6.6	BNDY	9/16/2015	6.7	0.1	Point surveyed within Tolerance
2012	684575.96	602946.57	13.3	BNDY	9/16/2015	13.3	0.0	Point surveyed within Tolerance
2057	684459.70	602850.93	5.9	BNDY	9/16/2015	5.9	0.0	Point surveyed within Tolerance
2013	684545.08	602982.23	13.8	BNDY	9/18/2015	13.8	0.0	Point surveyed within Tolerance
2014	684561.45	602963.33	14.7	BNDY	9/18/2015	14.8	0.1	Point surveyed within Tolerance
2015	684528.71	603001.12	12.8	BNDY	9/18/2015	12.8	0.0	Point surveyed within Tolerance
2016	684512.34	603020.02	11.9	BNDY	9/18/2015	12.0	0.1	Point surveyed within Tolerance
2017	684495.97	603038.92	11.0	BNDY	9/18/2015	11.1	0.1	Point surveyed within Tolerance
2051	684361.89	602963.84	6.7	BNDY	9/18/2015	6.8	0.1	Point surveyed within Tolerance
2052	684378.26	602944.95	7.7	BNDY	9/18/2015	7.8	0.1	Point surveyed within Tolerance
2053	684394.63	602926.05	8.9	BNDY	9/18/2015	9.0	0.1	Point surveyed within Tolerance
2054	684411.00	602907.15	10.1	BNDY	9/18/2015	10.0	-0.1	Point surveyed within Tolerance
2055	684427.94	602887.59	8.4	BNDY	9/18/2015	8.5	0.1	Point surveyed within Tolerance
2056	684443.73	602869.36	10.4	BNDY	9/18/2015	10.4	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.4)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2018	684479.61	603057.81	10.1	BNDY	9/23/2015	10.1	0.0	Point surveyed within Tolerance
2019	684463.24	603076.71	9.2	BNDY	9/22/2015	9.1	-0.1	Point surveyed within Tolerance
2020	684446.87	603095.61	8.3	BNDY	9/22/2015	8.3	0.0	Point surveyed within Tolerance
2021	684430.50	603114.50	7.5	BNDY	9/22/2015	7.5	0.0	Point surveyed within Tolerance
2022	684414.13	603133.40	6.8	BNDY	9/23/2015	6.9	0.1	Point surveyed within Tolerance
2023	684397.77	603152.30	6.3	BNDY	9/23/2015	6.4	0.1	Point surveyed within Tolerance
2046	684280.05	603058.33	4.2	BNDY	9/23/2015	4.2	0.0	Point surveyed within Tolerance
2047	684296.42	603039.43	4.3	BNDY	9/23/2015	4.3	0.0	Point surveyed within Tolerance
2048	684312.79	603020.53	4.6	BNDY	9/23/2015	4.6	0.0	Point surveyed within Tolerance
2049	684329.16	603001.64	5.1	BNDY	9/22/2015	5.1	0.0	Point surveyed within Tolerance
2050	684345.53	602982.74	5.8	BNDY	9/22/2015	5.8	0.0	Point surveyed within Tolerance
2024	684381.40	603171.20	6.5	BNDY	9/23/2015	6.5	0.0	Point surveyed within Tolerance
2045	684263.69	603077.22	5.9	BNDY	9/23/2015	5.9	0.0	Point surveyed within Tolerance
2025	684365.03	603190.09	6.6	BNDY	9/24/2015	6.5	-0.1	Point surveyed within Tolerance
2026	684348.66	603208.99	6.8	BNDY	9/24/2015	6.8	0.0	Point surveyed within Tolerance
2027	684332.29	603227.89	6.8	BNDY	9/28/2015	6.8	0.0	Point surveyed within Tolerance
2028	684315.93	603246.78	7.7	BNDY	9/28/2015	7.8	0.1	Point surveyed within Tolerance
2041	684198.59	603153.14	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2042	684214.58	603133.91	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2043	684230.98	603114.98	4.6	BNDY	9/24/2015	4.6	0.0	Point surveyed within Tolerance
2044	684247.32	603096.12	6.2	BNDY	9/24/2015	6.2	0.0	Point surveyed within Tolerance
2029	684299.56	603265.68	7.9	BNDY	9/28/2015	7.9	0.0	Point surveyed within Tolerance
2040	684182.05	603171.63	6.1	BNDY	9/28/2015	6.1	0.0	Point surveyed within Tolerance
2030	684283.19	603284.58	8.1	BNDY	10/7/2015	8.1	0.0	Point surveyed within Tolerance
2031	684258.41	603313.18	8.2	BNDY	10/7/2015	8.1	-0.1	Point surveyed within Tolerance
2032	684238.18	603303.29	7.1	BNDY	10/7/2015	7.1	0.0	Point surveyed within Tolerance
2033	684215.72	603292.32	6.8	BNDY	10/7/2015	6.9	0.1	Point surveyed within Tolerance
2034	684193.26	603281.34	6.5	BNDY	10/7/2015	6.5	0.0	Point surveyed within Tolerance
2035	684170.80	603270.36	6.4	BNDY	10/7/2015	6.4	0.0	Point surveyed within Tolerance
2036	684148.33	603259.38	6.3	BNDY	10/7/2015	6.4	0.1	Point surveyed within Tolerance
2037	684124.13	603238.34	6.1	BNDY	10/7/2015	6.2	0.1	Point surveyed within Tolerance
2038	684149.11	603209.50	6.1	BNDY	10/7/2015	6.1	0.0	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

SA-6 South Cap Subgrade: Boundary Points (Table 3.5)								
Bottom Target Coordinates (based on TIN surface)					As-built Elevations			
Point #	Northing	Easting	Elevation 1	Description	Date Obtained	Elevation	Deviation 2	Comments
2039	684165.48	603190.60	6.1	BNDY	10/7/2015	6.2	0.1	Point surveyed within Tolerance
2305	684268.00	603302.11	8.1	BNDY	10/7/2015	8.2	0.1	Point surveyed within Tolerance

1 This is the design elevation at Construction Control Grid Points.

2 Deviation = Surveyed Elevation - Design Elevation

Per SPECIFICATION 01460 SURVEY. SECTION 1.05 F. Spot Elevations - Survey shall be constructed to provide an accuracy of 0.1 feet vertically. Ninety percent of all spot elevations placed on the maps shall have an accuracy of at least 0.1', and the remaining 10 percent shall not be in error by more than one-half (1/2) the contour interval (0.5'). Break points added to replace Grid Points that fell on slopes and Boundary Points will be treated as Spot Elevations as defined in Section 1.05 F.

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Grid Points depicted in Table 1, Break Points in Table 2, Boundary Points in Table 3, and topographic spot elevations are correct, and representative of the as-built cap subgrade throughout the SA6 South cap.

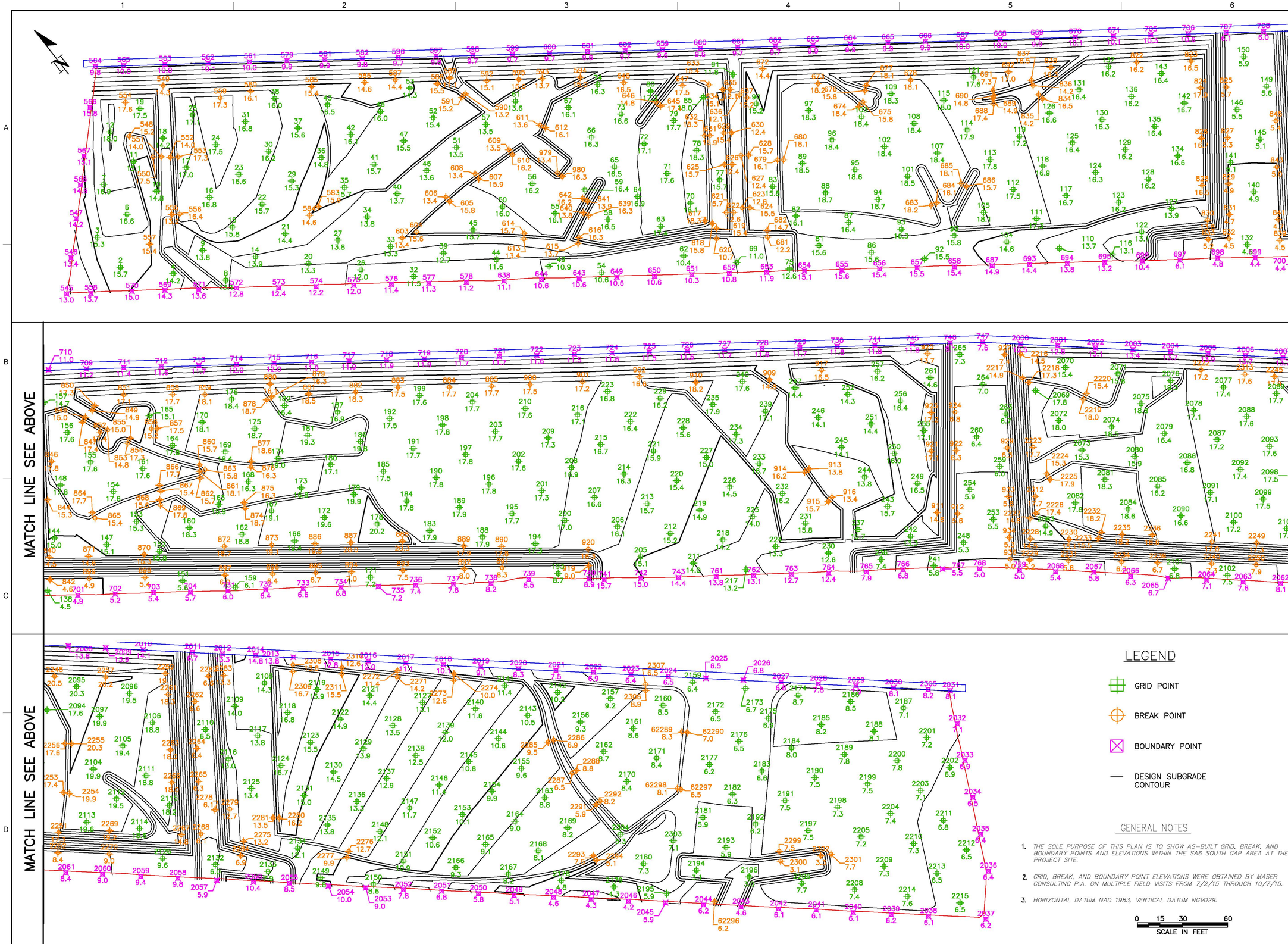
R. Thomas Hugg 2/12/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737

D2. Subgrade Construction Control Grid



LEGEND

- GRID POINT
- BREAK POINT
- BOUNDARY POINT
- DESIGN SUBGRADE CONTOUR

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GRID, BREAK, AND BOUNDARY POINTS AND ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.
2. GRID, BREAK, AND BOUNDARY POINT ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 7/2/15 THROUGH 10/7/15.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

0 15 30 60
SCALE IN FEET

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO	DATE	REVISION	BY	APVD
1	2/12/16	ISSUED FOR CLIENT REVIEW		

DSGN | DR | CHK | APVD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

FILE NUMBER
12001151A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
CONSTRUCTION CONTROL GRID
CAP SUBGRADE SURVEY

MASER CONSULTING, P.A. PH 609.390.1927 - FAX 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	2/12/16
PROJ	3480-10-0027
DWG	
SHEET	1 OF 1

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Users\...\D...\T...\12001511A\S...rd...d...S...C...S...rd...L...M...-F...dr...2d PLOT DATE: Fri, 12 F... 2016 PLOT TIME: 2:56 PM

Appendix E: Soil Subgrade Approval

E1. ESI Certificate of Subgrade Surface Acceptance

E2. Langan Certificate of Soil Surface

E1. ESI Certificate of Subgrade Surface Acceptance

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Approx. 14,703 sf.

PANEL NUMBERS: 1 TO 4

GRADE ACCEPTANCE: INSPECTOR:

GENERAL CONTRACTOR: ENTACT

OWNER:

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala, certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/20/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Signature	Title	DATE
	Project Superintendent	7/20/15

	INDEPENDENT CQA MONITOR	7/20/15

OWNER REPRESENTATIVE

Signature	Title	DATE
Carolina Ramos	QC Manager	7/20/15

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,680 SF.

PANEL NUMBERS: 5 TO 9 over composite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/21/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/21/15
Signature	*Title*	*DATE*
	INDEPENDENT EQA MONITOR	7/21/15

OWNER REPRESENTATIVE

	QC Manager	7-21-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,726 SF

PANEL NUMBERS: 10 TO 13 over Geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/22/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/22/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7-22-15

OWNER REPRESENTATIVE

Carolyn Parnell	QC Manager	7-22-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 18,495 SF

PANEL NUMBERS: 14 TO 18 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

NOTE: SUBGRADE APPROVED BUT NOT COVERED AREA, 11,300 SF.

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/23/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/23/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7-23-15

OWNER REPRESENTATIVE

Carolyn Parnes	QC Manager Entact	7-23-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 22,140 SF

PANEL NUMBERS: 19 to 24 Over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/24/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	7/24/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7/24/15

OWNER REPRESENTATIVE

Carolyn Harris	QC Manager - Entact	7-24-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 22,005 SF.

PANEL NUMBERS: 25 to 30 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/28/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	7/28/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7/28/15

OWNER REPRESENTATIVE

	QC Manager - Entact	7/28/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,693 SF

PANEL NUMBERS: 31 to 34 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 7/29/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	7/29/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	7/29/15
OWNER REPRESENTATIVE		
Carolyn Parnell	QC Manager - Entact	7/29/15
Signature	*Title*	*DATE*

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 20,226 sf

PANEL NUMBERS: 35 to 46 most over GCL

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/3/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/3/15
Signature	*Title*	*DATE*
	Independent CQA Monitor	8/3/15

OWNER REPRESENTATIVE

		8-3-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 11003 sf

PANEL NUMBERS: 47 to 49 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/5/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/05/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	8/5/15

OWNER REPRESENTATIVE

	QC Manager / Entact	8/5/15
Signature	*Title*	*DATE*

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CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 15,120 sf

PANEL NUMBERS: SC to S4 over reconfiguration

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/6/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/6/15
Signature	*Title*	*DATE*
	INDEPENDENT QA MONITOR	8/6/15

OWNER REPRESENTATIVE

	QC Manager Entact	8/6/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 13,230 sf

PANEL NUMBERS: 55 to 60 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/7/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/7/15
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

	INDEPENDENT CQA MONITOR	8/7/15
Signature	*Title*	*DATE*

Carolina Ramos	QC Manager - Entact	8-7-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 18,309 SF

PANEL NUMBERS 61 to 65 and perimeter soil tie

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/10/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	8/10/15
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	8/10/15

OWNER REPRESENTATIVE

Carolyn Parnes	QC Manager Entact	8/10/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 18,225 SF

PANEL NUMBERS: 66 to 71 over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8/13/15 and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8/13/15
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

	INDEPENDENT CQA MONITOR	8/13/15
Signature	*Title*	*DATE*

Carolina Parra	QC Manager Entact	8/13/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,705 SF

PANEL NUMBERS: P- 72 to 75 Over geocomposite

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 14-Aug and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	14-Aug
Signature	*Title*	*DATE*

	INDEPENDENT CQA MONITOR	8/14/15

OWNER REPRESENTATIVE

	QC Manager - Entact	8-14-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER ENVIRONMENTAL SPECIALTIES INTERNATIONAL INC

PROJECT NAME Honeywell Chromium Area PROJECT NO 12-11-1399

LOCATION Jersey City, NJ

AREA ACCEPTED Aprox 14 705 SF

PANEL NUMBERS P- 76 to 86 over GCL

GRADE ACCEPTANCE INSPECTOR AMEC

GENERAL CONTRACTOR ENTACT

OWNER Honeywell

AUTHORIZED REPRESENTATIVE

The undersigned Fortino Ayala certifies that he/she is a representative of Environmental Specialties International Inc authorized to execute this certificate that he/she has visually inspected the subgrade surface described above on 9-Sep and found the surface to be acceptable for installation of the geomembrane

This certification is based on observation of the surface of the subgrade only No subsurface inspections or test have been performed and Environmental Specialties International Inc makes no representations or warranties regarding conditions which may exist below the surface of the subgrade

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	9-Sep
Signature	*Title*	*DATE*

	INDEPENDENT CQA MONITOR	9/9/15

OWNER REPRESENTATIVE

Carolyn Ramos	QC Mgr - Entact	9-9-15
Signature	*Title*	*DATE*

7941 PECUE LANE SUITE A - BATON ROUGE, LA 70809 - PHONE 225 291 2700 - FAX 225-291 2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 15,075 SF

PANEL NUMBERS: P- 87 to 90 Over subgrade.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 15-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	15-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/15/15

OWNER REPRESENTATIVE

Carlos Vasco	QC Manager - Entact	9-15-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,963 SF

PANEL NUMBERS: P- 91 to 94 Over subgrade.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 16-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC

Fortino Ayala	Project Superintendent	16-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/16/15

OWNER REPRESENTATIVE

	QC Manager-Gatel	9-16-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 11,205 SF

PANEL NUMBERS: P- 95 to 97 Over subgrade.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 17-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	17-Sep
Signature	*Title*	*DATE*

	INDEPENDENT CQP MONITOR	9/17/15

OWNER REPRESENTATIVE

Caroline Hamin	QC Manager	9-17-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 11,070 SF

PANEL NUMBERS: P- 98 to 106 Over subgrade and some over GCL

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 18-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	18-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/18/15

OWNER REPRESENTATIVE

	QC Manager	9-18-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,625 SF

PANEL NUMBERS: P- 107 to 110 Over subgrade

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 22-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	22-Sep
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

	INDEPENDENT CQA MONITOR	9/22/15
Signature	*Title*	*DATE*

Carlos Ramos	QC Manager	9-22-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,569 SF

PANEL NUMBERS: P- 111 to 114 Over subgrade

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 23-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	23-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/23/15

OWNER REPRESENTATIVE

Carolyn Parnes	QC Manager - Entact	9-23-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,681 SF

PANEL NUMBERS: P- 115 to 118 Over subgrade

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 24-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	24-Sep
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	9/24/15

OWNER REPRESENTATIVE

Carolyn Lanier	QC Manager Entact	9-24-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 7,425 SF

PANEL NUMBERS: P- 119 to 120 Over subgrade, some liner over GCL at ditch design.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 25-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	25-Sep
Signature	*Title*	*DATE*

OWNER REPRESENTATIVE

	INDEPENDENT CQA MONITOR	9/25/15
	QC Manager Entact	9-25-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 14,895 SF

PANEL NUMBERS: P- 121 to 125 Over subgrade, some liner over GCL at ditch and perim.

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 29-Sep and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	29-Sep
Signature	*Title*	*DATE*
[signature]	INDEPENDENT CQA MONITOR	9/29/15

OWNER REPRESENTATIVE

Carolin Panico	QC Manager - Entact	9-29-15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

CERTIFICATE OF SUBGRADE SURFACE ACCEPTANCE

INSTALLER: ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

PROJECT NAME: Honeywell Chromium Area PROJECT NO: 12-11-1399

LOCATION: Jersey City, NJ

AREA ACCEPTED: Aprox. 15,205 SF

PANEL NUMBERS: P- 126 to 134 Over subgrade, some liner over GCL At cap design .

GRADE ACCEPTANCE: INSPECTOR: AMEC

GENERAL CONTRACTOR: ENTACT

OWNER: Honeywell

AUTHORIZED REPRESENTATIVE:

The undersigned, Fortino Ayala ,certifies that he/she is a representative of Environmental Specialties International, Inc. authorized to execute this certificate, that he/she has visually inspected the subgrade surface described above on 8-Oct and found the surface to be acceptable for installation of the geomembrane.

This certification is based on observation of the surface of the subgrade only. No subsurface inspections or test have been performed and Environmental Specialties International, Inc. makes no representations or warranties regarding conditions which may exist below the surface of the subgrade.

AUTHORIZED REPRESENTATIVE OF ENVIRONMENTAL SPECIALTIES INTERNATIONAL, INC.

Fortino Ayala	Project Superintendent	8-Oct
Signature	*Title*	*DATE*
	INDEPENDENT CQA MONITOR	10/8/15

OWNER REPRESENTATIVE

Caroline Parnell	QC Mgr - Entact	10/8/15
Signature	*Title*	*DATE*

7943 PECUE LANE SUITE A ~ BATON ROUGE, LA. 70809 ~ PHONE 225-291-2700 ~ FAX 225-291-2788

E2. Langan Certificate of Soil Surface

LANGAN

Certificate of Soil Surface

Sheet # 1

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 24+35 TO STA 23+35 (WEST END)		
QA Monitor	LANGAN	Date	7/20/2015		

Description of Soil Surface to be lined: WEST END OF SA-6 SOUTH (~STA. 24+35) TO APPROX. 100 FT. EAST (STA. 23+35) - RUNNING NORTH TO SOUTH THROUGH APPROX. GRID POINT ~~8~~ 13.09. SOIL APPEARS TO BE GRADED, COMPACTED AND FREE OF DEBRIS (> ½"), AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/20/15
Title	~~SENIOR STAFF~~ LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-20-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, compacted, And Free of Debris (>½")
As outlined In Section 02372-8

Photographs	Number	Location	Orientation	Notes
	1	West End	N-S	Refer to Photograph Log (11/20/15)
	2	West End	N-S	Photos 2, 3, 4 w/ Descriptions

1. Refer to Photo Log (11/20/15)
Photos 2, 3, 4 for Corresponding Photos

2.

LANGAN

Certificate of Soil Surface

Sheet # 2

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.		General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 23+35 to ~Sta. 22+35		
QA Monitor	Langan	Date	7/21/2015		

Description of Soil Surface to be lined: Area immediately East from subgrade approval on 7/20/15. Located from approx. Sta. 23+35 to Sta. 22+35 (100 ft. East from installed CQA on 7/20/15. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/21/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-22-15
Title	Entrak QC Manager
Representing:	Entrak
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8.
GEOMEMBRANE CAP PANELS 5-9 PLACED OVER AREA.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #9	STA. 23+35	LOOKING EAST	REFER TO PHOTO LOG (7/21/15), PHOTO #9
	2 PHOTO #10	STA 23+35	EAST/SOUTHEAST	REFER TO PHOTO LOG (7/21/15), PHOTO #10

1. REFER TO PHOTO LOG (7/21/15)
PHOTOS 9, 10 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 3

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530601	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 22+35 TO STA. 21+40		
QA Monitor	LANGAN	Date	7/22/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/21/15. LOCATED FROM APPROX. STA. 22+35 TO STA. 21+40 (APPROX. 95 FT EAST OF GEOMEMBRANE INSTALLED ON 7/21/15. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/22/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Enhul
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, Compacted, And Free of Debris (7 ½")
As outlined in Section 02372-8

Geomembrane Cap Panels 10-13 Placed over Area

Photographs	Number	Location	Orientation	Notes
	1 Photo # 2		Looking East	Refer to Photo Log (11/22/15) Photo # 2
	2 Photo # 3		Looking NE	Refer to Photo Log (11/22/15) Photo # 3
1. Refer to Photo Log (11/22/15) Photos 2, 3 for supporting subgrade Photos				2.

LANGAN

Certificate of Soil Surface

Sheet # 4

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / ANECFW	Cell No.	~STA. 21+40 TO STA. 19+90		
QA Monitor	LANGAN	Date	7/23/15		

Description of Soil Surface to be lined: AREA IMMEDIATELY EAST FROM PREVIOUSLY APPROVED SUBGRADE ON 7/22/15. LOCATED FROM APPROXIMATE STATION STA. 21+40 (~P-13') TO STA. 19+90 (APPROX 150 FT. EAST OF GEOMEMBRANE INSTALLED ON 7/22/15'). SOIL APPEARS TO BE GRADED, COMPACTED + FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPEC'S.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	Y
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/23/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-23-15
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: Soil Graded, compacted, and fiber of Debris (2½") As outlined in Section 023.72-8.

Photographs	Number	Location	Orientation	Notes
	1 Photo #3	Sta 21.40	Looking East	Refer to Photo Log (7/23/15) Photo #3
	2 Photo #5	Sta 21+00	Looking NE	Refer to Photo Log (7/23/15) Photo #5
1. Refer to Photo Log (7/23/15) Photos 3.5 for supporting subgrade photos Additional subgrade details also shown on Photos 4+6				2.

LANGAN

Certificate of Soil Surface

Sheet # 5

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	± Sta. 19+90 to Sta. 19+00		
QA Monitor	Langan	Date	7/24/15		

Description of Soil Surface to be lined: Additional ± 90 ft. Section of soil approved east of Geomembrane Panels installed on 7/23/15 (P-18). Subgrade Approved from ± Sta. 19+90 to Sta. 19+00 (Subgrade previously approved to Sta. 19+90) / Geomembrane installed to ± Sta. 20+25 on 7/23/15). Soil appears to be graded, compacted, and free of debris (≥ ½"), and in conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/24/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-24-15
Title	qc Manager Entact
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #8	STA 20+25	LOOKING EAST	REFER TO PHOTO LOG (11/24/15) PHOTO #8
	2 PHOTO #9	STA. 19+80	LOOKING SOUTH	REFER TO PHOTO LOG (11/24/15) PHOTO #9

1. REFER TO PHOTO LOG (11/24/15) PHOTOS 8,9 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 6

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	STA. 19+00 TO STA. 18+20		
QA Monitor	LANGAN	Date	7/28/15		

Description of Soil Surface to be lined: ADDITIONAL ~80 FT. SECTION OF SOIL APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 7/24/15 (P-24). NO SUBGRADE APPROVED ON 7/27/15. SUBGRADE APPROVED FROM ~STA. 19+00 TO STA. 18+20. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	7/28/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7-28-15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

-ADDITIONAL ~40 FT. OF SOIL APPROVED AT END OF DAY TO ALLOW ESI TO INSTALL EXTRA 2 PANELS OF GEOMEMBRANE. SOIL APPROVED TO APPROX. STA 17+80.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~BD 6775.158Y	LOOKING NW	REFER TO PHOTO LOG (11/25/15) PHOTO #3
	2 PHOTO #4	~19.00	LOOKING EAST	REFER TO PHOTO LOG (11/25/15) PHOTO #4
1. REFER TO PHOTO LOG (11/25/15) PHOTOS 3, 4, 5 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 7

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 117+80 to Sta. 117+00		
QA Monitor	Langan	Date	7/29/15		

Description of Soil Surface to be lined: ~80 ft. Section of Soil Approved East of Geomembrane Panels Installed on 7/28/15 (P-30). Subgrade Approved From Approx. Sta. 117+80 to Sta. 117+00, Soil Appears to Be Graded, Compacted, And Free of Debris (>½"), and in Conformance With Project Specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	7/29/30
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	7/29/30
Title	QC Manager
Representing:	Entact
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED UP TO 1ST UTILITY CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	ESTA. 17+80	LOOKING N	REFER TO 7/29/15 PHOTO LOG PHOTO #5
	2 PHOTO #8	SEND CAP	LOOKING E	REFER TO 7/29/15 PHOTO LOG PHOTO #8

1. REFER TO PHOTO LOG (7/29/15)
PHOTOS 5, 8 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 8

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 17+00 to Sta. 15+80		
QA Monitor	Langan	Date	8/3/15		

Description of Soil Surface to be lined: ~120 ft. Section of Soil Approved East of Geomembrane Panels Installed on 7/29/15 (P-34). Subgrade Approved From Approx. Sta. 17+00 to Sta. 15+80 (to East Side of 1st Utility Corridor) Through 1st Utility Corridor. Soil Appears to Be Graded, Compacted, And Free of Debris (>½") And in Conformance w/ Project Specs

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/3/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	
Date:	
Title	
Representing:	
Signature:	Cathleen Parrino - Entact QC Manager

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT WITHIN UTILITY CORRIDOR + GEOMEMBRANE / GVL PLACEMENT OUTSIDE OF CORRIDOR

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	CORRIDOR	LOOKING N	REFER TO 8/3/15 PHOTO LOG PHOTO #1
	2 PHOTO #3	CORRIDOR	LOOKING S	REFER TO 8/3/15 PHOTO LOG PHOTO #3

1. REFER TO PHOTO LOG (8/3/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 9

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 15+80 TO ~STA. 15+10		
QA Monitor	LANGAN	Date	8/5/15		

Description of Soil Surface to be lined: ~170 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/3/15 (P-42). SUBGRADE APPROVED FROM ~STA. 15+80 TO ~STA. 15+10. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/5/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-5-15
Title	QC Manager Entact
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7 ½")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT ABOVE) GROUNDWATER ELEVATION

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	GP 165-15.4	LOOKING W	REFER TO 8/5/15 PHOTO LOG PHOTO #5
	2 PHOTO #6	STA. 15+80	LOOKING S	REFER TO 8/5/15 PHOTO LOG PHOTO #6
1. REFER TO PHOTO LOG (8/5/15) PHOTOS 5, 6 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 10

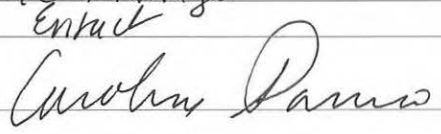
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 15+10 to ~Sta 14+00		
QA Monitor	Langan	Date	8/6/15		

Description of Soil Surface to be lined: ~110 ft. Section of soil subgrade advanced East of Geomembrane Panels installed on 8/5/15 (P-49). Subgrade advanced from ~Sta. 15+10 to ~Sta. 14+00. Soil appears to be graded, compacted, and free of debris (7½") and in conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - no changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/6/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-6-15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8
- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	± STA. 15+10	LOOKING E	REFER TO 8/6/15 PHOTO LOG (PHOTO #17)
	2 PHOTO #9	± STA. 15+10	LOOKING S	REFER TO 8/6/15 PHOTO LOG (PHOTO #9)
1. REFER TO PHOTO LOG (8/6/15) PHOTOS 17, 8, AND 9 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 11

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~ Sta. 14+00 to ~ Sta. 13+00		
QA Monitor	Langan	Date	8/7/15		

Description of Soil Surface to be lined: ~100 ft. section of soil subgrade approved east of geomembrane panels installed on 8/6/15 (P-54). Subgrade approved from ~ Sta. 14+00 to ~ Sta. 13+00. Soil appears to be graded, compacted, and free of debris (7½") and in conformance with project spec.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/7/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8/7/15
Title	QC Manager
Representing:	Entech
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02317Z-8.

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (~1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #6	STA. 14+00	LOOKING E	REFER TO 8/17/15 PHOTO LOG (PHOTO #6)
	2			

1. REFER TO PHOTO LOG (8/17/15) PHOTO 6 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 12

Project Name	Honeywell 5A-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 13+00 to ~Sta. 12+00		
QA Monitor	Langan	Date	8/10/15		

Description of Soil Surface to be lined: ~100 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 8/7/15 (P-60). Subgrade Approved From ~Sta. 13+00 to ~Sta. 12+00 Soil Appears to be Graded, Compacted, and Free of Debris (> ½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/10/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Parnio
Date:	8/10/15
Title	QC Manager
Representing:	Entac
Signature:	Caroline Parnio

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (> 1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 13+00	LOOKING N	REFER TO 8/10/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	~STA. 13+00	LOOKING E	REFER TO 8/10/15 PHOTO LOG (PHOTO #6)

1. REFER TO PHOTO LOG (8/10/15) PHOTOS #5, 6 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 13

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 12+00 to ~Sta. 11+00		
QA Monitor	Langan	Date	8/13/15		

Description of Soil Surface to be lined: ~100 ft. section of soil subgrade approved for use of geomembrane panels installed on 8/10/15 (P-65). Subgrade approved from ~Sta. 12+00 to ~Sta. 11+00. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	8/13/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-13-15
Title	QC Manager
Representing:	Entrac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½")
AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS AREA WAS ABOVE WATER TABLE (>1 FT.)

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	@ STA 11+50	LOOKING SW	REFER TO 8/13/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	@ STA 11+50	LOOKING SE	REFER TO 8/13/15 PHOTO LOG (PHOTO #2)

1. REFER TO PHOTO LOG (8/13/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS.

2.

LANGAN

Certificate of Soil Surface

Sheet # 14

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 11+00 TO ~STA. 10+20		
QA Monitor	LANGAN	Date	8/14/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/13/15 (P-171). SUBGRADE APPROVED FROM STA. 11+00 TO ~STA. 10+20. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	8/14/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	8-14-15
Title	QC Manager
Representing:	Entrada
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> ½")
AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN EDGE OF SA-6 AREA BELOW (TO 1 FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1			
	2			
1.				2.

LANGAN

Certificate of Soil Surface

Sheet # 15

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / AMEC FW	Cell No.	~STA. 10+20 TO ~STA. 9+50		
QA Monitor	Langan	Date	9/9/15		

Description of Soil Surface to be lined: ~770 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 8/14/15 (P.175). SUBGRADE APPROVED THROUGH 2ND UTILITY CORRIDOR FROM APPROX. STA. 10+20 TO STA. 9+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/9/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/9/15
Title	QC Manager
Representing:	ENTACT
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

- SOIL APPROVED FOR GCL PLACEMENT ALONG EASTERN + WESTERN SLOPES OF UTILITY CORRIDOR + SOUTHERN SLOPE (LOWER BENCH) OF SOUTHERN END OF SA-6 AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	~STA 10+00	LOOKING SW	REFER TO 9/9/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	~STA. 10+00	LOOKING NE	REFER TO 9/9/15 PHOTO LOG (PHOTO #3)

1. REFER TO PHOTO LOG (9/9/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 16

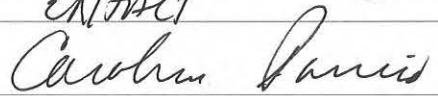
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 9+50 to ~Sta. 8+50
QA Monitor	Langan	Date	9/15/15

Description of Soil Surface to be lined: ~100 ft. section of soil subgrade approved east of geomembrane panels installed on 9/9/15 (P-86). Subgrade approved east of 2nd utility corridor from approx. Sta. 9+50 to ~Sta. 8+50. Soil appears to be graded, compacted, and free of debris (>½") and in conformance with project specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/15/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-15-15
Title	Entact QC Manager
Representing:	ENTACT
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

~~THE~~ GCL PLACED ALONG SOUTHERN SLOPE OF SA-6 SOUTH (LOWER BENCH) AT AREA BELOW (TO 1FT. ABOVE) GROUNDWATER TABLE

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 9+50	LOOKING S	REFER TO 9/15/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 9+50	LOOKING E	REFER TO 9/15/15 PHOTO LOG
1. REFER TO PHOTO LOG (9/15/15) PHOTOS 1,2 FOR SUPPORTING SUBGRADE PHOTOS				2.

LANGAN

Certificate of Soil Surface

Sheet # 17

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 8+50 TO ~STA. 7+70		
QA Monitor	LANGAN	Date	9/16/15		

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/15/15 (P-90). SUBGRADE APPROVED FROM APPROXIMATE STA. 8+50 (P-90) TO APPROX STA. 7+70. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOUDREAU
Date:	9/16/15
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/16/15
Title	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (> 1/2") AS OUTLINED IN SECTION 02372-8

NO GCL PLACED ALONG SA-6 AS AREAS OUTSIDE OF GROUNDWATER ZONE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #17	~STA 8+80	LOOKING N/NE	REFER TO 9/16/15 PHOTO LOG (PHOTO #17)
	2			

1. REFER TO PHOTO LOG (9/16/15) PHOTO #17 FOR SUPPORTING SUBGRADE PHOTOS

2.

LANGAN

Certificate of Soil Surface

Sheet # 18

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Arlec FW	Cell No.	~Sta. 7+70 to ~Sta. 7+00		
QA Monitor	Langan	Date	9/17/15		

Description of Soil Surface to be lined: ~70 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/16/15 (P-94). Subgrade Approved From Approximate Sta. 7+70 (P-94) to Approximate Sta. 7+00 (western slope of 3rd utility corridor). Soil Appears to be Graded, Compacted, And Free of Debris (>1½") and in conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	**Y/N/NA**
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/17/15
Title	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/17/15
Title	QC Manager
Representing:	Entac
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED ALONG SA-6 AS NO AREAS BELOW (TO 1 FT. ABOVE) GROUNDWATER

Photographs	Number	Location	Orientation	Notes
	1			
	2			

1.

2.

LANGAN

Certificate of Soil Surface

Sheet # 19

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 7+00 TO ~STA. 6+40		
QA Monitor	LANGAN	Date	9/18/15		

Description of Soil Surface to be lined: ~60 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/17/15 (P-97). SUBGRADE APPROVED THROUGH 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 7+00 TO ~STA. 6+40 (EASTERN SIDE OF 3RD UTILITY CORRIDOR). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/18/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9/18/15
Title:	QC Manager
Representing:	Entek
Signature:	

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 023172-8.

- GCL PLACED ALONG BOTTOM AND SIDE SLOPES (APPROX 2 FT. TO 3FT. EACH BOTTOM) OF 3RD UTILITY CORRIDOR (LOCATED AT APPROX. STA. 6+80). GCL ALSO PLACED ALONG SOUTHERN END OF CORRIDOR (LOWER BENCH) BELOW TO 1 FT. ABOVE WATER TABLE.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 6+80	LOOKING S	REFER TO 9/18/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 6+86	LOOKING N	REFER TO 9/18/15 PHOTO LOG (PHOTO #2)
1 REFER TO PHOTO LOG (9/18/15) PHOTOS 1, 2 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

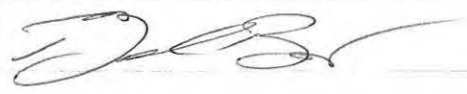
Sheet # 20

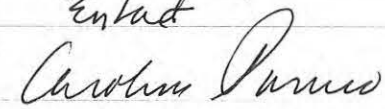
Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 6+40 TO ~STA. 5+30		
QA Monitor	LANGAN	Date	9/22/15		

Description of Soil Surface to be lined: ~110 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/18/15 (P-98-103 / EAST-WEST ORIENTATION). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 6+40 TO ~STA. 5+30. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	
Suitable for placement of GCL	
Smooth	
Any changes required? If so the contractor and owner's representative must be notified.	

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	9/22/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-22-15
Title:	QC Manager
Representing:	Entact
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8

- NO GCL PLACED AS APPROVED SUBGRADE OUTSIDE OF WATER TABLE INFLUENCE. ONLY GVL REQUIRED

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	25TH. 6+40	LOOKING N	REFER TO 9/22/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	25TH 5+90	LOOKING S	REFER TO 9/22/15 PHOTO LOG (PHOTO #3)
1 REFER TO PHOTO LOG (9/22/15) PHOTOS 1, 2, 3 FOR SUPPORTING SUBGRADE PHOTOS				2

LANGAN

Certificate of Soil Surface

Sheet # 21

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 5+30 TO ~STA. 4+50		
QA Monitor	LANGAN	Date	9/23/15		

Description of Soil Surface to be lined: ~480 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEC-MEMBRANE PANELS INSTALLED ON 9/22/15 (PANEL #110). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 5+30 TO APPROX. STA. 4+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BUSWORTH
Date:	9/23/15
Title:	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	9-23-15
Title:	QC Manager
Representing:	Caroline Panico
Signature:	ENTACT

LANGAN

Notes, Observations, Comments SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN AND SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #1	~STA. 4+90	LOOKING S	REFER TO 9/23/15 PHOTO LOG (PHOTO #1)
	2 PHOTO #2	~STA. 4+70	LOOKING W	REFER TO 9/23/15 PHOTO LOG (PHOTO #2)

1 REFER TO PHOTO LOG (9/23/15) PHOTOS 1, 2 FOR SUPPORTING SUBSEQUENT PHOTOS

2

LANGAN

Certificate of Soil Surface

Sheet # 22

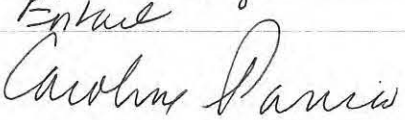
Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL		
Project No.	100530001	General Desc.	(Subgrade)	Operations	LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 4+50 to ~Sta. 3+80		
QA Monitor	Langan	Date	9/24/15		

Description of Soil Surface to be lined: ~480 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/23/15 (Panel N114). Subgrade Approved for Area East of 3rd Utility Corridor From Approximate Sta. 4+50 to Approx. Sta. 3+80. Soil Appears to Be Graded, Compacted, and Free of Debris (>½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bodworth
Date:	9/24/15
Title:	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-24-15
Title:	QC Manager
Representing:	Entrie
Signature:	

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (7½") AS OUTLINED IN SECTION 02372-8

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO 1FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG BOTTOM + SLOPES OF UTILITY/DRAINAGE DITCHES RUNNING N-S THROUGH SA-6, AND AS SHOWN ON THE PROJECT DRAWINGS

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 4+50	LOOKING S	REFER TO 9/24/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 4+50	LOOKING E	REFER TO 9/24/15 PHOTO LOG (PHOTO #4)

1 REFER TO PHOTO LOG (9/24/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL

2

LANGAN

Certificate of Soil Surface

Sheet # 23

Project Name	Honeywell SA-6 South	Material Desc.	Geomembrane + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	Honeywell / Amec FW	Cell No.	~Sta. 3+80 to ~Sta. 3+30
QA Monitor	Langan	Date	9/25/15

Description of Soil Surface to be lined: ~ 50 ft. Section of Soil Subgrade Approved East of Geomembrane Panels Installed on 9/24/15 (Panel #118). Subgrade Approved for Area East of 3rd Utility Corridor from Approximate Sta. 3+80 to Approx. Sta. 3+30. Soil Appears to Be Graded, Compacted, and Free of Debris (>½") and in Conformance with Project Specs.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N - No Changes

Independent CQA Monitor	
Name:	Daniel Bosworth
Date:	9/25/15
Title:	Lead QA Engineer
Representing:	Langan
Signature:	

Geosynthetic Installer Representative	
Name:	Carolina Panico
Date:	9-25-15
Title:	QC Manager
Representing:	Entuc
Signature:	Carolina Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AS OUTLINED IN SECTION 02372-8

- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AND AT AREAS BELOW (TO 1 FT. ABOVE) THE GROUNDWATER TABLE, AS DEFINED ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #5	~STA. 3+50	LOOKING E	REFER TO 9/25/15 PHOTO LOG (PHOTO #5)
	2 PHOTO #6	~STA. 3+40	LOOKING N	REFER TO 9/25/15 PHOTO LOG (PHOTO #6)
1 REFER TO PHOTO LOG (9/25/15) PHOTOS 5,6 FOR SUPPORTING SUBGRADE PHOTOS (WITH GCL)				2

LANGAN

Certificate of Soil Surface

Sheet # 24

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL
Project No.	100530001	General Desc.	(Subgrade) / Operations / LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 3+30 TO ~STA. 2+50
QA Monitor	LANGAN	Date	9/29/15

Description of Soil Surface to be lined: ~80 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/25/15 (PANEL #120). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 3+30 TO APPROX. STA. 2+50. SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AND IN CONFORMANCE WITH PROJECT SPECS.

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified	N - NO CHANGES

Independent CQA Monitor	
Name	DANIEL BOSWORTH
Date	9/29/15
Title	LEAD QA ENGINEER
Representing	LANGAN
Signature	

Geosynthetic Installer Representative	
Name	Carolina Panico
Date	9-29-15
Title	QC Manager
Representing	Entact
Signature	Carolina Panico

LANGAN

Observations/Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>1½") AS OUTLINED IN SECTION 02372-8.

- GCL PLACED ALONG NORTHERN & SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW, (TO 1 FT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON THE PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #2	STA. 3+30	LOOKING S	REFER TO 9/29/15 PHOTO LOG (PHOTO #2)
	2 PHOTO #3	STA. 2+90	LOOKING E	REFER TO 9/29/15 PHOTO LOG (PHOTO #3)

1 REFER TO PHOTO LOG (9/29/15) PHOTOS 2,3 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR PICTURES OF GCL.

2

LANGAN

Certificate of Soil Surface

Sheet # 25

Project Name	HONEYWELL SA-6 SOUTH	Material Desc.	GEOMEMBRANE + GCL		
Project No.	100530001	General Desc.	Subgrade	Operations	LCRS
Owner/ Contr.	HONEYWELL / AMEC FW	Cell No.	~STA. 2+50 TO ~STA 1+50		
QA Monitor	LANGAN	Date	10/8/2015		

Description of Soil Surface to be lined: ~100 FT. SECTION OF SOIL SUBGRADE APPROVED EAST OF GEOMEMBRANE PANELS INSTALLED ON 9/29/15 (PANEL # 125). SUBGRADE APPROVED FOR AREA EAST OF 3RD UTILITY CORRIDOR FROM APPROXIMATE STA. 2+50 TO APPROX. STA. 1+50 (EASTERN END OF SA-6, ROUTE 440). SOIL APPEARS TO BE GRADED, COMPACTED, AND FREE OF DEBRIS (>1/2") AND IN CONFORMANCE W/ SPECS

I hereby certify that the above surface area is suitable for the installation of geosynthetics, and I shall be responsible for its integrity and suitability in accordance with the specifications from this date to the completion of the installation.

Visual Inspection of Subgrade Surface	
QUALITY	Y/N/NA
Geomembrane	
Smooth	Y
Uniform	Y
Relatively free from abrupt changes in grade, rocks larger than ½, sharp objects, and debris	Y
Free of standing water	Y
Surface area to be lined has been properly prepared	Y
Geocomposite Clay Liner	
Free from wheel ruts, debris, rocks, sticks, and rocks larger than 1 inch	Y
Suitable for placement of GCL	Y
Smooth	Y
Any changes required? If so the contractor and owner's representative must be notified.	N-NO CHANGES

Independent CQA Monitor	
Name:	DANIEL BOSWORTH
Date:	10/8/2015
Title	LEAD QA ENGINEER
Representing:	LANGAN
Signature:	[signature]

Geosynthetic Installer Representative	
Name:	Caroline Panico
Date:	10/9/15
Title	QC Manager
Representing:	ENTACT
Signature:	Caroline Panico

LANGAN

Notes, Observations, Comments: SOIL GRADED, COMPACTED, AND FREE OF DEBRIS (>½") AS OUTLINED IN SECTION 02372-8
- GCL PLACED ALONG NORTHERN + SOUTHERN BOUNDARIES OF SA-6 CAP AT AREAS BELOW (TO LFT. ABOVE) THE GROUNDWATER TABLE. GCL ALSO PLACED ALONG LOWER BENCH ON EASTERN END OF SA-6 AS SHOWN ON PROJECT DRAWINGS.

Photographs	Number	Location	Orientation	Notes
	1 PHOTO #3	~STA. 1+70	LOOKING N/NW	REFER TO 10/8/15 PHOTO LOG (PHOTO #3)
	2 PHOTO #4	~STA. 2+00	LOOKING S	REFER TO 10/8/15 PHOTO LOG (PHOTO #4)
1 REFER TO PHOTO LOG (10/8/15) PHOTOS 3,4 FOR SUPPORTING SUBGRADE PHOTOS. ALSO REFER TO PHOTO LOG FOR SUPPORTING PHOTOS OF GVL + GCL				2

Appendix F
Langan Daily Reports & Supporting Photo Logs

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/7/2015
PROJECT:	SA-6 Capping		**WEATHER:**	75/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Inspection	**TIME:**	0600 – 1400

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #1**
Thatcher Foundations *Equipment:* Dozer, Steel Drum Roller, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Dave Ambrose **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse

Site Activities

- Langan onsite to conduct soil subgrade inspection. Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area.
- Langan and ENTACT (two laborers) conducted visual inspection of the prepared soil subgrade. This area included the furthest western part of the cap (Sta. 24+00) to just east of Sta. 18+50.
- In general, the following soil subgrade properties were observed:
    - Some debris (wood fragments),small rocks, etc. were observed along the slopes and elevation changes from Sta. 24+00 to Sta. 18+50. It is recommended during the pull back and removal of the plastic tarp (in preparation for installation of liner), ENTACT should provide laborers with a wheelbarrow and equipment to collect various debris as it is encountered.
    - Along the slopes of the smaller swales, utility corridors, street channels, etc. some soft and loose material was noted. As recommended above, as the plastic is removed for liner installation activities, Entact should provide laborers to dress the slopes (i.e. remove any loose debris and conduct compaction (as required) with a hand tamper), as necessary.
- In addition to the general soil subgrade properties outlined above, some soft / wet areas (some with free standing water) were encountered. The location of these wet areas was in the general vicinity of the collection manhole (Sta. 21+00), where the soil subgrade was very soft (able to sink into the soil while walking). Langan conducted a site walk with AmecFW to collect GPS locations of these soft, underlying areas. The attached figure provides the swales, corridors, and trenches within vicinity of the collection manhole that do not meet the soil subgrade requirements. Additional grading / compaction activities will be required prior to liner installation within these areas.
    - Note: The locations on the attached figure do not represent every area that needs additional preparation activities. The general soil subgrade properties outlined above could represent varying locations as the entire soil area could not be observed due to the plastic being placed over the cap area. The locations outlined on the attached figure are meant to provide “critical” areas that may require more substantial work activities in order to have the subgrade properly prepared to the specifications.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade inspection, the soil has not been approved for liner installation activities based on the wet / soft spots encountered (as outlined within this report). It is also recommended that laborers are provided when the plastic sheeting is removed so that the loose debris can be collected, and additional grading / compacting activities can be conducted (as required) along the slopes and contours.

Action Items Pending

- QA Engineer - Review SA-6 capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned for the week of 7/13).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Cap Installation Kickoff meeting scheduled for Thursday (7/9/15). At this time an additional soil subgrade inspection should be conducted with ESI representatives.

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log



Photo 1: Completed soil subgrade with plastic sheeting cover (looking west toward Sta. 24+00).



Photo 2: Entact conducting grading and compacting activities to the area east of Sta. 19+00.

Photograph Log (continued)



Photo 3: Graded and compacted soil subgrade near Sta. 24+00 (acceptable subgrade).



Photo 4: Miscellaenouos debris (wood, rocks, etc.) encountered. Debris removed from subgrade, however, while plastic sheeting is removed in prep for installation, additional observations shall be conducted to ensure all debris is removed prior to liner installation.

Photograph Log (continued)



Photo 5: Loose material and debris encountered along swale slope.



Photo 6: Standing water encountered along northern drainage swale / tree bulb.

Photograph Log (continued)



Photo 7: Standing water / soft area in vicinity of collection manhole (Sta. 21+00).



Photo 8: Soft / wet soil in vicinity of manhole. Indentations / footprints visible.

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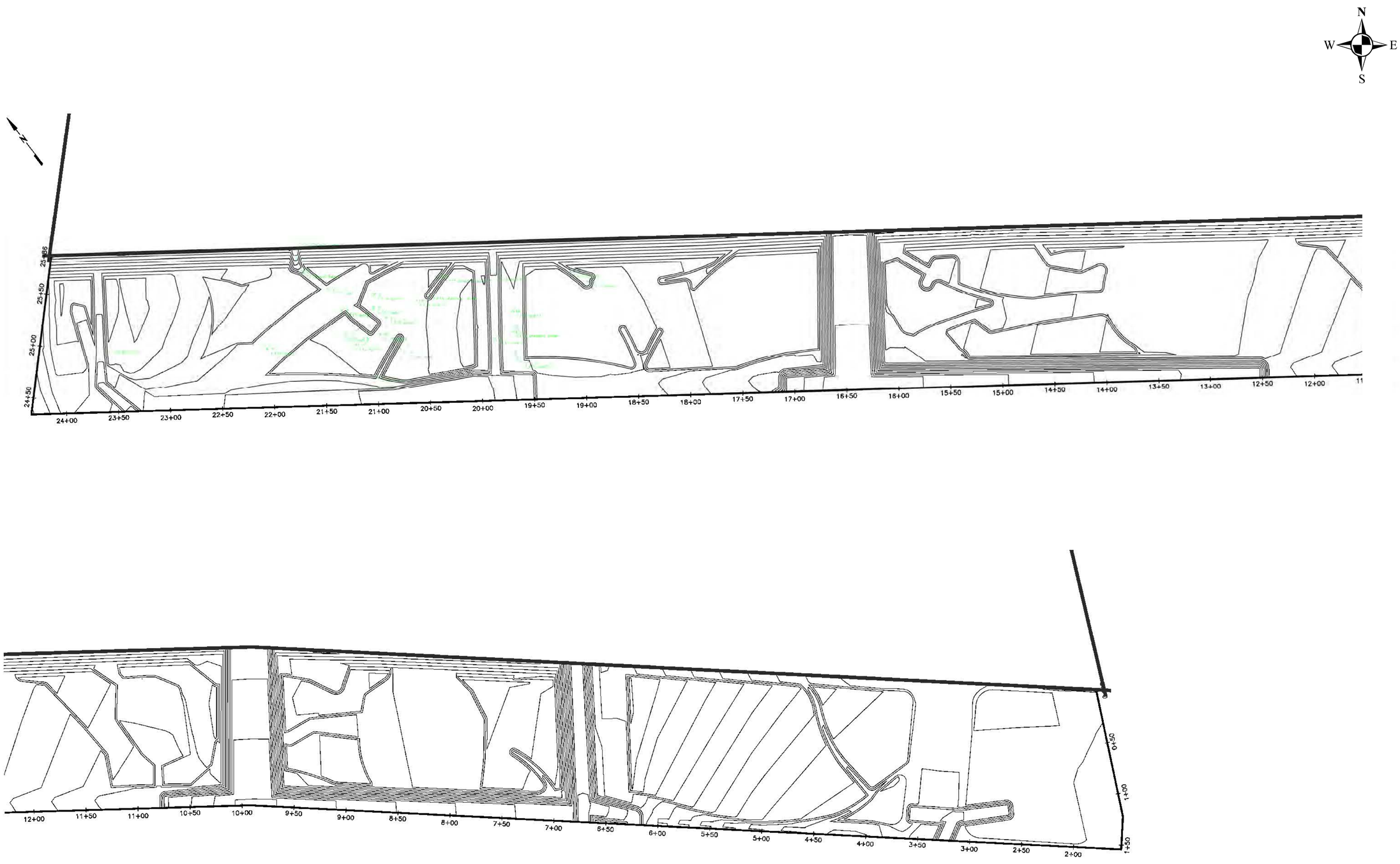

Notes:
1. Locations GPS surveyed by Langan and AMEC for soil subgrade areas requiring additional preparation activities prior to liner placement.
2. This Figure represents critical locations that were observed by the project team and does not include every area that may require additional preparation work. As the plastic sheeting is removed from the cap, ENTACT should provide sufficient manpower to remove potential miscellaneous debris, and re-grade / compact slopes, as required.
3. Subgrade observations collected on 7/7/15 and 7/13/15 by Langan field personnel and represent the areas between the western most boundary (Sta 24+00), and east of Sta17+50. The area to the east of Sta. 17+50 has not yet been observed.

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Langan Engineering & Environmental Services, Inc.
Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.
Langan International LLC
Collectively known as Langan

Project
Honeywell
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY
HUDSON COUNTY NEW JERSEY

Drawing Title
SA-6 SOUTH CAP SUBGRADE INSPECTIONS

Project No. 100530001	Figure 7
Date 8/20/2015	
Scale N.T.S.	
Drawn By ATR	
Last Revised 8/20/2015	

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Path: \\langan.com\data\EP\data0\100530001\ArcGIS\ArcMap_Documents\SA-6 South Cap Subgrade Inspections.mxd

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/13/2015
PROJECT:	SA-6 Capping		**WEATHER:**	80/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Soil Subgrade Inspection	**TIME:**	0600 – 1100

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #2**
Thatcher Foundations *Equipment:* Dozers, Steel Drum Rollers, Misc. Hand Tools (shovels, rakes)	**AmecFW**:Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT**: Keith Goisse

Site Activities

- Langan onsite to conduct soil subgrade inspection, and to observe placement of first layer of geocomposite (gas venting layer) for SA-6 south capping. Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area.
- Based on subsequent conversations with the project team, no material was to be placed during the day (GDL or LLDPE) as the geomembrane was undergoing final conformance testing requirements and had not yet been delivered to the Site. As such, Langan and AmecFW conducted a visual inspection of the prepared soil subgrade. These areas included the locations previously identified during the Day #1 soil subgrade inspection, as well as additional areas completed since that date from Sta. 18+50 to Sta. 17+50, as shown in the attached Figure (Sheet 7).
- In general, the following soil subgrade properties were observed:
  - ENTACT had opened and dried the areas immediately west of the collection manhole. Additionally, ENTACT provided laborers to dress and repair the slopes, as required. Refer to Sheet 3 for example of slope that would require dressing. The additional areas east of the collection manhole will also be opened and dried, with additional preparation being completed, as required. Refer to Sheet 7 for areas that ENTACT has repaired soil to appropriate subgrade.
  - The slopes of the smaller swales, utility corridors, street channels, etc. some soft and loose material was noted. As the plastic is removed for liner installation activities, ENTACT should provide laborers to dress the slopes (i.e. remove any loose debris and conduct compaction (as required) with a hand tamper), as necessary.
- In addition to the general soil subgrade properties outlined above, some soft / wet areas (some with free standing water) were encountered east of the previously inspected areas. The coordinates of these locations were collected and are shown on Sheet 7. Additional grading / compaction activities will be required prior to liner installation within these areas.
  - Note: The locations on the attached figure do not represent every area that needs additional preparation activities. The general soil subgrade properties outlined above could represent varying locations as the entire soil area could not be observed due to the plastic being placed over the cap area.

Cc Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

The locations outlined on the attached figure are meant to provide "critical" areas that may require more substantial work activities in order to have the subgrade properly prepared to the specifications.

Observations Requiring Contractor / QA Engineer Review

- Based on the soil subgrade inspection conducted to date, it appears that the soil west of the collection manhole is acceptable to commence with installation activities. However, ENTACT shall provide laborers as the plastic is removed to conduct slope dressing and re-compaction (as required), as well as, to remove any unacceptable debris (i.e. rocks, misc. debris, etc.) from the subgrade. If further soil deterioration is encountered prior to the placement of the GDL and liner material, additional re-grading and re-compaction of the soil subgrade may be required. As such, the final soil subgrade inspection form will not be completed until immediately prior to GDL and liner placement.
- Based on the wet / soft spots encountered (as outlined within this report) east of the collection manhole, it appears that this soil subgrade is not suitable for liner installation activities. Additional preparation work (i.e. drying, re-compaction, etc.) is required prior to liner placement. It is also recommended that laborers are provided when the plastic sheeting is removed so that any loose debris can be collected, and additional grading / compacting activities can be conducted (as required) along the slopes and contours.

Action Items Pending

- QA Engineer - Review SA-6 capping specifications and drawings. Review product submittals (as provided) and ensure that all data, drawings, and pertinent documents are ready for liner installation kickoff (planned to commence on 7/15).

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work will be conducted tomorrow (7/14) by ENTACT.
- Preparation and coordination to ensure that liner placement can begin on Wednesday (7/15).

Cc: Jeff Stoicescu, Rory Johnston, Vikki Hon, File

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Photograph Log



Photo 1: Example of washed slope that would require regarding and re-compaction activities.



Photo 2: Swale / root bulb with standing water and soft / wet bottom. Additional prep work required.

Photograph Log (continued)



Photo 3: ENTACT dressing slopes west of collection manhole.



Photo 4: Area west of collection manhole. Opened and dried. ENTACT dressing slopes (as required).

Photograph Log (continued)



Photo 5: Wet area located east of collection manhole on top deck (still requires drying and re-compaction).



Photo 6: Dry area re-compacted west of collection manhole.

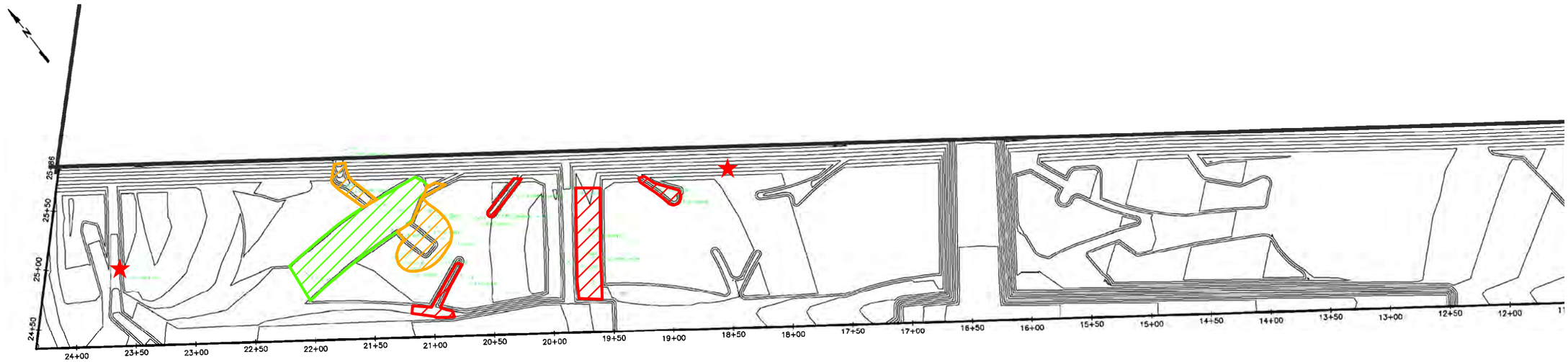
Photograph Log (continued)

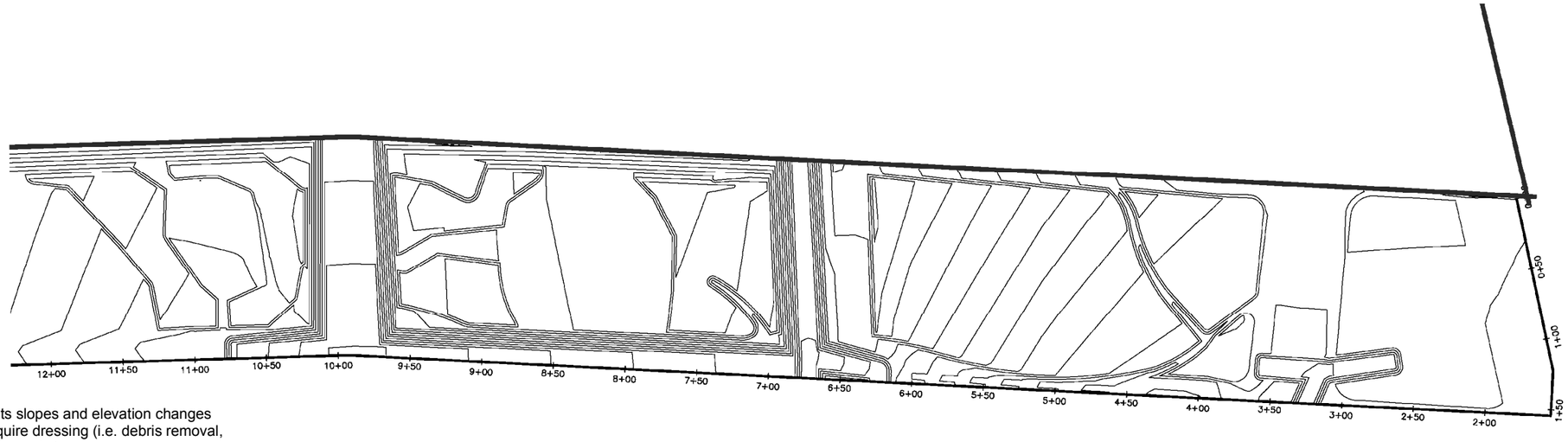


Photo 7: ENTACT filling and re-compacting depressions / voids in subgrade along southern edge of SA-6.



Photo 8: Grading and compacting soil east of collection manhole near Sta. 17+50.





Legend

★ Respresents slopes and elevation changes that will require dressing (i.e. debris removal, re-compaction, etc.)

Status

Represents areas that have been dried, regraded, and re-compacted. Soil appears acceptable for liner placement

Represents areas where ENTACT is presently drying and conducting regrading and re-compaction as required.

Represents areas that exhibit soft / wet subgrade. Soil not acceptable for liner placement.

Notes:
1. This Figure represents critical locations that were observed by the project team and does not include every area that may require additional preparation work. As the plastic sheeting is removed from the cap, ENTACT should provide sufficient manpower to remove potential miscellaneous debris, and re-grade / compact slopes, as required.
2. Subgrade observations collected on 7/7/15 and 7/13/15 by Langan field personnel and represent the areas between the western most boundary (Sta 24+00), and east of Sta17+50. The area to the east of Sta. 17+50 has not yet been observed.

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NJ CERTIFICATE OF AUTHORIZATION No. 24GA27996400

Project
Honeywell
CHROMIUM REMEDY STUDY AREA 6 SOUTH
JERSEY CITY
HUDSON COUNTY NEW JERSEY

Drawing Title
SA-6 SOUTH CAP SUBGRADE LANGAN FIELD OBSERVATIONS

Project No.	100530001
Date	7/13/2015
Scale	N.T.S.
Drawn By	ATR
Last Revised	7/14/2015
SHEET	7

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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/20/2015
PROJECT:	SA-6 Capping		**WEATHER:**	80/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1900

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #3** **AmecFW**:Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth, Jeff Stoicescu **ENTACT**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) starting at the west end of the SA-6 south. Material to be placed from the western end (west of Sta. 24+00, located at approximate Sta. 24+35) of SA-6 for approximately 100 ft. east to approximate Sta. 23+35.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area).
- Prior to placement of GVL or Cap, the plastic sheeting protecting the soil subgrade from the work area was removed. Final soil subgrade inspection was conducted for the area outlined above. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3, 4, and 5 of the daily photo log for 7/20/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the area of approximate Sta. 24+35 to Sta. 23+35 as outlined above.
- Upon soil subgrade approval, and prior to placement of the GVL and Liner, it was determined that an onsite meeting to discuss the revised panel layout and placement would be conducted between AmecFW, Langan, and ENTACT. During this meeting, the revised panel layout, seaming, soil subgrade approval, and other pertinent issues were discussed. Upon review of these topics, it was determined that ESI could begin with placement of GVL and Liner.
- ESI began by placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed on the western end of the Site (Sta. 24+35) moving east. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 7/20/15 Photo Log for supporting photographs.
- After installation of GVL, geomembrane liner was installed beginning at the western end of the Site and moving east. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from Sta. 24+35 to approximate Sta. 23+35. A total of four panels were installed (P-1, P-2,

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By: Dan Bosworth

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P-3, and P-4), with seams overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing. The results of the pre-trial weld are provided in the associated QA form submitted for today (7/20), *Trial Weld Log.*

- Upon installation and welding of the geomembrane panels, based on required working permit hours, it was determined that non-destructive testing, and liner repair work would be conducted on 7/21/15. A destructive sample (DS-1) was collected, however, this sample was not shipped on 7/20/15 due to the extended working hours. Sample to be recorded on the *Destruct Log* and shipped on 7/21/15.

Non-Conformance Items / Corrective Actions

- None Encountered.

Action Items – Pending

- Complete Daily Report and Photo Log. Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, etc.)
- Review laboratory results for destruct sample DS-1.

Action Items – Weekly Completions

- None to Date

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 23+35 to Sta. 22+35).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		
A2 – Receiving and Inspection	Sheet 1 (7/20)	RIR for 12 rolls of LLDPE delivered on 7/20/15 (Report Number 47)
A3 – Photo Log	Pages 1 - 8	Total of 16 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date with LLDPE included until 7/20/15
A5 – Subgrade Approval	Sheets 1 & ESI Form 7/20	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan.
A7 – Panel Placement Log	Sheet 1	One panel placement log provided by ESI and confirmed by Langan
A8 – Seam Testing COC		N / A for 7/20/15
A9 – Seam/Non-Destruct. Test Log		N / A for 7/20/15
A10 – Repair Log		N / A no patch / repair work completed on 7/20
A11 – Conformance COC		N / A for 7/20/15
A12 – Destructive Seam Field Test		N / A DS-1 collected, however this repair and paperwork will be completed on 7/21
A13 – Destruct. Sample Summary		N / A to be updated on 7/21
A14 – Penetration & Edge Form		N / A penetrations for wells to be booted and completed at a later date
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking south away from SA-6

Description:

Entact / ESI offloading rolls of 60-mil geomembrane liner according to project specifications.



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PHOTOGRAPHIC LOG
Photo #2 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking west toward Sta. 24+00

Description:

Entact removing plastic sheeting to uncover and expose soil subgrade between Sta. 24+35 and Sta. 23+35.



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PHOTOGRAPHIC LOG
Photo #3(07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking north toward Grid Point 11
15.00

Description:

Prepared soil subgrade approved for liner placement. Slopes compacted and free of loose debris > ½ inch.



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PHOTOGRAPHIC LOG
Photo #4 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking north along Sta. 23+50 corridor

Description:

Prepared soil subgrade approved for liner placement Soil compacted and free of loose debris (> ½ inch), based on visual observations.



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PHOTOGRAPHIC LOG
Photo #5 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking north along Sta. 24+00

Description:

Prepared soil subgrade approved for liner placement. Based on visual observations, soil is graded, compacted, and free of loose debris, as defined by the project specs.



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PHOTOGRAPHIC LOG
Photo #6 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking south / southeast along southern wall of SA-6 cap.

Description:

16 oz. geotextile installed along sheet pile wall according to specifications.



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PHOTOGRAPHIC LOG
Photo #7 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking north / northwest near Sta. 24+00.

Description:

ESI placing GVL along western end of SA-6 cap.



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PHOTOGRAPHIC LOG
Photo #8 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/20/15

Direction Taken:

Looking north near Sta. 24+00

Description:

White plastic fasteners placed at minimum 5 ft. intervals along GVL geonet as outlined in specifications.



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PHOTOGRAPHIC LOG
Photo #9 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/20/15

Direction Taken:

Looking north near Sta. 24+00.

Description:

ESI sewing geotextile seams along installed GVL panels.



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PHOTOGRAPHIC LOG
Photo #10 (07/20/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/20/15

Direction Taken:

Looking east near Grid Point 11
15.0

Description:

ESI cutting GVL to allow proper conforming within swale / tree bulb contour. Cut patched with GVL and



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PHOTOGRAPHIC LOG
Photo #11 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking south away from SA-6 cap.

Description:

ESI conducting trial weld for LLDPE (geomembrane) seaming as per project specifications.



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PHOTOGRAPHIC LOG
Photo #12 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking south along western end of SA-6 cap.

Description:

Placement of LLDPE (geomembrane) along western end of cap (Sta. 24+35). Panel #1 (P-1) from approved geomembrane roll (Roll #283031).



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PHOTOGRAPHIC LOG
Photo #13 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking south away from SA-6 cap.

Description:

Placement of Panel #2 (P-2) east of P-1.



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PHOTOGRAPHIC LOG
Photo #14 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking south along western end of SA-6 cap.

Description:

Fusion welding conducted between Panel #1 (P-1) and Panel #2 (P-2).



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PHOTOGRAPHIC LOG
Photo #15 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking northwest along western end of SA-6 south cap.

Description:

Installed LLDPE geomembrane panels (P-1, P-2).



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PHOTOGRAPHIC LOG
Photo #16 (07/20/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/20/15

Direction Taken:

Looking northeast from western end of SA-6 South cap.

Description:

Installed LLDPE geomembrane panels (P-3 ,P-4)



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/21/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	83/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #4**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #4 (P-4) installed on 7/20/15 (located at approximate Sta. 23+25) running approximately 100 ft. east (Sta. 22+35).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting non-destructive testing and patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/20/15 (Panels 1-4). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed with the project specifications (refer to *Preweld Test Report* for 7/21/15 for results).
- A total of eight repairs (RP-1 through RP-8) were observed and fixed (according to the project specifications) from Panel #1 through Panel #4. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted, as outlined in the project specifications.
- Some non-conformance issues were observed, outside of the "custom fit" repairs noted above (refer to *Notice of Non-Compliance and Corrective Action* forms), and were documented on Sheet #1 and Sheet #2 as non-compliance. These issues were also recorded within the *Repair Log* as a subgrade irregularity and are identified as RP-3 and RP-8. The non-compliance issues encountered were identified based on debris / rocks that were observed underneath the geomembrane cap. The rocks were removed from these areas and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #1* and *Sheet #2* for 7/21/15.
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/20/15, Entact removed the plastic sheeting protecting the soil subgrade for the next 100 ft. section of work area (approximate Sta. 23+35 to Sta. 22+35). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/21/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed.

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Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to *Photos #9 & 10* of the daily photo log for 7/21/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 23+35 to Sta. 22+35 as outlined above.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 23+35 (east of P-4) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *7/21/15 Photo Log* for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #4 (located at approximate Sta. 23+35) on 7/20/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 23+35 to Sta. 22+35. A total of four panel lengths were installed (P-5, P-6, P-7, P-8, P-9) by ESI. Note: Encountered the end of the geomembrane roll while placing Panel #6 (P-6). Butt seam required between P-6 and P-7. A destructive test sample (DS-2) was also collected from this seam (one sample for ESI, and one sample for Langan). The results of trial welding test for the destructive sample are outlined in the *Preweld Test Report* for 7/21/15. A total of ten 1-inch specimens were collected for peel and shear strength testing (5 tests for each).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/20), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted patch / repair work and non-destructive testing on Panels 5-9 (as outlined in the project specifications). During the non-destructive testing conducted between Panel 7 (P-7) and Panel 8 (P-8), the non-destruct test failed and a non-compliance issue was noted. Since P-7 only extended approximately 6 ft. (north to south), the entire seam would be patched and repaired (according to the project specifications) on 7/22/15.
- It should also be noted that pipe booting activities were conducted on piezometer PZ20 and well 073-MW-1BR as outlined in the project specifications. These two penetrations were sealed with geomembrane according to the project specifications. However, the final clamps with gasket have not yet been installed. The *Gas Vent and Piezometer Penetrations* Form will be filled and out and confirmed by Langan and ESI once these activities are completed.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 1 (Sheet #1) – Subgrade irregularity identified as RP-3 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #2). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 1 Notice of Non-Compliance*
- Non-Conformance No. 2 (Sheet #2) – Subgrade irregularity identified as RP-8 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #2). Stone was subsequently removed and hole was patched/repaired following project specs and further defined in *Sheet 2 Notice of Non-Compliance.*

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- Non-Conformance No. 3 (Proposed Sheet #3) – Failed seam
    - During non-destruct testing of P-7 and P-8 (6 ft. run north to south), the test failed as pressure could not be held within 4 psi (as outlined in project specifications). ESI will patch and repair the entire 6 ft. seam length (according to project specs) and this non-compliance issue will be documented on 7/22/15 and issued a repair number.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/21/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.)
- Review laboratory results for destruct sample DS-2. Note: QA destruct sample also collected (DS-2) by Langan.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Reviewed laboratory destruct sample results for samples DS-1. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 22+35 to Sta. 21+35).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/21/15
A3 – Photo Log	Pages 1 – 9	Total of 18 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date
A5 – Subgrade Approval	Sheet 2 & ESI (7/21/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.

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Daily QA Documents Completed (continued)

A6 – Trial Weld Log	Sheet 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/21/15.
A7 – Panel Placement Log	Page 2	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/21/15
A8 – Destruct Seam Testing COC	Sheet 1	One Destruct Seam Testing COC for samples collected to date.
A9 – Seam/Non-Destruct. Test Log	Page 1	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/21/15.
A10 – Repair Log	Page 1	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/21/15
A11 – Conformance COC		N / A for 7/21/15
A12 – Destructive Seam Field Test	Page 1	Destructive Seam Field Test log completed by ESI and confirmed by Langan for samples on 7/21/15
A13 – Destruct. Sample Summary	Sheet 1	Destructive Sample Summary completed by ESI and confirmed by Langan on 7/21/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance	Sheets 1 & 2	Notice of Non-Compliance forms completed by Langan and confirmed by ESI/Entact for 7/21/15.

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PHOTOGRAPHIC LOG
Photo #1 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking north to the east of P-4

Description:

Entact preparing soil subgrade for liner placement between Sta. 23+35 and Sta. 22+35.



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PHOTOGRAPHIC LOG
Photo #2 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking down at installed geomembrane cap (near Break Point 548
15.12)

Description:

ESI conducting capping repair work around Break Point 548-15.12). Cap patched and sealed with extrusion welds (documented in Repair Log as RP-1).



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PHOTOGRAPHIC LOG
Photo #3(07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking east toward installed Panel #4 (P-4). Placed on 7/20/15

Description:

Non-destructive weld test performed by ESI between Panel #3 and Panel #4. Non-destruct conducted according to project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking north along approximate Sta. 24+00

Description:

ESI patching / repairing area along swale / contour to allow for geomembrane to conform to grade. Patching recorded in Repair Log as RP-1.



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PHOTOGRAPHIC LOG
Photo #5 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking west toward RP-3

Description:

ESI conducting extrusion welding on RP-3. RP-3 identified as non-conformance repair. Rock observed underneath geomembrane.



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PHOTOGRAPHIC LOG
Photo #6 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east down along geomembrane liner near Sta. 24+00.

Description:

ESI conducting vacuum box testing on extrusion welds as per project specifications. Vacuum box test being conducted on RP-1.



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PHOTOGRAPHIC LOG
Photo #7 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

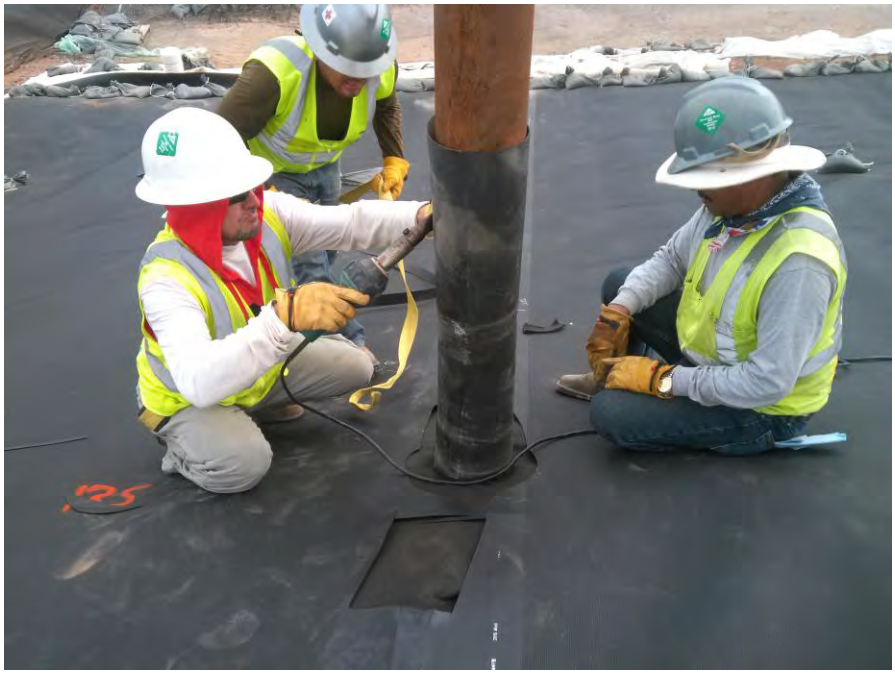
Date:
7/21/15

Direction Taken:

Looking north toward well

Description:

ESI installing geomembrane boot around well 073-MW-1BR according to project specifications.



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PHOTOGRAPHIC LOG
Photo #8 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking west along western end of cap at well piezometer PZ20

Description:

ESI installing geomembrane boot around piezometer PZ20 as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #9 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east beyond Sta. 23+35 (east of P-4)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #10 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking east along southern section of SA-6 (from approximate Sta. 23+35)

Description:

Prepared soil subgrade as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #11 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking northeast along northern end of SA-6

Description:

ESI placing 16 oz. geotextile around northern soil cement bentonite (SCB) wall.



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PHOTOGRAPHIC LOG
Photo #12 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking south near Sta. 23+35

Description:

ESI placing GVL (N-S orientation) to the east of installed geomembrane liner. GVL placed from approximate Sta. 23+35 to Sta. 22+35.



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PHOTOGRAPHIC LOG
Photo #13 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking south along SA-6

Description:

Plastic fasteners placed at maximum of 5 ft. spacing for tying adjacent panels of GVL (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #13 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking north near Sta. 23+35

Description:

ESI sewing top of geotextile seem on GVL as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #14 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

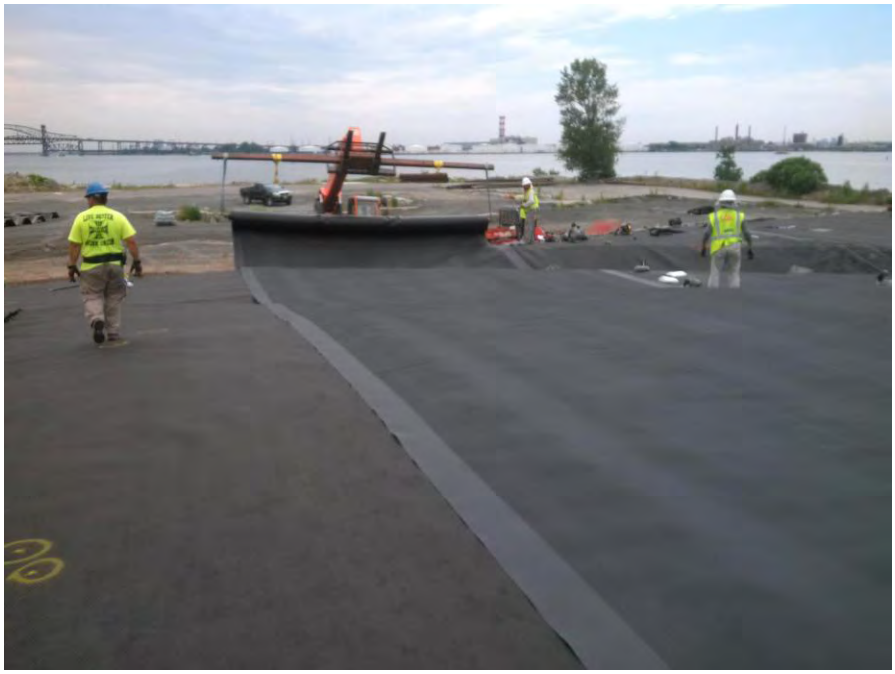
Date:
7/21/15

Direction Taken:

Looking south near Sta. 23+00

Description:

ESI placing 60-mil geomembrane cap, Panel #5 (P-5).



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PHOTOGRAPHIC LOG
Photo #15 (07/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/21/15

Direction Taken:

Looking north along northern slope of SA-6

Description:

ESI conducting fusion welding between geomembrane P-4 and P-5 panel seams (as per project specifications.



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PHOTOGRAPHIC LOG
Photo #17 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking south along geomembrane Panel #6 (P-6).

Description:

Installed geomembrane Panel #6 (P-6).



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PHOTOGRAPHIC LOG
Photo #18 (07/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/21/15

Direction Taken:

Looking north along SA-6 cap.

Description:

Installed geomembrane panels to approximate Sta. 22+35.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/22/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/82° F, Clear, Sunny, Wind (15 mph)
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #5**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #9 (P-9) installed on 7/21/15 (located at approximate Sta. 22+35) running approximately 95 ft. east to Sta. 21+40.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting non-destructive testing and patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/21/15 (Panels 5-9). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed with the project specifications (refer to *Preweld Test Report* for 7/22/15 for results. Extrusion testing identified with as EXT on form).
- A total of six repairs (RP-9 through RP-14) were observed and fixed (according to the project specifications) from Panel #5 through Panel #9. The majority of these repairs were associated with piezometer pipe boots and repairs for the destructive samples collected. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-conformance issue was observed, outside of the repairs noted above (refer to *Notice of Non-Compliance and Corrective Action* forms), and was documented on Sheet #3 as non-compliance. This issue was also recorded within the Repair Log as a failed seam test (non-destruct test) and identified as RP-13.
- The non-compliance issue encountered was a failed non-destructive seam test conducted between Panels 7/8. The failed seam was along the southern end of SA-6 and was only 6 ft. in total length (butt end of seam as outlined in the 7/21/15 report). As such, the seam was patched according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – Sheet #3 for 7/21/15.

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- Upon completion of the cap detailing, ESI began to install GDL panels beginning at the western end of the Site (Sta. 24+35) and moving east. The GDL panels were installed over the geomembrane cap previously placed on 7/20/15, and were installed to just before the first destructive sample collected (DS-1) along Panels 3/4.
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/21/15 and installing GDL, Entact removed the plastic sheeting protecting the soil subgrade for the next 95 ft. section of work area (approximate Sta. 22+35 to Sta. 21+40). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/22/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 & 3 of the daily photo log for 7/22/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 22+35 to Sta. 21+40 as outlined above.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 22+35 (east of P-9) moving east (for approximately 95 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 7/22/15 Photo Log for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #9 (located at approximate Sta. 22+35) on 7/21/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 22+35 to Sta. 21+40. A total of four panel lengths were installed (P-10, P-11, P-12, and P-13) by ESI.
- A destructive test sample (DS-3) was collected from the Panel 10/11 seam, within the 500 ft. linear foot requirement outlined in the project specifications. The results of trial welding test for the destructive sample are outlined in the *Preweld Test Report* for 7/22/15. A total of ten 1-inch specimens were collected for peel and shear strength testing (5 tests for each).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/22), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted patch / repair work and non-destructive testing on Panels 10-13 (as outlined in the project specifications). The patches associated with Panels 10-13 will be completed with extrusion welds on 7/23/15.
- It should also be noted that pipe booting activities were conducted well 115-W3-SO (located on Panel #8, northern slope) as outlined in the project specifications. The penetration was sealed with geomembrane according to the project specifications. However, the final clamps with gasket have not yet been installed. The *Gas Vent and Piezometer Penetrations* Form will be filled and out and confirmed by Langan and ESI once these activities are completed. Additionally, a gas vent pipe (GV-7) was covered with geomembrane, and will be cut, sealed, and booted according to the specifications at a future date.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 3 (Sheet #3) – Failed seam, identified as RP-13 on *Repair Log*
    - During non-destruct testing of P-7 and P-8 (6 ft. run north to south), the test failed as pressure could not be held within 4 psi (as outlined in project specifications). This area was patched and repaired along the entire 6 ft. seam length (according to project specs) as outlined on *Sheet #3*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Notice of Non-Compliance.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/22/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/21/15.
- Review laboratory results for Destruct Sample (DS-3)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/21/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Destructive Sample Summary,* and *Certificate of Subgrade Acceptance* forms. Additional review of Preweld Test Report, Seam Control Form, and Repair Report required prior to acceptance.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-2, as well as Langan QA sample (DS-2). Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 21+40 to Sta. 20+40).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/22/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date
A5 – Subgrade Approval	Sheet 3 & ESI (7/22/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/22/15.
A7 – Panel Placement Log	Page 3	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/22/15
A8 – Destruct Seam Testing COC	Sheet 1	One Destruct Seam Testing COC for samples collected to date.
A9 – Seam/Non-Destruct. Test Log	Page 2	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/22/15.
A10 – Repair Log	Page 1	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/22/15
A11 – Conformance COC		N / A for 7/22/15
A12 – Destructive Seam Field Test	Sheet 1	Destructive Seam Field Test log completed by ESI and confirmed by Langan for samples on 7/22/15
A13 – Destruct. Sample Summary	Page 1	Destructive Sample Summary completed by ESI and confirmed by Langan on 7/22/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance	Sheet 3	Notice of Non-Compliance forms completed by Langan and confirmed by ESI/Entact for 7/22/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking northwest toward western end of SA-6 South.

Description:

ESI installing GDL along western end of SA-6, from Sta. 24+35 moving east (area previously covered with geomembrane liner on 7/20/15.



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PHOTOGRAPHIC LOG
Photo #2 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking east along southern end of SA-6

Description:

Prepared soil subgrade for geomembrane placement. Approximate 95 ft. section east of geomembrane installed on 7/21/15, approved. Approximate location of Sta. 22+35 to Sta. 21+40.



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PHOTOGRAPHIC LOG
Photo #3(07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking northeast through approximate Sta. 22+00 corridor.

Description:

Soil subgrade approved for geomembrane placement for 7/22/15. Soil graded, compacted, and free of debris (>1/2 inch) as outlined in the project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2215

Direction Taken:

Looking east along southern end of SA-6

Description:

16 oz. geotextile placed by ESI along southern wall of SA-6 with 2 ft. of overlap (outside of sheet pile wall) and one roll width inside.



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PHOTOGRAPHIC LOG
Photo #5 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking south along approx. Sta. 22+35.

Description:

ESI placing GVL along approved soil subgrade.



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PHOTOGRAPHIC LOG
Photo #6 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

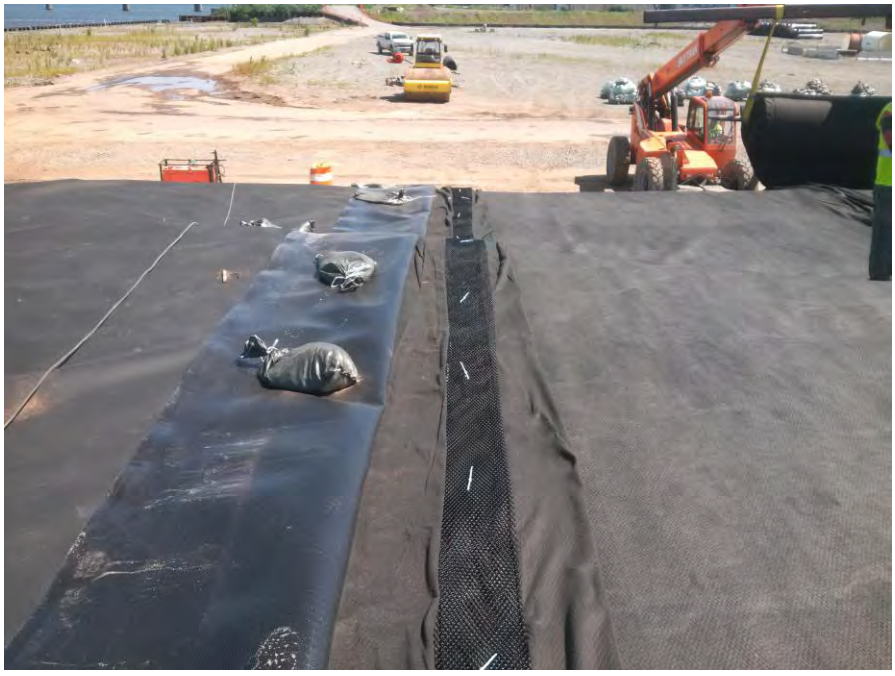
Date:
7/22/15

Direction Taken:

Looking north along Sta. 22+35

Description:

White plastic fasteners placed at a maximum of 5 ft. intervals for tying adjacent panels (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #7 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking north along Sta. 22+35

Description:

ESI sewing geotextile along adjacent GVL panels (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #8 (07/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/22/15

Direction Taken:

Looking south along installed geomembrane panels.

Description:

ESI deploying geomembrane panels (P-10 through P-14).



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PHOTOGRAPHIC LOG
Photo #9 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking north along panel P-10

Description:

Installed Panel #10 (P-10) labeled with roll number (282018).



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PHOTOGRAPHIC LOG
Photo #10 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/22/15

Direction Taken:

Looking along geomembrane cap panels P-9 and P-10.

Description:

ESI conducting fusion welding between geomembrane P-9 and P-10 panel seams (as per project specifications).



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PHOTOGRAPHIC LOG
Photo #11 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking along geomembrane panels

Description:

ESI conducting non-destructive testing as outlined in project specifications.



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PHOTOGRAPHIC LOG
Photo #12 (07/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
7/22/15

Direction Taken:

Looking northeast along installed geomembrane cap for 7/21/15

Description:

Installed geomembrane cap weighted at end of day with sand bags.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/23/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/82° F, Clear, Sunny, Wind
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #6**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #13 (P-13) installed on 7/22/15 (located at approximate Sta. 21+40) running approximately 150 ft. east to Sta. 19+90.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying GDL along the western end of the cap. Based on the minor repairs required from the geomembrane placement on 7/22/15, it was determined that extrusion weld repairs would be conducted tomorrow (7/24/15).
- A total of 11 rolls (7 north to south runs over SA-6; approximately 165 ft.) of GDL were deployed along the western end of SA-6. GDL was installed to cover the geomembrane panels placed on 7/20/15 and 7/21/15 (GLD installed up to P-9). Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and geotextile seams sewn along the geotextile for adjacent panels.
- While ESI was and installing GDL along the western end of SA-6, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 150 ft. section of work area (approximate Sta. 21+40 to Sta. 19+90). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/23/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3,4,5, and 6 of the daily photo log for 7/23/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 21+40 to Sta. 19+90 as outlined above.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped

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By: Dan Bosworth

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approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After geotextile was placed, GVL was installed from approximate Sta. 21+40 (east of P-13) moving east (for approximately 150 ft.) to Sta. 19+90. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally the top panel of geotextile was sewn along the seams (according to the project specifications). Refer to 7/23/15 Photo Log for supporting photographs.

- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #13 (located at approximate Sta. 21+40) on 7/22/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 21+40 to Sta. 19+90. A total of five panel lengths were installed (P-14, P-15, P-16, P-17 and P-18) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/23), *Trial Weld Log.*
- As outlined above, no extrusion welding and detailing activities were conducted by ESI. These activities are scheduled to be completed tomorrow (7/24) for the repairs associated with geomembrane capping from 7/22/15 and 7/23/15. It should also be noted that two destructive fusion weld samples will be collected on 7/24/15 from Panels 14-18. An extrusion weld sample will also be required once detailing activities commence in the morning.

Non-Conformance Items / Corrective Actions

- No non-conformance items to be recorded from 7/23/15 as no repair work was completed.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/21/15 and 7/22/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- ESI – complete repair / patch work and collect appropriate destruct samples for fusion and extrusion welding (as outlined in project specifications.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, as well as reviewed and approved ESI submitted forms.
- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/21/15 and 7/22/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Destructive Sample Summary,* and *Certificate of Subgrade Acceptance* forms. Additional review of Preweld Test Report, Seam Control Form, and Repair Report required prior to acceptance.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-3. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

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By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 19+90 to Sta. 19+00).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/23/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/23/15
A5 – Subgrade Approval	Sheet 4 & ESI (7/23/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/23/15.
A7 – Panel Placement Log	Page 4	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/23/15
A8 – Destruct Seam Testing COC		No destruct samples collected on 7/23/15. No updates
A9 – Seam/Non-Destruct. Test Log	Pages 3-4	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/23/15.
A10 – Repair Log		N / A no repairs conducted on 7/23/15
A11 – Conformance COC		N / A for 7/23/15
A12 – Destructive Seam Field Test		N / A no destructive tests conducted on 7/23/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 7/23/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

A16 – Notice of Non-Compliance		N / A no repairs completed on 7/23/15.

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PHOTOGRAPHIC LOG
Photo #1 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

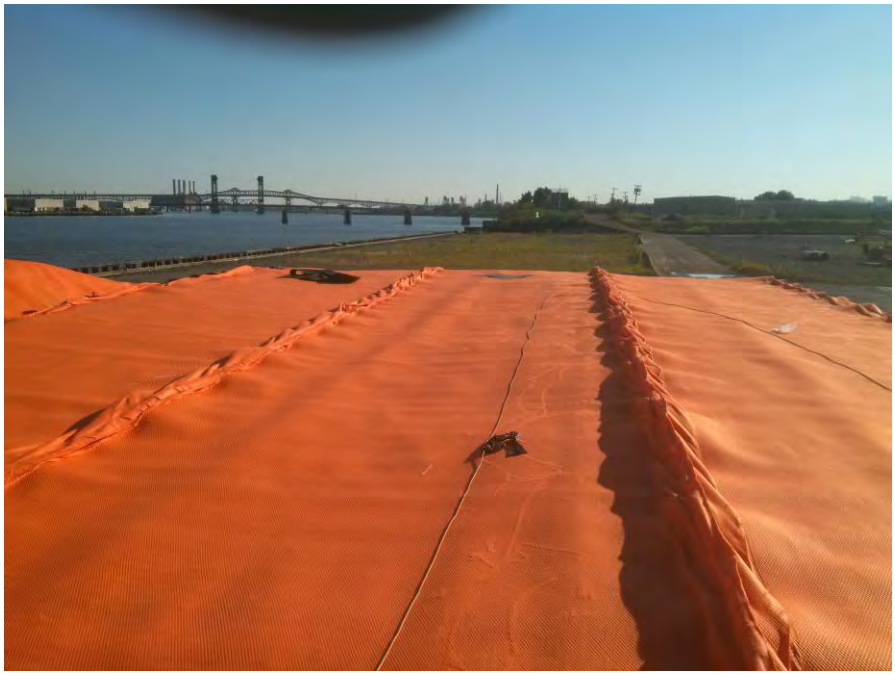
Date:
7/23/15

Direction Taken:

Looking north along western end of SA-6

Description:

GDL installed along western end of cap over geomembrane placed on 7/20/15 and 7/21/15.



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PHOTOGRAPHIC LOG
Photo #2 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking south along western end of SA-6

Description:

ESI placing GDL. Plastic fasteners spaced at maximum of 5 ft. and geotextile sewed along adjacent panels.



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PHOTOGRAPHIC LOG
Photo #3(07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking east along southern boundary wall (sheet piling) of SA-6 from approximate Sta. 21+40

Description:

Soil subgrade approved for geomembrane placement for 7/23/15. Soil graded, compacted, and free of debris (>1/2 inch) as outlined in the project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/2315

Direction Taken:

Looking north along SA-6 at approximate Sta. 21+40

Description:

Approved soil subgrade for geomembrane placement. Subgrade prepared in accordance with project specifications.



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PHOTOGRAPHIC LOG
Photo #5 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking northeast toward Sta. 21+00 (collection manhole)

Description:

Approved soil subgrade for geomembrane placement. Soil prepared in accordance with project specifications.



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PHOTOGRAPHIC LOG
Photo #6 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking at prepared soil subgrade around collection manhole. Located by approximate break point 979-13.50

Description:

Soil subgrade prepared around collection manhole.



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PHOTOGRAPHIC LOG
Photo #7 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 21+20.

Description:

ESI placing GVL according to project specifications.



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PHOTOGRAPHIC LOG
Photo #8 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking north along SA-6

Description:

GVL panels installed according to project specifications. Plastic fasteners placed at maximum of 5 ft. spacing and geotextile sewed along adjacent panels.



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PHOTOGRAPHIC LOG
Photo #9 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

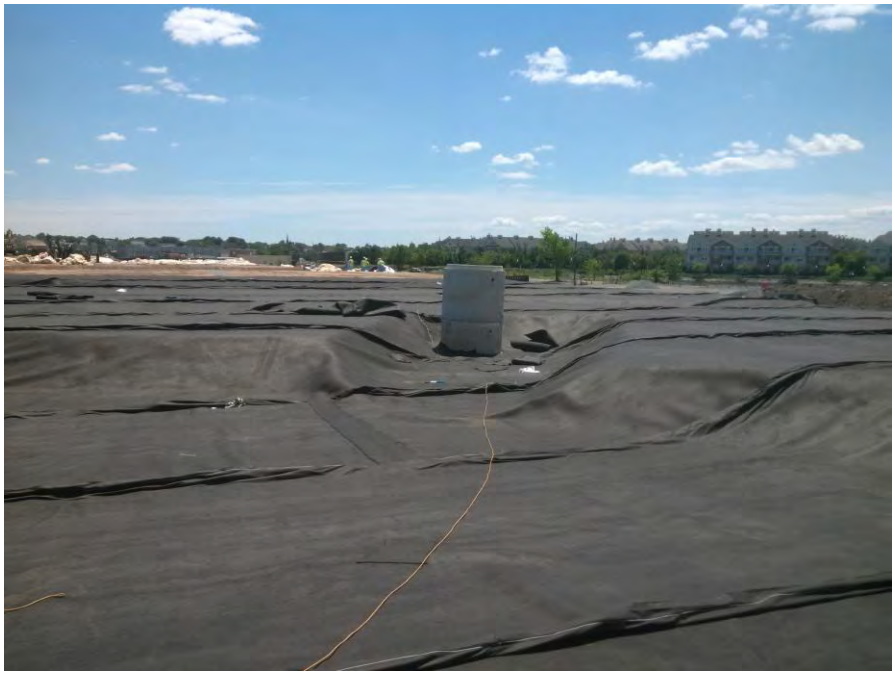
Date:
7/23/15

Direction Taken:

Looking east through Sta. 21+00

Description:

Installed GVL to approximate Sta. 20+30.



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PHOTOGRAPHIC LOG
Photo #10 (07/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/23/15

Direction Taken:

Looking northeast at approximate Sta. 21+20

Description:

ESI placing geomembrane cap (Panels 14 & 15) on top of GVL.



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PHOTOGRAPHIC LOG
Photo #11 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

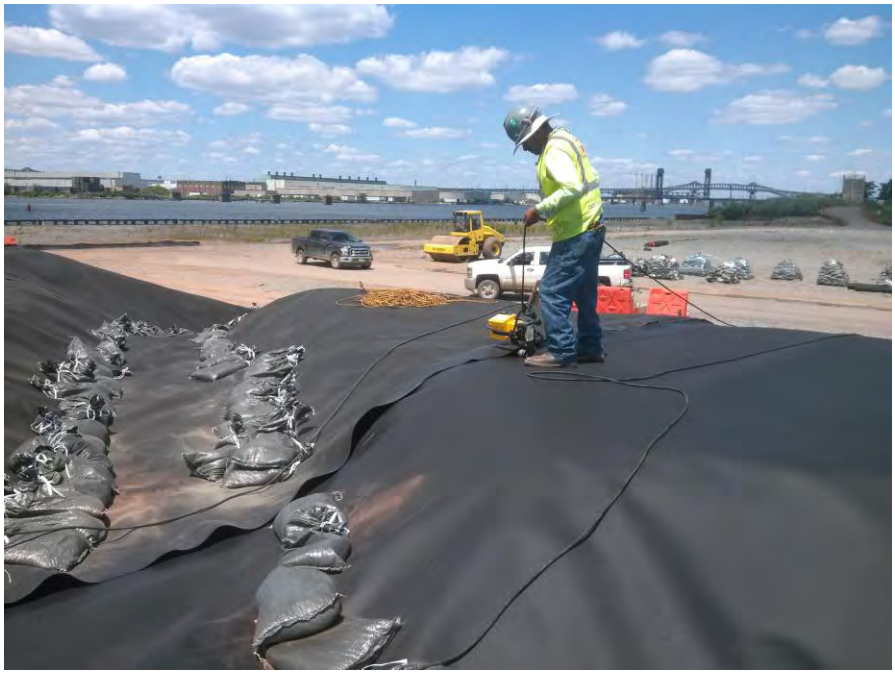
Date:
7/23/15

Direction Taken:

Looking northwestern by northern slope of SA-6

Description:

ESI conducting fusion welding between Panels 13/14



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PHOTOGRAPHIC LOG
Photo #12 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking south at southern end of SA-6

Description:

Installed geomembrane panel #14 (P-14) labeled with corresponding geomembrane roll number.



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PHOTOGRAPHIC LOG
Photo #13 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking north at approximate Sta. 20+90

Description:

ESI placing geomembrane panels. Material placed around collection manhole (Sta. 21+00).



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PHOTOGRAPHIC LOG
Photo #14 (07/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/23/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Installed geomembrane cap with GDL visible at far western end.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/24/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	75/90° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #7**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #18 (P-18) installed on 7/23/15 (located at approximate Sta. 20+25) running approximately 90 ft. east to Sta. 19+00. Note: Soil subgrade approved to approximate Sta. 19+90 on 7/23/15. Geomembrane cap only installed to approximate Sta. 20+25 by ESI (additional 35 ft. of approved subgrade in addition to 90 ft. approved on 7/24/15).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/23/15 (Panels 14-18). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/24/15 for results (extrusion testing identified as EXT. on form).
- A total of seventeen repairs (RP-15 through RP-31) were observed and fixed (according to the project specifications) from Panel #9 through Panel #18 (repair / detailing work conducted on panels installed from 7/22/15 and 7/23/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Some additional repairs (including “custom fit” cuts to conform the geomembrane) required, however, these repairs will be completed on Monday (7/27) to allow ESI to continue to place geomembrane to the east.
- One extrusion weld destruct sample (DSX-1) was collected from Panel #13 (located on RP-17). Extrusion weld destruct samples collected every 500 lf. of welding (as outlined in project specs).
- One non-conformance issue was observed, outside of the repairs noted above (refer to *Notice of Non-Compliance and Corrective Action* forms), and was documented on Sheet #4 as non-compliance. This issue was also recorded within the Repair Log as a subgrade irregularity and was noted and repaired (RP-30) following the project specifications.

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- While ESI was conducting cap detailing for the geomembrane cap placed on 7/22/15 and 7/23/15, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 90 ft. section of work area (approximate Sta. 19+90 to Sta. 19+00). Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/24/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #8 & 9 of the daily photo log for 7/24/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 19+90 to Sta. 19+00 as outlined above.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 20+25 (east of P-18) moving east (for approximately 135 ft. total [35 ft. remaining from 7/23/15 + 90 ft. approved on 7/24]). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Along the slopes and elevation changes, additional fasteners were placed along the geonet to provide additional support within these sloped areas. Additionally the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to 7/24/15 Photo Log for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #18 (located at approximate Sta. 20+25) on 7/23/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 20+25 to Sta. 19+00. A total of six panel lengths were installed (P-19, P-20, P-21, P-22, P-23, P-24) by ESI.
- Two destructive test samples (DS-4 & DS-5) were collected from the Panel 14/15 and 17/18 seam, within the 500 ft. linear foot requirement outlined in the project specifications. The results of the trial welding tests for the destructive samples are outlined in the *Preweld Test Report* for 7/24/15. A total of ten 1-inch specimens were collected for peel and shear strength testing (5 tests for each) for each sample.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/24), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted non-destructive testing on Panels 19-24 (as outlined in the project specifications). No patch / repair work on the installed panels was conducted. Patches associated with Panels 19-24 will be completed with extrusion welds and vacuum box testing on Monday (7/27/15). Additionally, some additional patchwork for the panels installed on 7/23/15 will also be completed, as outlined above.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 4 (Sheet #4) – Subgrade irregularity identified as RP-30 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #17). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 4 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/24/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/23/15 forms.

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- Review laboratory test results for destruct samples DS-4 and DS-5 (fusion) and DSX-1 (extrusion). Note: QA sample (DSX-1) also collected by Langan.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/23/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Destructive Sample Summary,* and *Certificate of Subgrade Acceptance* forms. Submittal of additional forms from 7/23/15 and review of Seam Control Form, required prior to acceptance.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-3. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 19+00 to Sta. 18+00).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/24/15
A3 – Photo Log	Pages 1 – 9	Total of 18 photos outlining pertinent daily observations and descriptions for 7/24/15
A4 – Geosynthetic Inventory Log	Sheet 1	Completed to date
A5 – Subgrade Approval	Sheet 5 & ESI (7/24/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/24/15.
A7 – Panel Placement Log	Page 5	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/24/15

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Daily QA Documents Completed (continued)

A8 – Destruct Seam Testing COC	Sheet 1	One Destruct Seam Testing COC for samples collected to date.
A9 – Seam/Non-Destruct. Test Log	Pages 4-5	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/24/15.
A10 – Repair Log	Pages 1-2	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/24/15
A11 – Conformance COC		N / A for 7/24/15
A12 – Destructive Seam Field Test	Sheet 1	Destructive Seam Field Test log completed by ESI and confirmed by Langan for samples on 7/24/15
A13 – Destruct. Sample Summary	Page 1	Destructive Sample Summary completed by ESI and confirmed by Langan on 7/24/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance	Sheet 4	Notice of Non-Compliance forms completed by Langan and confirmed by ESI/Entact for 7/24/15.

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PHOTOGRAPHIC LOG
Photo #1 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

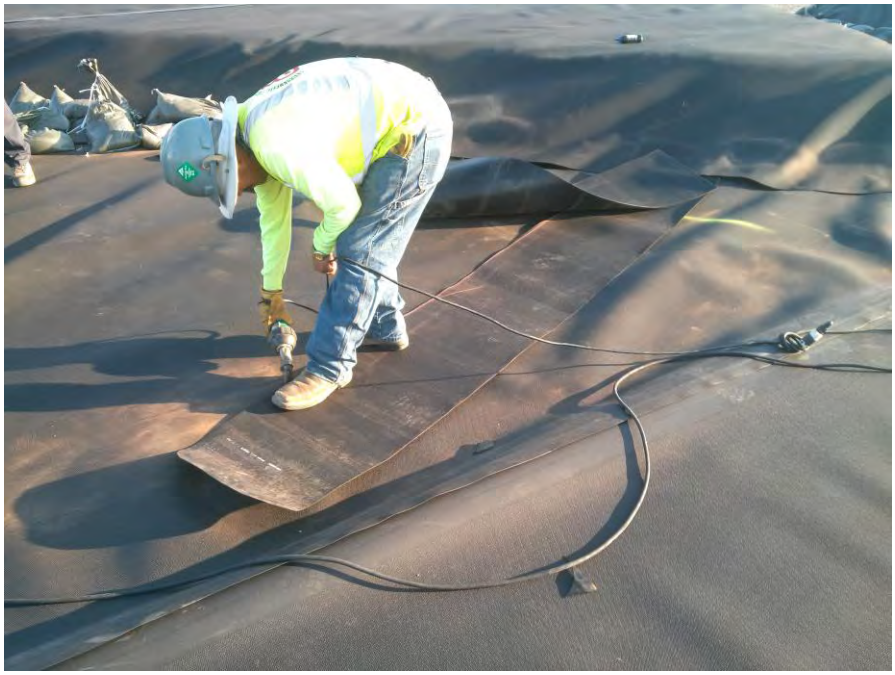
Date:
7/24/15

Direction Taken:

Looking north/northwest at RP-17

Description:

ESI conducting patch / repair work to geomembrane. Areas of cap cut to allow geomembrane "custom fit" around slopes and contours.



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PHOTOGRAPHIC LOG
Photo #2 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking along geomembrane cap and extrusion welding RP-15.

Description:

ESI conducting extrusion welding on patches and repairs. Extrusion weld areas to be tested with vacuum box (as outlined in project specifications).



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PHOTOGRAPHIC LOG
Photo #3(07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking along geomembrane cap at DS-3 area

Description:

ESI preparing to conduct extrusion welding on geomembrane patch repair. Repair placed along seam where destruct sample DS-3 was collected.



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PHOTOGRAPHIC LOG
Photo #4 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2415

Direction Taken:

Looking along geomembrane liner

Description:

ESI conducting vacuum box testing (as outlined in project specs)



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PHOTOGRAPHIC LOG
Photo #5 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

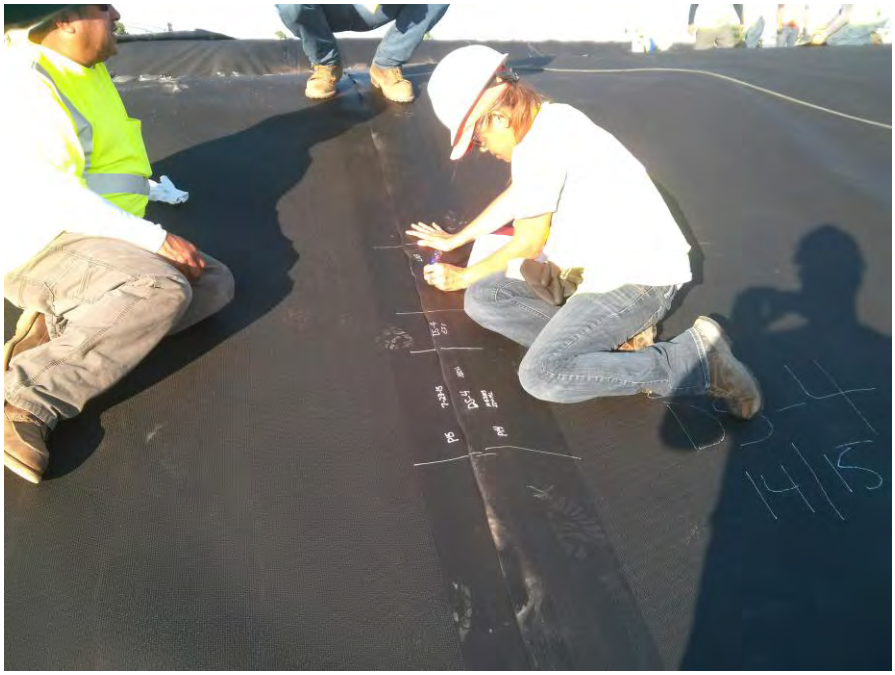
Date:
7/24/15

Direction Taken:

Looking south along geomembrane cap at DS-4 location.

Description:

ESI collecting destruct sample (DS-4) on northern slope of SA-6 as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #6 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

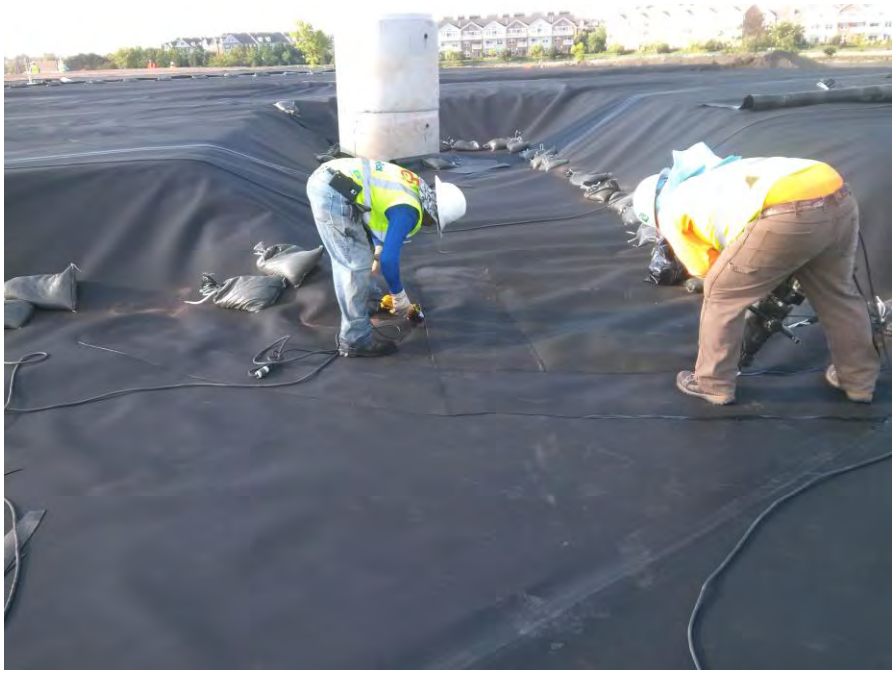
Date:
7/24/15

Direction Taken:

Looking south/southeast along collection manhole (approx. Sta. 21+00)

Description:

ESI conducting grinding and extrusion welding around patches /repairs to “custom fit” geomembrane cap around contours.



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PHOTOGRAPHIC LOG
Photo #7 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Inside ESI work trailer

Description:

Tensiometer (machine number: 2003) used to conduct destruct / trial weld sampling for fusion and extrusion welds (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Prepared soil subgrade from approximate Sta. 19+90 to Sta. 19+00. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #9 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking south at approximate Sta. 19+80

Description:

Soil subgrade prepared for soil placement (approved from approximate Sta. 19+90 to Sta. 19+00) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #10 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking west along geomembrane cap at Sta. 21+00

Description:

ESI conducting geomembrane repair work around collection manhole (following project specs). Temporary boot installed around collection manhole to seal cap for weekend. Permanent / final boot to be installed at a later date.



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PHOTOGRAPHIC LOG
Photo #11 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking east / southeast along southern end of SA-6

Description:

ESI placing 16 oz. geotextile along southern boundary of SA-6 (over sheet pile wall) with 2 ft. of overlap outside (width of roll overlapped onto SA-6), as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #12 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking north along SA-6 at approximate Sta. 20+25.

Description:

ESI placing rolls of GVL along approved soil subgrade.



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PHOTOGRAPHIC LOG
Photo #13 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

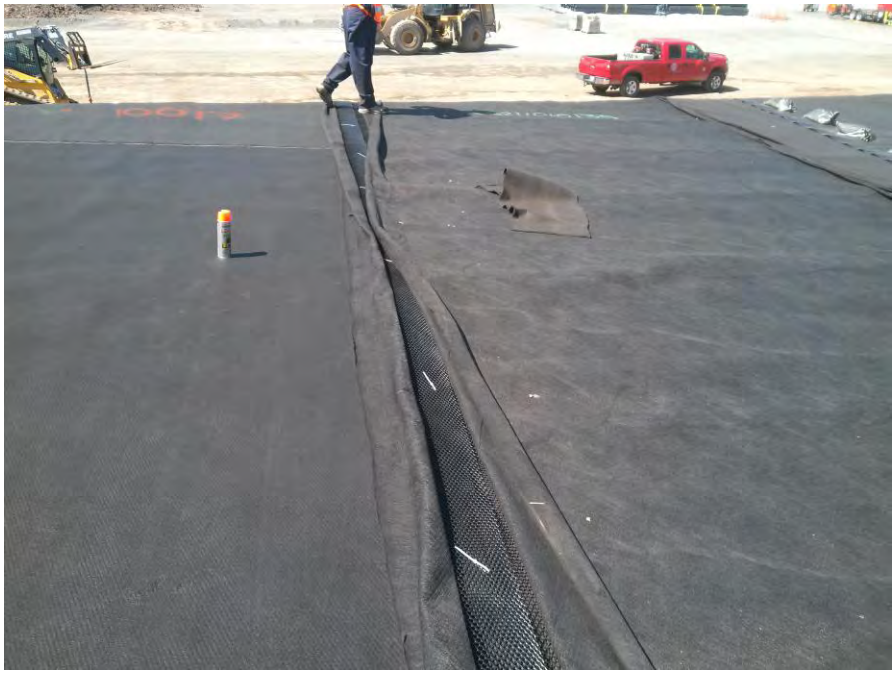
Date:
7/24/15

Direction Taken:

Looking south along SA-6 cap (approximate Sta. 20+25)

Description:

ESI placing white plastic fasteners (maximum of 5 ft. spacing) along geonet for adjacent GVL panels.



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PHOTOGRAPHIC LOG
Photo #14 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking south along SA-6

Description:

Additional plastic fasteners installed along slopes for GVL.



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PHOTOGRAPHIC LOG
Photo #14 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/24/15

Direction Taken:

Looking south along SA-6 (installed Panel #19)

Description:

ESI placing 60-mil geomembrane cap, Panel #19 (P-19) placed and labeled with corresponding roll number.



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PHOTOGRAPHIC LOG
Photo #15 (07/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

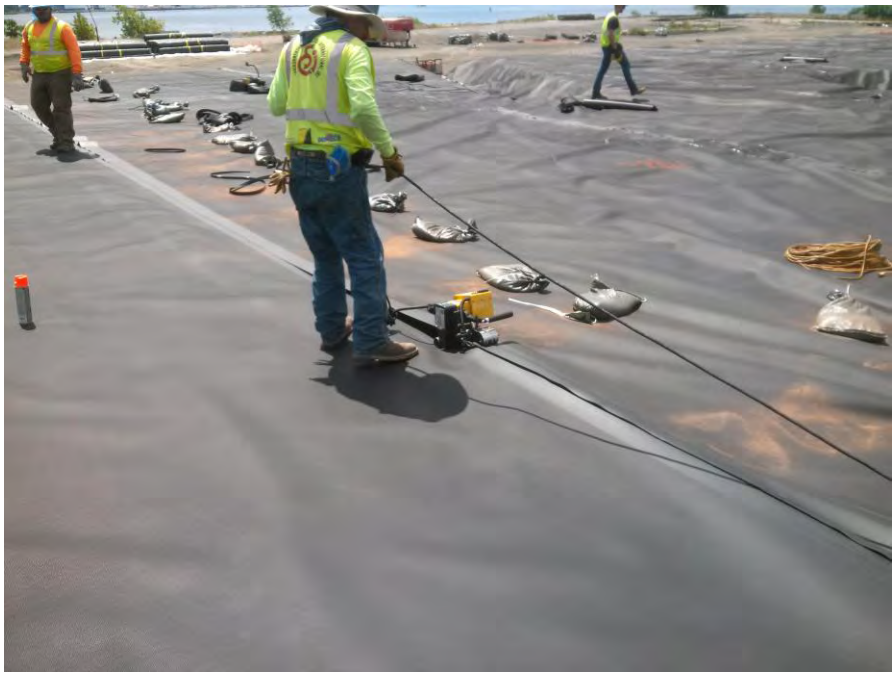
Date:
7/24/15

Direction Taken:

Looking south / southwest along SA-6 cap

Description:

ESI conducting fusion welding between geomembrane P-19 and P-20 as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #17 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking north along installed geomembrane cap

Description:

Sand bags used to weight down geomembrane cap. Additional sandbags placed along slopes and elevation changes.



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PHOTOGRAPHIC LOG
Photo #18 (07/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/24/15

Direction Taken:

Looking east along SA-6 for installed geomembrane cap (to approx. Sta. 19+00)

Description:

Installed geomembrane panels to approximate Sta. 19+00.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/27/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	80/90° F, Hazy, Light Rain
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #8**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #24 (P-24) installed on 7/24/15 (located at approximate Sta. 19+00) running approximately 100 ft. east to Sta. 18+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying GDL along the western end of the cap. GDL was placed to approximate Sta. 21+00 (near collection manhole) which included the placement of 9 rolls (14 different panels) of GDL from P-9 (geomembrane installed on 7/21/15) to P-14 (geomembrane installed up to 7/23/15). Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and sewing of the geotextile completed for adjacent geocomposite panels.
- While ESI was and installing GDL along the western end of SA-6, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 80 ft. section of work area (approximate Sta. 19+00 to Sta. 18+20). Based on visual inspection of the soil, two areas were identified that did not meet the subgrade requirements.
    - The drainage swale located along Sta. 19+00 at Break Point 675-18.54 collected rainwater from storms on 7/26/15. As such the area was soft / wet and did not meet the subgrade requirements. The installed geomembrane and GVL (from 7/24/15) was pulled back and this area was left open to dry. Refer to Photo #2 of 7/27/15 Photo Log.
    - An additional location was identified to the southern end of the SA-6 cap near approximate Bound Point 655-15.58. The 16 oz. geotextile was pulled back from this area and the soil subgrade was allowed to dry. Refer to Photo 3 of 7/27/15 Photo Log.
- Based on the information outlined above, no soil subgrade was approved for GVL and geocomposite placement, as the soil did not conform with the project specifications. As such, no soil subgrade approval forms were completed for 7/27/15.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- With no subgrade approval for additional panel placement (no panel layout forms completed for 7/27/15), ESI conducted patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/23/15 and 7/24/15 (Panels 19-24). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/27/15 for results (extrusion testing identified as EXT. on form).
- A total of twenty-one repairs (RP-31 through RP-51) were observed and fixed (according to the project specifications) from Panels #18 through Panel #24 (repair / detailing work conducted on panels installed from 7/23/15 and 7/24/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. Note: No non-compliance issues were observed as patch / repair work conducted consisted primarily of custom fit repairs to allow geomembrane to conform to SA-6 contours.
- A total of three non-destructive samples were collected for lab testing (as outlined in the project specs). Two fusion weld samples DS-6 (panel seams 20/21) and DS-7 (Panel seams 23/24), along with one extrusion weld sample DSX-2 (south end of SA-6 on P-15) were collected within the 500 linear foot specification requirements.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the repairs associated with 7/27/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Trail Weld Log, Seam Control, and Repair Report identified on 7/21/15 and 7/22/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Review laboratory test results for destruct samples DS-6 and DS-7 (fusion) and sample DSX-2 (extrusion).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-5 (fusion) and destruct sample DSX-1 (extrusion). Note: QA sample (DSX-1) also reviewed and in compliance with project specs. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 19+00 to Sta. 18+00) to ensure soil subgrade complies with project specs.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/27/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/27/15
A5 – Subgrade Approval		N / A – no subgrade approval for 7/27/15
A6 – Trial Weld Log	Page 1	One trial weld log provided by ESI and confirmed by Langan for pre and destruct welds completed up to 7/27/15.
A7 – Panel Placement Log		N / A no panels placed on 7/27/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with samples from 7/27/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 7/27/15
A10 – Repair Log	Pages 2-3	One repair report provided by ESI and confirmed by Langan for repairs conducted on 7/27/15.
A11 – Conformance COC		N / A for 7/27/15
A12 – Destructive Seam Field Test	Page 1	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 7/27/15.
A13 – Destruct. Sample Summary	Sheet 1	Updated with sample information from 7/27/15
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance		No non-compliance issues identified as no new panels were installed

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

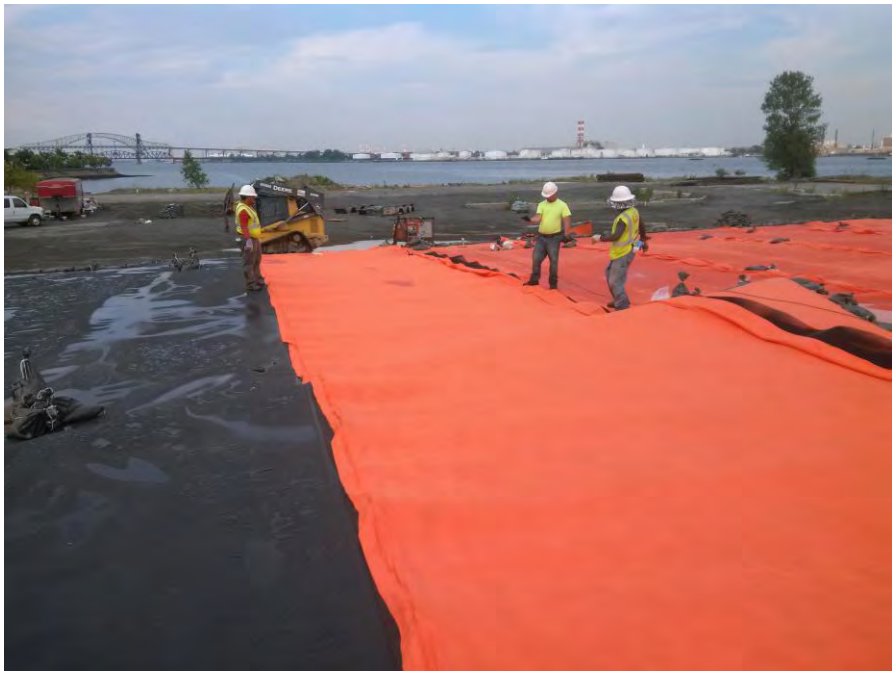
Date:
7/27/15

Direction Taken:

Looking south along SA-6 near Sta. 21+25.

Description:

ESI placing GDL along panels previously installed on 7/22/15 & 7/23/15 (GDL placed up to Panel #14).



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PHOTOGRAPHIC LOG
Photo #2 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking northwest along Break Point 675-15.84.

Description:

GVL & Geomembrane cap pulled back to expose wet / soft area encountered from rain on 7/26/15. Area opened to dry prior to placing GVL and Geomembrane.



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PHOTOGRAPHIC LOG
Photo #3(07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Additional wet / soft area identified along southern end of SA-6 (approximate Bound Point 655-15.58) Geotextile & GVL pulled back to allow area to dry prior to placing additional material.



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PHOTOGRAPHIC LOG
Photo #4 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/2715

Direction Taken:

Looking north / northeast along SA-6 (by geomembrane P-14).

Description:

ESI deploying GDL up to Panel #14 (P-14).



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PHOTOGRAPHIC LOG
Photo #5 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking northwest – collection manhole in background (Sta.21+00)

Description:

ESI conducting vacuum box testing on RP-31 after completion of extrusion welding.



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PHOTOGRAPHIC LOG
Photo #6 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking along SA-6 cap at RP-26

Description:

ESI conducting vacuum box testing on RP-26 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESi cutting destructive test DSX-2 for extrusion weld completed alongRP-32 (identified as RP-34 and located along southern edge of SA-6 cap).



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PHOTOGRAPHIC LOG
Photo #8 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking south along SA-6

Description:

Patch / repair work conducted on southern slope of SA-6. Repairs extrusion welded and vacuum box tested (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #9 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking west along SA-6 (panel 20/21 seam)

Description:

ESI collecting destruct sample along Panel 20/21 seam (DS-6).



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PHOTOGRAPHIC LOG
Photo #10 (07/27/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/27/15

Direction Taken:

Looking west along SA-6 cap

Description:

ESI collecting destruct along Panel 23/24 seam (DS-7).



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PHOTOGRAPHIC LOG
Photo #11 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking east along SA-6 cap (panel 23/24 seam)

Description:

ESI patching area for DS-7.DS-7 was patched, welded, and vacuum box tested (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #12 (07/27/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/27/15

Direction Taken:

Looking southwest along SA-6 cap

Description:

ESI completing the day with patch / repair work on “custom fit” patches around xx.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/28/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	78/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #9**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #24 (P-24) installed on 7/24/15 (located at approximate Sta. 19+00) running approximately 80 ft. east to Sta. 18+20. Note: No geomembrane placed on 7/27/15, as soil subgrade was not approved for two wet / soft areas identified at approx. Sta. 19+00 (further described in 7/27/15 report).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI finishing patch / repair work (cap detailing) and vacuum box testing for the geomembrane cap that was installed on 7/24/15 (Panels 19-24). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/28/15 for results (extrusion testing identified as EXT. on form).
- A total of thirty-six repairs (RP-52 through RP-87) were observed and fixed (according to the project specifications) from Panel #19 through Panel #24 (repair / detailing work conducted on panels installed on 7/24/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/24/15, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 100 ft. section of work area (approximate Sta. 19+00 to Sta. 18+00). The previously identified wet / soft areas along Sta. 19+00 were dried, graded, and compacted according to the project specs. Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/28/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3,4,5 of the daily photo log for 7/28/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

The soil subgrade inspection sheet was submitted for the approximate area of Sta. 19+00 to Sta. 17+80 (west of utility corridor).

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 19+00 (east of P-24) moving east (for approximately 80 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *7/28/15 Photo Log* for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #24 (located at approximate Sta. 19+00) on 7/24/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 19+00 to Sta. 18+20. An additional approximately 40 ft. section of subgrade was approved from approximate Sta. 18+20 to Sta. 17+80 to allow ESI to place an additional two panels to the east. A total of six panel lengths were installed (P-25, P-26, P-27, P-28, P-29, P-30) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/28), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted non-destructive testing on Panels 25-30 (as outlined in the project specifications). Additionally, one extrusion weld sample (DSX-3) was collected (as per project specifications) from RP-82 and sent to the approved laboratory for analysis. No patch / repair work on the installed panels was conducted. Patches associated with Panels 25-30 will be completed with extrusion welds and vacuum box testing on Wednesday (7/29/15). Additionally, two destruct samples for the fusion welding will be collected (as required by the project specs) on 7/29/15.

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 7/28/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/28/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Repair Report identified on 7/27/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Review laboratory test results for destruct sample DSX-3 (extrusion).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15, 7/24/15, and 7/27/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-7 (fusion) and destruct sample DSX-1 through DSX-2 (extrusion). Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 17+80 to Sta. 17+00) through utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/24/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/28/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/28/15
A5 – Subgrade Approval	Sheet 6 & ESI (7/28/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheets 1, 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/28/15.
A7 – Panel Placement Log	Page 6	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/28/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 7/28
A9 – Seam/Non-Destruct. Test Log	Sheets 5,6,7	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/28/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A10 – Repair Log	Sheets 2,3,4,5	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/28/15
A11 – Conformance COC		N / A for 7/28/15
A12 – Destructive Seam Field Test	Sheet 1	Updated with information from destruct sample on 7/28
A13 – Destruct. Sample Summary	Sheet 1	Destruct Sample Summary provided by ESI and confirmed by Langan for sample DSX-3
A14 – Penetration & Edge Form		N / A to be completed once clamps for pipe boots are installed.
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted as repair / patching in compliance with project specs.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along Panel #19 (P-19)

Description:

Completed repair / patch work (from7/27) along P-19. Repairs RP-46, RP-47, RP-48, and RP-49.



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PHOTOGRAPHIC LOG
Photo #2 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along Panel Seam 17/18

Description:

Completed repair / patch work along Panel 17/18 seam. Repair RP-31 shown.



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PHOTOGRAPHIC LOG
Photo #3(07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking northwest along drainage swale near Break Point 675-15.84

Description:

Soil subgrade around drainage swale dried, graded, and compacted (according to specs). Area previously identified as soft/wet on 7/27/15. Based on visual observation area approved for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #4 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/2815

Direction Taken:

Looking east along southern end of SA-6 cap.

Description:

Soil subgrade approved from approximate Sta. 19+00 to Sta.18+20.Area graded, compacted, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #5 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along Y-channel located at approximate Break Point 684-16.04

Description:

Soil subgrade approved for geomembrane placement. Soil graded, compacted, and free of debris (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #6 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking north along approx. Sta. 19+00

Description:

ESI placing geocomposite. White plastic fasteners placed at a maximum of 5ft., and geotextile sewn (according to project specs).



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PHOTOGRAPHIC LOG
Photo #7 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

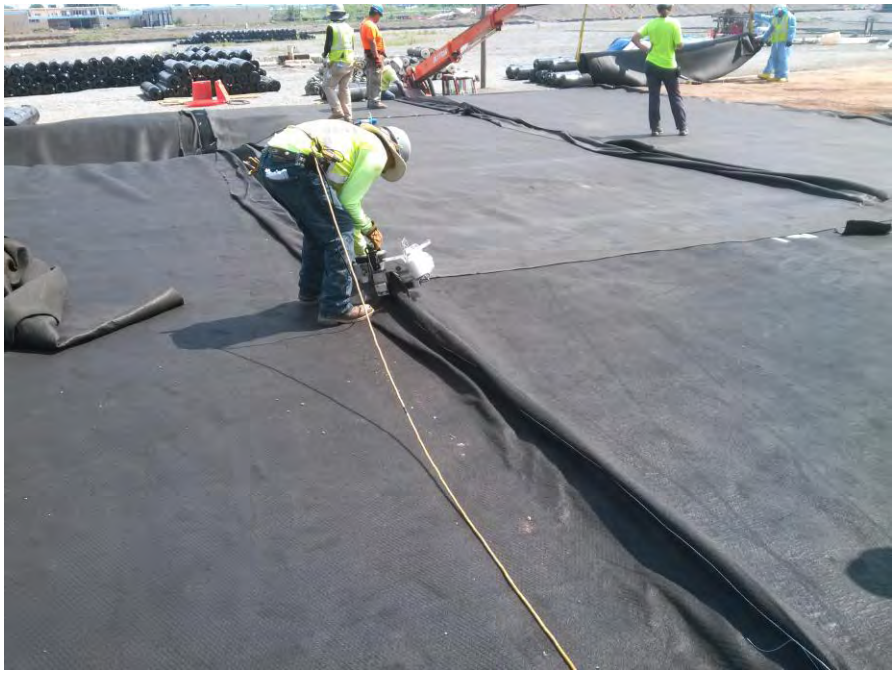
Date:
7/28/15

Direction Taken:

Looking north at approximate Sta. 19+00

Description:

ESi sewing GVL geotextile for adjacent geocompoiste panels.



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PHOTOGRAPHIC LOG
Photo #8 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking south at approximate Sta. 19+00

Description:

ESI deploying geomembrane cap over GVL. Panel #25 (P-25) being placed.



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PHOTOGRAPHIC LOG
Photo #9 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking south along Panel 24/25 seam (approximate Sta. 19+00)

Description:

ESI conducting fusion welding along Panel 24 (installed on 7/24) and Panel 25 (installed on 7/28).



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PHOTOGRAPHIC LOG
Photo #10 (07/28/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/28/15

Direction Taken:

Looking south along Panel #25 (P-25)

Description:

Panel #25 (P-25) placed and labeled with corresponding roll number shown.



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PHOTOGRAPHIC LOG
Photo #11 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking south at approximate Sta. 18+00

Description:

GVL installed to approximate Sta. 17+80



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PHOTOGRAPHIC LOG
Photo #12 (07/28/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/28/15

Direction Taken:

Looking northeast along SA-6 cap

Description:

Installed geomembrane cap to approx. 17+80



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/29/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	77/92° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1715

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #10**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #30 (P-30) installed on 7/28/15 (located at approximate Sta. 17+80) running approximately 80 ft. east to Sta. 17+00 (up to 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI finishing patch / repair work (cap detailing) and vacuum box testing for the geomembrane cap that was installed on 7/28/15 (Panels 25-30). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/29/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-two repairs (RP-88 through RP-129) were observed and fixed (according to the project specifications) from Panel #25 through Panel #30 (repair / detailing work conducted on panels installed on 7/28/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Additionally, pipe boots were completed (with seals and clamps) for PZ-20, 073-MW-1BR, 115-W3-SO, and GV-7, however, the final butyl seal around the top of the boot is required prior to completion of the *Pipe Boot and Penetration Logs.*
- While ESI was conducting cap detailing for the geomembrane cap placed on 7/28/15, Entact removed the plastic sheeting protecting the soil subgrade for the next approximate 80 ft. section of work area (approximate Sta. 17+80 to Sta. 17+00). Prior to soil approval, the area was spot checked for survey elevations and was approved as acceptable and within the grading requirements. Final soil subgrade inspection was conducted for this area by Langan and Entact (refer to *Soil Subgrade Approval* forms from 7/29/15). Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Refer to Photos #5 and 8 of the daily photo log for 7/29/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+80 to Sta. 17+00 (up to 1st utility corridor).

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 17+80 (east of P-30) moving east (for approximately 80 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *7/29/15 Photo Log* for supporting photographs.
- After installation of GVL, geomembrane cap was installed continuing east of previously installed Panel #30 (located at approximate Sta. 17+80) on 7/28/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were installed from approximate Sta. 17+80 to Sta. 17+00. A total of four panel lengths were installed (P-31, P-32, P-33, P-34) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (7/29), *Trial Weld Log.*
- Upon installation and welding of the geomembrane panels, ESI conducted non-destructive testing on Panels 31-34 (as outlined in the project specifications). Additionally, three non-destruct samples were collected (DS-8, DS-9, and DSX-4). DS-8 was collected from Panel 26/27, DS-9 from Panel 29/30, and DSX-4 (extrusion weld) was collected from Panel #27 (RP-102).

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 7/29/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/29/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Confirm revisions for Repair Report and Seam Control identified on 7/28/15.
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 1 piezometer, and 1 gas vent).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Review laboratory test results for destruct sample DS-8 and DS-9 (fusion), along with DSX-4 (extrusion).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15, 7/24/15, and 7/27/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance* forms.
- Completed Langan Daily Report, Photo Log, and Soil Subgrade Approval Form for 7/28/15. Revisions for Repair Report and Seam Control Form required prior to sign-off.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-7 (fusion) and destruct sample DSX-1 through DSX-3 (extrusion). Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 17+80 to Sta. 17+00) through utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/29/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 7/29/15
A5 – Subgrade Approval	Sheet 7 & ESI (7/29/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 7/29/15.
A7 – Panel Placement Log	Page 7	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 7/29/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 7/28
A9 – Seam/Non-Destruct. Test Log	Sheets 5,6,7	Non-destruct test log provided by ESI and confirmed by Langan for geomembrane placed on 7/28/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A10 – Repair Log	Sheets 5,6,7	Repair Log provided by ESI and confirmed by Langan for repairs conducted on 7/29/15
A11 – Conformance COC		N / A for 7/28/15
A12 – Destructive Seam Field Test	Sheet 1, 2	Updated with information from destruct sample on 7/28
A13 – Destruct. Sample Summary	Sheet 1	Destruct Sample Summary provided by ESI and updated for sample DSX-3
A14 – Penetration & Edge Form		N / A additional review of QA form required prior to completion
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 7/29

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking north along Panel 20/21 seam

Description:

Completed patch / repair work (from 7/28). RP-71 and RP-73



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PHOTOGRAPHIC LOG
Photo #2 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

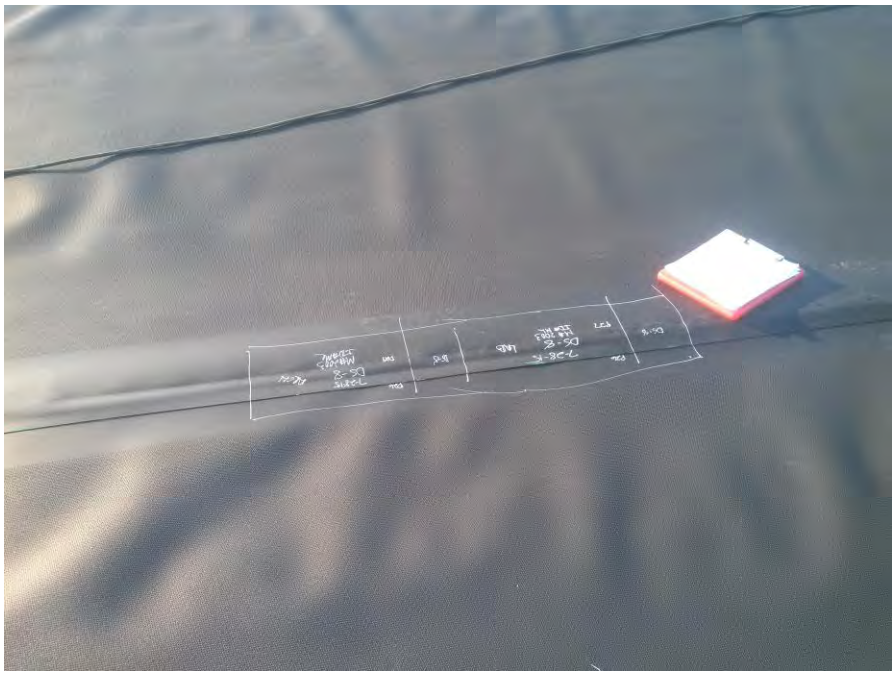
Date:
7/29/15

Direction Taken:

Looking at geomembrane at Panel 26/27

Description:

ESI collecting destruct sample (DS-8) along Panel 26/27 seam, located at northern slope of SA-6.



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PHOTOGRAPHIC LOG
Photo #3(07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along western end of SA-6

Description:

Final boot installed along well 073-MW-1BR, with supporting gasket and double clamps.



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PHOTOGRAPHIC LOG
Photo #4 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along western end of cap (PZ-20)

Description:

Geomembrane boot installed around PZ-20. Secured with gasket and double clamps.



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PHOTOGRAPHIC LOG
Photo #5 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking north along SA-6 (previously installed liner)

Description:

Prepared soil subgrade approved for liner placement. Based on visual observations, soil is graded, compacted, and free of loose debris, as defined by the project specs.



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PHOTOGRAPHIC LOG
Photo #6 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along SA-6 cap (eastern end of Panel 27)

Description:

ESI conducting vacuum box test on repair / patch extrusion weld (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (07/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/29/15

Direction Taken:

Looking north along SA-6 at approximate Sta. 17+80

Description:

ESI deploying GVL along approximate Sta. 17+80.



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PHOTOGRAPHIC LOG
Photo #8 (07/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/29/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Entact placing sand / bentonite plug at southern end of utility corridor (approximate Sta. 16+20).



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PHOTOGRAPHIC LOG
Photo #9 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking south along approximate Sta. 17+80

Description:

ESI deploying geomembrane at approximate Sta. 17+80.



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PHOTOGRAPHIC LOG
Photo #10 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking west along SA-6 cap (from Panel #31).

Description:

ESI conducting fusion welding along Panel 30/31 seam as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #11 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking south / southeast along southern end of SA-6 cap (P-32)

Description:

PZ-18 stickup located on southern and western end of SA-6 (on Panel #32). PZ-18 to be booted and sealed (as outlined in project specs) on 7/30/15.



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PHOTOGRAPHIC LOG
Photo #12 (07/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/29/15

Direction Taken:

Looking northeast along SA-6 cap

Description:

Installed geomembrane panels (P-31 & P-32). ESI conducting fusion welding (as outlined in project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	7/30/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	76/85° F, Overcast, PM T-Storms
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1500

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #11**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL), and geocomposite clay liner (GVL), continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) through 1st utility corridor located at approximate Sta. 16+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work (cap detailing) for the geomembrane cap that was installed on 7/29/15 (Panels 31-34). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 7/30/15 for results (extrusion testing identified as EXT. on form).
- A total of fifteen repairs (RP-130 through RP-144) were observed and fixed (according to the project specifications) from Panels #31 through Panel #34 (repair / detailing work conducted on panels installed from 7/29/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), and also to remove wrinkles observed around changes in elevation. These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- As outlined above, no non-conformance issues were observed during repair/patch work conducted on 7/30/15, as repairs were associated with conforming the geomembrane to the SA-6 contours.
- Based on the expected weather forecast of early afternoon thunderstorms, it was determined that no GCL would be placed within the utility corridor. As such, no soil subgrade was approved for GCL placement and no panel placement forms were completed.
- ESI instead deployed GDL along the western end of the cap. GDL was placed to approximate Sta. 20+00 which included the placement of 12 rolls (rolls from north to south of SA-6; 17 different panel numbers with butt seams) of GDL from P-14 to P-21. GDL Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and sewing of the geotextile completed for adjacent geocomposite panels (with orange fabric obtained from extra roll of GDL).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- In addition to GDL placement, Entact began to build an access ramp toward the western end of the SA-6 cap to bring in protective cover soil for placement over GDL. Prior to ramp construction, approved caution tape (as outlined in the project specs was placed at a maximum 55-inch distance on top of the GDL prior to protective cover soil being spread.
- A total of one non-destructive sample (DS-10) was collected for lab testing (as outlined in the project specs). DS-10 was comprised of a fusion weld sample from Panels 32/33.

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 7/30/15 consisted of custom fit design or wrinkle removal to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/30/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 1 gas vent).
- Review laboratory destruct samples (peel and shear) for DS-10 and DSX-4

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-9, and DSX-1 through DSX-3. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work for the next 100 ft. run east (approximately from Sta. 17+00 to Sta. 16+00) through the 1st utility corridor.
- Begin placement of GCL along 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/30/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/30/15
A5 – Subgrade Approval		N / A – no subgrade approval for 7/30/15
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for pre and destruct welds completed up to 7/30/15.
A7 – Panel Placement Log		N / A no panels placed on 7/30/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample from 7/30/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 7/30/15
A10 – Repair Log	Page 7	One repair report provided by ESI and confirmed by Langan for repairs conducted on 7/30/15.
A11 – Conformance COC		N / A for 7/30/15
A12 – Destructive Seam Field Test	Page 2	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 7/30/15.
A13 – Destruct. Sample Summary	Sheet 1	Updated with sample information from 7/30/15
A14 – Penetration & Edge Form		N / A to be completed for PZ-18 once final clamps and gaskets are installed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed on 7/30/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/30/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/30/15

Direction Taken:

Looking southeast along southern end of cap

Description:

ESI conducting booting activities for PZ-18 (located on P-32).



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PHOTOGRAPHIC LOG
Photo #2 (07/30/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/30/15

Direction Taken:

Looking west along installed geomembrane cap (taken from approx. Sta. 17+50)

Description:

Installed geomembrane cap to date.



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PHOTOGRAPHIC LOG
Photo #3(07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

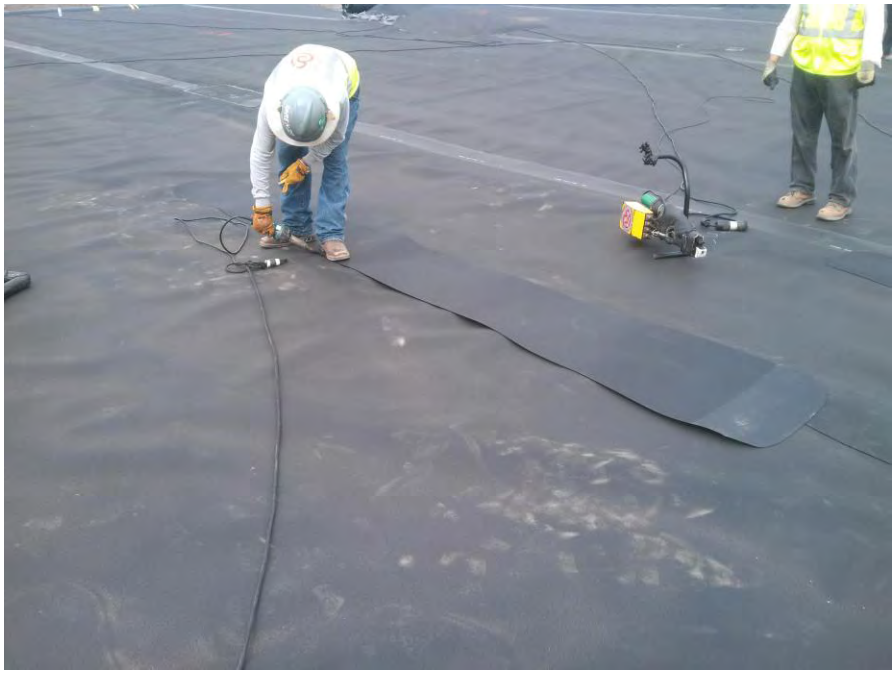
Date:
7/30/15

Direction Taken:

Looking southwest along geomembrane cap

Description:

ESI conducting patch / repair work for panels installed on 7/29/15 (Panels 31-34).



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PHOTOGRAPHIC LOG
Photo #4 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

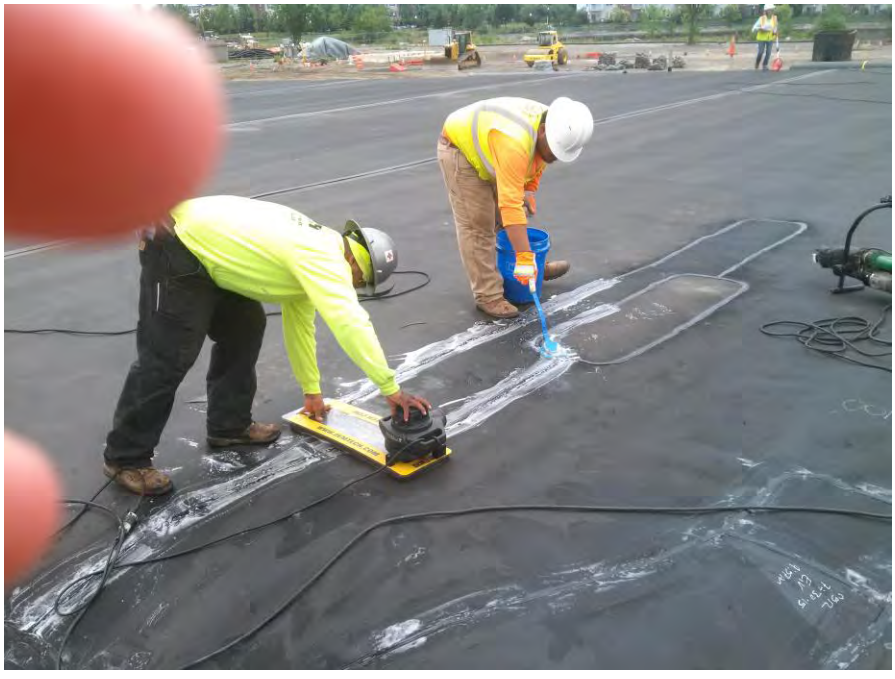
Date:
7/30/15

Direction Taken:

Looking southeast along SA=6 cap.

Description:

ESI conducting vacuum box testing (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/30/15

Direction Taken:

Looking north along SA-6

Description:

ESi deploying GDL over previously installed geomembrane cap.



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PHOTOGRAPHIC LOG
Photo #6 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/30/15

Direction Taken:

Looking west along SA-6 cap from approx. Sta. 17+50

Description:

Installed GDL up to approx. Sta. 21+00 (collection manhole).



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PHOTOGRAPHIC LOG
Photo #7 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/30/15

Direction Taken:

Looking west along northern slope of SA-6

Description:

Entact beginning to build ramp and access-way for soil placement over GDL. Warning tape placed at approx. 55-inch intervals over GDL.



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PHOTOGRAPHIC LOG
Photo #8 (07/30/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/30/15

Direction Taken:

Looking west along SA-6 cap

Description:

Ramp built up to SA-6 for placement of cover soil over installed GDL.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	7/31/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #12** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from Panel #21 (P-21) to approximate Panel #33 (P-33). Based on the PM thunderstorms from 7/30/15, soil subgrade through the utility corridor could not be approved due to soft / wet areas identified. As such, ESI prepped to deploy GDL over the installed geomembrane areas.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI filling sand bags for GVL / geomembrane placement.
- While ESI was filling sandbags, Langan, AmecFW, and Entact conducted a review of the as-built panel layout to confirm repairs and associated panel locations. Once this information was confirmed, ESI began to deploy GDL over the installed geomembrane.
- ESI deployed GDL along the western end of the cap. GDL was placed from approximate Sta. 20+00 (approx. P-21 location) to approx. Sta. 17+00 (approx. P-33 location) which included the placement of 21 rolls (rolls from north to south of SA-6; 28 different panel numbers with butt seams) of GDL from P-21 to P-33. GDL Panels were placed according to the project specifications with white plastic fasteners placed at a maximum of 5 ft. and sewing of the geotextile completed for adjacent geocomposite panels (with orange fabric obtained from extra roll of GDL).
- No geomembrane patch / repair work was conducted as part of the 7/31/15 daily activities. Similarly, no new panels were installed as soil subgrade was not approved.

Non-Conformance Items / Corrective Actions

- No non-conformance items observed for work activities completed on 7/31/15. No geomembrane panels installed, and no patch / repair work or sampling was conducted.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 7/31/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 1 gas vent).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 100 ft. run east (approximately from Sta. 17+00 to Sta. 16+00) through the 1st utility corridor.
- Begin placement of GCL along 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 7/31/15
A3 – Photo Log	Pages 1 – 2	Total of 4 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 7/31/15
A5 – Subgrade Approval		N / A – no subgrade approval for 7/31/15
A6 – Trial Weld Log		N / A – no trial welds conducted for 7/31/15 activities
A7 – Panel Placement Log		N / A no panels placed on 7/30/15
A8 – Destruct Seam Testing COC		N / A no non-destruct samples collected on 7/31/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 7/31/15
A10 – Repair Log		N / A no repair report for 7/31/15 activities
A11 – Conformance COC		N / A for 7/31/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 7/31/15
A13 – Destruct. Sample Summary		N / A no updates from 7/31/15
A14 – Penetration & Edge Form		N / A to be completed for PZ-18 once final clamps and gaskets are installed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed on 7/31/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (07/31/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
7/31/15

Direction Taken:

Looking north along 1st utility corridor (located at approx. Sta. 16+50

Description:

Utility corridor with wet / soft areas identified due to heavy rains. Soil subgrade not approved for GCL placement.



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PHOTOGRAPHIC LOG
Photo #2 (07/31/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

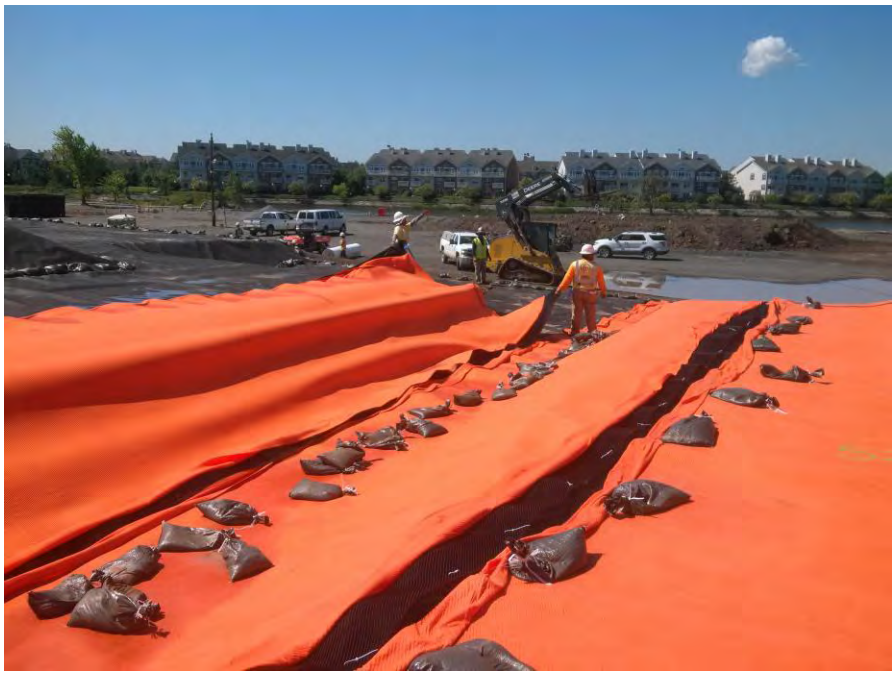
Date:
7/31/15

Direction Taken:

Looking south along geomembrane cap (near approx. Sta. 19+90)

Description:

ESI deploying GCL over previously installed geomembrane panels near Sta. 19+90 (over Panels 21 & 22).



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PHOTOGRAPHIC LOG
Photo #3(07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/31/15

Direction Taken:

Looking west along SA-6 (installed GDL)from approximate Sta. 17+20

Description:

Installed GDL up to approximate Sta. 17+20 along SA-6 (from western end).



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PHOTOGRAPHIC LOG
Photo #4 (07/31/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
7/31/15

Direction Taken:

Looking west along northern end of SA-6 (at approx.. Sta. 18+00.

Description:

Installed GDL to date



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/3/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	73/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1945

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #13**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #34 (P-34) installed on 7/29/15 (located at approximate Sta. 17+00) running through first utility corridor approximately 120 ft. east to Sta. 15+80 (to eastern end of 1st utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing an additional two panels of GDL (moving east from Panel #33) to cover up to geomembrane Panel #34 (P-34). While GDL was being placed, Langan and Entact conducted soil subgrade approval from approximate Sta. 17+00 to Sta. 15+80 (through 1st utility corridor). Refer to *Soil Subgrade Approval* forms from 8/3/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1,2, and 3 of the daily photo log for 8/3/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 17+00 to Sta. 15+80 (to eastern side of 1st utility corridor).
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the bottom and slopes of the utility corridor (shown in the *8/3/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. Note: Prior to GCL placement, a soil transition slope (approx. 2 ft. by 2 ft. was constructed along the northern slope of the utility corridor to allow the GCL to transition over the slope without having to conform to the 90 deg. turns of the SCB wall). This soil slope modification was approved prior to construction.
- In addition to the GCL (placed within the utility corridor), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/3/15 Photo Log* for supporting photographs.

- After installation of GCL and GVL through the utility corridor, geomembrane cap was installed continuing east of previously installed Panel #34 (located at approximate Sta. 17+00) on 7/29/15. Panels were oriented from east to west through the utility corridor (as proposed in the approved Panel Layout) and were installed through the utility corridor (located at approx. Sta. 16+50) running from the top of the western slope to the top of the eastern slope. Additional panels were installed outside of the utility corridor and were T (butt seamed) into the east-west panels from inside the utility corridor (the panels outside of the utility corridor reverted back to the north-south orientation as indicated on the approved panel layout). A total of twelve panel lengths (different dimensions and sizes) were installed (P-35, P-36, P-37, P-38, P-39, P-40, P-41, P-42, P-43, P-44, P-45, and P-46) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/3), *Trial Weld Log.*
- Installation and welding of the geomembrane panels was conducted until approximately 8 pm to ensure that the utility corridor was properly covered and sealed due to expected overnight storms. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/4/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no patch / repair work was conducted on geomembrane cap.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/3/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+80 to Sta. 14+80) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/3/15
A3 – Photo Log	Pages 1 – 8	Total of 16 photos outlining pertinent daily observations and descriptions for 7/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/3/15
A5 – Subgrade Approval	Sheet 8 & ESI (8/3/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Sheet 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/3/15.
A7 – Panel Placement Log	Pages 8 & 9	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/3/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/3/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/3/15
A10 – Repair Log		N / A no repairs conducted on 8/3/15
A11 – Conformance COC		N / A for 8/3/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/3/15
A13 – Destruct. Sample Summary		N / A no updates to form (no samples collected on 8/3)
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/3/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking north along 1st utility corridor (located at approx. Sta. 16+50

Description:

Utility corridor subgrade dried, graded, and compacted after storm. Area approved for geomembrane placement (as per project specifications).



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PHOTOGRAPHIC LOG
Photo #2 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking west along northern end of SA-6

Description:

ESI constructing approx. 2 ft. by 2 ft. soil slope up to SCB wall. Approved change from having GCL and geomembrane with 90 deg. bends along SCB wall.



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PHOTOGRAPHIC LOG
Photo #3(08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south along 1st utility corridor (approx. Sta. 16+50)

Description:

Approved soil subgrade for cap placement. Soil graded, compacted, and free of debris (>1/2"), as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south / southwest along utility corridor (approx. Sta. 16+50)

Description:

ESI installing GCL along bottom of utility corridor (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/3/15

Direction Taken:

Looking south along bottom of utility corridor

Description:

ESi overlapping GCL panels (minimum of 1 ft.) as outlined in project specs. Bentonite used to seal seams.



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PHOTOGRAPHIC LOG
Photo #6 (08/03/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/3/15

Direction Taken:

Looking north along bottom of utility corridor

Description:

ESI placing granular bentonite along GCL seams.



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PHOTOGRAPHIC LOG
Photo #7 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking west along utility corridor (approx. Sta. 16+50)

Description:

ESI installing GCL along slopes of corridor to minimum elevation (approx. El. 14) as outlined in the project specifications. GCL overlapped a minimum of 1 ft. along seams.



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PHOTOGRAPHIC LOG
Photo #8 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking southwest along utility corridor.

Description:

GCL installed along base and western wall of utility corridor.



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PHOTOGRAPHIC LOG
Photo #9 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south along western slope of utility corridor

Description:

GCL overlapped a minimum of 2 ft. over the top of the corridor slope. GCL secured with 6-inch staples along top of panel.



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PHOTOGRAPHIC LOG
Photo #10 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south along eastern end of utility corridor.

Description:

GVL panel installed over top of GCL (minimum of 1 ft. overlap) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #11 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking south down along utility corridor

Description:

GCL installed throughout utility corridor. ESI prepping to cover GCL with geomembrane cap.



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PHOTOGRAPHIC LOG
Photo #12 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking east along southern end of SA-6 cap (at utility corridor)

Description:

ESI placing geomembrane panels along southern end of utility corridor. Panels oriented in east to west direction (perpendicular to slope), as outlined in approved panel layout.



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PHOTOGRAPHIC LOG
Photo #13 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

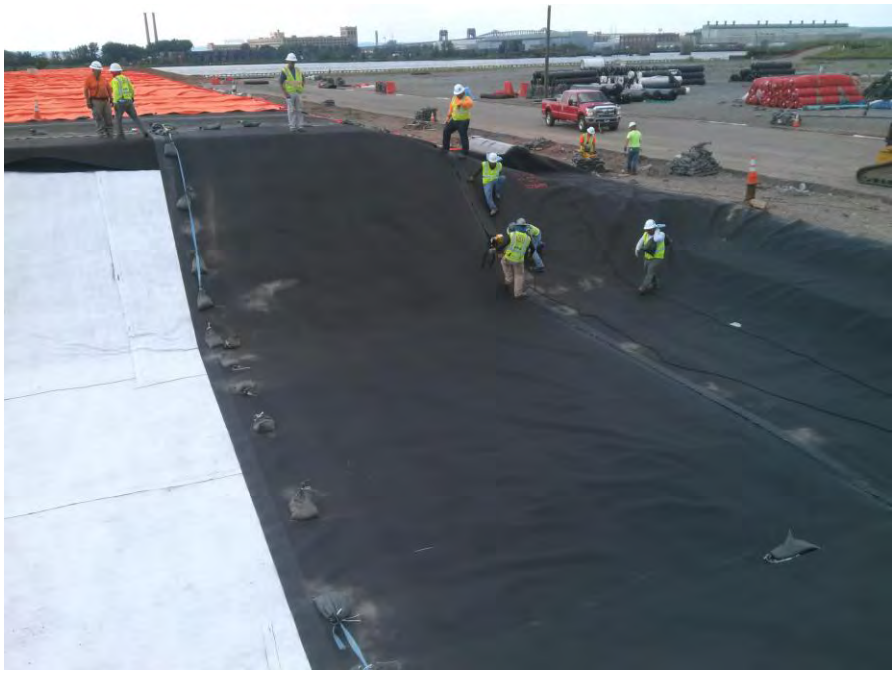
Date:
8/3/15

Direction Taken:

Looking west / northwest at northern end of utility corridor.

Description:

ESI conducting fusion welding of Panels 35/36 located at northern end of utility corridor (oriented east to west).



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PHOTOGRAPHIC LOG
Photo #14 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking north along 1st utility corridor (located at approx. Sta. 16+50)

Description:

Geomembrane panels placed over GCL along utility corridor. Panels oriented perpendicular to slope (east to west).



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PHOTOGRAPHIC LOG
Photo #15 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/3/15

Direction Taken:

Looking east along northern end of SA-6

Description:

ESI placing geomembrane panel along southern end of GCL.



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PHOTOGRAPHIC LOG
Photo #16 (08/03/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

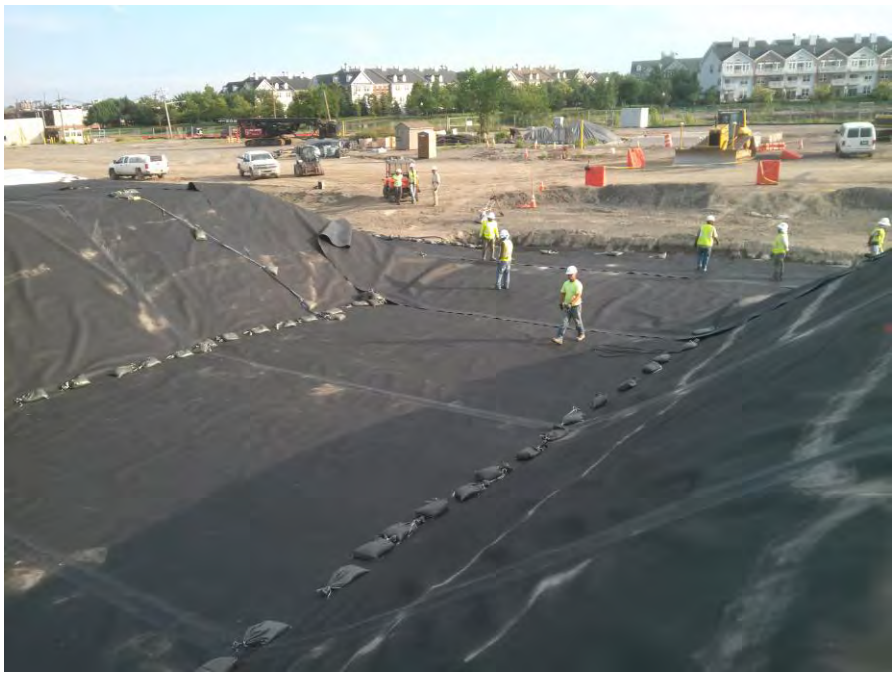
Date:
8/3/15

Direction Taken:

Looking south along utility corridor

Description:

Geomembrane panels installed along utility corridor.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/4/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/85° F, AM Rain, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #14** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from east of Panel #42 installed on 8/3/15 (located at approx. Sta. 15+80) moving east approximately 100 ft. to approximate Sta. 14+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Based on the AM storms / rain, ESI could not conduct patch / repair work (i.e. extrusion welding) on the geomembrane panels installed on 8/3/15 due to the inclement weather. Observation of the next section of soil subgrade (approx. Sta. 15+80 to 14+80) was conducted and soft / wet areas were identified with ponding water (due to the storms). As such, soil subgrade was not approved for additional panel placement. Refer to *8/4/15 Photo Log* for subgrade photos. ESI offsite until 12 PM for weather to clear.
- Entact removed the protective plastic layer covering the soil subgrade and conducted drying activities, re-grading, and re-compaction of the soil (as required).
- ESI back onsite at approximately 12 PM to conduct patch / repair work for the panels installed on 8/3/15 (Panels 35-46). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/4/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-one repairs (RP-145 through RP-185) were observed and fixed (according to the project specifications) from Panel #35 through Panel #46 (repair / detailing work conducted on panels installed on 8/3/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- No non-conformance issues were noted as repairs consisted of custom fit design or routine patch / repair work to allow geomembrane to conform to SA-6 contours.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- A total of two destruct samples, DS-11 and DS-12 (fusion weld samples) were collected for laboratory analysis. DS-11 was collected from panel seam 36/37 and DS-12 was collected from panel seam 42/43

Non-Conformance Items / Corrective Actions

- No non-conformance items observed. Repairs associated with 8/4/15 consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/4/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory results for DS-11 and DS-12

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15 as well as reviewed and approved ESI *Daily Panel Placement*, *Preweld Test Report*, and *Certificate of Subgrade Acceptance, etc.* forms.
- Reviewed laboratory destruct sample results for samples DS-1 through DS-10, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Additional subgrade preparation work to remove soft / wet areas for the next 80 ft. run east (approximately from Sta. 15+80 to Sta. 15+00) of 1st utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/4/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions
A4 – Geosynthetic Inventory Log		N / A – no updates for 8/4/15
A5 – Subgrade Approval		N / A – no subgrade approval for 8/4/15
A6 – Trial Weld Log	Page 2	Preweld test form for 8/4/15 provided by ESI and confirmed by Langan for prewelds up to 8/4/15
A7 – Panel Placement Log		N / A no panels placed on 8/4/15
A8 – Destruct Seam Testing COC	Sheet 1	Updated with destruct sample information from 8/4/15
A9 – Seam/Non-Destruct. Test Log	Pages 7,8,9,10,11	Seam Control Form for 8/4/15 provided by ESI and confirmed by Langan for non-destruct tests completed up to 8/4/15
A10 – Repair Log	Pages 7,8,9	Repair Log for 8/4/15 provided by ESI and confirmed by Langan for repairs completed up to 8/4/15
A11 – Conformance COC		N / A for 8/4/15
A12 – Destructive Seam Field Test	Sheet 2	Destruct Sample Information provided by ESI and confirmed by Langan for destruct samples collected on 8/4/15 (DS-11 and DS-12)
A13 – Destruct. Sample Summary	Sheet 2	Updated with destruct sample information from 8/4/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues observed

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PHOTOGRAPHIC LOG
Photo #1 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/4/15

Direction Taken:

Looking south along SA-6 (at approx. Sta. 15+80)

Description:

Soil subgrade immediately east of previously installed panels (from 8/3) at approx. Sta. 15+80. Wet / soft areas identified and area not suitable for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #2 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/4/15

Direction Taken:

Looking west along SA-6 (at approx. Sta. 15+80) at drainage swale / corridor located at Grid Point 165-15.01

Description:

Water ponding from rain storm from 8/3. Soil subgrade not acceptable for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #3(08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking down along SA-6 utility corridor (southwestern slope) near Break Point 832-4.44

Description:

ESI conducting patch repair work along installed panels from 8/3 (Panels 35-46)



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PHOTOGRAPHIC LOG
Photo #4 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking east along SA-6 cap

Description:

ESI conducting vacuum box testing along patch / repair work from Panels 35-46.



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PHOTOGRAPHIC LOG
Photo #5 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking along the northwestern slope of utility corridor (looking at approximate Break Point 823-16.40)

Description:

Patch / repair work along northwestern slope of utility corridor (RP-151 & RP-157).



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PHOTOGRAPHIC LOG
Photo #6 (08/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/4/15

Direction Taken:

Looking north / northwest along utility corridor (looking at northwest slope).

Description:

ESI conducting patch / repair work along utility corridor. Also conducting extrusion welding and vacuum box testing (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking west along southern slope of SA-6 (near Break Point 842-4.57)

Description:

ESI collecting destruct sample (DS-12) along Panel 42/43 seam.



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PHOTOGRAPHIC LOG
Photo #8 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking west / northwest along SA=6 cap.

Description:

ESI labeling and marking repairs upon completion of vacuum box testing.



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PHOTOGRAPHIC LOG
Photo #9 (08/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/4/15

Direction Taken:

Looking east along SA-6 cap

Description:

ESI conducting extrusion weld along patches / repairs (as outlined in project specs).



SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/5/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	70/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #15** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #42 (P-42) installed on 8/3/15 (located at approximate Sta. 15+80) running approximately 70 ft. east to Sta. 15+10.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for three wrinkles (refer to *Repair Log* 8/5/15) that were identified along Panels 35-46 which were placed on 8/3/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/5/15).
- A total of nine repairs (RP-186 through RP-194) were observed and fixed (according to the project specifications) from Panel #35 and Panel #36. As outlined above, these repairs were associated with removing geomembrane wrinkles to allow the cap to conform to the contours of SA-6 South grade. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Note: no repairs of the geomembrane from 8/5/15 were identified as non-compliance issues.
- Additionally, while the geomembrane was being patched / repaired, ESI also installed the penetration boots for the wells, piezometers, and gas vents protruding through the cap (Note: Penetration logs will be completed once final sealant is placed around top of boot). Orange composite (GDL) was also placed over butt seams of the geocomposite and leistered in place. These patching activities were completed (as needed) to allow Entact to continue placing protective cover soil over the installed GDL along the western end of SA6. The final GDL layer was inspected by Entact and Langan to ensure that all repairs / patches were completed prior to soil placement.
- While patch / repair work was being conducted, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+80 to Sta. 15+10. Refer to *Soil Subgrade Approval* forms from 8/5/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so

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that the surface was free of any loose material. Refer to Photos #5,6 of the daily photo log for 8/5/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+80 to Sta. 15+10.

- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/5/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/5/15 Photo Log* for supporting photographs.
- After installation of GCL and GVL along the SA-6 boundaries, geomembrane cap was installed continuing east of previously installed Panel #42 (located at approximate Sta. 15+80) on 8/3/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GCL layers. A total of three panel lengths were installed (P-47, P-48, P-49) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/5), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. As such, no non-destructive testing on the installed panels was conducted. Additionally, no patch / repair work was completed, and no destructive samples were collected. These activities will be completed tomorrow (8/6/15). Note: An extrusion weld sample (DSX-5) was collected from the patch / repair work previously completed on 8/4/15.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as repair work was conducted to remove wrinkles from the cap to allow the geomembrane to properly conform to the contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/5/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).
- Review laboratory data for extrusion destruct sample DSX-5

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, and 8/4/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-4. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 15+10 to Sta. 14+10) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/5/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 8/5/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/5/15
A5 – Subgrade Approval	Sheet 9 & ESI (8/5/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 2	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/5/15.
A7 – Panel Placement Log	Page 10	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/5/15
A8 – Destruct Seam Testing COC	Page 1	Updated with information from destruct sample (DSX-5) collected on 8/5/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destruct tests conducted on 8/5/15
A10 – Repair Log	Pages 9-10	One Repair Log provided by ESI and confirmed by Langan for 8/5/15

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/5/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/5/15
A13 – Destruct. Sample Summary	Sheet 1	Updated with destruct sample information from 8/5/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/5/15

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PHOTOGRAPHIC LOG
Photo #1 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

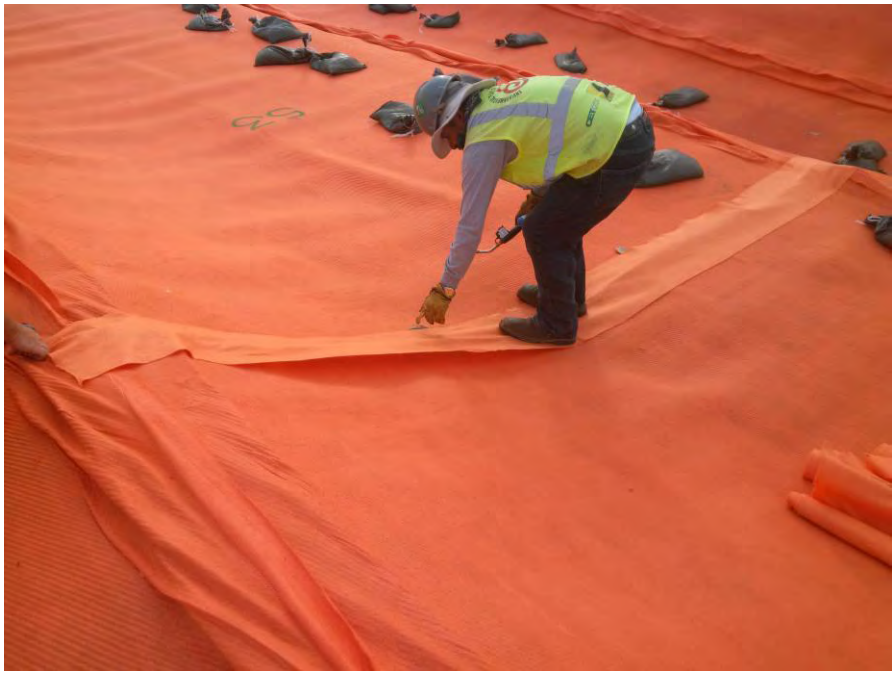
Date:
8/5/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI finalizing GDL cap by covering and patching butt seams and associated repairs (as required).



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PHOTOGRAPHIC LOG
Photo #2 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking southwest along SA-6 cap (at GV-6 location)

Description:

ESI constructing boot and placing sacrificial sheet around GV-6 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3(08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking north at northeastern slope of utility corridor (located at approx. Grid Point 149-5.59

Description:

ESI conducting patch repair work for wrinkles identified from geomembrane panel placement (from 8/3/15).



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PHOTOGRAPHIC LOG
Photo #4 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking south along southern edge of SA-6 cap (located at PZ-18)

Description:

Installed geomembrane boot around PZ-18 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking west (from approx. Sta. 15+80) at approximate Grid Point 165-15.01

Description:

Soil subgrade at approximate Grid Point 165-15.01. Soil has been dried, re-graded, and re-compacted for panel placement. Soil subgrade prepared in accordance with project specs.



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PHOTOGRAPHIC LOG
Photo #6 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south at southern end of SA-6 cap (taken from approximate Sta. 15+80)

Description:

Previously identified soft / wet area from 8/4/15. Soil allowed to dry and was re-compacted (as required). Soil acceptable for geomembrane placement.



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PHOTOGRAPHIC LOG
Photo #7 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking west along SA-6 cap

Description:

Entact spreading protective cover soil along previously installed GDL (located at western end of cap).



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PHOTOGRAPHIC LOG
Photo #8 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south along southern end of SA-6 (approximate Sta. 15+80)

Description:

ESI placing GCL along lower elevations (to 1 ft. above the groundwater table). Panels placed moving east from Sta. 15+80.



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PHOTOGRAPHIC LOG
Photo #9 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking north at tops of installed GCL panels

Description:

Support staples (with rounded heads) placed along the top of the GCL panels for support (as outlined in project specs). Staples to be overlapped with 1 ft. minimum of GVL.



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PHOTOGRAPHIC LOG
Photo #10 (08/05/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/5/15

Direction Taken:

Looking north along SA-6 (immediately east of approx. Sta. 15+80).

Description:

ESI deploying GVL immediately east of approx. Sta. 15+80.



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PHOTOGRAPHIC LOG
Photo #11 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking north along SA-6 at Collection Manhole #2

Description:

ESI deploying geomembrane panels over installed GVL east of Sta. 15+80.



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PHOTOGRAPHIC LOG
Photo #12 (08/05/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/5/15

Direction Taken:

Looking south along Panel #47 (P-47)

Description:

ESI conducting fusion welding along Panel seam 42/47 (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/6/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/88° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1600

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #16** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #49 (P-49) installed on 8/5/15 (located at approximate Sta. 15+10) running approximately 110 ft. east to Sta. 14+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL over the previously installed geomembrane panels from 8/3/15. A total of 10 panel lengths of GDL were placed along the west side of the utility corridor and along the western slope of the utility corridor with end points of the GDL terminating along the approximate center of the utility corridor (east to west orientation). The GDL was placed north to south outside of the corridor and east to west within the corridor and secured with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile was sewn (according to the project specs).
- While GDL was being placed over the previously installed geomembrane, Langan and Entact conducted soil subgrade approval from approximate Sta. 15+10 to Sta. 14+00. Refer to *Soil Subgrade Approval* forms from 8/6/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #7,8, and 9 of the daily photo log for 8/6/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 15+10 to Sta. 14+00.
- Cap placement began with ESI placing the GCL along the southern slope (lower bench along southern end of SA-6 located below the groundwater table) of the southern edge of SA-6 (refer to *8/6/15 Photo Log*) as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with granular bentonite.
- Prior to deploying any geomembrane panels over the GCL, it was confirmed that the GCL maintained intimate contact between the material and the HB wall (southern boundary wall). Soil was removed from the top of the sheet piles (as required) by Entact. Refer to Photo #14 of the *Photo Log 8/6/15*.

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- In addition to the GCL (placed along the southern slope), 16 oz. geotextile was placed along the northern boundary of the SA-6 South Cap, and also along the southern boundary east of the GCL (located at the areas above the groundwater table and outside of the GCL) over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications.
- GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/6/15 Photo Log* for supporting photographs.
- After installation of GCL, 16 oz. geotextile (along SA-6 boundaries) and GVL, geomembrane cap was installed continuing east of previously installed Panel #49 (located at approximate Sta. 15+10) on 8/5/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of four panel lengths (lengths defined as running the approximate 165 ft. north to south distance of the cap) were installed (P-50, P-51, P-52, P-53, P-54) by ESI. Note: P-51 terminated approximately 6 ft. short of the southern boundary of the SA-6 cap. As such, the remaining section was taken from an additional roll (G15C277060) and labeled as Panel #52 (P-52).
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/6), *Trial Weld Log.*
- Upon panel installation and fusion welding, ESI conducted non-destructive seam testing in accordance with the project specs. No patch / repair work was completed, and no destructive samples were collected as work activities were completed after non-destruct testing was completed. These additional activities will be completed tomorrow (8/7/15).

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as non-destruct testing was in conformance with the project specs and no patch / repair work, or vacuum box testing was conducted on 8/6/15.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/6/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Log (once boot and associated sealing activities are completed for manhole located at Sta. 21+00).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 2 piezometers, and 3 gas vents).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, and 8/5/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

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By: Dan Bosworth

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Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 14+00 to Sta. 13+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/6/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/6/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/6/15
A5 – Subgrade Approval	Sheet 10 & ESI (8/6/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 2-3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/6/15.
A7 – Panel Placement Log	Page 11	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/6/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/6/15
A9 – Seam/Non-Destruct. Test Log	Pages 11-12	Seam Control Form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/6/15
A10 – Repair Log		N / A no repairs completed on 8/6/15
A11 – Conformance COC		N / A for 8/6/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 8/6/15
A13 – Destruct. Sample Summary		N / A no updates as no destruct samples collected
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/6/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

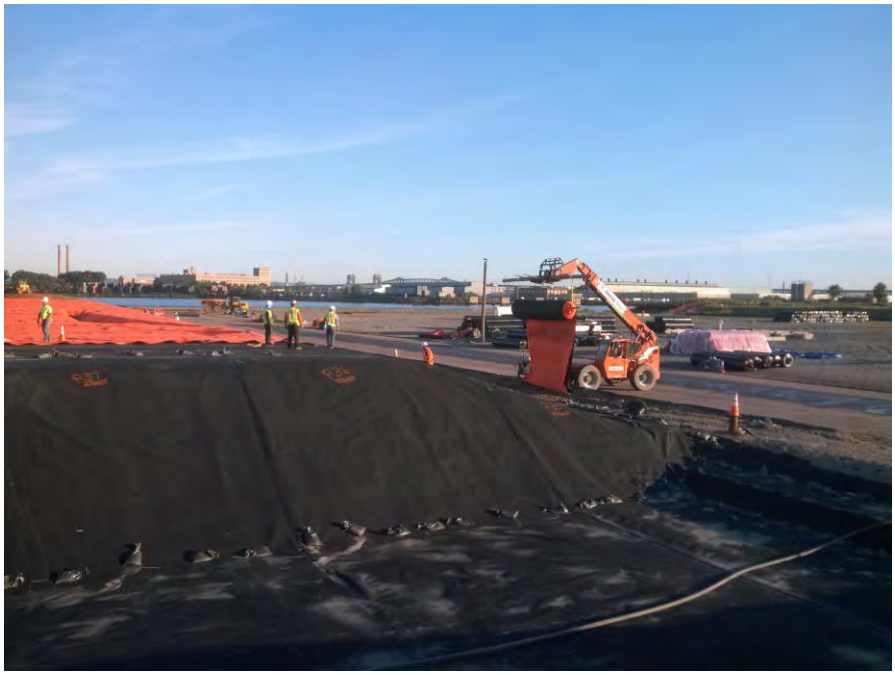
Date:
8/6/15

Direction Taken:

Looking north through utility corridor (at western slope of utility corridor)

Description:

ESI preparing to deploy GDL along utility corridor (over previously installed panels 35-46)



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PHOTOGRAPHIC LOG
Photo #2 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

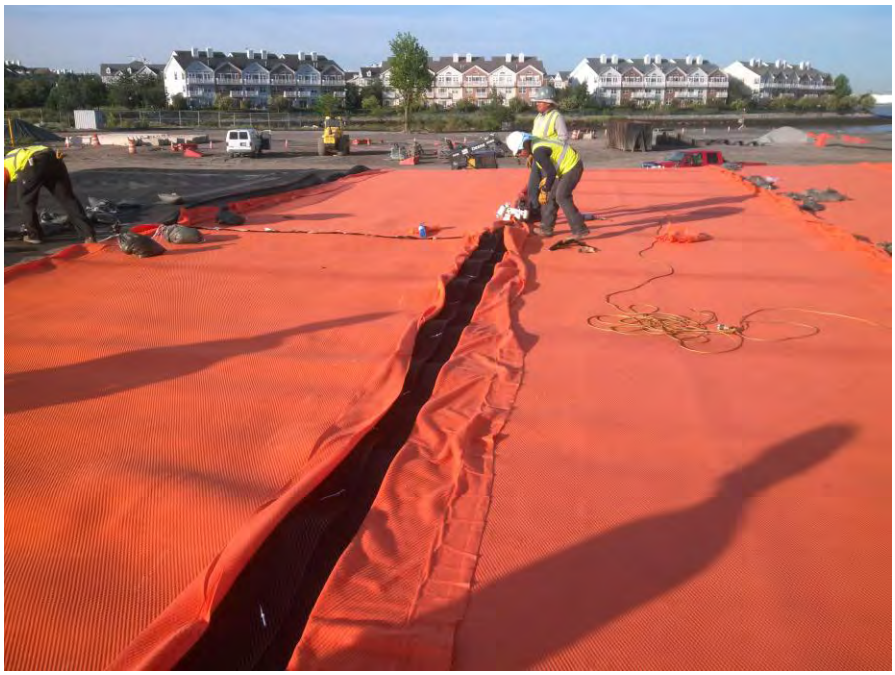
Date:
8/6/15

Direction Taken:

Looking south along SA-6 (approximate Sta. 17+00)

Description:

ESI placing GDL over installed geomembrane panels (P-34 & P-35). White plastic fasteners spaced at maximum of 5 ft. intervals and geotextile seam sewn (according to project specs).



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PHOTOGRAPHIC LOG
Photo #3(08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking south / southeast at bottom of southeast utility corridor slope (located at approx. Break Point 831-4.62

Description:

ESI placing GDL along southeastern slope of utility corridor. Panels oriented east to west to run parallel with slope (as outlined in the approved panel layout).



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PHOTOGRAPHIC LOG
Photo #4 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

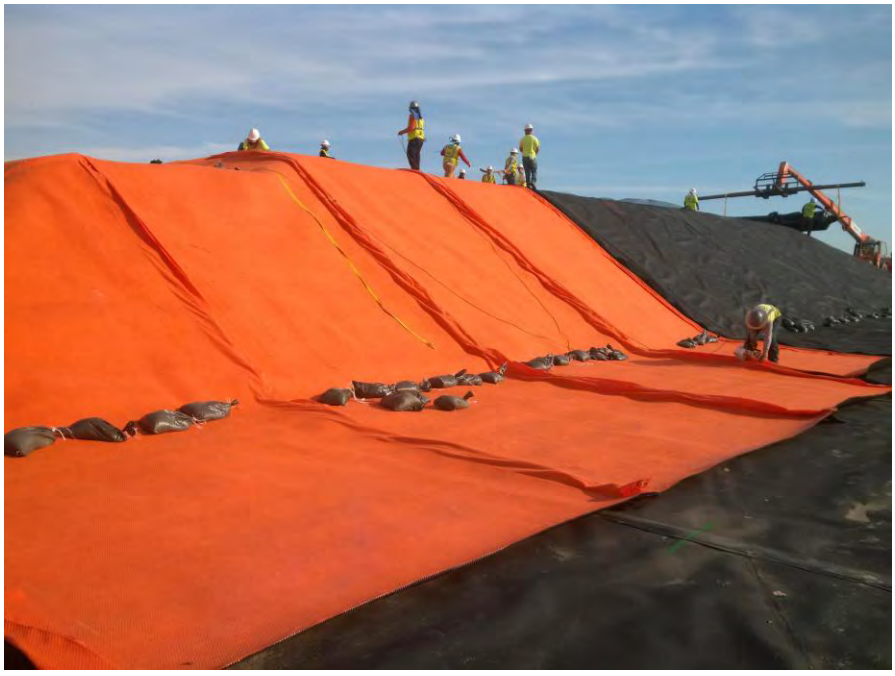
Date:
8/6/15

Direction Taken:

Looking northwest along western slope of utility corridor (approx. Sta. 16+50).

Description:

Installed GDL along utility corridor (western slope).



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PHOTOGRAPHIC LOG
Photo #5 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking north along southern slope of SA-6 (southern edge of SA-6).

Description:

ESI placing GCL along southern edge of SA-6 slope (east of Sta. 15+10). Pins / staples placed along top 6-inches of GCL to anchor into subgrade slope.



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PHOTOGRAPHIC LOG
Photo #6 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking south / southwest along southern slope of SA-6 (approximate Sta. 14+70).

Description:

ESI placing GCL along southern slope (lower bench) of SA-6. GCL placed at areas below (up to 1 ft. above) the Site water table.



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PHOTOGRAPHIC LOG
Photo #7 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking east along SA-6 (from approx. Sta. 15+10).

Description:

Soil subgrade along the southern end of SA-6 approved for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #8 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

Approved soil subgrade for geomembrane placement. Soil prepared as per project specifications.



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PHOTOGRAPHIC LOG
Photo #9 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/6/15

Direction Taken:

Looking south / southwest along SA-6 (at approximate Sta. 15+10)

Description:

Prepared soil subgrade according to project specs.



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PHOTOGRAPHIC LOG
Photo #10 (08/06/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

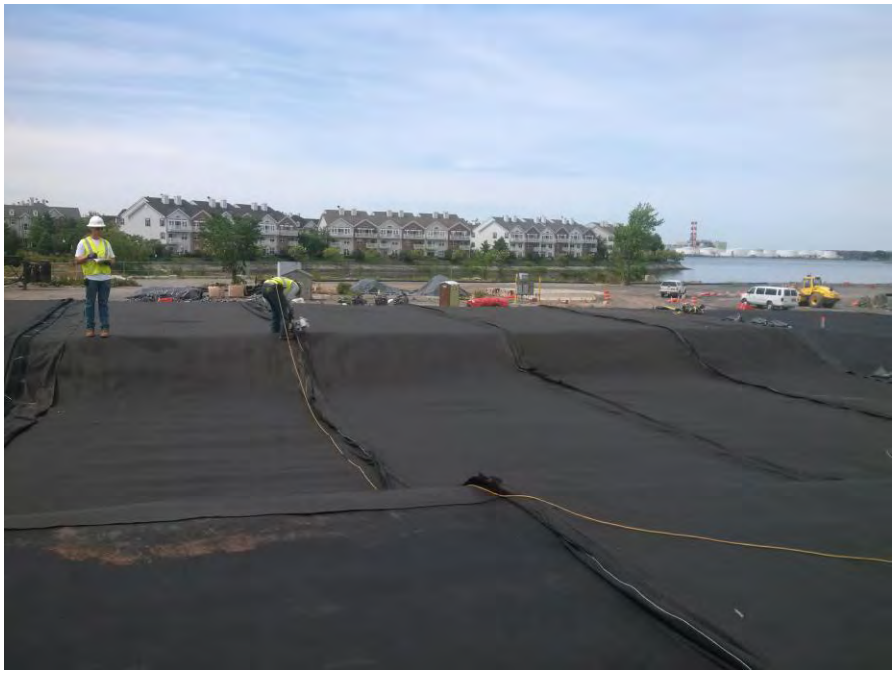
Date:
8/6/15

Direction Taken:

Looking north along SA-6 (east of approx. Sta. 15+10).

Description:

ESI deploying GVL. White plastic fasteners spaced at a minimum of 5 ft., and the top layer of geotextile sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #11 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking north along western end of SA-6 cap

Description:

Entact covering GDL along western end of cap with protective cover soil. Caution tape spaced at a maximum of 55-inches over GDL.



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PHOTOGRAPHIC LOG
Photo #12 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking northwest along SA-6 cap (from approx. Sta. 14+00)

Description:

ESI placing geomembrane over GVL layer from approx. Sta. 15+10 to approx. Sta. 14+00



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PHOTOGRAPHIC LOG
Photo #13 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking northwest along SA-6 cap (from approx. Sta. 14+30)

Description:

ESI conducting fusion welding along installed panel seams (Panels 50-54)



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PHOTOGRAPHIC LOG
Photo #14 (08/06/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/6/15

Direction Taken:

Looking east along southern wall of SA-6 cap (approx. Sta. 14+70)

Description:

Entact pulling back GCL to ensure that HB wall (southern boundary wall) maintains intimate contact with GCL.



SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	8/7/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	68/82° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0600 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #17** **AmecFW**: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #54 (P-54) installed on 8/6/15 (located at approximate Sta. 14+00) running approximately 100 ft. east to Sta. 13+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 50-54 which were placed on 8/6/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/7/15).
- A total of twenty-three repairs (RP-195 through RP-217) were observed and fixed (according to the project specifications) from Panels #50 through Panel #54 (repair / detailing work conducted on panels installed on 8/6/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-conformance issue was observed for a failed vacuum box test during testing of RP-215. The failed weld was patched and re-welded as outlined on Sheet #5.
- A total of three destruct samples were collected (DS-13, DS-14, and DSX-6). DS-13 and DS-14 (fusion) were collected from Panels 47/48 and 50/51, respectively. DSX-6 (extrusion) was collected from Panel #48 on RP-198.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for Collection Manhole #2. Note: The penetration log for Collection Manhole #2 will be completed once the boot has been sealed and covered according to the project specifications (to be completed on 8/10/15), and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 14+00 to Sta. 13+00 while

patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/7/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material.Refer to Photo #6 of the daily photo log for 8/7/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 14+00 to Sta. 13+00.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 14+00 (east of P-54) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/7/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #54 (located at approximate Sta. 14+00) on 8/6/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-55, P-56, P-57, P-58, P-59, P-60) by ESI. Note:, during placement of Panel #55 and #59, the roll of geomembrane was completed, thus, Panel #56 was placed for the last 11 ft. (from roll G15C283029) to complete the southern end and Panel #60 (P-60) was placed for the last 15 ft. (from roll G15C276053) to complete the northern end of SA-6.
- During installation of the Cap, geomembrane seams were overlapped a minimum of 4-inches for fusion welding (according to project specs). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specs. A total of six 1-inch specimens were collected for peel and shear testing (3 samples/each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/7), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/7/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed. These activities will be completed on Monday (8/10/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 5 (Sheet #5) – Failed vacuum box test of RP-215 on *Repair Log*
    - Failed vacuum box test of RP-215 (Panel #50). Failed weld was covered with a new patch and welded (RP-222) as per project specs and further defined in *Sheet 5 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 14+35).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-13, DS-14 and DSX-6

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, and 8/6/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-12, and DSX-1 through DSX-5. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 13+00 to Sta. 12+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/7/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/7/15
A5 – Subgrade Approval	Sheet 11 & ESI (8/7/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/7/15.
A7 – Panel Placement Log	Page 12	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/7/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 8/7/15
A9 – Seam/Non-Destruct. Test Log	Pages 12-14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/7/15
A10 – Repair Log	Pages 10-11	One Repair Log provided by ESI and confirmed by Langan for 8/7/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/7/15
A12 – Destructive Seam Field Test	Page 2	Provided for destruct samples DS-13, DS-14, and DSX-6 collected for 8/7/15
A13 – Destruct. Sample Summary	Sheet 2	Updated with destruct samples collected on 8/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 5	One Notice of Non-Compliance form created by Langan (Sheet #5) for failed vacuum box test

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/7/15

Direction Taken:

Looking south along SA-6 cap (RP-216)

Description:

ESI conducting vacuum box testing (according to project specs) on seam joint located on southern edge of SA-6 (Panels 50,51,52)



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PHOTOGRAPHIC LOG
Photo #2 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	100530001

Date:
8/7/15

Direction Taken:

Looking south along SA-6 at Panels 50/51

Description:

ESI collecting destruct sample (DS-14) along fusion welded seam (Panels 50/51). Sample collected near northern edge of SA-6



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PHOTOGRAPHIC LOG
Photo #3(08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking south near approx. Sta. 15+70 (at Access Manhole #2)

Description:

ESI placing LLDPE boot (RP-218) around Access Manhole #2 (located at approximate Sta. 15+70).



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PHOTOGRAPHIC LOG
Photo #4 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking north along SA-6 cap (western end)

Description:

Entact spreading protective cover soil along western end of SA-6. Yellow caution tape placed at maximum of 55-inch spacing (as outlined in project specs)



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PHOTOGRAPHIC LOG
Photo #5 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking at geomembrane cap (RP-215) located at Panel #50

Description:

Failed vacuum box test at RP-215. Leak detected during vacuum box testing of extrusion weld. Failed weld to be patched / repaired as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #6 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking east along SA-6 (from approximate Sta. 14+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking south along SA-6 (approx. Sta. 13+70)

Description:

ESI deploying GVL (approx. Sta. 13+70). White plastic fasteners spaced at maximum of 5 ft. (as outlined in project specs) and top geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #8 (08/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/7/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 13+75)

Description:

ESI deploying geomembrane over GVL. (at approx. Sta. 13+75)



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PHOTOGRAPHIC LOG
Photo #9 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/7/15

Direction Taken:

Looking southeast along SA-6 (Panels 57/58)

Description:

ESI conducting fusion welding along Panel 57/58 seam (welding conducted according to project specs)



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PHOTOGRAPHIC LOG
Photo #10 (08/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/7/15

Direction Taken:

Looking west along southern end of SA-6 (approximate Sta. 13+20)

Description:

ESI conducting fusion welding along Panels 58/59,down southern slope of SA-6



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/10/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/78° F, Overcast
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1645

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #18**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #60 (P-60) installed on 8/7/15 (located at approximate Sta. 13+00) running approximately 100 ft. east to Sta. 12+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 55-60 which were placed on 8/7/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/10/15).
- A total of thirty-one repairs (RP-218 through RP-248) were observed and fixed (according to the project specifications) from Panels #55 through Panel #60 (repair / detailing work conducted on panels installed on 8/7/15). Refer to 8/10/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-W5-SO, and completed placing the geomembrane patch around Access Manhole #2. Note: The penetration log for well 115-W5-SO will be completed once the boot has been sealed and covered according to the project specifications and the final sealant is placed around top of boot.
- Langan and Entact conducted soil subgrade approval from approximate Sta. 13+00 to Sta. 12+00 while patch work was being completed by ESI. Refer to *Soil Subgrade Approval* forms from 8/10/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 8/10/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 13+00 to Sta. 12+00.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 13+00 (east of P-60) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/10/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #60 (located at approximate Sta. 13+00) on 8/7/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-61, P-62, P-63, P-64, and P-65) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/10), *Trial Weld Log.*
- Installation and fusion welding of the geomembrane panels was conducted until the end of the work day. Once completed, non-destructive testing on the installed panels was conducted. Non-destruct testing was conducted in accordance with the project specs and is further summarized on the *Seam Control Form (8/10/15).* After non-destructive testing the work day was terminated and no patch / repair work was completed.
- A total of three destructive samples were collected (two fusion and one extrusion weld). Fusion weld destruct samples (DS-15, DS-16) were collected from Panel Seams 54/55 and 59/61 respectively. DSX-7 was collected along Panel 53/54 seam. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/10/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-15, DS-16, DS-17, and DSX-7

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, and 8/7/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-14, and DSX-1 through DSX-6. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) continuing east along SA-6.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/10/15
A3 – Photo Log	Pages 1 – 7	Total of 14 photos outlining pertinent daily observations and descriptions for 8/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/10/15
A5 – Subgrade Approval	Sheet 12 & ESI (8/10/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/10/15.
A7 – Panel Placement Log	Page 13	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/10/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct samples collected on 8/10/15
A9 – Seam/Non-Destruct. Test Log	Page 14	One Seam Control form provided by ESI and confirmed by Langan for non-destruct tests completed on 8/10/15
A10 – Repair Log	Pages 11-12	One Repair Log provided by ESI and confirmed by Langan for 8/10/15

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 8/10/15
A12 – Destructive Seam Field Test	Page 2	One destruct sample information form provided by ESI and confirmed by Langan for 8/10/15
A13 – Destruct. Sample Summary	Sheet 2	Updated with destruct sample information from 8/10/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues noted on 8/10/15.

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking south / southwest along geomembrane cap at Access Manhole #2 (approx. Sta. 15+70)

Description:

ESI installing geomembrane boot and patching cap around Access Manhole #2 (according to project specs).



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PHOTOGRAPHIC LOG
Photo #2 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI conducting patch / repair work for "custom fit" patches around slopes & contours. Patch work conducted as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #3(08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking west along SA-6 cap (at RP-215)

Description:

ESI conducting vacuum box testing (as outlined in project specs) on patch (RP-222) placed over RP-215 to repair failed extrusion weld.



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PHOTOGRAPHIC LOG
Photo #4 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking north / northeast SA-6 (at RP-223)

Description:

ESI conducting extrusion welding along northern end of SA-6 at RP-223 (where DS-14 collected)



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PHOTOGRAPHIC LOG
Photo #5 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #6 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking east along southern end of SA-6 cap (from approx. Sta. 13+00)

Description:

Prepared soil subgrade for geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking west along SA-6 cap (at RP-215)

Description:

Failed vacuum box test (RP-215), patched and repaired (RP-222) according to project specs.



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PHOTOGRAPHIC LOG
Photo #8 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking west along southern end of SA-6 cap (from approx. Sta. 13+00)

Description:

ESI deploying 16 oz. geotextile along southern boundary of SA-6. Textile overlapping HB wall by 2 ft. with remaining roll width inside SA-6.



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PHOTOGRAPHIC LOG
Photo #9 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking north along SA-6 (from approx. Sta. 13+00)

Description:

ESI deploying GVL along approved soil subgrade.



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PHOTOGRAPHIC LOG
Photo #10 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking south along SA-6 (from approx. Sta. 12+50)

Description:

White plastic fasteners spaced at a maximum of 5 ft. along geonet with top layer of geotextile sewn (according to project specs).



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PHOTOGRAPHIC LOG
Photo #11 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

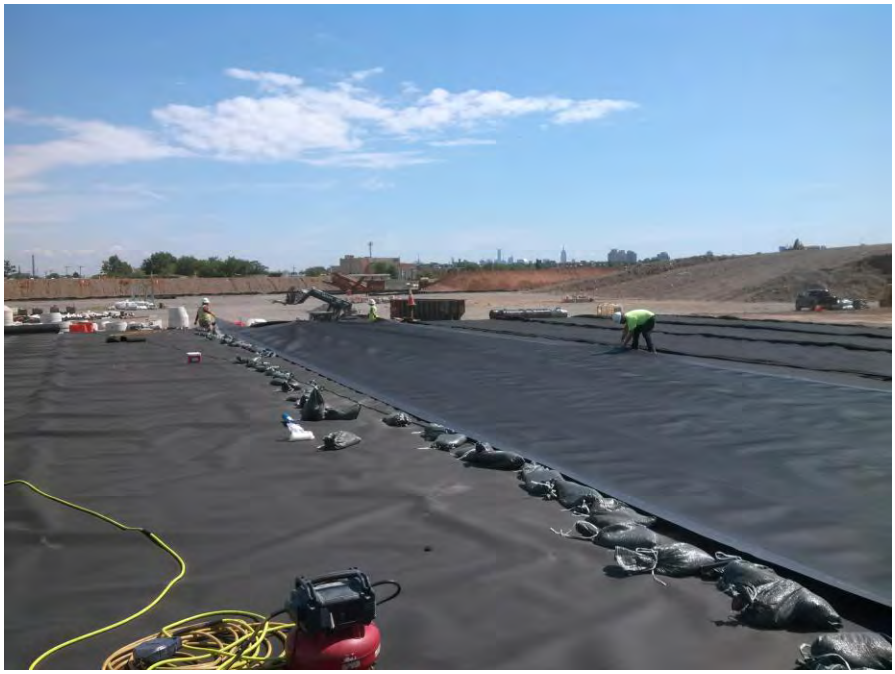
Date:
8/10/15

Direction Taken:

Looking north / northeast along SA-6 (at approximate Sta. 13+00)

Description:

ESi deploying geomembrane over GVL.



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PHOTOGRAPHIC LOG
Photo #12 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking west along geomembrane (at Panels 60/61)

Description:

ESI conducting fusion welding along Panel Seam 60/61.



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PHOTOGRAPHIC LOG
Photo #13 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/10/15

Direction Taken:

Looking north along geomembrane cap (at Panels 62/63)

Description:

Patch / repair placed over destruct sample (DS-17) located at approximate center of SA-6 on Panels 62/63 seam.



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PHOTOGRAPHIC LOG
Photo #14 (08/10/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

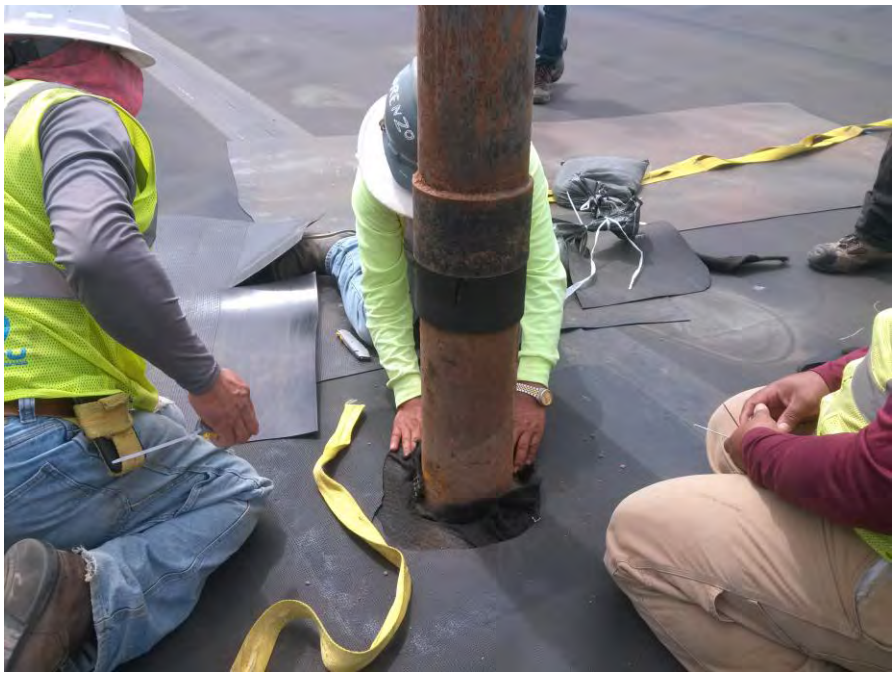
Date:
8/10/15

Direction Taken:

Looking south along geomembrane cap (at well 115-W5-S0)

Description:

ESI placing gasket and sealing GVL for placement of geomembrane boot around well 115-W5-SO.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/12/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	71/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #19**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work along the panels previously installed Panels 61-66 which were placed on 8/10/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (8/12/15).
- A total of four repairs (RP-249 through RP-252) were observed and fixed (according to the project specifications) from Panels #64 through Panel #66 (repair / detailing work conducted on panels installed on 8/10/15). Refer to 8/12/15 *Repair Report* for supporting information. The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed / construction penetration boots for well 115-W5-SO and gas vent #5 (GV-5). Note: These penetration logs will be completed once the final clamps and seal (butyl seal) have been completed according to the project specifications and the final sealant is placed around top of boot.
- While ESI was conducting repair / patch work, Langan and Entact conducted soil subgrade observation from approximate Sta. 12+00 to Sta. 11+00. Based on visual inspection, the soil subgrade appeared to contain areas of soft / wet subgrade due to rainstorms from 8/11/15. Based on these soft areas, soil subgrade was not approved for geomembrane placement. Entact conducted additional preparation work (i.e. drying the soil and re-grading and re-compacting) as required, to conform the subgrade to the project specifications (refer to Photo #7 of the daily photo log for 8/12/15)

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- After completing patch / repair work from the panels installed on 8/10/15, ESI began to place GDL continuing east along the utility corridor. GDL was placed along the eastern slope of the utility corridor (located at approximate Sta. 16+50). Panels were oriented east to west within the utility corridor, and reverted back to the north and south orientation outside of the corridor (refer to the *8/12/15 Photo Log* for supporting photos)
- GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/12/15 Photo Log* for supporting photographs.
- No new geomembrane panels were placed as the soil subgrade for the next 100 ft. section was not approved. No destruct samples were collected, as DS-17 was collected on 8/10/15 during panel placement.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 5 ft. spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues recorded as no new geomembrane panels were placed and the patch / repair work conducted on geomembrane cap was in compliance with the project specifications.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, and 8/10/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 100 ft. run east (approximately from Sta. 12+00 to Sta. 11+00) east of utility corridor.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/12/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 8/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/12/15
A5 – Subgrade Approval		N / A no subgrade approved due to soft / wet conditions observed from storms on 8/11/15
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/12/15.
A7 – Panel Placement Log		N / A no panels placed on 8/12/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/12/15
A9 – Seam/Non-Destruct. Test Log	Page 14-15	Updated with vacuum box test conducted from 8/12/15 on Panels 64/66
A10 – Repair Log	Page 12	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/12/15
A11 – Conformance COC		N / A for 8/12/15
A12 – Destructive Seam Field Test		N / A no destructive samples collected on 8/12/15
A13 – Destruct. Sample Summary		N / A no destructive samples collected on 8/12/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/12/15

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PHOTOGRAPHIC LOG
Photo #1 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking west along SA-6 cap (from approximate Sta. 19+00)

Description:

Entact spreading protective cover soil along western end of SA-6 (over previously installed geomembrane and GDL panels). Caution tape placed on top of GDL at maximum of 55-inch intervals.



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PHOTOGRAPHIC LOG
Photo #2 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap (at well 115-W5-SO)

Description:

ESI constructing geomembrane boot around monitoring well 115-W5-SO



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PHOTOGRAPHIC LOG
Photo #3(08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking east along northern end of SA-6 cap

Description:

ESI conducting extrusion welding (as per project specifications) along geomembrane boot (RP-246)



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PHOTOGRAPHIC LOG
Photo #4 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

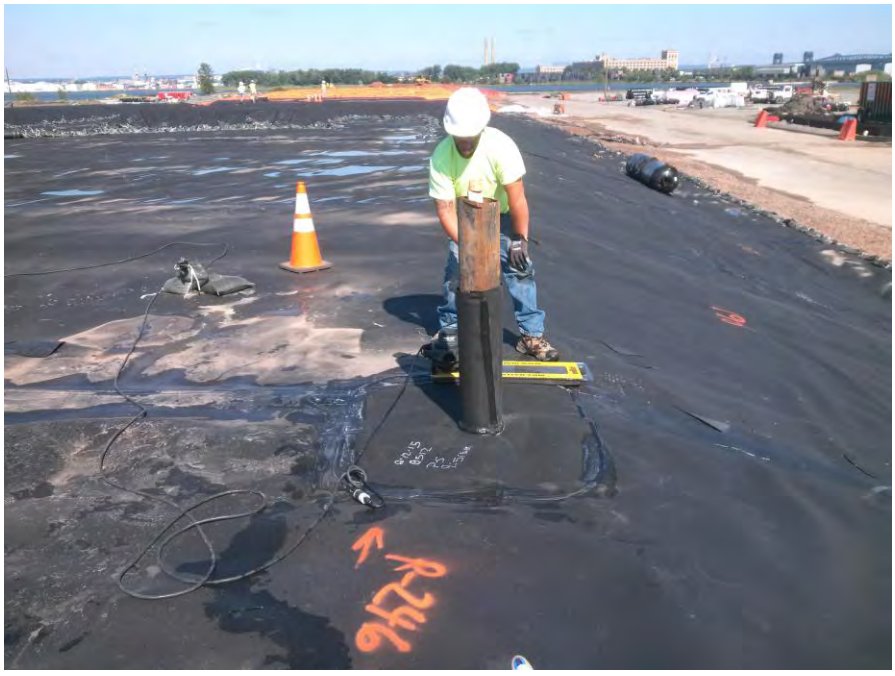
Date:
8/12/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

ESI conducting vacuum box testing along monitoring well boot (extrusion weld) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking north / northwest along SA-6 cap (at approximate Sta. 16+00)

Description:

ESi welding geomembrane boot over gas vent (GV-5) as outlined in project specs (located at approx. Sta. 16+00).



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PHOTOGRAPHIC LOG
Photo #6 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking north along SA-6 cap (at approx. Sta. 16+00)

Description:

ESi conducting vacuum box testing along extrusion welds for geomembrane boot GV-5.



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PHOTOGRAPHIC LOG
Photo #7 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (at approximate Sta. 12+00)

Description:

Entact conducting soil preparation activities for geomembrane placement on 8/13/15. Subgrade exhibitied soft / wet areas in the morning from rain storms on 8/11/15. Soil allowed to dry and re-graded and re-compacted (as required).



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PHOTOGRAPHIC LOG
Photo #8 (08/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

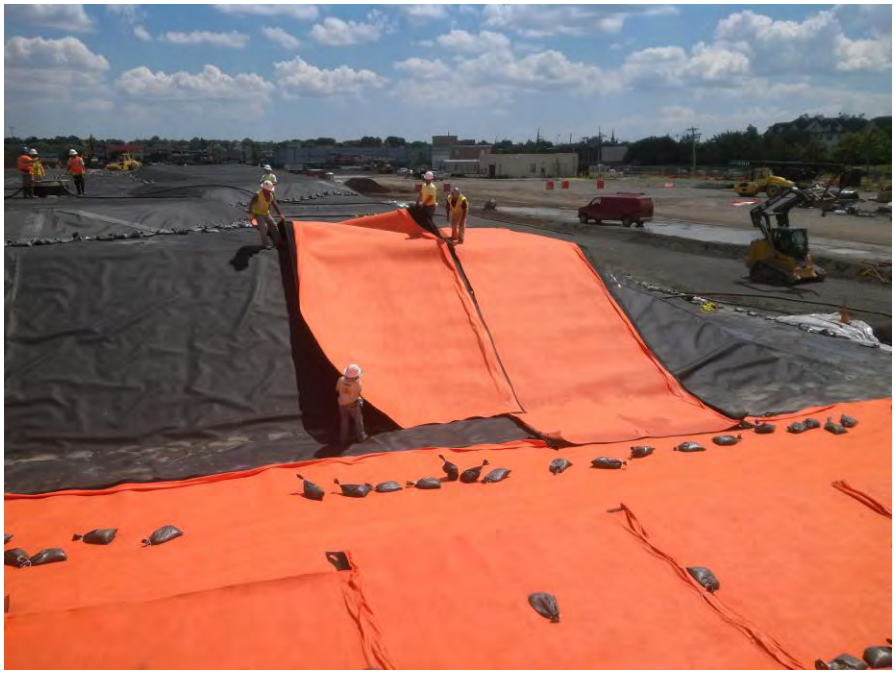
Date:
8/12/15

Direction Taken:

Looking east along southern end of SA-6 through 1st utility corridor (approximate Sta. 16+50)

Description:

ESI deploying GDL along eastern end of 1st utility corridor (at approx. Sta. 16+50)



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PHOTOGRAPHIC LOG
Photo #9 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking east along SA-6 (through 1st utility corridor)

Description:

ESI deploying GDL along eastern slope of utility corridor (approximate Sta. 16+50) working from the south end to the north end of the corridor.



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PHOTOGRAPHIC LOG
Photo #10 (08/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/12/15

Direction Taken:

Looking west along SA-6 cap (at approximate Sta. 16+00)

Description:

ESI placing clamps over geomembrane boot for SV-5 (sacrificial sheet placed prior to clamping as outlined in project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/13/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	70/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #20**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-65) installed on 8/10/15 (located at approximate Sta. 12+00) running approximately 100 ft. east to Sta. 11+00.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 12+00 to Sta. 11+00. Refer to *Soil Subgrade Approval* forms from 8/13/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 8/13/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 12+00 to Sta. 11+00. Note: The soft / wet areas identified on 8/12/15 were allowed to dry and were repaired for geomembrane placement.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 12+00 (east of P-65) moving east (for approximately 100 ft.). GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #65 (located at approximate Sta. 12+00) on 8/10/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were

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installed (P-67, P-68, P-69, P-70, and P-71) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/13), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 11+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/13/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, no patch / repair work was conducted, and any associated repairs will be completed on 8/14/15.
- After completing non-destructive testing along the panels installed today (8/13/15), ESI began to place GDL continuing east from the 1st utility corridor (located at approx. Sta. 16+50). Panels were oriented from north to south (as outlined in the proposed GDL layout). GDL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/13/15 Photo Log* for supporting photographs.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-18, DS-19) were collected from Panel Seams 64/65 and 68/69, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, and DS-19 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, and 8/12/15 as well as reviewed and approved daily ESI form submittals.

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- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for the next approximate 80 ft. run east (approximately from Sta. 11+00 to Sta. 10+20) to Access Manhole #3 (ESI demobilization point).
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/13/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/13/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/13/15
A5 – Subgrade Approval	Sheet 13 & ESI (8/13/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/13/15.
A7 – Panel Placement Log	Page 14	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/13/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/13/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71
A10 – Repair Log		N / A no repairs completed on 8/13/15
A11 – Conformance COC		N / A for 8/13/15

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/13/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/13/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/13/15

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PHOTOGRAPHIC LOG
Photo #1 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking south / southwest along SA-6 (from approximate Sta. 11+50)

Description:

Prepared soil subgrade for next approximate 100 ft. of geomembrane (from approximate Sta. 12+00 to Sta. 11+00). Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking south / southeast along SA-6 (at approximate Sta. 11+50)

Description:

Soil subgrade prepped for geomembrane placement. Soil graded, compacted, and free of loose debris (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 12+00)

Description:

ESI placing GVL along approved soil subgrade. White plastic fasteners spaced at maximum of 5 ft. intervals and top geotextile sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

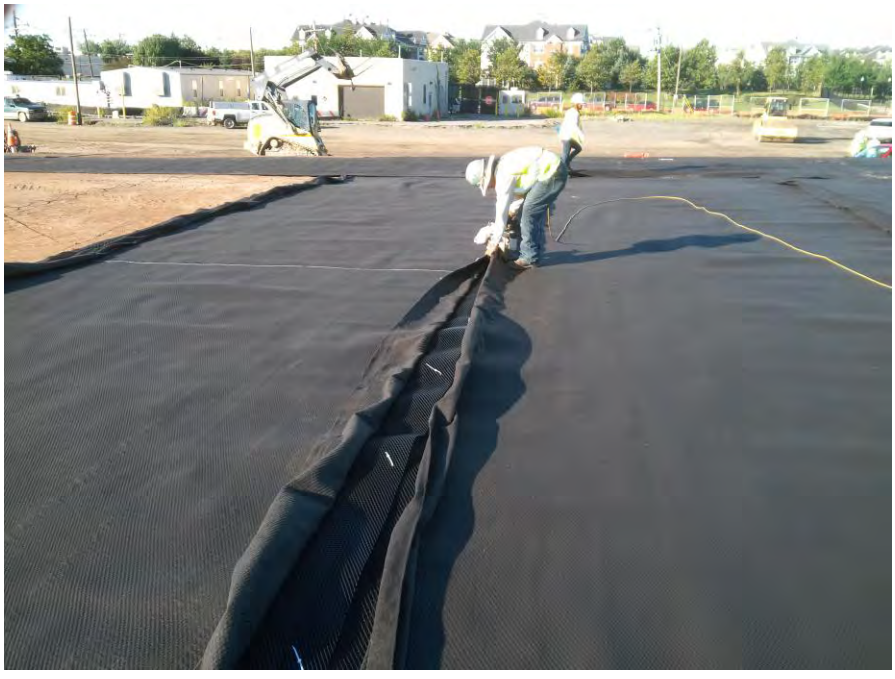
Date:
8/13/15

Direction Taken:

Looking south along SA-6 cap (approximate Sta. 12+00)

Description:

ESI sewing top layer of geotextile along GVL (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 12+00)

Description:

ESi placing geomembrane cap over GVL (at approx. Sta. 12+00)



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PHOTOGRAPHIC LOG
Photo #6 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking northwest along SA-6 cap (Panels 65/67)

Description:

ESi conducting fusion welding along Panel 65/67 seam.



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PHOTOGRAPHIC LOG
Photo #7 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking west along geomembrane cap at DS-19 (RP-254)

Description:

Geomembrane patch leistered over DS-19 (RP-254). Patch to be completed on 8/14/15 with extrusion weld and vacuum box testing (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (08/13/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/13/15

Direction Taken:

Looking northwest along SA-6 cap

Description:

ESI deploying GDL along western end of cap (located at approximate Sta. 15+00).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	8/14/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	78/95° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0600 – 1430

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #21**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad, Brian Shea, Philemon Onyango
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing from western end of SA-6 South. Material to be placed from Panel #65 (P-71) installed on 8/13/15 (located at approximate Sta. 11+00) running approximately 80 ft. east to Sta. 10+20 (western slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 11+00 to Sta. 10+20. Refer to *Soil Subgrade Approval* forms from 8/14/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 11+00 to Sta. 10+20.
- Geocomposite clay liner (GCL), GVL and Cap placement began with ESI placing the GCL along the southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- In addition to the GCL (placed along the southern slope below the groundwater table), 16 oz. geotextile was placed along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 11+00 (east of P-71) moving east (for approximately 80 ft.) to Sta. 10+20. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *8/14/15 Photo Log* for supporting photographs.

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- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #71 (located at approximate Sta. 11+00) on 8/13/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-72, P-73, P-74, and P-75) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (8/14), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 10+20, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (8/14/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. ESI conducted patch / repair work for the panels installed on 8/13/15 (Panels 66-71) and 8/14/15 (Panels 72-75). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 8/14/15 for results (extrusion testing identified as EXT. on form).
- A total of ten repairs (RP-253 through RP-262) were observed and fixed (according to the project specifications) from Panel #71 through Panel #75 (repair / detailing work conducted on panels installed on 8/13/15 & 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Upon completion of patch / repair activities, ESI began to pack and load equipment for their 2-week demob from the Site.
- A total of two destructive samples were collected (two fusion welds). Fusion weld destruct samples (DS-20, DS-21) were collected from Panel Seams 70/71 and 74/75, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact placed protective cover soil over the previously installed geomembrane and GDL panels at the western end of SA-6. Protective cover soil was placed in 1 ft. lifts with caution tape placed at a maximum of 55-inch spacing, placed over the GDL prior to soil placement.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 8/13/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70).

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- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DS-17, DS-18, DS-19, DS-20, and DS-21 (once received)

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, and 8/13/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-16, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South after 2-week demobilization is complete.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 8/14/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 8/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 8/14/15
A5 – Subgrade Approval	Sheet 14 & ESI (8/14/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 3	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 8/14/15.
A7 – Panel Placement Log	Page 15	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 8/14/15

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By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 8/14/15
A9 – Seam/Non-Destruct. Test Log	Page 15-16	Updated with vacuum box test conducted from 8/13/15 on Panels 67 through 71 and 8/14/15 on Panels 71 through 75
A10 – Repair Log	Page 13	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 8/14/15
A11 – Conformance COC		N / A for 8/14/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 8/14/15
A13 – Destruct. Sample Summary	Page 1	Updated with 8/14/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 8/14/15

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PHOTOGRAPHIC LOG
Photo #1 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking west along southern end of SA-6 (from approximate Sta. 11+00)

Description:

ESI placing GCL along southern slope of SA-6 (soil below to 1 ft. above the water table). Stakes / staples placed on top of slope (top 6-inches of GCL to hold GCL in-place).



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PHOTOGRAPHIC LOG
Photo #2 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Installed GCL panels along southern slope with anchor supports (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking north along SA-6 (from approximate Sta. 10+50)

Description:

GVL placed be ESI according to project specifications.



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PHOTOGRAPHIC LOG
Photo #4 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

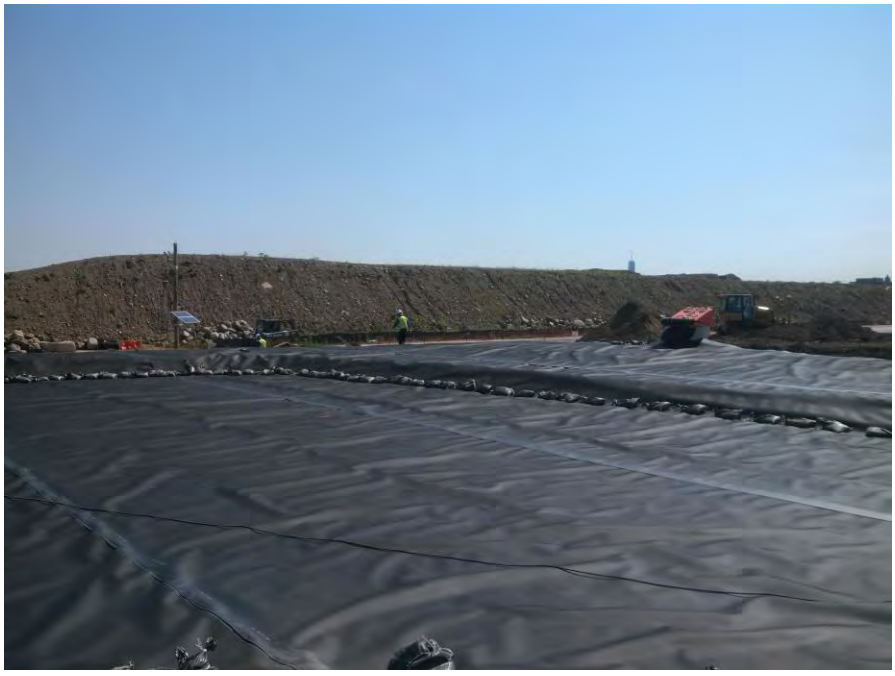
Date:
8/14/15

Direction Taken:

Looking north along SA-6 cap (from approximate Sta. 10+80

Description:

Geomembrane panels placed over GDL and fusion welded (as per project specs).



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PHOTOGRAPHIC LOG
Photo #5 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap

Description:

ESi conducting fusion welding for Panels 71/72 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #6 (08/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
8/14/15

Direction Taken:

Looking along SA-6 cap (at Panel 74/75 seam)

Description:

ESi collecting destruct sample (DS-21) at Panel 74/75 seam (fusion weld).



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PHOTOGRAPHIC LOG
Photo #7 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking south along southern end of SA-6 cap (along lower bench)

Description:

Geomembrane panels 74 and 75 installed and labeled along southern end of cap.



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PHOTOGRAPHIC LOG
Photo #8 (08/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
8/14/15

Direction Taken:

Looking along SA-6 camp (Panel 74/75) seam at DS-21

Description:

Destruct sample (DS-21) patched and extrusion welded as per project specs. Noted as Repair RP-261 on Repair Log.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/9/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	75/86° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #22** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad, Brian Shea **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap) continuing from western end of SA-6 South. Material to be placed from Panel #75 (P-75) installed on 8/14/15 (located at approximate Sta. 10+20 – western slope of utility corridor) running approximately 70 ft. east through 2nd utility corridor to approximate Sta. 9+50 (eastern slope of 2nd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 10+20 to Sta. 9+50. Refer to *Soil Subgrade Approval* forms from 9/9/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 10+20 to Sta. 9+50.
- While subgrade approval was being conducted, ESI completed patch / repair work for cap wrinkles that were observed from panel placement on 8/14/15. A total of thirty repairs (RP-263 through RP-292) were observed and fixed (according to the project specifications) from Panel #71 and Panel #73 (repair / detailing work conducted on panels installed on 8/14/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), where wrinkles were observed. These areas were subsequently patched and sealed with extrusion welds. No vacuum box testing was conducted on these repairs, and will be completed tomorrow (9/10).
- No non-conformance issues were recorded as patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

- GCL and Cap placement began with ESI placing the GCL along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #75 (located at approximate Sta. 10+20) on 8/14/15 and through the 2nd utility corridor. Panels were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GCL layer. A total of eleven panel lengths (panel lengths identified as the approximate 80 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-76, P-77, P-78, P-79, P-80, P-81, P-82, P-83, P-84, P-85, and P-86) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/9), *Trial Weld Log.*
- No non-destructive testing or patch / repair work was conducted upon completion of geomembrane panel placement to approximate Sta. 9+50, as panel placement and fusion welded activities concluded the work day.
- One destructive sample was collected – DSX-8 (extrusion weld). Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- Additionally, Entact completed Site preparation activities for expectation of rainstorms tomorrow (9/10).

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 3 gas vents).
- Review laboratory results for DSX-8 (once received).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/9/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/9/15
A5 – Subgrade Approval	Sheet 15 & ESI (9/9/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/9/15.
A7 – Panel Placement Log	Pages 16-17	One panel placement log provided by ESI and confirmed by Langan for geomembrane placed on 9/9/15
A8 – Destruct Seam Testing COC	Page 1	Updated with destruct sample information collected from 9/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no vacuum box testing conducted on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log	Pages 13-14	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 9/9/15
A12 – Destructive Seam Field Test	Page 3	One destructive sample information form provided by ESI and confirmed by Langan for destruct samples collected on 9/9/15
A13 – Destruct. Sample Summary	Page 3	Updated with 9/9/15 destruct sample information
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/9/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

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PHOTOGRAPHIC LOG
Photo #1 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north / northwest along edge of GDL placed up to Panel #56 (approximate Sta. 14+20)

Description:

Protective cover soil placed from west end of SA-6 to approximate Sta. 14+20. Yellow caution tape spaced at maximum 55-inch intervals as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking southwest along 2nd utility corridor (located at approximate Sta. 10+00).

Description:

Prepared soil subgrade through 2nd utility corridor (approximate Sta. 10+00). Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north / northeast along 2nd utility corridor (approximate Sta. 10+00)

Description:

Prepared soil subgrade through 2nd utility corridor. Soil graded, compacted, and free of debris as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along SA-6

Description:

ESI conducting patch / repair work along Panels 73/74. Wrinkles cut and geomembrane patched and repaired with extrusion weld as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approx. Sta. 10+00)

Description:

ESi deploying GCL along 2nd utility corridor. GCL placed north to south (along bottom of corridor) and east to west (along slopes of corridor).



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PHOTOGRAPHIC LOG
Photo #6 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along 2nd utility corridor

Description:

ESi placing granular bentonite along GCL seams (overlapped a minimum of 1 ft.) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along southern end of SA-6 cap through 2nd utility corridor

Description:

GCL panels (oriented east to west) placed along eastern slope and southern end of utility corridor. Overlapped a minimum of 1 ft. (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along northern end of SA-6 cap

Description:

ESI completing GCL placement along eastern slope of 2nd utility corridor (approximate Sta. 10+00)



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PHOTOGRAPHIC LOG
Photo #9 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approximate Sta. 10+00)

Description:

GCL deployed along 2nd utility corridor, as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #10 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

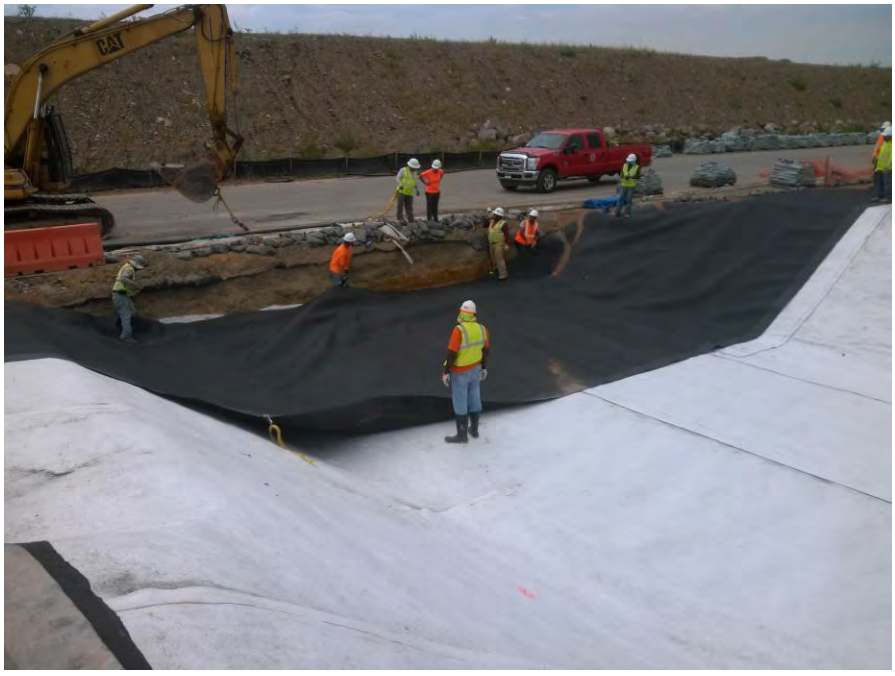
Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor

Description:

ESI placing geomembrane cap over GCL. Panels oriented from east to west through utility corridor as outlined in the approved panel layout.



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PHOTOGRAPHIC LOG
Photo #11 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along southern end of SA-6 (through 2nd utility corridor)

Description:

ESi placing geomembrane cap over GCL along southern end of corridor.



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PHOTOGRAPHIC LOG
Photo #12 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

ESI conducting fusion welding along Panel Seams 81/84



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PHOTOGRAPHIC LOG
Photo #13 (09/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/9/15

Direction Taken:

Looking north along 2nd utility corridor (approximate Sta. 10+00)

Description:

Geomembrane cap placed through 2nd utility corridor and seams fusion welded according to project specs.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/11/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/77° F, Clear AM, Clouds & Rain PM
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #23** **AmecFW**: Dave Ambrose **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #56 (located at approximate Sta. 14+20 – location where GDL had previously been placed to along with protective cover soil) running approximately 220 ft. east to Panel #68 (approximate Sta. 12+00)..
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing for the repairs completed on 9/11/15 (as outlined in projecte specs). One vacuum box testing was complete, ESI began placing GDL from approximate Sta. 14+20 (Panel #56) to approximate Sta. 12+00 (Panel #68). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were cut with the first wrap of geocomposite removed prior to use
    - Roll 64021010124 – 10 ft. removed
    - Roll 64021010133 – 8 ft. removed
    - Roll 64021010126 – 10 ft. removed
    - Roll 64021010116- 5 ft. removed
    - Roll 64021010112 – 10 ft. removed
        - Note: this roll was not identified during the GDL inspection, however based on damage to the protective plastic liner observed in the field, the outside layer of GDL was removed.
    - Roll 64021010119 – 10 ft. removed
- Due to the inclement weather from 9/10/15 and potential storms over the weekend, the protective plastic covering the soil subgrade to the east was not removed. As such, no soil subgrade approval was conducted and no additional geomembrane panels were placed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- One non-conformance issues was observed during placement of GDL. A rock was encountered underneath geomembrane panel #57. This non-conformance issue was recorded as RP-293 and will be patched and repaired on Monday (9/14).
- Upon completion of GDL placement to the approved panel location, a visual observation of the top of the western slope of the 2nd utility corridor was conducted by Langan and Entact. The geomembrane panels were pulled back to expose the GCL. Visual observation confirmed that the GCL was dry and no water had drained underneath the panels. The top of the slope was then sealed with a fusion weld "T-seams" along Panel #75 (oriented north to south) and Panel #76 through Panel #81 (oriented east to west).
- Geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/11), *Trial Weld Log.* Note: non-destructive testing was completed on the welded seams (to be completed Monday – 9/14/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 6 (Sheet #6) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #57). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 6 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/11/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 4 gas vents).
- Review laboratory results for DSX-8 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, and 8/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-7. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

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By: Dan Bosworth

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Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/11/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/11/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/11/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/11/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/11/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/11/15
A10 – Repair Log	Pages 13-14	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/9/15
A11 – Conformance COC		N / A for 9/11/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/11/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/11/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet #6	One non-compliance issue identified on 9/11/15 and recorded on Sheet #6

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/11/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/11/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI conducting vacuum box testing for extrusion welds for cap repairs (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #2 (09/11/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/11/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 14+00)

Description:

ESI deploying GDL along SA-6 cap. GDL secured with white plastic fasteners (spaced at 5 ft. maximum intervals) and sewn along the top layer of geotextile (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #3 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 13+80).

Description:

ESI securing GDL with white plastic fasteners spaced at maximum of 5 ft. intervals.



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PHOTOGRAPHIC LOG
Photo #4 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking west along SA-6

Description:

GDL placed to approximate Sta. 12+00



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PHOTOGRAPHIC LOG
Photo #5 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking south along SA-6 cap

Description:

ESI placed patch over subgrade irregularity (RP-293). Details of patch are outlined in non-conformance Sheet #6.



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PHOTOGRAPHIC LOG
Photo #6 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

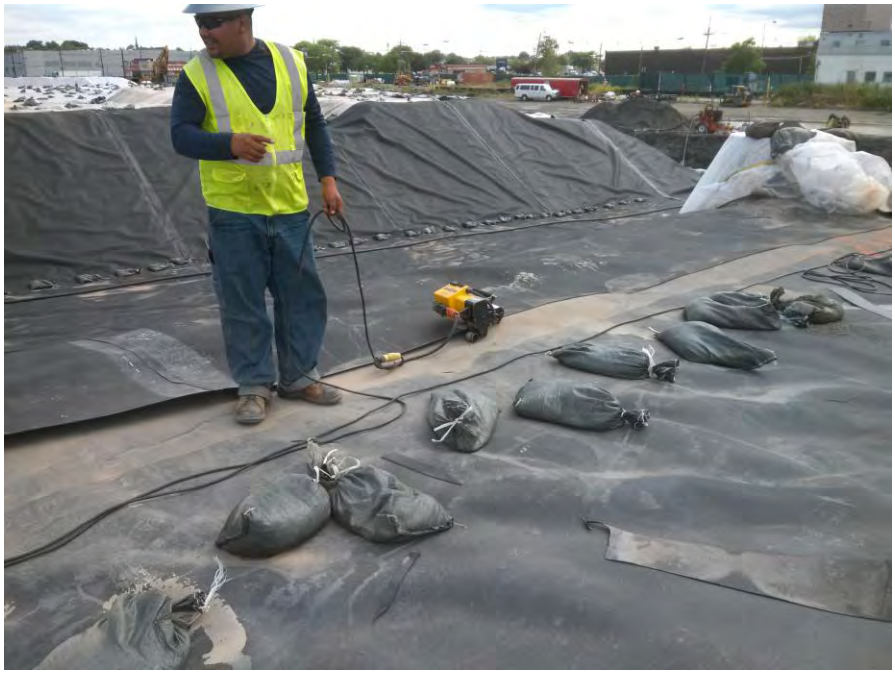
Date:
9/11/15

Direction Taken:

Looking east along SA-6 cap (top western slope of 2nd utility corridor).

Description:

ESi conducting fusion welding between Panels 75 / 80 (top western slope of 2nd utility corridor) as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking north along SA-6 cap (at GV-

Description:

ESI constructing geomembrane boot around gas vent: GV-4 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #8 (09/11/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/11/15

Direction Taken:

Looking east along SA-6 (at approximate Sta.

Description:

ESI completing geomembrane boot around GV-4.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/14/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/74° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #24**
AmecFW: Stu Bills, Geoff Shallard, Dave Ambrose
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing from western end of SA-6 South. Material to be placed from geomembrane Panel #68 (located at approximate Sta. 12+00 – location where GDL had previously been placed to - based on approved as-built drawings) running approximately 170 ft. east to Panel #74 located at top of western slope of 2nd utility corridor (approximate Sta. 10+30).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 12+00 (Panel #68) to approximate Sta. 10+30 (Panel #75). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- While GDL was being placed, ESI conducted non-destructive testing (air pressure testing) of the geomembrane panel seams installed on 9/9/15 in accordance with the project specifications. Refer to *Seam Control Form* (9/14/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI completed patch / repair along the panels previously installed, Panels 76-86 which were placed on 9/9/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/14/15).
- A total of twenty-three repairs (RP-293 through RP-315) were observed and fixed (according to the project specifications) from Panels #76 through Panel #86 (repair / detailing work conducted on panels installed on 9/11/15). Refer to 9/14/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.

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- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-3, and completed placing the geomembrane patch around Access Manhole #3. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- One destructive sample (DS-22) was collected (fusion) from Panel Seams 79/80. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/14/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-22 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, and 9/11/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-21, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/14/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/14/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/14/15
A5 – Subgrade Approval		N / A no subgrade approval completed
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/11/15.
A7 – Panel Placement Log		N / A no panels placed on 9/14/15
A8 – Destruct Seam Testing COC		Updated with destruct sample information collected on 9/14/15
A9 – Seam/Non-Destruct. Test Log	Pages 16-18	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/14/15
A10 – Repair Log	Pages 14-16	One repair report provided by ESI and confirmed by Langan for geomembrane repairs conducted on 9/14/15
A11 – Conformance COC		N / A for 9/14/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/14/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/14/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/14/15

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PHOTOGRAPHIC LOG
Photo #1 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

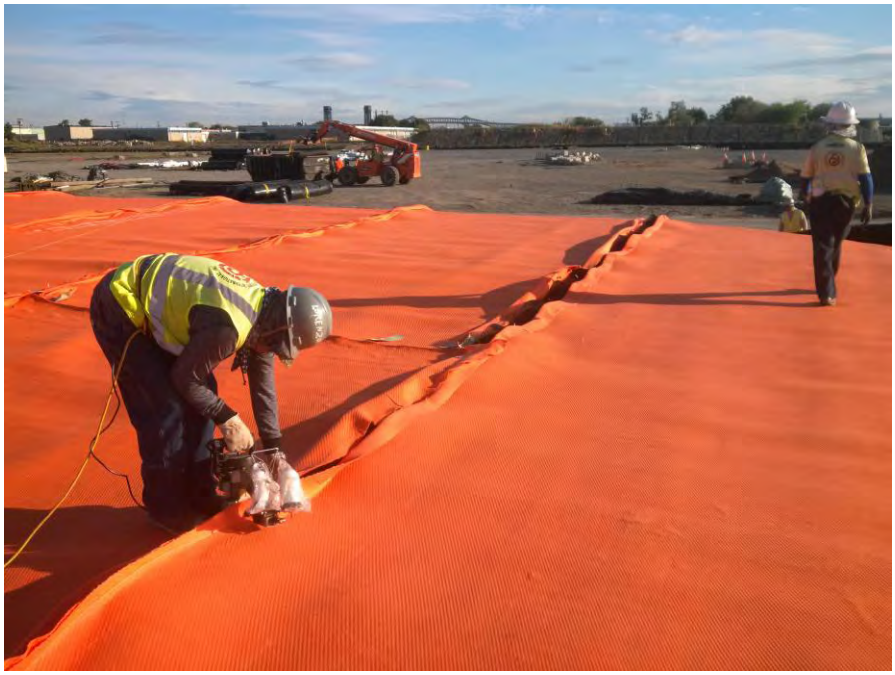
Date:
9/14/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 11+80)

Description:

ESI sewing seams of GDL as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

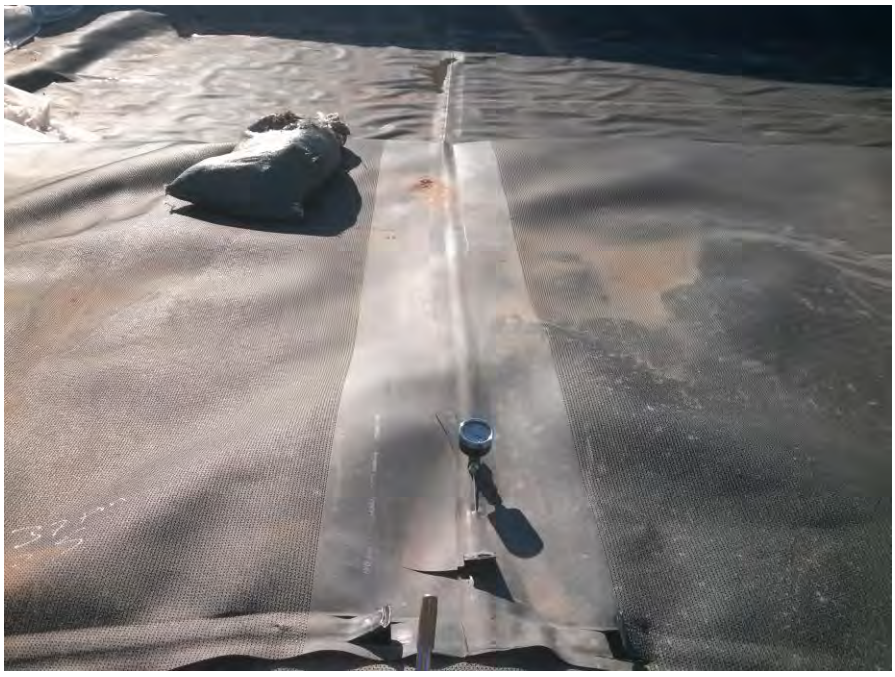
Date:
9/14/15

Direction Taken:

Looking east along SA-6 cap (through 2nd utility corridor)

Description:

ESI conducting non-destructive testing as outlined in project specs. Pressure testing conducted between Panel Seams 76 / 77.



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PHOTOGRAPHIC LOG
Photo #3 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 11+20).

Description:

ESI securing GDL with white plastic fasteners spaced at maximum of 5 ft. intervals.



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PHOTOGRAPHIC LOG
Photo #4 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap (approximate Sta. 10+40).

Description:

ESI constructing geomembrane boot around gas vent GV-3.



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PHOTOGRAPHIC LOG
Photo #5 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap (western slope of 2nd utility corridor).

Description:

ESI completed patch / repair over seam joint for non-destruct testing. Patch overlapped, sealed, and extrusion welded as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #6 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

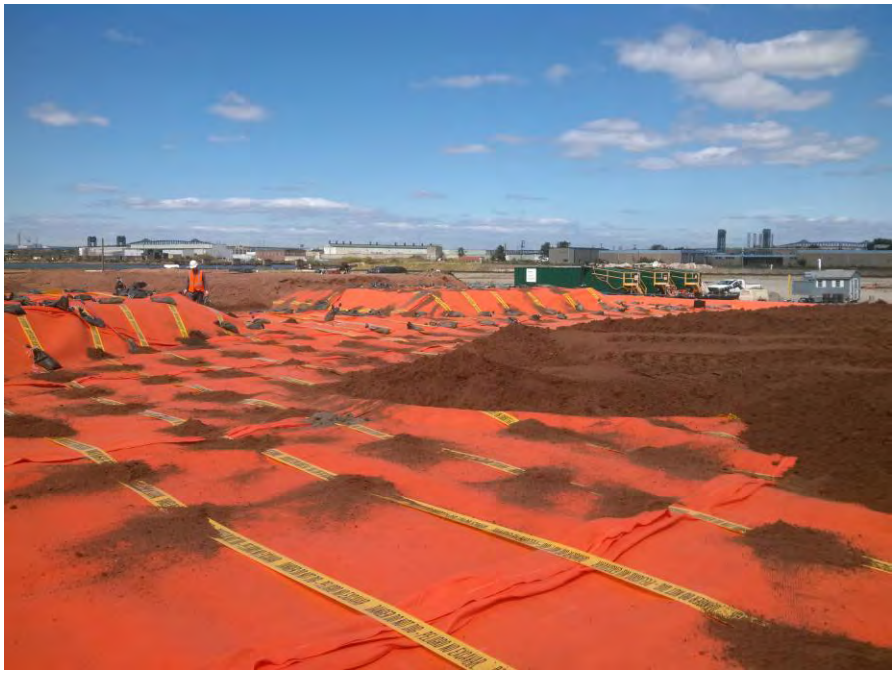
Date:
9/14/15

Direction Taken:

Looking west along SA-6 cap

Description:

Entact spreading protective cover soil over placed GDL. Warning caution tape spaced at maximum 55-inch intervals, as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Seam joint patches placed over non-destruct test seams and patched and repaired according to project specs.



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PHOTOGRAPHIC LOG
Photo #8 (09/14/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/14/15

Direction Taken:

Looking southeast along SA-6 cap (at approximate Sta. 10+20).

Description:

ESI installing geomembrane boot around Access Manhole #3 located along western slope of 2nd utility corridor.



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PHOTOGRAPHIC LOG
Photo #9 (09/14/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/14/15

Direction Taken:

Looking along SA-6 cap

Description:

Completed geomembrane boot with extrusion welds and vacuum box testing completed.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/15/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #25**
AmecFW: Geoff Shallard, Dave Ambrose, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panels #76, 77, 78, 79, 80, 81, and 86 (panels running east to west through utility corridor) installed on 9/9/15 (located at approximate Sta. 9+50) running approximately 100 ft. east to Sta. 8+50. Panels installed today (9/15) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 9+50 (eastern end of 2nd utility corridor) to Sta. 8+50. Refer to *Soil Subgrade Approval* forms from 9/15/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/15/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 9+50 to Sta. 8+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 9+50 (east of 2nd utility corridor) moving east (for approximately 100 ft.) to approximate Sta. 8+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/15/15 Photo Log* for supporting photographs.
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #76-81, and #86 (running east-west through 2nd utility corridor) on 9/9/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL

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layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-87, P-88, P-89, and P-90) by ESI.

- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/15), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 8+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/15/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/16/15.
- One destructive sample (DS-23) was collected (fusion) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- ESI pulled back the installed geomembrane panels along the northern and southern ends of the 2nd utility corridor to expose the underlying GCL. The GCL appeared to be hydrated (approximate 10 ft. wide section along southern end of corridor and approximate 4 ft. wide section along northern end of corridor) from rainwater infiltration that washed back underneath the cap due to the soil subgrade outside of the cap which was not yet completed to grade. These sections of GCL were cut and removed and the area was left open to dry overnight. New GCL pieces will be placed (according to the project specs) on 9/16/15.
- With cap activities complete, ESI filled sandbags for the remainder of the work day.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-23 (once received).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, and 9/14/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-22, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/15/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 9/15/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/15/15
A5 – Subgrade Approval	Sheet 16 & ESI (9/15/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 4	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/15/15.
A7 – Panel Placement Log	Page 18	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/15/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/15/15
A9 – Seam/Non-Destruct. Test Log	Pages 19-20	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/15/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A no repairs completed for 9/15/15
A11 – Conformance COC		N / A for 9/15/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/15/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/15/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/15/15

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PHOTOGRAPHIC LOG
Photo #1 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 9+50)

Description:

Soil subgrade approved for GVL and geomembrane placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking east along northern end of SA-6 cap (from approximate Sta. 9+50)

Description:

Soil subgrade prepared for GVL and geomembrane placement as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking east along southern end of SA-6 cap (from approximate Sta. 9+50 to Sta. 8+50)

Description:

ESI placing GCL along lower bench of southern slope of SA-6 cap (areas below to 1 ft. above the water table) as outlined in the project specs. GCL overlapped a minimum of 1 ft. and sealed with bentonite along the seams.



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PHOTOGRAPHIC LOG
Photo #4 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking north along southern slope of SA-6

Description:

Stakes / staples placed along top 6-inches of GCL to secure material.



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PHOTOGRAPHIC LOG
Photo #5 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking north along SA-6 cap (eastern top of 2nd utility corridor)

Description:

ESI deploying GVL as per project specifications.



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PHOTOGRAPHIC LOG
Photo #6 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking north along SA-6 cap

Description:

GVL placed from approximate Sta. 9+50 to approximate Sta. 8+50.



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PHOTOGRAPHIC LOG
Photo #7 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/15/15

Direction Taken:

Looking southwest along SA-6 cap (at approximate Sta. 9+20).

Description:

ESI conducting fusion welding along geomembrane seams (P-87 & P-88) as per project specifications



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PHOTOGRAPHIC LOG
Photo #8 (09/15/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/15/15

Direction Taken:

Looking east along southern slope of SA-6

Description:

Geomembrane panels pulled back to remove approximate 10' wide piece of GCL along southern end of 2nd utility corridor. GCL removed was wet / hydrated from rainwater during storms. GCL cut and removed – to be replaced and sealed on 9/16/15.



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PHOTOGRAPHIC LOG
Photo #9 (09/15/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/15/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 8+50).

Description:

GVL and geomembrane panels placed to approximate Sta. 8+50. Panels welded with non-destructive testing conducted (as outlined in project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/16/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	63/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #26** **AmecFW**: Geoff Shallard, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), and continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #90 (P-90) installed on 9/15/15 and located at approximate Sta. 8+50 running approximately 80 ft. east to Sta. 7+70.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting vacuum box testing on the repairs completed from 9/14/15 (through 2nd utility corridor). ESI also conducted patch / repair work for the panels installed on 9/15/15 (Panels 87-90). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/16/15 for results (extrusion testing identified as EXT. on form).
- A total of forty-four repairs (RP-316 through RP-349) were observed and fixed (according to the project specifications) from Panel #87 through Panel #90 (repair / detailing work conducted on panels installed on 9/15/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications.
- Along with the repair work, ESI also placed the new pieces of GCL (refer to Photo Log) for the northern and southern areas along the 2nd utility corridor where the GCL was hydrated. One area along the southern section required the liner to be cut to pull back and expose the GCL. As such, this repair (RP-331) was identified as a non-conformance issue (subgrade irregularity) and is further defined below.
- While patch / repair work was being completed, Langan and Entact conducting soil subgrade approval from approximate Sta. 8+50 (moving east from P-90) to Sta. 7+70. Refer to *Soil Subgrade Approval* forms from 9/16/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photo #6 of the daily photo log for 9/16/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 8+50 to Sta. 7+70.

- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 8+50 (moving east of P-90) moving east (for approximately 80 ft.) to approximate Sta. 7+70. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/16/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, the following rolls of GVL were cut with the first wrap of geocomposite removed prior to use
    - Roll 65211010130 – 8 ft. removed
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #90 on 9/15/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-91, P-92, P-93, and P-94) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/16), *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 7+70, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/16/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/17/15.
- One destructive sample (DSX-9) was collected (extrusion weld) from Panel Seams 88/89. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 7 (Sheet #7) – Subgrade irregularity identified as RP-293 on *Repair Log*
    - GCL underneath geomembrane liner along southern end of utility corridor hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. This patch was noted as a subgrade irregularity and was patched/repaired following project specs and is further defined on *Sheet 7 Notice of Non-Compliance*

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/16/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DSX-9 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, and 9/15/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-8. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 2nd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/16/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/16/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/16/15
A5 – Subgrade Approval	Sheet 17 & ESI (9/16/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A6 – Trial Weld Log	Pages 4-5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/16/15.
A7 – Panel Placement Log	Page 19	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/16/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/16/15
A9 – Seam/Non-Destruct. Test Log	Pages 20-21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/16/15
A10 – Repair Log	Pages 15-17	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15
A11 – Conformance COC		N / A for 9/16/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/16/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/16/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 7	One non-compliance issues identified and further defined on Sheet 7 for 9/16/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking south along western slope of 2nd utility corridor

Description:

ESI conducting vacuum box testing (as per project specs) for geomembrane boot around Access Manhole #3 (RP-262).



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PHOTOGRAPHIC LOG
Photo #2 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking west along southern end of SA-6 cap (southern section of 2nd utility corridor)

Description:

ESI placing new panels of GCL for hydrated areas that were previously removed on 9/15/15. New pieces overlapped a minimum of 1 ft. and sealed with granular bentonite along the seams.



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PHOTOGRAPHIC LOG
Photo #3 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking along southern end of SA-6 cap (along GCL)

Description:

ESI spreading granular bentonite along GCL seams (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking south along SA-6 cap (top southwest corner of 2nd utility corridor)

Description:

Vacuum box testing being conducted on RP-299 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking east along northern end of SA-6 cap (northern end of 2nd utility corridor)

Description:

New panel of GCL placed along SCB wall (northeast corner of 2nd utility corridor). GCL removed as area was hydrated from previous storms.



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PHOTOGRAPHIC LOG
Photo #6 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking west along southern end of SA-6 cap (southern end of 2nd utility corridor)

Description:

Geomembrane panels patched and repaired after exposing and replacing pieces of GCL



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PHOTOGRAPHIC LOG
Photo #7 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/16/15

Direction Taken:

Looking north / northeast along SA-6 Cap (from approximate Sta. 8+50).

Description:

ESI deploying GVL. Approved soil subgrade to the east. Soil compacted, graded, and free of debris (>1/2") as outlined in the project specs.



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PHOTOGRAPHIC LOG
Photo #8 (09/16/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

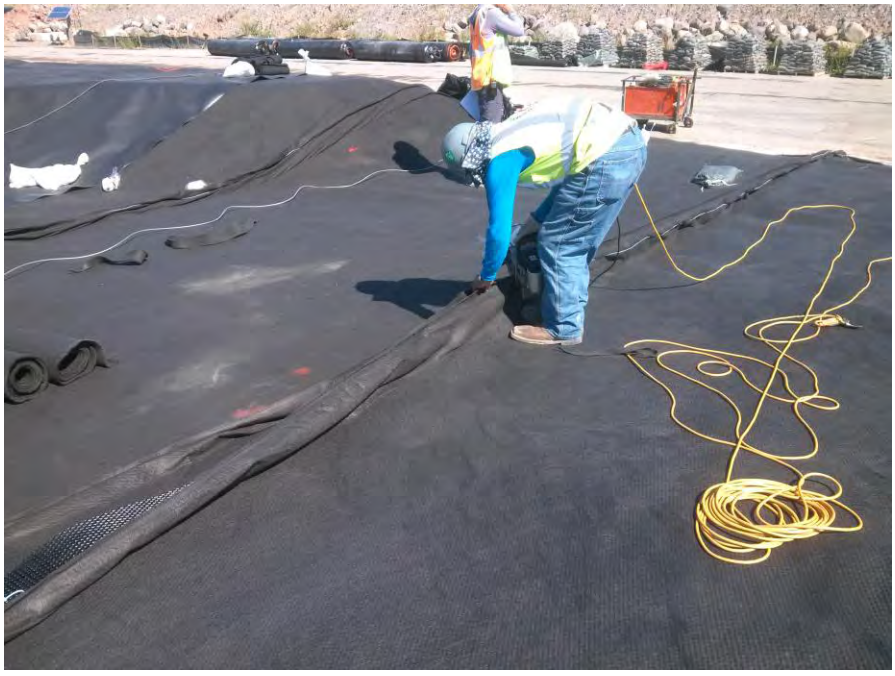
Date:
9/16/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 8+50).

Description:

ESi conducting sewing along the top layer of GVL as outlined in the project specs. White plastic fasteners spaced at a maximum of 5 ft. along the geonet also placed prior to sewing.



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PHOTOGRAPHIC LOG
Photo #9 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 8+10).

Description:

White plastic fasteners spaced at a maximum of 5 ft. along GVL



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PHOTOGRAPHIC LOG
Photo #10 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/16/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 8+20)

Description:

ESI deploying geomembrane panels over placed GVL (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #11 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date: 9/16/15

Direction Taken:

Looking along SA-6 cap (Panels 90/91)

Description:

ESI conducting fusion welding along Panel Seams 90 / 91 (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #12 (09/16/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date: 9/16/15

Direction Taken:

Looking along southern end of SA-6 cap

Description:

ESI conducting non-destructive testing (pressure testing) along Panel Seam 90 / 91 as outlined in project specs.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/17/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	65/85° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #27**
AmecFW: Stu, Bills, Geoff Shallard, Dave Ambrose, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing from eastern end of 2nd utility corridor. Material to be placed from Panel #94 (P-94) installed on 9/16/15 and located at approximate Sta. 7+70 running approximately 70 ft. east to Sta. 7+00 (top western slope of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair work for the panels installed on 9/16/15 (Panels 91-94). Prior to any repair work, trial welding was conducted to confirm that the extrusion welds conformed to the project specifications (refer to *Preweld Test Report* for 9/17/15 for results (extrusion testing identified as EXT. on form).
- A total of seventeen repairs (RP-350 through RP-366) were observed and fixed (according to the project specifications) from Panel #91 through Panel #94 (repair / detailing work conducted on panels installed on 9/16/15). The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs), as well as seam joint repairs where non-destructive testing was conducted along the panel seams. These areas were subsequently patched and sealed with extrusion welds, and confirmed with vacuum box testing being conducted as outlined in the project specifications. Additionally, custom fit repairs were conducted along the top eastern slope of the 2nd utility corridor (Panel #80) to remove observed wrinkles in the geomembrane panels. Vacuum box testing was then completed on the repairs (as per the project specifications) to confirm the integrity of the extrusion welds.
- Once the patch / repair work was completed ESI began placing GDL from approximate Sta. 10+30 (Panel #75) to approximate Sta. 9+60 (Panel #87). GDL was placed through the 2nd utility corridor with the panels oriented east to west, and was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- While GDL placement was being conducted, Langan and Entact completed soil subgrade approval from approximate Sta. 7+70 (moving east from P-94) to Sta. 7+00 (top western slope of 3rd utility corridor). Refer to *Soil Subgrade Approval* forms from 9/17/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+70 to Sta. 7+00.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 7+70 (moving east of P-94) moving east (for approximately 70 ft.) to approximate Sta. 7+00. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/17/15 Photo Log* for supporting photographs.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove first wrap of geocomposite prior to use
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panel #94 on 9/16/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of three panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-95, P-96, and P-97) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/17), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 7+00, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/17/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/18/15.
- One destructive sample (DS-24) was collected (fusion weld) from Panel Seams 91/92. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/17/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 5 gas vents).
- Review laboratory results for DS-24 (once received).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, and 9/16/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-23, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/17/15
A3 – Photo Log	Pages 1 – 3	Total of 6 photos outlining pertinent daily observations and descriptions for 9/17/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/17/15
A5 – Subgrade Approval	Sheet 18 & ESI (9/17/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/17/15.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 20	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/17/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/17/15
A9 – Seam/Non-Destruct. Test Log	Pages 21	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/17/15
A10 – Repair Log	Pages 15-18	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/16/15 and 9/17/15
A11 – Conformance COC		N / A for 9/17/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/17/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/17/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/17/15

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By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/17/15

Direction Taken:

Looking west along SA-6 cap (at destruct sample location DS-24)

Description:

ESI completing patch / repair work for destruct sample DS-24 collected along Panel 91 / 92 seam.



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PHOTOGRAPHIC LOG
Photo #2 (09/17/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/17/15

Direction Taken:

Looking north along SA-6 through 2nd utility corridor (approximate Sta. 10+00)

Description:

ESI placing GDL along 2nd utility corridor over placed geomembrane panels. One panel ran north-south through bottom of utility corridor. Remaining panels oriented east-west along slopes of corridor.



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PHOTOGRAPHIC LOG
Photo #3 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

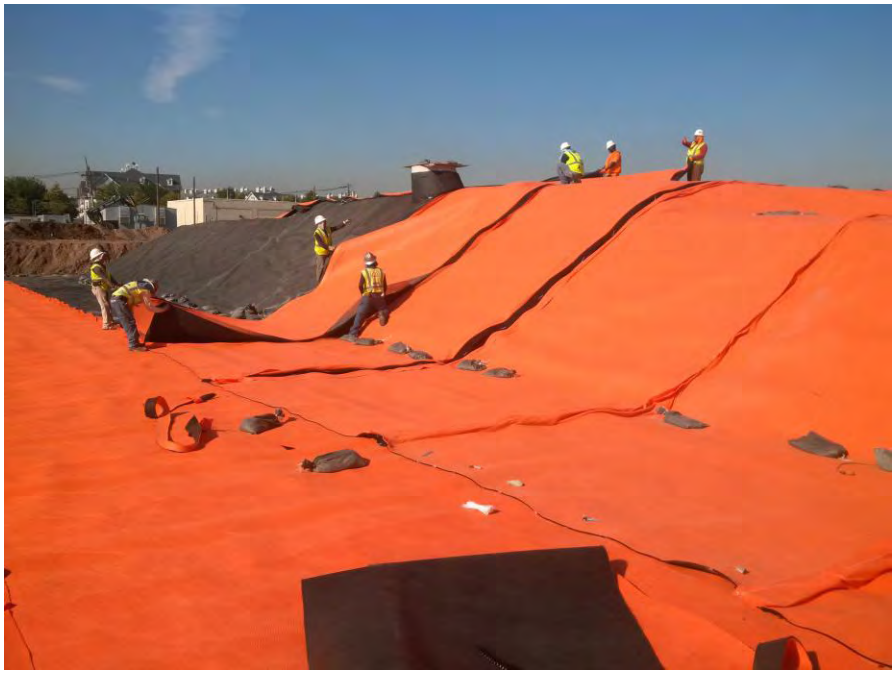
Date:
9/17/15

Direction Taken:

Looking south along SA-6 (through 2nd utility corridor)

Description:

ESI placing GDL panels along western slope of 2nd utility corridor. Panels oriented east to west and secured with white plastic fasteners and sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

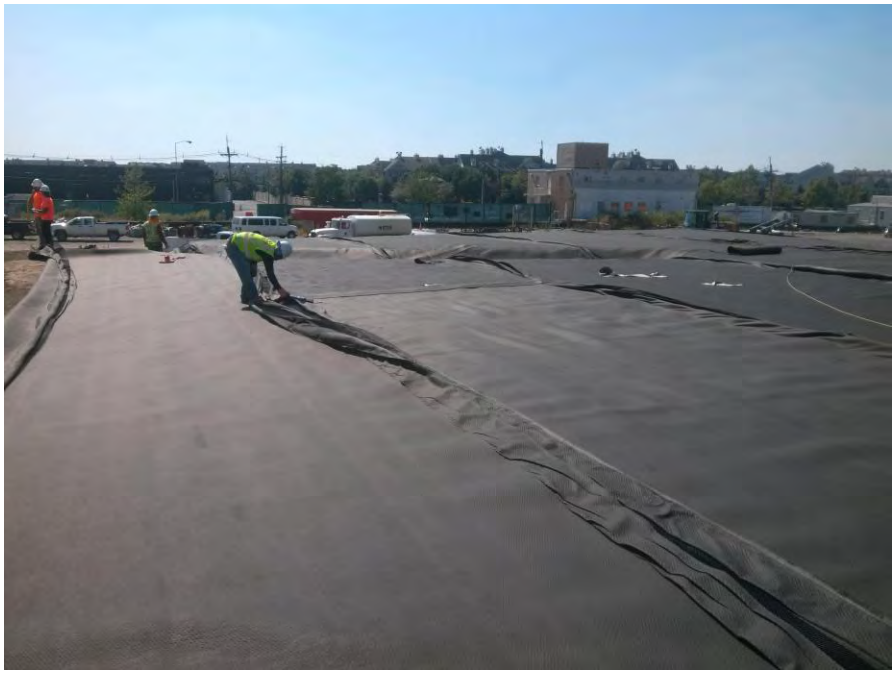
Date:
9/17/15

Direction Taken:

Looking south along SA-6 cap (approximate Sta. 7+50).

Description:

ESI deploying GVL with white plastic fasteners spaced at maximum of 5 ft. and top layer of geotextile sewn (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #5 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/17/15

Direction Taken:

Looking north along SA-6 cap (approximate Sta. 7+40).

Description:

ESI deploying geomembrane panels over GVL.



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PHOTOGRAPHIC LOG
Photo #6 (09/17/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/17/15

Direction Taken:

Looking south along SA-6 cap

Description:

Geomembrane panels placed and fusion welded (according to project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/18/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #28**
AmecFW: Stu, Bills, Geoff Shallard, Dave Ambrose, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL) geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), through 3rd utility corridor (located at approximate Sta. 6+80). Material to be placed from Panel #97 (P-97) installed on 9/17/15 and located at approximate Sta. 7+00 running approximately 60 ft. east through 3rd utility corridor to Sta. 6+40 (top eastern side of 3rd utility corridor).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 7+00 (P-97 installed on 9/17/15) through the 3rd utility corridor to Sta. 6+40. Refer to *Soil Subgrade Approval* forms from 9/18/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 7+00 to Sta. 6+40.
- GCL and Cap placement began with ESI placing GVL along the eastern and western slopes of the 3rd utility corridor. GVL was placed at the areas above the groundwater table down the slopes of the corridor (GCL areas comprised the bottom of the utility corridor to approximately 2 ft. to 3 ft. up the side slopes). GVL was secured with white plastic fasteners spaced at a maximum of 5 ft. and was sewn along the top layer of geotextile (as outlined in the project specs).
- GCL was then placed along the bottom of the 3rd utility corridor, and along the eastern and western slopes of the utility corridor and southern slope of SA-6 (lower bench) located below (to 1 ft. above) the water table as shown on the project drawings and outlined in the specifications. The GCL was overlapped a minimum of 1 ft. and was sealed along the seams with a granular bentonite. The GVL overlapped the GCL a minimum of 1 ft. along the bottom slopes of the corridor, and the GCL was secured into the side slopes via soil stakes / staples.
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #97 (located at approximate Sta. 7+-00) on 9/17/15 and through the 3rd utility corridor. Panels

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were oriented from east to west (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers.

- A total of nine panel lengths (panel lengths identified as the approximate 68 ft. run from east to west across the corridor, as well as geomembrane pieces which were used to complete the southern end of the corridor) were installed (P-98, P-99, P-100, P-101, P-102, P-103, P-104, P-105, and P-106) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/18), *Trial Weld Log.*
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- Upon completion of geomembrane panel placement to approximate Sta. 6+40, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/18/15) for non-destructive testing details. Based on the panel placement, minimal repairs were required along the installed panels. As such, patches were leistered over the repairs with the final extrusion welds to be completed on 9/21/15.
- Two destructive samples (DS-25 and DS-26) were collected (fusion welds) from Panel Seams 94/95 and 97/97, respectively. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.
- During cap placement activities, Entact spread protective cover soil moving east from approximate Sta. 14+20. Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/18/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory results for DS-25 and DS-26 (once received).

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, and 9/17/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-24, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 through, and east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/18/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/18/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/18/15
A5 – Subgrade Approval	Sheet 19 & ESI (9/18/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/18/15.
A7 – Panel Placement Log	Page 21 & 22	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/18/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/18/15
A9 – Seam/Non-Destruct. Test Log	Pages 22-24	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/18/15

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A10 – Repair Log		N / A repairs patched and leistered, however, no welding or vacuum box testing completed
A11 – Conformance COC		N / A for 9/18/15
A12 – Destructive Seam Field Test	Page 2	Updated with destruct information collected on 9/18/15
A13 – Destruct. Sample Summary	Page 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/18/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/18/15

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PHOTOGRAPHIC LOG
Photo #1 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking south through 3rd utility corridor (located at approximate Sta. 6+80).

Description:

Soil subgrade graded, compacted, and free of debris (>1/2") as outlined in the project specs. Subgrade approved through 3rd utility corridor (approximate Sta. 7+00 to Sta. 6+40).



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PHOTOGRAPHIC LOG
Photo #2 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

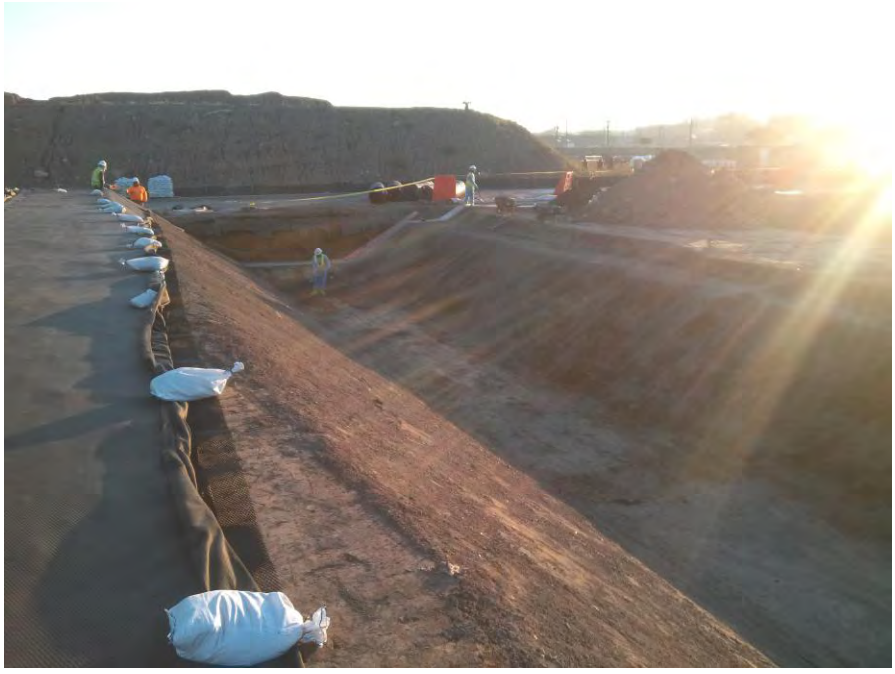
Date:
9/18/15

Direction Taken:

Looking north through 3rd utility corridor

Description:

Soil subgrade approved for panel placement through 3rd utility corridor. Subgrade prepared according to project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south along 3rd utility corridor (western slope).

Description:

ESI placing GVL along eastern and western slopes of 3rd utility corridor. GVL placed to approximate 2 ft. to 3 ft. from bottom of corridor (GCL proposed along bottom of corridor and up bottom slopes). GVL to overlap GCL a minimum of 1 ft. (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking south through 3rd utility corridor

Description:

GVL deployed along western slope of 3rd utility (according to project specs).



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PHOTOGRAPHIC LOG
Photo #5 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking north through 3rd utility corridor

Description:

GVL placed along eastern and western slopes of 3rd utility corridor (placed according to project specs).



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PHOTOGRAPHIC LOG
Photo #6 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking south from within 3rd utility corridor

Description:

ESI placing GCL along bottom of 3rd utility corridor. GCL placed according to project specs (at areas below to 1 ft. above the water table). GVL overlapped a minimum of 1 ft. over GCL, and GCL anchored into slope with soil stakes / staples.



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PHOTOGRAPHIC LOG
Photo #7 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/18/15

Direction Taken:

Looking south through 3rd utility corridor

Description:

GCL and GVL placed along bottom and slopes of 3rd utility corridor (according to project specs).



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PHOTOGRAPHIC LOG
Photo #8 (09/18/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

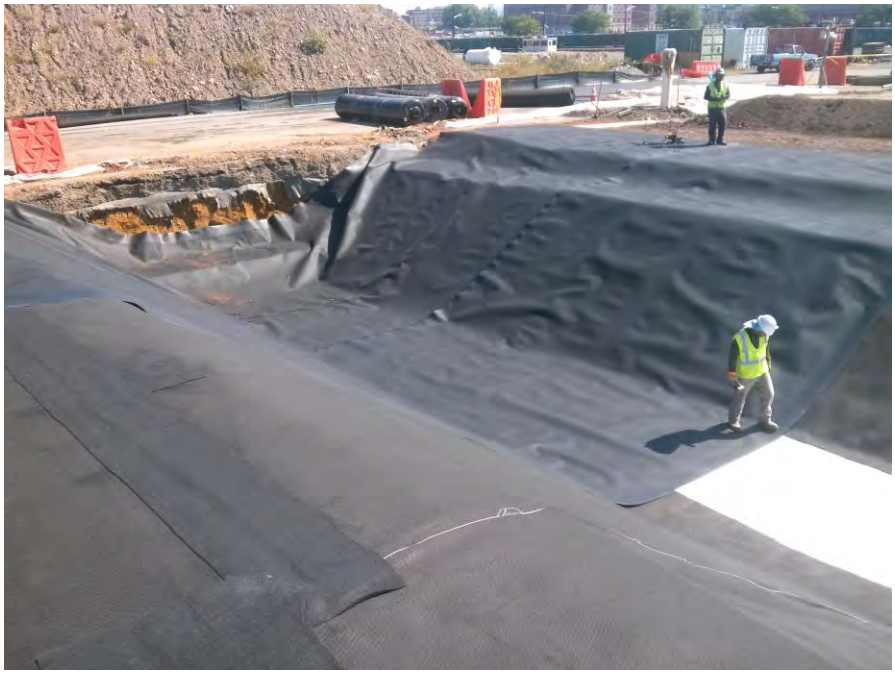
Date:
9/18/15

Direction Taken:

Looking north / northeast at northern end of 3rd utility corridor

Description:

ESi deploying geomembrane panels over GVL and GCL as per project specs.



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PHOTOGRAPHIC LOG
Photo #9 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking along SA-6 cap

Description:

ESI conducting fusion welding along panel seams 97 /100 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #10 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking north along top western slope of 3rd utility corridor

Description:

Geomembrane panels placed and welded (according to project specs). Panels oriented from east to west running through 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #11 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

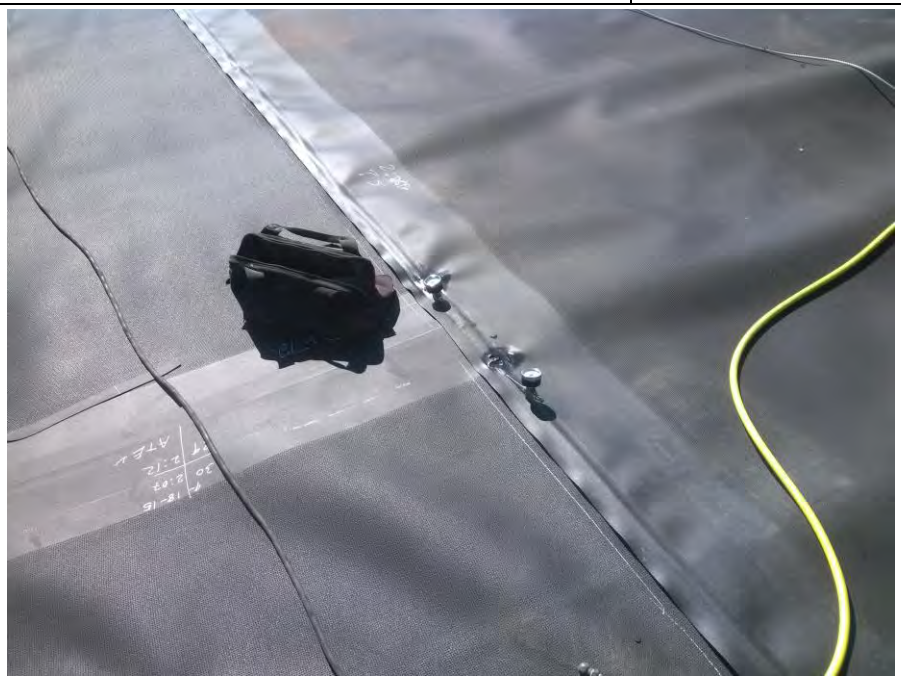
Date:
9/18/15

Direction Taken:

Looking along SA-6 cap (Panels 1000/101)

Description:

ESI conducting non-destructive testing (air pressure tests) for Panel Seams 100 / 101 as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #12 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking north along 3rd utility corridor

Description:

Geomembrane panels placed and welded (according to project specs) through 3rd utility corridor.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/21/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	66/83° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1500

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #29**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL), continuing through 2nd utility corridor (located at approximate Sta. 10+00).. Material to be placed from eastern slope of 2nd utility corridor (Panels 76-81; running east to west) located at approximate Sta. 10+30) running approximately 250 ft. east to Panel #93 (located at approximate Sta. 7+80).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI placing GDL from approximate Sta. 10+30 (eastern slope of 2nd utility corridor) to approximate Sta. 7+80 (Panel #93). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals. Additionally, the top layer of geotextile was sewn (as outlined in the project specs).
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.
- Once GDL was completed to the (based on the approved as-builts) , ESI completed patch / repair along the panels previously installed, Panels 95-106 which were placed on 9/17/15 and 9/18/15. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/21/15).
- A total of thirty-two repairs (RP-367 through RP-398) were observed and fixed (according to the project specifications) from Panels #95 through Panel #106 (repair / detailing work conducted on panels installed on 9/17/15 and 9/18/15). Refer to 9/21/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for gas vent GV-2. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.

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- One destructive sample (DSX-10) was collected (extrusion) from RP-376. Destruct samples were collected at 500 LF intervals and in accordance with the project specs.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/21/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 3 piezometers, and 6 gas vents).
- Review laboratory data for destruct sample DSX-10 (extrusion) once received

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, and 9/18/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-9. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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Daily QA Documents Completed

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/21/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/21/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/21/15
A5 – Subgrade Approval		N / A no subgrade approval completed for 9/21/15.
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/21/15.
A7 – Panel Placement Log		N / A no panels placed on 9/21/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected on 9/21/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 9/21/15
A10 – Repair Log	Pages 18-19	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/21/15
A11 – Conformance COC		N / A for 9/21/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct information collected on 9/21/15
A13 – Destruct. Sample Summary	Sheet 3	Destruct Sample Information provided by ESI and confirmed by Langan for 9/21/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified for activities completed on 9/21/15

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PHOTOGRAPHIC LOG
Photo #1 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

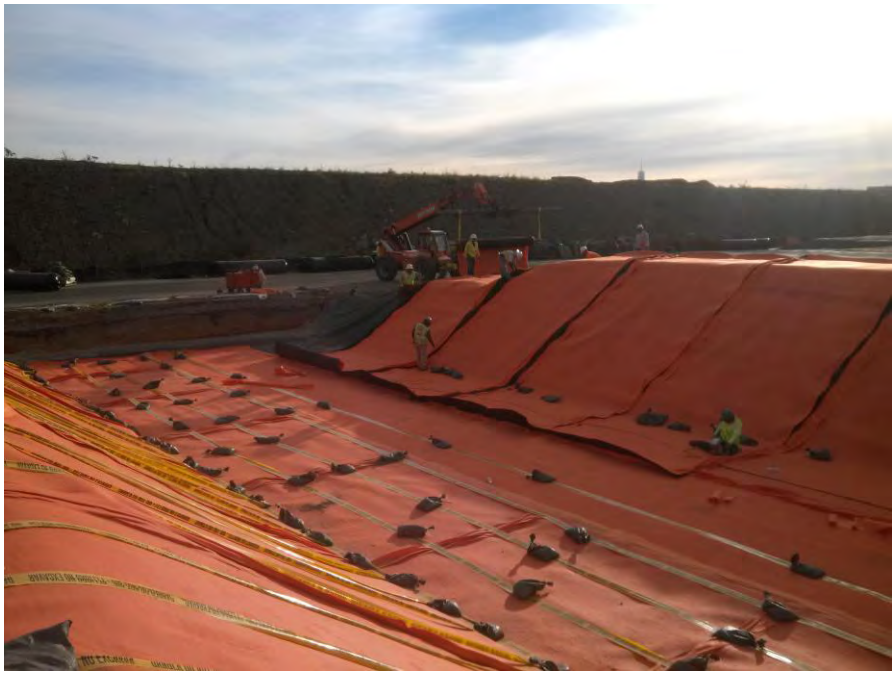
Date:
9/21/15

Direction Taken:

Looking north / northeast along 2nd utility corridor (located at approximate Sta. 10+00).

Description:

ESI deploying GDL along eastern slope, northern end of 2nd utility corridor. GDL placed according to project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/21/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 9+00).

Description:

GDL deployed moving east from 2nd utility corridor. GDL secured with white plastic fasteners spaced at a maximum of 5 ft. intervals, and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #3 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at gas vent GV-2)

Description:

ESI constructing geomembrane boot around gas vent GV-2



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PHOTOGRAPHIC LOG
Photo #4 (09/21/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/21/15

Direction Taken:

Looking east along southern end of SA-6 cap (at RP-370).

Description:

ESI conducting patch / repair work and extrusion welds (according to project specs) for repairs from 9/17/15 and 9/18/15.



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PHOTOGRAPHIC LOG
Photo #5 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at GV-2)

Description:

ESI completing geomembrane boot around gas vent GV-2. Geomembrane skirt to be placed over penetration and extrusion welded with 18-inches of overlap (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #6 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at RP-367)

Description:

ESI conducting vacuum box testing on extrusion weld repairs (as outlined in project specs).



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PHOTOGRAPHIC LOG
Photo #7 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking along SA-6 cap (at GV-2)

Description:

Final boot, skirt, and welds completed for GV-2 as per project specs.



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PHOTOGRAPHIC LOG
Photo #8 (09/21/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/21/15

Direction Taken:

Looking east along southern end of SA-6 cap (at DSX-10)

Description:

Patch / repair work completed for destruct sample DSX-10 (extrusion weld) collected from RP-376.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/22/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	62/84° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1530

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #30**
AmecFW: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL) and 60-mil geomembrane liner (Cap), continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #98, 99, 100, 101, 102, 103, and 106 (panels running east to west through 3rd utility corridor) installed on 9/18/15 (located at approximate Sta. 6+40) running approximately 110 ft. east to Sta. 5+30. Panels installed today (9/22) will "T" into the panels outlined above as panels will revert back to north-south orientation outside of utility corridor (as per the approved panel layout).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with Langan and Entact conducting soil subgrade approval from approximate Sta. 6+40 (eastern end of 3rd utility corridor) to Sta. 5+30. Refer to *Soil Subgrade Approval* forms from 9/22/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/22/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 6+40 to Sta. 5+30.
- While subgrade inspection was being conducted, ESI conducted vacuum box testing for the repairs completed on 9/21/15, and also installed the remaining panels of GDL from geomembrane Panel #93 to Panel #96.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, one roll of GDL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #64021010086 (8 ft. cut).
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 6+40 (east of 3rd utility corridor) moving east (for approximately 110 ft.) to approximate Sta. 5+30. GVL was placed according to

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the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/22/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, one roll of GVL was required to be cut to remove the first wrap of geocomposite prior to use – Roll #65211010113 (8 ft. cut)
- After installation of the GVL, geomembrane cap was installed continuing east of previously installed Panels #98-103, and #106 (running east-west through 3rd utility corridor) on 9/18/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-107, P-108, P-109, and P-110) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, trial welds (smooth to smooth, texture to texture, and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/22), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 5+30, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/22/15) for non-destructive testing details.
- Once non-destructive testing was completed, ESI conducted patch / repair along the panels installed, Panels 107-110. Prior to repair work a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/22/15).
- A total of nineteen repairs (RP-399 through RP-417) were observed and fixed (according to the project specifications) from Panels #107 through Panel #110 (repair / detailing work conducted on panels installed on 9/22/15). Refer to 9/22/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for piezometer PZ-14. Note: The penetration logs for all boots to date will be completed once the boot has been sealed with butyl sealant.
- No destructive samples were collected, as an RFI was submitted to AmecFW, and based on the results of the first 26 destruct samples – the sampling frequency was decreased from 500 LF to 1500 LF as samples yielded zero failures with all 26 exhibited shear and peel results greater than the minimum requirements (as per the project specs).
- During cap placement activities, Entact spread protective cover soil for the area immediately west of the 2nd utility corridor (approximate Sta. 10+20). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project specs and patch / repair work consisted of custom fit design to allow geomembrane to conform to SA-6 contours.

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Action Items – Pending

- Complete Daily Report and Photo Log (for 9/15/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 5 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, and 9/21/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/22/15
A3 – Photo Log	Pages 1 – 6	Total of 12 photos outlining pertinent daily observations and descriptions for 9/22/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/22/15
A5 – Subgrade Approval	Sheet 20 & ESI (9/22/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 5	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/22/15.

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A7 – Panel Placement Log	Page 23	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/22/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/22/15
A9 – Seam/Non-Destruct. Test Log	Pages 24-25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/22/15
A10 – Repair Log	Pages 19-20	One repair log provided by ESI and confirmed by Langan for repairs completed for 9/22/15
A11 – Conformance COC		N / A for 9/22/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/22/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/22/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/22/15

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PHOTOGRAPHIC LOG
Photo #1 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking east past 3rd utility corridor (past Sta. 6+40).

Description:

Soil subgrade approved for the area east of the 3rd utility corridor. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #2 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 6+40)

Description:

Soil subgrade approved for geomembrane placement (looking north along end of geomembrane previously installed on 9/18). Subgrade prepared according to project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking south along subgrade (east of 3rd utility corridor) at approximate Sta. 5+90

Description:

Soil subgrade prepared for geomembrane placement according to project specs.



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PHOTOGRAPHIC LOG
Photo #4 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

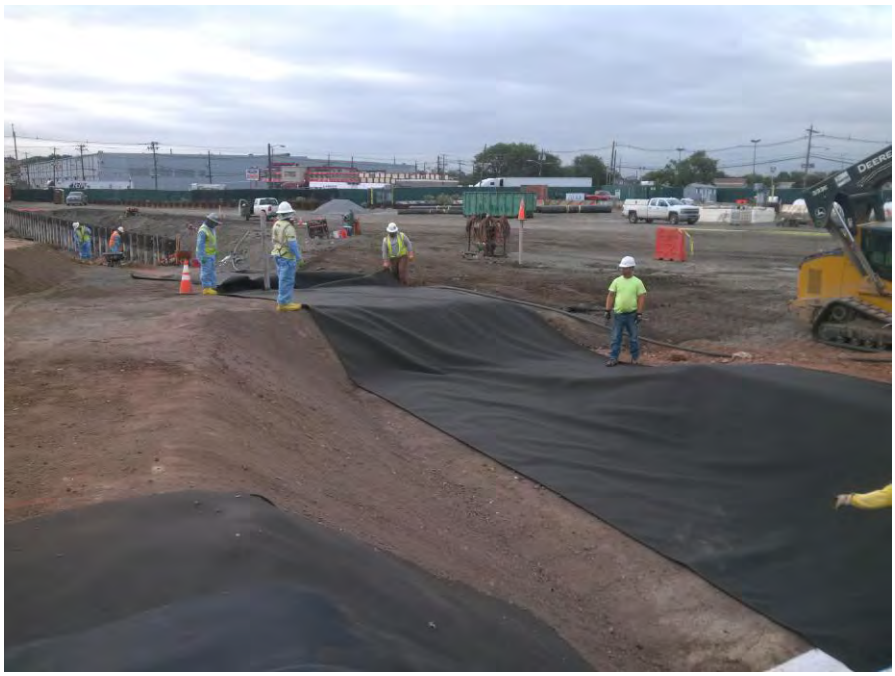
Date:
9/22/15

Direction Taken:

Looking east along southern end of SA-6

Description:

ESI placing 16 oz. geotextile along southern boundary of SA-6 (sheet pile wall). Geotextile overlapped 2 ft. to the outside with remaining roll width inside as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 6+20)

Description:

ESI deploying GVL panels along approved soil subgrade. GVL secured with white plastic fasteners spaced at maximum 5 ft. intervals with top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #6 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 6+00)

Description:

GVL panels placed along soil subgrade. White plastic fasteners spaced at maximum 5 ft. intervals.



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PHOTOGRAPHIC LOG
Photo #7 (09/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/22/15

Direction Taken:

Looking south / southeast along SA-6 cap (at approximate Sta. 5+80)

Description:

ESI deploying geomembrane panels over GVL.



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PHOTOGRAPHIC LOG
Photo #8 (09/22/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/22/15

Direction Taken:

Looking down along SA-6 cap (top eastern slope of 3rd utility corridor)

Description:

ESI conducting fusion welding between Panel Seams 101 / 107 as per project specifications.



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PHOTOGRAPHIC LOG
Photo #9 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/22/15

Direction Taken:

Looking north along Panel #107 (east of 3rd utility corridor)

Description:

Panel #107 (running north to south) past top of eastern slope of 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #10 (09/18/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/18/15

Direction Taken:

Looking down at SA-6 cap (top eastern slope of 3rd utility corridor)

Description:

Non-destructive testing at Seam Joint 102/103/107. Testing conducted according to project specs.



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PHOTOGRAPHIC LOG
Photo #11 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

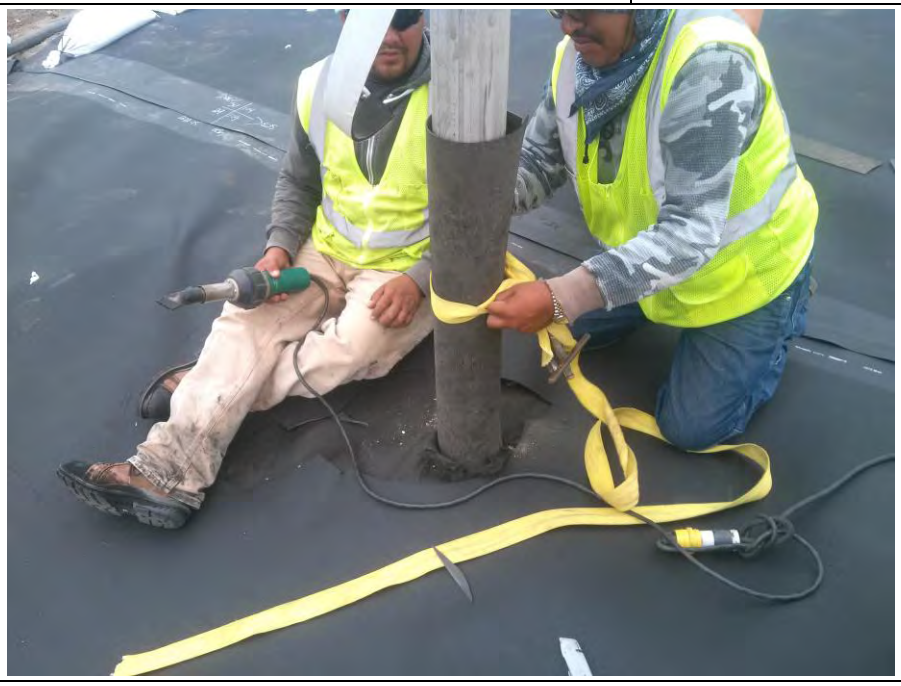
Date:
9/22/15

Direction Taken:

Looking along SA-6 cap (at piezometer PZ-14)

Description:

ESI placing geomembrane boot around piezometer PZ-14 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #12 (09/22/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

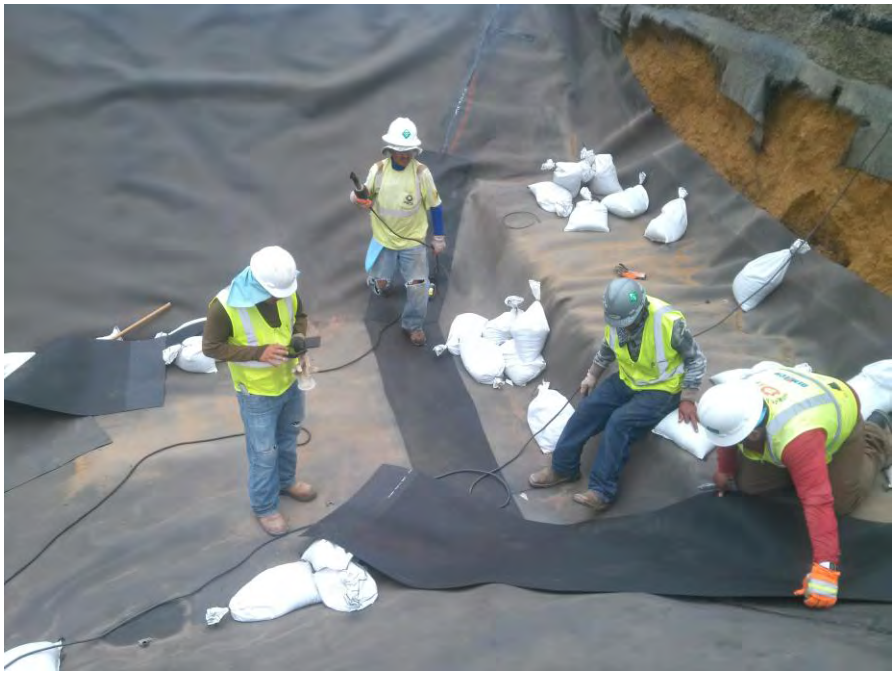
Date:
9/22/15

Direction Taken:

Looking west at northern end of 2nd utility corridor

Description:

ESI conducting patch / repair work (custom fit repair) along northern end of 2nd utility corridor (RP-412).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/23/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	58/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1700

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #31** **AmecFW**: Stu Bills, Dave Ambrose, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing past eastern side of 3rd utility corridor. Material to be placed from Panels #110 installed on 9/22/15 (located at approximate Sta. 5+30) running approximately 80 ft. east to Sta. 4+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #96/97 (approximate Sta. 7+00) through 3rd utility corridor to approximate Sta. 5+30 (Panel #110 placed on 9/22/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL was required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010103 - 5 ft. cut and removed
    - Roll #64021010105 – 8 ft. cut and removed
- Langan and Entact conducting soil subgrade approval from east of Panel #110 (located at approximate Sta. 5+30) to approximate Sta. 4+50. Refer to *Soil Subgrade Approval* forms from 9/23/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #1 and #2 of the daily photo log for 9/23/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 5+30 to Sta. 4+50.
- GVL and Cap placement began with ESI placing the 16 oz. geotextile at the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The geotextile was overlapped approximately 2 ft. outside of the cap (remaining roll width inside), as outlined in the specifications. After the 16 oz. geotextile was placed, GVL was installed from approximate Sta. 5+30 (east of 3rd utility

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corridor) moving east (for approximately 80 ft.) to approximate Sta. 4+50. GVL was placed according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/23/15 Photo Log* for supporting photographs.

- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- In addition to the GVL, GCL was placed along the northern and southern edges of SA-6 at areas below (to 1 ft. above) the groundwater table (as shown on the drawings and outlined in the project specs). GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #110 on 9/22/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-111, P-112, P-113, and P-114) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, a trial weld (smooth to smooth) was conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/23), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/23/15) for non-destructive testing details.
- One patch / repair (RP-418) was completed as a pipe boot for well 115-E1A-SO located at Panel #109. The boot was constructed according to the project specs (final butyl seal still to be applied). No destruct samples were collected from 9/23/15.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and no patch / repair work was conducted.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/23/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 2 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), and Main Access Manhole #3 (located at western slope of 2nd utility corridor).

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, and 9/22/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/23/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/23/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/23/15
A5 – Subgrade Approval	Sheet 21 & ESI (9/23/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Pages 5-6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/23/15.
A7 – Panel Placement Log	Page 24	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/23/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 9/23/15
A9 – Seam/Non-Destruct. Test Log	Pages 25	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/23/15
A10 – Repair Log	Page 20	One repair log provided by ESI and confirmed by Langan for repairs completed for 9/23/15

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By: Dan Bosworth

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Daily QA Documents Completed (continued)

Appendix / QA Forms	***Sheet / Page Numbers***	***Comments***
A11 – Conformance COC		N / A for 9/23/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 9/23/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected on 9/23/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues identified on 9/23/15

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PHOTOGRAPHIC LOG
Photo #1 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 4+90)

Description:

Soil subgrade approved for the area east of Panel #110 (P-110) installed on 9/22/15. Subgrade graded, compacted, and free of debris (>1/2").



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PHOTOGRAPHIC LOG
Photo #2 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking west / northwest along SA-6 cap (looking toward place panels from 9/22/15)

Description:

Soil subgrade approved for geomembrane placement from approximate Sta. 5+30 to approximate Sta. 4+50.



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PHOTOGRAPHIC LOG
Photo #3 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

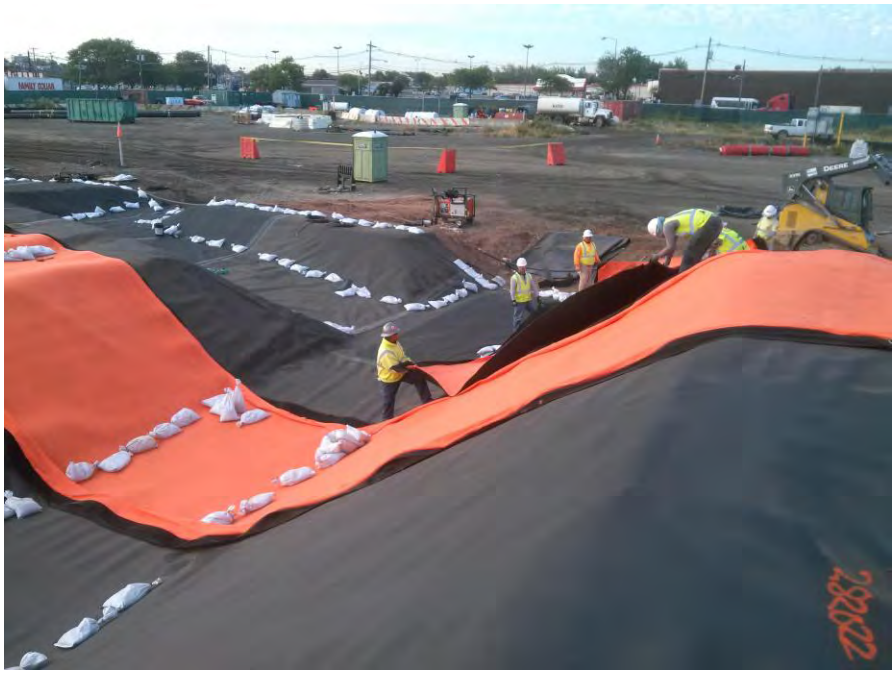
Date:
9/23/15

Direction Taken:

Looking south along 3rd utility corridor (approximate Sta. 6+80)

Description:

ESI deploying GDL panels (oriented from east to west) through 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #4 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking north along 3rd utility corridor (approximate Sta. 6+80)

Description:

ESI placing GDL panels (oriented from east to west) moving north along 3rd utility corridor.



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PHOTOGRAPHIC LOG
Photo #5 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

ESI placing 16 oz. geotextile along southern boundary of SA-6. GCL also placed at marked areas below (to 1 ft. above the groundwater table) as per project specs.



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PHOTOGRAPHIC LOG
Photo #6 (09/23/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/23/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 5+00)

Description:

GVL panels placed along soil subgrade. White plastic fasteners spaced at maximum 5 ft. intervals as per project specs.



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PHOTOGRAPHIC LOG
Photo #7 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 5+10)

Description:

ESI deploying geomembrane panels over GVL.



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PHOTOGRAPHIC LOG
Photo #8 (09/23/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/23/15

Direction Taken:

Looking down along SA-6 cap (Panels 110 / 111 seam)

Description:

ESI conducting fusion welding between Panel Seams 110 / 111 as per project specifications.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/24/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	59/80° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:	**PERSONNEL ON SITE:** **Day #32**
ENTACT & ESI *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite venting layer (GVL), geosynthetic clay liner (GCL), and 60-mil geomembrane liner (Cap), continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #114 installed on 9/23/15 (located at approximate Sta. 4+50) running approximately 70 ft. east to Sta. 3+80.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair along the panels previously installed, Panels 111-114 which were placed on 9/23/15. Prior to repair work, a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/24/15).
- A total of seven repairs (RP-419 through RP-424) were observed and fixed (according to the project specifications) from Panels #111 through Panel #114 (repair / detailing work conducted on panels installed on 9/23/15). Refer to 9/24/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications.
- One non-compliance issue was observed and was noted on *Sheet #8 Notice of Non-Compliance and Corrective Action Form.* This non-compliance was also noted on the Repair Log as a subgrade irregularity and was identified as RP-423. This non-compliance issue was identified based on a rock that was observed underneath the geomembrane cap. The rock was removed from underneath the liner and the hole was patched / repaired according to the project specifications and further outlined in the *Non-Compliance and Corrective Action* forms – *Sheet #8* for 9/24/15.
- While the geomembrane was being patched / repaired, ESI also installed a penetration boot for well 115-E1A-SO and Access Manhole #4. Note: The penetration logs for all boots to date will be completed once the boots have been sealed with butyl sealant (not yet completed).

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- While ESI was completing patch / repair work, Langan and Entact conducted soil subgrade approval from east of Panel #114 (located at approximate Sta. 4+50) to approximate Sta. 3+80. Refer to *Soil Subgrade Approval* forms from 9/24/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 9/24/2015, for supporting subgrade photos. This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 4+50 to Sta. 3+80.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the areas within the SA-6 cap along the bottom and side slopes of the drainage/utility ditches located from approximate Sta. 4+50 to Sta. 3+80. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- After the GCL was placed, GVL was installed from approximate Sta. 4+50 (Panel #114) moving east (for approximately 70 ft.) to approximate Sta. 3+80. GVL was placed along the areas outside of the water GCL (outside of the water table influence) and according to the project specifications with white plastic fasteners spaced at a maximum of 5 ft. Additionally, the top panel of geotextile was sewed along the seams (according to the project specifications). Refer to *9/24/15 Photo Log* for supporting photographs. Note: The GVL was cut along the drainage / utility to expose the GCL as a minimum of 1 ft. of overlap was required along the ditches where the GVL and GCL intersected.
- As per the QA inspection conducted on the GVL on September 3, 2015, by AmecFW, no rolls of GVL were required to be cut to remove the first wrap of geocomposite prior to use.
- After installation of the GVL and GCL, geomembrane cap was installed continuing east of previously installed Panel #114 on 9/23/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GVL and GCL layers. A total of four panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-115, P-116, P-117, and P-118) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, two trial welds (smooth to smooth and smooth to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/24), *Trial Weld Log*.
- Upon completion of geomembrane panel placement to approximate Sta. 4+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/24/15) for non-destructive testing details.
- No patch / repair work was conducted on Panels #115 through #118 as part of the activities on 9/24/15.
- Two destructive samples were collected for laboratory testing. DS-27 (fusion) was collected from Panel Seam 110/111 and is noted as RP-422 on the *Repair Log*. Fusion weld destruct samples collected at 1500 LF intervals (as per the approved RFI to reduce the sampling frequency from 500 LF to 1500 LF). One extrusion weld sample (DSX-11) was also collected from RP-421 and is noted as RP-424 on the *Repair Log*. Extrusion weld samples collected at 500 LF intervals as per the project specs.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

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Non-Conformance Items / Corrective Actions

- Non-Conformance No. 8 (Sheet #8) – Subgrade irregularity identified as RP-423 on *Repair Log*
    - Stone identified underneath geomembrane cap (Panel #111). Stone was subsequently removed, and hole was patched/repaired following project specs and further defined in *Sheet 8 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/24/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory destruct data for destruct samples DS-27 and DSX-11.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, and 9/23/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-26, and DSX-1 through DSX-10. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas of SA-6 east of 3rd Utility Corridor. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

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By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/24/15
A3 – Photo Log	Pages 1 – 7	Total of 13 photos outlining pertinent daily observations and descriptions for 9/24/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/24/15
A5 – Subgrade Approval	Sheet 22 & ESI (9/24/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/24/15.
A7 – Panel Placement Log	Page 25	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/24/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information from 9/24/15
A9 – Seam/Non-Destruct. Test Log	Pages 25-26	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/24/15
A10 – Repair Log	Pages 20-21	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/24/15
A11 – Conformance COC		N / A for 9/24/15
A12 – Destructive Seam Field Test	Page 3	Updated with destruct sample information from 9/24/15
A13 – Destruct. Sample Summary	Sheet 3	One destruct sample summary form provided by ESI and confirmed by Langan for 9/24/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance	Sheet 8	One non-compliance issue identified on 9/24/15 and identified on Sheet #8 and the Repair Log as a subgrade irregularity.

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PHOTOGRAPHIC LOG
Photo #1 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/24/15

Direction Taken:

Looking west along SA-6 cap (Panel #110 / #111 seam)

Description:

Patch / repair work completed for destruct sample DS-27 collected at Panel #110/111 seam (as per project specs).



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PHOTOGRAPHIC LOG
Photo #2 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/24/15

Direction Taken:

Looking north along SA-6 cap (at well 115-E1A-SO)

Description:

ESI placing gaskets and seals and prepping well 115-E1A-SO for geomembrane boot.



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PHOTOGRAPHIC LOG
Photo #3 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 4+50)

Description:

Soil subgrade for next area graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking east / northeast along soil subgrade (from approximate Sta. 4+50)

Description:

Subgrade prepared according to project specs and approved for panel placement.



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PHOTOGRAPHIC LOG
Photo #5 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking south along SA-6 cap (at access manhole #4)

Description:

ESI constructing geomembrane boot and skirt for access manhole #4 (according to project specs).



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PHOTOGRAPHIC LOG
Photo #6 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking east along northern end of SA-6

Description:

ESI placing GCL along northern SCB wall for areas below (to 1 ft. above) the groundwater table (as per project drawings and specifications).



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PHOTOGRAPHIC LOG
Photo #7 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

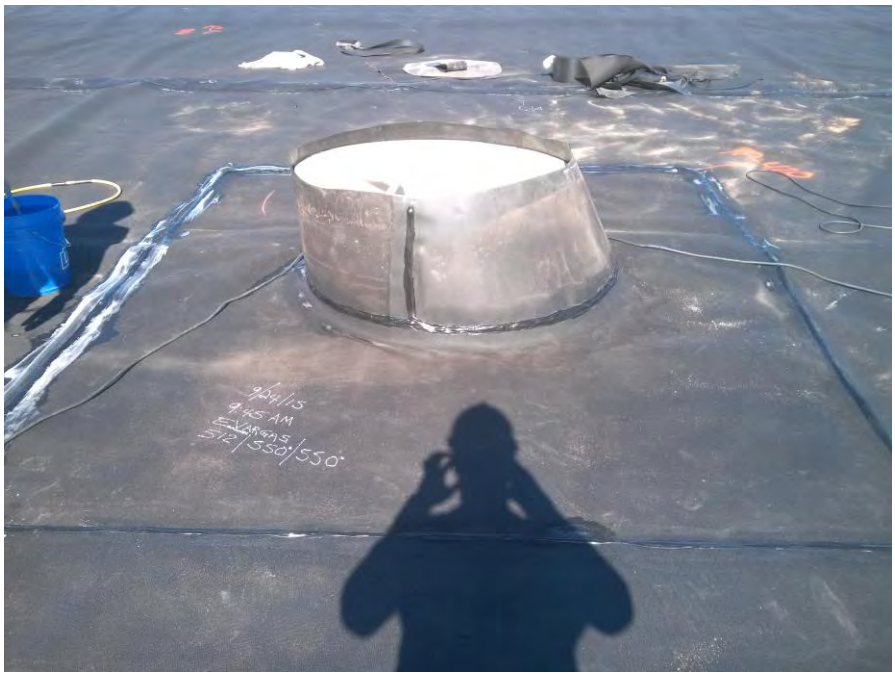
Date:
9/24/15

Direction Taken:

Looking west along SA-6 cap

Description:

Completed geomembrane boot around Access Manhole #4. Patch placed per project specs and extrusion welded with vacuum box testing being completed.



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PHOTOGRAPHIC LOG
Photo #8 (09/24/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/24/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

GCL placed along SCB wall as per project drawings. GCL anchored into slope of subgrade with soil stakes / staples. Seams overlapped a minimum of 1 ft. and sealed with granular bentonite.



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PHOTOGRAPHIC LOG
Photo #9 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 4+20)

Description:

ESI placing GCL along drainage/utility ditches/swales for areas below (to 1 ft. above the groundwater table). GCL placed according to the project specs and at the locations shown on the project drawings.



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PHOTOGRAPHIC LOG
Photo #10 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking north along SA-6 cap (at approximate Sta. 4+10)

Description:

ESI placing GVL as per project specs with white plastic fasteners spaced at maximum of 5 ft. and the top layer of geotextile sewn



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PHOTOGRAPHIC LOG
Photo #11 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking east along SA-6 cap

Description:

GVL cut along bottom of utility/drainage ditches to expose GCL. Minimum of 1 ft. of overlap along GVL and GCL edges.



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PHOTOGRAPHIC LOG
Photo #12 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/24/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+50)

Description:

ESI deploying geomembrane panels



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PHOTOGRAPHIC LOG
Photo #13 (09/24/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

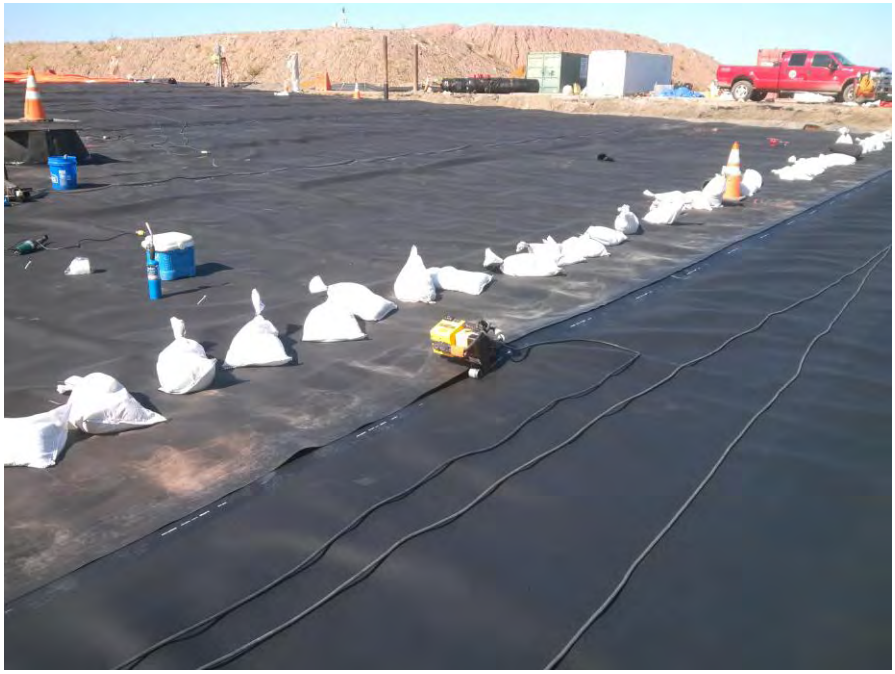
Date:
9/24/15

Direction Taken:

Looking north along SA-6 (at panel seams 114/115)

Description:

ESI conducting fusion welding (as per project specifications) along Panel Seams 114 / 115.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	9/25/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	63/73° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1630

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #33**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #118 installed on 9/24/15 (located at approximate Sta. 3+80) running approximately 50 ft. east to Sta. 3+30.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI conducting patch / repair along the panels previously installed, Panels 114-118 which were placed on 9/24/15. Prior to repair work, a preweld test was conducted to confirm the extrusion welds met the requirements of the project specs. Refer to *Preweld Trial Log* (9/25/15).
- A total of twenty repairs (RP-425 through RP-444) were observed and fixed (according to the project specifications) from Panels #114 through Panel #118 (repair / detailing work conducted on panels installed on 9/24/15). Refer to 9/25/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. No non-compliance issues were identified as patch / repair work completed was custom fit repairs to allow geomembrane to conform to SA-6 contours. Note: RP-425 has been marked in the field by the project team, however, the repair (pipe boot for GV-2) has not yet been completed.
- Site activities commenced with ESI deploying rolls of GDL from Panel #110 (approximate Sta. 5+30) to approximate Sta. 4+50 (Panel #114 placed on 9/23/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, no rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #118 (located at approximate Sta. 3+80) to approximate Sta. 3+30. Refer to *Soil Subgrade Approval* forms from 9/25/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #5 and #6 of the daily photo log for 9/25/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 3+80 to Sta. 3+30.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 3+80 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs). Note: no GVL was placed as the subgrade required GCL placement for the entire area (below the water table elevation).
- After installation of the GCL, geomembrane cap was installed continuing east of previously installed Panel #118 on 9/24/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL layer. A total of two panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-119 and P-120) by ESI.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, two trial welds (smooth to smooth and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/25), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 3+30, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/25/15) for non-destructive testing details.
- ESI completed patch / repair work for the minor repairs associated with the placement of Panels 119 & 120 (RP-437 through RP-444) as identified previously in this report and reflected on the *Repair Log* from 9/25/15.
- No destructive samples were collected from 9/25/15
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 2nd utility corridor (approximate Sta. 10+00). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of custom fit repairs to allow the geomembrane to conform to the SA-6 contours.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/25/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, and 9/24/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/25/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 9/25/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/25/15
A5 – Subgrade Approval	Sheet 23 & ESI (9/25/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/25/15.
A7 – Panel Placement Log	Page 26	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/25/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected for 9/25/15
A9 – Seam/Non-Destruct. Test Log	Pages 26-27	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/25/15
A10 – Repair Log	Pages 21-22	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/25/15
A11 – Conformance COC		N / A for 9/25/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected from 9/25/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected from 9/25/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered from 9/25/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking along SA-6 cap (at Access Manhole #4)

Description:

Completed geomembrane boot placed around Access Manhole #4. Boot constructed according to project specs with geomembrane skirt and extrusion welds.



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PHOTOGRAPHIC LOG
Photo #2 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 4+60

Description:

ESI placing conducting patch / repair work (custom fit repairs) for panels placed on 9/24/15 as per project specs.



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PHOTOGRAPHIC LOG
Photo #3 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

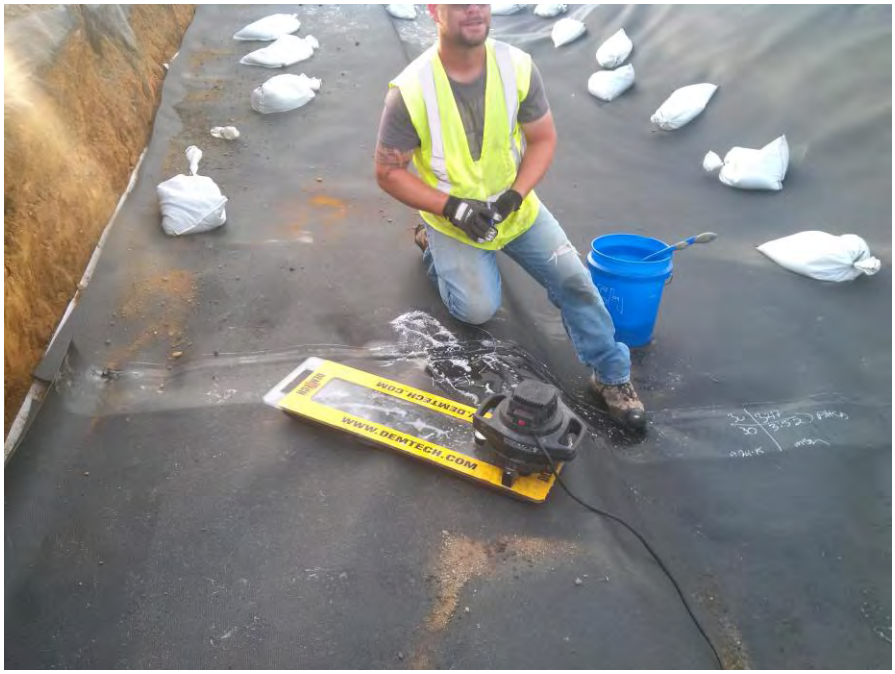
Date:
9/25/15

Direction Taken:

Looking east along northern end of SA-6 cap

Description:

ESI conducting vacuum box testing for extrusion weld repairs (as per project specs).



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PHOTOGRAPHIC LOG
Photo #4 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+60)

Description:

ESI deploying GDL over geomembrane panels. GDL placed according to project specs.



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PHOTOGRAPHIC LOG
Photo #5 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking east along SA-6 (at approximate Sta. 3+80)

Description:

ESI placing GCL over soil subgrade. GCL placed at locations shown on the project drawings and according to project specs.



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PHOTOGRAPHIC LOG
Photo #6 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 3+40)

Description:

ESI placing GCL as per project drawings. GCL placed according to project specs with minimum of 1 ft. overlap and sealed with granular bentonite.



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PHOTOGRAPHIC LOG
Photo #7 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 3+80)

Description:

ESI deploying geomembrane panels over GCL



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PHOTOGRAPHIC LOG
Photo #8 (09/25/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/25/15

Direction Taken:

Looking east along southern end of SA-6 cap (at RP-439)

Description:

ESI conducting patch / repair work (custom fit repairs) for panels P-119 and P-120.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	9/29/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	69/79° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #34**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #120 installed on 9/25/15 (located at approximate Sta. 3+30) running approximately 80 ft. east to Sta. 2+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #114 (approximate Sta. 4+50) to approximate Sta. 3+80 (Panel #118 placed on 9/24/15). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- As per the QA inspection conducted on the GDL on September 3, 2015, by AmecFW, the following rolls of GDL were required to be cut to remove the first wrap of geocomposite prior to use:
    - Roll #64021010072 – Approximately 8 ft. removed
    - Roll #64021010064 – Roll not on inspection list. Approximately 30 ft. removed due to damage observed from forklift
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #120 (located at approximate Sta. 3+30) to approximate Sta. 2+50. Refer to *Soil Subgrade Approval* forms from 9/29/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #2 and #3 of the daily photo log for 9/29/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 3+30 to Sta. 2+50.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 3+30 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.
- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #120 on 9/25/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of five panel lengths (panel lengths identified as the approximate 165 ft. run from north to south across SA-6) were installed (P-120, P-121, P-122, P-123, P-124, and P-125) by ESI. Note: During placement of geomembrane panel P-123, the roll of geomembrane terminated within the SA-6 approximately 20 ft. from the southern end of the cap. Thus an additional panel (P-124) was required to complete the geomembrane run from north to south.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (9/29), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 2+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (9/29/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted patch/ repair work for the panels installed.
- A total of eleven repairs (RP-445 through RP-455) were observed and fixed (according to the project specifications) from Panels #121 through Panel #125 (repair / detailing work conducted on panels installed on 9/24/15). Refer to 9/29/15 *Repair Report.* The majority of these repairs were cuts that were made on the geomembrane to allow the cap to conform to the contours of SA-6 South grade (custom fit repairs). These areas were subsequently patched and sealed with extrusion welds, with vacuum box testing then conducted as outlined in the project specifications. No non-compliance issues were identified as patch / repair work completed was custom fit repairs to allow geomembrane to conform to SA-6 contours.
- No destructive samples were collected from 9/29/15
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of custom fit repairs to allow the geomembrane to conform to the SA-6 contours.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Pending

- Complete Daily Report and Photo Log (for 9/29/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 6 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, and 9/25/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 9/29/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 9/29/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 9/29/15
A5 – Subgrade Approval	Sheet 24 & ESI (9/29/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 9/29/15.
A7 – Panel Placement Log	Page 27	One panel placement log provided by ESI and confirmed by Langan for panels placed on 9/29/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected for 9/29/15
A9 – Seam/Non-Destruct. Test Log	Pages 27-28	One seam control form provided by ESI and confirmed by Langan for air pressure testing conducted on 9/29/15
A10 – Repair Log	Page 22	One repair log provided by ESI and confirmed by Langan for repairs completed on 9/29/15
A11 – Conformance COC		N / A for 9/29/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected from 9/29/15
A13 – Destruct. Sample Summary		N / A no destruct samples collected from 9/29/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before log can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered from 9/29/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 4+00)

Description:

ESI deploying GDL over installed geomembrane panels. GDL placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #2 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (at approximate Sta.3+30)

Description:

Soil subgrade east of Panel #120 prepared for panel placement. Subgrade prepared according to project specs (graded, compacted, and free of debris >1/2").



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PHOTOGRAPHIC LOG
Photo #3 (09/25/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/25/15

Direction Taken:

Looking east along SA-6 (toward approximate Sta. 2+90)

Description:

Soil subgrade prepared for panel placement from approximate Sta. 3+30 to approximate Sta. 2+50.



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PHOTOGRAPHIC LOG
Photo #4 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 3+30)

Description:

ESI deploying GCL over approved soil subgrade. GCL placed at areas below (to 1 ft. above) the groundwater table as shown on the project drawings.



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PHOTOGRAPHIC LOG
Photo #5 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 (along approximate Sta. 3+00)

Description:

ESI placing GCL over soil subgrade. GCL placed at locations shown on the project drawings and according to project specs. GCL overlapped a minimum of 1 ft. and sealed with granular bentonite.



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PHOTOGRAPHIC LOG
Photo #6 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (at approximate Sta. 2+90)

Description:

GVL and GCL placed over approved subgrade prior to placement of geomembrane panels. GCL placed at areas below (to 1 ft. above) the groundwater table (as shown on project drawings) with GVL placed on the upper bench above water table areas.



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PHOTOGRAPHIC LOG
Photo #7 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
9/29/15

Direction Taken:

Looking south along SA-6 cap (at approximate Sta. 3+00)

Description:

ESI deploying geomembrane panels over GCL and GVL.



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PHOTOGRAPHIC LOG
Photo #8 (09/29/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

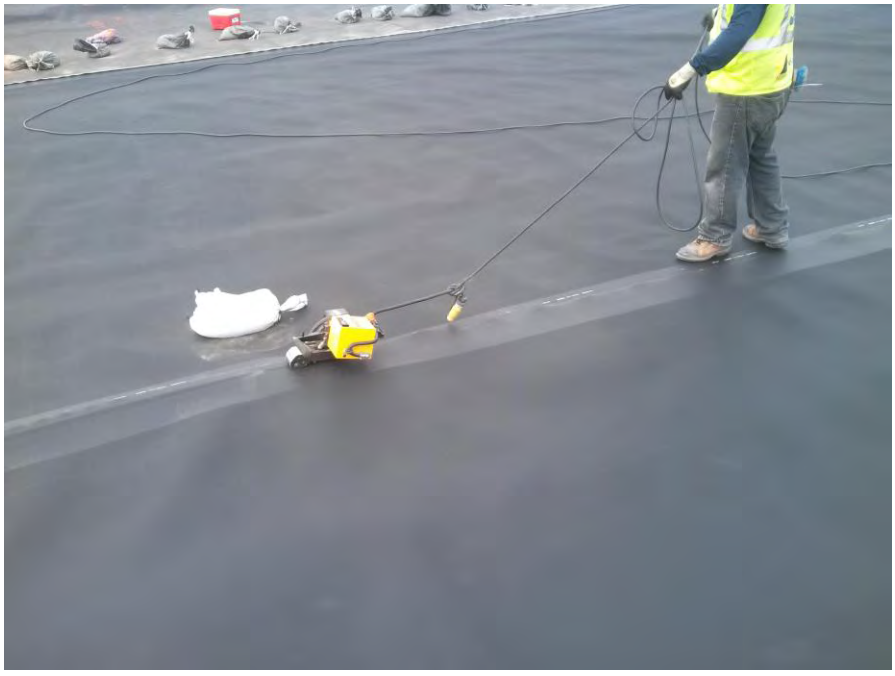
Date:
9/29/15

Direction Taken:

Looking west along SA-6 cap (at Panel Seams 121/122)

Description:

ESI conducting fusion welding (as per project specifications) along Panel Seams 121 / 122.



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PHOTOGRAPHIC LOG
Photo #9 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking north along SA-6 (along Panel 123 / 124)

Description:

Geomembrane panels placed on 9/29/15, welded, and tested according to project specs.



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PHOTOGRAPHIC LOG
Photo #10 (09/29/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
9/29/15

Direction Taken:

Looking south along southern end of SA-6 (at RP-447 through RP-449)

Description:

ESI completing patch / repair work for custom fit repairs along Panels 122 and 124. Patch / repair work completed according to project specs with extrusion welded and vacuum box testing completed.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.		**DATE:**	10/07/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	60/72° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement		**TIME:**	0630 – 1600

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #35**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and patch / repair work associated with panels placed from 9/29/15.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for minor wrinkles from panels previously placed on 9/29/15 (Panels 121 – 125). During the patch / repair work it was observed that the GCL underlying the geomembrane panels was hydrated with standing water present at two areas:
    - Area 1 was comprised of the drainage / utility swale located along the southern end of SA-6 (approximate Sta. 3+50 to Sta. 2+60). At this area, a sump pump pit was located immediately outside of SA-6 cap to the south. During the storm events over the weekend, this pump at one point shut down thus causing a build-up (ponding) of water that extended laterally into the swale and hydrating the GCL.
    - Area 2 was located along the northern end of the cap (approximate Sta. 4+00 to Sta. 3+40) along the SCB wall. During the storm events water from the adjacent roadway (higher elevation than the SA-6 cap as final grading has not yet been completed) ran along the edges of SA-6 causing some soil washout, which allowed the water to infiltrate laterally over the SCB wall and onto the lower portion of SA-6.
- For both of these areas, the geomembrane cap was pulled back to expose the hydrated GCL. The GCL was then cut and removed to expose the underlying soil subgrade. Visual observation of the subgrade showed that the soil was in good condition (firm and unyielding) with no wet or wash out areas observed. New GCL was then placed in these areas with minimum of 1 ft. of overlap and granular bentonite placed along the seams as per project specifications. Refer to *10/7/15 Photograph Log* for supporting Site photos.
- Once the new GCL was placed, the geomembrane panels were patch / repaired (as required) over these areas.

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- A total of twenty repairs (RP-456 through RP-475) were observed and fixed (according to the project specifications) from Panels #119 through Panel #122 (repair / detailing work for replaced GCL on panels installed from 9/29/15). Refer to 10/7/15 *Repair Report.* The majority of these repairs were patch / repairs associated with the removal and replacing of the hydrated GCL. These repairs were identified as subgrade irregularities on the *Repair Report,* and were identified as non-compliance issues on *Sheet #9* and *Sheet #10 Notice of Non-Compliance* forms, respectively. Note: RP-457 which consisted of a pipe boot for GV-0 was marked in the field and noted on the Repair Report (as RP-457), however the boot and repair itself has not yet been completed.
- Two destructive samples were collected from 10/7/15. Destruct sample DS-28 (fusion) was collected from Panel #123/125, and sample DSX-12 was collected from RP-459 (Panel #123).
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 9 (Sheet #9) – Subgrade irregularity (hydrated GCL) identified as repairs RP-458 through RP-473 on *Repair Log*
    - GCL underneath geomembrane liner along southern end SA-6 (swale) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final) and failure of sump pump in area during storm. Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were completed following project specs and are further defined on *Sheet 9 Notice of Non-Compliance*
- Non-Conformance No. 10 (Sheet #10) – Subgrade irregularity (hydrated GCL) identified as RP-474 and RP-475 on *Repair Log*
    - GCL underneath geomembrane liner along northern end of SA-6 cap (along SCB wall) hydrated from rainwater accumulating outside of cap due to subgrade (subgrade outside of the cap not final). Geomembrane liner pulled back and cut to remove and replace sections of GCL. These patches were noted as a subgrade irregularities and were patched/repaired following project specs as further defined on *Sheet 10 Notice of Non-Compliance*

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/7/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 4 piezometers, and 7 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-28 and DSX-12.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, and 9/29/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-27, and DSX-1 through DSX-11. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/7/15
A3 – Photo Log	Pages 1 – 5	Total of 9 photos outlining pertinent daily observations and descriptions for 10/7/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/7/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/7/15
A6 – Trial Weld Log	Page 6	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/7/15.
A7 – Panel Placement Log		N / A no panels placed on 10/7/15
A8 – Destruct Seam Testing COC	Page 2	Updated with destruct sample information collected form 10/7/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing conducted on 10/7/15
A10 – Repair Log	Pages 22-23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/7/15
A11 – Conformance COC		N / A for 10/7/15

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Daily QA Documents Completed (continued)

A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/7/15
A13 – Destruct. Sample Summary	Sheet 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/7/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance	Sheet #9 and Sheet #10	Two non-compliance forms completed (Sheet #9 and Sheet #10) for cutting and removal of hydrated GCL

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PHOTOGRAPHIC LOG
Photo #1 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/7/15

Direction Taken:

Looking east along SA-6 cap (Panel 123 / 125 seam)

Description:

ESI collecting destruct sample DS-28 (fusion) along Panel 123 / 125 seam as per project specs.



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PHOTOGRAPHIC LOG
Photo #2 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

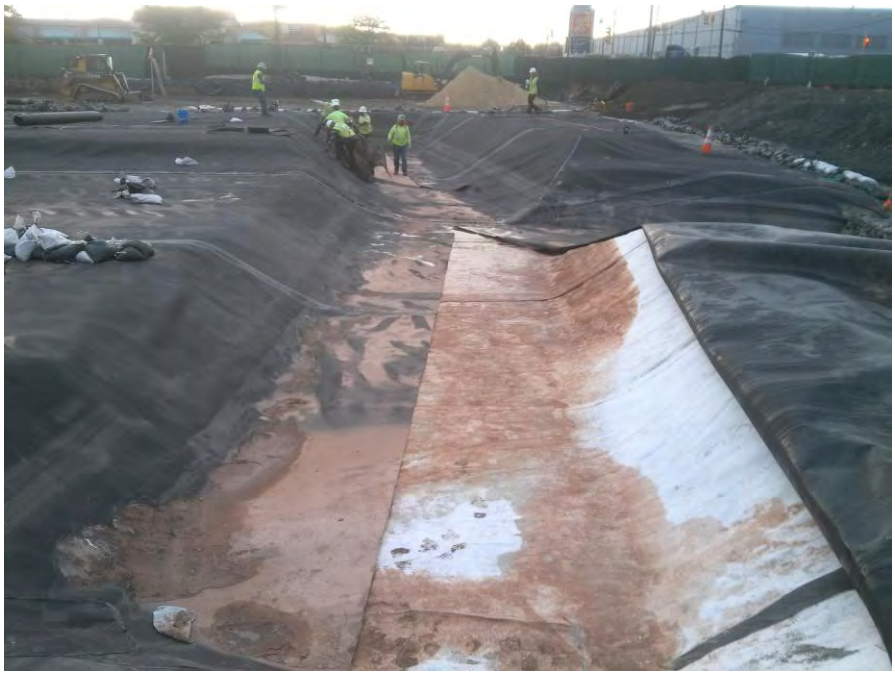
Date:
10/7/15

Direction Taken:

Looking east along southern end of SA-6 cap (swale at approximate Sta.

Description:

GCL hydrated / silted from stormwater during weekend rain events. Sump pump area located immediately outside of the cap failed, thus causing a water build-up and ponding that moved laterally into the swale and hydrating the GCL.



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PHOTOGRAPHIC LOG
Photo #3 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

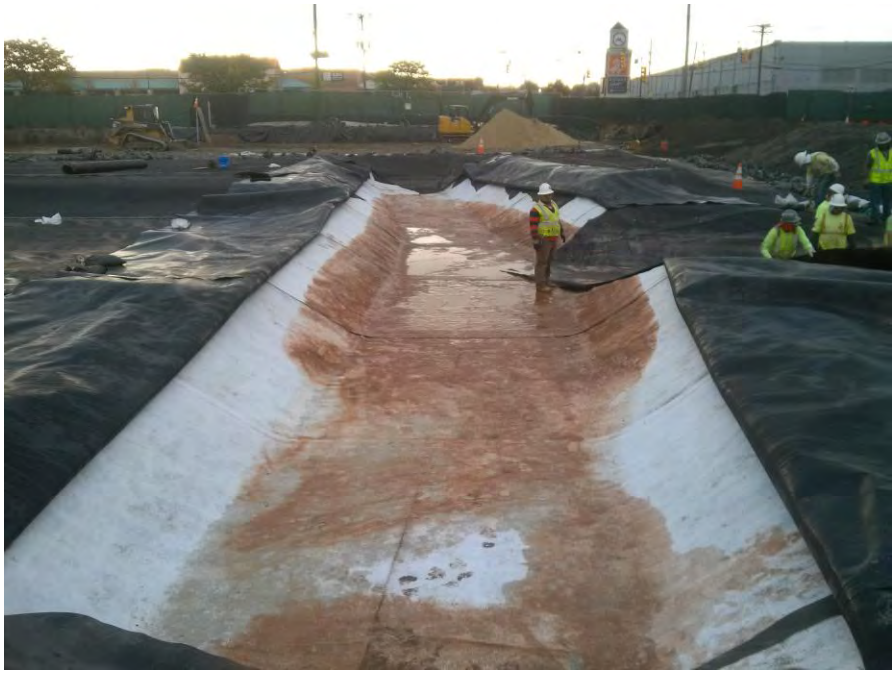
Date:
9/25/15

Direction Taken:

Looking east along southern end of SA-6 cap (approximate Sta. 3+00)

Description:

Geomembrane cap pulled back to expose hydrated GCL.



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PHOTOGRAPHIC LOG
Photo #4 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/7/15

Direction Taken:

Looking east along southern end of SA-6 cap

Description:

Hydrated GCL removed and soil subgrade exposed. Subgrade in good condition with no wet, or washed out areas observed.



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PHOTOGRAPHIC LOG
Photo #5 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/7/15

Direction Taken:

Looking west along southern end of SA-6 cap

Description:

ESI placing new GCL over soil subgrade. GCL overlapped a minimum of 1 ft. and sealed with granular bentonite as per project specs.



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PHOTOGRAPHIC LOG
Photo #6 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

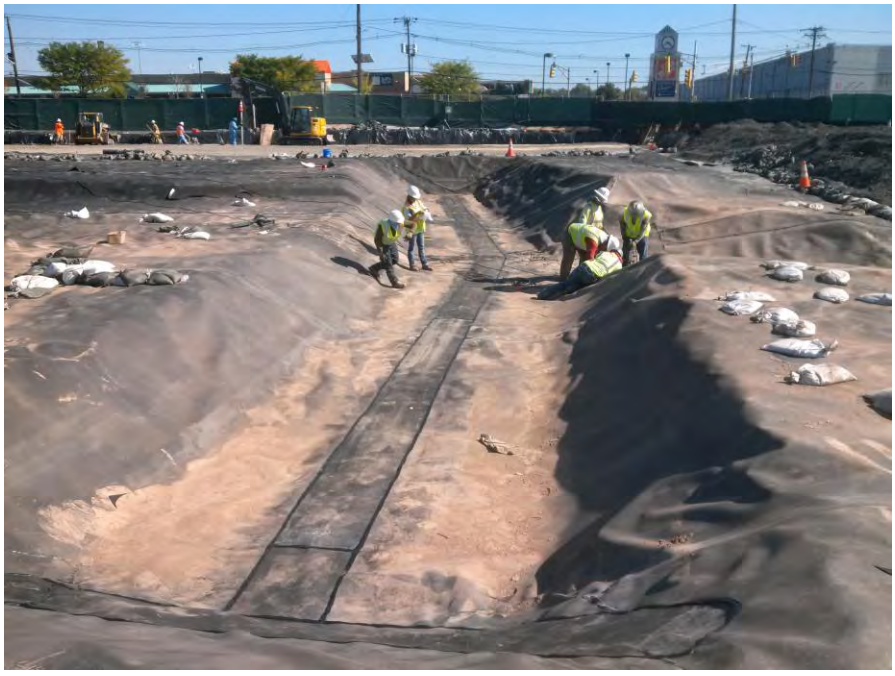
Date:
10/7/15

Direction Taken:

Looking east along approximate Sta. 3+00

Description:

ESI conducting patch / repair work to the geomembrane cap after placing new GCL



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PHOTOGRAPHIC LOG
Photo #7 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/7/15

Direction Taken:

Looking east along northern end of SA-6 cap (along SCB wall)

Description:

Geomembrane cap pulled back to expose hydrated / wet GCL located along northern end of SA-6. GCL hydrated from water infiltrating from storm runoff and washout from the road (cap at lower elevation that roadway – final grading not completed outside of cap).



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PHOTOGRAPHIC LOG
Photo #8 (10/07/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/7/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

Hydrated GCL along SCB wall (lower elevation than roadway outside of SA-6 cap).



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PHOTOGRAPHIC LOG
Photo #9 (10/07/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/7/15

Direction Taken:

Looking west along northern end of SA-6 cap

Description:

New GCL placed along northern end of SA-6.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	10/08/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	62/77° F, Clear, Sunny
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1830

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #36** **AmecFW**: Stu Bills, Brian Shea, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geosynthetic clay liner (GCL), geocomposite venting layer (GVL), 60-mil geomembrane liner (Cap), and geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor. Material to be placed from Panel #125 installed on 9/29/15 (located at approximate Sta. 2+50) running approximately 100 ft. east to Sta. 1+50.
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI deploying rolls of GDL from Panel #118 (approximate Sta. 3+80) to approximate Sta. 2+50 (Panel #125). GDL was placed according to project specifications with white plastic fasteners spaced at a maximum of 5 ft., and top layer of geotextile sewn along the panel seams.
- While ESI was placing GDL, Langan and Entact conducted soil subgrade approval from east of Panel #125 (located at approximate Sta. 2+50) to approximate Sta. 1+50. Refer to *Soil Subgrade Approval* forms from 10/08/15 for additional details. Based on visual inspection, the soil subgrade appeared to be firm and unyielding with no soft / wet areas observed. Furthermore, miscellaneous debris (rocks, debris, etc.) were removed so that the surface was free of any loose material. Refer to Photos #3 and #4 of the daily photo log for 10/08/2015, for supporting subgrade photos (along with GCL placement). This area was also surveyed to meet the grading requirements as outlined in the project specifications. The soil subgrade inspection sheet was submitted for the approximate area of Sta. 2+50 to Sta. 1+50.
- GVL and Cap placement began with ESI placing the GCL along the boundaries of the SA-6 South Cap over the sheet pile and surrounding barrier walls. The GCL was overlapped approximately 2 ft. outside of the cap and was placed along the areas below (to 1 ft. above) the water table (as shown on the drawings and outlined in the project specs). This included the remaining area within the SA-6, as the lower bench east of Sta. 2+50 was comprised of areas below the water table elevation. GCL was overlapped a minimum of 1 ft. along the seams with granular bentonite placed along the edges (as outlined in the project specs).
- Upon placement of the GCL, GVL was placed along the upper elevations within the areas outside of the water table influence (as shown on the project drawings). GVL was placed according to project

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specifications with white plastic fasteners spaced at a maximum of 5 ft. intervals and the top layer of geotextile sewn.

- After installation of the GCL and GVL, geomembrane cap was installed continuing east of previously installed Panel #125 on 9/29/15. Panels were oriented from north to south (as proposed in the approved Panel Layout) and were placed on top of the GCL and GVL layers. A total of ten varying panel lengths were placed by ESI (Panels #126-134). Note: the dimensions of these panel lengths varied as the geomembrane panels were conformed to fit along the eastern end of the SA-6 cap.
- During installation of the Cap, geomembrane seams were overlapped a minimum of four inches for fusion welding (according to the project specifications). Prior to welding activities, three trial welds (smooth to smooth, smooth to texture, and texture to texture) were conducted to confirm that the equipment met the required specifications. A total of six 1-inch specimens were collected for peel and shear testing (3 samples for each test). The results of the pre-trial weld are provided in the associated QA form submitted for today (10/8), *Trial Weld Log.*
- Upon completion of geomembrane panel placement to approximate Sta. 1+50, ESI conducted non-destructive testing in accordance with the project specifications. Refer to *Seam Control Form* (10/08/15) for non-destructive testing details. Once, non-destructive testing was completed, ESI then conducted minor patch/ repair work for the panels installed (pipe boots PZ-12).
- A total of one repair (RP-476) was completed (according to the project specifications) for Panel #132 (pipe boot PZ-12). Refer to 10/8/15 *Repair Report* for additional details on the pipe boot. Note: no non-compliance issues were observed during the geomembrane placement and testing conducted on 10/8/15.
- One destructive sample was collected from 10/8/15. Destruct sample DS-29 (fusion) was collected from Panel #128/132 seam.
- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as non-destructive testing was in conformance with the project and patch / repair work completed consisted of pipe boot installations around PZ-12.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/8/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (once clamps and gaskets have been installed for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1 (once boot and associated sealing activities are completed for manhole located at Sta. 21+00), and Manhole #2 (once concrete extension is added and the manhole is clamped and sealed – located at approximate Sta. 15+70), Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DS-29.

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Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, and 10/07/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-28, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue subgrade preparation work for remaining areas along far eastern end of SA-6. Ensure subgrade is graded, compacted, and free of debris, as well as surveyed to specifications.
- Continue with GVL and Geomembrane Cap placement moving east along SA-6 South.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/8/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/8/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval	Sheet 25 & ESI (10/8/15)	Two subgrade approval forms provided. One by Independent QA and one from Geosynthetic Installer.
A6 – Trial Weld Log	Pages 6-7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/8/15.
A7 – Panel Placement Log	Pages 28-29	One panel placement log provided by ESI and confirmed by Langan for prewelds completed on 10/8/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/8/15
A9 – Seam/Non-Destruct. Test Log	Pages 28-30	One seam control form provided by ESI and confirmed by Langan for pressure testing conducted on 10/8/15
A10 – Repair Log	Page 23	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/8/15

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Daily QA Documents Completed (continued)

A11 – Conformance COC		N / A for 10/8/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/8/15
A13 – Destruct. Sample Summary	Sheet 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/8/15
A14 – Penetration & Edge Form		N / A final butyl seal required around boots before logs can be completed
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

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PHOTOGRAPHIC LOG
Photo #1 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

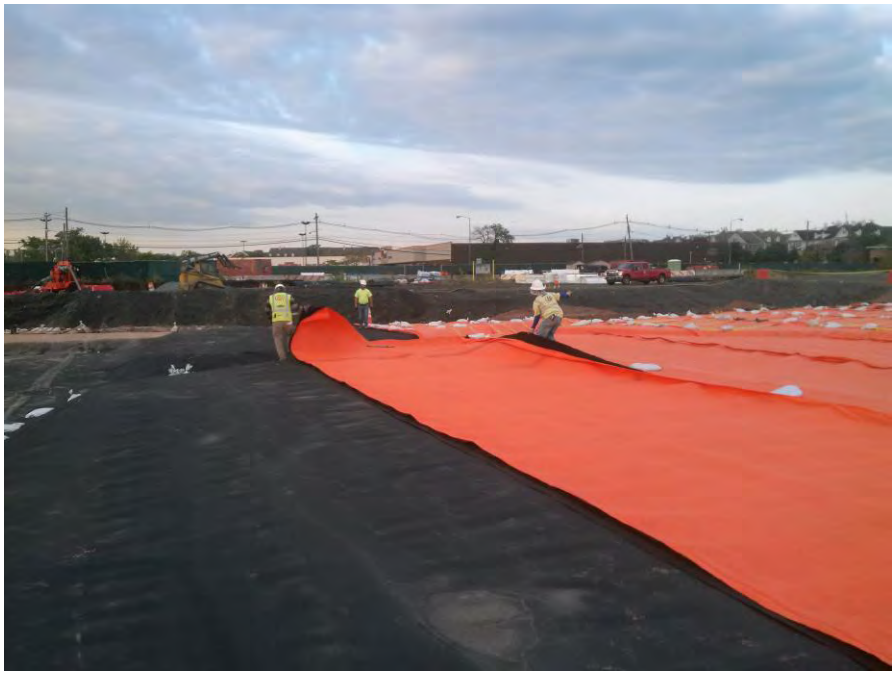
Date:
10/8/15

Direction Taken:

Looking south along SA-6 (at approximate Sta. 3+80)

Description:

ESI deploying GDL over geomembrane panels (as per project specs).



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PHOTOGRAPHIC LOG
Photo #2 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

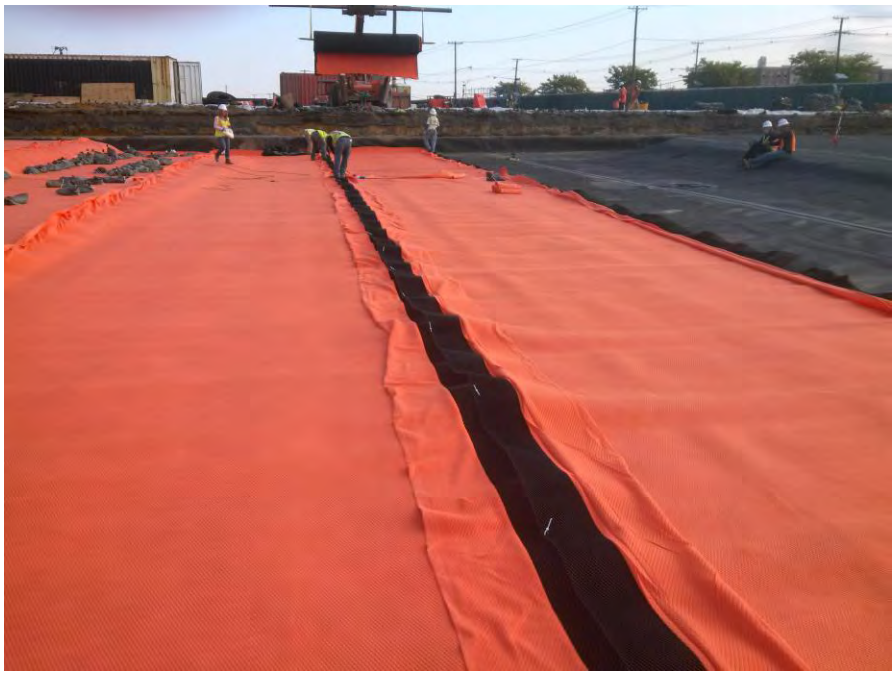
Date:
10/8/15

Direction Taken:

Looking north along SA-6 (approximate Sta. 3+20)

Description:

ESI deploying GDL over geomembrane panels.



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PHOTOGRAPHIC LOG
Photo #3 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking north / northwest along SA-6 (at approximate Sta. 1+70)

Description:

Approved soil subgrade for GCL and GVL placement. Soil graded, compacted, and free of debris (>1/2") as outlined in project specs.



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PHOTOGRAPHIC LOG
Photo #4 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking south along eastern end of SA-6 cap (at approximate Sta. 2+00).

Description:

ESI placing GCL along eastern end of SA-6 cap (as shown in project drawings) as per project specs.



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PHOTOGRAPHIC LOG
Photo #5 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/8/15

Direction Taken:

Looking northeast toward eastern end of SA-6

Description:

GVL and GCL placed over soil subgrade. GCL overlapped a minimum of 1 ft. with granular bentonite placed along seams (as per project specs).



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PHOTOGRAPHIC LOG
Photo #6 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/8/15

Direction Taken:

Looking northeast toward eastern end of SA-6

Description:

ESI deploying geomembrane panels over GVL and GCL (as per project specs).



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PHOTOGRAPHIC LOG
Photo #7 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/8/15

Direction Taken:

Looking northeast along SA-6

Description:

ESI deploying geomembrane over eastern section of SA-6 (adjacent to Route 440)



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PHOTOGRAPHIC LOG
Photo #8 (10/08/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

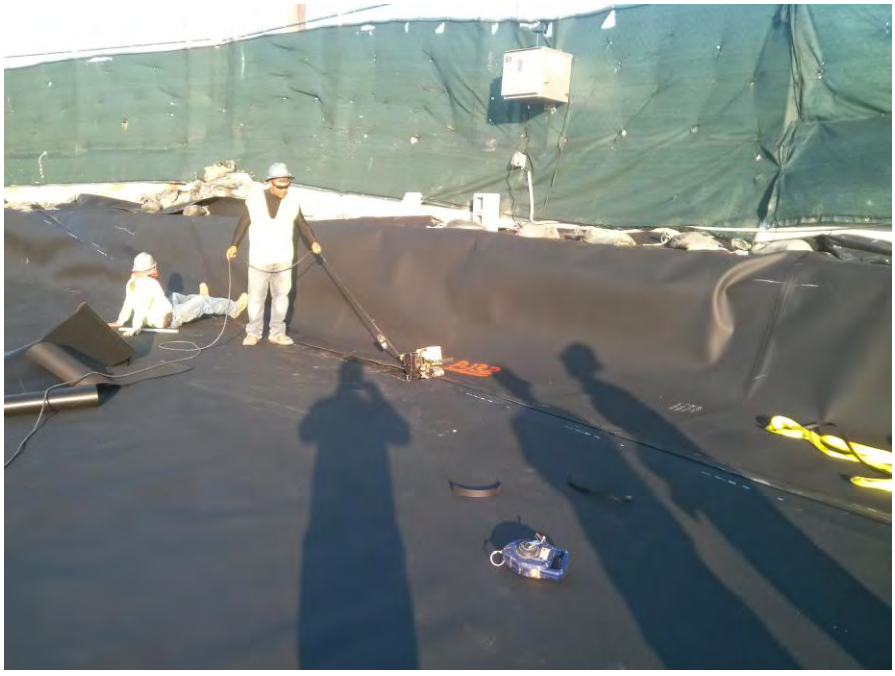
Date:
10/8/15

Direction Taken:

Looking east at eastern end of SA-6 (along Route 440).

Description:

ESI conducting fusion welding along Panel Seams 132/133 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #9 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking northwest along SA-6 cap (at pipe boot for piezometer PZ-12).

Description:

Pipe boot and skirt patch / repair completed for piezometer PZ-12.



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PHOTOGRAPHIC LOG
Photo #10 (10/08/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/8/15

Direction Taken:

Looking northeast along SA-6

Description:

Pipe boot PZ-12 completed with extrusion welds and vacuum box tested to confirm integrity (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	10/09/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	58/75° F, Clear, Overcast, PM T'Storm
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0630 – 1730

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #37**
AmecFW: Stu Bills, Brian Shea, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of placement of geocomposite drainage layer (GDL) continuing along eastern side of 3rd utility corridor, and to eastern end of SA-6, and patch / repair work associated with panels placed from 10/8/15 (Panels #126-134).
- Prior to Site activities, a daily health & safety (H&S) tailgate meeting was conducted with onsite personnel and contractors regarding work to be completed and potential hazards / complications that may be encountered during daily activities. Appropriate personal protective equipment (PPE) was donned (hard hat, safety vest, gloves, eyeglasses, and tyvek suit) prior to entering the work area (SA-6 capping area). It should be noted that after GVL has been placed on SA-6, modified level D PPE (tyvek suit, rubber boots, etc.) was not required.
- Site activities commenced with ESI completing patch / repair work for panels previously placed on 10/8/15 (Panels #126-134). A total of nine repairs (RP-477 through RP-485) were observed and fixed (according to the project specifications) from Panels #126 through Panel #134. Refer to 10/9/15 *Repair Report* for additional details. The majority of these repairs were custom fit details (allow the geomembrane to conform to the SA-6 contours) or seam joint repairs (joints where non-destructive testing was completed). Repairs were patched, sealed with an extrusion weld, and vacuum box tested (according to project specs).
- Two destructive samples were collected from 10/9/15. Destruct sample DSX-13 (extrusion) was collected from RP-477 (Panel #125) and DSX-14 (extrusion) was collected from RP-480 (Panel #132).
- Upon completion of the patch / repair work, ESI completed the final monitoring well, piezometer, and gas vent boots by placing the final butyl sealant around the top of the boot. Additionally, 1-inch pipe bands were placed around the conical Access Manholes (as per project specs).
- With the pipe boots completed, ESI deployed GDL from Panel #125 to Panel #134 (panels placed on 10/9/15). GDL was placed according to project specs with white plastic fasteners spaced at a maximum of 5 ft. and the top layer of geotextile sewn.
- Note: As per the AmecFW GDL Cover Soil Siltation Evaluation and Mitigation Measures Memo (Memo) submitted October 26, 2015, three areas in the field were identified where GDL was exposed and silts were deposited directly onto the GDL. In response to the protective cover soil siltation, three new pieces of GDL were placed directly over the potentially impacted areas to assist in drainage. Additional details of these areas and mitigation measures are further described in the AmecFW Memo, with supporting photographs provided.

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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- During cap placement activities, Entact continued to spread protective cover soil for the area through the 3rd utility corridor (approximate Sta. 6+80, moving east). Protective cover soil was placed following the project specs with warning caution tape spaced at maximum of 55-inch intervals.
- Upon completion of the daily activities, ESI demobilized from the Site, as SA-6 capping activities were completed.

Non-Conformance Items / Corrective Actions

- No non-conformance issues were recorded as patch / repair work completed consisted of custom fit repairs and seam joint patches to allow the geomembrane to conform to the SA-6 contours.

Action Items – Pending

- Complete Daily Report and Photo Log (for 10/9/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Complete Well / Piezometer Penetration Logs (for 3 wells, 5 piezometers, and 8 gas vents).
- Complete Collection Manhole Penetration Logs for Manhole #1, and Manhole #2, Main Access Manhole #3 (located at western slope of 2nd utility corridor), and Manhole #4.
- Review laboratory data for destruct samples DSX-13 and DSX-14.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, and 10/08/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-12. Laboratory results in compliance with shear and peel requirements as outlined in project specifications.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Continue with protective cover soil placement along eastern end of SA-6.
- Ensure destruct samples are in compliance with project specs and complete associated paperwork and construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/9/15
A3 – Photo Log	Pages 1 – 5	Total of 10 photos outlining pertinent daily observations and descriptions for 10/9/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/8/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/9/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/9/15.
A7 – Panel Placement Log		N / A no panels placed on 10/9/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/9/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/9/15
A10 – Repair Log	Pages 23-24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/9/15
A11 – Conformance COC		N / A for 10/9/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/9/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/9/15
A14 – Penetration & Edge Form	Sheets #1-18	Final penetration & edge forms completed for piezometers, wells, gas vents, and access manholes.
A16 – Notice of Non-Compliance		N / A no non-compliance issues encountered on 10/8/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking along SA-6 cap

Description:

ESI preparing geomembrane seam for extrusion weld trial log



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PHOTOGRAPHIC LOG
Photo #2 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking west along southern end of SA-6 cap (Panel #125)

Description:

ESI conducting patch / repair work after collecting destruct sample DSX-13 from RP-477 (Panel #125).



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PHOTOGRAPHIC LOG
Photo #3 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking east along southern end of SA-6 (Panel #125)

Description:

Completed patch / repair for RP-483 with extrusion welds and subsequent vacuum box testing (as per project specs).



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PHOTOGRAPHIC LOG
Photo #4 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6 (at piezometer PZ-12)

Description:

ESI placing final butyl seal around piezometer PZ-12



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PHOTOGRAPHIC LOG
Photo #5 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6 (at PZ-12)

Description:

Final geomembrane boot around piezometer PZ-12 completed with butyl seal. Boot and skirt extrusion welded and vacuum box tested (as per project specs).



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PHOTOGRAPHIC LOG
Photo #6 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking east along SA-6

Description:

Final butyl seal placed around top of gas vent GV-1 (as per project specs).



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PHOTOGRAPHIC LOG
Photo #7 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/9/15

Direction Taken:

Looking south along SA-6

Description:

ESI placing final 1-inch band clamp around Manhole #4 with final butyl seal applied (as per project specs).



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PHOTOGRAPHIC LOG
Photo #8 (10/09/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

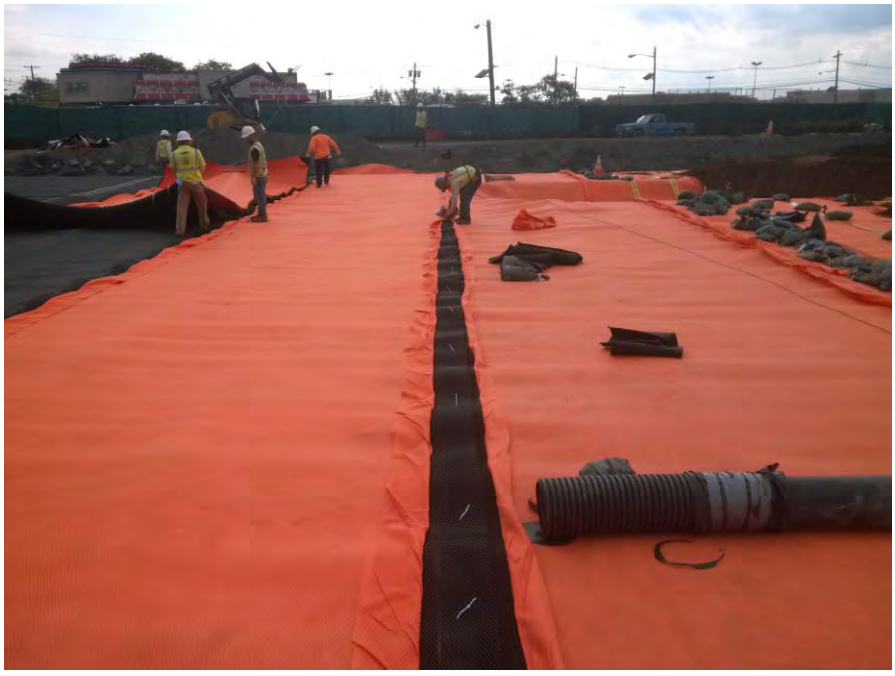
Date:
10/9/15

Direction Taken:

Looking south along SA-6

Description:

ESI deploying GDL over geomembrane panels placed on 10/9/15. GDL placed according to project spec with white plastic fasteners at a maximum of 5 ft. and the top layer of geotextile sewn.



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PHOTOGRAPHIC LOG
Photo #9 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking northwest along SA-6 cap (along SCB wall leading to Lighting Utility Corridor)

Description:

New layer of GDL (approximate 50 ft. by 7.5 ft.) placed along SCB wall over areas where runoff may have caused potential siltation inside GDL. Additional details outlined in the AmecFW Memo.



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PHOTOGRAPHIC LOG
Photo #10 (10/09/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/9/15

Direction Taken:

Looking northeast along SA-6 (lighting corridor looking north)

Description:

New layer of GDL (approximate 20 ft. by 3.75 ft.) placed along lighting corridor (looking north) and identified as area where potential siltation may have occurred. Additional details are outlined in the AmecFW Memo.



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:** Honeywell International, Inc.	**DATE:**	10/12/2015
PROJECT:	SA-6 South Capping		**WEATHER:**	72° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:** Geocomposite & Cap Placement	**TIME:**	1520 – 1720

CONTRACTOR & EQUIPMENT:
ENTACT & ESI
Equipment: Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)

PERSONNEL ON SITE: **Day #38**
AmecFW: Stu Bills, Dave Ambrose, Ari Eslaminejad
Langan: Dan Bosworth
ENTACT / ESI: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with a failed destruct test (DSX-13) for RP-477 located on Panel #125.
- Based on results of the laboratory destruct testing, 1 of 5 specimens exhibited a peel value less than the 66 lb/in value allotted (as per the project specs) for destruct sample DSX-13. Based on this one failure anomaly, the repair associated with DSX-13 (RP-477) was covered with a new patch, welded, and vacuum box tested (as per project specs). In addition, a new destruct sample DSX-15 was collected to confirm the integrity of the new welds associated with the new patch. Note: the average of the 5 peel specimens complied with the project specs (total of 92 lb/in).
- Site activities commenced with ESI completing patch / repair work for RP-477. A new 5 ft. by 15 ft. patch was placed over the repair, sealed with an extrusion weld, and vacuum box tested as per project specs. Once the new repair (RP-487) was complete, a new destruct sample, DSX-15, was collected to confirm the integrity of the weld.
- One destructive sample was collected from 10/12/15. Destruct sample DSX-15 (extrusion) was collected from RP-487 (placed over RP-477). Subsequent laboratory testing yielded peel and shear values that were in compliance with the project specs.

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 11 (Sheet #11) – Failed destruct sample (DSX-13) collected from RP-477 from Panel #125 (failed one of the five specimens for peel testing)
    - Geomembrane patch was placed over RP-477, welded, and vacuum box tested (as per project specs). Additionally, a new destruct sample (DSX-15) was collected from the new patch (RP-487) to confirm the integrity of the new weld. This repair was noted as a failed destruct sample and was completed following project specs and as further defined on *Sheet 11 Notice of Non-Compliance.*

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Action Items – Pending

- Complete Daily Report and Photo Log (for 10/12/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).
- Review laboratory data for destruct samples DSX-15.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, and 10/09/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-14. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13. Subsequent patch / repair work defined within this report for the failed destruct sample.

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Ensure new destruct sample (DSX-15) adheres to project specifications. Subsequent review of the data yielded peel and shear values that were in compliance with the project specs.
- Complete associated paperwork and begin construction certification report.

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 10/12/15
A3 – Photo Log	Pages 1 – 4	Total of 8 photos outlining pertinent daily observations and descriptions for 10/12/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 10/12/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 10/12/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 10/12/15.
A7 – Panel Placement Log		N / A no panels placed on 10/12/15
A8 – Destruct Seam Testing COC	Page 3	Updated with destruct sample information collected form 10/12/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 10/12/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 10/12/15
A11 – Conformance COC		N / A for 10/12/15
A12 – Destructive Seam Field Test	Page 4	Updated with destruct sample information from 10/12/15
A13 – Destruct. Sample Summary	Page 4	One destruct sample information provided by ESI and confirmed by Langan for destruct samples collected from 10/12/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 10/12/15
A16 – Notice of Non-Compliance	Sheet #11	One non-compliance issue encountered on 10/12/15 and documented on *Sheet #11 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

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PHOTOGRAPHIC LOG
Photo #1 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking east along southern end of SA-6 (Panel #125)

Description:

ESI placing new patch over RP-477/RP-483 where destruct specimen (1 of 5) failed to meet project specs (Note: Average of 5 specimens was acceptable).



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PHOTOGRAPHIC LOG
Photo #2 (10/12/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
10/12/15

Direction Taken:

Looking south along southern end of SA-6 (Panel #125)

Description:

ESI leistering and grinding RP-487 for extrusion welding and subsequent vacuum box testing (as per project specs).



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PHOTOGRAPHIC LOG
Photo #3 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking south along SA-6 (at RP-487)

Description:

ESI conducting extrusion welding (as per project specs).



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PHOTOGRAPHIC LOG
Photo #4 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

Patch / repair RP-487 completed with extrusion welds (as per project specs).



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PHOTOGRAPHIC LOG
Photo #5 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI conducting vacuum box testing (as per project specs) for RP-487



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PHOTOGRAPHIC LOG
Photo #6 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking west along southern end of SA-6

Description:

ESI cutting destruct sample DSX-15 from RP-487 to confirm integrity of welds.



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ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #7 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking east along southern end of SA-6

Description:

ESI conducting patch repair work for destruct sample DSX-15 (noted as RP-486 on Repair Report).



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PHOTOGRAPHIC LOG
Photo #8 (10/12/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
10/12/15

Direction Taken:

Looking north / northeast along southern end of SA-6

Description:

Final patch / repair work completed with extrusion welds and vacuum box testing (as per project specs).



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SITE OBSERVATION REPORT

PROJECT No.:	10053001	**CLIENT:**	Honeywell International, Inc.	**DATE:**	11/04/2015
PROJECT:	SA-6 South Capping			**WEATHER:**	55 / 70° F, Clear
LOCATION:	60 Kellogg St., Jersey City New Jersey	**TASK.:**	Geocomposite & Cap Placement	**TIME:**	0845 – 1215

CONTRACTOR & EQUIPMENT: **ENTACT & ESI** *Equipment:* Dozers, Steel Drum Rollers, Skytrak 10 Forklift, Deere 333E Bobcat, Misc. Hand Tools (shovels, rakes)	**PERSONNEL ON SITE:** **Day #39** **AmecFW**: Stu Bills, Dave Ambrose, Ari Eslaminejad **Langan:** Dan Bosworth **ENTACT / ESI**: Keith Goisse, Caroline Panico

Site Activities

- Langan onsite for observation of patch / repair work associated with an equipment puncture that was observed along the northern end of SA-6 (at SCB wall) at approximate Sta. 2+95.
- Based on conversations with the project team, it is understood that during final grading of the area, the tooth of an excavator bucket punctured the GDL and underlying geomembrane cap. This error was attributed to malfunctioning GPS equipment, as the SCB wall (outside of the Cap) was not programmed into the GPS.
- Site activities commenced with ESI completing patch / repair work at the puncture location (along edge of SCB wall at approximate Sta. 2+95. A new piece of GCL was initially placed over the puncture area and a 2 ft. by 1.5 ft. geomembrane patch was then placed over the puncture, and sealed with an extrusion weld (as per project specs). Vacuum box testing could not be completed by ESI, as the patch / repair was located right on the edge of the SCB wall (refer to supporting photo log from 11/4/15).

Non-Conformance Items / Corrective Actions

- Non-Conformance No. 12 (Sheet #12) – Equipment puncture through geomembrane cap.
    - Geomembrane patch was placed over equipment puncture along SCB wall (at approximate Sta. 2+95) and extrusion welded (as per project specs). Prior to patch / repair work, a new piece of GCL was placed over the puncture. This repair was noted as an equipment puncture and was completed following the project specs and as further defined on *Sheet 12 Notice of Non-Compliance.*

Action Items – Pending

- Complete Daily Report and Photo Log (for 11/04/15). Review and confirm supporting QA paperwork (Soil subgrade approval, trail weld log, panel placement, notice of non-compliance, etc.).

Cc Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Action Items – Weekly Completions

- Completed Daily Report, Photo Log, and Soil Subgrade Approval for 7/20/15, 7/21/15, 7/22/15, 7/23/15 and 7/24/15, 7/27/15, 7/28/15, 7/29/15, 7/30/15, 7/31/15, 8/3/15, 8/4/15, 8/5/15, 8/6/15, 8/7/15, 8/10/15, 8/12/15, 8/13/15, 8/15/15, 9/9/15, 9/11/15, 9/14/15, 9/15/15, 9/16/15, 9/17/15, 9/18/15, 9/21/15, 9/22/15, 9/23/15, 9/24/15, 9/25/15, 9/29/15, 10/07/15, 10/08/15, 10/09/15, and 10/12/15 as well as reviewed and approved daily ESI form submittals (i.e. Subgrade, Panel Placement, etc.)
- Reviewed laboratory destruct sample results for samples DS-1 through DS-29, and DSX-1 through DSX-15. Laboratory results in compliance with shear and peel requirements as outlined in project specifications with the exception of DSX-13 (details previously defined in *10/12/15 Daily Report*).

Near Misses / Incidents

- None Encountered

Future Activities Scheduled

- Complete associated paperwork and begin construction certification report.

Daily QA Documents Completed

A1 – Certificate of Completion		To be completed at termination of project
A2 – Receiving and Inspection		N / A – no material delivered on 11/04/15
A3 – Photo Log	Pages 1 – 4	Total of 7 photos outlining pertinent daily observations and descriptions for 11/04/15
A4 – Geosynthetic Inventory Log		Completed to date; no updates from 11/4/15
A5 – Subgrade Approval		N / A no subgrade approval completed on 11/4/15
A6 – Trial Weld Log	Page 7	One trial weld log provided by ESI and confirmed by Langan for prewelds completed up to 11/4/15.
A7 – Panel Placement Log		N / A no panels placed on 11/4/15
A8 – Destruct Seam Testing COC		N / A no destruct samples collected on 11/4/15
A9 – Seam/Non-Destruct. Test Log		N / A no non-destructive testing completed on 11/4/15
A10 – Repair Log	Page 24	One repair log provided by ESI and confirmed by Langan for repairs completed on 11/4/15
A11 – Conformance COC		N / A for 11/4/15
A12 – Destructive Seam Field Test		N / A no destruct samples collected on 11/4/15

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

Daily QA Documents Completed (continued)

A13 – Destruct. Sample Summary		N / A no destruct samples collected on 11/4/15
A14 – Penetration & Edge Form		N / A no penetration and edge forms completed for 11/4/15
A16 – Notice of Non-Compliance	Sheet #12	One non-compliance issue encountered on 11/4/15 and documented on *Sheet #12 Notice of Non-Compliance*

Cc: Jeff Stoicescu, Rory Johnston, Geoff Shallard, Stu Bills, Dave Ambrose

By: Dan Bosworth

Langan Engineering, Environmental, Surveying and Landscape Architecture, D.P.C.

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PHOTOGRAPHIC LOG
Photo #1 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking north along northern end of SA-6 cap (SCB wall) at approximate Sta. 2+95

Description:

Minor puncture along SCB wall from excavator bucket. Tooth of bucket penetrated through GDL and into underlying geomembrane layer.



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PHOTOGRAPHIC LOG
Photo #2 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Area around puncture cleared to allow ESI to complete patch / repair work (as per project specs).



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PHOTOGRAPHIC LOG
Photo #3 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking south along SCB wall

Description:

ESI replacing GCL underneath puncture at SCB wall.



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PHOTOGRAPHIC LOG
Photo #4 (11/04/2015)

Project: Honeywell SA-6 South Capping	**Location:** SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**Project No.** **100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall (northern end of SA-6)

Description:

New geomembrane patch leistered over puncture



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ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #5 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking east along SA-6 (at SCB wall)

Description:

ESI conducting extrusion welding over new patch / repair (RP-488).



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ENGINEERING & ENVIRONMENTAL SERVICES

PHOTOGRAPHIC LOG
Photo #6 (11/04/2015)

Project:	Location:	Project No.
Honeywell SA-6 South Capping	SA-6 South (Parallel to Kellogg St.) Jersey City, New Jersey	**100530001**

Date:
11/4/15

Direction Taken:

Looking north along SCB wall

Description:

Extrusion welding along patch completed (as per project specs). Vacuum box testing unable to be conducted based on the location of the patch (on edge of SCB wall). Weld visually inspected by Entact / Langan.



Appendix G
Receiving Inspection Reports (RIRs)

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02375
Received From: CETCO									Receiving Report Number: 27
Address: Lovell Plant, 92 HWY 37, Lovell WY 82431									Date: 6/15/15
QC Inspection by: CP		QC Date: 6/15/15		Inv. Or Packing Slip No.:		Inv. Or Packing Slip Date: 6/10/15			PO Number: E8140C-082
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
		5					43	48	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	15	Rolls	Bentomat DN GCL for SA6 North and South Caps (32,625 SF/39,241 lbs) Sammons Truck #2531; Shipper No - 031527601	0	0
2	14	Rolls	Bentomat DN GCL for SA6 North and South Caps (30,450 SF/34,183 lbs) Corcoran Truck #9805; Shipper No - 031527602	0	0
3	14	Rolls	Bentomat DN GCL for SA6 North and South Caps (30,450 SF/39,067 lbs) Adams Trucking Truck #347; Shipper No - 031527603	0	0
4	5	Bags	Granular Bentonite (250 lbs) Sammons Truck #2531; Shipper No - 031527601	0	0
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Trailer Trucks (Sammons, Corcoran, Adams)		Car # See above	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.: BOL and Packing List Attached	Freight Bill (Pro) No.: BOL and Packing List Attached	Weight: 112,741 lbs (total)	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527603 | **Previous Page**

Straight Bill of Lading - Original Loader: JANDER Time In: 6/11/15-15:22:37 Time Out: **6/11/15-16:42:11**

Carrier: ADAMS TRUCKING
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/10/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 347 Trailer #: 395/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
32625.0000 SF	30450.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	39067.3500

Gross: 46000.0000 Tare: 0.0000 **Total**: 46000

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier:

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation.

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527603
ORDER DATE: 5/05/2015
SHIP DATE:. 6/11/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004066	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004068	150.0	14.5	2175.0	3160.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004073	150.0	14.5	2175.0	3225.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004074	150.0	14.5	2175.0	3165.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004075	150.0	14.5	2175.0	3230.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004076	150.0	14.5	2175.0	3205.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004077	150.0	14.5	2175.0	3210.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004078	150.0	14.5	2175.0	3235.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004079	150.0	14.5	2175.0	3260.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004080	150.0	14.5	2175.0	3285.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004081	150.0	14.5	2175.0	3330.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004084	150.0	14.5	2175.0	3290.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004085	150.0	14.5	2175.0	3315.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004090	150.0	14.5	2175.0	3300.0
							========	
							30450.0	
							========	
								========
ORDER TOTALS.....								45380.0

TOTAL ITEMS..... 14

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AMERICAN COLLOID COMPANY



Shippers No : 031527601 | **Previous Page**

Straight Bill of Lading - Original Loader: HMCKI Time In: 6/9/15-17:41:01 Time Out: **6/9/15-19:01:07**

Carrier: SAMMONS
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/10/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 2531 Trailer #: 3232/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
34800.0000 SF	32625.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	39241.7578
5.0000 EACH	5.0000 EACH		COMMODITY GRANULAR-50 (10902/024) CLAY-BENTONITE-GROUND CLASS 50 ITEM 48170 / 3295232 3295232	250.0000

Gross: 47700.0000 Tare: 0.0000 **Total**: 47700

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier: 6-10-15 507599020

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527601
ORDER DATE: 5/05/2015
SHIP DATE:. 6/09/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

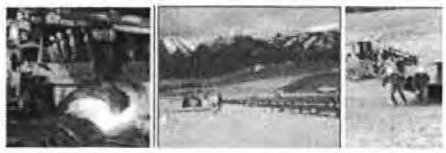
PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004064	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004070	150.0	14.5	2175.0	3200.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004071	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004072	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004082	150.0	14.5	2175.0	3330.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004094	150.0	14.5	2175.0	3235.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004095	150.0	14.5	2175.0	3200.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004101	150.0	14.5	2175.0	3125.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004102	150.0	14.5	2175.0	3090.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004103	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004104	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004107	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004108	150.0	14.5	2175.0	3150.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004109	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004110	150.0	14.5	2175.0	3130.0
							32625.0	
LO-CG 50-LT	50B	EA					5.0	250.0
							5.0	

ORDER TOTALS..... 47720.0

TOTAL ITEMS..... 16

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527602 Previous Page

Straight Bill of Lading - Original Loader: DRICH Time In: 6/10/15-11:00:30 Time Out: **6/10/15-12:13:36**

Carrier: CORCORAN
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/10/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 9805 Trailer #: 547/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
34800.0000 SF	30450.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	34183.9313

Gross: 44830.0000 Tare: 0.0000 **Total**: 44830

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier: J. Carter

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation.

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527602
ORDER DATE: 5/05/2015
SHIP DATE:. 6/10/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004086	150.0	14.5	2175.0	3335.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004087	150.0	14.5	2175.0	3270.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004088	150.0	14.5	2175.0	3305.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004089	150.0	14.5	2175.0	3290.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004091	150.0	14.5	2175.0	3250.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004092	150.0	14.5	2175.0	3190.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004093	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004096	150.0	14.5	2175.0	3210.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004097	150.0	14.5	2175.0	3170.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004098	150.0	14.5	2175.0	3125.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004099	150.0	14.5	2175.0	3130.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004100	150.0	14.5	2175.0	3120.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004105	150.0	14.5	2175.0	3120.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004106	150.0	14.5	2175.0	3145.0
							========	
							30450.0	
							========	

ORDER TOTALS..... 44830.0

TOTAL ITEMS..... 14

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02380 Gas Venting System
Received From: Advanced Drainage Systems, Inc. (ADS)									Receiving Report Number: 28
Address: Logan Township NJ									Date: 6/15/15
QC Inspection by: CP		QC Date: 6/15/15		Inv. Or Packing Slip No.: BOL #2946738		Inv. Or Packing Slip Date: 6/13/15			PO Number: E8140C-082
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Reels	Total Packages	Received By: ENTACT
4				115				119	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	2,300	LF	8” ADS Single Wall Heavy Duty Perforated Pipe (115 – 20’ lengths) for gas venting system	0	0
2	120	EA	8” ADS Internal Couplers	0	0
3	10	EA	8” ADS Injection Molded Tees	0	0
4	40	EA	8” ADS 45 Degree Bends	0	0
5	2	EA	8” ADS Snap End Caps	0	0
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ADS		Car # 25694	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:	Freight Bill (Pro) No.: BOL - 2946738	Weight: 3090 lbs	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02375
Received From: CETCO									Receiving Report Number: 29
Address: Lovell Plant, 92 HWY 37, Lovell WY 82431									Date: 6/18/15
QC Inspection by: CP		QC Date: 6/18/15		Inv. Or Packing Slip No.:		Inv. Or Packing Slip Date: 6/15/15			PO Number: E8140C-082
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
							4	4	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

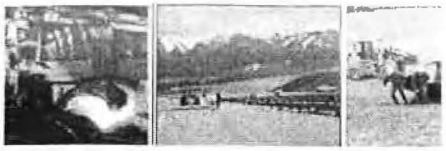
Line	Quantity	Unit	Description	Over	Short
1	4	Rolls	Bentomat DN GCL for SA6 North and South Caps (8,700 SF/11,162 lbs) SA Express Truck #9202; Shippers No 031527604	0	0
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: SA Express		Car # 031527604	Payment:	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.: BOL and Packing List Attached	Freight Bill (Pro) No.: BOL and Packing List Attached	Weight: 11,162 lbs (total)	Amount:		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

CETCO

AMERICAN COLLOID COMPANY



Shippers No : 031527604 Previous Page

Straight Bill of Lading - Original Loader: JANDER Time In: 6/15/15-15:28:10 Time Out: **6/15/15-16:17:03**

Carrier: SA EXPRESS
Consigned To :
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257

JERSEY CITY NJ 07305
Phone:

CETCO 2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192
Deliver Date : 12/31/2015
Ship Date : 06/16/2015 **Via**: NATI
FOB ORIGIN

Sold To : 1823 **Ship To** : 208
Consigned PO: 21574
Truck #: 9202 Trailer #: 53301/

Shipping Plant: CETCO LOVELL PLANT 92 HWY 37 LOVELL WY 82431
Product Lots: Seal #: --enter here-- Container/Pro #:

Global Comments: ALL SHIPMENTS LOADED ON FLATBED OR OPEN TOP TRAILERS MUST BE COVERED WITH ADEQUATE TARPAULIN PRIOR TO HIGHWAY MOVEMENT. CARRIER WILL BE HELD FULLY RESPONSIBLE FOR LOSS OR DAMAGE OCCURRING TO UNPROTECTED LOADS. LOADS MAY NOT BE UNTARPED FOR ANY REASON PRIOR TO DELIVERY TO THE CUSTOMER UNTARPING THE LOAD MAY RESULT IN REJECTION OF THE MATERIAL AND LIABILITY TO THE CARRIER
Customer Comments:
Order Comments: CALL AHEAD CAROLINE PANICO 630.669.4257
Quote #:

Order Qty	Shipped Qty	HM	Product Size / Description	Weight
8700.0000 SF	8700.0000 SF		BENTOMAT DN (DOUBLE NON-WOVEN) CLOTH,FABRIC OR PIECE GOODS,NOI,OTHER THAN FOR THE MANUFACTURE OF CLOTHING: CLASS 65 / ITEM 49265 SUB 10	11162.1000

Gross: 0.0000 Tare: 0.0000 **Total**: 11162

Subject to section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement: The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges

CETCO

If the charges are to be prepaid, write or stamp here, "Prepaid."
Prepaid
Shipper liable for the linehaul charges only. COD charges to be paid by: Consignee

Phone:
Fax:
Attn:

Mark with an 'X' to designate hazardous materials as defined in title 49 of the code of Federal Regulations. Received Subject to the classifications and lawfully filed tariffs in effect on the date of issued of this billing of lading, the properly described above in apparent good order, expect as noted (contents and conditions of contents of packages unknown) marked, consigned, and destined as indicated above which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of the said property over all or any portion of the said route to destination , and as to each party at any time interested in all or any said property, that every service to be performed hereunder shall be subject to all the terms and conditions of the Uniform Domestic Stright Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification of tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

Carrier:

This is to certify that the above named materials are properly classified, described, packaged, and labeled and are in proper condition for transportation according to the applicable regulations of the department of Transportation.

Per _____ **Placards Required?** Yes / No **Supplied?** Yes / No

P A C K I N G L I S T

COLLOID ENVIRONMENTAL TECH LLC
2870 FORBS AVENUE
HOFFMAN ESTATES IL 60192

ORDER NO:.. 031527604
ORDER DATE: 5/05/2015
SHIP DATE:. 6/15/2015

SOLD TO: 1823
ESI
7943 PECUE LANE

BATON ROUGE LA 70809

SHIP FROM:. CETCO LOVELL PLANT
FRT TERMS:. PREPAID & ADD
SHIP VIA:.. AMERICO LOGISTICS

SHIP TO: 208
HONEYWELL CHRONIUM AREA
60 KELLOGG STREET
attn: CAROLINE PANICO
630-669-4257
JERSEY CITY NJ 07305

PO: 21574

PRODUCT	SIZE	U/M	LOT #	ROLL#	LNGTH	WIDTH	SHIP QTY	WEIGHT
LO-BENTOMAT DN		SFT	SF 201524LO	00004065	150.0	14.5	2175.0	3115.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004067	150.0	14.5	2175.0	3155.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004069	150.0	14.5	2175.0	3180.0
LO-BENTOMAT DN		SFT	SF 201524LO	00004083	150.0	14.5	2175.0	3340.0
							8700.0	

ORDER TOTALS..... 12790.0

TOTAL ITEMS..... 4

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 33
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/7/15
QC Inspection by: CP		QC Date: 7/6/15		Inv. Or Packing Slip No.: C00008103		Inv. Or Packing Slip Date: 7/2/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (96,570 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Landstar		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008103	Freight Bill (Pro) No.: Packing List Attached	Weight: 25,658 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008103
Ship Date: 7/2/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010001	3,625.00
2	0065211010002	3,625.00
3	0065211010003	3,625.00
4	0065211010004	3,625.00
5	0065211010005	3,625.00
6	0065211010006	3,625.00
7	0065211010007	3,625.00
8	0065211010008	3,625.00
9	0065211010009	3,625.00
10	0065211010010	3,625.00
11	0065211010011	3,625.00
12	0065211010012	3,625.00
13	0065211010013	3,625.00
14	0065211010014	3,625.00
15	0065211010015	3,625.00
16	0065211010016	3,625.00
17	0065211010017	3,625.00
18	0065211010018	3,625.00
19	0065211010019	3,625.00
20	0065211010020	3,625.00
21	0065211010021	3,625.00
22	0065211010022	3,625.00
23	0065211010023	3,625.00
24	0065211010024	2,320.00
25	0065211010025	3,625.00
26	0065211010026	3,625.00
27	0065211010027	3,625.00

Total Rolls: 27
Total Sq Feet: 96,570.00
Total Weight (lbs): 25,658.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Landstar
Date: 7/2/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5487399

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02373
Received From: SKAPS Industries									Receiving Report Number: 33
Address: 335 Athena Drive – Warehouse A001, Athens, GA 30601									Date: 6/29/15
QC Inspection by: CP		QC Date: 6/29/15		Inv. Or Packing Slip No.: BOL-48066		Inv. Or Packing Slip Date: 6/26/15			PO Number: 8140C-080 (IWT/Cargo-Guard)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
							25	25	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	25	Rolls	SKAPS GE116 – 180 x 360 (16 oz/sy non- woven geotextile) (15,000 square yards)	0	0
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: SKAPS Industries		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:	Freight Bill (Pro) No.: 48066 Packing List Attached	Weight: 15,292 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

Straight Bill of Lading

Original - Not Negotiable

SKAPS Industries
335 Athena Drive - Warehouse A001
Athens, GA 30601
UNITED STATES

Phone: 706-354-3700
Fax: 706-354-3737

Bill of Lading # DDA:	048066
BOL Date:	6/26/15
Sales Order # ORA:	038335
Customer PO #:	20252

Prepay & Add

Sold To:	**Ship To:**
Iwt/Cargo-Guard P.O. Box 454 Waretown, NJ, 08758 UNITED STATES	**Entact** 60 Kellogg St. Jersey City, NJ 07305 UNITED STATES Attn: Dan Harris Phone: 405-206-4659

Trailer # 6	**Seal #** N/A	**Carrier** Medallion Transport & Logistic

Ln	Product	No. of Rolls	Weight (LBS)	Square Yards
1	GE116-180 x 360	25	15,292	15,000.00
		25	**15,292**	**15,000.00**

Comments:

Any discrepancies must be reported, within 3 days of receipt of goods, to SKAPS Industries

Required delivery dates are subject to change.

Construction job site delivery

Customer has equipment to off-load truck

Received at Athens, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route, to destination and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to either: (a) if the shipper noted herein is SKAPS Industries, as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the contract for truck transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries, then SKAPS Industries is acting solely as the agent for the denoted Shipper and thus every aspect of the service to be performed hereunder between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff, if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper, in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation Carrier, having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries, subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

SHIPPER **SKAPS Industries - Athens, GA 30601**	CARRIER
PER	PER
EMERGENCY RESPONSE TELEPHONE NUMBER **706-354-3700**	DATE

TIME IN: 10:55 am TIME OUT: 11:30 am PRO #:

DRIVER NAME: DRIVER PHONE:

RECEIVED BY: _____ SIGN _____ PHONE# _____

Packing List

BOL NO. 48066

Customer 271
Customer PO 20252
Customer Name Iwt/Cargo-Guard
Ship To Entact
60 Kellogg St.
Jersey City,NJ 07305

Order No ORA-038335
Due Date
Site Location Athens Warehouse 01

Item Number	# OF ROLLS	Product Quantity	Label
1 GE116-180 x 360	25	15,000 Y2	
38335.1	1	600 Y2	0001
38335.2	1	600 Y2	0001
38335.3	1	600 Y2	0001
38335.4	1	600 Y2	0001
38335.5	1	600 Y2	0001
38335.6	1	600 Y2	0001
38335.7	1	600 Y2	0001
38335.8	1	600 Y2	0001
38335.9	1	600 Y2	0001
38335.10	1	600 Y2	0001
38335.11	1	600 Y2	0001
38335.12	1	600 Y2	0001
38335.13	1	600 Y2	0001
38335.14	1	600 Y2	0001
38335.15	1	600 Y2	0001
38335.16	1	600 Y2	0001
38335.17	1	600 Y2	0001
38335.18	1	600 Y2	0001
38335.19	1	600 Y2	0001
38335.20	1	600 Y2	0001
38335.21	1	600 Y2	0001
38335.22	1	600 Y2	0001
38335.23	1	600 Y2	0001
38335.24	1	600 Y2	0001
38335.25	1	600 Y2	0001

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 34
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/7/15
QC Inspection by: CP		QC Date: 7/6/15		Inv. Or Packing Slip No.: C00008112		Inv. Or Packing Slip Date: 7/2/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (98,600 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Landmark		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008112	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,540 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries

571 Industrial Parkway
Commerce, GA 30529
Ph: 706-336-7000 Fax: 706-336-7007

Bill of Lading # : C00008112
Ship Date : 7/2/2015
Sales Order #: C002021
Customer Name : ESI
Cust. P.O. # : 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal # :

SHIP-TO:
Project: Honeywell Chronium Area, NJ
Address: 60 Kellogg St
City, State, Zip : Jersey City, NJ 07605
Contact: Caroline Panico
Phone: 630-669-4257

Product Code: TN

No	Roll#	Sq. Ft.
1	0065211010028	3625
2	0065211010029	3625
3	0065211010030	3625
4	0065211010031	3625
5	0065211010032	3625
6	0065211010033	3625
7	0065211010034	3625
8	0065211010035	3625
9	0065211010036	3625
10	0065211010037	3625
11	0065211010038	3625
12	0065211010039	3625
13	0065211010040	4350
14	0065211010041	3625
15	0065211010042	3625
16	0065211010043	3625
17	0065211010044	3625
18	0065211010045	3625
19	0065211010046	3625
20	0065211010047	3625
21	0065211010048	3625
22	0065211010049	3625
23	0065211010050	3625
24	0065211010051	3625
25	0065211010052	3625
26	0065211010053	3625
27	0065211010054	3625
Total Rolls :		27
Total Sq. Feet:		98,600.00
Total Weight (lbs):		29,540.00

Bags of ties : 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE , GA 30529

ATTN RECEIVER : Please sign below if you have received the above mentioned items and any discrepancies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Received Date	Receiver's Company Name :

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings : _____
Driver's Name : _____
Driver's Sign : _____
Driver's Cell Phone # : _____
Trucking Co. : _____
Trucking Co. Phone # : _____
Broker : Landmark
Date : 7/2/2015
Truck Departure Time : _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5487484

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed hereunder shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for Truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be performed hereunder between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this is a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries. Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 35
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/8/15
QC Inspection by: CP		QC Date: 7/8/15		Inv. Or Packing Slip No.: C00008122		Inv. Or Packing Slip Date: 7/6/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Millennium Trucking		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008122	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,628 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008122
Ship Date: 7/6/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: Edwin Diaz

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010055	3,625.00
2	0065211010056	3,625.00
3	0065211010057	3,625.00
4	0065211010058	3,625.00
5	0065211010059	3,625.00
6	0065211010060	3,625.00
7	0065211010061	3,625.00
8	0065211010062	3,625.00
9	0065211010063	3,625.00
10	0065211010064	3,625.00
11	0065211010065	3,625.00
12	0065211010066	3,625.00
13	0065211010067	3,625.00
14	0065211010068	3,625.00
15	0065211010069	3,625.00
16	0065211010070	3,625.00
17	0065211010071	3,625.00
18	0065211010072	3,625.00
19	0065211010073	3,625.00
20	0065211010074	3,625.00
21	0065211010075	3,625.00
22	0065211010076	3,625.00
23	0065211010077	3,625.00
24	0065211010078	3,625.00
25	0065211010079	3,625.00
26	0065211010080	3,625.00
27	0065211010081	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 26,628.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items.
Driver's Sign: Eric Brooks

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: Eric Brooks
Driver's Sign: Eric Brooks
Driver's Cell Phone #: 478-244-8201
Trucking Co.: Millennium Trucking
Trucking Co. Phone #: 770-817-1790
Broker: ATS Logistics
Date: 7/6/15
Truck Departure Time: 3:15 pm

Comments:
Driver please call 24 hours prior to delivery
Freight view shipper # : 5487537

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

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Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 36
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/8/15
QC Inspection by: CP		QC Date: 7/8/15		Inv. Or Packing Slip No.: C00008137		Inv. Or Packing Slip Date: 7/7/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Universal truckload, Inc		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008137	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,130 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008137
Ship Date: 7/7/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: Sarey Patty
SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010082	3,625.00
2	0065211010083	3,625.00
3	0065211010084	3,625.00
4	0065211010085	3,625.00
5	0065211010086	3,625.00
6	0065211010087	3,625.00
7	0065211010088	3,625.00
8	0065211010089	3,625.00
9	0065211010090	3,625.00
10	0065211010091	3,625.00
11	0065211010092	3,625.00
12	0065211010093	3,625.00
13	0065211010094	3,625.00
14	0065211010095	3,625.00
15	0065211010096	3,625.00
16	0065211010097	3,625.00
17	0065211010098	3,625.00
18	0065211010099	3,625.00
19	0065211010100	3,625.00
20	0065211010101	3,625.00
21	0065211010102	3,625.00
22	0065211010103	3,625.00
23	0065211010104	3,625.00
24	0065211010105	3,625.00
25	0065211010106	3,625.00
26	0065211010107	3,625.00
27	0065211010108	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 26,130.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: [signature]

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: [signature]
Driver's Sign: [signature]
Driver's Cell Phone #: 254-541-7635
Trucking Co.: Gma Trucking LLC
Trucking Co. Phone #: 254-541-7635
Broker: Universal Truckload, Inc.
Date: 7/7/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5487538

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 37
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/10/15
QC Inspection by: CP		QC Date: 7/10/15		Inv. Or Packing Slip No.: C00008143		Inv. Or Packing Slip Date: 7/7/15			PO Number: Environmental Specialties Inc. (ESI)
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Liberty Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008143	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,033 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008143
Ship Date: 7/7/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER:
SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010109	3,625.00
2	0065211010110	3,625.00
3	0065211010111	3,625.00
4	0065211010112	3,625.00
5	0065211010113	3,625.00
6	0065211010114	3,625.00
7	0065211010115	3,625.00
8	0065211010116	3,625.00
9	0065211010117	3,625.00
10	0065211010118	3,625.00
11	0065211010119	3,625.00
12	0065211010120	3,625.00
13	0065211010121	3,625.00
14	0065211010122	3,625.00
15	0065211010123	3,625.00
16	0065211010124	3,625.00
17	0065211010125	3,625.00
18	0065211010126	3,625.00
19	0065211010127	3,625.00
20	0065211010128	3,625.00
21	0065211010129	3,625.00
22	0065211010130	3,625.00
23	0065211010131	3,625.00
24	0065211010132	3,625.00
25	0065211010133	3,625.00
26	0065211010134	3,625.00
27	0065211010135	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 26,033.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :
Driver's Sign:

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries witnin 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:
1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.: LIBERTY LOGISTICS
Trucking Co. Phone #:
Broker: Meranu Leasing Inc. DBA Liberty Logistics
Date: 7/7/15
Truck Departure Time:

Comments:
Driver please call 24 hours prior to delivery
Freight view shipper # : 5487504

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) If the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occuring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 38
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/14/15
QC Inspection by: CP		QC Date: 7/15/15		Inv. Or Packing Slip No.: C00008174		Inv. Or Packing Slip Date: 7/10/15			PO Number: IWT/Cargo-Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,040 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Load Pro		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008174	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,692 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008174
Ship Date: 7/10/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010002	2,800.00
2	0064021010003	2,800.00
3	0064021010004	2,800.00
4	0064021010005	2,800.00
5	0064021010006	2,800.00
6	0064021010007	2,240.00
7	0064021010008	2,800.00
8	0064021010009	2,800.00
9	0064021010010	2,800.00
10	0064021010011	2,800.00
11	0064021010012	2,800.00
12	0064021010013	2,800.00
13	0064021010014	2,800.00
14	0064021010015	2,800.00
15	0064021010016	2,800.00
16	0064021010017	2,800.00
17	0064021010018	2,800.00
18	0064021010019	2,800.00
19	0064021010020	2,240.00
20	0064021010021	3,360.00
21	0064021010022	2,800.00
22	0064021010023	2,800.00
23	0064021010024	2,800.00
24	0064021010025	2,800.00
25	0064021010026	2,800.00
26	0064021010027	2,800.00
27	0064021010028	2,800.00

Total Rolls: 27
Total Sq Feet: 75,040.00
Total Weight (lbs): 28,692.00

Bags of Ties: 2

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Load Pro
Date: 7/10/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5514893

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 39
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/14/15
QC Inspection by: CP		QC Date: 7/15/15		Inv. Or Packing Slip No.: C00008181		Inv. Or Packing Slip Date: 7/13/15			PO Number: IWT/Cargo-Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,390 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: TQL		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008181	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,911 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008181
Ship Date: 7/13/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010029	2,800.00
2	0064021010030	2,800.00
3	0064021010031	2,660.00
4	0064021010032	2,800.00
5	0064021010033	2,800.00
6	0064021010034	2,800.00
7	0064021010035	2,800.00
8	0064021010036	2,800.00
9	0064021010037	2,730.00
10	0064021010038	2,800.00
11	0064021010039	2,800.00
12	0064021010040	2,800.00
13	0064021010041	2,800.00
14	0064021010042	2,800.00
15	0064021010043	2,800.00
16	0064021010044	2,800.00
17	0064021010045	2,800.00
18	0064021010046	2,800.00
19	0064021010047	2,800.00
20	0064021010048	2,800.00
21	0064021010049	2,800.00
22	0064021010050	2,800.00
23	0064021010051	2,800.00
24	0064021010052	2,800.00
25	0064021010053	2,800.00
26	0064021010054	2,800.00
27	0064021010055	2,800.00

Total Rolls: 27
Total Sq Feet: 75,390.00
Total Weight (lbs): 28,911.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name _____ Receiver's Signature _____

Receive Date _____ Receiver's Company Name _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: TQL
Date: 7/13/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5521502

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 40
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008185		Inv. Or Packing Slip Date: 7/13/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (97,875 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Landstar		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008185	Freight Bill (Pro) No.: Packing List Attached	Weight: 27,625 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

7/15

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008185
Ship Date: 7/13/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010140	3,625.00
2	0065211010141	3,625.00
3	0065211010142	3,625.00
4	0065211010143	3,625.00
5	0065211010144	3,625.00
6	0065211010145	3,625.00
7	0065211010146	3,625.00
8	0065211010147	3,625.00
9	0065211010148	3,625.00
10	0065211010149	3,625.00
11	0065211010150	3,625.00
12	0065211010151	3,625.00
13	0065211010152	3,625.00
14	0065211010153	3,625.00
15	0065211010154	3,625.00
16	0065211010155	3,625.00
17	0065211010156	3,625.00
18	0065211010157	3,625.00
19	0065211010158	3,625.00
20	0065211010159	3,625.00
21	0065211010160	3,625.00
22	0065211010161	3,625.00
23	0065211010162	3,625.00
24	0065211010163	3,625.00
25	0065211010164	3,625.00
26	0065211010165	3,625.00
27	0065211010166	3,625.00

Total Rolls: 27
Total Sq Feet: 97,875.00
Total Weight (lbs): 27,625.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Landstar
Date: 7/13/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery.
Freight view shipper # : 5523988

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 41
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008187		Inv. Or Packing Slip Date: 7/13/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (95,845 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Medallion Transport and Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008187	Freight Bill (Pro) No.: Packing List Attached	Weight: 26,210 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008187
Ship Date: 7/13/15
Sales Order #: C002021
Custorner Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010136	3,625.00
2	0065211010137	3,625.00
3	0065211010138	3,625.00
4	0065211010139	3,625.00
5	0065211010167	3,625.00
6	0065211010168	3,625.00
7	0065211010169	3,625.00
8	0065211010170	3,625.00
9	0065211010171	3,625.00
10	0065211010172	3,625.00
11	0065211010173	3,625.00
12	0065211010174	3,625.00
13	0065211010175	1,595.00
14	0065211010176	3,625.00
15	0065211010177	3,625.00
16	0065211010178	3,625.00
17	0065211010179	3,625.00
18	0065211010180	3,625.00
19	0065211010181	3,625.00
20	0065211010182	3,625.00
21	0065211010183	3,625.00
22	0065211010184	3,625.00
23	0065211010185	3,625.00
24	0065211010186	3,625.00
25	0065211010187	3,625.00
26	0065211010188	3,625.00
27	0065211010189	3,625.00

Total Rolls: 27
Total Sq Feet: 95,845.00
Total Weight (lbs): 26,210.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Medallion Transport & Logistics LLC.
Date: 7/13/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5516945

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 42
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008193		Inv. Or Packing Slip Date: 7/14/15			PO Number: IWT CargoGuard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,530 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Liberty Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008193	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,055 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008193
Ship Date: 7/14/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: Dhiru Patel

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010001	2,800.00
2	0064021010057	2,800.00
3	0064021010058	2,730.00
4	0064021010059	2,800.00
5	0064021010060	2,800.00
6	0064021010061	2,800.00
7	0064021010062	2,800.00
8	0064021010063	2,800.00
9	0064021010064	2,800.00
10	0064021010065	2,800.00
11	0064021010066	2,800.00
12	0064021010067	2,800.00
13	0064021010068	2,800.00
14	0064021010069	2,800.00
15	0064021010070	2,800.00
16	0064021010071	2,800.00
17	0064021010072	2,800.00
18	0064021010073	2,800.00
19	0064021010074	2,800.00
20	0064021010075	2,800.00
21	0064021010076	2,800.00
22	0064021010077	2,800.00
23	0064021010078	2,800.00
24	0064021010079	2,800.00
25	0064021010080	2,800.00
26	0064021010081	2,800.00
27	0064021010082	2,800.00

Total Rolls: 27
Total Sq Feet: 75,530.00
Total Weight (lbs): 29,055.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: Curtis Davis

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: Curtis Davis
Driver's Sign: CURTIS DAVIS
Driver's Cell Phone #: 601339410 9
Trucking Co.: LIBERTY LOGISTIC
Trucking Co. Phone #: 6[illegible]3394105
Broker: Meranu Leasing Inc. DBA Liberty Logistics
Date: 7/14/15
Truck Departure Time:

Comments:
Driver please call 24 hours prior to delivery
Freight view shipper # : 5523946

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 43
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008200		Inv. Or Packing Slip Date: 7/15/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			16	18	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	16	Rolls	TN 220-2-6 Geocomposite (Gas Vent Layer) (75,530 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Coyote		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008200	Freight Bill (Pro) No.: Packing List Attached	Weight: 16,243 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

7/14

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008200
Ship Date: 7/15/15
Sales Order #: C002021
Customer Name: Environmental Specialties Int'l, Inc-ESI
Cust. P.O. #: 21702
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Honeywell Chromium Area, NJ
Address: 60 Kellogg Street
City, State, Zip: Jersey City, NJ, 07305
Contact: Caroline Panico
Phone: 630-669-4257

SIGN HERE FOR SHIPPER: Julio Rodriguez

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Product Code: TN220-2-6

No	Roll #	Sq. Ft.
1	0065211010190	3,480.00
2	0065211010191	3,480.00
3	0065211010192	3,480.00
4	0065211010193	3,480.00
5	0065211010194	3,480.00
6	0065211010195	3,480.00
7	0065211010196	3,625.00
8	0065211010197	3,625.00
9	0065211010198	3,625.00
10	0065211010199	3,625.00
11	0065211010200	3,625.00
12	0065211010201	3,625.00
13	0065211010202	3,625.00
14	0065211010203	3,625.00
15	0065211010204	3,625.00
16	0065211010205	3,625.00

Total Rolls: 16
Total Sq Feet: 57,130.00
Total Weight (lbs): 16,243.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: x

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: FLOYD RISS
Driver's Sign:
Driver's Cell Phone #: 404 980 3304
Trucking Co.: FSK
Trucking Co. Phone #: SAME
Broker: Coyote 3:00 PM
Date: 7/15/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5516953

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 44
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008197		Inv. Or Packing Slip Date: 7/15/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			29	31	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	29	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (78,540 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Freightquote		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008197	Freight Bill (Pro) No.: Packing List Attached	Weight: 30,326 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

7/16

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008197
Ship Date: 7/15/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: Roohi Patel

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010056	2,240.00
2	0064021010110	2,800.00
3	0064021010111	2,240.00
4	0064021010112	3,150.00
5	0064021010113	2,800.00
6	0064021010114	2,800.00
7	0064021010115	2,800.00
8	0064021010116	2,800.00
9	0064021010117	2,800.00
10	0064021010118	2,800.00
11	0064021010119	2,800.00
12	0064021010120	2,800.00
13	0064021010121	3,430.00
14	0064021010122	2,170.00
15	00640210101221	1,120.00
16	0064021010123	2,800.00
17	0064021010124	2,800.00
18	0064021010125	2,590.00
19	0064021010126	2,870.00
20	0064021010127	3,080.00
21	0064021010128	2,450.00
22	0064021010129	2,800.00
23	0064021010130	2,800.00
24	0064021010131	2,800.00
25	0064021010132	2,800.00
26	0064021010133	2,800.00
27	0064021010134	2,800.00
28	0064021010135	2,800.00
29	0064021010136	2,800.00

Total Rolls: 29
Total Sq Feet: 78,540.00
Total Weight (lbs): 30,326.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.:
Trucking Co. Phone #:
Broker: Freightquote
Date: 7/15/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5530510

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 45
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/16/15		Inv. Or Packing Slip No.: C00008201		Inv. Or Packing Slip Date: 7/15/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,600 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Coyote		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008201	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,088 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

7/16

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008201
Ship Date: 7/15/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: Rooshi Patel
SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010083	2,800.00
2	0064021010084	2,800.00
3	0064021010085	2,800.00
4	0064021010086	2,800.00
5	0064021010087	2,800.00
6	0064021010088	2,800.00
7	0064021010089	2,800.00
8	0064021010090	2,800.00
9	0064021010091	2,800.00
10	0064021010092	2,800.00
11	0064021010093	2,800.00
12	0064021010094	2,800.00
13	0064021010095	2,800.00
14	0064021010096	2,800.00
15	0064021010097	2,800.00
16	0064021010098	2,800.00
17	0064021010099	2,800.00
18	0064021010100	2,800.00
19	0064021010101	2,800.00
20	0064021010102	2,800.00
21	0064021010103	2,800.00
22	0064021010104	2,800.00
23	0064021010105	2,800.00
24	0064021010106	2,800.00
25	0064021010107	2,800.00
26	0064021010108	2,800.00
27	0064021010109	2,800.00

Total Rolls: 27
Total Sq Feet: 75,600.00
Total Weight (lbs): 29,088.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon-Fri 6am-2pm
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Coyote
Date: 7/15/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5530505

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive.rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02372
Received From: Agru/America Inc.									Receiving Report Number: 46
Address: 500 Garrison Road, Georgetown, SC 29440									Date: 7/17/15
QC Inspection by: CP		QC Date: 7/17/15		Inv. Or Packing Slip No.: 046962		Inv. Or Packing Slip Date: 7/16/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Spools	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				12			12	24	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	12	Rolls	60 mil LLDPE MicroSpike Geomembrane (139,380 square feet)	0	0
2	12	Spools	LLDPE Welding Rod	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: LTL		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:046962	Freight Bill (Pro) No.: Packing List Attached	Weight: 45,500 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

TRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. 046962

AME OF CARRIER	CARRIER'S NO.	DATE
BEST WAY FRT LTL		7/16/2015

CEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,
property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier beir
derstood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver t
other carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any
d property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the da
reof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
ipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditio
hereby agreed to by the shipper and accepted for himself and his assigns.

ROM: SHIPPER (ORIGIN)	**AGRU/AMERICA, INC.** 500 GARRISON ROAD GEORGETOWN, SOUTH CAROLINA 29440 (843) 546-0600
EMERGENCY RESPONSE PHONE NO.	
TO: CONSIGNEE	HONEYWELL CHROMIUM AREA ENVIRONMENTAL SPECIALTIES
STREET	60 KELLOGG STREET
DESTINATION	JERSEY CITY, NJ 07305 DANIEL HARRIS 405-206-4659
	ZIP

ELIVERING ARRIER	ROUTE	VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY
139,380 264		LL DBL MICRO 60MIL 23FT WELD ROD MFG BLACK LDPE 5MM				36.923C 1706

Item Key	Lot Number	Quantity
L-LL-MSDS-60-23	G15C276054	11,615
L-LL-MSDS-60-23	G15C276055	11,615
L-LL-MSDS-60-23	G15C276057	11,615
L-LL-MSDS-60-23	G15C282013	11,615
L-LL-MSDS-60-23	G15C282014	11,615
L-LL-MSDS-60-23	G15C282017	11,615
L-LL-MSDS-60-23	G15C282020	11,615
L-LL-MSDS-60-23	G15C282023	11,615
L-LL-MSDS-60-23	G15C283027	11,615
L-LL-MSDS-60-23	G15C283028	11,615
L-LL-MSDS-60-23	G15C283029	11,615
L-LL-MSDS-60-23	G15C283030	11,615

Total Weight: ~~46,260 LB~~ 45,500 lbs.
Total Packages: ~~139,644~~ 12 Rolls
Order No.: 28919 Order Date: 05/04/15 Request Date: 06/30/15
Location: GTOWN P.O. No.: 21570
12 Spools - Weld Rod

MIT C.O.D. TO:
AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt $

C.O.D. FEE
☑ Prepaid
☐ Collect $

the shipment moves between two ports by a carrier by ter, the law requires that the bill of lading shall state ether it is "carrier's or shipper's weight"

hipper's imprint in lieu of stamp; not a part of bill of lading roved by the Interstate Commerce Commission

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges
(Signature of Consignor)

TOTAL CHARGES $
Freight charges are PREPAID unless marked collect. ☐ Check box if charges are Collect

is is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation

Shipper, Per Agent, Per

manent post office address of shipper

Page 1 of 1

+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.

hen transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response mmunication Standard (HM-126C). Provide emergency response phone number in case of incident or accident.

1

Shipping Release

1706
369230

OA #	28919	Date	7/16/15

Driver's Name/Truck Company	Customer	Destination			Pictures Taken
George Williams / LTL	Environmental Specialties	City: Jersey City	State: NJ		YES ● NO
Time In: 8:57	**Time Out:** 9:59	Inspector: C.H. / J.S.	Loader: C.H.		

Roll

	G	YEAR		M	WK of YR		DOW	ROLL #			External Visual	Straps OK	Core OK	Weld Rod OK
1	G	1	5	C	2	7	6	0	5	4	Yes ● No	Yes ● No	Yes ● No	Yes ● No
2	G	1	5	|	2	7	6	0	5	5	Yes No	Yes No	Yes No	Yes No
3	G	1	5	|	2	7	6	0	5	7	Yes No	Yes No	Yes No	Yes No
4	G	1	5	|	2	8	2	0	1	3	Yes No	Yes No	Yes No	Yes No
5	G	1	5	|	2	8	2	0	1	4	Yes No	Yes No	Yes No	Yes No
6	G	1	5	|	2	8	2	0	1	7	Yes No	Yes No	Yes No	Yes No
7	G	1	5	|	2	8	2	0	2	0	Yes No	Yes No	Yes No	Yes No
8	G	1	5	|	2	8	2	0	2	3	Yes No	Yes No	Yes No	Yes No
9	G	1	5	|	2	8	3	0	2	7	Yes No	Yes No	Yes No	Yes No
10	G	1	5	|	2	8	3	0	2	8	Yes No	Yes No	Yes No	Yes No
11	G	1	5	|	2	8	3	0	2	9	Yes No	Yes No	Yes No	Yes No
12	G	1	5	|	2	8	3	0	3	0	Yes No	Yes No	Yes No	Yes No
13	G	1	5								Yes No	Yes No	Yes No	Yes No
14	G	1	5								Yes No	Yes No	Yes No	Yes No
15	G	1	5								Yes No	Yes No	Yes No	Yes No
16	G	1	5								Yes No	Yes No	Yes No	Yes No
17	G	1	5								Yes No	Yes No	Yes No	Yes No
18	G	1	5								Yes No	Yes No	Yes No	Yes No
19	G	1	5								Yes No	Yes No	Yes No	Yes No
20	G	1	5								Yes No	Yes No	Yes No	Yes No
21	G	1	5								Yes No	Yes No	Yes No	Yes No
22	G	1	5								Yes No	Yes No	Yes No	Yes No
23	G	1	5								Yes No	Yes No	Yes No	Yes No
24	G	1	5								Yes No	Yes No	Yes No	Yes No
25	G	1	5								Yes No	Yes No	Yes No	Yes No
26	G	1	5								Yes No	Yes No	Yes No	Yes No
27	G	1	5								Yes No	Yes No	Yes No	Yes No

CONTAINER/MISC

CONTAINER#

TIES

WELD ROD

12 spools 5mm LC BIA
CFD810090

BENTONITE BAGS

STRAPS

PALLETS

External Visual Check:	Clean Roll; Damage (Holes, Tears); Telescoping; Liner Defects (Volds, Bug Marks, Etc.) Legible Markings on Roll
Strap Check:	6' Foot Spacing; Check for Wear, Cuts
Core Check:	Check for Craks, Defects
Weld Rod Check:	(If Necessary): Secure Load; Lot # on BOL; Check Type
Comments:	

Revised 11/11/14

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02372
Received From: Agru/America Inc.									Receiving Report Number: 47
Address: 500 Garrison Road, Georgetown, SC 29440									Date: 7/20/15
QC Inspection by: CP		QC Date: 7/20/15		Inv. Or Packing Slip No.: 046977		Inv. Or Packing Slip Date: 7/16/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Spools	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				12			12	24	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	12	Rolls	60 mil LLDPE MicroSpike Geomembrane (139,380 square feet)	0	0
2	12	Spools	LLDPE Welding Rod	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Best Way Freight		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:046977	Freight Bill (Pro) No.: Packing List Attached	Weight: 45,500 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. 046977

NAME OF CARRIER	CARRIER'S NO.	DATE
BEST WAY FRT Bishopville Spec.		7/16/2015

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading, the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM: SHIPPER (ORIGIN)

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO: CONSIGNEE
HONEYWELL CHROMIUM AREA
ENVIRONMENTAL SPECIALTIES
60 KELLOGG STREET
STREET JERSEY CITY, NJ 07305
DANIEL HARRIS 405-206-4659
DESTINATION ZIP

DELIVERING CARRIER	ROUTE	VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
139,380		LL DBL MICRO 60MIL 23FT				

Item Key	Lot Number	Quantity
L-LL-MSDS-60-23	G15C276052	11,615
L-LL-MSDS-60-23	G15C276053	11,615
L-LL-MSDS-60-23	G15C276056	11,615
L-LL-MSDS-60-23	G15C277061	11,615
L-LL-MSDS-60-23	G15C277062	11,615
L-LL-MSDS-60-23	G15C277064	11,615
L-LL-MSDS-60-23	G15C282011	11,615
L-LL-MSDS-60-23	G15C282012	11,615
L-LL-MSDS-60-23	G15C282016	11,615
L-LL-MSDS-60-23	G15C282021	11,615
L-LL-MSDS-60-23	G15C283031	11,615
L-LL-MSDS-60-23	G15C283033	11,615

Total Weight: ~~45,996 LB~~ 45,500 lbs.
Total Packages: ~~139,380~~ 12 Rolls
Order No.: 28919 Order Date: 05/04/15 Request Date: 06/30/15
Location: GTOWN P.O. No.: 21570

REMIT C.O.D. TO:

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt $

C.O.D. FEE
☑ Prepaid
☐ Collect $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

† Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.

(Signature of Consignor)

TOTAL CHARGES $

Freight charges are PREPAID unless marked collect. ☐ Check box if charges are Collect.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation".

Shipper, Per [signature] + Agent, Per [signature]

Page 1 of 1

Permanent post office address of shipper

+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.

When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response Communication Standard (HM-126C). Provide emergency response phone number in case of incident or accident.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02372
Received From: Agru/America Inc.									Receiving Report Number: 47
Address: 500 Garrison Road, Georgetown, SC 29440									Date: 7/21/15
QC Inspection by: CP		QC Date: 7/21/15		Inv. Or Packing Slip No.: 046973		Inv. Or Packing Slip Date: 7/16/15			PO Number: ESI
Boxes	Barrels	Bags	Crates	Spools	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				12			12	24	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	12	Rolls	60 mil LLDPE MicroSpike Geomembrane (139,380 square feet)	0	0
2	12	Spools	LLDPE Welding Rod	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Best Way Freight		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:046973	Freight Bill (Pro) No.: Packing List Attached	Weight: 44,900 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING - SHORT FORM - ORIGINAL - NOT NEGOTIABLE

B/L NO. 046973

NAME OF CARRIER	CARRIER'S NO.	DATE
BEST WAY FRT LTL		7/16/2015

RECEIVED, subject to the classifications and lawfully filed tariffs in effect on the date of issue of this Bill of Lading,
the property described below, in apparent good order, except as noted (contents and condition of contents of packages unknown), marked, consigned, and destined as indicated below which said carrier (the word carrier being understood throughout this contract as meaning any person or corporation in possession of the property under the contract) agrees to carry to its usual place of delivery at said destination, if on its route, otherwise to deliver to another carrier on the route to said destination. It is mutually agreed as to each carrier of all or any of said property over all or any portion of said route to destination, and as to each party at any time interested in all or any of said property, that every service to be performed hereunder, shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Uniform Freight Classifications in effect on the date hereof, if this is a rail or a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment.
Shipper hereby certifies that he is familiar with all the terms and conditions of the said bill of lading, set forth in the classification or tariff which governs the transportation of this shipment, and the said terms and conditions are hereby agreed to by the shipper and accepted for himself and his assigns.

FROM:
SHIPPER
(ORIGIN)

AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

EMERGENCY RESPONSE PHONE NO.

TO:
CONSIGNEE HONEYWELL CHROMIUM AREA
ENVIRONMENTAL SPECIALTIES
STREET 60 KELLOGG STREET
JERSEY CITY, NJ 07305
DESTINATION DANIEL HARRIS 405-206-4659
ZIP

DELIVERING CARRIER	ROUTE	VEHICLE NUMBER

NO. PACKAGES	+ HM	KIND OF PACKAGE, DESCRIPTION OF ARTICLES SPECIAL MARKS AND EXCEPTIONS	*WEIGHT (SUBJECT TO CORR.)	CLASS OR RATE	✓	CHARGES (FOR CARRIER USE ONLY)
139,380 264		LL DBL MICRO 60MIL 23FT WELD ROD MFG BLACK LDPE 5MM				

Item Key	Lot Number	Quantity
L-LL-MSDS-60-23	G15C276058	11,615
L-LL-MSDS-60-23	G15C277059	11,615
L-LL-MSDS-60-23	G15C277060	11,615
L-LL-MSDS-60-23	G15C277065	11,615
L-LL-MSDS-60-23	G15C282015	11,615
L-LL-MSDS-60-23	G15C282018	11,615
L-LL-MSDS-60-23	G15C282019	11,615
L-LL-MSDS-60-23	G15C282022	11,615
L-LL-MSDS-60-23	G15C283024	11,615
L-LL-MSDS-60-23	G15C283025	11,615
L-LL-MSDS-60-23	G15C283026	11,615
L-LL-MSDS-60-23	G15C283032	11,615

Total Weight: ~~46,260 LB~~ 44,900 lbs.
Total Packages: ~~139,644~~ 12 Rolls
Order No.: 28919 Order Date: 05/04/15 Request Date: 06/30/15
Location: GTOWN P.O. No.: 21570
12 Spools - Weld Rod

REMIT C.O.D. TO:
AGRU/AMERICA, INC.
500 GARRISON ROAD
GEORGETOWN, SOUTH CAROLINA 29440
(843) 546-0600

C.O.D. Amt $

C.O.D. FEE
☑ Prepaid
☐ Collect $

*If the shipment moves between two ports by a carrier by water, the law requires that the bill of lading shall state whether it is "carrier's or shipper's weight".

† Shipper's imprint in lieu of stamp; not a part of bill of lading approved by the Interstate Commerce Commission.

NOTE: Where the rate is dependent on value, shippers are required to state specifically in writing the agreed or declared value of the property.
The agreed or declared value of the property is hereby specifically stated by the shipper to be not exceeding
$ per

Subject to Section 7 of conditions, if this shipment is to be delivered to the consignee without recourse on the consignor, the consignor shall sign the following statement:
The carrier shall not make delivery of this shipment without payment of freight and all other lawful charges.
(Signature of Consignor)

TOTAL CHARGES $
Freight charges are PREPAID unless marked collect. ☐ Check box if charges are Collect.

"This is to certify that the above named materials are properly classified, described, packaged, marked and labeled, and are in proper condition for transportation, according to the applicable regulations of the Department of Transportation".

Shipper, Per X Agent, Per

Page 1 of 1
Permanent post office address of shipper

+ MARK WITH "X" TO DESIGNATE HAZARDOUS MATERIAL AS DEFINED IN TITLE 49 OF FEDERAL REGULATIONS.
When transporting hazardous materials include the technical or chemical name for n.o.s. (not otherwise specified) or generic description of material with appropriate UN or NA number as defined in US DOT Emergency Response Communication Standard (HM-126C). Provide emergency response phone number in case of incident or accident.

1

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 49
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 9/30/15
QC Inspection by: CP		QC Date: 9/30/15		Inv. Or Packing Slip No.: C00008780		Inv. Or Packing Slip Date: 9/29/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,110 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Universal Truckload, Inc		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008780	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,827 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008780
Ship Date: 9/29/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010137	2,800.00
2	0064021010138	2,800.00
3	0064021010139	2,800.00
4	0064021010140	2,800.00
5	0064021010141	2,800.00
6	0064021010142	2,800.00
7	0064021010143	2,800.00
8	0064021010144	2,800.00
9	0064021010145	1,960.00
10	0064021010146	2,800.00
11	0064021010147	2,800.00
12	0064021010148	2,800.00
13	0064021010149	2,800.00
14	0064021010150	2,800.00
15	0064021010151	2,800.00
16	0064021010152	2,800.00
17	0064021010153	2,800.00
18	0064021010154	2,800.00
19	0064021010155	2,800.00
20	0064021010156	2,800.00
21	0064021010157	2,800.00
22	0064021010158	2,800.00
23	0064021010159	2,800.00
24	0064021010160	2,800.00
25	0064021010161	2,800.00
26	0064021010162	2,800.00
27	0064021010163	3,150.00

Total Rolls: 27
Total Sq Feet: 75,110.00
Total Weight (lbs): 28,827.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Carolina Garcia	Carolina Garcia
Receive Date	Receiver's Company Name
9-30-15	ENTACT

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Universal Truckload, Inc.
Date: 9/29/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5848420

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries. Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 50
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/19/15
QC Inspection by: CP		QC Date: 10/19/15		Inv. Or Packing Slip No.: C00008923		Inv. Or Packing Slip Date: 10/16/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,810 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
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20					

Shipped Via: Medallion Transport & Logistics, LLC		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008923	Freight Bill (Pro) No.: Packing List Attached	Weight: 29,175 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008923
Ship Date: 10/16/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010191	2,800.00
2	0064021010192	3,010.00
3	0064021010193	2,800.00
4	0064021010194	2,800.00
5	0064021010195	2,800.00
6	0064021010196	2,800.00
7	0064021010197	2,800.00
8	0064021010198	2,800.00
9	0064021010199	2,800.00
10	0064021010200	2,800.00
11	0064021010201	2,800.00
12	0064021010202	2,800.00
13	0064021010203	2,800.00
14	0064021010204	2,800.00
15	0064021010205	2,800.00
16	0064021010206	2,800.00
17	0064021010207	2,800.00
18	0064021010208	2,800.00
19	0064021010209	2,800.00
20	0064021010210	2,800.00
21	0064021010211	2,800.00
22	0064021010213	2,800.00
23	0064021010214	2,800.00
24	0064021010215	2,800.00
25	0064021010216	2,800.00
26	0064021010217	2,800.00
27	0064021010218	2,800.00

Total Rolls: 27
Total Sq Feet: 75,810.00
Total Weight (lbs): 29,175.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Medallion Transport & Logistics LLC.
Date: 10/16/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5910099

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

COMShippingDefinitive rpt

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 51
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/19/15
QC Inspection by: CP		QC Date: 10/19/15		Inv. Or Packing Slip No.: C00008925		Inv. Or Packing Slip Date: 10/17/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (76,160 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Meranu Leasing Inc., DBA Liberty Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008925	Freight Bill (Pro) No.: Packing List Attached	Weight:	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008925
Ship Date: 10/17/15
Sales Order #: C001905
Customer Name: lwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010219	2,800.00
2	0064021010220	2,940.00
3	0064021010221	2,800.00
4	0064021010222	2,800.00
5	0064021010223	2,800.00
6	0064021010224	2,030.00
7	0064021010225	2,800.00
8	0064021010226	2,800.00
9	0064021010227	2,800.00
10	0064021010228	2,800.00
11	0064021010229	2,800.00
12	0064021010230	2,800.00
13	0064021010231	2,800.00
14	0064021010232	2,800.00
15	0064021010233	2,800.00
16	0064021010234	2,800.00
17	0064021010235	2,800.00
18	0064021010236	2,940.00
19	0064021010237	2,800.00
20	0064021010238	3,010.00
21	0064021010239	2,800.00
22	0064021010240	2,940.00
23	0064021010241	2,800.00
24	0064021010242	3,500.00
25	0064021010243	2,800.00
26	0064021010244	2,800.00
27	0064021010245	2,800.00

Total Rolls: 27
Total Sq Feet: 76,160.00
Total Weight (lbs): 49,561.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: Meranu Leasing Inc. DBA Liberty Logistics
Date: 10/17/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919359

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries. Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 52
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/21/15
QC Inspection by: CP		QC Date: 10/21/15		Inv. Or Packing Slip No.: C00008954		Inv. Or Packing Slip Date: 10/20/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			29	31	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	29	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (75,390 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ATS Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008954	Freight Bill (Pro) No.: Packing List Attached	Weight: 30,732 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008954
Ship Date: 10/20/15 10/21/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	00640210101691	1,330.00
2	0064021010212	1,960.00
3	00640210102121	910.00
4	0064021010258	1,960.00
5	0064021010274	2,800.00
6	0064021010275	2,800.00
7	0064021010276	2,940.00
8	0064021010277	2,100.00
9	00640210102771	980.00
10	0064021010278	3,640.00
11	0064021010279	2,800.00
12	0064021010280	2,940.00
13	0064021010281	2,800.00
14	0064021010282	2,800.00
15	0064021010283	3,360.00
16	0064021010284	2,800.00
17	0064021010285	2,800.00
18	0064021010286	2,660.00
19	0064021010288	2,800.00
20	0064021010289	2,800.00
21	0064021010290	2,800.00
22	0064021010291	2,800.00
23	0064021010292	2,800.00
24	0064021010293	2,800.00
25	0064021010294	2,800.00
26	0064021010295	3,010.00
27	0064021010296	2,800.00
28	0064021010297	2,800.00
29	0064021010298	2,800.00

Total Rolls: 29
Total Sq Feet: 75,390.00
Total Weight (lbs): 30,732.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delayed payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: ROSS
Driver's Sign: _____
Driver's Cell Phone #: 844 2[illegible]
Trucking Co.: [illegible]
Trucking Co. Phone #: _____
Broker: ATS Logistics
Date: 10/20/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919743

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 53
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/21/15
QC Inspection by: CP		QC Date: 10/21/15		Inv. Or Packing Slip No.: C00008937		Inv. Or Packing Slip Date: 10/19/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			31	33	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	31	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (80,640 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: Medallion Transport & Logistics LLC		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008937	Freight Bill (Pro) No.: Packing List Attached	Weight: 31,321 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008937
Ship Date: 10/19/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	00640210102241	840.00
2	0064021010246	2,800.00
3	0064021010247	2,800.00
4	0064021010248	2,800.00
5	0064021010249	2,800.00
6	0064021010250	3,150.00
7	0064021010251	2,800.00
8	0064021010252	2,800.00
9	0064021010253	2,800.00
10	0064021010254	2,800.00
11	0064021010255	2,800.00
12	0064021010256	2,800.00
13	0064021010257	2,800.00
14	00640210102581	980.00
15	0064021010259	3,150.00
16	0064021010260	2,520.00
17	0064021010261	2,800.00
18	0064021010262	2,800.00
19	0064021010263	2,800.00
20	0064021010264	2,800.00
21	0064021010265	2,800.00
22	0064021010266	2,800.00
23	0064021010267	2,800.00
24	0064021010268	2,800.00
25	0064021010269	2,800.00
26	0064021010270	2,800.00
27	0064021010271	2,800.00
28	0064021010272	2,800.00
29	0064021010287	1,610.00
30	00640210102871	1,190.00
31	0064021010305	2,800.00

Total Rolls: 31
Total Sq Feet: 80,640.00
Total Weight (lbs): 31,321.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign:

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name	Receiver's Signature
Receive Date	Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name:
Driver's Sign:
Driver's Cell Phone #:
Trucking Co.:
Trucking Co. Phone #:
Broker: Medallion Transport & Logistics LLC.
Date: 10/19/15
Truck Departure Time:

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919713

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 54
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/22/15
QC Inspection by: CP		QC Date: 10/22/15		Inv. Or Packing Slip No.: C00008956		Inv. Or Packing Slip Date: 10/20/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (70,070 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ATS Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008956	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,718 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008956
Ship Date: 10/20/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010273	1,680.00
2	00640210102731	840.00
3	0064021010299	2,800.00
4	0064021010300	2,800.00
5	0064021010301	3,010.00
6	0064021010302	2,800.00
7	0064021010303	2,800.00
8	0064021010304	2,800.00
9	0064021010306	2,800.00
10	0064021010307	2,800.00
11	0064021010308	2,800.00
12	0064021010309	2,940.00
13	0064021010310	2,800.00
14	0064021010311	1,400.00
15	00640210103111	1,400.00
16	0064021010312	2,800.00
17	0064021010313	2,800.00
18	0064021010314	2,800.00
19	0064021010315	2,800.00
20	0064021010316	2,800.00
21	0064021010317	2,800.00
22	0064021010318	2,800.00
23	0064021010319	2,800.00
24	0064021010320	2,800.00
25	0064021010321	2,800.00
26	0064021010322	2,800.00
27	0064021010324	2,800.00

Total Rolls: 27
Total Sq Feet: 70,070.00
Total Weight (lbs): 28,718.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: ATS Logistics
Date: 10/20/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919766

Load# 166210

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Honeywell RES

Honeywell.com

Receiving Inspection Report

Location: Honeywell SA-6									Specification Number: 02374
Received From: SKAPS Industries									Receiving Report Number: 54
Address: 571 Industrial Parkway, Commerce GA 30529									Date: 10/22/15
QC Inspection by: CP		QC Date: 10/22/15		Inv. Or Packing Slip No.: C00008956		Inv. Or Packing Slip Date: 10/20/15			PO Number: IWT Cargo Guard
Boxes	Barrels	Bags	Crates	Bundles	Drums	Kegs	Rolls	Total Packages	Received By: ENTACT
				2			27	29	Received At: SA6 Site 60 Kellogg Street, Jersey City NJ

Line	Quantity	Unit	Description	Over	Short
1	27	Rolls	TN 330-2-6 Geocomposite (Geocomposite Drainage Layer) (70,070 square feet)	0	0
2	2	Bags	Plastic ties	0	0
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					

Shipped Via: ATS Logistics		Car #	Payment: NA	Show O.S.&D. Report No. in the space provided if over, short or damaged noted above.	O.S.&D. Report No.:
Waybill No.:C00008956	Freight Bill (Pro) No.: Packing List Attached	Weight: 28,718 lbs	Amount: NA		

For Receiving Clerk Use Only:		
Itemized by: Date:	Entered by: Date:	Finalized by: Date:

STRAIGHT BILL OF LADING ORIGINAL-NOT NEGOTIABLE

SKAPS Industries
571 Industrial Parkway
Commerce, GA 30529
Ph: 7060-336-7000 Fax: 706-336-7007

Bill of Lading #: C00008956
Ship Date: 10/20/15
Sales Order #: C001905
Customer Name: Iwt/Cargo-Guard
Cust. P.O. #: 20252
Ship Via: Flatbed
Delivery Terms: Plant / PPA
Container #:
Seal #:

SHIP-TO:
Project: Entact, NJ
Address: 60 Kellogg St.
City, State, Zip: Jersey City, NJ, 07305
Contact: Dan Harris
Phone: 405-206-4659

SIGN HERE FOR SHIPPER: _____

SHIPPER ADDRESS: 571 INDUSTRIAL PKWY.
COMMERCE, GA 30529

Product Code: TN330-2-6

No	Roll #	Sq. Ft.
1	0064021010273	1,680.00
2	00640210102731	840.00
3	0064021010299	2,800.00
4	0064021010300	2,800.00
5	0064021010301	3,010.00
6	0064021010302	2,800.00
7	0064021010303	2,800.00
8	0064021010304	2,800.00
9	0064021010306	2,800.00
10	0064021010307	2,800.00
11	0064021010308	2,800.00
12	0064021010309	2,940.00
13	0064021010310	2,800.00
14	0064021010311	1,400.00
15	00640210103111	1,400.00
16	0064021010312	2,800.00
17	0064021010313	2,800.00
18	0064021010314	2,800.00
19	0064021010315	2,800.00
20	0064021010316	2,800.00
21	0064021010317	2,800.00
22	0064021010318	2,800.00
23	0064021010319	2,800.00
24	0064021010320	2,800.00
25	0064021010321	2,800.00
26	0064021010322	2,800.00
27	0064021010324	2,800.00

Total Rolls: 27
Total Sq Feet: 70,070.00
Total Weight (lbs): 28,718.00

Bags of Ties: 2

Driver sign below if you have received above mentioned items :

Driver's Sign: _____

ATTN RECEIVER: Please sign below if you have received the items mentioned on the BOL and any discrepencies must be reported to SKAPS Industries within 7 days of receipt of goods.

Receiver Print Name | Receiver's Signature

Receive Date | Receiver's Company Name

Driver Requirements:

1) For Monday delivery driver must call on Friday.
2) Driver must call 706-336-7000 when unloaded.
3) Driver must call and advise of any delay in transit.
4) A copy of this bill-of-lading must accompany freight invoice, failure to do this will result in delaved payments.

Delivery Timings: Mon - Fri 6:00 AM to 2:00 PM
Driver's Name: _____
Driver's Sign: _____
Driver's Cell Phone #: _____
Trucking Co.: _____
Trucking Co. Phone #: _____
Broker: ATS Logistics
Date: 10/20/15
Truck Departure Time: _____

Comments:

Driver please call 24 hours prior to delivery
Freight view shipper # : 5919766

Load# 166210

CARRIER MUST COLLECT THE FREIGHT FROM THE BROKER ONLY

Received at Commerce, GA from SKAPS Industries the property described above, in apparent good order except as noted (contents and condition of packages unknown), marked, consigned, and destined as indicated above, which said Carrier (the word "Carrier" being understood throughout this Shipping Order as meaning the person or corporation in possession of the property) agrees to carry to the place of delivery at said destination. It is mutually agreed as to each Carrier of all or any of said property, over all or any portion of said route to destination and as to each party at any time interested in all or any of said property, that every service performed here under shall be subject to either: (a) if the shipper noted herein is SKAPS Industries as indicated by the designation of the "Shipper" to be SKAPS Industries, then the Shipper and Carrier are subject to the terms and conditions contained in the Contract for truck Transportation existing between the parties or (b) if the Shipper noted herein is not SKAPS Industries then SKAPS Industries is acting solely as the agent for the denoted Shipper, and thus every aspect of the service to be perform here under between the Shipper and the Carrier shall be subject to all the terms and conditions of the Uniform Domestic Straight Bill of Lading set forth (1) in Official Southern, Western, and Illinois Freight Classifications in effect on the date hereof, if this a rail-water shipment, or (2) in the applicable motor carrier classification or tariff if this is a motor carrier shipment. When acting in the capacity of an agent for a Shipper in placing the material in transit on behalf of a Shipper, SKAPS Industries accepts no liability for loss of cargo, damage to containers, or any other consequences occurring during transportation. Carrier having agreed that the transportation arrangement was initiated by the Shipper and not by SKAPS Industries Subject to the above terms and conditions as to which party is the Shipper, Shipper hereby certifies that he is familiar with the terms and conditions that govern the transportation of this shipment, and the said terms and conditions are hereby agreed and accepted for himself and his assigns.

Appendix H
GCL to Barrier Wall Connection Logs

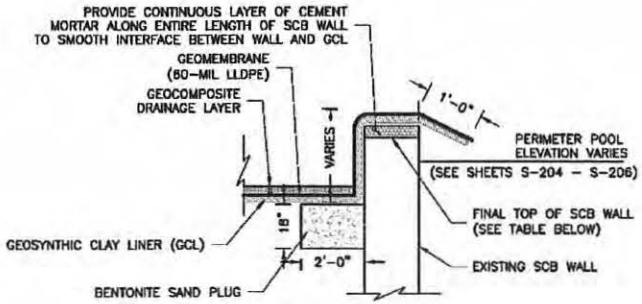
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** 9/16/15

QA - GCL to Barrier Wall Connection Detail



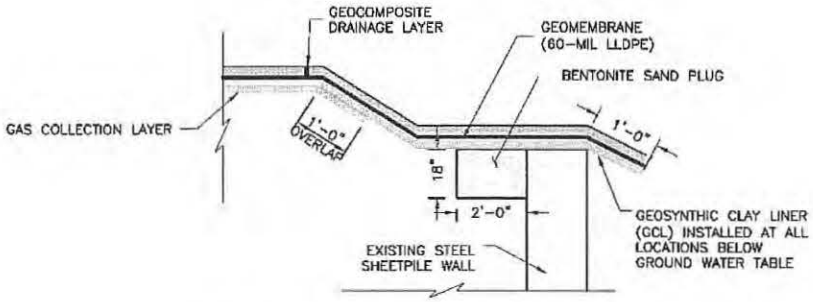
BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)

NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)

NTS TYP C-309

***Check applicable Detail:**	**Location:**
☑ Box Cut Dimension ☑ Barrier wall clean/exposed ☑ Sand Bentonite Mix	- **Hydraulic Barrier Wall stations 9+00 to 10+75 (approximately).** - **South side of the C Street corridor.**
Comments: - Roll #4109 was placed down the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/15/15. - All strips on the east side of the corridor were placed on 9/15/15. On 9/15/15, Amec and Langan directed Entact to remove the wet SCB plug, and replace it with new GCL and SCB plug mix. The replacement process was completed on 9/16/15.	**Amec Foster Wheeler QA Signature:** B Shea

Honeywell

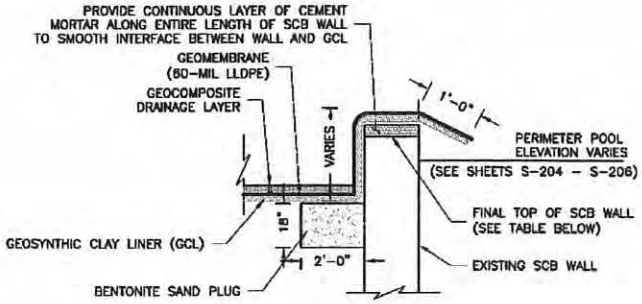
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/18/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

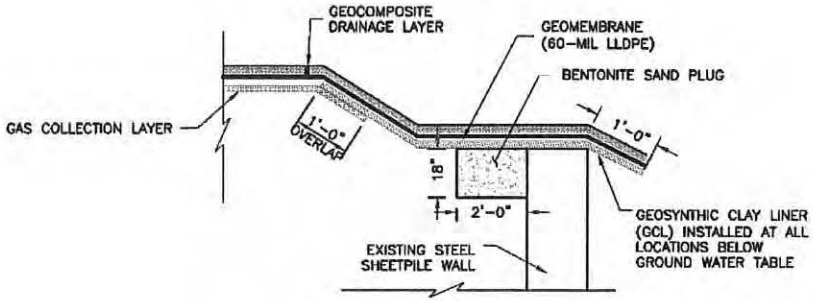
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall stations 6+50 to 6+75 (approximately).**
- **South side of the D Street corridor.**

Comments:

- Roll #4070 was placed in the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/18/15.

Amec Foster Wheeler QA Signature: B Shea

Honeywell

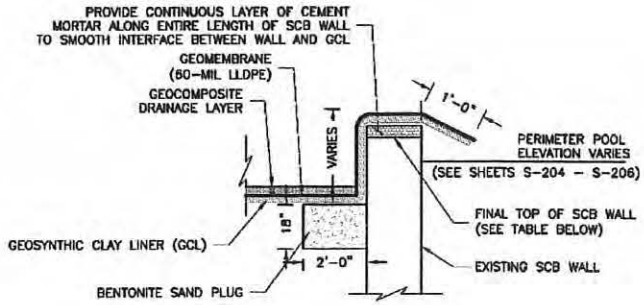
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/24/15

QA - GCL to Barrier Wall Connection Detail



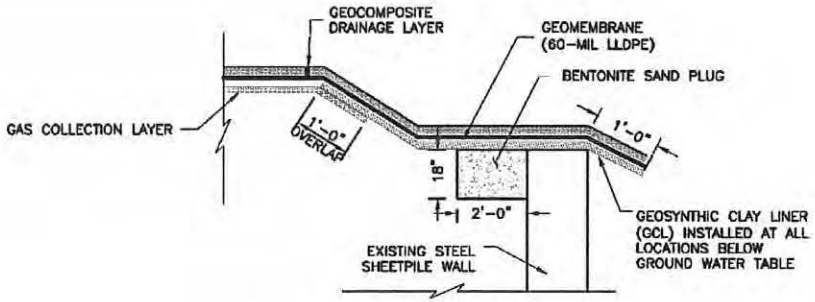
BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)

NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)

NTS TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall stations 4+00 to 5+00 (approximately).**

Comments:

- Roll #4064 was placed.

Amec Foster Wheeler QA Signature: BShea

Honeywell

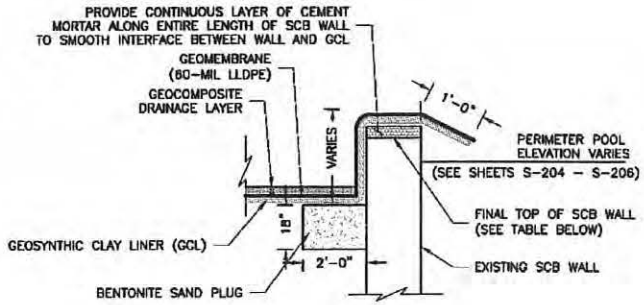
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/24/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

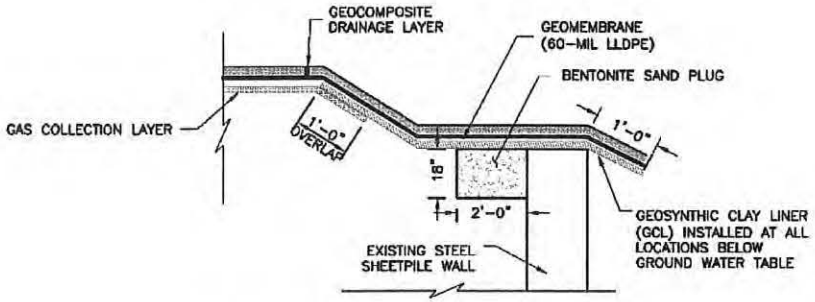
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 3+25 to 4+00 (approximately)**

Comments:

- Rolls #4094 and #4095 were placed.

Amec Foster Wheeler QA Signature: BShea

Honeywell

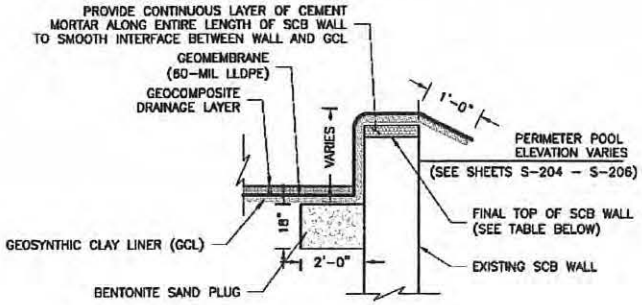
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/25/15

QA - GCL to Barrier Wall Connection Detail



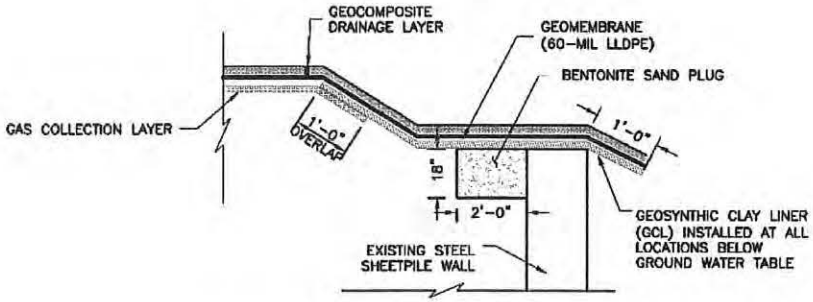
BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)

NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)

NTS TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 3+00 to 3+25 (approximately)**

Comments:

- Rolls #4101 and #4090 were placed.

Amec Foster Wheeler QA Signature: BShea

Honeywell

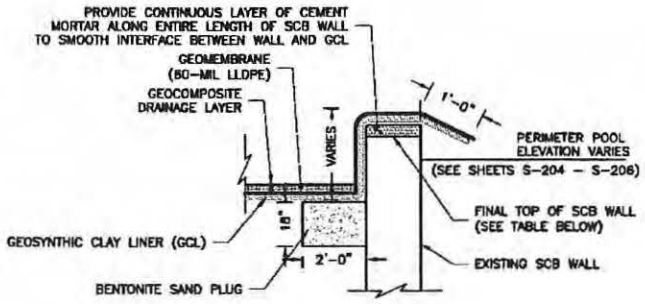
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/29/15

QA - GCL to Barrier Wall Connection Detail



BELOW GROUNDWATER

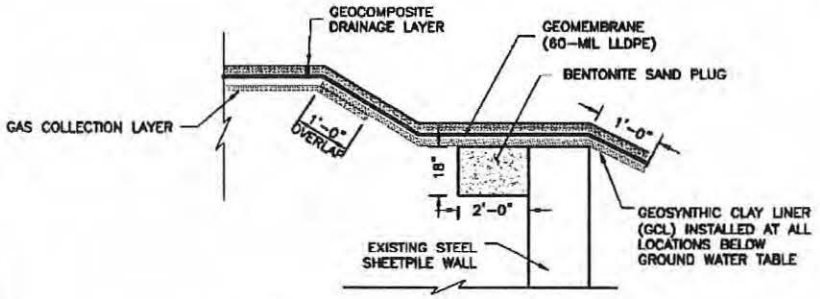
GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION

NTS

BN C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER

NTS

G TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 2+30 to 3+00 (approximately)**

Comments:

- Rolls #4107, #4108, #4072 and #4110 were placed.

Amec Foster Wheeler QA Signature: _____

Honeywell

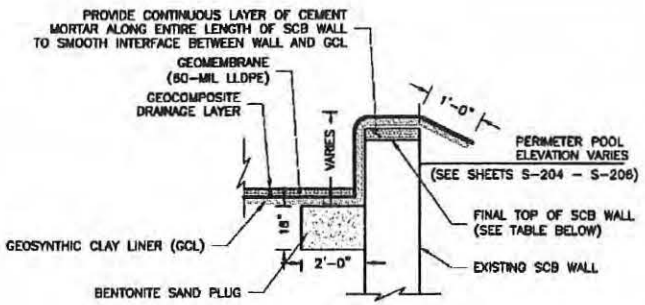
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

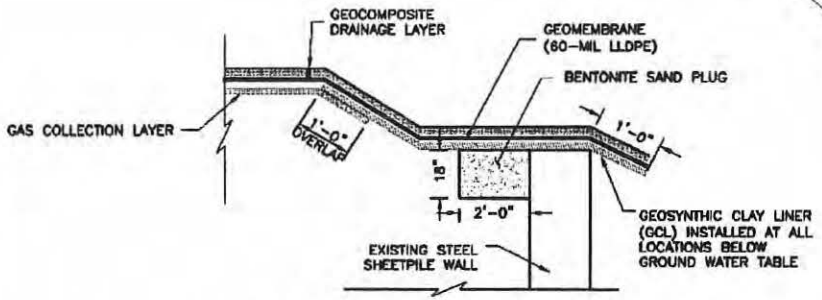
Date: 10/8/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP | C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Hydraulic Barrier Wall - Stations 0 to 2+30 (approximately)**

Comments:

- Rolls #4086 and # 4102 were placed.

Amec Foster Wheeler QA Signature: _____

Honeywell

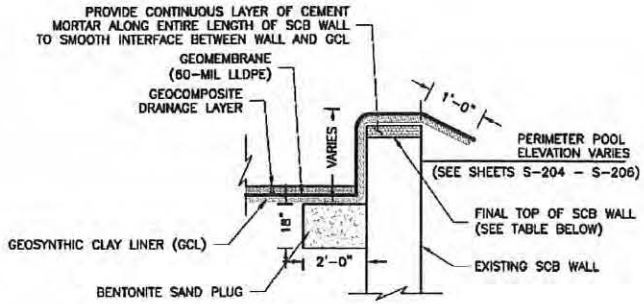
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

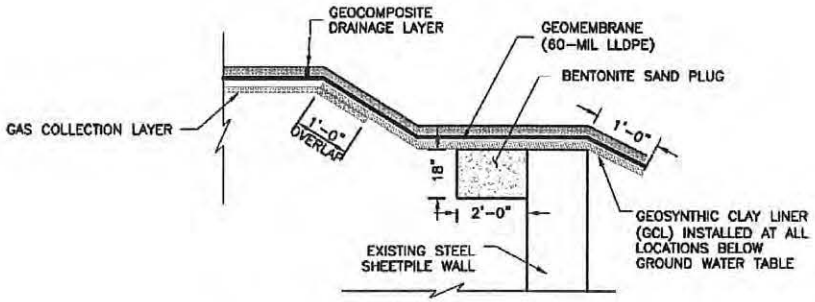
Date: 8/6/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) C-121 | C-309
NTS

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) TYP C-309
NTS

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **South side of the B Street Corridor**
- **Stations 15+00 to 17+00**

Comments:

- Roll #4078 was placed over the sheet pile wall on 8/5/15 and 8/6/15.
- On 8/6/15 Amec Foster Wheeler directed Entact to fold back the GCL in order to ensure clean contact between the GCL and the top of the Hydraulic Barrier Wall.

Amec Foster Wheeler QA Signature: BShea

Honeywell

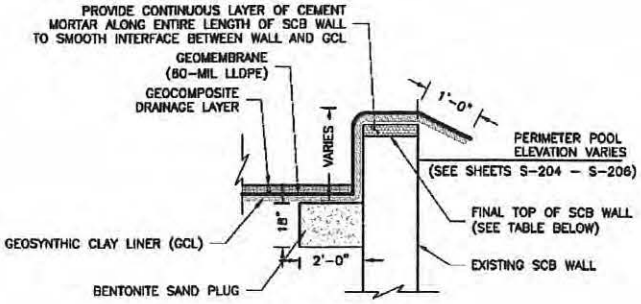
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 8/3/15

QA - GCL to Barrier Wall Connection Detail

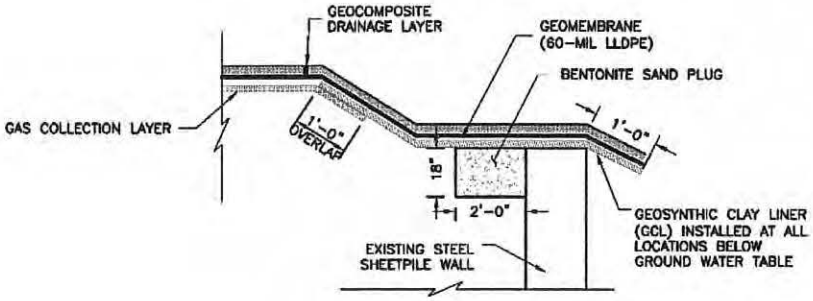


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) NTS TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **North side of the B Street Corridor**
- **Stations 14+60 to 15+00**

Comments:

- Roll #4078 was placed over the SCB Wall on 8/3/15.
- Entact installed a 45° "buffer" slope from the bottom of the corridor to the top corner of the SCB wall, in order to avoid forming a 90° angle with the GCL at the bottom corner of the wall. This method was approved by Geoff Shallard prior to installation.

Amec Foster Wheeler QA Signature: B Shea

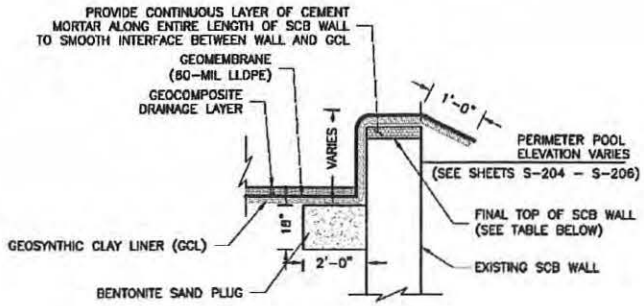
Honeywell

STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South	**Date:** 9/9/15

QA - GCL to Barrier Wall Connection Detail

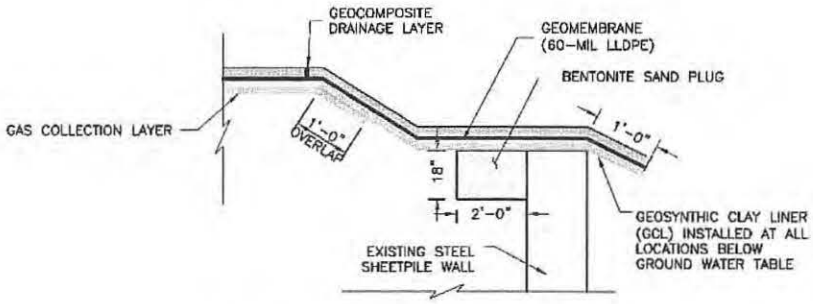


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) NTS TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Soil Cement Bentonite Wall stations 8+00 to 8+50 (approximately).**
- **North side of the C Street corridor.**

Comments:

- Roll #4109 was placed down the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/9/15.
- Roll #4073 was placed on the northwest corner of the corridor slopes, overlapping the SCB Wall on 9/9/15.
- Roll #4087 was placed on the northeast corner of the corridor slopes, overlapping the SCB Wall on 9/9/15.

Amec Foster Wheeler QA Signature: BShea

Honeywell

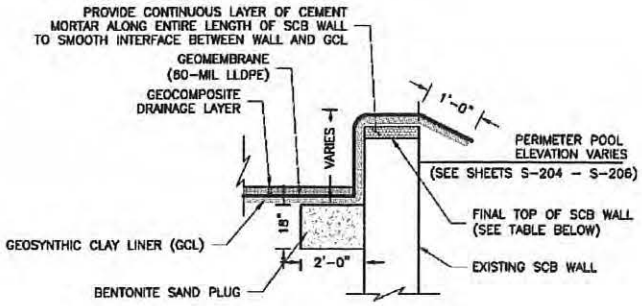
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 9/18/15

QA - GCL to Barrier Wall Connection Detail

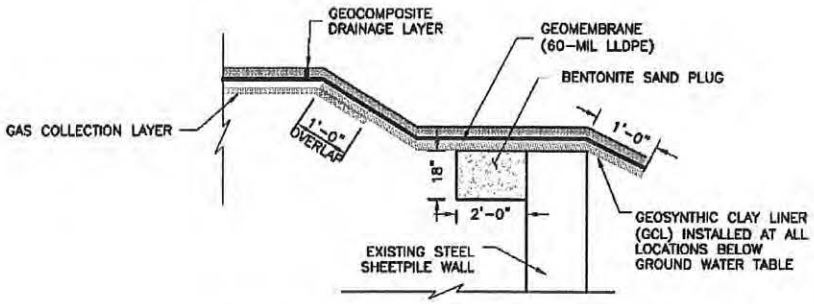


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 3+22

TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) NTS C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) NTS TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Soil Cement Bentonite Wall stations 5+00 to 5+75 (approximately).**
- **North side of the D Street corridor**

Comments:

- Roll #4070 was placed in the center of the corridor, overlapping the SCB Wall and HB Wall, on 9/18/15.

Amec Foster Wheeler QA Signature: BShea

Honeywell

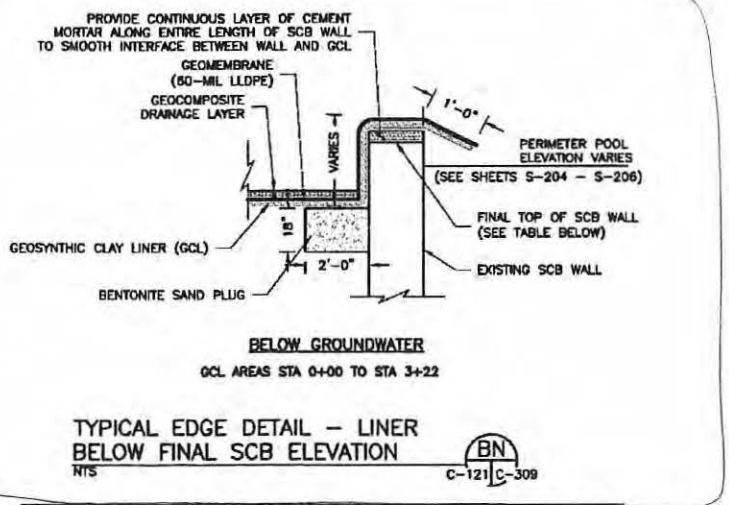
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

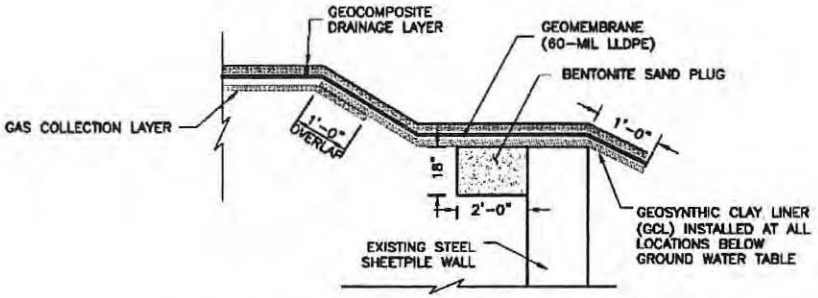
Date: 9/24/15

QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP C-309

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☐ Sand Bentonite Mix

Location:

- **Soil Cement Bentonite Wall stations 2+50 to 3+00 (approximately).**

Comments:

Amec Foster Wheeler QA Signature: _____

Honeywell

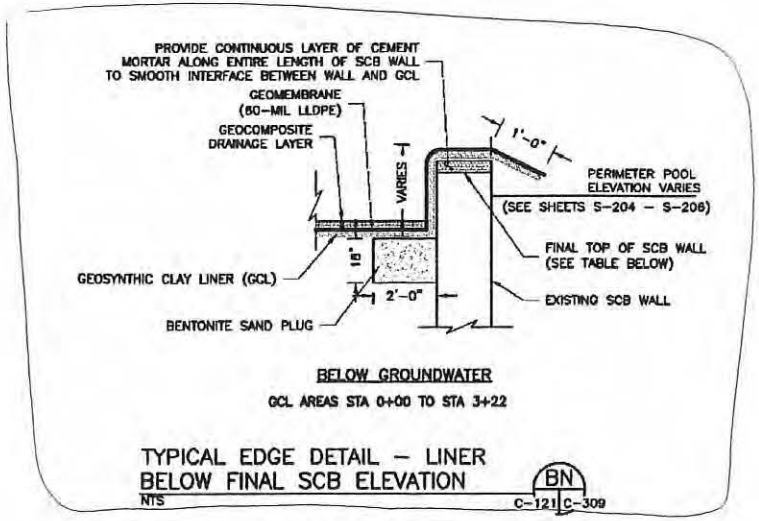
STUDY AREA 6 - CAP INSTALLATION

amec foster wheeler

Project: Study Area 6 South

Date: 10/8/15

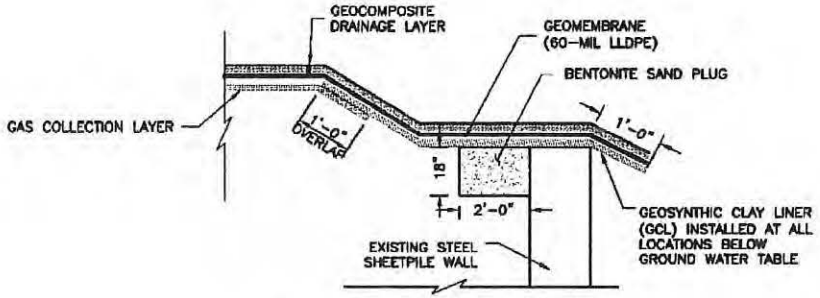
QA - GCL to Barrier Wall Connection Detail



TYPICAL EDGE DETAIL – LINER BELOW FINAL SCB ELEVATION (BN) C-121 | C-309

NTS

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G) TYP | C-309

NTS

***Check applicable Detail:**

- ☑ Box Cut Dimension
- ☑ Barrier wall clean/exposed
- ☑ Sand Bentonite Mix

Location:

- **Soil Cement Bentonite Wall stations 0+00 to 2+50 (approximately).**

Comments:

- Rolls #4071 and #4102 were placed over the SCB Wall.

Amec Foster Wheeler QA Signature: _____

Appendix I
ESI Panel Placement Logs

7/20/15

INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 1

Project Name: HONEYWELL Job # 12-11-1399 Deployment Date 7-20-15

Superintendent: FORTINO AYALA **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other: CAP CONSTRUCTION

Description (i.e. Phase #, Cell #, Pond # etc.) **Roll Stock Width** 23

Panel # 1 Roll # G15C283031

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

23' / 22.5' / 163' 162' 162' 163' / 22.5' / 23'

Notes:

Initial SF - Lineal Feet Trench
Final SF 3,645 -

Panel # 2 Roll # G15C283031

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

23' / 22.5' / 163' 162' 163' 165' / 22.5' / 23'

Notes:

Initial SF - Lineal Feet Trench
Final SF 3,656.25 -

Panel # 3 Roll # G15C283031

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

165' 163' 165' 168'

Notes:

Initial SF - Lineal Feet Trench
Final SF 3,690 -

Panel # 4 Roll # G15C292021

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

23' / 22.5' / 168' 165' 165' 168' / 22.5' / 23'

Notes:

Initial SF - Lineal Feet Trench
Final SF 3,712.5 -

Panel # Roll #

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF - Lineal Feet Trench
Final SF -

Panel # Roll #

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF - Lineal Feet Trench
Final SF -

Panel # Roll #

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF - Lineal Feet Trench
Final SF -

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	-	SF
Total Pay Area This Page	-	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	-	SF
Total Pay Area To Date Including Anchor Trench	-	
Initial Quantity Previous	-	SF
Initial Quantity This Page	-	SF
Initial Quantity To Date	-	SF

14,703.75

7/21/15

INDEPENDENT CQA MONITOR

Daily Panel Placement Page 2.

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date**

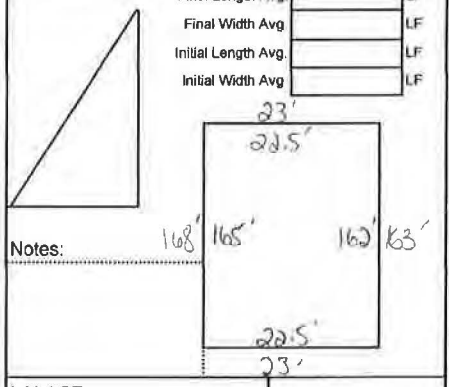
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 22.5

Panel # 5 **Roll #** G15C282021

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

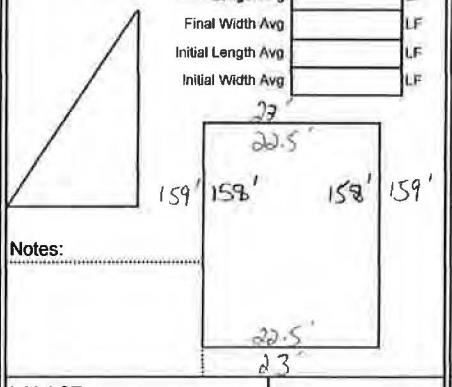


Notes:

Initial SF -
Final SF 3,678.75 -
Lineal Feet Trench

Panel # 6 **Roll #** G15C282021

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

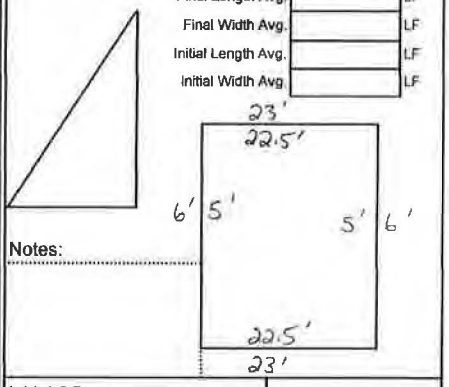


Notes:

Initial SF -
Final SF 3,555 -
Lineal Feet Trench

Panel # 7 **Roll #** G15C277065

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

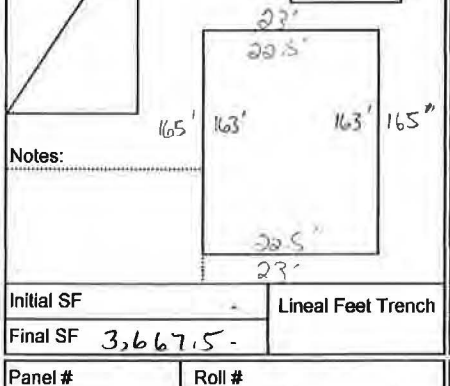


Notes:

Initial SF -
Final SF 112.5 -
Lineal Feet Trench

Panel # 8 **Roll #** G15C277065

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

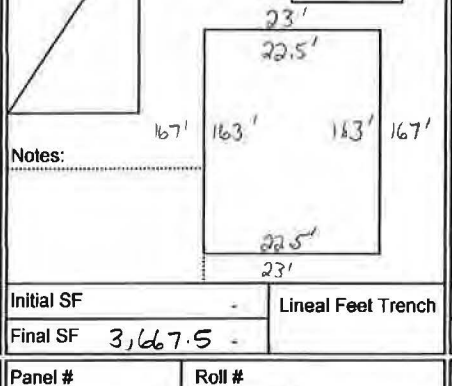


Notes:

Initial SF -
Final SF 3,667.5 -
Lineal Feet Trench

Panel # 9 **Roll #** G15C277065

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF



Notes:

Initial SF -
Final SF 3,667.5 -
Lineal Feet Trench

Panel # **Roll #**

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Panel # **Roll #**

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Panel # **Roll #**

Final Length Avg. LF
Final Width Avg. LF
Initial Length Avg. LF
Initial Width Avg. LF

Notes:

Initial SF -
Final SF -
Lineal Feet Trench

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	**SF**
Total Panel SF This Page	-	**SF**
Total Pay Area This Page	-	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	-	SF
Total Panel SF To Date	-	SF
Total Pay Area To Date Including Anchor Trench	-	
Initial Quantity Previous	-	SF
Initial Quantity This Page	-	SF
Initial Quantity To Date	-	SF

14,680.5

INDEPENDENT CQA MONITOR 7/22/15

Daily Panel Placement

Page 3

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/22/15

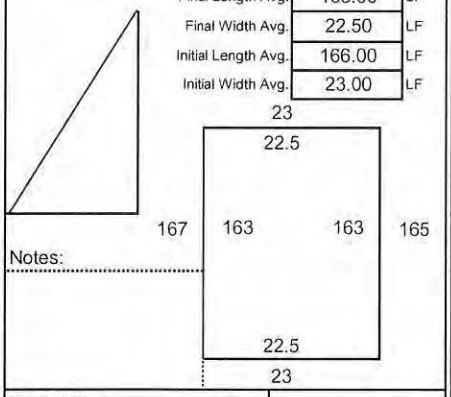
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 10 | **Roll #** G15C282018

Final Length Avg.	163.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

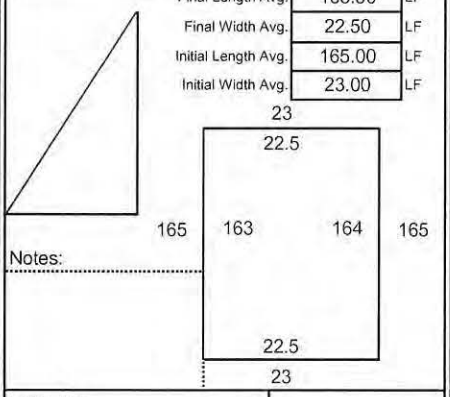


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,668	

Panel # 11 | **Roll #** G15C282018

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

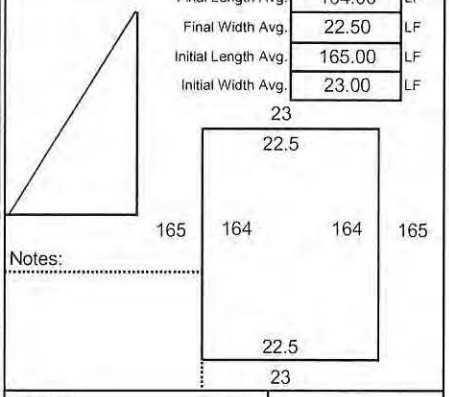


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # 12 | **Roll #** G15C282018

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

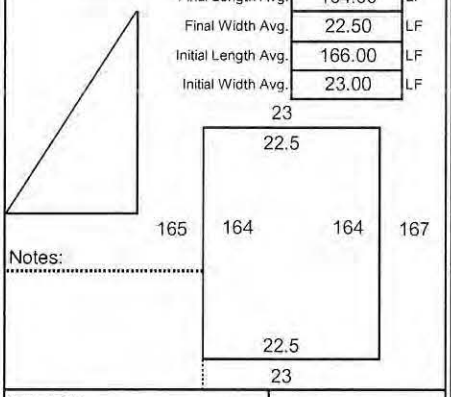


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,690	

Panel # 13 | **Roll #** G15C276052

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

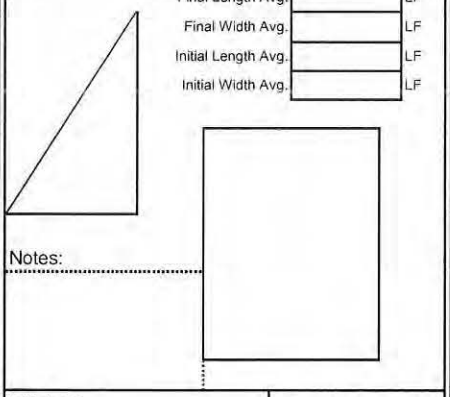


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,690	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

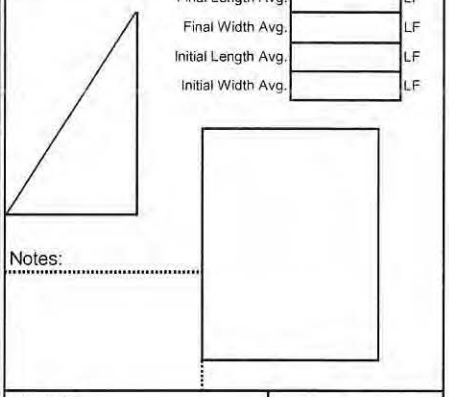


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

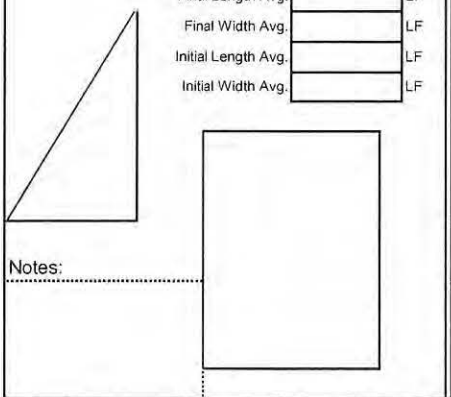


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

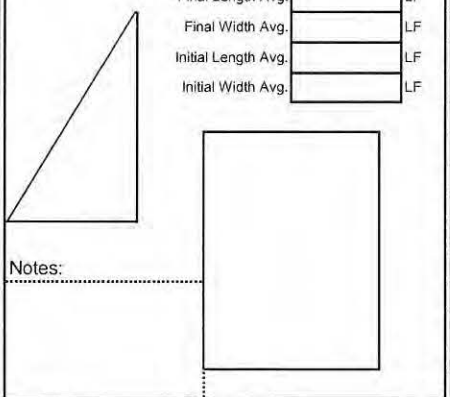


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**14,726**	**SF**
Total Pay Area This Page	**14,726**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	29,385	SF
Total Panel SF To Date	44,111	SF
Total Pay Area To Date Including Anchor Trench	**44,111**	
Initial Quantity Previous	30,452	SF
Initial Quantity This Page	15,226	SF
Initial Quantity To Date	45,678	SF

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 22 OF 25

- **Declaration #2 Part 2**

Attachments F (Part 2) – I

ATTACHMENT F
LANGAN SA-6 SOUTH CAP
QUALITY ASSURANCE REPORT
PART 2

INDEPENDENT CQA MONITOR 7-23-15

Daily Panel Placement

Page 4

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/23/15

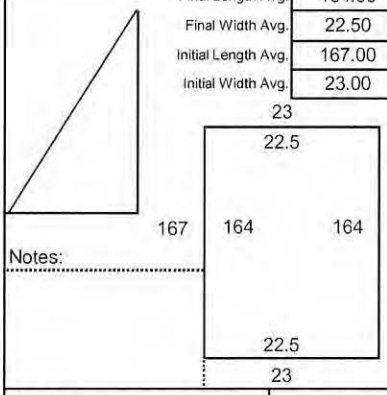
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

Primary Secondary Cell Pond Cap [X] Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 14 Roll # G15C282023

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

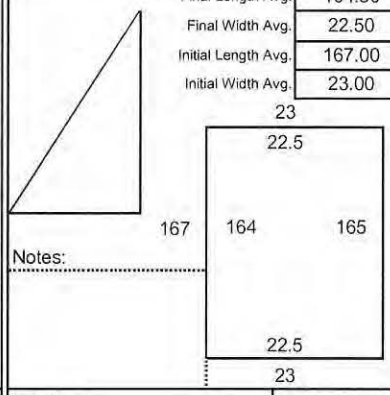


Notes:

Initial SF	3,841	Lineal Feet Trench	
Final SF	3,690		

Panel # 15 Roll # G15C276052

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

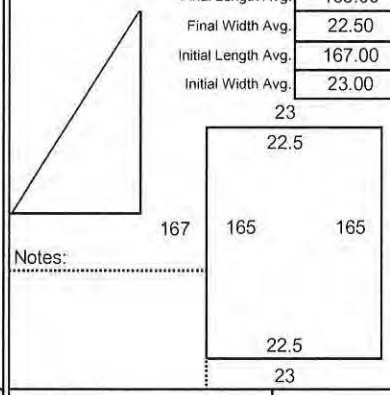


Notes:

Initial SF	3,841	Lineal Feet Trench	
Final SF	3,701		

Panel # 16 Roll # G15C277064

Final Length Avg.	165.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

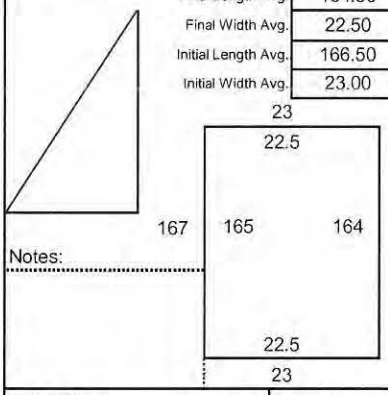


Notes:

Initial SF	3,841	Lineal Feet Trench	
Final SF	3,713		

Panel # 17 Roll # G15C277064

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.50	LF
Initial Width Avg.	23.00	LF

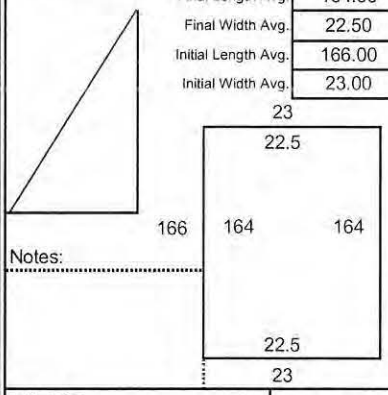


Notes:

Initial SF	3,830	Lineal Feet Trench	
Final SF	3,701		

Panel # 18 Roll # G15C277064

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

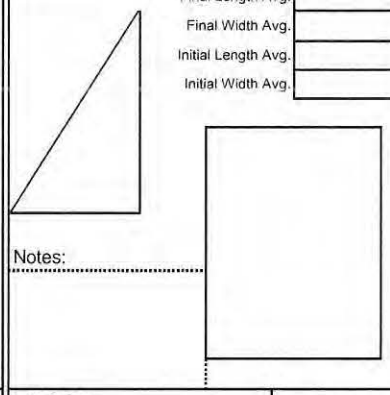


Notes:

Initial SF	3,818	Lineal Feet Trench	
Final SF	3,690		

Panel # Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

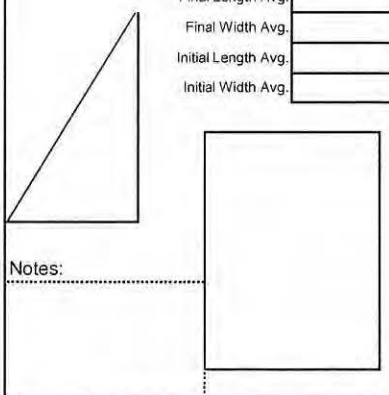


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

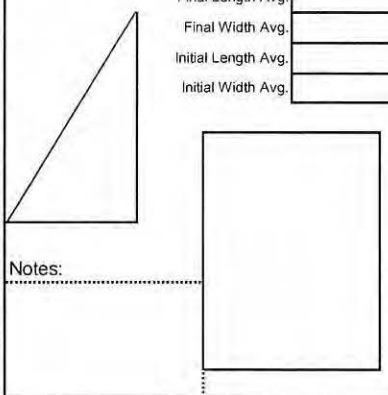


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**18,495**	SF
Total Pay Area This Page	**18,495**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	44,111	SF
Total Panel SF To Date	62,606	SF
Total Pay Area To Date Including Anchor Trench	**62,606**	
Initial Quantity Previous	45,678	SF
Initial Quantity This Page	19,171	SF
Initial Quantity To Date	64,849	SF

7/24/15 Independent CQA Monitor

Daily Panel Placement Page 5

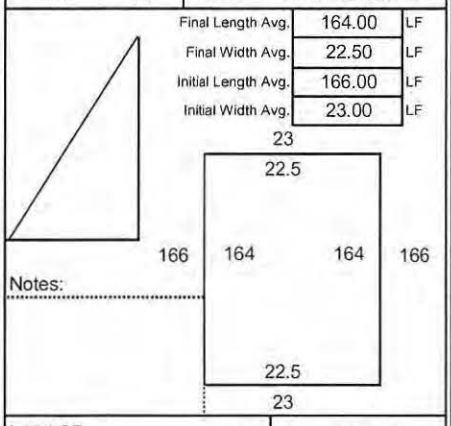
Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/24/15

Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

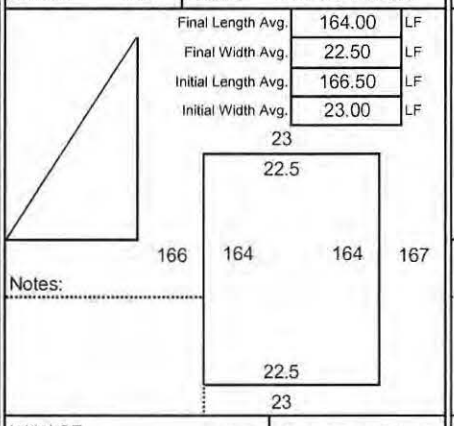
Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 19	Roll # G15C276056		
Final Length Avg.	164.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	3,818	Lineal Feet Trench	
Final SF	3,690		



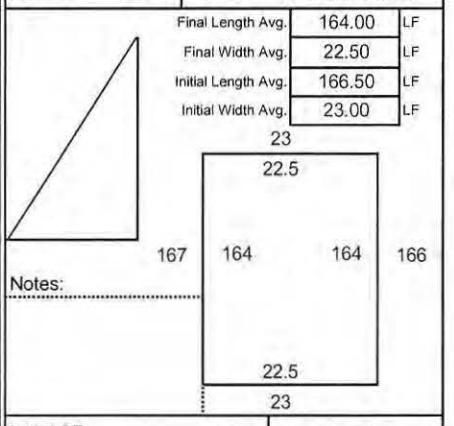
Notes:

Panel # 20	Roll # G15C276056		
Final Length Avg.	164.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	3,830	Lineal Feet Trench	
Final SF	3,690		



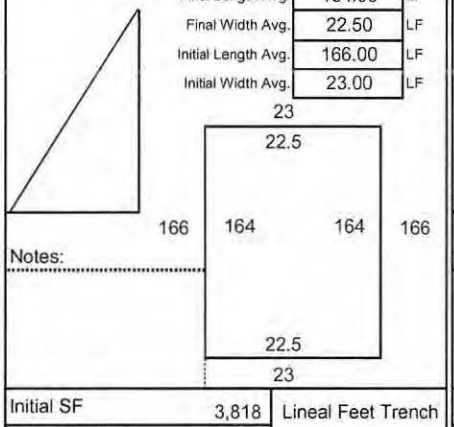
Notes:

Panel # 21	Roll # G15C276056		
Final Length Avg.	164.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	3,830	Lineal Feet Trench	
Final SF	3,690		



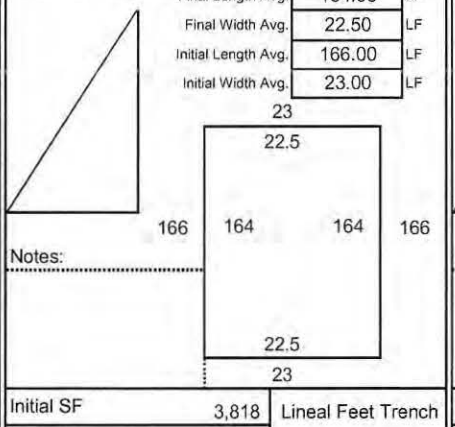
Notes:

Panel # 22	Roll # G15C277061		
Final Length Avg.	164.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	3,818	Lineal Feet Trench	
Final SF	3,690		



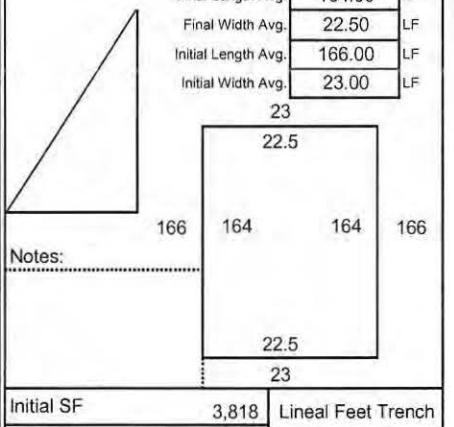
Notes:

Panel # 23	Roll # G15C277061		
Final Length Avg.	164.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	3,818	Lineal Feet Trench	
Final SF	3,690		



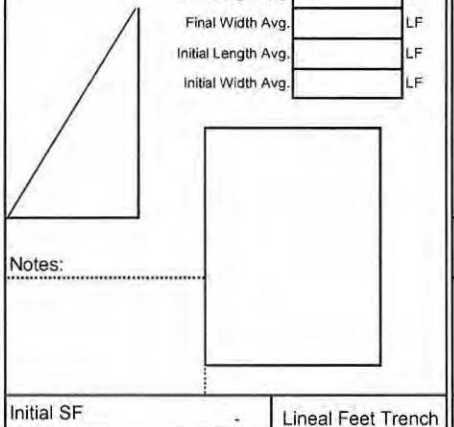
Notes:

Panel # 24	Roll # G15C277061		
Final Length Avg.	164.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	3,818	Lineal Feet Trench	
Final SF	3,690		



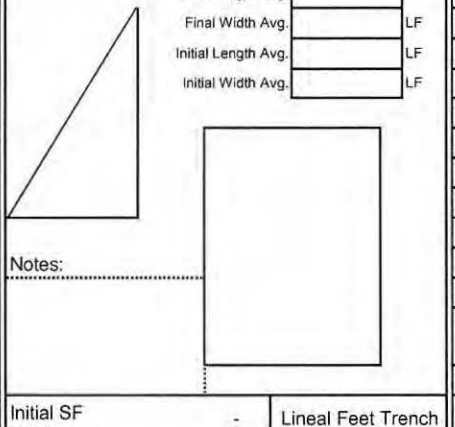
Notes:

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		



Notes:

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		



Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**22,140**	SF
Total Pay Area This Page	**22,140**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	62,606	SF
Total Panel SF To Date	84,746	SF
Total Pay Area To Date Including Anchor Trench	**84,746**	
Initial Quantity Previous	64,849	SF
Initial Quantity This Page	22,931	SF
Initial Quantity To Date	87,780	SF

INDEPENDENT CQA MONITOR

7/29/15

Daily Panel Placement

Page 6

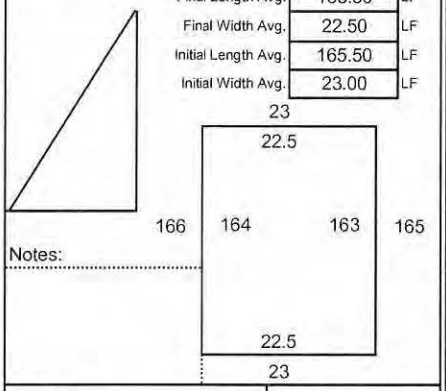
Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/28/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary **Secondary** ☐ **Cell** ☐ **Pond** ☐ **Cap** ☒ **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

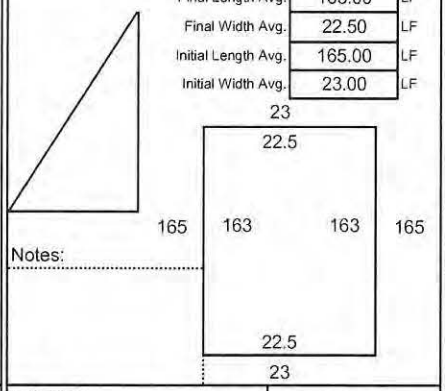
Panel # 25	Roll # G15C277059
Final Length Avg.	163.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.50 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,807	Lineal Feet Trench
Final SF	3,679	

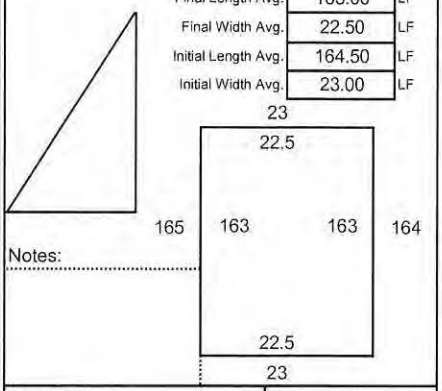
Panel # 26	Roll # G15C277059
Final Length Avg.	163.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.00 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,668	

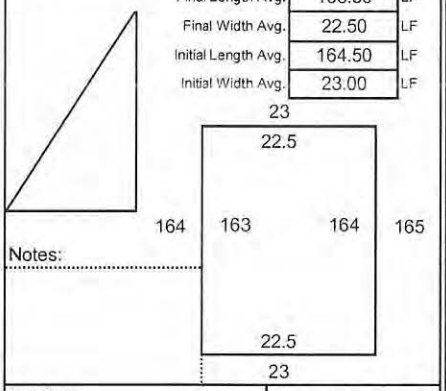
Panel # 27	Roll # G15C277059
Final Length Avg.	163.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.50 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,668	

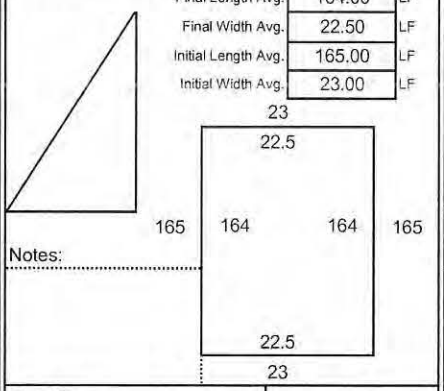
Panel # 28	Roll # G15C283028
Final Length Avg.	163.50 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	164.50 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,679	

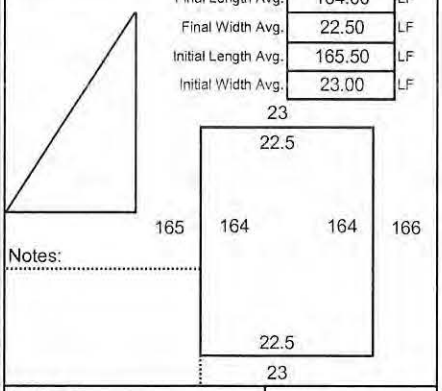
Panel # 29	Roll # G15C283028
Final Length Avg.	164.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.00 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,690	

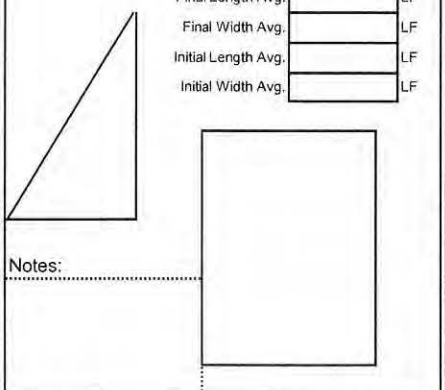
Panel # 30	Roll # G15C283028
Final Length Avg.	164.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	165.50 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	3,807	Lineal Feet Trench
Final SF	3,690	

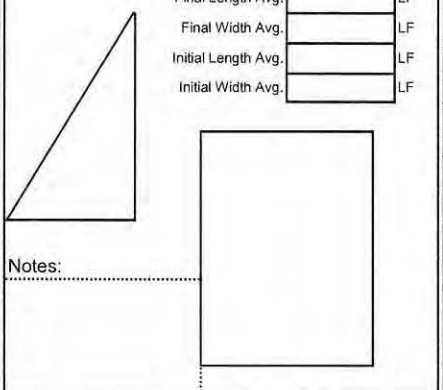
Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	22,073	SF
Total Pay Area This Page	22,073	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	84,746	SF
Total Panel SF To Date	106,819	SF
Total Pay Area To Date Including Anchor Trench	**106,819**	
Initial Quantity Previous	87,780	SF
Initial Quantity This Page	22,770	SF
Initial Quantity To Date	110,550	SF

INDEPENDENT CQA MONITOR

7/30/15

Daily Panel Placement

Page 7

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 07/29/15

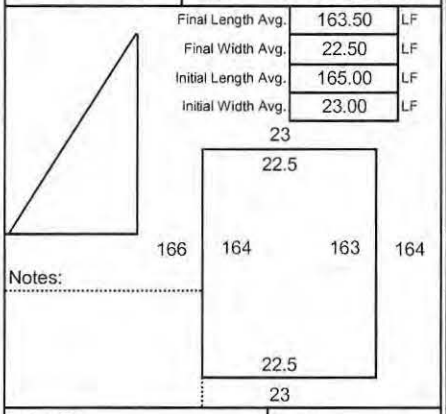
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 31 | **Roll #** G15C282015

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

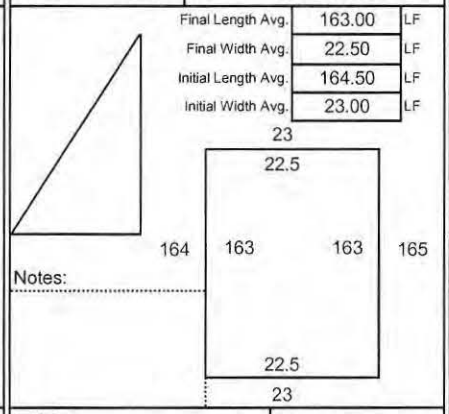


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # 32 | **Roll #** G15C282015

Final Length Avg.	163.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.50	LF
Initial Width Avg.	23.00	LF

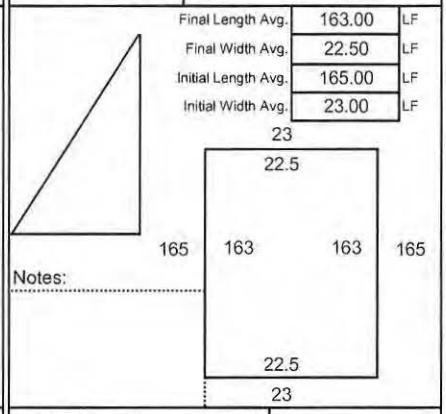


Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,668	

Panel # 33 | **Roll #** G15C282015

Final Length Avg.	163.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

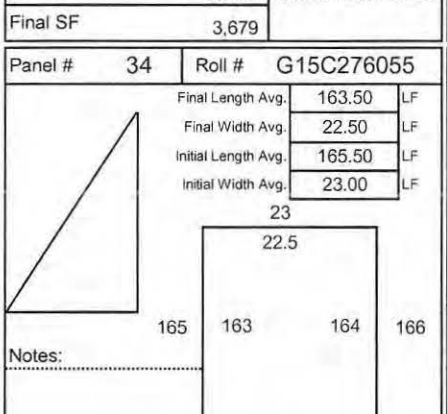


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,668	

Panel # 34 | **Roll #** G15C276055

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.50	LF
Initial Width Avg.	23.00	LF

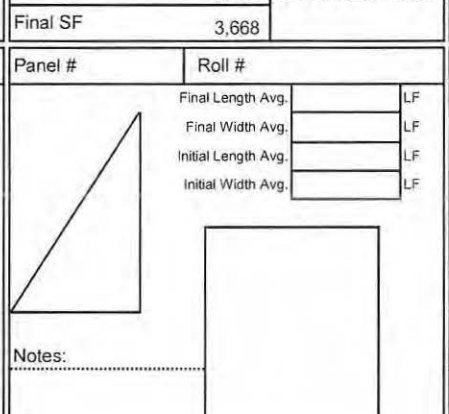


Notes:

Initial SF	3,807	Lineal Feet Trench
Final SF	3,679	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

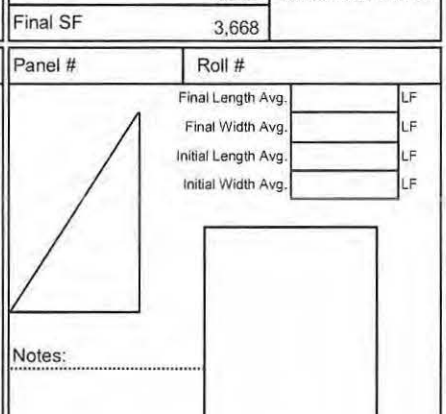


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

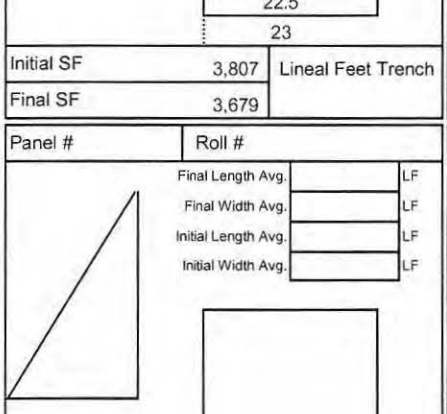


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

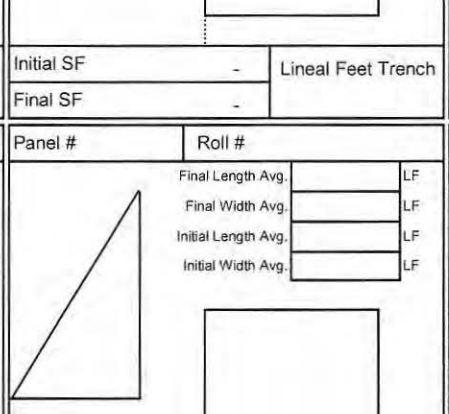


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,693**	SF
Total Pay Area This Page	**14,693**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	106,819	SF
Total Panel SF To Date	121,511	SF
Total Pay Area To Date Including Anchor Trench	**121,511**	
Initial Quantity Previous	110,550	SF
Initial Quantity This Page	15,180	SF
Initial Quantity To Date	125,730	SF

8/4/15

INDEPENDENT CQA MONITOR

Daily Panel Placement

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/03/15

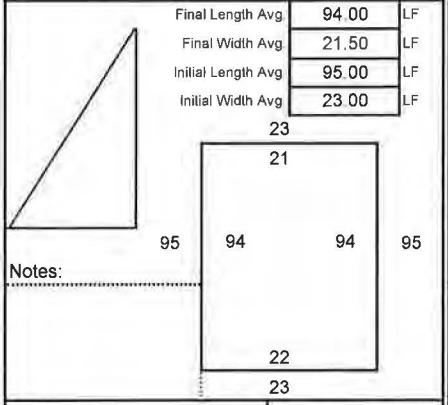
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 35 — Roll # G15C276055

Final Length Avg.	94.00	LF
Final Width Avg.	21.50	LF
Initial Length Avg.	95.00	LF
Initial Width Avg.	23.00	LF

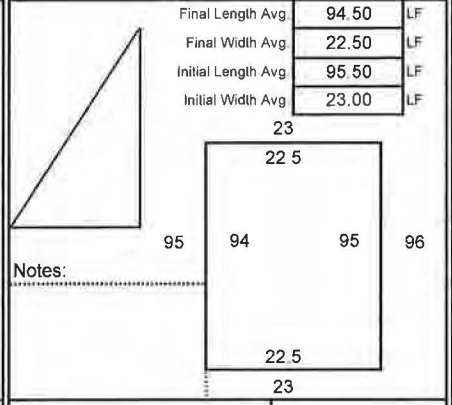


Notes:

Initial SF	2,185	Lineal Feet Trench	
Final SF	2,021		

Panel # 36 — Roll # G15C276055

Final Length Avg.	94.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	95.50	LF
Initial Width Avg.	23.00	LF

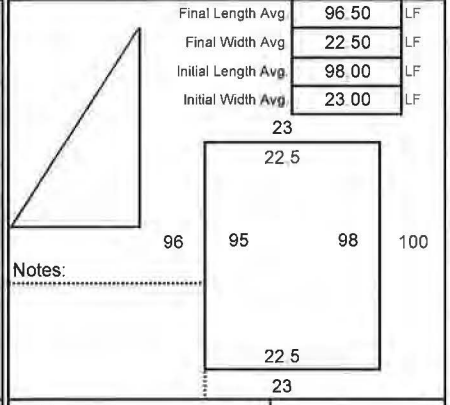


Notes:

Initial SF	2,197	Lineal Feet Trench	
Final SF	2,126		

Panel # 37 — Roll # G15C276055

Final Length Avg.	96.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	98.00	LF
Initial Width Avg.	23.00	LF

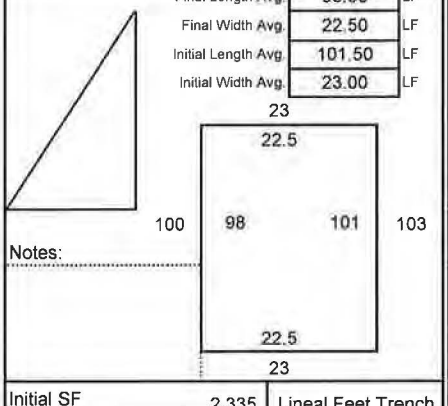


Notes:

Initial SF	2,254	Lineal Feet Trench	
Final SF	2,171		

Panel # 38 — Roll # G15C282017

Final Length Avg.	99.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	101.50	LF
Initial Width Avg.	23.00	LF

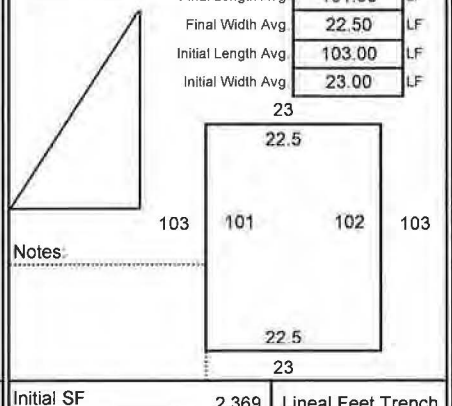


Notes:

Initial SF	2,335	Lineal Feet Trench	
Final SF	2,239		

Panel # 39 — Roll # G15C282017

Final Length Avg.	101.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	103.00	LF
Initial Width Avg.	23.00	LF

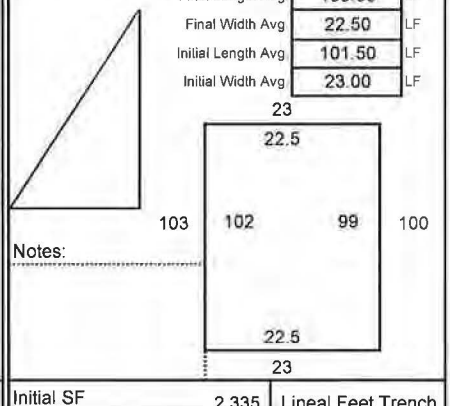


Notes:

Initial SF	2,369	Lineal Feet Trench	
Final SF	2,284		

Panel # 40 — Roll # G15C282017

Final Length Avg.	100.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	101.50	LF
Initial Width Avg.	23.00	LF

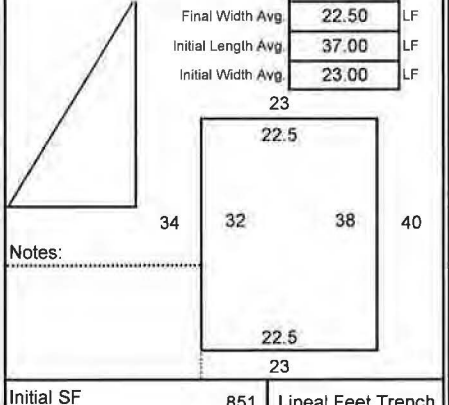


Notes:

Initial SF	2,335	Lineal Feet Trench	
Final SF	2,261		

Panel # 41 — Roll # G15C276055

Final Length Avg.	35.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	37.00	LF
Initial Width Avg.	23.00	LF

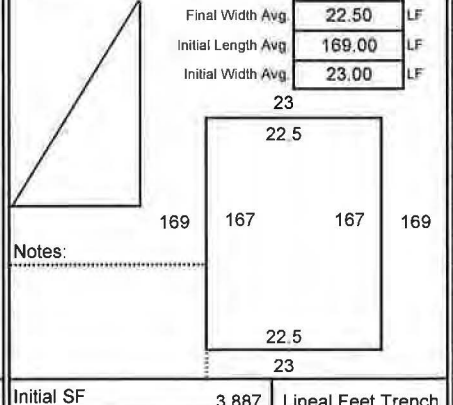


Notes:

Initial SF	851	Lineal Feet Trench	
Final SF	788		

Panel # 42 — Roll # G15C282017

Final Length Avg.	167.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF



Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,758		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**17,647**	SF
Total Pay Area This Page	**17,647**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	121,511	SF
Total Panel SF To Date	139,159	SF
Total Pay Area To Date Including Anchor Trench	**139,159**	
Initial Quantity Previous	125,730	SF
Initial Quantity This Page	18,412	SF
Initial Quantity To Date	144,141	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 9

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/03/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 43	Roll # G15C276053		
Final Length Avg.	35.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	36.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	840	Lineal Feet Trench	
Final SF	799		

Notes:

Panel # 44	Roll # G15C276053		
Final Length Avg.	56.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	57.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,323	Lineal Feet Trench	
Final SF	1,260		

Notes:

Panel # 45	Roll # G15C276053		
Final Length Avg.	25.00	LF	
Final Width Avg.	10.00	LF	
Initial Length Avg.	28.00	LF	
Initial Width Avg.	11.00	LF	
Initial SF	308	Lineal Feet Trench	
Final SF	250		

Notes:

Panel # 46	Roll # G15C276053		
Final Length Avg.	27.00	LF	
Final Width Avg.	10.00	LF	
Initial Length Avg.	28.00	LF	
Initial Width Avg.	11.50	LF	
Initial SF	322	Lineal Feet Trench	
Final SF	270		

Notes: TRIM OFF P-45

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Notes:

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Notes:

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**2,579**	SF
Total Pay Area This Page	**2,579**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	139,159	SF
Total Panel SF To Date	141,737	SF
Total Pay Area To Date Including Anchor Trench	**141,737**	
Initial Quantity Previous	144,141	SF
Initial Quantity This Page	2,792	SF
Initial Quantity To Date	146,933	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 10

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/05/15

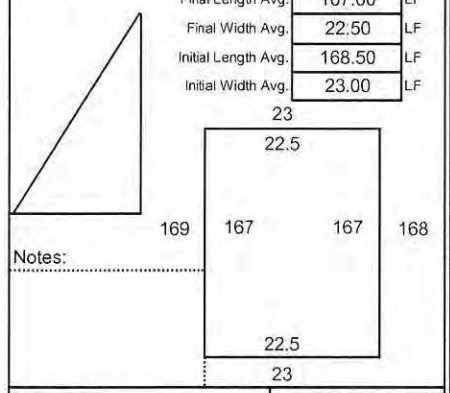
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

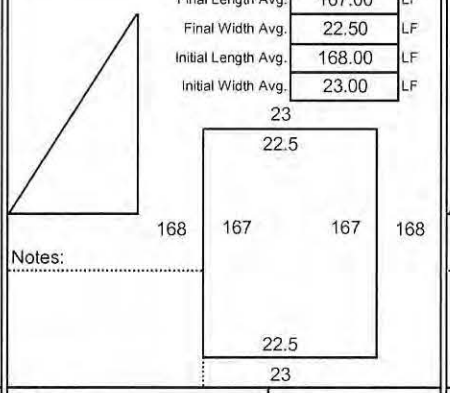
☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap [X] Other:

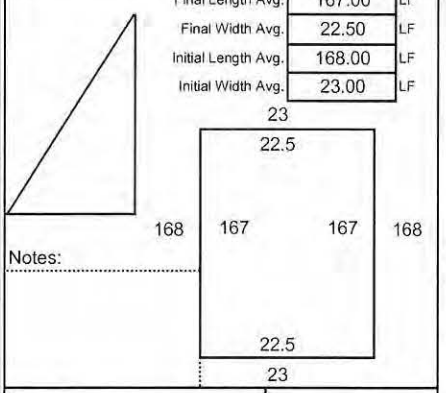
Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
47	G15C276053	167.00 LF	22.50 LF	168.50 LF	23.00 LF	3,876	3,758	
48	G15C276053	167.00 LF	22.50 LF	168.00 LF	23.00 LF	3,864	3,758	
49	G15C283033	167.00 LF	22.50 LF	168.00 LF	23.00 LF	3,864	3,758	
						-	-	
						-	-	
						-	-	
						-	-	
						-	-	

Notes:







Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**11,273**	SF
Total Pay Area This Page	**11,273**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	141,737	SF
Total Panel SF To Date	153,010	SF
Total Pay Area To Date Including Anchor Trench	**153,010**	
Initial Quantity Previous	146,933	SF
Initial Quantity This Page	11,604	SF
Initial Quantity To Date	158,537	SF

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Daily Panel Placement

Page 11

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/06/15

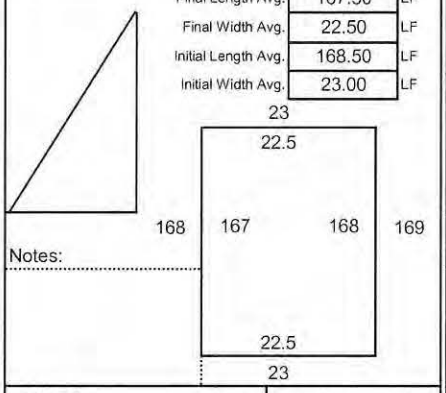
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 50 | **Roll #** G15C283033

Final Length Avg.	167.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.50	LF
Initial Width Avg.	23.00	LF

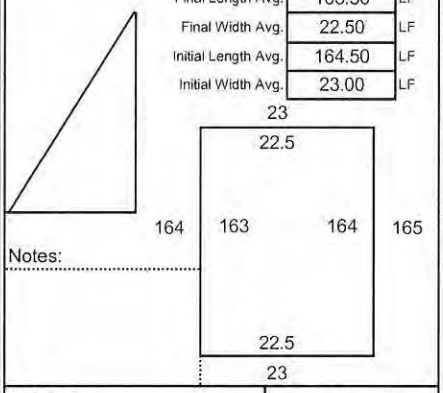


Notes:

Initial SF	3,876	Lineal Feet Trench	
Final SF	3,769		

Panel # 51 | **Roll #** G15C283033

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.50	LF
Initial Width Avg.	23.00	LF

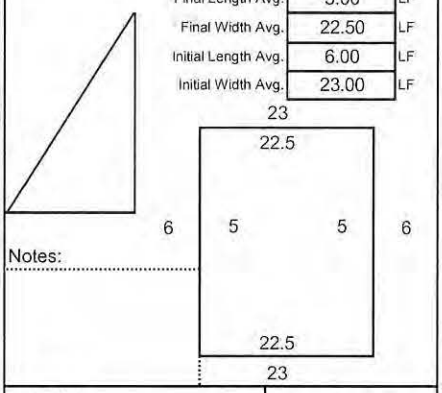


Notes:

Initial SF	3,784	Lineal Feet Trench	
Final SF	3,679		

Panel # 52 | **Roll #** G15C277060

Final Length Avg.	5.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	6.00	LF
Initial Width Avg.	23.00	LF

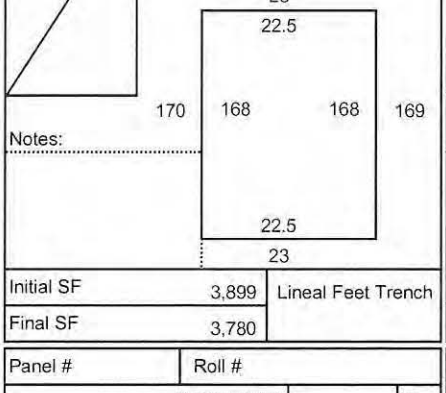


Notes:

Initial SF	138	Lineal Feet Trench	
Final SF	113		

Panel # 53 | **Roll #** G15C277060

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.50	LF
Initial Width Avg.	23.00	LF

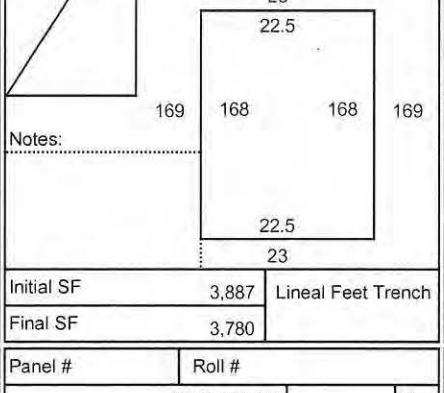


Notes:

Initial SF	3,899	Lineal Feet Trench	
Final SF	3,780		

Panel # 54 | **Roll #** G15C277060

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

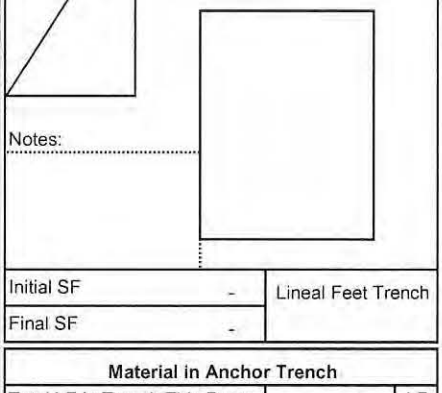


Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,780		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

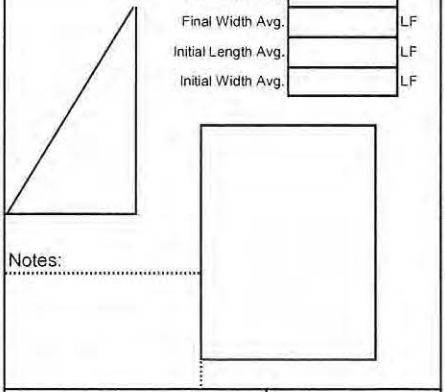


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

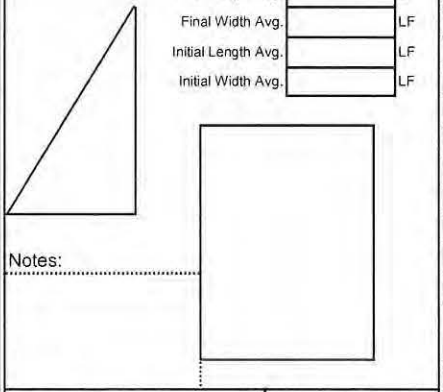


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**15,120**	SF
Total Pay Area This Page	**15,120**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	153,010	SF
Total Panel SF To Date	168,130	SF
Total Pay Area To Date Including Anchor Trench	**168,130**	
Initial Quantity Previous	158,537	SF
Initial Quantity This Page	15,583	SF
Initial Quantity To Date	174,119	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/07/15

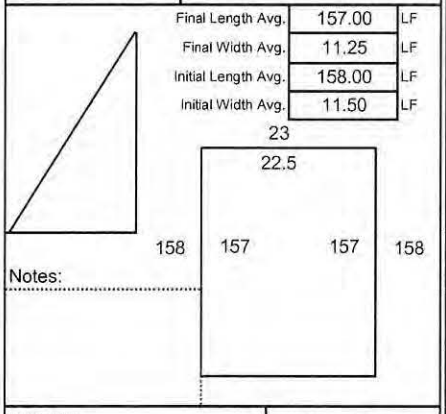
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 55 | **Roll #** G15C277060

Final Length Avg.	157.00	LF
Final Width Avg.	11.25	LF
Initial Length Avg.	158.00	LF
Initial Width Avg.	11.50	LF

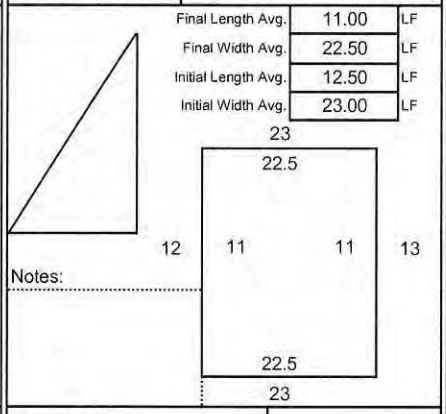


Notes:

Initial SF	1,817	Lineal Feet Trench	
Final SF	1,766		

Panel # 56 | **Roll #** G15C283029

Final Length Avg.	11.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	12.50	LF
Initial Width Avg.	23.00	LF

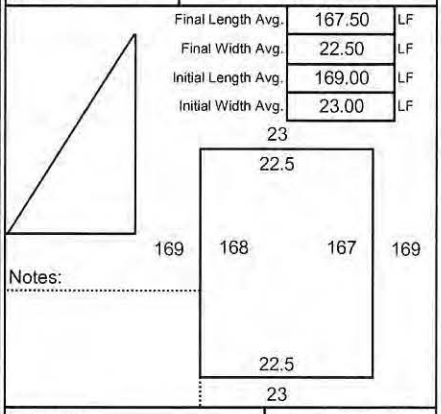


Notes:

Initial SF	288	Lineal Feet Trench	
Final SF	248		

Panel # 57 | **Roll #** G15C283029

Final Length Avg.	167.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

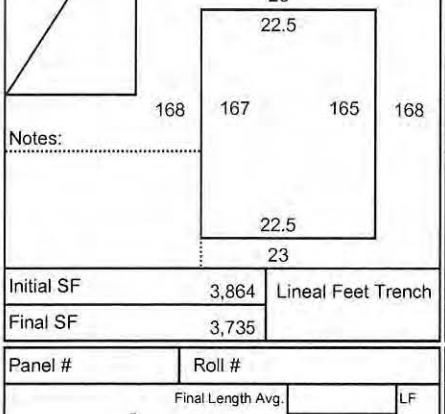


Notes:

Initial SF	3,887	Lineal Feet Trench	
Final SF	3,769		

Panel # 58 | **Roll #** G15C283029

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.00	LF
Initial Width Avg.	23.00	LF

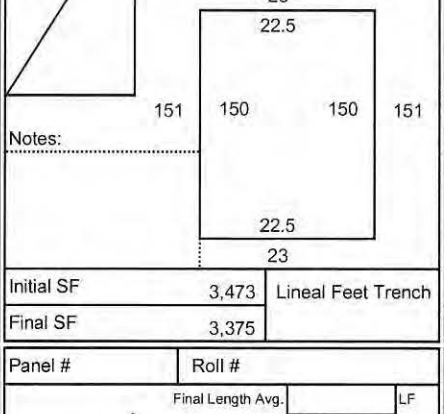


Notes:

Initial SF	3,864	Lineal Feet Trench	
Final SF	3,735		

Panel # 59 | **Roll #** G15C283029

Final Length Avg.	150.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	151.00	LF
Initial Width Avg.	23.00	LF

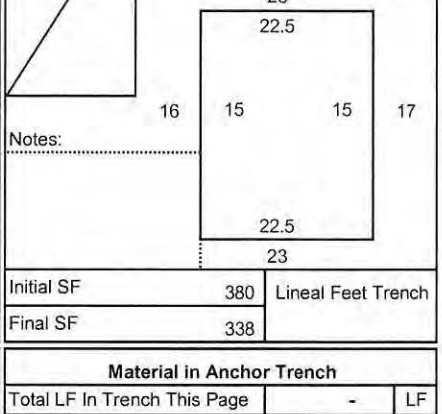


Notes:

Initial SF	3,473	Lineal Feet Trench	
Final SF	3,375		

Panel # 60 | **Roll #** G15C276053

Final Length Avg.	15.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	16.50	LF
Initial Width Avg.	23.00	LF

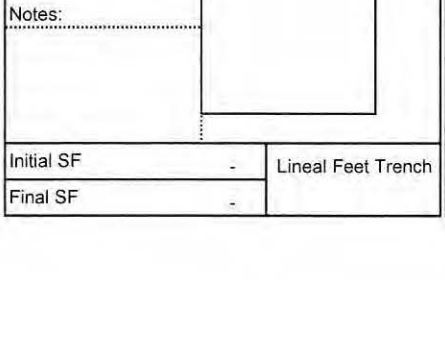


Notes:

Initial SF	380	Lineal Feet Trench	
Final SF	338		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

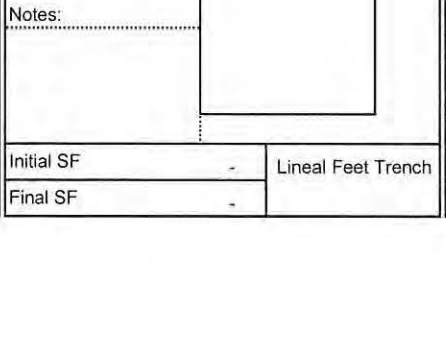


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**13,230**	SF
Total Pay Area This Page	**13,230**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	168,130	SF
Total Panel SF To Date	181,360	SF
Total Pay Area To Date Including Anchor Trench	**181,360**	
Initial Quantity Previous	174,119	SF
Initial Quantity This Page	13,708	SF
Initial Quantity To Date	187,827	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/10/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 61	Roll # G15C282011		
Final Length Avg.	164.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	166.00	LF	
Initial Width Avg.	23.00	LF	
Notes:			
Initial SF	3,818	Lineal Feet Trench	
Final SF	3,701		

Panel # 62	Roll # G15C282011		
Final Length Avg.	163.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	165.00	LF	
Initial Width Avg.	23.00	LF	
Notes:			
Initial SF	3,795	Lineal Feet Trench	
Final SF	3,679		

Panel # 63	Roll # G15C282011		
Final Length Avg.	163.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	164.50	LF	
Initial Width Avg.	23.00	LF	
Notes:			
Initial SF	3,784	Lineal Feet Trench	
Final SF	3,668		

Panel # 64	Roll # G15C282013		
Final Length Avg.	162.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	164.50	LF	
Initial Width Avg.	23.00	LF	
Notes: 190 SQ FT OFF P-64 .CORRECTED			
Initial SF	3,784	Lineal Feet Trench	
Final SF	3,467		

Panel # 65	Roll # G15C282013		
Final Length Avg.	162.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	164.00	LF	
Initial Width Avg.	23.00	LF	
Notes:			
Initial SF	3,772	Lineal Feet Trench	
Final SF	3,645		

Panel # 66	Roll # G15C282013		
Final Length Avg.	15.50	LF	
Final Width Avg.	12.25	LF	
Initial Length Avg.	16.50	LF	
Initial Width Avg.	13.00	LF	
Notes:			
Initial SF	215	Lineal Feet Trench	
Final SF	190		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel #	Roll #		
Final Length Avg.		LF	
Final Width Avg.		LF	
Initial Length Avg.		LF	
Initial Width Avg.		LF	
Notes:			
Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**18,349**	SF
Total Pay Area This Page	**18,349**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	181,360	SF
Total Panel SF To Date	199,709	SF
Total Pay Area To Date Including Anchor Trench	**199,709**	
Initial Quantity Previous	187,827	SF
Initial Quantity This Page	19,167	SF
Initial Quantity To Date	206,994	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 14

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/13/15

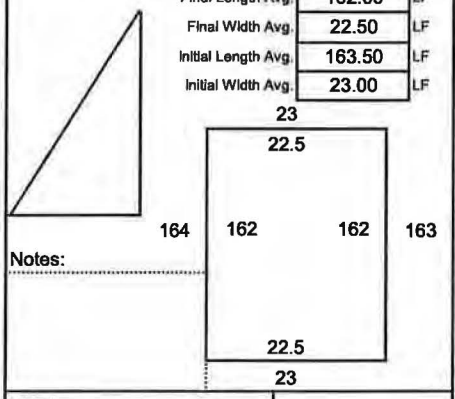
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

[ ] Primary Secondary [ ] Cell [ ] Pond [ ] Cap [X] Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 67 | **Roll #** G15C282013

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.50	LF
Initial Width Avg.	23.00	LF

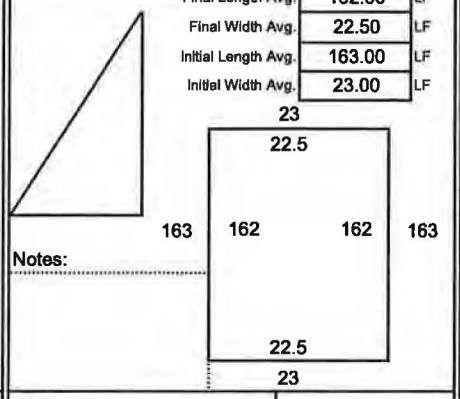


Notes:

Initial SF	3,761	Lineal Feet Trench
Final SF	3,645	

Panel # 68 | **Roll #** G15C282020

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

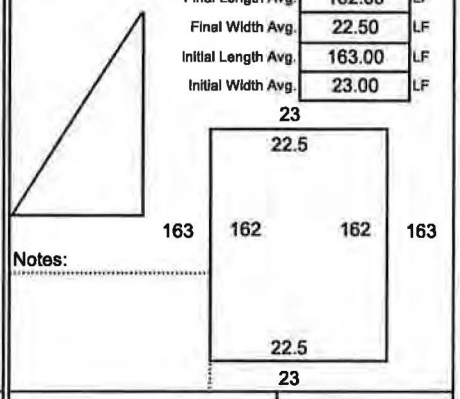


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 69 | **Roll #** G15C282020

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

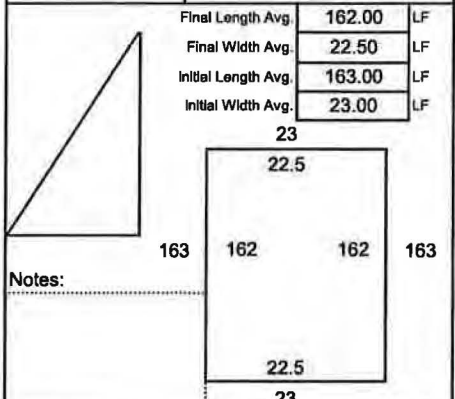


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 70 | **Roll #** G15C282020

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

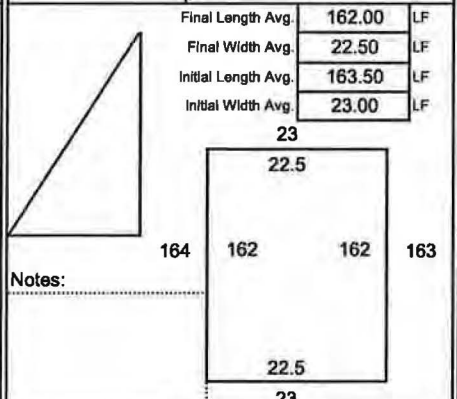


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 71 | **Roll #** G15C277062

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.50	LF
Initial Width Avg.	23.00	LF

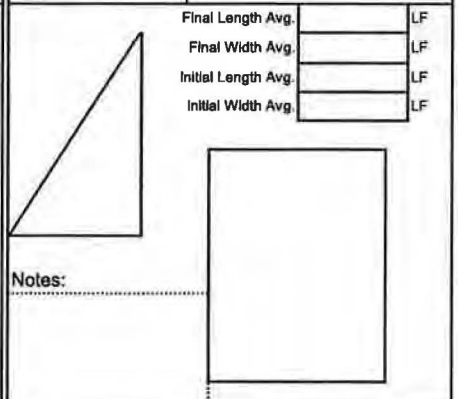


Notes:

Initial SF	3,761	Lineal Feet Trench
Final SF	3,645	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

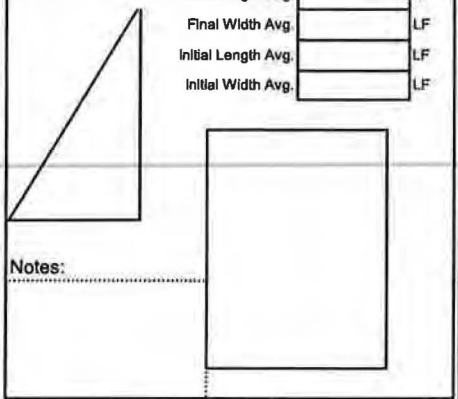


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

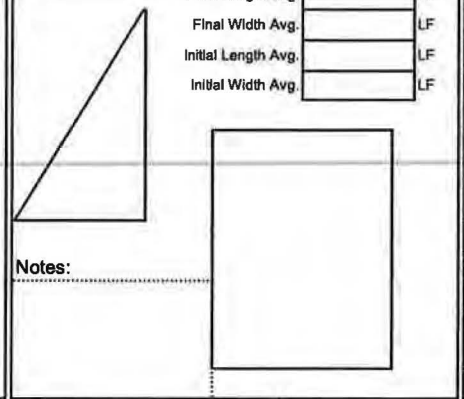


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	18,225	SF
Total Pay Area This Page	18,225	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	199,709	SF
Total Panel SF To Date	217,934	SF
Total Pay Area To Date Including Anchor Trench	**217,934**	
Initial Quantity Previous	206,994	SF
Initial Quantity This Page	18,768	SF
Initial Quantity To Date	225,762	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 15

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 08/14/15

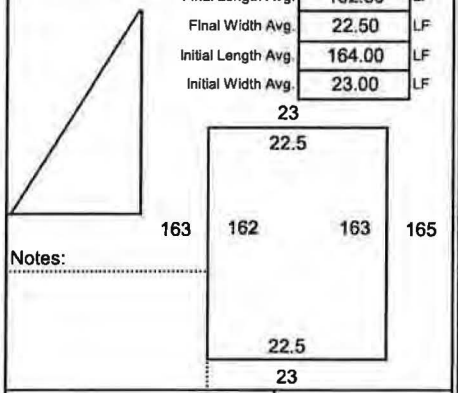
Superintendent: Fortino Ayala **Material Type:** LLDPE 60 MIL

☐ Primary **Secondary** ☐ **Cell** ☐ **Pond** ☐ **Cap** ☒ **Other:**

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 72 **Roll #** G15C277062

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

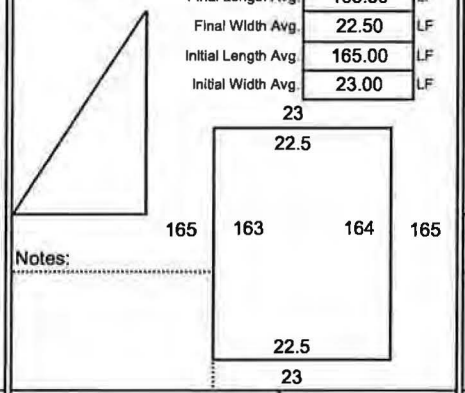


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 73 **Roll #** G15C277062

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

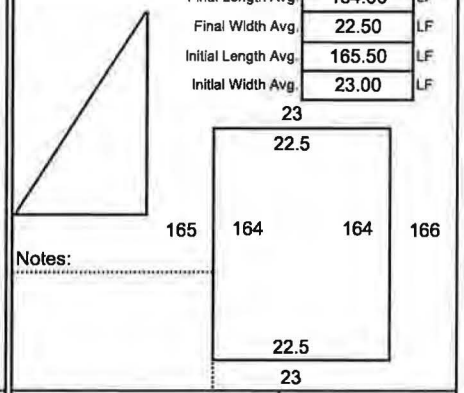


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # 74 **Roll #** G15C276054

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.50	LF
Initial Width Avg.	23.00	LF

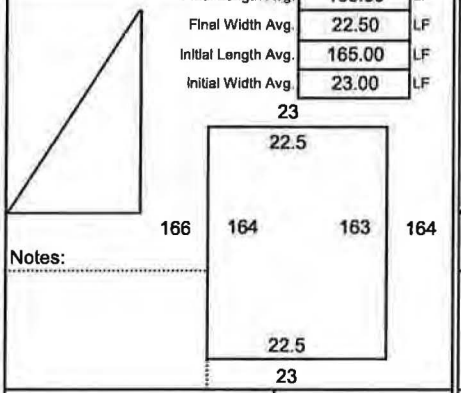


Notes:

Initial SF	3,807	Lineal Feet Trench
Final SF	3,690	

Panel # 75 **Roll #** G15C276054

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

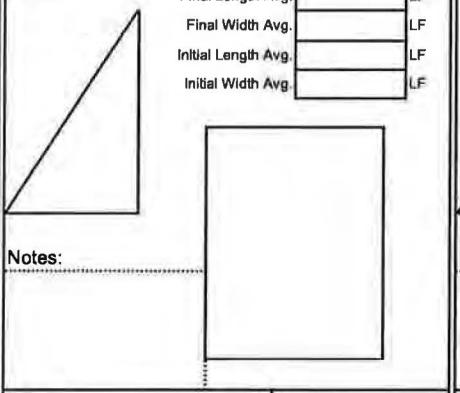


Notes:

Initial SF	3,795	Lineal Feet Trench
Final SF	3,679	

Panel # **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

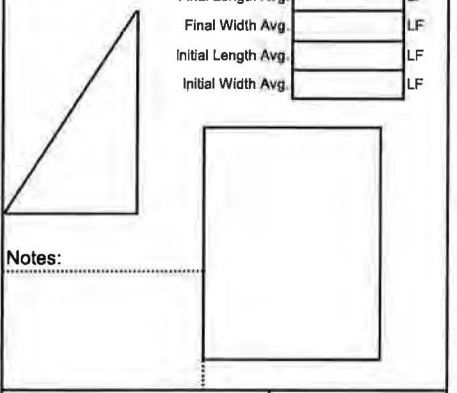


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

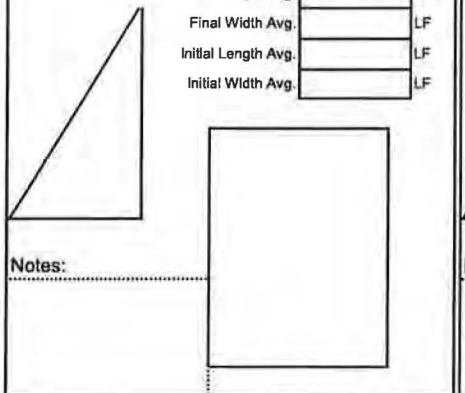


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

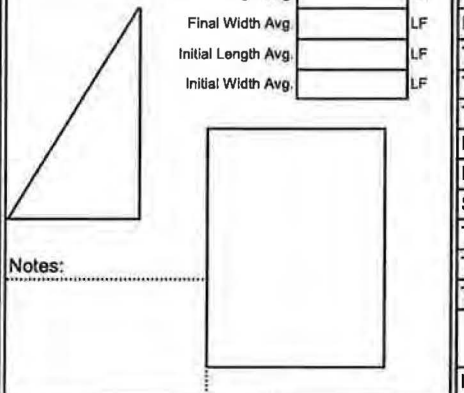


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,704**	SF
Total Pay Area This Page	**14,704**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	217,934	SF
Total Panel SF To Date	232,638	SF
Total Pay Area To Date Including Anchor Trench	**232,638**	
Initial Quantity Previous	225,762	SF
Initial Quantity This Page	15,169	SF
Initial Quantity To Date	240,930	SF

INDEPENDENT CQA MONITOR

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/09/15

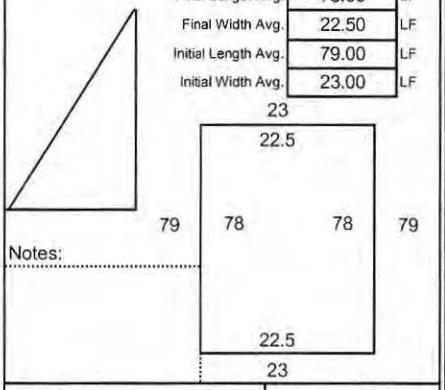
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 76 — Roll # G15C282019

Final Length Avg.	78.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	79.00	LF
Initial Width Avg.	23.00	LF

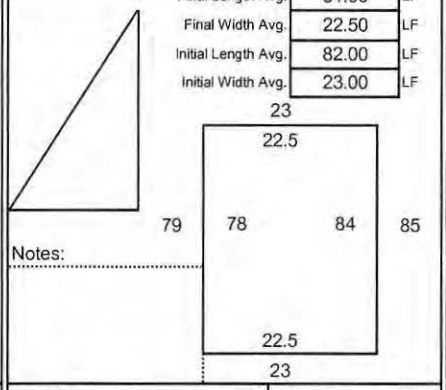


Notes:

Initial SF	1,817	Lineal Feet Trench
Final SF	1,755	

Panel # 77 — Roll # G15C282019

Final Length Avg.	81.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	82.00	LF
Initial Width Avg.	23.00	LF

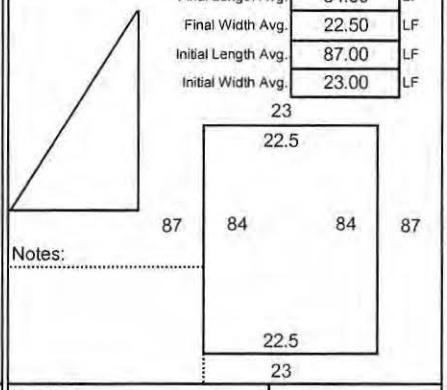


Notes:

Initial SF	1,886	Lineal Feet Trench
Final SF	1,823	

Panel # 78 — Roll # G15C282019

Final Length Avg.	84.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	87.00	LF
Initial Width Avg.	23.00	LF

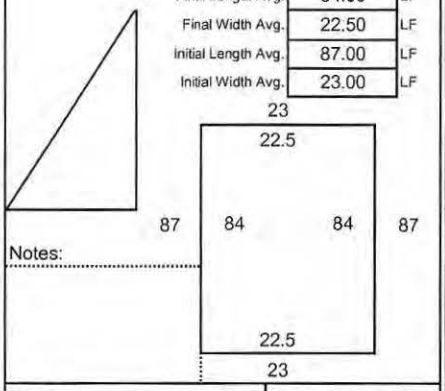


Notes:

Initial SF	2,001	Lineal Feet Trench
Final SF	1,890	

Panel # 79 — Roll # G15C282019

Final Length Avg.	84.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	87.00	LF
Initial Width Avg.	23.00	LF

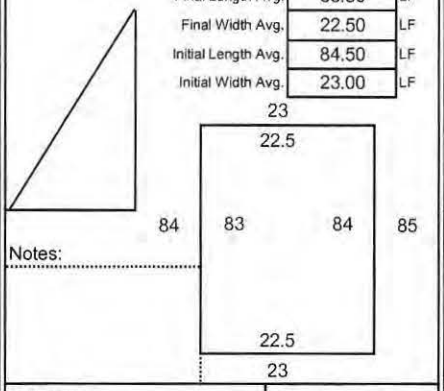


Notes:

Initial SF	2,001	Lineal Feet Trench
Final SF	1,890	

Panel # 80 — Roll # G15C282019

Final Length Avg.	83.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	84.50	LF
Initial Width Avg.	23.00	LF

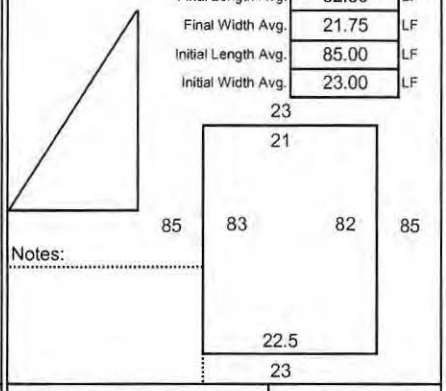


Notes:

Initial SF	1,944	Lineal Feet Trench
Final SF	1,879	

Panel # 81 — Roll # G15C276054

Final Length Avg.	82.50	LF
Final Width Avg.	21.75	LF
Initial Length Avg.	85.00	LF
Initial Width Avg.	23.00	LF

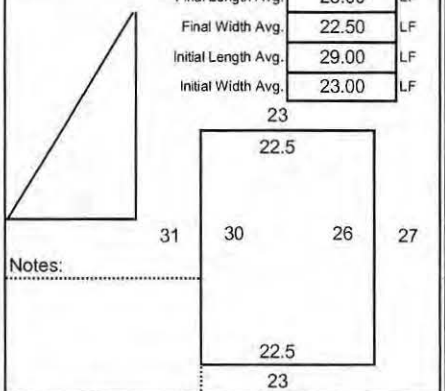


Notes:

Initial SF	1,955	Lineal Feet Trench
Final SF	1,794	

Panel # 82 — Roll # G15C282019

Final Length Avg.	28.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	29.00	LF
Initial Width Avg.	23.00	LF

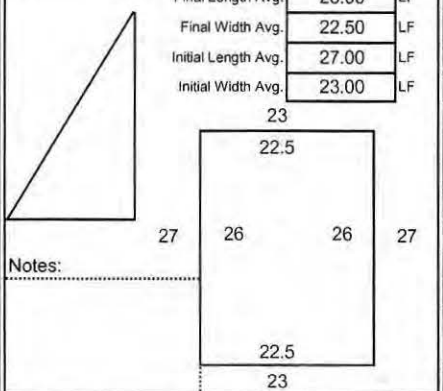


Notes:

Initial SF	667	Lineal Feet Trench
Final SF	630	

Panel # 83 — Roll # G15C282019

Final Length Avg.	26.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	27.00	LF
Initial Width Avg.	23.00	LF



Notes:

Initial SF	621	Lineal Feet Trench
Final SF	585	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**12,246**	**SF**
Total Pay Area This Page	**12,246**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	232,638	SF
Total Panel SF To Date	244,884	SF
Total Pay Area To Date Including Anchor Trench	**244,884**	
Initial Quantity Previous	240,930	SF
Initial Quantity This Page	12,892	SF
Initial Quantity To Date	253,822	SF

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Daily Panel Placement

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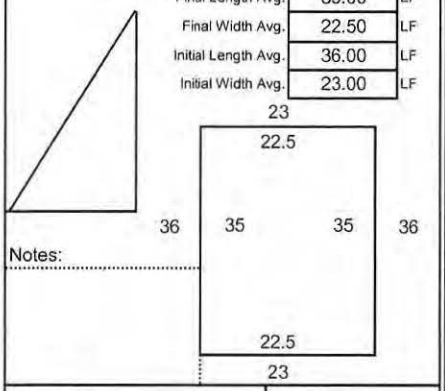
Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/09/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

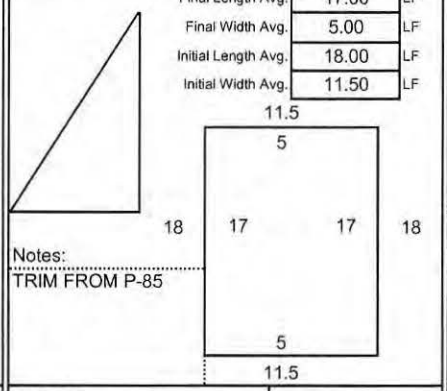
Panel # 84	Roll # G15C276054
Final Length Avg.	35.00 LF
Final Width Avg.	22.50 LF
Initial Length Avg.	36.00 LF
Initial Width Avg.	23.00 LF



Notes:

Initial SF	828	Lineal Feet Trench
Final SF	788	

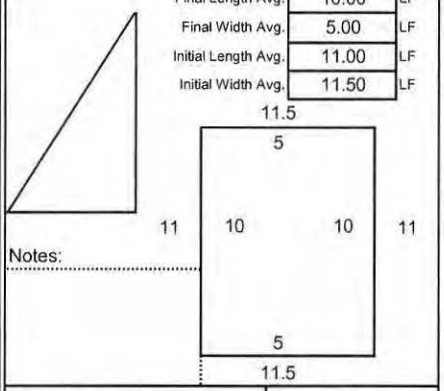
Panel # 85	Roll # G15C276054
Final Length Avg.	17.00 LF
Final Width Avg.	5.00 LF
Initial Length Avg.	18.00 LF
Initial Width Avg.	11.50 LF



Notes: TRIM FROM P-85

Initial SF	207	Lineal Feet Trench
Final SF	85	

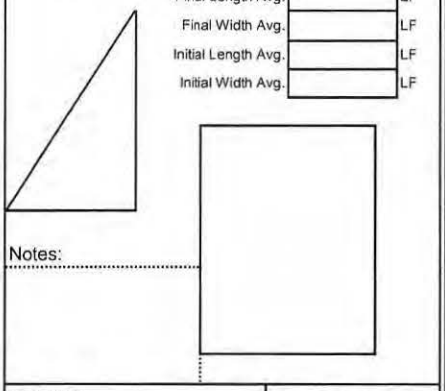
Panel # 86	Roll # G15C276054
Final Length Avg.	10.00 LF
Final Width Avg.	5.00 LF
Initial Length Avg.	11.00 LF
Initial Width Avg.	11.50 LF



Notes:

Initial SF	127	Lineal Feet Trench
Final SF	50	

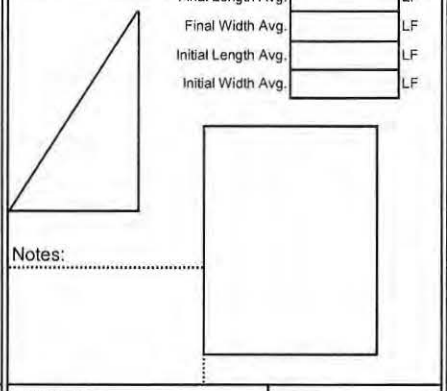
Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

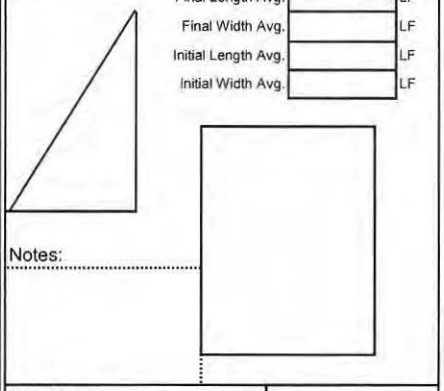
Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

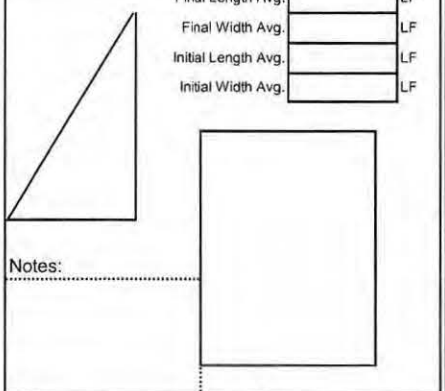
Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

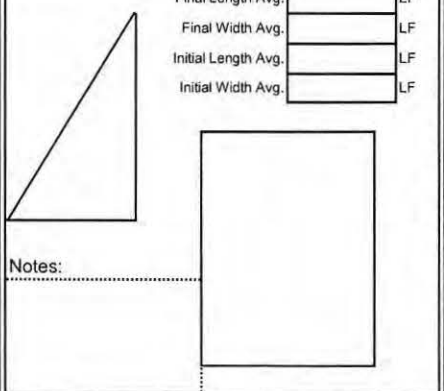
Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel #	Roll #
Final Length Avg.	LF
Final Width Avg.	LF
Initial Length Avg.	LF
Initial Width Avg.	LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**923**	SF
Total Pay Area This Page	**923**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	244,884	SF
Total Panel SF To Date	245,806	SF
Total Pay Area To Date Including Anchor Trench	**245,806**	
Initial Quantity Previous	253,822	SF
Initial Quantity This Page	1,162	SF
Initial Quantity To Date	254,983	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/15/15

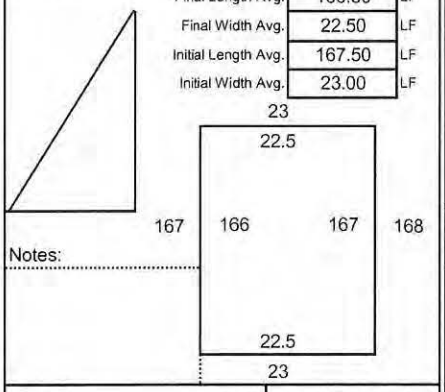
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 87 | **Roll #** G15C282012

Final Length Avg.	166.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.50	LF
Initial Width Avg.	23.00	LF

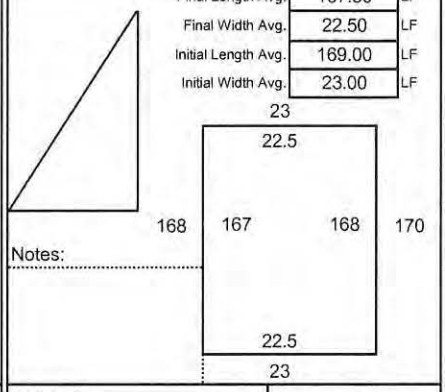


Notes:

Initial SF	3,853	Lineal Feet Trench
Final SF	3,746	

Panel # 88 | **Roll #** G15C282012

Final Length Avg.	167.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

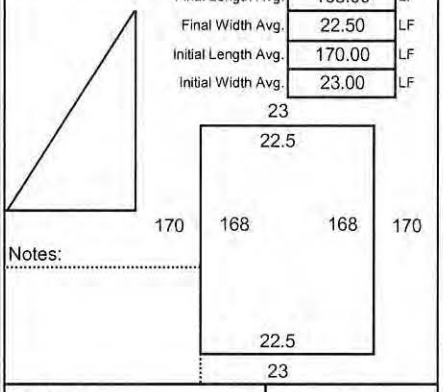


Notes:

Initial SF	3,887	Lineal Feet Trench
Final SF	3,769	

Panel # 89 | **Roll #** G15C282012

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	170.00	LF
Initial Width Avg.	23.00	LF

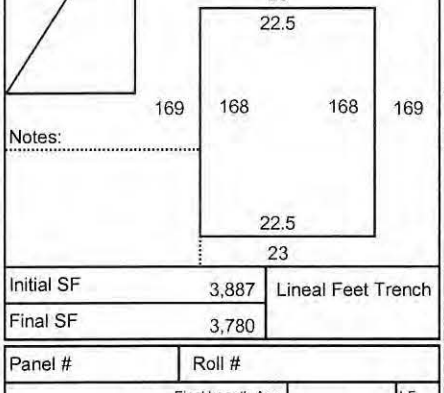


Notes:

Initial SF	3,910	Lineal Feet Trench
Final SF	3,780	

Panel # 90 | **Roll #** G15C276058

Final Length Avg.	168.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

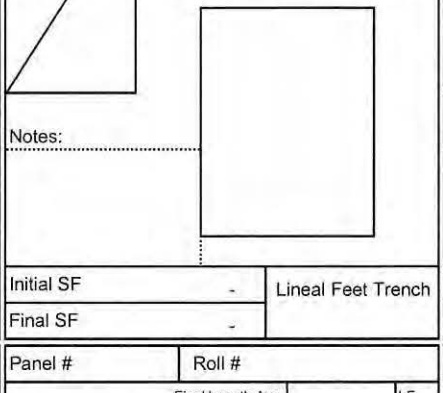


Notes:

Initial SF	3,887	Lineal Feet Trench
Final SF	3,780	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

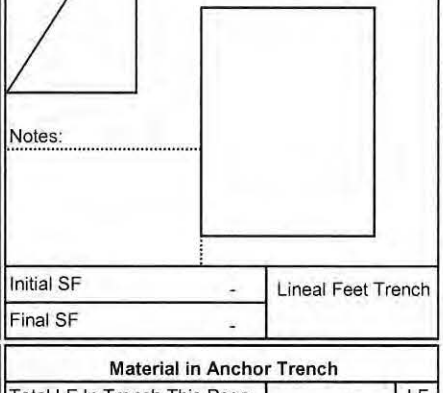


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

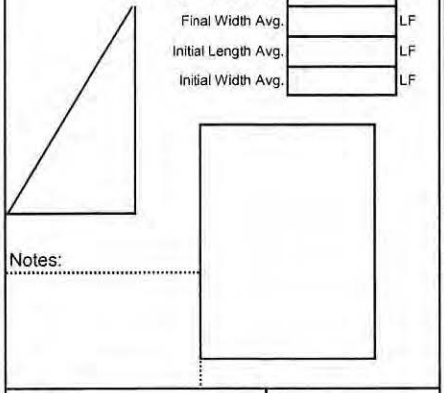


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

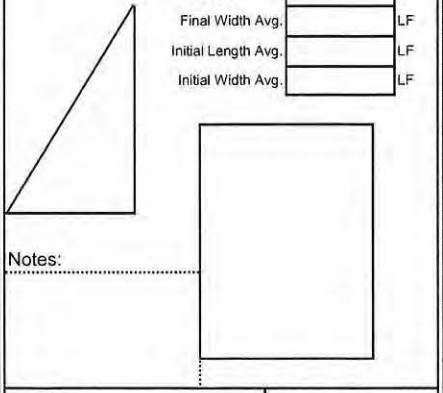


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**15,075**	SF
Total Pay Area This Page	**15,075**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	245,806	SF
Total Panel SF To Date	260,881	SF
Total Pay Area To Date Including Anchor Trench	**260,881**	
Initial Quantity Previous	254,983	SF
Initial Quantity This Page	15,537	SF
Initial Quantity To Date	270,520	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/16/15

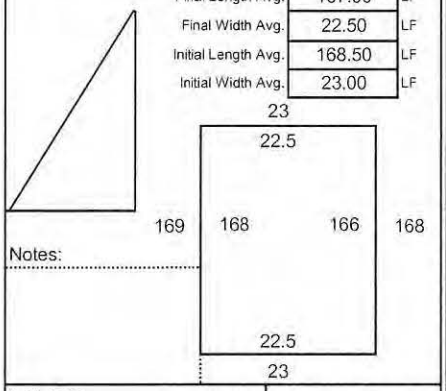
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 91 — Roll # G15C276058

Final Length Avg.	167.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	168.50	LF
Initial Width Avg.	23.00	LF

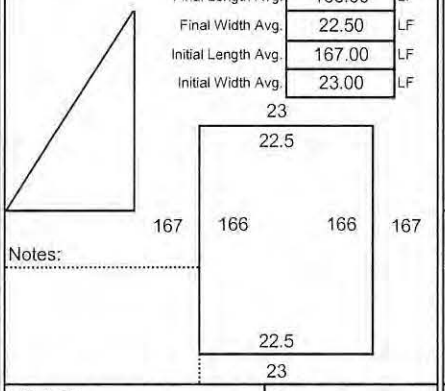


Notes:

Initial SF	3,876	Lineal Feet Trench
Final SF	3,758	

Panel # 92 — Roll # G15C276058

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

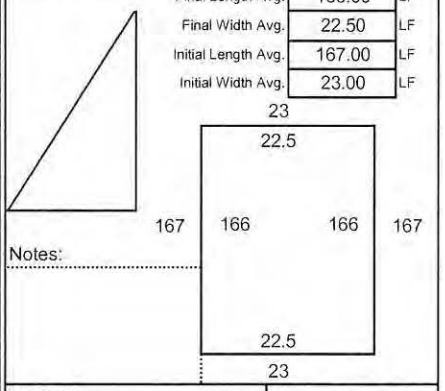


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,735	

Panel # 93 — Roll # G15C283026

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

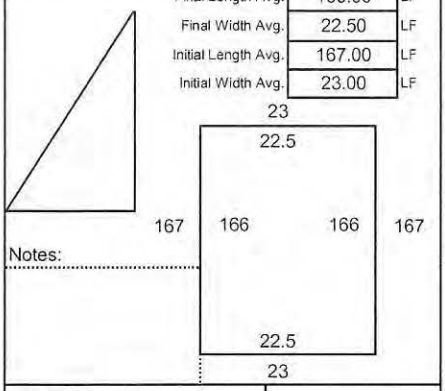


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,735	

Panel # 94 — Roll # G15C283026

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	167.00	LF
Initial Width Avg.	23.00	LF

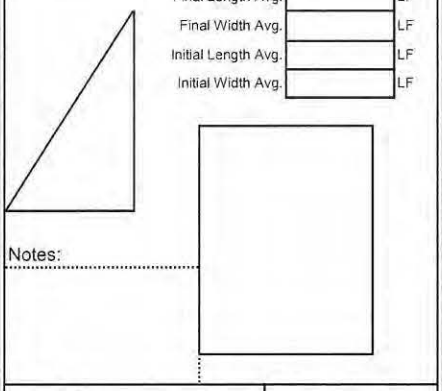


Notes:

Initial SF	3,841	Lineal Feet Trench
Final SF	3,735	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

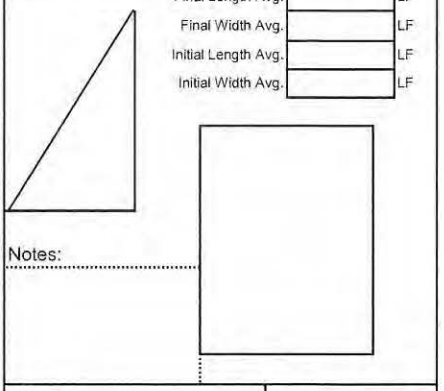


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

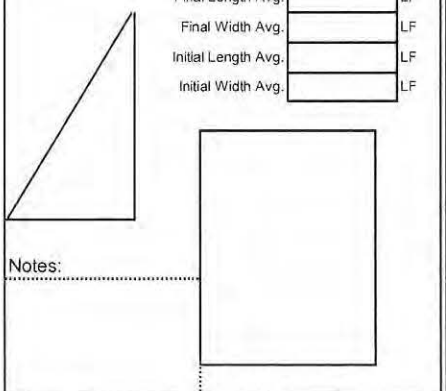


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

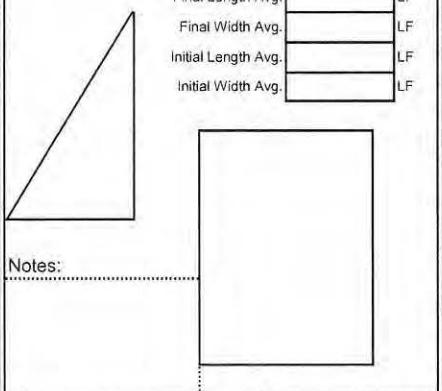


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	**-**	**SF**
Total Panel SF This Page	**14,963**	**SF**
Total Pay Area This Page	**14,963**	**SF**
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	261,032	SF
Total Panel SF To Date	275,995	SF
Total Pay Area To Date Including Anchor Trench	**275,995**	
Initial Quantity Previous	270,559	SF
Initial Quantity This Page	15,399	SF
Initial Quantity To Date	285,958	SF

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Daily Panel Placement

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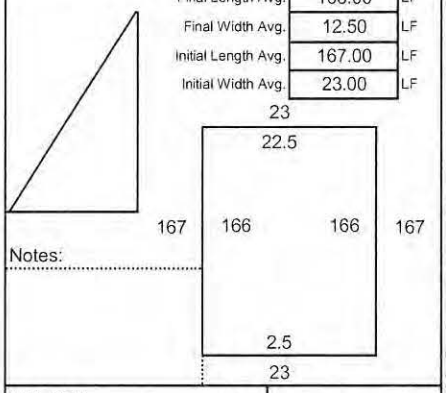
Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/17/15

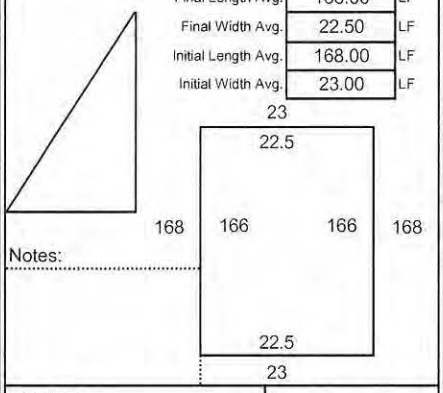
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

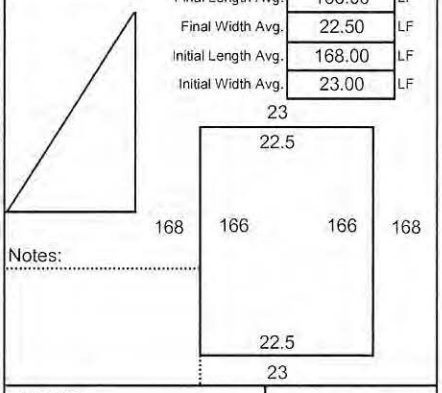
☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 95	Roll # G15C283026	Panel # 96	Roll # G15C276057	Panel # 97	Roll # G15C276057
Final Length Avg.	166.00 LF	166.00 LF	166.00 LF
Final Width Avg.	12.50 LF	22.50 LF	22.50 LF
Initial Length Avg.	167.00 LF	168.00 LF	168.00 LF
Initial Width Avg.	23.00 LF	23.00 LF	23.00 LF
Notes:			
Initial SF	3,841	Lineal Feet Trench	3,864	Lineal Feet Trench	3,864	Lineal Feet Trench
Final SF	2,075		3,735		3,735	







Panel #	Roll #	Panel #	Roll #	Panel #	Roll #
Final Length Avg.	LF	LF	LF
Final Width Avg.	LF	LF	LF
Initial Length Avg.	LF	LF	LF
Initial Width Avg.	LF	LF	LF
Notes:			
Initial SF	-	Lineal Feet Trench	-	Lineal Feet Trench	-	Lineal Feet Trench
Final SF	-		-		-	

Panel #	Roll #	Panel #	Roll #
Final Length Avg.	LF	LF
Final Width Avg.	LF	LF
Initial Length Avg.	LF	LF
Initial Width Avg.	LF	LF
Notes:		
Initial SF	-	Lineal Feet Trench	-	Lineal Feet Trench
Final SF	-		-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**9,545**	SF
Total Pay Area This Page	**9,545**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	275,995	SF
Total Panel SF To Date	285,540	SF
Total Pay Area To Date Including Anchor Trench	**285,540**	
Initial Quantity Previous	285,958	SF
Initial Quantity This Page	11,569	SF
Initial Quantity To Date	297,527	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/18/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 98	Roll # G15C276057		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,530		

23 / 22.5 / 70 68 68 70 / 22.5 / 23

Notes:

Panel # 99	Roll # G15C276057		
Final Length Avg.	68.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,541		

23 / 22.5 / 70 68 69 70 / 22.5 / 23

Notes:

Panel # 100	Roll # G15C282022		
Final Length Avg.	68.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,541		

23 / 22.5 / 70 69 68 70 / 22.5 / 23

Notes:

Panel # 101	Roll # G15C282022		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,622	Lineal Feet Trench	
Final SF	1,530		

23 / 22.5 / 71 68 68 70 / 22.5 / 23

Notes:

Panel # 102	Roll # G15C282022		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,530		

23 / 22.5 / 70 68 68 70 / 22.5 / 23

Notes:

Panel # 103	Roll # G15C282022		
Final Length Avg.	68.00	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	70.00	LF	
Initial Width Avg.	23.00	LF	
Initial SF	1,610	Lineal Feet Trench	
Final SF	1,530		

23 / 22.5 / 70 68 68 70 / 22.5 / 23

Notes:

Panel # 104	Roll # G15C282022		
Final Length Avg.	29.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	30.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	702	Lineal Feet Trench	
Final SF	664		

23 / 22.5 / 33 32 27 28 / 22.5 / 23

Notes:

Panel # 105	Roll # G15C282022		
Final Length Avg.	26.50	LF	
Final Width Avg.	22.50	LF	
Initial Length Avg.	27.50	LF	
Initial Width Avg.	23.00	LF	
Initial SF	633	Lineal Feet Trench	
Final SF	596		

23 / 22.5 / 28 27 26 27 / 22.5 / 23

Notes:

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**10,463**	SF
Total Pay Area This Page	**10,463**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	285,540	SF
Total Panel SF To Date	296,002	SF
Total Pay Area To Date Including Anchor Trench	**296,002**	
Initial Quantity Previous	297,527	SF
Initial Quantity This Page	11,006	SF
Initial Quantity To Date	308,532	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/18/15

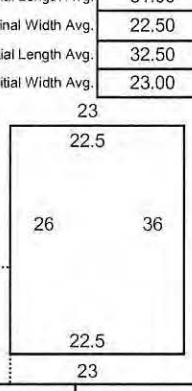
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Initial SF	Final SF	Lineal Feet Trench
106	G15C282022	31.00 LF	22.50 LF	32.50 LF	23.00 LF	748	698	
						-	-	
						-	-	
						-	-	
						-	-	
						-	-	

Notes:



Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**698**	SF
Total Pay Area This Page	**698**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	296,002	SF
Total Panel SF To Date	296,700	SF
Total Pay Area To Date Including Anchor Trench	**296,700**	
Initial Quantity Previous	308,532	SF
Initial Quantity This Page	748	SF
Initial Quantity To Date	309,280	SF

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Daily Panel Placement

Page 23

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/22/15

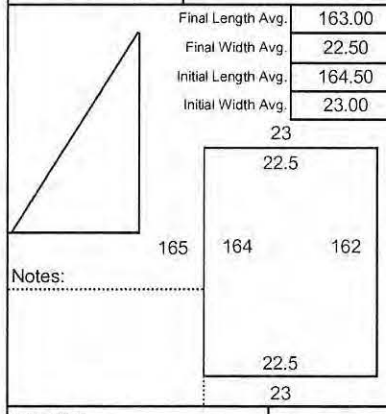
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary ☐ Secondary ☐ Cell ☐ Pond ☒ Cap ☐ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 107 | **Roll #** G15C283024

Final Length Avg.	163.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.50	LF
Initial Width Avg.	23.00	LF

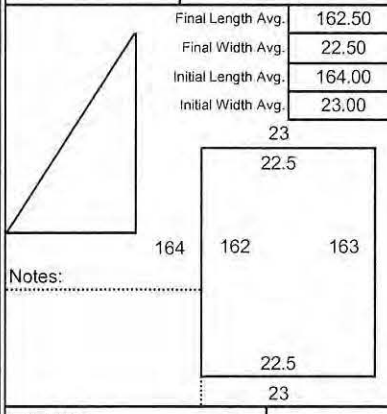


Notes:

Initial SF	3,784	Lineal Feet Trench
Final SF	3,668	

Panel # 108 | **Roll #** G15C283024

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

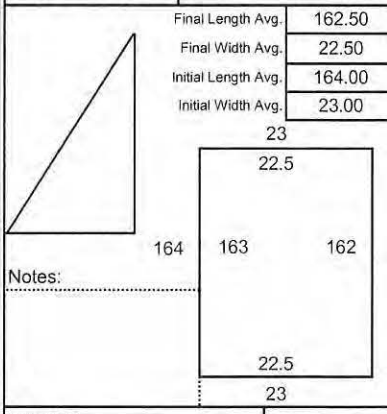


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 109 | **Roll #** G15C283024

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

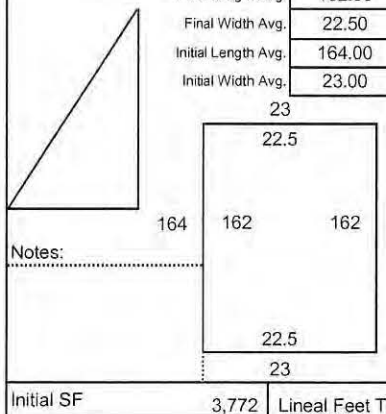


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,656	

Panel # 110 | **Roll #** G15C282016

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

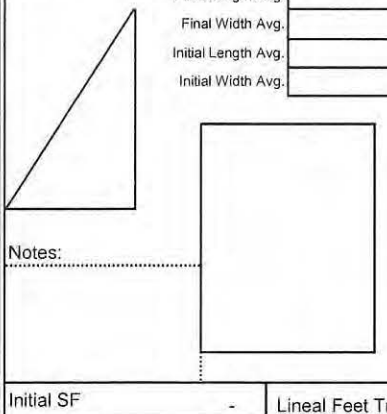


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,645	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

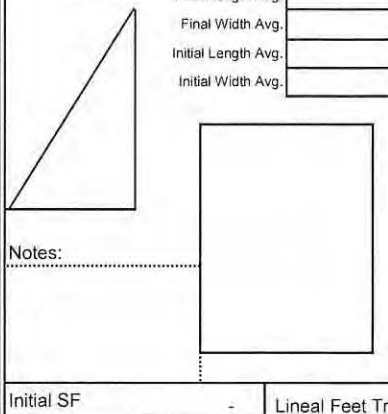


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

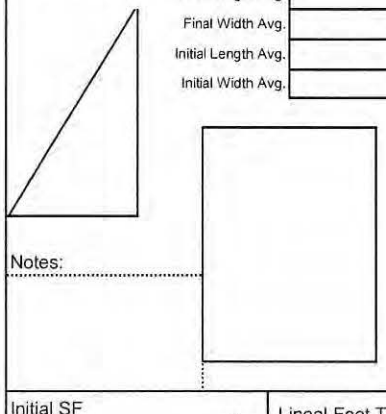


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

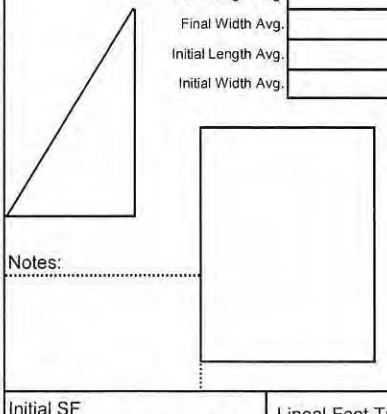


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,625**	SF
Total Pay Area This Page	**14,625**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	298,360	SF
Total Panel SF To Date	312,985	SF
Total Pay Area To Date Including Anchor Trench	**312,985**	
Initial Quantity Previous	309,280	SF
Initial Quantity This Page	15,100	SF
Initial Quantity To Date	324,379	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

Page 24

Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/23/15

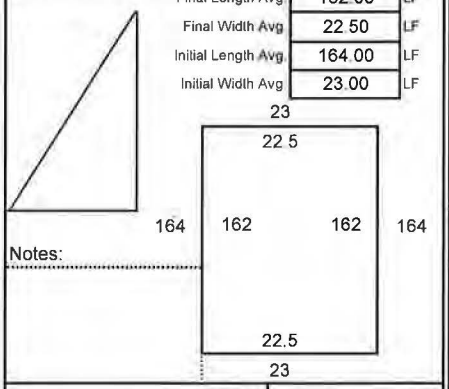
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 111 — Roll # G15C282016

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

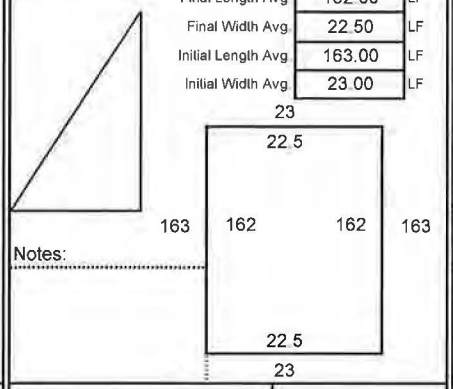


Notes:

Initial SF	3,772	Lineal Feet Trench
Final SF	3,645	

Panel # 112 — Roll # G15C282016

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

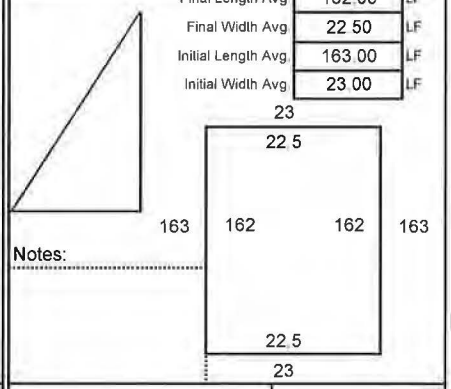


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 113 — Roll # G15C283032

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

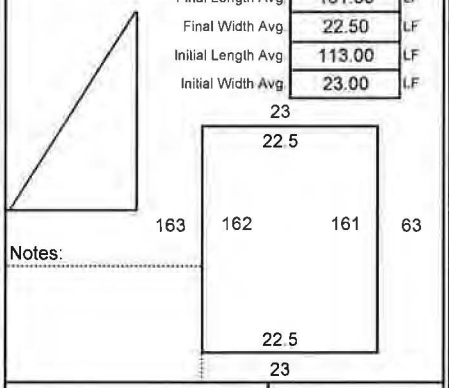


Notes:

Initial SF	3,749	Lineal Feet Trench
Final SF	3,645	

Panel # 114 — Roll # G15C283032

Final Length Avg.	161.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	113.00	LF
Initial Width Avg.	23.00	LF

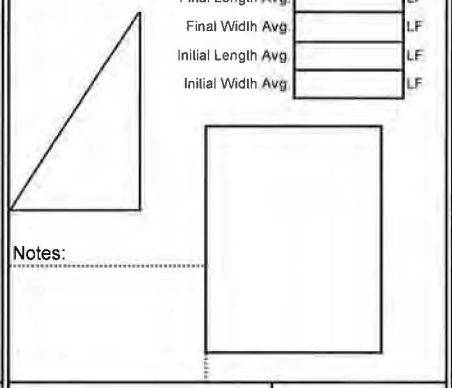


Notes:

Initial SF	2,599	Lineal Feet Trench
Final SF	3,634	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

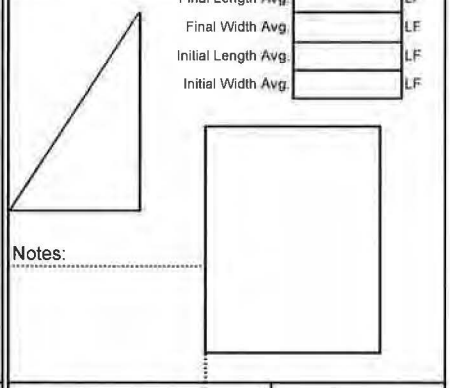


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

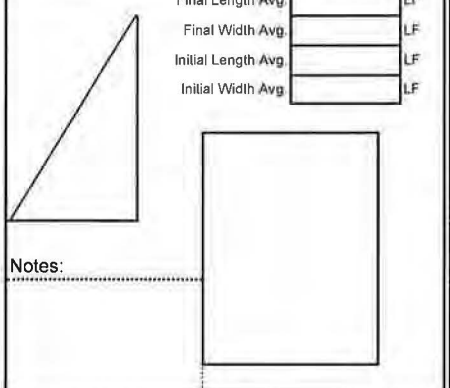


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

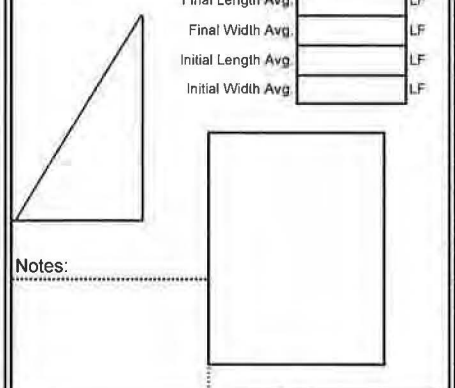


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # — Roll

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,569**	SF
Total Pay Area This Page	**14,569**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	312,985	SF
Total Panel SF To Date	327,553	SF
Total Pay Area To Date Including Anchor Trench	**327,553**	
Initial Quantity Previous	324,379	SF
Initial Quantity This Page	13,869	SF
Initial Quantity To Date	338,248	SF

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INDEPENDENT CQA MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/24/15

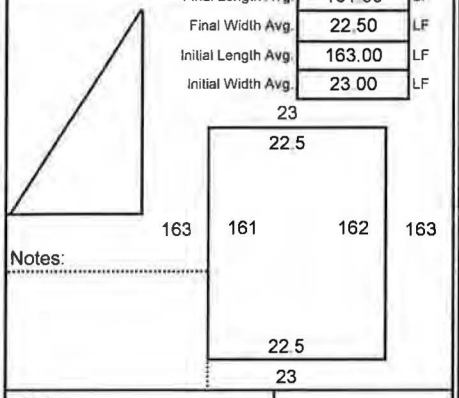
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 115 | **Roll #** G15C282023

Final Length Avg.	161.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	163.00	LF
Initial Width Avg.	23.00	LF

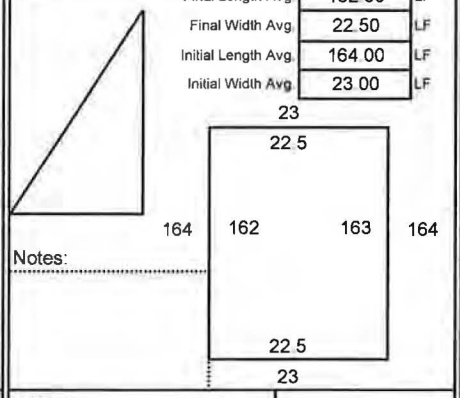


Notes:

Initial SF	3,749	Lineal Feet Trench	
Final SF	3,634		

Panel # 116 | **Roll #** G15C282023

Final Length Avg.	162.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	164.00	LF
Initial Width Avg.	23.00	LF

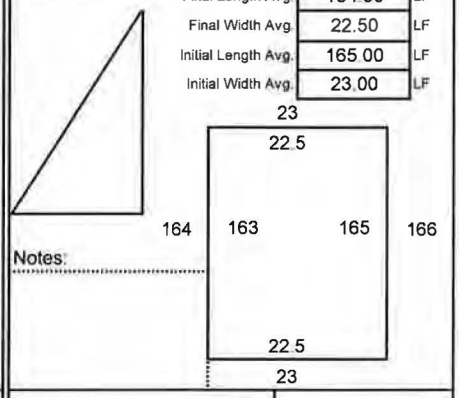


Notes:

Initial SF	3,772	Lineal Feet Trench	
Final SF	3,656		

Panel # 117 | **Roll #** G15C282023

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

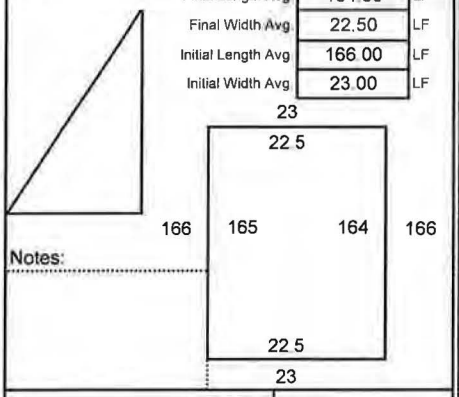


Notes:

Initial SF	3,795	Lineal Feet Trench	
Final SF	3,690		

Panel # 118 | **Roll #** G15C283025

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

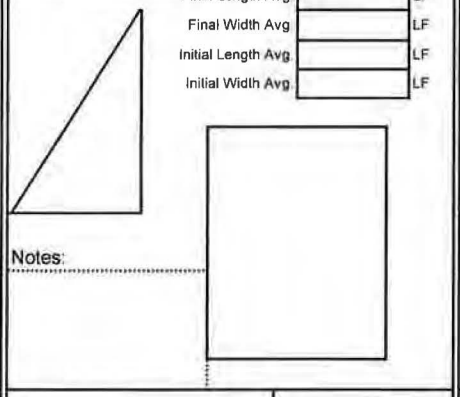


Notes:

Initial SF	3,818	Lineal Feet Trench	
Final SF	3,701		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

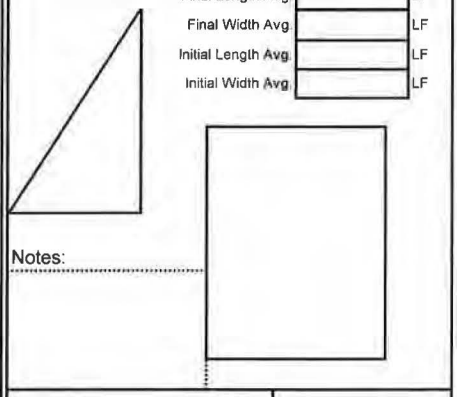


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

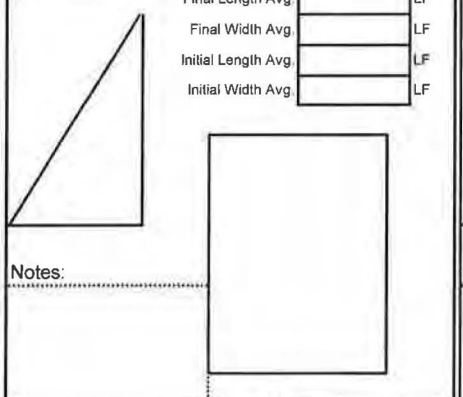


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

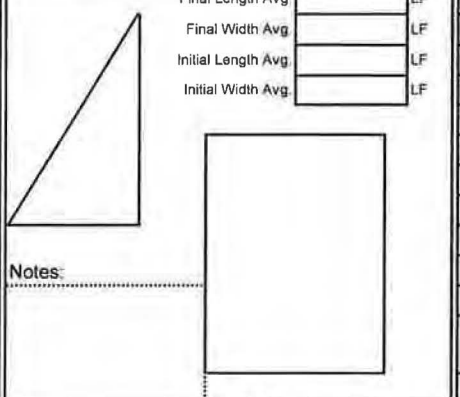


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,681**	SF
Total Pay Area This Page	**14,681**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	327,553	SF
Total Panel SF To Date	342,235	SF
Total Pay Area To Date Including Anchor Trench	**342,235**	
Initial Quantity Previous	338,248	SF
Initial Quantity This Page	15,134	SF
Initial Quantity To Date	353,382	SF

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INDEPENDENT C&A MONITOR

Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/25/15

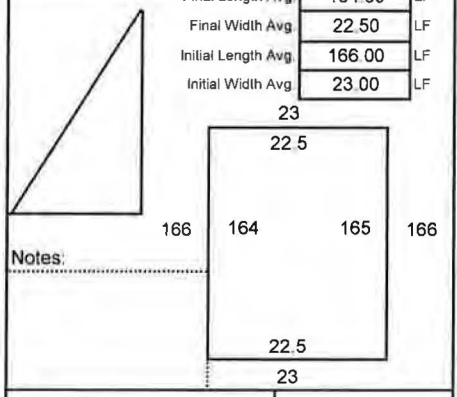
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

[ ] Primary [ ] Secondary [ ] Cell [ ] Pond [X] Cap [ ] Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 119 | **Roll #** G15C283025

Final Length Avg.	164.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.00	LF
Initial Width Avg.	23.00	LF

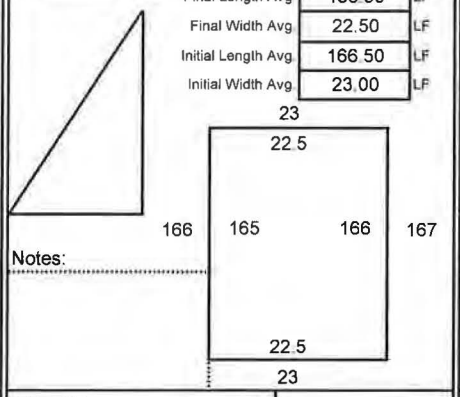


Notes:

Initial SF	3,818	Lineal Feet Trench
Final SF	3,701	

Panel # 120 | **Roll #** G15C283025

Final Length Avg.	165.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	166.50	LF
Initial Width Avg.	23.00	LF

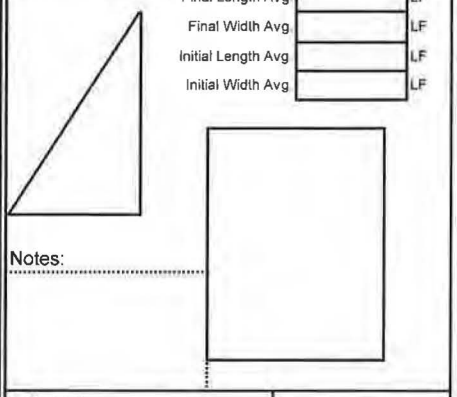


Notes:

Initial SF	3,830	Lineal Feet Trench
Final SF	3,724	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

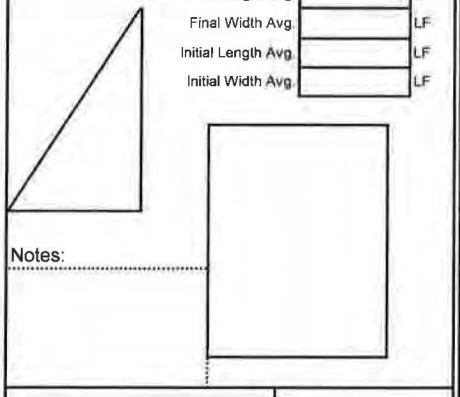


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

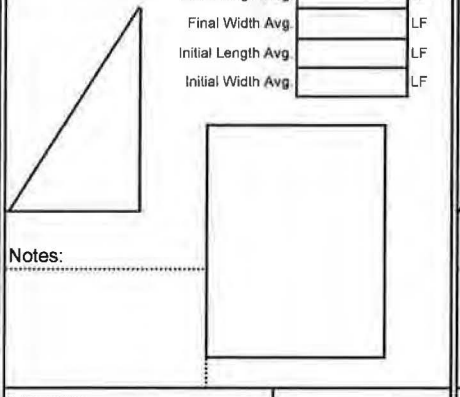


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

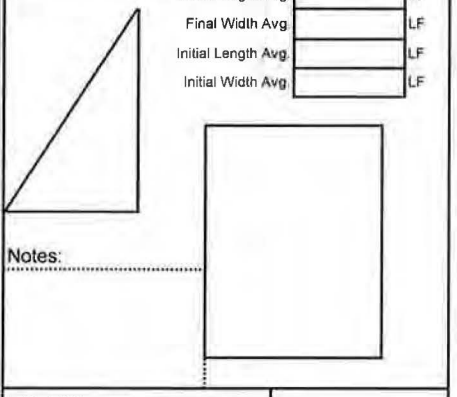


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

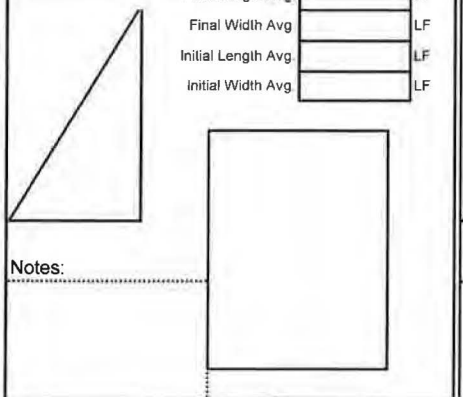


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

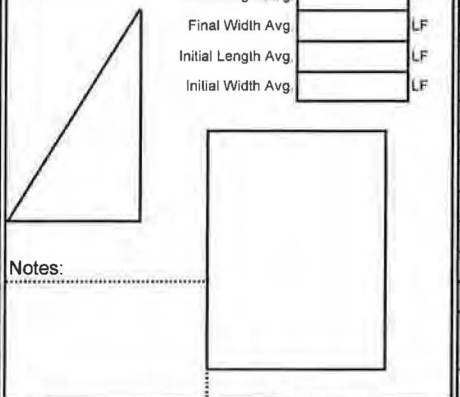


Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Panel # | **Roll #**

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench
Final SF	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	7,425	SF
Total Pay Area This Page	7,425	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	342,235	SF
Total Panel SF To Date	349,660	SF
Total Pay Area To Date Including Anchor Trench	**349,660**	
Initial Quantity Previous	353,382	SF
Initial Quantity This Page	7,648	SF
Initial Quantity To Date	361,030	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 09/29/15

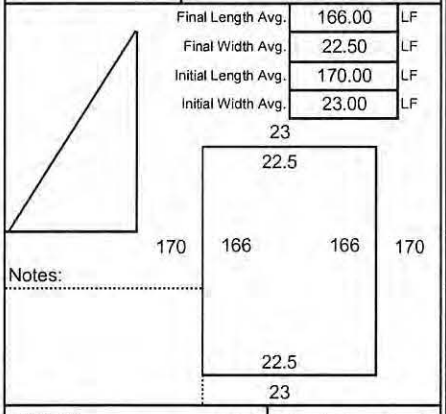
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 121 | Roll # G15C283030

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	170.00	LF
Initial Width Avg.	23.00	LF

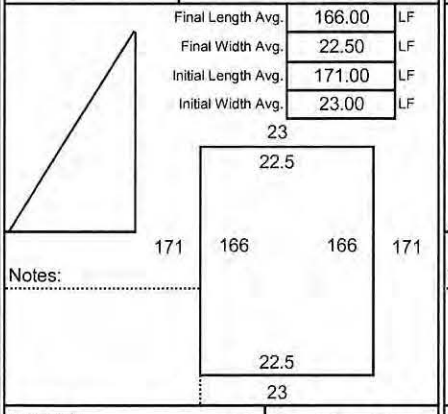


Notes:

Initial SF	3,910	Lineal Feet Trench	
Final SF	3,735		

Panel # 122 | Roll # G15C283030

Final Length Avg.	166.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	171.00	LF
Initial Width Avg.	23.00	LF

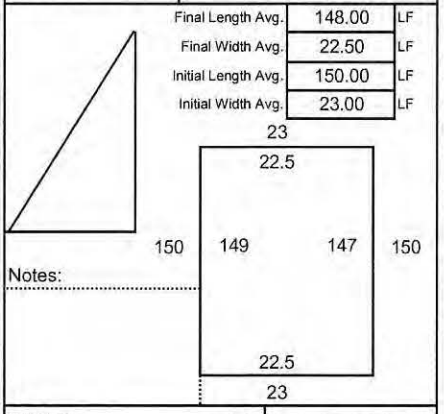


Notes:

Initial SF	3,933	Lineal Feet Trench	
Final SF	3,735		

Panel # 123 | Roll # G15C283030

Final Length Avg.	148.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	150.00	LF
Initial Width Avg.	23.00	LF

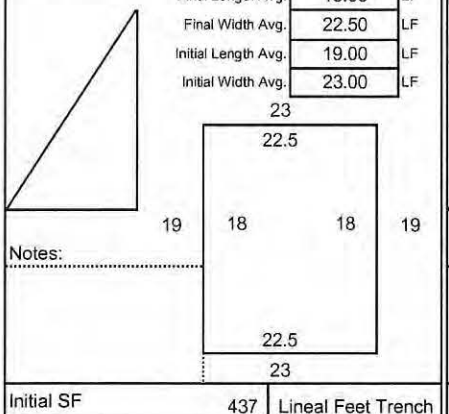


Notes:

Initial SF	3,450	Lineal Feet Trench	
Final SF	3,330		

Panel # 124 | Roll # G15C282014

Final Length Avg.	18.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	19.00	LF
Initial Width Avg.	23.00	LF

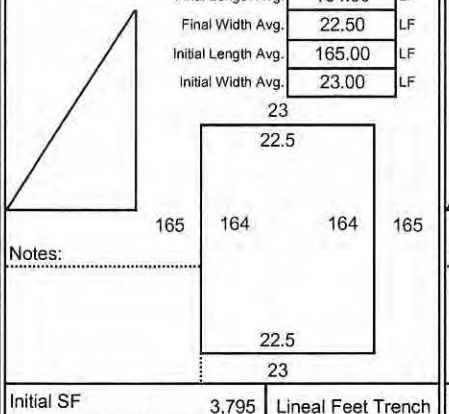


Notes:

Initial SF	437	Lineal Feet Trench	
Final SF	405		

Panel # 125 | Roll # G15C282014

Final Length Avg.	164.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

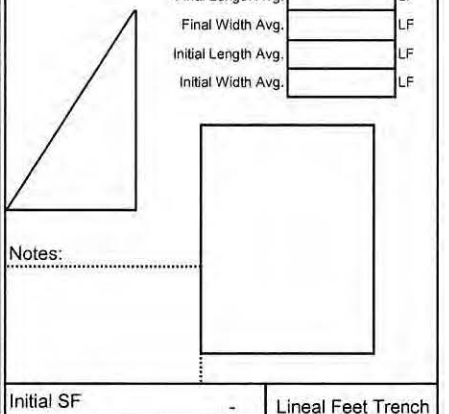


Notes:

Initial SF	3,795	Lineal Feet Trench	
Final SF	3,690		

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

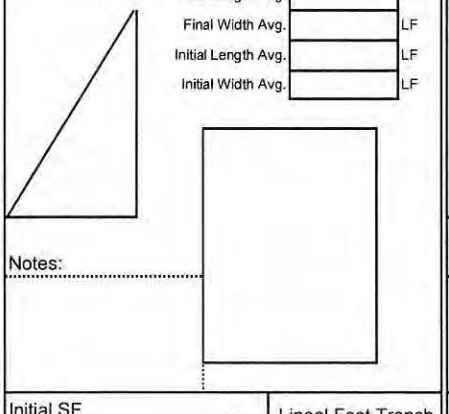


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF

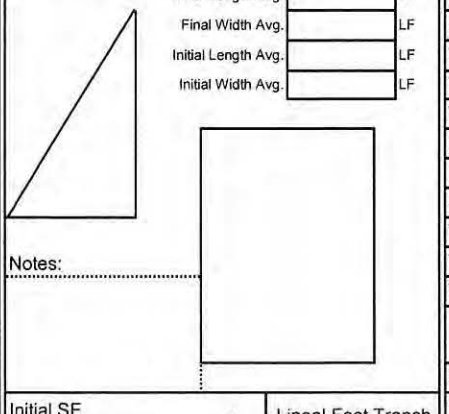


Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Panel # | Roll #

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	-	Lineal Feet Trench	
Final SF	-		

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,895**	SF
Total Pay Area This Page	**14,895**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	349,660	SF
Total Panel SF To Date	364,555	SF
Total Pay Area To Date Including Anchor Trench	**364,555**	
Initial Quantity Previous	361,030	SF
Initial Quantity This Page	15,525	SF
Initial Quantity To Date	376,555	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 10/08/15

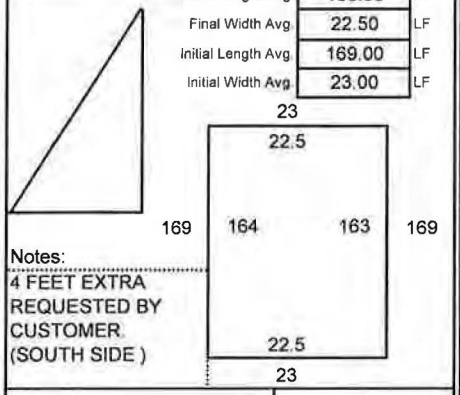
Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap [X] Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel # 126 — Roll # G15C283027

Final Length Avg.	163.50	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

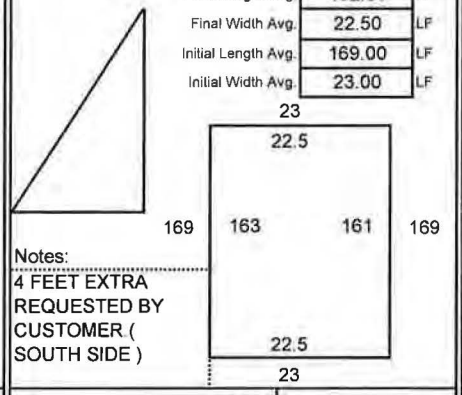


Notes: 4 FEET EXTRA REQUESTED BY CUSTOMER. (SOUTH SIDE)

Initial SF	3,887	Lineal Feet Trench
Final SF	3,679	

Panel # 127 — Roll # G152823027

Final Length Avg.	162.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	169.00	LF
Initial Width Avg.	23.00	LF

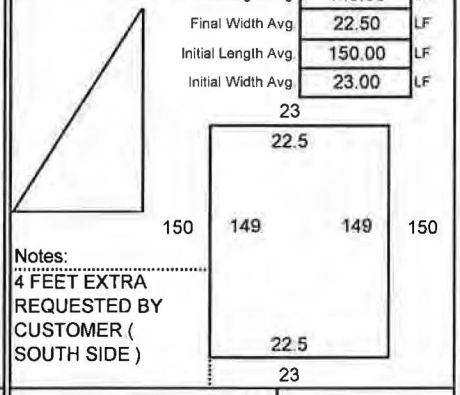


Notes: 4 FEET EXTRA REQUESTED BY CUSTOMER (SOUTH SIDE)

Initial SF	3,887	Lineal Feet Trench
Final SF	3,645	

Panel # 128 — Roll # G15C283027

Final Length Avg.	149.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	150.00	LF
Initial Width Avg.	23.00	LF

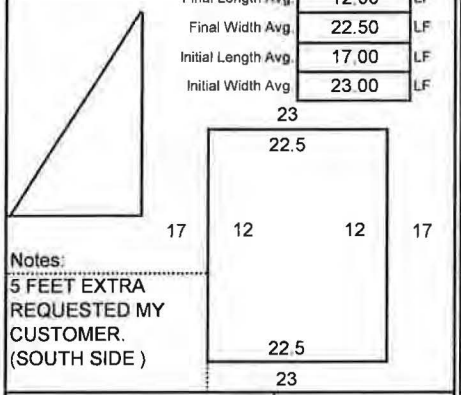


Notes: 4 FEET EXTRA REQUESTED BY CUSTOMER (SOUTH SIDE)

Initial SF	3,450	Lineal Feet Trench
Final SF	3,353	

Panel # 129 — Roll # G15C282014

Final Length Avg.	12.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	17.00	LF
Initial Width Avg.	23.00	LF

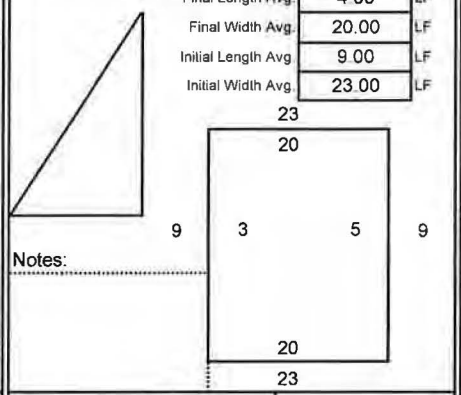


Notes: 5 FEET EXTRA REQUESTED MY CUSTOMER. (SOUTH SIDE)

Initial SF	391	Lineal Feet Trench
Final SF	270	

Panel # 130 — Roll # G15C282014

Final Length Avg.	4.00	LF
Final Width Avg.	20.00	LF
Initial Length Avg.	9.00	LF
Initial Width Avg.	23.00	LF

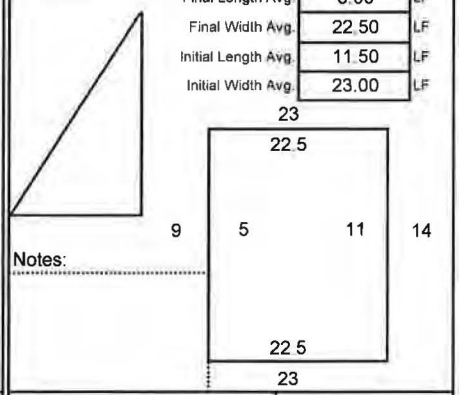


Notes:

Initial SF	207	Lineal Feet Trench
Final SF	80	

Panel # 131 — Roll # G15C282014

Final Length Avg.	8.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	11.50	LF
Initial Width Avg.	23.00	LF

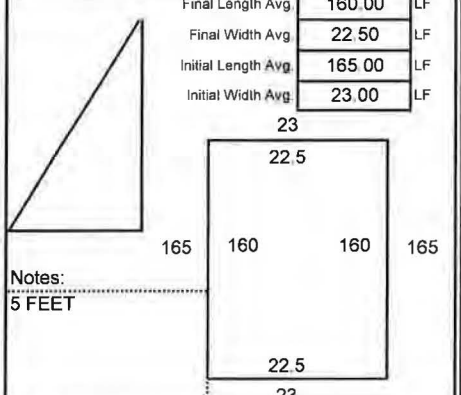


Notes:

Initial SF	265	Lineal Feet Trench
Final SF	180	

Panel # 132 — Roll # G15C282014

Final Length Avg.	160.00	LF
Final Width Avg.	22.50	LF
Initial Length Avg.	165.00	LF
Initial Width Avg.	23.00	LF

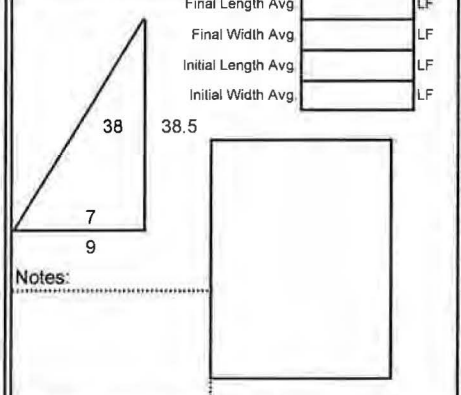


Notes: 5 FEET

Initial SF	3,795	Lineal Feet Trench
Final SF	3,600	

Panel # 133 — Roll # G15C282014

Final Length Avg.		LF
Final Width Avg.		LF
Initial Length Avg.		LF
Initial Width Avg.		LF



Notes:

Initial SF	173	Lineal Feet Trench
Final SF	133	

Material in Anchor Trench

Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**14,939**	SF
Total Pay Area This Page	**14,939**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	364,555	SF
Total Panel SF To Date	379,494	SF
Total Pay Area To Date Including Anchor Trench	**379,494**	
Initial Quantity Previous	376,555	SF
Initial Quantity This Page	16,055	SF
Initial Quantity To Date	392,609	SF

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Daily Panel Placement

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Project Name: Honeywell **Job #** 12-11-1399 **Deployment Date** 10/08/15

Superintendent: Fortino Ayala **Material Type:** LLPE 60 MIL

☐ Primary Secondary ☐ Cell ☐ Pond ☐ Cap ☒ Other:

Description (i.e. Phase #, Cell #, Pond # etc.) Cap construction Single layer **Roll Stock Width** 23

Panel #	Roll #	Final Length Avg.	Final Width Avg.	Initial Length Avg.	Initial Width Avg.	Notes:	Initial SF	Final SF	Lineal Feet Trench
134	G15C282014	38.00 LF	7.00 LF	39.00 LF	8.00 LF	8 / 7 / 39 / 38 / 38 / 39 / 7 / 8	312	266	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	
		LF	LF	LF	LF		-	-	

Material in Anchor Trench		
Total LF In Trench This Page	-	LF
Depth and Width Allowed in Trench		LF
Total SF Trench This Page	-	SF
Total Panel SF This Page	**266**	SF
Total Pay Area This Page	**266**	SF
LF In Trench Previous	-	LF
LF In Trench To Date	-	LF
SF In Trench Previous	-	SF
Total SF in Trench to Date	-	SF
Total Panel SF Previous	379,494	SF
Total Panel SF To Date	379,760	SF
Total Pay Area To Date Including Anchor Trench	**379,760**	
Initial Quantity Previous	392,609	SF
Initial Quantity This Page	312	SF
Initial Quantity To Date	392,921	SF

Appendix J
ESI Trial Weld Logs

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/20/15	17:03	MODESTO L.	2003	650	860		95	Peel	96	101	95	109	99	99					PASS
S TO S	PM							Shear	102		109		105						
7/21/15	6:50	EMMANUEL V.	EXT 512		530	530	80	Peel	96		94		98						PASS
T TO T	AM							Shear	99		98		98						
7/21/15	13:45	MODESTO L.	2003	650	860		93	Peel	102	97	102	98	100	102					PASS
S TO S	PM							Shear	103		96		105						
7/21/15	14:09	MODESTO L.	2003	500	860		93	Peel	95	99	95	100	98	101					PASS
T TO T	PM							Shear	102		103		92						
7/21/15	15:14	MODESTO L.	2003	550	860		90	Peel	89	92	90	85	89	91					PASS
S TO T	PM							Shear	98		94		98						
7/22/15	6:37	EMMANUEL V.	EXT 512		500	490	70	Peel	98		94		93						PASS
T TO T	AM							Shear	117		117		118						
7/22/15	13:14	MODESTO L.	2003	650	860		83	Peel	100	99	107	95	102	104					PASS
S TO S	PM							Shear	117		115		116						
7/22/15	14:58	MODESTO L.	2003	550	860		84	Peel	92	98	97	98	90	103					PASS
S TO T	PM							Shear	125		121		118						
7/23/15	13:19	MODESTO L.	2003	650	860		83	Peel	107	102	107	103	107	98					PASS
S TO S	PM							Shear	116		106		112						
7/23/15	13:25	MODESTO L.	2003	550	860		83	Peel	127	118	123	122	123	116					PASS
S TO T	PM							Shear	130		125		130						
7/24/15	6:50	EMMANUEL V.	EXT 512		500	490	69	Peel	90		112		103						PASS
T TO T	AM							Shear	127		127		128						
7/24/15	13:14	MODESTO L.	2003	650	860		83	Peel	97	101	96	106	103	101					PASS
S TO S	PM							Shear	120		122		119						
7/24/15	13:17	MODESTO L.	2003	500	860		83	Peel	96	101	101	106	96	105					PASS
T TO T	PM							Shear	117		111		118						
7/24/15	13:21	MODESTO L.	2003	550	860		83	Peel	93	102	97	100	105	95					PASS
S TO T	PM							Shear	111		111		110						
7/27/15	13:15	EMMANUEL V.	EXT 512		500	450	85	Peel	122		122		121						PASS
T TO T	PM							Shear	118		125		126						
7/28/15	7:00	EMMANUEL V.	EXT 512		500	450	75	Peel	102		102		107						PASS
T TO T	AM							Shear	137		132		131						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
7/28/15	13:14	MODESTO L.	2003	650	860		90	Peel	99	101	96	94	97	94					PASS
S TO S	PM							Shear	103		110		111						
7/28/15	13:17	MODESTO L.	2003	550	860		90	Peel	97	100	98	94	98	94					PASS
S TO T	PM							Shear	101		103		104						
7/28/15	13:19	MODESTO L.	2003	500	860		90	Peel	99	102	105	104	100	101					PASS
T TO T	PM							Shear	110		108		107						
7/29/15	6:45	EMMANUEL V.	EXT 512		490	400	75	Peel	98		103		104						PASS
T TO T	AM							Shear	121		118		120						
7/29/15	15:08	MODESTO L.	2003	650	860		94	Peel	101	92	103	92	101	93					PASS
S TO S	PM							Shear	108		110		110						
7/30/15	6:40	EMMANUEL V.	EXT 512		480	400	79	Peel	114		96		110						PASS
T TO T	AM							Shear	113		116		111						
8/3/15	14:53	MODESTO L.	2003	450	860		89	Peel	109	109	110	115	107	111					PASS
T TO T	PM							Shear	113		117		113						
8/3/15	15:12	MODESTO L.	2003	650	860		90	Peel	93	101	94	101	93	94					PASS
S TO S	PM							Shear	122		125		121						
8/3/15	15:15	MODESTO L.	2003	400	860		90	Peel	90	95	91	96	100	107					PASS
S TO T	PM							Shear	128		116		120						
8/3/15	19:14	MODESTO L.	1480	450	860		88	Peel	101	99	98	103	98	100					PASS
T TO T	PM							Shear	111		110		113						
8/3/15	19:15	MODESTO L.	1480	400	860		88	Peel	92	96	94	96	96	95					PASS
S TO T	PM							Shear	108		110		111						
8/4/15	12:37	PEDRO S.	EXT 512		500	500	89	Peel	114		118		119						PASS
T TO T	PM							Shear	128		135		126						
8/5/15	7:05	PEDRO S.	EXT 512		500	500	75	Peel	118		117		118						PASS
T TO T	AM							Shear	124		126		120						
8/5/15	14:50	MODESTO L.	2025	450	860		88	Peel	97	106	100	104	100	106					PASS
S TO T	PM							Shear	113		115		118						
8/5/15	14:55	MODESTO L.	2025	600	860		88	Peel	94	101	104	95	100	101					PASS
S TO S	PM							Shear	118		119		116						
8/6/15	14:03	MODESTO L.	2025	450	860		82	Peel	104	92	94	100	91	100					PASS
S P T	PM							Shear	116		119		119						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
8/6/15	14:06	MODESTO L.	2025	600	860		82	Peel	92	100	94	100	93	103					PASS
S TO S	PM							Shear	111		113		116						
8/6/15	14:08	MODESTO L.	2025	400	860		82	Peel	112	110	112	112	111	109					PASS
T TO T	PM							Shear	115		111		113						
8/7/15	6:43	PEDRO S.	EXT 512		530	530	69	Peel	123		126		126						PASS
T TO T	AM							Shear	133		134		130						
8/7/15	13:11	MODESTO L.	2025	600	860		84	Peel	99	104	100	100	95	102					PASS
S TO S	PM							Shear	113		112		115						
8/7/15	13:15	MODESTO L.	2025	450	860		84	Peel	100	97	98	103	105	99					PASS
S TO T	PM							Shear	112		114		116						
8/7/15	13:18	MODESTO L.	2025	400	860		84	Peel	114	114	107	107	110	105					PASS
T TO T	PM							Shear	112		115		116						
8/10/15	6:54	PEDRO S.	EXT 512		530	530	70	Peel	127		124		131						PASS
T TO T	AM							Shear	135		138		135						
8/10/15	10:55	MODESTO L.	2025	600	860		80	Peel	97	93	97	91	104	99					PASS
S TO S	AM							Shear	113		117		119						
8/10/15	14:00	PEDRO S.	EXT 512		530	530	81	Peel	120		118		111						PASS
T TO T	PM							Shear	128		123		124						
8/10/15	15:20	MODESTO L.	2025	600	860		81	Peel	104	104	106	101	100	109					PASS
S TO S	PM							Shear	122		121		121						
8/12/15	8:15	PEDRO S.	EXT 512		530	530	72	Peel	119		119		116						PASS
T TO T	AM							Shear	128		127		123						
8/13/15	8:30	MODESTO L.	2025	600	860		72	Peel	104	99	105	101	98	100					PASS
S TO S	AM							Shear	122		121		122						
8/14/15	9:00	MODESTO L.	2025	600	860		77	Peel	93	99	91	97	91	100					PASS
S TO S	AM							Shear	116		118		119						
8/14/15	9:03	MODESTO L.	2025	450	860		77	Peel	99	97	101	99	108	96					PASS
S TO T	AM							Shear	115		118		116						
8/14/15	9:05	MODESTO L.	2025	400	860		77	Peel	112	113	114	113	114	116					PASS
T TO T	AM							Shear	118		119		118						
8/14/15	11:00	EMMANUEL V.	EXT 512		500	500	82	Peel	105		111		106						PASS
T TO T	AM							Shear	113		113		115						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
9/9/15	7:50	PEDRO S.	EXT 512		550	550	76	Peel	104		106		103						PASS
T TO T	AM							Shear	113		114		116						
9/9/15	15:00	PEDRO S.	2025	400	860		90	Peel	95	91	93	95	90	93					PASS
S TO S	PM							Shear	120		117		118						
9/9/15	15:05	PEDRO S.	2025	350	860		90	Peel	92	95	89	91	93	90					PASS
S TO T	PM							Shear	119		121		117						
9/9/15	15:10	PEDRO S.	2025	300	860		90	Peel	106	97	103	98	104	101					PASS
T TO T	PM							Shear	118		119		118						
9/11/15	13:55	PEDRO S.	2025	300	860		79	Peel	100	100	102	101	104	103					PASS
T TO T	PM							Shear	98		101		106						
9/11/15	14:20	EMMANUEL V.	EXT 512		510	510	79	Peel	93		93		97						PASS
T TO T	PM							Shear	107		109		100						
9/14/15	10:57	EMMANUEL V.	EXT 512		550	550	68	Peel	108		106		109						PASS
T TO T	AM							Shear	113		111		110						
9/14/15	13:30	EMMANUEL V.	EXT 512		540	540	74	Peel	111		107		114						PASS
T TO T	PM							Shear	116		119		115						
9/15/15	9:50	PEDRO S.	2025	400	860		70	Peel	105	100	106	103	102	103					PASS
S TO S	AM							Shear	120		122		123						
9/15/15	9:51	PEDRO S.	2025	350	860		70	Peel	103	102	106	108	108	102					PASS
S TO T	AM							Shear	118		118		116						
9/15/15	9:52	PEDRO S.	2025	300	860		70	Peel	102	103	101	102	102	99					PASS
T TO T	AM							Shear	112		110		108						
9/15/15	13:00	PEDRO S.	2025	350	860		81	Peel	100	99	101	98	102	101					PASS
S TO T	PM							Shear	109		106		106						
9/16/15	7:20	EMMANUEL V.	EXT 512		550	550	66	Peel	104		106		109						PASS
T TO T	AM							Shear	108		111		110						
9/16/15	13:00	PEDRO S.	2025	450	860		83	Peel	93	90	93	89	92	95					PASS
S TO S	PM							Shear	108		104		105						
9/16/15	13:01	PEDRO S.	2025	350	860		83	Peel	88	91	83	86	90	90					PASS
S TO T	PM							Shear	103		102		107						
9/16/15	13:02	PEDRO S.	2025	300	860		83	Peel	100	98	101	103	100	103					PASS
T TO T	PM							Shear	106		107		109						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
9/16/15	14:15	EMMANUEL V.	EXT 512		550	550	85	Peel	97		94		96						PASS
T TO T	PM							Shear	98		100		97						
9/17/15	7:20	EMMANUEL V.	EXT 512		550	550	65	Peel	104		99		101						PASS
T TO T	AM							Shear	106		106		103						
9/17/15	14:20	PEDRO S.	2025	450	860		86	Peel	93	95	89	94	95	90					PASS
S TO S	PM							Shear	113		109		111						
9/17/15	14:21	PEDRO S.	2025	350	860		86	Peel	90	90	91	92	89	93					PASS
S TO T	PM							Shear	106		103		102						
9/18/15	11:00	PEDRO S.	2025	450	860		80	Peel	100	100	99	100	98	96					PASS
S TO S	AM							Shear	103		102		106						
9/18/15	11:01	PEDRO S.	2025	350	860		80	Peel	93	96	95	94	95	95					PASS
S TO T	AM							Shear	101		104		102						
9/18/15	13:00	PEDRO S.	2025	450	860		85	Peel	101	98	99	100	96	99					PASS
S TO S	PM							Shear	106		105		103						
9/18/15	13:01	PEDRO S.	2025	350	860		85	Peel	91	94	96	95	93	96					PASS
S TO T	PM							Shear	102		102		103						
9/18/15	13:03	PEDRO S.	2025	300	860		85	Peel	98	101	99	100	96	100					PASS
T TO T	PM							Shear	104		103		102						
9/21/15	11:10	EMMANUEL V.	EXT 512		550	550	68	Peel	91		90		93						PASS
T TO T	PM							Shear	108		103		106						
9/21/15	13:02	EMMANUEL V.	EXT 512		550	550	73	Peel	90		90		93						PASS
T TO T	PM							Shear	102		103		102						
9/22/15	10:20	PEDRO S.	2025	450	860		67	Peel	99	106	102	103	100	105					PASS
S TO S	AM							Shear	110		107		111						
9/22/15	10:21	PEDRO S.	2025	350	860		67	Peel	108	101	108	99	107	102					PASS
S TO T	AM							Shear	116		115		113						
9/22/15	10:23	PEDRO S.	2025	300	860		67	Peel	101	103	100	100	98	102					PASS
T TO T	AM							Shear	106		106		109						
9/22/15	13:05	EMMANUEL V.	EXT 512		550	550	73	Peel	98		99		101						PASS
T TO T	PM							Shear	106		109		107						
9/23/15	7:00	EMMANUEL V.	EXT 512		550	550	62	Peel	93		94		97						PASS
T TO T	AM							Shear	111		109		108						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 **PPI**

Job Description: Single Layer cap **Secondary** **Cell** **Peel Test Fusion Minimum** 75 **PPI**

Reported By : Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 **PPI**

Other : Cap construction

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
9/23/15	15:25	PEDRO S.	2025	450	860		79	Peel	93	92	96	96	92	93					PASS
S TO S	PM							Shear	102		102		102						
9/24/15	7:20	EMMANUEL V.	EXT 512		550	550	62	Peel	118		115		112						PASS
T TO T	AM							Shear	122		119		118						
9/24/15	14:30	PEDRO S.	2025	450	860		80	Peel	89	89	88	89	87	88					PASS
S TO S	PM							Shear	100		102		102						
9/24/15	14:31	PEDRO S.	2025	350	860		80	Peel	85	87	85	91	86	89					PASS
S TO T	PM							Shear	101		100		103						
9/25/15	7:00	PEDRO S.	EXT 512		550	550	65	Peel	106		109		110						PASS
T TO T	AM							Shear	112		116		119						
9/25/15	14:15	PEDRO S.	EXT 512	450	860		74	Peel	89	89	89	90	91	88					PASS
S TO S	PM							Shear	100		101		100						
9/25/15	14:17	PEDRO S.	EXT 512		550	550	73	Peel	99		101		100						PASS
T TO T	PM							Shear	103		105		102						
9/29/15	14:30	EMMANUEL V.	EXT 512		550	550	80	Peel	98		100		99						PASS
T TO T	PM							Shear	106		104		103						
9/29/15	14:30	PEDRO S.	2025	400	860		80	Peel	92	91	94	90	89	87					PASS
S TO S	PM							Shear	103		102		102						
9/29/15	14:31	PEDRO S.	2025	300	860		80	Peel	93	90	89	91	88	90					PASS
T TO T	PM							Shear	103		101		102						
9/29/15	14:32	PEDRO S.	2025	350	860		80	Peel	90	88	89	93	92	90					PASS
S TO T	PM							Shear	104		101		101						
10/7/15	8:00	EMMANUEL V.	EXT 512		550	550	59	Peel	96		96		108						PASS
T TO T	AM							Shear	130		129		127						
10/7/15	13:00	EMMANUEL V.	EXT 512		550	550	73	Peel	93		90		92						PASS
T TO T	PM							Shear	126		127		124						
10/8/15	14:00	PEDRO S.	2025	450	860		73	Peel	103	108	103	107	101	104					PASS
S TO S	PM							Shear	124		126		123						
10/8/15	14:01	PEDRO S.	2025	350	860		73	Peel	109	108	112	108	109	105					PASS
S TO T	PM							Shear	127		125		126						
10/8/15	14:03	PEDRO S.	2025	300	860		73	Peel	119	126	121	121	120	121					PASS
T TO T	PM							Shear	123		124		123						

Environmental Specialties International Inc.
Preweld Test Report

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Single Layer cap **Secondary** **Cell**

Reported By : Lyssa-Tran Tran **Cap** x

Other : Cap construction

Peel Test Extrusion Minimum 66 **PPI**

Peel Test Fusion Minimum 75 **PPI**

Shear Test Minimum 90 **PPI**

Liner Types **S = Smooth** **T = Textured** **SG = Super Grip**

Weld Date / Liner Type	Time AM | PM	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Ambient Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
10/8/15	17:00	EMMANUEL V.	EXT 512		550	550	68	Peel	119		119		119						PASS
T TO T	PM							Shear	122		123		126						
10/9/15	7:30	PEDRO S.	EXT 512		550	550	61	Peel	116		118		123						PASS
T TO T	AM							Shear	129		131		127						
10/9/15	13:00	PEDRO S.	EXT 512		550	550	70	Peel	110		113		113						PASS
T TO T	PM							Shear	123		124		122						
10/12/15	15:30	EDFY N.	EXT 512		550	550	76	Peel	114		112		117						PASS
T TO T	PM							Shear	125		130		123						
11/4/15	10:40	EDFY N.	EXT 77		550	550	67	Peel	103		94		98						Pass
T TO T	AM							Shear	131		129		125						
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											
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TO								Shear											
	:							Peel											
TO								Shear											
	:							Peel											
TO								Shear											

Appendix K
ESI Seam Control (Non-Destructive) Test Logs

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/20/15	1 / 2	135	17:25 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	6:35 / 30	6:40 / 27	3	PASS
Seam Notes									SEOS TO 135'N (COVER BY RP-6)					
7/20/15	1 / 2	28	17:46 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7:00 / 30	7:05 / 29	1	PASS
Seam Notes									135'N (COVER BY RP-6) TO NEOS					
7/20/15	2 / 3	98	17:55 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	6:35 / 30	6:40 / 30	0	PASS
Seam Notes	NEOS TO SEOS								SEOS TO 98'N (RP-1)					
7/20/15	2 / 3	67	18:09 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7:01 / 30	7:06 / 29	1	PASS
Seam Notes									98'N (RP-1) TO NEOS					
7/20/15	3 / 4	94	18:20 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7:12 / 30	7:17 / 27	3	PASS
Seam Notes	SEOS TO NEOS								SEOS TO 94'N (RP-2)					
7/20/15	3 / 4	72	18:34 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	7 :12 / 30	7:17 / 30	0	PASS
Seam Notes									94'N (RP-2) TO NEOS					
7/21/15	4 / 5	165	14:14 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	14 46 / 30	14 51 / 27	3	PASS
Seam Notes														
7/21/15	6 / 7	22.5	14:30 PM	MODESTO L.	2003	500	860		7/21/15	Air Pressure	15 03 / 30	15 08 / 28	2	PASS
Seam Notes														
7/21/15	5 / 7	6	14:38 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	14 55 / 30	15 00 / 28	2	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/21/15	5 / 6	157	14:39 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	14 55 / 30	15 00 / 30	0	PASS
Seam Notes														
7/21/15	7 / 8	6	14:47 PM	MODESTO L.	2003	650	860		7/22/15	Vacuum			0	PASS
Seam Notes														
7/21/15	6 / 8	157	14:48 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	15 16 / 30	15 21 / 30	0	PASS
Seam Notes														
7/21/15	8 / 9	163	15:17 PM	MODESTO L.	2003	650	860		7/21/15	Air Pressure	15 46 / 30	15 51 / 30	0	PASS
Seam Notes														
7/22/15	9 / 10	52	13:30 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 11 / 30	14 16 / 27	3	PASS
Seam Notes								SEOS TO 52'N (RP-15)						
7/22/15	9 / 10	111	13:38 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 11 / 30	14 16 / 30	0	PASS
Seam Notes								52'N (RP-15) TO NEOS						
7/22/15	10 / 11	164	13:50 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 12 / 30	14 17 / 30	0	PASS
Seam Notes														
7/22/15	11 / 12	164	14:10 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	14 21 / 30	14 26 / 27	3	PASS
Seam Notes														
7/22/15	12 / 13	164	15:00 PM	MODESTO L.	2003	650	860		7/22/15	Air Pressure	15 17 / 30	15 22 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/23/15	13 / 14	46	13:30 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	16 20 / 30	16 25 / 30	0	PASS
Seam Notes	NEOS TO 46'S (RP-17)													
7/23/15	13 / 14	118	13:37 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	16 26 / 30	16 31 / 27	3	PASS
Seam Notes	46'S (RP-17) TO SEOS													
7/23/15	14 / 15	164	13:52 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 32 / 30	15 37 / 30	0	PASS
Seam Notes														
7/23/15	15 / 16	78	14:15 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	16 07 / 30	16 12 / 28	2	PASS
Seam Notes	NEOS TO 78'S (RP-25)													
7/23/15	15 / 16	87	14:27 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 40 / 30	15 45 / 30	0	PASS
Seam Notes	78'S (RP-25) TO SEOS													
7/23/15	16 / 17	23	14:43 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 09 / 30	15 14 / 30	0	PASS
Seam Notes	NEOS TO 23'S (RP-22)													
7/23/15	16 / 17	57	14:43 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 57 / 30	16 02 / 30	0	PASS
Seam Notes	23'S (RP-22) TO 80'S (RP-27)													
7/23/15	16 / 17	35	14:54 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 51 / 30	15 56 / 30	0	PASS
Seam Notes	80'S (RP-27) TO 115'S (RP-28)													
7/23/15	16 / 17	15	14:59 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 51 / 30	15 56 / 30	0	PASS
Seam Notes	115'S (RP-28) TO 130'S (RP-29)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
7/23/15	16 / 17	35	15:01 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 42 / 30	15 47 / 28	2	PASS
Seam Notes	130'S (RP-29) TO SEOS													
7/23/15	17 / 18	101	15:07 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 55 / 30	16 00 / 27	3	PASS
Seam Notes	NEOS TO 101'S (RP-31)													
7/23/15	17 / 18	63	15:23 PM	MODESTO L.	2003	650	860		7/23/15	Air Pressure	15 47 / 30	15 52 / 30	0	PASS
Seam Notes	101'S (RP-31) TO SEOS													
7/24/15	18 / 19	55	14:25 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 48 / 30	16 53 / 30	0	PASS
Seam Notes	NEOS TO 55'S (RP-44)													
7/24/15	18 / 19	109	14:33 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 02 / 30	16 07 / 28	2	PASS
Seam Notes	55'S (RP-44) TO SEOS													
7/24/15	19 / 20	164	14:50 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 06 / 30	16 12 / 28	2	PASS
Seam Notes														
7/24/15	20 / 21	30	15:10 PM	MODESTO L.	2003	550	860		7/24/15	Air Pressure	16 44 / 30	16 49 / 28	2	PASS
Seam Notes	NEOS TO 30'S (RP-51)													
7/24/15	20 / 21	98	15:14 PM	MODESTO L.	2003	550	860		7/24/15	Air Pressure	16 42 / 30	16 47 / 28	2	PASS
Seam Notes	30'S (RP-51) TO 128'S (RP-40)													
7/24/15	20 / 21	36	15:29 PM	MODESTO L.	2003	550	860		7/24/15	Air Pressure	16 12 / 30	16 17 / 28	2	PASS
Seam Notes	128'S (RP-40) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/24/15	21 / 22	84	15:35 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 36 / 30	16 41 / 30	0	PASS
Seam Notes	NEOS TO 84'S (RP-67)													
7/24/15	21 / 22	80	15:48 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 27 / 30	16 32 / 30	0	PASS
Seam Notes	84'S (RP-67) TO SEOS													
7/24/15	22 / 23	76	15:50 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 35 / 30	16 40 / 27	3	PASS
Seam Notes	NEOS TO 76'S (RP-68)													
7/24/15	22 / 23	21	16:01 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 38 / 30	16 43 / 30	0	PASS
Seam Notes	76'S (RP-68) TO 97'S (RP-76)													
7/24/15	22 / 23	67	16:04 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 24 / 30	16 29 / 30	0	PASS
Seam Notes	97'S (RP-76)TO SEOS													
7/24/15	23 / 24	164	16:15 PM	MODESTO L.	2003	650	860		7/24/15	Air Pressure	16 52 / 30	16 57 / 30	0	PASS
Seam Notes														
7/28/15	24 / 25	127	13:25 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 01 / 30	16 06 / 29	1	PASS
Seam Notes	NEOS TO 127'S (RP-88)													
7/28/15	24 / 25	37	13:44 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 00 / 30	16 05 / 30	0	PASS
Seam Notes	127'S (RP-88)TO SEOS													
7/28/15	25 / 26	110	13:52 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 09 / 30	16 14 / 30	0	PASS
Seam Notes	SEOS TO 110'N (RP-95)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/29/15	25 / 26	19	7:45 AM	EMMANUEL V.	EXT 512		490	400	7/29/15	Vacuum			0	PASS
Seam Notes	110'N(RP-95) TO 129'N (RP-95)													
7/28/15	25 / 26	34	14:15 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 13 / 30	16 18 / 30	0	PASS
Seam Notes	129'N (RP-95)TO NEOS													
7/28/15	26 / 27	71	13:53 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 16 / 30	16 21 / 27	3	PASS
Seam Notes	SEOS TO 71'N (RP-97)													
7/28/15	26 / 27	92	14:04 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 17 / 30	16 22 / 30	0	PASS
Seam Notes	71'N (RP-97) TO NEOS													
7/28/15	27 / 28	34	14:22 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 22 / 30	16 27 / 30	0	PASS
Seam Notes	SEOS TO 34'N (RP-121)													
7/28/15	27 / 28	129	14:27 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 22 / 30	16 27 / 30	0	PASS
Seam Notes	34'N (RP-121) TO NEOS													
7/28/15	28 / 29	61	15:52 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 29 / 30	16 34 / 28	2	PASS
Seam Notes	SEOS TO 61'N (RP-115)													
7/29/15	28 / 29	12	10:45 AM	EMMANUEL V.	EXT 512		490	400	7/29/15	Vacuum			0	PASS
Seam Notes	61'N (RP-115)TO 73'N(RP-114)													
7/28/15	28 / 29	47	16:01 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 32 / 30	16 37 / 30	0	PASS
Seam Notes	73'N (RP-114)TO 120'N (RP-105)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
7/28/15	28 / 29	44	16:09 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 36 / 30	16 41 / 29	1	PASS
Seam Notes	120'N (RP-105)TO NEOS													
7/28/15	29 / 30	125	16:16 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 38 / 30	16 43 / 28	2	PASS
Seam Notes	SEOS TO 125'N (RP-108)													
7/28/15	29 / 30	39	16:26 PM	MODESTO L.	2003	650	860		7/28/15	Air Pressure	16 38 / 30	16 43 / 28	2	PASS
Seam Notes	125'N (RP-108) TO NEOS													
7/29/15	30 / 31	163	15:30 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 41 / 30	16 46 / 30	0	PASS
Seam Notes														
7/29/15	31 / 32	163	15:52 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 50 / 30	16 55 / 30	0	PASS
Seam Notes														
7/29/15	32 / 33	163	16:15 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 53 / 30	16 58 / 30	0	PASS
Seam Notes														
7/29/15	33 / 34	25	8:00 AM	EMMANUEL V.	EXT 512		480	400	7/30/15	Vacuum			0	PASS
Seam Notes	SEOS TO 21'N (RP-133)													
7/29/15	33 / 34	139	16:33 PM	MODESTO L.	2003	650	860		7/29/15	Air Pressure	16 54 / 30	16 59 / 29	1	PASS
Seam Notes	21'N (RP-133) TO NEOS													
8/3/15	35 / 36	84	15:22 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 45 / 30	14 40 / 29	1	PASS
Seam Notes	EEOS TO 84'W(RP-153)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/3/15	35 / 36	10	15:35 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 38 / 30	13 43 / 30	0	PASS
Seam Notes	84'W (RP-153) TO WEOS													
8/3/15	36 / 37	95	15:43 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 29 / 30	13 34 / 30	0	PASS
Seam Notes														
8/3/15	37 / 38	98	16:01 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 23 / 30	13 28 / 29	1	PASS
Seam Notes														
8/3/15	38 / 39	101	16:28 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 14 / 30	13 19 / 28	2	PASS
Seam Notes														
8/3/15	39 / 40	102	16:52 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	13 05 / 30	13 10 / 30	0	PASS
Seam Notes														
8/3/15	34 / 35	10	17:26 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 45 / 30	13 50 / 30	0	PASS
Seam Notes	NEOS TO 10'S (RP-157)													
8/3/15	34 / 35	11	17:27 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 38 / 30	13 43 / 30	0	PASS
Seam Notes	10'S (RP-157) TO SEOS													
8/3/15	34 / 36	22.5	17:29 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 31 / 30	13 36 / 30	0	PASS
Seam Notes														
8/3/15	34 / 37	22.5	17:34 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 20 / 30	13 25 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/3/15	34 / 38	22.5	17:39 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 09 / 30	13 14 / 27	3	PASS
Seam Notes														
8/3/15	34 / 39	22.5	17:44 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 05 / 30	13 10 / 30	0	PASS
Seam Notes														
8/3/15	34 / 40	22.5	17:47 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	12 36 / 30	12 41 / 30	0	PASS
Seam Notes														
8/3/15	34 / 41	38	17:50 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	12 30 / 30	13 35 / 30	0	PASS
Seam Notes														
8/3/15	42 / 43	38	18:11 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	14 13 / 30	14 18 / 30	0	PASS
Seam Notes														
8/3/15	40 / 42	22.5	18:13 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 14 / 30	14 19 / 29	1	PASS
Seam Notes														
8/3/15	39 / 42	22.5	18:16 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 07 / 30	14 12 / 30	0	PASS
Seam Notes														
8/3/15	38 / 42	22.5	18:19 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 07 / 30	14 12 / 30	0	PASS
Seam Notes														
8/3/15	37 / 42	22.5	18:21 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/3/15	36 / 42	22.5	18:24 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 53 / 30	13 58 / 30	0	PASS
Seam Notes														
8/3/15	35 / 42	22.5	18:28 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	13 53 / 30	13 58 / 30	0	PASS
Seam Notes														
8/3/15	45 / 46	10	18:36 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	12 48 / 30	12 53 / 30	0	PASS
Seam Notes														
8/3/15	44 / 46	27	18:39 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	12 48 / 30	12 48 / 30	0	PASS
Seam Notes														
8/3/15	44 / 45	25	18:41 PM	MODESTO L.	2003	650	860		8/4/15	Air Pressure	12 42 / 30	12 47 / 29	1	PASS
Seam Notes														
8/3/15	43 / 46	10	18:48 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	14 25 / 30	14 30 / 30	0	PASS
Seam Notes														
8/3/15	43 / 44	23	18:49 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	14 19 / 30	14 24 / 30	0	PASS
Seam Notes														
8/3/15	40 / 43	17	18:55 PM	MODESTO L.	2003	450	860		8/4/15	Air Pressure	14 16 / 30	14 21 / 30	0	PASS
Seam Notes														
8/3/15	40 / 44	48	18:57 PM	MODESTO L.	2003	400	860		8/4/15	Air Pressure	14 17 / 30	14 22 / 30	0	PASS
Seam Notes								EEOS TO 48'W (RP-184)						

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/3/15	40 / 44	13	19:17 PM	MODESTO L.	1480	400	860		8/4/15	Air Pressure	13 00 / 30	13 05 / 30	0	PASS
Seam Notes	48'W (RP-184) TO WEOS													
8/3/15	40 / 41	23	19:25 PM	MODESTO L.	1480	450	860		8/4/15	Air Pressure	12 30 / 30	12 35 / 29	1	PASS
Seam Notes														
8/3/15	41 / 44	18	19:28 PM	MODESTO L.	1480	400	860		8/4/15	Air Pressure	12 42 / 30	12 47 / 28	2	PASS
Seam Notes														
8/3/15	41 / 45	10	19:31 PM	MODESTO L.	1480	400	860		8/4/15	Air Pressure	12 42 / 30	12 47 / 30	0	PASS
Seam Notes														
8/5/15	42 / 47	167	16:20 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 26 / 30	15 31 / 28	2	PASS
Seam Notes														
8/5/15	47 / 48	106	16:50 PM	MODESTO L.	2025	450	860		8/6/15	Air Pressure	15 37 / 30	15 42 / 30	0	PASS
Seam Notes	NEOS TO 106'S (RP-195)													
8/5/15	47 / 48	61	17:13 PM	MODESTO L.	2025	450	860		8/6/15	Air Pressure	15 37 / 30	15 42 / 30	0	PASS
Seam Notes	106'S (RP-195) TO SEOS													
8/5/15	48 / 49	86	18:15 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 50 / 30	15 55 / 30	0	PASS
Seam Notes	NEOS TO 86'S (RP-196)													
8/5/15	48 / 49	81	18:29 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 52 / 30	15 57 / 30	0	PASS
Seam Notes	86'S (RP-196) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/6/15	49 / 50	167	14:15 PM	MODESTO L.	2025	450	860		8/6/15	Air Pressure	15 54 / 30	15 59 / 30	0	PASS
Seam Notes														
8/6/15	51 / 52	22.5	14:45 PM	MODESTO L.	2025	400	860		8/6/15	Air Pressure	15 58 / 30	16 03 / 30	0	PASS
Seam Notes														
8/6/15	50 / 51	163	14:50 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 55 / 30	16 00 / 30	0	PASS
Seam Notes														
8/6/15	50 / 52	5	15:05 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 55 / 30	16 00 / 30	0	PASS
Seam Notes														
8/6/15	51 / 53	164	15:10 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	15 59 / 30	16 04 / 29	1	PASS
Seam Notes														
8/6/15	52 / 53	5	15:24 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	16 00 / 30	16 05 / 30	0	PASS
Seam Notes														
8/6/15	53 / 54	15	15:33 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	16 06 / 30	16 11 / 30	0	PASS
Seam Notes	NEOS TO 15'S (RP-197)													
8/6/15	53 / 54	153	15:35 PM	MODESTO L.	2025	600	860		8/6/15	Air Pressure	16 04 / 30	16 09 / 29	1	PASS
Seam Notes	15'S (RP-197) TO SEOS													
8/7/15	55 / 56	22.5	13:30 PM	MODESTO L.	2025	400	860		8/7/15	Air Pressure	15 04 / 30	15 09 / 28	2	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/7/15	54 / 55	157	13:34 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 41 / 30	14 46 / 30	0	PASS
Seam Notes														
8/7/15	54 / 56	11	13:50 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 41 / 30	14 46 / 30	0	PASS
Seam Notes														
8/7/15	55 / 57	101	14:00 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 31 / 30	14 36 / 30	0	PASS
Seam Notes	SEOS TO 101'N (RP-220)													
8/7/15	55 / 57	19	14:16 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 31 / 30	14 36 / 30	0	PASS
Seam Notes	101'N (RP-220) TO 120'N (RP-221)													
8/7/15	55 / 57	37	14:19 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 48 / 30	14 53 / 30	0	PASS
Seam Notes	120'N (RP-221) TO NEOS													
8/7/15	56 / 57	11	14:24 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	14 48 / 30	14 53 / 28	2	PASS
Seam Notes														
8/7/15	59 / 60	22.5	14:26 PM	MODESTO L.	2025	400	860		8/7/15	Air Pressure	15 11 / 30	15 16 / 30	0	PASS
Seam Notes														
8/7/15	57 / 58	167	14:28 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	15 02 / 30	15 07 / 30	0	PASS
Seam Notes														
8/7/15	58 / 59	150	14:57 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	15 30 / 30	15 35 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/7/15	58 / 60	15	15:25 PM	MODESTO L.	2025	600	860		8/7/15	Air Pressure	16 01 / 30	16 06 / 30	0	PASS
Seam Notes														
8/10/15	59 / 61	150	11:06 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	11 55 / 30	12 00 / 30	0	PASS
Seam Notes														
8/10/15	60 / 61	15	11:24 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes														
8/10/15	61 / 62	164	11:27 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	11 56 / 30	12 01 / 30	0	PASS
Seam Notes														
8/10/15	62 / 63	163	11:38 AM	MODESTO L.	2025	600	860		8/10/15	Air Pressure	11 59 / 30	12 04 / 30	0	PASS
Seam Notes														
8/10/15	63 / 64	163	15:50 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 39 / 30	8 44 / 30	0	PASS
Seam Notes														
8/10/15	64 / 66	8	16:20 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 46 / 30	8 51 / 30	0	PASS
Seam Notes								SEOS TO 8'N (RP-252)						
8/10/15	64 / 66	13	16:21 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 48 / 30	8 52 / 30	0	PASS
Seam Notes								8'N (RP-252) TO NEOS						
8/10/15	64 / 65	141	16:25 PM	MODESTO L.	2025	600	860		8/12/15	Air Pressure	8 38 / 30	8 43 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
8/12/15	64 / 66	24	8:30 AM	PEDRO S.	EXT 512		530	530	8/12/15	Vacuum			0	PASS
Seam Notes														
8/13/15	65 / 67	162	8:45 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 53 30	10 58 29	1	PASS
Seam Notes														
8/13/15	67 / 68	162	9:10 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 30 30	10 35 28	2	PASS
Seam Notes														
8/13/15	68 / 69	100	9:25 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	11 03 30	11 08 30	0	PASS
Seam Notes	DS-19 WAS COLLECTED BEFORE NON-DESTRUCTIVE TESTING WAS COMPLETED								SEOS TO 100'N (RP-254/DS-19)					
8/13/15	68 / 69	62	9:32 AM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	11 00 30	11 05 30	0	PASS
Seam Notes									100'N (RP-254/DS-19) TO NEOS					
8/13/15	69 / 70	162	9:39 PM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 32 30	10 37 30	0	PASS
Seam Notes														
8/13/15	70 / 71	162	10:05 PM	MODESTO L.	2025	600	860		8/13/15	Air Pressure	10 33 30	10 38 29	1	PASS
Seam Notes														
8/14/15	71 / 72	57	9:45 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11 14 30	11 19 30	0	PASS
Seam Notes									SEOS TO 57'N (RP-258)					
8/14/15	71 / 72	76	9:51 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11 25 30	11 30 30	0	PASS
Seam Notes									57'N (RP-258) TO 133'N (RP-259)					

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
8/14/15	71 / 72	29	10:03 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11:34 / 30	11:39 / 30	0	PASS
Seam Notes	133'N (RP-259) TO NEOS													
8/14/15	72 / 73	163	10:14 AM	MODESTO L.	2025	450	860		8/14/15	Air Pressure	11:15 / 30	11:20 / 30	0	PASS
Seam Notes														
8/14/15	73 / 74	164	10:35 AM	MODESTO L.	2025	450	860		8/14/15	Air Pressure	11:16 / 30	11:21 / 30	0	PASS
Seam Notes														
8/14/15	74 / 75	60	10:54 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11:30 / 30	11:35 / 30	0	PASS
Seam Notes	SEOS TO 60'N (RP-260)													
8/14/15	74 / 75	104	11:03 AM	MODESTO L.	2025	600	860		8/14/15	Air Pressure	11:30 / 30	11:35 / 30	0	PASS
Seam Notes	60'N (RP-260) TO NEOS													
9/9/15	76 / 77	86	15:51 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 30 / 30	8 35 / 30	0	PASS
Seam Notes														
9/9/15	77 / 78	86	16:05 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 31 / 30	8 36 / 27	3	PASS
Seam Notes														
9/9/15	78 / 79	86	16:19 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 49 / 30	8 54 / 30	0	PASS
Seam Notes														
9/9/15	79 / 80	83	16:59 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	8 32 / 30	8 37 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported By Lyssa Tran **Cap** x

Other Cap construction

Air Pressure Test 30 PSI

Air Pressure Hold Time 5 Minutes

Allowable Air Pressure Loss 4 PSI

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
9/9/15	80 / 81	85	17:20 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 02 / 30	9 07 / 27	3	PASS
Seam Notes														
9/9/15	85 / 86	11	17:34 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	9 51 / 30	9 56 / 30	0	PASS
Seam Notes														
9/9/15	84 / 86	13	17:37 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 51 / 30	9 56 / 30	0	PASS
Seam Notes														
9/9/15	84 / 85	17	17:40 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 54 / 30	9 59 / 30	0	PASS
Seam Notes														
9/9/15	83 / 84	23	17:46 PM	PEDRO S.	2025	350	860		9/14/15	Air Pressure	9 30 / 30	9 35 / 29	1	PASS
Seam Notes														
9/9/15	83 / 85	3	17:48 PM	PEDRO S.	2025	350	860		9/16/15	Vacuum			0	PASS
Seam Notes										COVER BY SJ RP-302				
9/9/15	82 / 83	26	17:50 PM	PEDRO S.	2025	350	860		9/14/15	Air Pressure	9 31 / 30	9 36 / 30	0	PASS
Seam Notes														
9/9/15	81 / 82	22.5	17:57 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	9 02 / 30	9 07 / 30	0	PASS
Seam Notes														
9/9/15	81 / 83	22.5	18:03 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	9 30 / 30	9 35 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/9/15	81 / 84	24	18:06 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 51 / 30	9 56 / 30	0	PASS
Seam Notes	WEOS TO 24'E (RP- 315)													
9/9/15	81 / 84	12	18:08 PM	PEDRO S.	2025	400	860		9/16/15	Vacuum			0	PASS
Seam Notes	24'E (RP-315) TO EEOS													
9/9/15	75 / 82	30	18:10 PM	PEDRO S.	2025	400	860		9/14/15	Air Pressure	9 31 / 30	9 36 / 30	0	PASS
Seam Notes														
9/11/15	75 / 81	23	14:17 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 35 / 30	7 40 / 30	0	PASS
Seam Notes														
9/9/15	75 / 80	22.5	14:21 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 36 / 30	7 41 / 30	0	PASS
Seam Notes														
9/11/15	75 / 79	23	14:24 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 36 / 30	7 41 / 30	0	PASS
Seam Notes														
9/11/15	75 / 78	22.5	14:28 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	7 37 / 30	7 42 / 29	1	PASS
Seam Notes														
9/11/15	75 / 77	22.5	14:33 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	8 01 / 30	8 06 / 30	0	PASS
Seam Notes														
9/11/15	75 / 76	22.5	14:37 PM	PEDRO S.	2025	300	860		9/14/15	Air Pressure	8 01 / 30	8 06 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/15/15	87 / 88	167	10:34 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	11 45 / 30	11 50 / 30	0	PASS
Seam Notes														
9/15/15	88 / 89	168	10:55 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	11 43 / 30	11 48 / 30	0	PASS
Seam Notes														
9/15/15	89 / 90	81	11:17 AM	PEDRO	2025	400	860		9/15/15	Air Pressure	11 45 / 30	11 50 / 30	0	PASS
Seam Notes	SEOS TO 81'N (RP-328)													
9/15/15	89 / 90	64	11:30 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	13 00 / 30	13 05 / 30	0	PASS
Seam Notes	81'N (RP-328) TO 145'N (RP-326)													
9/15/15	89 / 90	23	11:39 AM	PEDRO S.	2025	400	860		9/15/15	Air Pressure	13 02 / 30	13 07 / 30	0	PASS
Seam Notes	145'N (RP-326) TO NEOS													
9/15/15	81 / 87	8	11:43 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 30 / 30	14 35 / 30	0	PASS
Seam Notes	SEOS TO 8'N (RP-319)													
9/15/15	81 / 87	14.5	11:44 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 25 / 30	14 30 / 30	0	PASS
Seam Notes	8'N (RP-319) TO NEOS													
9/15/15	80 / 87	22.5	11:46 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes														
9/15/15	79 / 87	6	11:50 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	14 00 / 30	14 05 / 30	0	PASS
Seam Notes	SEOS TO 6'N (RP-322)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/15/15	79 / 87	12.5	11:51 AM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 40 / 30	13 45 / 28	2	PASS
Seam Notes	6'N (RP-322) TO NEOS													
9/15/15	78 / 87	22.5	13:05 PM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 23 / 30	13 28 / 30	0	PASS
Seam Notes														
9/15/15	77 / 87	22.5	13:07 PM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 22 / 30	13 27 / 30	0	PASS
Seam Notes														
9/15/15	76 / 87	23	13:10 PM	PEDRO S.	2025	350	860		9/15/15	Air Pressure	13 22 / 30	13 27 / 30	0	PASS
Seam Notes														
9/16/15	90 / 91	168	13:36 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 35 / 30	14 40 / 29	1	PASS
Seam Notes														
9/16/15	91 / 92	152	13:55 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 40 / 30	14 45 / 28	2	PASS
Seam Notes	SEOS TO 151'N (RP-351)													
9/16/15	91 / 92	15	14:10 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 44 / 30	14 49 / 29	1	PASS
Seam Notes	151'N (RP-351) TO NEOS													
9/16/15	92 / 93	167	14:16 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 40 / 30	14 45 / 29	1	PASS
Seam Notes														
9/16/15	93 / 94	144	14:34 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 50 / 30	14 55 / 30	0	PASS
Seam Notes	SEOS TO 144'N (RP-354)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/16/15	93 / 94	23	14:48 PM	PEDRO S.	2025	450	860		9/16/15	Air Pressure	14 51 / 30	15 56 / 30	0	PASS
Seam Notes	144'N (RP-354) TO NEOS													
9/17/15	94 / 95	33	14:31 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 28 / 30	15 33 / 30	0	PASS
Seam Notes	SEOS TO 33'N (RP-370)													
9/17/15	94 / 95	92	14:35 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 15 / 30	15 20 / 30	0	PASS
Seam Notes	33'N(RP-370) TO 125'N (RP-368)													
9/17/15	94 / 95	41	14:44 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 15 / 30	15 20 / 30	0	PASS
Seam Notes	125'N (RP-368) TO NEOS													
9/17/15	95 / 96	128	14:51 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 25 / 30	15 30 / 30	0	PASS
Seam Notes	NEOS TO 128'S (RP-373)													
9/17/15	95 / 96	38	15:06 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 26 / 30	15 31 / 30	0	PASS
Seam Notes	128'S (RP- 373) TO SEOS													
9/17/15	96 / 97	101	15:13 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 30 / 30	15 35 / 28	2	PASS
Seam Notes	NEOS TO 101'S (RP- 377)													
9/17/15	96 / 97	16	13:48 PM	EMMANUEL V.	EXT 512		550	550	9/21/15	Vacuum			0	PASS
Seam Notes	101'S (RP-377) TO 117'S (RP- 376)													
9/17/15	96 / 97	49	15:21 PM	PEDRO S.	2025	450	860		9/17/15	Air Pressure	15 36 / 30	15 41 / 29	1	PASS
Seam Notes	117'S (RP-376) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/18/15	98 / 99	70	11:26 AM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 14 / 30	14 19 / 30	0	PASS
Seam Notes														
9/18/15	99 / 100	70	11:41 AM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 08 / 30	14 13 / 30	0	PASS
Seam Notes														
9/18/15	100 / 101	71	11:53 AM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 07 / 30	14 12 / 29	1	PASS
Seam Notes														
9/18/15	101 / 102	70	13:07 PM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 06 / 30	14 11 / 30	0	PASS
Seam Notes														
9/18/15	102 / 103	70	13:22 PM	PEDRO S.	2025	450	860		9/18/15	Air Pressure	14 05 / 30	14 10 / 28	2	PASS
Seam Notes														
9/18/15	104 / 105	32	13:41 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	15 04 / 30	15 09 / 30	0	PASS
Seam Notes														
9/18/15	105 / 106	27	13:51 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	15 12 / 30	15 17 / 30	0	PASS
Seam Notes														
9/18/15	103 / 106	22.5	14:00 PM	PEDRO S.	2025	300	860		9/18/15	Air Pressure	15 12 / 30	15 17 / 30	0	PASS
Seam Notes														
9/18/15	103 / 105	23	14:06 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	15 04 / 30	15 09 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 **PSI**

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 **Minutes**

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 **PSI**

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/18/15	103 / 104	16	14:10 PM	PEDRO S.	2025	300	860		9/18/15	Air Pressure	15 04 30	15 09 30	0	PASS
Seam Notes	EEOS TO 16'W (RP-383)													
9/18/15	103 / 104	10	14:13 PM	PEDRO S.	2025	300	860		9/18/15	Air Pressure	14 55 30	15 00 30	0	PASS
Seam Notes	16'W (RP-383) TO WEOS													
9/18/15	97 / 98	22.5	14:20 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 38 30	14 43 28	2	PASS
Seam Notes														
9/18/15	97 / 99	22.5	14:22 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 38 30	14 43 30	0	PASS
Seam Notes														
9/18/15	97 / 100	22.5	14:25 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 40 30	14 45 28	2	PASS
Seam Notes														
9/18/15	97 / 101	22.5	14:28 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 40 30	14 45 29	1	PASS
Seam Notes														
9/18/15	97 / 102	22.5	14:30 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 46 30	14 511 29	1	PASS
Seam Notes														
9/18/15	97 / 103	12	14:33 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 48 30	14 53 30	0	PASS
Seam Notes	NEOS TO 12'S (RP-384)													
9/18/15	97 / 103	10.5	14:35 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 55 30	15 00 30	0	PASS
Seam Notes	12'S (RP-384) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
9/18/15	97 / 104	32	14:37 PM	PEDRO S.	2025	350	860		9/18/15	Air Pressure	14 55 / 30	15 00 / 30	0	PASS
Seam Notes														
9/22/15	106 / 107	36	10:41 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	11 37 / 30	11 42 / 30	0	PASS
Seam Notes														
9/22/15	103 / 107	14	10:45 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 38 / 30	11 43 / 30	0	PASS
Seam Notes														
9/22/15	102 / 107	23	10:47 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 38 / 30	11 43 / 30	0	PASS
Seam Notes														
9/22/15	101 / 107	22.5	10:50 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 39 / 30	11 44 / 29	1	PASS
Seam Notes														
9/22/15	100 / 107	22.5	10:53 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 40 / 30	11 45 / 30	0	PASS
Seam Notes														
9/22/15	99 / 107	23	10:56 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 49 / 30	11 54 / 28	2	PASS
Seam Notes														
9/22/15	98 / 107	23	11:00 AM	PEDRO S.	2025	350	860		9/22/15	Air Pressure	11 48 / 30	11 53 / 29	1	PASS
Seam Notes														
9/22/15	107 / 108	163	11:06 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	13 13 / 30	13 18 / 29	1	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In / PSI IN	AT Time Out / PSI OUT	PSI Loss	Test Results
9/22/15	108 / 109	164	11:24 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	13 14 / 30	13 19 / 29	1	PASS
Seam Notes														
9/22/15	109 / 110	163	11:42 AM	PEDRO S.	2025	450	860		9/22/15	Air Pressure	13 15 / 30	13 20 / 30	0	PASS
Seam Notes														
9/23/15	110 / 111	162	15:38 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 50 / 30	16 55 / 30	0	PASS
Seam Notes														
9/23/15	111 / 112	15	15:52 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 48 / 30	16 53 / 30	0	PASS
Seam Notes	NEOS TO 15'S (RP-419)													
9/23/15	111 / 112	147	15:54 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 48 / 30	16 53 / 29	1	PASS
Seam Notes	15'S (RP-419) TO SEOS													
9/23/15	112 / 113	162	16:12 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 51 / 30	16 56 / 30	0	PASS
Seam Notes														
9/23/15	113 / 114	28	16:42 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 53 / 30	16 58 / 29	1	PASS
Seam Notes	NEOS TO 28'S (RP-421)													
9/23/15	113 / 114	138	16:46 PM	PEDRO S.	2025	450	860		9/23/15	Air Pressure	16 59 / 30	17 04 / 30	0	PASS
Seam Notes	28'S (RP-421) TO SEOS													
9/24/15	114 / 115	162	14:51 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 46 / 30	15 51 / 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/24/15	115 / 116	28	15:14 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 47 / 30	15 52 / 30	0	PASS
Seam Notes	NEOS TO 28'S (RP-426)													
9/24/15	115 / 116	135	15:17 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 48 / 30	15 53 / 30	0	PASS
Seam Notes	28'S (RP-426) TO SEOS													
9/24/15	116 / 117	164	15:31 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	15 52 / 30	15 57 / 30	0	PASS
Seam Notes														
9/24/15	117 / 118	121	15:51 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	16 04 / 30	16 09 / 30	0	PASS
Seam Notes	NEOS TO 121'S (RP-427)													
9/24/15	117 / 118	44	16:02 PM	PEDRO S.	2025	450	860		9/24/15	Air Pressure	16 13 / 30	16 18 / 30	0	PASS
Seam Notes	121'S (RP-427) TO SEOS													
9/25/15	118 / 119	164	14:30 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 17 / 30	15 22 / 30	0	PASS
Seam Notes														
9/25/15	119 / 120	22	14:53 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 22 / 30	15 27 / 30	0	PASS
Seam Notes	NEOS TO 22'S (RP-438)													
9/25/15	119 / 120	72	14:55 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 21 / 30	15 26 / 28	2	PASS
Seam Notes	22'S (RP-438) TO 94'S (RP-437)													
9/25/15	119 / 120	33	15:00 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 21 / 30	15 26 / 30	0	PASS
Seam Notes	94'S (RP-437) TO 127'S (RP-439)													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/25/15	119 / 120	12	15:58 PM	PEDRO S.	EXT 512		550	550	9/29/15	Vacuum			0	PASS
Seam Notes	127'S (RP-439) TO 139'S (RP-440)													
9/25/15	119 / 120	26	15:03 PM	PEDRO S.	2025	450	860		9/25/15	Air Pressure	15 15 30	15 20 30	0	PASS
Seam Notes	139'S (RP-440) TO SEOS													
9/29/15	120 / 121	166	16:46 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	15 10 30	15 15 30	0	PASS
Seam Notes														
9/29/15	121 / 122	143	15:04 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	15 40 30	15 45 29	1	PASS
Seam Notes														
9/29/15	RP-445 / 122	17	15:30 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 52 30	15 57 30	0	PASS
Seam Notes														
9/29/15	RP-446 / 122	5	15:34 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 51 30	15 56 30	0	PASS
Seam Notes														
9/29/15	RP-445 / 121	17	15:38 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 52 30	15 57 30	0	PASS
Seam Notes														
9/29/15	RP-446 / 121	5	15:41 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	15 51 30	15 56 30	0	PASS
Seam Notes														
9/29/15	123 / 124	22.5	15:45 PM	PEDRO S.	2025	300	860		9/29/15	Air Pressure	16 12 30	16 17 30	0	PASS
Seam Notes														

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** [ ] **Pond** [ ] **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** [ ] **Cell** [ ] **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** [x] **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
9/29/15	124 / 125	19	15:52 PM	PEDRO S.	2025	350	860		9/29/15	Air Pressure	16 12 / 30	16 17 / 30	0	PASS
Seam Notes														
9/29/15	123 / 125	18	15:55 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 12 / 30	16 17 / 30	0	PASS
Seam Notes	SEOS TO 18'N (RP-454)													
9/29/15	123 / 125	129	16:21 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 35 / 30	16 40 / 30	0	PASS
Seam Notes	18'N (RP-454) TO NEOS													
9/29/15	122 / 124	19	15:58 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 10 / 30	16 15 / 30	0	PASS
Seam Notes														
9/29/15	122 / 123	23	16:00 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 10 / 30	16 15 / 30	0	PASS
Seam Notes	SEOS TO 23'N (RP-450)													
9/29/15	122 / 123	126	16:03 PM	PEDRO S.	2025	400	860		9/29/15	Air Pressure	16 40 / 30	16 45 / 30	0	PASS
Seam Notes	23'N (RP-450) TO NEOS													
9/29/15	RP-445 / RP-446	2	15:28 PM	PEDRO S.	2025	300	860		9/29/15	Vacuum			0	PASS
Seam Notes	COVER BY RP-447													
10/8/15	125 / 126	159	15:00 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	16 45 / 30	16 50 / 29	1	PASS
Seam Notes	NEOS TO 159'S (RP-477)													
10/8/15	125 / 126	5	15:33 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 15 / 30	17 20 / 30		PASS
Seam Notes	159'N (RP-477) TO SEOS													

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
10/8/15	126 / 127	163	15:38 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	16 45 / 30	16 50 / 29	1	PASS
Seam Notes														
10/8/15	128 / 129	22.5	16:05 PM	PEDRO S.	2025	300	860		10/8/15	Air Pressure	17 29 / 30	17 34 / 30	0	PASS
Seam Notes														
10/8/15	127 / 129	12	16:12 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 30 / 30	17 35 / 30	0	PASS
Seam Notes														
10/8/15	127 / 128	149	16:13 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	16 45 / 30	16 50 / 28	2	PASS
Seam Notes														
10/8/15	130 / 131	9	16:30 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 40 / 30	17 45 / 30	0	PASS
Seam Notes														
10/8/15	131 / 132	11	16:32 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 39 / 30	17 44 / 30	0	PASS
Seam Notes														
10/8/15	133 / 134	7	16:35 PM	PEDRO S.	2025	300	860		10/8/15	Air Pressure	17 47 / 30	17 52 / 30	0	PASS
Seam Notes														
10/8/15	129 / 132	12	16:43 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 30 / 30	17 35 / 30	0	PASS
Seam Notes														
10/8/15	128 / 132	81	16:44 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 31 / 30	17 36 / 29	1	PASS
Seam Notes														

SEOS TO 81'N (RP-476)

Environmental Specialties International Inc.
Seam Control Form

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Air Pressure Test** 30 PSI

Job Description: Cap Single Layer **Secondary** **Cell** **Air Pressure Hold Time** 5 Minutes

Reported By Lyssa Tran **Cap** x **Allowable Air Pressure Loss** 4 PSI

Other Cap construction

17,515 **Total LF of Welding to Date Combined** **Extrusion LF Weld Total To Date** **96** **Fusion LF Weld Total To Date:** **17,419**

Weld Date	Seam No.	Seam Length	Time Welded	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp	Test Date	Test Type	AT Time In PSI IN	AT Time Out PSI OUT	PSI Loss	Test Results
10/8/15	128 / 132	25	16:53 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 31 30	17 36 30	0	PASS
Seam Notes	81'N (RP-476) TO NEOS													
10/8/15	128 / 131	22.5	16:55 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 39 30	17 44 30	0	PASS
Seam Notes														
10/8/15	128 / 130	20	16:59 PM	PEDRO S.	2025	350	860		10/8/15	Air Pressure	17 40 30	17 45 30	0	PASS
Seam Notes														
10/8/15	132 / 134	38	17:06 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 48 30	17 52 30	0	PASS
Seam Notes														
10/8/15	132 / 133	38	17:11 PM	PEDRO S.	2025	450	860		10/8/15	Air Pressure	17 45 30	17 50 30	0	PASS
Seam Notes														
	/		:										0	
Seam Notes														
	/		:										0	
Seam Notes														
	/		:										0	
Seam Notes														
	/		:										0	
Seam Notes														

Appendix L
ESI Repair Report

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-1	CF	2/3		98'N OF SEOS (VALLEY DESIGN)	P	2.5	x	63		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-2	WR	3/4		94'N OF SEOS	P	2	x	12		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-3	SI		3	60'N OF 2/3 & 11'E	P	2	x	2.5		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-4	DS-1	3/4		18'N OF SEOS	P	2	X	28		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-5	CF		3	140'N OF 2/3 & 6'E	P	2	x	10		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-6	PB	1/2		135'N OF SEOS (PB 8")	P	5	x	5	52.5	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-7	PB		1	85'N OF 1/2 & 17'W (PB 4")	P	3	x	4	36.58	7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-8	SI		2	86'N OF 2/3 & 2'W	P	1.5	x	2		7/21/15	EMMANUEL V.	EXT 512	VBOX	P	7/21/15
RP-9	RW	4/5		SEOS	P	1.5	x	3		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-10	SJ	5/6/7		SJ 5/6/7	P	1.5	X	2		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-11	RW	5/7		SEOS	P	2	x	4		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-12	DS-2	6/7		10'E OF WEOS	P	2	x	5.5		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-13	FS	7/8		E.S. & COVER OVER SJ 6/7/8	P	2	x	6		7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-14	PB		8	147'N OF 6/8 & 4'E (PB 8")	P	5	x	5	52.5	7/22/15	EMMANUEL V.	EXT 512	VBOX	P	7/22/15
RP-15	BO	9/10		52'N OF SEOS	P	2	x	3		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-16	DS-3	11/12		100'N OF SEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-17	CF	13/14		46'S OF NEOS (VALLEY DESIGN)	P	2	x	42		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-18	DSX-1		13	ON RP-17	P	2	X	6		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-19	DS-4	14/15		16'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-20	CF	14/15	15	57'S OF NEOS	P	2	x	20		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-21	CF	15/16		37'S OF NEOS	P	2	x	16		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-22	BO	16/17		23'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX		7/30/15
RP-23	DS-5	17/18		75'S OF NEOS	P	2	x	5		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-24	PB	16		80'S OF 16/17 & 13'W (MH 48")	P	10	x	10	174.7	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-25	CF	15/16		78'S OF NEOS	P	2	x	15		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/24/15
RP-26	CF		16	100'S OF 16/17 & 15'W	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-27	BO	16/17		80'S OF NEOS (PATCH)& 7'W (EXT)	P	2	x	2	84	7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-28	BO	16/17		115'S OF NEOS	P	2	x	10		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-29	BO	16/17		130'S OF NEOS	P	2	x	8		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-30	SI		17	110'S OF 17/18 & 4'W	P	2	x	2		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-31	BO	17/18		101'S OF NEOS	P	2	x	23		7/24/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-32	AO		15	SEOP (TRIANGLE)	B		x		324	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-33	CF		16	134'S OF 16/17 & 6'W	P	2	x	13		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-34	DSX-2	RP-32/15	15	10'E OF RP-32	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-35	WR		17	94'S OF 16/17 & 3'W	P	2	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-36	WR		17	88'S OF 16/17 & 3'W	P	1.5	x	4		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-37	WR		17	88'S OF 16/17 & 15'W	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-38	WR		17	101'S OF 16/17 & 10'W	P	2	x	8		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-39	DS-6	20/21		155'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-40	BO	20/21		128'S OF NEOS	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-41	WR		18	75'S OF 18/19 & 11'W	P	2	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-42	CR	17/18		60'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-43	WR		18	55'S OF 18/19 & 8'W	P	2	x	7		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-44	BO	18/19		55'S OF NEOS	P	2	x	6		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-45	WR		19	33'S OF 19/20 & 10'W	P	2	X	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-46	WR	19/20		29'S OF NEOS	P	2	x	4.5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-47	WR		19	33'S OF 19/20 &15'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-48	WR		19	21'S OF 19/20 & 9'W	P	2	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-49	WR		19	14'S OF 19/20 & 11'W	P	1.5	x	3		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-50	WR		20	30'S OF 20/21 & 14'W	P	1.5	x	2		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-51	BO	20/21		30'S OF NEOS	P	2	x	5		7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-52	WR		17	BETWEEN RP-35 & RP-38	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-53	WR		17	BETWEEN RP-36 & RP-38	B		x		108	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-54	WR		17	BETWEEN RP-37 & RP-38	B		x		96	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-55	CF		16	BETWEEN RP-24 & RP-27	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-56	CF		18	BETWEEN RP-41 & RP-43	B		x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-57	CF		18	BETWEEN RP-42 & RP-43	B		x		156	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/27/15
RP-58	CF		19	BETWEEN RP-48 & RP-49	B		x		60	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-59	CF		19	BETWEEN RP-47 & RP-48	B		x		72	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-60	CF		19	BETWEEN RP-45,RP-46& RP-48	B		x		180	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-61	CF		20	BETWEEN RP-50 & RP-51	B		x		144	7/27/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-62	WR		21	10'S OF 21/22 & 8'W	P	2	x	14		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-63	WR		21	6'S OF 21/22 & 13'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-64	WR		21	BETWEEN RP-63 & RP-65	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-65	WR		21	20'S OF 21/22 & 18'W	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-66	WR		22	20'S OF 22/23 & 5'W	P	1.5	x	12		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-67	BO	21/22		84'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-68	BO	22/23		76'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-69	WR		22	130'S OF 21/22 & 6'E	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-70	WR		22	BETWEEN RP-69 & RP-71	B		x		60	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-71	CR	21/22		137'S OF NEOS	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-72	WR		21	BETWEEN RP-71 & RP-73	B		x		24	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-73	WR		21	130'S OF 21/22 & 4'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-74	WR		21	BETWEEN RP-73 & RP-75	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-75	WR		21	129'S OF 21/22 & 9'W	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-76	BO	22/23		97'S OF NEOS	P	1.5	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/28/15
RP-77	WR		23	118'S OF 22/23 & 7'E	P	2	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-78	WR		23	BETWEEN RP-77 & RP-79	B		x		48	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-79	WR		23	124'S OF 22/23 & 7'E	P	2	x	11		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-80	WR		23	BETWEEN RP-79 & RP-81	B		x		84	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-81	WR		23	134'S 22/23 & 9'E	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-82	DS-7	23/24		87'S OF NEOS	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-83	DSX-3	RP-82/23		ON RP-82/83(87'S OF NEOS)	P	2	x	5		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-84	CR	23/24		116'S OF NEOS	P	1.5	x	2		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-85	CF		23	125'S OF 23/24 & 3'W	P	2	x	3		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-86	CF		23	BETWEEN RP-85 & RP-87	B		x		168	7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-87	CF		23	140'S OF 23/24 & 10'W	P	2	x	4		7/28/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-88	BO	24/25		127'S OF NEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-89	WR		24	BETWEEN RP-88 & RP-90	B		x		60	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-90	WR		24	127'S OF 24/25 & 5'W	P	2	x	2.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-91	CF		25	100'N OF 25/26 & 6'W	P	2	x	6		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-92	CF		25	BETWEEN RP-91 & RP-93	B		X		120	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-93	CF		25	121'N OF 25/26 & 12'W (T-SHAPE)	P	2	x	22		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-94	CF		25	BETWEEN RP-93 & RP-95	B		x		84	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-95	CF	25/26		110'N TO 129'N OF SEOS	P	2	x	19		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-96	DS-8	26/27		128'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-97	BO	26/27		71'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-98	CF		27	BETWEEN RP-97 & RP-100	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-99	CR	26/27		38'N OF SEOS	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-100	CF		27	55'N OF 26/27 & 13'E	P	2	x	30		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-101	CF		27	BETWEEN RP-100 & RP-102	B		x		144	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-102	CF		27	87'N OF 26/27 & 7'E	P	2	x	6.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-103	CF	27/28		117'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-104	CF		28	BETWEEN RP-103 & RP-105	B		x		156	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-105	BO	28/29		120'N OF SEOS	P	2	x	15		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-106	CF		28	BETWEEN RP-105 & RP-107	B		x		192	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-107	CF		28	134'N OF 27/28 & 4'E	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-108	BO	29/30		125'N OF SEOS	P	2	x	10		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-109	DS-9	29/30		80'N OF SEOS	P	2	x	5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-110	CF		28	85'N OF 28/29 & 3'W	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-111	CF		28	BETWEEN RP-110 & RP-112	B		x		180	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-112	WR	28/29		68'N OF SEOS	P	2	x	8		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-113	WR		28	BETWEEN RP-112 & RP-114	B		x		36	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-114	WS	28/29		73'N OF SEOS	P	2	x	3		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-115	BO	28/29		61'N OF SEOS	P	1.5	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-116	WR		28	29'N OF 27/28 & 1'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-117	WR		28	BETWEEN RP-116 & RP-118	B		x		72	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-118	WR		28	29'N OF 27/28 &9'E	P	2	X	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-119	WR		28	BETWEEN RP-118 & RP-120	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-120	WR		28	29'N OF 27/28 & 13'E	P	1	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-121	BO	27/28		34'N OF SEOS	P	2	x	7		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-122	CF		27	BETWEEN RP-121 & RP-123	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-123	CF		27	34'N OF 27/28 & 5'W	P	1.5	x	1.5		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-124	CF		28	34'N OF 27/28 & 10'E	P	2	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-125	CF		28	BETWEEN RP-124 & RP-126	B		x		108	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-126	CF		28	45'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

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SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-127	CF		28	BETWEEN RP-126 & RP-128	B		x		24	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-128	CF		28	48'N OF 27/28 & 6'E	P	1.5	x	2		7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-129	PB		11	80'N OF 10/11 & 8'E (PB 8")	P	3	x	3	52.5	7/29/15	EMMANUEL V.	EXT 512	VBOX	P	7/29/15
RP-130	DS-10	32/33		20'N OF SEOS	P	2	x	5.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-131	DSX-4	RP-102/27		ON EASTSIDE OF RP-102/27	P	2	x	5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-132	PB		32	13'N OF 31/32 & 1'E (PB 4")	P	3	x	4	36.6	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-133	WR	33/34		SEOS TO 21'N	P	2.5	x	21		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-134	WR		34	BETWEEN RP-133 & RP-135(N.SIDE)	B		x		84	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-135	WR		34	18'N OF 33/34 & 11'E	P	3	x	10		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-136	WR		34	FROM RP-135 TO SEOP	B		x		180	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-137	WR		34	BETWEEN RP-133 & RP-135(S.SIDE)	B		x		120	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-138	WR		34	BETWEEN RP-137 & RP-139	B		x		36	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-139	WR		34	13'N OF 33/34 & 6'E	P	1.5	x	1.5		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-140	WR		34	BETWEEN RP-135 & RP-141	B		x		168	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-141	WR		34	36'N OF 33/34 & 10'E	P	1	x	2		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-142	CF		30	112'N OF 29/30 & 5'E	P	2	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-143	CF		30	BETWEEN RP-142 & RP-144	B		x		48	7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-144	CF		30	98'N OF 29/30 & 7'E	P	1.5	x	14		7/30/15	EMMANUEL V.	EXT 512	VBOX	P	7/30/15
RP-145	DS-11	36/37		90'W OF EEOS & SJ 34/36/37	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-146	SJ	41/44/45		SJ 41/44/45	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-147	SJ	44/45/46		SJ 44/45/46	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-148	SJ	40/41/44		SJ 40/41/44	P	2	x	5.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-149	SJ	34/40/41		SJ 34/40/41	P	3	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-150	SJ	34/39/40		SJ 34/39/40	P	1.5	x	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-151	SJ	34/38/39		SJ 34/38/39	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-152	SJ	34/37/38		SJ 34/37/38	P	2	x	2.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-153	BO	35/36		84'W OF EEOS	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-154	WR		36	BETWEEN RP-153 & RP-155	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-155	WR		36	84'W OF 35/36 & 5'S	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-156	SJ	34/35/36		SJ 34/35/36	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-157	BO	34/35		10'S OF NEOS	P	1.5	X	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-158	WR		35	65'W OF 35/36 & 11'N	P	1.5	X	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-159	WR		35	FROM RP-158 TO N.END OF P-35	P		x		144	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-160	DS-12	42/43		20'N OF SEOS	P	2	x	5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-161	SJ	43/44/46		SJ 43/44/46	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-162	WR	44/46		5'W OF EEOS	P	1.5	X	3		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-163	WR		44	BETWEEN RP-162 & RP-164	B		x		36	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-164	WR		44	5'W OF 44/46 & 5'N	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-165	WR		44	BETWEEN RP-162 RP-166	B		x		216	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-166	WR	40/44		16'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-167	SJ	40/42/43		SJ 40/42/43	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-168	SJ	39/40/42		SJ 39/40/42	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-169	SJ	38/39/42		SJ 38/39/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-170	SJ	37/38/42		SJ 37/38/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-171	SJ	36/37/42		SJ 36/37/42	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-172	WR	36/42		6'S OF NEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-173	WR		42	BETWEEN RP-172 & RP-174	B		x		108	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-174	WR		42	6'S OF 36/42 & 10'E	P	3	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-175	CR	35/42		15'S OF NEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-176	WR		42	BETWEEN RP-174 & RP-175	B		x		132	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-177	SJ	35/36/42		SJ 35/36/42	P	2	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-178	CR	35/36		15'W OF EEOS	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-179	WR		35	30'W OF 35/36 & 10'N	P	2	x	4		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-180	WR		35	FROM RP-179 TO N.END OF P-35	B		x		156	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-181	CR	44/45		11'W OF EEOS	P	1.5	x	2.5		8/4/15	PEDRO S.	EXT 512	VBIOX	P	8/4/15
RP-182	WR		44	BETWEEN RP-181 & RP-183	B		x		204	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-183	CR	40/44		42'W OF EEOS	P	1.5	x	1.5		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-184	BO	40/44		48'W OF EEOS	P	2	x	7		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-185	SJ	40/43/44		SJ 40/43/44	P	1.5	x	2		8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-186	DSX-5	RP-160/42		ON RP-160/42	P	2	x	5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-187	WR		42	7'N OF 39/42 &1'E TO 6'E	B		x		78	8/4/15	PEDRO S.	EXT 512	VBOX	P	8/4/15
RP-188	PB		25	74'S OF 24/25 & 5'E (PB 8")	P	3	x	3	52.5	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-189	WR		35	15'W OF 35/36 & 16'N	P	2	x	7		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-190	WR		35	BETWEEN RP-189 & RP-191	B		x		84	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-191	WR		35	15'W OF 35/36 & 6'N	P	1.5	x	1.5		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-192	WR		36	10'W OF 36/37 & 7'N	P	1.5	x	2		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-193	WR		36	BETWEEN RP-192 & RP-194	B		x		180	8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-194	WR		36	10'W OF 36/37 & 24'N	P	2	x	4		8/5/15	PEDRO S.	EXT 512	VBOX	P	8/5/15
RP-195	BO	47/48		106'S OF NEOS	P	2	x	6.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-196	BO	48/49		86'S OF NEOS	P	2	x	4		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-197	BO	53/54		15'S OF NEOS	P	2	x	7		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-198	WR	48/49		94'S OF NEOS	P	2	x	28		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-199	CR	42/47		50'S OF NEOS	P	2	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-200	CF		47	56'S OF NEOS(SURFACE DESIGN)	P	2	x	38		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-201	CF		47	38'S OF 42/47 & 8'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-202	CF		47	BETWEEN RP-201 & RP-203	B		x		240	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-203	CF		47	59'S OF 42/47 & 18'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-204	DS-13	47/48		70'S OF NEOS	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-205	CF		47	FROM RP-200 TO MANHOLE	B		x		216	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-206	WR		48	46'S OF 47/48 & 4'E	P	1.5	x	1.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-207	WR		48	BETWEEN RP-206 & RP-208	B		x		180	8/7/15	PEDRO S.	EXT 512	VNOX	P	8/7/15
RP-208	WR		48	64'S OF 48/49 & 6'W	P	2	x	11		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-209	WR		48	BETWEEN RP-208 & RP-210	B		x		36	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-210	WR		48	57'S OF 48/49 & 4'W	P	2.5	x	2.5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-211	DSX-6	RP-198/48		ON W.END OF RP-198/48	P	2	x	5		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-212	WR	49/50		72'S OF NEOS	P	2	x	9		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-213	WR		50	75'S OF 49/50 & 8'E	P	2	x	7		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-214	WR		50	BETWEEN RP-213 & RP-215	B		x		24	8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-215	WR		50	78'S OF 49/50 & 2'E	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	F	8/10/15
RP-216	SJ	50/51/52		SJ 50/51/52	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-217	SJ	51/52/53		SJ 51/52/53	P	2	x	2		8/7/15	PEDRO S.	EXT 512	VBOX	P	8/7/15
RP-218	PB		47	87'S OF 42/47 & 11'E(MH 48")	P	9.5	x	9.5	175	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-219	PB		38	3'W OF 37/38 & 3'S (PB 8")	P	3.5	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-220	BO	55/57		101'N OF SEOS	P	2	x	2.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-221	BO	55/57		120'N OF SEOS	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-222	WR		50	REPAIR LEAK OVER RP-215	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-223	DS-14	50/51		35'S OF NEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-224	WR	51/53		20'S OF NEOS	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-225	WR		53	BETWEEN RP-224 & RP-226	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-226	WR		53	20'S OF 51/53 & 14'E	P	2	x	8		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-227	WR		53	30'S OF 53/54 & 5'W	P	1.5	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-228	WR		53	BETWEEN RP-227 & RP-229	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-229	WR		53	35'S OF 51/53 & 5'W	P	2	x	11		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-230	DS-15	54/55		72'S OF NEOS	P	2	x	4.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-231	SJ	54/55/56		SJ 54/55/56	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-232	SJ	55/56/57		SJ 55/56/57	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-233	CF		55	76'N OF 55/57 & 3'W	P	2	X	13		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-234	CF		55	BETWEEN RP-233 & RP-235	B		x		24	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-235	CF		55	80'N OF 55/57 & 2'W	P	2	x	3.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-236	CF		58	128'S OF 57/58 7'E	P	3	x	4		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-237	CF		58	BETWEEN RP-236 & RP-238	B		x		168	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-238	CF		58	140'S OF 57/58 & 20'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-239	CF		58	BETWEEN RP-236 & RP-240	B		x		96	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-240	CF		58	125'S OF 57/58 & 17'E	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-241	CF		58	BETWEEN RP-239 & RP-242	B		x		36	8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-242	CF		58	128'S OF 57/58 & 15'E	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-243	PB		58	75'S OF 57/58 & 6'E (PB 8")	p	4	x	4	52.5	9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-244	SJ	58/59/60		SJ 58/59/60	P	1.5	x	1.5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-245	DSX-7	RP-197/53		ON RP-197/53	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-246	PB		62	135'N OF 61/62 & 2'E (PB 8")	P	3	x	4	52.5	8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-247	SJ	59/60/61		SJ 59/60/61	P	2	x	2		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-248	DS-16	59/61		6'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-249	DS-17	62/63		90'N OF SEOS	P	2	x	5		8/10/15	PEDRO S.	EXT 512	VBOX	P	8/10/15
RP-250	CR		65	2'N OF 65/66 & 5'E	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-251	SJ	64/65/66		SJ 64/65/66	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15
RP-252	BO	65/66		8'N OF SEOS	P	2	x	2		8/12/15	PEDRO S.	EXT 512	VBOX	P	8/12/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-253	DS-18	64/65		128'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-254	DS-19	68/69		100'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-255	PB		71	9'N OF 71/72 & 5'W (PB 4")	P	5	x	6	36.6	8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-256	DS-20	72/73		10'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-257	PB		74	92'N OF 73/74 & 1'E (PB 8")	P	3.5	x	4	52.5	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/14/15
RP-258	BO	71/72		57'N OF SEOS	P	2	x	2		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-259	BO	71/72		133'N OF SEOS	P	2	x	2.5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-260	BO	74/75		60'N OF SEOS	P	2	x	6		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-261	DS-21	74/75		75'N OF SEOS	P	2	x	5		8/14/15	EMMANUEL V.	EXT 512	VBOX	P	8/14/15
RP-262	PB	78/79		WEOS (MH 48")	P	10	x	11	175	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-263	CF		73	FROM RP-264 TO 4'N	B		x		48	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-264	CF		73	23'N OF 72/73 & 5'E	P	2.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-265	CF		73	BETWEEN RP-264 & RP-266	B		x		84	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-266	CF		73	14'N OF 72/73 & 7'E	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-267	CF		73	BETWEEN RP-266 & RP-272	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-268	CF		73	FROM RP-269 TO 3'W	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-269	CF		73	14'N OF 72/73 &18'E	P	2	x	9		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-270	CF		73	BETWEEN RP-269 & RP-271	B		x		108	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-271	CF		73	4'N OF 72/73 & 9'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-272	CF		73	15'N OF 72/73 & 15'E	P	2	x	10		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-273	CF		73	BETWEEN RP-272 & RP-274	B		x		36	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-274	CF		73	23'N OF 72/73 & 15'E	P	2	x	6		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-275	CF		73	FROM RP-274 TO 5'N	B		x		60	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-276	CF		73	FROM RP-277 TO 12'E	B		x		144	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-277	CF		73	50'N OF 72/73 & 5'E	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-278	CF		73	46'N OF 73/74 & 5'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-279	CF		73	BETWEEN RP-278 & RP-280	B		x		156	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-280	CF		73	59'N OF 73/74 & 16'W	P	1.5	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-281	CF		71	137'N OF 71/72 & 2'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-282	CF		71	BETWEEN RP-281 & RP-283	B		x		120	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-283	CF		71	125'N OF 71/72 & 8'W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-284	CF		71	164'N OF 71/72 & 8'W	P	2	x	4		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-285	CF		71	BETWEEN RP-284 & RP-286	B		x		132	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-286	CF		71	142'N OF 71/72 & 3'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-287	CF		71	FROM RP-288 TO 8'N	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-288	CF		71	137'N OF 71/72 & 9.5' W	P	1.5	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-289	DSX-8	RP-284/71		ON RP-284/71	P	2	x	5		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-290	WR	68/69		132'N OF SEOS	P	2	x	2		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-291	WR		68	BETWEEN RP-290 & RP-292	B		x		96	9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-292	WR		68	126'N OF 68/69 & 10'W	P	2	x	3		9/9/15	PEDRO S.	EXT 512	VBOX	P	9/11/15
RP-293	SI		57	136'N OF 56/57 & 7'E	P	2	x	2		9/11/15	EMMANUEL V.	EXT 512	VBOX	P	9/11/15
RP-294	SJ			SJ 75/80/81	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-295	SJ			SJ 75/79/80	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-296	SJ			SJ 75/77/78	P	2	x	3		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-297	SJ			SJ 75/76/77	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-298	DS-22	79/80		78'E OF WEOS	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-299	SJ			SJ 75/81/82	P	2.5	x	14		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-300	SJ			SJ 81/82/83	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-301	SJ			SJ 81/83/84	P	1	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-302	SJ			SJ 83/84/85	P	2	x	4		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-303	SJ			SJ 84/85/86	P	1	x	1		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-304	WR	84/85		7'W OF EEOS	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-305	WR		84	BETWEEN RP-304 & RP-306	B		x		204	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-306	WR		84	7'W OF 84/85 & 17'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-307	WR		84	FROM RP-308 TO 12'SW	B		x		144	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-308	WR		84	20'E OF 81/84 & 13'S	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-309	WR	75/82		14'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-310	WR		82	BETWEEN RP-309 & RP-311	B		x		240	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-311	WR	82/83		15'N OF SEOS	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-312	WR		82	6'N OF 82/83 & 6.5' W	P	1.5	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-313	WR		82	BETWEEN RP-312 & RP-314	B		x		132	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-314	WR		82	19'N OF 82/83 & 6'W	P	1.5	x	1.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-315	BO	81/84		24'E OF WEOS			x			9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-316	DS-23	88/89		116'N OF SEOS	p	2	x	4.5		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-317	WR		79	BETWEEN RP-298 & RP-318	B		x		66	9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-318	WR		79	78'E OF 79/80 & 7'N	P	2	x	2		9/14/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-319	BO	81/87		8'N OF SEOS	P	2	x	5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-320	SJ			SJ 80/81/87	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-321	SJ			SJ 79/80/87	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-322	WR	79/87		6'N OF SEOS	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-323	SJ			SJ 78/79/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-324	SJ			SJ 77/78/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-325	SJ			SJ 76/77/87	P	1.5	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-326	CF	89/90		145'N OF SEOS	P	2	x	2		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-327	CF		89	145'N OF 89/90 & 6'W	B		x		72	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-328	CF	89/90		81'N OF NEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-329	CF		89	81'N OF 89/90 & 5'W	B		x		60	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-330	DSX-9	RP-316/88		RP-316/88	P	2	x	4.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-331	SI		83	9'S OF 83/84 & 8'W (END OF PANEL)	P	2	x	18		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-332	SJ			SJ 84/86/87	P	3	x	12		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-333	CR		84/86	EEOS	P	2	x	2.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-334	WR		84	BETWEEN RP-315 & RP-335	B		x		12	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-335	WR		84	7'W OF 81/84 & 3.5'S	P	3	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-336	SJ			SJ 81/84/87	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
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SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-337	CF	84/87		BETWEEN RP-332 & RP-336	B		x		216	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-338	WR	81/84		24'E TO EEOS	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-339	WR		81	11'N OF 81/87 & 4'W	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-340	WR		81	BETWEEN RP-339 & RP-341	B		x		138	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-341	WR		81	13'W OF 81/84 & 3'N	P	2	x	3.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-342	AO		76	ADD ON NORTH SIDE OF P-76	P	8	x	16		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-343	CF	76/77		66'E OF WEOS	P	2	x	3		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-344	CF		77	BETWEEN RP-343 & RP-345	B		x		36	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-345	CF		77	66'E OF 76/77 & 5'S	P	2	x	6		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-346	CF		77	BETWEEN RP-345 & RP-347	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-347	CF		77	66'E OF 76/77 & 10'S	P	1.5	x	1.5		9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-348	WR		85	4'W OF 84/85 & 4'S	B		x		48	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-349	WR		84	4'W OF 84/85 & 8'N	B		x		96	9/16/15	EMMANUEL V.	EXT 512	VBOX	P	9/16/15
RP-350	DS-24	91/92		45'N OF SEOS	P	2	x	5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-351	CF	91/92		151'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-352	CF		91	BETWEEN RP-351 & RP-353	B		x		216	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-353	CF		91	151'N OF 91/92 & 19.5'W	P	3	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-354	CF	93/94		144'N OF SEOS	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-355	CF		94	BETWEEN RP-354 & RP-356	B		x		72	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-356	CF		94	144'N OF 93/94 & 10'E	P	2	x	4.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-357	CF		90	29'N OF 90/91 & 4'W	P	2	x	3		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-358	CF		90	BETWEEN RP-357 & RP-359	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-359	CF		90	31'N OF 90/91 & 9'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-360	CF		90	BETWEEN RP-359 & RP-361	B		x		24	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-361	CF		90	31'N OF 90/91 & 13'W	P	2	x	2.5		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-362	WR		80	11'S OF 80/87 & 5'W	P	1	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-363	WR		80	BETWEEN RP-362 & RP-365	B		x		54	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-364	WR	79/80		8.5'W OF EEOS	P	2	x	2		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-365	WR		8O	5'S OF 80/87 & 10'W	P	2	x	4		9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-366	WR		80	BETWEEN RP-364 & RP-365	B		x		60	9/17/15	EMMANUEL V.	EXT 512	VBOX	P	9/17/15
RP-367	DS-25	94/95		100'N OF SEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-368	CF	94/95		125'N OF SEOS	P	2	x	6		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-369	PB		95	95'N OF 94/95 & 6'E (PB 8")	P	4	x	4.5	52.5	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-370	CF	94/95		33'N OF SEOS	P	2.5	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-371	CF		95	BETWEEN RP-370 & RP-372	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-372	CF		95	33'N OF 94/95 & 6.5'E	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-373	BO	95/96		128'S OF NEOS	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-374	DS-26	96/97		33'S OF NEOS	P	2	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-375	CF	96/97		95'S OF NEOS	P	2	x	8		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-376	CF	96/97		FROM RP-377 TO 117'S	P	2	x	14		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-377	CF		96	101'S OF 96/97 TO 15'W	P	4	x	15		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-378	CF		96	105'S OF OF 96/97 & 13'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap		CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage		PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others		BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure			AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-379	CF		96	101'S OF 96/97 & 17'W	P	3	x	4.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-380	CF		96	93'S OF 96/97 & 8'W	P	2.5	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-381	CF		96	BETWEEN RP-380 & RP-382	B		x		48	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-382	CF		96	86.5'S OF 96/97 & 4'W	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-383	BO	103/104		16'W OF EEOS	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-384	BO	97/103		12'S OF NEOS			x			9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-385	SI		94	126'N OF 94/95 & 8'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-386	DSX-10	RP-376/96		RP-376/96 (DSX-10)	P	2	x	5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/21/15
RP-387	SJ			SJ 97/103/104	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-388	CF		97	BETWEEN RP-384 & RP-389	B		x		24	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-389	CF		97	12'S OF 97/103 & 3.5'W	P	1	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-390	SJ			SJ 97/102/103	P	2	x	2.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-391	SJ			SJ 97/101/102	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-392	SJ			SJ 97/100/101	P	1	x	1.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-393	SJ			SJ 97/99/100	P	1.5	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-394	SJ			SJ 97/98/99	P	2	x	2		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-395	CF		103	FROM RP-383 TO 5'N	B		x		60	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-396	CF		103	4'N FROM RP-397 & 14'NW	B		x		168	9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-397	SJ			SJ 103/104/105	P	2	x	3.5		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-398	SJ			SJ 103/105/106	P	3	x	4		9/21/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-399	CF		107	122'S OF 107/108 & 4'W	B		x		192	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-400	SJ			SJ 103/106/107	P	2	x	2.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-401	SJ			SJ 102/103/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-402	SJ			SJ 101/102/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-403	SJ			SJ 100/101/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-404	SJ			SJ 99/100/107	P	2	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-405	SJ			SJ 98/99/107	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-406	CF		98	FROM RP-412 TO N.E. CORNER	B		x		144	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-407	CF		98	FROM RP-412 TO N.W. CORNER	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-408	CF		107	13'S OF 107/108 & 4.5'W	P	1.5	x	3		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-409	CF		107	BETWEEN RP-408 & RP-411	B		x		168	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-410	CF		107	6'S OF 107/108 & 5'W	B		x		60	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-411	CF		107	5'S OF 98/107 & 4'E	P	1.5	x	2		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-412	CF		98	BETWEEN RP-406 & RP-407	P	2	x	22		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-413	CF		108	143'S OF 108/109 & 3'E	P	1.5	x	1.5		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-414	CF		108	FROM RP-413 TO 17'S	B		x		204	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-415	CF		107	FROM RP-416 TO 4'W	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-416	CF		107	154'S OF 107/108 & 6'W	P	2	x	4		9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-417	CF		107	FROM RP-416 TO 4'E	B		x		48	9/22/15	EMMANUEL V.	EXT 512	VBOX	P	9/22/15
RP-418	PB		109	152'S OF 108/109 & 2.5'E (PB 4")	P	4	x	6	36.6	9/23/15	EMMANUEL V.	EXT 512	VBOX	P	9/23/15
RP-419	PB	111/112		15'S OF NEOS (PB 8")	P	3.5	x	4.5	52.5	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-420	PB		113	82'S OF 112/113 & 14' (MH 48")	P	9	x	11	175	9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-421	BO	113/114		28'S OF NEOS	P	2	x	4.5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-422	DS-27	110/111		120'S OF NEOS	P	2	x	5		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-423	SI		111	15'S OF 111/112 & 6'E	P	1.5	x	2		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-424	DSX-11	RP-421/114		RP-421/114 (DSX-11)	P	2	x	6		9/24/15	EMMANUEL V.	EXT 512	VBOX	P	9/24/15
RP-425	PB	114/115		68'S OF NEOS (PB 8")	P	3	x	3.5	52.5	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/8/15
RP-426	CF	115/116		28'S OF NEOS	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-427	CF	117/118		121'S OF NEOS	P	2	x	13		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-428	WR		115	12'S OF 114/115 & 3'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-429	WR		115	BETWEEN RP-428 & RP-430	B		x		120	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-430	WR		115	12'S OF 114/115 &15.5'E	P	2	x	3.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-431	CF		115	BETWEEN RP-426 & RP-432	B		x		48	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-432	CF		115	FROM RP-431 TO 15'NW	P	2	x	15		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-433	DO		117	123'S OF 117/118 & 6'E	P	1.5	x	1.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-434	CF		118	BETWEEN RP-427 & RP-435	B		x		12	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-435	CF		118	FROM RP-436 TO 5'N	B		x		60	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-436	CF		118	BETWEEN RP-434 & RP-435	P	2	x	14		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/25/15
RP-437	CF	119/120		94'S OF NEOS	P	2	x	3		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-438	CF	119/120		22'S OF NEOS	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-439	CF	119/120		127'S OF NEOS	P	2	x	9		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-440	CF	119/120		139'S OF NEOS	P	2.5	x	4		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-441	CF		119	FROM RP-437 TO 14'W	B		x		168	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit	
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot	
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out	
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test	

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-442	CF		119	BETWEEN RP-440 & RP-443	B		x		192	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-443	CF		119	149'S OF 119/120 & 17.5'W	P	2	x	2.5		9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-444	CF	119/120		BETWEEN RP-439 & RP-440	B		x		144	9/25/15	PEDRO S.	EXT 512	VBOX	P	9/29/15
RP-445	AO	RP-445		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-446	AO	RP-446		ON SEAM CONTROL	P	5	x	17		9/29/15	PEDRO S.	2025	Air Pressure	P	9/29/15
RP-447	SJ			RP-445/RP-446/122	P	2	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-448	SJ			RP-446/121/122	P	2.5	x	3		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-449	CF		122	FROM RP-448 TO 10'E	B		x		120	9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-450	BO	122/123		23'N OF SEOS	P	2.5	x	4		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-451	SJ			P122/123/124	P	1.5	x	2		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-452	SJ			P 123/124/125	P	1.5	x	1.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-453	CF		125	FROM RP-454 TO 11'S	P	3.5	x	11		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-454	CF	123/125		18'N OF SEOS	P	3	x	9.5		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-455	CF		125	FROM RP-454 TO 10'N	P	3.5	x	10		9/29/15	EMMANUEL V.	EXT 512	VBOX	P	9/29/15
RP-456	DS-28	123/125		90'N OF SEOS	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-457	PB		125	68'S OF P125/126 & 4'W (PB 8")	P	3	x	3.5	52.5	10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-458	SI		125	ON RP-453 & RP-455	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-459	SI	120,121,122,	&123	BETWEEN RP-454 TO RP-473	P	2	x	91		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-460	DSX-12	RP-459/123		N.SIDE OF RP-459 (DSX-12)	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-461	SI		122	BETWEEN RP-450 & RP-459	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-462	SI		122	FROM RP-461 TO 3'NW	B		x		36	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes					
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-463	SI		122	FROM RP-459 TO 5'S	P	2	x	5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-464	SI			SJ 121/122/RP-459	P	2	x	4		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-465	SI		121	BETWEEN RP-459 & RP-468	B		x		6	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-466	SI	121/122		FROM RP-467 TO RP-465 & RP-468	B		x		108	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-467	SI		121	9'SE OF RP-465 , RP-466 & RP-468	P	2	x	2.5		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-468	SI		121	BETWEEN RP-465 & RP-469	B		x		42	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-469	SI		121	BETWEEN RP-468 & RP-470	B		x		132	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-470	SI		121	11'SW OF RP-468	P	2	x	3		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-471	SI		121	BETWEEN RP-468 & RP-472	B		x		12	10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-472	SI		121	FROM RP-471 TO SEOP	P	2	x	23		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-473	SI	119/120		BETWEEN RP-439,RP-444& RP-440	P	2	x	17		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-474	SI	119/120		NEOS TO 16'S	P	2	x	16		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-475	SI		117	NEOP & 5'W OF 117/118	P	2	x	14		10/7/15	EMMANUEL V.	EXT 512	VBOX	P	10/7/15
RP-476	PB	128/132	132	81'N OF SEOS & 3'E (PB 4")	P	3	x	6	36.6	10/8/15	EMMANUEL V.	EXT 512	VBOX	P	10/9/15
RP-477	SI	125/126	125	159'S OF NEOS & 13' W	P	2	x	13		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-478	SJ			P 127/128/129	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-479	SJ			P 128/129/132	P	2	x	3		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-480	DS-29	128/132		25'N OF SEOS	P	2	x	7		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-481	SJ			P 128/131/132	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-482	SJ			P 128/130/131	P	2	x	2.5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-483	DSX-13	RP-477/125		N.SIDE OF RP-477 (DSX-13)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15

Environmental Specialties International Inc.

Repair Report

Project Name Honeywell **Job # :** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond**

Job Description: Cap Single Layer **Secondary** **Cell**

Reported by : Lyssa Tran **Cap** x

Other: Cap construction

Damage Codes						
CR --Crease	FS --Failed Seam	MatD --Material Defect	LL --Lost Lap	CF --Custom Fit
DS --Destruct Sample	WR --Wrinkle	WS --Welder Restart	MD --Mechanical Damage	PB --Pipe Boot
SI --Subgrade Irregularity	AV --Airvent	RW --Roller Wrinkle	DO --Damage By Others	BO --Burn Out
SJ --Seam Joint	AO --Add On	CS --Concrete Structure		AT -Air Test

SF Patch Material	Test Type	Abbrv.	Repair Types
4984.5	Vacuum	*S=South	C--Cap Strip
	Air Pressure	*N=North	P--Patch
LF Welded	Spark	*W=West	B--Extrusion Bead
6926.06	Air Lance	*E=East	

Repair Number	Damage Code	Seam Number	Panel Number	Location	Repair Type	Patch (Feet)			Bead (Inches)	Date Welded	Operator Name	Machine Number	Test Type	Test Results	Date Complete
RP-484	DSX-14	RP-480/132		E.SIDE OF RP-480 (DSX-14)	P	2	x	5		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-485	SJ			P 132/133/143	P	2	x	2		10/9/15	PEDRO S.	EXT 512	VBOX	P	10/9/15
RP-486	DSX-15	RP-487/125		N.SIDE OF RP-487 (DSX-15)	P	2	x	5		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-487	FS		125	DS-13 FAIL (CAP OVER RP-477/RP-483)	P	5	x	15		10/12/15	EDFY E.	EXT 512	VBOX	P	10/12/15
RP-488	DO		123	6' S OF NEOS ON SCB WALL EDGE	P	3	x	2.5		11/4/15	EDFY E.	EXT 512	NA		
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
							x								
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							x								
							x								

Appendix M
ESI Destruct Sample Information Logs

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-1	3 / 4	7/20/15	MODESTO L.	2003	650	860		Peel	109	101	107	103	108	105	102	105	104	107	PASS
								Shear	113		113		102		109		112		
	DS Location and Notes	18'N OF SEOS																	
DS-2	6 / 7	7/21/15	MODESTO L.	2003	500	860		Peel	78	99	102	98	112	108	106	103	107	111	PASS
								Shear	115		118		120		113		119		
	DS Location and Notes	10'E OF WEOS																	
DS-3	11 / 12	7/22/15	MODESTO L.	2003	650	860		Peel	106	103	105	105	107	104	103	104	109	97	PASS
								Shear	111		109		108		105		108		
	DS Location and Notes	100'N OF SEOS																	
DS-4	14 / 15	7/23/15	MODESTO L.	2003	650	860		Peel	121	113	115	108	112	117	102	115	118	113	PASS
								Shear	126		128		129		127		125		
	DS Location and Notes	16'S OF NEOS																	
DS-5	17 / 18	7/23/15	MODESTO L.	2003	650	860		Peel	119	114	115	101	113	114	118	102	116	110	PASS
								Shear	121		118		120		123		122		
	DS Location and Notes	75'S OF NEOS																	
DSX-1	RP-17 / 13	7/24/15	EMMANUEL V.	EXT 512		500	490	Peel	102		103		107		98		99		PASS
								Shear	120		121		117		121		120		
	DS Location and Notes	ON RP-17																	
DSX-2	RP-32 / 15	7/27/15	EMMANUEL V.	EXT 512		500	450	Peel	126		120		123		122		108		PASS
								Shear	122		122		120		119		116		
	DS Location and Notes	ON RP-32/15 (10'E OF WEOS)																	
DS-6	20 / 21	7/24/15	MODESTO L.	2003	550	860		Peel	101	101	100	103	104	106	105	106	110	99	PASS
								Shear	114		107		111		110		111		
	DS Location and Notes	155'S OF NEOS																	
DS-7	23 / 24	7/24/15	MODESTO L.	2003	650	860		Peel	106	106	103	105	104	104	100	102	103	102	PASS
								Shear	109		111		107		106		108		
	DS Location and Notes	87'S OF NEOS																	
DSX-3	RP-82 / 23	7/28/15	EMMANUEL V.	EXT 512		500	450	Peel	99		99		104		98		102		PASS
								Shear	109		115		117		112		118		
	DS Location and Notes	RP-82/23 (87'S OF NEOS)																	
DS-8	26 / 27	7/28/15	MODESTO L.	2003	650	860		Peel	103	101	107	104	104	110	100	105	104	99	PASS
								Shear	122		120		117		120		121		
	DS Location and Notes	128'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-9	29 / 30	7/28/15	MODESTO L.	2003	650	860		Peel	111	108	114	107	104	100	111	107	110	110	PASS
								Shear	118		118		117		119		118		
	DS Location and Notes	80'N OF SEOS																	
DS-10	32 / 33	7/29/15	MODESTO L.	2003	650	860		Peel	99	110	114	109	110	116	105	106	100	108	PASS
								Shear	118		118		122		121		119		
	DS Location and Notes	20'N OF SEOS																	
DSX-4	RP-102 / 27	7/29/15	EMMANUEL V.	EXT 512		490	400	Peel	123		125		119		120		122		PASS
								Shear	127		124		130		129		128		
	DS Location and Notes	ON EAST SIDE OF RP-102/27																	
DS-11	36 / 37	8/3/15	MODESTO L.	2003	650	860		Peel	104	99	104	104	98	104	97	106	98	107	PASS
								Shear	113		112		112		115		113		
	DS Location and Notes	90'W OF EEOS																	
DS-12	42 / 43	8/3/15	MODESTO L.	2003	650	860		Peel	101	105	106	103	110	100	109	104	101	103	PASS
								Shear	111		110		115		116		116		
	DS Location and Notes	20'N OF SEOS																	
DSX-5	RP-160 / 42	8/4/15	PEDRO S.	EXT 512		500	500	Peel	91		98		111		109		111		PASS
								Shear	118		119		116		115		110		
	DS Location and Notes	ON RP-160/42																	
DS-13	47 / 48	8/5/15	MODESTO L.	2025	600	860		Peel	118	101	113	103	112	105	110	100	103	116	PASS
								Shear	129		121		123		122		122		
	DS Location and Notes	70'S OF NEOS																	
DS-14	50 / 51	8/6/15	MODESTO L.	2025	600	860		Peel	109	112	117	108	113	110	114	112	112	111	PASS
								Shear	132		130		128		131		132		
	DS Location and Notes	35'S OF NEOS																	
DSX-6	RP-198 / 48	8/6/15	PEDRO S.	EXT 512		530	530	Peel	121		125		122		119		116		PASS
								Shear	118		119		121		118		118		
	DS Location and Notes	ON RP-198/48																	
DS-15	54 / 55	8/7/15	MODESTO L.	2025	600	860		Peel	101	107	105	107	106	103	101	99	100	106	PASS
								Shear	121		119		119		126		120		
	DS Location and Notes	72'S OF NEOS																	
DSX-7	RP-197 / 53	8/10/15	PEDRO S.	EXT 512		530	530	Peel	109		109		110		112		109		PASS
								Shear	119		121		120		123		119		
	DS Location and Notes	ON RP-197/53																	
DS-16	59 / 61	8/10/15	MODESTO L.	2025	600	860		Peel	106	110	100	98	103	100	101	105	100	99	PASS
								Shear	121		123		119		117		124		
	DS Location and Notes	6'N OF SEOS																	
DS-17	62 / 63	8/10/15	MODESTO L.	2025	600	860		Peel	111	112	113	105	113	111	109	111	108	111	PASS
								Shear	124		128		126		120		125		
	DS Location and Notes	90'N OF SEOS																	
DS-18	64 / 65	8/10/15	MODESTO L.	2025	600	860		Peel	111	105	110	113	109	111	108	101	108	109	PASS
								Shear	121		123		124		122		123		
	DS Location and Notes	128'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DS-19	68 / 69	8/13/15	MODESTO L.	2025	600	860		Peel	101	106	100	103	103	107	104	105	103	106	PASS
								Shear	122		125		121		124		126		
	DS Location and Notes	100'N OF SEOS																	
DS-20	72 / 73	8/14/15	MODESTO L.	2025	450	860		Peel	96	102	98	102	100	106	96	98	99	102	PASS
								Shear	115		115		114		118		115		
	DS Location and Notes	10'N OF SEOS																	
DS-21	74 / 75	8/14/15	MODESTO L.	2025	600	860		Peel	103	103	103	107	106	105	104	105	103	105	PASS
								Shear	119		120		123		116		118		
	DS Location and Notes	75'N OF SEOS																	
DSX-8	RP-284 / 71	9/9/15	PEDRO S.	EXT 512		550	550	Peel	106		100		100		103		101		PASS
								Shear	119		116		117		120		119		
	DS Location and Notes	ON RP-284/71																	
DS-22	79 / 80	9/9/15	PEDRO S.	2025	400	860		Peel	119	115	116	118	114	113	113	113	116	118	PASS
								Shear	117		117		116		113		112		
	DS Location and Notes	78'E OF WEOS																	
DS-23	88 / 89	9/15/15	PEDRO S.	2025	400	860		Peel	97	95	101	102	97	94	96	95	97	96	PASS
								Shear	113		116		117		111		116		
	DS Location and Notes	116'N OF SEOS																	
DSX-9	RP-316 / 88	9/16/15	EMMANUEL V.	EXT 512		550	550	Peel	100		100		99		103		105		PASS
								Shear	119		119		118		116		120		
	DS Location and Notes	RP-316/88																	
DS-24	91 / 92	9/16/15	PEDRO S.	2025	450	860		Peel	109	98	110	96	108	100	105	97	98	108	PASS
								Shear	111		116		112		118		113		
	DS Location and Notes	45'N OF SEOS																	
DS-25	94 / 95	9/17/15	PEDRO S.	2025	450	860		Peel	114	109	114	109	114	110	116	104	113	107	PASS
								Shear	126		127		122		120		126		
	DS Location and Notes	100'N OF SEOS																	
DS-26	96 / 97	9/17/15	PEDRO S.	2025	450	860		Peel	98	85	100	98	100	100	98	92	96	98	PASS
								Shear	104		106		109		109		110		
	DS Location and Notes	33'S OF NEOS																	
DSX-10	RP-376 / 96	9/21/15	EMMANUEL V.	EXT 512		550	550	Peel	95		94		99		98		98		PASS
								Shear	101		101		103		105		101		
	DS Location and Notes	RP-376/96																	
DS-27	110 / 111	9/23/15	PEDRO S.	2025	450	860		Peel	112	116	114	116	105	120	109	114	110	115	PASS
								Shear	127		128		127		125		125		
	DS Location and Notes	120'S OF NEOS																	
DSX-11	RP-421 / 114	9/24/15	EMMANUEL V.	EXT 512		550	550	Peel	117		116		108		108		112		PASS
								Shear	119		112		111		116		114		
	DS Location and Notes	RP-421/114																	
DS-28	123 / 125	9/29/15	PEDRO S.	2025	400	860		Peel	115	127	112	123	119	117	109	113	106	126	PASS
								Shear	141		138		133		136		137		
	DS Location and Notes	90'N OF SEOS																	

Environmental Specialties International Inc.

Destructive Sample Information

Project Name: Honeywell **Job #** 12-11-1399 **Superintendent:** Fortino Ayala

Material Type: LLDPE 60 MIL DST **Primary** **Pond** **Peel Test Extrusion Minimum** 66 PPI

Job Description: Cap Single Layer **Secondary** **Cell** **Peel Test Fusion Minimum** 75 PPI

Reported By: Lyssa-Tran Tran **Cap** x **Shear Test Minimum** 90 PPI

Other: Cap Construction

D.S. No.	Seam No.	Weld Date	Operator Name/ ID	Mach No.	Mach Speed	Mach Temp	Preheat Temp		Coupon 1 A	Coupon 1 B	Coupon 2 A	Coupon 2 B	Coupon 3 A	Coupon 3 B	Coupon 4 A	Coupon 4 B	Coupon 5 A	Coupon 5 B	Test Results
DSX-12	RP-459 / 123	10/7/15	EMMANUEL V.	EXT 512		550	550	Peel	106		110		111		105		104		PASS
								Shear	128		129		128		131		127		
	DS Location and Notes	N.SIDE OF RP-459																	
DS-29	128 / 132	10/8/15	PEDRO S.	2025	450	860		Peel	112	116	106	123	116	109	125	113	125	112	PASS
								Shear	133		139		130		136		134		
	DS Location and Notes	25'N OF SEOS																	
DSX-13	RP-477 / 125	10/9/15	PEDRO S.	EXT 512		550	550	Peel	121		118		120		119		121		FAIL
								Shear	136		133		137		136		131		
	DS Location and Notes	N.SIDE OF RP-477 (DSX-13 FAIL AT LAB , TRACK TO DSX-15)																	
DSX-14	RP-480 / 132	10/9/15	PEDRO S.	EXT 512		550	550	Peel	118		117		125		119		120		PASS
								Shear	138		139		138		136		134		
	DS Location and Notes	E.SIDE OF RP-480																	
DSX-15	RP-487 / 125	10/12/15	EDFY N.	EXT 512		550	550	Peel	122		113		114		117		108		PASS
								Shear	133		117		131		128		126		
	DS Location and Notes	N.SIDE OF RP-487/125																	
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
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	DS Location and Notes																		
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								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		
	/							Peel											
								Shear											
	DS Location and Notes																		

Appendix N
Laboratory Destruct Test Results

Entact / ESI – Fusion Weld Destruct Sample Laboratory Data

Honeywell SA-6 Capping

Comparison of ESI / Langan (QA) Destruct Samples - Fusion Weld

Sample ID	*Weld Type*	*Submitted By:*	*Test*	*Peel Strength (ppi)*					Avg. Strength (ppi)	*Meets Spec Requirement*
DS-1	Fusion	Entact	Side A Peel	126.4	122.5	125.3	125.4	124.7	**124.9**	**Yes**
			Side B Peel	120.8	118.5	118.9	117.8	116.5	**118.5**	**Yes**
			Shear	126.7	137.9	136.1	142.3	138.8	**136.4**	**Yes**
DS-2	Fusion	Langan	Side A Peel	138	142	138	140	134	**138**	**Yes**
		Entact	Side A Peel	126.3	125.8	126.5	128.8	129.3	**127.3**	**Yes**
		Langan	Side B Peel	139	143	140	138	134	**139**	**Yes**
		Entact	Side B Peel	121.8	123.1	124.6	123.1	124.3	**123.4**	**Yes**
		Langan	Shear	139	146	143	147	145	**144**	**Yes**
		Entact	Shear	127.9	133.2	138.3	135	132.4	**133.4**	**Yes**
DS-3	Fusion	Entact	Side A Peel	127.5	120.8	122.1	123.2	123.7	**123.5**	**Yes**
			Side B Peel	124.2	118.4	121.2	119.7	120.1	**120.7**	**Yes**
			Shear	131.3	127.3	127.8	128.8	127.5	**128.5**	**Yes**
DS-4	Fusion	Entact	Side A Peel	108.7	105	107.7	109.8	104.7	**107.2**	**Yes**
			Side B Peel	110.4	109	107.1	107.9	108.3	**108.5**	**Yes**
			Shear	115.3	115.1	117.8	115.6	115.4	**115.8**	**Yes**
DS-5	Fusion	Entact	Side A Peel	112	110.3	114.6	111.8	112.2	**112.2**	**Yes**
			Side B Peel	107.3	101	105.6	105.2	104.2	**104.7**	**Yes**
			Shear	117.7	117.5	121.3	120.2	118.2	**119.0**	**Yes**
DS-6	Fusion	Entact	Side A Peel	115.2	113.8	116.8	99.3	119.9	**113.0**	**Yes**
			Side B Peel	120.3	109.4	115.4	102.9	110.5	**111.7**	**Yes**
			Shear	125.1	123.5	124.6	125.6	122.2	**124.2**	**Yes**
DS-7	Fusion	Entact	Side A Peel	117	115.9	119.8	115.7	116.1	**116.9**	**Yes**
			Side B Peel	113.1	113.6	115.8	110.9	111.7	**113.0**	**Yes**
			Shear	125.6	124.3	124	128.7	125.7	**125.7**	**Yes**
DS-8	Fusion	Entact	Side A Peel	121.5	124.7	123.3	126.9	124.2	**124.1**	**Yes**
			Side B Peel	115.6	116.6	115.5	119.4	116.7	**116.8**	**Yes**
			Shear	135.4	127.5	130.7	127.8	126.1	**129.5**	**Yes**
DS-9	Fusion	Entact	Side A Peel	122.8	123.5	124.5	123.4	128.6	**124.6**	**Yes**
			Side B Peel	120.1	120.1	119.9	121	124.1	**121.0**	**Yes**
			Shear	136.1	131.2	131.9	134.5	130.7	**132.9**	**Yes**
DS-10	Fusion	Langan	Side A Peel	121	121	124	123	122	**122.2**	**Yes**
		Entact	Side A Peel	119.3	119.8	118.3	125.2	119.4	**120.4**	**Yes**
		Langan	Side B Peel	121	118	120	117	125	**120.2**	**Yes**
		Entact	Side B Peel	116.7	118.5	109.6	113.5	113.9	**114.4**	**Yes**
		Langan	Shear	134	133	134	129	130	**132.0**	**Yes**
		Entact	Shear	135.9	132.1	132.1	134.7	134.2	**133.8**	**Yes**
DS-11	Fusion	Entact	Side A Peel	127.4	124.6	126.7	125.4	123.5	**125.5**	**Yes**
			Side B Peel	126.5	120.8	128.3	123.9	123.5	**124.6**	**Yes**
			Shear	134.6	135.4	138.6	136.1	136.6	**136.3**	**Yes**
DS-12	Fusion	Entact	Side A Peel	129.7	131.2	135.1	130.6	134.7	**132.3**	**Yes**
			Side B Peel	118.9	116.7	128.9	115.9	120.3	**120.1**	**Yes**
			Shear	146.2	141.4	143.3	142.2	141.7	**143.0**	**Yes**
DS-13	Fusion	Entact	Side A Peel	121.3	114.1	110.8	123.4	118.8	**117.7**	**Yes**
			Side B Peel	113.9	121.3	116.3	120	119.6	**118.2**	**Yes**
			Shear	137.1	138.9	140.2	130.3	142.7	**137.8**	**Yes**
DS-14	Fusion	Entact	Side A Peel	121.8	120.9	120.2	121.7	127.6	**122.4**	**Yes**
			Side B Peel	123.1	122.6	121.6	126.7	132.6	**125.3**	**Yes**
			Shear	141.2	143.6	142	139.6	140.9	**141.5**	**Yes**

DS-15	Fusion	Entact	Side A Peel	106.6	109.7	106.8	108.7	107.2	**107.8**	**Yes**
			Side B Peel	113.7	108.9	110.1	109.7	107.2	**109.9**	**Yes**
			Shear	132.5	127.1	124.3	127.2	127.3	**127.7**	**Yes**
DS-16	Fusion	Entact	Side A Peel	111.4	114.2	118.3	113.6	108.7	**113.2**	**Yes**
			Side B Peel	114.1	113.2	119.3	114	112.7	**114.7**	**Yes**
			Shear	113.6	133.4	136.1	132.2	135.1	**130.1**	**Yes**
DS-17	Fusion	Entact	Side A Peel	121.1	121.9	122.3	122.4	120.6	**121.7**	**Yes**
			Side B Peel	121.9	116	118.1	123.6	121	**120.1**	**Yes**
			Shear	136.1	136.1	135.6	138.7	136.8	**136.7**	**Yes**
DS-18	Fusion	Entact	Side A Peel	112.6	120.7	118.2	114.7	116.6	**116.6**	**Yes**
			Side B Peel	110.3	109.4	113.4	112	114.1	**111.8**	**Yes**
			Shear	138.8	135.9	133.9	136.1	136.7	**136.3**	**Yes**
DS-19	Fusion	Entact	Side A Peel	114.6	118	113.7	112.8	112.9	**114.4**	**Yes**
			Side B Peel	118.1	121.2	117.2	118.6	119.1	**118.8**	**Yes**
			Shear	138.1	136.2	133.6	133.1	133.9	**135.0**	**Yes**
DS-20	Fusion	Entact	Side A Peel	119.6	118.8	114.7	117.4	116.3	**117.4**	**Yes**
			Side B Peel	112.7	117.6	116.1	114.6	113.8	**115.0**	**Yes**
			Shear	140.9	135.7	140.4	142.7	141.4	**140.2**	**Yes**
DS-21	Fusion	Langan	Side A Peel	113	115	114	116	115	**114.6**	**Yes**
		Entact	Side A Peel	117.8	118.5	113.2	112.4	112.1	**114.8**	**Yes**
		Langan	Side B Peel	120	119	122	130	128	**123.8**	**Yes**
		Entact	Side B Peel	112.3	122.1	120	109.4	112	**115.2**	**Yes**
		Langan	Shear	142	147	145	142	144	**144.0**	**Yes**
		Entact	Shear	145.9	144.4	147.2	143.7	142.9	**144.8**	**Yes**
DS-22	Fusion	Entact	Side A Peel	120	125.9	118.4	117.9	118.2	**120.1**	**Yes**
			Side B Peel	125.9	123.5	118.4	120.4	120.1	**121.7**	**Yes**
			Shear	137.9	131.6	134.7	132.4	133.5	**134.0**	**Yes**
DS-23	Fusion	Entact	Side A Peel	108.9	113.2	109.4	109.7	113.9	**111.0**	**Yes**
			Side B Peel	118.3	114.9	109.3	111.3	122	**115.2**	**Yes**
			Shear	128.5	129.2	129.7	130.9	129.5	**129.6**	**Yes**
DS-24	Fusion	Entact	Side A Peel	120	118.2	118.6	120.2	119.2	**119.2**	**Yes**
			Side B Peel	109.8	112.1	112.9	115.4	114.4	**112.9**	**Yes**
			Shear	128.9	132.4	135.2	135	124.9	**131.3**	**Yes**
DS-25	Fusion	Entact	Side A Peel	117.6	110.4	117.8	116.8	118.4	**116.2**	**Yes**
			Side B Peel	119.6	125	120.3	125.5	126.9	**123.5**	**Yes**
			Shear	129.9	131.1	135.5	135.3	134.2	**133.2**	**Yes**
DS-26	Fusion	Entact	Side A Peel	115.7	115.5	112.9	117.9	117.6	**115.9**	**Yes**
			Side B Peel	98.1	99.5	104.4	101.9	118.5	**104.5**	**Yes**
			Shear	130.9	126.7	133	126.4	130.8	**129.6**	**Yes**
DS-27	Fusion	Entact	Side A Peel	111.1	105.2	109.7	109.1	108.5	**108.7**	**Yes**
			Side B Peel	121.6	114.8	120.1	125	121.6	**120.6**	**Yes**
			Shear	126	125.7	127.8	128.4	132.1	**128.0**	**Yes**
DS-28	Fusion	Entact	Side A Peel	111.1	107.3	111.3	108.5	108.7	**109.4**	**Yes**
			Side B Peel	112.3	107.8	109.9	107.8	123.9	**112.3**	**Yes**
			Shear	132.8	129	129.7	128.6	134.3	**130.9**	**Yes**
DS-29	Fusion	Langan	Side A Peel	111	112	110	112	114	**111.8**	**Yes**
		Entact	Side A Peel	111.4	112.5	115.4	116.7	119.3	**115.1**	**Yes**
		Langan	Side B Peel	113	124	111	121	115	**116.8**	**Yes**
		Entact	Side B Peel	121.1	118.5	115.5	115.6	120.3	**118.2**	**Yes**
		Langan	Shear	138	140	140	138	138	**138.8**	**Yes**
		Entact	Shear	129.5	131.7	131.7	130.7	132.1	**131.1**	**Yes**

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-09
LAB ID NO.: L15084-09-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.4	SE1	<10
2	122.5	SE1	<10
3	125.3	SE1	<10
4	125.4	SE1	<10
5	124.7	SE1	<10
AVERAGE	**124.9**		
STD. DEV.	1.30		
INSIDE TRACK (WELD "B")			
1	120.8	SE1	<10
2	118.5	SE1	<10
3	118.9	SE1	<10
4	117.8	SE1	<10
5	116.5	SE1	<10
AVERAGE	**118.5**		
STD. DEV.	1.41		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.7	SE1
2	137.9	SE1
3	136.1	SE1
4	142.3	SE1
5	138.8	SE1
AVERAGE	**136.4**	
STD. DEV.	5.23	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-09
LAB ID NO.: L15084-09-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	126.3	SE1	<10
2	125.8	SE1	<10
3	126.5	SE1	<10
4	128.8	SE1	<10
5	129.3	SE1	<10
AVERAGE	**127.3**		
STD. DEV.	1.42		
INSIDE TRACK (WELD "B")			
1	121.8	SE1	<10
2	123.1	SE1	<10
3	124.6	SE1	<10
4	123.1	SE1	<10
5	124.3	SE1	<10
AVERAGE	**123.4**		
STD. DEV.	1.00		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	127.9	SE1
2	133.2	SE1
3	138.3	SE1
4	135.0	SE1
5	132.4	SE1
AVERAGE	**133.4**	
STD. DEV.	3.40	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-11
LAB ID NO.: L15084-11-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	127.5	SE1	<10
2	120.8	SE1	<10
3	122.1	SE1	<10
4	123.2	SE1	<10
5	123.7	SE1	<10
AVERAGE	**123.5**		
STD. DEV.	2.25		
INSIDE TRACK (WELD "B")			
1	124.2	SE1	<10
2	118.4	SE1	<10
3	121.2	SE1	<10
4	119.7	SE1	<10
5	120.1	SE1	<10
AVERAGE	**120.7**		
STD. DEV.	1.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.3	SE1
2	127.3	SE1
3	127.8	SE1
4	128.8	SE1
5	127.5	SE1
AVERAGE	**128.5**	
STD. DEV.	1.47	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-12
LAB ID NO.: L15084-12-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	108.7	SE1	<10
2	105.0	SE1	<10
3	107.7	SE1	<10
4	109.8	SE1	<10
5	104.7	SE1	<10
AVERAGE	**107.2**		
STD. DEV.	2.02		
INSIDE TRACK (WELD "B")			
1	110.4	SE1	<10
2	109.0	SE1	<10
3	107.1	SE1	<10
4	107.9	SE1	<10
5	108.3	SE1	<10
AVERAGE	**108.5**		
STD. DEV.	1.11		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.3	SE1
2	115.1	SE1
3	117.8	SE1
4	115.6	SE1
5	115.4	SE1
AVERAGE	**115.8**	
STD. DEV.	0.99	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-12
LAB ID NO.: L15084-12-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.0	SE1	<10
2	110.3	SE1	<10
3	114.6	SE1	<10
4	111.8	SE1	<10
5	112.2	SE1	<10
AVERAGE	**112.2**		
STD. DEV.	1.38		
INSIDE TRACK (WELD "B")			
1	107.3	SE1	<10
2	101.0	SE1	<10
3	105.6	SE1	<10
4	105.2	SE1	<10
5	104.2	SE1	<10
AVERAGE	**104.7**		
STD. DEV.	2.09		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	117.7	SE1
2	117.5	SE1
3	121.3	SE1
4	120.2	SE1
5	118.2	SE1
AVERAGE	**119.0**	
STD. DEV.	1.50	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-13
LAB ID NO.: L15084-13-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.2	SE1	<10
2	113.8	SE1	<10
3	116.8	SE1	<10
4	99.3	SE1	<10
5	119.9	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	7.14		
INSIDE TRACK (WELD "B")			
1	120.3	SE1	<10
2	109.4	SE1	<10
3	115.4	SE1	<10
4	102.9	SE1	<10
5	110.5	SE1	<10
AVERAGE	**111.7**		
STD. DEV.	5.86		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.1	SE1
2	123.5	SE1
3	124.6	SE1
4	125.6	SE1
5	122.2	SE1
AVERAGE	**124.2**	
STD. DEV.	1.22	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-13
LAB ID NO.: L15084-13-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.0	SE1	<10
2	115.9	SE1	<10
3	119.8	SE1	<10
4	115.7	SE1	<10
5	116.1	SE1	<10
AVERAGE	**116.9**		
STD. DEV.	1.52		
INSIDE TRACK (WELD "B")			
1	113.1	SE1	<10
2	113.6	SE1	<10
3	115.8	SE1	<10
4	110.9	SE1	<10
5	111.7	SE1	<10
AVERAGE	**113.0**		
STD. DEV.	1.69		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	125.6	SE1
2	124.3	SE1
3	124.0	SE1
4	128.7	SE1
5	125.7	SE1
AVERAGE	**125.7**	
STD. DEV.	1.66	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-15
LAB ID NO.: L15084-15-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.5	SE1	<10
2	124.7	SE1	<10
3	123.3	SE1	<10
4	126.9	SE1	<10
5	124.2	SE1	<10
AVERAGE	**124.1**		
STD. DEV.	1.77		
INSIDE TRACK (WELD "B")			
1	115.6	SE1	<10
2	116.6	SE1	<10
3	115.5	SE1	<10
4	119.4	SE1	<10
5	116.7	SE1	<10
AVERAGE	**116.8**		
STD. DEV.	1.41		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.4	SE1
2	127.5	SE1
3	130.7	SE1
4	127.8	SE1
5	126.1	SE1
AVERAGE	**129.5**	
STD. DEV.	3.31	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-15
LAB ID NO.: L15084-15-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	122.8	SE1	<10
2	123.5	SE1	<10
3	124.5	SE1	<10
4	123.4	SE1	<10
5	128.6	SE1	<10
AVERAGE	**124.6**		
STD. DEV.	2.09		
INSIDE TRACK (WELD "B")			
1	120.1	SE1	<10
2	120.1	SE1	<10
3	119.9	SE1	<10
4	121.0	SE1	<10
5	124.1	SE1	<10
AVERAGE	**121.0**		
STD. DEV.	1.58		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.1	SE1
2	131.2	SE1
3	131.9	SE1
4	134.5	SE1
5	130.7	SE1
AVERAGE	**132.9**	
STD. DEV.	2.07	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-16
LAB ID NO.: L15084-16-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	119.3	SE1	<10
2	119.8	SE1	<10
3	118.3	SE1	<10
4	125.2	SE1	<10
5	119.4	SE1	<10
AVERAGE	**120.4**		
STD. DEV.	2.45		
INSIDE TRACK (WELD "B")			
1	116.7	SE1	<10
2	118.5	SE1	<10
3	109.6	SE1	<10
4	113.5	SE1	<10
5	113.9	SE1	<10
AVERAGE	**114.4**		
STD. DEV.	3.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	135.9	SE1
2	132.1	SE1
3	132.1	SE1
4	134.7	SE1
5	134.2	SE1
AVERAGE	**133.8**	
STD. DEV.	1.49	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-18
LAB ID NO.: L15084-18-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	127.4	SE1	<10
2	124.6	SE1	<10
3	126.7	SE1	<10
4	125.4	SE1	<10
5	123.5	SE1	<10
AVERAGE	**125.5**		
STD. DEV.	1.40		
INSIDE TRACK (WELD "B")			
1	126.5	SE1	<10
2	120.8	SE1	<10
3	128.3	SE1	<10
4	123.9	SE1	<10
5	123.5	SE1	<10
AVERAGE	**124.6**		
STD. DEV.	2.59		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	134.6	SE1
2	135.4	SE1
3	138.6	SE1
4	136.1	SE1
5	136.6	SE1
AVERAGE	**136.3**	
STD. DEV.	1.35	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-18
LAB ID NO.: L15084-18-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	129.7	SE1	<10
2	131.2	SE1	<10
3	135.1	SE1	<10
4	130.6	SE1	<10
5	134.7	SE1	<10
AVERAGE	**132.3**		
STD. DEV.	2.21		
INSIDE TRACK (WELD "B")			
1	118.9	SE1	<10
2	116.7	SE1	<10
3	128.9	SE1	<10
4	115.9	SE1	<10
5	120.3	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	4.65		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	146.2	SE1
2	141.4	SE1
3	143.3	SE1
4	142.2	SE1
5	141.7	SE1
AVERAGE	**143.0**	
STD. DEV.	1.74	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-20
LAB ID NO.: L15084-20-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.3	SE1	<10
2	114.1	SE1	<10
3	110.8	SE1	<10
4	123.4	SE1	<10
5	118.8	SE1	<10
AVERAGE	**117.7**		
STD. DEV.	4.63		
INSIDE TRACK (WELD "B")			
1	113.9	SE1	<10
2	121.3	SE1	<10
3	116.3	SE1	<10
4	120.0	SE1	<10
5	119.6	SE1	<10
AVERAGE	**118.2**		
STD. DEV.	2.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	137.1	SE1
2	138.9	SE1
3	140.2	SE1
4	130.3	SE1
5	142.7	SE1
AVERAGE	**137.8**	
STD. DEV.	4.19	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-20
LAB ID NO.: L15084-20-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.8	SE1	<10
2	120.9	SE1	<10
3	120.2	SE1	<10
4	121.7	SE1	<10
5	127.6	SE1	<10
AVERAGE	**122.4**		
STD. DEV.	2.64		
INSIDE TRACK (WELD "B")			
1	123.1	SE1	<10
2	122.6	SE1	<10
3	121.6	SE1	<10
4	126.7	SE1	<10
5	132.6	SE1	<10
AVERAGE	**125.3**		
STD. DEV.	4.03		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	141.2	SE1
2	143.6	SE1
3	142.0	SE1
4	139.6	SE1
5	140.9	SE1
AVERAGE	**141.5**	
STD. DEV.	1.32	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-21
LAB ID NO.: L15084-21-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	106.6	SE1	<10
2	109.7	SE1	<10
3	106.8	SE1	<10
4	108.7	SE1	<10
5	107.2	SE1	<10
AVERAGE	**107.8**		
STD. DEV.	1.20		
INSIDE TRACK (WELD "B")			
1	113.7	SE1	<10
2	108.9	SE1	<10
3	110.1	SE1	<10
4	109.7	SE1	<10
5	107.2	SE1	<10
AVERAGE	**109.9**		
STD. DEV.	2.14		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.5	SE1
2	127.1	SE1
3	124.3	SE1
4	127.2	SE1
5	127.3	SE1
AVERAGE	**127.7**	
STD. DEV.	2.66	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-21
LAB ID NO.: L15084-21-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-16

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.4	SE1	<10
2	114.2	SE1	<10
3	118.3	SE1	<10
4	113.6	SE1	<10
5	108.7	SE1	<10
AVERAGE	**113.2**		
STD. DEV.	3.18		
INSIDE TRACK (WELD "B")			
1	114.1	SE1	<10
2	113.2	SE1	<10
3	119.3	SE1	<10
4	114.0	SE1	<10
5	112.7	SE1	<10
AVERAGE	**114.7**		
STD. DEV.	2.38		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	113.6	SE1
2	133.4	SE1
3	136.1	SE1
4	132.2	SE1
5	135.1	SE1
AVERAGE	**130.1**	
STD. DEV.	8.35	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-22
LAB ID NO.: L15084-22-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-17

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	121.1	SE1	<10
2	121.9	SE1	<10
3	122.3	SE1	<10
4	122.4	SE1	<10
5	120.6	SE1	<10
AVERAGE	**121.7**		
STD. DEV.	0.70		
INSIDE TRACK (WELD "B")			
1	121.9	SE1	<10
2	116.0	SE1	<10
3	118.1	SE1	<10
4	123.6	SE1	<10
5	121.0	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	2.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	136.1	SE1
2	136.1	SE1
3	135.6	SE1
4	138.7	SE1
5	136.8	SE1
AVERAGE	**136.7**	
STD. DEV.	1.09	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-22
LAB ID NO.: L15084-22-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-18

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	112.6	SE1	<10
2	120.7	SE1	<10
3	118.2	SE1	<10
4	114.7	SE1	<10
5	116.6	SE1	<10
AVERAGE	**116.6**		
STD. DEV.	2.79		
INSIDE TRACK (WELD "B")			
1	110.3	SE1	<10
2	109.4	SE1	<10
3	113.4	SE1	<10
4	112.0	SE1	<10
5	114.1	SE1	<10
AVERAGE	**111.8**		
STD. DEV.	1.78		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	138.8	SE1
2	135.9	SE1
3	133.9	SE1
4	136.1	SE1
5	136.7	SE1
AVERAGE	**136.3**	
STD. DEV.	1.57	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-22
LAB ID NO.: L15084-22-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-19

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	114.6	SE1	<10
2	118.0	SE1	<10
3	113.7	SE1	<10
4	112.8	SE1	<10
5	112.9	SE1	<10
AVERAGE	**114.4**		
STD. DEV.	1.91		
INSIDE TRACK (WELD "B")			
1	118.1	SE1	<10
2	121.2	SE1	<10
3	117.2	SE1	<10
4	118.6	SE1	<10
5	119.1	SE1	<10
AVERAGE	**118.8**		
STD. DEV.	1.34		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	138.1	SE1
2	136.2	SE1
3	133.6	SE1
4	133.1	SE1
5	133.9	SE1
AVERAGE	**135.0**	
STD. DEV.	1.89	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-23
LAB ID NO.: L15084-23-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-20

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	119.6	SE1	<10
2	118.8	SE1	<10
3	114.7	SE1	<10
4	117.4	SE1	<10
5	116.3	SE1	<10
AVERAGE	**117.4**		
STD. DEV.	1.75		
INSIDE TRACK (WELD "B")			
1	112.7	SE1	<10
2	117.6	SE1	<10
3	116.1	SE1	<10
4	114.6	SE1	<10
5	113.8	SE1	<10
AVERAGE	**115.0**		
STD. DEV.	1.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	140.9	SE1
2	135.7	SE1
3	140.4	SE1
4	142.7	SE1
5	141.4	SE1
AVERAGE	**140.2**	
STD. DEV.	2.39	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-23
LAB ID NO.: L15084-23-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-21

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.8	SE1	<10
2	118.5	SE1	<10
3	113.2	SE1	<10
4	112.4	SE1	<10
5	112.1	SE1	<10
AVERAGE	**114.8**		
STD. DEV.	2.77		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	122.1	SE1	<10
3	120.0	SE1	<10
4	109.4	SE1	<10
5	112.0	SE1	<10
AVERAGE	**115.2**		
STD. DEV.	4.96		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	145.9	SE1
2	144.4	SE1
3	147.2	SE1
4	143.7	SE1
5	142.9	SE1
AVERAGE	**144.8**	
STD. DEV.	1.55	

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PEEL AND SHEAR TEST RESULTS
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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-25
LAB ID NO.: L15084-25-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-22

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.0	SE1	<10
2	125.9	SE1	<10
3	118.4	SE1	<10
4	117.9	SE1	<10
5	118.2	SE1	<10
AVERAGE	**120.1**		
STD. DEV.	3.00		
INSIDE TRACK (WELD "B")			
1	125.9	SE1	<10
2	123.5	SE1	<10
3	118.4	SE1	<10
4	120.4	SE1	<10
5	120.1	SE1	<10
AVERAGE	**121.7**		
STD. DEV.	2.68		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	137.9	SE1
2	131.6	SE1
3	134.7	SE1
4	132.4	SE1
5	133.5	SE1
AVERAGE	**134.0**	
STD. DEV.	2.20	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-26
LAB ID NO.: L15084-26-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-23

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	108.9	SE1	<10
2	113.2	SE1	<10
3	109.4	SE1	<10
4	109.7	SE1	<10
5	113.9	SE1	<10
AVERAGE	**111.0**		
STD. DEV.	2.09		
INSIDE TRACK (WELD "B")			
1	118.3	SE1	<10
2	114.9	SE1	<10
3	109.3	SE1	<10
4	111.3	SE1	<10
5	122.0	SE1	<10
AVERAGE	**115.2**		
STD. DEV.	4.60		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.5	SE1
2	129.2	SE1
3	129.7	SE1
4	130.9	SE1
5	129.5	SE1
AVERAGE	**129.6**	
STD. DEV.	0.78	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-28
LAB ID NO.: L15084-28-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-24

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	120.0	SE1	<10
2	118.2	SE1	<10
3	118.6	SE1	<10
4	120.2	SE1	<10
5	119.2	SE1	<10
AVERAGE	**119.2**		
STD. DEV.	0.77		
INSIDE TRACK (WELD "B")			
1	109.8	SE1	<10
2	112.1	SE1	<10
3	112.9	SE1	<10
4	115.4	SE1	<10
5	114.4	SE1	<10
AVERAGE	**112.9**		
STD. DEV.	1.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	128.9	SE1
2	132.4	SE1
3	135.2	SE1
4	135.0	SE1
5	124.9	SE1
AVERAGE	**131.3**	
STD. DEV.	3.92	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-29
LAB ID NO.: L15084-29-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-25

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	117.6	SE1	<10
2	110.4	SE1	<10
3	117.8	SE1	<10
4	116.8	SE1	<10
5	118.4	SE1	<10
AVERAGE	**116.2**		
STD. DEV.	2.94		
INSIDE TRACK (WELD "B")			
1	119.6	SE1	<10
2	125.0	SE1	<10
3	120.3	SE1	<10
4	125.5	SE1	<10
5	126.9	SE1	<10
AVERAGE	**123.5**		
STD. DEV.	2.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.9	SE1
2	131.1	SE1
3	135.5	SE1
4	135.3	SE1
5	134.2	SE1
AVERAGE	**133.2**	
STD. DEV.	2.28	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-29
LAB ID NO.: L15084-29-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-26

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	115.7	SE1	<10
2	115.5	SE1	<10
3	112.9	SE1	<10
4	117.9	SE1	<10
5	117.6	SE1	<10
AVERAGE	**115.9**		
STD. DEV.	1.79		
INSIDE TRACK (WELD "B")			
1	98.1	SE1	<10
2	99.5	SE1	<10
3	104.4	SE1	<10
4	101.9	SE1	<10
5	118.5	SE1	<10
AVERAGE	**104.5**		
STD. DEV.	7.33		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	130.9	SE1
2	126.7	SE1
3	133.0	SE1
4	126.4	SE1
5	130.8	SE1
AVERAGE	**129.6**	
STD. DEV.	2.58	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-31
LAB ID NO.: L15084-31-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-27

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.1	SE1	<10
2	105.2	SE1	<10
3	109.7	SE1	<10
4	109.1	SE1	<10
5	108.5	SE1	<10
AVERAGE	**108.7**		
STD. DEV.	1.96		
INSIDE TRACK (WELD "B")			
1	121.6	SE1	<10
2	114.8	SE1	<10
3	120.1	SE1	<10
4	125.0	SE1	<10
5	121.6	SE1	<10
AVERAGE	**120.6**		
STD. DEV.	3.32		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	125.7	SE1
3	127.8	SE1
4	128.4	SE1
5	132.1	SE1
AVERAGE	**128.0**	
STD. DEV.	2.29	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

Geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-32
LAB ID NO.: L15084-32-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-28

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.1	SE1	<10
2	107.3	SE1	<10
3	111.3	SE1	<10
4	108.5	SE1	<10
5	108.7	SE1	<10
AVERAGE	**109.4**		
STD. DEV.	1.57		
INSIDE TRACK (WELD "B")			
1	112.3	SE1	<10
2	107.8	SE1	<10
3	109.9	SE1	<10
4	107.8	SE1	<10
5	123.9	SE1	<10
AVERAGE	**112.3**		
STD. DEV.	6.01		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.8	SE1
2	129.0	SE1
3	129.7	SE1
4	128.6	SE1
5	134.3	SE1
AVERAGE	**130.9**	
STD. DEV.	2.26	

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C:\Excel\Templates\[HDP&S-DFusion.xls]Sheet1

\\geoserver\Data Drive\Synthetics\2015 SYNTHETICS\084 - ENTACT - HONEYWELL SA6 NORTH & SOUTH CAPS\[L15084-32 L L15084-32-02 10/8/2015

PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC.
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-34
LAB ID NO.: L15084-34-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: DOUBLE FUSION

SAMPLE I.D.: DS-29

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
OUTSIDE TRACK (WELD "A")			
1	111.4	SE1	<10
2	112.5	SE1	<10
3	115.4	SE1	<10
4	116.7	SE1	<10
5	119.3	SE1	<10
AVERAGE	**115.1**		
STD. DEV.	2.85		
INSIDE TRACK (WELD "B")			
1	121.1	SE1	<10
2	118.5	SE1	<10
3	115.5	SE1	<10
4	115.6	SE1	<10
5	120.3	SE1	<10
AVERAGE	**118.2**		
STD. DEV.	2.32		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	129.5	SE1
2	131.7	SE1
3	131.7	SE1
4	130.7	SE1
5	132.1	SE1
AVERAGE	**131.1**	
STD. DEV.	0.94	

CHECKED BY: JAM DATE: 10/12/15

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Langan – Fusion Weld Destruct Sample Laboratory Data

Date: 2015-07-23

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

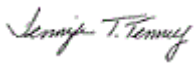
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17032**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17032

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-2 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	138	142	138	140	134	**138**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	139	143	140	138	134	**139**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	139	146	143	147	145	**144**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2015-08-04

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services
100530001

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17198**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Melissa Hunter
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17198

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-10 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	121	121	124	123	122	**122**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	121	118	120	117	125	**120**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	134	133	134	129	130	**132**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2015-08-27

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

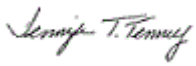
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17632**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17632

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-21 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	113	115	114	116	115	**115**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	120	119	122	130	128	**124**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	142	147	145	142	144	**144**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

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Date: 2015-10-14

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

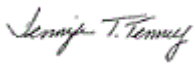
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**18404**
Material(s) Tested:	(1) Heat Fusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

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DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 18404

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DS-29 | Weld: Heat Fusion						
Side: A						**Peel A**
Peel Strength (ppi)	111	112	110	112	114	**112**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Side: B						**Peel B**
Peel Strength (ppi)	113	124	111	121	115	**117**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	138	140	140	138	138	**139**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Entact / ESI – Extrusion Weld Destruct Sample Laboratory Data

Honeywell SA-6 Capping

Comparison of ESI / Langan (QA) Destruct Samples - Extrusion Welds

Sample ID	***Weld Type***	***Submitted By:***	***Test***	***Peel Strength (ppi)***					**Avg. Strength (ppi)**	***Meets Spec Requirement***
EXT-DS-1	Extrusion	Langan	Peel	97	97	127	130	128	**116**	**Yes**
DSX-1		Entact	Peel	109.3	107.5	109.8	120.5	110	**111.4**	**Yes**
EXT-DS-1		Langan	Shear	133	172	148	181	146	**156**	**Yes**
DSX-1		Entact	Shear	115.7	119.8	118.1	117.5	116.2	**117.5**	**Yes**
DSX-2	Extrusion	Entact	Peel	133.5	118.8	126.4	120.1	115.4	**122.8**	**Yes**
			Shear	132.7	150.3	145.5	135.4	130.3	**138.8**	**Yes**
DSX-3	Extrusion	Entact	Peel	123.7	117.2	117.9	119.1	120.2	**119.6**	**Yes**
			Shear	126	128.6	125.1	124.5	125.1	**125.9**	**Yes**
DSX-4	Extrusion	Entact	Peel	128.4	132.1	133.5	134.4	139.5	**133.6**	**Yes**
			Shear	144.7	143.7	141.8	150.7	145.7	**145.3**	**Yes**
DSX-5	Extrusion	Entact	Peel	107.5	115.8	111.6	113.9	119.3	**113.6**	**Yes**
			Shear	131.7	136.9	151.8	137	149.5	**141.4**	**Yes**
DSX-6	Extrusion	Entact	Peel	151.4	144.8	130.9	139.9	150.1	**143.4**	**Yes**
			Shear	164.9	162.3	151.5	155.6	159.7	**158.8**	**Yes**
DSX-7	Extrusion	Entact	Peel	123.7	126.8	128.7	122.2	120.7	**124.4**	**Yes**
			Shear	134.6	133.7	134.8	136.2	135.5	**135.0**	**Yes**
DSX-8	Extrusion	Entact	Peel	129.6	119.5	124.3	130.9	120	**124.9**	**Yes**
			Shear	131.6	130.7	129.7	134.4	127.8	**130.8**	**Yes**
DSX-9	Extrusion	Entact	Peel	108.7	124.4	120.8	112	111.6	**115.5**	**Yes**
			Shear	132.8	126.8	133.9	116.1	122.8	**126.5**	**Yes**
DSX-10	Extrusion	Entact	Peel	118.7	122.1	118.1	120.8	136.1	**123.2**	**Yes**
			Shear	123	145.2	149.5	130.7	145.6	**138.8**	**Yes**
DSX-11	Extrusion	Langan	Peel	125	134	123	121	124	**125**	**Yes**
		Entact	Peel	125.1	118.2	125.9	123.3	120.6	**122.6**	**Yes**
		Langan	Shear	164	157	141	137	142	**148**	**Yes**
		Entact	Shear	122.6	124.6	126.1	127.9	128.2	**125.9**	**Yes**
DSX-12	Extrusion	Entact	Peel	130.4	121.3	148.4	118.2	138.9	**131.4**	**Yes**
			Shear	126.2	123.7	125	124.2	122.7	**124.4**	**Yes**
DSX-13	Extrusion	Entact	Peel	117	97.9	123.5	66	55.6	**92.0**	**No**
			Shear	131.2	129	133	132.9	124.6	**130.1**	**Yes**
DSX-14	Extrusion	Entact	Peel	119	119.7	118.8	123.3	122.6	**120.7**	**Yes**
			Shear	120.9	121.4	121.7	129.5	127.4	**124.2**	**Yes**
DSX-15	Extrusion	Entact	Peel	119.5	114.1	123.8	111.4	106.8	**115.1**	**Yes**
			Shear	132.1	135.2	138.5	137.4	141.7	**137.0**	**Yes**

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-12
LAB ID NO.: L15084-12-01
MATERIAL: 60 MIL HDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-1

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	109.3	SE3	<10
2	107.5	SE3	<10
3	109.8	SE3	<10
4	120.5	SE3	<10
5	110.0	SE3	<10
AVERAGE	**111.4**		
STD. DEV.	4.62		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	115.7	SE1
2	119.8	SE1
3	118.1	SE1
4	117.5	SE1
5	116.2	SE1
AVERAGE	**117.5**	
STD. DEV.	1.45	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

geotechnics
INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-13
LAB ID NO.: L15084-13-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-2

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	133.5	SE3	<10
2	118.8	SE3	<10
3	126.4	SE3	<10
4	120.1	SE3	<10
5	115.4	SE3	<10
AVERAGE	**122.8**		
STD. DEV.	6.41		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.7	SE2
2	150.3	SE1
3	145.5	SE1
4	135.4	SE1
5	130.3	SE2
AVERAGE	**138.8**	
STD. DEV.	7.72	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-15
LAB ID NO.: L15084-15-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-3

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	123.7	SE3	<10
2	117.2	SE3	<10
3	117.9	SE3	<10
4	119.1	SE3	<10
5	120.2	SE3	<10
AVERAGE	**119.6**		
STD. DEV.	2.28		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.0	SE1
2	128.6	SE1
3	125.1	SE1
4	124.5	SE1
5	125.1	SE1
AVERAGE	**125.9**	
STD. DEV.	1.45	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-16
LAB ID NO.: L15084-16-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-4

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	128.4	SE3	<10
2	132.1	SE3	<10
3	133.5	SE3	<10
4	134.4	SE3	<10
5	139.5	SE3	<10
AVERAGE	**133.6**		
STD. DEV.	3.60		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	144.7	SE1
2	143.7	SE1
3	141.8	SE1
4	150.7	SE1
5	145.7	SE1
AVERAGE	**145.3**	
STD. DEV.	2.98	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-19
LAB ID NO.: L15084-19-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-5

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	107.5	SE2	<10
2	115.8	SE2	<10
3	111.6	SE2	<10
4	113.9	SE2	<10
5	119.3	SE2	<10
AVERAGE	**113.6**		
STD. DEV.	3.97		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.7	SE1
2	136.9	SE1
3	151.8	SE1
4	137.0	SE1
5	149.5	SE1
AVERAGE	**141.4**	
STD. DEV.	7.84	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-20
LAB ID NO.: L15084-20-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-6

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	151.4	SE3	<10
2	144.8	SE3	<10
3	130.9	SE3	<10
4	139.9	SE3	<10
5	150.1	SE3	<10
AVERAGE	**143.4**		
STD. DEV.	7.47		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	164.9	SE1
2	162.3	SE1
3	151.5	SE1
4	155.6	SE1
5	159.7	SE1
AVERAGE	**158.8**	
STD. DEV.	4.77	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-21
LAB ID NO.: L15084-21-03
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-7

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	123.7	SE3	<10
2	126.8	SE3	<10
3	128.7	SE3	<10
4	122.2	SE3	<10
5	120.7	SE3	<10
AVERAGE	**124.4**		
STD. DEV.	2.94		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	134.6	SE1
2	133.7	SE1
3	134.8	SE1
4	136.2	SE1
5	135.5	SE1
AVERAGE	**135.0**	
STD. DEV.	0.85	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-24
LAB ID NO.: L15084-24-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-8

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	129.6	SE3	<10
2	119.5	SE3	<10
3	124.3	SE3	<10
4	130.9	SE3	<10
5	120.0	SE3	<10
AVERAGE	**124.9**		
STD. DEV.	4.72		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.6	SE1
2	130.7	SE1
3	129.7	SE1
4	134.4	SE1
5	127.8	SE1
AVERAGE	**130.8**	
STD. DEV.	2.18	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-27
LAB ID NO.: L15084-27-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-9

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	108.7	SE3	<10
2	124.4	SE3	<10
3	120.8	SE3	<10
4	112.0	SE3	<10
5	111.6	SE3	<10
AVERAGE	**115.5**		
STD. DEV.	6.02		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.8	SE1
2	126.8	SE1
3	133.9	SE1
4	116.1	SE1
5	122.8	SE1
AVERAGE	**126.5**	
STD. DEV.	6.58	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING
ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-30
LAB ID NO.: L15084-30-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-10

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	118.7	SE3	<10
2	122.1	SE3	<10
3	118.1	SE3	<10
4	120.8	SE3	<10
5	136.1	SE3	<10
AVERAGE	**123.2**		
STD. DEV.	6.63		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	123.0	SE1
2	145.2	SE1
3	149.5	SE1
4	130.7	SE1
5	145.6	SE1
AVERAGE	**138.8**	
STD. DEV.	10.17	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-31
LAB ID NO.: L15084-31-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-11

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	125.1	SE3	<10
2	118.2	SE3	<10
3	125.9	SE3	<10
4	123.3	SE3	<10
5	120.6	SE3	<10
AVERAGE	**122.6**		
STD. DEV.	2.86		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	122.6	SE1
2	124.6	SE1
3	126.1	SE1
4	127.9	SE1
5	128.2	SE1
AVERAGE	**125.9**	
STD. DEV.	2.09	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-32
LAB ID NO.: L15084-32-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-12

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	130.4	SE3	<10
2	121.3	SE3	<10
3	148.4	SE3	<10
4	118.2	SE3	<10
5	138.9	SE3	<10
AVERAGE	**131.4**		
STD. DEV.	11.16		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	126.2	SE1
2	123.7	SE1
3	125.0	SE1
4	124.2	SE1
5	122.7	SE1
AVERAGE	**124.4**	
STD. DEV.	1.18	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-34
LAB ID NO.: L15084-34-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-13

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	117.0	SE2	<10
2	97.9	SE2	<10
3	123.5	SE2	<10
4	66.0	AD1	100
5	55.6	AD1	100
AVERAGE	**92.0**		
STD. DEV.	27.04		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	131.2	SE1
2	129.0	SE1
3	133.0	SE1
4	132.9	SE1
5	124.6	SE1
AVERAGE	**130.1**	
STD. DEV.	3.13	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-34
LAB ID NO.: L15084-34-02
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-14

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	119.0	SE2	<10
2	119.7	SE2	<10
3	118.8	SE2	<10
4	123.3	SE2	<10
5	122.6	SE2	<10
AVERAGE	**120.7**		
STD. DEV.	1.89		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	120.9	SE1
2	121.4	SE1
3	121.7	SE1
4	129.5	SE1
5	127.4	SE1
AVERAGE	**124.2**	
STD. DEV.	3.56	

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PEEL AND SHEAR TEST RESULTS
DESTRUCTIVE SEAM TESTING

ASTM D 6392

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INTEGRITY IN TESTING

CLIENT: ENTACT, LLC
CLIENT PROJECT: HONEYWELL SA6 NORTH & SOUTH CAPS
PROJECT NO.: L15084-35
LAB ID NO.: L15084-35-01
MATERIAL: 60 MIL LLDPE
SEAM TYPE: EXTRUSION

SAMPLE I.D.: DSX-15

PEEL ADHESION

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE	PEEL INCURSION (%)
1	119.5	SE2	<10
2	114.1	SE2	<10
3	123.8	SE2	<10
4	111.4	SE2	<10
5	106.8	SE2	<10
AVERAGE	**115.1**		
STD. DEV.	5.98		

BONDED SEAM (SHEAR) STRENGTH

REPLICATE No.	PEAK LOAD (lbs/in)	EPA BREAK CLASSIFICATION CODE
1	132.1	SE1
2	135.2	SE1
3	138.5	SE1
4	137.4	SE1
5	141.7	SE1
AVERAGE	**137.0**	
STD. DEV.	3.22	

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Langan – Extrusion Weld Destruct Sample Laboratory Data

Date: 2015-07-28

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

e-mail:dbosworth@langan.com

Bill To:

Langan Environmental Services
100530001

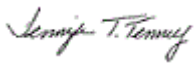
Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**17111**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,



Jennifer Tenney
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 17111

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: EXT DS-1 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	97	97	127	130	128	**116**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	133	172	148	181	146	**156**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

Date: 2015-10-05

Mail To:
Dan Bosworth
Langan Environmental Services
619 River Drive
Elmwood Park , NJ , 07090

Bill To:

Langan Environmental Services
100530001

e-mail:dbosworth@langan.com

Dear Mr. Bosworth,

Thank you for consulting with TRI/Environmental, Inc. (TRI) for your geosynthetics testing needs. TRI is pleased to submit this final report for laboratory testing.

Project:	**Honeywell SA-6 South Capping**
TRI Job Reference Number:	**18270**
Material(s) Tested:	(1) Single Extrusion Weld Seam(s)
Test(s) Requested:	SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)

Codes:	
AD	Adhesion Failure (100% Peel)
BRK	Break in sheeting away from Seam edge.
SE	Break in sheeting at edge of seam.
AD-BRK	Break in sheeting after some adhesion failure - partial peel.
SIP	Separation in the plane of the sheet (leaving the bond intact).
FTB	Film tearing bond (all non "AD" failures).
NON-FTB	100% peel.

If you have any questions or require any additional information, please call us at 1-800-880-8378.
Sincerely,

Melissa Hunter

Melissa Hunter
Project Manager
Geosynthetic Services Division
http://www.geosyntheticstestinc.com

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

DESTRUCTIVE SEAM QUALITY ASSURANCE TEST RESULTS - SINGLE TRACK
TRI Client: Langan Environmental Services
Project: Honeywell SA-6 South Capping

Material: 60 mil. LLDPE
SAME DAY Peel and Shear (ASTM D 6392/GRI GM19/D 4437/NSF 54/882 mod.)
TRI Log#: 18270

	TEST REPLICATE NUMBER					
PARAMETER	1	2	3	4	5	MEAN
Sample ID: DSX-11 | Weld: Single Extrusion						
Side: Peel						**Peel**
Peel Strength (ppi)	125	134	123	121	124	**125**
Peel Incursion (%)	<5	<5	<5	<5	<5	
Peel Locus Of Failure Code	SE	SE	SE	SE	SE	
Peel NSF Failure Code	FTB	FTB	FTB	FTB	FTB	
Shear						**Shear**
Shear Strength (ppi)	164	157	141	137	142	**148**
Shear Elongation @ Break (%)	>50	>50	>50	>50	>50	

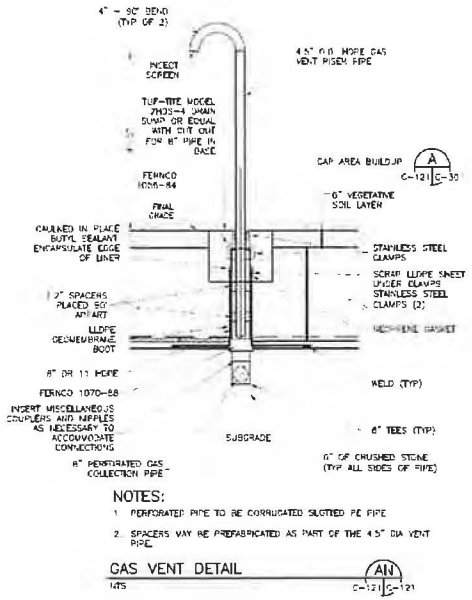
The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

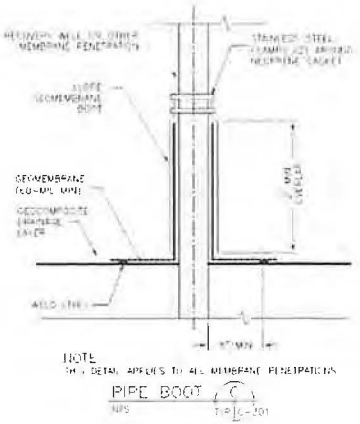
Appendix O
Penetration & Pipe Boot Logs

Project: Study Area 6 South

Date: 7/22/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 073-MW-1BR located at western end of SA-6 Cap on Panel 1/2 seam (approx. 135 ft. north of south end of Cap). Identified as RP-6 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/21/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

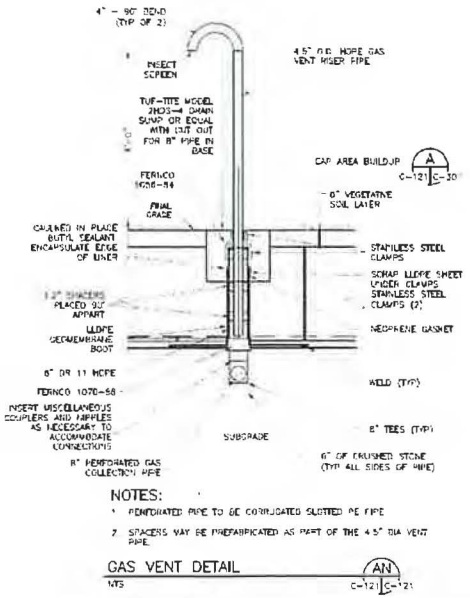
STUDY AREA 6 - CAP INSTALLATION

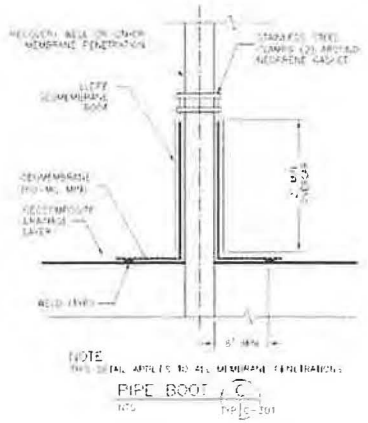
LANGAN

Project: Study Area 6 South

Date: 9/25/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-E1A-SO located in proximity to northern boundary of SA-6 Cap on Panel #111 / 112 (approx. 15 ft. south of north end of Cap). Identified as RP-419 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing conducted on 9/24/15. Final butyl sealant applied at completion of project on 10/9/15.

Honeywell

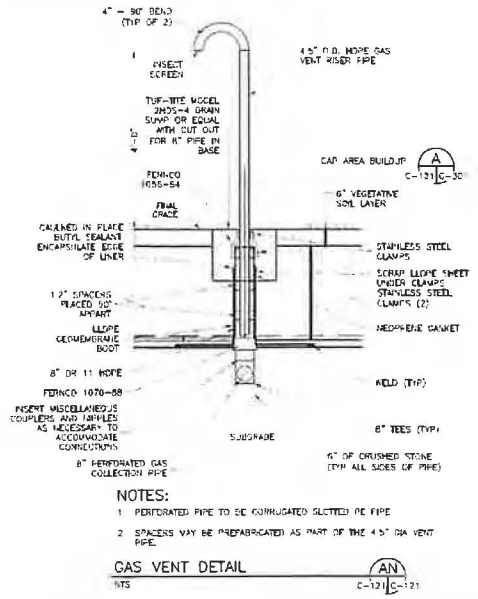
STUDY AREA 6 - CAP INSTALLATION

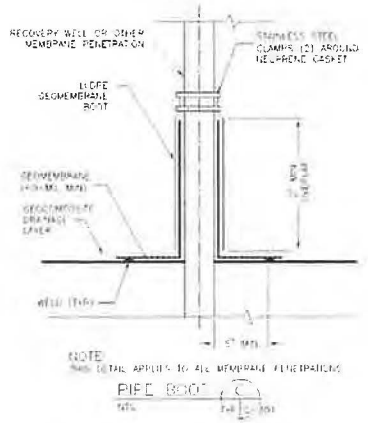
LANGAN

Project: Study Area 6 South

Date: 7/23/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W3-SO located along northern slope of SA-6 Cap on Panel #8 (approx. 147 ft. north of south end of Cap). Identified as RP-14 on *As Built* and *Repair Report*

AmecFW QA Signature:

BSilva 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/22/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

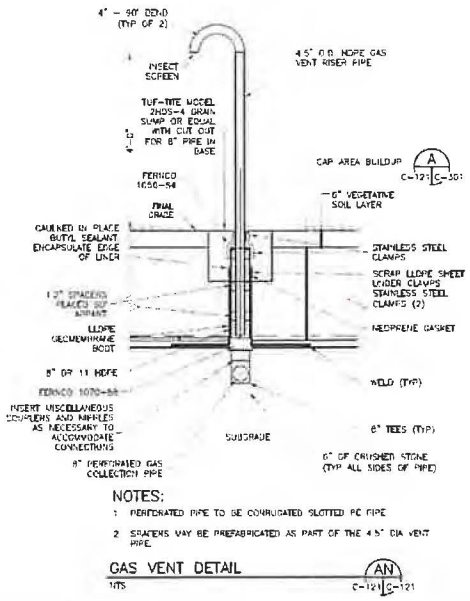
STUDY AREA 6 - CAP INSTALLATION

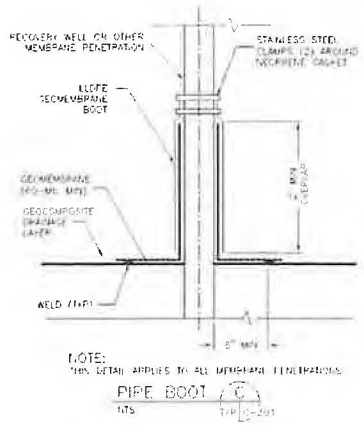
LANGAN

Project: Study Area 6 South

Date: 8/13/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Well 115-W5-SO located in proximity to northern boundary of SA-6 Cap on Panel #61 62 (approx. 135 ft. north of south end of Cap). Identified as RP-246 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing conducted on 8/12/15. Final butyl sealant applied at completion of project on 10/9/15.

Honeywell

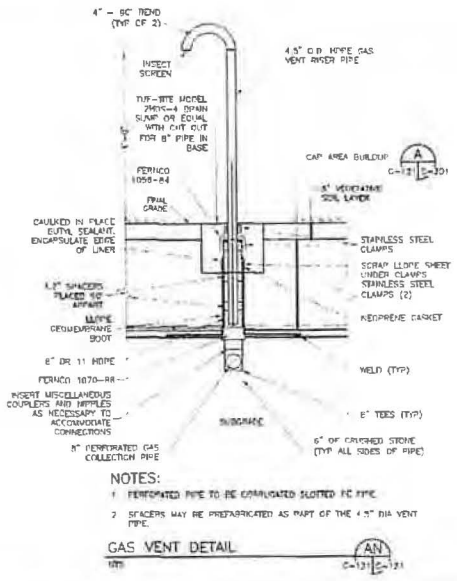
STUDY AREA 6 - CAP INSTALLATION

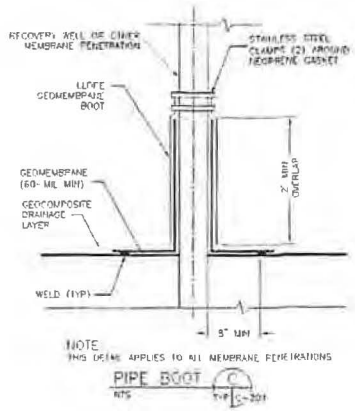
LANGAN

Project: Study Area 6 South

Date: 10/09/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-0 located at approximate center of SA-6 Cap on Panel #125 (approximately 68 ft. south of north end of cap). Identified as RP-457 on *As Built* and *Repair Report*

AmecFW QA Signature: BShea 10/9/15

Independent CQA Monitor Signature: 10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 10/9/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

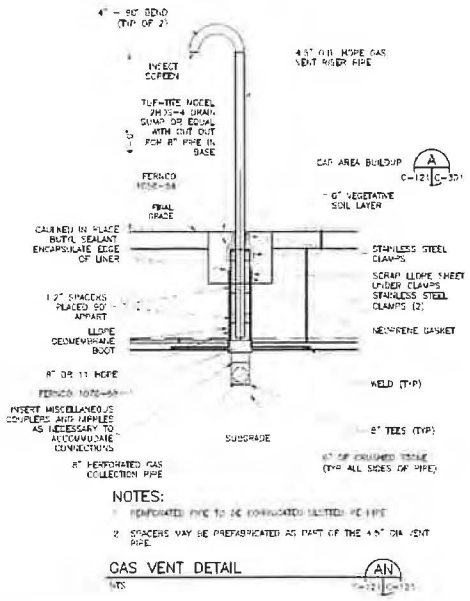
STUDY AREA 6 - CAP INSTALLATION

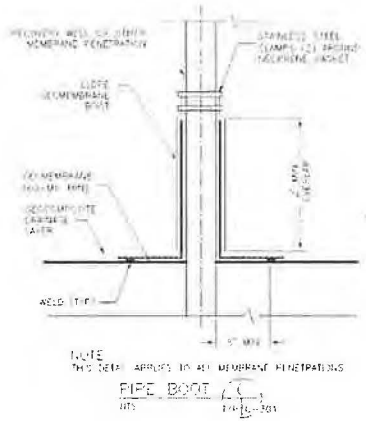
LANGAN

Project: Study Area 6 South

Date: 10/09/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-1 located at approximate center of SA-6 Cap on Panel #114 / 115 seam. Identified as RP-425 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 10/8/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

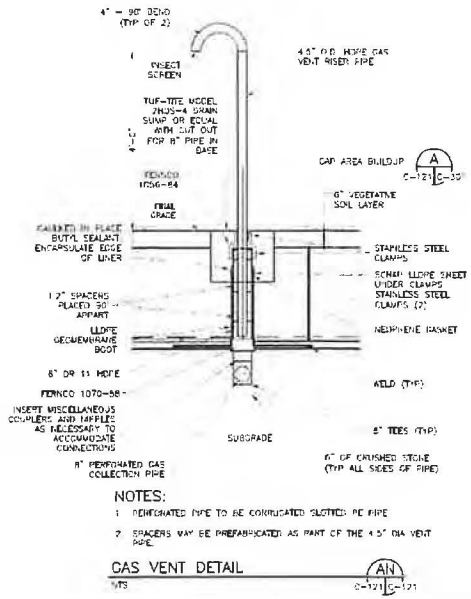
STUDY AREA 6 - CAP INSTALLATION

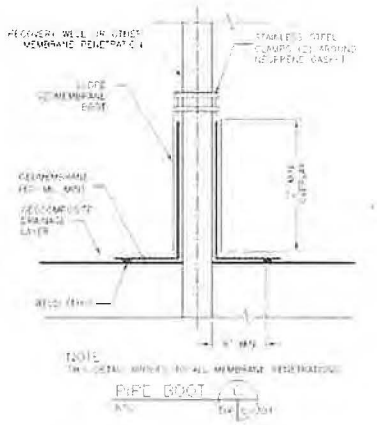
LANGAN

Project: Study Area 6 South

Date: 9/22/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-2 located at approximate center of SA-6 Cap on Panel #95. Identified as RP-369 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/21/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

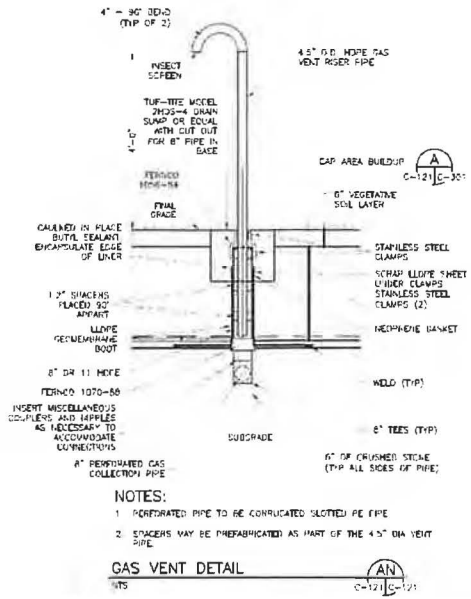
STUDY AREA 6 - CAP INSTALLATION

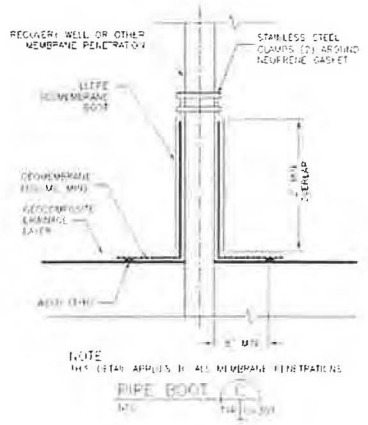
LANGAN

Project: Study Area 6 South

Date: 9/15/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-3 located at approximate center of SA-6 Cap on Panel #74 (along Panel #73/74 seam). Identified as RP-257 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/14/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

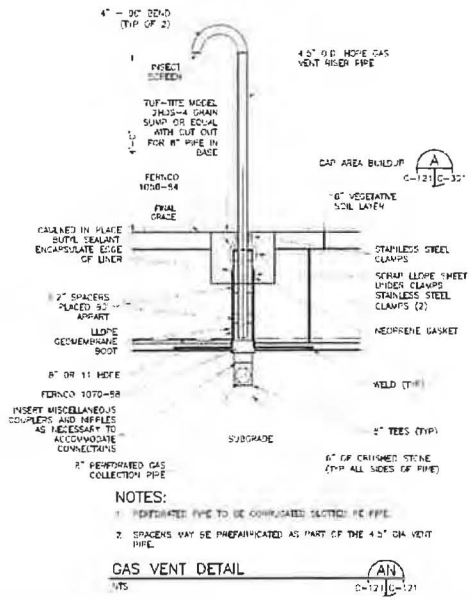
STUDY AREA 6 - CAP INSTALLATION

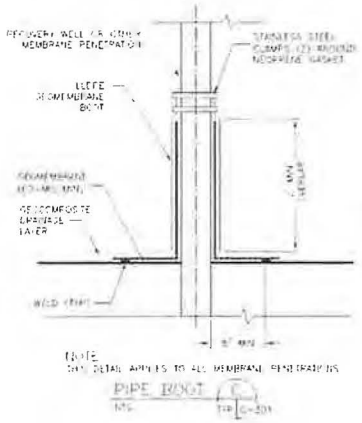
LANGAN

Project: Study Area 6 South

Date: 9/14/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-4 located at approximate center of SA-6 Cap on Panel #58. Identified as RP-243 on *As Built* and *Repair Report*

AmecFW QA Signature:

BSlwg 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/11/15. Final butyl sealant applied at completion of project on 10/9/15

Honeywell

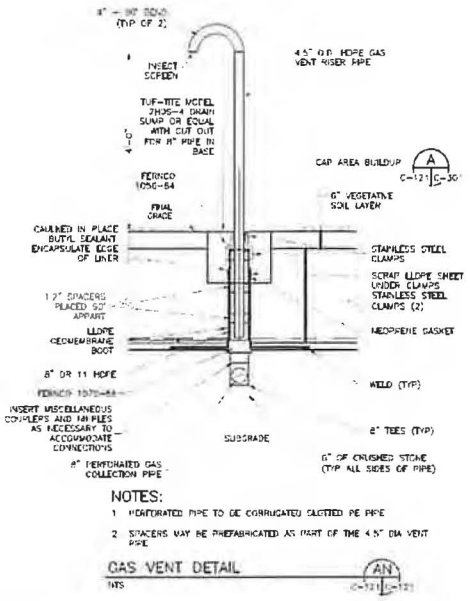
STUDY AREA 6 - CAP INSTALLATION

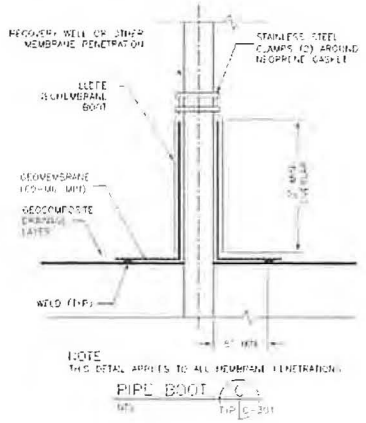
LANGAN

Project: Study Area 6 South

Date: 8/13/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-5 located at approximate center of SA-6 Cap on Panel #38 (approx. 3 ft. west of Panel 37/38/42 joint). Identified as RP-219 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/12/15. Final butyl sealant applied at project completion on 10/9/15.

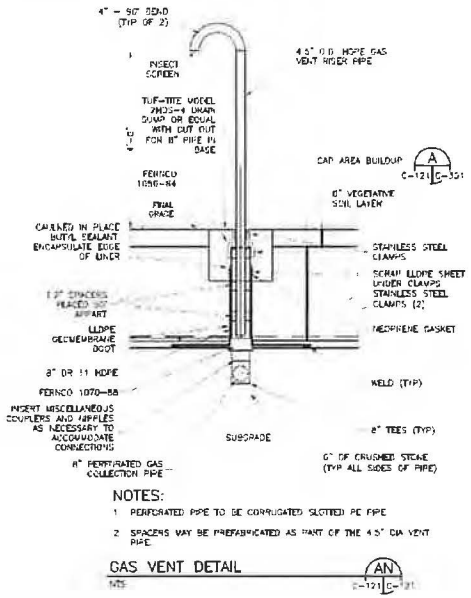
Honeywell

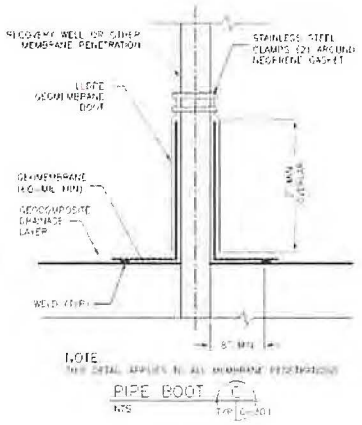
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 South	**Date:** 8/6/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-6 located at approximate center of SA-6 Cap on Panel #25 (approx. 74 ft. south of north end of Cap). Identified as RP-188 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/5/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

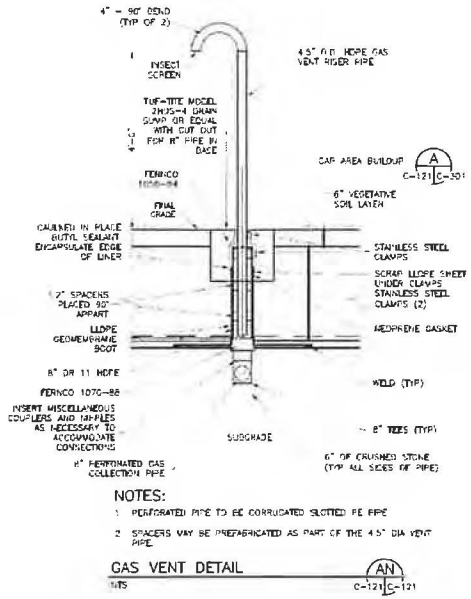
STUDY AREA 6 - CAP INSTALLATION

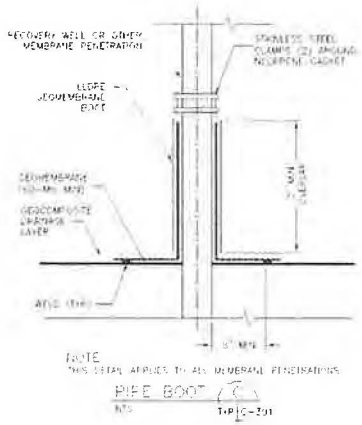
LANGAN

Project: Study Area 6 South

Date: 7/30/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Gas Vent GV-7 located at approximate center of SA-6 Cap on Panel #11 (approx. 80 ft. north of south end of Cap). Identified as RP-129 on *As Built* and *Repair Report*

AmecFW QA Signature:

B.Shea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/29/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

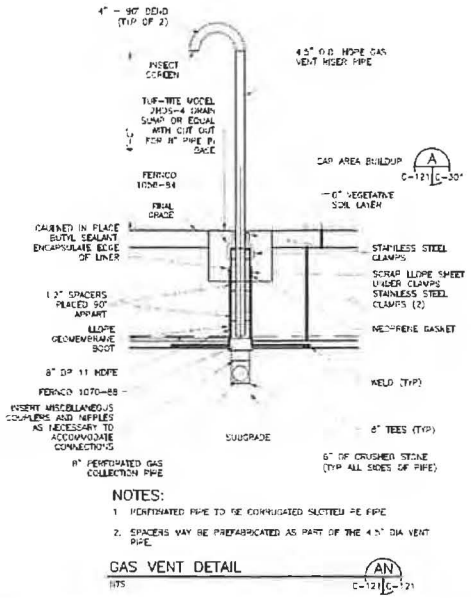
STUDY AREA 6 - CAP INSTALLATION

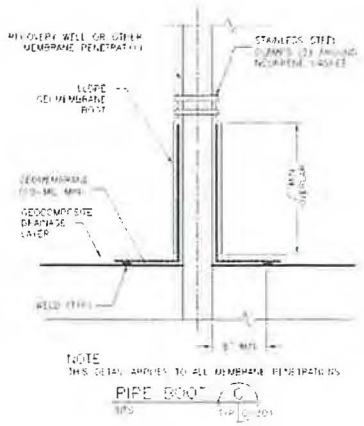
LANGAN

Project: Study Area 6 South

Date: 10/9/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-12 located along eastern end of SA-6 (approx. 81 ft. north of south end of Cap). Identified as RP-476 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 10/8/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

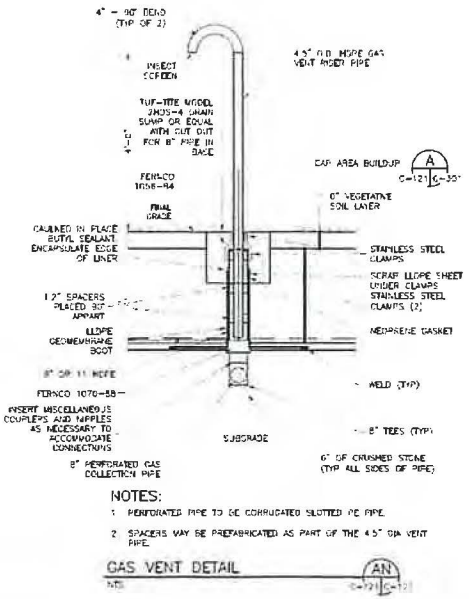
STUDY AREA 6 - CAP INSTALLATION

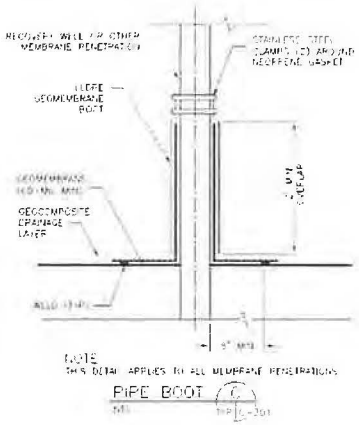
LANGAN

Project: Study Area 6 South

Date: 9/24/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-14 located along southern edge of SA-6 Cap on Panel #109 (approx. 152 ft. south of north end of Cap). Identified as RP-418 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 9/23/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

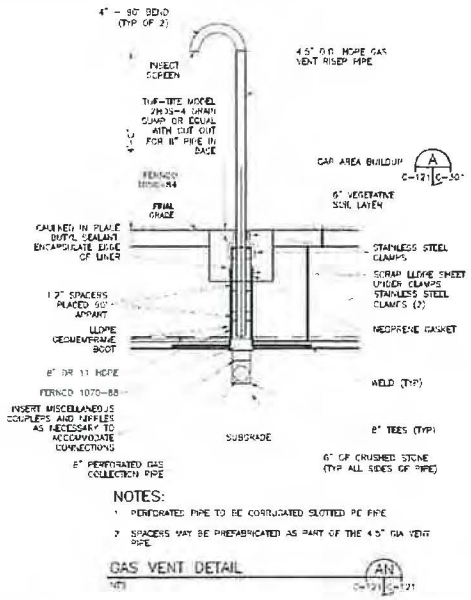
STUDY AREA 6 - CAP INSTALLATION

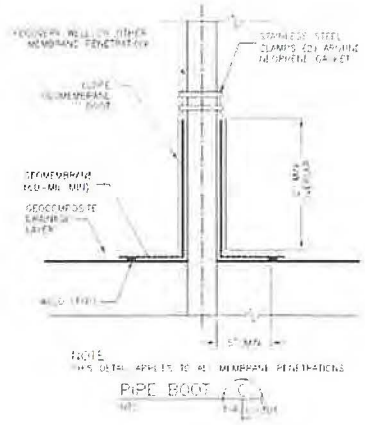
LANGAN

Project: Study Area 6 South

Date: 8/17/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-16 located along southern edge of SA-6 Cap on Panel #71 (approx. 9 ft. north of south end of Cap). Identified as RP-255 on *As Built* and *Repair Report*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/14/15. Final butyl sealant applied at project completion on 10/9/15.

Honeywell

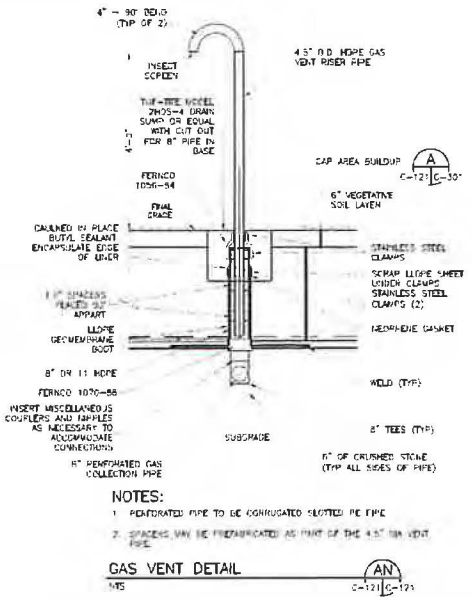
STUDY AREA 6 - CAP INSTALLATION

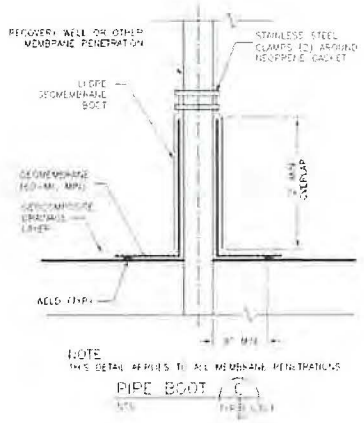
LANGAN

Project: Study Area 6 South

Date: 7/31/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-18 located along southern edge of SA-6 Cap on Panel #31/32 seam (approx. 13 ft. north of south end of Cap). Identified as RP-132 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/30/15. Final butyl sealant applied at project completion on 10/9/15.

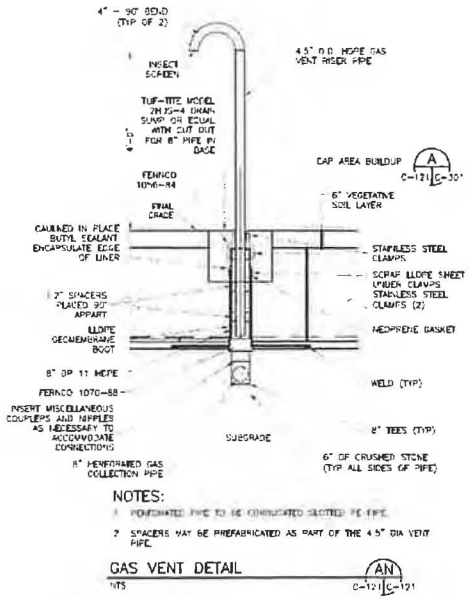
Honeywell

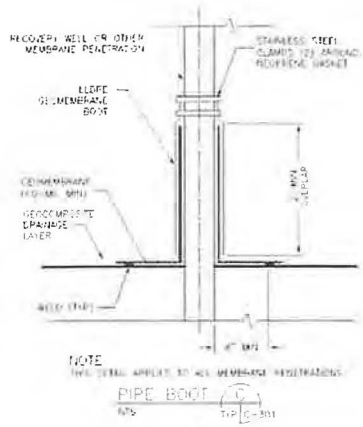
STUDY AREA 6 - CAP INSTALLATION

LANGAN

Project: Study Area 6 South	**Date:** 7/22/2015

QA – Gas Vent and Piezometer Penetrations





***Check applicable Detail:**

- ☒ Fabricated in field
- ☒ 18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ If penetration is greater than 4-in. in diameter, a second clamp shall be used.
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded
- ☒ LLDPE telescoping sleeve placed around boot
- ☒ Caulked Butyl Sealant around top edge of liner

Location: Piezometer PZ-20 located at western end of SA-6 Cap on Panel 1 seam (approx. 85 ft. north of south end of Cap). Identified as RP-7 on *As Built* and *Repair Report*

AmecFW QA Signature:

BShea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/21/15. Final butyl sealant applied at project completion on 10/9/15.

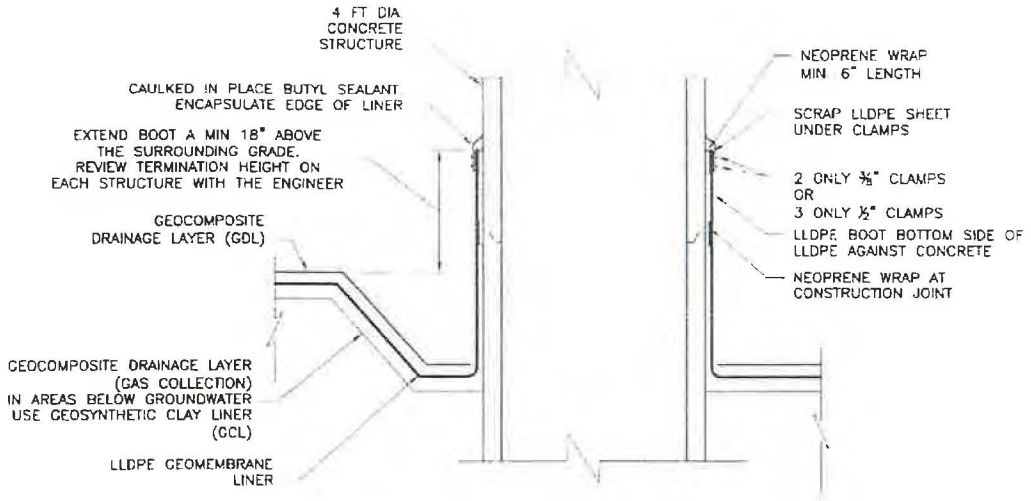
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 7/27/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C--304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #1 located on Panel #16 (P-16) at approximate Sta. 19+25 (SCB Wall Sta. Numbering). Identified as RP-24 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Monitor Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 7/24/15. Final butyl sealant applied at project completion on 10/9/15.

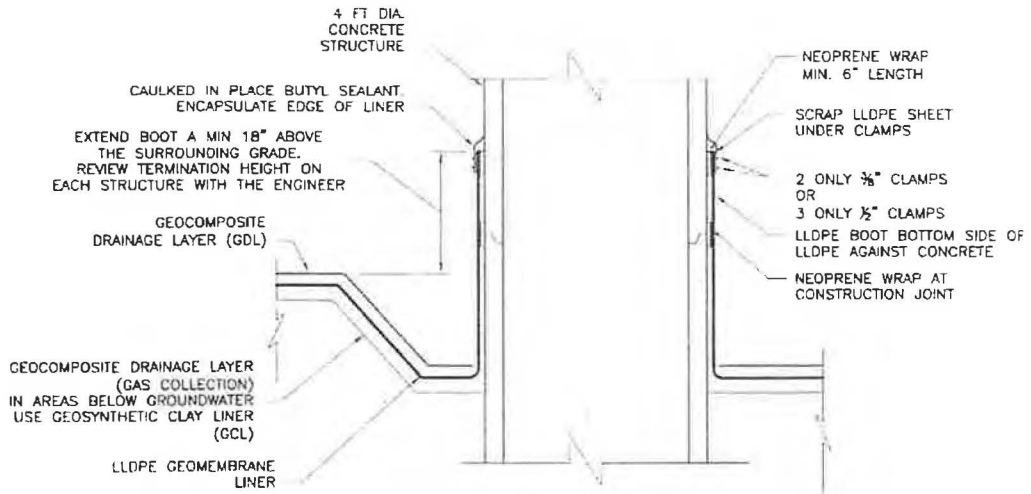
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 8/11/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #2 located on Panel #47 (P-47) at approximate Sta. 14+00 (SCB Wall Sta. Numbering). Identified as RP-218 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B.Shea 10/9/15

Independent CQA Signature:

10/9/15

Comments: Geomembrane boot fabrication, construction, welding, and testing completed on 8/10/15. Final butyl sealant applied at project completion on 10/9/15.

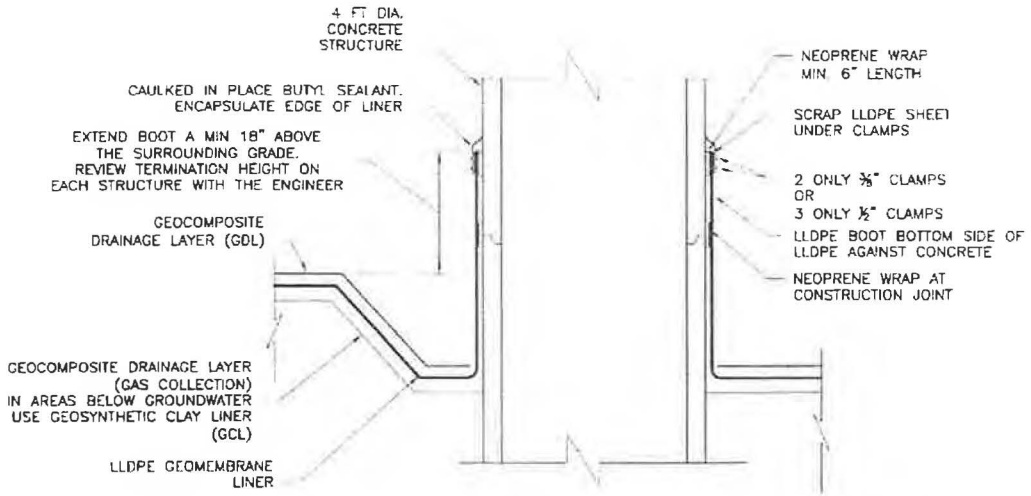
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 9/15/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE

NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #3 located on Panel #75/78/79 seams (western slope of 2nd utility corridor). Identified as RP-262 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B Shea 10/9/15

Independent CQA Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/14/15. Final butyl sealant applied at completion of project on 10/9/15.

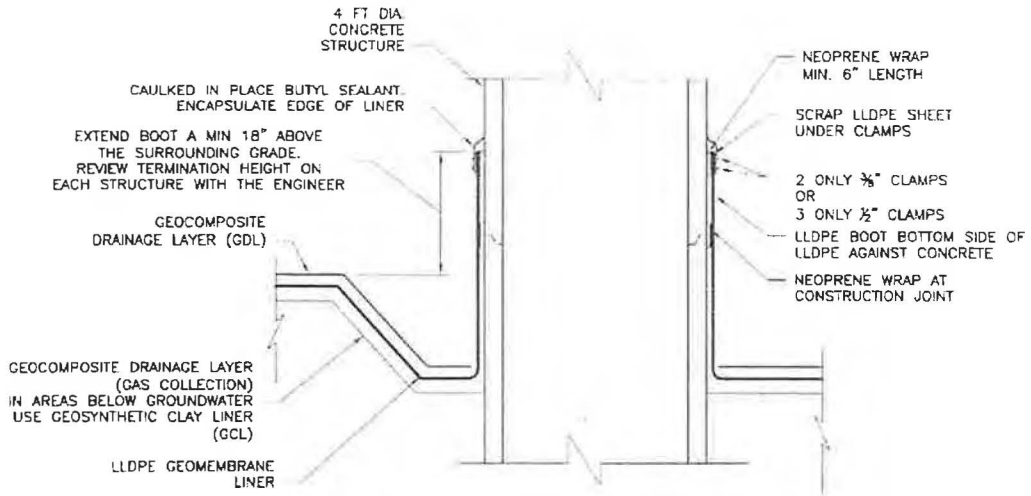
Honeywell

STUDY AREA 6 - CAP INSTALLATION

Project: Study Area 6 South

Date: 9/25/2015

QA – Manhole Boot Installation



LINER ANCHOR TO CONCRETE STRUCTURE
NTS

CE TYP C-304

***Check applicable Detail:**

- ☒ Fabricated in field
- ☒18-in. overlap between boot and geomembrane
- ☒ Neoprene rubber gasket and/or silicone caulking shall be used between the boot or shroud and the penetration structure
- ☒ LLDPE sacrificial sheet shall be used between the boot or shroud and the clamp for protection
- ☒ SS Band Clamps tightened and uniform
- ☒ Caulked Butyl Sealant around top edge of liner
- ☒ Boot connection (minimum 18-inch overlap) field tested to ensure seal (ex. vacuum box testing) and observed boot vertical seam and penetration edges extrusion welded

Location: Access Manhole #4 located on Panel #113 (approximate center of SA-6), approximately 82 ft. south of north end of Cap. Identified as RP-420 on *As-Built* and *Repair Log*

AmecFW QA Signature:

B.Shea 10/9/15

Independent CQA Signature:

10/9/15

Comments: Boot fabrication, construction, welding, and testing completed on 9/24/15. Final butyl sealant applied at completion of project on 10/9/15.

Appendix P
Summary of Non-Compliance & Corrective Action Sheets

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 1

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/21/15 Contractor in NC: Entact Non-Compliance No.: 1 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #3 (P-3). This non-compliance issue is also noted on the 7/21/15 Repair Report, and is identified as RP-3. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 2 ft. by 2.5 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photo #5 of 7/21/15 photo log for repair of RP-3.

Geosynthetic Installer Representative Carolina Ramos Date 7-21-15

Independent CQA Monitor [signature] Date 7-21-15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 2

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/21/15 Contractor in NC: Entact Non-Compliance No.: 2 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:
Description of Non-Compliance	
Cross Reference (QA Inspection Form & Sheet No.): Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #2 (P-2). This non-compliance issue is also noted on the 7/21/15 Repair Report, and is identified as RP-8. The location of this repair was recorded and logged (via GPS) by the team.	
Contractor's Response	
Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.	
Follow Up Action Required	
Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.	
Follow Up Action Taken	
Cross Reference (QA Inspection Form & Sheet No.): Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 1.5 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).	

Geosynthetic Installer Representative Carolina Parris Date 7-21-15

Independent CQA Monitor Date 7-21-15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 3

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/22/15 Contractor in NC: ESI / Entact Non-Compliance No.: 3 Notes: Non-Destructive Test
Reference	
Item: Non-Destructive Test Failure Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Failure of Non-Destructive Test along Panel seams 7/8 (located on southern end of SA-6). This non-compliance issue is also noted on the 7/22/15 Repair Report, and is identified as RP-13. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Failure of panel seam 7/8 during non-destructive testing confirmed. Based on length of failed seam (approximately 6 ft.), the entire seam length will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Based on length of seam to be repaired the area will be patched and sealed with extrusion welds following the project specifications and as outlined in the Contractor's Response above.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Based on length of failed seam (approximately 6 ft.), the entire seam was patched and repaired. This failure was repaired with approximate 2 ft. by 6 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Garcia Date 7-22-15

Independent CQA Monitor Date 7-22-15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 4

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 7/24/15 Contractor in NC: Entact Non-Compliance No.: 10 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #17 (P-17). This non-compliance issue is also noted on the 7/24/15 Repair Report, and is identified as RP-30. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 2 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Ramos Date 7/27/15

Independent CQA Monitor Date 7/27/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 5

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 8/7/15 Contractor in NC: Entact Non-Compliance No.: 5 Notes: Vacuum Box Test
Reference	
Item: Vacuum Box Test Failure Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Failed vacuum box test (i.e. leak) detected during vacuum box testing of RP-215 at Panel #50 (P-50). This non-compliance issue is also noted on the 8/7/15 Repair Report, and is identified as a failed test result ("F") for RP-215. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Failed vacuum box test for RP-215 identified and confirmed. Failed weld to be patched and welded according to project specifications, and confirmed via vacuum test.

Follow Up Action Required

Patch / repair failed weld with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Failed extrusion weld (identified during vacuum box testing) was patched with an approximate 2 ft. by 2 ft. geomembrane patch over the extrusion weld (Noted as RP-222 on Repair Log). The patch was overlapped a minimum of 4-inches beyond the edges of the failed weld, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photos 3,7 of the 8/10/15 Photo Log for supporting photographs.

Geosynthetic Installer Representative Carolina Parra Date 8/10/15

Independent CQA Monitor Date 8/10/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 6

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 9/11/15 Contractor in NC: Entact Non-Compliance No.: 6 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #57 (P-57). This non-compliance issue is also noted on the 9/11/15 Repair Report, and is identified as RP-293. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 1.5 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolyn Parnell Date 9/14/15

Independent CQA Monitor Date 9/14/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 7

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 9/16/15 Contractor in NC: Entact Non-Compliance No.: 7 Notes: Subgrade Irregularity
Reference	
Item: Subgrade Irregularity – Hydrated GCL Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane panel cut to expose underlying geosynthetic clay liner (GCL). GCL wet / hydrated from weekend storms. Ground surface elevation outside of the SA-6 cap (along southern end of SA-6) was higher than cap grades which caused surface water to flow towards the cap during a major rain event. Rainwater able to pool / pond and infiltrate underneath geomembrane panels thus hydrating GCL. This non-compliance issue is also noted on the 9/16/15 Repair Report, and is identified as RP-331. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Hydrated GCL confirmed as subgrade irregularity. GCL to be cut (where hydrated), removed, and replaced and the geomembrane will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove hydrated GCL from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane cap was cut and GCL was exposed. Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. The cut in the geomembrane was then repaired with approximate 2 ft. by 18 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to Photos #2 and #3 of 9/16/15 photo log for placement of new GCL

Geosynthetic Installer Representative Carolina Ramos Date 9/17/15

INDEPENDENT CQA MONITOR [signature] Date 9/17/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 8

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 9/24/15 Contractor in NC: Entact Non-Compliance No.: 8 Notes: Soil Subgrade
Reference	
Item: Soil Subgrade Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Rock / loose debris (>1/2 – inches) observed underneath geomembrane cap at Panel #111 (P-111). This non-compliance issue is also noted on the 9/24/15 Repair Report, and is identified as RP-423. The location of this repair was recorded and logged (via GPS) by the team.

Contractor's Response

Loose debris / rock area identified as subgrade irregularity. Rock to be removed and the area will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove rock / debris from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Rock was removed from underneath geomembrane as a small hole (<2-inches) was made in the cap to remove the stone. This hole was then repaired with approximate 1.5 ft. by 2 ft. geomembrane patch. The patch was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372).

Geosynthetic Installer Representative Carolina Ramos Date 9/25/15

Independent CQA Monitor Date 9/25/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 9

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 10/7/15 Contractor in NC: Entact Non-Compliance No.: 9 Notes: Subgrade Irregularity
Reference	
Item: Subgrade Irregularity – Hydrated GCL Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane Panels #121-125 (southern end of SA-6 within swale) cut to expose underlying geosynthetic clay liner (GCL). GCL wet / hydrated from weekend storms. Ground surface elevation outside of the SA-6 cap (along southern end of SA-6) was higher than cap grades which caused surface water to flow towards the cap during a major rain event. Rainwater able to pool / pond and infiltrate underneath geomembrane panels from failure of pump during storms thus hydrating GCL along the southern end of SA-6. This non-compliance issue is also noted on the 10/7/15 Repair Report, and is identified as the following repairs (RP-458 through RP-473). The location of these repairs were recorded and logged (via GPS) by the team (southern swale of SA-6).

Contractor's Response

Hydrated GCL confirmed as subgrade irregularity. GCL to be cut (where hydrated), removed, and replaced and the geomembrane will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove hydrated GCL from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane cap was cut and GCL was exposed (southern swale of SA-6). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired. Patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to *10/7/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carolina Ramos Date 10/8/15

Independent CQA Monitor [signature] Date 10/8/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 10

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 10/7/15 Contractor in NC: Entact Non-Compliance No.: 10 Notes: Subgrade Irregularity
Reference	
Item: Subgrade Irregularity – Hydrated GCL Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane Panels #117 and Panel #119/120 (northern end of SA-6 along SCB wall) cut to expose underlying geosynthetic clay liner (GCL). GCL wet / hydrated from weekend storms. Ground surface elevation outside of the SA-6 cap (along northern end of SA-6) was higher than cap grades which caused surface water to flow towards the cap during a major rain event. Rainwater and wash out along adjacent roadway (higher elevation) along northern end of SA-6 (SCB wall) able to infiltrate laterally and hydrate GCL. This non-compliance issue is also noted on the 10/7/15 Repair Report, and is identified as RP-474 and RP-475 (two cuts along geomembrane to fold back geomembrane cap). The location of these repairs were recorded and logged (via GPS) by the team.

Contractor's Response

Hydrated GCL confirmed as subgrade irregularity. GCL to be cut (where hydrated), removed, and replaced and the geomembrane will be patched / repaired, and sealed with an extrusion weld as outlined in the project specifications. Vacuum box testing will then be conducted to confirm repair.

Follow Up Action Required

Remove hydrated GCL from underneath cap and patch / repair area with extrusion welds following project specifications and as outlined in the Contractor's Response.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane cap was cut and GCL was exposed (along northern end of SA-6 at SCB wall). Hydrated GCL was removed from underneath geomembrane, and new pieces of GCL were cut and overlapped (minimum of 1 ft.) and sealed with granular bentonite along the seams. Various cuts in the geomembrane were then repaired (RP-474 & RP-475). Patches were overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the hole was properly patched (as outlined in Section 02372). Refer to *10/7/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carolina Ramos Date 10/8/15

Independent CQA Monitor Date 10/8/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 11

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 10/12/15 Contractor in NC: Entact Non-Compliance No.: 11 Notes: Failed Destruct Sample
Reference	
Item: Failed Destruct Sample Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Destruct sample DSX-13 (RP-483) collected from RP-477 from Panel #125, failed on one of the five specimens for peel testing completed by the Geosynthetic Installer's Laboratory (Note: average of the five specimens was acceptable). Based on this failure, RP-477 (entire patch) was covered with a new patch and sealed with an extrusion weld. This non-compliance issue was also noted on the 10/12/15 Repair Report, and is identified as RP-486. The location of this repair was recorded and logged (via GPS) by the team (southern swale).

Contractor's Response

Destruct sample DSX-13 failure for one of five specimens confirmed. Repair associated with destruct sample (P-125 on southern end of SA-6) to be covered with new patch, sealed, and extrusion welded according to project specifications. Additional destruct sample to be taken from new extrusion weld (from new patch) to confirm repair.

Follow Up Action Required

Place patch over RP-477 and repaired and sealed with extrusion weld, according to project specs.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

Geomembrane patch was placed over RP-477 and was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Once extrusion welding was completed, vacuum box testing was conducted along the seams to confirm the patch was properly sealed (as outlined in Section 02372). Additionally, once the new patch (RP-486) was completed, an additional extrusion destruct sample (DSX-15) was collected (referred to as RP-487) to confirm the integrity of the new weld. Refer to *10/12/15 Photograph Log* for supporting non-compliance photos.

Geosynthetic Installer Representative Carolyn Ramos Date 10/13/15

Independent CQA Monitor Date 10/13/15

LANGAN

Notice of Non-Compliance and Corrective Action

Sheet # 12

General Project Information	
Project Name: SA-6 South Project No.: 100530001 Owner/Contr.: Honeywell / AmecFW QA Monitor: Langan	Date: 11/04/15 Contractor in NC: Entact Non-Compliance No.: 11 Notes: Equipment Puncture
Reference	
Item: Equipment Puncture through Cap Specification Sec. No.: 02372	Drawing No.: Other:

Description of Non-Compliance

Cross Reference (QA Inspection Form & Sheet No.):

Equipment puncture through geomembrance cap observed along SCB wall (northern end of SA-6 cap). Puncture to be patched / repaired according to project specs. Additional details on the patch / repair work completed are described in the *11/4/15 Daily Report* and *11/4/15 Photograph Log*. This non-compliance issue was also noted on the 11/04/15 Repair Report, and is identified as RP-488. The location of this repair was recorded and logged (via GPS) by the team (along SCB wall).

Contractor's Response

Equipment puncture through geomembrane along SCB wall confirmed. Puncture to be covered with new patch, sealed, and extrusion welded according to project specifications.

Follow Up Action Required

Place patch over puncture location and repair and seal with extrusion weld according to project specs.

Follow Up Action Taken

Cross Reference (QA Inspection Form & Sheet No.):

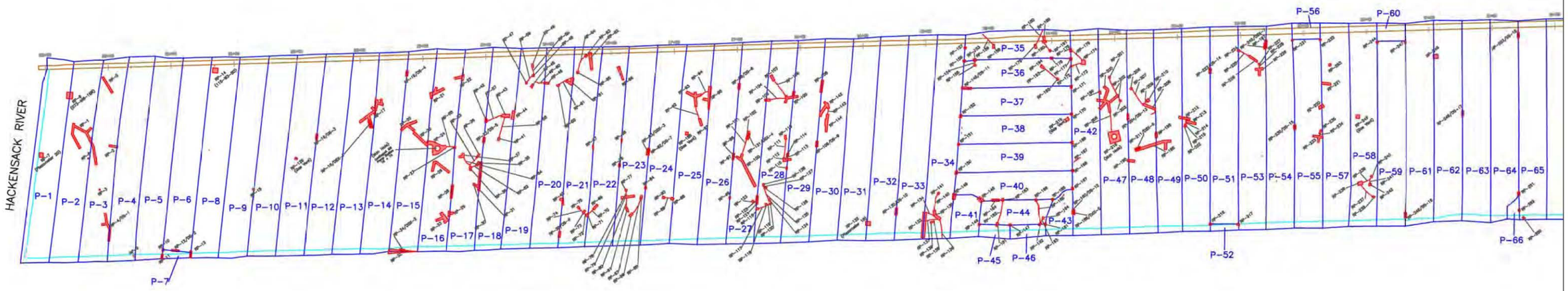
Geomembrane patch was placed over the equipment puncture and was overlapped a minimum of 4-inches beyond the edges of the cut, conformed so that the edges were rounded, and sealed with an extrusion weld (as outlined in Section 02372). Prior to welding, a new piece of GCL was placed along the SCB wall over the puncture area. Upon completion of extrusion welding, vacuum box testing could not be completed based on the location of the patch (along edge of SCB wall). The welds were visually inspected by Entact and Langan. Refer to *11/04/15 Photograph Log* for supporting non-compliance photos.

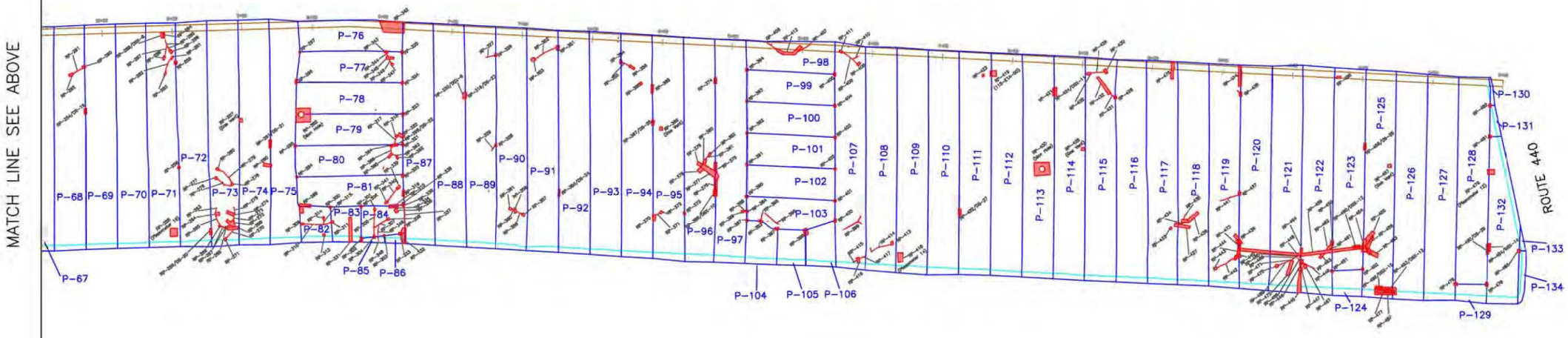
Geosynthetic Installer Representative Carlos Ramos Date 11/5/15

Independent CQA Monitor Date 11/5/15

ATTACHMENT G
SA-6 SOUTH CAP AS-BUILT DRAWINGS

ATTACHMENT G-1
SA-6 SOUTH CAP PANEL LAYOUT
(60 MIL TEXTURED LLDPE GEOMEMBRANE)





LEGEND

RP-1 (Repair Number)

LINER SEAM/EDGE

SCB WALL

HB WALL (Inner Edge)

RP: Repair

DSX: Destructive Extrusion Weld Test

DS: Destructive Fusion Weld Test

P: Panel

\- Bead

0 80 160 Feet

NOTE: Refer to ESI Repair Report for repair details

J.H. 01/28/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME

SA6 SOUTH CAP PANEL LAYOUT
60 mil Textured LLDPE Geomembrane
01/28/16

PROJECT NAME & LOCATION

HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT G-2
SA-6 SOUTH CAP GVL/GCL LAYOUT
(CLASS A GEOTEXTILE / GAS VENT LAYER / GEOSYNTHETIC CLAY LINER)

HACKENSACK RIVER

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

ROUTE 440

0 80 160 Feet

LEGEND

- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)
- SPOT ELEVATION (ft) (X 0.0)

J.H. 01/28/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosythetic Clay Liner
01/28/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT G-3
SA-6 SOUTH CAP GDL LAYOUT
(GEOCOMPOSITE DRAINAGE LAYER)

HACKENSACK RIVER

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

ROUTE 440

LEGEND

GEOCOMPOSITE DRAINAGE LAYER (GDL)

SCB WALL

HB WALL (Inner Edge)

0 80 160 Feet

J.H. 01/27/2016

ENTACT 302 Unity Plaza Latrobe, PA 15650

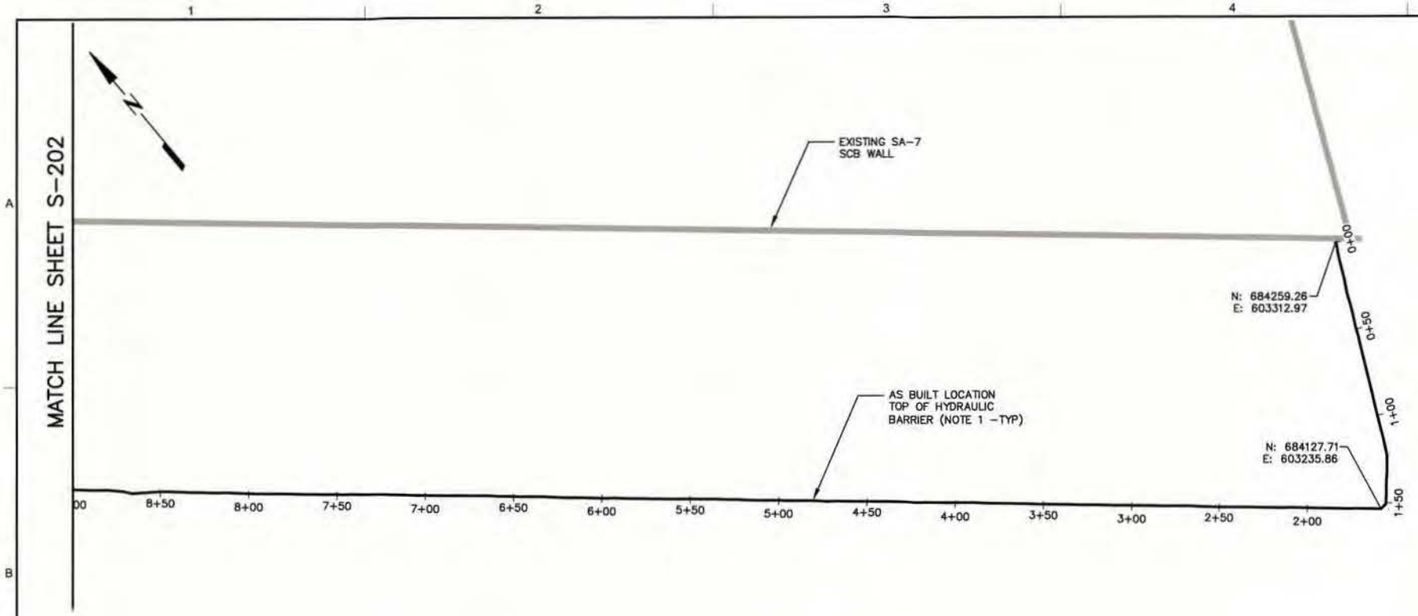
DRAWING NAME

SA6 SOUTH CAP GDL LAYOUT
GEOCOMPOSITE DRAINAGE LAYER 01/27/16

PROJECT NAME & LOCATION

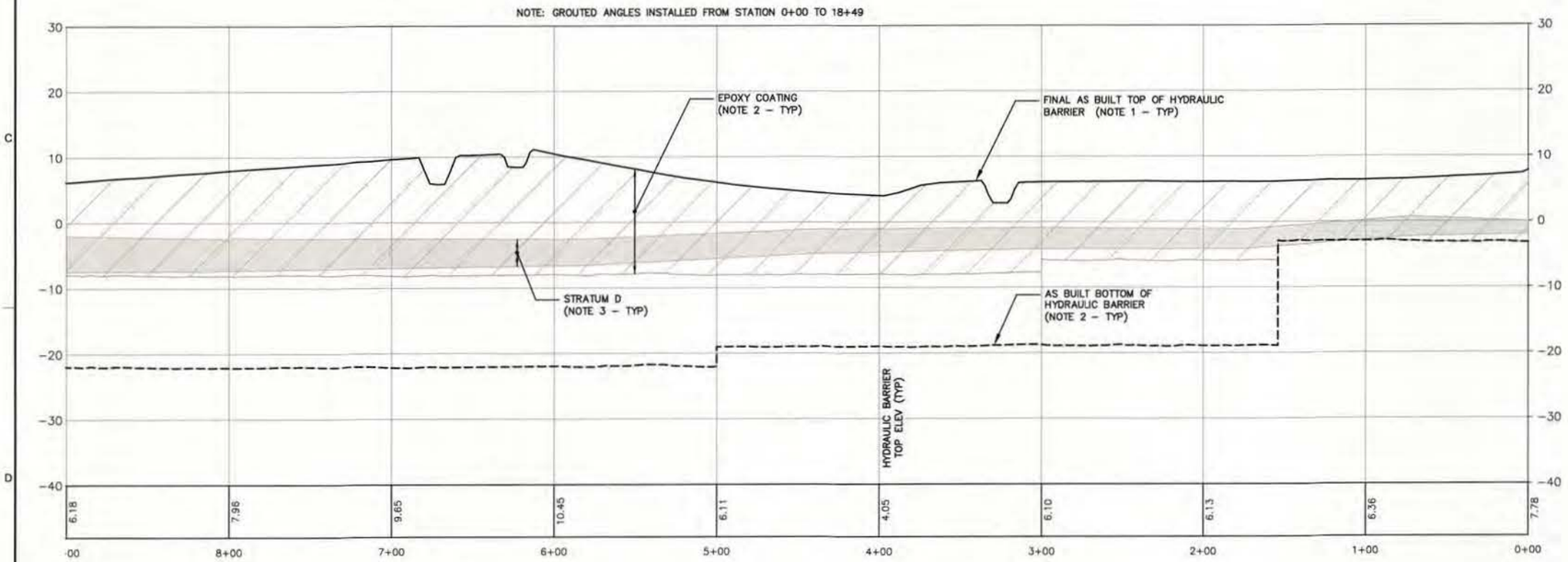
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT H
SA-6 SOUTH HYDRAULIC BARRIER WALL
PLAN AND PROFILE AS-BUILT



NOTES:

1. PLAN LOCATION AND TOP ELEVATION OF HYDRAULIC BARRIER BASED ON SURVEY COMPLETED UNDER SUPERVISON OF MASER AND REPRSENTS THE FINAL ELEVATION AFTER THE WALL WAS CUT TO MATCH DESIGN LINER GRADES.
2. BOTTOM OF HYDRAULIC BARRIER AND EXTENT OF EPOXY COATING BASED ON ENTACT TOP SURVEY AND SHEET PILE FABRICATION DRAWINGS. ALL SHEETS DELIVERED TO THE SITE WERE INSPECTED BY AMEC PERSONNEL TO VERIFY LENGTHS AND EPOXY COATING.
3. STRATUM D SHOWN FOR REFERENCE ONLY AND IS BASED ON GEOTECHNICAL BORINGS COMPLETED DURING THE PRELIMINARY DESIGN INVESTIGATION.



0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	REVISION	BY	APVD
1	2/10/16	DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

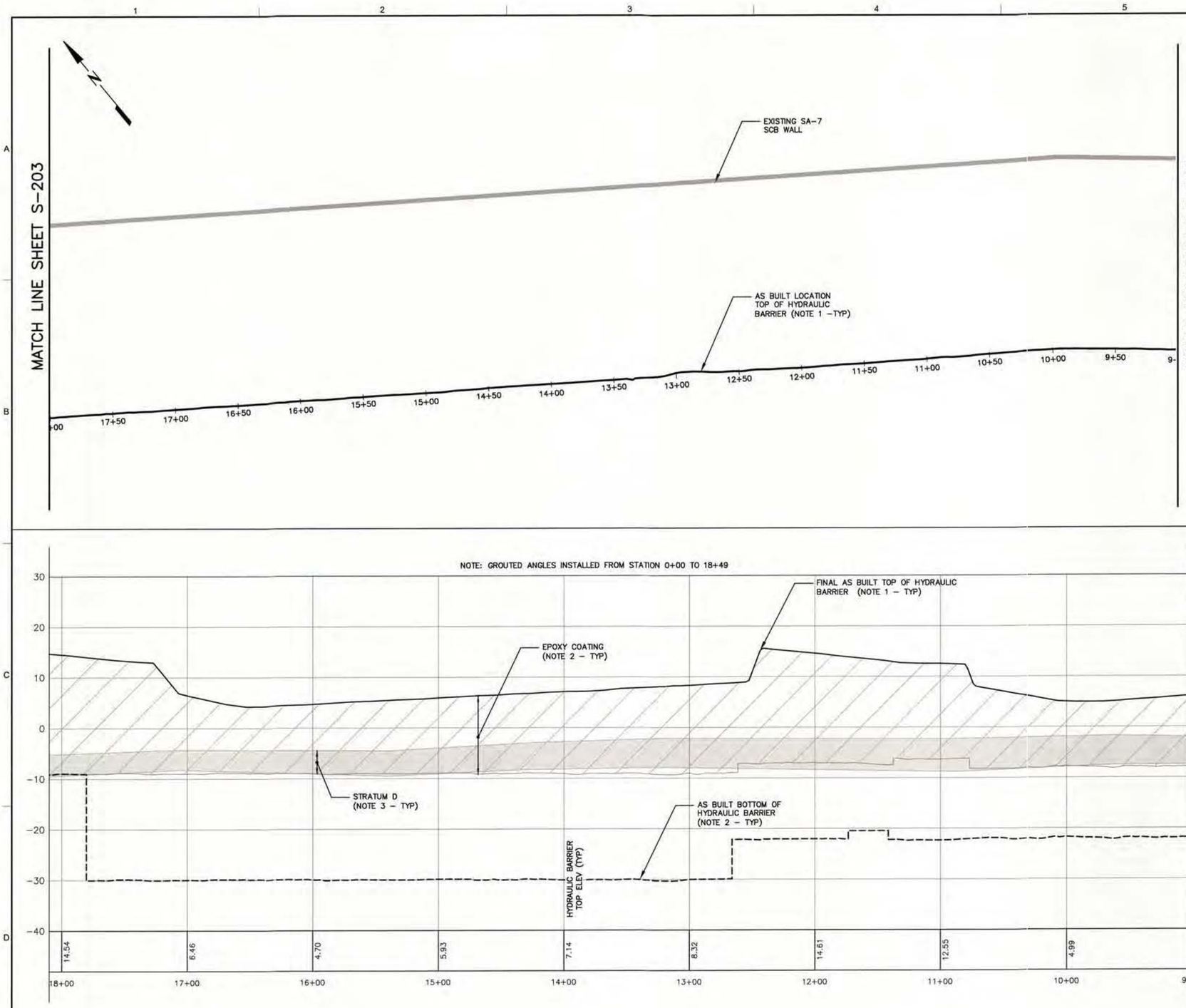
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/10/16
PROJ	3480-10-0027
DWG	S-201
SHEET	OF

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Declarations\Declaration No 2\SA-6 South VHB\SA-6 South VHB Final Profile.dwg PLOT DATE: Tue, 18 Oct 2016 PLOT TIME: 7:06 PM



NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET S-201

0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	REVISION	CHK	APVD	BY	APVD
1	2/10/16	DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT	TDD	APVD	TDD	SGS
DSGN		DR	RJR	TDD		SGS

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL

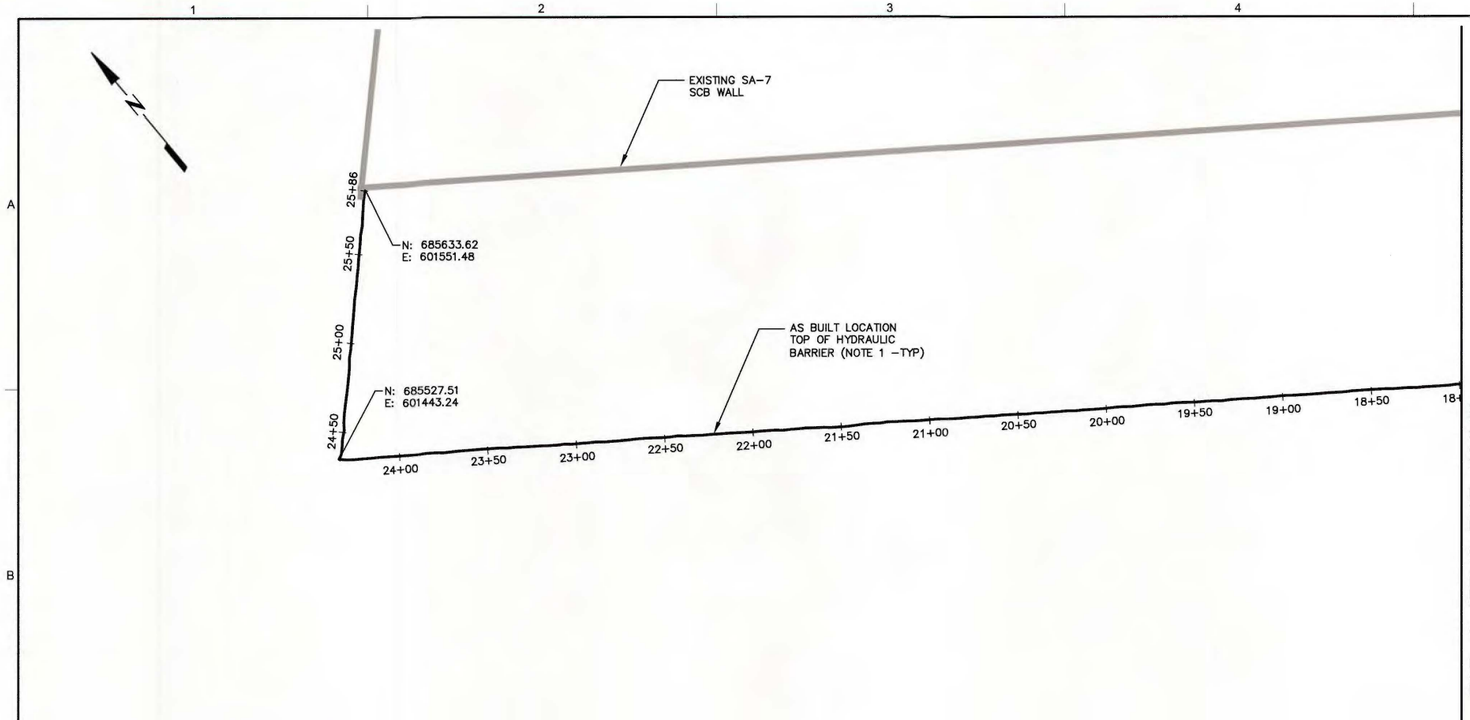
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 585 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/10/16
PROJ	3480-10-0027
DWG	S-202
SHEET	OF

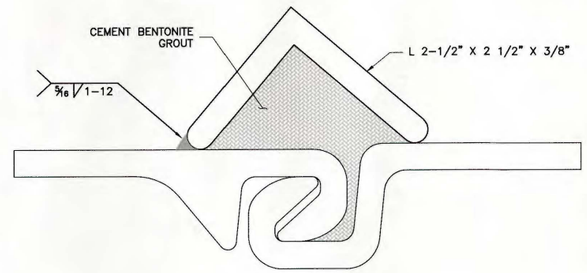
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Declarations\Declaration No 2\SA-6 South VHB\SA-6 South VHB Final Profile.dwg PLOT DATE: Tue, 18 Oct 2016 PLOT TIME: 7:05 PM



MATCH LINE SHEET S-202

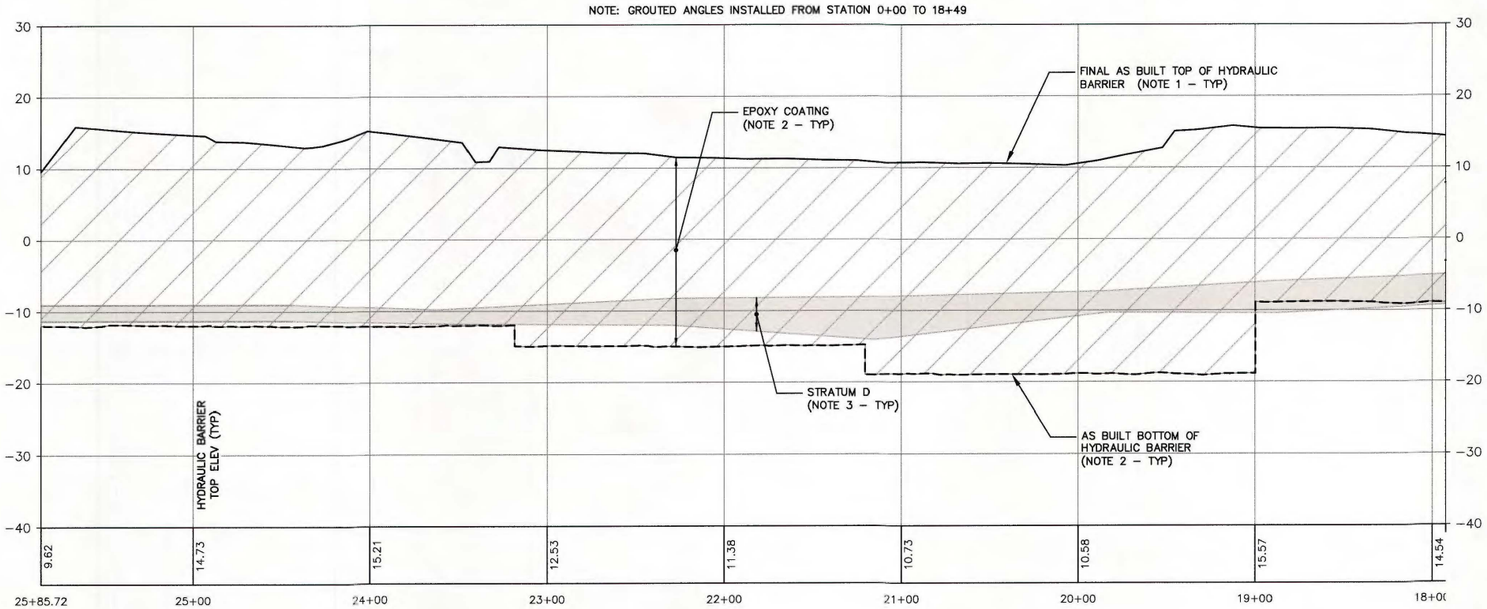
NOTES:

1. REFER TO NOTES 1 THRU 3 ON SHEET S-201



SEE NOTE HB19 ON SHEET GN-003

SHEET SEALING DETAIL (F)
NTS
SN-201 | CN-301



0 5 10 20
SCALE IN FEET
VERTICAL SCALE: 1" = 10'

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE: 1" = 40'

NO.	DATE	DSGN	DR	CHK	APVD
1	2/10/16	TDD	RJR	TDD	

DECLARATION NO 2 - SA-6 SOUTH VHB AS BUILT

REVISION BY TDD APVD SGS

NJ PROFESSIONAL ENGINEER LICENSE NUMBER SGS

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 588 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	2/10/16
PROJ	3480-10-0027
DWG	S-203
SHEET	OF

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FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Declarations\Declaration No 2\SA-6 South VHB\SA-6 South VHB Final Profile.dwg PLOT DATE: Tue, 18 Oct 2016 PLOT TIME: 7:02 PM

ATTACHMENT I
DESIGN CHANGES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Major (a) Effective Date: 3/25/14
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: CONTINGENT GW EXTRACTION SYSTEM	☐ Yes, RFI No. ___ ☑ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. This Bulletin describes a major change to that extraction system and explains the basis for that change.

Section 10.2 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (58) of the Consent Decree. Additionally, Note 3 on the Contingent GW Extraction System Drawings SA-6 South C-201,202 and 203 and SA-6 North CN-201, 202 and 203 further elaborated that "Honeywell will continue to evaluate pertinent information gathered through dewatering and other construction operations. This information will be used to calibrate the groundwater capture model. Subject to the results of that model calibration and evaluation of the system design Honeywell may propose alternative groundwater extraction designs".

The SA-6 South Groundwater Modeling Report Appendix B Section 5 indicates that Honeywell evaluated various pumping scenarios including the option of French Drains/Central drain. The results of the central/French drain scenario were shown in Figure 5-3. From a modeling perspective it was concluded that the drain provided equivalent performance to the 9 wells.

Consistent with the approach indicated in the Design report, Honeywell has continued to evaluate data collected during the construction dewatering and excavation. Observations of the well point dewatering system have indicated a great deal of variability in hydraulic properties from point to point. Observation of the excavation has also shown significant variability in soil types and permeabilities.

Based on an evaluation of this variability and in consideration of the reduced maintenance advantages associated with the French drain system, Honeywell is proposing to modify the design to change the wells to a French Drain. This proposal is consistent with paragraph 58 of the First Amended Consent Decree on Remediation and Redevelopment of Study Area 6 North. This design change will impact drawings C-201, 202, 203 and CN-201,202,203. The use of trenches also

reduces the number of pumps, control panels, and cap penetrations. This will result in changes to the electrical drawings E-301, 302, 303 and EN-301-302 and 303.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and Profiles 201-103 Electrical Drawings 301-303 C306 Well/Pump Detail

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.1 Major Effective Date: 06/10/14
Project Location: SA-6 NORTH, SA6-SOUTH Title: CONTINGENT GW EXTRACTION SYSTEM	Associated RFI: ☐ Yes, RFI No. ___ ☑ None
REPLACE WELLS WITH TRENCHES Contractor (Subcontractor): Entact	Project No.: 3480130377

Description of Change/Modification:

DCB-007 has been issued to document changes to the Groundwater Removal System Oesign. This change includes changing from recovery wells to a "French drain" system. DCB 007 design will be issued is sections to allow for a "fast tracked" design and installation process.

Stage 1 (DCB-007.1) is limited to the French drain installation and the lower sections of the pump and access station manholes for SA-6 South. (see attached memo)

The Drawings have certain design details clouded. These details have not been finalized and have not been issued for construction.

Subsequent stages of the design including the design for the SA-6N Groundwater Collection System will be issued under the DCB – 007 number. Examples DCB -007.2, DCB- 007.3.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☑ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and Profiles 201-103 Electrical Drawings 301-303 C306 Well/Pump Detail

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature): 6/10/14

Does DCB Result in CCO? ☑ Yes(b) ☐ No

Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Date:	June 6, 2014	cc:	Joe Clifford, PE – Amec Eric Christodoulatos - Amec
From:	Geoff Shallard, P.E.		
To:	Stuart Bills - Amec		
Subject:	DCB-007.1		

DCB-007 has been issued to document changes to the Groundwater Removal System Design. This change includes changing from recovery wells to a "French drain" system

The new design will include installation of the following.

- a french drain including 8 inch HDPE perforated piping and 1 ½ inch crushed stone
- pump station manholes and associate frames and covers
- cleanout/access manholes and associated covers
- pumps and associated power and controls
- forcemain

Incidental to the basic design changes will include

- revisions to geomembrane liner grading
- revisions to final grades in the vicinity of pump stations

To facilitate progress the design details will be released in stages.

Stage 1 (DCB-007.1) is limited to the French drain installation and the lower sections of the pump and access station manholes for SA-6 South.

The Drawings have certain design details clouded. These details have not been finalized and <u>have not been</u> issued for construction.

Subsequent stages of the design including the design for SA-6N will be issued under the DCB – 007 number. Examples DCB -007.2, DCB- 007.3.

The pump station manhole should be constructed to the surcharge grade to allow for use of the system for groundwater control during surcharge and remedy construction prior to

capping. Manholes and the drain system will settle as the site consolidates. As a result flexibility needs to be retained to allow for setting access hatches to final grades. Temporary pumps will be used during the remedy.

Drawing #	Title	Comments	Location
C-307	Groundwater Extraction Trench Details		STUDY AREA 6-South
C-201	Groundwater Extraction Trench Plan and Profile	0+00 to 9+50	STUDY AREA 6-South
C-202	Groundwater Extraction Trench Plan and Profile	9+50 to 19+00	STUDY AREA 6-South
C-203	Groundwater Extraction Trench Plan and Profile	19+00 to 22+40	STUDY AREA 6-South

Sincerely,

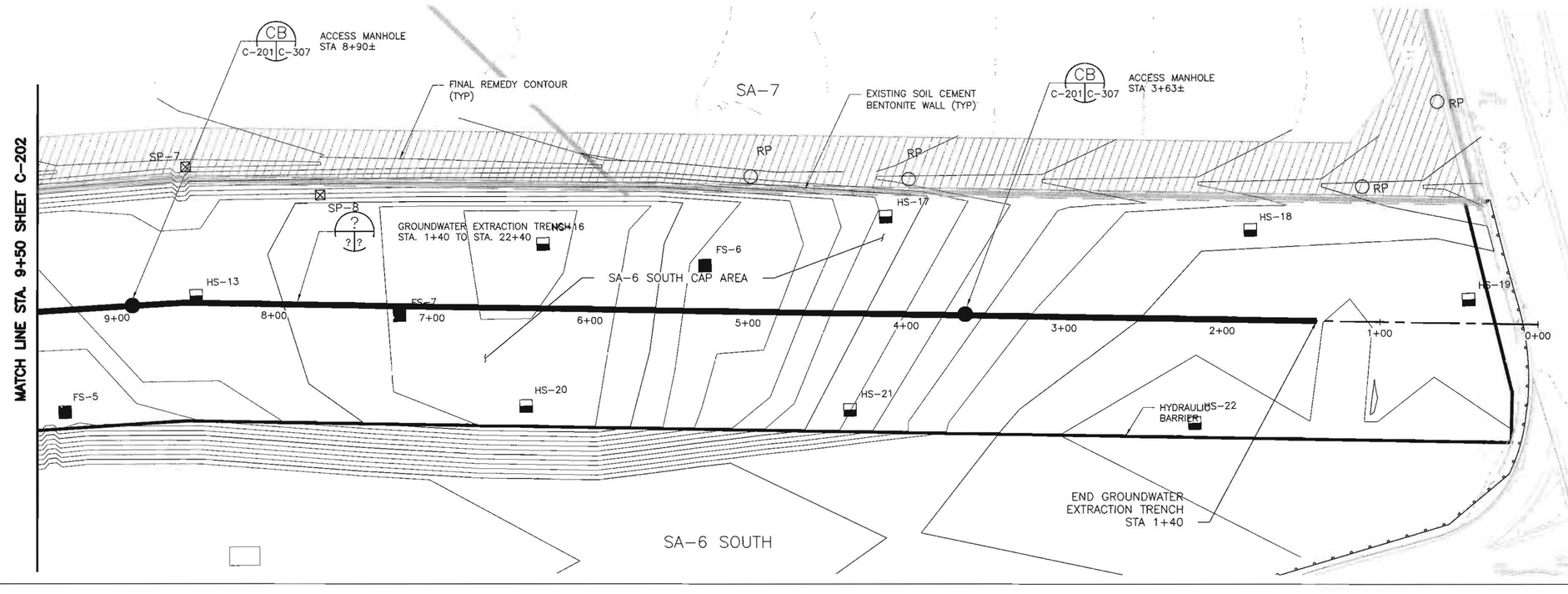
Amec Environment & Infrastructure, Inc.

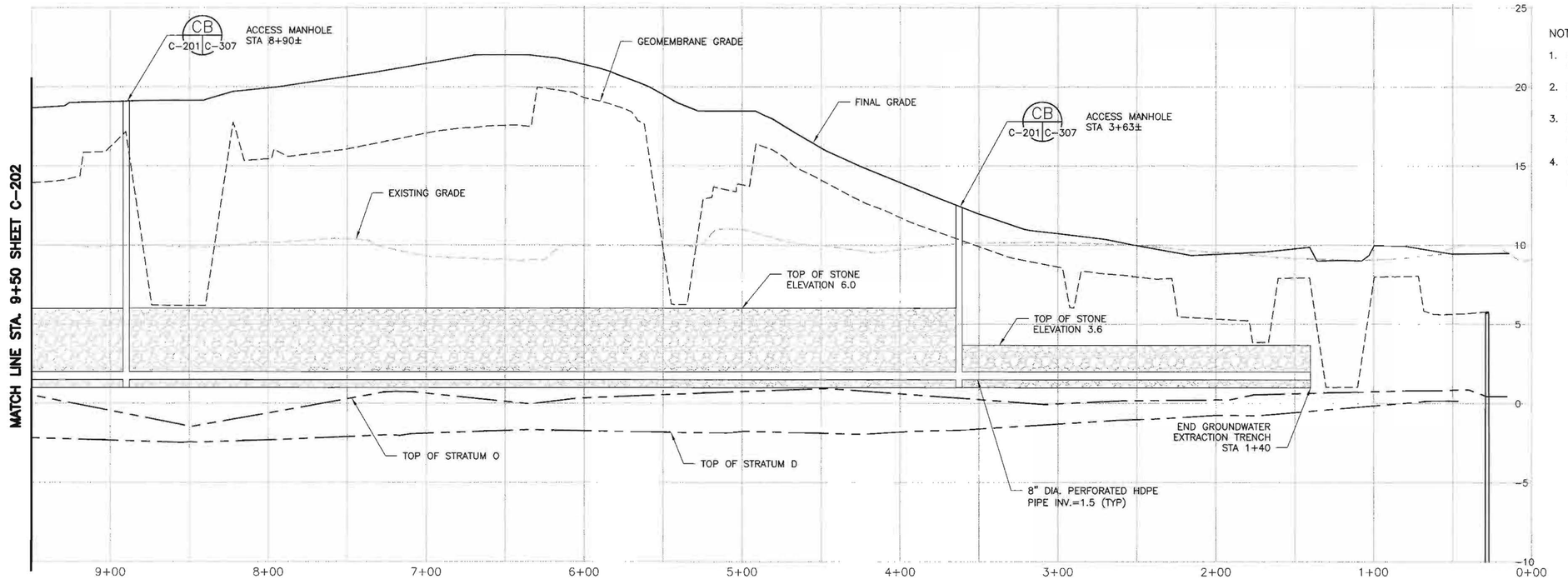
Geoff Shallard

Associate Project Manager

Attachments:

Drawings C-201, C-202, C-203 C-307





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	06/06/14	TDD	RJR	TDD	SGS

DCB 007-J

REVISION BY TDD APVD SGS

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CHROMIUM REMEDY
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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
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Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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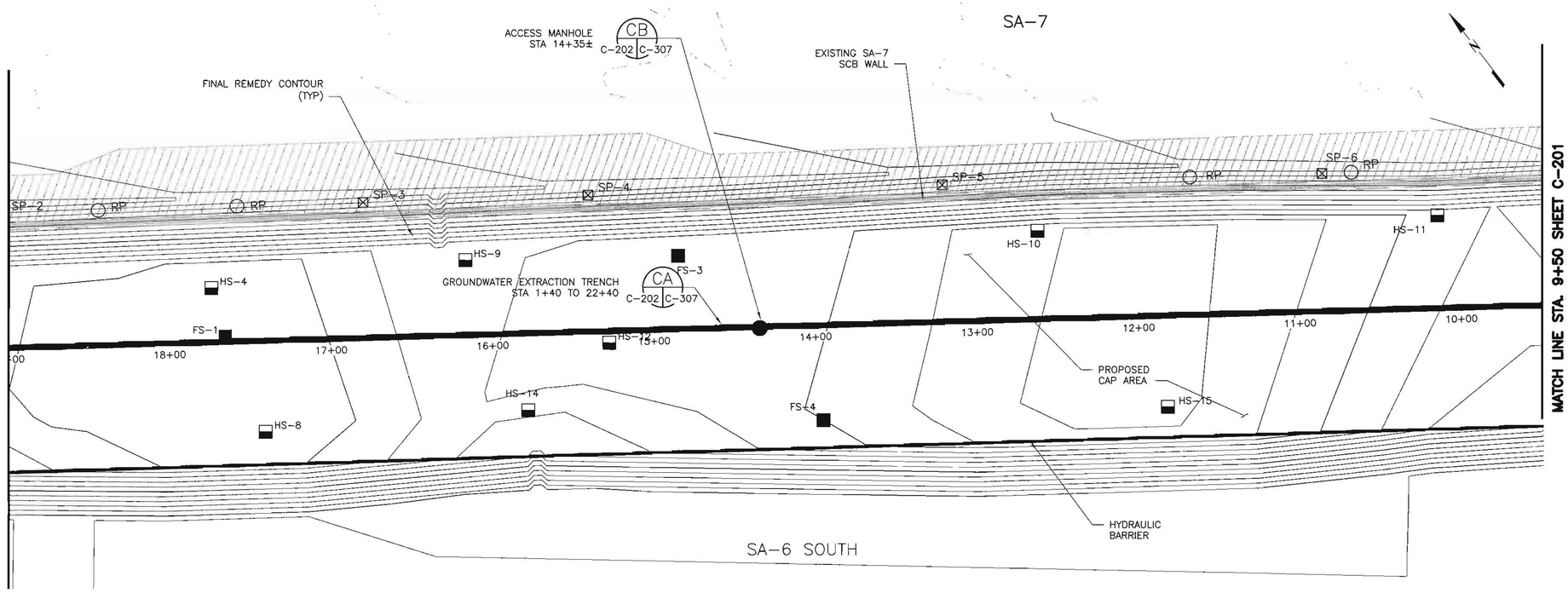
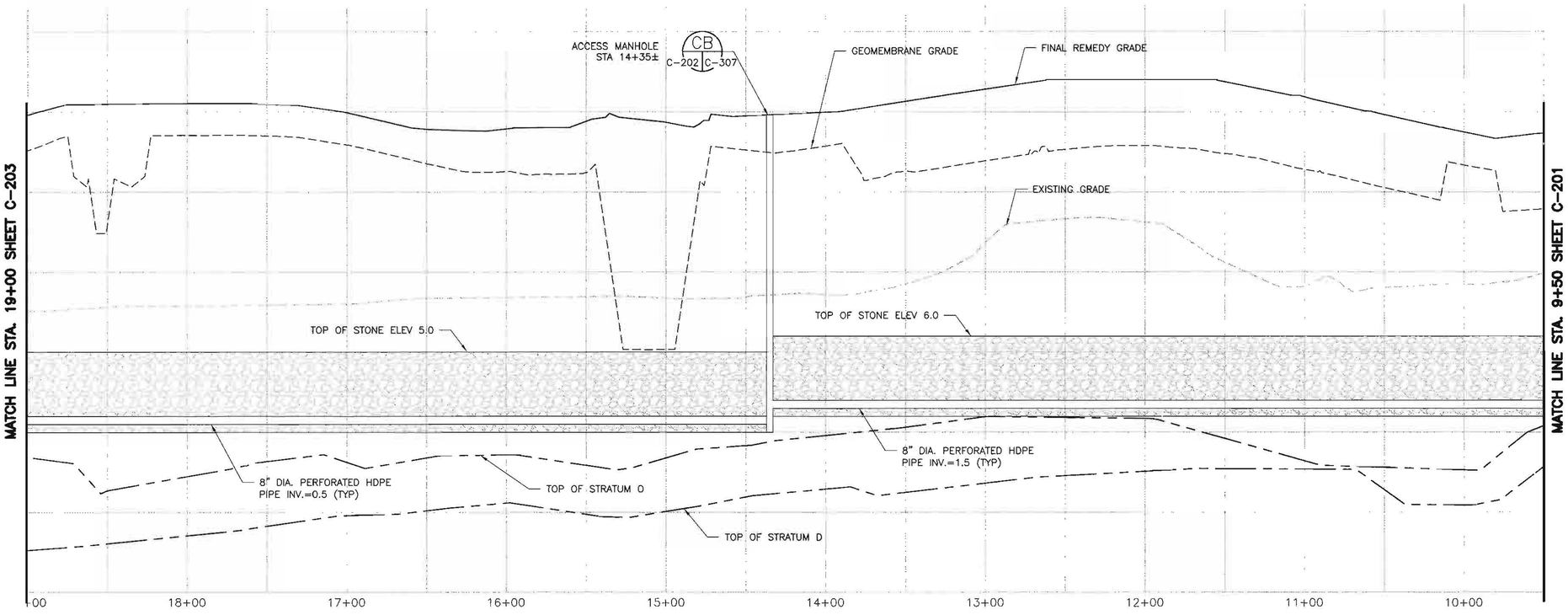
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\C-201 Cont Ground Water Extraction Sys.dwg PLOT DATE: Fri, 06 Jun 2014 PLOT TIME: 12:52 PM





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HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43907

NO.	DATE	REVISION	BY	APVD
1	06/06/14	DCB 007.1	TDD	SGS
DSGN	TDD	DR RJR	CHK TDD	APVD SGS

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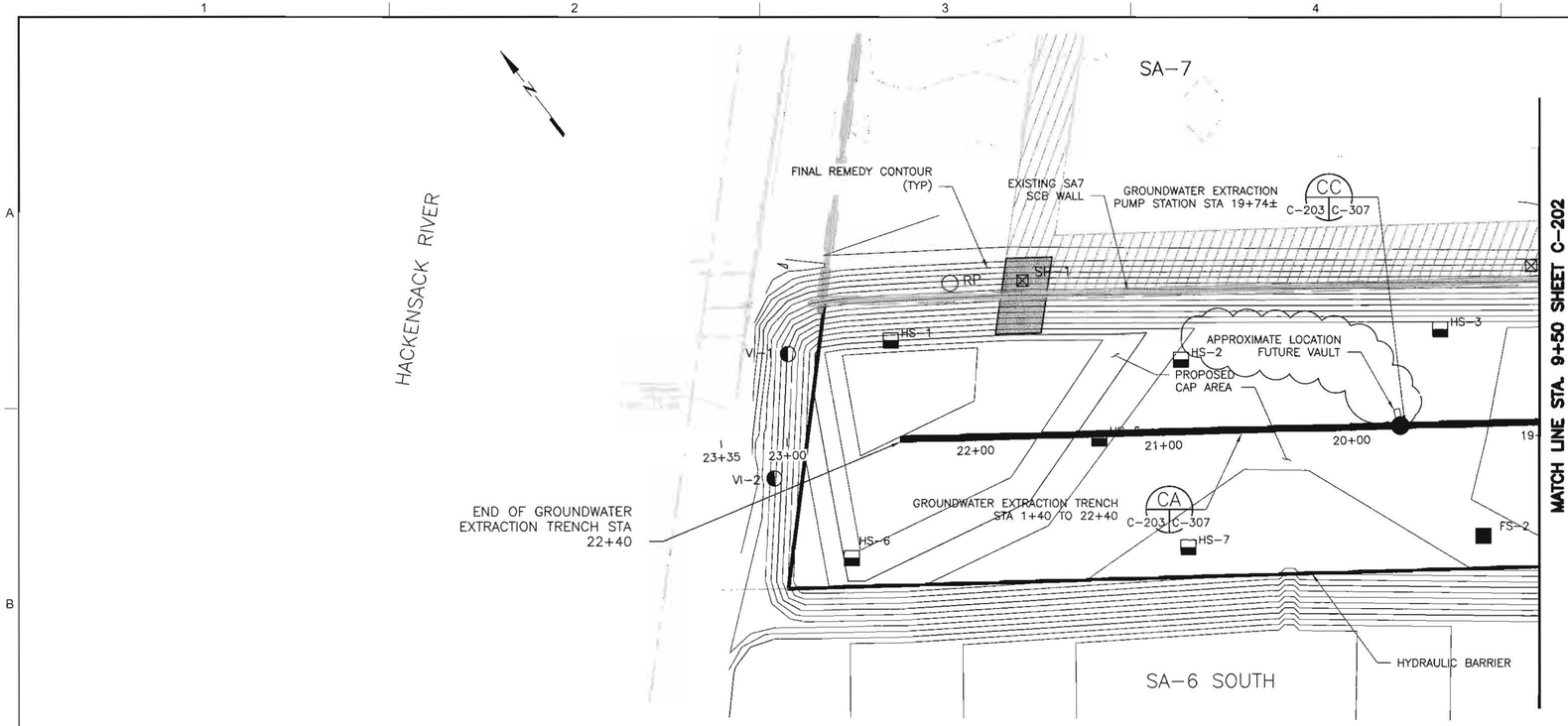
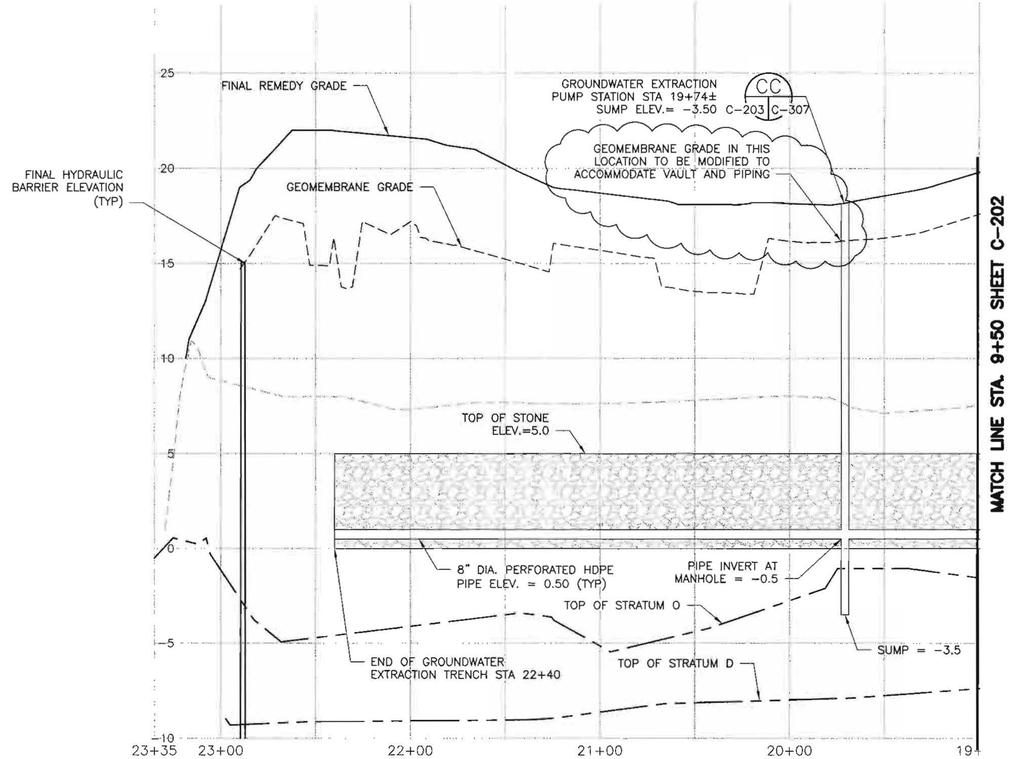
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-202
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\C-202 Cont Ground Water Extraction Sys.dwg PLOT DATE: Fri, 06 Jun 2014 PLOT TIME: 1:00 PM





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HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	06/06/14	DCB 007-1	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SGS

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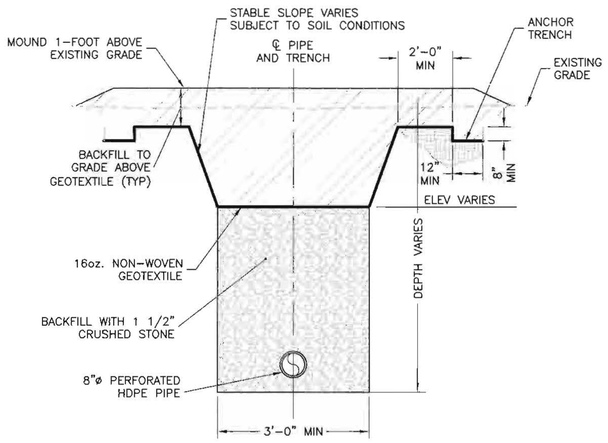
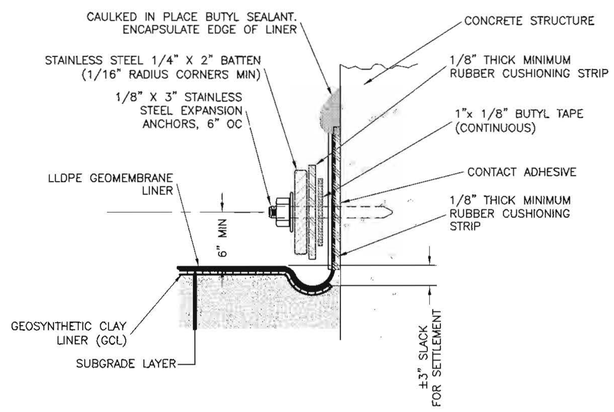
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\C-203 Cont Ground Water Extraction Sys.dwg PLOT DATE: Fri, 06 Jun 2014 PLOT TIME: 1:07 PM



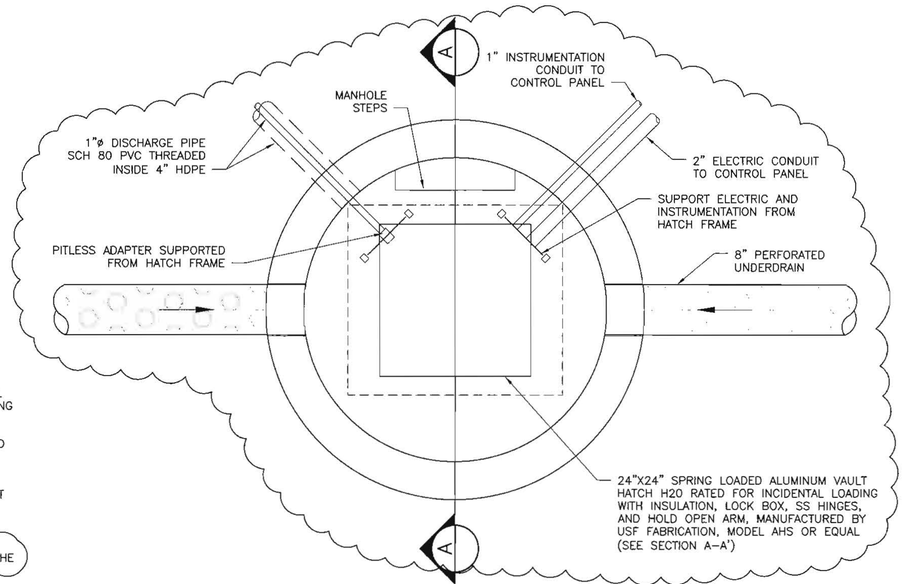
GROUNDWATER TRENCH TEMPORARY CONDITION (CA)
NTS
C-201 C-202 C-203 C-307



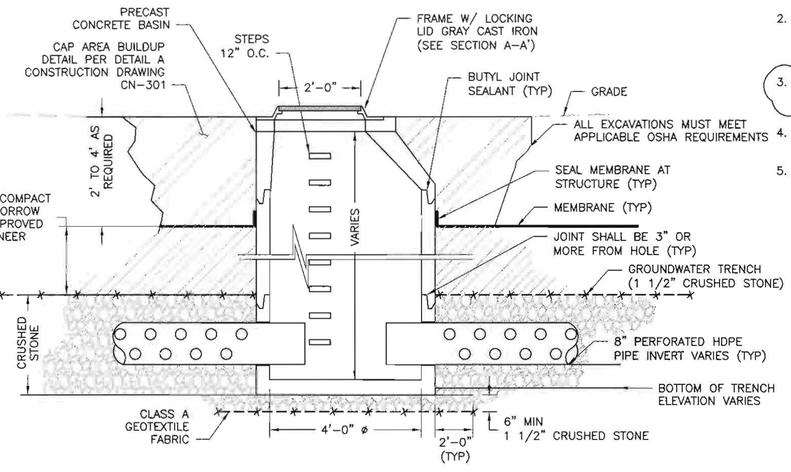
LINER ANCHOR TO CONCRETE STRUCTURE (CE)
NTS
TYP C-307

NOTES:

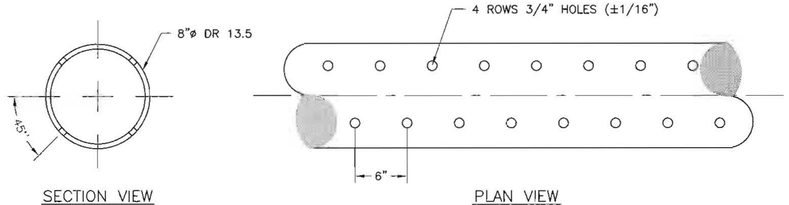
1. THE CONTRACTOR WILL LAY OUT THE ALIGNMENT. THE ALIGNMENT WILL BE INSPECTED BY THE CONTRACTOR AND ENGINEER PRIOR TO INITIATING INSTALLATION IN ANY AREA. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES, PILES, AND SURCHARGE MONITORING STATIONS.
2. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
3. CONTRACTOR TO USE PLATE BOLTED TO MANHOLE OR SIMILAR ARRANGEMENT TO BE APPROVED BY THE ENGINEER FOR COMBINING THE PITLESS ADAPTER AND SECONDARY CONTAINMENT.
4. PLACE STONE LOOSE IN TRENCH. RUN PLATE COMPACTOR OR EQUAL PRIOR TO INSTALLING FABRIC.
5. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.



PLAN VIEW

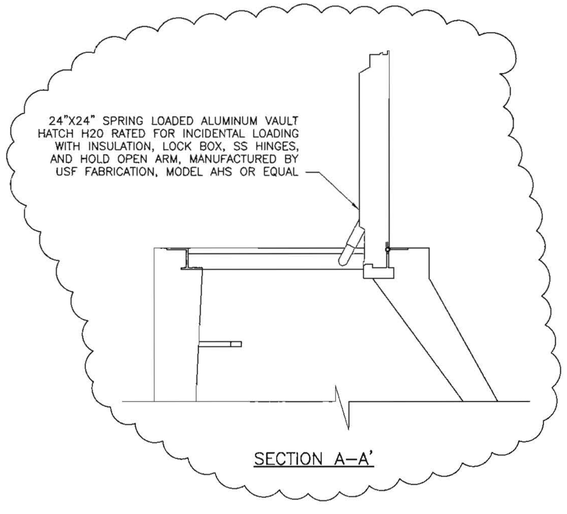


TYPICAL ACCESS MANHOLE FINAL CONDITION
STA.=3+63±, STA.=8+90±, STA.=14+35± (CB)
NTS
C-201 C-202 C-307

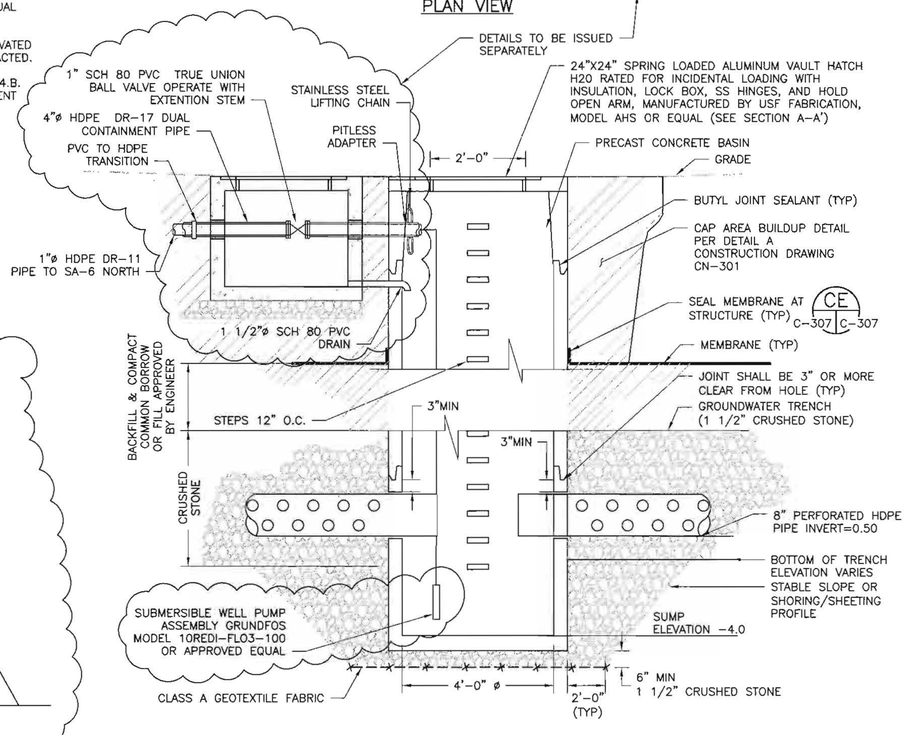


SECTION VIEW
PLAN VIEW

PIPE PERFORATIONS (CD)
NTS
TYP C-307



SECTION A-A'



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)
NTS
C-203 C-307

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
DSGN		DCB 007-1	TDD	APVD
DR		RJR	TDD	SGS
TDD	1	06/06/14	BY	APVD
			TDD	SGS

Honeywell
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION TRENCH DETAILS

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PROJ	3480-12-0317
DWG	C-307
SHEET	OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.2 Major Effective Date: 11/20/14
Project Location: SA-6 NORTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. ____ þ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification. DCB-007.2 provides the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. Section 10.3 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (56) of the Consent Decree.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.2 is applicable to the SA-6N Groundwater Extraction System trench design.

The design was modeled by Cornerstone. The model results indicate that the design will achieve the required gradients. Figure 1, 2 and 3 from the model runs are attached for reference.

The changes impact the following drawings
The following Issued for Construction Drawings are deleted

- CN-201
- CN-202
- CN-203

These following drawings were added

Contingent Groundwater Extractions System Plan and Profile

- CN-201
- CN-202
- CN-203
- CN-204 (discharge force main and electrical)
- CN-310 (Groundwater Extraction Trench Details).

The changes from the well concept to the trench will also impact the Geomembrane Liner Grading CN-123 and CN-124. The Geomembrane liner changes will be issued separately.

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. Amec is currently evaluating data collection and transmission options for the piezometers. The piezometer designs will be issued in a separate DCB.

Reason for Change/Modification:	Explanation or Reason: Design changed based on information gathered during construction
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date: 11/21/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
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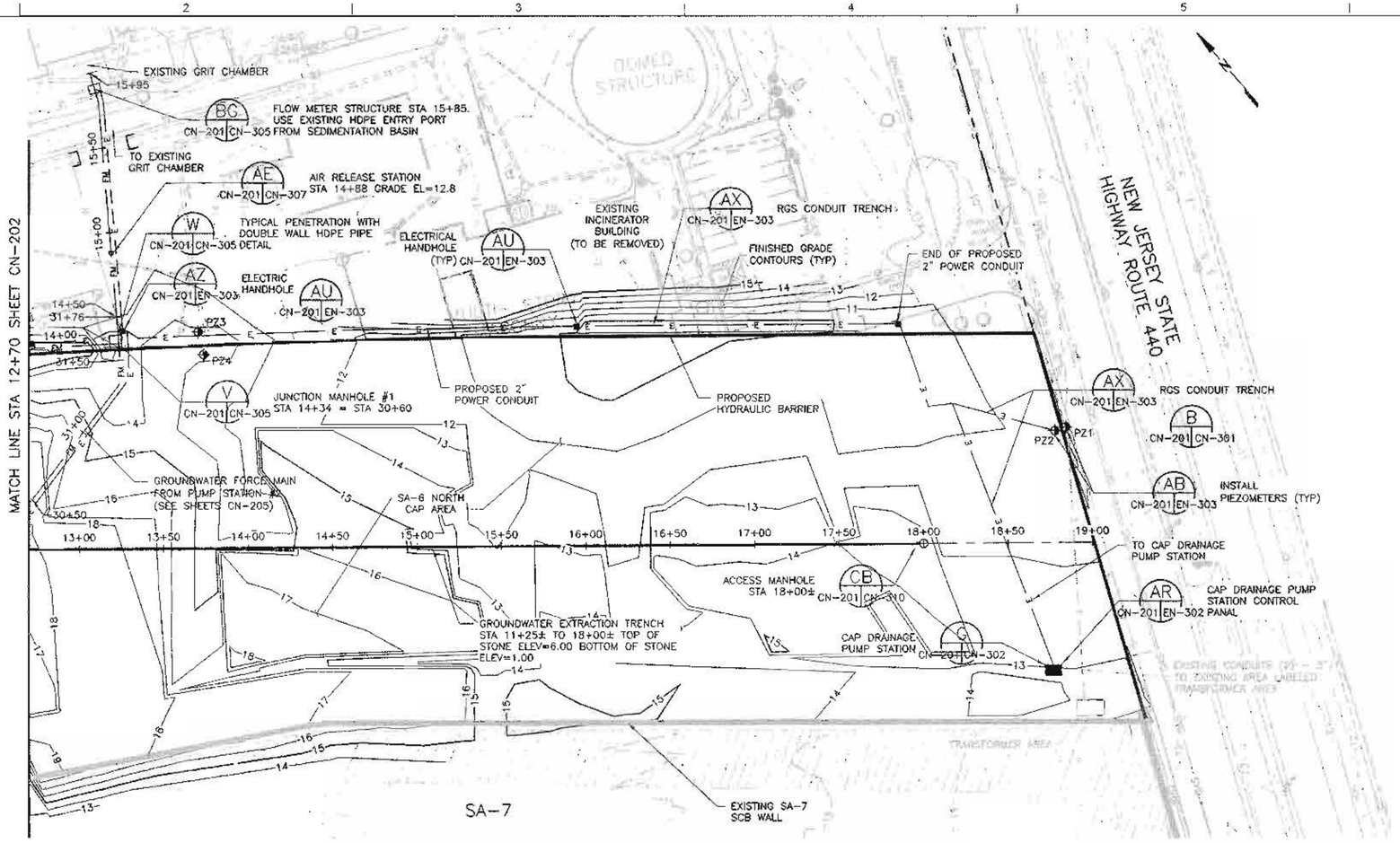

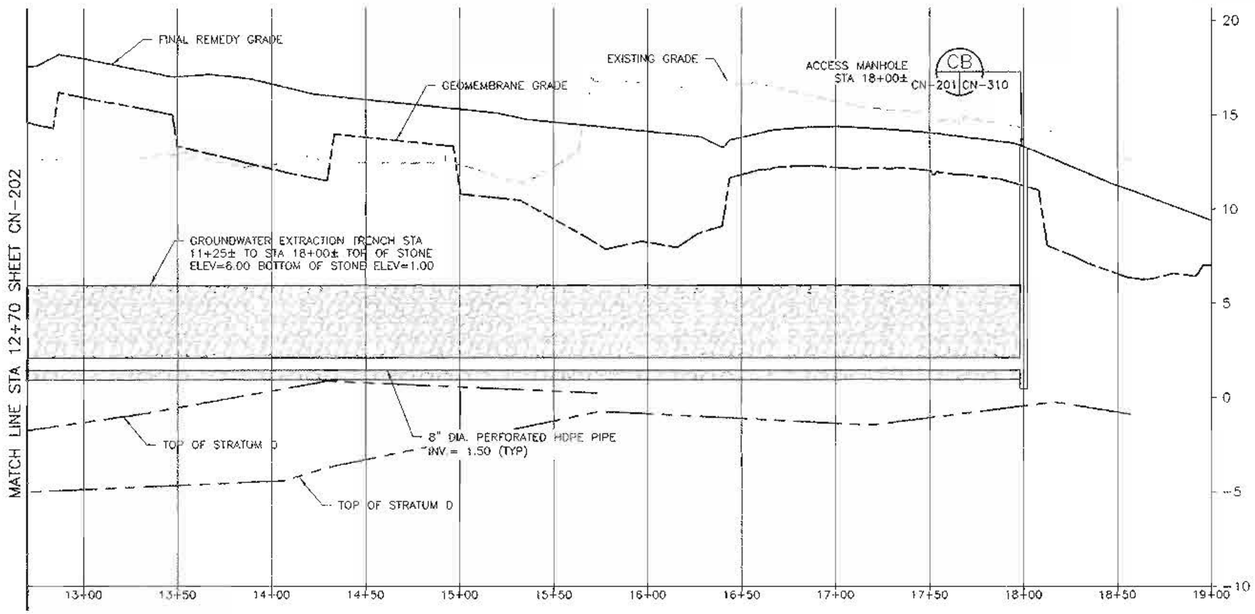

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM C AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. PIEZOMETRIC PAIRS MAY BE INSTALLED USING SOLAR PANELS FOR POWER AND CELL TOWER OR SATELLITE DATA TRANSMITTING. DESIGN OF PIEZOMETRIC PAIR WILL BE ISSUED UNDER SEPARATE COVER.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NO	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	11/19/14		TDD	RJR	TDD	TDD	SGS
1	09/13/13	DCB 007.2				RJR	SGS
0	06/07/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM				TDD	SGS
		ISSUED FOR CONSTRUCTION					
		REVISION					

NJ PROFESSIONAL ENGINEER
SGS LICENSE NUMBER 43597

Honeywell
101 COLUMBIA RD BOX 2100, MORRISTOWN, NJ 07962

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STUDY AREA 6 NORTH
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

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200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
609-890-2333
NJ Certificate of Authorization Number 24GA28010900

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BAR IS ONE INCH ON ORIGINAL DRAWING
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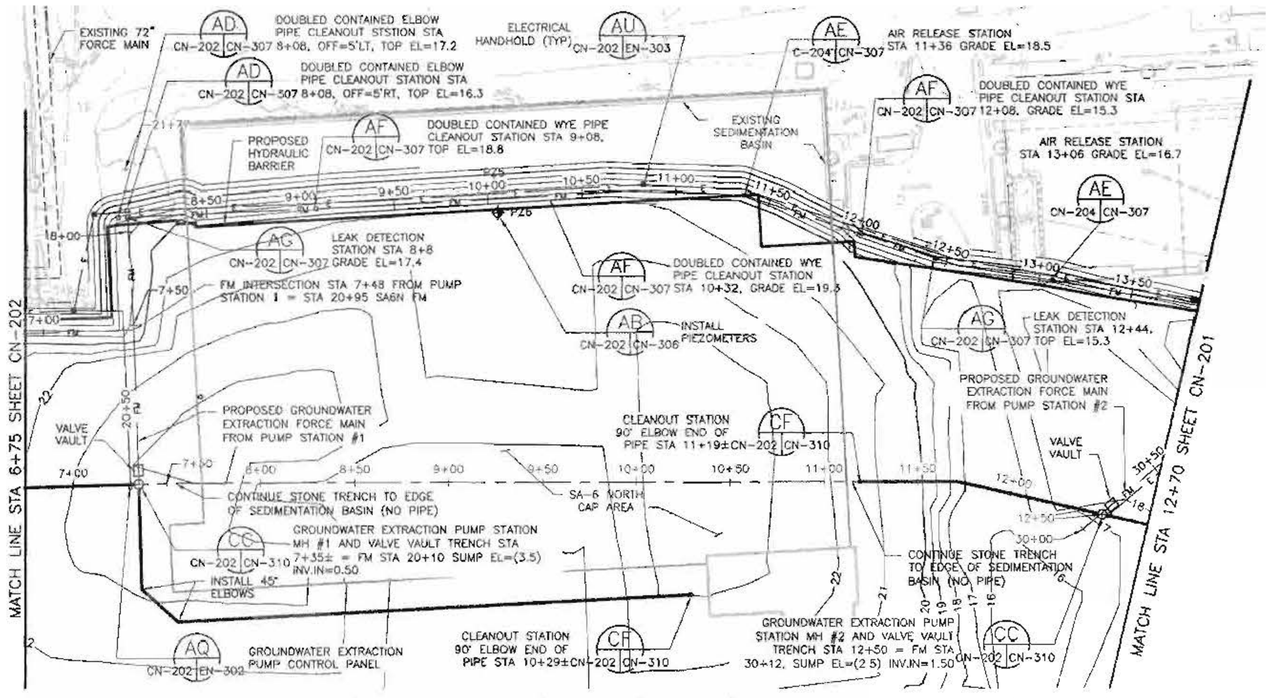
DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

FILE NAME Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-CS\PCAD\SA6-North-South-GW_Extraction_Trench\NORTH\CN-201-Cont Pump Well Sections.dwg PLOT DATE Wed, 19 Nov 2014 PLOT TIME 2:55 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43597

NO.	DATE	DSGN	DR	CHK	APVD
2	11/19/14	TDD	RJR	TDD	SGS
1	09/13/13	RJR	SGS		
0	06/07/13	TDD	SGS		
		BY	APVD		

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
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REVISION

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

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Environmental & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2629
NJ Certificate of Authorization Number 24GA28010900

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PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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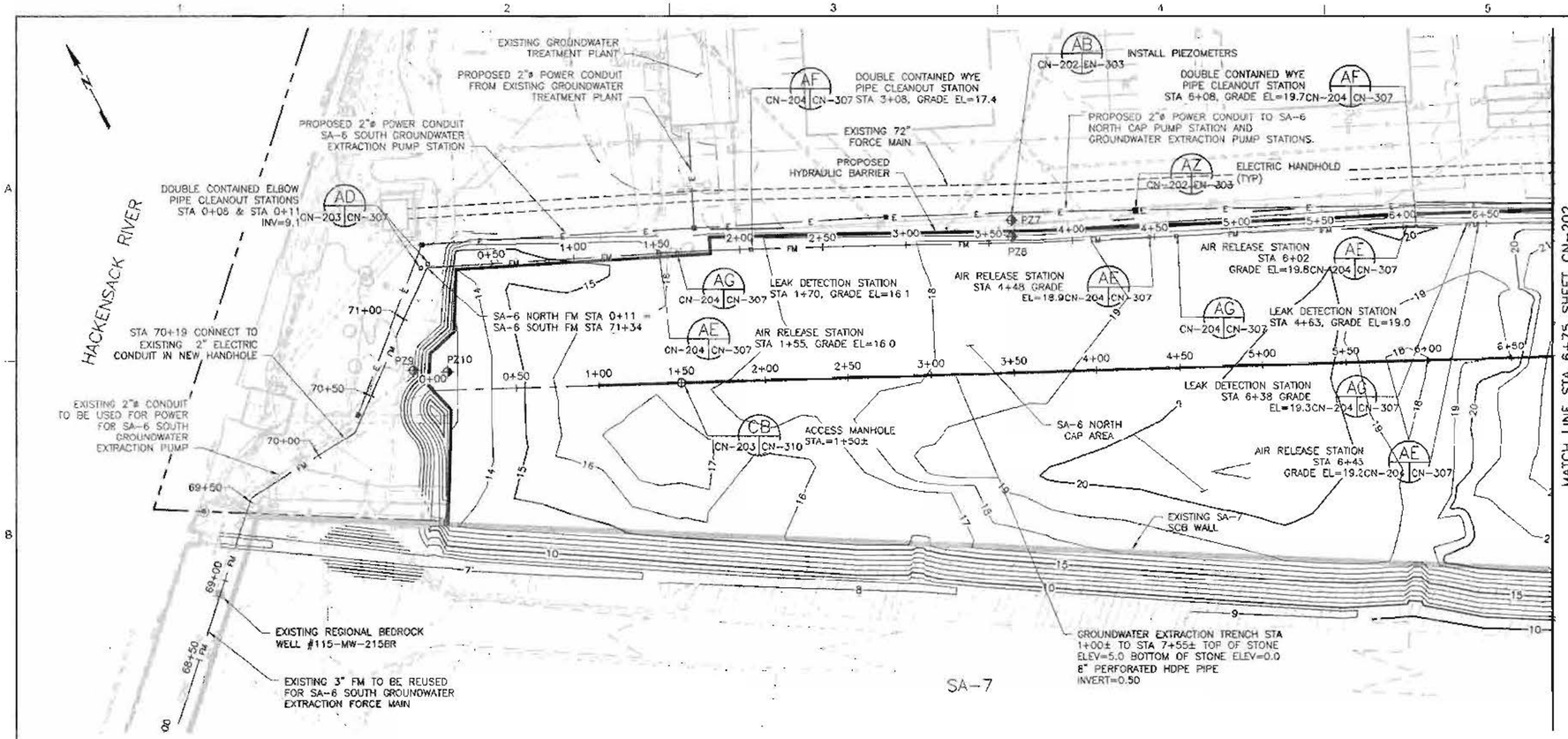
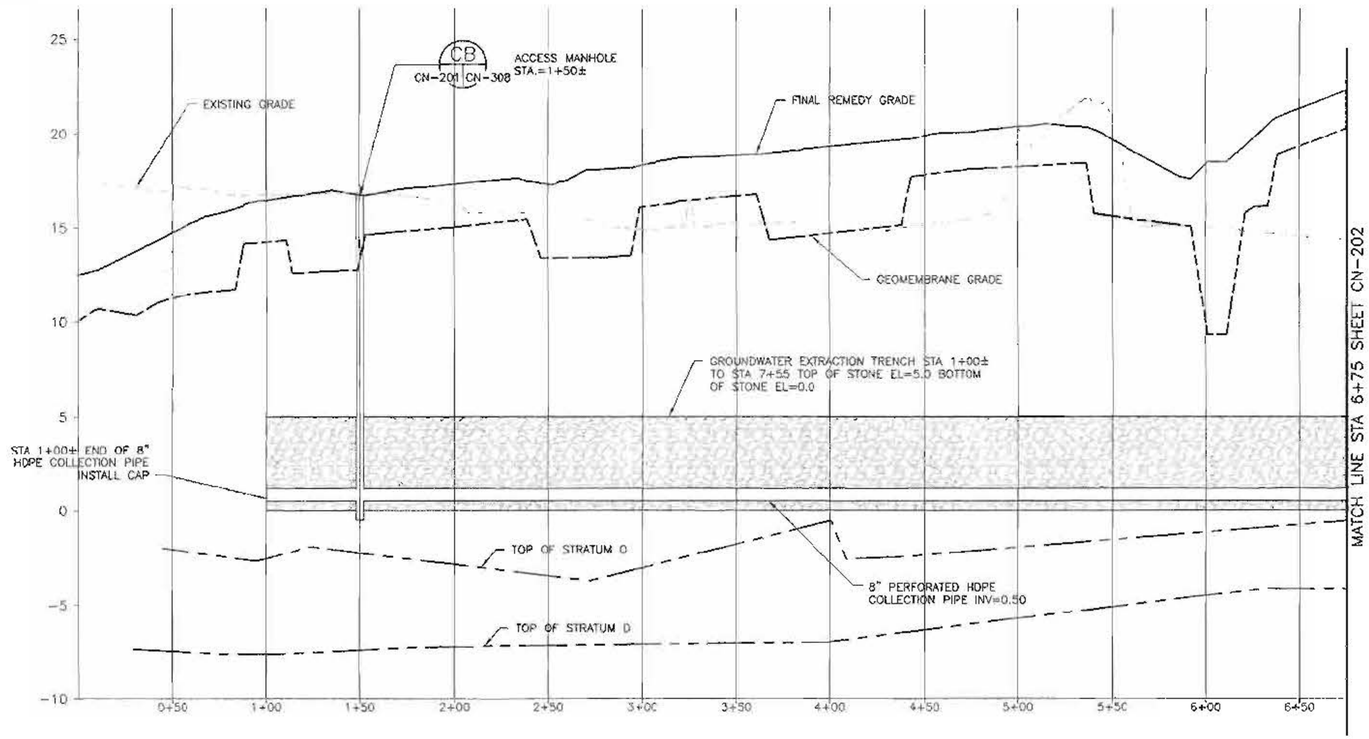
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CACKSA6-North-South-GW_Extraction_Trench\NORTH\CN-202-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO	DATE	DSGN	DR	CHK	APVD
2	11/18/14	TDD	RJR	TDD	SGS
1	09/13/13	RJR	SGS		
0	08/07/13	TDD	SGS		

DCR 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GS

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
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200 American Metro Blvd, Suite 113
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NJ Certificate of Authorization Number 24GA28011900

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0 1"

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PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

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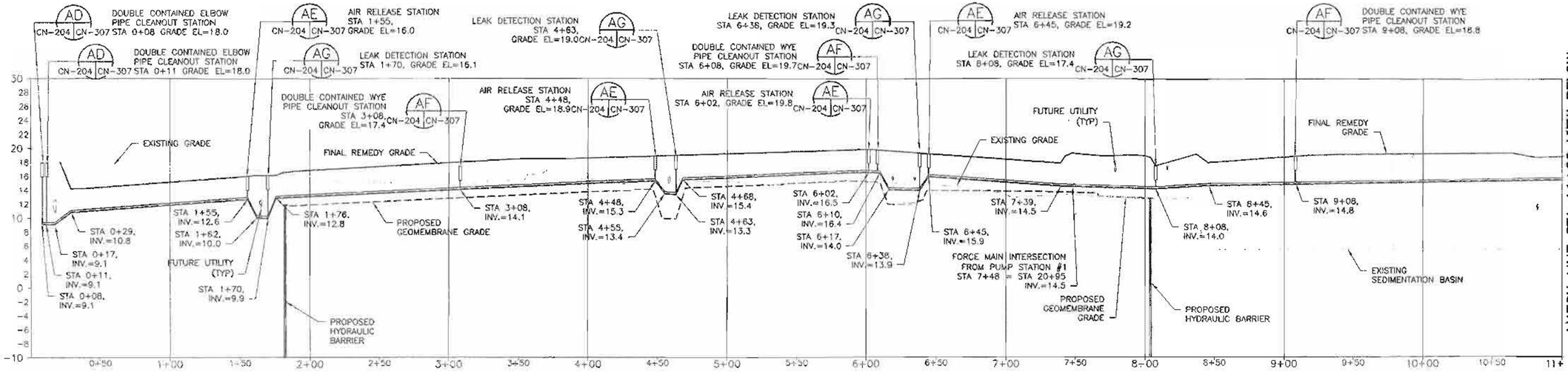

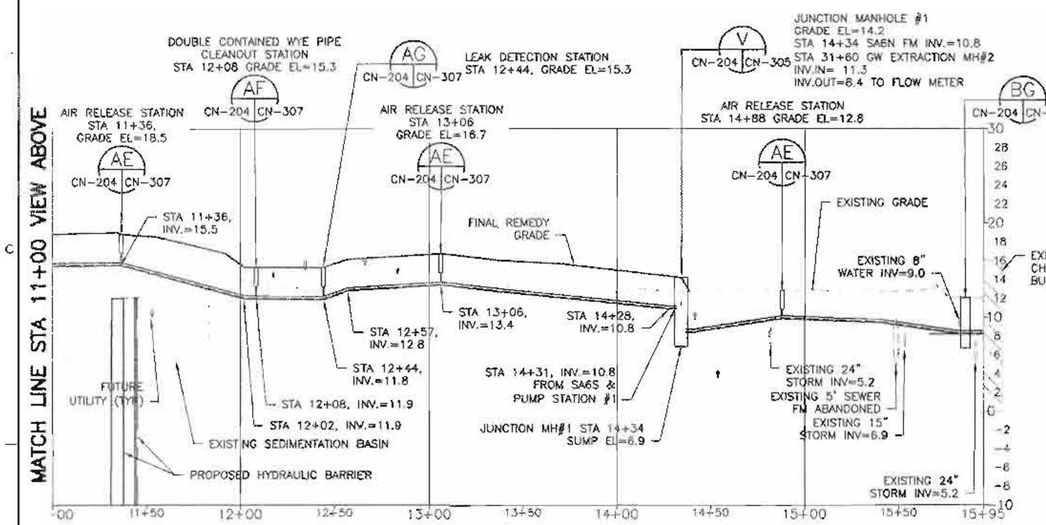

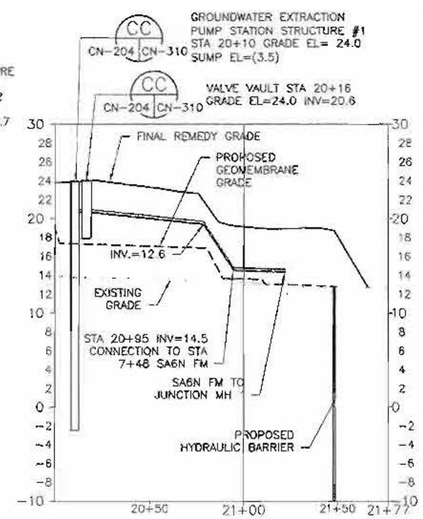

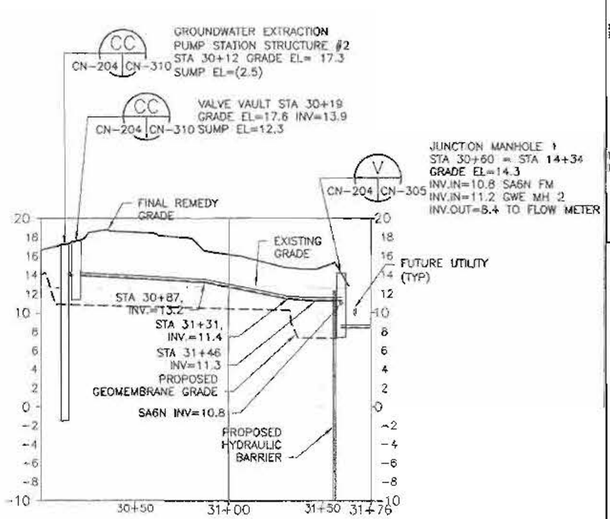

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL. SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G SHALLARD

NO.	DATE	DSGN	DR	CHK	APVD	BY
2	11/19/14	TDD	RJR	TDD	TDD	SGS
1	09/13/13	RJR	SGS	RJR	TDD	SGS
0	06/07/13	TDD	SGS	TDD	TDD	SGS

REVISION

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 067 AND 068
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28017500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
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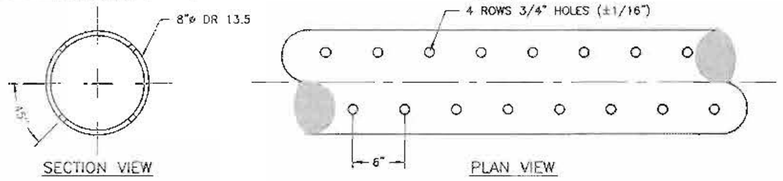
DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

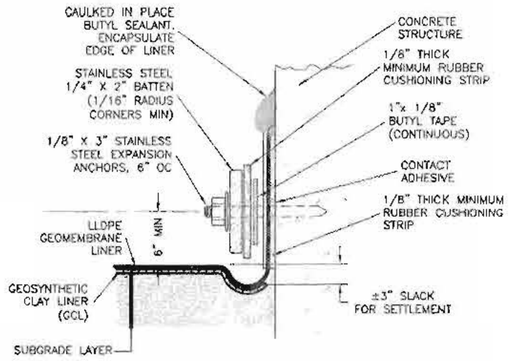


PIPE PERFORATIONS (CD)

NTS — TYP | CN-310

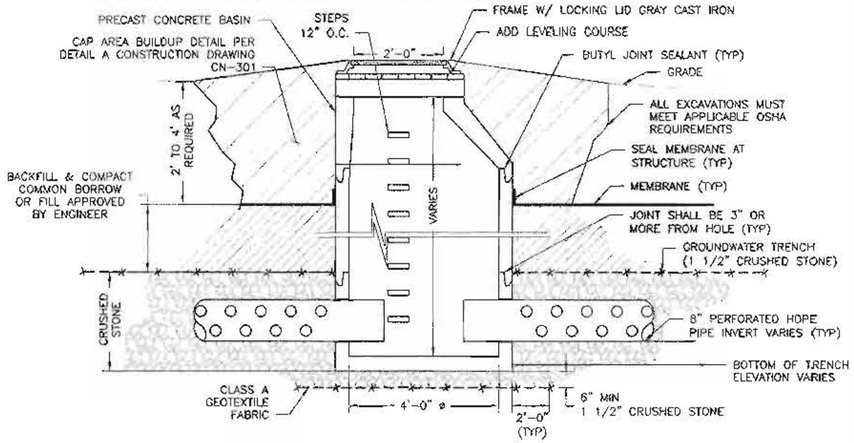
CONSTRUCTION SEQUENCE

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



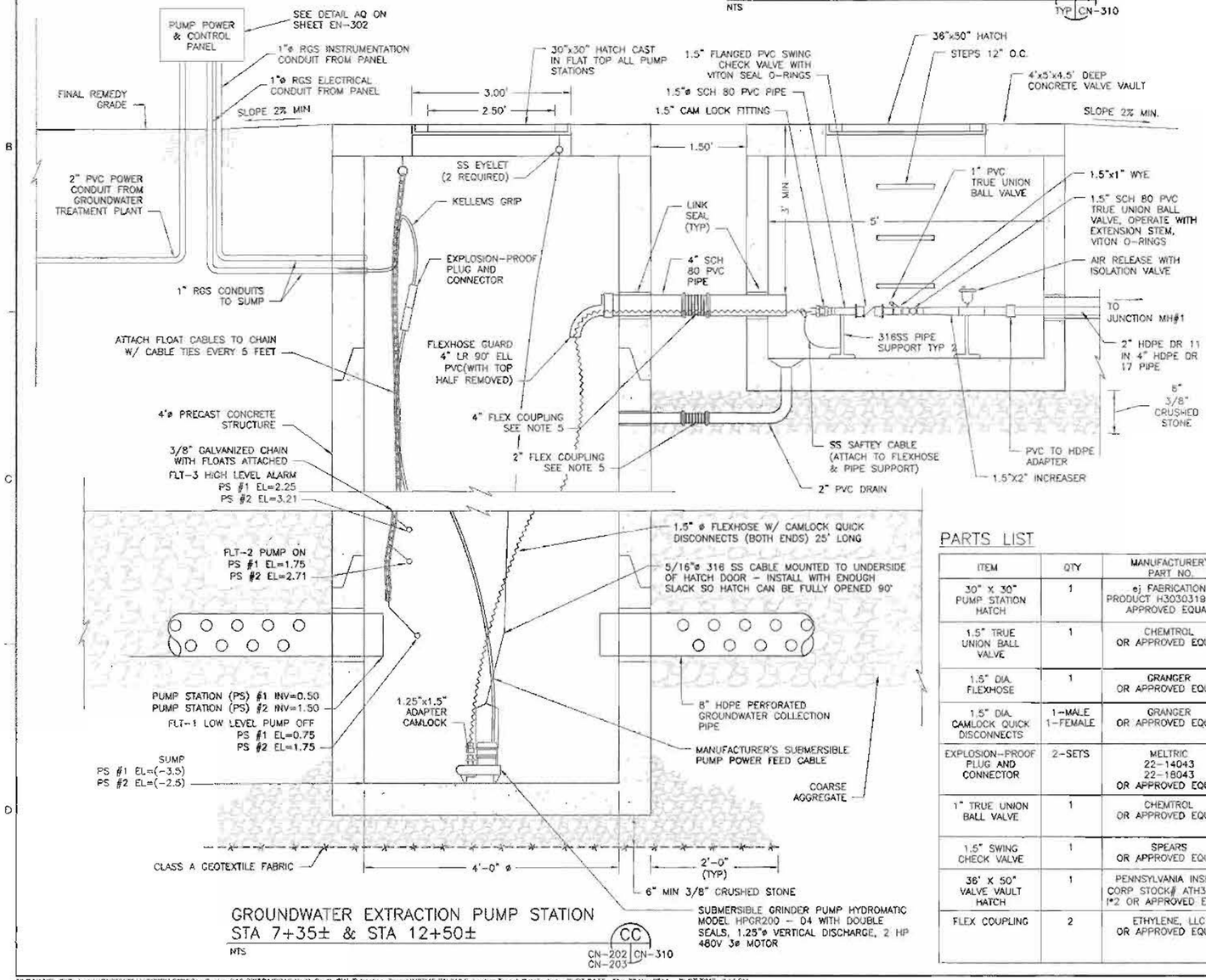
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

NTS — TYP | CN-310



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)

NTS — STA=1+55±, AND STA=18+00± — CN-201 | CN-310 | CN-203

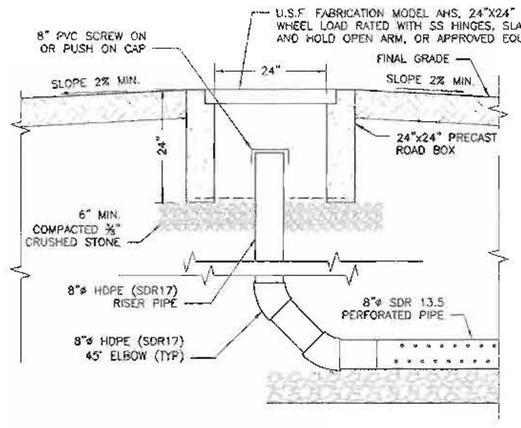


GROUNDWATER EXTRACTION PUMP STATION STA 7+35± & STA 12+50± (CC)

NTS — CN-202 | CN-203 | CN-310

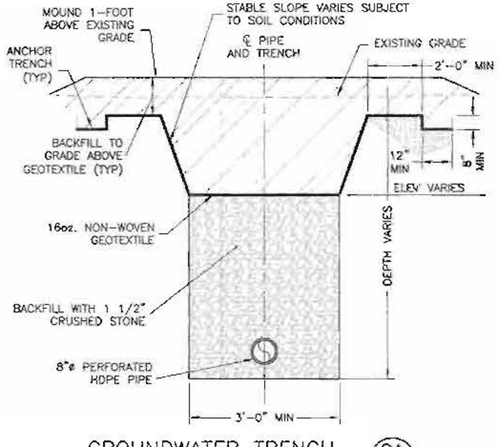
PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1-MALE 1-FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14 (GET FROM GRANGER)
EXPLOSION-PROOF PLUG AND CONNECTOR	2-SETS	MELTRIC 22-14043 22-18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP. HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423-015 VITON SEAL AND O RINGS
36" X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH30500 H*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS



ELBOW PIPE CLEANOUT (CF)

NTS — CN-202 | CN-310



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)

NTS — TYP | CN-310

SAMUEL G SHALLARD — NJ PROFESSIONAL ENGINEER LICENSE NUMBER 23687

NO.	DATE	REVISION	BY	APVD
2	11/19/14	DCB 007 2	TDD	SGS
1	05/14/14	DCB 007	TDD	SGS
DSGN		CHK	APVD	SGS
TDD		RJR	TDD	

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

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DWG CN-310
SHEET 45 OF 70

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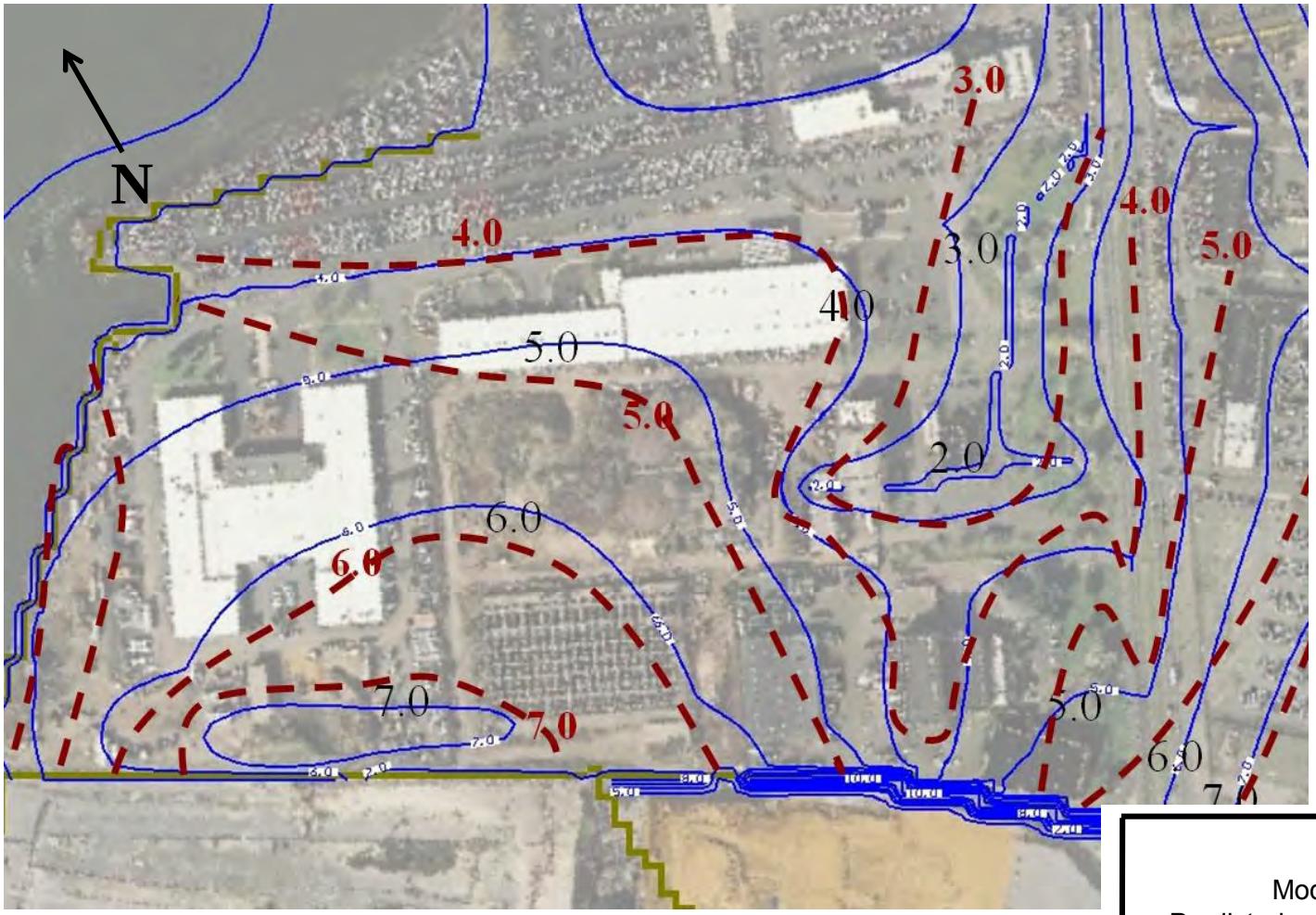
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SAB-C3D\CADD\SAB-North-South-GW_Extraction_Trench\NCR45-CN-310 Extraction Trench Details.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:14 PM



LEGEND

5.0 Predicted Heads

5.0 Measured Heads

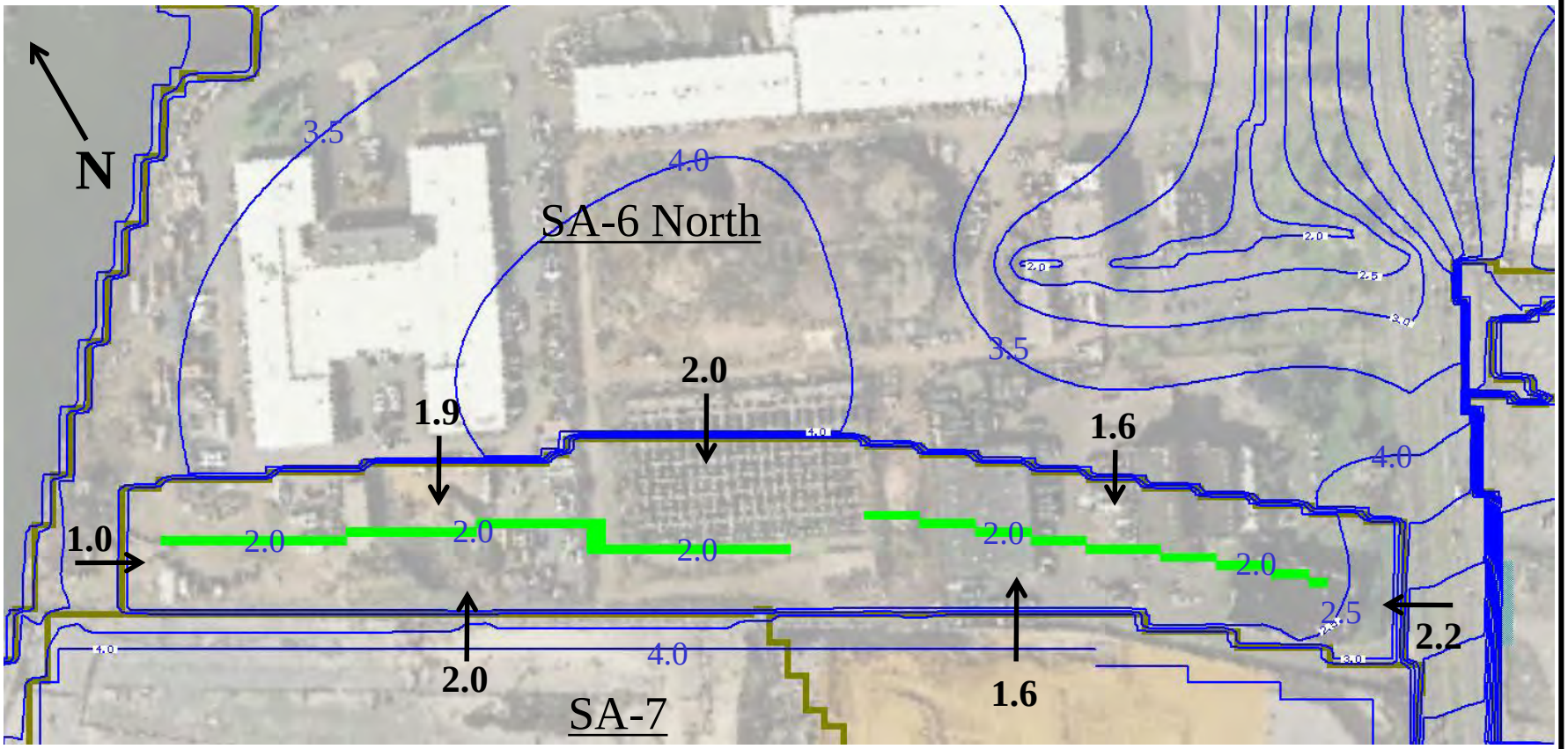
NTS

FIGURE 1

Model Calibration
Predicted versus Measured Heads
Model Layer 1 (Shallow Zone)

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

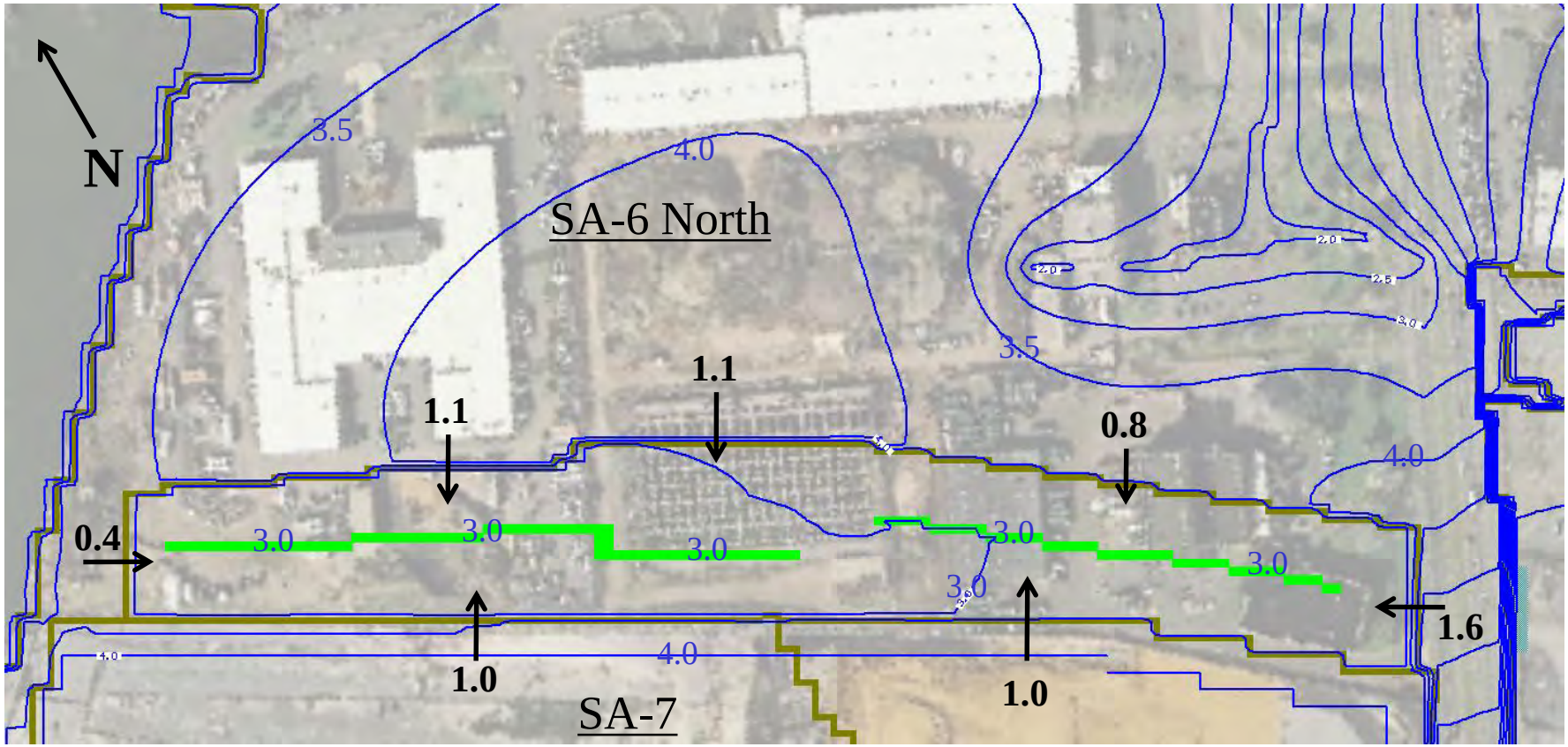
NTS

FIGURE 2

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +2.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

NTS

FIGURE 3

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +3.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.3 Major (a) Effective Date: 02/12/15
Project Location: SA-6 SOUTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. NA_ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench had not been finalized.
DCB-007.2 provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.
DCB-007.3 provides the details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.3 impacts the following drawings
The following Issued for Construction Drawings Extraction System that was based on 9 extraction wells are deleted

- C-201 Plan and Profile
- C-202 Plan and Profile
- C-203 Plan and Profile
- C-304 System Details

The following drawings for the Trench design were added.

- C-201 Trench Plan and Profile
- C-202 Trench Plan and Profile
- C-203 Trench Plan and Profile
- C-204 Discharge Force Main Plan and Profile)
- C-304 Details
- C-306 Details
- C-310 Details).

The changes from the well concept to the trench will also impact the Electrical Drawings. E-101, E-301, E-302 and E-303. The Electrical changes will be issued separately under DCB 007.4. It is noted that DCB 007.2 and DCB 007.3 does show the details for all pumps, motors and controls for the trench design.

The changes from the well concept to the trench will also impact the Geomembrane Liner Grading. The Geomembrane liner changes will be issued separately under DCB 007.5.

Note; piezometric pairs will be installed as shown on both SA-6N and SA-6S. The piezometers on north were previously shown as clouded/temporarily deferred.

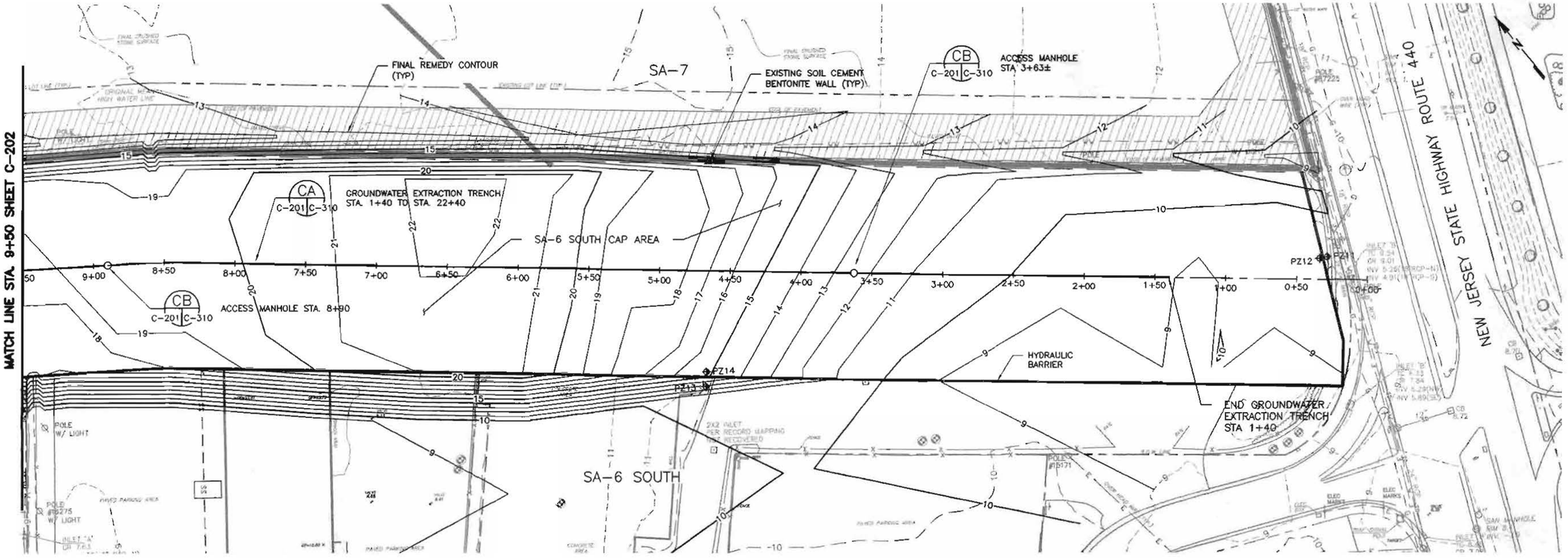
Reason for Change/Modification:	Explanation or Reason: Design changed based on information gathered during construction
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description

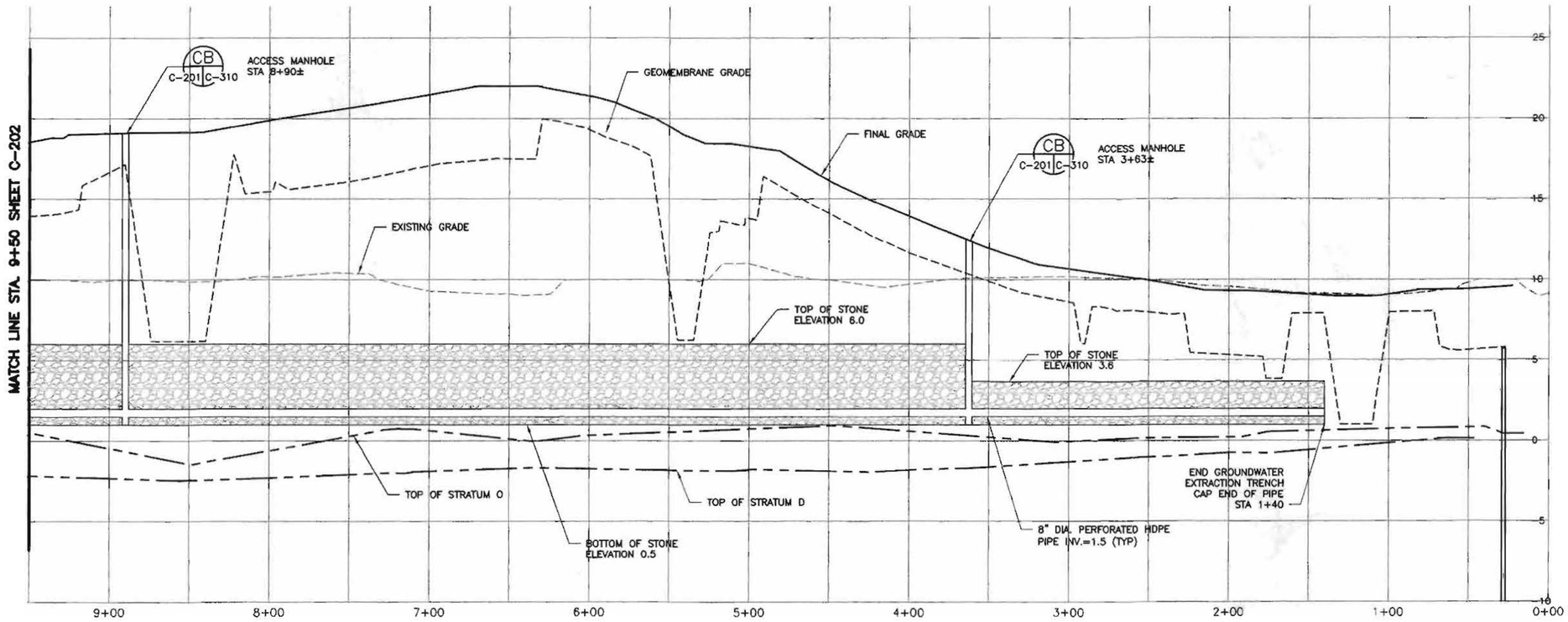
Honeywell (AP) Review:			
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No
Samuel G Shallard	Date: 2/16/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

NO.	DATE	DSGN	DR	CHK	APVD	BY
2	02/13/15	TDD	TDD	RJR	TDD	SGS
1	06/06/14	TDD				SGS

REVISION
1 DCB 007
2 DCB 007.3

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

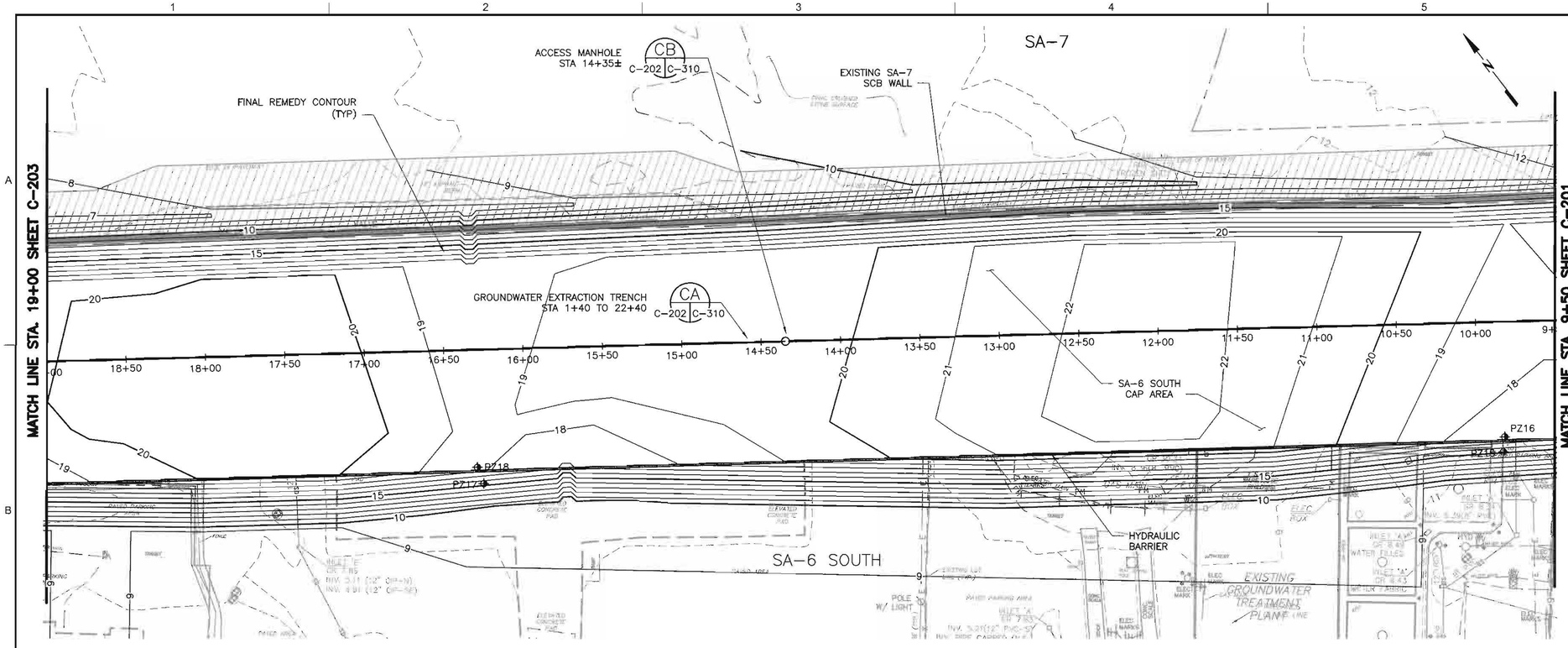
GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

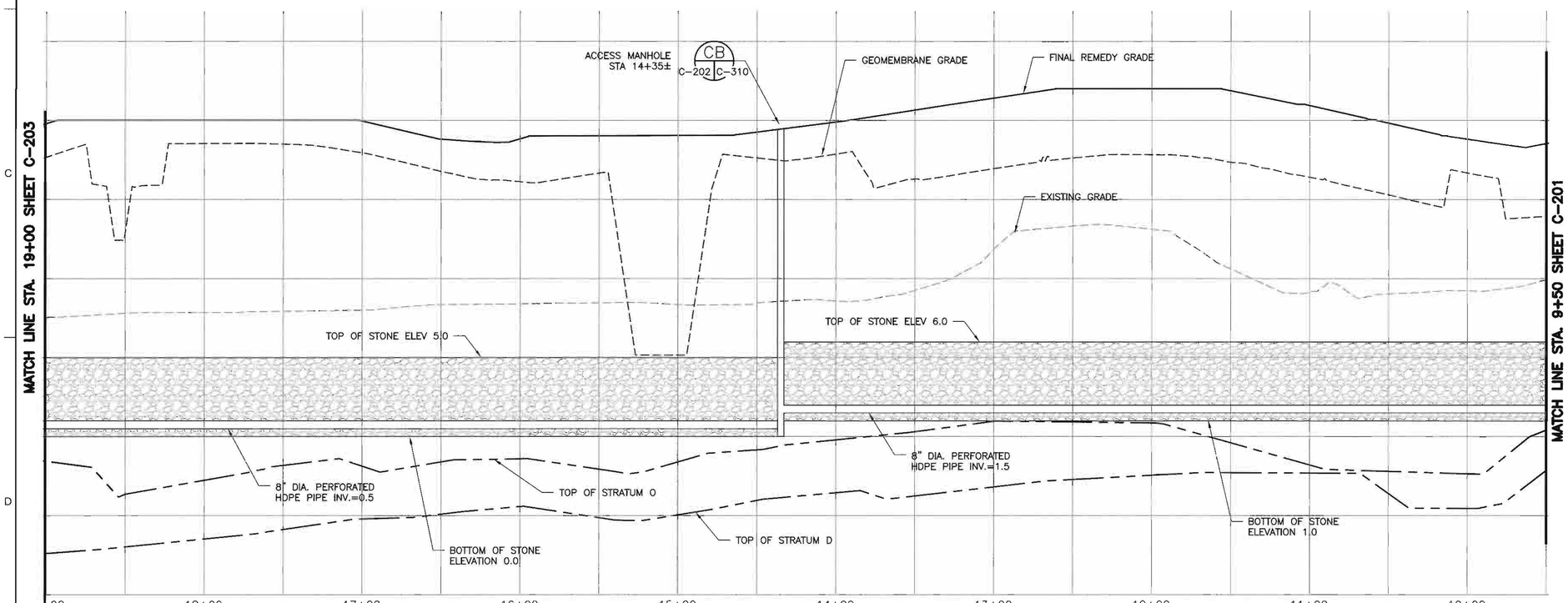
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:44 PM





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD
			TDD	RJR	TDD
3	02/13/15	DCB 007.3	TDD	SGS	SGS
2	07/30/14	DCB 007.1	TDD	SGS	SGS
1	06/06/14	DCB 007	TDD	SGS	APVD
DSGN			BY		

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JERSEY CITY, NEW JERSEY

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100 PERCENT DESIGN DRAWINGS

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NJ Certificate of Authorization Number 24GA28010900

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DATE
PROJ 3480-12-0317
DWG C-202
SHEET OF 66

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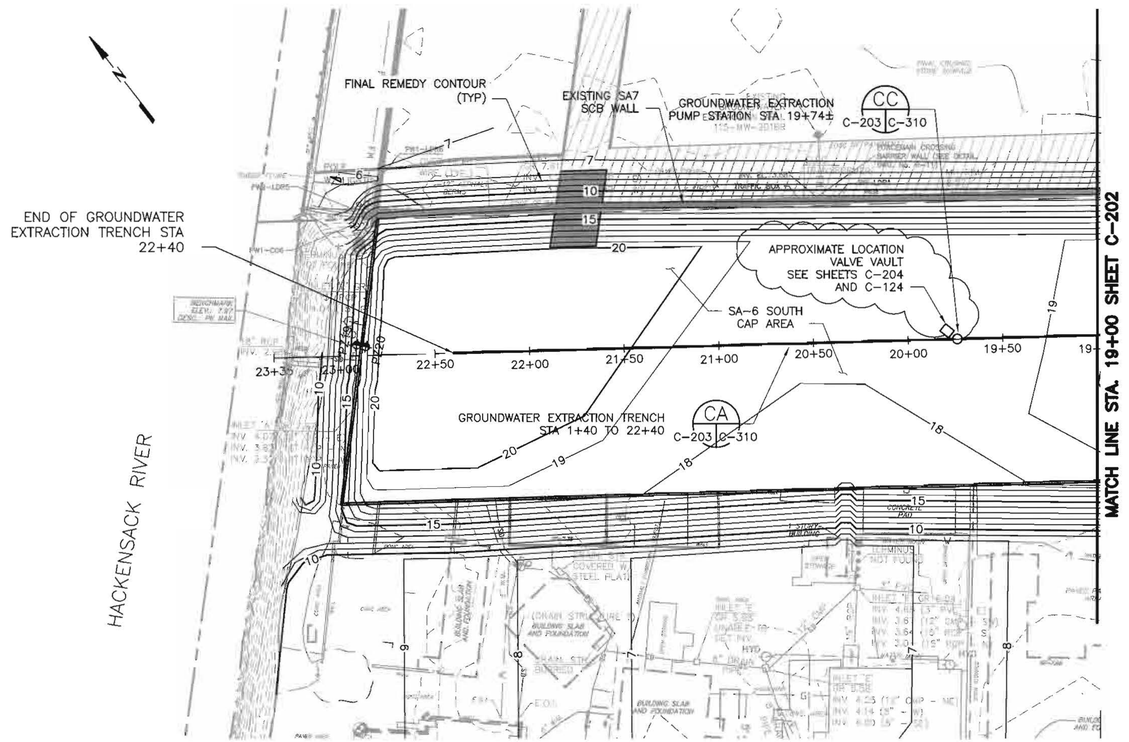

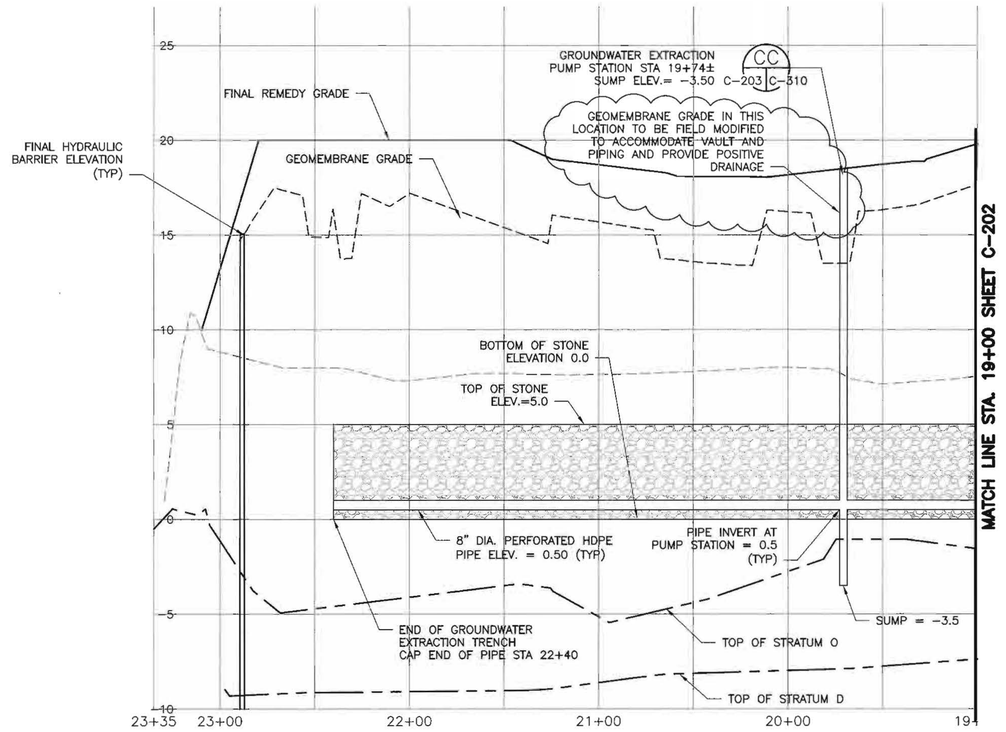

NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SGS

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DWG	C-203
SHEET	OF 66

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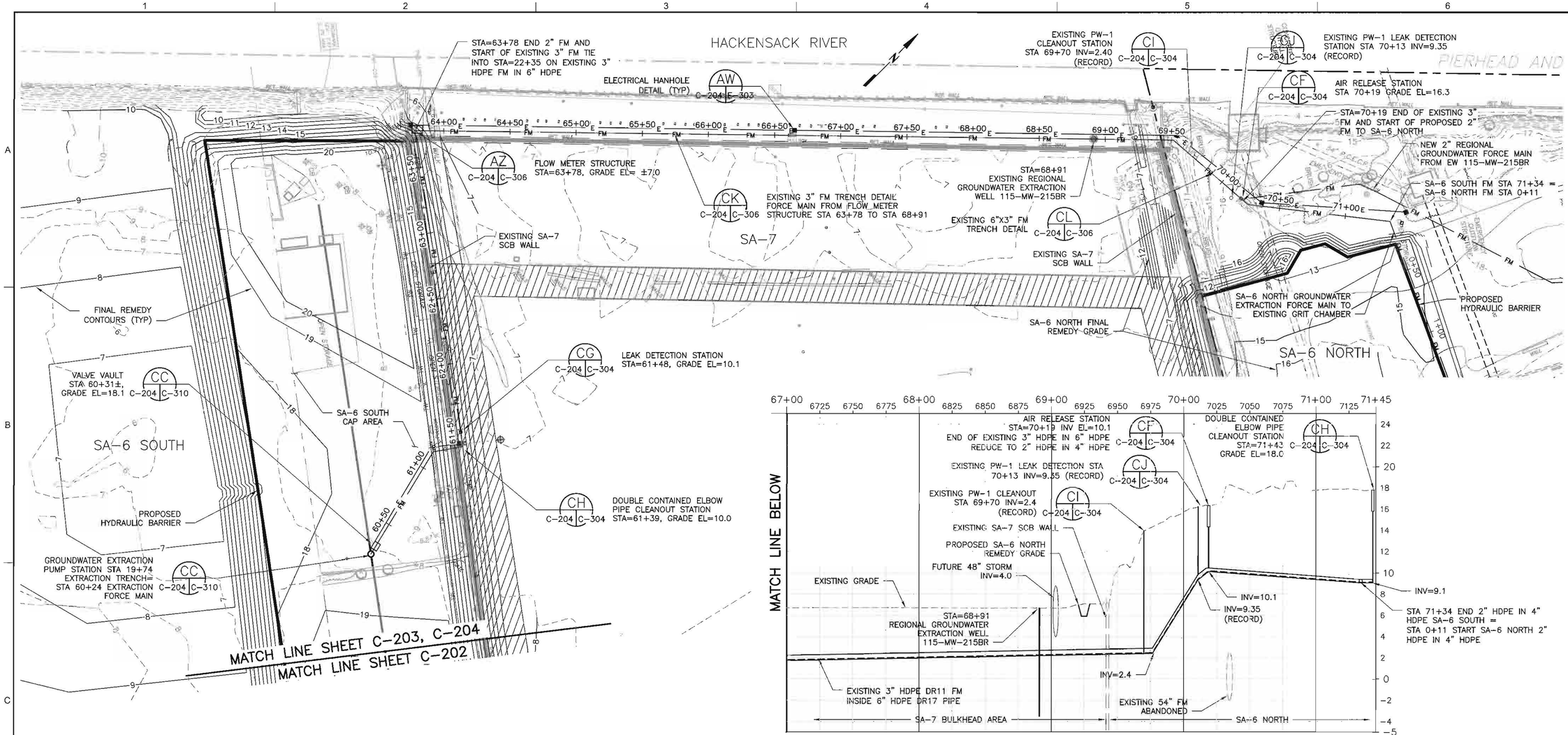
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR36-C-203_Cont_GWE_Trench.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:18 PM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
N.J. PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
3	02/13/15	TDD	SGS	RJR	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION		RJR	SGS
1	05/14/14	DCB 007		TDD	SHM
		DCB 007.3		BY	APVD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION FORCE MAIN PLAN AND PROFILE

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609)689-2829
NJ Certificate of Authorization Number 24GA28010600

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PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

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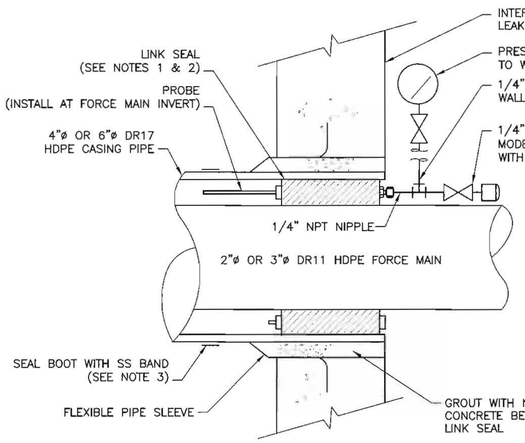
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR37-C-204_Cont_GWE_Trench_FM.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 1:09 PM

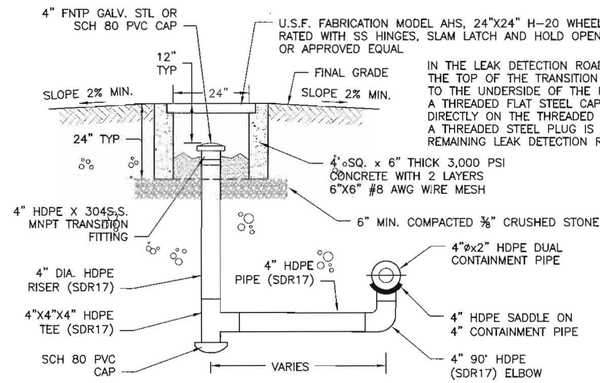


NOTES:

1. USE THUNDERLINE LINK–SEAL TYPE LS 300–C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425–C FOR 1"ø AND 1–1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK–JOINT FLEXIBLE MANHOLE SLEEVE OR KOR–N–SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X)

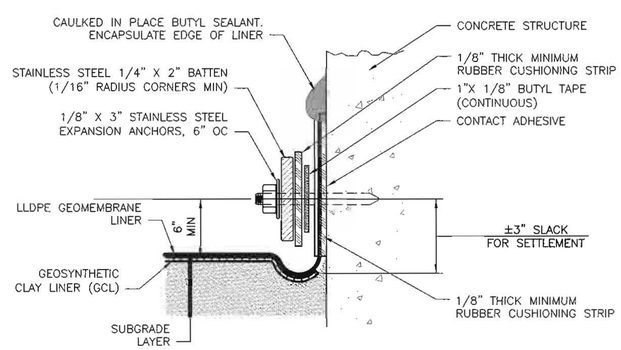
NTS — C–304 | C–306



IN THE LEAK DETECTION ROAD BOXES WHERE THE TOP OF THE TRANSITION PIECE IS CLOSE TO THE UNDERSIDE OF THE ROAD BOX COVER A THREADED FLAT STEEL CAP IS INSTALLED DIRECTLY ON THE THREADED TRANSITION PIECE. A THREADED STEEL PLUG IS INSTALLED IN THE REMAINING LEAK DETECTION RISERS.

LEAK DETECTION STATION (CG)

NTS — C–204 | C–304



LINER ANCHOR TO CONCRETE STRUCTURE (CE)

NTS — TYP | C–304

AIR RELEASE STATION (CF)

NTS — C–204 | C–304

DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH)

NTS — C–204 | C–304

EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI)

NTS — C–204 | C–304

EXISTING 3" LEAK DETECTION STATION (CJ)

NTS — C–204 | C–304

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND C–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	02/13/15	REO	RJR	REO	APVD	TDD SGS
0	06/07/13	DSGN	DR	CHK	APVD	TDD SHM

DCB 007.3
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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

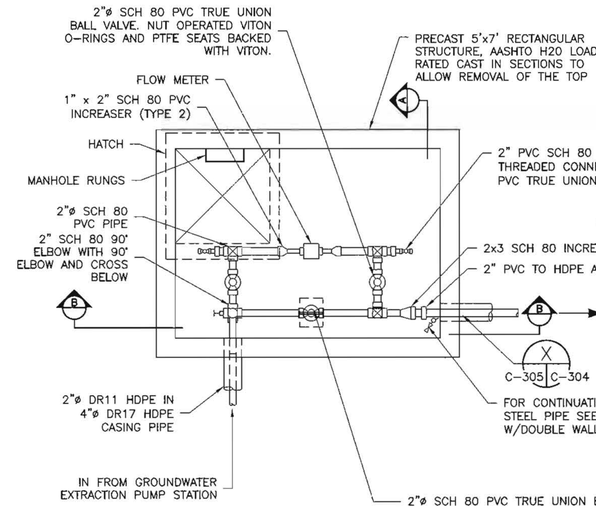
CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 889 - 2829
NJ Certificate of Authorization Number 24GA28010900

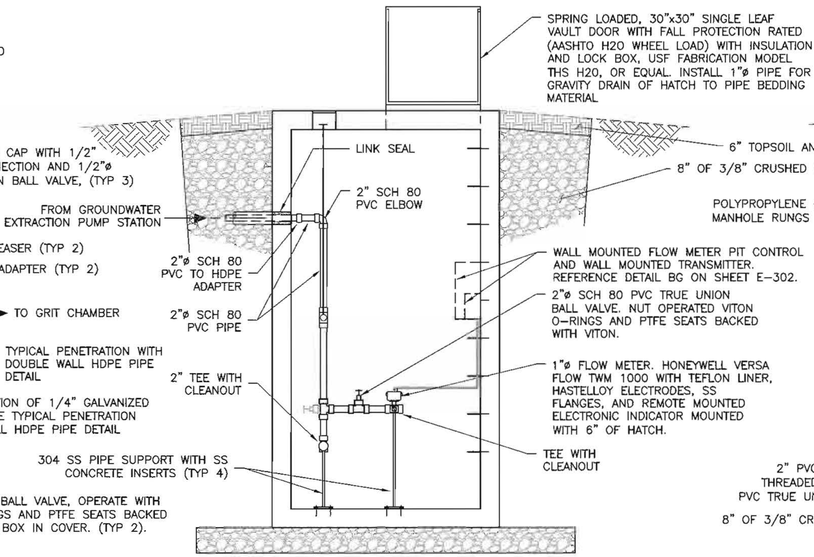
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

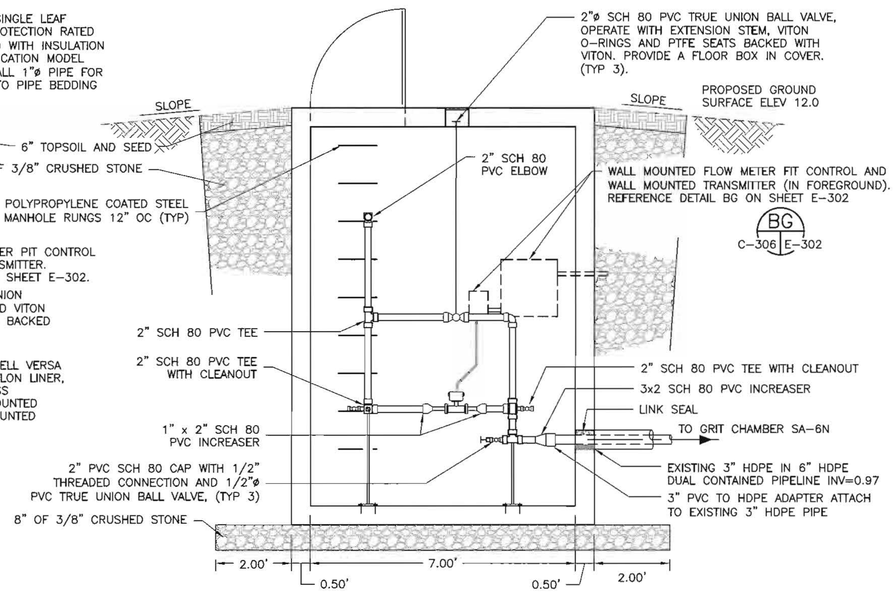
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR41-C-304_GWFM_Details.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:51 PM



PLAN

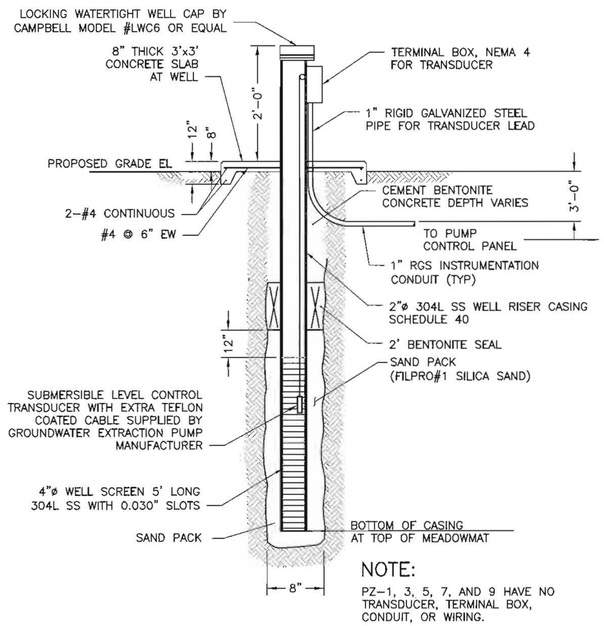


SECTION AA



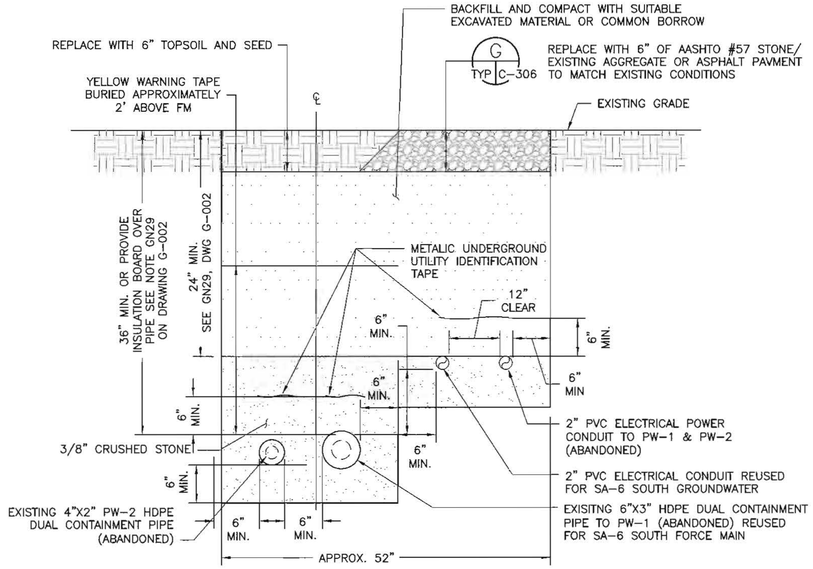
SECTION BB

FLOW METER STRUCTURE DETAIL AZ
NTS STA 63+78 C-204 C-306

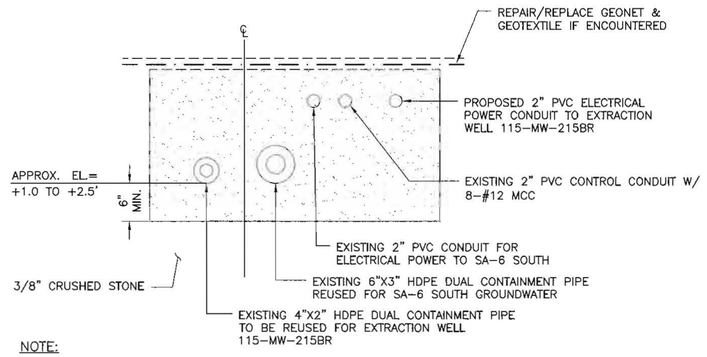


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL AE
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL CK
NTS STA 63+78 TO STA 68+91 C-204 C-306



NOTE:
SUBCONTRACTOR IS REQUIRED TO VERIFY PRIOR TO BEGINNING WORK FROM STA. 68+91 TO STA. 70+19

TRENCH DETAIL CL
NTS C-204 C-306

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. SEE SHEET C-304 FOR HATCH SPEC.

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	DR	CHK	APVD
1	02/13/15	TDD	SGS		SHM
0	06/07/13	TDD	SHM	RJR	REO
		BY	APVD	REO	

DCB 007.3
ISSUED FOR CONSTRUCTION
REVISION

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

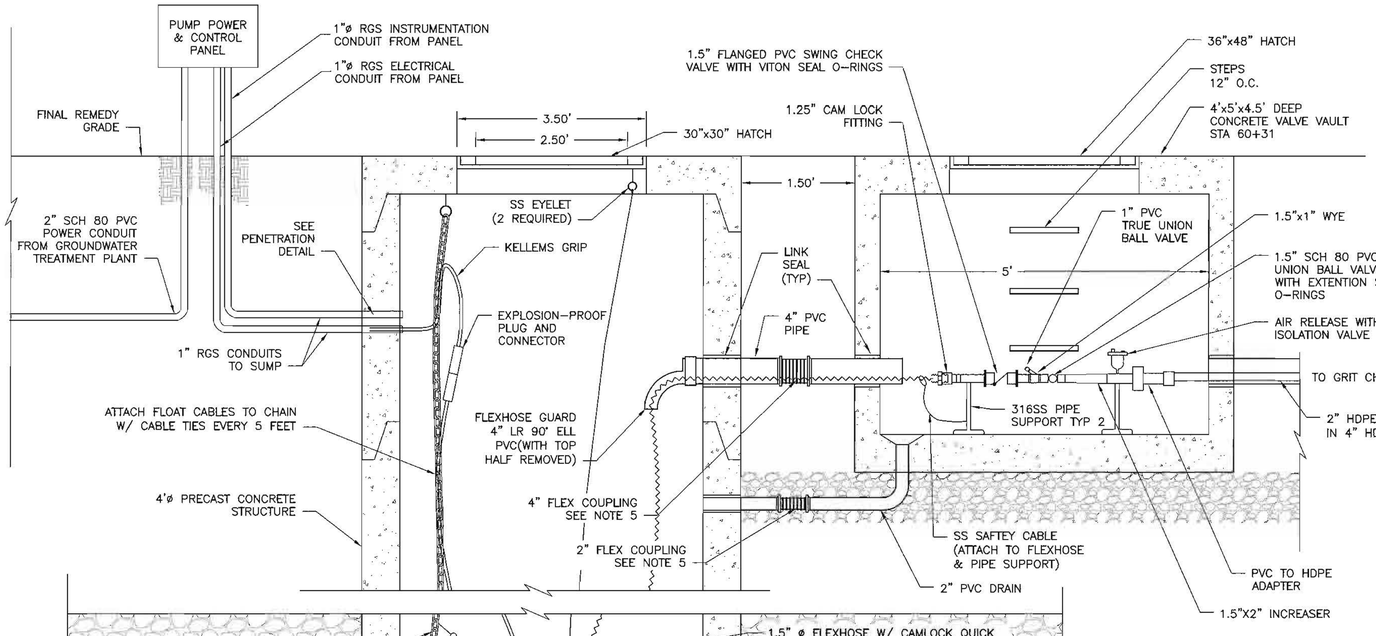
CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689-2229
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR43-C-306 Extraction Well Details.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:53 PM



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

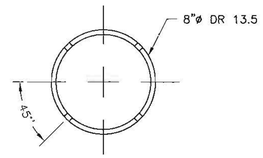
NTS

C-203 | C-310
C-204

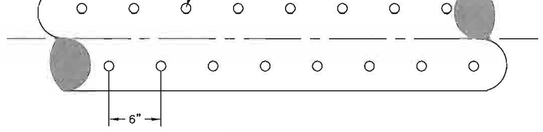
- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1-MALE 1-FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14
EXPLOSION-PROOF PLUG AND CONNECTOR	2-SETS	MELTRIC 22-14043 22-18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423-015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D !*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS



SECTION VIEW

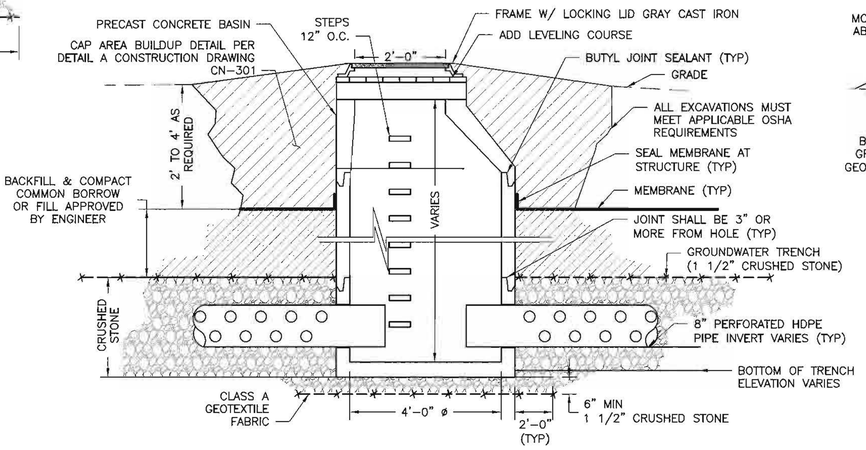


PLAN VIEW

PIPE PERFORATIONS (CD)

NTS

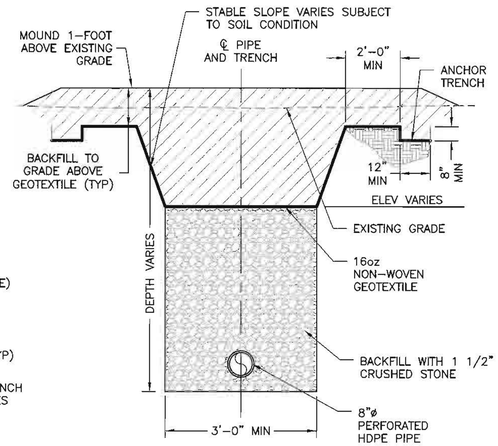
TYP C-310



TYPICAL ACCESS MANHOLE FINAL CONDITION STA.=3+63, STA.=8+90, STA.=14+35 (CB)

NTS

C-201 | C-310
C-202



GROUNDWATER TRENCH TEMPORARY CONDITION (CA)

NTS

C-201 | C-310
C-202
C-203

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	02/02/15	TDD	SGS	TDD	SGS
1	06/06/14	REVISION		BY	APVD

DCB 007.3
DCB 007

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 584-2929
NJ Certificate of Authorization Number 24GA28010300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR46-C-310_Cont_GWE_Trench_Details.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:04 PM

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.5 Major Effective Date: 02/24/15
Project Location: SA-6 SOUTH	
Title: GW EXTRACTION SYSTEM	
Revision to the Geomembrane/Subgrade surface.	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 issue pending. This DCB will provide the revised one line electrical drawings for SA-6N and SA-6S. In the revised design there is one extraction manhole on SA-6S and two extraction manholes in SA-6N.

DCB-007.5 provides a revised subgrade/Geomembrane surface as discussed below.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each Open Space Area and common header system. The trench design has one pump station in SA-6S and 2 pump stations in SA-6N.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.5 is applicable to the SA-6N and SA-6S subgrade/Geomembrane surface. The change from wells to trenches resulted in numerous changes in grading. There were typically depression in the subgrade around each well to allow for installation of control vaults at each well and associated force mains leading from each well. These depressions have been eliminated and the Geomembrane surface smoothed at these locations. A depressed area has been added at each pump station and associated force main. The changes simplify the grading and Geomembrane installation

The changes impact the following drawings.
For 6A-South:

- C-122
- C-123
- C-124

For 6A-North:

- CN-123
- CN-124

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Design changed based on information gathered during construction Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system one line electrical design.
Honeywell (AP) Review: Individual Discipline	Initial Date
(Name / Signature): 2/24/15	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43307

NO.	DATE	DSGN	DR	CHK	APVD
		TDD	RJR	TDD	SHM
1	02/24/15	TDD	SGS		
0	06/07/13	TDD	SHM		

REVISION BY APVD

ISSUED FOR CONSTRUCTION

DCB 007.5

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

amec
Environment & Infrastructure, Inc.
220 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28018900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-122
SHEET	27 OF 66

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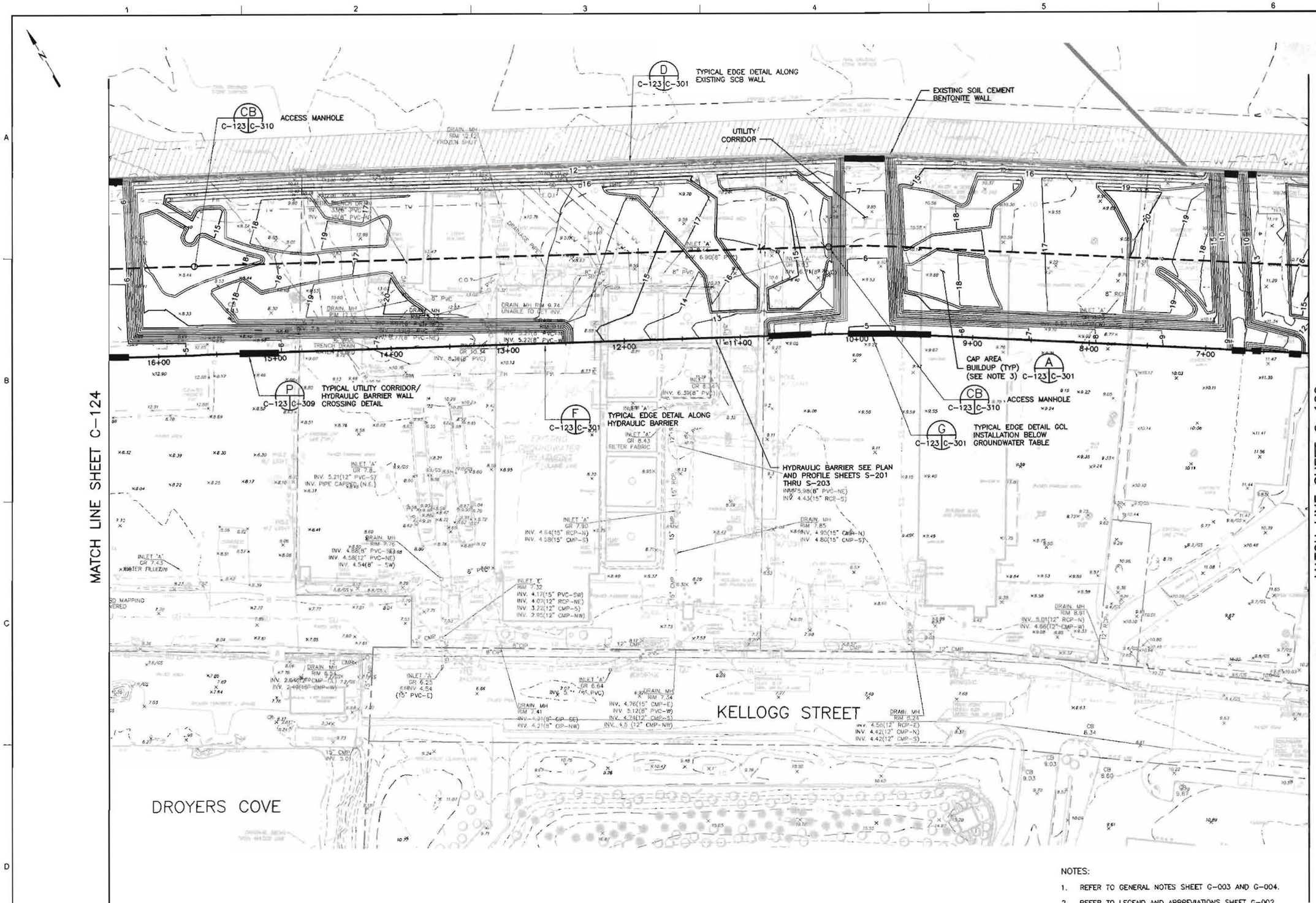

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GEOMEMBRANE GRADING PLAN

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-123
SHEET	28 OF 66

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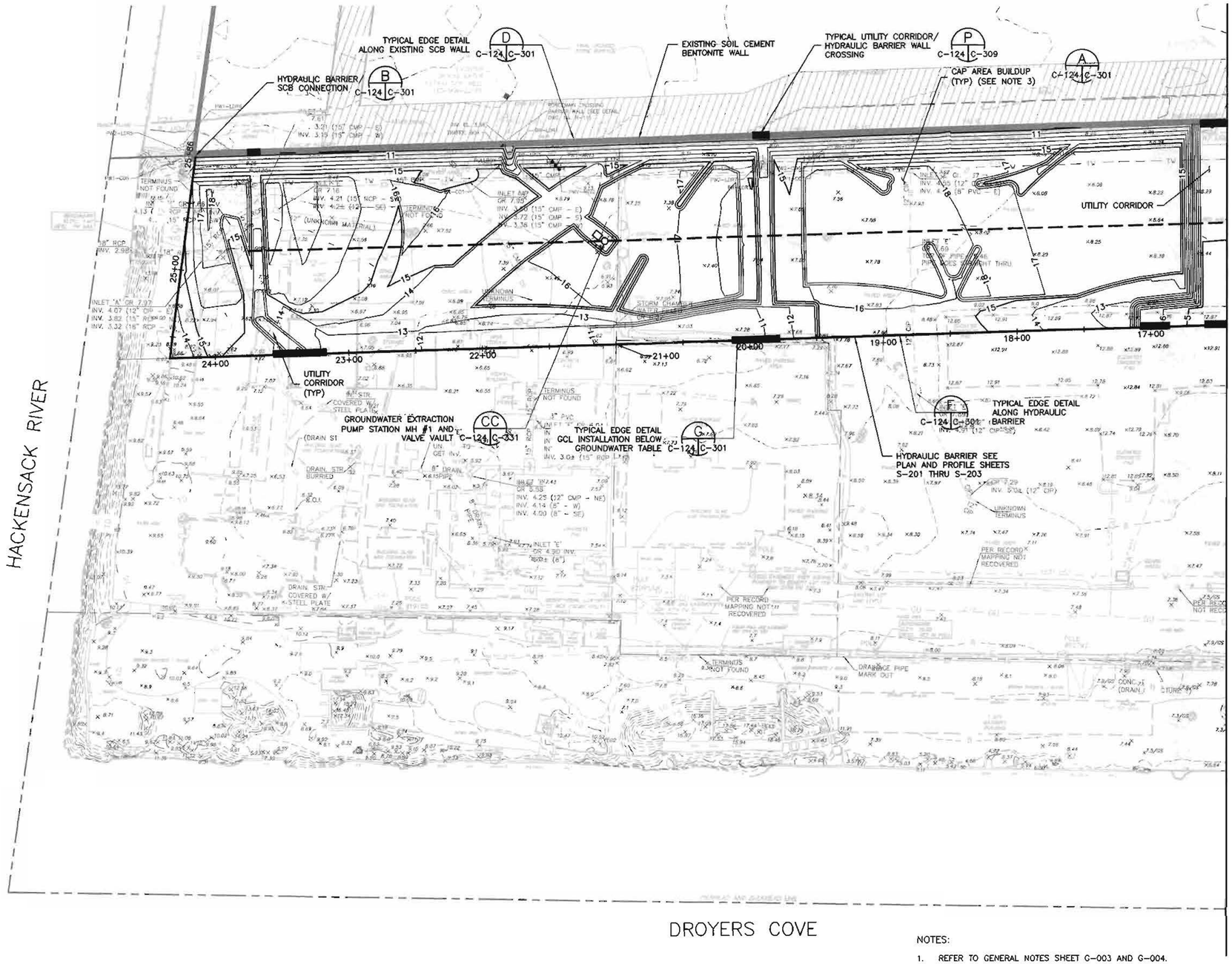
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C30\CAD\SA6S\CR28-C-123 Geomembrane Grading Plan.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:25 PM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. CONTOURS DEPICTED ON THIS SHEET REPRESENT THE SUBGRADE ELEVATIONS (NGVD 29) FOR LINER SYSTEM INSTALLATION

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	02/24/15	DCB 007.5	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GEOMEMBRANE GRADING PLAN

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Environment & Infrastructure, Inc.
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-124
SHEET	29 OF 66

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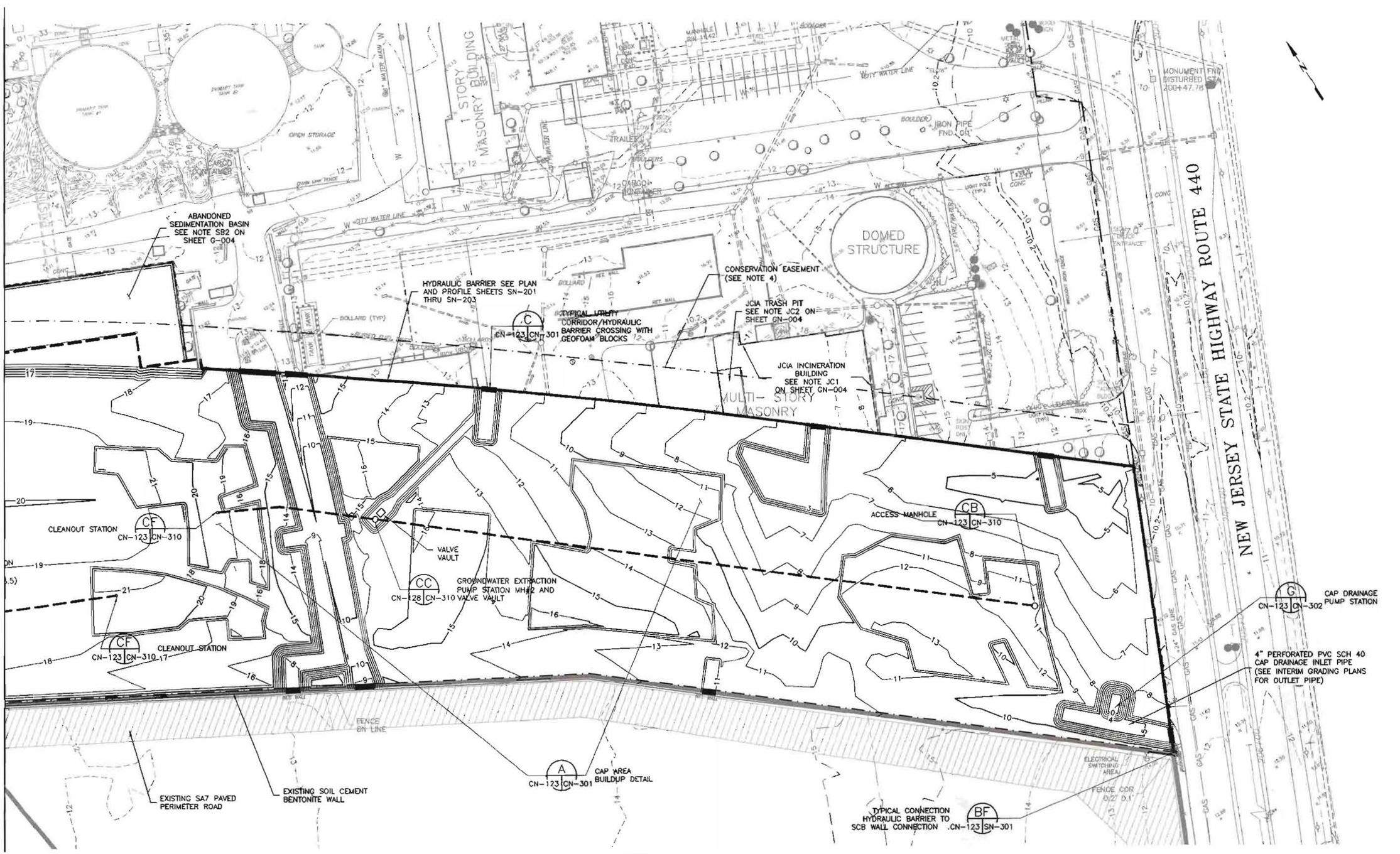
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR29-C-124 Geomembrane Grading Plan.dwg PLOT DATE: Tue, 24 Feb 2015 PLOT TIME: 2:29 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
			TDD	RJR	TDD		
1	02/24/15	DCB 007.5				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SGS
		REVISION				BY	APVD

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

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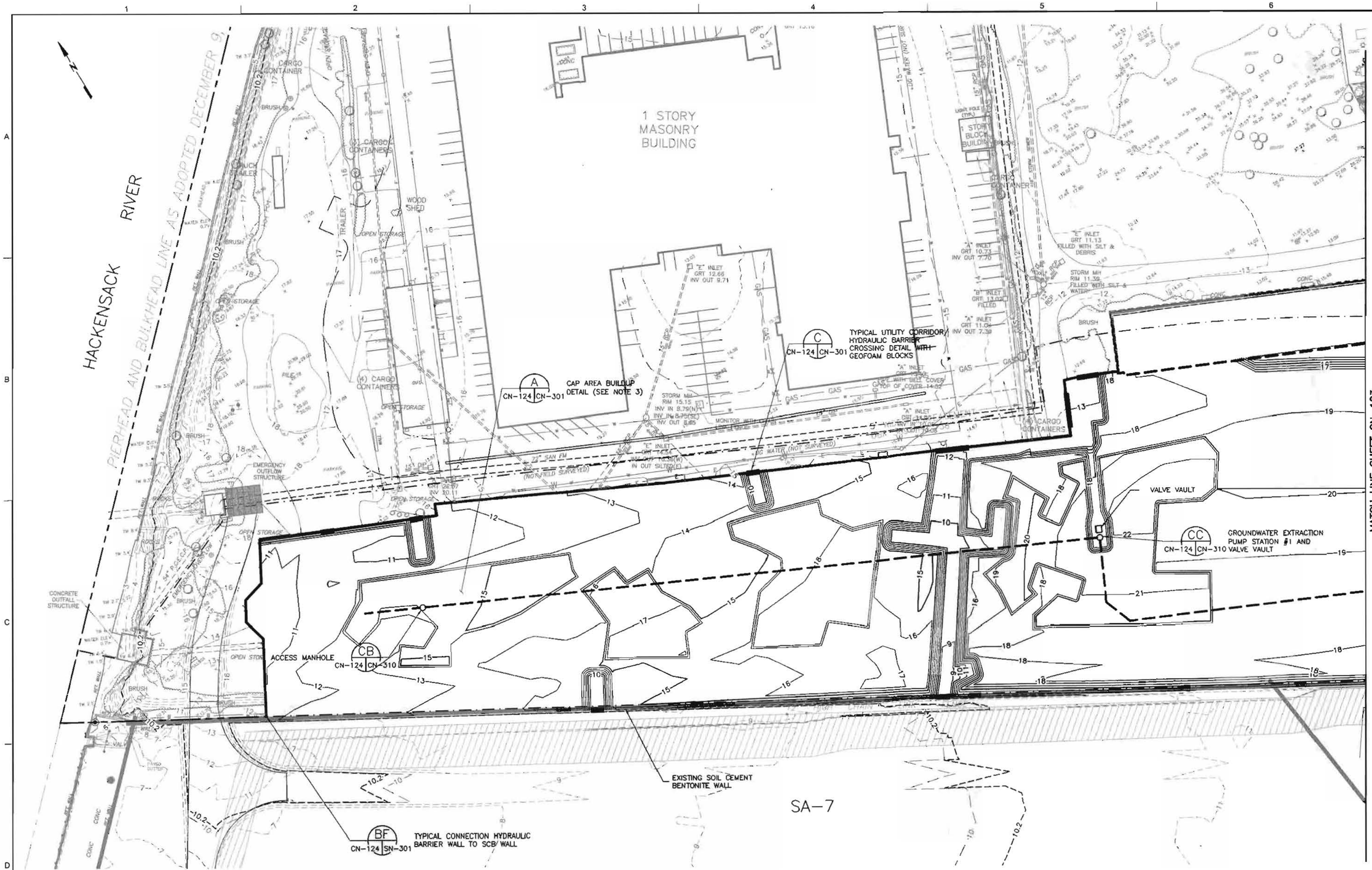

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TOP OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	02/24/15	TDD	RJR	TDD	SGS
1	09/13/13	DCB 007.5			
0	06/07/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR		SGS
		ISSUED FOR CONSTRUCTION	TDD		SGS
		REVISION	BY		APVD

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design\SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Wed, 25 Feb 2015 PLOT TIME: 7:42 AM

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: Minor (a) Effective Date: 3/4/15
Project Location: SA-6 SOUTH	Associated RFI:
Title: 3S Surcharge Pile Geometry on East End	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

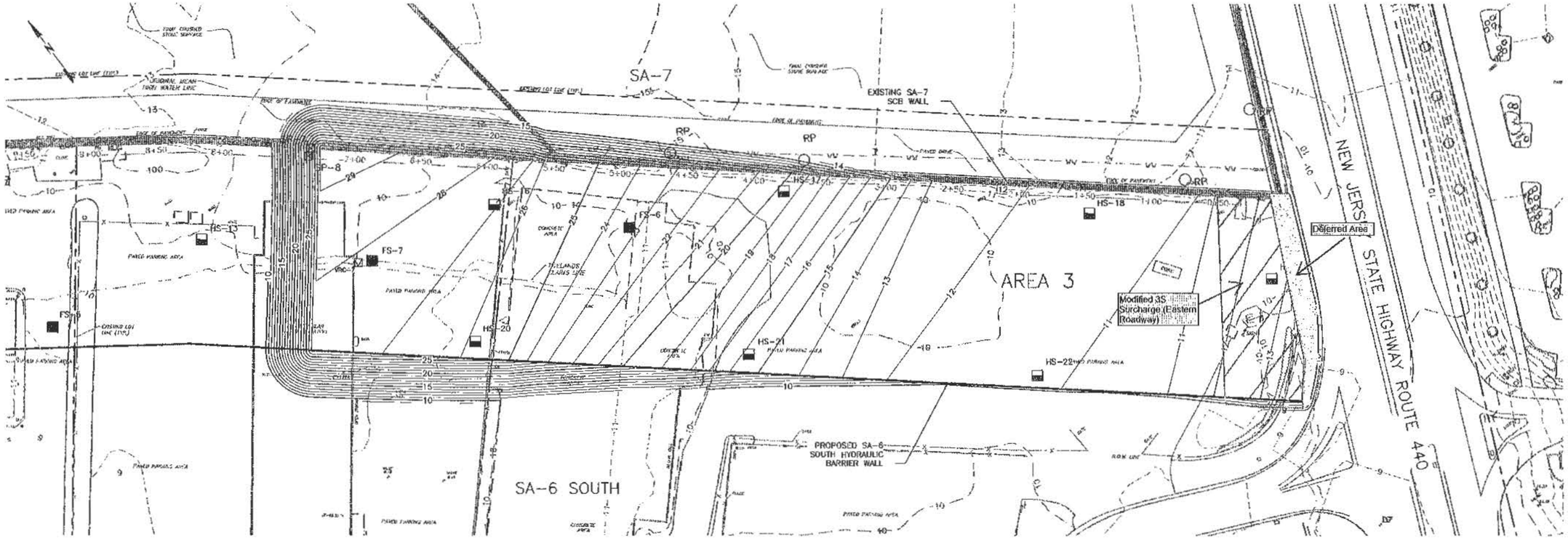
Reason for deferral:

The surcharge pile has been constructed to the design height of the barrier wall. The strip or land between the barrier wall and the property line is one of the "deferred areas" and varies in width from 0 to 12 feet. See attached figure. Final Development grades east of the barrier wall are at essentially the same grade as the existing grade. As such there is no additional load generated by the development grades and therefore there is no necessity of surcharge.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason. Avoids placement of fill outside of the protective limits of the Barrier Wall.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Changes the limit of surcharge fill however no specification of drawing change is considered to be necessary.

Honeywell (AP) Review:			
Individual	Discipline	Initial	Date
(Name / Signature): Samuel Shallard		Does DCB Result in CCO? ☐ Yes Yes (b) ☑ No Date: 3/25/15	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. PRIOR TO SURCHARGING REMOVE SA-7 FENCE AND SA-7 FLOODLIGHTS.
2. GEOTECHNICAL MONITORING INSTRUMENTATION TO BE INSTALLED PRIOR TO SURCHARGE.
3. COMMENCE FILL AT THE HACKENSACK RIVER AND WORK EAST TOWARDS ROUTE 440.
4. LOCATION OF SA-7 PERIMETER POOL RISER PIPES ARE APPROXIMATE. RISER PIPES TO BE FIELD VERIFIED AND EXTENDED WITH SURCHARGE AND MONITORED.
5. AFTER COMPLETION OF AREAS 1 AND 3 SURCHARGE LOADING, REMAINING FILL FROM THESE AREAS WILL BE COMBINED TO FORM THE SURCHARGE FOR AREA 2.

SETTLEMENT MONITORING POINTS		
DESCRIPTION	NORTHING	EASTING
FS-6	684538	602919
FS-7	684638	602751
HS-16	684678	602808
HS-17	684488	603027
HS-18	684333	603198
HS-19	684211	603276
HS-20	684542	602775
HS-21	684409	602931
HS-22	684253	603093
SP-8	684728	602761
VRC-7	684643	602742

- VI-2 — INCLINOMETER LOCATION
- FS-1 — SETTLEMENT MONITORING POINT FULL - SET UP
- HS-1 — SETTLEMENT MONITORING POINT HALF - SET UP
- SP-12 — SETTLEMENT MONITORING PLATFORM
- RP — APPROXIMATE LOCATION OF SA-7 PERIMETER POOL RISER PIPE (SEE NOTE 7)
- VRC1 — VIBRATING WIRE PIEZOMETER IN STRATUM RC

Attachment A

DC 03-04-15 Eliminate Surcharge Area 3S Deferred Area

0 20 40 80
SCALE IN FEET

Prepared/Date: EJR 12/10/13
Checked/Date: AE 12/15/13

Honeywell 101 COLUMBIA RD., BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	INSTRUMENTATION LOCATION PLAN 3S Figure 11

JOB NO. _____ SHEET 1 OF 1
PHASE _____ TASK DCB
JOB NAME Modified 3S Surcharge
BY Ari Eslaminejad DATE 3/25/15
CHECKED BY _____ DATE _____

amec
American Metro Center 200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
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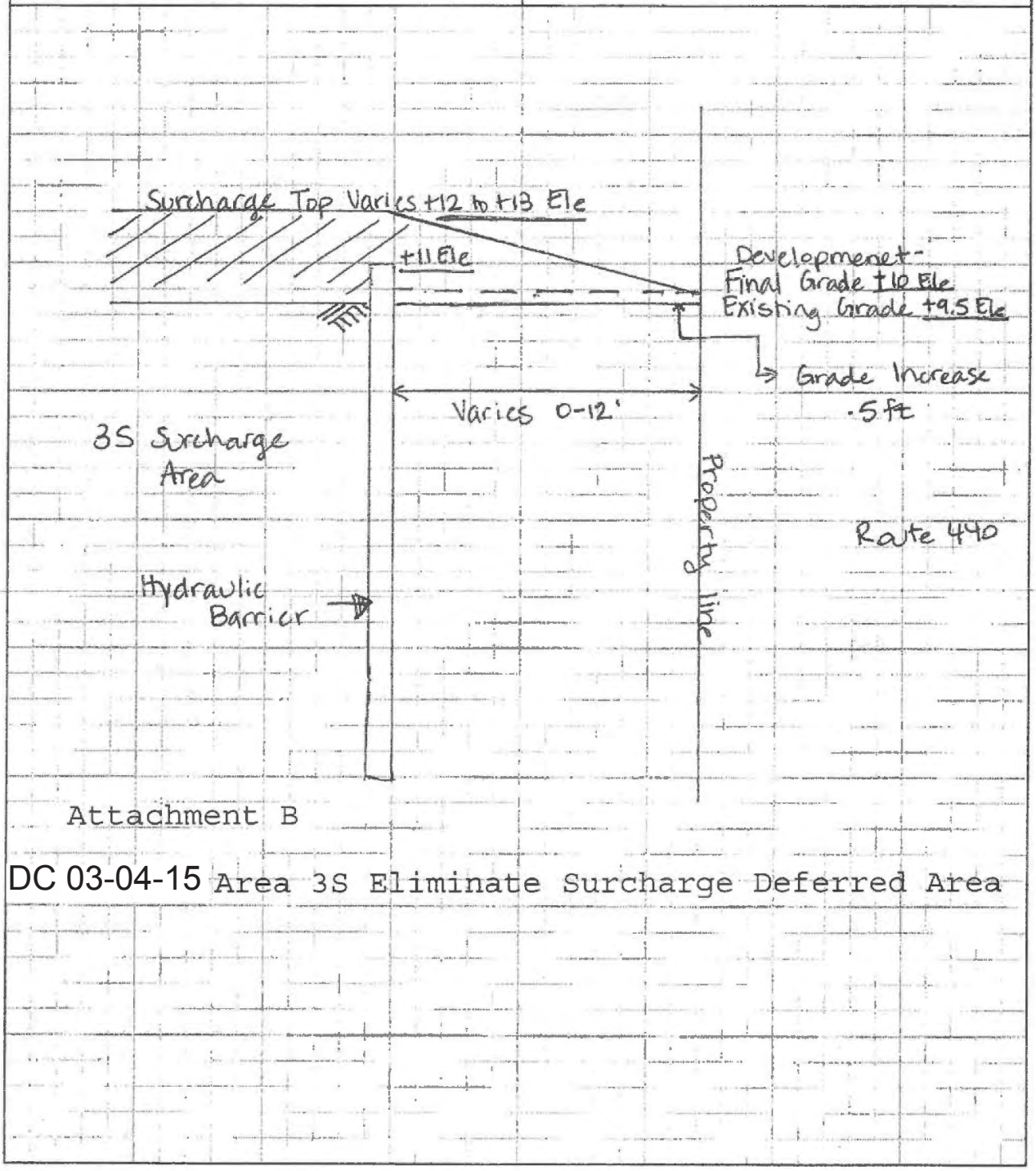


Attachment B

DC 03-04-15 Area 3S Eliminate Surcharge Deferred Area

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No 026.1: Minor (a)
	Effective Date: 05/19/2015
Project Location: SA-6	Associated RFI:
Title: Contingent GW System Delete Pumps & Controls	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB 026.1 serves to provide notice to Entact that specific components related to the Contingent GW system are being removed from the scope. Associated drawing revisions and supplemental detail will be provided in DCB 026.2.

Supply and installation of items listed below will be deferred pending closure of the caps and stabilization of the groundwater levels and quality within the contingent groundwater system on both SA-6N and 6S. These changes impact the three Groundwater extraction Pump Stations and associated electrical and instrumentation wiring.

Revised Contingent Groundwater drawings will be issued under DCB 026.2

- DWG C-310 Detail CC
  - Submersible Grinder Pump Model HPGR200 and associated electrical wiring.
  - Level switches, level alarm, Pump Power Control Panel and associated electrical and instrumentation cable.
  - 1.5 inch flex discharge hose.
- DWG C-204. Flow Meter and Flow Meter Structure as detailed on DWG 306. Delete in its entirety including all associated instrument cable and conduit.

Contingent GW force mains, electrical and instrument conduit will be installed as shown with pull string/wire to permit installation of electrical and instrumentation wire by others.

Please Note that the above Geomembrane pump station including all pumps, wiring and controls will be installed as shown.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision √ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Attachments: ☐ Yes √ No Cost Implication: √ Yes ☐ No >$50k √ Yes ☐ No Schedule Implication ☐ Yes √ No
Additional Comments:	Design Documents Affected: C-204,C-310, E-301, E-302 CN-201,CN-301,CN-302 CN-305 EN-301, EN-302

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature): Samuel Shallard			Does DCB Result in CCO? ☐ Yes (b) ☐ No Date: May 19, 2015

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 007.4 **DCB Type:** Major(a) **Effective Date:** 9/3/15; **Rev. 1**
Project Location: SA-6	**Associated RFI:**
Title: GW Extraction System – Revisions of Electrical to Replace Wells with Trenches	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 provides the revised electrical plan, one line electrical drawings and electrical details for SA-6S.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.4 is applicable to the Groundwater Extraction System electrical drawings for SA-6S (electrical plan and one line electrical drawing).

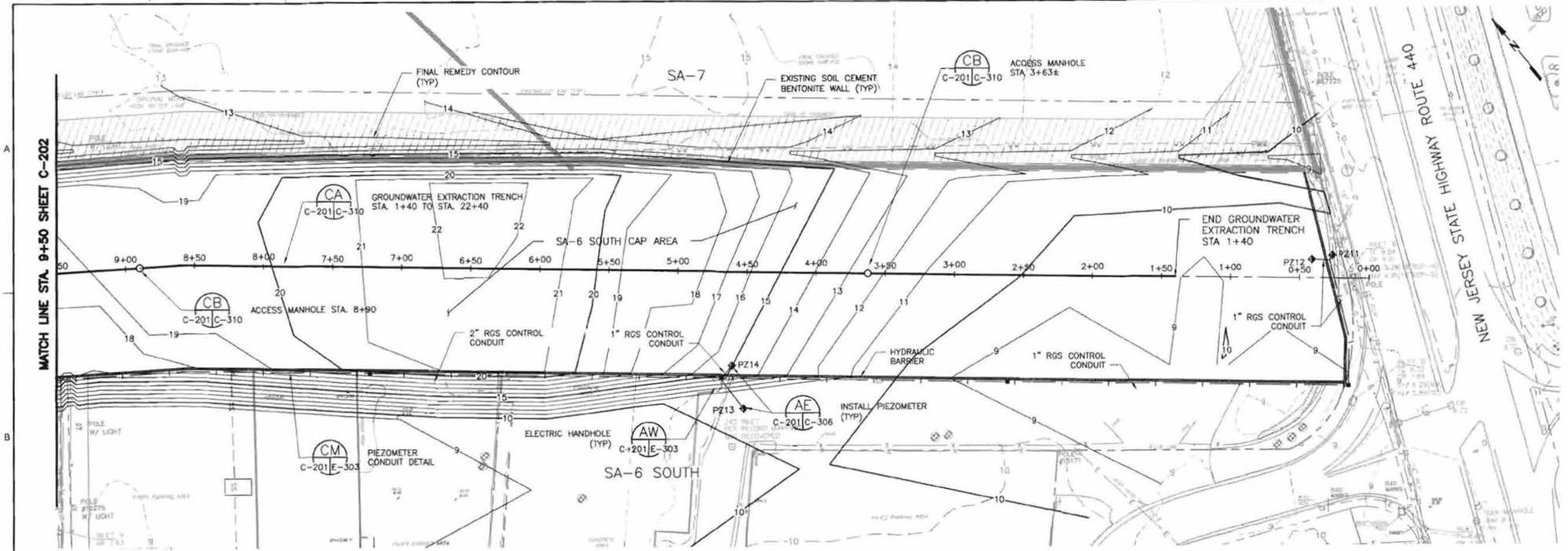
Drawings that are revised in this DCB are:
SA-6S

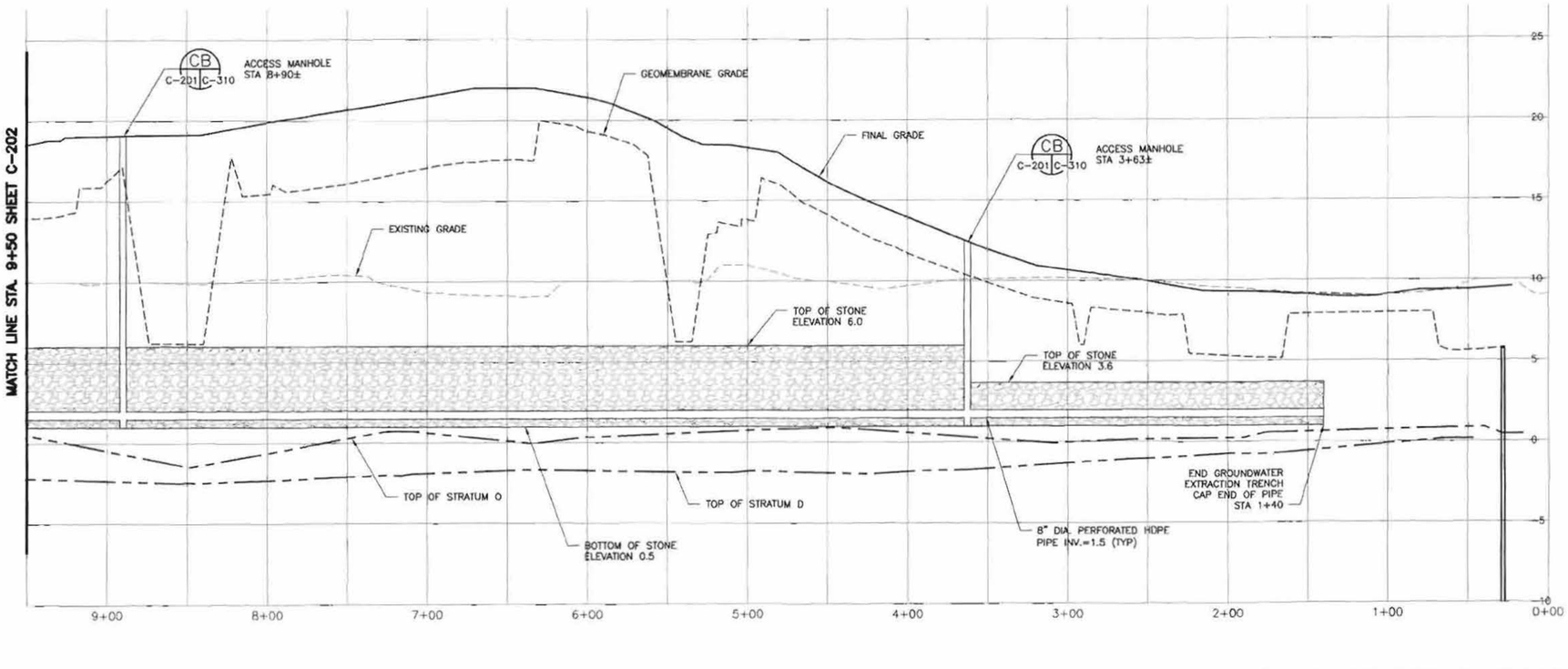
- C-201
- C-202
- C-203
- C-204
- C-306
- C-310
- E-301
- E-302
- E-303

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction
	Attachments: ☑ Yes ☐ No C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No

Additional Comments:		**Design Documents Affected:** C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303	
Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?**	☑ **Yes (b)** ☐ **No**
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
10. INSTALL INSTRAMENTATION CONDUIT FOR PAIRE PIEZOMETERSREADIED WITH PULL STRINGS FOR FUTURE INSTRAMENTATION CABLE INSTALLED BY OTHERS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
3	08/14/15	RJR	SGS	TDD	SGS
2	02/13/15	TDD	SGS		
1	06/06/14	TDD	SGS		
	REVISION	BY	APVD		

DCB 007.4
DCB 007.3
DCB 007

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 585-7900
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

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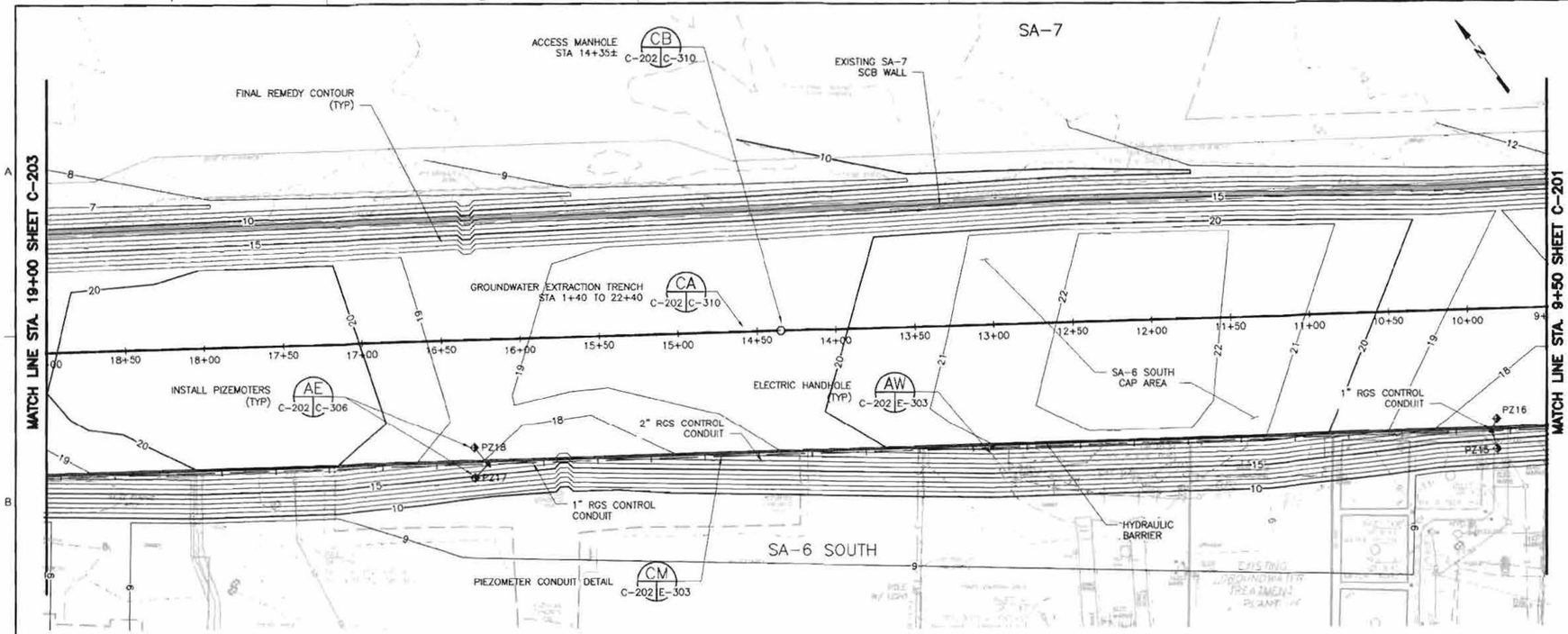

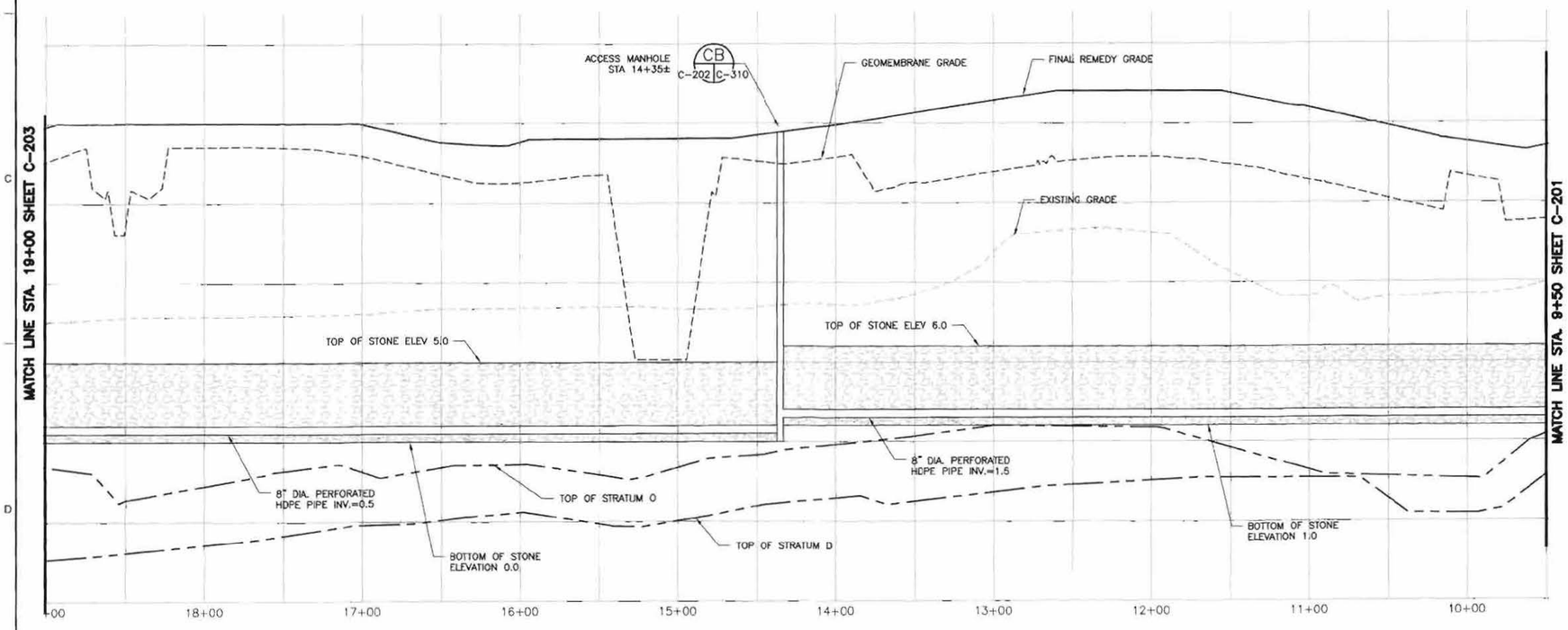

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
9/2/15

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		TDD		RJR	TDD		SGS
4	08/14/15			DCB 007.4		RJR	SGS
3	02/13/15			DCB 007.3		TDD	SGS
2	07/30/14			DCB 007.1		TDD	SGS
1	06/06/14			DCB 007		TDD	SGS

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JERSEY CITY, NEW JERSEY

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GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
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200 Horizon Center Blvd, Suite 110
Hamilton, NJ, 08619
(609) 989 - 2829
N.J. Certificate of Authorization Number 24GA28010900

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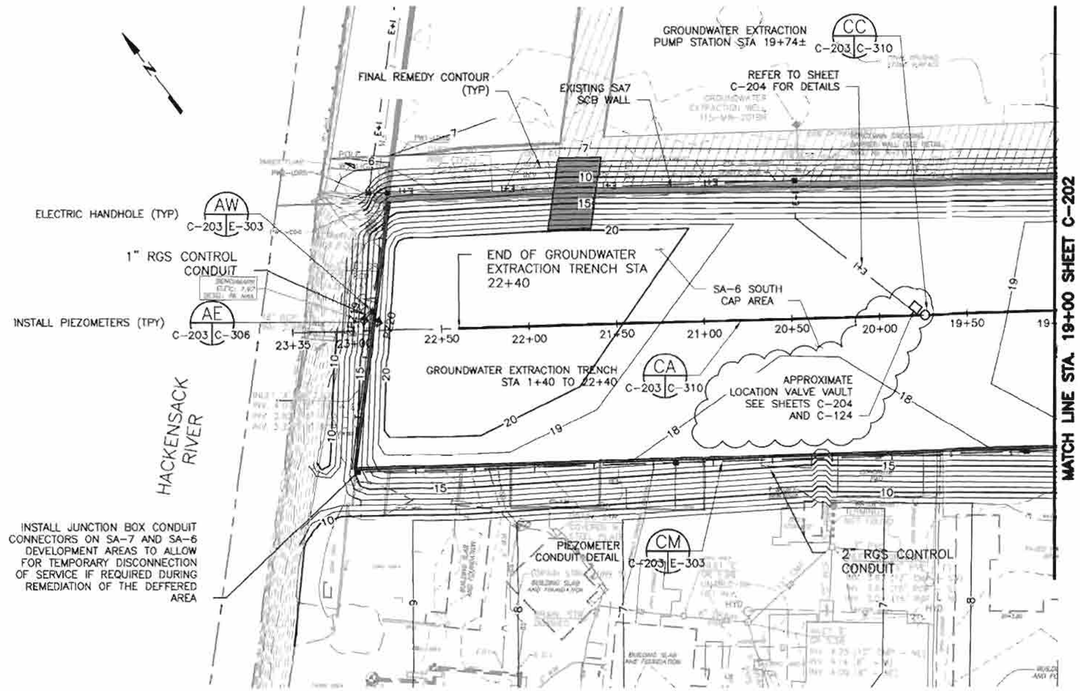
0 1"

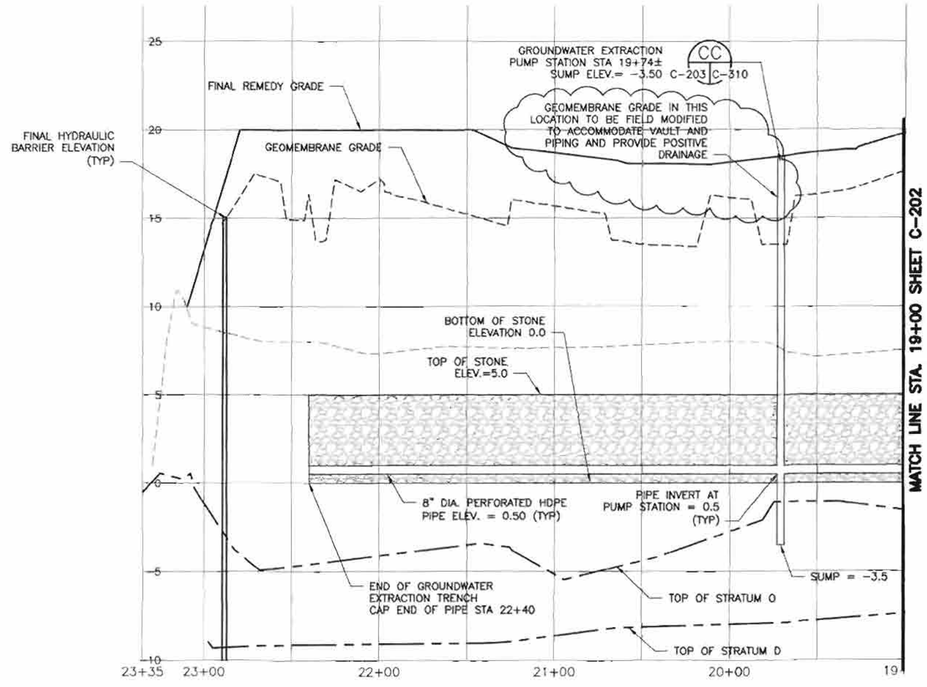
DATE	
PROJ	3480-12-0317
DWG	C-202
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR35-C-202_Cont_GWE_Trench.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:11 AM



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.



HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
SGS LICENSE NUMBER 43507
NJ PROFESSIONAL ENGINEER

NO.	DATE	REVISION	BY	APVD
4	08/14/15	DCB 007.4	RJR	SGS
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM
DSGN	TDD	DR RJR	CHK TDD	APVD SGS

Honeywell
101 COLUMBIA RD. BOX 2102, MORRISTOWN, NJ 07962

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JERSEY CITY, NEW JERSEY

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GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

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Hamilton, NJ, 08619
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DWG	C-203
SHEET	OF 66

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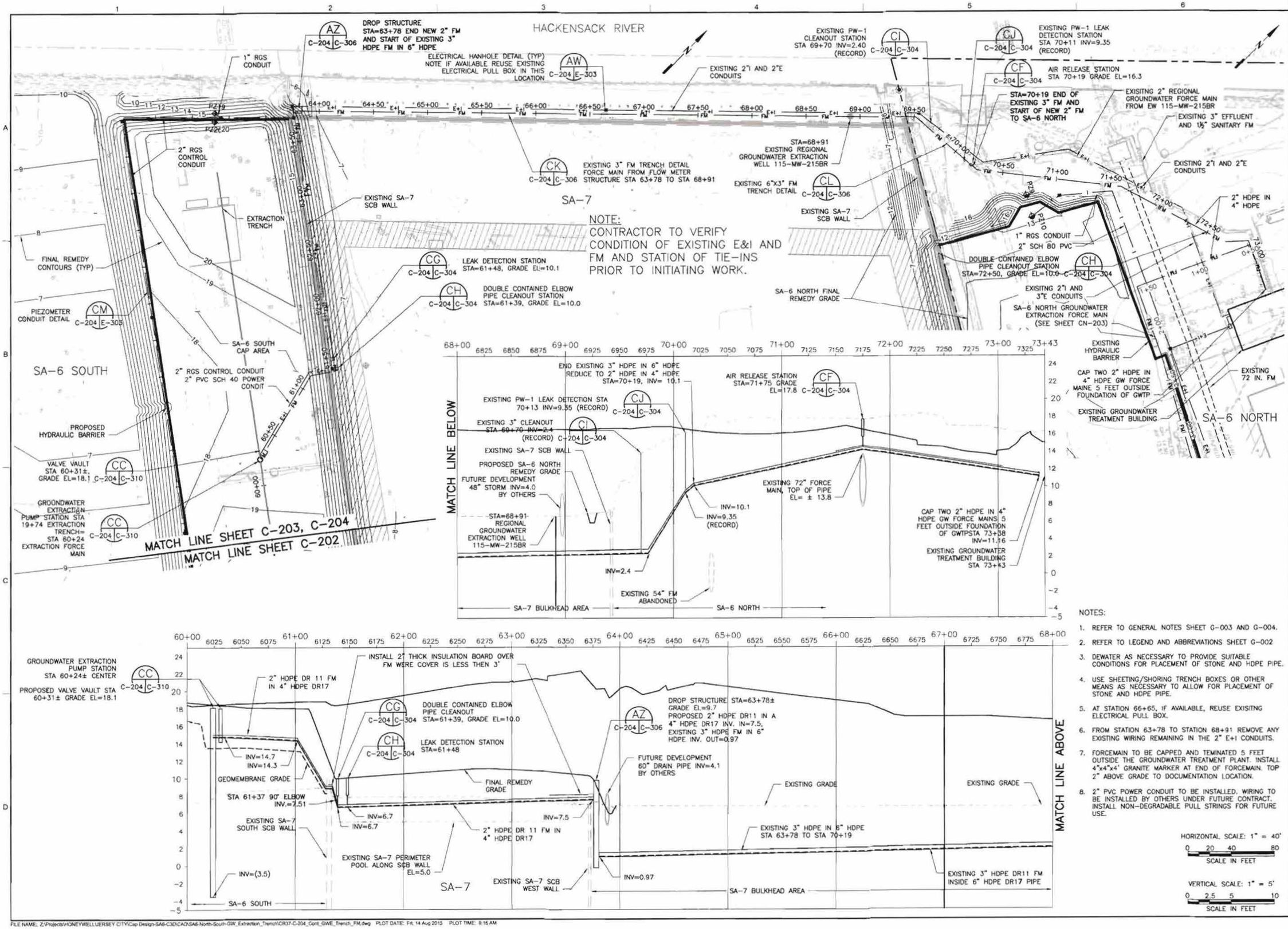

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.
5. AT STATION 66+65, IF AVAILABLE, REUSE EXISITNG ELECTRICAL PULL BOX.
6. FROM STATION 63+78 TO STATION 68+91 REMOVE ANY EXISTING WIRING REMAINING IN THE 2" E+I CONDUITS.
7. FORCEMAIN TO BE CAPPED AND TEMINATED 5 FEET OUTSIDE THE GROUNDWATER TREATMENT PLANT. INSTALL 4"x4"x4' GRANITE MARKER AT END OF FORCEMAIN. TOP 2" ABOVE GRADE TO DOCUMENTATION LOCATION.
8. 2" PVC POWER CONDUIT TO BE INSTALLED. WIRING TO BE INSTALLED BY OTHERS UNDER FUTURE CONTRACT. INSTALL NON-DEGRADABLE PULL STRINGS FOR FUTURE USE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
4	08/14/15	RJR	SGS		
3	02/13/15	TDD	SGS		
2	05/16/14	RJR	SGS		
1	05/14/14	TDD	SHM		
	REVISION		BY	APVD	
	DCB 007.4			TDD	SGS
	DCB 007.3				
	REVISED GROUNDWATER EXTRACTION PUMP STATION DCB 007				

SAMUEL G. SHALLARD
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LICENSE NUMBER 43507

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GROUNDWATER EXTRACTION FORCE MAIN PLAN AND PROFILE

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Hamilton, NJ, 08619
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NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

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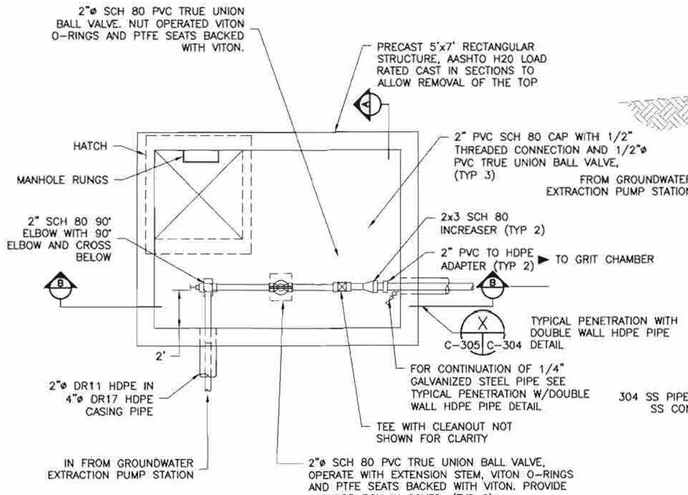
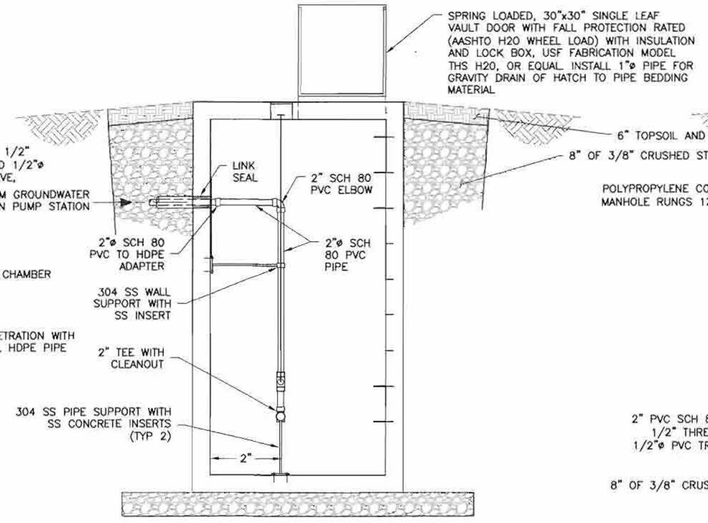
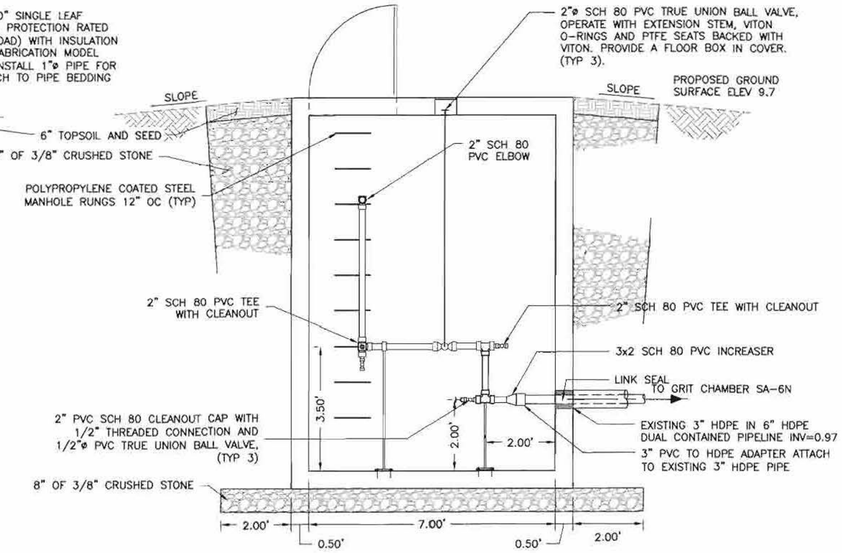
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR37-C-204_Cont_GWE_Trench_FM.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 8:16 AM



PLAN

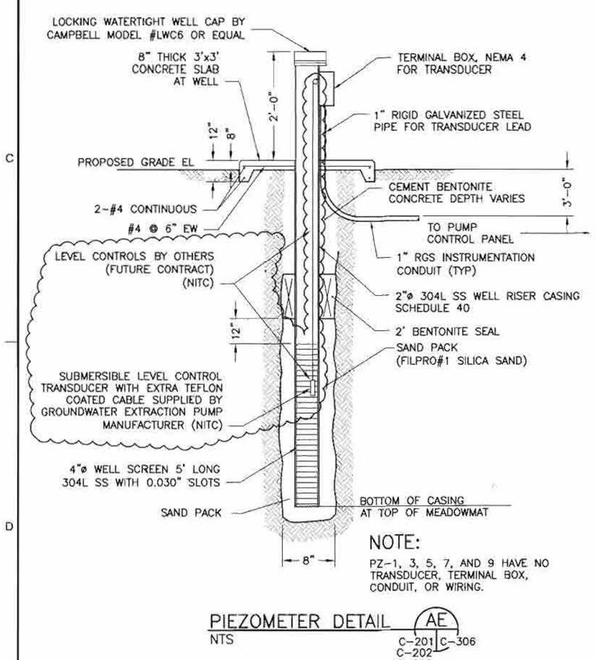


SECTION AA



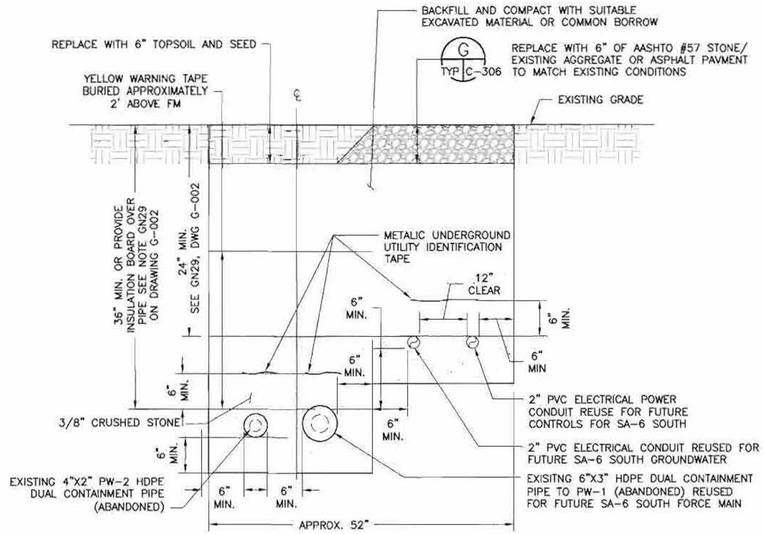
SECTION BB

DROP STRUCTURE DETAIL (AZ)
NTS STA 63+78 C-204 C-306

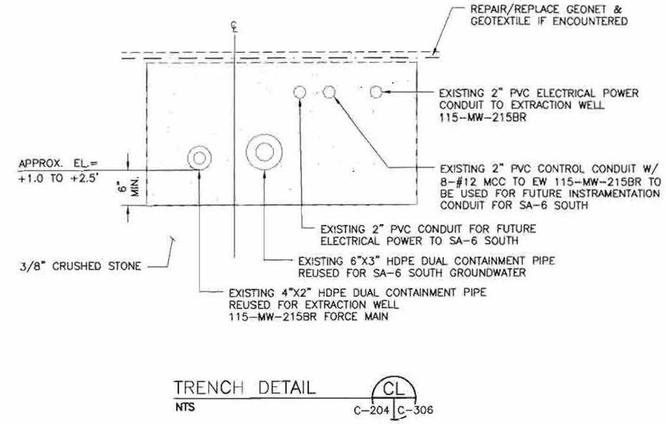


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AE)
NTS C-201 C-306 C-202 C-203



EXISTING 3" FM TRENCH DETAIL (CK)
NTS STA 63+78 TO STA 68+91 C-204 C-306



TRENCH DETAIL (CL)
NTS C-204 C-306

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
			REO	RJR	APVD	SHM
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD SHM
1	02/13/15	DCB 007.3				TDD SGS
2	08/14/15	DCB 007.4				RJR SGS

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
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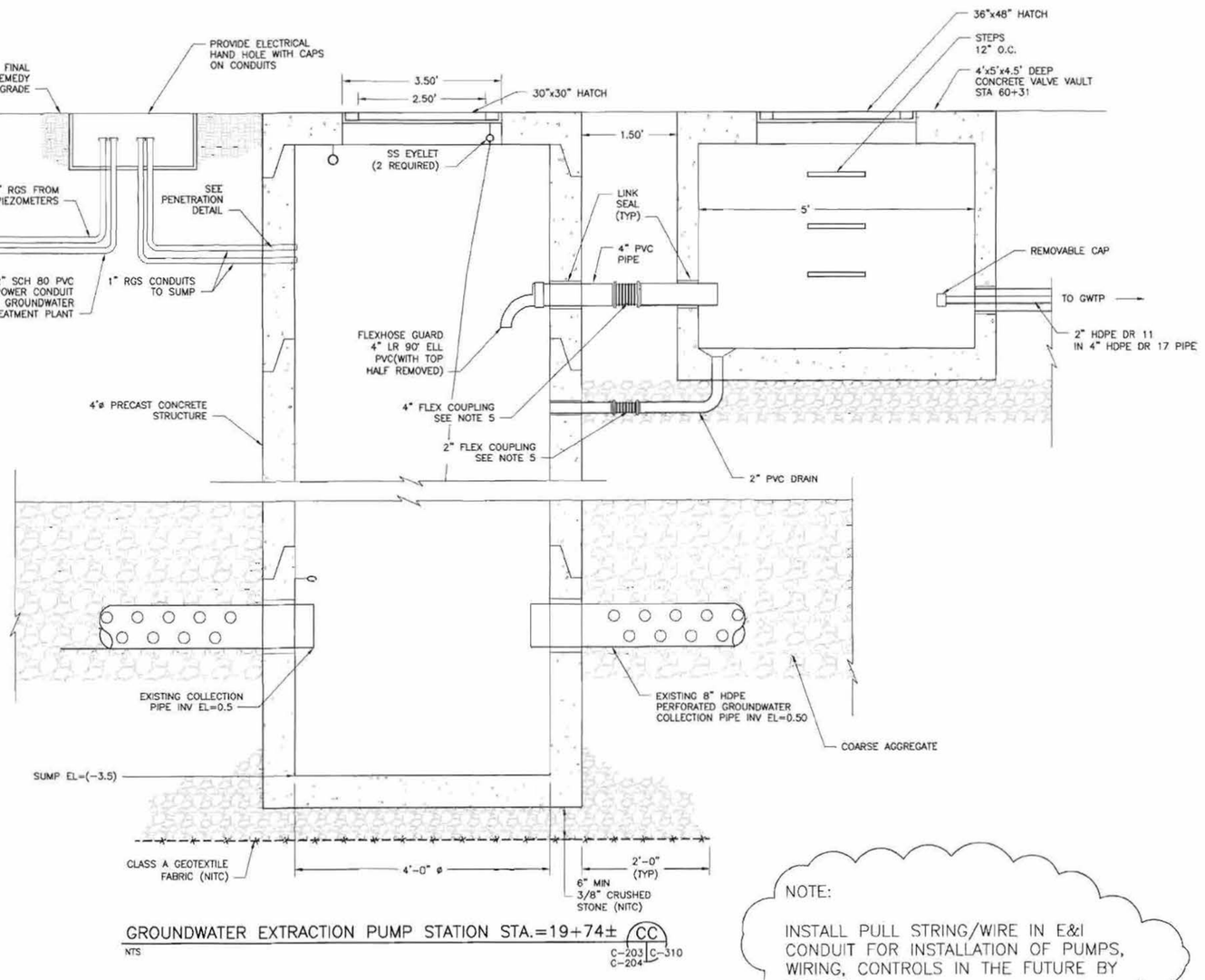
CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 588 - 2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C2D\CADD\SA6-North-South-GW_Extraction_Trench\CR43-C-306 Extraction Well Details.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:18 AM



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 | C-204 | C-310

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	BY	APVD
DSGN	TDD		TDD	RJR	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS	TDD	SGS
2	02/02/15	DCB 007.3	TDD	SGS	RJR	SGS
3	08/14/15	DCB 007.4				

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

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Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28019900

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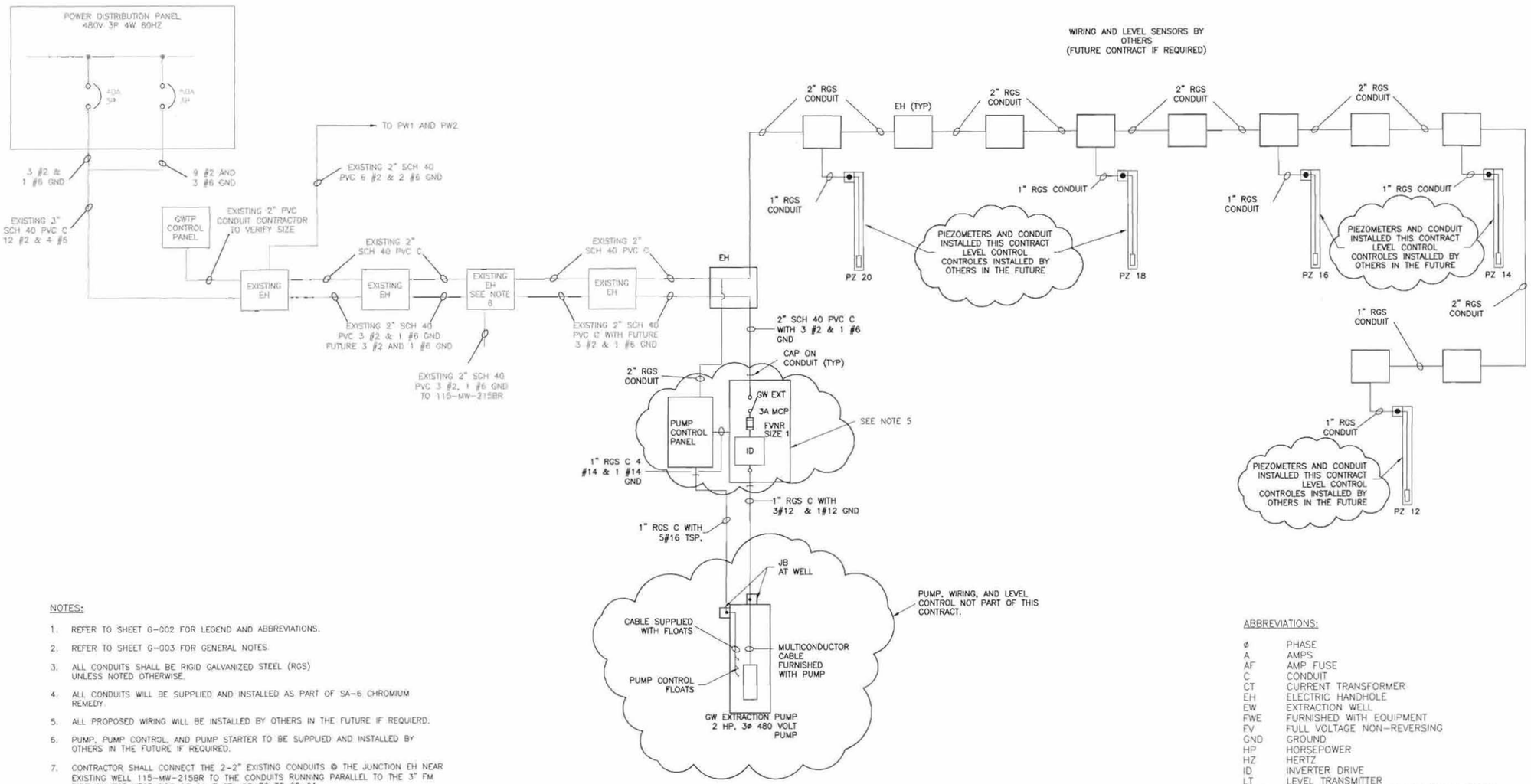
DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

FILE NAME= Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CADD\SA6-North-South-GW_Extraction_Trench\CR46-C-310_Cont_GWE_Trench_Details.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:19 AM



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS) UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIERD.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	08/14/15	TDD	RJR	SHM	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION			
		DCB 007.4			
		REVISION		BY	APVD
				RJR	SGS
				TDD	SHM
				BY	APVD

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6, SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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(609) 689 - 2829
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VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-301
SHEET	64 OF 66

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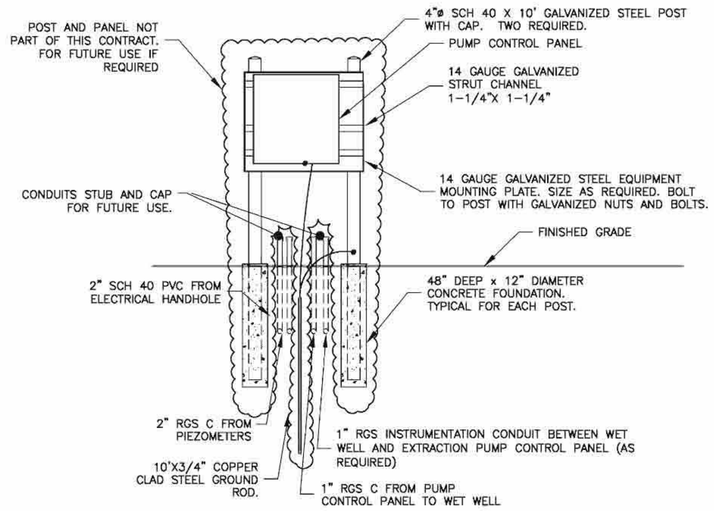


EXTRACTION WELL PUMP CONTROL PANEL DETAIL (AO)

NTS

TYP E-302

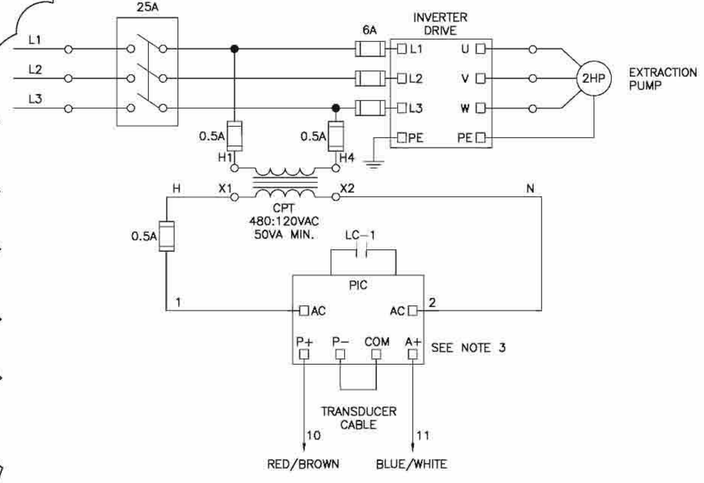
NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM, UNLESS OTHERWISE SHOWN. WHEN DISTANCE IS LESS THAN 6 FEET, LIQUID TIGHT METAL FLEXIBLE CONDUIT MAY BE USED.
2. LOCATE THE PUMP MOTOR STARTER WITHIN 3' OF THE EXTRACTION WELL PUMP STATION.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

NOT PART OF THIS CONTRACT
ELECTRICAL POWER AND INSTRUMENTATION CONTROLS TO BE RE-EVALUATED FOLLOWING INITIAL DRAWDOWN AND TRENCH PERFORMANCE EVALUATION.

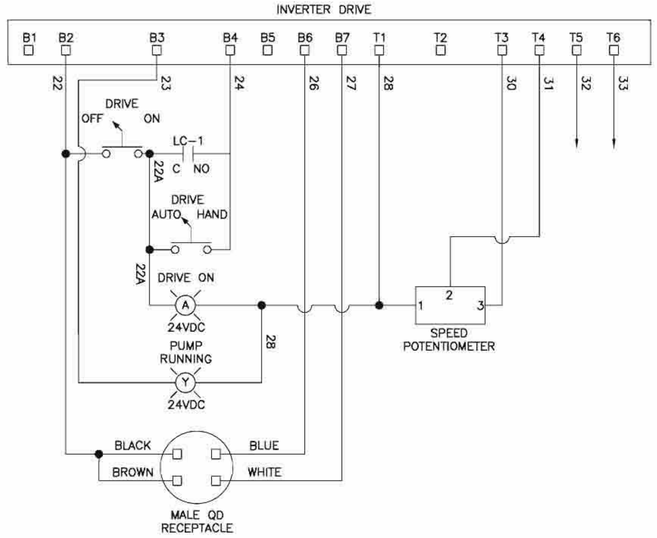


PUMP CONTROL PANEL WIRING DIAGRAM (AP)

NTS

TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 3)

TYP E-302



INVERTER DRIVE WIRING DIAGRAM (AQ)

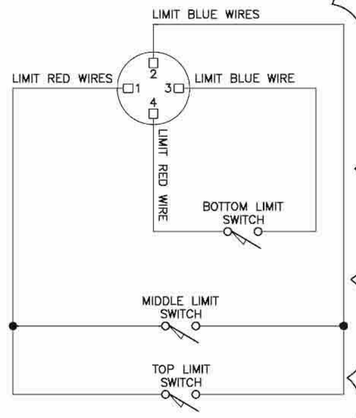
NTS

TYP E-302

FIELD TERMINAL STRIP CONNECTION SUMMARY

GND	EARTH GROUND
10	RED TRANSDUCER WIRE
11	BLUE TRANSDUCER WIRE
22	MALE QD RECEPTACLE BROWN AND BLACK
26	MALE QD RECEPTACLE BLUE
27	MALE QD RECEPTACLE WHITE
32	FAULT CONTACT SUPPLY
33	FAULT CONTACT RETURN

FEMALE QUICK DISCONNECT PLUG



PLUG & TERMINAL STRIP WIRING DIAGRAM (AR)

NTS

TYP E-302

SAMUEL G SHALLARD

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	08/14/15	TDD	RJR	RJR	SHM
0	06/07/13	DCB 007.4			

NO.	REVISION	BY	APVD
0	ISSUED FOR CONSTRUCTION	TDD	SHM
1		RJR	SGS

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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WIRING DIAGRAMS

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(609) 890-2283
NJ Certificate of Authorization Number
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DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

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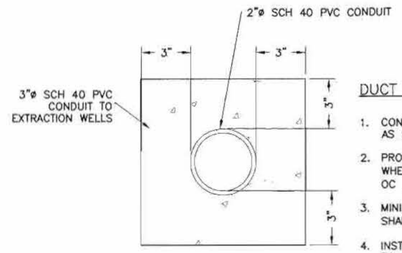
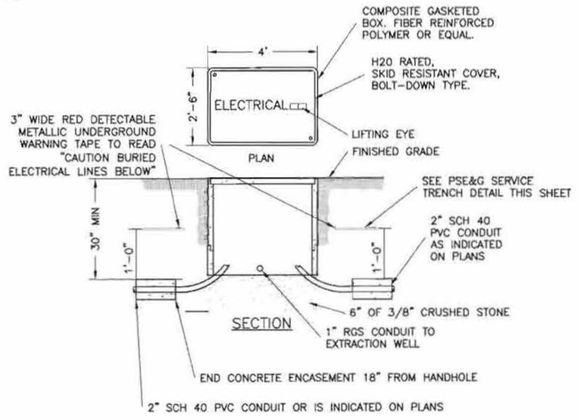


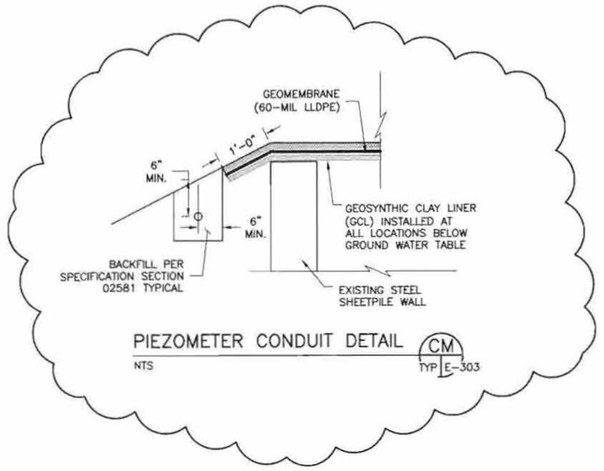
DUCT WAY NOTES:

1. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
2. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

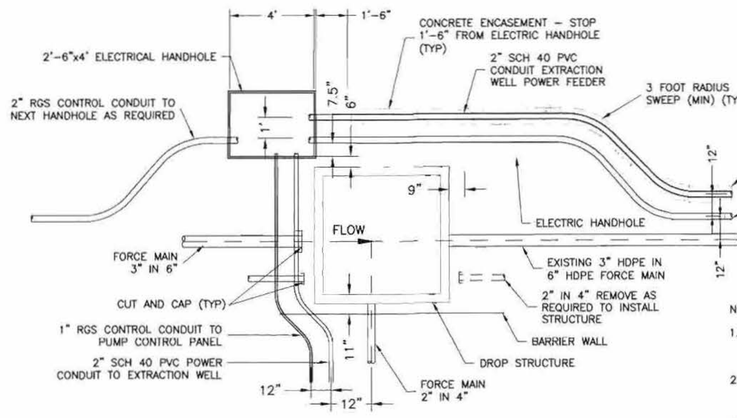
DUCT BANK DETAILS (AT)
NTS — TYP E-303



ELECTRICAL HANDHOLE DETAIL (AW)
NTS — C-201 E-303, C-202, C-203



PIEZOMETER CONDUIT DETAIL (CM)
NTS — TYP E-303



NOTES:

1. MAINTAIN SEPARATION OF POWER AND INSTRUMENTATION CONDUCTORS IN ELECTRIC HANDHOLE.
2. WHERE POWER AND INSTRUMENTATION CONDUCTORS CROSS THEY SHALL CROSS PERPENDICULAR TO EACH OTHER.
3. ELECTRICAL HAND HOLES SHALL BE LOCATED TO AVOID CLEANOUT MANHOLES.

ELECTRICAL HANDHOLE ORIENTATION DETAIL (AY)
NTS — C-201 E-303, C-202, C-203

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS APVD

NO.	DATE	DSGN	DR	CHK	APVD	BY
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0	06/07/13	ISSUED FOR CONSTRUCTION				TDD SGS
		DCB 007.4				RJR SGS

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ELECTRICAL DETAILS

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DATE	
PROJ	3480-12-0317
DWG	E-303
SHEET	66 OF 66

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 7.4.1 **DCB Type:** Major(a) **Effective Date:** 5/24/16
Project Location: SA-6 South	**Associated RFI:**
Title: GW Extraction System – Revisions of Electrical to Replace Wells with Trenches	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007 series has documented changes to the contingent GW system design. Details related to the administrative basis for the change are provided in DCB 007.1 (issued to Entact on 6/12/14).

Several major changes have been issued in the past covering the change from Individual Wells to a Trench Drain system and the elimination of all wiring, pumps, and controls from the Entact Chromium Remedy scope of work.

This DCB 7.4.1 is being issued to address further changes in the SA-6 South design, including but not limited to:

- Elimination of Drop Structure at the junction of SA-6 / SA7
- Elimination of flow meter
- Conduit sizing changes

Drawings that are revised in this DCB are:

- C-201
- C-202
- C-203
- C-204
- C-304
- C-305
- C-306
- C-310
- E-301 (Not for Construction)
- E-302 (Not for Construction)
- E-303

Clarification of Entact Scope of Work:

- The provision of pumps, electrical wiring and instrumentation for the Contingent Groundwater system has been removed from Entact's scope of work.
- The installation of the FM and E&I conduits remain in Entact's scope, as depicted on the drawings.
- Running of conduit to the piezometers remains in Entact's scope. No instrumentation or wiring will be installed in the piezometers as part of the initial Chromium Remedy. The need and type of instrumentation will be determined based on the initial rounds and evaluation of the performance of the Contingent System.
- All E&I conduit will be, at a minimum, Sched 40 PVC meeting the National Electric Code.

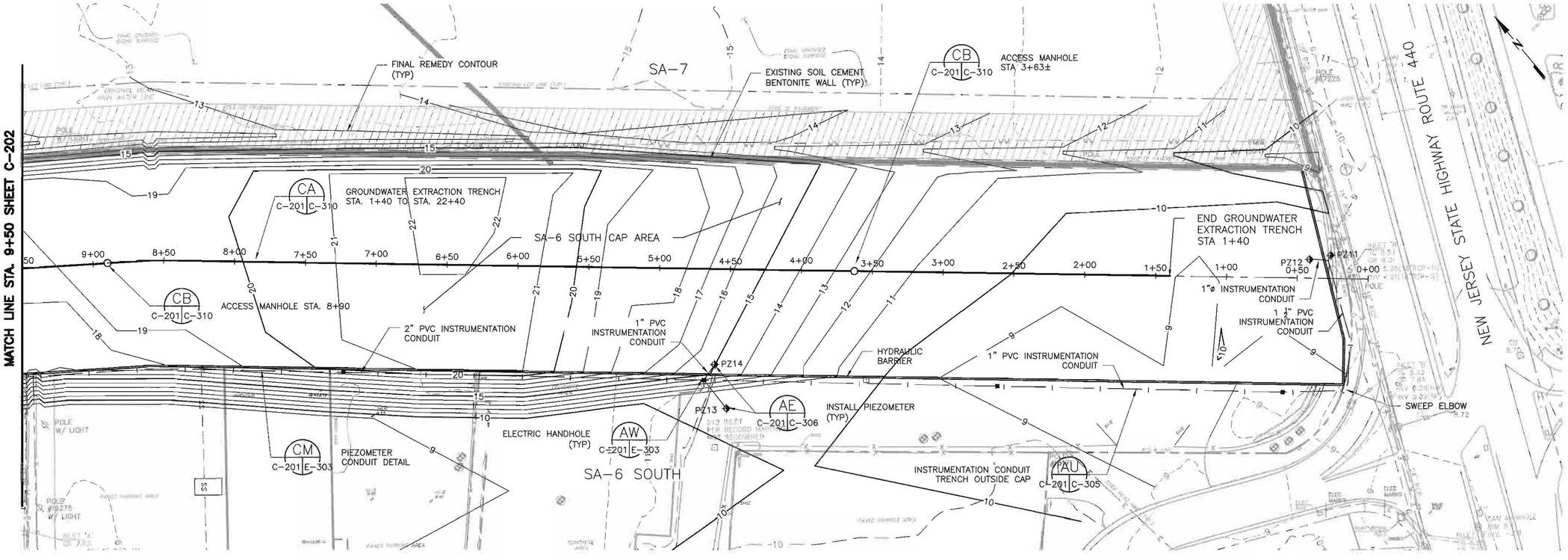
Clarification of Entact Scope of Work (continued):

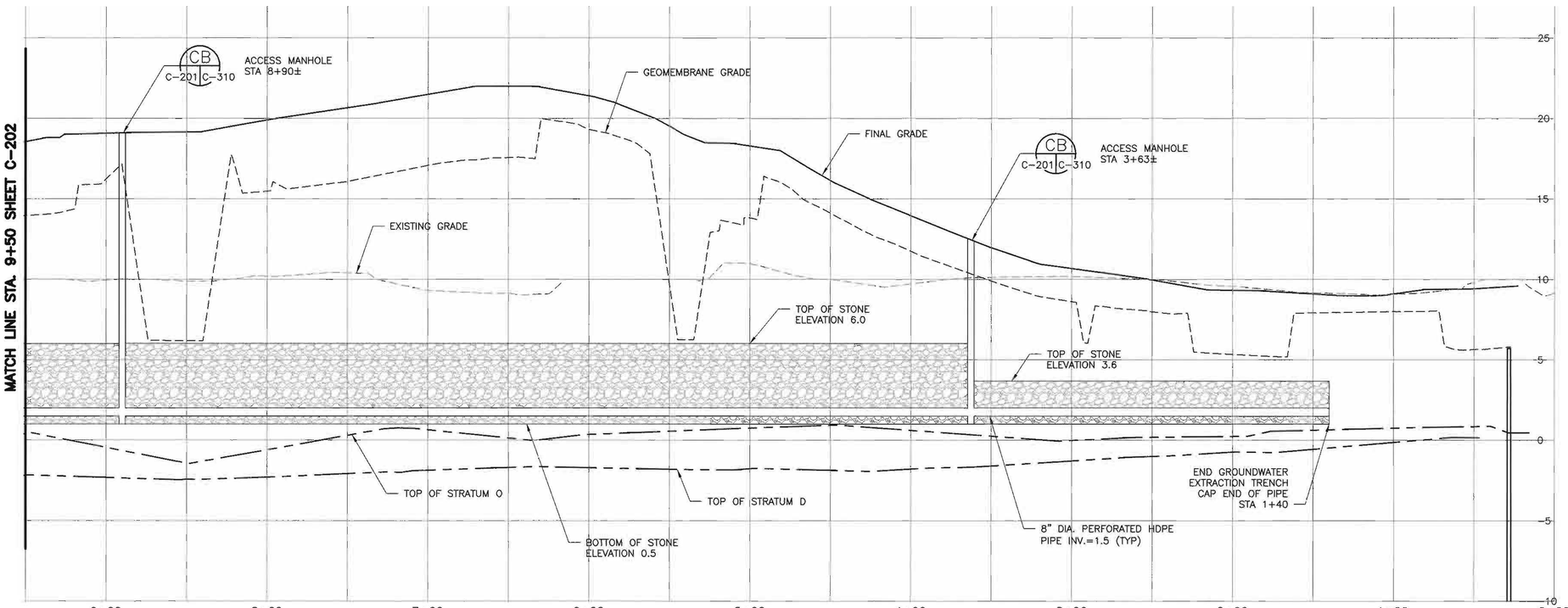
- SA-6/7 Meter / Drop structure has been eliminated and replaced with two 45 degree transitions. This detail needs to be reviewed with the fabricator and details shall be submitted to the engineer for approval.
- In the SA-6S east end, AmecFW had to relocate the last pull box and build in some bends. Therefore, the conduit was increased to 1.5 inch.
- The revised design calls for a minimum 24" of cover for direct burial of conduit.
- The E&I conduit from SA-7 to the SA-6S Pump Station is now shown as concrete encased (location shown on Drawing C-203, Detail AA shown on C-305).

DCB 7.2.2 will document changes to the SA-6 North Contingent GW Extraction system. DCB 7.2.2 will follow in a separate submittal.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed due to changes in the recovery concept, permitted discharge location and site grading
	Attachments: ☑ Yes ☐ No C-201, C-202, C-203, C-204, C-304, C-305, C-306, C-310, E-301 (Not IFC), E-302 (Not IFC), E-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** C-201, C-202, C-203, C-204, C-304, C-305, C-306, C-310, E-301 (Not IFC), E-302 (Not IFC), E-303
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 5/24/16
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON CASKETS.
10. INSTALL INSTRUMENTATION CONDUIT FOR PAIRED PIEZOMETERS READIED WITH PULL STRINGS FOR FUTURE INSTRUMENTATION CABLE INSTALLED BY OTHERS.
11. CONCRETE ENCASEMENT REQUIRED IF BURIAL DEPTH IS LESS THAN 24" OR OTHERWISE NOTED FOR E&I CONDUIT.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS APVD

NO.	DATE	REVISION	BY	APVD
4	05/20/16	DCB 007.4.1	TDD	SGS
3	08/14/15	DCB 007.4	RJR	SGS
2	02/13/15	DCB 007.3	TDD	SGS
1	06/06/14	DCB 007	TDD	SGS

DSGN TDD DR RJR CHK TDD APVD SGS

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2529
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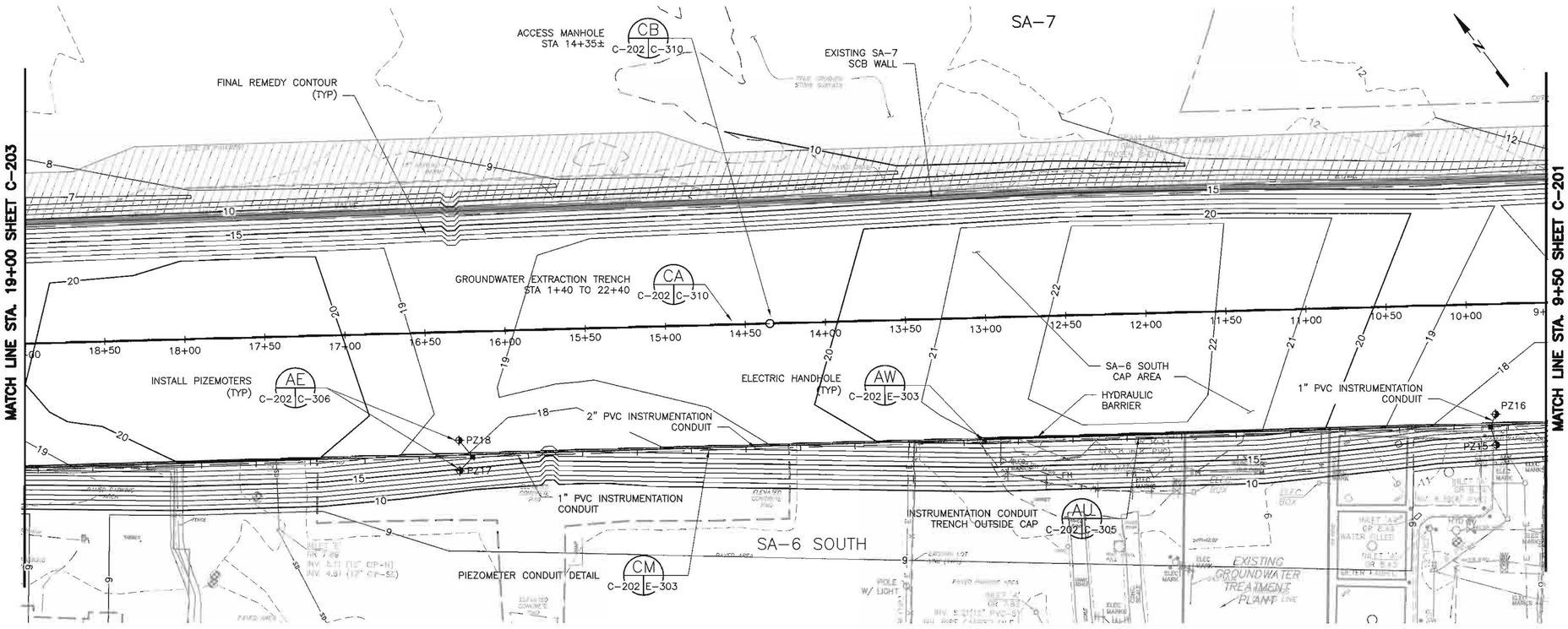
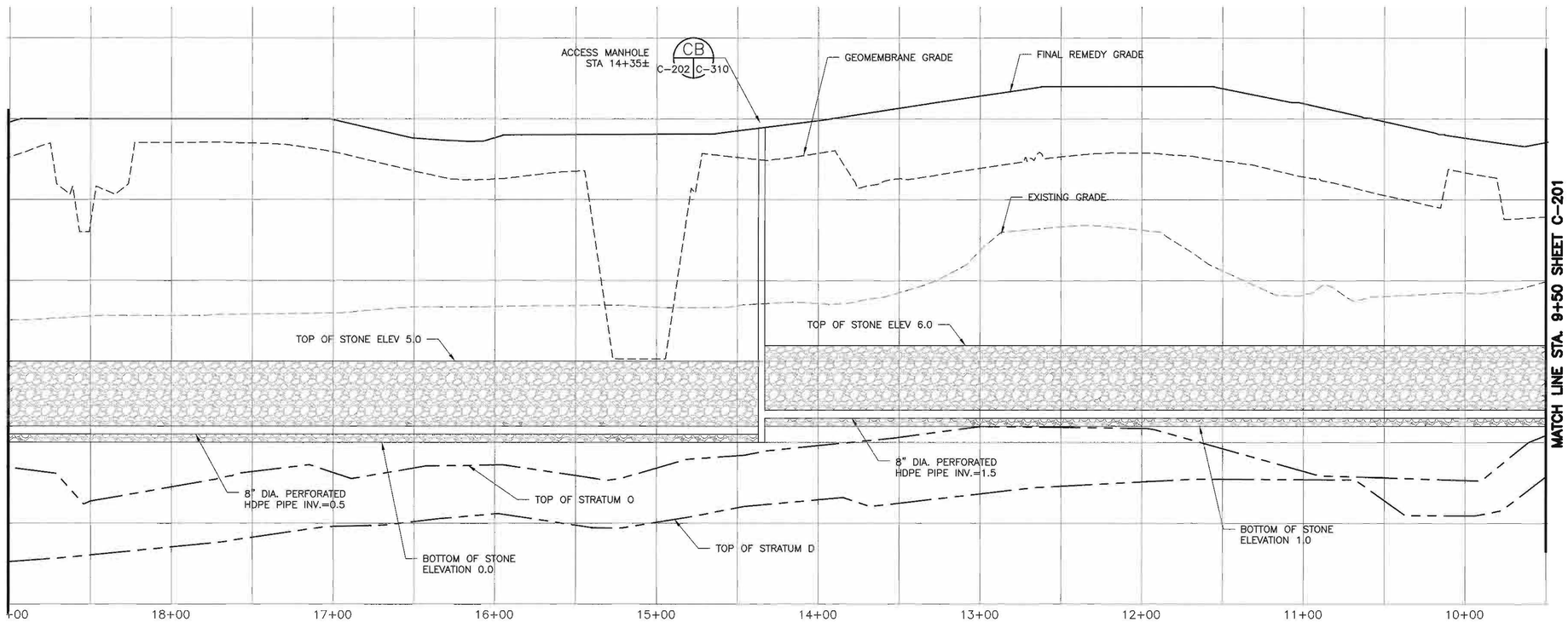
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CADS\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 9:24 AM





NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

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0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

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DSGN	TDD	DR	RJR	CHK	TDD	APVD	SGS

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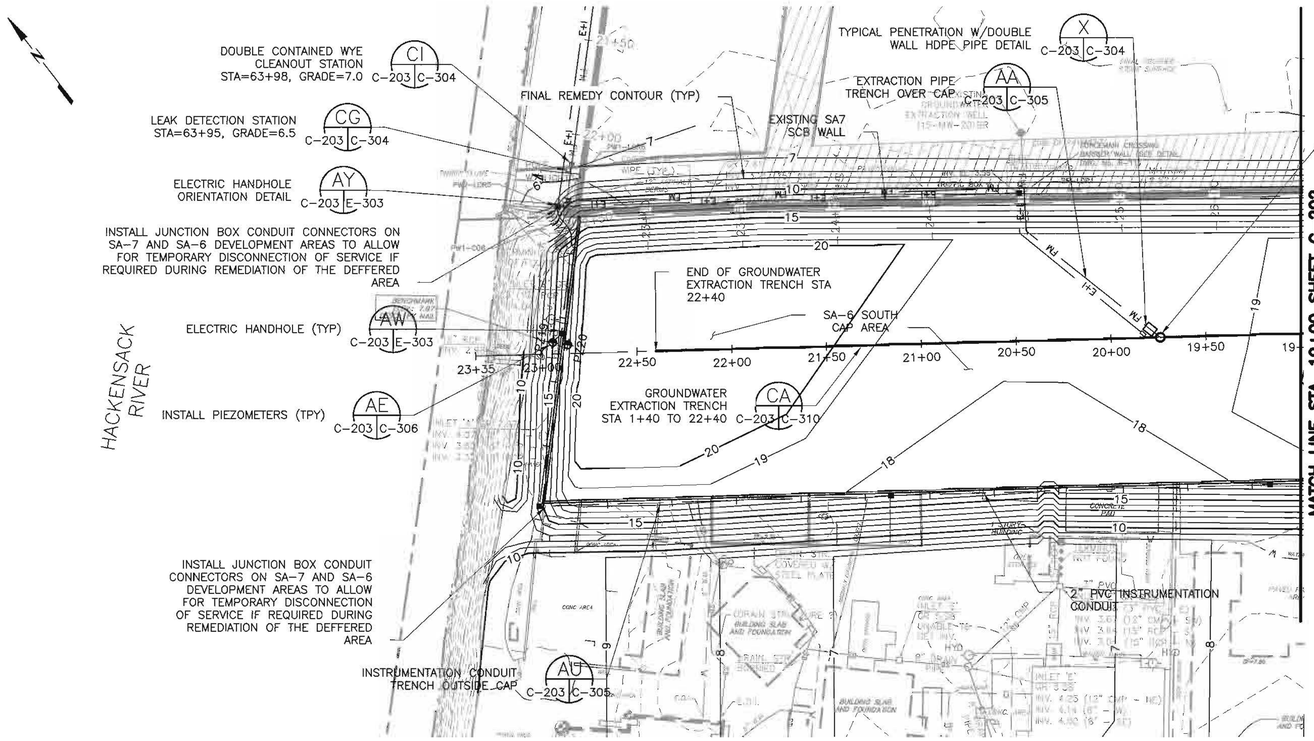
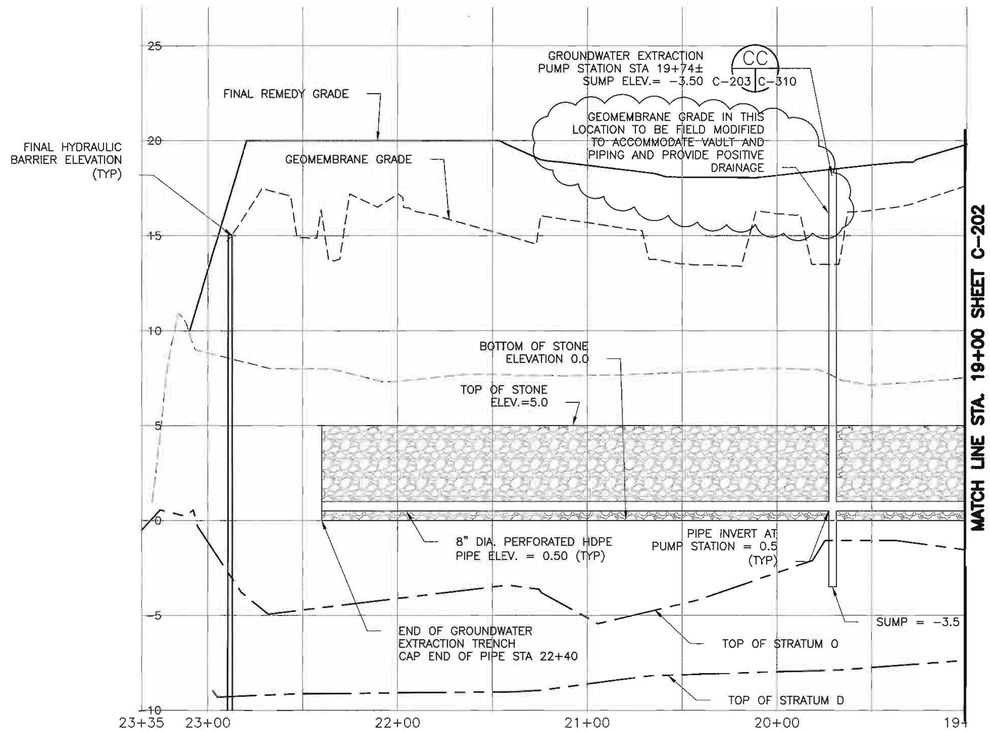
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR35-C-202_Cont_GWE_Trench.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 9:26 AM





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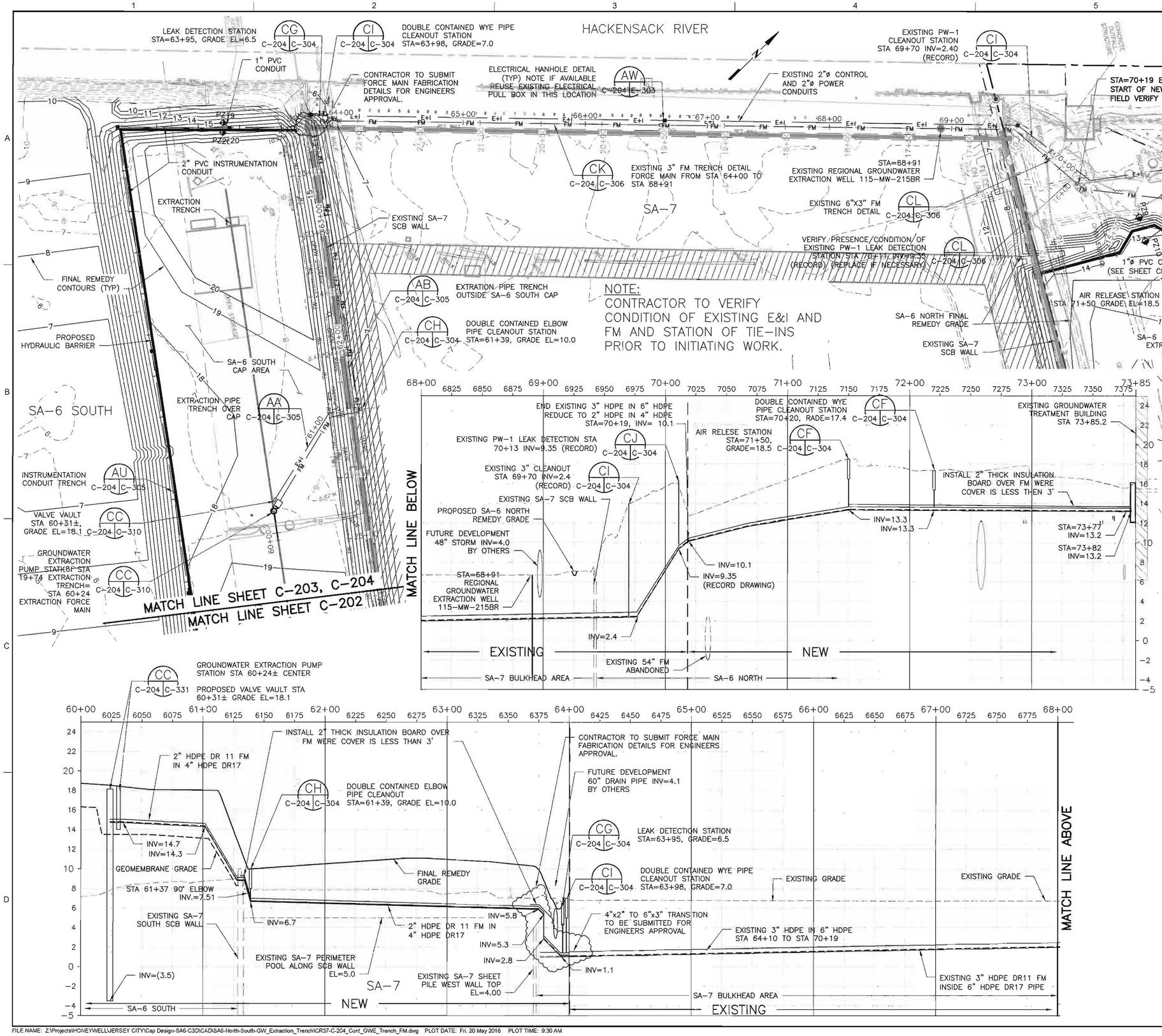

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.
5. AT STATION 66+65, IF AVAILABLE, REUSE EXISTING ELECTRICAL PULL BOX.
6. FROM STATION 63+78 TO STATION 68+91 REMOVE ANY EXISTING WIRING REMAINING IN THE 2" E+I CONDUITS.
7. FORCE MAIN TO BE CAPPED AND TERMINATED INSIDE THE INSTALLED 4'x6'x4' DEEP JUNCTION STRUCTURE OUTSIDE THE GROUNDWATER TREATMENT PLANT.
8. 2" PVC POWER CONDUIT TO BE INSTALLED. WIRING TO BE INSTALLED BY OTHERS UNDER FUTURE CONTRACT. INSTALL NON-DEGRADABLE PULL STRINGS FOR FUTURE USE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

NO.	DATE	REVISION	DR	CHK	APVD
5	05/20/16	DCB 007.4.1	TDD	RJR	TDD
4	08/14/15	DCB 007.4	TDD	SGS	SGS
3	02/13/15	DCB 007.3	TDD	SGS	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION	RJR	SGS	SGS
1	05/14/14	DCB 007	TDD	SHM	APVD
DSGN			TDD	BY	SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ. 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION FORCE MAIN PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
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DATE	
PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

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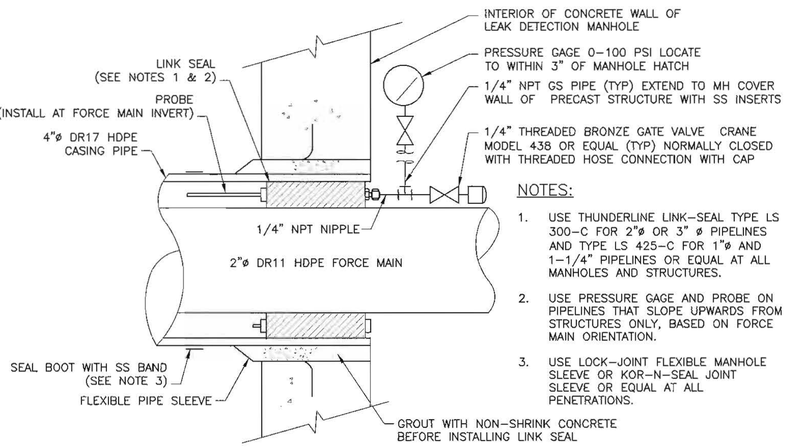
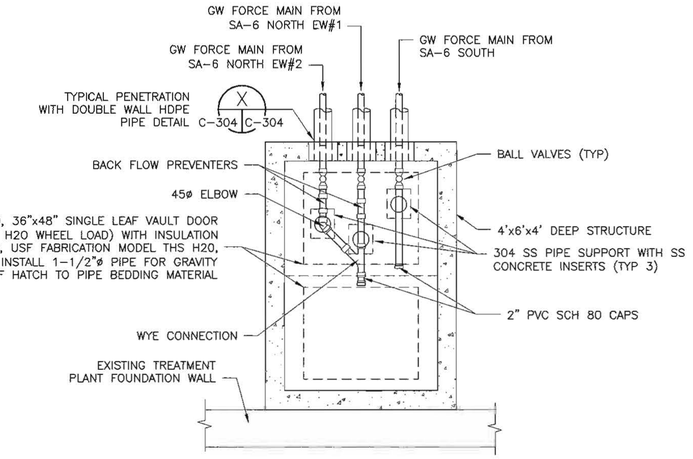


NOTES:

1. USE THUNDERLINE LINK–SEAL TYPE LS 300–C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425–C FOR 1"ø AND 1–1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK–JOINT FLEXIBLE MANHOLE SLEEVE OR KOR–N–SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

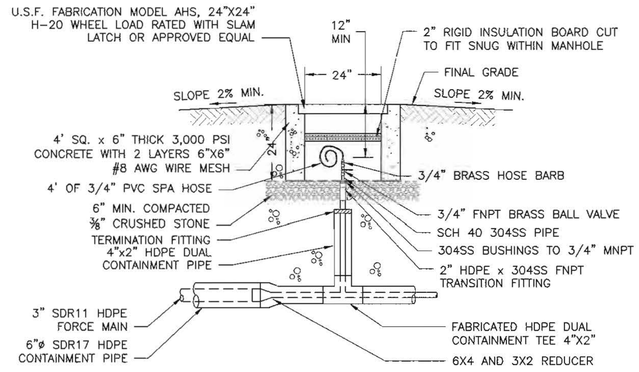
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL (X, C–304 | C–304)

NTS



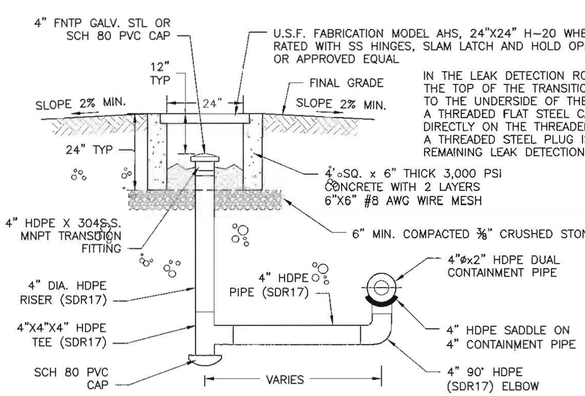
JUNCTION MANHOLE #1 @ GWTP (AZ, C–204 | C–304)

NTS



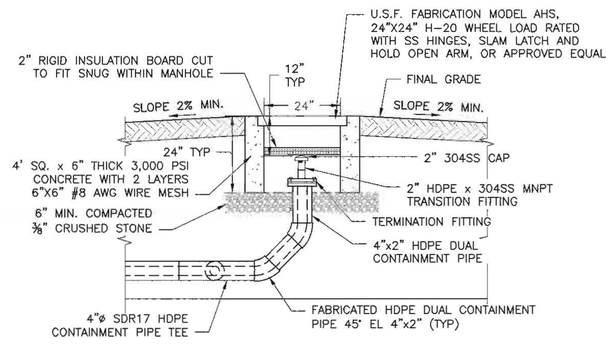
AIR RELEASE STATION (CF, C–204 | C–304)

NTS



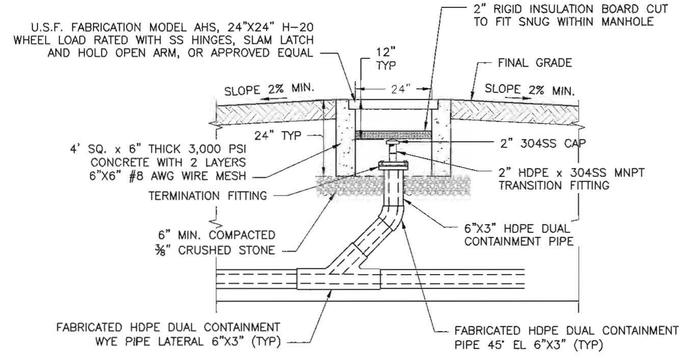
LEAK DETECTION STATION (CG, C–204 | C–304)

NTS



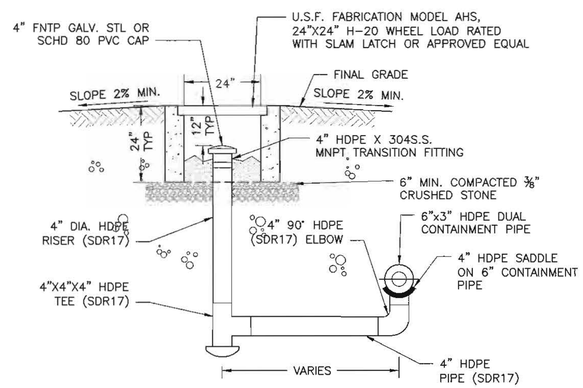
DOUBLE CONTAINED ELBOW PIPE CLEANOUT (CH, C–204 | C–304)

NTS



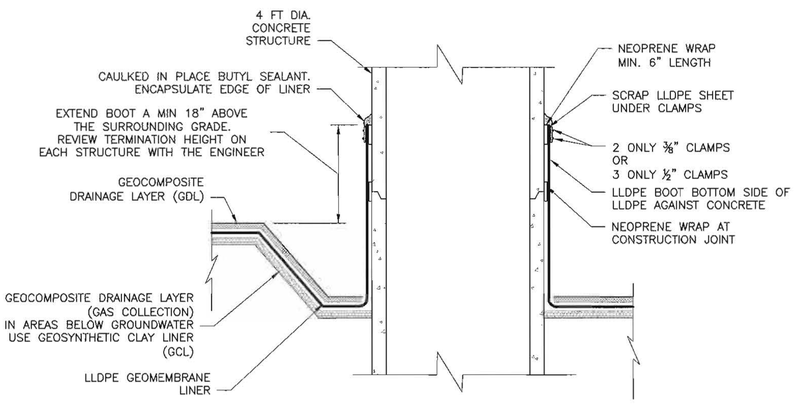
EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT (CI, C–204 | C–304)

NTS



EXISTING 3" LEAK DETECTION STATION (CJ, C–204 | C–304)

NTS



LINER ANCHOR TO CONCRETE STRUCTURE (CE, TYP C–304)

NTS

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND C–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

SAMUEL G. SHALLARD — NJ PROFESSIONAL ENGINEER — LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
DSGN		DR		
4	05/20/16	DCB 007.4.1	TDD	SGS
3	08/05/15	DCB 37.1 REVISED DETAIL CE	RJR	SGS
2	07/28/15	DCB 37 REVISED DETAIL CE	RJR	SGS
1	02/13/15	DCB 007.3	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
		REO	RJR	REO

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DRAWING STATUS
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CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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(609) 689 - 2829
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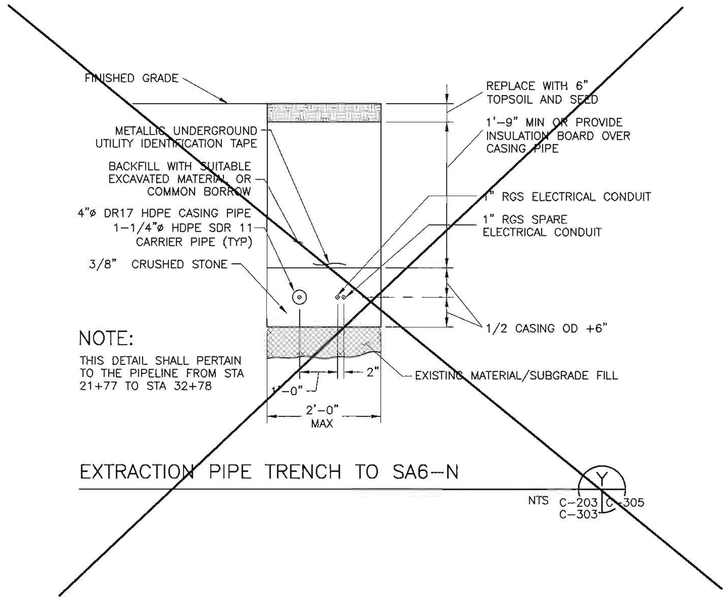
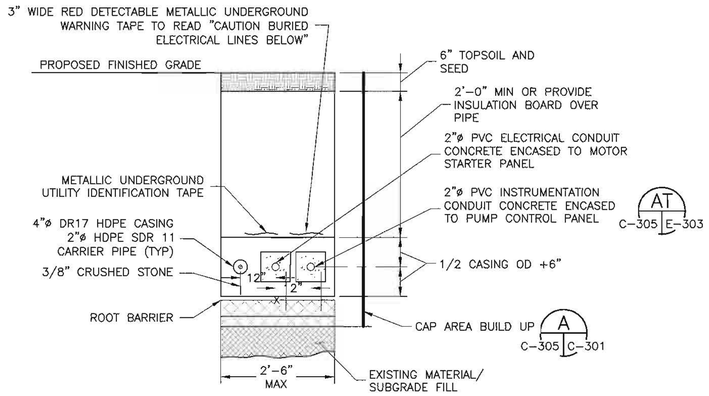
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66



EXTRACTION PIPE TRENCH TO SA6-N

NTS C-203 C-303 Y C-305

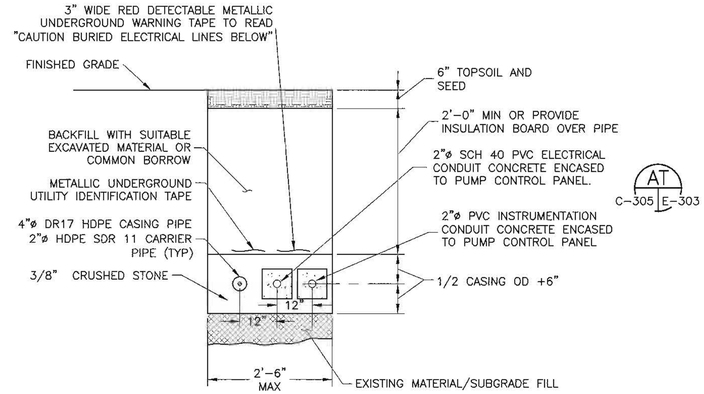


EXTRACTION PIPE TRENCH OVER CAP

(INSIDE SA-6S CAP AREA)

VALVE VAULT TO STA 61+32±

NTS C-201 C-202 C-203 AA C-305

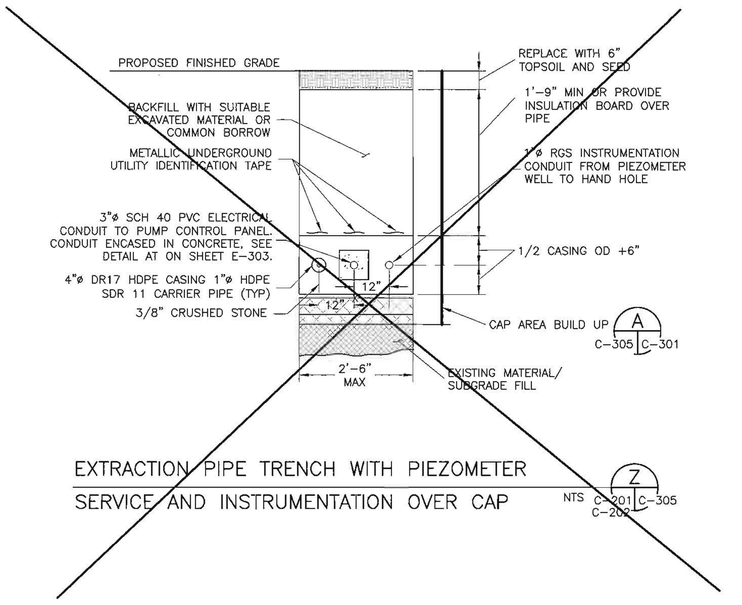


EXTRACTION PIPE TRENCH

(OUTSIDE SA-6S CAP AREA)

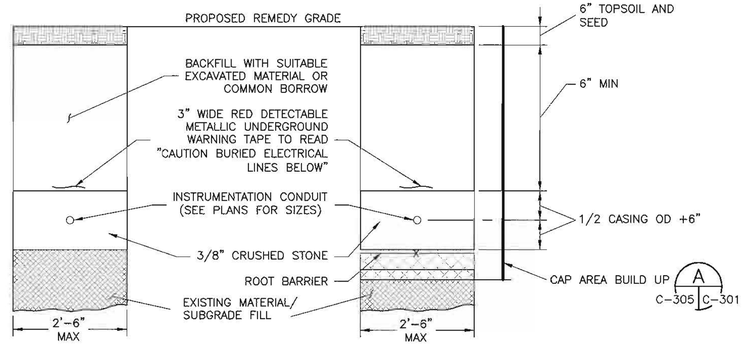
STA. 61+32 TO STA. 63+72±

NTS C-201 C-202 C-203 AB C-305



EXTRACTION PIPE TRENCH WITH PIEZOMETER SERVICE AND INSTRUMENTATION OVER CAP

NTS C-201 C-202 Z C-305



OUTSIDE CAP OVER CAP

(SEE DETAIL CM ON E-303)

PIEZOMETER INSTRUMENTATION CONDUIT TRENCH

NTS C-201 C-203 AU C-305

NOTE:

1. PROVIDE CONCRETE ENCASEMENT IF CONDUIT IS LESS THAN 24-INCHES BELOW DEVELOPMENT GRADE.
2. INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	05/20/16	TDD	REO	RJR	REO	SGS
0	06/07/13	TDD	REO	RJR	REO	SHM

DCB 007 4.1
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JERSEY CITY, NEW JERSEY

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CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
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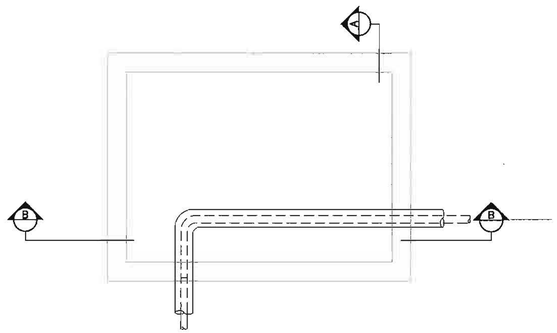
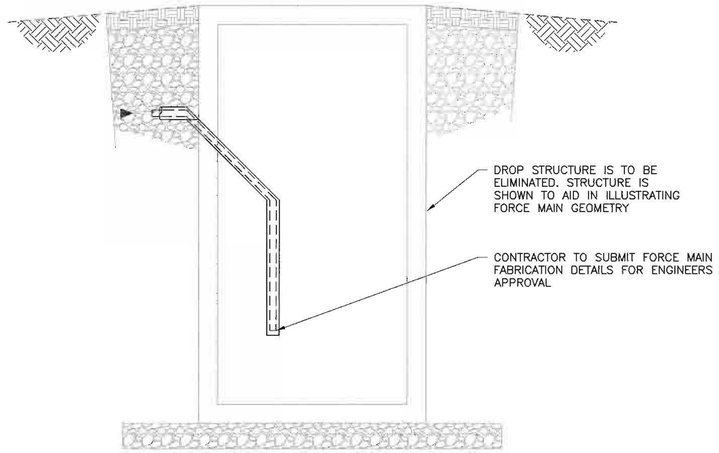
0 1"

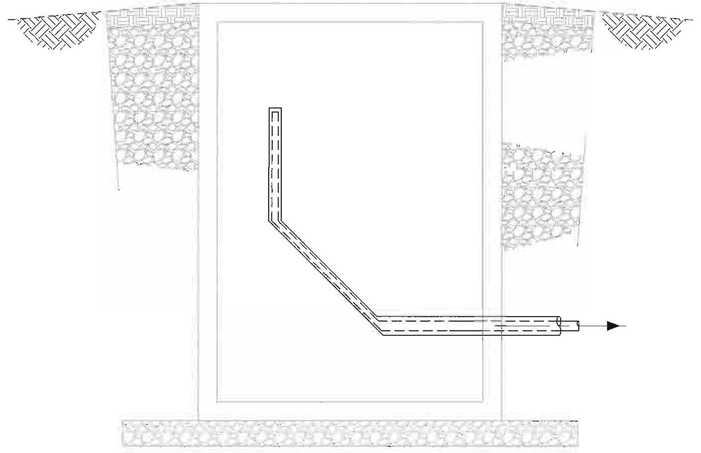
DATE	
PROJ	3480-12-0317
DWG	C-305
SHEET	41 OF 66



PLAN



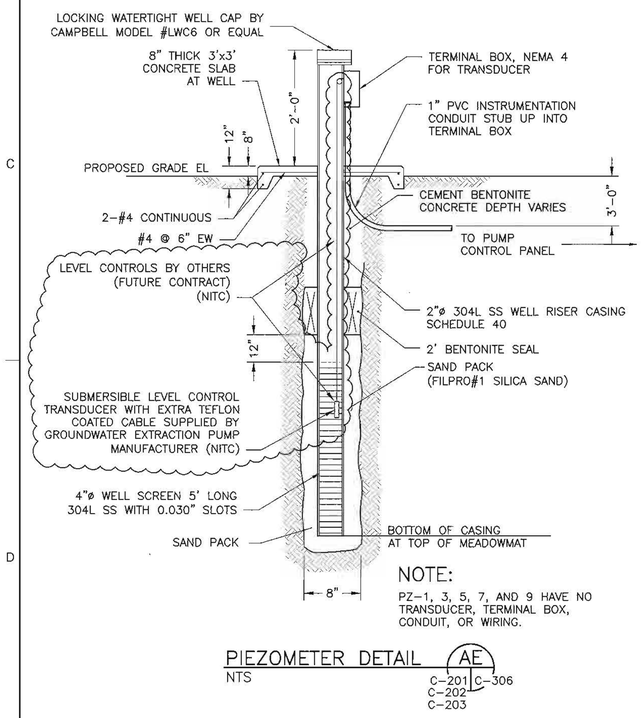
SECTION AA



SECTION BB

ELIMINATION OF STRUCTURE
STA 64+10
NTS

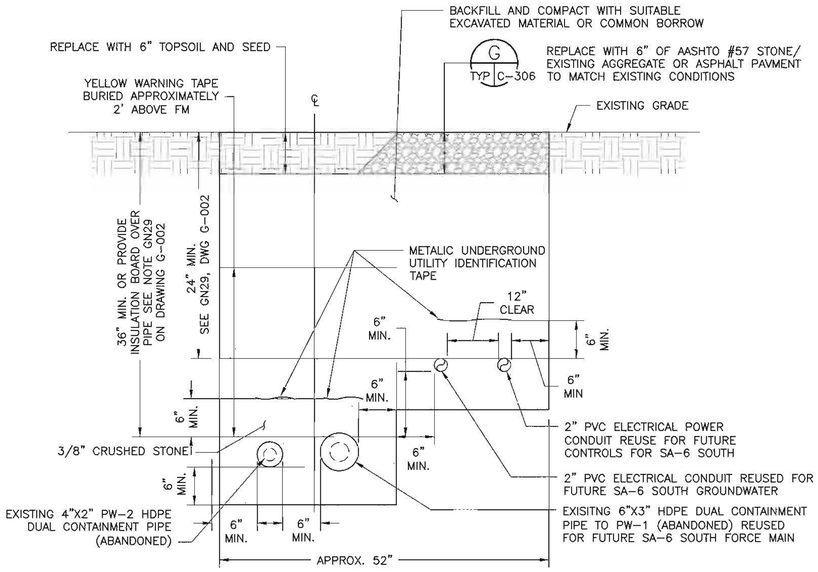
AZ
C-204 | C-306



NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

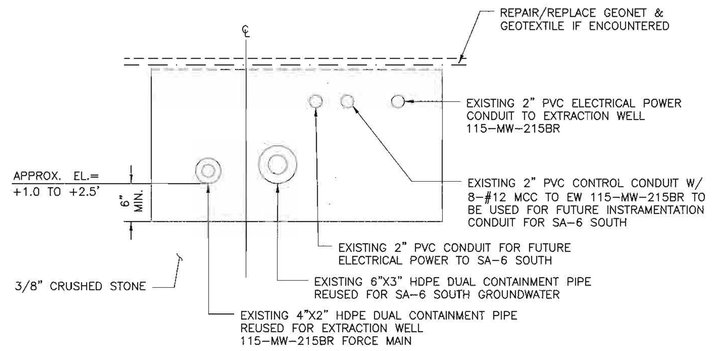
PIEZOMETER DETAIL
NTS

AE
C-201 | C-306
C-202
C-203



EXISTING 3" FM TRENCH DETAIL
NTS STA 63+78 TO STA 68+91

CK
C-204 | C-306



TRENCH DETAIL
NTS

CL
C-204 | C-306

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	05/20/16	REO	REO	RJR	REO	TDD	SGS
2	08/14/15	DCB 007.4.1				RJR	SGS
1	02/13/15	DCB 007.4				TDD	SGS
0	06/07/13	DCB 007.3				TDD	SHM
		ISSUED FOR CONSTRUCTION				TDD	SHM

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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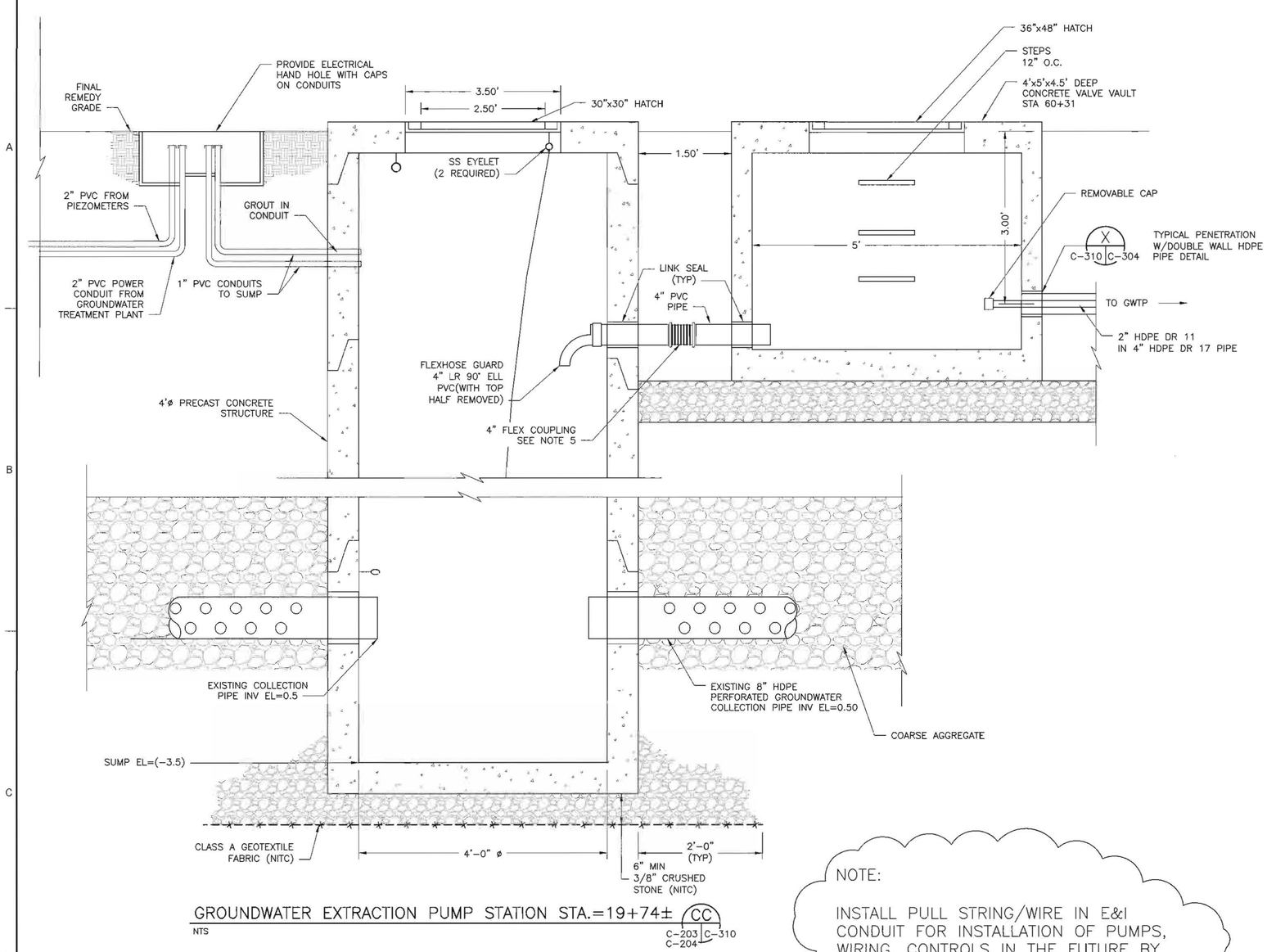
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74±

NTS

C-203 C-204 | C-310 (CC)

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 45307

NO	DATE	DSGN	DR	CHK	APVD	REVISION	BY	APVD
4	05/20/16	TDD				DCB 007.4.1	TDD	SGS
3	08/14/15		RJR			DCB 007.4	RJR	SGS
2	02/02/15			RJR		DCB 007.3	TDD	SGS
1	06/06/14				TDD	DCB 007	TDD	SGS

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115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
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(609) 689 - 2829
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SHEET	OF 66

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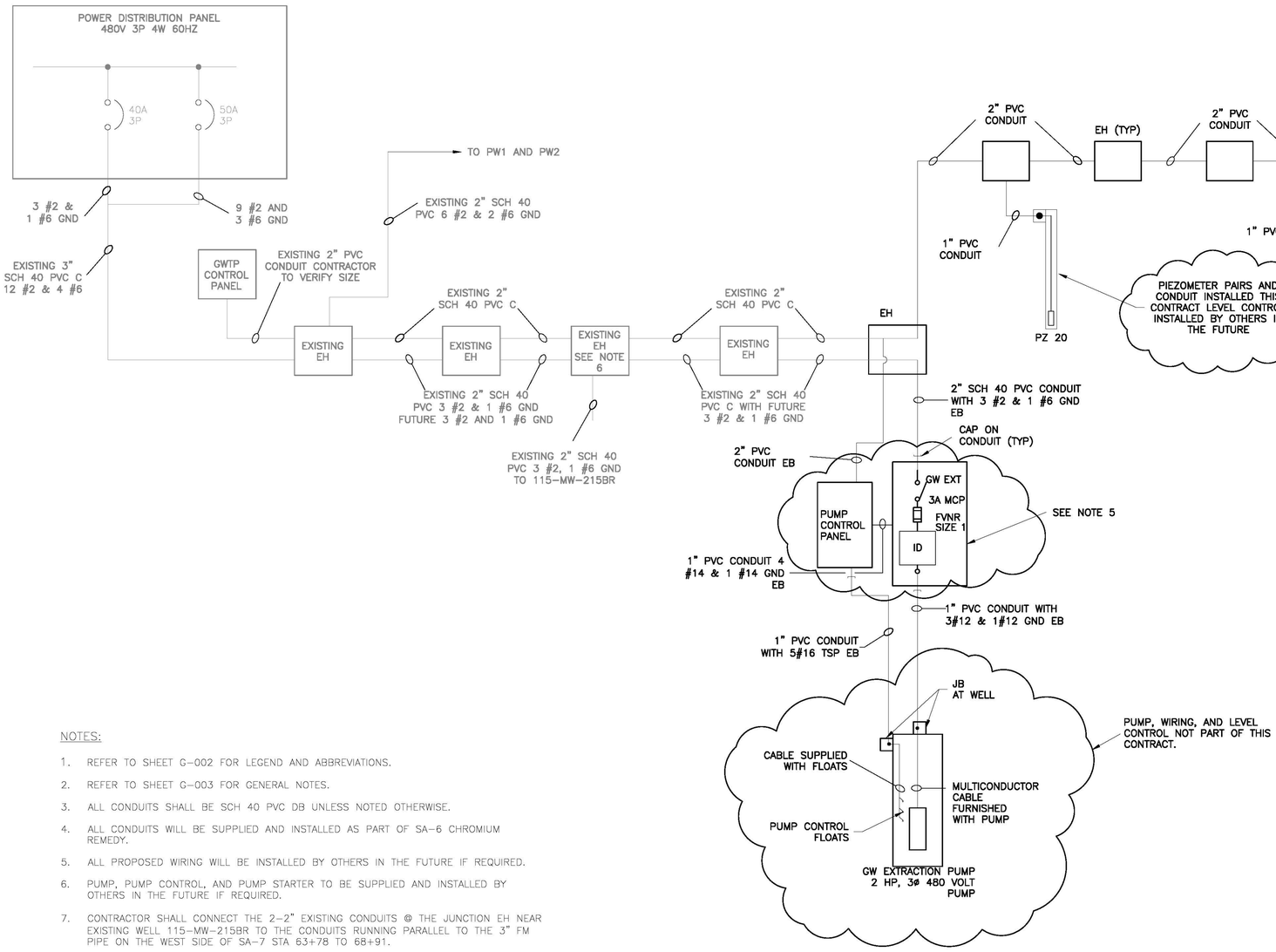

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE SCH 40 PVC DB UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
EB	ENCASED BURIAL
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

NOT FOR CONSTRUCTION

Fri, 20 May 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
0	06/07/13	TDD	RJR	SHM	APVD
1	08/14/15				
2	05/20/16				

ISSUED FOR CONSTRUCTION

BY	APVD
TDD	SGS
RJR	SGS
TDD	SHM
	SGS

DCB 007.4.1
DCB 007.4

REVISION

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2828
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	E-301
SHEET	64 OF 66

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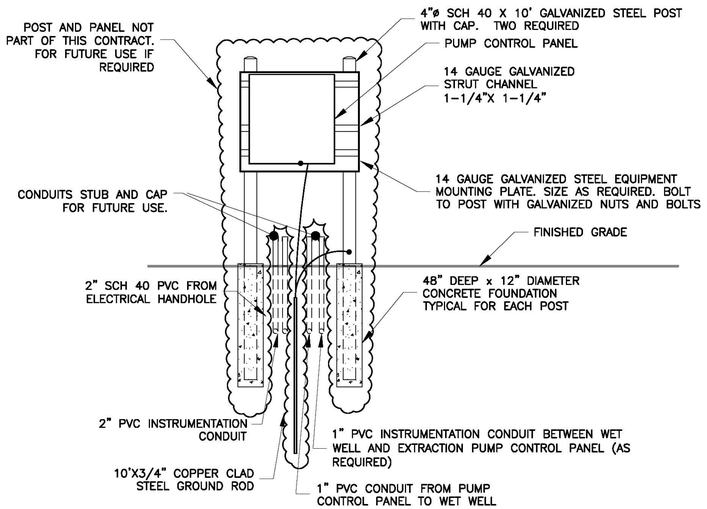
FILE NAME: Pr... HONEYWELL\JERSEY CITY\C...D\...-SA6-C3D\CAD\SA6-N\r...-S...-GW-E\r...\...Tr...\CR64-E-301 ONE LINE DIAGRAM d... PLOT DATE: Fr., 20 M... 2016 PLOT TIME: 3:22 PM



EXTRACTION WELL PUMP CONTROL PANEL DETAIL (AO)

NTS

TYP E-302

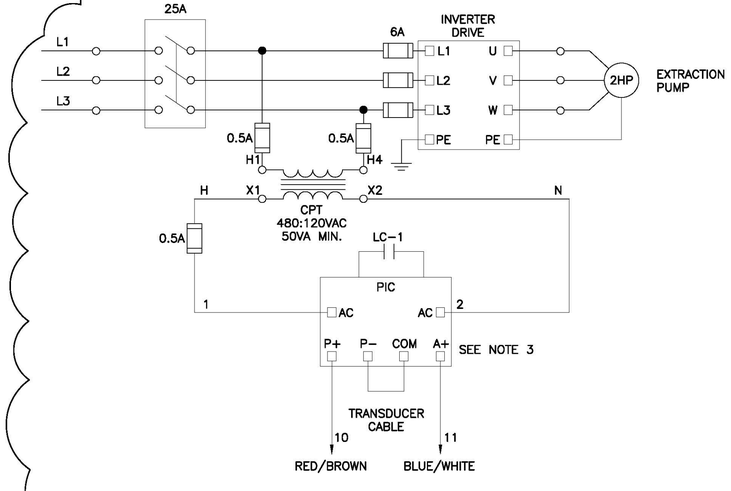
NOTES:

1. ALL CONDUITS SHALL BE 1" PVC MINIMUM, UNLESS OTHERWISE SHOWN. WHEN DISTANCE IS LESS THAN 6 FEET, LIQUID TIGHT METAL FLEXIBLE CONDUIT MAY BE USED.
2. LOCATE THE PUMP MOTOR STARTER WITHIN 3' OF THE EXTRACTION WELL PUMP STATION.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

NOT PART OF THIS CONTRACT
ELECTRICAL POWER AND INSTRUMENTATION CONTROLS TO BE RE-EVALUATED FOLLOWING INITIAL DRAWDOWN AND TRENCH PERFORMANCE EVALUATION

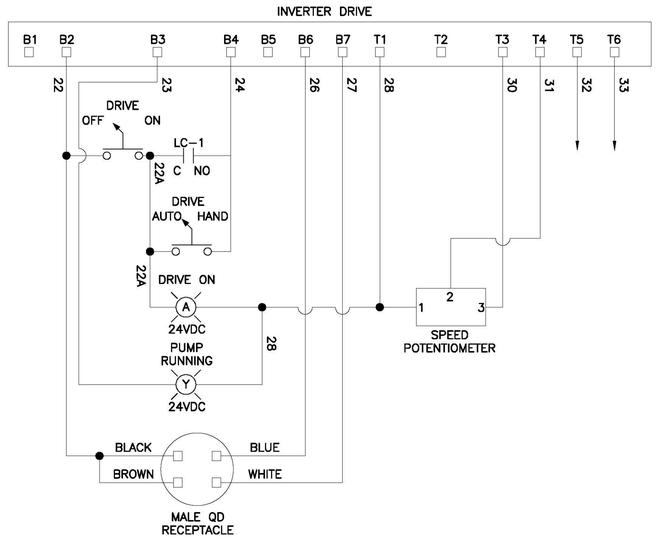


PUMP CONTROL PANEL WIRING DIAGRAM (AP)

NTS

TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 3)

TYP E-302



INVERTER DRIVE WIRING DIAGRAM (AQ)

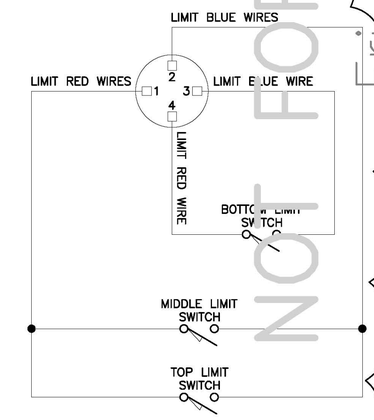
NTS

TYP E-302

FIELD TERMINAL STRIP CONNECTION SUMMARY

GND	EARTH GROUND
10	RED TRANSDUCER WIRE
11	BLUE TRANSDUCER WIRE
22	MALE QD RECEPTACLE BROWN AND BLACK
26	MALE QD RECEPTACLE BLUE
27	MALE QD RECEPTACLE WHITE
32	FAULT CONTACT SUPPLY
33	FAULT CONTACT RETURN

FEMALE QUICK DISCONNECT PLUG



PLUG & TERMINAL STRIP WIRING DIAGRAM (AR)

NTS

TYP E-302

NOT FOR CONSTRUCTION

Fri, 20 May 2016

NO.	DATE	DR	CHK	APVD
DSGN	TDD	RJR	SHM	SHM
2	05/20/16			TDD
1	08/14/15			RJR
0	06/07/13			TDD

ISSUED FOR CONSTRUCTION

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ. 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAMS

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Hamilton, NJ, 08619
(609) 689-2229
NJ Certificate of Authorization Number 24GA28010900

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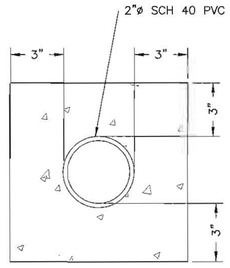
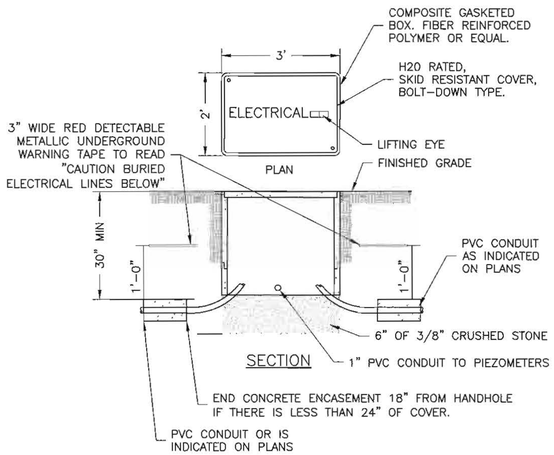
DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66



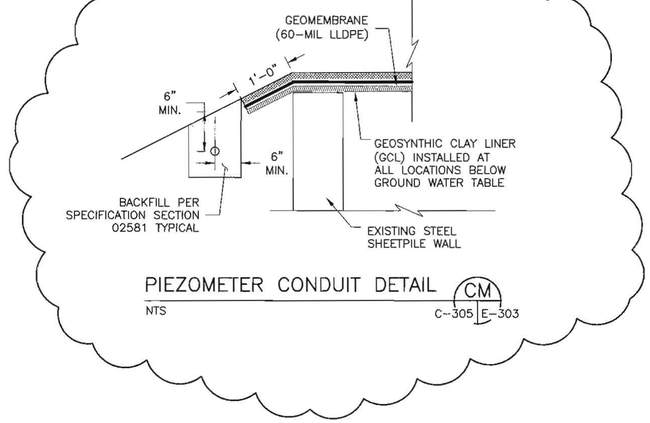
DUCT WAY NOTES:

1. ENCASED BURIAL REQUIRED IF THE COVER DEPTH IS LESS THAN 24" OR OTHERWISE SPECIFIED
2. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
3. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY WITH LESS THAN 24" OF COVER #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
4. ~~CONCRETE ENVELOPE SHALL BE 24" [610mm].~~
5. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

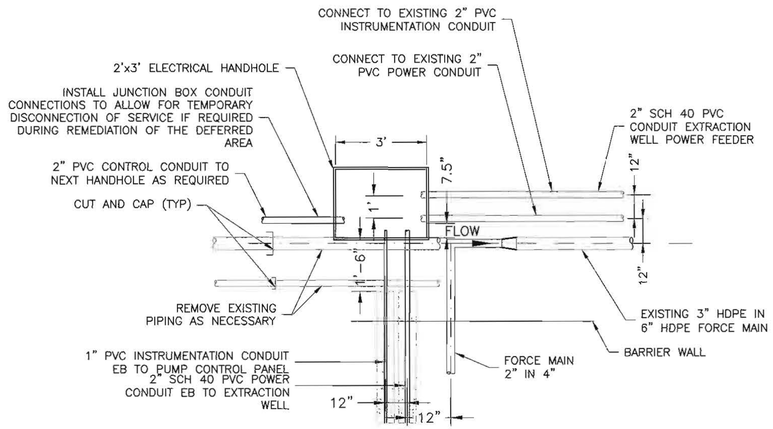
DUCT BANK DETAILS (AT)
NTS
C-201 | E-303
C-203



ELECTRICAL HANDHOLE DETAIL (AW)
NTS
C-201 | E-303
C-202
C-203



PIEZOMETER CONDUIT DETAIL (CM)
NTS
C-305 | E-303



ELECTRICAL HANDHOLE ORIENTATION DETAIL (AY)
NTS
C-201 | E-303
C-202
C-203

ELECTRICAL NOTES:

1. MAINTAIN SEPARATION OF POWER AND INSTRUMENTATION CONDUCTORS IN ELECTRIC HANDHOLE.
2. WHERE POWER AND INSTRUMENTATION CONDUCTORS CROSS THEY SHALL CROSS PERPENDICULAR TO EACH OTHER.
3. ELECTRICAL HAND HOLES SHALL BE LOCATED TO AVOID CLEANOUT MANHOLES.
4. INSTALL ELECTRICAL HANDHOLES AT MAXIMUM 250 FOOT SPACING.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	05/20/16	TDD	RJR	SGS	SGS
1	06/14/15	RJR	TDD	SGS	
0	06/07/13	TDD	RJR	SGS	

REVISION
ISSUED FOR CONSTRUCTION
DCB 007.4.1
DCB 007.4

BY APVD

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ. 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ELECTRICAL DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
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(609) 890-2929
NJ Certificate of Authorization Number
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DATE	
PROJ	3480-12-0317
DWG	E-303
SHEET	66 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR66-E-303 Electrical Details.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 8:50 AM

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 23 OF 25

- **Declaration #5 Part 1**

Attachments A – P (Part 1)

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF NEW JERSEY

JERSEY CITY INCINERATOR AUTHORITY *et al.*, Plaintiffs, *v.* HONEYWELL INTERNATIONAL INC., *et al.* Defendants.	CHROMIUM REMEDY SA-6 DECLARATION #5 Civil Action No. 05-5993 (Consolidated with Docket No. 05-5955 under Docket No. 95-2097 (JLL)) Civil Action No. 06-22 (Consolidated with Docket No. 05-5955 under Docket. No. 95-2097 (JLL))

Study Area 6 North Consent Decree Declaration #5

On August 14, 2012, the United States District Court for the District of New Jersey entered the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area 6 North ("SA-6 North Consent Decree") and the First Amended Consent Decree Regarding Remediation and Redevelopment of Study Area South ("SA-6 South Consent Decree") (referred to together as "SA-6 Consent Decrees"). Pursuant to Article III, Honeywell may file one or more Declarations showing compliance with the SA-6 Consent Decrees. The initial SA-6 South Consent Decree Declaration ("Declaration #1) was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 South Consent Decree on March 18, 2016, ECF No. 1403-1. A second SA-6 South Declaration (Declaration #2) was filed by Honeywell on January 30, 2017, ECF No. 1464-1 with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 South Consent Decree completed subsequent to Declaration #1. The initial SA-6 North Consent Decree Declaration ("Declaration #3") was filed by Honeywell with the consent of the other parties to memorialize Honeywell's partial compliance with the terms of the SA-6 North Consent Decree on May 9, 2017, ECF No. 1484. A second SA-6 North Declaration ("Declaration #4") was filed by Honeywell on June 21, 2017, ECF No. 1487 with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 North Consent Decree completed subsequent to Declaration #3. Declaration #5 is hereby filed by Honeywell with the consent of the other parties to memorialize partial compliance with the terms of the SA-6 Consent Decrees that were not included in Declarations #1, #2, #3 and #4.

We, the undersigned, declare as follows:

1. William J. Hague is Director of Remediation Design and Construction for Honeywell International Inc. ("Honeywell") for Study Area 6 North (SA-6 North) New Jersey Department of Environmental Protection (NJDEP) Sites 087 and 088 and Study Area 6 (SA-6 South) NJDEP Sites 073, 124, 125, 134, 140 and 163. Mr. Hague has direct responsibility on behalf of Honeywell for the management of remediation construction activities at SA-6 North and South related to the implementation of the Chromium Remedy as defined in Article III of the SA-6 Consent Decrees.

2. Remediation and site restoration activities documented in this Declaration were performed in accordance with the SA-6 Consent Decrees, the NJDEP Technical Requirements for Site Remediation, the NJDEP-approved *Remedial Action Selection Report/Remedial Action Work Plan* to address chromium contamination at SA-6 North, dated January 2008 and amended in February 2008; the NJDEP-approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan for Chromium* to address chromium contamination at SA-6 South, dated December 23, 2008, the NJDEP- approved *Supplemental Remedial Investigation Report, Remedial Action Selection Report, and Remedial Action Work Plan*, to address chromium contamination at Site 163 only, dated, May 18, 2012 (collectively referred to as the RAWPs), the Final – Issued for Construction ("IFC") Chromium Remedy 100% Design Report for Study Area 6 North & Study Area 6 South dated June 28, 2013 ("Final 100% Design"); sixteen field changes that materially affected the Final 100% Design (DC 2013-8-14: HB Wall – "Hydraulic Barrier/Surcharge Relocation adjacent to 72 inch FM SA-6 North," DC 2014-7-28 – "Revised Monitoring Well Abandonment Plan Tables," DC 2014-11-20 – "GW Extraction System (North)," DC 2015-2-12 – "GW Extraction System (South)," DC 2015-6-18 (North) – "SA-6 North, Site 087 In-situ Injections," DC 2015-9-17 – "Planting Soil Specifications," DC 2015-9-28 – "Site 163 Excavation," DC 2015-9-03 – "GW Extraction System – Revisions of Electrical to Replace Wells with Trenches," DC 2015-10-22 – "Move Western Limit of Stratum D Repair," DC 2016-3-21 – " Planting Soil Specifications, Nature's Choice Only," DC 2016-4-20 – "Planting Soil Specifications," DC 2016-05-06 – "Temporary Construction Road in SA-6 South Cap," DC 2016-11-09 – "Site Restoration," DC 2016-12-20 – "Contingent GW E&I Revisions," DC September 2016-North – "Interim Grading SA-6N," and DC September 2016-South – "Cap Final Grading and Development Final Grading and Restoration"), and fifteen field changes that were minor in nature (DC 2014-5-19 – "Degen Deferred Area," DC 2014-12-23 – "Site 163 Deferred Areas," DC 2015-4-30 – "JCIA Trash Pit Closure," DC 2015-6-05 – "SA-6 South Contingent GW Piezometer Locations," DC 2015-10-02 – "Warning Tape above Root Barrier," DC 2015-11-12 – "Final Grade Revisions," DC 2016-2-02 – "Increase Grade 0.25' In Landscape Area," DC 2016-2-22 – "Geomembrane Subgrade Revisions," DC 2016-2-25 – "Barrier Wall & SCB Wall Plan

and Profile," DC 2016-4-15 – "Final Grade Revisions," DC 2016-5-3 – "Planting Soil Gradations USDA Clarification," DC 2016-5-11 – "SA-6 North Interim Grade Revisions," DC 2016-5-20 – "Geomembrane Subgrade Revisions – Pump Station #1 Corridor," DC 2016-6-06 – "GW Extraction System – FM and E&I," and DC 2016-7-14 – "North Cap – Field Engineered Subgrade Adjustments") referred to herein as "Design Changes" and included as Attachment P, and with the continued oversight and supervision of the appointed Special Master. The Final 100% Design, including Design Drawings and Technical Specifications, was developed consistent with the SA-6 Consent Decrees and NJDEP-approved RAWPs and was approved by all Parties. On June 12, 2013, the Special Master approved the SA-6 100% Design for submittal to the Court so that the proposed implementation of the remedy could start on time, subject to Honeywell's confirmation regarding several issues. On June 28, 2013, Honeywell submitted the Final 100% Design to the Court (ECF No. 1176), and the Court entered the Final 100% Design on July 9, 2013 (ECF No. 1180).

3. The elements of the remedy that are the subject of this Declaration were substantially completed between June 2013 and December 2016. The timeframe of this Declaration # 5 overlaps with that of previously entered Declaration #1 (ECF No. 1403-1), Declaration #2 (ECF No. 1464-1), Declaration #3 (ECF No. 1484) and Declaration #4 (ECF No.1487) because the Declarations are developed based upon the completion of major remediation components and several of the Declaration #5 remediation components (such as monitoring well installation/abandonment and in-situ treatment) required long durations which were started soon after mobilization in June 2013.

4. In five areas, the work to implement the Chromium Remedy required by the SA-6 Consent Decrees was deferred with the approval of the Parties and the Special Master, based on field conditions. After the Chromium Remedy has been fully implemented in the Deferred Areas, a future Declaration will be submitted to document the Deferred Areas Chromium Remedy work.

5. To implement the requirements of the SA-6 Consent Decrees, Honeywell retained AMEC Environment and Infrastructure, Inc. (now Amec Foster Wheeler Environment & Infrastructure, Inc., "Amec Foster Wheeler") to design and coordinate the construction activities related to the Chromium Remedy of SA-6 North and South. Amec Foster Wheeler is the Engineer of Record for the design and implementation of construction activities related to the Chromium Remedy of SA-6 North and South. Amec Foster Wheeler engaged Entact, LLC ("Entact") to perform the construction. Entact was responsible for implementing the SA-6 North and South construction in accordance with

the Final 100% Design and Design Changes. Entact reported directly to Amec Foster Wheeler and provided the final construction details, including Record Drawings, upon project completion. Mr. Joseph T. Clifford is a licensed Professional Engineer in the State of New Jersey (Professional Engineer, NJ, GE38067), a Principal Engineer at Amec Foster Wheeler and is the engineer at Amec Foster Wheeler with primary responsibility for management of the design and construction coordination activities at SA-6 North and South.

6. It is our professional opinion that the data and information set forth for the specific work elements noted in and attached to this Declaration were performed consistent with the Final 100% Design and Design Changes.

7. Declaration #5 pertains to the following elements of the SA-6 Chromium Remedy:

I. SA-6 South 60 Kellogg and Site 163 Excavations;
II. SA-6 North and South Contingent Groundwater Force Main, Electrical and Piezometers;
III. SA-6 North and South Gas Vent Systems;
IV. SA-6 North and South Deferred Areas;
V. SA-6 North and South In-situ Treatment;
VI. SA-6 North Meadow Mat Repair near Trash Pit;
VII. SA-6 North and South Cap Cover Soils;
VIII. SA-6 North and South Development Area Grading;
IX. SA-6 North and South Soil Erosion and Sediment Control;
X. SA-6 North and South Monitoring Well Abandonment;
XI. SA-6 South Monitoring Well Installation; and
XII. SA-6 North and South Institutional Controls.

Further details related to elements I-XII are provided below. Supporting documentation is provided in the Attachments. Excluding the Deferred Areas and installation of wiring for the contingent groundwater collection trench, construction activities in accordance with the Final 100% Design and Design Changes related to the remediation of both SA-6 North South are considered complete. Honeywell still needs to submit a report on the shallow groundwater remedy for the Development AOC, pursuant to paragraph 70 of the Study Area 6 South Consent Decree, and to implement required institutional controls (e.g., deed notices and conservation restrictions). The contingent groundwater collection trench, force mains, and electrical and instrumentation (E&I) conduits associated with the groundwater remedy have been installed. The installation of associated wiring was completed in the second quarter of 2017. The pumps will be stored on-site and installed if the long term groundwater monitoring program indicates the need for pumping.

Remedial Action Reports for both Sites are being prepared in accordance with the NJDEP Technical Requirements for Site Remediation (TRSR), (New Jersey Administrative Code [N.J.A.C.] 7:26E-5.7) for submission to NJDEP, the Parties, and the Court. The project is now considered to be in the Long Term Monitoring phase.

Honeywell is preparing final Construction Completion Reports ("CCR") for Study Area 6 North and for Study Area 6 South to document the completion of the Study Area 6 North and South Remedy, except for the deferred areas, consistent with requirements of the SA-6 Consent Decrees. The CCRs will include the final Record Drawings. Once approved, each CCR will be entered with the Court, along with a Consent Order explaining that the CCR supersedes the 100% Design, pursuant to paragraph 5 of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South, *Jersey City Municipal Utilities Auth., et al., v. Honeywell*, D.N.J., Consol. Cases, Civ. No. 95-2097, July 9, 2013, ECF No. 1180. Honeywell will prepare an additional CCR upon completion of each of the deferred areas. Once approved, each CCR for a deferred area will be submitted by Honeywell to the Court along with an appropriate Consent Order for approval and entry. The CCR, along with its Consent Order and attachments, "shall supplant" the 100% Design documentation submitted to the Court in July 2013 with ECF No. 1180 "for all further purposes referencing the 100% Design under the Study Area 6 North Consent Decree and the Study Area 6 South Consent Decree and any amendments thereto." *See* ECF No. 1180, para. 5.

Thus, all future activity and any related need for final Record Drawing documentation of the Chromium Remedies at Study Area 6 North and Study Area 6 South will be based on the CCRs approved and entered by the Court pursuant to the requirements of the Consent Order Entering Consolidated 100% Design for Study Area 6 North and Study Area 6 South, ECF No. 1180, and the LTMP. Future versions of the LTMP will reference the CCRs, along with its Consent Order and attachments, for each aspect of the Chromium Remedies at Study Area 6 North and Study Area 6 South.

I. SA-6 South 60 Kellogg and Site 163 Excavations. Following demolition of the 60 Kellogg Street building raised slab, Amec Foster Wheeler personnel collected a soil sample biased to a greenish discoloration in surficial soils identified between timber piles that formerly supported the 60 Kellogg Street building. This initial soil sample confirmed the presence of COPR and resulted in a shallow excavation plan to remove these soils. On June 2, 2016, the excavation was conducted to depths ranging from approximately 2.9 ft to 4.2 ft below ground surface ("bgs"). The bottom and sides of the excavation at the final limits were visually inspected by Amec Foster

Wheeler personnel. All of the original greenish discoloration was removed but some whitish material was observed in several sidewall locations. The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations. Five soil samples were collected from the excavation: one from each sidewall and one from the bottom of the excavation. Sidewall samples were biased to include residual whitish material where observed. The bottom sample was located in the area where additional suspect material was also observed during excavation. All hexavalent chromium results were less than 20 mg/kg. An excavation completion certification was submitted to the Special Master and Parties for review on June 28, 2016 and is included as Attachment A-1. A copy of the Maser Excavation Table and a detailed Bottom of Excavation Drawing are included in Attachment A-2. The 60 Kellogg excavation is shown on the updated Maser Excavation Plan included in Attachment B-1.

In the Final 100% Design, remediation at Site 163 included a combination of shallow excavation to a depth of four feet bgs and in-situ injection treatment in chromium-impacted soils deeper than four feet bgs. The Site 163 shallow excavation is addressed in Declaration #1. Following the initial in-situ treatment event there was a technical disagreement among the parties of the efficacy of treatment of chromium-impacted soils at varying depths. Therefore, an agreement regarding additional remediation was reached between the Parties and documented in DC 2015-9-28.

DC 2015-9-28 modified the excavation depths in select areas of Site 163 and is addressed in Declaration #1. Chromium-impacted soils that were deeper than four feet bgs in the future residential area of Site 163 were excavated. In the non-residential area of Site 163, chromium-impacted soils deeper than four feet bgs were left in place and pursuant to the SA-6 South Consent Decree, paragraph 61, ownership of the area will be transferred to the City of Jersey City and a deed notice and conservation restriction will be implemented. The Site 163 deed noticed area where chromium-impacted soils remain in place is shown on Figure 5 in Attachment G.

To accomplish the Site 163 additional excavation, temporary sheeting was installed and a phased excavation was conducted to the design depths identified in DC 2015-9-28. An e-mail certification of excavation

completion was submitted to the Parties for review on April 25, 2016, and an e-mail response to verbal questions was provided on May 5, 2016. The certification and e-mail response are included as Attachment C-1. A copy of the Maser Excavation table and a detailed bottom of Excavation Drawing are included in Attachment C-2. The excavation limits are shown on the updated Maser Excavation Plan (Attachment B-1).

Declaration #3 included e-mail certifications of excavation completion for the SA-6 North excavation areas. For consistency, e-mail certifications for the SA-6 South excavation are included in this Declaration #5 in Attachment B-2. As previously noted in Declaration No. 1 for SA-6 South, following the excavation of distinct portions (or cells) of the excavation, the horizontal and vertical extents of the completed cells were surveyed and Honeywell submitted documentation confirming the completion of excavation. In their submittals, Honeywell summarized the activities undertaken to complete the excavation of the referenced cells and included the following statement from Honeywell's Engineer, Amec Foster Wheeler: "Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling had been met." Honeywell also noted, where applicable/appropriate, that the excavation in the referenced cells terminated by depth in the Stratum D and provided an Excavation Bottom Map that included the surveyed post-excavation bottom elevations for the cell(s). Honeywell further requested an acknowledgement that the Special Master was in receipt of the email and accompanying information in order that Honeywell could proceed with backfill. The Special Master monitored the excavation pursuant to the First Amended Consent Decree Regarding Remediation and Redevelopment Of Study Area 6 North ("SA-6 North Consent Decree") and the First Amended Consent Decree Regarding Remediation And Redevelopment Of Study Area South ("SA-6 South Consent Decree"). At a Special Master All Parties meeting in April 2014, the parties discussed the process for acknowledging Honeywell's notification that the contractor was ready to backfill a certain portion of excavated cells; and an e-mail from then-counsel for the Special Master, Kevin J. Coakley, Esq., (included in Attachment B-2) outlined the procedure that would be followed. At the meeting, and in Mr. Coakley's email, the parties also acknowledged Honeywell's intention to backfill Cells 44-56.

II. SA-6 North and South Contingent Groundwater Force Main, Electrical and Piezometers. Details on the contingent groundwater collection trenches were provided in Declaration #2 (SA-6 South) and Declaration #4 (SA-6 North). This Declaration provides the Record Drawings, in Attachment D, for the installation of the effluent force mains and electrical and instrumentation ("E&I") conduit conducted pursuant to the Final 100% Design and DC 2014-11-20, DC 2015-2-12, DC 2015-9-03, DC 2016-6-6, and DC 2016-12-20. The force main discharge point was changed from the JCMUA grit chamber to the Groundwater Treatment Plant ("GWTP"). The force mains and E&I conduits and associated structures were installed from the Pump Station manholes to the GWTP by Entact. Connection at the treatment plant and piping within the GWTP were performed by Brownfield Science and Technology Inc. (BSTI). The Entact Record Drawings indicate the final installed locations for the force mains and conduit (Attachment D-1). The BSTI Record Drawing shows the connection and piping within the GWTP (Attachment D-2).

Declaration #2 identifies the deferral of certain components of the contingent groundwater collection trenches until completion of the cap and stabilization of the groundwater system. The previously deferred components of the groundwater collection trenches are now complete, including the installation of the pumps, starter panels, level controls, flow meter instrumentation and automated shutdown control components in June 2017. The Contingent Groundwater Extraction System will be operated, as needed, in accordance with the final LTMP.

The location of paired piezometers to be used for evaluation of groundwater gradients across the barrier walls were included in Declaration #2 for SA-6 South and Declaration # 4 for SA-6 North. Declaration #2 (SA-6 South) and Declaration #4 (SA-6 North) included figures showing the piezometer design locations. In this Declaration, Honeywell is providing figures that show the as-built locations for the paired piezometers. Minor relocations were required to account for development details such as sidewalk and road locations (DC 2015-06-05). Tables showing screen elevations are included in the figure for each piezometer set. The figures are included in Attachment E.

III. SA-6 North and South Gas Vent Systems. The gas vent system for each cap area includes a geocomposite layer installed below the geomembrane, an 8-

inch diameter collection pipe running the east-west length of the cap, and vents. The limits of the gas vent geocomposite layer, plan location of the collection pipe, and location of the vents were provided in Declaration #2 (SA-6 South) and Declaration #4 (SA-6 North). The Record Drawings were modified to include the gas vent coordinates (see Attachment F).

IV. SA-6 North and South Deferred Areas. Portions of the following areas were designated as Deferred Areas.

- SA-6 North EA-1 along Route 440
- SA-6 North EA-2/3 along Route 440
- SA-6 North Shallow Excavation in Former Treatment Area 7
- SA-6 South Route 440
- SA-6 South Bulkhead

The Deferred Areas are localized areas that were identified for remediation by excavation in the approved 100% Design. SA-6 North EA-1 and EA-2/3, and a portion of SA-6 South along Route 440 were deferred due to their proximity to the old PSE&G 24 inch ductile iron/leaded joint gas line. These areas are referred to as the Route 440 Right-of-Way Deferred Areas in the CCRs for SA-6 North and South.

Excavation adjacent to the SA-6 South Bulkhead, referred to in the SA-6 South CCR as the Site 073 Bulkhead Deferred Area, was deferred due to the poor condition of the bulkhead combined with extensive concrete and isolated deep excavation (DC 2014-5-19, DC 2014-12-23). It was agreed upon with the parties to defer this area pending installation of the new bulkhead. The planned limits of the Deferred Areas are shown in Attachment G. The Deferred Areas will be subject to a Deed Notice until these areas are remediated, at which time the Deed Notices will be terminated.

V. SA-6 North and South In-situ Treatment. In-situ Treatment was implemented at the locations listed below. A General Remedy Plan showing all in-situ locations is included in Attachment H. Treatment Area specific figures are also included in the attachment.

- SA-6 South Site 163 – Site 163 was excavated in lieu of in-situ treatment as discussed in Section 7.I of this Declaration.
- SA-6 North Treatment Area 7 – Honeywell implemented in-situ injections in TA-7 in June 2013 and a 3-Year post-treatment performance assessment sampling event in June 2016 in accordance with a Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 2013 (“TA-7 & TA-8 Revised WP”). Eight soil samples were collected during the 3-

Year sampling event (four shallow samples and four deep samples). The samples were analyzed for hexavalent chromium using United States Environmental Protection Agency (USEPA) Method 7199 and indicated that seven of the eight post-treatment soils samples were below 20 mg/kg hexavalent chromium. One recalcitrant sample in the shallow portion of TA-7 exceeded 20 mg/kg hexavalent chromium. Correspondence provided to all Parties by Honeywell dated August 16, 2016 indicated Honeywell's proposal to excavate the shallow soils following relocation of the fueling system in this area by JCMUA (DN #10 as shown in Attachment G). In the meantime, Honeywell will establish a deed notice for this area. Once the shallow soils have been excavated, the deed notice will be terminated. This area lies within the Bayfront Development Block 6 and will not be impacted by Development activities.

- SA-6 North Treatment Area 8 – Injections and 3-Year sampling in TA-8 were performed concurrently with TA-7 in accordance with the TA-7 & TA-8 Revised WP. Eight soil samples were collected during the 3-Year sampling event (four shallow samples and four deep samples). The samples were analyzed for hexavalent chromium using USEPA Method 7199 and indicated that TA-8 has been remediated to below 20 mg/kg hexavalent chromium.
- SA-6 North Treatment Area 10 – In-situ treatment area 10 (TA-10) is located immediately proximate to and north of the hydraulic barrier and overlies a section of the 72-inch diameter force main (FM). Because of the proximity of the FM, excavation of impacted soils in TA-10 would potentially result in structurally impacting the FM during removal of the impacted soils. Therefore, Honeywell implemented an in-situ injection program in the portion of TA-10 (subarea TA-10-1) that lies north of the northern curb line of the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project (DC 2015-06-18 (North). The remainder of the TA-10 area, a portion of subarea TA-10-1 that lies south of the northern curb line of the future Stegman Boulevard and subareas TA-10-2 and TA-10-3, will be capped by Stegman Boulevard and be subject to a Deed Notice and Conservation Restriction (DN #7 as shown in Attachment G). Honeywell conducted an injection event at TA-10-1 between August and September 2015 and 6-Month post-treatment soil sampling was conducted in March 2016 in accordance with an Updated Work Plan for In-Situ Treatment of Chromium Impacted Soils, dated August 2015 (Updated Work Plan). The 6-Month post-treatment soil samples were analyzed for hexavalent chromium using USEPA Method 7199 and indicated that the majority of areas treated were now below 20 mg/kg for hexavalent chromium, as detailed in a May 6, 2016 technical

memorandum. However, 5 out of 20 sample points exceeded 20 mg/kg; therefore, Honeywell implemented a supplemental Calcium Polysulfide ("CAPS") injection program to further remediate soils in these areas in accordance with a July 11, 2016 submittal entitled, Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, and a technical memorandum entitled, Proposed In-Situ Treatment Event for Remaining Hexavalent Chromium Impacted Soils – Treatment Area 10-1 SA-6 North, dated July 8, 2016 (Proposed Implementation Plan). Modifications were made to the initial approach which included a slower and prolonged injection delivery approach over the course of several weeks through injection wells installed in the area. Honeywell performed the subsequent modified slower and prolonged re-injection approach at TA-10-1 between August and October 2016. Twenty post-treatment soil samples were subsequently collected on December 5, 2016. The 6-Month post-treatment soil samples were analyzed for hexavalent chromium using USEPA Method 7199 and indicated that nineteen of the twenty samples were below 20 mg/kg hexavalent chromium, but one recalcitrant sample exceeded the 20 mg/kg hexavalent chromium criteria. Honeywell implemented an additional slower and prolonged injection event in the exceedance location on January 26, 2017 and February 2, 2017 in accordance with a technical memorandum titled, Summary of Additional In-Situ Injection of Calcium Polysulfide for Treatment of Hexavalent Chromium Impacted Soils, SA-6 North, TA-10-1, dated January 12, 2017. Post-treatment re-sampling at the re-injection location occurred in March 2017 and the results showed that the one soil sample collected in December 2016 that exceeded 20 mg/kg hexavalent chromium is now below 20 mg/kg hexavalent chromium. TA-10 location and limits are shown in Attachment H. TA-10 limits were modified as a result of DC 2013-8-14 related to the hydraulic barrier wall alignment.

VI. SA-6 North Meadow Mat Repair near Trash Pit. The former JCIA Incinerator pit penetrates through the Stratum D. The 100% Design Report indicated that "it has been determined that the Stratum D (Meadow Mat) layer is absent in a 25-30 ft. halo around the JCIA Trash Pit. It is believed that portions of the Stratum D were removed during the construction of the trash pit." To mitigate this condition, measures were implemented to repair the Stratum D around the trash pit, north of the barrier wall alignment. The repair was conducted by excavating the area to elevation 3. Vinyl sheetpile was then driven from elevation 3 on an alignment that was approximately 25 ft. outside of the exterior walls of the main trash pit. The limits of Stratum D north of the Barrier Wall were interpreted based on prior GeoProbe and investigation

borings. The alignment was selected to intersect the Stratum D. The sheetpile was driven approximately 3 ft. into the Stratum D. The final alignment deviated slightly from the initial design alignment at some locations to avoid timber piles that were encountered along the alignment (in accordance with DC 2015-10-22). A geosynthetic clay blanket was then placed over the area at elevation 3 between the vinyl sheetpile, trash pit and barrier wall (DC 2015-04-30). The Record Drawings for the Stratum D repair is included in Attachment I.

After completion of Stratum D repairs, but prior to backfilling inside and around the trash pit, the concrete walls south of the barrier wall (under the cap and inside the containment) were penetrated ("breached or punctured") below the groundwater table to reduce the potential for perched groundwater in the pit under the cap.

VII. SA-6 North and South Cap Cover Soils. Protective cover soil, Horizon C, Horizon B, Horizon A and structural fill under roadways composed of Clean Fill meeting the NJ Residential standards were placed above the cap geosynthetics in accordance with the 100% Design and the following Design Changes:

- DC September 2016-South
- DC 2015-9-17
- DC 2016-3-21
- DC 2016-4-20
- DC September 2016-North
- DC 2016-04-15
- DC 2016-05-03
- DC 2015-11-12

The average thickness of the cap cover soils, and minimum thickness of the cap cover soils, meet the requirements of Section 56 (c) of the SA-6 North Consent Decree and Section 65 (c) of the SA-6 South Consent Decree, namely, an average of 36-inches or more, with a minimum of 24-inches of protective cover soil above the cap warning layer. To deter root penetration in planned landscape areas, a bright white colored woven geotextile root barrier was installed above the first 12-inches of protective cover soil across the entire cap area and then covered by the Horizon A-C soils as required by the Final 100% Design. Prior to the placement of the Horizon A-C soils warning tape was placed on top of the root barrier pursuant to DC 2015-10-02. Registered surveys of the top of the root barrier are included in Attachment J for both the North and South cap areas. The surveyed elevations of the installed root barrier

are critical to any future ground disturbance work as it provides a reference point for potential supplemental requirements which are to be implemented as described in the LTMP. Structural Fill under Roadways was placed in future roadways above the protective cover soil. Structural fill Record Drawings for the SA-6 North and SA-6 South caps are included in Attachment K. The placement of the root barrier, warning tape and structural fill under roadways meets the provisions of the Open Space Design Standards (OSDS) Appendix L to the Final 100% Design.

In the landscape areas, 6 inches of Horizon C were placed, compacted, and compaction tested to verify compliance with the specification. Following approval of the 6-inch compacted layer the remainder of the Horizon C, B and A soils were placed in accordance with the Final 100% Design and Design Changes DC 2015-9-17, DC 2015-11-12, DC 2016-3-21, DC 2016-04-15, DC 2016-4-20, DC 2016-05-03, DC September 2016-South and DC September 2016-North. The total depth and type of Horizon soil varied based on the planting classification/depth. SA-6 North and South cap compaction logs for structural fill and 6-inches of Horizon C are included in Attachment L.

The elevations of the cover soils and root barrier were recorded at the Construction Control Grid nodes. The SA-6 North Open Space Cap Area – Construction Control Grid Summary Table and the SA-6 South Open Space Cap Area – Construction Control Grid Summary Table document the elevation readings and cover soil type thicknesses to confirm that the minimum specified thickness requirements were met in the cap areas. The “North Cap Final Grading Plan” and “South Cap Topsoil Grading Plan” are registered surveys of the surface grades following placement of Horizon A soil. The SA-6 North and South Construction Control Grid Summary tables are included in this Declaration as Attachment M-1. The Grading Plans are included as Attachment M-2.

Horizon A topsoil, as approved by the Parties, was placed to the remediation design grades. The cap area and adjacent slopes were hydro-seeded with a seed mix prepared in accordance with the Standards for Soil Erosion and Sediment Control in New Jersey. Horizon A soil was placed over the entirety of the Open Space Areas, including the future roadway corridors, with the exception of the future B Street on SA-6 South and the future Riverside Drive on SA-6 North. In the Final 100% Design, SA-6 South B Street was to be restored with topsoil and grass. Honeywell modified B Street into a temporary roadway by DC 2016-05-06 to provide access for site inspections, long term monitoring

activities, and general maintenance. Construction details for the SA-6 South B Street temporary roadway were identified in DC 2016-05-06 and approved by the Parties. The temporary roadway on the future Riverside Drive on SA-6 North was installed consistent with the Final 100% Design. The temporary road locations are shown on the Maser finished grade drawings (Attachment M-2) and the SA-6 North and South Restoration Plans, included in Attachments N-4.

VIII. SA-6 North and South Development Area Grading

- SA-6 North. The SA-6 North Chromium Remedy designated isolated Additional Excavation Areas outside of the limits of the cap portion of the remedy. These areas are located within the external boundaries of the SA-6 North Non-Chromium Remedy. The IFC Chromium Remedy restoration plan also indicated restoration of areas occupied by the former JCIA entity and an area of soil/debris piles west of the JCMUA digester structures. A revised Restoration Drawing (CN-127) has been issued as part of DC 2016-11-09 to indicate the limits of restoration to be performed in SA-6 North. There are three Restoration surface finishes: asphalt paving, 1 ft. of clean fill including topsoil and seeding, and installation of a geotextile demarcation layer and 6 inches of clean crushed stone. The As-Built limits of each area are shown in Attachment N-4. Table 1 – Stone Cover Thickness Summary for SA-6 North provides survey data documenting crushed stone thickness in areas where the 6 inch crushed stone cover was placed over historic fill. The table and accompanying figure are included in Attachment N-1.

  A survey grid was established over the JCIA crushed stone area. Elevations were taken at the nodes and tabulated in Table 1 – Stone Cover Thickness Summary for SA-6 North to document compliance with the design requirements. The SA-6 North "As-Built Restoration Plan" drawing is included in Attachment N-4. The drawing titled "Final Grading for Excavation Areas" is a registered survey of the surface of the Clean Fill and is included in Attachment N-3.

- SA-6 South. The Development area was covered in its entirety with a geotextile demarcation layer and a minimum of 6 inches of clean fill (crushed stone or Dense Graded Aggregate) with the exception of the temporary slope that transitions from the vegetated Open Space AOC cap to the post remediation grades in the Development Area. A survey grid was also established over the area. Elevations were taken at the nodes and tabulated in Table 1 – Stone Cover Thickness Summary for SA-6 South to

document compliance with the design requirements. The table and accompanying figure are included in Attachment N-2. The SA-6 South "As-Built Restoration Plan" drawing is included in Attachment N-4. The drawing titled "SA-6 South Stone Layer" is a registered survey of the surface of the Clean Fill and is included in Attachment N-3.

IX. SA-6 North and South Soil Erosion and Sediment Control. Post-Construction Sedimentation and Erosion Control measures including final seeding were implemented in accordance with the approved 100% Design, DC September 2016-North, DC September 2016-South, NJ Sedimentation and Erosion Control manual, and the Sedimentation and Control plan approved by Hudson, Essex, and Passaic Soil Conservation District on May 16, 2013. The IFC designs for SA-6 North and SA-6 South were amended to add a toe drain where the cap slope meets existing grade on SA-7 (DC September 2016-North, DC September 2016-South). The toe drain and associated check drains, and other controls left in place at the end of the work are shown in Attachment N-4. Erosion control mat (or "blanket") was also placed over the more steeply sloped areas of the cap. A drawing showing the location of the erosion control mat on the SA-6 North and South caps is included in Attachment Q. Where these measures were implemented, perimeter silt fence was reduced or eliminated. The installed measures are considered to be more resilient than the 100% Design and satisfy the SESC permit requirements. Honeywell will maintain these controls in accordance with the Long Term Monitoring Plan.

X. SA-6 North and South Monitoring Well Abandonment. The Monitoring Well Abandonment Plan (MWAP) in the 100% Design and DC 2014-7-28 established the monitoring wells and piezometers that would be abandoned or retained during the course of the remedy. The MWAP also included a list of new monitoring wells and piezometers to be installed during the Chromium Remedy. Amec Foster Wheeler and Entact abandoned the designated monitoring wells and piezometers from October 2013 to October 2016. Wells designated as "retain" in the MWAP were protected and adjusted accordingly during the course of construction.

XI. SA-6 South Monitoring Well Installation. Twelve monitoring wells were installed in the SA-6 South Development Area in February 2016 in accordance with the 100% Design. The purpose of the wells is to monitor post remedy water quality in the SA-6 South Development Area. A figure showing the as-built locations of the wells is included in Attachment O.

XII. SA-6 North and South Institutional Controls. Honeywell will establish appropriate institutional controls at SA-6 North and South that supplement the remedial actions in accordance with the SA-6 Consent Decrees. These include the following:

- Deed notices;
- Remedial action permit for soils;
- Remedial action permit for groundwater;
- Potential revision of the boundary of the shallow groundwater CEA based upon post-remediation shallow groundwater results from SA-6 South Development AOC; and
- Conservation restrictions on both SA-6 Open Space Areas, at TA-10 and on the Deed Noticed portion of Site 163.

Additional details regarding the Institutional Controls are provided in the SA-6 North and South Construction Completion Reports (CCRs). Draft deed notices and remedial action permit applications are included as attachments in the CCRs.

1. Based on our professional experience, the data and information set forth in and attached to this Declaration, and our supervision of the SA-6 construction activities, we believe that the aforementioned remediation activities were completed in accordance with the SA-6 North and South Consent Decrees and the Final 100% Design and Design Changes.

2. We certify that the foregoing is true and correct to the best of our respective knowledge.

William J. Hague

Date

Joseph T. Clifford PE NJ, GE38067

Date 10/16/2017

List of Attachments

A. 60 Kellogg Excavation

A-1. 60 Kellogg Excavation Certification E-mail

A-2. 60 Kellogg Confirmation Points and Post Excavation Plan

B. SA-6 South Excavation

B-1. SA-6 South Excavation Plan

B-2. SA-6 South E-mail Certifications of Excavation Completion

C. Site 163 Excavation

C-1. Site 163 Excavation Certification E-mail

C-2. Site 163 Post Confirmation Points and Post Excavation Plan

D. SA-6 North and South Contingent Groundwater Extraction System Record Drawings

D-1. Force Main, Electrical Conduit and Instrumentation

D-2. GWTP Interior Piping and Instrumentation

E. SA-6 North and South Piezometer As-Built Locations

F. SA-6 North and South Gas Vent Record Drawings

G. SA-6 North and South Deferred Areas (Figure 5)

H. In-Situ Locations and Summary Tables

I. Stratum D Repair Record Drawing

J. SA-6 North and South Root Barrier Topographic

K. SA-6 North and South Structural Fill Record Drawings

L. SA-6 North and South Cap Compaction Logs

M. SA-6 North and South Cap Cover Soils and Final Grades

M-1. SA-6 North and South Construction Control Grid As-Built Summaries

M-2. SA-6 North and South Final Grade Topographic

N. SA-6 North and South Development Area Final Grading

N-1. SA-6 North Construction Control Grid As-Built Summary and Survey Control Grid Drawing

N-2. SA-6 South Construction Control Grid As-Built Summary and Survey Control Grid Drawing

N-3. SA-6 North and South Development Area Topographics

N-4. SA-6 North and South Restoration Plans

O. SA-6 South Development Area Monitoring Well Locations

P. Design Changes

Q. SA-6 North and South Soil Erosion and Sediment Control Record Drawing

ATTACHMENT A-1
60 KELLOGG EXCAVATION CERTIFICATION E-MAIL

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:00 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Here is SM acknowledgement of 60 Kellogg

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, July 13, 2016 5:29 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; Liza Walsh (LWalsh@TheWalshFirm.com) <LWalsh@TheWalshFirm.com>; Hector Ruiz (HRuiz@TheWalshFirm.com) <HRuiz@TheWalshFirm.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Bill,

The Special Master acknowledges receipt of your June 28, 2016 email and the supporting documentation accompanying the SA-6 South Excavation Complete Submittal for the 60 Kellogg Building Area and your subsequent emails confirming that the white-ish material observed in the excavation was included in the sidewall soil samples collected where residual material was observed for final confirmation and represented in the final post-excavation soil sampling results provided in your June 28 email and where all hexavalent chromium results were reported at less than 20 mg/kg.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, July 12, 2016 11:16 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Steve,

I have reviewed your email question with the Amec field team who observed the excavation and collected the post-excavation sidewall soil samples.
Amec indicates that the whitish material was included in the sidewall soil samples where residual material was observed.
Please let us know if you have any remaining questions on this item.

Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Saturday, July 02, 2016 5:22 PM
To: Hague, William
Cc: RGT Special Master; Lewis, Thomas; Morris, John; JFarrell@jcnj.org; Francis J. Borin; JWatson@jcnj.org; Clifford, Joseph T; Daneker, Michael D.; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); ' (kmillian@tpmlaw.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; Jeremy.Karpatkin@aporter.com; 'Ben Ross (bross@disposalsafety.com)'; Kim Hosea (k.hosea@cea-enviro.com)
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Bill,

Please see the following regarding the June 28, 2016 Excavation Complete Submittal for the 60 Kellogg Building Area:

The email states that "the post-excavation soil sampling location selection was biased according to field observations and not just geometrically predetermined" and that "Sidewall samples were biased to include residual whitish material if observed." Please confirm, as requested in my June 16 email, that the white-ish material was directly sampled and analyzed to determine whether hexavalent chromium concentrations in this material are above or below 20 ppm.

In addition, your email states: "The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations". However, as noted in my June 16 email, during my June 14 site visit I observed what appeared to be white-ish material in the southwestern face of the excavation, approximately 2 feet below the surface at what appeared to be the final excavation boundary. If the white-ish material was directly sampled and determined to contain less that 20ppm hexavalent

chromium, then leaving residual material in the excavation is not an issue. However, if the white-ish material was determined to contain hexavalent chromium above 20ppm, please confirm whether or not the observed white-ish material was subsequently removed as part of continued excavation efforts so that no white-ish material confirmed above 20 ppm hexavalent chromium remained visible at the excavation boundaries.

We look forward to your response.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, June 28, 2016 9:45 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; '(kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Steve,

We are providing this email notification that our laboratory data validation has been completed, all soil sample results showing concentrations of hexavalent chromium < 20 ppm are now final, thus, the added Excavation Area at 60 Kellogg Street can now be closed out (which is part of the SA-6 South Chromium Remedy).

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of excavation completion covers the work completed on 06/02/16. This submittal includes the excavation around the 60 Kellogg Street Building (Site 125 on SA-6 South) where suspect material had been observed and sampled in accordance with the submittal to All Parties, dated May 17, 2016. We are also addressing your email to Honeywell dated June 16, 2016 with clarification that the post-excavation soil sampling location selection was biased according to field observations and not just geometrically predetermined.

Attachments to the submittal include the Maser Table with bottom and sidewall confirmation points, and an Excavation Bottom Map showing sample locations and excavation limits.

- Initially, Amec personnel collected a soil sample (post demolition of the 60 Kellogg building raised slab) biased to a greenish discoloration in surficial soils identified between timber piles that formerly supported the 60 Kellogg building.
- This initial soil sample confirmed the presence of COPR and resulted in a proposed shallow excavation plan to address these soils by removing an area ~10 ft by 10 ft by 3 ft deep in size around this sample location (as detailed in the May 17, 2016 submittal to the parties).

- On June 2, 2016, the excavation was conducted to depths ranging from approximately 2.9 ft to 4.2 ft Below Ground Surface.
- The bottom and sides of the excavation at the final limits were visually inspected by Amec personnel. All of the original greenish discoloration was removed but some whitish material was observed in several sidewall locations.
- The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations.
- Five soil samples were collected from the excavation: one from each sidewall and one from the bottom of the excavation. Sidewall samples were biased to include residual whitish material if observed. The bottom sample was located the area where additional suspect material was also observed during excavation.
- This sampling frequency meets the approved frequencies established in the 100% Design.
- Coordinates for Survey of the finished excavation at the bottom and sidewall sample locations are tabulated in the Maser Tables.
- Sample locations are shown on the Entact “As Built” Excavation Figure attached.
- The final post-excavation soil sampling results were as follow:
    - 125-SB-308 <0.55 mg/Kg
    - 125-SB-309 0.66 mg/Kg
    - 125-SB-310 <0.52 mg/Kg
    - 125-SB-311 2.3 mg/Kg
    - 125-SB-312 1.9 mg/Kg
- All hexavalent chromium results were less than 20 mg/kg, thus, no further remediation is necessary.
- Maser collected bottom of excavation points to prepare a topographic Map of the bottom of excavation.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

Regards,
Bill Hague

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ATTACHMENT A-2
60 KELLOGG EXCAVATION
CONFIRMATION POINTS AND POST EXCAVATION PLAN

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South: 60 Kellogg Excavation (2016): Post Excavation Points (Table 1.0)

Bottom Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
684474.8	602542.4	6.3	125-SB-312	6/10/2016	6.2	Target Elevation Reached

SA-6 South: 60 Kellogg Excavation (2016): Sidewall Post Excavation Points (Table 2.0)

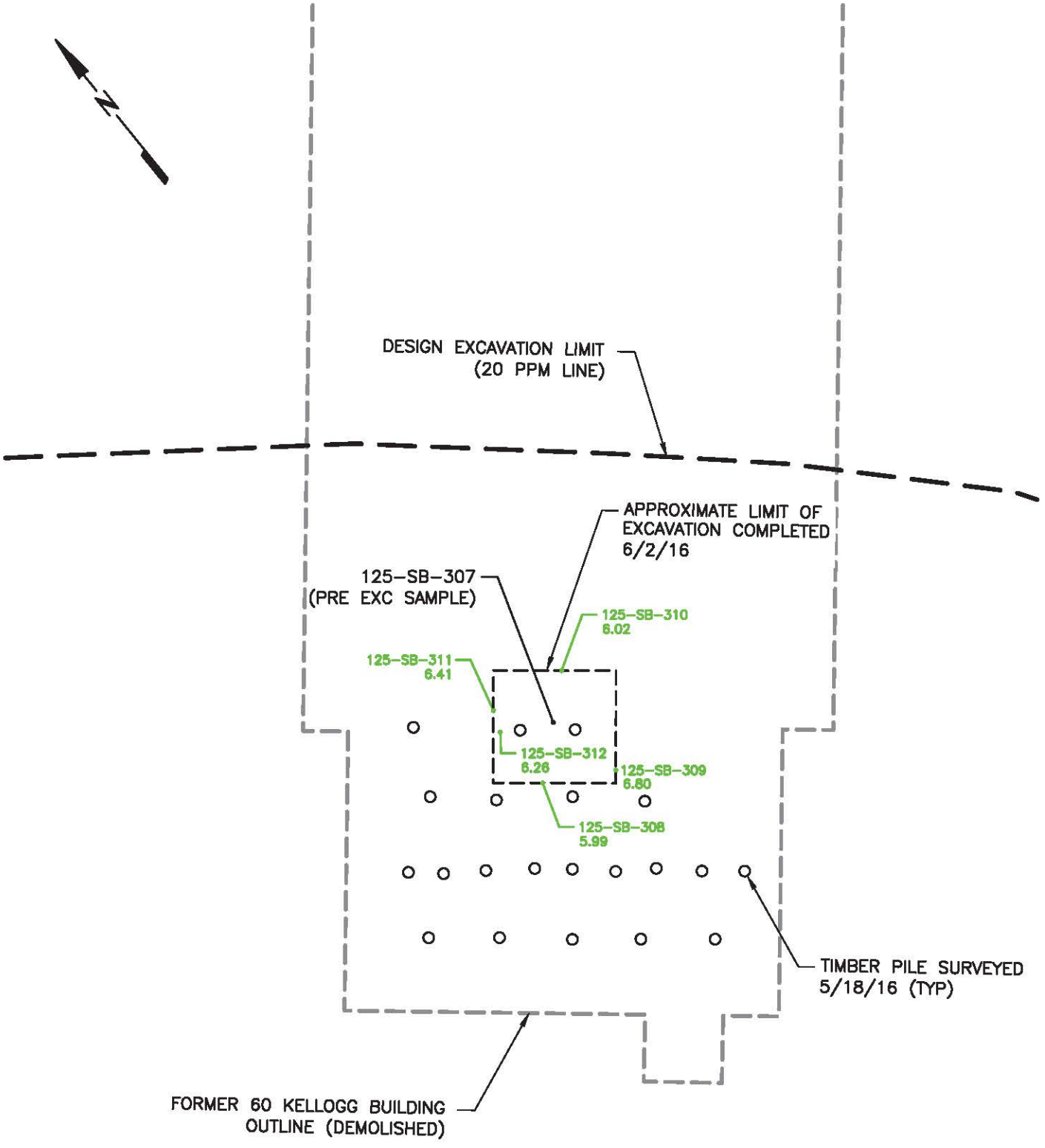
Sidewall Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
684465.7	602542.9	6.0	125-SB-308	6/10/2016	6.0	Target Elevation Reached
684460.7	602551.9	6.8	125-SB-309	6/10/2016	6.7	Target Elevation Reached
684476.4	602554.5	6.0	125-SB-310	6/10/2016	6.0	Target Elevation Reached
684477.8	602543.5	6.4	125-SB-311	6/10/2016	6.4	Target Elevation Reached

1 This is the actual elevation of the samples that were collected post excavation (6/2/16).

Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Post Excavation Points depicted in Table 1, Post Excavation Sidewall Points Table 2 are correct, and representative of the as-built post-excavation grades.

R. Thomas Hugg 6/17/16

R. THOMAS HUGG
NEW JERSEY PROFESSIONAL LAND SURVEYOR
LICENSE NO. 36737

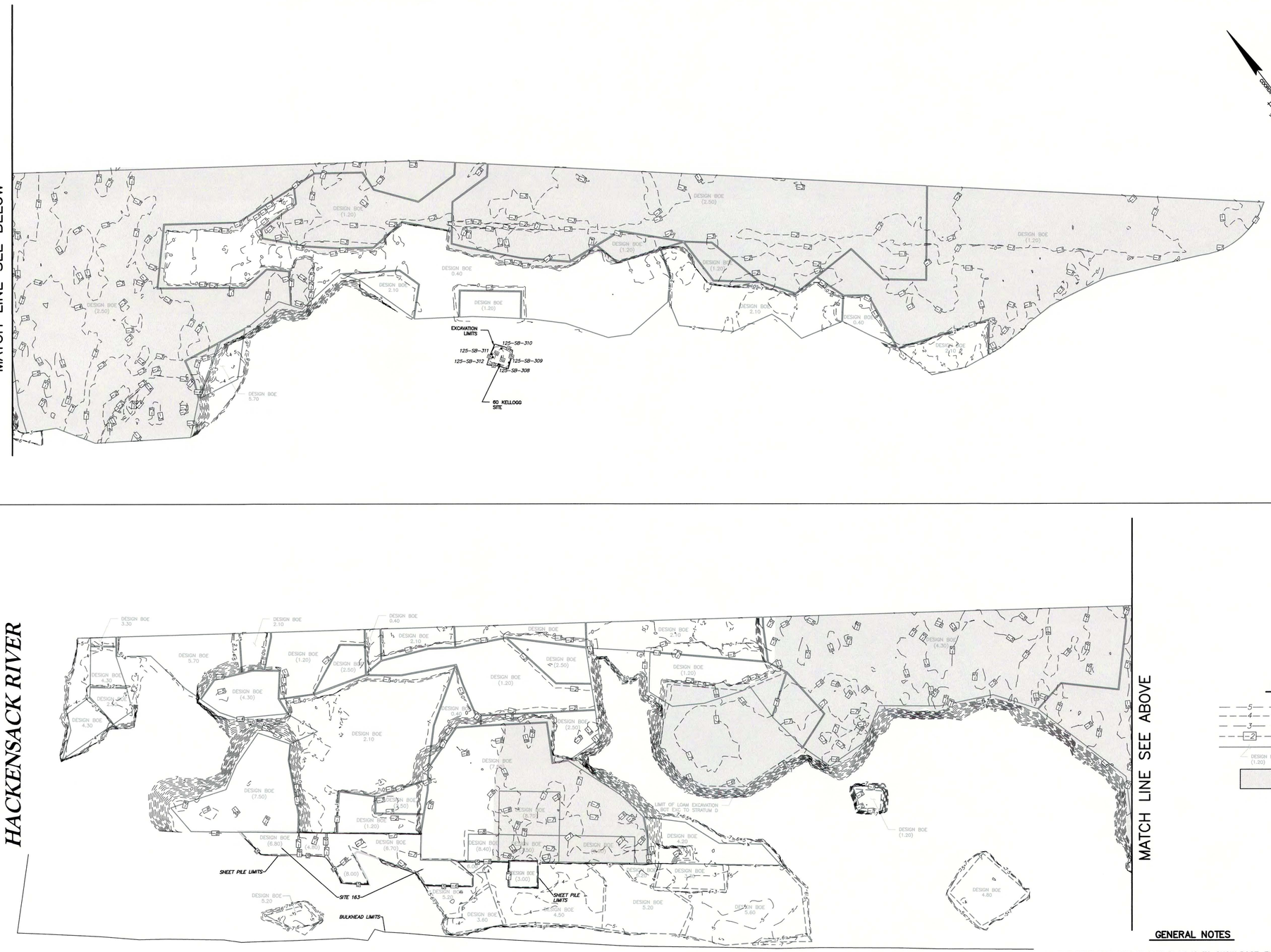


Prepared/Date: TDD 6/3/16
Checked/Date:

CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler	60 KELLOGG STREET POST EXCAVATION PLAN Project 3480-15-0488 FIGURE 1

C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South 60 Kellogg\Figure 1 60 Kellogg Post Excavation.dwg Fri, 03 Jun 2016 - 9:25am tony.donovan

ATTACHMENT B-1
SA-6 SOUTH EXCAVATION PLAN



GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW POST-EXCAVATION ELEVATIONS WITHIN THE SA6 SOUTH, SITE 163 & SITE 60 KELLOGG EXCAVATION AREAS AT THE PROJECT SITE.
2. POST-EXCAVATION LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM 10/23/13 THROUGH 12/22/14, 1/4/16 THROUGH 3/4/16 & 6/10/16. POST EXCAVATION SURFACES AND CONTOURS WERE GENERATED BY ENTACT AND CONFIRMED BY MASER CONSULTING P.A. WITH MINOR ADJUSTMENTS.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

NO.	DATE	REVISION	BY	APVD
3	7/30/16	UPDATED DESIGN BOE LIMITS	BSB	RTH
2	7/12/16	ADDED SITE 163 DATA & 60 KELLOGG TOPO	BSB	RTH
1	3/13/15	REVISED PER CLIENT COMMENTS 3/4/15	BSB	RTH

DSGN BSB | DR | CHK JR | APVD RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
EXCAVATION PLAN

FILE NUMBER
XXXXX

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 08223

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 890 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	3/3/15
PROJ	3480-10-0027
DWG	C-111
SHEET	1 OF 1

FILE NAME: C:\Civil 3D Projects\12001511A\Survey\V-SURV-SA6S-FINAL.dwg PLOT DATE: Mon, 01 Aug 2016 PLOT TIME: 3:09 PM

ATTACHMENT B-2
SA-6 SOUTH E-MAIL CERTIFICATIONS OF EXCAVATION COMPLETION

Egnaczyk, Steve

From: Kevin J. Coakley <KCoakley@connellfoley.com>
Sent: Friday, April 25, 2014 8:56 AM
To: 'kmillian@tpmlaw.com'; 'aalcorn@tpmlaw.com'; 'eric@golub-isabel.com'; 'kkinsella@decotiislaw.com'; 'Michael D. Daneker (Michael.Daneker@aporter.com)'; 'Jeremy Karpatkin (Jeremy.Karpatkin@aporter.com)'; 'Jeremy Farrell' (JFarrell@jcnj.org)
Cc: 'rgtspecialmaster@aol.com'; Sean Jackson (Sean@RosemontAssocs.com); Egnaczyk, Steve; Lewis, Thomas; Liza M. Walsh; Agnes Antonian
Subject: Honeywell Excavation Submittals

Dear Counsel:

During Tuesday's Special Master All Parties Meeting, it was agreed that Honeywell would continue to provide notifications to the parties certifying that cells within the SA6 North and South excavation have been completed in accordance with the 100% Design and request an email acknowledgement only from the Special Master that the Special Master is in receipt of the supporting documentation accompanying the notification. The Special Master's technical representative will continue to perform periodic visual inspections of the completed excavation areas prior to backfilling and provide a response to Honeywell's email submittals within 48-hours.

Honeywell will continue to conduct the excavation operations as detailed in the SA-6 South Standard Operating Procedure (SOP) - Confirmation of Excavation Limits, dated March 3, 2014 that provides Honeywell's basis for assessing and demonstrating that the limits of excavation as defined in the 100% Design are being met and documented.

Specifically and as noted in Honeywell's April 17, 2014 Response to Plaintiffs' Comments regarding Excavation of Cells 44-52, Honeywell will:

- continue to collect the survey data necessary to prepare the topographic map as indicated in the first bullet of Section 5.0 in the SOP,
- prepare the topographic map to meet the requirements of Section 02315 Part 3.03 Topographic Surveys, Part C. Post Excavation Survey of the Technical Specifications, and
- provide the topographic survey as part of the final certification.

Honeywell acknowledges that as it is no longer waiting for ICO acknowledgement of the above described progress reports on cell excavation confirmation, and therefore Honeywell will be proceeding at risk as it relates to these specific issues from ICO's perspective, or for that matter, Jersey City's perspective as well. Honeywell will continue to submit these reports to all parties at the same time it transmits them to the Special Master.

Please respond to this email within 48 hours if you do not concur that this description represents the agreement reached at Tuesday's meeting.

Kevin J. Coakley

Partner
Connell Foley LLP
85 Livingston Avenue
Roseland, NJ 07068
Office: (973) 535-0500
Direct: (973) 533-4230
Fax: (973) 535-9217

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:41 AM
To: Christodoulatos, Eric G
Subject: FW: SA6 South Remedy Implementation

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 01, 2013 10:06 AM
To: Clifford, Joseph T; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Joe,

This email responds to your email of October 29, 2013 requesting approval to backfill cells 1 and 2 at the Study Area 6 South excavation. The October 29 email responded to the Special Master's email of October 26 and prior emails, which requested that Honeywell confirm that the excavation areas were completed and provide supporting documents that describe the survey protocol addressing how the excavation was completed, especially in areas where the meadow mat was encountered above the projected excavation depth. The Special Master also requested a document tracking the progress and status of the excavation. In its October 29 submittal Honeywell attached two documents: (1) Excavation Bottom Elevations Plan for the period of 10/22/13 to 10/24/13 and (b) Excavation and Backfill Progress Summary End of October 2, 2013 Plan. The Excavation Bottom Elevations Plan shows that the excavation in Cells 1 and 2 was performed to Stratum D. The October 29, email confirms that the excavation in both cells terminates in Stratum D as visually confirmed by Amec personnel. Amec inspectors certified that the impacted soils in the 100% Design have been removed and that the requirements to allow backfilling have been met. In addition, I observed the conditions of the excavation on Tuesday, 10/29 and then again, with the Special Master on Wednesday, October 30, 2013. The Special Master and his team's visual observations are consistent with Amec's representation that the Stratum D is clearly visible as a continuous layer in these two cells. The Special Master has also received Plaintiffs letter of October 31, 2013 approving Honeywell's request. Based on Honeywell's certified representations in the October 29, 2013 email and the documents attached thereto, the Special Master's observations, and the fact that the Stratum D is well defined and continuous, the Special Master approves backfilling of Cells 1 and 2.

To ensure that in the future the confirmation process is efficient and does not delay the project going forward, the Special Master requests that in addition to the documents provided with the October 29 email, Honeywell include additional information clearly defining the final excavation depths in the cells and, as requested before, drawings showing the extent of the meadow mat. Such information will also support the Excavation Declarations that will be filed with the Court to document compliance with the Consent Order and the 100% Design. While the initial two cells had a clearly defined final depth of excavation for each cell, that is not likely to be the case in the future, especially when the excavation cells become larger. The Special Master suggests that a table (similar to the example shown below) would provide the necessary information to the Special Master and the parties to ensure an efficient and effective review and confirmation. This table should provide a reference to the PDI sample result(s) that established the original depth(s) of excavation for the Excavation Cell or general area, realizing that an explanation would be required if meadow mat was

encountered and the excavation was halted at a shallower depth or if other field conditions impacted achieving the design excavation depth. This table is similar to what was provided during the COPR excavation.

Excavation Cell	100% Design PDI Sample Result Depths(s) and sample location(s)	Actual Excavation Depth(s) and reference, for example: bgs, MSL	Comments/Exceptions
1	(-) 9.5 ft based on PDI Confirmatory Sample Location XXX-SB-XXX	(-) 4.5 ft.	Excavated to depth of meadow mat at (-) 4.5 ft MSL.
2	(-) 8.5 ft in Area A *[Areas to be defined in the Excavation Bottom Plan;* (-) 6 ft in Area B	Area A: (-) 9 ft Area B: (-) 8.5 ft	

The Special Master is looking forward to further discussing these issues at the next technical call. At that time the Special Master would like to address the number of survey points that will be necessary to document the excavation bottom, especially in the larger cells with anticipated varying depths of excavation.

Further, we request that Honeywell prepare for discussion a form of Declaration to be filed with the Court showing excavation completion in accordance with the 100% Design. We would expect that the form of Declaration will be in a format substantially similar to that filed in connection with Study Area 7.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
Phone: 610.363.5395 | Fax: 610.363.5390
Cell: 610.212.1492
Email: segnaczyk@louisberger.com
http://www.louisberger.com

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Tuesday, October 29, 2013 9:05 PM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; Isabelle Procaccino; McWatters, Michael
Subject: RE: SA6 South Remedy Implementation

Steve,

I am sending this email on behalf of Honeywell.

As discussed at our weekly meetings, we are at a point of being ready to backfill and approval of the submittal content is critical to moving forward.

Below is a description of completed excavation activities for which we are requesting an acknowledgement in order that we can proceed with backfill.

We are also attaching herein two supporting drawings:

1. Exhibit A - depicts the 156, 15-ft wide cells that comprise the SA-6 South excavation which will be used as a excavation progress chart;
2. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for the first two cells completed as described below.

- *Full scale excavation of Chromium Impacted Materials began on 10/21/2013.*
- *For planning and implementation purposes, the excavation is subdivided into 156, 15 ft wide cells with Cell 1 located near Route 440.*
- *For the period ending 10/24/2013 excavation is complete for Cells 1 and 2.*
- *The excavation in both cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, a bottom-of-excavation confirmatory point is located within Cell 2.*
- *The surveyed coordinates of the bottom-of-excavation confirmatory point are included in the attached figure.*
- *The easterly limit of Cell 1 and the north and south limits of Cells 1 and 2 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

Honeywell acknowledges that your email includes a request for potential additional information regarding locations where meadow is encountered, we will respond separately to that item.

Please let us know if you have comments or questions on the information contained in this email. Thank you. –Joe

Joseph T. Clifford, P.E.
AMEC Environment & Infrastructure
200 American Metro Blvd, Suite 113, Hamilton NJ 08619
973-455-4163 direct dial
610-505-9315 cell

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Saturday, October 26, 2013 2:34 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com;

Clifford, Joseph T; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; Isabelle Procaccino; McWatters, Michael; Clifford, Joseph T
Subject: SA6 South Remedy Implementation

Bill,

As we discussed earlier this week, please advise when you plan to forward the information Honeywell proposes to provide to the Special Master and the parties to confirm the completion of excavation for delineated excavation cells. We are also expecting a document that will track the progress and status of the excavation (i.e., a drawing delineating the excavation grids similar to the drawing provide for the SA7 COPR Excavation). Recognizing that excavation work is now underway, it is important to get these items to us so the parties and the Special Master have sufficient time to review them without causing delay to your planned schedule to backfill the completed cells. In addition, during this week's site construction meeting there were some new drawings that Honeywell has generated that appear to show the projected extent of the meadow mat within each excavation cell. The presence of the meadow mat in the excavation cells raises a question as to how Honeywell intends to document/address the areas where meadow mat is encountered above the anticipated floor of excavation (especially if the meadow mat was not previously anticipated in such an area). A description of the survey protocol addressing this issue as well as the new drawings that Honeywell has generated would be useful for the parties to have as we follow the implementation of the excavation plan; please confirm when Honeywell can provide these new drawings and survey protocols to the Special Master and Plaintiffs.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
Phone: 610.363.5395 | Fax: 610.363.5390
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:41 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA6 South Remedy Implementation

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, November 08, 2013 10:08 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Mojka, John <John.Mojka@Honeywell.com>; Bills, Stuart B <Stuart.Bills@amec.com>
Subject: FW: SA6 South Remedy Implementation

FYI

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 08, 2013 3:29 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Bill,

We are in receipt of your email of November 5 regarding Excavation Bottom Elevations for the period 10-25-13 to 10-31-13 and your notification that your contractor is ready to backfill Excavation Cells 3, 4 and 5. During my site visit on November 5, I observed the excavation area and that Excavation Cells 3, 4, and 5 were fully excavated to the meadow mat. In addition, during our discussion on November 6 you clarified the information shown on the Figure ("Excavation Bottom Elevations, Period 10-25-13 to 10-31-13") and the Table prepared by Maser ("SA-6 South Excavation: Confirmatory Points") that were included in your November 5 submittal. The Special Master looks forward to receiving this figure and table in future submittals revised as we discussed as this will aid the Special Master in evaluating the excavation completion. Please be advised that the Special Master continues to evaluate what the process should be regarding excavation completion/backfill approval and we will be following up with the parties shortly. Recognizing that this part of the site is still within the boundary of the meadow mat the Special Master is comfortable in authorizing the backfill of Excavation Cells 3, 4 and 5.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, November 05, 2013 5:36 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Steve,

As discussed at our weekly meeting today, we are hereby notifying you that our contractor is ready to backfill Cells 3, 4 and 5 starting on Friday Nov 8.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these Cells consistent with the language provided in our description of completed Cells 1 and 2.

- *For the period 10/25/2013 to 10/31/2013 excavation is complete for Cells 3, 4 and 5.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, a bottom-of-excavation confirmatory point is located within Cell 3.*
- *The surveyed location of the bottom-of-excavation confirmatory point is included in the attached figure.*
- *The north and south limits of Cells 3, 4 and 5 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

We are also attaching herein three supporting documents:

1. Excavation Progress Map through October 31, 2013 - depicts the 156, 15-ft wide cells that comprise the SA-6 South excavation and the updated excavation progress chart;
2. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 3, 4 and 5 which have been completed as described below.
3. Post-Excavation Confirmatory Sample Table Survey 103113 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

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william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:41 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 6 through 9

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 15, 2013 11:13 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 6 through 9
Importance: High

Bill,

We are in receipt of your email of November 13 and attached Excavation Bottom Map and Post-Excavation Confirmatory Sample Table Survey regarding Excavation Bottom Elevations for the period 11-1-13 to 11-7-13. The November 13 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 6, 7, 8 and 9 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 12 and observed the excavation area. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 6, 7, 8 and 9 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells. The Special Master reiterates the concern raised previously and discussed yesterday on the technical call with Joe Clifford and ICO representatives as it relates to how the depth of excavation points have been identified. As this area is entirely meadow mat, the Special Master is comfortable with Honeywell proceeding with backfill. However, the Special Master still has unresolved questions as it relates to those cells where the depth of excavation will not reach or be defined by the meadow mat. It is our expectation that we can discuss, and hopefully resolve, those issues at Tuesday's meeting.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
Phone: 610.363.5395 | Fax: 610.363.5390
Cell: 610.212.1492
Email: segnaczyk@louisberger.com
http://www.louisberger.com

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, November 13, 2013 8:39 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 6 through 9

Steve,

As a follow up to our weekly meeting yesterday, we are hereby notifying you that our contractor is ready to backfill Cells 6 through 9 starting on Friday Nov 15th.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these cells. consistent

- *For the period 11/01/2013 to 11/07/2013 excavation is complete for Cells 6, 7, 8 and 9.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, bottom of excavation confirmatory points are located within Cells 6, 7, 8 and 9.*
- *The surveyed location of the bottom of excavation confirmatory points are included in the attached figure.*
- *The location of confirmatory sidewall samples are listed in the PDI. To date none of the PDI confirmatory sidewall sample locations have been encountered.*
- *The north and south limits of Cells 6, 7, 8 and 9 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
-

We are also attaching two supporting documents:

1. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 6 through 9 which have been completed.
2. Post-Excavation Confirmatory Sample Table Survey 1109713 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

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973-455-3802 Fax
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william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 10 through 12

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, November 25, 2013 3:50 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 10 through 12
Importance: High

Bill,

We are in receipt of your email of November 21 and attached Excavation Bottom Map – 111413, Confirmatory Points Certification - 111413 and Excavation Progress Map – 111413 regarding Excavation Bottom Elevations for the period 11-8-13 to 11-14-13. The November 21 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 10, 11 and 12 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 21 and observed the excavation area. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 10, 11 and 12 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, November 21, 2013 1:24 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 10 through 12

Steve,

As discussed in our all parties meeting Tuesday, we are hereby notifying you that our contractor is ready to backfill Cells 10 through 12 starting on Friday Nov 22th.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these cells.

- *For the period 11/08/2013 to 11/14/2013 excavation is complete for Cells 10, 11 and 12.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, bottom of excavation confirmatory points are located within Cells 10, 11 and 12.*
- *The surveyed location of the bottom of excavation confirmatory points are included in the attached figure.*
- *The first confirmatory PDI sidewall sample is identified in Cell 11. The sample location is inside the temporary sheetpile which was driven along the section Kellogg Street Jughandle.*
- *The north and south limits of Cells 10, 11 and 12 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

We are also attaching three supporting documents:

1. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 10 through 12 which have been completed.
2. Post-Excavation Confirmatory Sample Table Survey 111413 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.
3. Excavation Progress Map – includes excavation status of the cells as of 111413.

We are in the process of working with Amec and the surveyor on making improvements to the supporting documents as discussed in our meeting and should have those soon.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 13 through 16

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, December 22, 2013 8:07 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 13 through 16
Importance: High

Bill,

We are in receipt of your email of December 16 and attached Confirmation Points Certification – 112113, Excavation Bottom Map – 112513 (Rev.1), Excavation Progress Map – 112113, Confirmation Points Certification – 120513, Excavation Bottom Map – 120513 (Rev.1), and Excavation Progress Map – 120513. The December 16 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 13, 14, 15 and 16 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 21, November 26, December 3, and December 5 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 13, 14, 15 and 16 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, December 16, 2013 10:23 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell

Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 13 through 16

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 13 through 16 .

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers two periods:

- 11/15/13 to 11/25/13 - Cells 13 and 14
- 11/26/13 to 12/05/13 - Cells 15 and 16

For ease of review the attachments for each period are grouped together.

1. The bottom of excavation for Cells 13, 14, 15 and 16 was terminated in Stratum D. Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.
2. Excavation Bottom Elevation Figures are included for both periods.
    1. Confirmatory points located within Cells 13 and 14 are shown on the Excavation Bottom Elevation figure for 11/15 to 11/25
    2. Confirmatory Bottom points located within Cells 15 and the Sidewall Samples for Cell 16 are shown on the Excavation Bottom Elevation figure for 11/26 to 12/05. A Reference Confirmatory Point was used for the bottom of Cell 16
3. Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A separate table is included for each period and the Cells which are the subject of the submittal period are highlighted in yellow.
4. The north and south limits of Cells 13, 14, 15 and 16 consist of sheet pile.
5. Sheet pile on the excavation face has been cleaned of visible soil materials.
6. The bottom and lateral limits of each cell were visually inspected by Amec personnel.
7. Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
8. Excavation progress Maps are shown for each period. Excavation is continuing in Cells 17 and 18 as shown in the Excavation Progress Map.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you will be on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 17 through 20

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, January 24, 2014 10:58 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 17 through 20
Importance: High

Bill,

We are in receipt of your email of January 8, 2014 and the following attachments: Confirmation Points Certification – 121213, Excavation Bottom Map – 121313 (Rev.2), and Excavation Progress Map – 121213. The January 8 email includes information regarding the excavation procedures and certifies that the excavation of Cells 17 through 20 met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 17, 18, 19 and 20 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 10, December 13, and December 17, 2013 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 17 and 18 were fully excavated to the meadow mat and that Excavation Cells 19 and 20 were partially excavated to the meadow mat. For the areas of Excavation Cells 19 and 20 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Map – 121313 (Rev.2)" showing the Excavation Bottom Elevations for the period 12-06-13 to 12-12-13 and "Confirmation Points Certification – 121213" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 19 and 20:

Excavation Cell No.*	Bottom Target Coordinate (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)
19	2.4	2.0
20	2.4	2.0

*where meadow mat was not encountered

Honeywell notes on the Confirmation Points Certification table that in establishing the Bottom Target Coordinate for an excavation cell based on the PDI results reported in the 100% Design, an "R" designates a "Reference Confirmatory Point for a designated Bottom Excavation Area" that has not been shown on the Excavation Bottom Figure (i.e., the excavation has not yet reached the cell where the PDI boring was located). In future submittals, it would be helpful if Honeywell

would provide the location or reference the Cell Number of the Reference Point on the Excavation Bottom Figure for reference purposes even if the respective excavation cell where the PDI result is located has not yet been reached.

Based on the information provided by Honeywell in this notification and the discussions held during this week's Special Master All Parties Meeting where Plaintiffs noted no objection, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, January 08, 2014 11:25 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 17 through 20

Steve,

We are providing this email notification that our contractor is read to backfill Cells 17 through 20.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period 12/06/13 to 12/12/13.

Cells 17, 18, 19 and 20

- The bottom of excavation for Cells 17, 18, was terminated in Stratum D. The majority of the bottom of Cells 19, 20, was terminated in Stratum D. The Southern section of cells 19 and 20 was terminated in Stratum O <20 PPM soils.
- Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.
- An Excavation Bottom Elevation Figure is included for the period.
- Confirmatory points located within Cells 17, 18, 19 and 20 are shown on the Excavation Bottom Elevation figure.
- Confirmatory Sidewall Samples for Cells 18 and 20 are shown on the Excavation Bottom Elevation figure.
- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.
- The northern limits of Cells 17, 18, 19 and 20 consist of sheet pile Barrier Wall. Approximately half of the southern extent of Cell 17 is terminated at the temporary sheetpile. The remainder of cell 17 and

cells 18, 19 and 20 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.

- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- Excavation progress Maps are provided. Excavation is continuing in Cells 21 and 22.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you will be on-site this week to review the progress. Also please note we did upload data on backfill materials yesterday in response to earlier comments

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
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william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:43 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 21 through 25

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, March 06, 2014 4:38 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Bill,
Thanks very much for your reply. Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, March 06, 2014 4:36 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Steve
Thanks for your note below. I have reviewed the results with the Amec team for rows 21 through 25 and can confirm that all survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.

Regards
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Tuesday, March 04, 2014 2:26 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Bill,

We are in receipt of your email of January 28, 2014 and the following attachments: Confirmation Points Certification – 010914 (rev1), Excavation Bottom Elevations Period – 121313 to 010914 (Rev.1), and Excavation Progress Map – 010914. The January 28 email includes information regarding the excavation procedures and certifies that the excavation of Cells 21 through 25 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 21, 22, 23, 24 and 25 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 17, 19, 24 and 31, 2013 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 21 through 25 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevation of the meadow mat. For the areas of Excavation Cells 21 through 25 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 121313 to 010914 (Rev.1)" showing the Excavation Bottom Elevations for the period 12-13-13 to 1-09-14 and "Confirmation Points Certification – 010914" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 21 and 25:

Excavation Cell No.*	Bottom Target Coordinate (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)
21	2.4	1.9
22	2.4	2.0
22	1.8	-0.1
23	2.4	-1.9
24	2.4	2.1
25	1.6	0.4

*where meadow mat was not encountered

In addition, the Special Master acknowledges Plaintiffs' February 21, 2014 email regarding excavation of cells 21-29 where Plaintiffs noted they have no further comments regarding the excavation of cells 21-29 and agreed that cells 21-29 have been excavated to the appropriate depth and may be backfilled.

The Special Master has no objection to Honeywell's proposal to backfill Cells 21 through 25, subject to Honeywell confirming by email that it agrees that the following statement, inserted in its subsequent Excavation Completion Reports, also applies to these cells (numbers 21 thru 25):

"All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered."

Please confirm via email.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, January 28, 2014 2:02 PM

To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Steve
Apologies to all, I had the incorrect attachments on the initial email. Correct attachments are provided here.
Thanks
Bill

From: Hague, William
Sent: Tuesday, January 28, 2014 1:35 PM
To: 'Egnaczyk, Steve'
Cc: 'RGT Special Master'; 'Kevin J. Coakley (KCoakley@connellfoley.com)'; ''Liza M. Walsh' (LWalsh@connellfoley.com)'; ''AGNES ANTONIAN' (AAntonian@connellfoley.com)'; 'Lewis, Thomas'; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; 'JFarrell@jcnj.org'; 'Dfanciullo@jcnj.org'; 'David Isabel'; 'Eric Tomaszewski'; 'Francis J. Borin'; 'Clifford, Joseph T'; 'KKINSELLA@decotiislaw.com'; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; 'McWatters, Michael'; 'JWatson@jcnj.org'
Subject: SA-6S : Excavation Completion in Cells 21 through 25

Steve,

We are providing this email notification that our contractor is read to backfill Cells 21 through 25.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period: 12/13/13 to 01/09/14 - Cells 21, 22, 23, 24 and 25.

- *The majority of the bottom of Cells 21, 22, 23, 24 and 25 were terminated in Stratum D. The Southern limit of cells 21, 22, 23, 24 and 25 were terminated in Stratum O <20 PPM soils.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *An Excavation Bottom Elevation Figure is included for the period.*
- *Confirmatory Bottom Points located within Cells 21, 22, 23, 24 and 25 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample for Cells 22 and 25 is also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.*
- *The northern limits of Cells 21, 22, 23, 24 and 25 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 21, 22, 23, 24 and 25 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*

- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps are provided. Excavation is continuing in Cells 26, 27, and 28.*

Note that we are also preparing a PDI location map for the SA-6 South area as requested by Kim Hosea at the last Special Master All Hands mtg and should have this available tomorrow which we will release with the next cell excavation summary email..

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 26 through 29

-----Original Message-----
From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 5:54 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; (kmillian@tpmlaw.com); Morris, John (MTO); cpravlik@tpmlaw.com; Daneker, Michael; DelisleB@jcnj.org; Aalcorn@tpmlaw.com; MWeaver@tpmlaw.com; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; David Isabel; Eric Tomaszewski; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; Ben Ross (bross@disposalsafety.com); Bruce A. Bell; Kim Bell Hosea (k.bell@cea-enviro.com); McWatters, Michael; JWatson@jcnj.org
Subject: Re: SA-6S : Excavation Completion in Cells 26 through 29

Bill,
Thanks very much.
Steve

Sent from my iPhone

On Mar 7, 2014, at 5:39 PM, "Hague, William"
<william.hague@honeywell.com<mailto:william.hague@honeywell.com>> wrote:

Steve
To follow up on your email below. We confirm that all survey points in the excavation cells 26 through 29 were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.

Please contact me if there are any additional questions.

Regards
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:04 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com<mailto:KCoakley@connellfoley.com>); 'Liza M. Walsh' (LWalsh@connellfoley.com<mailto:LWalsh@connellfoley.com>); 'AGNES ANTONIAN' (AAntonian@connellfoley.com<mailto:AAntonian@connellfoley.com>); Lewis, Thomas; '(kmillian@tpmlaw.com<mailto:kmillian@tpmlaw.com>)'; Morris, John (MTO); 'cpravlik@tpmlaw.com<mailto:cpravlik@tpmlaw.com>'; Daneker, Michael; 'DelisleB@jcnj.org<mailto:DelisleB@jcnj.org>'; 'Aalcorn@tpmlaw.com<mailto:Aalcorn@tpmlaw.com>'; 'MWeaver@tpmlaw.com<mailto:MWeaver@tpmlaw.com>';

'Jeremy.Karpatkin@aporter.com<mailto:Jeremy.Karpatkin@aporter.com>'; JFarrell@jcnj.org<mailto:JFarrell@jcnj.org>; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com<mailto:KKINSELLA@decotiislaw.com>; 'Ben Ross (bross@disposalsafety.com<mailto:bross@disposalsafety.com>)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com<mailto:k.bell@cea-enviro.com>)'; McWatters, Michael; JWatson@jcnj.org<mailto:JWatson@jcnj.org>
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29
Importance: High

Bill,

We are in receipt of your email of January 29, 2014 and the following attachments: Confirmation Points Certification – 011614 (rev1), Excavation Bottom Elevations Period – 011014 to 011614 (Rev.1), and Excavation Progress Map – 011614. The January 29 email includes information regarding the excavation procedures and certifies that the excavation of Cells 26 through 29 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 26, 27, 28 and 29 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 31, 2013 and January 7, 9 and 14, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 26 through 29 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 26 through 29 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 011014 to 011614 (Rev.1)" showing the Excavation Bottom Elevations for the period 1-10-14 to 1-16-14 and "Confirmation Points Certification – 011614" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 26 through 29:

Excavation Cell No.*

Bottom Target Coordinate – based on PDI
(MSL)

Bottom Target Coordinate – based on Predetermined Bottom Elevations1
(MSL)

Actual Coordinates
(of the confirmatory bottom sample survey point)
(MSL)

26

1.6

0.4

0.3**

27

1.6

0.4

0.4**

28

1.6

0.4

0.2

29

3.5

2.1

2.1**

*where meadow mat was not encountered
**elevation based on Surveyed Center Point
1 Corresponds with the 9 “standardized” excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Honeywell also provided confirmation that the southern limit of excavation of cells 26, 27, 28, and 29 terminates at the less than (“<”)20 ppm line (delineated by Honeywell) at the bottom of excavation and the cells are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' February 21, 2014 email regarding excavation of cells 21-29 where Plaintiffs noted they have no further comments regarding the excavation of cells 21-29 and agreed that cells 21-29 have been excavated to the appropriate depth and may be backfilled.

The Special Master has no objection to Honeywell's proposal to backfill Cells 26 through 29, subject to Honeywell confirming that it agrees that the following statement, inserted in its subsequent Excavation Completion Reports, also applies to these cells (numbers 26 thru 29):

"All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered."

Please confirm via email.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]

Sent: Wednesday, January 29, 2014 2:27 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com<mailto:KCoakley@connellfoley.com>); 'Liza M. Walsh' (LWalsh@connellfoley.com<mailto:LWalsh@connellfoley.com>); 'AGNES ANTONIAN' (AAntonian@connellfoley.com<mailto:AAntonian@connellfoley.com>); Lewis, Thomas; ' (kmillian@tpmlaw.com<mailto:kmillian@tpmlaw.com>)'; Morris, John (MTO); 'cpravlik@tpmlaw.com<mailto:cpravlik@tpmlaw.com>'; Daneker, Michael; 'DelisleB@jcnj.org<mailto:DelisleB@jcnj.org>'; 'Aalcorn@tpmlaw.com<mailto:Aalcorn@tpmlaw.com>'; 'MWeaver@tpmlaw.com<mailto:MWeaver@tpmlaw.com>'; 'Jeremy.Karpatkin@aporter.com<mailto:Jeremy.Karpatkin@aporter.com>'; JFarrell@jcnj.org<mailto:JFarrell@jcnj.org>; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com<mailto:KKINSELLA@decotiislaw.com>; 'Ben Ross (bross@disposalsafety.com<mailto:bross@disposalsafety.com>)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com<mailto:k.bell@cea-enviro.com>)'; McWatters, Michael; JWatson@jcnj.org<mailto:JWatson@jcnj.org>
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29

Steve,

We are providing this email notification that our contractor is read to backfill Cells 26 through 29.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period: 01/10/14 to 01/16/14 - Cells 26, 27, 28 and 29.

Ø The majority of the bottom of Cells 26, 27, 28, and 29 were terminated in Stratum D. The Southern limit of cells 26, 27, 28, and 29 were terminated in Stratum O <20 PPM soils.

Ø Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.

Ø An Excavation Bottom Elevation Figure is included for the period.

Ø Confirmatory Bottom Points located within Cells 26, 27, 28, and 29 are shown on the Excavation Bottom Elevation figure.

Ø A Confirmatory Sidewall Sample for Cell 28 is also shown on the Excavation Bottom Elevation figure.

Ø Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.

Ø The northern limits of Cells 26, 27, 28, and 29 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 26, 27, 28, and 29 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.

Ø Sheet pile on the excavation face has been cleaned of visible soil materials.

Ø The bottom and lateral limits of each cell were visually inspected by Amec personnel.

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

Ø Excavation progress Maps are provided. Excavation is continuing in Cells 30 and 31.

Note that this submittal includes the additional PDI Reference Bottom Sample Location Map for SA-6 South requested during the January 21, 2014 SM Meeting. This location map corresponds to the Figure presented depicting the 41 individual color-coded bottom excavation areas within SA-6 South, and the Reference Boring Summary Table identifying the coordinates and the corresponding Cell location previously provided to the parties.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
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973-455-3802 Fax
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 30 through 37

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, March 10, 2014 10:32 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Bill,
Thanks very much. The additional figures you provided record the progress of excavation for Cells 30-35. Steve

---

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, March 10, 2014 10:23 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Steve,

We believe your question arises from the fact that we submitted a single email package of tables and supporting figures for several weekly periods.

I have asked Amec to provide just the original Excavation Bottom Map for each of the four weekly periods which document the surveying for Cells 30 through 37. These survey maps are attached for weeks ending 01/23/14 (Cells 30 and 31), 01/30/14 (Cells 32 and 33), 02/06/14 (Cells 34 and 35), and 02/13/14 (Cells 36 and 37).

Please let me know if you have any other questions.

Regards,
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:11 PM
To: Hague, William

Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Bill,

We are in receipt of your email of February 28, 2014 and the following attachments: Confirmation Points Certification – 021314, Excavation Bottom Elevations Period – 020914 to 021314, and Excavation Progress Maps – 012314, – 013014, – 020614, and– 021314. The February 28 email includes information regarding the excavation procedures and certifies that the excavation of Cells 30 through 37 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 30, 31, 32, 33, 34, 35, 36 and 37 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on January 16, 23, 28, 30, and February 4 and 11, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 30 through 37 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 30 through 37 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 020914 to 021314" showing the Excavation Bottom Elevations for the period 2-9-14 to 2-13-14 and "Confirmation Points Certification – 021314" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 30 through 37:

Excavation Cell No.*	Bottom Target Coordinate – based on PDI (MSL)	Bottom Target Coordinate – based on Predetermined Bottom Elevations[1] (MSL)	(of the c
30	3.5	2.1	
31	3.5	2.1	
32	3.5	2.1	
33	3.5	2.1	
34	3.5	2.1	
35	3.5	2.1	
36	3.5	2.1	
37	3.5	2.1	

*where meadow mat was not encountered

**elevation based on Surveyed Center Point

[1] Corresponds with the 9 "standardized" excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Please note Figure: "Excavation Bottom Elevations Period – 020914 to 021314" appears to show current excavation to Stratum D (gray shading) only in Excavation Cells 36 and 37 and Excavation Cells 30 through 35 with cross-hatching depicting "Previously Submitted Data". However, the Special Master is not aware of a previous submittal showing Cells 30 through 35 with gray shading denoting being excavated to Stratum D and Table: "Confirmation Points Certification – 021314"reports that Stratum D was reached in portions of Excavation Cells 30 through 37. Please confirm whether the Figure is correct.

Honeywell also provided confirmation that the southern limit of excavation of cells 30 through 37 terminates at the less than ("<")20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' March 5, 2014 correspondence regarding excavation of cells 30-39 where Plaintiffs noted they believe that Honeywell has excavated cells 30 through 39 to the appropriate depth.

Following confirmation of the question raised above regarding the depiction of areas excavated to the meadow mat, the Special Master has no objection to Honeywell's proposal to backfill Cells 30 through 37.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, February 28, 2014 10:29 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29

Steve,

We are providing this email notification that our contractor is read to backfill Cells 30 through 37.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual periods:

01/17/14 to 01/23/14 - Cells 30 and 31
01/24/14 to 01/30/14 – Cells 32 and 33
01/31/14 to 02/06/14 – Cells 34 and 35
02/07/14 to 02/13/14 – Cells 36 and 37

- *The majority of the bottom of Cells 30 through 37 were terminated in Stratum D. The Southern limit of cells 30 through 37 were terminated in Stratum O <20 PPM soils. Area 4 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *An Excavation Bottom Elevation Figure is included for Cells 30 through 37.*
- *Confirmatory Bottom Points located within Cells 30 through 37 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample for Cell 31, 32,33, and 35 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 30 through 37.*

- *The northern limits of Cells 30 through 37 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 30 and 37 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for each grouping of cells are provided*
- *Excavation is continuing in Cells 38 and 39.*
- *Amec confirms that all survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional "four corner points" identifying the surveyed locations and elevations of excavation bottoms which were completed above the meadow mat consistent with our comment responses to the parties.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:43 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 38 and 39

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:19 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 38 and 39

Bill,

We are in receipt of your email of March 3, 2014 and the following attachments: Confirmation Points Certification – 022014, Excavation Bottom Elevations Period – 021414 to 022014, and Excavation Progress Map – 022014. The March 3 email includes information regarding the excavation procedures and certifies that the excavation of Cells 38 and 39 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 38 and 39 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on February 11 and 18, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 38 through 39 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 38 and 39 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 021414 to 022014" showing the Excavation Bottom Elevations for the period 2-14-14 to 2-20-14 and "Confirmation Points Certification – 022014" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 38 and 39:

Excavation Cell No.*	Bottom Target Coordinate – based on PDI (MSL)	Bottom Target Coordinate – based Predetermined Bottom Elevations[1] (MSL)	Actual Coordinate (of the confirmatory bottom samp (MSL)
38	3.5	2.1	2.1
39	3.5	2.1	2.0

*where meadow mat was not encountered

[1] Corresponds with the 9 "standardized" excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Honeywell also provided confirmation that the southern limit of excavation of cells 38 and 39 terminates at the less than ("<")20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' March 5, 2014 correspondence regarding excavation of cells 30-39 where Plaintiffs noted they believe that Honeywell has excavated cells 30 through 39 to the appropriate depth.

The Special Master has no objection to Honeywell's proposal to backfill Cells 38 and 39.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, March 03, 2014 8:03 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 38 and 39

Steve,

We are providing this email notification that our contractor is read to backfill Cells 38 and 39.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual period: 02/14/14 to 02/20/14 – Cells 38 and 39

Please note that we will be sending to your attention later today the SOP you requested for excavation depth/ survey confirmation.

- *The majority of the bottom of Cells 38 and 39 were terminated in Stratum D. The Southern limit of cells 38 and 39 were terminated in Stratum O <20 PPM soils. Area 4 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *Excavation Bottom Elevation Figures are included for each of the cell groupings noted above.*
- *Confirmatory Bottom Points located within Cells 38 and 39 are shown on the Excavation Bottom Elevation figures.*
- *A Confirmatory Sidewall Sample for Cell 39 is also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 38 and 39.*
- *The northern limits of Cells 38 and 39 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 38 and 39 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*

- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for Cells 38 and 39. Excavation is continuing in Cells 40 and 41.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional language regarding certification that elevations of excavation bottoms were at or below design excavation elevations and representative of final excavation complete grade(s) throughout the portion of cells where we did not encounter Stratum D.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 40 through 43

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 28, 2014 4:21 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 40 through 43

Bill,

We are in receipt of your email of March 23, 2014 and the following attachments: Confirmation Points Certification – 022714 and Confirmation Points Certification – 030614 containing the Confirmation Points Certification Tables and the following figures: Excavation Bottom Elevations - Period 022114 to 022714, Excavation Bottom Elevations Period - 022814 to 030614, Excavation Progress Map – 022714, and Excavation Progress Map – 030614. The March 23 email includes information regarding the excavation procedures and certifies that the excavation of Cells 40 through 43 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 40 through 43 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on February 18 and 25 and March 4 and March 11, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 40 through 43 were excavated to the meadow mat and the attached tables and survey elevations report the final survey elevation of the meadow mat. For the areas of Excavation Cells 40 through 43 that were not excavated to the meadow mat, Honeywell provided the following figures and tables: Excavation Bottom Elevations Period – 022114 to 022414 (Figure), Excavation Bottom Elevations Period – 022814 to 030614 (Figure) and ENTACT Letters of Transmittal dated March 11, 2014 (re: Survey Data and Verification – Cells 40 and 41) and March 14, 2014 (re: Survey Data and Verification – Cells 42 and 43) that compare the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation and the Bottom Target Coordinates based on the Predetermined Bottom Elevations versus the Surveyed Center Point Elevation that shows the following for Excavation Cells 40 through 43:

Excavation Cell No.*	Reference Table 1.2		Referenc	
	Bottom Target Coordinate – based on PDI (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)	Bottom Target Coordinate – based Predetermined Bottom Elevations** (MSL)	T
40	1.7	0.0	0.4	
41	0.4	0.1	0.4	
42	0.4	0.1	0.4	

43	0.5	0.1	0.4

*where Stratum D (meadow mat) was not encountered

** Correspond to the 9 “standardized” excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

In addition, Honeywell confirmed in the email that “All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.” In addition, the ENTACT transmittals include a verification that Maser Consulting, P.A. (“Maser)has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells and a certification from Maser that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

Honeywell also provided confirmation that the Southern Limit of excavation of Cells 40, 41, 42, and 43 terminate at the less than (“<”)20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line and that Standardized Excavation Interval - Area 7 was excavated down to Stratum D.

Lastly, the Special Master acknowledges Plaintiffs' March 28, 2014 email regarding excavation of cells 40-43 where Plaintiffs noted they believe cells 40 through 43 have been excavated to the appropriate depth.

The Special Master has no objection to Honeywell's proposal to backfill Cells 40 through 43.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, March 23, 2014 7:33 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 40 through 43

Steve,

We are providing this email notification that our contractor is read to backfill Cells 40, 41, 42 and 43.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual periods:

02/21/14 to 02/27/14 – Cells 40 and 41
02/28/14 to 03/06/14 – Cells 42 and 43

- *The majority of Cells 40 and 41 were terminated in Stratum D. Approximately half of the bottom of Cells 42 and 43 were terminated in Stratum D. The Southern limit of cells 40, 41, 42 and 43 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *The Excavation Bottom Elevation Figures is included for the cells noted above.*
- *Confirmatory Bottom Points located within Cells 40, 42 and 43 are shown on the Excavation Bottom Elevation figures.*
- *Confirmatory Sidewall Samples for Cell 40 and 42 are also shown on the Excavation Bottom Elevation figures.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 40 and 41 and Cells 42 and 43 for each of the weekly periods.*
- *The northern limits of Cells 40, 41, 42 and 43 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 40, 41, 42 and 43 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for each grouping are provided. Excavation is continuing in Cells 44 through 48.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional language regarding certification that elevations of excavation bottoms were at or below design excavation elevations and representative of final excavation complete grade(s) throughout the portion of cells where we did not encounter Stratum D.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
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973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, March 06, 2017 10:00 AM
To: Christodoulatos, Eric G
Subject: FW: SA6South excavation of cells 44-52

Follow Up Flag: Follow up
Flag Status: Flagged

From: Karpatkin, Jeremy C. [mailto:Jeremy.Karpatkin@apks.com]
Sent: Monday, March 06, 2017 9:58 AM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA6South excavation of cells 44-52

_____
Jeremy C. Karpatkin
Arnold & Porter Kaye Scholer LLP
601 Massachusetts Ave., NW | Washington | DC 20001-3743
T: +1 202.942.5564 | F: +1 202.942.5999
jeremy.karpatkin@apks.com | www.apks.com

From: segnaczyk@louisberger.com
Sent: Thursday, April 17, 2014 4:12 PM
To: Hague, William
Cc: aantonian@connellfoley.com; kcoakley@connellfoley.com; lwalsh@connellfoley.com; tlewis@louisberger.com; Daneker, Michael D.; Karpatkin, Jeremy C.; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; kmillian@tpmlaw.com; Graham, Stephanie; 'A. Kim Bell Hosea'; b.bell@cea-enviro.com; bross@disposalsafety.com; rgtspecialmaster@aol.com; aalcorn@tpmlaw.com
Subject: RE: SA6South excavation of cells 44-52

Bill,
Letter was received.
Thanks, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, April 17, 2014 4:04 PM
To: Egnaczyk, Steve
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Daneker, Michael; 'Jeremy Karpatkin'; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; Graham, Stephanie; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com; 'Senator Robert Torricelli'; Alicia Clark Alcorn
Subject: RE: SA6South excavation of cells 44-52

Steve
Our response to this letter you reference went out about ½ hour ago at 3:25.
Let me know if you have an issue getting access.

Regards
Bill

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, April 17, 2014 3:52 PM
To: Hague, William
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Daneker, Michael; 'Jeremy Karpatkin'; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com; 'Senator Robert Torricelli'; Alicia Clark Alcorn
Subject: RE: SA6South excavation of cells 44-52

Bill,

Could you please provide the status of your reply to Plaintiff's letter regarding excavation of cells 44-52?

Regards, Steve

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From: Alicia Clark Alcorn [mailto:aalcorn@tpmlaw.com]
Sent: Friday, April 11, 2014 12:33 PM
To: 'Senator Robert Torricelli'
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Egnaczyk, Steve; 'Michael Daneker'; 'Jeremy Karpatkin'; 'Hague, William'; 'John Morris (john.morris@honeywell.com)'; 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com
Subject: SA6South excavation of cells 44-52

Please see the attached.

Alicia C. Alcorn
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
Main Telephone: 202-682-2100 ext.8471
Direct Dial: 202-204-8471
Facsimile: 202-289-6795
E-Mail: aalcorn@tpmlaw.com

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For more information about Arnold & Porter Kaye Scholer LLP, click here:
http://www.apks.com

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 17, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Response to Comments Provided by Plaintiffs, April 11, 2004**
Excavation of Cells 44 Through 52
Study Area 6 South

Dear Senator Torricelli:

Honeywell has attached a memorandum prepared by its engineer, Amec, responding to comments provided by Plaintiffs on April 11th, pertaining to the excavation of cells 44 through 52 in Study Area 6 South.

If you have any questions, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sgf

Encl: 04/17/14 Amec Memorandum re: Response to Comments on Study Area 6 South – Excavation of Cells 44 Through 52

cc: (electronic copy only)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell

John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Memo

Date:	**4/17/2014**	cc:	**John Morris, Maria Kaouris, John Mojka, Jeremy Karpatkin, Michael Daneker**
From:	**Joe Clifford/Geoff Shallard**		
To:	**Bill Hague**		
Subject:	**Response to Comments on Study Area 6 South – Excavation of Cells 44 Through 52**		

AMEC Environment & Infrastructure, Inc. (Amec), on behalf of Honeywell, has prepared the following responses to the comments that were submitted by Plaintiffs regarding the Study Area 6 South – Excavation of Cells 44 through 52 in a letter dated April 11, 2014. For convenience, Amec has listed each comment from Terris, Pravlik & Millian, LLP and the corresponding technical response from Amec.

Responses to Comments from Terris, Pravlik and Millian (TPM)

Terris, Pravlik and Millian Comment (TPM-1):
On March 3, 2014, Honeywell provided the SA-6 South Standard Operating Procedure Confirmation of Excavation Limits ("SOP"). Plaintiffs are in the process of reviewing and preparing technical comments on the SOP which we will circulate to all parties in the near future. However, we note that the documentation of the excavation of cells 42-52 provided by Honeywell does not conform to the requirements of Honeywell's SOP.

Amec Response: Contrary to the Plaintiffs' assertion, Amec believes that the documentation of cells 44-52 (we assume the 42-52 was a typographical error) is being provided in conformance with the Honeywell SOP as explained in Amec's second response below.

Terris, Pravlik and Millian Comment (TPM-2):
In Particular, the SOP (p.3) states that for the bottom excavation in excavation areas where Stratum D is encountered, "[t]he Surveyor documents the elevations at the approximate corners and center of each excavation cell and other points that they deem necessary to prepare the topographic survey." With respect to cells 44-52, the documentation provided by Honeywell does not include survey data for the corner points of the Stratum D excavation area within each cell. If these data were collected, Honeywell should provide the data to the Special Master and parties. If the corner points data were not collected, we request that Honeywell provide an explanation as to why the SOP is not being followed. In addition, if the data were not collected,

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200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
Tel 609-689-2829
Fax 609-689-2838
amec.com

Honeywell should require that the contractors go back and collect all the data points required by the SOP.

Amec Response: Amec confirms that the surveyor has collected the data necessary to prepare the topographic map as indicated in the first bullet of Section 5.0 in the SOP. The topographic map will be prepared to meet the requirements of Section 02315 Part 3.03 Topographic Surveys, Part C. Post Excavation Survey of the Technical Specifications. Copies of the survey points at Stratum D approximate to the corners of cells 44-52 are attached. The topographic survey will be provided as part of the final certification.

Terris, Pravlik and Millian Comment (TPM-3):
Based upon the documentation provided by Honeywell regarding the excavation areas within cells 44-52 that were excavated to a depth other than the Stratum D, plaintiffs concur that Honeywell has excavated those areas to the appropriate depth. As to the excavation areas within cells 44-52 that were to be excavated to the Stratum D, plaintiffs will wait for Honeywell's response to these comments prior to making a determination as to whether excavation was to the appropriate depth.

Amec Response: The requested information has been provided as noted above.

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

−2.2 −2.5 −2.6 −2.5 −2.6 −3.2 −3.3 −3.3

−2.8 −3.1

9 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38

BOT OF EXC
AREA 6 = (2.50)

−3.7

BOT OF EXC
AREA 7 = (1.20)

−2.7 −2.8 −3.8

−2.7 −3.3 −3.3 −2.8 −2.8 −3.3

BOT OF EXC
AREA 8 = 0.40

LIMIT OF STRATUM D EXPOSURE PER
THIRD PARTY SURVEY (TYP)

BOT OF EXC
AREA 9 = (1.20)

LIMIT OF ANTICIPATED STRATUM D
EXPOSURE PER DESIGN (TYP)

−3.8 BOE ELEVATION AT EDGE OF STRATUM D
PER THIRD PARTY SURVEY (TYP)

0 5 10 20
SCALE IN FEET

Prepared/Date: TDD 4/18/14
Checked/Date: SGS 4/18/14

Honeywell 101 COLUMBIA RD, BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	SA-6 SOUTH STRATUM D CELLS 44 THRU 52 FIGURE 1

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:55 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 44 through 48

Same as last email, don't see an acknowledgement from SM, use this as placeholder.

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:44 PM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA-6S : Excavation Completion in Cells 44 through 48

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, April 06, 2014 1:11 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 44 through 48

Steve,

We are providing this email notification that our contractor is read to backfill Cells 44, 45, 46, 47 and 48.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following two individual periods:

03/07/14 to 03/13/14 – Cells 44 and 45
03/14/14 to 03/20/14 – Cells 46, 47 and 48

- *Approximately half of the bottom of Cells 44 and 45 were terminated in Stratum D. The Southern limit of cells 44 and 45 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*

- *Approximately 30-40% of the bottom of Cells 46, 47 and 48 were terminated in Stratum D. The Southern limit of cells 46, 47 and 48 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises up to 2 feet above the general elevation of the Stratum D on these cells. The ridge appears to be more prominent as the excavation has advanced to the west. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings are being encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Excavation Bottom Elevation Figures are included for the cells noted above.*
- *Confirmatory Bottom Points located within Cells 44, 45, 46, 47 and 48 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample 125-SB-067 for Cell 44 and Sample 125-PT-15 for Cell 47 are also shown on the respective Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 44 and 45 for the week ending 03/13/14 and Cells 46, 47 and 48 for the week ending 03/20/14.*
- *The northern limits of Cells 44, 45, 46, 47 and 48 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 44, 45, 46, 47 and 48 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials. There are several joints where excess grout from the grouted joint is evident adhering to the sheets. Some grout that is strongly adhering to the sheet was left in place.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation Progress Maps are provided. Excavation is continuing in Cells 49 and 50.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 49 through 52

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, April 09, 2014 10:53 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 49 through 52

Bill,
Thanks very much. Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, April 09, 2014 10:50 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 49 through 52

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 49, 50, 51 and 52.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 03/21/14 to 03/27/14.

- *Approximately 60% of the bottom of Cells 49, 50, 51 and 52 were terminated in Stratum D. The Southern limit of cells 49, 50, 51 and 52 were terminated in Stratum O*

- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings continue to be encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 49, 50, 51 and 52 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-081 for Cell 49, 125-SB-091 for Cell 50, 125-SB-080 for Cell 51 and 125-SB-092 for Cell 52 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 49, 50, 51 and 52.*
- *The northern limits of Cells 49, 50, 51 and 52 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 49, 50, 51 and 52 terminate at the*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Maps is provided. Excavation is continuing in Cells 53 and 54.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Please note that additional lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 50, 51 and 52, Stratum O is divided by the line separating designated Area 8 from Area 9.

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:54 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 53 through 56

Eric, there was a period in time where the SM had my email incorrect, so I don't think I have the acknowledgement for this one. Use this as placeholder

---

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:45 PM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA-6S : Excavation Completion in Cells 53 through 56

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, April 11, 2014 8:32 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 53 through 56

Steve,

We are providing this email notification that our contractor is read to backfill Cells 53, 54, 55 and 56.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 03/28/14 to 04/04/14.

- *Approximately 40% of the bottom of Cells 53, 54, 55 and 56 were terminated in Stratum D. The Southern limit of cells 53, 54, 55 and 56 were terminated in Stratum O <20 PPM soils.*

- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon. Portion of the top of the ridge was removed in Cells 55 and 56 to permit clean excavation to the Area 8 boundary.*
- *Lines has been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 53, 54, 55 and 56 the Stratum O is divided by Area 8, Area 9 and Area 10*
- *Pilings from the 60 Kellogg St warehouse were sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 53, 54, 55 and 56 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-079 for Cell 53, and 125-SB-087, 125-SB-080 for Cell 56, are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 53, 54, 55 and 56*
- *The northern limits of Cells 53, 54, 55 and 56 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 53, 54, 55 and 56 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided. Excavation is continuing in Cells 57 and 58.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 57 & 58

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, May 01, 2014 5:23 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 57 & 58
Importance: High

Bill,

The Special Master is in receipt of your April 28, 2014 email and the supporting documentation regarding Excavation Completion in Cells 57 and 58 and the notification that the contractor is ready to backfill Cells 57 and 58. We have no objection to Honeywell's proposal to backfill Cells 57 and 58.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, April 28, 2014 7:49 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 57 & 58

Steve,

We are providing this email notification that our contractor is read to backfill Cells 57 and 58.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 04/05/14 to 04/11/14.

- *Approximately 40% of the bottom of Cells 57 and 58 were terminated in Stratum D. The Southern limit of cells 57 and 58 were terminated in Stratum O <20 PPM soils.*
- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon. Portion of the top of the ridge was removed in cells 57 and 58 to permit clean excavation to the Area 8 boundary.*
- *Lines has been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 57 and 58 the Stratum O is terminated at the respective Area 8 and Area 10 excavation elevations.*
- *Pilings from the 60 Kellogg St warehouse were sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 57 and 58 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples. There were no confirmatory sidewall samples in cells 57 and 58.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 57 and 58.*
- *The northern limits of Cells 57 and 58 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 57 and 58 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided. Excavation has been temporarily terminated in Cell 59. The excavation and backfill faces will be stabilized and excavation will be started at the western portion of the site in Cell 153/154.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Also please find attached the Figure 1 showing Stratum D corner elevations as discussed at our last all parties meeting. We had previously sent this figure for Cells 44-52 in response to plaintiffs comments, so we are herein attaching the figure for Cells 53-58.

Thanks
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:12 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 59 through 68

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, December 12, 2014 11:47 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JWatson@jcnj.org; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; Morris, John (MTO) <John.Morris@honeywell.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>
Subject: RE: SA-6 South Excavation Complete Submittal Cells 59 through 68

Bill,

The Special Master is in receipt of your November 24, 2014 email and the supporting documentation regarding Excavation Completion in Cells 59-68 and your notification that the requirements to allow backfilling have been met. Honeywell has also reported that as indicated in the previous submittal for Cells 69-75, the lens of anomalous white material approximately 2 feet below ground surface (BGS) was also observed in Cells 68 to 61. Consistent with the response to Cells 69 to 75 and as reported in Honeywell's November 17 response to Plaintiffs' November 11, 2014 email, the anomalous white material was previously identified and sampled during the PDI program and found to be less than 20 ppm hexavalent chromium in all locations shown on the updated Figure 1. Honeywell further reported in the November 17 response that an additional sample of the material was collected at the same depth during the active excavation and this result was also reported at less than 20 ppm hexavalent chromium.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, November 24, 2014 12:31 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael;

JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 59 through 68

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 59 through 68.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/17/14 to 10/30/14.

This Excavation Submittal includes Cells 59 through 68.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- As indicated in the previous submittal for cells 69-75 Amec inspectors identified a lens of white material approximately 2 ft. below ground surface. This lens was also observed in Cells 68 to 61. Based on review of the PDI data and a targeted sample taken from the lens at the time of excavation that lens shows no indication of the presence of chromium above 20 mg/KG. The extent and testing of the lens has been addressed in previous emails with the Special Master and Plaintiffs.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas in the Cells 59 through 68.
- The bottom of excavation for Area 11 and Area 14 were both terminated in Stratum D.
- The bottom of excavation for Areas 8, 10 and 12 were terminated in Stratum O, at or below the respective Excavation Bottom Elevations.
- The contiguous excavation in SA-6S between Cell 1 and Cell 156 is complete excluding the deferred Area by the Hackensack River.
- Excavation will proceed in Site 163 and the lens of anomalous material extending south of Cell 104.
- Confirmatory Bottom Points are located within Cells 59, 61, 63, 64 66, 67, and 68. Reference Points were also used in Cells 59, 60, 61, 62, 63, 65, 66, 67, and 68.
- The northern excavation limit was the Barrier Wall.
- The southern limit of Cells 59 through Cell 68 is sloped excavation.
- There were Confirmatory Sidewall Samples in Cells 59, 60, 61, 64, 65, 67, and 68.

As previously discussed, we intend on issuing a separate certification email on the Site 163 shallow excavation and an amended certification once the Cell 104 anomalous material excavation is complete.

Regards,

Bill Hague

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, December 01, 2014 10:32 AM
To: Ambrose, David M; Shallard, Samuel G.
Cc: Bills, Stuart B; Christodoulatos, Eric G
Subject: FW: SA-6 South Excavation Complete Submittal Cells 69-75

This is the last set of cells that SM has responded to.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, November 26, 2014 10:01 AM
To: 'Hague, William'; Clifford, Joseph T
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 69-75

Bill/Joe,

The Special Master is in receipt of your November 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 69-75 and your notification that the requirements to allow backfilling have been met. In addition, the Special Master is in receipt of Honeywell's November 17 email response and updated Figure 1 showing locations of additional analytical information and the extent of the observed anomalous white material in response to Plaintiffs' November 11, 2014 email. As reported in Honeywell's November 17 response, the anomalous white material was previously identified and sampled during the PDI program and found to be less than 20 ppm hexavalent chromium in all locations shown on the updated Figure 1. Honeywell then collected an additional sample of the material at the same depth during the active excavation and this result was also reported at less than 20 ppm hexavalent chromium.

Regards, Steve

Steven J. Egnaczyk
Program Director | Environmental and Disaster Management Services

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350 Eagleview Boulevard | Exton | PA | 19341-1178| USA

Celebrating 60 Years

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Monday, November 03, 2014 2:37 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 69-75

Steve,

I am providing this email on behalf of Honeywell.

We are providing this email notification that our contractor is ready to backfill Cells 69 through 75.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/03/14 to 10/16/14.

This Excavation Submittal includes Cells 69 through 75.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors identified a lens of white material approximately 2 ft. below ground surface over at the southern end of Cell 70. Review of the PDI data shows sidewall soil samples at a similar depth interval (140-SB-025, 140-SB-034 and 140-SB-072) indicated hexavalent chromium results that were
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas in the Cells 69 through 75.
- Area 14 was terminated in Stratum D.
- Areas elevations for 8, 12 and 13 were terminated in Stratum O at or below at the respective Excavation Bottom Elevations.
- Excavation will proceed from Cell 68 to the east.
- The excavation will continue through Cell 59 at which point it will connect to the previously excavated area of Cells 1 through 58.
- Confirmatory Bottom Points located within Cells 75, 74, 73, 72, 71, 70 and 69.
- The northern excavation limit was the Barrier Wall.

- The southern limit of Cells 69 through the eastern portion of Cell 71 is sloped excavation. The southern limit of the western portion of Cell 71 and Cells 72 through 75 is temporary sheetpile.
- There were Confirmatory Sidewall Samples in Cells 71 (2 locations) and 75.

Regards.

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:25 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 76-79
Attachments: GCL Area 100314_2.pdf

From: Clifford, Joseph T
Sent: Wednesday, November 05, 2014 10:47 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: RE: SA-6 South Excavation Complete Submittal Cells 76-79

Steve,

I am providing this email on behalf of Honeywell.

We are providing this response to your clarification request received in an email dated October 30, 2014 regarding the Excavation Complete Submittal on Cells 76 - 79. HON has reviewed the requested information with Amec and can offer the following statements:

- The 100% Design for Cell 76 and 77 indicates excavation to Stratum D at a target elevation of -2.5 feet.
- After reaching the Stratum D layer within the excavation, Amec inspectors identified a limited discontinuity in the Stratum D surface.
- Amec instructed the contractor to remove additional material which revealed that the discontinuity was smaller than thought, and then directed the contractor to repair the area using GCL in accordance with 100% Design.
- Amec confirms that the excavation limits and the repaired area both meet the requirements of the 100% Design.

We are also including an updated figure of the actual GCL repair area, with the “drawing scale” now added, in response to a separate email request from Kim Hosea received on October 27, 2014.

Please let us know if you need more information on this item.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, October 30, 2014 6:28 PM
To: Hague, William; Clifford, Joseph T
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 76-79

Bill/Joe,

The Special Master is in receipt of your October 24, 2014 email and the supporting documentation regarding Excavation Completion in Cells 76-79 and your notification that the requirements to allow backfilling have been met. Honeywell reports that in the southern limit of Cells 76/77 there were portions of the Stratum D material missing. Honeywell also reports their contractor successfully completed repairs to this area. Please provide a certification which confirms that: 1) impacted soils as defined in the 100% Design were removed from the discontinuous area to the design depth for Excavation Area 14, and 2) the area was repaired and the requirements to allow backfilling as required in the 100% Design were met.

Regards, Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Friday, October 24, 2014 7:27 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 76-79

Steve,

I am providing this email on behalf of Honeywell.

We are providing this email notification that our contractor is ready to backfill Cells 76 through 79.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 09/25/14 to 10/02/14.

This Excavation Submittal includes Cells 76 through 79.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- The northern excavation limit was the Barrier Wall.
- The southern limit is temporary sheet pile.
- There was one Confirmatory Sidewall Samples in Cell 77.
- All Cells are in Area 14.
- Area 14 was designed to terminate in Stratum D.
- All cells terminated in Stratum D with the exception of an area of discontinuous Stratum D as discussed below.
- At the southern limit of Cell 76/77, a discontinuity was identified in the Stratum D. The area of the discontinuity is shown on the attached Figure titled “As Built GCL Area Cells 75, 76 and 77”. There appeared to be a vertical displacement downward in the stratum D along the western edge of the area shaded in yellow on the figure. Excavation revealed that the Stratum D sloped back up to the typical Stratum D top elevation along the eastern edge of the area. To establish continuity in the Stratum D a Geosynthetic Clay Liner (GCL) was deployed over the area as depicted by the green shading on the figure. The Stratum D was continuous east of the repair area.
- The Confirmatory Bottom Point sample locations are provided for Cells 76 through 79.
- Excavation will proceed from Cell 75 to the east.

Regards.

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Monday, October 20, 2014 10:49 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6 South Excavation Complete Submittal Cells 80 through 83

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart B. Bills
Senior Associate Construction Manager
AMEC E&I, Inc.
(252) 202-1411

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From: Clifford, Joseph T
Sent: Monday, October 20, 2014 10:25 AM
To: Shallard, Samuel G.; Bills, Stuart B; Nagg, Dennis E
Cc: Ambrose, David M; Mojka, John
Subject: FW: SA-6 South Excavation Complete Submittal Cells 80 through 83
Importance: High

Good to go.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 15, 2014 9:51 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 80 through 83
Importance: High

Bill,

The Special Master is in receipt of your October 10, 2014 email and the supporting documentation regarding Excavation Completion in Cells 80-83 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, October 10, 2014 1:14 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 80 through 83

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 80 through 83.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 09/05/14 to 09/25/14.

This Excavation Submittal includes Cells 80 through 83.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- Cells 80 through 83 are all in Area 14 which was designed to terminate in Stratum D.
- Cells 80 through 83 all terminated in Stratum D.
- The Confirmatory Bottom Point sample locations are provided for Cells 80 through 83 on the attached Excavation Bottom Map.
- The northern excavation limit was the Barrier Wall.
- The southern limit is partially temporary sheet pile (Cell 80 and part of 81) and partially sloped excavation (Cell 83, 82 and part of 81).
- There were Confirmatory Sidewall Samples in Cells 80, 82 and 83.
- Excavation will proceed from Cell 79 to the east.

Regards,

Bill Hague

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:15 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 84-89

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, October 16, 2014 1:12 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89

Joe,
Thanks very much. Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Thursday, October 16, 2014 11:58 AM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89

Steve,

I am sending this email on behalf of Honeywell.

Per your request, attached please find the Maser Consulting Survey Data Table inclusive of Cells 84 - 89 with the signed ENTACT Letter of Transmittal cover page.

This attachment replaces the one submitted in the original email from Bill Hague on October 2, 2014 which did not include the ENTACT transmittal.

Please let us know if you need any other information relative to Cells 84 – 89 completion submittal.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 15, 2014 9:49 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89
Importance: High

Bill,

The Special Master is in receipt of your October 2, 2014 email and the supporting documentation regarding Excavation Completion in Cells 84-89 and the notification that the contractor is ready to backfill these Cells. Consistent with previous submittals, please either provide the ENTACT Letter of Transmittal with the signed Survey Data Verification, confirming that Maser Consulting, P.A. ("Maser) has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells or confirmation that this verification is not applicable to this submittal.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, October 02, 2014 7:38 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 84-89

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 84 through 89.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 08/22/14 to 09/04/14.

This Excavation Submittal includes Cells 84 through 89.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All cells were terminated were terminated in Stratum D.
- Confirmatory Bottom Points located within Cells 89, 88, 87, 86, 85. A Reference Point was used for Cell 84.
- The northern excavation limit was the Barrier Wall.
- The southern limit is sloped excavation.
- There were Confirmatory Sidewall Samples in Cells 89 and 84.
- It is noted that the southerly limit of the <20 PPM line was straightened in Cells 84 through 89 and carried further to the south to simplify excavation geometry in this area. We excavated in a straight line between 134-SB-100 (Cell 89) and 140-SB-059 (Cell 83) to simply excavation rather than jogging back in to 140-SB-060 (Cell 84). This results in the sidewall sample in Cell 84 (140-SB-060) being located within the final excavation limits.
- Excavation will proceed from Cell 83 to the east.

Regards,
Bill Hague

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Friday, September 05, 2014 10:36 AM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 90 through 99

Stuart Bills
AMEC E&I

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:09/05/2014 10:34 (GMT-05:00)
To: "Shallard, Samuel G." ,"Bills, Stuart B"
Cc: "Nagg, Dennis E" ,"Ambrose, David M" ,"Mojka, John"
Subject: FW: SA-6S : Excavation Completion in Cells 90 through 99

Good to go

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, September 05, 2014 10:02 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 90 through 99
Bill,
The Special Master is in receipt of your September 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 90 through 99 and the notification that the contractor is ready to backfill these Cells.
Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, September 03, 2014 9:37 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 90 through 99
Steve,

We are providing this email notification that our contractor is ready to backfill Cells 90 through 99.
We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.
This submittal notification of SA-6 South excavation completion covers the individual period from 08/08/14 to 08/21/14.
It is noted that a sidewall sample was taken from of a thin lens of grayish material identified directly above the Stratum D in the face of the step up from Area 15 into Area 16 in Cell 104. This sample came back with a validated result of hexavalent chromium > 20 ppm. Further investigation and sampling is being conducted as needed to delineate and remove this material.
As discussed, this over-excavation of the 100% Design footprint (based upon the 20 ppm contour established during the PDI) will result in an amended certification email for affected cells and additional laboratory data on sidewall will be provided once validated.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All cells were terminated were terminated in Stratum D.
- Confirmatory Bottom Points located within Cells 99, 98, 97, 96, 95, 93, 91, and 90.
- The northern excavation limit was the Barrier Wall. The southern limit is sloped excavation
- There were Confirmatory Sidewall Samples in Cells 92 and 96.
- Excavation will proceed from Cell 89 to the east.

Regards,
Bill

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:12 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, February 04, 2015 6:23 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Ben Davis <bdavis@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41
Importance: High

Bill,

The Special Master is in receipt of your January 7, 2015 email and the supporting documentation regarding the Amended Certification for Excavation Complete in Cells 100 to 106A and new Excavation Complete Certification for Area 41 and your notification that the requirements to allow backfilling have been met. Please confirm that the certification statements contained in your email refer to both the expanded excavation in Cells 100 to 106A and Area 41.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, January 07, 2015 2:40 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T;

KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

Steve,

We are providing an amended certification regarding completion of excavation in Cells 100 to 106A which was originally submitted by Honeywell to the parties by email on August 18, 2014.

As discussed in the September 16, 2014 monthly Special Master meeting/call, Honeywell and Amec indicated that an amended certification would be needed based upon analytical information received on the anomalous material indicating hexavalent concentrations > 20 ppm.

Subsequent to the original submittal, Honeywell also directed Amec to determine the lateral extent of the anomaly and collect additional sidewall soil samples consistent with our approved plans. Honeywell kept the parties informed that the additional delineation would require some time as other site conditions including stockpile management had to be completed by the excavation contractor before a drill rig could access the area.

The investigation resulted in collection of a total of 16 soil samples for hexavalent chromium, 15 of these using a drill rig and the last one collected as a post-excavation sidewall sample (see Figure 10 Anomalous Lens Boring Location Map attached).

The lateral extent of the lens was defined by locations of soil samples 134-SB-170, 134-SB-171, 134-SB175 and 134-SB-177, which all had hexavalent chromium < 20 ppm. This last soil sample designated as 134-SB-177 was collected post-excavation and confirmed to be < 20 ppm. The area was excavated to these soil sample locations in late November/early December and inspected by Amec and resurveyed by Maser on December 8, 2014.

The investigation program confirmed that the lens was present just above the Stratum D. Excavation was continued laterally to the excavation limits or until there was no visible grey lens. Area 41 is a small isolated excavation area identified in the 100% Design which was performed concurrent with the anomaly material excavation. The faces of excavation were inspected by Amec as noted below:

- Coordinates for Survey of the finished excavation to Stratum D are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.
- The excavation was extended from Cell 104 in a Southwest to West direction.
- The bottom of the excavation followed the surface of the Stratum D.
- The excavation was extended to the limits defined by the investigation.
- The bottom of the excavation was visually inspected by Amec personnel to confirm that all of the grey lens had been removed and Stratum D exposed.
- The sidewall slopes were laid back to provide stable conditions.
- The limits of the excavation were visually inspected by Amec personal to confirm that the grey lens was no longer visible.
- In cases where the lens was determined to still be visible the excavation was expanded and the process repeated until a visibly clean limit was established.

- Additional confirmation sampling was conducted in these cases to provide a sidewall sampling frequency that met the NJDEP Technical Regulation requirements incorporated into the approved 100% Design.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- There was a total of 8 Confirmatory Sidewall Samples, 4 locations for the limits of the Cell 104 anomalous material and 4 locations for Area 41.
- 10 Confirmatory Center Point elevations were recorded consistent with the Cell Layout to provide a record in this submittal of the elevation of the Stratum D. Additional coordinates were surveyed and will be used for production of the excavation bottom survey.

An Amended Excavation Bottom Elevation Map showing the additional area of excavation of visually-impacted concrete and subsequent soil > 20 ppm is attached and highlighted in gray.

The added < 20 ppm soil sample confirmatory locations are also shown on the map. Analytical data for the additional soil samples collected in this excavation area was provided in the SA-6 Monthly Progress Reports and is updated in Figure 10 attached.

The Maser Survey Table showing the confirmatory points has been updated to reflect the added soil sample locations with hexavalent chromium < 20 ppm (highlighted in yellow on page 19 of 20 and labeled as “Lens Area”) which are additional sidewall confirmatory samples for SA-6 South.

As all of the over excavation for this anomalous material extended to Stratum D, no additional bottom samples were necessary.

Lastly, during a recent weekly progress meeting, you asked about a single point in the HON/Amec submittal of Excavation Complete in Cells 59 through 68 (originally submitted on November 24, 2014). Specifically you asked if the table correctly identified the Target Elevation for the Depth of Excavation in the Maser Table for point C-70-3. Amec Engineers have reviewed the Maser table and concur that the Target Depth for point C-70-3 should be 0.4 feet (consistent with the target excavation depth for Area 13) and the corrected Maser table (attached).

Regards
Bill Hague

Honeywell
William J. Hague P.E.
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Corporate HSE&R
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:37 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal - Area 41

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, February 11, 2015 5:31 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Ben Davis <bdavis@tpmlaw.com> (bdavis@tpmlaw.com) <bdavis@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal - Area 41
Importance: High

Bill,

The Special Master is in receipt of your February 9, 2015 email and the supporting documentation regarding Excavation Completion in Area 41 and your notification that the requirements to allow backfilling have been met.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, February 09, 2015 2:48 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal - Area 41

Steve,

We are providing an amended certification regarding completion of excavation in Area 41 which was originally submitted by Honeywell to the parties by email on January 7, 2015.

In response to your questions raised last week via phone call with Amec, we understand that a clarification was requested to certify that the standard inspections were also performed specific to Area 41 and not just Cells 100 to 106A.

As a result, we are providing this amended certification for Area 41 only.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

The following statements and attached data are specific to Area 41:

- Coordinates for Survey of the finished excavation are tabulated in the Maser Tables.
- The bottom of the excavation was terminated in Stratum O.
- One PDI bottom sample location 134-SB-026 is associated with Area 41 and is shaded yellow on Page 9 of the Maser Table.
- The sidewall slopes were laid back to provide stable conditions.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- There was a total of 4 Confirmatory Sidewall Samples for Area 41. These samples and included and shaded yellow on Page 20 of the Maser Table. The samples form the corners of the Excavation.
- The Excavation Bottom Elevation Map showing Area 41 is attached.
- The bottom and sides of the excavation was visually inspected by Amec personnel to confirm there was no indication of visibly impacted soils.
- Backfill in Area 41 has been initiated.

Note that there were no changes needed to the attachments.

Please let us know if you have any other questions on this item.
Regards,
Bill Hague

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Wednesday, August 13, 2014 2:52 PM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Importance: High

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:08/13/2014 14:10 (GMT-05:00)
To: "Bills, Stuart B" ,"Mojka, John"
Cc: "Kaouris, Maria" ,"Ambrose, David M" ,"Shallard, Samuel G."
Subject: FW: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

fyi

From: Egnaczyk, Steve [segnaczyk@louisberger.com]
Sent: Wednesday, August 13, 2014 11:32 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Bill,
The Special Master is in receipt of your August 4, 2014 email and the supporting documentation regarding Excavation Completion in Cells 106B through 118B and 107A through 114A and the notification that the contractor is ready to backfill these Cells.
Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, August 04, 2014 7:59 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T;

Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 106B through 118B and 107A through 114A.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/30/14 to 07/14/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

Cells 106 through 118 are physically divided into an A and B designation by a peninsula of

Commencing at Cell 105 the cells are no longer divided by the

Please note that the Maser table has been updated to include the missing reference points in Cells 117 and 119.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 106B through 118B and 107A through 114A, the excavation is terminated at the respective Area 15, 16, 17, 18, 24, 28 and 29 excavation elevations.
- Excavation will proceed from Cell 106 to the east to Cell 104.
- Cells 118 B, 117 B, 116B and a significant portion of 115B encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). In general the northern portion of the excavation (Cells with A designation) was terminated in Stratum O at or below the Target Elevations.
- Stratum D was encountered in the easterly portion of Cell 107 A (Area 15). Area 15 (-4.3 bottom elev.) will be excavated to Stratum D as the excavation moves to the east.
- In Cells 112B to 114B the excavation limits were deepened to beyond the defined chromium impacted soil limits to remove soils below 3 UST's.
- Confirmatory Bottom Points located within Cells 106B through 118B and 107A through 114A are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were Confirmatory Sidewall Samples in Cells 113A, 111A, 109A, 107A, 118B, 116B, 115B, 112B, 110B and 107B.
- The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell
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Question regarding Cell 117 was addressed in the submittal for Cells 106B through 118B and 107A through 114A, submitted to Parties on August 4, 2014.

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:17 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 115a to 120

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, July 24, 2014 9:41 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 115a to 120

Bill,

I have one (1) question regarding the submittal: Could you please clarify/confirm why there was no entry for Cell 117 on Maser Table 1.4 listing the SA-6 South Excavation: Confirmatory Points (Page 5 of 1) provided with the ENTACT Transmittal)?

Otherwise, the Special Master is in receipt of your July 16, 2014 email and the supporting documentation regarding Excavation Completion in Cells 115a to 120 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, July 16, 2014 8:53 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea

(k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 115a to 120

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 115A to 120.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/26/14 to 06/30/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

For reporting purposes Cells 120 is treated as a complete cell without the A and B designation.
Cells 115 through 119 are physically divided into an A and B designation by a peninsula of <20 PPM soil.
For this report both the A and B portion of Cell 119 is included.
For Cells 115 through 118 only the A portion is included. The B portion of these cells will be included in future submittals.

.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 121 through 125, the excavation is terminated at the respective Area 17, 18, 19, 20, 21, 22, 24 and 28 excavation elevations.
- Excavation will proceed from Cell 119B to the east to Cell 116B. Excavation will proceed from Cell 114A to the east to Cell 112A.
- A significant portion of the Southern portion of the cells encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). The northern portion of the excavation was terminated in Stratum O at or below the Target Elevations.
- In Cells 115 to 118 the excavation limits were extended to the south and deepened to beyond the defined chromium impacted soil limits to remove VOC impacted soils
- Confirmatory Bottom Points located within Cells 115A through 120 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were Confirmatory Sidewall Samples in Cells 115, 117, 119, and 120.

- The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:38 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 121 through 125

-----Original Message-----
From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, July 10, 2014 5:51 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 121 through 125

Bill,

The Special Master is in receipt of your July 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 121 through 125 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [william.hague@honeywell.com]
Sent: Thursday, July 03, 2014 10:29 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 121 through 125

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 121 to 125.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/11/14 to 06/25/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation, Cells 121 through 125 were completed in full without the need to subdivide into A and B sections. Therefore, in this submittal the full north to south area of each cell was completed without the A/B designation as reflected in the Excavation Bottom Elevation Figure and Maser Tables.

* Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits

* Sheet pile on the excavation face has been cleaned of visible soil materials.

* The bottom and lateral limits of each cell were visually inspected by Amec personnel.

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

* An Excavation Progress Map is provided.

* All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.

* Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 121 through 125, the excavation is terminated at the respective Area 19, 20, 21, 22, 23, 25 26, and 27 excavation elevations.

* Excavation will proceed from Cell 120 to the east to Cell 114. Starting in Cell 120 the excavation will again be split into A and B segments with a peninsula of <20 PPM soils separating the A and B areas.

* A significant portion of the Southern portion of the cells encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). The northern portion of the excavation was terminated in Stratum O at or below the Target Elevations.

* Confirmatory Bottom Points located within Cells 121 through 125 are shown on the Excavation Bottom Elevation figure.

* The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were no Confirmatory Sidewall Samples in Cells 121 to 125. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell

William J. Hague P.E.
Director - Remediation Design & Construction Corporate HSE&R
101 Columbia Road
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973-455-2175
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william.hague@honeywell.com<mailto:william.hague@honeywell.com>

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Friday, June 27, 2014 9:30 AM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 126 to 128

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:06/27/2014 09:25 (GMT-05:00)
To: "Bills, Stuart B" ,"Shallard, Samuel G." ,"Nagg, Dennis E"
Cc: "Mojka, John" ,"Kaouris, Maria"
Subject: FW: SA-6S : Excavation Completion in Cells 126 to 128

Fyi.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, June 27, 2014 9:23 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 126 to 128
Importance: High

Bill,

The Special Master is in receipt of your June 19, 2014 email and the supporting documentation regarding Excavation Completion in Cells 126 to 128 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, June 19, 2014 8:01 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 126 to 128

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 126 to 128.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/22/14 to 06/10/14.

As previously indicated cells are being spilt into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation Cells 129 through 133 were divided into A and B sections as reflected in the Maser Tables. There is no clean unexcavated dividing line in the middle of site as there was in Cells 137 through 146. For this submittal the full north south area of each cell was completed as indicated in the Excavation Bottom Elevation figure.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 129 to 133, the excavation is terminated at the respective Area 21, 22, 23, 26, 30, 32 and 34 excavation elevations.
- Excavation will proceed from Cell 125 to the east into Cell 123.
- The excavation was continued to the Target Elevations in all locations.

- A limited portion of the deeper excavations Area 24 and 26 (southern portion of the excavation) was terminated at or below the Target level which was coincidental with the upper surface of the Stratum D. The remainder of the excavations was terminated in Stratum O.
- Confirmatory Bottom Points located within Cells 126 through 129 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were no Confirmatory Sidewall Samples in Cells 126 to 129. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Per the SOP, we are showing the corner elevations as discussed.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
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973-455-2175
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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Thursday, June 12, 2014 5:14 PM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 129 through 133

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:06/12/2014 17:06 (GMT-05:00)
To: "Shallard, Samuel G." ,"Bills, Stuart B" ,"Nagg, Dennis E"
Cc: "Kaouris, Maria" ,"Mojka, John"
Subject: FW: SA-6S : Excavation Completion in Cells 129 through 133

FYI.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, June 11, 2014 5:26 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 129 through 133
Importance: High

Bill,
The Special Master is in receipt of your June 8, 2014 email and the supporting documentation regarding Excavation Completion in Cells 129 to 133 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, June 08, 2014 5:57 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 129 through 133

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 129 to 133.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/20/14 to 05/27/14.

As previously indicated cells are being spilt into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation Cells 129 through 133 were divided into A and B sections as reflected in the Maser Tables. There is no clean unexcavated dividing line in the middle of site as there was in Cells 137 through 146. For this submittal the full north south area of each cell was completed as indicated in the Excavation Bottom Elevation figure.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 129 to 133, the excavation is terminated at the respective Area 21, 23, 30, 31, 32, 34, and 35 excavation elevations.
- Excavation will proceed from Cell 128 to the east into Cell 125.
- The bottom of cells 129 through 133 were terminated in Stratum O.

- Confirmatory Bottom Points located within Cells 129 through 133 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall.
- There were no Confirmatory Sidewall Samples in Cells 129-133. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
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973-455-2175
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Please note: This e-mail documented excavation completion in cells 137B through 146B. The cells identified in the subject line were mislabeled. EGC 2/27/17

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:36 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B

Importance: High

1st of many emails you requested

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, June 08, 2014 7:17 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B
Importance: High

Bill,

The Special Master is in receipt of your May 27, 2014 email and the supporting documentation regarding Excavation Completion in Cells 134 to 136 and 138B to 145B and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, May 27, 2014 7:58 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 134 to 136 and 138B to 145B.

As discussed in our weekly meetings, we have separated the western cells into A and B designations with A being the portion of cells closest to the barrier wall and B being the portion closest to Kellogg St. We provided in a previous email on May 18, 2014 the figure.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/01/14 to 05/19/14.

- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided.*
- *All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.*
- *Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 134 to 136 and 138B to 146B, the excavation is terminated at the respective Area 31, 32, 33, 36 and 39 excavation elevations.*
- *Excavation will proceed from Cell 134 to the east.*

EXCAVATION CELLS 137B THROUGH 146B

- *The bottom of Cells 137B through 146B were terminated in Stratum O.*
- *Confirmatory Bottom Points located within Cells 137B through 146B are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples are shown in Cells 138B, 141B, 142B 143B and 146B.*
- *Sample 073-SB-051 is interior to the excavation approximately on the dividing line of Cells 138B and 139B. This is an area where the excavation limits shown on the 100% design for Cells 139B and 140B was adjusted to the north to simplify the excavation geometry.*
- *The northern limits of Cells 137 B THROUGH 146 B terminates at the 20 PPM line that is interior to the site. The profile of the excavation face is composed of very loose Stratum O sands overlain by several feet of historic fill. The slope had to be laid back much more than at the east end of the site to provide a stable slope. This results in the top of slope being significantly further beyond the <20 PPM line than the eastern portion of the site.*
- *The Southern limits of Cells 137 B to 146 B were terminated at the temporary sheet pile that forms the southern limit of excavation in these cells.*

EXCAVATION CELLS 134 to 136

- *These cells were not split.*
- *For Cells 134 through 136, the bottom of the excavation was terminated in Stratum O.*
- *The Southern limits of Cells 134 through 136 were terminated at the temporary sheet pile that forms the southern limit of excavation in these cells which is coincident with the <20 PPM line..*
- *Confirmatory Bottom Points located within Cells 134 to 136 are shown on the Excavation Bottom Elevation figure.*

- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.*
- *The northern limits of Cells 134 to 136 consist of sheet pile Barrier Wall.*

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
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973-455-2175
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:36 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Tuesday, May 27, 2014 3:43 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

Bill,

The Special Master is in receipt of your May 18, 2014 email and the supporting documentation regarding Excavation Completion in Cells 137A to 146A and 147 to 152 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, May 18, 2014 8:31 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 137A to 146A and 147 to 152 .

As discussed in our weekly meetings, we have separated the western cells into A and B designations with A being the portion of cells closest to the barrier wall and B being the portion closest to Kellogg St. We are providing herein a new figure (see SA-6 South Split Cells 4.pdf which provides the graphical delineation for purposes of better understanding our statements below.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 04/25/14 to 04/29/14.

EXCAVATION CELLS 149 THROUGH 152

- *Excavation commenced on 4/14 in the western portion of the site. This portion of the site had a surface primarily composed of a series of foundations and slabs at variable elevations.*
- *Due to the presence of several feet of concrete, Cell 153 is only partially excavated at this time and as a result is not being included in the email indicating that excavation is complete at this time.*
- *The approved 100% Design in this area (Area 40) indicated deferral of excavation below elevation 5.7.*
- *Visual inspection of the bottom and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete. Removal of these materials vertically resulted in excavation below elevation 5.7. Visually impacted concrete was removed laterally along the south easterly edge of the Cell 150 into Cell 149 as evidenced by the limit of excavation shown on the Bottom Excavation Elevation figure.*
- *Cells 149 through 152 were terminated in historic fill.*
- *Confirmatory Bottom Points located within Cells 148-152 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples are shown in Cells 149, 150 and 152.*
- *The northern limits of Cells 149-152 consist of sheet pile Barrier Wall.*
- *The Southern limit of cells 149-152 were terminated in 0 <20 PPM historic fill soils.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% Design limits. In several areas of Cell 149-152 the excavation depth was increased (we were able to get additional materials and minimize future deferral volumes remaining) and these locations are shown with a green shading. These areas are also outlined in Excavation Bottom Elevation figure.*

EXCAVATION CELLS 147 to 148 and 137A to 146A

- *The cell excavation designations in this area have been split into subparts A and B. The A designation is applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell. This designation clarification was made for two reasons:*
    - *For Cells 137 through 146, the excavation area is not continuous north to south, meaning there is an area of <20 PPM soils not requiring excavation In the middle of the cells (see Figure 2 Color Coded Excavation Bottom).*
    - *For Cells 136 to the east this approach was used to facilitate surveying of the subarea A (including corners and center points). This reduces the time cycle between excavation and backfill adjacent to the hydraulic barrier which helps to minimize sheet deflection.*
- *Cells 137A through 146A, 147 and 148 excavation was terminated in either historic fill or Stratum O.*
- *The Southern limit of Cells 137A to 146A, 145 and 148 was terminated in either historic fill or Stratum O <20 PPM soils.*
- *Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 137A-146A and 147 to 148, the excavation is terminated at the respective Area 32, 33, 36, 37, 38 and 40 excavation elevations.*
- *Confirmatory Bottom Points located within Cells 137A-146A, 147 and 148 are shown on the Excavation Bottom Elevation figure.*

- *Confirmatory Sidewall Samples are shown in Cells 137A, 139A, 142A, 143A and 148.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.*
- *The northern limits of Cells 137 to 146 consist of sheet pile Barrier Wall.*
- *The Southern Limit of excavation of Cells 137A to 146A, 147 and 148 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided.*
- *Excavation will proceed from Cell 136A to the east and from Cell 146B to the east.*
- *All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.*

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:10 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: Amendment to SA-6S : Excavation Completion in Cells 149 to 152

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 29, 2014 4:15 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 149 to 152

Bill/Joe,

The Special Master is in receipt of your October 23, 2014 email providing supplementation information for the Amended Certification for Excavation Completion in Cells 149 to 152 emailed on October 1, 2014 and that the requirements to allow backfilling have been met.

Regards, Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Thursday, October 23, 2014 8:32 AM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

SUPPLEMENTAL INFORMATION FOR AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 149 TO 152 EMAILED ON OCTOBER 1, 2014.

Steve,

I am sending this email on behalf of Honeywell.

In response to your email dated October 10 to Bill Hague, Honeywell and Amec are providing the following supplemental information:

- The top portion of the design excavation in Cells 149 through 152 consisted of a combination of reinforced and unreinforced concrete. As indicated in the May 27th submittal the concrete at the design limits was observed to be chromium impacted: "Visual inspection of the bottom of excavation and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete in the concrete sidewall". The excavation was therefore expanded to remove the visibly impacted concrete.

- The expansion of the design excavation necessitated obtaining additional sidewall samples. Two new Confirmatory Sidewall Soil Samples (designated 073-SB-079 and 073-SB-082) were collected and documented in the Maser table attached to the October 1, 2014 email from Honeywell (see page 14 of 15).

- The Final Limits of excavation (highlighted in green) and location of the Confirmatory Sidewall Soil Samples are shown on the Bottom Excavation Map (Amended) attached to the October 1, 2014 email from Honeywell.

- The bottom of excavation elevation matched the adjacent excavation in Cell 149 and Cell 150. As indicated in the Bottom Excavation Map (Amended), the southern portion of the additional excavation was excavated to elevation 2 and the northern portion to approximately elevation 4.

- The vertical and horizontal limits of excavation were surveyed by Maser, including supplemental survey points for use in preparation of the as-built excavation topographic map that will accompany the Declaration which will be submitted following completion of the SA-6S excavation.

- The additional excavation area depicted on the Bottom Excavation Map (Amended and highlighted in green) represents the boundaries of the area resurveyed on July 31, 2014.

- The bottom and lateral limits of the additional excavation area were visually inspected by Amec personnel prior to the July 31, 2014 Maser Survey. Amec personnel did not observe any additionally impacted soils.

- Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design have been removed from the additional excavation area and that the requirements to allow backfilling have been met.

We are re-submitting the two attachments from our October 1, 2014 transmittal.

Please let us know if you have any more questions regarding this Amended Submittal for Cells 149 to 152.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, October 10, 2014 3:24 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152
Importance: High

Bill,

The Special Master is in receipt of your October 1, 2014 email below regarding the Amended Certification for Excavation Complete in Cells 149 to 152 and provides the following comments:

1. Because Honeywell needed to perform additional excavation to address this area of contamination that extended beyond the defined excavation boundaries presented in the color-coded excavation map (i.e., Figure 4 that depicts the 41 areas of the SA6 South excavation and the pre-determined depths of excavation) to fully comply with the SA6 South 100% Design, consistent with the initial May 27, 2014 submittal, please provide a re-certification from Honeywell/AMEC/Maser that:
    a. The bottom and lateral limits of the expanded excavation area were visually inspected by Honeywell/Amec personnel and no additional visually impacted area was observed.
    b. Impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling [of this additional excavation area]have been met.
    c. The additional excavation area depicted on the attached figure (and highlighted in green) represents the boundaries of area resurveyed on July 31, 2014.
2. Please confirm whether any additional survey points were collected in the expanded excavation area from the bottom of the completed excavation area.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, October 01, 2014 10:40 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 149 TO 152.

Steve,

We are providing an amended certification regarding completion of excavation in Cells 149 to 152 which was originally submitted by Honeywell to the parties by email on May 27, 2014.

As noted in the original May 27, 2014 email for these cells, the following observation was noted by the Amec engineer:

- *Visual inspection of the bottom and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete. Removal of these materials vertically resulted in excavation below elevation 5.7. Visually impacted concrete was removed laterally along the south easterly edge of the Cell 150 into Cell 149 as evidenced by the limit of excavation shown on the Bottom Excavation Elevation figure.*

Once the visually-impacted concrete was removed, Honeywell made the original email certification to the parties.

Subsequent to the submittal, Honeywell also directed Amec to collect two additional sidewall soil samples on the eastern excavation edge 073-SB-079 and 073-SB-080. While hexavalent chromium in soil sample 073-SB-079 was < 20 ppm, the second sample 073-SB-080 was > 20 ppm, which necessitated a step out soil sample approximately five feet to the east. This last soil sample designated as 073-SB-082 was confirmed to be < 20 ppm and the contractor returned to this area to remove the small area of residual soil > 20 ppm. The area was excavated in July and resurveyed on July 31, 2014.

An Amended Excavation Bottom Elevation Map showing the additional area of excavation of visually-impacted concrete and subsequent soil > 20 ppm is attached and highlighted in green. As shown in this figure, the area slightly enlarges the limits of Cells 148, 149 and 150.

The added < 20 ppm soil sample confirmatory locations are also shown on the map. Analytical data for the three soil samples collected in this excavation area was provided in the SA-6 Monthly Progress Report No. 2014-07 submitted to the parties on August 14, 2014.

Lastly, the Maser Survey Table showing the confirmatory points has been updated to reflect the two recent soil sample locations with hexavalent chromium < 20 ppm (highlighted in green on page 14 of 15) which are additional sidewall confirmatory samples for SA-6 South.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
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973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Tuesday, January 31, 2017 10:45 AM
To: Christodoulatos, Eric G
Cc: Shallard, Samuel G.
Subject: FW: SA-6 South Site 163 Post-Remediation Sampling

Follow Up Flag: Follow up
Flag Status: Flagged

Found it!

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, May 13, 2015 7:55 PM
To: Kathleen L. Millian <kmillian@tpmlaw.com>; Michael.Daneker@aporter.com
Cc: RGT Special Master <RGTSpecialMaster@aol.com>; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO) <tom.byrne@honeywell.com>; Kaouris, Maria <Maria.Kaouris@Honeywell.com>; Alicia Clark Alcorn <aalcorn@tpmlaw.com>; Carolyn Smith Pravlik <cpravlik@tpmlaw.com>; Lewis, Thomas <tlewis@louisberger.com>; McWatters, Michael <mmcwatters@louisberger.com>; Ben Davis <bdavis@tpmlaw.com>; Toskos, Theodoros <Theodoros.Toskos@amec.com>; Morris, John (MTO) [John.Morris@honeywell.com] <John.Morris@honeywell.com>; Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

All,

As Honeywell has provided the information requested by Plaintiffs' in their April 30, email, the Special Master requests the parties be prepared to address the issue of "rebound" at next week's Special Master All Parties Meeting. The Special Master refers to the discussion in Honeywell's April 3, 2015 correspondence regarding post-treatment "rebound" of residual soil concentrations of hexavalent chromium, and specifically, to define "rebound" should there be detections of hexavalent chromium above 20 ppm during post-remediation sampling at Site 163, as well as Treatment Areas 7, 8, and 10 on SA6 North.

Regards, Steve

From: Clifford, Joseph T [mailto:joseph.clifford@amecfw.com]
Sent: Wednesday, May 13, 2015 9:03 AM
To: Kathleen L. Millian; Egnaczyk, Steve
Cc: RGT Special Master; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Kaouris, Maria; Alicia Clark Alcorn; Carolyn Smith Pravlik; Lewis, Thomas; McWatters, Michael; Ben Davis; Toskos, Theodoros; Morris, John (MTO) [John.Morris@honeywell.com]; Hague, William [william.hague@honeywell.com]
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

Kathy/Steve,

I am sending this email on behalf of Honeywell.

Please find attached the figure you requested showing the location of the Soil Boring 140-SB-P05 which was the location used for the cores sent to Battelle. The figure also shows the proximate PDI soil delineation used in the 100% Design. The area around this boring was excavated to Stratum D.

Let us know if you have any other questions on this item.

Thank you. -Joe

From: Kathleen L. Millian [mailto:kmillian@tpmlaw.com]
Sent: Thursday, April 30, 2015 3:13 PM
To: Morris, John (MTO); Hague, William
Cc: RGT Special Master; Clifford, Joseph T; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Kaouris, Maria; Alicia Clark Alcorn; Carolyn Smith Pravlik; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mmcwatters@louisberger.com; Ben Davis; Toskos, Theodoros
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

Plaintiffs write concerning the issue of potential rebound at Site 163. On April 3, 2015, Honeywell submitted to the Special Master a memorandum prepared by Amec Foster Wheeler, entitled "Analysis of Chromium 'Rebound,' with Application to Site 163." Some of Amec's positions on rebound are based on a draft report that was prepared by Battelle in September 2008, entitled "Investigation of Chromium in SA-6S Core Segments."

Plaintiffs' experts, Benjamin Ross, Ph.D. and George Flowers, Ph.D., request certain additional information to enable a full understanding of the September 2008 draft report. In particular, we request to know the location from which the core segments were taken. Plaintiffs request that Honeywell provide a figure of the relevant portion of Study Area 6 South showing both: (1) the location from which the core was taken; and (2) the locations of and contaminant levels at the borings which were used to delineate the hexavalent chromium in the vicinity of the core.

Thank your for your attention to this matter.

Sincerely,

Kathleen L. Millian
TERRIS, PRAVLIK & MILLIAN, LLP
1121 12th Street, N.W.
Washington, D.C. 20005
Main Telephone: 202-682-2100
Direct Dial: 202-204-8478
Facsimile: 202-289-6795
email: kmillian@tpmlaw.com

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From: Graham, Stephanie [mailto:Stephanie.Graham@honeywell.com]
Sent: Friday, April 03, 2015 4:17 PM
To: RGT Special Master
Cc: Joseph.Clifford@amecfw.com; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Hague, William; Kaouris, Maria; Morris, John (MTO); Alicia Clark Alcorn; Kathleen L. Millian; Carolyn Smith Pravlik; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mmcwatters@louisberger.com; Ben Davis; Toskos, Theodoros
Subject: SA-6 South Site 163 Post-Remediation Sampling

Attached please find Honeywell correspondence re:

Site 163 Post-Remediation Sampling
Study Area 6 (SA-6) South
Jersey City, New Jersey

Please note that this information has also been made available on the Louis Berger SharePoint Site.

Thank you,

Stephanie Graham

Amec Foster Wheeler
c/o Honeywell
101 Columbia Tpke
Morristown, NJ 07962
Phone: 973-455-4209

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Tuesday, January 03, 2017 10:47 AM
To: Christodoulatos, Eric G; Shallard, Samuel G.
Subject: FW: SA-6 South Excavation Complete Submittal - Site 163

Follow Up Flag: Follow up
Flag Status: Flagged

Here is the first part. I will search for the follow up email.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, December 31, 2014 10:57 AM
To: Hague, William
Cc: RGT Special Master ; Kevin J. Coakley (KCoakley@connellfoley.com) ; 'Liza M. Walsh' (LWalsh@connellfoley.com) ; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) ; Lewis, Thomas ; ' (kmillian@tpmlaw.com)' ; 'Aalcorn@tpmlaw.com' ; 'cpravlik@tpmlaw.com' ; Ben Davis ; 'Daneker, Michael' ; 'Jeremy.Karpatkin@aporter.com' ; Morris, John (MTO) ; 'DelisleB@jcnj.org' ; JFarrell@jcnj.org; JWatson@jcnj.org; 'David Isabel' ; 'Eric Tomaszewski' ; Francis J. Borin ; KKINSELLA@decotiislaw.com; Clifford, Joseph T ; 'Ben Ross (bross@disposalsafety.com)' ; 'Bruce A. Bell' ; 'Kim Bell Hosea (k.bell@cea-enviro.com)' ; McWatters, Michael
Subject: RE: SA-6 South Excavation Complete Submittal - Site 163

Bill,

The Special Master is in receipt of your December 11, 2014 email and the supporting documentation regarding Excavation Completion of Site 163 and the small (undesignated) diamond shaped area west of the "main" Site 163 excavation area and your notification that the requirements to allow backfilling have been met. Honeywell also reports that as a result of an inspection and evaluation of the Droyer's Cove bulkhead and associated mass concrete located along the shoreline of Droyer's Cove that borders the southern limit of the excavation, a decision was reached by Honeywell as to the safe limits of excavation and several areas were deferred from excavation. The Special Master concurs with Plaintiffs' request contained in their December 19 email that Honeywell provide information regarding the three (3) areas shown in the figure attached to your email (Excavation Bottom Elevations, Site 163, Period 10-30-4 to 11-13-14) that have been deferred from excavation.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, December 11, 2014 4:34 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal - Site 163

Steve,

We are providing this email notification that our contractor is ready to backfill the shallow (0-4 feet below grade) soil excavation in Site 163.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/30/14 to 11/13/14.

This submittal covers the main Chromium portion of the Site 163 excavation and the diamond shaped area west of the "main excavation". Additional shallow excavation will be conducted to remove non-chromium impacted soils west of the "main excavation" limits shown. The Issued for Construction design indicated Excavation for site 163 using below ground surface depths. These depths were converted to elevation (NGVD 29 datum) prior to implementation of the excavation. All excavation depths and the Maser table reports based on elevations.

Due to the shallow depth and geometry of the excavation "cell numbering" was not used.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% Design limits.
- Temporary sheetpile which was driven at the southern limit for the excavation of Cells 106 through 129 was still in place and served as the northern limit of the Site 163 excavation. The face of the temporary sheet was cleaned of visible soil materials.
- The southern excavation limit was designed with variable offsets from the Droyer's Cove bulkhead based on the PDI samples. The bulkhead and associated mass concrete was inspected as excavation progressed and decisions reached as to the safe limits of removal. As a result of this inspection and evaluation process one concrete structure was left in place at the southwest corner of the excavation and a sliver of material was left in place at the south east corner as shown on the Excavation Bottom Elevation plan. There was no visual indication of chromium impact in the concrete left in place.
- The top 6 inches of the "deadmen" for the bulkhead were exposed in the bottom of the excavation.
- The bottom and lateral limits of the excavation was visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met subject to the isolated areas noted above.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the steps in bottom elevations in the Excavation Area.
- The bottom of excavation was terminated in Stratum O or fill at or below the respective Excavation Bottom Elevations.
- Excavation will proceed to remove the Lens of Anomalous material that extended beyond the design limit by Cell 104.
- There were 11 Confirmatory Sidewall Samples taken in the main area and 4 Confirmatory sidewall samples in the Diamond shaped area.

We note that a field decision was made to add an additional protective measure to protect the clean backfill. This measure included use of a geotextile and riprap/crushed concrete with the objective of increasing erosion protection

until the new bulkhead is installed by Bayfront. The Design Change Bulletin showing this enhancement of the 100% Design is being prepared for distribution to the parties.

Regards
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
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Morristown, NJ 07962
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ATTACHMENT C-1
SITE 163 EXCAVATION CERTIFICATION E-MAIL

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:18 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Submittal - Site 163 Residential Area
Attachments: Final AB PDI Locations Site 163_ Feb 2016_1.pdf; Figure 1 - Site 163 Addtional Excavation Areas.pdf; Confirmation Points Cert site163 2016 Chrome area_041316-signed.pdf

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, April 25, 2016 10:53 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: SA-6 South Excavation Submittal - Site 163 Residential Area

Steve,

We are providing this email notification that our contractor is complete in Excavation Area at Site 163 Residential Footprint which is part of the SA-6 South Chromium Remedy. The excavation of this specific area within Site 163 was developed subsequent to the 100% Design (which originally identified this area as an in-situ treatment area) and as a result is documented by the figures included in the approved Design Change Bulletin - DCB 2015-0928.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of Site 163 excavation completion covers the individual period of 12/28/15 to 02/19/16. This submittal includes the full extent of Site 163 as shown on the approved DCB 2015-0928 drawings.

- The submittal include a “Maser” signed table of the Confirmation Points and the Entact “As Built” Excavation Figure.
- The excavation was conducted using temporary sheetpile on all sides. The sheetpile was driven so that the inside face of the sheetpile was at or slightly beyond the excavation limits shown on Figure 1 of DCB 2015-0928. (copy attached).
- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.

- The bottom excavation elevations were measured using the Machine Control GPS.
- The bottom of excavation elevations were at or below the design Bottom of Excavation Elevations.
- For safety reasons no entry was permitted to inspect the bottom of the excavation. The bottom of the excavation was visually inspected by Amec personnel from outside the sheetpile.
- The Bottom of Excavation was observed to be of a consistent elevation and at or below the elevation at the survey confirmation locations.
- As shown on the As Built excavation bottom figure only one area was noted to be at being Stratum D. Stratum D fragments were detected at in other isolated locations within the deepest excavation. The majority of the excavation was terminated in a silty sand, Stratum O type soil.
- The web of the sheetpile was outside of the designated excavation limit.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design and subsequent DCB 2015-0928 have been removed and that the requirements to allow backfilling were met.
- Lines have been added to the As Built Excavation Map to delineate the limits of the steps in bottom elevations in the Excavation Area.
- Changes in elevation between areas was small and therefore near vertical faces were excavated at locations where the design bottom elevations changed.
- There were 5 Confirmatory Sidewall, and 5 Confirmatory Bottom locations exposed during the excavation and these are depicted on the Maser Survey Tables and Entact Bottom of Excavation Figure.

Please call or email me with any questions.
Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
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Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:22 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: Response to Verbal Questions on Site 163 Excavation

---

From: Clifford, Joseph T
Sent: Thursday, May 05, 2016 7:40 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: Response to Verbal Questions on Site 163 Excavation

Steve,

I am sending this email on behalf of Honeywell, and in response to your call on April 27, 2016, when you asked two questions regarding our April 25, 2016 - Site 163 Excavation Completion Email Notification to the parties.

Below are the questions and our responses.

1. **What is our rationale for the BOE design for Area B, which does not have a bottom PDI sample?**

   - *"PDI samples from across the localized area were used and interpolated consistent with the 100% Design approach. The approved DCB 2015-0928 explicitly stated that Honeywell would implement this excavation without any additional sampling required."*

2. **We mention that no Amec inspections were performed in the bottom of the excavation, yet at some point we did have Entact laborers in the backfill placing geotextile**.

   - *"At the time of excavation completion, the bottom soils were deemed too soft to safely enter the excavation. The excavation was sufficiently dewatered to allow our inspections from the existing grade as necessary to attest to our inspection protocols. Once the initial bridge lift was placed and the bottom stabilized, Entact crew was able to enter the excavation to place the geotextile in accordance with the 100% Design specifications."*

If these responses adequately address your inquiry, Honeywell would be pleased to provide an Amended Certification of Excavation Complete Email adding these clarifications upon your request.

Please contact me on my cell at 610-505-9315 or Bill Hague at 973-455-2175 with any further questions on this item.

Thank you. -Joe

Joseph T. Clifford, P.E.
Sr. Principal Engineer

Cell Phone (610) 505- 9315
Email joseph.clifford@amecfw.com

ATTACHMENT C-2
SITE 163 EXCAVATION CONFIRMATION POINTS
AND POST EXCAVATION PLAN

MASER CONSULTING P.A.

Engineers
Planners
Surveyors
Landscape Architects
Environmental Scientists

156 Stagecoach Road
Marmora, NJ 08223
T: 609.390.1927
F: 609.390.0040
www.maserconsulting.com

SA-6 South: Site 163 Chrome Excavation (2016): Confirmatory Points (Table 1.0)

Bottom Target Coordinates (based on PDI)				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
685069.7	601654.2	-3.0	163-SB-011	1/15/2016	-3.2	Target Elevation Reached
685102.9	601588.4	-6.7	163-SB-015	1/19/2016	-6.8	Target Elevation Reached
685184.5	601554.4	-6.7	163-SB-104	2/12/2016	-7.1	Target Elevation Reached
685186.5	601509.2	-8.0	163-SB-016	2/19/2016	-8.3	Target Elevation Reached 2
685247.3	601467.8	-6.6	163-SB-105	2/19/2016	-7.1	Target Elevation Reached

SA-6 South: Site 163 Chrome Excavation (2016): Sidewall Confirmatory Points (Table 2.0)

Sidewall Target Coordinates				As-built Elevations		
Northing	Easting	Elevation 1	Sample ID	Date Obtained	Elevation	Comments
685138.0	601563.6	-5.3	163-SB-078	1/19/2016	-6.9	Target Elevation Reached
685165.5	601546.0	-3.5	163-SB-080	2/12/2016	-7.1	Target Elevation Reached
685201.0	601525.8	-5.0	163-SB-019	2/19/2016	-7.1	Target Elevation Reached
685207.2	601503.5	-3.0	163-SB-037	2/19/2016	-7.1	Target Elevation Reached
685247.6	601452.5	-5.2	163-SB-021	2/19/2016	-7.2	Target Elevation Reached

1 This is the actual elevation of the PDI sample included with the approved Figure 1 - Site 163 Additional Chromium Excavation Areas dated 9/22/15.

2 Elevation -8.3 ft. was coincidental with the top of Stratum D.

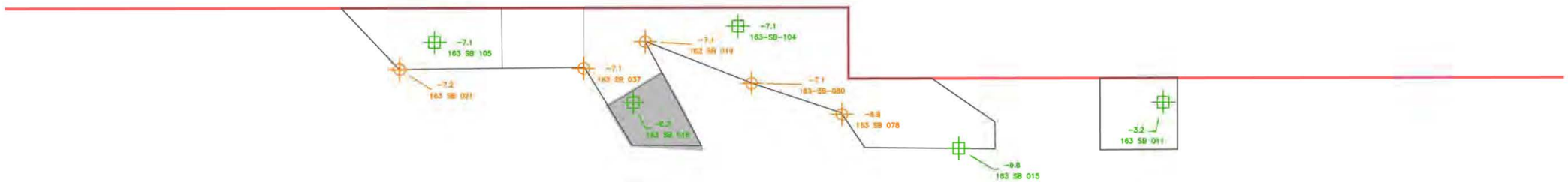
Maser Consulting P.A. certifies that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Sidewall Confirmatory Sidewall Points Table 2 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades.

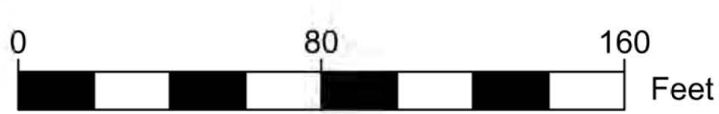
R Thomas Hugg 3/16/16

R. THOMAS HUGG

NEW JERSEY PROFESSIONAL LAND SURVEYOR

LICENSE NO. 36737





CONFIRMATORY BOTTOM SAMPLE ELEVATION

CONFIRMATORY SIDEWALL SAMPLE ELEVATION

0.0 POINT ELEVATION
POINT POINT DESCRIPTION

CURRENT EXCAVATION TO STRATUM D

DESIGN EXCAVATION AREA

DESIGN EXCAVATION LIMIT

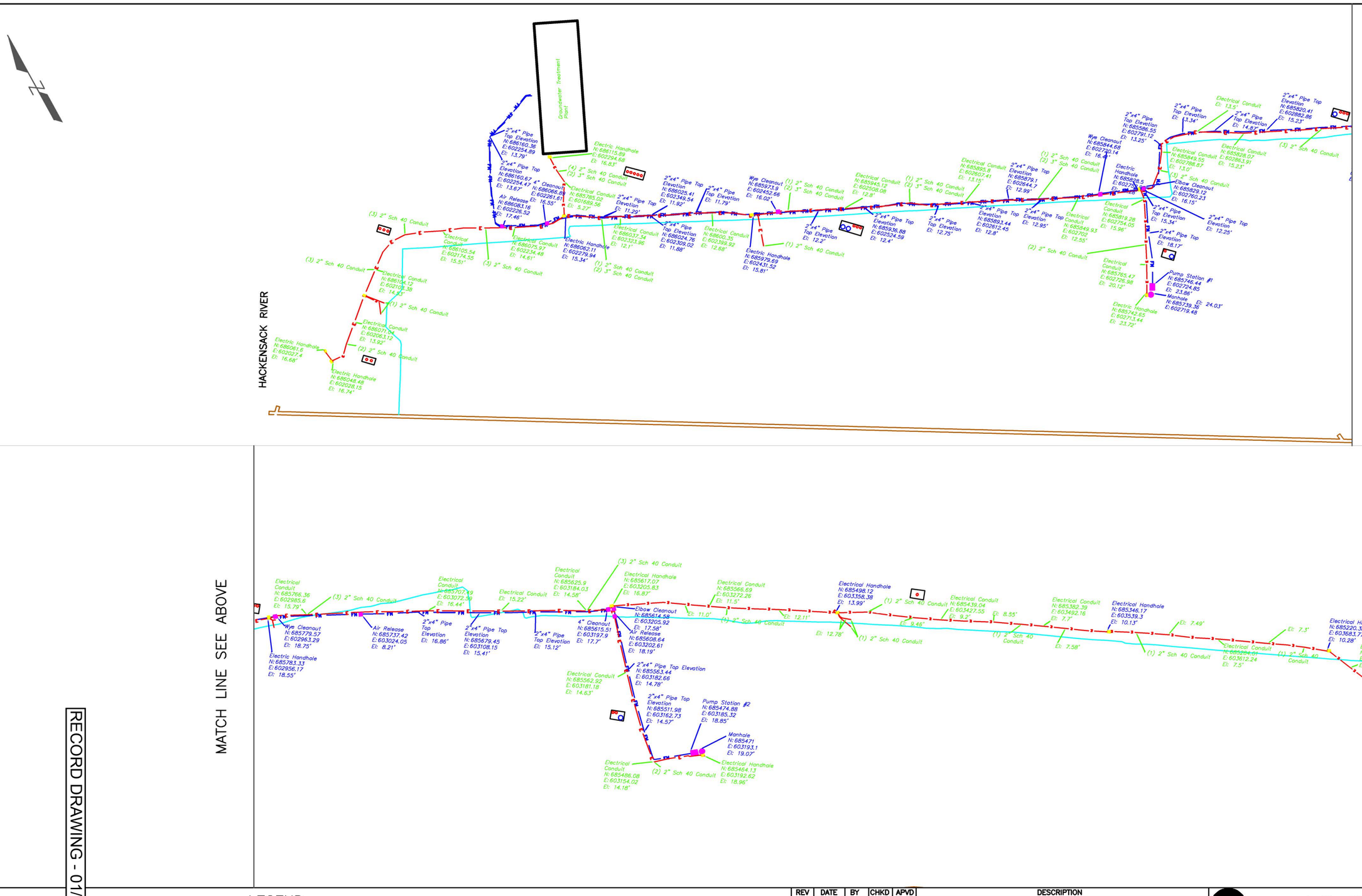
Temporary sheetpile alignment used in the SA6 South main excavation

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA-6 SOUTH, SITE 163 (2016) AS-BUILT: EXCAVATION CONFIRMATION POINTS

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-1
SA-6 NORTH AND SOUTH CONTINGENT GROUNDWATER EXTRACTION SYSTEM RECORD DRAWINGS – FORCE MAIN, ELECTRICAL CONDUIT AND INSTRUMENTATION



RECORD DRAWING - 01/06/17

LEGEND

- FORCEMAIN STATIONS
- ELECTRIC HANDHOLE
- SCB WALL
- HB WALL (Inner Edge)
- ELECTRICAL CONDUIT
- FORCEMAIN
- TEXT — ELECTRICAL DESCRIPTION
- TEXT — FORCEMAIN DESCRIPTION

0 80 160 Feet

SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	Contingent Groundwater Extraction System – NORTH CAP
1	01/06/17	EJP	AE	AE	ADDED FORCEMAIN AND CONDUIT CROSS SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: Contingent Groundwater Extraction System NORTH CAP 01/06/17

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

HACKENSACK RIVER

SA6 SOUTH CAP

SA6 NORTH CAP

RECORD DRAWING - 12/19/16

Refer to SA-6 South Design Drawing C-204 (DCB 007.4.1) for existing conduit and force main piping not installed under this contract.

Electrical Conduit N: 685652.46 E: 601553.03 El: 5.56'
Leak Detection N: 685567.13 E: 601564.17 El: 7.17'
Electrical Conduit N: 685686.91 E: 601587.96 El: 5.35'
Electrical Handhole N: 685651.58 E: 601550.68 El: 8.07'
3"x6" Pipe Top Elevation N: 685682.79 E: 601584.79 El: 1.88'
Wye Cleanout N: 685664.9 E: 601571.73 El: 7.05'
2"x4" Pipe Top Elevation N: 685651.98 E: 601553.89 El: 1.39'
Electrical Conduit N: 685648.24 E: 601550.95 El: 6.18'
(2) 2" Sch 40 Conduit
2"x4" Pipe Top Elevation N: 685648.24 E: 601553.73 El: 5.66'
Electrical Conduit N: 685598.02 E: 601613.38 El: 6.75'
2"x4" Pipe Top Elevation N: 685600.48 E: 601613.46 El: 6.63'
(2) 2" Sch 40 Conduit
Electrical Conduit N: 685556.99 E: 601675.64 El: 6.97'
2"x4" Pipe Top Elevation N: 685556.62 E: 601675.48 El: 6.97'
Electric Handhole N: 685503.38 E: 601742.91 El: 8.95'
Electrical Conduit N: 685500.28 E: 601743.38 El: 8.63'
Electrical Conduit N: 685481.75 E: 601730.52 El: 14.76'
Electrical Conduit N: 685504.28 E: 601742.83 El: 7.41'
2"x4" Pipe Top Elevation N: 685490.18 E: 601732.46 El: 14.71'
Elbow Cleanout N: 685505.72 E: 601750.51 El: 10.07'
2"x4" Pipe Top Elevation N: 685504.22 E: 601747.65 El: 7.22'
Electrical Conduit N: 685451.98 E: 601737.99 El: 15.7'
2"x4" Pipe Top Elevation N: 685443.98 E: 601741.93 El: 15.56'
(2) 2" Sch 40 Conduit
Electrical Conduit N: 685388.59 E: 601747.89 El: 16.03'
2"x4" Pipe Top Elevation N: 685412.93 E: 601747.24 El: 15.85'
Extraction Pump Station N: 685404.24 E: 601751.91 El: 18.9'
Electric Handhole N: 685392.63 E: 601751.17 El: 19.0'

(1) 2" Sch 40 Conduit
Electrical Conduit N: 685556.58 E: 601639.67 El: 5.5'
Electrical Conduit N: 685924.07 E: 601730.25 El: 5.85'
Electrical Conduit N: 685785.02 E: 601689.56 El: 5.27'
Electric Handhole N: 685822.78 E: 601730.68 El: 5.97'
(1) 2" Sch 40 Conduit
Electrical Conduit N: 685872.04 E: 601781.15 El: 5.3'
Existing Cleanout N: 685998.35 E: 601903.64 El: 8.31'
Existing Cleanout N: 686003.68 E: 601906.17 El: 8.26'
Electrical Conduit N: 685930.19 E: 601842.34 El: 5.53'
Electrical Conduit N: 686002.3 E: 601914.11 El: 8.4'
Electric Handhole N: 686005.13 E: 601916.99 El: 8.21'

Electric Handhole N: 686061.6 E: 602027.4 El: 16.68'
2"x4" Pipe Top Elevation El: 13.67'
2"x4" Pipe Top Elevation N: 686082.76 E: 602076.12 El: 13.16'
(3) 2" Sch 40 Conduit
2"x4" Pipe Top Elevation El: 14.18'
Air Release N: 686118.07 E: 602132.79 El: 18.43'
Electric Handhole N: 686048.48 E: 602026.15 El: 16.74'
3"x6" tie-in to 2"x4" Pipe N: 686049.98 E: 602030.64 El: 13.65'
(2) 2" Sch 40 Conduit
Electrical Conduit N: 686071.04 E: 602063.12 El: 13.92'
Electrical Conduit N: 686104.12 E: 602103.38 El: 14.53'
(3) 2" Sch 40 Conduit
2"x4" Pipe Top Elevation El: 14.57'
Electric Handhole N: 686087.6 E: 602084.41 El: 17.83'
(1) 2" Sch 40 Conduit
2"x4" Pipe Top Elevation N: 686104.56 E: 602178.43 El: 15.02'
Elbow Cleanout N: 686089.39 E: 602214.99 El: 17.95'
Electrical Conduit N: 686105.54 E: 602174.55 El: 15.51'
(3) 2" Sch 40 Conduit
2"x4" Pipe Top Elevation N: 686161.11 E: 602254.31 El: 13.79'
(4) 2" Sch 40 Conduit
(2) 3" Sch 40 Conduit
Groundwater Treatment Plant
Electric Handhole N: 686562.11 E: 602275.94 El: 15.34'
Electrical Conduit N: 685785.02 E: 601689.56 El: 5.27'
Electric Handhole N: 686115.89 E: 602294.68 El: 16.83'

LEGEND

- FO[illegible]AIN STATIONS
- EL[illegible]C HANDHOLE
- SC[illegible]LL
- HB WALL (Inner Edge)
- ELECTRICAL CONDUIT
- FORCEMAIN
- TEXT ELECTRICAL DESCRIPTION
- TEXT FORCEMAIN DESCRIPTION

0 80 160 Feet

SCALE

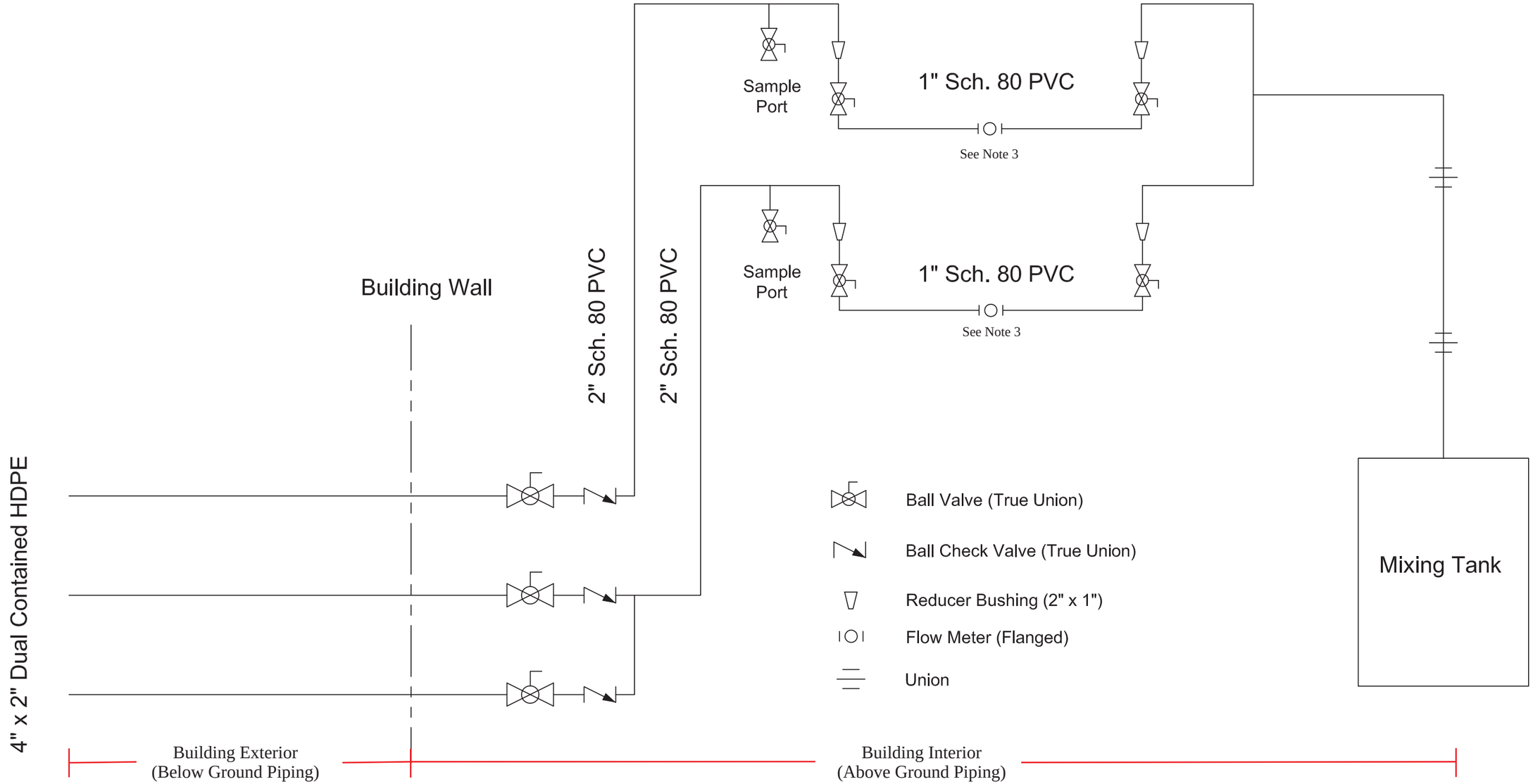
REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	CONTINGENT GROUNDWATER EXTRACTION SYSTEM – SOUTH CAP
1	12/19/16	EJP	AE	AE	ADDED NOTES INDICATING QUANTITY OF CONDUITS

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
CONTINGENT GROUNDWATER EXTRACTION SYSTEM
SOUTH CAP
12/19/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT D-2
SA-6 NORTH AND SOUTH CONTINGENT GROUNDWATER EXTRACTION SYSTEM RECORD DRAWING – GWTP INTERIOR PIPING AND INSTRUMENTATION



RECORD DRAWING - 01/03/17

BSTI
science that works for you
3157 Limestone Rd., Cochranville Pa, 19330

Notes:
1. Below ground piping daylights inside the building at the wall penetration.
2. All below ground piping was heat traced and insulated prior to backfilling.
3. Flow meters were not installed at the time of construction, spool pieces were used in place of the meters.

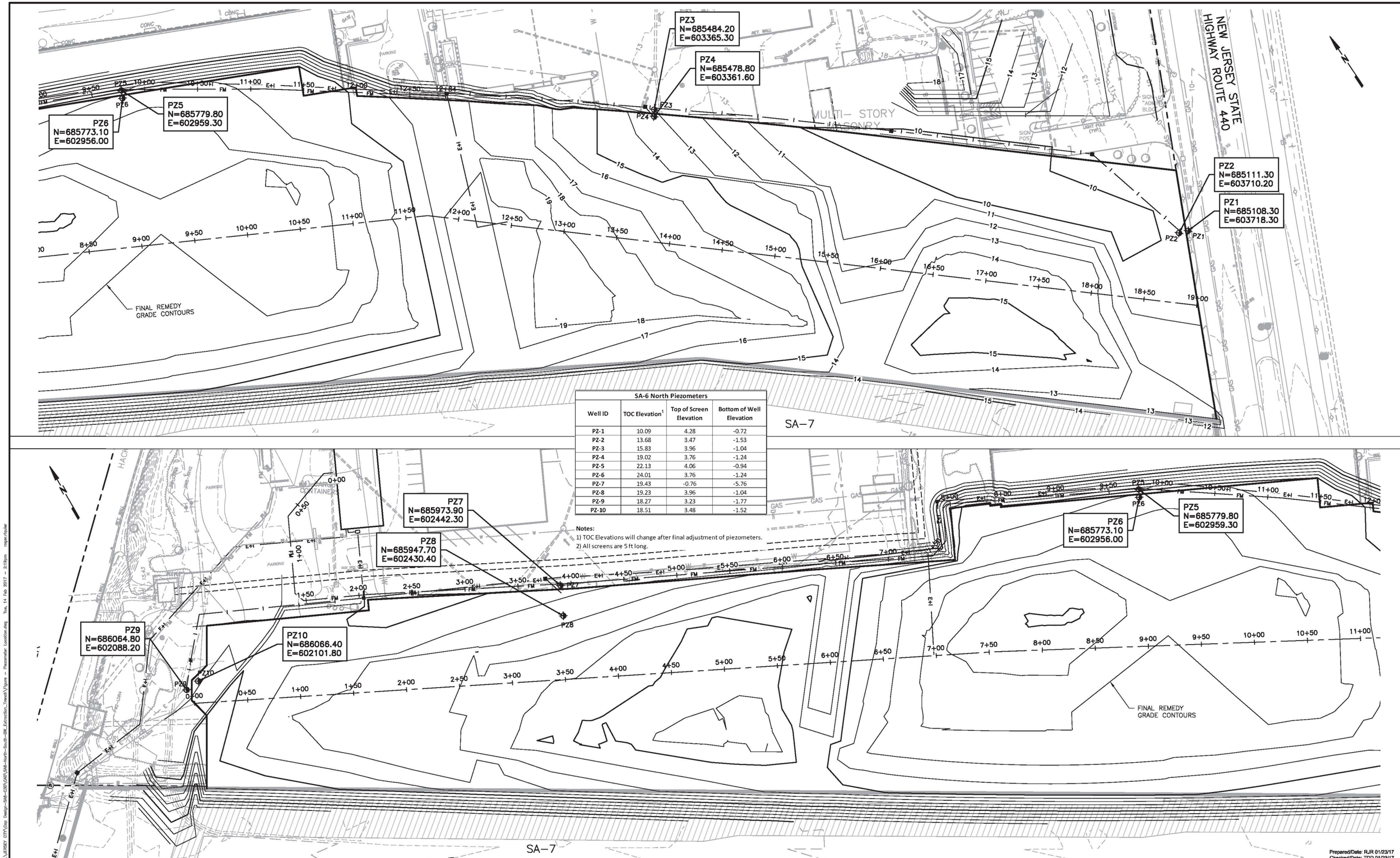
GWTP ADDITIONAL WELL P&ID

Honeywell - Jersey City

Jersey City, NJ

Date:	Drawn By:	Checked By:	BSTI Job Number:	Figure Number:
1/03/17	**GW**	**TF**	**759**	**1**

ATTACHMENT E
SA-6 NORTH AND SOUTH PIEZOMETER AS-BUILT LOCATIONS



SA-6 North Piezometers			
Well ID	TOC Elevation[1]	Top of Screen Elevation	Bottom of Well Elevation
PZ-1	10.09	4.28	-0.72
PZ-2	13.68	3.47	-1.53
PZ-3	15.83	3.96	-1.04
PZ-4	19.02	3.76	-1.24
PZ-5	22.13	4.06	-0.94
PZ-6	24.01	3.76	-1.24
PZ-7	19.43	-0.76	-5.76
PZ-8	19.23	3.96	-1.04
PZ-9	18.27	3.23	-1.77
PZ-10	18.51	3.48	-1.52

Notes:
1) TOC Elevations will change after final adjustment of piezometers.
2) All screens are 5 ft long.

Prepared/Date: RJR 01/23/17
Checked/Date: TDD 01/23/17

RECORD DRAWING - 01/23/17

0 20 40 80
SCALE IN FEET
HORIZONTAL SCALE

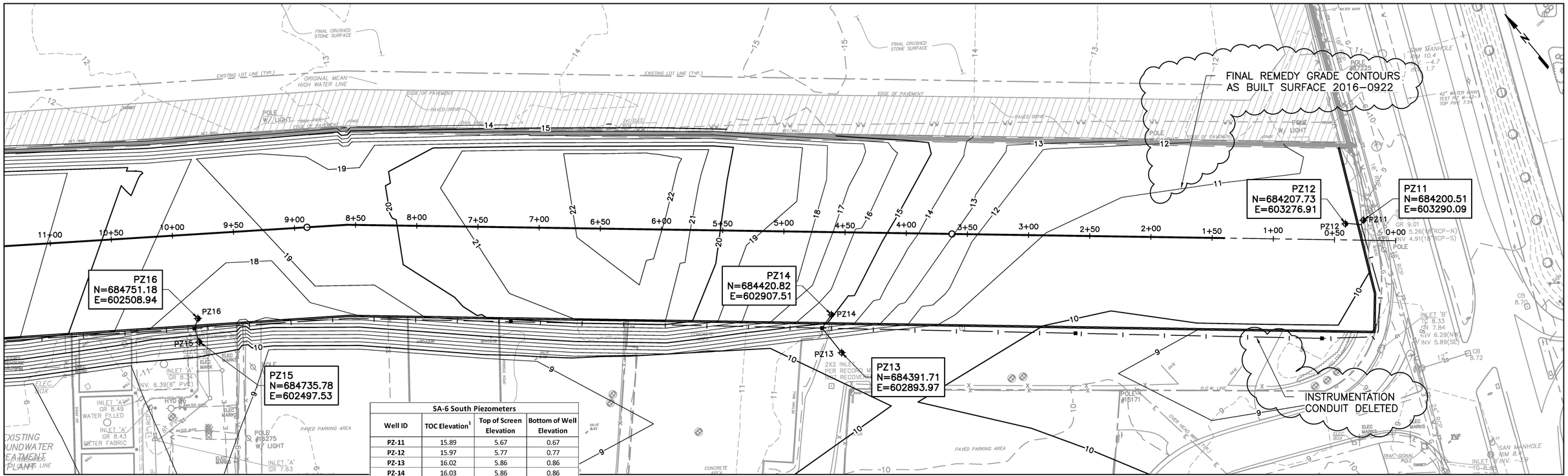
Honeywell
115 TARBOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28210000

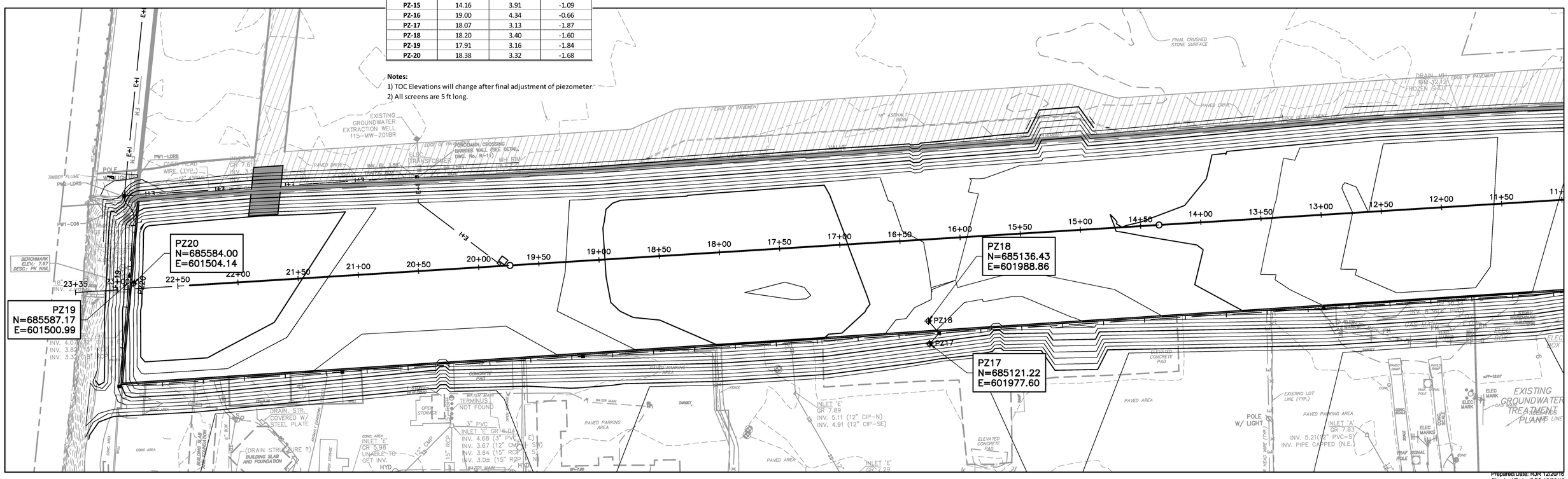
Piezometer As Built Location
Project 3480-13-0377
Figure 1

RECORD DRAWING - 12/20/16



SA-6 South Piezometers			
Well ID	TOC Elevation[1]	Top of Screen Elevation	Bottom of Well Elevation
PZ-11	15.89	5.67	0.67
PZ-12	15.97	5.77	0.77
PZ-13	16.02	5.86	0.86
PZ-14	16.03	5.86	0.86
PZ-15	14.16	3.91	-1.09
PZ-16	19.00	4.34	-0.66
PZ-17	18.07	3.13	-1.87
PZ-18	18.20	3.40	-1.60
PZ-19	17.91	3.16	-1.84
PZ-20	18.38	3.32	-1.68

Notes:
1) TOC Elevations will change after final adjustment of piezometer.
2) All screens are 5 ft long.



Prepared/Date: RJR 12/20/16
Checked/Date: SGS 12/20/16

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

Piezometer As Built Location
Project 3480-13-0377
Figure 2

RECORD DRAWINGS - 12/20/16

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg Tue, 05 Sep 2017 - 2:48pm tony.donovan

ATTACHMENT F
SA-6 NORTH AND SOUTH GAS VENT RECORD DRAWINGS

N

HACKENSACK RIVER

GAS VENT #6
N: 685983.7
E: 602246.3
EL: 17.07'

GAS VENT #5
N: 685862.9
E: 602483.9
EL: 19.87'

GAS VENT #4
N: 685785.2
E: 602766.1
EL: 24.22'

MATCH LINE SEE BELOW

RECORD DRAWING - 02/14/17

MATCH LINE SEE ABOVE

GAS VENT #3
N: 685570.8
E: 603027.7
EL: 23.63'

GAS VENT #2
N: 685366.8
E: 603295.2
EL: 17.31'

GAS VENT #1
N: 685187.5
E: 603530
EL: 14.49'

0 40 80 Feet
SCALE

LEGEND

- CLASS A/16 OZ GEOTEXTILE
- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- GAS VENT (NOT TO SCALE)
- GAS VENT PIPE
- SCB WALL
- HB WALL (Inner Edge)

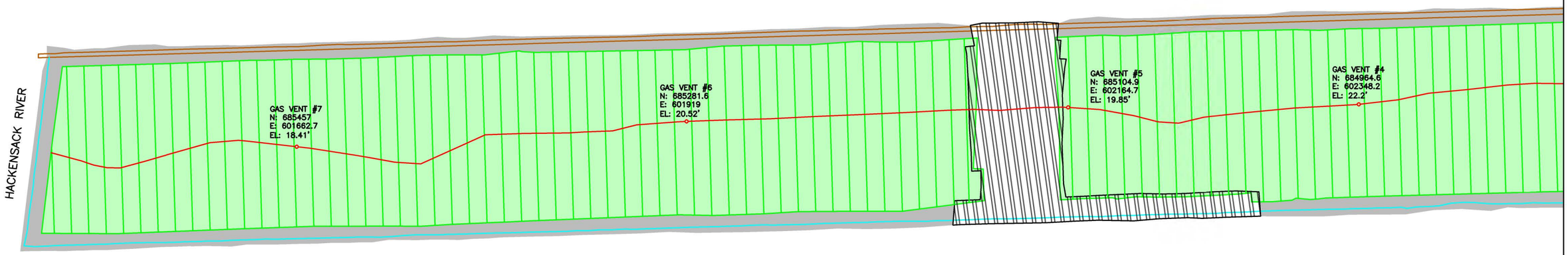
NOTE: Drawing is schematic in nature. Actual seam locations may vary due to the geomembrane grading.

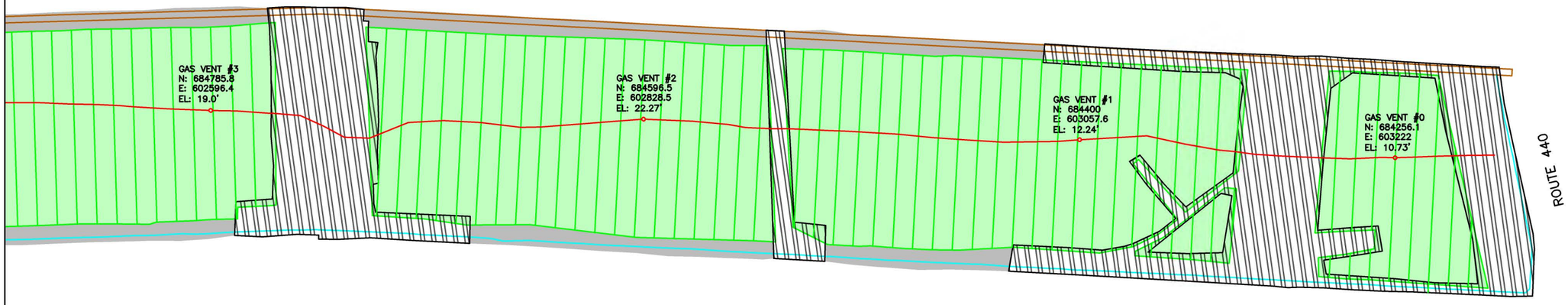
REV	DATE	BY	CHK'D	APPR'VD	DESCRIPTION
0	10/27/16	EP	CP	CP	RECORD DRAWING
1	11/04/16	EP	CP	CP	RECORD DRAWING
2	11/21/16	EP	CP	CP	RECORD DRAWING
3	11/29/16	EP	CP	CP	RECORD DRAWING
4	02/14/16	EP	CP	CP	RECORD DRAWING

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 NORTH CAP GVL/GCL Layout
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
02/14/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ





0 80 160 Feet

RECORD DRAWING - 02/14/17

LEGEND

- GEOCOMPOSITE GAS VENT LAYER (GVL)
- GEOSYNTHETIC CLAY LINER (GCL)
- Class A/16 oz Geotextile
- SCB WALL
- HB WALL (Inner Edge)
- GAS VENT PIPE
- GAS VENT (NOT TO SCALE)

REV	DATE	BY	CHKD	APVD	DESCRIPTION
1	02/14/17	EJP	AE	AE	ADDED GAS VENT DETAIL

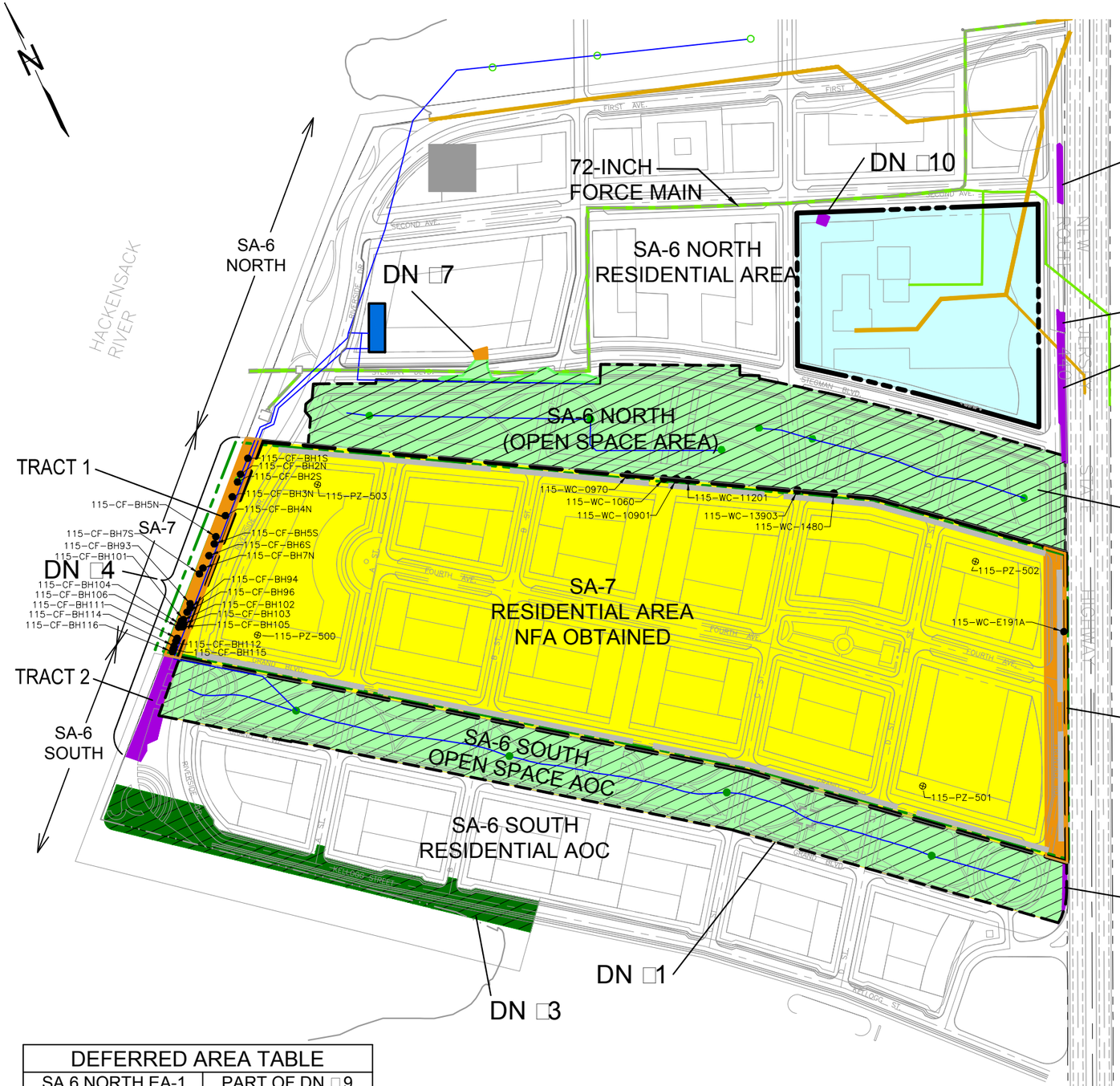
ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
SA6 SOUTH CAP GVL/GCL LAYOUT
Class A Geotextile/Gas Vent Layer/Geosynthetic Clay Liner
02/14/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

ATTACHMENT G
SA-6 NORTH AND SOUTH DEFERRED AREAS (FIGURE 5)

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (I) THIS DOCUMENT, CONTAINS PROPRIETARY INFORMATION, HAS BEEN PREPARED FOR THE EXPRESS PURPOSE OF CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (II) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT WAS SPECIFICALLY PREPARED. ANY OTHER USE OF RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.


N
HACKENSACK RIVER
SA-6 NORTH
SA-6 NORTH RESIDENTIAL AREA
72-INCH FORCE MAIN
DN □10
DN □9
DN □7
DN □9
DN □6
SA-6 NORTH (OPEN SPACE AREA)
TRACT 1
SA-7
DN □4
DN □5
SA-7 RESIDENTIAL AREA NFA OBTAINED
TRACT 2
SA-6 SOUTH
SA-6 SOUTH OPEN SPACE AOC
SA-6 SOUTH RESIDENTIAL AOC
DN □14
DN □2
DN □1
DN □3
115-CF-BH1S
115-CF-BH2N
115-CF-BH2S
115-CF-BH3N
115-PZ-503
115-CF-BH4N
115-CF-BH5N
115-CF-BH5S
115-CF-BH6S
115-CF-BH7S
115-CF-BH7N
115-CF-BH93
115-CF-BH101
115-CF-BH94
115-CF-BH104
115-CF-BH96
115-CF-BH106
115-CF-BH102
115-CF-BH111
115-CF-BH103
115-CF-BH114
115-CF-BH105
115-CF-BH116
115-PZ-500
115-CF-BH112
115-CF-BH115
115-WC-0970
115-WC-1060
115-WC-10901
115-WC-11201
115-WC-13903
115-WC-1480
115-PZ-502
115-WC-E191A
115-PZ-501
FIRST AVE.
SECOND AVE.
THIRD AVE.
FOURTH AVE.
STEGMAN PKWY
RIVERSIDE DR.
A ST.
B ST.
C ST.
D ST.
E ST.
F ST.
KELLOGG STREET
TRILOBAL ST.
MARION JAMES BLVD.
MLK DRIVE
WEST SIDE AVE.
NEWARK BAY
HUDSON RIVER
PENNSYLVANIA RAILROAD
NEW JERSEY TURNPIKE
NEWARK BAY EXTENSION
HOLLAND TUNNEL
HOLLAND TUNNEL
HOLLAND TUNNEL

ATTACHMENT H
IN-SITU LOCATIONS AND SUMMARY TABLES



UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN–SITU TREATMENT AREAS–03

PREPARED/DATE: STR 06/09/15

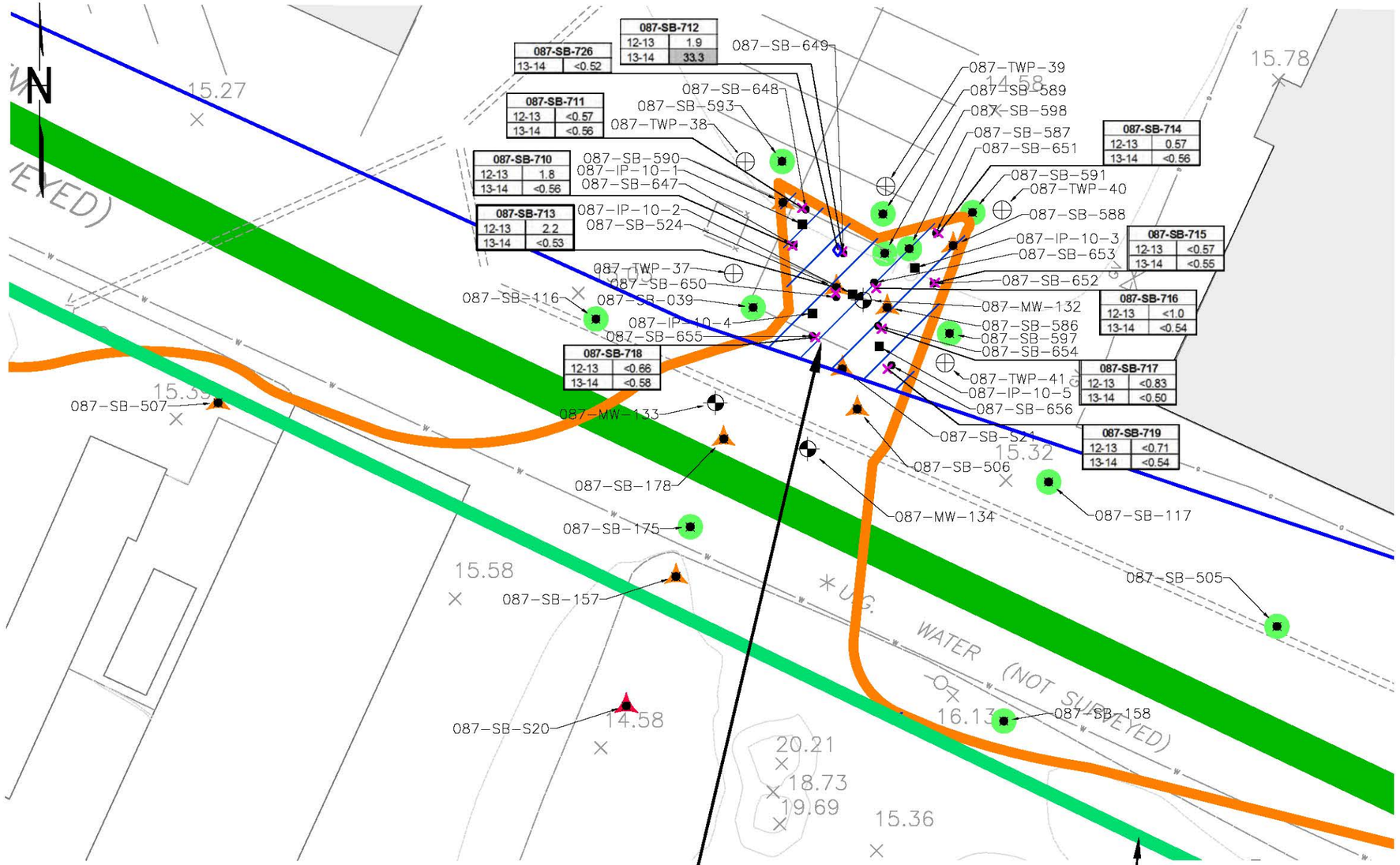
CHECKED/DATE: DN 06/09/15

amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE □□RE□I□E□□
TARGETED IN-SITU TREATMENT AREAS
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

UNLESS OTHERWISE AGREED IN A WRITTEN CONTRACT BETWEEN AMEC FOSTER WHEELER AND ITS CLIENT: (1) THIS DOCUMENT CONTAINS INFORMATION, DATA AND DESIGN THAT IS CONFIDENTIAL AND MAY NOT BE COPIED OR DISCLOSED; AND (2) THIS DOCUMENT MAY ONLY BE USED BY THE CLIENT IN THE CONTEXT AND FOR THE EXPRESS PURPOSE FOR WHICH IT HAS BEEN DELIVERED. ANY OTHER USE OR RELIANCE ON THIS DOCUMENT BY ANY THIRD PARTY IS AT THAT PARTY'S SOLE RISK AND RESPONSIBILITY.



TARGETED TREATMENT AREA 10-1
- 5 INJECTION POINTS – SPACED @ 15' O.C.
- CONTAMINATED ZONE 12'-14'
- INJECTION ZONE 10'-16'
- NUMBER OF INJECTION POINTS MAY BE ADJUSTED IN THE FIELD

AREA = APPROX. 800 SF

PROPOSED HYDRAULIC BARRIER WALL.

LEGEND

- DECEMBER 2016 SOIL BORING
- MARCH 2017 SOIL BORING
- MARCH 2016 (6-MONTH) SOIL BORING
- PREVIOUS SOIL BORINGS
- EXISTING NEW PERMANENT MONITORING WELL LOCATION
- INJECTION POINT LOCATION
- EXISTING OBSERVATION TEMPORARY WELL POINT (TWP)
- <20 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- 20-240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- >240 ppm HEXAVALENT CHROMIUM SAMPLE LOCATION
- BLOCK/LOT LINE (APPROXIMATE LOCATION)
- STORM SEWER
- 72" FORCEMAIN SANITARY SEWER
- 54" OUTFALL (ABANDONED)
- NORTHERN EDGE OF BAYFRONT REDEVELOPMENT CURBLINE OF NEW STEGMAN BOULEVARD
- LIMITS OF TARGETED IN-SITU TREATMENT
- RELOCATED HYDRAULIC BARRIER
- APPROXIMATE LIMITS OF AREA WHERE DETECTED HEXAVALENT CHROMIUM CONCENTRATION VALUES >20 mg/kg
- EXISTING BUILDINGS
- IN-SITU TREATMENT AREA
- U NOT DETECTED
- J ESTIMATED CONCENTRATION

UTILITY LOCATIONS BASED ON ALTA/ASCM LAND TITLE SURVEY FOR BLOCK 1290.1 – LOTS 2D,2E,15D, 15B & 16A, DATED 5/23/08

NOTES:

1. SEE FIGURE 2 FOR LOCATION OF DETAIL MAP.
2. FIGURE PROVIDED TO SUMMARIZE MULTIPLE SAMPLING EVENTS FROM RI TO POST-INJECTION PERFORMANCE ASSESSMENTS.

0 10 20 40
SCALE IN FEET

REV.	DATE	STATUS	PRPD BY	CHKD BY
1	07/28/16	REVISED TO ADJUST INJECTION POINTS (INCLUDED IN 07/28/16 DGW-PBR APPLICATION)	STR	DEN

Amec Foster Wheeler PROJECT No. 3480150438
DRAWING: TARGETED IN-SITU TREATMENT NORTHERN PORTION 02

PREPARED/DATE: STR 06/05/15
CHECKED/DATE: DN 06/05/15

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE □□ □RE□I□E□□
IN-SITU INJECTION
NORTHERN PORTION OF
TREATMENT AREA 10-1
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

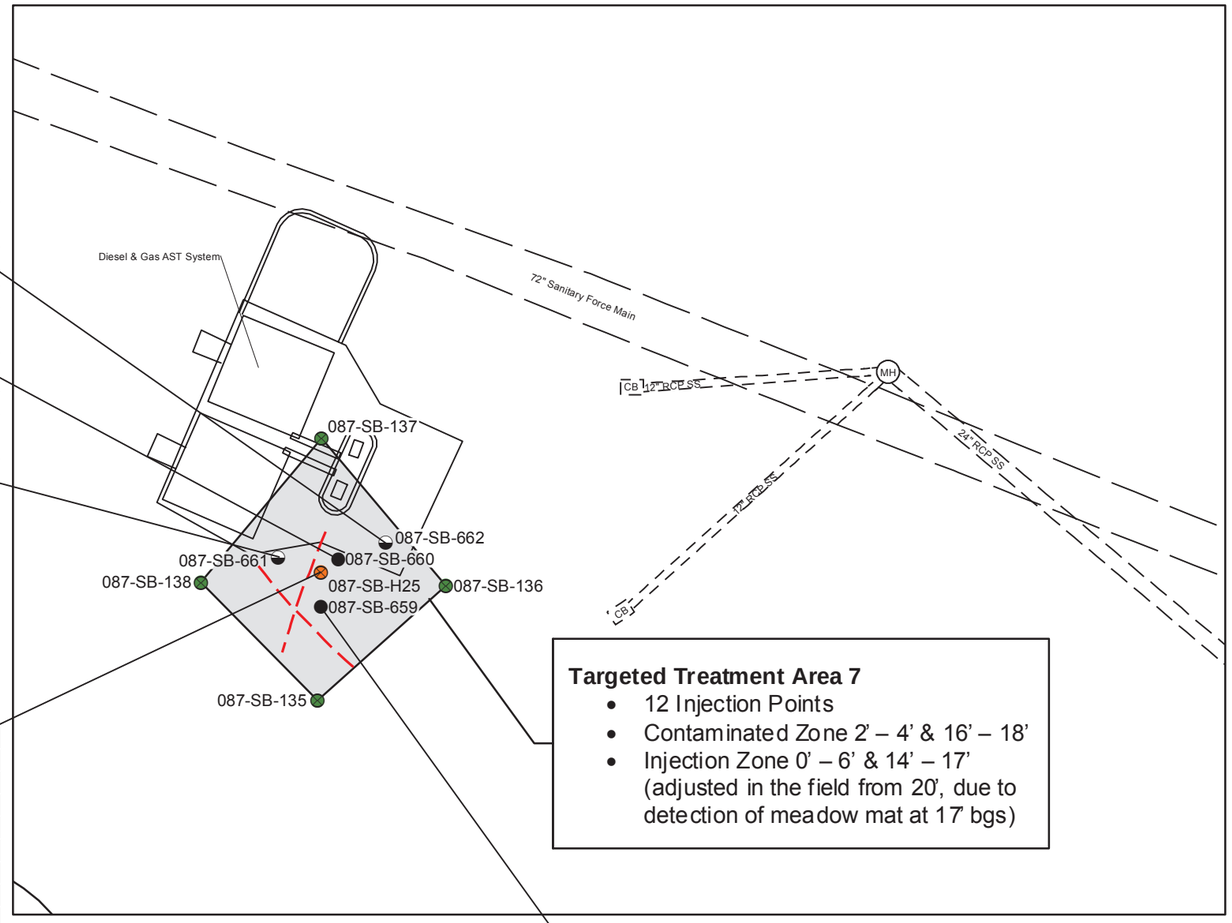
P:\GROUP\HOBOKEN\JERSEY CITY\SA 6 NORTH\REPORT\3480150438\CAD\FIGURES\TARGETED IN-SITU TREATMENT NORTHERN PORTION 02.dwg Tue, 29 Aug 2017 - 10:57am chorne Anyfield Layout: Fig 5A



087-SB-662		
Sample Depth	16 - 17	17 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.92 U	1.7

087-SB-660		
Sample Depth	2 - 3	3 - 4
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	**26.3 J**	1.3

087-SB-661		
Sample Depth	16 - 17	17 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.77 U	1.7



087-SB-H25		
02-04	**43.6**	J
04-06	7.6	J
06-08	2	U
08-10	2	U
10-12	2	U
14-16	2	U
16-18	**84.4**	
18-20	2	U

Targeted Treatment Area 7

- 12 Injection Points
- Contaminated Zone 2' – 4' & 16' – 18'
- Injection Zone 0' – 6' & 14' – 17' (adjusted in the field from 20', due to detection of meadow mat at 17' bgs)

087-SB-659		
Sample Depth	2 - 3	3 - 4
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.54 U	0.55 U

Legend

- Shallow Soil Boring
- Deep Soil Boring
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS — Storm Sewer
- CB — Catch Basin
- MH — Manhole
- Buried Electrical Utility
- Treatment Area 7

20 10 0 20

Scale In Feet

Project Number:
3480150488

Prepared/Date:
WSL 06/22/2016

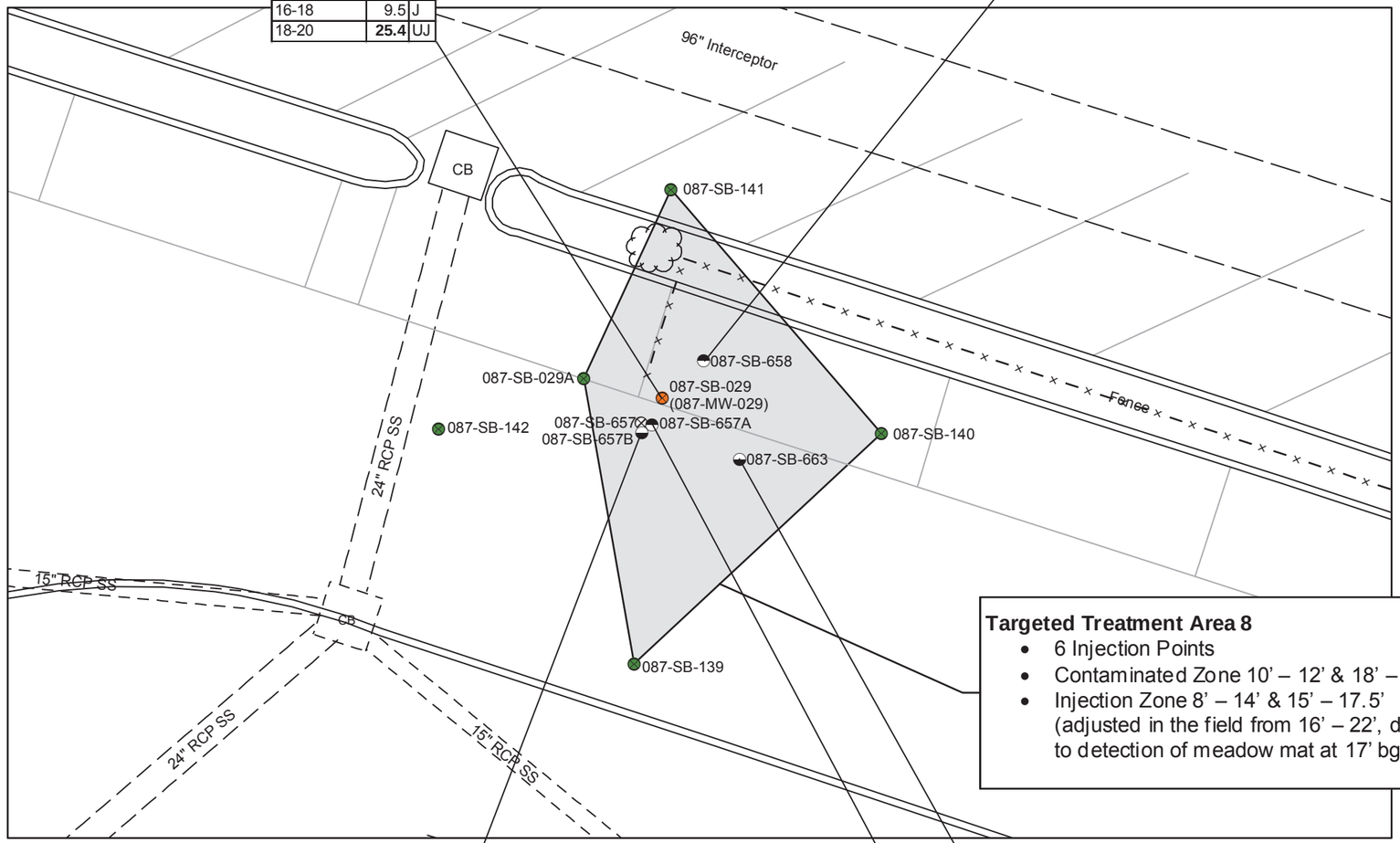
Checked/Date:
DEN 06/22/2016

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Figure 1
Treatment Area 7
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey

087-SB-O29		
00-02	4.5	J
02-04	2.5	UJ
04-06	2.5	UJ
06-08	4.1	J
08-10	5.5	J
10-12	**68.8**	J
12-14	2.5	UJ
14-16	13.7	J
16-18	9.5	J
18-20	**25.4**	UJ

087-SB-658		
Sample Depth	10 - 11	11 - 12
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.74	0.49 U



Targeted Treatment Area 8

- 6 Injection Points
- Contaminated Zone 10' – 12' & 18' – 20'
- Injection Zone 8' – 14' & 15' – 17.5' (adjusted in the field from 16' – 22', due to detection of meadow mat at 17' bgs)

087-SB-657B		
Sample Depth	15.5 - 16.5	16.5 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.81 U	0.82

087-SB-663		
Sample Depth	15.5 - 16.5	16.5 - 17.5
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.92	0.69 U

087-SB-657A		
Sample Depth	10 - 11	11 - 12
Sample Date	6/27/2016	6/27/2016
HEXAVALENT CHROMIUM	0.49 U	0.61



Legend

- ⊗ Soil Boring (Refusal, No Samples Taken)
- ◓ Shallow Soil Boring
- ◒ Deep Soil Boring
- Previous Soil Sample Location (Hexavalent Chromium Result < 20 ppm)
- Previous Soil Sample Location (Hexavalent Chromium Result > 20 ppm)
- SS Storm Sewer
- CB Catch Basin
- MH Manhole
- Treatment Area 8

10 5 0 10

Scale In Feet

Project Number:
3480150488

Prepared/Date:
WSL 06/26/2013

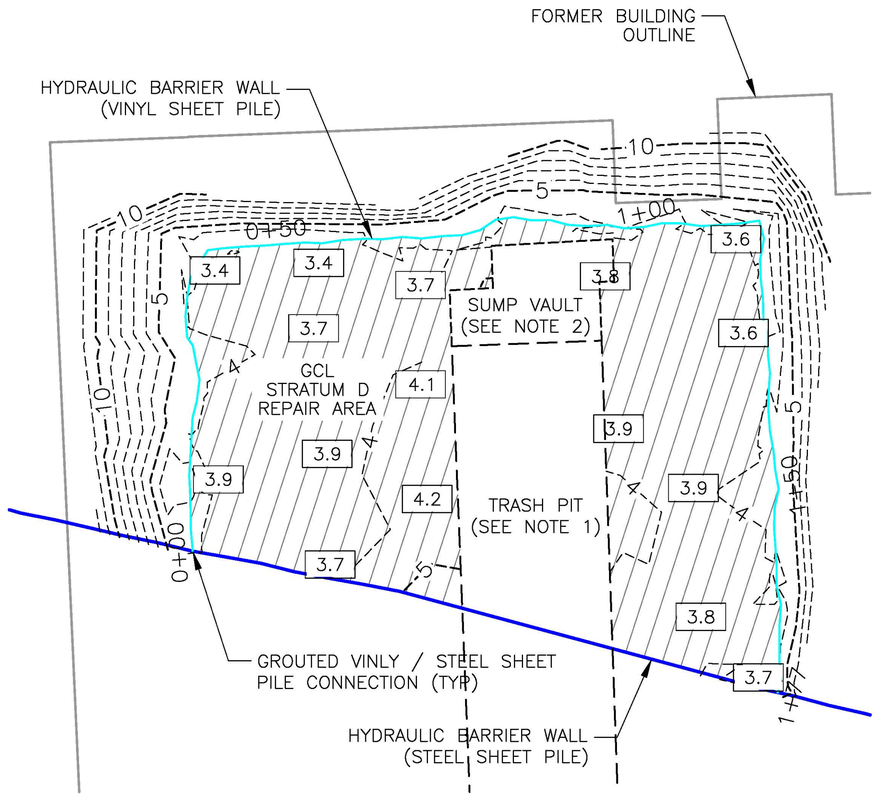
Checked/Date:
DEN 06/14/2016

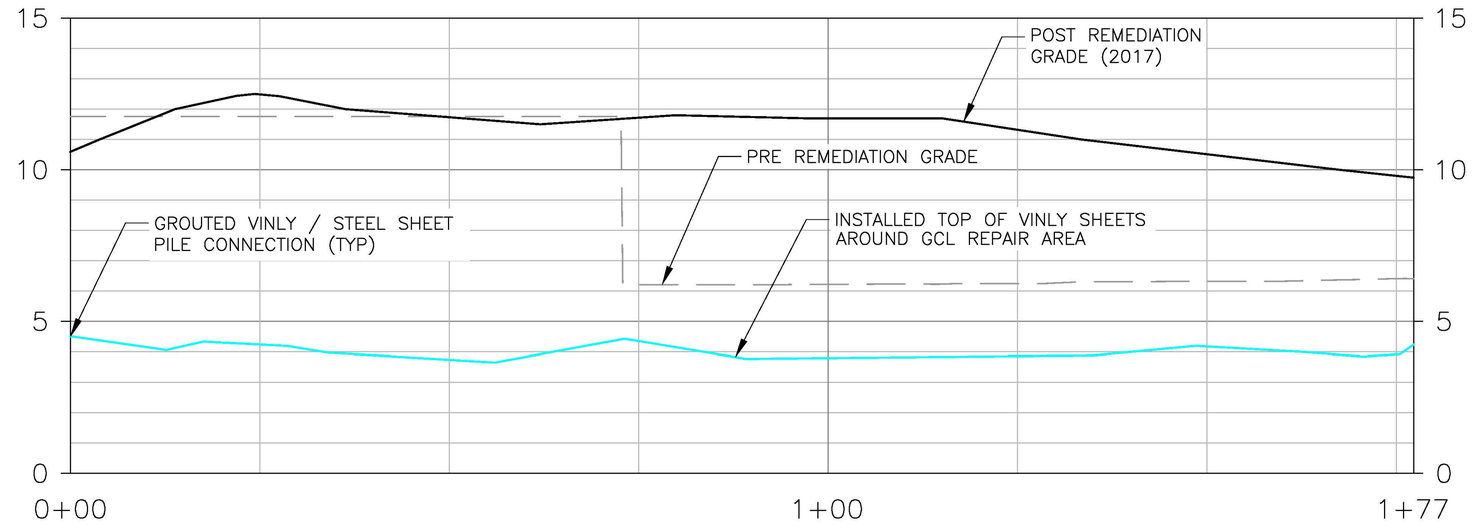
amec foster wheeler

ENVIRONMENT & INFRASTRUCTURE
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

Figure 2
Treatment Area 8
In-situ Chemical Injection Treatment Process
Study Area 6 North
Jersey City, New Jersey

ATTACHMENT I
STRATUM D REPAIR RECORD DRAWING

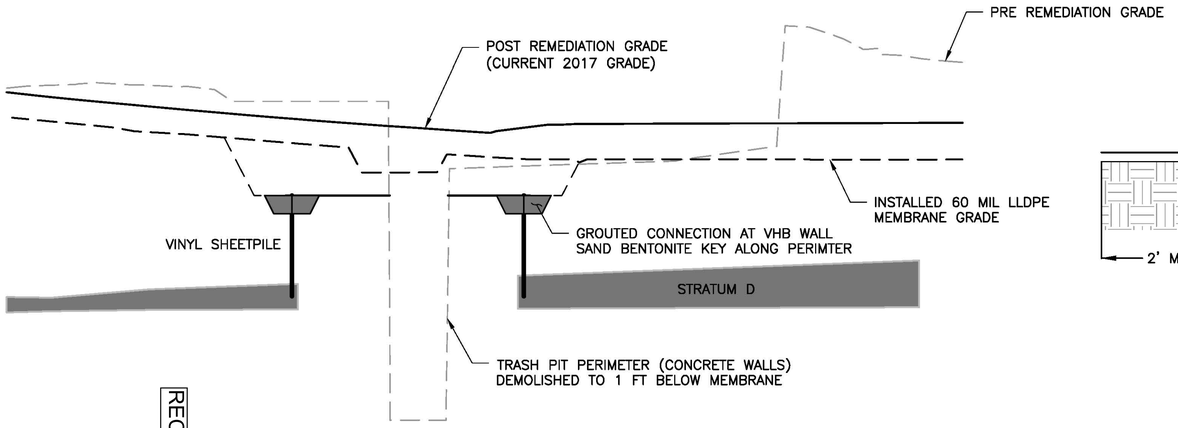




TOP OF VINYL SHEET PILE PROFILE

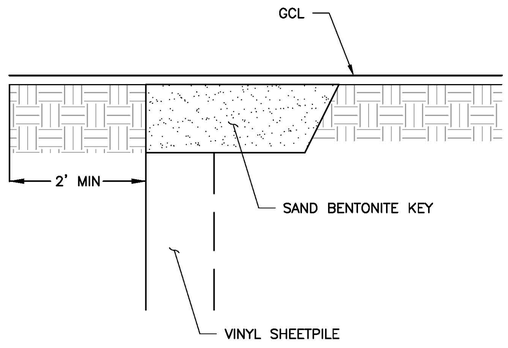
HORIZONTAL SCALE: 1"=20'

VERTICAL SCALE: 1"=5'



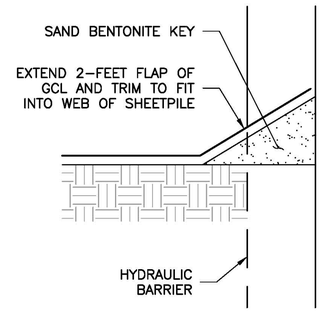
TYPICAL REPAIR SECTION ALONG HYDRAULIC BARRIER

NTS



SAND BENTONITE KEY DETAIL

NTS



GCL CONNECTION TO HYDRAULIC BARRIER

NTS

LEGEND

- VINLY SHEET PILE AS BUILT
- HYDRAULIC BARRIER AS BUILT
- EXCAVATION CONTOURS
- GEOSYNTHETIC CLAY LINER (GCL)
- 3.7 — GCL SPOT ELEVATION

RECORD DRAWING - 12/08/16

NOTES

1. TRASH PIT WAS BACKFILLED WITH SOIL TO THE TOP OF THE CONCRETE WALLS WHICH WERE DEMOLISHED TO AN APPROXIMATE ELEVATION OF 7.0 FT TO 10.0 FT.
2. SUMP VAULT WAS BACKFILLED WITH FLOWABLE FILL TO AN APPROXIMATE ELEVATION OF 5.0 FT AND THEN SOIL BACKFILL WAS PLACED TO THE TOP OF THE VAULT AT AN ELEVATION OF APPROXIMATELY 12.0 FT.

0 20 40 FEET

SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/8/16	EJP	AE	AE	AB-JCIA Trash Pit Meadow Mat Repair

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: JCIA Trash Pit As Built Vinyl Sheetpile and Meadow Mat Repair 12/08/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT J
SA-6 NORTH AND SOUTH ROOT BARRIER TOPOGRAPHIC

MATCH LINE SHEET CN-124A

BARRIER WALL LIMIT (TYP.)

ROUTE 440

INSIDE SOUTHWEST EDGE OF SCB WALL LIMITS

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JULY 2016 THROUGH SEPT. 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 150 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER
SOIL GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	11/16/16
PROJ	3480-10-0027
DWG	CN-123A
SHEET	1 OF 2

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD
DSGN		DR CHK	APVD	

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

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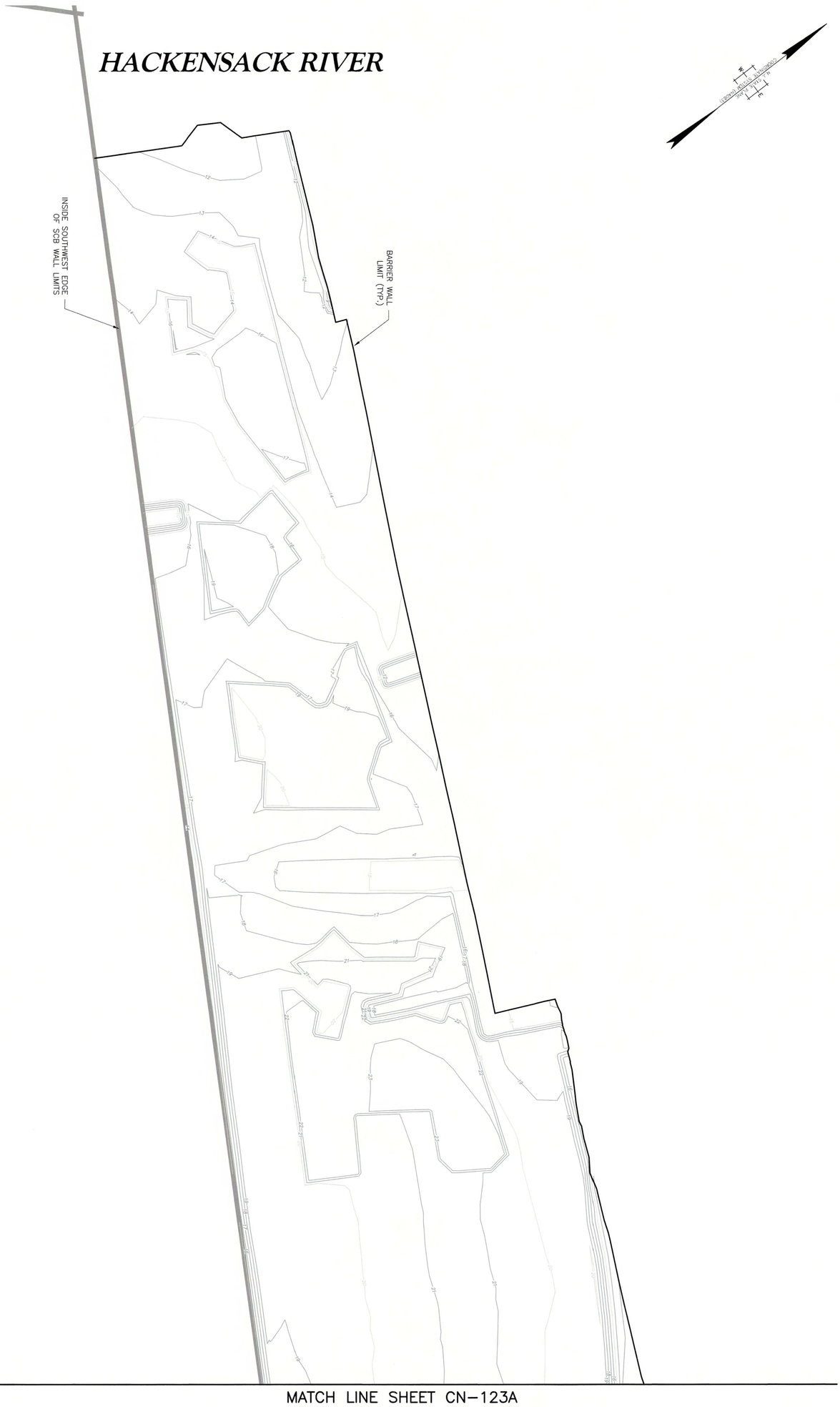

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM JULY 2016 THROUGH SEPT. 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER: 12001511A

SHEET	2 OF 2
DWG	CN-124A
PROJ	3480-10-0027
DATE	11/16/16

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP GDL COVER SOIL GRADING PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

NO.	DATE	REVISION	BY	APVD

DSGN | DR | CHK | APVD

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING.

MATCH LINE SHEET C-126

INSIDE SOUTHWEST EDGE OF SCB WALL LIMITS

BARRIER WALL LIMIT (TYP.)

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT SOUTH CAP GDL COVER SOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM OCT. 2015 THROUGH MAY 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

NO.	DATE	REVISION	DR	CHK	APVD	BY	APVD
DSGN							

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

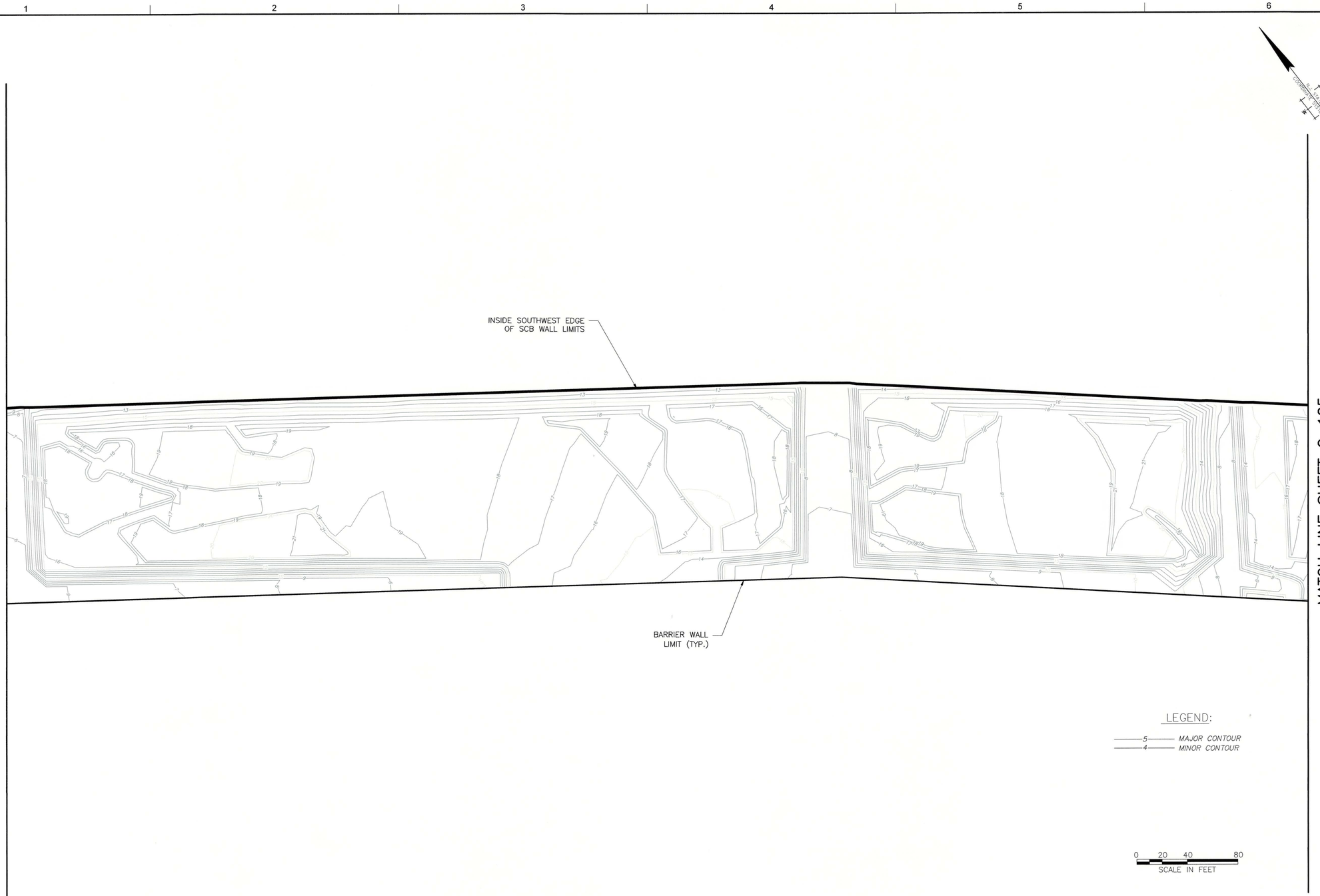
amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-125
SHEET	1 OF 3

THIS DRAWING IS THE PROPERTY OF AMEC, INCLUDING ALL PATENTED AND PATENTABLE FEATURES, AND/OR CONFIDENTIAL INFORMATION AND ITS USE IS CONDITIONED UPON THE USERS AGREEMENT NOT TO REPRODUCE THE DRAWING, IN WHOLE OR PART, NOR THE MATERIAL DESCRIBED THEREON, NOR THE USE OF THE DRAWING FOR ANY PURPOSE OTHER THAN SPECIFICALLY PERMITTED IN WRITING BY AMEC.

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SOUTH CAP GDL COVER SOIL SURVEY-11-17-16.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 4:32 PM



GENERAL NOTES

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3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

NOTE: ROOT BARRIER INSTALLED DIRECTLY ON THE AS-BUILT GDL COVER SOIL CONTOURS SHOWN ON THIS DRAWING

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS35737

NO.	DATE	REVISION	BY	APVD
DSGN		DR	CHK	APVD

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

FILE NUMBER 12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
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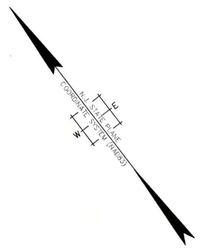
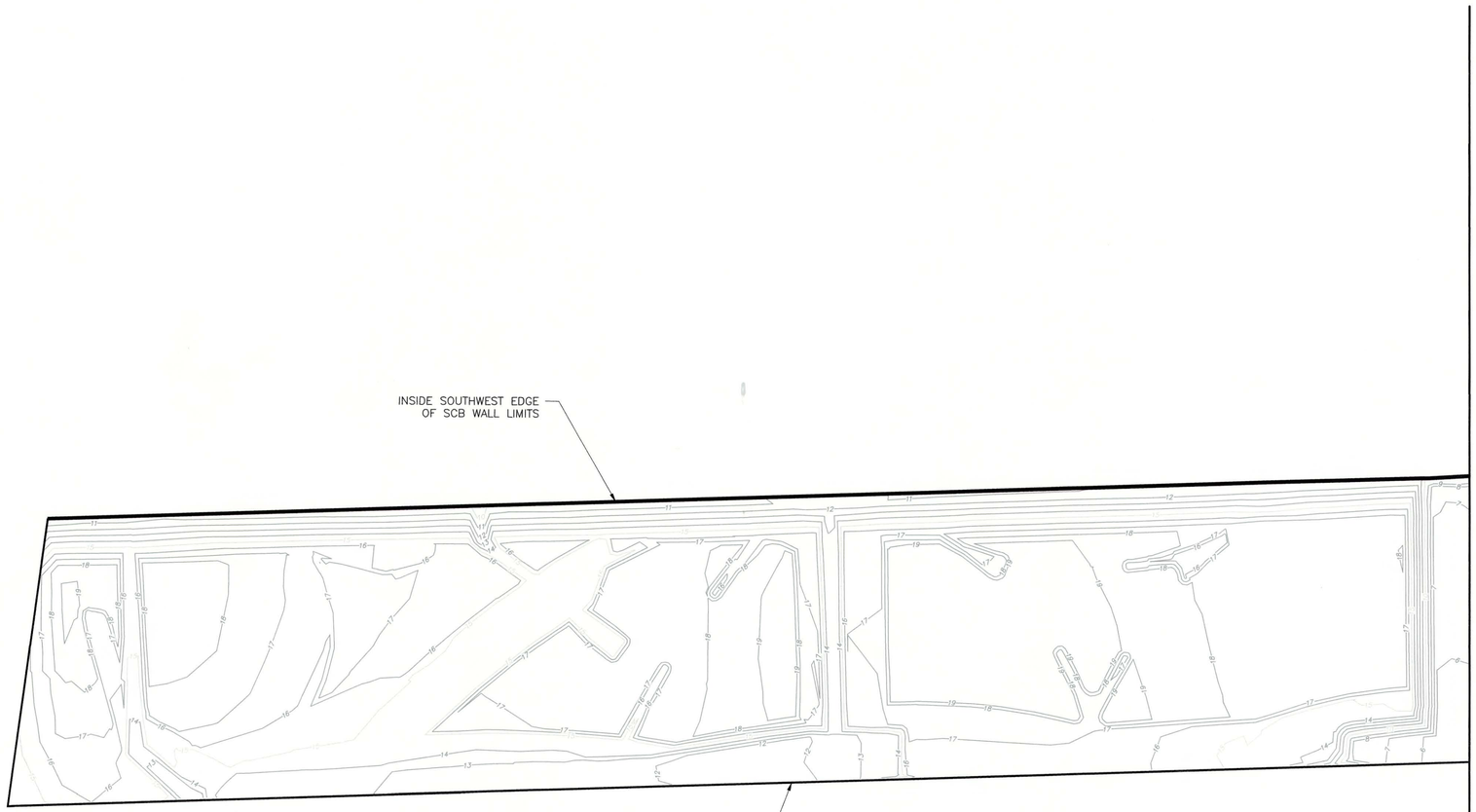
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-126
SHEET	2 OF 3

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SOUTH CAP GDL COVER SOIL SURVEY-11-17-16.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 4:08 PM





LEGEND:

5 MAJOR CONTOUR

4 MINOR CONTOUR

0 20 40 80

SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT GDL COVER SOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
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FILE NUMBER 12001511A

NO.	DATE	REVISION	BY	APVD
DSGN		DR	CHK	APVD

R. THOMAS HUGG

NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS38737

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SOUTH CAP GDL COVER
SOIL GRADING PLAN

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VERIFY SCALE

BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	11/17/16
PROJ	3480-10-0027
DWG	C-127
SHEET	3 OF 3

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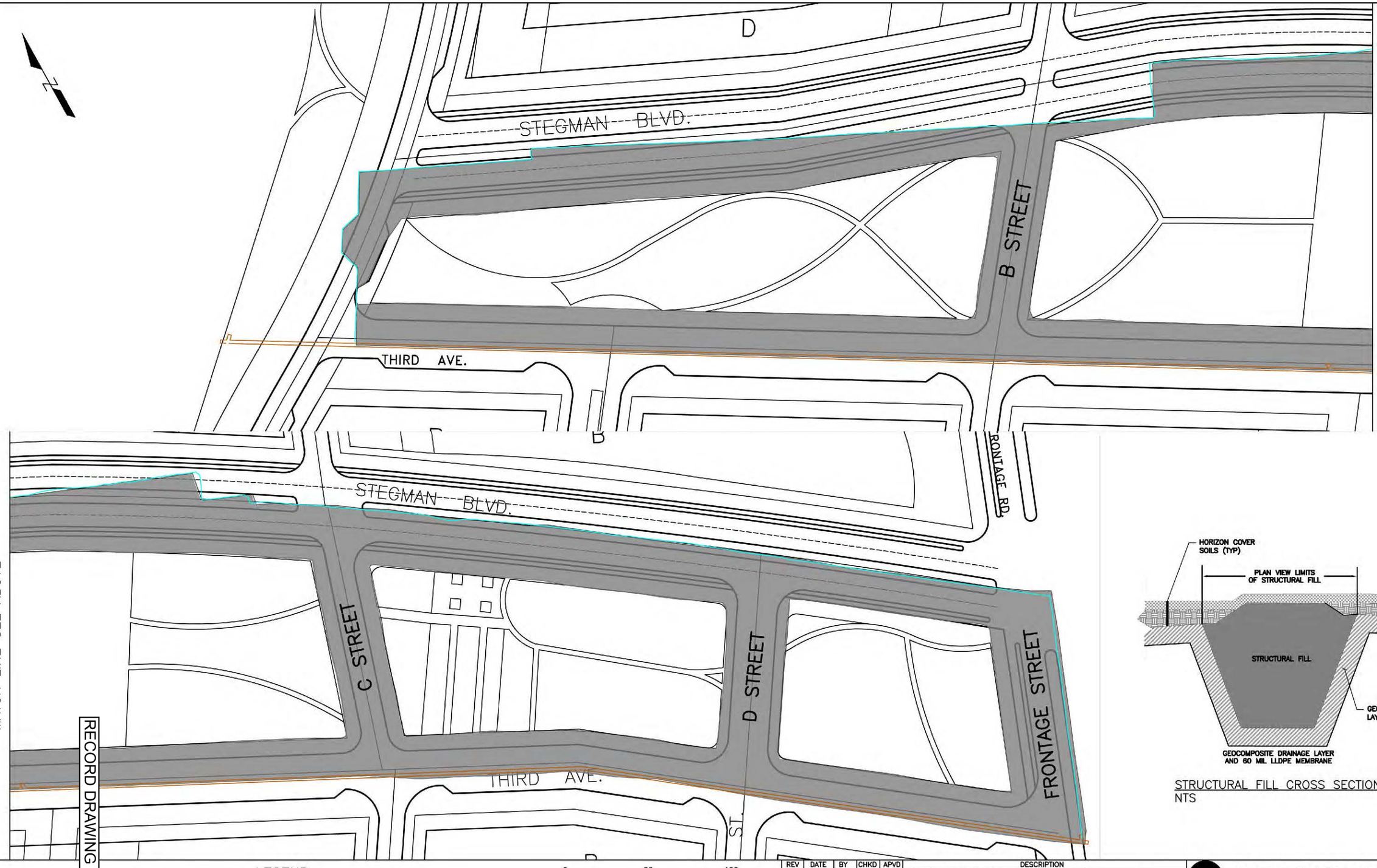
FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SOUTH CAP GDL COVER SOIL SURVEY-11-17-16.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 4:09 PM

ATTACHMENT K
SA-6 NORTH AND SOUTH STRUCTURAL FILL RECORD DRAWINGS



STRUCTURAL FILL CROSS SECTION
NTS

LEGEND

- Structural Fill Under Roadways
- SCE[illegible]LL
- HB WALL (Inner Edge)

0 80 160 Feet

SCALE

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/7/16	EJP	AE	AE	STRUCTURAL FILL UNDER ROADWAYS – NORTH CAP
1	12/15/16	EJP	AE	AE	ADDED FUTURE DEVELOPMENT LAYOUT & STRUCTURAL FILL X-SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
Structural Fill Under Roadways
NORTH CAP
12/15/16

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

N

GRAND BLVD.

RIVERSIDE DRIVE

A STREET

B STREET

C STREET

D STREET

FRONTAGE STREET

RIVER

D

B

C

A

18

19

20

21

22

23

MATCH LINE SEE BELOW

MATCH LINE SEE ABOVE

RECORD DRAWING - 12/15/16

LEGEND

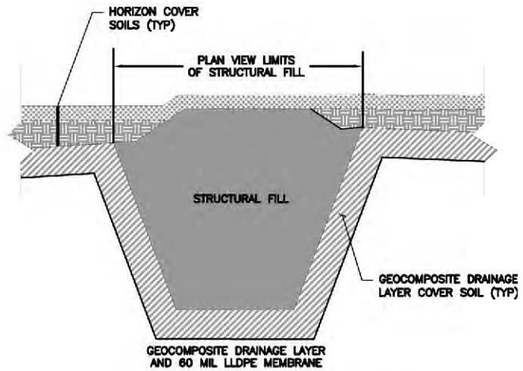
Structural Fill Under Roadways

SCE[illegible]LL

HB WALL (Inner Edge)

0 80 160 Feet

SCALE



STRUCTURAL FILL CROSS SECTION
NTS

REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/7/16	EJP	AE	AE	STRUCTURAL FILL UNDER ROADWAYS – SOUTH CAP
1	12/15/16	EJP	AE	AE	ADDED FUTURE DEVELOPMENT LAYOUT & STRUCTURAL FILL X-SECTION

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: STRUCTURAL FILL UNDER ROADWAYS SOUTH CAP 12/15/16

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT L
SA-6 NORTH AND SOUTH CAP COMPACTION LOGS

1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT		TEST	LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	CS-01-1	7/13/2016	686056.7	602102.5	11.70	107.6	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-02-1	7/13/2016	686078.8	602160.6	12.30	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-03-1	7/13/2016	686035.6	602132.4	12.50	107.5	7.8	117	8.6	92.0	90	1	GDL Cover Soil		V5N
1	CS-04-1	7/13/2016	685983.2	602018.1	12.90	111.1	7.5	117	8.6	95.0	90	1	GDL Cover Soil		V5N
1	CS-05-1	7/13/2016	685959.4	602142.7	13.50	110	7.5	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-06-1	7/13/2016	685999.9	602165.7	15.70	112.15	7	117	8.6	96.0	90	1	GDL Cover Soil		V5N
1	CS-07-1	7/13/2016	686052.5	602190.6	12.30	110	8.4	117	8.6	94.0	90	1	GDL Cover Soil		V5N
1	CS-08-1	7/13/2016	685932.8	602188.2	14.00	107.5	7.8	117	8.6	91.9	90	2	GDL Cover Soil		V5N
1	CS-09-1	7/13/2016	685996.5	602222	15.90	108.16	8.3	117	8.6	93.0	90	2	GDL Cover Soil		V5N
1	CS-10-1	7/13/2016	686031.2	602252.7	12.40	111.1	7.2	117	8.6	95.0	90	2	GDL Cover Soil		V5N
1	CS-11-1	7/18/2016	686019.3	602311.2	13.10	121.1	5.2	117	8.6	103.5	90	3	GDL Cover Soil		V5N
1	CS-12-1	7/18/2016	686002.8	602277.9	13.00	116.6	5.3	117	8.6	99.7	90	3	GDL Cover Soil		V5N
1	CS-13-1	7/18/2016	685956.2	602253.6	16.30	115.9	5.1	117	8.6	99.1	90	3	GDL Cover Soil		V5N
1	CS-14-1	7/18/2016	685902.6	602234.8	14.50	117.2	7.9	117	8.6	100.2	90	3	GDL Cover Soil		V5N
1	SF-01-1	7/18/2016	686054.2	602111.9	13.40	117.5	3.9	112.2	9.7	104.7	95	1	Structural Fill	Final Elevation	V5N
1	SF-02-1	7/18/2016	686072.1	602155.3	13.41	118.1	1.8	112.2	9.7	105.3	95	1	Structural Fill		V5N
2	SF-02-2	7/18/2016	686067.9	602166.2	13.80	113.1	2.5	112.2	9.7	100.8	95	1	Structural Fill	Final Elevation	V5N
1	SF-03-1	7/18/2016	686058.0	602202.1	13.40	114.9	1.6	112.2	9.7	102.4	95	1	Structural Fill		V5N
1	SF-04-1	7/18/2016	686035.3	602247.1	13.30	115.0	2.2	112.2	9.7	102.5	95	2	Structural Fill		V5N
1	HC-24-1	8/29/2016	685713.6	602653.3	21.60	115.4	8.5	126	9.5	91.6	90	6	Horizon C	Back Scatter	V5N
1	HC-25-1	8/29/2016	685766.9	602684.5	18.80	116.7	8.8	126	9.5	92.6	90	6	Horizon C	Back Scatter	V5N
1	HC-26-1	8/29/2016	685809.6	602705.3	18.70	118.9	8.4	126	9.5	94.4	90	6	Horizon C	Back Scatter	V5N
1	HC-92-1	9/16/2016	685103.9	603560.3	13.90	105.7	7.5	126	9.5	83.9	90	12	Horizon C	HC-92-1R (Page 8)	V5N
1	HC-01-1	7/20/2016	686011.1	602089.8	12.90	120.5	5.2	126	9.5	95.6	90	1	Horizon C	Back Scatter	V5N
1	SF-12-1	7/20/2016	685987.4	602075.7	13.50	107.0	3.8	112.2	9.7	95.4	95	1	Structural Fill		V5N
1	SF-13-1	7/20/2016	685963.8	602121.8	14.20	107.6	3.7	112.2	9.7	95.9	95	1	Structural Fill		V5N
1	SF-14-1	7/20/2016	685931.2	602176.8	14.90	108.5	3.5	112.2	9.7	96.7	95	2	Structural Fill		V5N
1	CS-15-1	7/22/2016	685859.2	602274.7	15.30	113.6	5.3	117	8.6	97.1	90	3	GDL Cover Soil		V5N
1	CS-16-1	7/22/2016	685889.8	602275.9	15.50	115.1	7.5	117	8.6	98.4	90	3	GDL Cover Soil		V5N
1	CS-17-1	7/22/2016	685930.0	602308.4	16.90	114.7	5.2	117	8.6	98.0	90	3	GDL Cover Soil		V5N
1	CS-18-1	7/22/2016	685978.5	602322.4	13.70	115.2	6.3	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-19-1	7/22/2016	685995.4	602358.6	13.60	112.3	7.3	117	8.6	96.0	90	3	GDL Cover Soil		V5N
1	CS-20-1	7/22/2016	685974.2	602407.6	14.20	110.5	8.5	117	8.6	94.4	90	3	GDL Cover Soil		V5N
1	CS-21-1	7/22/2016	685955.3	602367.3	14.20	115.2	4.6	117	8.6	98.5	90	3	GDL Cover Soil		V5N
1	CS-22-1	7/22/2016	685908.8	602343.5	15.00	121.8	9.2	117	8.6	104.1	90	3	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT		TEST	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	CS-23-1	7/22/2016	685867.1	602319.4	16.10	113.1	5.3	117	8.6	96.7	90	3	GDL Cover Soil		V5N
1	HC-02-1	7/20/2016	685997.1	602121.8	13.40	120.0	5.0	126	9.5	95.2	90	1	Horizon C	Back Scatter	V5N
1	HC-03-1	7/20/2016	686032.1	602156.7	12.40	119.3	5.6	126	9.5	94.7	90	1	Horizon C	Back Scatter	V5N
2	SF-03-2	7/22/2016	686050.7	602208.4	14.20	114.8	1.7	112.2	9.7	102.3	95	1	Structural Fill	Final Elevation	V5N
2	SF-04-2	7/22/2016	686035.2	602238.3	14.20	115.6	1.4	112.2	9.7	103.0	95	1	Structural Fill	Final Elevation	V5N
1	HC-04-1	7/20/2016	686008.8	602201.9	16.20	122.0	5.4	126	9.5	96.8	90	1	Horizon C	Back Scatter	V5N
1	HC-05-1	7/20/2016	685970.9	602168.3	14.40	119.5	5.6	126	9.5	94.8	90	1	Horizon C	Back Scatter	V5N
1	SF-05-1	7/28/2016	686021.4	602296.2	14.40	107.5	8.2	112.2	9.7	95.8	95	3	Structural Fill	Final Elevation	V5N
2	SF-12-2	7/28/2016	685986.7	602075.0	14.00	108.8	7.5	112.2	9.7	97.0	95	1	Structural Fill	Final Elevation	V5N
2	SF-13-2	7/28/2016	685958.4	602125.9	15.00	107.6	8.0	112.2	9.7	95.9	95	1	Structural Fill	Final Elevation	V5N
1	SF-15-1	7/28/2016	685894.5	602235.3	15.80	106.7	8.3	112.2	9.7	95.1	95	3	Structural Fill		V5N
1	CS-24-1	8/3/2016	685812.8	602367.6	16.10	108.1	8.3	117	8.6	92.4	90	4	GDL Cover Soil		V5N
1	CS-25-1	8/3/2016	685841.8	602355.4	16.40	107.6	8.9	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-26-1	8/3/2016	685887.8	602387.1	18.10	108.9	8.8	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-27-1	8/3/2016	685931.8	602410.4	15.10	107.6	9.5	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-28-1	8/3/2016	685951.7	602456.4	14.70	108.9	8.5	117	8.6	93.1	90	4	GDL Cover Soil		V5N
1	CS-29-1	8/3/2016	685908.7	602454.7	15.80	110.0	6.5	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	CS-30-1	8/3/2016	685864.2	602431.3	16.00	107.6	8.8	117	8.6	92.0	90	4	GDL Cover Soil		V5N
1	CS-31-1	8/3/2016	685820.3	602408.9	16.90	110.0	6.1	117	8.6	94.0	90	4	GDL Cover Soil		V5N
1	HC-06-1	7/22/2016	685943.5	602217.1	16.60	121.2	8.2	126	9.5	96.2	90	1	Horizon C	Back Scatter	V5N
1	HC-07-1	7/22/2016	685985.9	602241.3	16.50	123.9	10.2	126	9.5	98.3	90	1	Horizon C	Back Scatter	V5N
1	HC-08-1	7/28/2016	685953.9	602285.9	17.12	114.2	8.9	126	9.5	90.6	90	2	Horizon C	Back Scatter	V5N
1	HC-09-1	7/28/2016	685921.7	602262.1	15.00	113.5	9.2	126	9.5	90.1	90	2	Horizon C	Back Scatter	V5N
1	HC-10-1	8/5/2016	685897.1	602316.3	15.80	117.5	8.2	126	9.5	93.3	90	2	Horizon C	Back Scatter	V5N
1	HC-11-1	8/5/2016	685939.6	602343.2	17.70	119.5	7.1	126	9.5	94.8	90	3	Horizon C	Back Scatter	V5N
1	SF-06-1	8/5/2016	686001.6	602337.9	14.70	110.0	2.3	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-07-1	8/5/2016	685981.7	602383.3	15.20	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
2	SF-14-2	8/5/2016	685921.2	602172.6	15.20	110.0	1.8	112.2	9.7	98.0	95	2	Structural Fill	Final Elevation	V5N
2	SF-15-2	8/5/2016	685896.6	602231.8	16.40	110.0	1.8	112.2	9.7	98.0	95	3	Structural Fill	Final Elevation	V5N
1	SF-16-1	8/5/2016	685843.1	602309.5	16.40	111.0	1.1	112.2	9.7	98.9	95	3	Structural Fill	Final Elevation	V5N
1	CS-32-1	8/10/2016	685796.3	602441.1	17.30	106.1	8.8	117	8.6	90.7	90	4	GDL Cover Soil		V5N
1	CS-33-1	8/10/2016	685845.9	602479.3	16.50	105.6	10.0	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-34-1	8/10/2016	685890.1	602491.3	18.50	105.9	7.2	117	8.6	90.5	90	5	GDL Cover Soil		V5N
1	CS-35-1	8/10/2016	685926.5	602522.2	11.00	108.3	9.6	117	8.6	92.6	90	5	GDL Cover Soil		V5N
1	CS-36-1	8/10/2016	685910.8	602551.9	15.70	105.9	9.8	117	8.6	90.5	90	5	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT		TEST	LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	CS-37-1	8/10/2016	685859.0	602544.1	19.20	110.0	7.8	117	8.6	94.0	90	5	GDL Cover Soil		V5N
1	CS-38-1	8/10/2016	685818.5	602520.0	19.60	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-39-1	8/10/2016	685771.2	602499.5	17.90	106.0	10.2	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-40-1	8/10/2016	685761.7	602455.7	17.10	112.2	7.8	117	8.6	95.9	90	5	GDL Cover Soil		V5N
1	CS-41-1	8/10/2016	685727.7	602509.9	17.80	105.6	9.2	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-42-1	8/10/2016	685750.8	602543.2	17.90	105.6	8.9	117	8.6	90.3	90	5	GDL Cover Soil		V5N
1	CS-43-1	8/10/2016	685790.6	602568.0	17.10	106.0	8.9	117	8.6	90.6	90	5	GDL Cover Soil		V5N
1	CS-44-1	8/10/2016	685829.9	602580.0	19.50	112.5	7.8	117	8.6	96.2	90	5	GDL Cover Soil		V5N
1	CS-45-1	8/10/2016	685883.5	602613.3	16.10	105.5	9.2	117	8.6	90.2	90	5	GDL Cover Soil		V5N
1	SF-08-1	8/10/2016	685947.6	602444.5	15.50	107.6	5.6	112.2	9.7	95.9	95	4	Structural Fill	Final Elevation	V5N
1	HC-12-1	8/5/2016	685923.2	602385.8	15.60	118.5	9.6	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-13-1	8/5/2016	685878.4	602355.3	18.70	116.5	11.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-14-1	8/5/2016	685857.5	602397.8	19.00	116.5	10.6	126	9.5	92.5	90	3	Horizon C	Back Scatter	V5N
1	HC-15-1	8/5/2016	685901.5	602426.6	16.00	117.5	8.9	126	9.5	93.3	90	3	Horizon C	Back Scatter	V5N
1	HC-16-1	8/11/2016	685877.5	602467.2	16.50	119.8	4.5	126	9.5	95.1	90	3	Horizon C	Back Scatter	V5N
1	SF-09-1	8/11/2016	685919.3	602481.2	16.30	107.8	5.2	112.2	9.7	96.1	95	4	Structural Fill	Final Elevation	V5N
1	SF-18-1	8/11/2016	685796.5	602421.3	18.00	107.8	5.0	112.2	9.7	96.1	95	4	Structural Fill		V5N
1	SF-19-1	8/11/2016	685765.4	602477.7	18.70	108.5	5.2	112.2	9.7	96.7	95	5	Structural Fill		V5N
1	CS-46-1	8/16/2016	685858.5	602654.7	16.70	106.7	5.4	117	8.6	91.2	90	6	GDL Cover Soil		V5N
1	CS-47-1	8/16/2016	685816.0	602640.9	14.90	117.6	6.3	117	8.6	100.5	90	6	GDL Cover Soil	Start Reduced Frequency	V5N
1	CS-48-1	8/16/2016	685772.5	602607.5	15.30	118.0	7.6	117	8.6	100.9	90	6	GDL Cover Soil		V5N
1	CS-49-1	8/16/2016	685725.8	602586.9	16.30	115.6	7.1	117	8.6	98.8	90	6	GDL Cover Soil		V5N
1	CS-50-1	8/16/2016	685696.7	602558.7	17.20	116.2	5.8	117	8.6	99.3	90	6	GDL Cover Soil		V5N
1	CS-51-1	8/16/2016	685666.9	602613.2	18.90	112.5	4.4	117	8.6	96.2	90	6	GDL Cover Soil		V5N
1	CS-52-1	8/16/2016	685706.9	602626.6	18.00	118.2	5.7	117	8.6	101.0	90	6	GDL Cover Soil		V5N
1	CS-53-1	8/16/2016	685738.4	602639.4	17.60	114.5	6.7	117	8.6	97.9	90	6	GDL Cover Soil		V5N
1	CS-54-1	8/16/2016	685793.1	602675.7	17.50	113.7	6.0	117	8.6	97.2	90	6	GDL Cover Soil		V5N
1	CS-55-1	8/16/2016	685830.0	602699.4	15.70	113.0	8.9	117	8.6	96.6	90	6	GDL Cover Soil		V5N
1	CS-94-1	8/19/2016	685064.3	603656.9	7.50	109.8	5.4	117	8.6	93.8	90	7	GDL Cover Soil		V5N
1	CS-95-1	8/19/2016	685177.8	603698.4	6.20	113.7	7.9	117	8.6	97.2	90	7	GDL Cover Soil		V5N
1	HC-17-1	8/11/2016	685824.6	602442.2	17.50	122.7	6.4	126	9.5	97.4	90	3	Horizon C	Back Scatter	V5N
1	HC-18-1	8/11/2016	685791.3	602476.8	20.80	118.5	5.8	126	9.5	94.0	90	3	Horizon C	Back Scatter	V5N
1	HC-19-1	8/11/2016	685833.9	602502.6	19.80	124.1	5.3	126	9.5	98.5	90	3	Horizon C	Back Scatter	V5N
1	SF-10-1	8/19/2016	685907.4	602542.6	16.80	120.0	2.4	112.2	9.7	107.0	95	5	Structural Fill		V5N
1	SF-17-1	8/19/2016	685816.7	602355.7	17.40	119.0	1.2	112.2	9.7	106.1	95	4	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	LOCATION ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-20-1	8/19/2016	685723.9	602524.1	19.30	115.8	2.8	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
1	CS-57-1	8/24/2016	685725.4	602744.3	23.00	119.0	6.2	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-58-1	8/24/2016	685648.5	602672.7	19.40	114.0	7.6	117	8.6	97.4	90	8	GDL Cover Soil		V5N
1	CS-59-1	8/24/2016	685678.3	602742.7	22.60	120.3	5.3	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-60-1	8/24/2016	685783.3	602811.9	19.60	114.3	8.3	117	8.6	97.7	90	9	GDL Cover Soil		V5N
1	CS-61-1	8/24/2016	685983.1	602881.8	19.10	118.6	6.6	117	8.6	101.4	90	9	GDL Cover Soil		V5N
1	CS-62-1	8/24/2016	685690.9	602859.0	21.30	115.6	4.5	117	8.6	98.8	90	9	GDL Cover Soil		V5N
1	CS-63-1	8/24/2016	685600.9	602803.9	19.90	116.4	6.2	117	8.6	99.5	90	9	GDL Cover Soil		V5N
1	CS-64-1	8/24/2016	685711.9	602937.4	20.40	108.3	3.9	117	8.6	92.6	90	9	GDL Cover Soil		V5N
1	CS-65-1	8/24/2016	685611.8	602885.6	20.30	110.2	4.8	117	8.6	94.2	90	9	GDL Cover Soil		V5N
1	CS-66-1	8/24/2016	685705.6	603007.6	19.70	117.8	7.7	117	8.6	100.7	90	9	GDL Cover Soil		V5N
1	CS-67-1	8/24/2016	685615.9	602991.2	21.40	113.1	6.6	117	8.6	96.7	90	9	GDL Cover Soil		V5N
1	CS-68-1`	8/24/2016	685536.6	602916.2	19.40	112.3	6.2	117	8.6	96.0	90	9	GDL Cover Soil		V5N
1	SF-11-1	8/24/2016	685873.3	602605.8	17.50	115.1	2.4	112.2	9.7	103.7	95	5	Structural Fill		V5N
1	SF-24-1	8/24/2016	685854.9	602653.8	17.90	112.2	1.9	112.2	9.7	100.0	95	5	Structural Fill	Final Elevation	V5N
1	CS-56-1	8/29/2016	685809.2	602783.8	15.90	111.2	6.3	117	8.6	95.0	90	9	GDL Cover Soil	Moved point to Area 9	V5N
1	CS-69-1	8/29/2016	685642.2	603080.6	18.90	110.3	3.9	117	8.6	94.3	90	10W	GDL Cover Soil		V5N
1	CS-73-1	8/29/2016	685596.9	603156.9	17.20	113.3	5.7	117	8.6	96.8	90	10W	GDL Cover Soil		V5N
1	CS-75-1	8/29/2016	685451.4	603140.5	10.70	119.1	5.6	117	8.6	101.8	90	10	GDL Cover Soil	Corridor	V5N
1	DGA-1-1	8/29/2016	685498.1	603803.2	9.10	129.1	1.7	135.9	9.5	95.0	95	MUA	DGA	Driveway	V5N
1	DGA-2-1	8/29/2016	685479.7	603838.2	8.70	129.4	1.6	135.9	9.5	95.2	95	MUA	DGA	Driveway	V5N
1	DGA-3-1	8/29/2016	685462.6	603871.9	8.40	131.0	1.5	135.9	9.5	96.4	95	MUA	DGA	Driveway	V5N
1	HC-23-1	8/19/2016	685768.3	602522.6	18.50	116.8	9.7	126	9.5	92.7	90	5	Horizon C	Back Scatter	V5N
1	HC-28-1	8/31/2016	685753.3	602747.5	23.20	115.2	8.3	126	9.5	91.4	90	8	Horizon C	Back Scatter	V5N
1	HC-29-1	8/31/2016	685711.3	602718.5	23.00	113.4	10.9	126	9.5	90.0	90	8	Horizon C	Back Scatter	V5N
2	SF-10-2	8/29/2016	685907.0	602542.6	16.90	115.8	0.9	112.2	9.7	103.2	95	5	Structural Fill	Final Elevation	V5N
2	SF-11-2	8/29/2016	685878.3	602607.5	17.60	116.2	1.1	112.2	9.7	103.6	95	5	Structural Fill	Final Elevation	V5N
2	SF-18-2	8/29/2016	685782.4	602413.8	18.10	119.7	0.9	112.2	9.7	106.7	95	4	Structural Fill	Final Elevation	V5N
2	SF-19-2	8/29/2016	685755.2	602456.9	18.80	118.4	0.7	112.2	9.7	105.5	95	5	Structural Fill	Final Elevation	V5N
1	SF-21-1	8/29/2016	685788.0	602599.6	17.50	112.7	1.2	112.2	9.7	100.4	95	6	Structural Fill		V5N
2	SF-21-2	8/29/2016	685735.3	602583.2	18.40	117.9	1.0	112.2	9.7	105.1	95	6	Structural Fill	Final Elevation	V5N
1	SF-22-1	8/29/2016	685788.0	602599.6	16.40	115.8	1.3	112.2	9.7	103.2	95	6	Structural Fill		V5N
2	SF-22-2	8/29/2016	685777.9	602614.3	17.40	113.0	1.0	112.2	9.7	100.7	95	6	Structural Fill	Final Elevation	V5N
1	SF-23-1	8/29/2016	685822.7	602629.9	16.50	111.7	1.4	112.2	9.7	99.6	95	6	Structural Fill		V5N
2	SF-23-2	8/29/2016	685825.2	602646.2	17.50	121.4	1.0	112.2	9.7	108.2	95	6	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
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JERSEY CITY, NEW JERSEY

LIFT		TEST	LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	SF-35-1	8/29/2016	685689.1	602585.9	19.30	117.3	0.9	112.2	9.7	104.5	95	6	Structural Fill		V5N
1	SF-36-1	8/29/2016	685656.5	602646.9	20.20	117.3	1.6	112.2	9.7	104.5	95	8	Structural Fill	Final Elevation	V5N
1	SF-37-1	8/29/2016	685618.4	602697.5	20.70	108.6	2.7	112.2	9.7	96.8	95	9	Structural Fill	Final Elevation	V5N
1	HC-30-1	8/31/2016	686686.8	602719.5	22.90	125.9	8.7	126	9.5	99.9	90	8	Horizon C	Back Scatter	V5N
1	HC-31-1	8/31/2016	685632.8	602740.5	20.40	123.4	10.8	126	9.5	97.9	90	9	Horizon C	Back Scatter	V5N
1	HC-32-1	8/31/2016	685685.6	602764.1	23.40	113.4	7.4	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-33-1	8/31/2016	685727.2	602785.9	24.00	113.4	7.8	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-34-1	8/31/2016	685766.6	602816.6	23.10	114.4	6.6	126	9.5	90.8	90	9	Horizon C	Back Scatter	V5N
1	HC-35-1	8/31/2016	685741.4	602861.8	23.70	115.8	6.9	126	9.5	91.9	90	9	Horizon C	Back Scatter	V5N
1	HC-36-1	8/31/2016	685690.7	602833.7	21.70	117.7	7.6	126	9.5	93.4	90	9	Horizon C	Back Scatter	V5N
1	HC-37-1	8/31/2016	685656.1	602815.9	20.80	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-38-1	8/31/2016	685609.9	602779.5	20.40	115.1	9.2	126	9.5	91.3	90	9	Horizon C	Back Scatter	V5N
1	HC-39-1	8/31/2016	685592.8	602825.4	20.30	118.1	10.2	126	9.5	93.7	90	9	Horizon C	Back Scatter	V5N
1	HC-40-1	8/31/2016	685635.7	602852.3	20.90	116.1	9.9	126	9.5	92.1	90	9	Horizon C	Back Scatter	V5N
1	HC-41-1	8/31/2016	685681.5	602878.3	21.90	121.1	8.2	126	9.5	96.1	90	9	Horizon C	Back Scatter	V5N
1	HC-42-1	8/31/2016	685732.8	602895.5	20.90	117.1	7.8	126	9.5	92.9	90	9	Horizon C	Back Scatter	V5N
1	HC-27-1	9/1/2016	685785.7	602767.0	22.40	115.4	8.6	126	9.5	91.6	90	8	Horizon C	Back Scatter	V5N
1	HC-43-1	9/2/2016	685692.1	602950.2	21.10	127.0	9.9	126	9.5	100.8	90	9	Horizon C	Back Scatter	V5N
2	SF-35-2	8/31/2016	685677.8	602581.4	19.50	110.5	0.9	112.2	9.7	98.5	95	6	Structural Fill	Final Elevation	V5N
1	SF-38-1	8/31/2016	685584.9	602752.8	20.80	110.9	1.7	112.2	9.7	98.8	95	9	Structural Fill	Final Elevation	V5N
1	SF-39-1	8/31/2016	685552.4	602813.4	20.90	109.0	1.4	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
1	SF-44-1	8/31/2016	685384.5	603107.9	11.70	109.1	1.7	112.2	9.7	97.2	95	10	Structural Fill	Corridor	V5N
1	SF-45-1	8/31/2016	685416.7	603122.6	11.40	114.9	2.3	112.2	9.7	102.4	95	10	Structural Fill	Corridor	V5N
1	SF-46-1	8/31/2016	685463.1	603138.2	11.50	117.0	2.6	112.2	9.7	104.3	95	10	Structural Fill	Corridor	V5N
1	SF-47-1	8/31/2016	685499.8	603155.4	11.80	113.5	1.5	112.2	9.7	101.2	95	10	Structural Fill	Corridor	V5N
1	SF-48-1	8/31/2016	685543.0	603169.7	12.40	122.2	1.8	112.2	9.7	108.9	95	10	Structural Fill	Corridor	V5N
1	SF-49-1	8/31/2016	685580.7	603190.4	14.10	114.0	2.4	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
1	CS-70-1	9/1/2016	685518.2	603005.1	22.20	107.7	3.9	117	8.6	92.1	90	10W	GDL Cover Soil		V5N
1	CS-71-1	9/1/2016	685425.6	603080.3	17.00	112.9	6.5	117	8.6	96.5	90	10W	GDL Cover Soil		V5N
1	CS-72-1	9/1/2016	685558.2	603808.0	21.10	106.3	4.7	117	8.6	91.3	90	10W	GDL Cover Soil		V5N
1	CS-74-1	9/1/2016	685553.7	603203.7	15.60	111.6	4.5	117	8.6	95.4	90	11	GDL Cover Soil		V5N
1	CS-76-1	9/1/2016	685407.5	603198.1	18.50	119.5	5.3	117	8.6	102.1	90	11	GDL Cover Soil		V5N
1	CS-77-1	9/1/2016	685455.1	603251.1	15.10	113.9	4.3	117	8.6	97.3	90	11	GDL Cover Soil		V5N
1	CS-78-1	9/1/2016	685525.3	603246.0	14.70	117.4	6.8	117	8.6	100.3	90	11	GDL Cover Soil		V5N
1	HC-44-1	9/2/2016	685685.5	602922.7	22.00	114.5	11.1	126	9.5	90.9	90	9	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
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JERSEY CITY, NEW JERSEY

LIFT		TEST	LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
2	SF-44-2	9/1/2016	685376.0	603128.1	12.90	113.7	2.3	112.2	9.7	101.3	95	10	Structural Fill	Corridor	V5N
2	SF-45-2	9/1/2016	685427.3	603121.1	12.40	111.6	0.7	112.2	9.7	99.5	95	10	Structural Fill	Corridor	V5N
2	SF-46-2	9/1/2016	685470.5	603140.4	12.50	112.4	2.3	112.2	9.7	100.2	95	10	Structural Fill	Corridor	V5N
2	SF-47-2	9/1/2016	685511.7	603155.8	12.90	109.0	2.8	112.2	9.7	97.1	95	10	Structural Fill	Corridor	V5N
3	SF-47-3	9/1/2016	685497.9	603142.1	13.70	106.8	1.9	112.2	9.7	95.2	95	10	Structural Fill	Corridor	V5N
2	SF-48-2	9/1/2016	685556.8	603171.4	13.80	115.0	2.6	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
3	SF-48-3	9/1/2016	685539.6	603160.2	14.50	110.6	1.7	112.2	9.7	98.6	95	10	Structural Fill	Corridor	V5N
2	SF-49-2	9/1/2016	685586.0	603189.3	15.50	113.9	2.1	112.2	9.7	101.5	95	10	Structural Fill	Corridor	V5N
3	SF-49-3	9/1/2016	685587.9	603182.3	16.70	110.4	2.3	112.2	9.7	98.4	95	10	Structural Fill	Corridor	V5N
1	HC-45-1	9/2/2016	685613.1	602897.6	20.90	120.4	11.2	126	9.5	95.6	90	9	Horizon C	Back Scatter	V5N
1	HC-46-1	9/2/2016	685561.8	602872.7	20.30	121.0	9.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-47-1	9/9/2016	685537.9	602916.9	20.00	118.8	8.4	126	9.5	94.3	90	9	Horizon C	Back Scatter	V5N
1	HC-48-1	9/9/2016	685583.8	602941.4	20.80	113.6	7.6	126	9.5	90.2	90	9	Horizon C	Back Scatter	V5N
3	SF-44-3	9/2/2016	685386.8	603098.2	13.50	114.6	1.5	112.2	9.7	102.1	95	10	Structural Fill	Corridor	V5N
4	SF-44-4	9/2/2016	685379.0	603091.5	14.30	112.2	1.4	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
3	SF-45-3	9/2/2016	685416.0	603110.5	13.40	112.0	1.4	112.2	9.7	99.8	95	10	Structural Fill	Corridor	V5N
4	SF-45-4	9/2/2016	685414.5	603134.8	14.60	117.7	2.4	112.2	9.7	104.9	95	10	Structural Fill	Corridor	V5N
3	SF-46-3	9/2/2016	685468.8	603132.3	13.60	109.4	2.3	112.2	9.7	97.5	95	10	Structural Fill	Corridor	V5N
4	SF-46-4	9/2/2016	685459.8	603149.2	14.20	115.6	4.5	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-47-4	9/2/2016	685504.7	603162.0	15.00	111.7	1.9	112.2	9.7	99.6	95	10	Structural Fill	Corridor	V5N
4	SF-48-4	9/2/2016	685553.1	603160.5	15.90	115.6	1.9	112.2	9.7	103.0	95	10	Structural Fill	Corridor	V5N
4	SF-49-4	9/2/2016	685598.7	603192.5	17.10	115.0	1.5	112.2	9.7	102.5	95	10	Structural Fill	Corridor	V5N
5	SF-44-5	9/6/2016	685384.8	603100.8	15.70	112.6	1.3	112.2	9.7	100.4	95	10	Structural Fill	Corridor	V5N
5	SF-45-5	9/6/2016	685421.0	603123.8	15.50	111.2	0.6	112.2	9.7	99.1	95	10	Structural Fill	Corridor	V5N
5	SF-46-5	9/6/2016	685468.8	603153.0	15.50	114.8	1.6	112.2	9.7	102.3	95	10	Structural Fill	Corridor	V5N
5	SF-47-5	9/6/2016	685504.2	603163.1	16.00	112.2	2.0	112.2	9.7	100.0	95	10	Structural Fill	Corridor	V5N
5	SF-48-5	9/6/2016	685545.7	603167.0	17.00	114.0	1.0	112.2	9.7	101.6	95	10	Structural Fill	Corridor	V5N
5	SF-49-5	9/6/2016	685589.2	603187.0	17.70	115.4	0.7	112.2	9.7	102.9	95	10	Structural Fill	Corridor	V5N
1	SF-74-1	9/6/2016	684991.4	603626.7	10.00	110.1	2.2	112.2	9.7	98.1	95	7	Structural Fill		V5N
1	SF-75-1	9/6/2016	685034.3	603648.9	9.00	115.2	1.3	112.2	9.7	102.7	95	7	Structural Fill		V5N
1	SF-76-1	9/6/2016	685079.9	603671.0	8.10	116.6	1.1	112.2	9.7	103.9	95	7	Structural Fill		V5N
1	SF-77-1	9/6/2016	685125.3	603689.7	7.30	112.0	1.5	112.2	9.7	99.8	95	7	Structural Fill		V5N
1	SF-78-1	9/6/2016	685172.3	603710.2	7.70	108.3	1.5	112.2	9.7	96.5	95	7	Structural Fill		V5N
1	CS-88-1	9/9/2016	685132.1	603471.8	12.00	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	CS-89-1	9/9/2016	685169.3	603521.9	13.90	110.0	12.5	117	8.6	94.0	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT		TEST	LOCATION			FIELD DRY	FIELD MOISTURE	PROCTOR MAXIMUM DRY	OPTIMUM MOISTURE	FIELD PERCENT	SPECIFIED PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	CS-90-1	9/9/2016	685268.8	603557.9	7.20	125.5	5.3	117	8.6	107.3	90	12	GDL Cover Soil		V5N
1	CS-91-1	9/9/2016	685224.0	603612.4	6.10	123.9	4.4	117	8.6	105.9	90	12	GDL Cover Soil		V5N
1	CS-92-1	9/9/2016	685120.8	603577.5	13.30	117.7	12.5	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-93-1	9/9/2016	685042.5	603563.7	10.70	112.8	12.6	117	8.6	96.4	90	12	GDL Cover Soil		V5N
1	HC-49-1	9/9/2016	685632.4	602967.4	22.10	120.9	8.3	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	HC-50-1	9/9/2016	685653.4	602989.2	21.40	114.6	7.8	126	9.5	91.0	90	9	Horizon C	Back Scatter	V5N
1	HC-51-1	9/12/2016	685642.6	603022.5	21.10	117.7	7.3	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-52-1	9/12/2016	685608.9	603003.9	21.90	114.8	7.7	126	9.5	91.1	90	10W	Horizon C	Back Scatter	V5N
1	SF-25-1	9/9/2016	685816.9	602808.8	19.70	107.9	0.7	112.2	9.7	96.2	95	9	Structural Fill		V5N
1	SF-26-1	9/9/2016	685807.0	602858.9	19.90	107.2	0.9	112.2	9.7	95.5	95	9	Structural Fill		V5N
1	SF-27-1	9/9/2016	685764.8	602882.0	20.30	112.2	1.0	112.2	9.7	100.0	95	9	Structural Fill		V5N
1	SF-28-1	9/9/2016	685759.8	602946.2	20.90	107.7	1.0	112.2	9.7	96.0	95	9	Structural Fill		V5N
1	SF-29-1	9/9/2016	685724.7	602967.2	20.90	109.8	0.7	112.2	9.7	97.9	95	9	Structural Fill		V5N
1	SF-34-1	9/9/2016	685609.4	603156.3	18.80	107.3	1.4	112.2	9.7	95.6	95	10	Structural Fill	Final Elevation	V5N
1	SF-40-1	9/9/2016	685511.6	602875.5	20.20	116.1	1.3	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
6	SF-44-6	9/9/2016	685379.5	603113.0	16.70	119.9	1.2	112.2	9.7	106.9	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-45-6	9/9/2016	685417.8	603125.7	17.70	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-46-6	9/9/2016	685459.9	603141.3	17.20	118.2	1.2	112.2	9.7	105.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-47-6	9/9/2016	685503.4	603156.5	17.40	111.4	1.3	112.2	9.7	99.3	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-48-6	9/9/2016	685542.9	603167.8	18.00	109.7	0.5	112.2	9.7	97.8	95	10	Structural Fill	Corridor - Final Elevation	V5N
6	SF-49-6	9/9/2016	685585.9	603190.5	18.10	117.2	1.1	112.2	9.7	104.5	95	10	Structural Fill	Corridor - Final Elevation	V5N
1	HC-53-1	9/12/2016	685562.7	602969.1	20.70	113.7	5.2	126	9.5	90.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-54-1	9/12/2016	685924.9	602941.0	20.00	118.7	7.4	126	9.5	94.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-55-1	9/12/2016	685496.4	603002.0	22.20	121.1	7.0	126	9.5	96.1	90	10W	Horizon C	Back Scatter	V5N
1	HC-56-1	9/12/2016	685541.3	603022.2	20.60	117.7	6.4	126	9.5	93.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-57-1	9/12/2016	685582.8	603050.8	23.00	117.1	7.1	126	9.5	92.9	90	10W	Horizon C	Back Scatter	V5N
1	HC-58-1	9/12/2016	685623.4	603079.4	19.70	118.5	7.6	126	9.5	94.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-59-1	9/12/2016	685595.3	603109.6	18.70	113.4	7.2	126	9.5	90.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-60-1	9/12/2016	685558.4	603089.5	21.30	114.9	10.0	126	9.5	91.2	90	10W	Horizon C	Back Scatter	V5N
1	HC-61-1	9/12/2016	685513.2	603080.7	21.00	120.7	9.0	126	9.5	95.8	90	10W	Horizon C	Back Scatter	V5N
1	HC-62-1	9/12/2016	685479.1	603082.3	20.10	115.2	9.0	126	9.5	91.4	90	10W	Horizon C	Back Scatter	V5N
1	HC-63-1	9/12/2016	685464.5	603107.4	16.30	127.2	8.2	126	9.5	101.0	90	10W	Horizon C	Back Scatter	V5N
1	HC-64-1	9/12/2016	685549.8	603137.7	17.10	119.2	9.1	126	9.5	94.6	90	10W	Horizon C	Back Scatter	V5N
1	HC-84-1	9/16/2016	685149.3	603473.7	12.90	140.0	6.5	126	9.5	111.1	90	12	Horizon C	Back Scatter	V5N
1	HC-85-1	9/16/2016	685181.9	603500.3	14.50	132.8	7.4	126	9.5	105.4	90	12	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	LOCATION ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	SF-31-1	9/12/2016	685698.8	603047.0	20.60	104.8	2.1	112.2	9.7	93.4	95	10W	Structural Fill	SF-31-1R (Page 10)	V5N
1	SF-32-1	9/12/2016	685674.9	603084.1	20.10	114.3	2.2	112.2	9.7	101.9	95	10W	Structural Fill	Final Elevation	V5N
1	SF-33-1	9/12/2016	685636.1	603109.1	19.80	116.7	1.4	112.2	9.7	104.0	95	10W	Structural Fill	Final Elevation	V5N
1	SF-41-1	9/12/2016	685488.9	602934.6	20.10	117.4	1.3	112.2	9.7	104.6	95	10W	Structural Fill	Final Elevation	V5N
1	SF-42-1	9/12/2016	685453.4	602993.1	18.80	113.6	1.3	112.2	9.7	101.2	95	10W	Structural Fill		V5N
1	SF-43-1	9/12/2016	685417.9	603050.3	18.00	120.5	1.6	112.2	9.7	107.4	95	10W	Structural Fill		V5N
2	SF-74-2	9/12/2016	685922.0	603639.7	11.10	107.4	1.4	112.2	9.7	95.7	95	7	Structural Fill	Final Elevation	V5N
2	SF-75-2	9/12/2016	685032.9	603647.8	10.20	111.3	1.9	112.2	9.7	99.2	95	7	Structural Fill		V5N
2	SF-76-2	9/12/2016	685078.6	603666.6	9.40	107.8	1.0	112.2	9.7	96.1	95	7	Structural Fill		V5N
2	SF-77-2	9/12/2016	685124.8	603686.5	8.30	122.6	0.4	112.2	9.7	109.3	95	7	Structural Fill		V5N
2	SF-78-2	9/12/2016	685171.5	603702.0	8.50	120.9	1.0	112.2	9.7	107.8	95	7	Structural Fill		V5N
1	CS-79-1	9/14/2016	685460.8	603320.9	12.30	108.4	4.4	117	8.6	92.6	90	13	GDL Cover Soil		V5N
1	CS-80-1	9/14/2016	685363.7	603260.3	14.80	112.2	4.0	117	8.6	95.9	90	13	GDL Cover Soil		V5N
1	CS-81-1	9/14/2016	685314.2	603305.3	16.60	111.4	2.4	117	8.6	95.2	90	13	GDL Cover Soil		V5N
1	CS-82-1	9/14/2016	685340.0	603361.1	14.60	109.4	3.6	117	8.6	93.5	90	13	GDL Cover Soil		V5N
1	CS-83-1	9/14/2016	685428.3	603400.0	10.40	105.4	3.7	117	8.6	90.1	90	13	GDL Cover Soil		V5N
1	CS-84-1	9/14/2016	685372.9	603440.9	8.70	112.6	4.6	117	8.6	96.2	90	13	GDL Cover Soil		V5N
1	CS-85-1	9/14/2016	685225.6	603341.5	13.50	107.2	4.5	117	8.6	91.6	90	13	GDL Cover Soil		V5N
1	CS-86-1	9/14/2016	685194.1	603420.0	11.10	108.7	4.3	117	8.6	92.9	90	13	GDL Cover Soil		V5N
1	CS-87-1	9/14/2016	685379.7	603494.2	7.80	114.4	4.7	117	8.6	97.8	90	13	GDL Cover Soil		V5N
1	SF-30-1	9/14/2016	685715.6	603030.6	20.40	109.0	2.5	112.2	9.7	97.1	95	9	Structural Fill		V5N
1	HC-86-1	9/16/2016	685218.9	603514.8	13.40	125.6	6.5	126	9.5	99.7	90	12	Horizon C	Back Scatter	V5N
1	HC-87-1	9/16/2016	685257.0	603523.4	9.70	137.8	8.5	126	9.5	109.4	90	12	Horizon C	Back Scatter	V5N
1	HC-88-1	9/16/2016	685222.5	603581.8	8.20	135.3	8.3	126	9.5	107.4	90	12	Horizon C	Back Scatter	V5N
1	HC-89-1	9/16/2016	685193.5	603514.6	12.40	121.4	7.5	126	9.5	96.3	90	12	Horizon C	Back Scatter	V5N
1	HC-90-1	9/16/2016	685154.9	603541.7	14.40	130.7	8.2	126	9.5	103.7	90	12	Horizon C	Back Scatter	V5N
1	HC-91-1	9/16/2016	685130.5	603507.9	15.30	126.3	6.2	126	9.5	100.2	90	12	Horizon C	Back Scatter	V5N
1	HC-92-1R	9/16/2016	685103.9	603560.3	13.90	131.2	7.8	126	9.5	104.1	90	12	Horizon C	Back Scatter; re-test	V5N
1	HC-93-1	9/16/2016	685158.5	603571.5	13.70	129.0	7.8	126	9.5	102.4	90	12	Horizon C	Back Scatter	V5N
1	HC-94-1	9/16/2016	685188.9	603612.2	8.60	135.5	7.0	126	9.5	107.5	90	12	Horizon C	Back Scatter	V5N
1	HC-95-1	9/16/2016	685154.8	603655.0	7.80	117.6	9.6	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-96-1	9/16/2016	685118.9	603631.3	9.50	113.4	9.5	126	9.5	90.0	90	12	Horizon C	Back Scatter	V5N
1	HC-97-1	9/16/2016	685068.2	603614.3	10.00	115.0	6.3	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-65-1	9/21/2016	685396.8	603159.5	16.50	122.8	12.4	126	9.5	97.5	90	13	Horizon C	Back Scatter	V5N
1	HC-66-1	9/21/2016	685443.4	603171.9	15.90	124.1	12.2	126	9.5	98.5	90	13	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
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JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT		TEST	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	HC-67-1	9/21/2016	685504.6	603210.9	18.70	130.8	13.2	126	9.5	103.8	90	13	Horizon C	Back Scatter	V5N
1	SF-61-1	9/16/2016	685187.4	603409.9	12.30	115.1	1.1	112.2	9.7	102.6	95	12	Structural Fill		V5N
1	SF-62-1	9/16/2016	685220.9	603427.0	11.50	114.8	1.8	112.2	9.7	102.3	95	12	Structural Fill		V5N
1	SF-63-1	9/16/2016	685258.9	603458.9	9.70	116.0	1.8	112.2	9.7	103.4	95	12	Structural Fill		V5N
1	SF-64-1	9/16/2016	685298.0	603490.9	9.00	117.8	1.0	112.2	9.7	105.0	95	12	Structural Fill		V5N
1	SF-65-1	9/16/2016	685327.5	603571.4	8.70	118.9	1.4	112.2	9.7	106.0	95	12	Structural Fill		V5N
1	SF-66-1	9/16/2016	685294.2	603549.0	8.50	115.0	1.4	112.2	9.7	102.5	95	12	Structural Fill		V5N
1	SF-67-1	9/16/2016	685264.5	603588.1	7.50	114.9	1.3	112.2	9.7	102.4	95	12	Structural Fill	Final Elevation	V5N
1	SF-68-1	9/16/2016	685234.2	603626.7	7.10	120.5	1.7	112.2	9.7	107.4	95	12	Structural Fill		V5N
1	SF-69-1	9/16/2016	685202.1	603666.6	7.40	115.5	1.5	112.2	9.7	102.9	95	12	Structural Fill		V5N
1	SF-70-1	9/16/2016	685149.2	603437.2	13.00	117.3	1.1	112.2	9.7	104.5	95	12	Structural Fill		V5N
1	SF-71-1	9/16/2016	685105.7	603488.2	12.90	117.5	1.1	112.2	9.7	104.7	95	12	Structural Fill		V5N
1	SF-72-1	9/16/2016	685061.4	603541.1	12.10	119.4	1.5	112.2	9.7	106.4	95	12	Structural Fill		V5N
1	SF-73-1	9/16/2016	685019.3	603590.9	11.10	109.6	1.5	112.2	9.7	97.7	95	12	Structural Fill		V5N
3	SF-75-3	9/16/2016	685048.3	603631.9	10.80	112.4	1.1	112.2	9.7	100.2	95	7	Structural Fill	Final Elevation	V5N
1	HC-68-1	9/21/2016	685468.1	603245.9	15.60	126.8	12.5	126	9.5	100.6	90	13	Horizon C	Back Scatter	V5N
1	HC-69-1	9/21/2016	685415.3	603236.1	18.50	120.0	11.5	126	9.5	95.2	90	13	Horizon C	Back Scatter	V5N
1	HC-70-1	9/21/2016	685377.4	603205.9	19.00	120.2	12.5	126	9.5	95.4	90	13	Horizon C	Back Scatter	V5N
1	HC-71-1	9/21/2016	685343.8	603244.9	15.80	136.7	11.6	126	9.5	108.5	90	13	Horizon C	Back Scatter	V5N
1	HC-72-1	9/21/2016	685385.8	603275.1	15.00	125.8	12.5	126	9.5	99.8	90	13	Horizon C	Back Scatter	V5N
1	HC-73-1	9/21/2016	685455.7	603281.1	14.80	125.9	12.7	126	9.5	99.9	90	13	Horizon C	Back Scatter	V5N
1	HC-74-1	9/21/2016	685420.3	603319.5	13.60	133.3	13.8	126	9.5	105.8	90	13	Horizon C	Back Scatter	V5N
1	HC-75-1	9/21/2016	685356.5	603338.7	15.60	118.7	9.8	126	9.5	94.2	90	13	Horizon C	Back Scatter	V5N
1	HC-76-1	9/21/2016	685317.1	603293.5	17.40	114.0	10.5	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-77-1	9/21/2016	685280.8	603340.2	16.70	120.3	8.9	126	9.5	95.5	90	13	Horizon C	Back Scatter	V5N
1	HC-78-1	9/21/2016	685319.9	603353.4	15.80	128.0	8.9	126	9.5	101.6	90	13	Horizon C	Back Scatter	V5N
1	HC-79-1	9/21/2016	685392.9	603361.5	14.80	113.6	11.0	126	9.5	90.2	90	13	Horizon C	Back Scatter	V5N
1	HC-80-1	9/21/2016	685366.5	603390.4	14.10	113.4	11.0	126	9.5	90.0	90	13	Horizon C	Back Scatter	V5N
1	HC-81-1	9/21/2016	685330.2	603424.2	18.60	114.0	9.9	126	9.5	90.5	90	13	Horizon C	Back Scatter	V5N
1	HC-82-1	9/21/2016	685315.5	603390.5	14.90	118.9	9.6	126	9.5	94.4	90	13	Horizon C	Back Scatter	V5N
1	HC-83-1	9/21/2016	685251.5	603374.3	16.20	117.5	9.2	126	9.5	93.3	90	13	Horizon C	Back Scatter	V5N
1	HC-20-1	8/11/2016	685874.8	602528.7	19.50	117.0	5.2	126	9.5	92.9	90	3	Horizon C	Back Scatter	V5N
1	HC-21-1	8/19/2016	685852.9	602578.1	17.60	117.1	9.1	126	9.5	92.9	90	5	Horizon C	Back Scatter	V5N
1	HC-22-1	8/19/2016	685815.3	602550.0	20.10	118.5	8.9	126	9.5	94.0	90	5	Horizon C	Back Scatter	V5N
2	SF-25-2	9/21/2016	685815.2	602802.2	20.30	107.3	1.2	112.2	9.7	95.6	95	9	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	LOCATION ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-26-2	9/21/2016	685805.7	602859.6	20.20	109.0	1.2	112.2	9.7	97.1	95	9	Structural Fill	Final Elevation	V5N
2	SF-27-2	9/21/2016	685764.4	602879.3	21.60	111.9	1.1	112.2	9.7	99.7	95	9	Structural Fill	Final Elevation	V5N
2	SF-28-2	9/21/2016	685759.9	602945.9	21.30	105.1	0.9	112.2	9.7	93.7	95	9	Structural Fill	SF-28-2R (Page 10)	V5N
1	SF-31-1R	9/21/2016	685674.0	603030.0	20.60	106.6	1.9	112.2	9.7	95.0	95	10W	Structural Fill	Re-test from 9/12/16	V5N
1	SF-50-1	9/21/2016	685544.9	603236.4	16.10	116.3	3.7	112.2	9.7	103.7	95	11	Structural Fill		V5N
1	SF-51-1	9/21/2016	685512.5	603275.8	14.90	109.0	2.7	112.2	9.7	97.1	95	11	Structural Fill		V5N
1	SF-52-1	9/21/2016	685474.8	603320.8	13.50	111.2	2.0	112.2	9.7	99.1	95	13	Structural Fill		V5N
1	SF-53-1	9/21/2016	685451.1	603352.7	12.30	112.6	2.5	112.2	9.7	100.4	95	13	Structural Fill		V5N
1	SF-54-1	9/21/2016	685418.6	603393.2	11.20	112.2	1.8	112.2	9.7	100.0	95	13	Structural Fill		V5N
1	SF-55-1	9/21/2016	685388.8	603432.7	10.00	116.4	1.2	112.2	9.7	103.7	95	13	Structural Fill		V5N
1	SF-56-1	9/21/2016	685357.4	603473.3	9.20	109.9	1.1	112.2	9.7	98.0	95	13	Structural Fill		V5N
1	SF-57-1	9/21/2016	685345.4	603162.0	16.80	109.2	2.7	112.2	9.7	97.3	95	13	Structural Fill	Final Elevation	V5N
1	SF-58-1	9/21/2016	685313.8	603223.0	16.40	108.7	1.7	112.2	9.7	96.9	95	13	Structural Fill	Final Elevation	V5N
1	SF-59-1	9/21/2016	685280.5	603280.7	15.70	117.8	1.6	112.2	9.7	105.0	95	11	Structural Fill	Final Elevation	V5N
1	SF-60-1	9/21/2016	685237.1	603333.1	15.10	110.0	1.6	112.2	9.7	98.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2	9/21/2016	685327.5	603511.4	9.50	106.2	1.2	112.2	9.7	94.7	95	12	Structural Fill	SF-65-2R (Page 11)	V5N
2	SF-67-2	9/21/2016	685261.2	603594.2	8.50	110.8	1.4	112.2	9.7	98.8	95	12	Structural Fill		V5N
2	SF-68-2	9/21/2016	685235.2	603625.3	8.10	106.6	1.3	112.2	9.7	95.0	95	12	Structural Fill		V5N
2	SF-69-2	9/21/2016	685200.6	603661.2	8.40	111.1	2.1	112.2	9.7	99.0	95	12	Structural Fill		V5N
3	SF-76-3	9/21/2016	685079.7	603667.9	10.20	113.9	1.4	112.2	9.7	101.5	95	7	Structural Fill	Final Elevation	V5N
3	SF-77-3	9/21/2016	685126.3	603688.7	9.30	115.5	1.4	112.2	9.7	102.9	95	7	Structural Fill	Final Elevation	V5N
3	SF-78-3	9/21/2016	685171.1	603708.0	9.80	107.5	2.0	112.2	9.7	95.8	95	7	Structural Fill	Final Elevation	V5N
2	SF-28-2R	9/28/2016	685759.9	602945.9	21.30	110.0	1.3	112.2	9.7	98.0	95	9	Structural Fill	Re-test from 9/21/16	V5N
2	SF-29-2	9/28/2016	685724.2	602963.6	22.10	116.1	1.4	112.2	9.7	103.5	95	9	Structural Fill	Final Elevation	V5N
2	SF-30-2	9/28/2016	685721.9	603032.1	20.80	108.6	1.0	112.2	9.7	96.8	95	10W	Structural Fill	Final Elevation	V5N
2	SF-31-2	9/28/2016	685681.0	603029.6	21.10	107.2	1.3	112.2	9.7	95.5	95	10W	Structural Fill	Final Elevation	V5N
2	SF-42-2	9/28/2016	685452.8	602991.9	19.50	110.7	2.8	112.2	9.7	98.7	95	10W	Structural Fill	Final Elevation	V5N
2	SF-43-2	9/28/2016	685420.1	603045.0	18.80	107.3	2.4	112.2	9.7	95.6	95	10W	Structural Fill	Final Elevation	V5N
2	SF-50-2	9/28/2016	685545.7	603239.7	17.30	116.2	2.0	112.2	9.7	103.6	95	11	Structural Fill	Final Elevation	V5N
2	SF-51-2	9/28/2016	685573.3	603275.6	15.50	111.4	1.3	112.2	9.7	99.3	95	11	Structural Fill	Final Elevation	V5N
2	SF-52-2	9/28/2016	685477.1	603319.6	14.10	114.7	1.5	112.2	9.7	102.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-53-2	9/28/2016	685450.4	603352.9	13.10	113.3	1.6	112.2	9.7	101.0	95	13	Structural Fill	Final Elevation	V5N
2	SF-54-2	9/28/2016	685422.3	603390.4	12.00	114.2	1.2	112.2	9.7	101.8	95	13	Structural Fill	Final Elevation	V5N
2	SF-55-2	9/28/2016	685390.8	603429.9	10.80	115.1	1.0	112.2	9.7	102.6	95	13	Structural Fill	Final Elevation	V5N
2	SF-56-2	9/28/2016	685358.3	603469.2	10.00	120.1	1.1	112.2	9.7	107.0	95	13	Structural Fill	Final Elevation	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 NORTH CAP
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

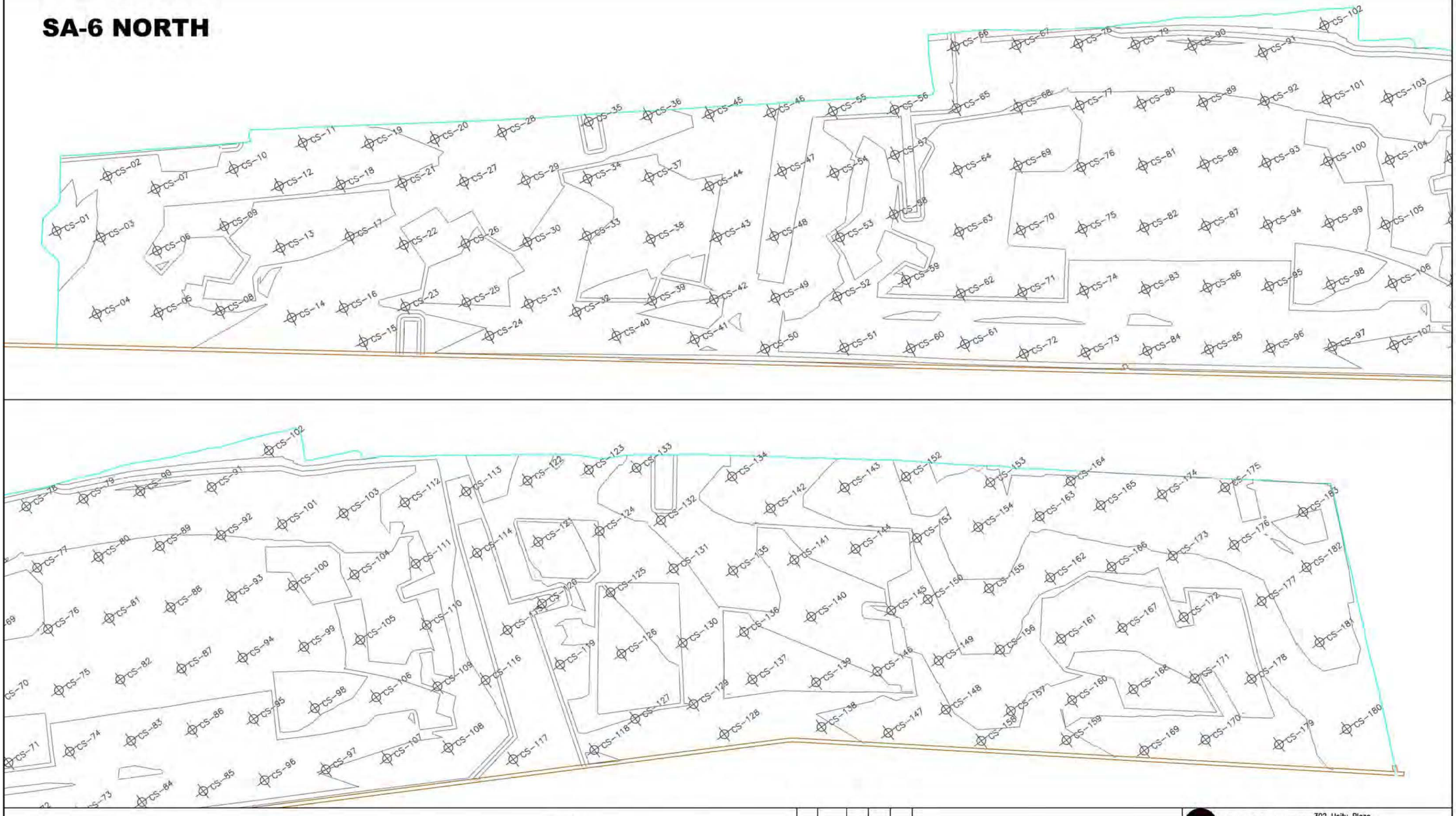
LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	LOCATION ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
2	SF-61-2	9/28/2016	685193.4	603386.6	13.30	122.8	2.2	112.2	9.7	109.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-62-2	9/28/2016	685223.2	603428.2	12.50	110.4	1.0	112.2	9.7	98.4	95	13	Structural Fill	Final Elevation	V5N
2	SF-63-2	9/28/2016	685259.7	603460.0	11.10	113.6	1.4	112.2	9.7	101.2	95	13	Structural Fill	Final Elevation	V5N
2	SF-64-2	9/28/2016	685299.4	603486.9	9.80	114.6	1.6	112.2	9.7	102.1	95	13	Structural Fill	Final Elevation	V5N
2	SF-65-2R	9/28/2016	685327.5	603511.4	9.50	119.8	1.1	112.2	9.7	106.8	95	13	Structural Fill	Re-test from 9/21	V5N
2	SF-66-2	9/28/2016	685298.5	603550.4	9.50	118.1	1.2	112.2	9.7	105.3	95	12	Structural Fill	Final Elevation	V5N
3	SF-67-3	9/28/2016	685263.1	603589.9	9.50	113.2	1.1	112.2	9.7	100.9	95	12	Structural Fill	Final Elevation	V5N
3	SF-68-3	9/28/2016	685233.3	603627.8	9.40	112.8	1.4	112.2	9.7	100.5	95	12	Structural Fill	Final Elevation	V5N
3	SF-69-3	9/28/2016	685201.4	603664.6	9.60	113.8	1.6	112.2	9.7	101.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-70-2	9/28/2016	685149.5	603436.1	14.00	116.6	1.2	112.2	9.7	103.9	95	12	Structural Fill	Final Elevation	V5N
2	SF-71-2	9/28/2016	685102.8	603489.6	13.40	111.7	1.4	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N
2	SF-72-2	9/28/2016	685058.3	603539.5	12.90	110.4	1.8	112.2	9.7	98.4	95	12	Structural Fill	Final Elevation	V5N
2	SF-73-2	9/28/2016	685017.1	603590.8	12.20	111.8	1.2	112.2	9.7	99.6	95	12	Structural Fill	Final Elevation	V5N

R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

2.0 Test Location Drawings

- **GDL Cover Soil (Initial and Reduced Frequency)**
- **Horizon C**
- **Structural Fill**

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION ⊕CS-XX

GDL COVER SOIL ELEVATION CONTOURS

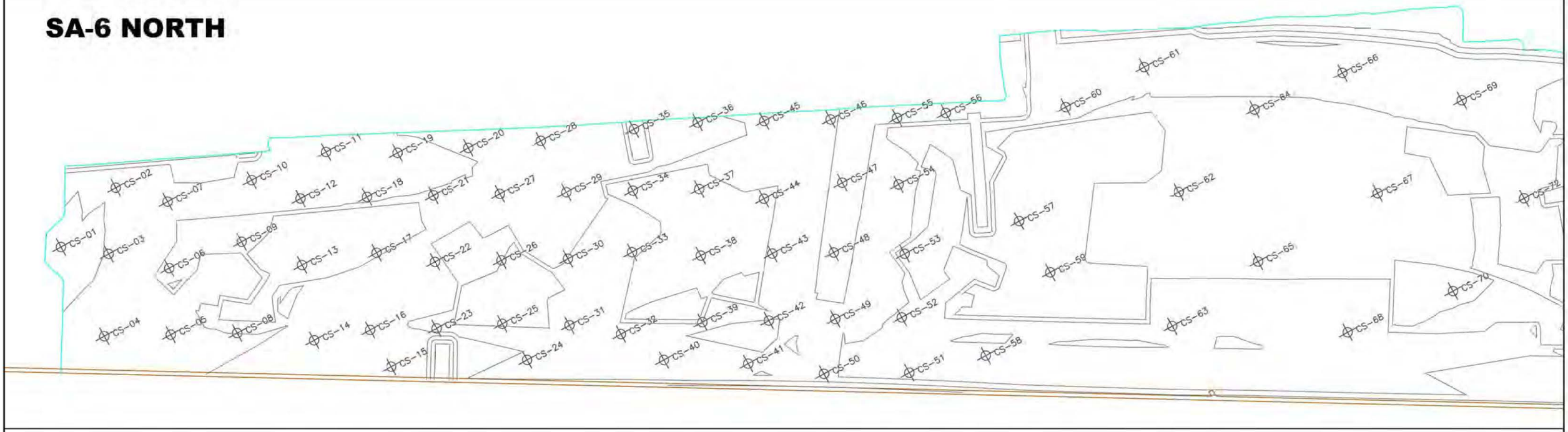
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME: GDL COVER SOIL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/12/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified by approval of RFI-076

LEGEND:

COMPACTION TEST LOCATION ⊕CS-XX

GDL COVER SOIL ELEVATION CONTOURS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME: GDL COVER SOIL REDUCED FREQUENCY COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	T. COLLIER	APPROVED BY			
DATE	8/18/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

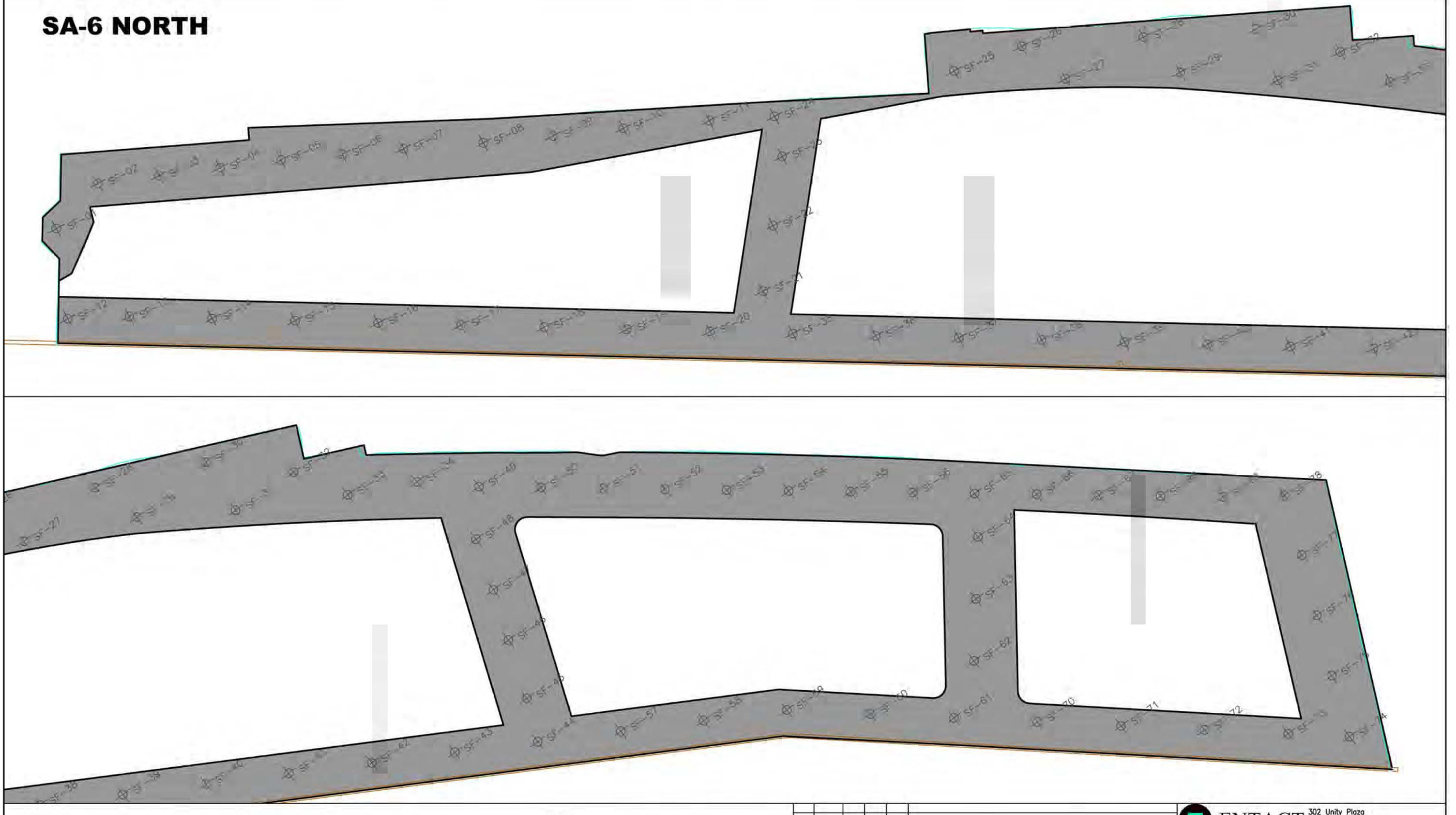
COMPACTION TEST LOCATION HC-XX

STRUCTURAL FILL LIMITS

ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

DRAWING NAME	HORIZON C COMPACTION LOCATIONS				
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ				
DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 NORTH



NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION — SF-XX

STRUCTURAL FILL LIMITS

ENTACT	302 Unity Plaza Latrobe, PA 15650 412-357-1102
DRAWING NAME	STRUCTURAL FILL COMPACTION LOCATIONS
PROJECT NAME & LOCATION	HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

DRAWN BY	T. COLLIER	APPROVED BY			
DATE	7/15/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

1.0 Field Density Test Summary Log

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-03-1	10/20/2015	685534.39	601506.6	17.45	114.3	3.3	117	8.6	97.7	90	10	GDL Cover Soil		V5N
1	CS-04-1	10/20/2015	685573.6	601571	18.25	118	4.1	117	8.6	100.9	90	10	GDL Cover Soil		V5N
1	CS-05-1	10/20/2015	685530.6	601543.8	17.84	116.6	6.4	117	8.6	99.7	90	1	GDL Cover Soil		V5N
1	CS-06-1	10/20/2015	685488.8	601532.7	14.72	118.6	7.1	117	8.6	101.4	90	1	GDL Cover Soil		V5N
1	CS-07-1	10/20/2015	685512.5	601575.8	17.71	115	5.9	117	8.6	98.3	90	1	GDL Cover Soil		V5N
1	CS-08-1	10/20/2015	685536.3	601610.7	17.61	117.3	5.4	117	8.6	100.3	90	1	GDL Cover Soil		V5N
1	CS-09-1	10/20/2015	685492.5	601601.9	16.43	122.4	3.7	117	8.6	104.6	90	1	GDL Cover Soil		V5N
1	CS-10-1	10/20/2015	685448.8	601585.8	14.79	114.5	5.6	117	8.6	97.9	90	1	GDL Cover Soil		V5N
1	CS-11-1	10/20/2015	685477.6	601634.6	17.08	122.2	5.8	117	8.6	104.4	90	1	GDL Cover Soil		V5N
1	CS-12-1	10/20/2015	685503.5	601668.8	17.32	115.3	5.9	117	8.6	98.5	90	1	GDL Cover Soil		V5N
1	CS-13-1	10/20/2015	685462.1	601659.8	16.59	115.5	4.5	117	8.6	98.7	90	1	GDL Cover Soil		V5N
1	CS-14-1	10/20/2015	685423.8	601646.8	14.54	117.9	3.2	117	8.6	100.8	90	1	GDL Cover Soil		V5N
1	CS-15-1	10/20/2015	685444.3	601687.7	14.73	114.8	5	117	8.6	98.1	90	1	GDL Cover Soil		V5N
1	CS-16-1	10/20/2015	685460.2	601724.9	16.34	115.8	4	117	8.6	99.0	90	1	GDL Cover Soil		V5N
1	CS-17-1	10/20/2015	685433.8	601722.1	14.62	113.7	7.3	117	8.6	97.2	90	1	GDL Cover Soil		V5N
1	CS-18-1	10/20/2015	685394.4	601715.0	17.21	118.9	3.4	117	8.6	101.6	90	1	GDL Cover Soil		V5N
1	CS-129-1	11/4/2015	684281.4	603180.2	8.75	120.2	8.0	117	8.6	102.7	90	2	GDL Cover Soil		V5N
1	CS-130-1	11/4/2015	684216.2	603153.2	8.83	113.6	6.7	117	8.6	97.1	90	2	GDL Cover Soil		V5N
1	CS-131-1	11/4/2015	684261.4	603206.7	8.42	114.1	10.9	117	8.6	97.5	90	2	GDL Cover Soil		V5N
1	CS-132-1	11/4/2015	684292.4	603250.5	9.53	118.3	6.2	117	8.6	101.1	90	2	GDL Cover Soil		V5N
1	CS-133-1	11/4/2015	684236.5	603231.2	8.64	111.6	8.1	117	8.6	95.4	90	2	GDL Cover Soil		V5N
1	CS-134-1	11/4/2015	684175.3	603214.9	8.57	122.5	7.7	117	8.6	104.7	90	2	GDL Cover Soil		V5N
1	CS-135-1	11/4/2015	684215.0	603254.8	8.32	118.4	6.6	117	8.6	101.2	90	2	GDL Cover Soil		V5N
1	CS-136-1	11/4/2015	684251.9	603305.8	8.40	115.1	8.8	117	8.6	98.4	90	2	GDL Cover Soil		V5N
1	CS-137-1	11/4/2015	684189.5	603274.7	7.64	116.9	9.3	117	8.6	99.9	90	2	GDL Cover Soil		V5N
1	CS-138-1	11/4/2015	684143.3	603253.5	7.36	117.9	10.5	117	8.6	100.8	90	2	GDL Cover Soil		V5N
1	CS-125-1	11/6/2015	684314.5	603125.9	7.68	111.2	8.2	117	8.6	95.0	90	3	GDL Cover Soil		V5N
1	CS-126-1	11/6/2015	684270.3	603123.5	7.05	120.0	9.7	117	8.6	102.6	90	3	GDL Cover Soil		V5N
1	CS-127-1	11/6/2015	684305.4	603158.0	7.55	115.7	7.6	117	8.6	98.9	90	3	GDL Cover Soil		V5N
1	CS-128-1	11/6/2015	684334.4	603202.5	7.75	117.7	7.4	117	8.6	100.6	90	2	GDL Cover Soil		V5N
1	SF-17-1	11/6/2015	684184.8	603260.8	8.67	126.8	5.4	133	8.6	95.3	95	2	Structural Fill -Liberty	East Side	V5N
1	SF-18-1	11/6/2015	684230.8	603283.7	9.16	127.2	5.9	133	8.6	95.6	95	2	Structural Fill -Liberty	East Side	V5N
1	CS-117-1	11/10/2015	684405.2	603020.3	11.64	111.0	5.2	117	8.6	94.9	90	4	GDL Cover Soil		V5N
1	CS-118-1	11/10/2015	684350.5	603002.3	9.66	115.2	7.3	117	8.6	98.5	90	4	GDL Cover Soil		V5N
1	CS-119-1	11/10/2015	684384.6	603051.2	10.55	116.0	6.3	117	8.6	99.1	90	4	GDL Cover Soil		V5N
1	CS-120-1	11/10/2015	684422.3	603088.8	11.72	115.7	6.6	117	8.6	98.9	90	4	GDL Cover Soil		V5N
1	CS-122-1	11/10/2015	684307.2	603059.7	8.50	116.8	7.5	117	8.6	99.8	90	3	GDL Cover Soil		V5N
1	CS-110-1	11/11/2015	684445.1	602994.4	13.50	115.5	9.7	117	8.6	98.7	90	5	GDL Cover Soil		V5N
1	CS-111-1	11/11/2015	684477.2	602955.6	15.83	125.3	9.0	117	8.6	107.1	90	4	GDL Cover Soil		V5N
1	CS-112-1	11/11/2015	684507.0	602999.4	16.21	122.7	9.0	117	8.6	104.9	90	4	GDL Cover Soil		V5N
1	CS-113-1	11/11/2015	684455.2	602974.1	14.56	118.0	9.0	117	8.6	100.9	90	4	GDL Cover Soil		V5N
1	CS-114-1	11/11/2015	684396.7	602954.9	12.21	120.6	10.0	117	8.6	103.1	90	4	GDL Cover Soil		V5N
1	CS-115-1	11/11/2015	684426.7	603002.4	12.86	118.5	8.4	117	8.6	101.3	90	4	GDL Cover Soil		V5N
1	CS-116-1	11/11/2015	684459.1	603046.2	13.60	122.3	8.1	117	8.6	104.5	90	4	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-121-1	11/11/2015	684364.2	603084.9	9.73	121.3	9.3	117	8.6	103.7	90	4	GDL Cover Soil		V5N
1	CS-123-1	11/11/2015	684344.5	603105.3	9.51	119.7	10.3	117	8.6	102.3	90	3	GDL Cover Soil		V5N
1	CS-124-1	11/11/2015	684370.5	603148.7	9.80	116.4	11.3	117	8.6	99.5	90	3	GDL Cover Soil		V5N
1	SF-15-1	11/11/2015	684280.3	603136.7	7.80	131.4	7.0	133	8.6	98.8	95	3	Structural Fill -Liberty		V5N
2	SF-15-2	11/11/2015	684279.3	603138.5	9.15	129.9	6.8	133	8.6	97.7	95	3	Structural Fill -Liberty		V5N
3	SF-15-3	11/11/2015	684271.2	603129.6	9.64	132.5	3.3	133	8.6	99.6	95	3	Structural Fill -Liberty		V5N
1	SF-16-1	11/11/2015	684316.8	603171.2	8.29	133.6	6.8	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
2	SF-16-2	11/11/2015	684319.3	603178.5	9.48	133.6	5.4	133	8.6	100.5	95	3	Structural Fill -Liberty		V5N
3	SF-16-3	11/11/2015	684314.6	603172.8	10.70	135.6	5.0	133	8.6	102.0	95	3	Structural Fill -Liberty		V5N
2	SF-17-2	11/11/2015	684184.9	603258.9	9.56	126.4	6.7	133	8.6	95.0	95	2	Structural Fill -Liberty	East Side	V5N
2	SF-18-2	11/11/2015	684234.3	603282.9	9.71	133.9	6.3	133	8.6	100.7	95	2	Structural Fill -Liberty	East Side	V5N
1	HC-10-1	11/13/2015	685444.5	601588.5	15.22	114.6	9.5	126	9.5	91.0	90	1	Horizon C	Back Scatter	V5N
1	HC-11-1	11/13/2015	685477.6	601635.1	17.64	122.2	9.7	126	9.5	97.0	90	1	Horizon C	Back Scatter	V5N
1	HC-128-1	11/13/2015	684307.4	603209.5	9.94	114.5	10.8	126	9.5	90.9	90	2	Horizon C	Back Scatter	V5N
1	HC-129-1	11/13/2015	684280.0	603181.7	9.33	110.0	10.2	126	9.5	87.3	90	2	Horizon C	SF-129-1R (Page 2)	V5N
1	HC-13-1	11/13/2015	685461.4	601657.1	17.20	122.5	9.3	126	9.5	97.2	90	1	Horizon C	Back Scatter	V5N
1	HC-131-1	11/13/2015	684261.3	603208.3	8.99	119.8	10.7	126	9.5	95.1	90	2	Horizon C	Back Scatter	V5N
1	HC-130-1	11/13/2015	684238.9	603170.2	9.33	121.4	10.6	126	9.5	96.3	90	2	Horizon C	Back Scatter	V5N
1	HC-132-1	11/13/2015	684294.6	603252.5	10.11	114.6	13.1	126	9.5	91.0	90	2	Horizon C	Back Scatter	V5N
1	HC-133-1	11/13/2015	684236.1	603230.2	9.14	124.7	11.3	126	9.5	99.0	90	2	Horizon C	Back Scatter	V5N
1	HC-134-1	11/13/2015	684173.7	603204.1	9.17	120.2	11	126	9.5	95.4	90	2	Horizon C	Back Scatter	V5N
1	HC-135-1	11/13/2015	684223.3	603252.6	8.92	120	11.5	126	9.5	95.2	90	2	Horizon C	Back Scatter	V5N
1	HC-136-1	11/13/2015	684264.7	603275	9.06	128.5	10.45	126	9.5	102.0	90	2	Horizon C	Back Scatter	V5N
1	HC-137-1	11/13/2015	684206.1	603237.7	9.16	118.4	10.5	126	9.5	94.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1	11/13/2015	684160.6	603231.8	7.70	110.2	12.4	126	9.5	87.5	90	2	Horizon C	SF-138-1R (Page 2)	V5N
1	HC-14-1	11/13/2015	685422.6	601647.6	15.13	117.4	9.9	126	9.5	93.2	90	1	Horizon C	Back Scatter	V5N
1	HC-15-1	11/13/2015	684443.2	601689.6	15.42	117.3	9.9	126	9.5	93.1	90	1	Horizon C	Back Scatter	V5N
1	CS-106-1	11/17/2015	684477.6	602852.8	7.70	117.5	8.0	117	8.6	100.4	90	5	GDL Cover Soil		V5N
1	CS-107-1	11/17/2015	684525.2	602897.0	7.36	108.0	4.3	117	8.6	92.3	90	5	GDL Cover Soil		V5N
1	CS-108-1	11/17/2015	684553.4	602948.7	15.71	123.4	7.5	117	8.6	105.5	90	5	GDL Cover Soil		V5N
1	CS-109-1	11/17/2015	684499.0	602921.5	14.74	119.4	5.9	117	8.6	102.1	90	5	GDL Cover Soil		V5N
1	HC-118-1	11/17/2015	684353.8	603000.7	10.34	113.6	11.1	126	9.5	90.2	90	4	Horizon C	Back Scatter	V5N
1	HC-119-1	11/17/2015	684385.6	603051.8	11.10	120.1	12.4	126	9.5	95.3	90	4	Horizon C	Back Scatter	V5N
1	HC-120-1	11/17/2015	684417.3	603086.2	12.07	128.7	10.9	126	9.5	102.1	90	4	Horizon C	Back Scatter	V5N
1	HC-121-1	11/17/2015	684363.8	603008.5	10.29	116.5	8.3	126	9.5	92.5	90	4	Horizon C	Back Scatter	V5N
1	HC-122-1	11/17/2015	684319.6	603062.6	9.47	115.4	10.1	126	9.5	91.6	90	3	Horizon C	Back Scatter	V5N
1	HC-123-1	11/17/2015	684343.7	603110.5	10.08	122.0	12.0	126	9.5	96.8	90	3	Horizon C	Back Scatter	V5N
1	HC-124-1	11/17/2015	684373.8	603148.2	10.36	116.8	9.5	126	9.5	92.7	90	3	Horizon C	Back Scatter	V5N
1	HC-125-1	11/17/2015	684322.9	603123.8	9.85	113.4	11.3	126	9.5	90.0	90	3	Horizon C	Back Scatter	V5N
1	HC-126-1	11/17/2015	684294.5	603104.5	9.33	113.7	9.7	126	9.5	90.2	90	3	Horizon C	Back Scatter	V5N
1	HC-127-1	11/17/2015	684344.3	603150.7	10.16	118.9	11.6	126	9.5	94.4	90	3	Horizon C	Back Scatter	V5N
1	HC-129-1R	11/17/2015	684276.4	603183.7	9.24	113.4	9.2	126	9.5	90.0	90	2	Horizon C	Back Scatter	V5N
1	HC-138-1R	11/17/2015	684162.8	603230.4	7.91	114.8	10.3	126	9.5	91.1	90	2	Horizon C	Back Scatter	V5N
1	HC-108-1	11/19/2015	684536.2	902967.2	18.62	113.4	10.0	126	9.5	90.0	90	5	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
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JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-109-1	11/19/2015	684492.9	602930.4	18.27	127.2	10.0	126	9.5	101.0	90	5	Horizon C	Back Scatter	V5N
1	HC-110-1	11/19/2015	684449.3	602900.5	14.40	115.7	10.0	126	9.5	91.8	90	5	Horizon C	Back Scatter	V5N
1	HC-111-1	11/19/2015	684475.6	602955.2	16.38	118.6	11.3	126	9.5	94.1	90	4	Horizon C	Back Scatter	V5N
1	HC-112-1	11/19/2015	684507.3	602998.5	16.87	119.2	9.9	126	9.5	94.6	90	4	Horizon C	Back Scatter	V5N
1	HC-113-1	11/19/2015	684452.2	602978.3	14.98	121.1	12.1	126	9.5	96.1	90	4	Horizon C	Back Scatter	V5N
1	HC-114-1	11/19/2015	684397.7	602956.1	12.85	121.5	10.7	126	9.5	96.4	90	4	Horizon C	Back Scatter	V5N
1	HC-115-1	11/19/2015	684428.1	603001.7	13.53	125.5	9.9	126	9.5	99.6	90	4	Horizon C	Back Scatter	V5N
1	HC-116-1	11/19/2015	684461.4	603048.2	14.24	115.4	9.9	126	9.5	91.6	90	4	Horizon C	Back Scatter	V5N
1	HC-117-1	11/19/2015	684402.1	603019.3	12.08	121.6	10.5	126	9.5	96.5	90	4	Horizon C	Back Scatter	V5N
1	SF-12-1	11/19/2015	684485.9	602888.7	15.10	129.8	3.5	133	8.6	97.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-13-1	11/19/2015	684515.4	602913.9	15.90	129.9	4.3	133	8.6	97.7	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
1	SF-14-1	11/19/2015	684548.8	602937.5	16.40	125.4	3.5	133	8.6	94.3	95	5	Structural Fill -Liberty	SF-14-1R (Page 3)	V5N
1	SF-14-1R	11/19/2015	684548.8	602937.5	16.40	127.3	3.5	133	8.6	95.7	95	5	Structural Fill -Liberty	Re-roll/re-test; D Street-shallow	V5N
1	SF-19-1	11/19/2015	684505.8	602882.5	8.54	129.3	3.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-19-2	11/19/2015	684507.6	602881.4	9.70	126.4	4.4	133	8.6	95.0	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-19-3	11/19/2015	684507.5	602880.7	10.66	131.5	3.7	133	8.6	98.9	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-19-4	11/19/2015	684508.0	602880.1	11.49	131.0	4.7	133	8.6	98.5	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	SF-20-1	11/19/2015	684546.3	602907.6	8.77	129.3	4.3	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-20-2	11/19/2015	684545.4	602907.4	9.83	129.9	3.2	133	8.6	97.7	95	5	Structural Fill -Liberty	Location added to D Street	V5N
3	SF-20-3	11/19/2015	684547.9	602908.6	10.90	130.1	3.5	133	8.6	97.8	95	5	Structural Fill -Liberty	Location added to D Street	V5N
4	SF-20-4	11/19/2015	684548.3	602910.0	11.78	129.3	3.5	133	8.6	97.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-100-1	11/24/2015	684631.4	602847.9	21.61	115.7	8.1	117	8.6	98.9	90	6	GDL Cover Soil		V5N
1	CS-101-1	11/24/2015	684579.4	602829.3	21.00	122.2	5.3	117	8.6	104.4	90	6	GDL Cover Soil		V5N
1	CS-103-1	11/24/2015	684559.4	602849.9	20.50	117.0	4.5	117	8.6	100.0	90	6	GDL Cover Soil		V5N
1	CS-104-1	11/24/2015	684591.9	602894.4	20.26	118.5	6.3	117	8.6	101.3	90	6	GDL Cover Soil		V5N
1	CS-105-1	11/24/2015	684549.1	602875.2	19.46	116.3	8.1	117	8.6	99.4	90	6	GDL Cover Soil		V5N
1	CS-93-1	11/24/2015	684673.4	602728.7	17.07	115.0	9.4	117	8.6	98.3	90	7	GDL Cover Soil		V5N
1	CS-95-1	11/24/2015	684652.5	602744.8	17.71	126.5	5.5	117	8.6	108.1	90	7	GDL Cover Soil		V5N
1	CS-96-1	11/24/2015	684681.1	602793.4	18.36	119.7	6.8	117	8.6	102.3	90	6	GDL Cover Soil		V5N
1	CS-97-1	11/24/2015	684634.5	602782.1	18.43	115.4	6.5	117	8.6	98.6	90	6	GDL Cover Soil		V5N
1	CS-98-1	11/24/2015	684578.8	602757.8	18.44	117.4	6.3	117	8.6	100.3	90	6	GDL Cover Soil		V5N
1	CS-99-1	11/24/2015	684610.9	602806.5	18.70	118.6	6.8	117	8.6	101.4	90	6	GDL Cover Soil		V5N
5	SF-19-5	11/24/2015	684507.1	602879.1	13.03	133.2	5.6	133	8.6	100.2	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-19-6	11/24/2015	684506.8	602882.9	14.10	131.8	3.7	133	8.6	99.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-19-7	11/24/2015	684510.4	602881.3	15.06	130.9	4.2	133	8.6	98.4	95	5	Structural Fill -Liberty	Location added to D Street	V5N
5	SF-20-5	11/24/2015	684546.9	602907.7	12.52	126.8	6.7	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
6	SF-20-6	11/24/2015	684545.9	602910.3	13.50	133.1	4.7	133	8.6	100.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
7	SF-20-7	11/24/2015	684540.5	602910.5	14.48	129.1	4.7	133	8.6	97.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
1	CS-102-1	12/8/2015	684522.1	602789.6	9.92	119.0	9.9	117	8.6	101.7	90	6	GDL Cover Soil		V5N
1	CS-86-1	12/8/2015	684691.4	602613.8	6.27	120.7	8.5	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-87-1	12/8/2015	684741.0	602650.3	9.32	120.8	8.7	117	8.6	103.2	90	7	GDL Cover Soil		V5N
1	CS-88-1	12/8/2015	684774.1	602700.3	8.44	122.0	9.4	117	8.6	104.3	90	7	GDL Cover Soil		V5N
1	CS-89-1	12/8/2015	684713.8	602685.9	19.10	113.6	5.5	117	8.6	97.1	90	7	GDL Cover Soil		V5N
1	CS-90-1	12/8/2015	684663.9	602654.3	15.96	115.2	6.4	117	8.6	98.5	90	7	GDL Cover Soil		V5N

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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-91-1	12/8/2015	684668.9	602109.2	19.40	113.2	8.2	117	8.6	96.8	90	7	GDL Cover Soil		V5N
1	CS-92-1	12/8/2015	684729.2	602749.3	16.89	117.9	7.2	117	8.6	100.8	90	7	GDL Cover Soil		V5N
1	CS-94-1	12/8/2015	684610.2	602684.0	7.41	116.3	9.6	117	8.6	99.4	90	7	GDL Cover Soil		V5N
1	HC-100-1	12/8/2015	684624.6	602844.3	22.22	116.6	10.6	126	9.5	92.5	90	6	Horizon C	Back Scatter	V5N
1	HC-101-1	12/8/2015	684579.3	602829.2	21.65	128.5	9.0	126	9.5	102.0	90	6	Horizon C	Back Scatter	V5N
1	HC-102-1	12/8/2015	684517.4	602793.0	10.54	115.0	11.3	126	9.5	91.3	90	6	Horizon C	Back Scatter	V5N
1	HC-103-1	12/8/2015	684558.5	602852.7	20.94	121.1	10.2	126	9.5	96.1	90	6	Horizon C	Back Scatter	V5N
1	HC-104-1	12/8/2015	684589.0	602899.7	20.69	119.1	11.1	126	9.5	94.5	90	6	Horizon C	Back Scatter	V5N
1	HC-105-1	12/8/2015	684547.5	602874.7	20.00	114.1	12.6	126	9.5	90.6	90	6	Horizon C	Back Scatter	V5N
1	HC-106-1	12/8/2015	684488.5	602824.5	11.23	117.5	10.4	126	9.5	93.3	90	5	Horizon C	Back Scatter	V5N
1	HC-97-1	12/8/2015	684634.5	602785.1	19.13	113.4	10.4	126	9.5	90.0	90	6	Horizon C	Back Scatter	V5N
1	HC-98-1	12/8/2015	684580.8	602761.3	19.04	114.9	10.3	126	9.5	91.2	90	6	Horizon C	Back Scatter	V5N
1	HC-99-1	12/8/2015	684613.8	602809.7	19.33	115.5	9.6	126	9.5	91.7	90	6	Horizon C	Back Scatter	V5N
1	SF-10-1	12/8/2015	684712.0	602632.9	8.47	146.3	3.0	133	8.6	110.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
1	SF-11-1	12/8/2015	684764.1	602680.4	9.70	138.2	4.8	133	8.6	103.9	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-12-2	12/8/2015	684486.5	602887.8	16.20	132.2	7.3	133	8.6	99.4	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-12-3	12/8/2015	684483.4	602896.1	17.66	129.1	8.2	133	8.6	97.1	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-13-2	12/8/2015	684519.0	602908.4	17.00	127.7	6.0	133	8.6	96.0	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-13-3	12/8/2015	684517.8	602915.5	18.34	130.7	6.3	133	8.6	98.3	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
2	SF-14-2	12/8/2015	684545.3	602935.8	17.44	127.2	6.6	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
3	SF-14-3	12/8/2015	684538.7	602936.2	18.35	127.2	7.0	133	8.6	95.6	95	5	Structural Fill -Liberty	D Street Corridor-shallow benc	V5N
8	SF-19-8	12/8/2015	684511.3	602878.7	16.16	133.8	6.3	133	8.6	100.6	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-19-9	12/8/2015	684512.4	602884.5	17.40	120.8	7.0	133	8.6	90.8	95	5	Structural Fill -Liberty	SF-19-9R (Page 4)	V5N
9	SF-19-9R	12/8/2015	684512.0	602884.0	17.40	130.2	7.4	133	8.6	97.9	95	5	Structural Fill -Liberty	Re-test lift after rolling	V5N
8	SF-20-8	12/8/2015	684559.3	602906.9	15.66	127.8	7.6	133	8.6	96.1	95	5	Structural Fill -Liberty	Location added to D Street	V5N
9	SF-20-9	12/8/2015	684559.5	602915.7	17.27	126.7	7.4	133	8.6	95.3	95	5	Structural Fill -Liberty	Location added to D Street	V5N
2	SF-10-2	12/10/2015	684716.8	602639.7	9.79	132.4	6.0	133	8.6	99.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-10-3	12/10/2015	684718.1	602641.1	10.74	129.7	3.0	133	8.6	97.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
2	SF-11-2	12/10/2015	684763.0	602675.2	10.41	130.5	6.0	133	8.6	98.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3	12/10/2015	684762.5	602675.9	11.33	125.7	3.0	133	8.6	94.5	95	7	Structural Fill -Liberty	SF-11-3R (Page 4)	V5N
4	SF-10-4	12/14/2015	684719.5	602644.8	11.71	126.4	1.9	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-10-5	12/14/2015	684713.2	602644.6	12.77	126.4	2.5	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-10-6	12/14/2015	684716.5	602649.2	13.99	126.5	3.4	133	8.6	95.1	95	7	Structural Fill -Liberty	C Street Corridor	V5N
3	SF-11-3R	12/14/2015	684762.0	602675.0	11.33	126.4	1.5	133	8.6	95.0	95	7	Structural Fill -Liberty	Re-test lift after rolling	V5N
4	SF-11-4	12/14/2015	684761.3	602678.2	12.57	127.9	2.1	133	8.6	96.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
5	SF-11-5	12/14/2015	684770.8	602673.9	13.60	126.6	3.2	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
6	SF-11-6	12/14/2015	684762.3	602666.3	14.54	126.6	3.9	133	8.6	95.2	95	7	Structural Fill -Liberty	C Street Corridor	V5N
7	SF-10-7	12/15/2015	684716.8	602641.2	15.03	131.0	5.3	133	8.6	98.5	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-10-8	12/15/2015	684716.0	602649.9	16.07	126.7	3.3	133	8.6	95.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-10-9	12/15/2015	684719.3	602639.9	16.86	128.9	5.7	133	8.6	96.9	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
7	SF-11-7	12/15/2015	684765.3	602680.3	15.76	126.3	3.4	133	8.6	95.0	95	7	Structural Fill -Liberty	C Street Corridor	V5N
8	SF-11-8	12/15/2015	684762.4	602675.2	16.71	128.1	5.7	133	8.6	96.3	95	7	Structural Fill -Liberty	C Street Corridor	V5N
9	SF-11-9	12/15/2015	684752.5	602686.1	16.86	130.0	7.4	133	8.6	97.7	95	7	Structural Fill -Liberty	C Street Corridor-final el	V5N
5	SF-10-5R	3/6/2016	684712.8	602643.3	13.55	108.2	2.5	112.2	9.7	96.4	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
4	SF-10-4R	3/16/2016	684708.7	602643.3	12.47	111.6	2.8	112.2	9.7	99.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
4	SF-11-4R	3/16/2016	684760.2	602681.4	12.15	112.0	2.5	112.2	9.7	99.8	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
5	SF-11-5R	3/16/2016	684748.8	602679.9	13.15	108.0	2.4	112.2	9.7	96.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-10-6R	3/17/2016	684707.5	602634.2	15.23	109.5	2.3	112.2	9.7	97.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-10-7R	3/17/2016	684716.6	602642.7	16.50	114.0	3.2	112.2	9.7	101.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
6	SF-11-6R	3/17/2016	684750.5	602661.5	15.23	107.3	2.2	112.2	9.7	95.6	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
7	SF-11-7R	3/17/2016	684750.3	602672.5	16.40	115.4	2.5	112.2	9.7	102.9	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
1	CS-12-1R	4/14/2016	685504.9	601673	17.30	121.5	8.7	117	8.6	103.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-16-1R	4/14/2016	685457.6	601721.7	16.30	117.9	7.8	117	8.6	100.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-17-1R	4/14/2016	685434.6	601718.5	14.70	122.5	8.0	117	8.6	104.7	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-18-1R	4/14/2016	685395.1	601714.8	17.20	120.3	5.3	117	8.6	102.8	90	1	GDL Cover Soil	Reworked area	V5N
1	CS-19-1	4/14/2016	685414.3	601758.3	17.20	120.6	5.6	117	8.6	103.1	90	8	GDL Cover Soil		V5N
1	CS-20-1	4/14/2016	685421.8	601782.3	17.30	122.8	7.0	117	8.6	105.0	90	8	GDL Cover Soil		V5N
1	CS-21-1	4/14/2016	685388.8	601769.3	17.40	120.0	6.8	117	8.6	102.6	90	8	GDL Cover Soil		V5N
1	CS-22-1	4/14/2016	685341.2	601751.2	17.60	119.0	8.0	117	8.6	101.7	90	8	GDL Cover Soil		V5N
1	CS-23-1	4/14/2016	685366.5	601794.2	18.10	121.4	4.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-24-1	4/14/2016	685390.4	601829.7	18.20	114.8	6.0	117	8.6	98.1	90	8	GDL Cover Soil		V5N
1	CS-25-1	4/14/2016	685348.8	601819.2	19.00	121.5	7.7	117	8.6	103.8	90	8	GDL Cover Soil		V5N
1	CS-26-1	4/14/2016	685305.2	601804.9	19.30	117.9	5.4	117	8.6	100.8	90	9	GDL Cover Soil		V5N
1	CS-27-1	4/14/2016	685325.1	601846.4	16.90	120.3	7.0	117	8.6	102.8	90	9	GDL Cover Soil		V5N
1	CS-28-1	4/15/2016	685354.8	601891.6	16.00	125.7	6.8	117	8.6	107.4	90	12	GDL Cover Soil		V5N
1	CS-29-1	4/15/2016	685310.4	601883.3	19.60	120.1	7.3	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-30-1	4/15/2016	685259.5	601859.9	17.30	120.9	6.7	117	8.6	103.3	90	12	GDL Cover Soil		V5N
1	CS-31-1	4/15/2016	685289.6	601902.5	19.60	125.3	7.4	117	8.6	107.1	90	12	GDL Cover Soil		V5N
1	HC-08-1	4/15/2016	685535.1	601617.9	17.00	115.8	9.8	126	9.8	91.9	90	1	Horizon C	Back Scatter	V5N
1	HC-09-1	4/15/2016	685492.6	601603.4	17.10	116.4	9.7	126	9.5	92.4	90	1	Horizon C	Back Scatter	V5N
1	HC-12-1	4/15/2016	685500.6	601671.6	17.90	115.1	9.4	126	9.5	91.3	90	1	Horizon C	Back Scatter	V5N
1	HC-16-1	4/15/2016	685457.5	601729.1	16.80	120.2	9.4	126	9.5	95.4	90	1	Horizon C	Back Scatter	V5N
1	SF-04-01	4/18/2016	685309.3	601839.5	14.50	107.5	1.7	112.2	9.7	95.8	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-04-02	4/18/2016	685311.3	601840.4	16.00	110.5	1.6	112.2	9.7	98.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
3	SF-04-03	4/18/2016	685289.9	601837.7	17.60	108.1	1.8	112.2	9.7	96.3	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-05-01	4/18/2016	685325.3	601867.3	18.00	114.9	2.0	112.2	9.7	102.4	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	SF-06-01	4/18/2016	685357.4	601889.1	17.50	111.6	2.0	112.2	9.7	99.5	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
4	SF-04-04	4/20/2016	685294.4	601842.4	19.10	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-05-02	4/20/2016	685320.8	601866.4	19.70	107.7	2.0	112.2	9.7	96.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
2	SF-06-02	4/20/2016	685348.9	601890.6	19.50	106.6	2.0	112.2	9.7	95.0	95	9	Structural Fill - Tilcon	A Street Corridor	V5N
1	HC-17-01	4/20/2016	685432.8	601721.6	15.20	122.4	9.5	126	9.5	97.1	90	1	Horizon C	Back Scatter	V5N
1	HC-18-01	4/20/2016	685393.5	601712.7	17.70	117.2	10.2	126	9.5	93.0	90	1	Horizon C	Back Scatter	V5N
1	HC-19-01	4/20/2016	685419.8	601751.3	15.30	117.4	9.5	126	9.5	93.2	90	8	Horizon C	Back Scatter	V5N
1	HC-20-01	4/20/2016	685423.4	601782.8	17.80	125.8	8.8	126	9.5	99.8	90	8	Horizon C	Back Scatter	V5N
1	HC-21-01	4/20/2016	685383.0	601770.6	18.20	127.3	8.9	126	9.5	101.0	90	8	Horizon C	Back Scatter	V5N
1	HC-22-01	4/20/2016	685340.2	601758.3	18.30	118.4	8.6	126	9.5	94.0	90	8	Horizon C	Back Scatter	V5N
1	HC-23-01	4/20/2016	685366.4	601793.6	18.50	122.2	8.8	126	9.5	97.0	90	8	Horizon C	Back Scatter	V5N
1	HC-24-01	4/20/2016	685392.1	601831.1	18.90	119.7	8.4	126	9.5	95.0	90	8	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	HC-25-01	4/20/2016	685351.7	601822.1	19.40	129.8	9.2	126	9.5	103.0	90	8	Horizon C	Back Scatter	V5N
1	HC-26-01	4/20/2016	685303.8	601806.5	19.90	113.4	8.1	126	9.5	90.0	90	9	Horizon C	Back Scatter	V5N
1	HC-27-01	4/20/2016	685361.7	601845.0	19.70	121.0	9.0	126	9.5	96.0	90	9	Horizon C	Back Scatter	V5N
1	CS-01-01	4/20/2016	685552.1	601486.2	16.40	111.2	9.0	117	8.6	95.1	90	10	GDL Cover Soil		V5N
1	CS-02-01	4/20/2016	685571.4	601519.1	18.50	120.5	9.1	117	8.6	103.0	90	10	GDL Cover Soil		V5N
1	CS-47-01	4/22/2016	685133.2	602127.9	6.50	117.0	8.6	117	8.6	100.0	90	13	GDL Cover Soil	B Street Corridor	V5N
1	CS-48-01	4/22/2016	685161.9	602170.3	7.10	115.8	8.4	117	8.6	99.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	CS-49-01	4/22/2016	685114.8	602135.6	6.40	111.2	8.4	117	8.6	95.0	90	14	GDL Cover Soil	B Street Corridor	V5N
1	HC-05-01	4/22/2016	685511.7	601549.5	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	HC-06-01	4/22/2016	685479.0	601533.4	15.00	119.7	8.0	126	9.5	95.0	90	1	Horizon C	Back Scatter	V5N
1	HC-07-01	4/22/2016	685514.3	601578.6	18.30	113.4	8.2	126	9.5	90.0	90	1	Horizon C	Back Scatter	V5N
1	SF-01-01	4/22/2016	685510.3	601523.6	16.60	107.7	8.0	112.2	9.7	96.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01	4/22/2016	685547.6	601542.6	18.30	102.0	8.1	112.2	9.7	90.9	95	10	Structural Fill - Tilcon	SF-02-01R (Page 6)	V5N
1	SF-03-01	4/22/2016	685585.2	601572.6	18.20	106.6	8.2	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	SF-02-01R	4/22/2016	685547.6	601542.6	18.30	106.6	8.1	112.2	9.7	95.0	95	10	Structural Fill - Tilcon	Riverside Drive; reroll and retes	V5N
1	HC-04-01	4/26/2016	685586.2	601559.0	19.40	117.5	9.1	126	9.5	93.3	90	10	Horizon C	Back Scatter	V5N
1	HC-02-01	4/26/2016	685575.9	601519.7	19.30	114.2	10.6	126	9.5	90.6	90	10	Horizon C	Back Scatter	V5N
1	HC-03-01	4/26/2016	685531.2	601505.9	17.90	124.3	8.1	126	9.5	98.7	90	10	Horizon C	Back Scatter	V5N
1	HC-01-01	4/26/2016	685554.0	601483.2	16.80	114.7	9.6	126	9.5	91.0	90	10	Horizon C	Back Scatter	V5N
2	SF-01-02	4/26/2016	685512.5	601525.3	17.50	118.2	7.0	112.2	9.7	105.3	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-02-02	4/26/2016	685553.1	601555.1	18.90	114.9	4.7	112.2	9.7	102.4	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
2	SF-03-02	4/26/2016	685577.3	601575.2	19.30	120.3	4.9	112.2	9.7	107.2	95	10	Structural Fill - Tilcon	Riverside Drive	V5N
1	CS-32-01	4/26/2016	685305.2	601932.9	19.50	117.6	7.2	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-33-01	4/26/2016	685271.2	601934.8	19.60	117.0	10.6	117	8.6	100.0	90	12	GDL Cover Soil		V5N
1	CS-34-01	4/26/2016	685225.8	601921.4	19.80	117.7	9.8	117	8.6	100.6	90	12	GDL Cover Soil		V5N
1	CS-35-01	4/26/2016	685251.7	601967.3	19.30	117.6	10.5	117	8.6	100.5	90	12	GDL Cover Soil		V5N
1	CS-36-01	4/26/2016	685269.0	601997.3	18.80	114.6	9.7	117	8.6	97.9	90	12	GDL Cover Soil		V5N
1	SF-07-01	4/26/2016	685096.6	606106.8	7.10	130.5	6.2	112.2	9.7	116.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-08-01	4/26/2016	685131.5	602130.1	7.40	129.9	5.8	112.2	9.7	115.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	SF-09-01	4/26/2016	685163.1	602153.3	7.60	127.8	5.7	112.2	9.7	113.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-07-02	4/26/2016	685098.7	602108.8	7.90	124.6	4.8	112.2	9.7	111.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-08-02	4/26/2016	685134.0	602134.2	8.20	116.8	3.7	112.2	9.7	104.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
2	SF-09-02	4/26/2016	685173.6	602160.2	8.60	128.1	5.5	112.2	9.7	114.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-07-03	4/27/2016	685096.6	602106.8	9.40	113.2	2.8	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-08-03	4/27/2016	685131.5	602133.6	9.60	112.5	3.2	112.2	9.7	100.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
3	SF-09-03	4/27/2016	685168.9	602159.4	10.00	116.2	2.9	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-07-04	4/28/2016	685089.9	602105.5	10.40	107.2	4.7	112.2	9.7	95.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-08-04	4/28/2016	685130.3	602135.1	10.50	108.4	2.6	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
4	SF-09-04	4/28/2016	685158.3	602159.3	10.80	110.9	3.7	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-07-05	4/28/2016	658087.4	602109.5	11.30	106.9	4.6	112.2	9.7	95.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-08-05	4/28/2016	685126.7	602137.8	11.60	115.8	3.2	112.2	9.7	103.2	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
5	SF-09-05	4/28/2016	685164.5	602163.5	11.50	112.6	3.3	112.2	9.7	100.4	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-37-01	4/28/2016	685234.1	601983.7	18.80	121.7	8.8	117	8.6	104.0	90	12	GDL Cover Soil		V5N
1	CS-38-01	4/28/2016	685185.5	601970.6	18.70	116.6	6.7	117	8.6	99.7	90	12	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-39-01	4/28/2016	685213.8	602102.2	18.20	122.0	8.3	117	8.6	104.3	90	12	GDL Cover Soil		V5N
1	CS-40-01	4/28/2016	685227.8	602065.5	17.70	119.1	8.7	117	8.6	101.8	90	12	GDL Cover Soil		V5N
1	CS-41-01	4/28/2016	685193.2	602041.5	17.40	120.0	10.9	117	8.6	102.6	90	12	GDL Cover Soil		V5N
1	CS-42-01	4/28/2016	685152.5	602025.7	17.30	119.6	8.9	117	8.6	102.2	90	13	GDL Cover Soil		V5N
6	SF-07-06	4/29/2016	658082.9	602108.5	12.26	114.3	2.7	112.2	9.7	101.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-08-06	4/29/2016	685136.5	602126.5	12.47	110.8	2.4	112.2	9.7	98.8	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
6	SF-09-06	4/29/2016	685146.5	602166.6	12.35	113.3	2.4	112.2	9.7	101.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-28-01	4/29/2016	685334.6	601903.6	19.80	119.8	9.5	126	9.5	95.1	90	12	Horizon C	Back Scatter	V5N
1	HC-29-01	4/29/2016	685294.7	601866.8	20.20	128.7	8.4	126	9.5	102.1	90	12	Horizon C	Back Scatter	V5N
1	HC-30-01	4/29/2016	685258.9	601854.0	17.80	114.7	10.7	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-31-01	4/29/2016	685286.1	601905.7	20.20	124.7	9.2	126	9.5	99.0	90	12	Horizon C	Back Scatter	V5N
1	HC-32-01	4/29/2016	685294.9	601951.8	19.90	124.5	8.7	126	9.5	98.8	90	12	Horizon C	Back Scatter	V5N
1	HC-33-01	4/29/2016	685267.6	601932.2	20.10	114.7	10.2	126	9.5	91.0	90	12	Horizon C	Back Scatter	V5N
1	HC-35-01	4/29/2016	685251.4	601960.8	19.80	113.7	10.5	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
7	SF-07-07	5/2/2016	685098.9	602107.7	13.20	113.7	2.2	112.2	9.7	101.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-08-07	5/2/2016	685131.4	602134.6	13.40	113.2	3.4	112.2	9.7	100.9	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
7	SF-09-07	5/2/2016	685141.4	602154.3	13.20	113.0	2.1	112.2	9.7	100.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-07-08	5/2/2016	685090.8	602099.0	14.20	119.6	4.0	112.2	9.7	106.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-08-08	5/2/2016	685126.1	602130.8	14.50	116.2	2.6	112.2	9.7	103.6	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
8	SF-09-08	5/2/2016	685060.5	602159.1	14.00	117.3	3.4	112.2	9.7	104.5	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	CS-43-01	5/2/2016	685178.7	602060.3	17.20	119.7	10.1	117	8.6	102.3	90	13	GDL Cover Soil		V5N
1	CS-44-01	5/2/2016	685227.7	602065.5	17.70	115.8	7.3	117	8.6	99.0	90	13	GDL Cover Soil		V5N
1	CS-45-01	5/2/2016	685152.4	602803.2	17.60	114.5	7.1	117	8.6	97.9	90	13	GDL Cover Soil		V5N
1	CS-46-01	5/2/2016	685108.7	602067.4	15.00	109.9	7.8	117	8.6	93.9	90	13	GDL Cover Soil		V5N
1	HC-34-01	5/2/2016	685227.3	601914.0	20.50	117.5	10.3	126	9.5	93.3	90	12	Horizon C	Back Scatter	V5N
1	HC-36-01	5/2/2016	685269.4	601989.1	19.50	119.1	11.1	126	9.5	94.5	90	12	Horizon C	Back Scatter	V5N
1	HC-37-01	5/2/2016	685232.0	601988.5	19.30	115.0	9.8	126	9.5	91.3	90	12	Horizon C	Back Scatter	V5N
1	HC-38-01	5/2/2016	685181.9	601969.6	19.30	113.7	11.7	126	9.5	90.2	90	12	Horizon C	Back Scatter	V5N
1	HC-39-01	5/2/2016	685213.9	602004.5	18.70	116.0	8.9	126	9.5	92.1	90	12	Horizon C	Back Scatter	V5N
1	HC-40-01	5/2/2016	685226.0	602151.1	18.10	125.0	10.0	126	9.5	99.2	90	12	Horizon C	Back Scatter	V5N
1	HC-41-01	5/2/2016	685199.7	602037.5	18.00	120.1	10.4	126	9.5	95.3	90	12	Horizon C	Back Scatter	V5N
9	SF-07-09	5/5/2016	685008.1	602099.3	14.90	120.0	3.5	112.2	9.7	107.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-08-09	5/5/2016	685134.3	602127.7	15.00	123.4	3.2	112.2	9.7	110.0	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
9	SF-09-09	5/5/2016	685169.3	602144.8	14.90	115.7	4.2	112.2	9.7	103.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-07-10	5/5/2016	685087.7	602155.6	16.50	120.4	4.4	112.2	9.7	107.3	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-08-10	5/5/2016	685117.3	602137.9	16.60	111.9	3.8	112.2	9.7	99.7	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
10	SF-09-10	5/5/2016	685155.3	602167.4	16.30	107.8	3.1	112.2	9.7	96.1	95	11	Structural Fill - Tilcon	B Street Corridor	V5N
1	HC-42-01	5/5/2016	685157.1	602028.8	17.80	117.3	11.6	126	9.5	93.1	90	13	Horizon C	Back Scatter	V5N
1	HC-43-01	5/5/2016	685169.9	602065.8	17.80	117.2	12.1	126	9.5	93.0	90	13	Horizon C	Back Scatter	V5N
1	HC-44-01	5/5/2016	685193.6	602102.8	18.00	124.0	11.7	126	9.5	98.4	90	13	Horizon C	Back Scatter	V5N
1	HC-45-01	5/5/2016	685166.2	602112.5	18.40	123.3	10.3	126	9.5	97.9	90	13	Horizon C	Back Scatter	V5N
1	HC-46-01	5/5/2016	685107.4	602064.3	15.40	125.5	11.6	126	9.5	99.6	90	13	Horizon C	Back Scatter	V5N
1	HC-47-01	5/5/2016	685140.2	602092.3	18.30	121.2	9.2	126	9.5	96.2	90	13	Horizon C	Back Scatter	V5N
1	CS-50-01	5/11/2016	685060.3	602129.0	16.00	114.9	9.2	117	8.6	98.2	90	14	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-51-01	5/11/2016	685095.6	602173.6	18.80	115.3	9.2	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-52-01	5/11/2016	685118.1	602212.6	18.30	116.9	9.2	117	8.6	99.9	90	14	GDL Cover Soil		V5N
1	CS-53-01	5/11/2016	685077.2	602198.8	18.80	115.3	9.8	117	8.6	98.5	90	14	GDL Cover Soil		V5N
1	CS-54-01	5/11/2016	685018.9	602196.7	19.40	113.0	8.8	117	8.6	96.6	90	14	GDL Cover Soil		V5N
1	CS-55-01	5/11/2016	685037.7	602225.0	16.90	112.7	13.2	117	8.6	96.3	90	14	GDL Cover Soil		V5N
1	CS-57-01	5/11/2016	685029.4	602258.5	17.50	116.7	11.6	117	8.6	99.7	90	14	GDL Cover Soil		V5N
1	CS-58-01	5/11/2016	684989.3	602236.4	20.10	117.6	9.4	117	8.6	100.5	90	14	GDL Cover Soil		V5N
1	CS-59-01	5/11/2016	685005.7	602278.3	17.80	119.0	11.8	117	8.6	101.7	90	14	GDL Cover Soil		V5N
1	CS-61-01	5/11/2016	684990.1	602311.3	18.30	112.5	14.7	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-62-01	5/11/2016	684954.1	602272.2	20.80	116.1	9.5	117	8.6	99.2	90	15	GDL Cover Soil		V5N
1	CS-63-01	5/11/2016	684978.4	602338.7	18.70	110.8	6.8	117	8.6	94.7	90	15	GDL Cover Soil		V5N
11	SF-07-11	5/11/2016	685085.8	602102.0	17.60	108.4	2.1	112.2	9.7	96.6	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-08-11	5/11/2016	685120.0	602122.7	17.80	107.5	2.5	112.2	9.7	95.8	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
11	SF-09-11	5/11/2016	685157.2	602150.4	17.70	109.8	2.6	112.2	9.7	97.9	95	11	Structural Fill - Tilcon	B Street Corridor-final el	V5N
3	SF-01-03	5/11/2016	685512.3	601525.2	19.30	113.1	2.0	112.2	9.7	100.8	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-02-03	5/11/2016	685546.3	601552.4	19.40	116.2	2.4	112.2	9.7	103.6	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
3	SF-03-03	5/11/2016	685585.6	601575.9	19.30	116.9	2.0	112.2	9.7	104.2	95	10	Structural Fill - Tilcon	Riverside Drive; final el	V5N
1	HC-48-01	5/16/2016	685126.3	602180.8	19.30	114.6	14.9	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-49-01	5/16/2016	685093.4	602149.0	17.00	145.7	9.9	126	9.5	115.6	90	14	Horizon C	Back Scatter	V5N
1	HC-50-01	5/16/2016	685061.4	602128.9	16.50	119.8	13.2	126	9.5	95.1	90	14	Horizon C	Back Scatter	V5N
1	HC-51-01	5/16/2016	685096.6	602178.9	19.30	120.1	11.0	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-52-01	5/16/2016	685119.9	602212.3	18.80	114.5	11.6	126	9.5	90.9	90	14	Horizon C	Back Scatter	V5N
1	HC-53-01	5/16/2016	685054.2	602219.1	19.60	118.1	10.7	126	9.5	93.7	90	14	Horizon C	Back Scatter	V5N
1	HC-54-01	5/16/2016	685019.8	602191.5	19.80	114.2	12.4	126	9.5	90.6	90	14	Horizon C	Back Scatter	V5N
1	HC-55-01	5/16/2016	685054.2	602219.1	19.60	120.1	12.8	126	9.5	95.3	90	14	Horizon C	Back Scatter	V5N
1	HC-56-01	5/16/2016	685075.9	602263.9	19.80	116.8	12.7	126	9.5	92.7	90	14	Horizon C	Back Scatter	V5N
1	HC-57-01	5/16/2016	685032.7	602252.7	17.90	118.6	9.8	126	9.5	94.1	90	14	Horizon C	Back Scatter	V5N
1	HC-58-01	5/16/2016	684988.4	602235.8	20.60	114.7	11.1	126	9.5	91.0	90	14	Horizon C	Back Scatter	V5N
1	HC-59-01	5/16/2016	685010.1	602267.9	18.10	122.6	8.7	126	9.5	97.3	90	14	Horizon C	Back Scatter	V5N
1	CS-56-01	5/16/2016	685025.1	602299.5	20.30	118.5	11.5	117	8.6	101.3	90	14	GDL Cover Soil		V5N
1	CS-60-01	5/16/2016	685025.9	602329.2	18.00	113.1	11.9	117	8.6	96.7	90	14	GDL Cover Soil		V5N
5	SF-04-05	5/16/2016	685352.5	601871.7	19.40	114.6	1.5	112.2	9.7	102.1	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-05-03	5/16/2016	685321.5	601855.6	19.70	117.7	1.8	112.2	9.7	104.9	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
3	SF-06-03	5/16/2016	685289.7	601832.8	19.70	108.3	1.4	112.2	9.7	96.5	95	9	Structural Fill - Tilcon	A Street Corridor; final el	V5N
1	CS-64-01	5/18/2016	684999.1	602372.6	18.70	115.6	7.7	117	8.6	98.8	90	15	GDL Cover Soil		V5N
1	CS-65-01	5/18/2016	684995.4	602360.5	18.90	116.5	11.3	117	8.6	99.6	90	15	GDL Cover Soil		V5N
1	CS-66-01	5/18/2016	684907.9	602343.4	19.00	120.8	9.0	117	8.6	103.2	90	15	GDL Cover Soil		V5N
1	CS-67-01	5/18/2016	684935.3	602386.4	18.90	115.3	11.1	117	8.6	98.5	90	15	GDL Cover Soil		V5N
1	CS-68-01	5/18/2016	684960.5	602427.3	18.80	112.6	9.6	117	8.6	96.2	90	15	GDL Cover Soil		V5N
1	CS-69-01	5/18/2016	684918.4	602414.4	18.70	114.0	11.0	117	8.6	97.4	90	15	GDL Cover Soil		V5N
1	CS-71-01	5/18/2016	684888.7	602434.3	18.00	116.7	12.4	117	8.6	99.7	90	16	GDL Cover Soil		V5N
1	CS-72-01	5/18/2016	684917.8	602480.4	18.00	117.5	8.8	117	8.6	100.4	90	16	GDL Cover Soil		V5N
1	HC-49-01R	5/18/2016	685093.4	602149.0	17.00	117.5	9.9	126	9.5	93.3	90	14	Horizon C	Back Scatter; re-run test	V5N
1	CS-70-01	5/20/2016	684860.3	602329.6	18.20	111.8	7.6	117	8.6	95.6	90	16	GDL Cover Soil		V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
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LIFT NO.	TEST I.D.	TEST DATE	LOCATION NORTHING	LOCATION EASTING	ELEV. (FT)	FIELD DRY DENSITY (PCF)	FIELD MOISTURE CONTENT (%)	PROCTOR MAXIMUM DRY DENSITY (PCF)	OPTIMUM MOISTURE CONTENT (%)	FIELD PERCENT COMPACTION	SPECIFIED PERCENT COMPACTION	AREA	LIFT MATERIAL	NOTES	TESTING COMPANY
1	CS-73-01	5/20/2016	684869.9	602462.4	17.40	115.6	11.7	117	8.6	98.8	90	16	GDL Cover Soil		V5N
1	CS-74-01	5/20/2016	684821.2	602444.5	16.60	116.4	12.6	117	8.6	99.5	90	16	GDL Cover Soil		V5N
1	CS-75-01	5/20/2016	684852.3	602488.7	16.60	114.2	10.0	117	8.6	97.6	90	16	GDL Cover Soil		V5N
1	HC-60-01	5/20/2016	685036.3	602315.7	18.50	117.4	9.5	126	9.5	93.2	90	15	Horizon C	Back Scatter	V5N
1	HC-61-01	5/20/2016	685958.1	602318.7	19.30	123.7	11.9	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-62-01	5/20/2016	684943.1	602291.6	21.70	116.8	10.2	126	9.5	92.7	90	15	Horizon C	Back Scatter	V5N
1	HC-63-01	5/20/2016	684974.6	602334.4	19.20	116.1	13.3	126	9.5	92.1	90	15	Horizon C	Back Scatter	V5N
1	HC-64-01	5/20/2016	685000.9	602370.5	19.20	116.7	9.4	126	9.5	92.6	90	15	Horizon C	Back Scatter	V5N
1	HC-65-01	5/20/2016	684954.1	602361.6	19.50	120.6	13.2	126	9.5	95.7	90	15	Horizon C	Back Scatter	V5N
1	HC-66-01	5/20/2016	684906.2	602342.6	19.50	114.5	11.8	126	9.5	90.9	90	15	Horizon C	Back Scatter	V5N
1	HC-68-01	5/20/2016	684955.8	602413.4	19.40	120.4	12.5	126	9.5	95.6	90	15	Horizon C	Back Scatter	V5N
1	HC-69-01	5/20/2016	684906.3	602419.1	19.00	123.7	10.1	126	9.5	98.2	90	15	Horizon C	Back Scatter	V5N
1	HC-70-01	5/20/2016	684858.7	302396.2	18.70	124.3	11.1	126	9.5	98.7	90	16	Horizon C	Back Scatter	V5N
1	HC-71-01	5/20/2016	684882.1	602433.1	18.50	114.6	13.6	126	9.5	91.0	90	16	Horizon C	Back Scatter	V5N
1	HC-72-01	5/20/2016	684913.9	602473.4	18.60	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	HC-73-01	5/20/2016	684870.2	602464.3	18.00	122.3	12.4	126	9.5	97.1	90	16	Horizon C	Back Scatter	V5N
1	HC-74-01	5/20/2016	684819.9	602423.5	16.90	124.6	11.3	126	9.5	98.9	90	16	Horizon C	Back Scatter	V5N
1	CS-76-01	5/27/2016	684877.8	602531.3	19.20	107.5	6.6	117	8.6	91.9	90	17	GDL Cover Soil		V5N
1	CS-77-01	5/27/2016	684831.7	602514.5	15.90	111.5	9.1	117	8.6	95.3	90	17	GDL Cover Soil		V5N
1	CS-78-01	5/27/2016	684774.7	602493.1	14.40	111.0	8.8	117	8.6	94.9	90	17	GDL Cover Soil		V5N
1	CS-79-01	5/27/2016	684809.3	602541.2	17.60	111.8	6.4	117	8.6	95.6	90	17	GDL Cover Soil		V5N
1	CS-80-01	5/27/2016	684830.6	602582.9	15.20	113.6	9.0	117	8.6	97.1	90	17	GDL Cover Soil		V5N
1	CS-81-01	5/27/2016	684786.1	602567.2	14.90	113.7	8.1	117	8.6	97.2	90	17	GDL Cover Soil		V5N
1	CS-82-01	5/27/2016	684747.7	602551.4	14.30	108.8	8.0	117	8.6	93.0	90	17	GDL Cover Soil		V5N
1	CS-83-01	5/27/2016	684775.8	602598.9	15.40	108.9	8.7	117	8.6	93.1	90	17	GDL Cover Soil		V5N
1	CS-84-01	5/27/2016	684806.4	602648.6	15.30	107.6	10.1	117	8.6	92.0	90	17	GDL Cover Soil		V5N
1	CS-85-01	5/27/2016	684758.7	602624.2	18.20	111.2	7.6	117	8.6	95.0	90	17	GDL Cover Soil		V5N
1	HC-67-01	5/27/2016	684934.5	602386.8	19.50	122.9	10.4	126	9.5	97.5	90	16	Horizon C	Back Scatter	V5N
1	HC-75-01	5/27/2016	684852.9	602485.9	17.20	114.0	7.0	126	9.5	90.5	90	16	Horizon C	Back Scatter	V5N
1	HC-76-01	6/2/2016	684876.3	602531.1	19.70	119.3	9.3	126	9.5	94.0	90	17	Horizon C	Back Scatter	V5N
1	HC-77-01	6/2/2016	684830.6	602514.8	16.40	122.3	8.4	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-78-01	6/2/2016	684776.0	602494.2	15.10	114.4	8.4	126	9.5	90.8	90	17	Horizon C	Back Scatter	V5N
1	HC-79-01	6/2/2016	684810.5	602540.7	18.10	122.2	7.3	126	9.5	97.0	90	17	Horizon C	Back Scatter	V5N
1	HC-80-01	6/2/2016	684834.1	602583.5	15.80	121.5	8.2	126	9.5	96.4	90	17	Horizon C	Back Scatter	V5N
1	HC-81-01	6/2/2016	684789.9	602568.2	15.50	122.3	12.2	126	9.5	97.1	90	17	Horizon C	Back Scatter	V5N
1	HC-82-01	6/2/2016	684752.2	602543.1	17.30	126.2	10.2	126	9.5	100.2	90	17	Horizon C	Back Scatter	V5N
1	HC-83-01	6/2/2016	684781.1	602601.8	16.00	118.6	10.2	126	9.5	94.1	90	17	Horizon C	Back Scatter	V5N
1	HC-84-01	6/2/2016	684801.5	602638.4	17.70	124.5	9.3	126	9.5	98.8	90	17	Horizon C	Back Scatter	V5N
1	HC-85-01	6/2/2016	684757.6	602625.7	18.70	121.4	8.7	126	9.5	96.3	90	17	Horizon C	Back Scatter	V5N
1	HC-86-01	6/2/2016	684704.4	602572.9	8.10	126.9	11.6	126	9.5	100.7	90	17	Horizon C	Back Scatter	V5N
1	HC-87-01	6/2/2016	684739.4	602607.5	18.30	124.2	9.8	126	9.5	98.6	90	17	Horizon C	Back Scatter	V5N
1	HC-88-01	6/2/2016	684755.1	602716.9	16.70	113.2	13.2	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
1	HC-89-01	6/2/2016	684729.9	602698.7	19.60	115.7	11.8	126	9.5	91.8	90	7	Horizon C	Back Scatter	V5N
1	HC-90-01	6/2/2016	684676.0	602662.2	19.50	127.3	11.2	126	9.5	101.0	90	7	Horizon C	Back Scatter	V5N

FIELD DENSITY TEST SUMMARY LOG
SA6 SOUTH CAP
Testing Frequency - 1 Test/2,500 Square Feet
HONEYWELL STUDY AREA 6 REMEDIATION PROJECT
JERSEY CITY, NEW JERSEY

						FIELD	FIELD	PROCTOR	OPTIMUM	FIELD	SPECIFIED				
LIFT		TEST	LOCATION			DRY	MOISTURE	MAXIMUM DRY	MOISTURE	PERCENT	PERCENT				TESTING
NO.	TEST I.D.	DATE	NORTHING	EASTING	ELEV. (FT)	DENSITY (PCF)	CONTENT (%)	DENSITY (PCF)	CONTENT (%)	COMPACTION	COMPACTION	AREA	LIFT MATERIAL	NOTES	COMPANY
1	HC-91-01	6/2/2016	684684.9	602718.4	17.30	120.5	12.8	126	9.5	95.6	90	7	Horizon C	Back Scatter	V5N
1	HC-92-01	6/2/2016	684700.5	602765.4	20.60	113.6	9.3	126	9.5	90.2	90	7	Horizon C	Back Scatter	V5N
1	HC-93-01	6/2/2016	684673.2	602735.5	17.70	116.1	13.6	126	9.5	92.2	90	7	Horizon C	Back Scatter	V5N
1	HC-94-01	6/2/2016	684616.3	602716.8	18.00	125.0	9.4	126	9.5	99.2	90	7	Horizon C	Back Scatter	V5N
1	HC-95-01	6/2/2016	684650.6	602768.2	18.70	120.9	12.6	126	9.5	96.0	90	7	Horizon C	Back Scatter	V5N
1	HC-96-01	6/2/2016	684681.4	602798.3	18.90	113.5	12.7	126	9.5	90.0	90	7	Horizon C	Back Scatter	V5N
8	SF-10-8R	6/2/2016	684712.5	602638.8	17.50	111.0	1.5	112.2	8.6	99.1	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
8	SF-11-8R	6/2/2016	684758.7	602671.8	17.40	110.5	1.8	112.2	8.6	98.7	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-10-9R	6/2/2016	684715.2	602640.1	18.40	113.7	1.4	112.2	8.6	101.5	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
9	SF-11-9R	6/2/2016	684759.7	602673.9	18.40	115.7	1.4	112.2	8.6	103.3	95	7	Structural Fill - Tilcon	Replace lifts of Liberty SF	V5N
10	SF-19-10	6/15/2016	684509.5	602871.3	18.50	108.3	2.9	112.2	8.6	96.7	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N
10	SF-20-10	6/15/2016	684550.8	602901.1	19.00	108.7	2.6	112.2	8.6	97.0	95	5	Structural Fill - Tilcon	D Street Corridor-final el	V5N

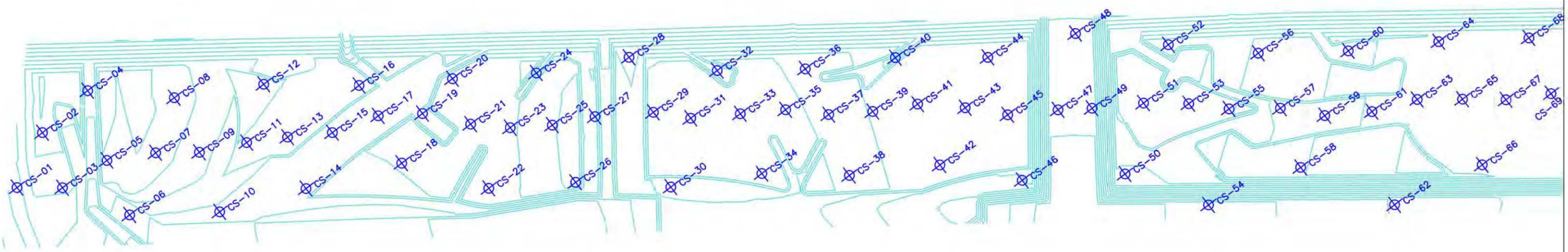
Notes: Maximum Dry Density for Celgene GDL Cover Soil (CS) based on Vertical 5 Northeast Inc Sample ID 12691 approved in Entact Submittal 112B
Maximum Dry Density for 6 inch lift of Horizon C based on Vertical 5 Northeast Inc Sample ID 12934
Maximum Dry Density for Liberty Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 12924 approved in Entact Submittal 117A
Maximum Dry Density for Tilcon Structural Fill (SF) based on Vertical 5 Northeast Inc Sample ID 13163 approved in Entact Submittal 128
Sample ID CS-1-2 Where:
CS=Cover Soil; HC=Horizon C; SF=Structural Fill
1 = Test Location as noted on Compaction Location Figures
2 = Number of test performed at that location (sequential)
R = Will be placed after sample ID if the test location is reworked and the compaction test is run again

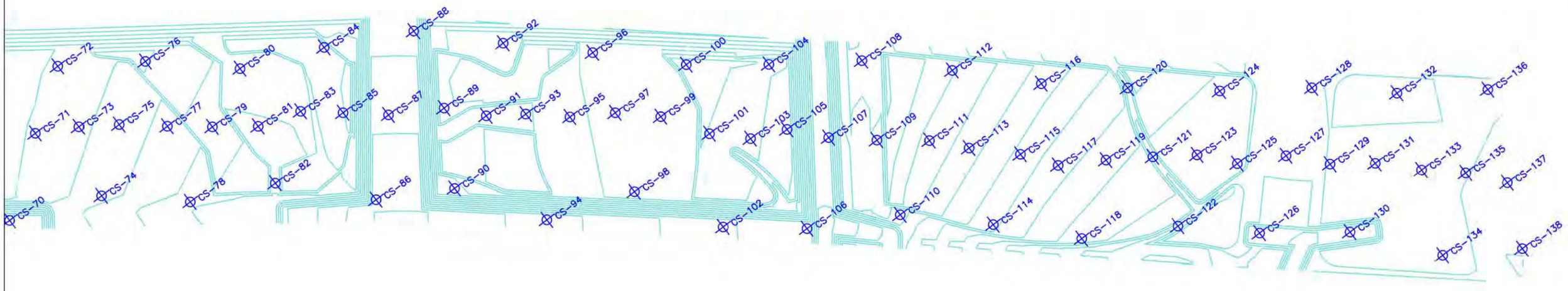
HC-107 became a Structural Fill test location after the D Street Corridor was widened

2.0 Test Location Drawings

- **GDL Cover Soil**
- **Horizon C**
- **Structural Fill**

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION CS-XX

GDL COVER SOIL ELEVATION CONTOURS

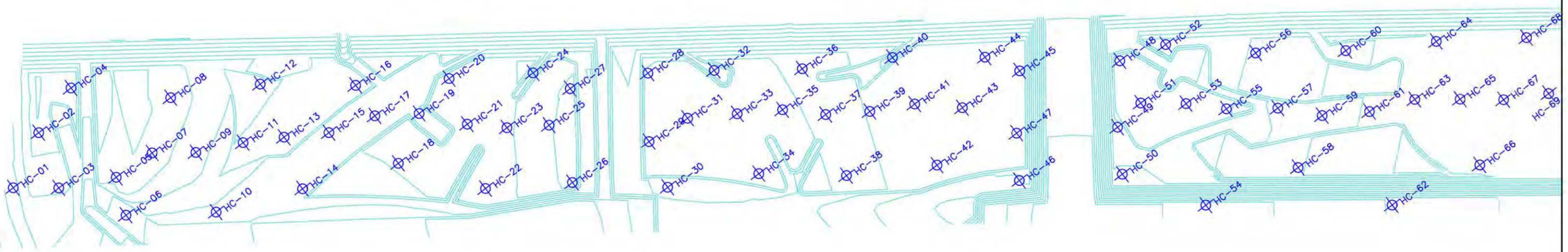
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

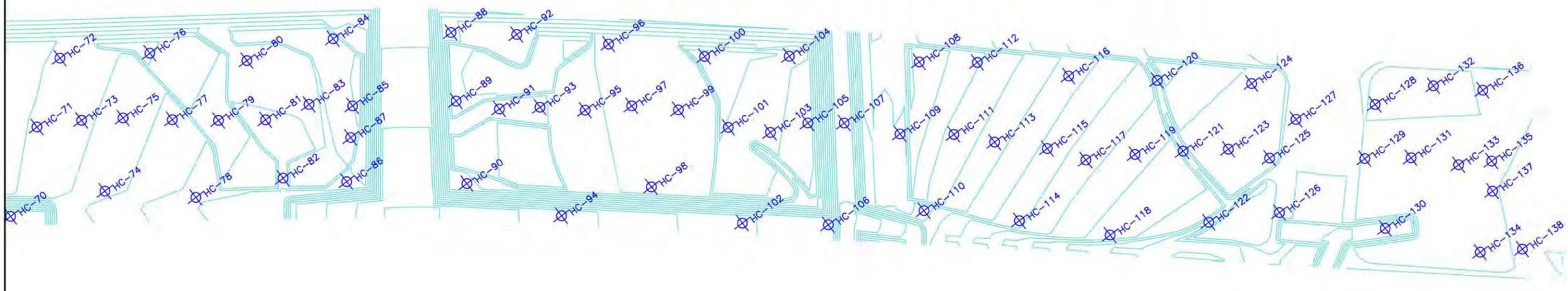
DRAWING NAME: GDL COVER SOIL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	C. CYMBOR	APPROVED BY			
DATE	10/15/15	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

2) HC-107 became a structural fill test location after the D street corridor was widened.

LEGEND:

COMPACTION TEST LOCATION HC-XX

GDL COVER SOIL ELEVATION CONTOURS

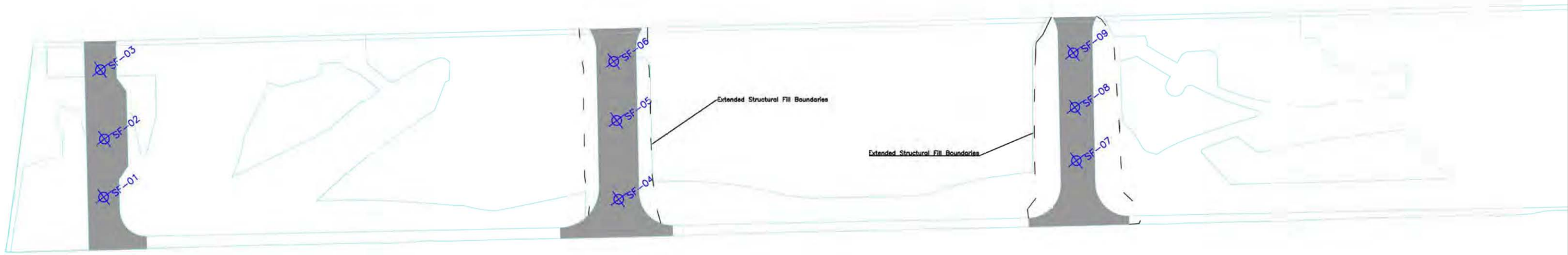
ENTACT
302 Unity Plaza
Latrobe, PA 15650
412-357-1102

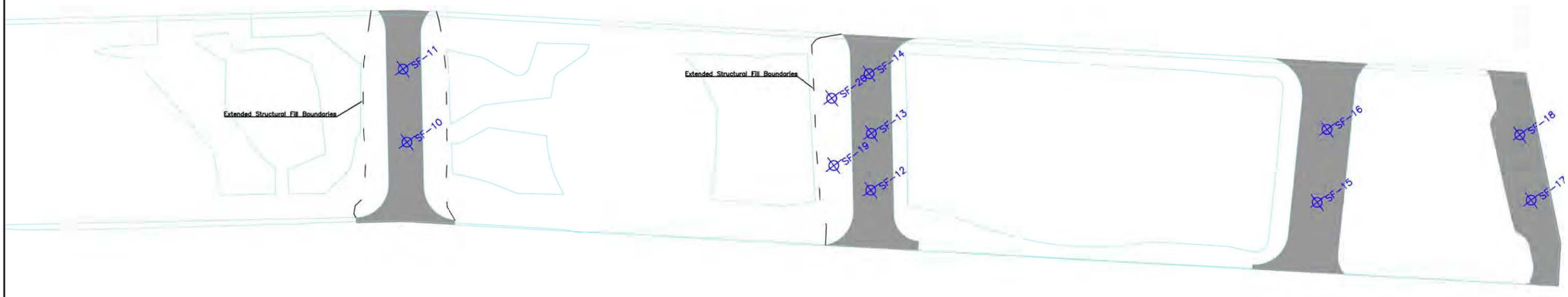
DRAWING NAME: HORIZON C PLANTING SOIL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	06/17/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

SA-6 SOUTH





NOTES:

1) Testing locations are based on testing frequency specified in 012315 3.13 A. 2. a.

LEGEND:

COMPACTION TEST LOCATION SF-XX

PLANTING SOIL BOUNDARIES

STRUCTURAL FILL

ENTACT 302 Unity Plaza Latrobe, PA 15650 412-357-1102

DRAWING NAME: STRUCTURAL COMPACTION LOCATIONS

PROJECT NAME & LOCATION: HONEYWELL SA-6 REMEDIATION JERSEY CITY, NJ

DRAWN BY	J. HOSGOOD	APPROVED BY			
DATE	05/19/16	DATE		SHEET NO.	1 OF 1
DRAWING NO.	1			PROJECT NO.	

ATTACHMENT M-1
SA-6 NORTH AND SOUTH CONSTRUCTION CONTROL GRID AS-BUILT SUMMARIES

Honeywell SA-6 North
Chromium Remedy
Jersey City, New Jersey

Created By: T. Donovan 2/20/17
Checked By:

TABLE 1. SA-6 NORTH OPEN SPACE CAP AREA - CONSTRUCTION CONTROL GRID AS BUILT SUMMARY

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1	686039.50	602096.13	GRID_DGA	10.64	10.56	1.29		16.57	1.00		6.02
2	686061.08	602108.76	GRID_DGA	10.58	10.52	1.29		16.90	0.70		6.37
3	686091.59	602155.60	GRID	11.36	11.29	1.23		16.99		2.57	5.70
4	686070.02	602142.97	GRID_DGA	10.84	10.76	1.16		16.83	0.41		6.07
5	686048.45	602130.34	GRID	10.56	10.57	1.18		15.03		0.52	4.47
6	686026.87	602117.70	GRID	10.91	10.98	1.12	0.75	15.07		0.61	4.09
7	686005.30	602105.07	GRID	11.56	11.50	1.17	0.87	15.32		0.65	3.82
8	685983.72	602092.44	GRID	11.61	11.63	1.19		15.12		0.67	3.49
9	685971.09	602114.02	GRID	11.86	11.83	1.25		15.75		0.69	3.92
10	685992.67	602126.65	GRID	11.77	11.80	1.13	0.55	16.19		0.66	4.39
11	686014.24	602139.28	GRID	11.79	11.73	1.20	0.63	15.85		0.68	4.12
12	686035.82	602151.91	GRID	11.71	11.64	1.24	0.83	15.55		0.55	3.91
13	686057.39	602164.54	GRID	11.64	11.57	1.27		15.73		0.54	4.16
14	686078.96	602177.17	GRID_DGA	11.44	11.43	1.25		17.54	0.82		6.11
15	686066.33	602198.75	GRID	11.03	10.99	1.22		15.83		0.51	4.84
16	686044.76	602186.12	GRID	11.35	11.27	1.32		15.74		0.59	4.46
17	686023.18	602173.48	GRID	11.89	11.83	1.23	0.48	16.53		0.87	4.70
18	686001.61	602160.85	GRID	14.57	14.50	1.22	0.53	16.84		0.60	2.34
19	685980.04	602148.22	GRID	12.38	12.33	1.23	0.51	16.81		0.67	4.48
20	685958.46	602135.59	GRID	12.13	12.08	1.26		15.95		0.58	3.87
21	685945.83	602157.16	GRID	12.44	12.39	1.20		16.22		0.61	3.83
22	685967.40	602169.80	GRID	12.81	12.77	1.14	0.65	17.17		0.63	4.39
23	685988.98	602182.43	GRID	12.14	12.09	1.19	0.69	17.09		0.69	5.01
24	686010.55	602195.06	GRID	14.47	14.42	1.23	0.49	16.71		0.57	2.29
25	686032.13	602207.69	GRID	11.37	11.28	1.20		15.45		0.60	4.17
26	686053.70	602220.32	GRID	10.39	10.40	1.15		15.50		0.68	5.10
27	686041.07	602241.90	GRID	10.76	10.73	1.20		15.16		0.62	4.44
28	686019.49	602229.26	GRID	11.60	11.52	1.18		15.47		0.55	3.95
29	685997.92	602216.63	GRID	14.67	14.59	1.18	0.54	16.92		0.60	2.32
30	685976.35	602204.00	GRID	12.32	12.25	1.23	0.81	17.43		0.68	5.18
31	685954.77	602191.37	GRID	15.71	15.66	1.24	0.54	17.95		0.51	2.29
32	685933.20	602178.74	GRID	12.68	12.64	1.15		16.47		0.62	3.83
33	685920.57	602200.31	GRID	12.83	12.78	1.26		16.79		0.58	4.00
34	685942.14	602212.94	GRID	15.17	15.22	1.14	0.53	17.48		0.60	2.26
35	685985.29	602238.21	GRID	14.86	14.82	1.21	0.51	17.18		0.64	2.35
36	686006.86	602250.84	GRID	11.98	12.02	1.18		16.08		0.93	4.06
37	686028.44	602263.47	GRID	11.27	11.24	1.23		15.04		0.56	3.80
38	686037.38	602297.68	GRID	12.00	11.92	1.18		14.32		0.53	2.40
39	686015.81	602285.04	GRID	11.49	11.43	1.24		15.23		0.63	3.80
40	685972.66	602259.78	GRID	15.08	15.02	1.14	0.61	17.36		0.59	2.34
41	685951.08	602247.15	GRID	15.04	14.98	1.15	0.59	17.29		0.57	2.31
42	685929.51	602234.52	GRID	12.86	12.82	1.20	0.58	17.48		0.86	4.67
43	685907.93	602221.89	GRID	13.08	13.07	1.17		17.13		0.62	4.06
44	685895.30	602243.46	GRID	13.52	13.47	1.19		17.24		0.57	3.77
45	685916.88	602256.09	GRID	13.17	13.10	1.17	0.61	17.66		0.69	4.56
46	685960.03	602281.36	GRID	15.36	15.32	1.14	0.58	17.66		0.63	2.34
47	686003.17	602306.62	GRID	11.73	11.65	1.21		15.60		0.67	3.94
48	686024.75	602319.25	GRID	12.19	12.12	1.17		14.66		0.62	2.54
49	686012.12	602340.82	GRID	12.39	12.32	1.15		14.94		0.61	2.62
50	685990.54	602328.19	GRID	11.98	11.95	1.23		15.86		0.57	3.91
51	685968.97	602315.56	GRID	15.54	15.45	1.20	0.54	17.75		0.56	2.29
52	685947.39	602302.93	GRID	15.65	15.59	1.19	0.55	17.91		0.59	2.32
53	685925.82	602290.30	GRID	13.41	13.36	1.14	0.61	18.00		0.81	4.64
54	685904.25	602277.67	GRID	14.31	14.30	1.13	0.60	17.89		0.65	3.59
55	685882.67	602265.03	GRID	13.85	13.86	1.19		17.46		0.63	3.60
56	685870.04	602286.61	GRID	13.98	13.97	1.16		17.23		0.63	3.26
57	685891.61	602299.24	GRID	14.49	14.43	1.23	0.74	18.12		0.60	3.69
58	685913.19	602311.87	GRID	13.72	13.67	1.15	0.78	18.28		0.82	4.61

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
59	685956.34	602337.14	GRID	15.80	15.80	1.10	0.59	18.01		0.52	2.21
60	685977.91	602349.77	GRID	12.23	12.30	1.10		16.24		0.66	3.94
61	685999.49	602362.40	GRID	12.58	12.53	1.16		15.23		0.57	2.70
62	685986.85	602383.97	GRID	12.78	12.70	1.18		15.57		0.66	2.87
63	685965.28	602371.34	GRID	12.56	12.56	1.14		16.56		0.68	4.00
64	685943.71	602358.71	GRID	13.58	13.65	1.08	0.78	18.09		0.69	4.44
65	685900.56	602333.45	GRID	13.96	13.89	1.24	0.65	18.69		0.97	4.80
66	685878.98	602320.81	GRID	14.75	14.69	1.19	0.54	18.60		0.54	3.91
67	685866.35	602342.39	GRID	17.54	17.50	1.29	0.42	19.79		0.57	2.28
68	685887.93	602355.02	GRID	16.72	16.69	1.18	0.50	19.13		0.76	2.44
69	685909.50	602367.65	GRID	16.46	16.40	1.25	0.51	18.85		0.70	2.45
70	685931.07	602380.28	GRID	13.75	13.66	1.23	0.69	18.14		0.83	4.48
71	685952.65	602392.91	GRID	12.92	12.94	1.12		16.85		0.61	3.91
72	685974.22	602405.55	GRID	12.98	12.93	1.16		15.89		0.63	2.96
73	685961.59	602427.12	GRID	13.18	13.11	1.18		16.16		0.59	3.05
74	685940.02	602414.49	GRID	13.36	13.29	1.20		17.26		0.67	3.97
75	685918.44	602401.86	GRID	14.05	14.02	1.23	0.54	18.33		0.73	4.31
76	685896.87	602389.23	GRID	16.74	16.67	1.30	0.43	19.19		0.78	2.52
77	685875.29	602376.59	GRID	17.09	17.06	1.14	0.53	19.57		0.84	2.51
78	685853.72	602363.96	GRID	17.76	17.72	1.13	0.59	20.29		0.85	2.57
79	685832.15	602351.33	GRID	14.72	14.77	1.06		18.51		0.68	3.75
80	685819.51	602372.91	GRID	14.97	14.97	1.15		18.71		0.62	3.73
81	685841.09	602385.54	GRID	17.74	17.65	1.19	0.60	20.26		0.81	2.61
82	685862.66	602398.17	GRID	17.23	17.16	1.25	0.52	19.81		0.88	2.65
83	685884.24	602410.80	GRID	14.48	14.40	1.24	0.57	19.37		0.79	4.96
84	685905.81	602423.43	GRID	14.24	14.19	1.19	0.58	18.79		0.73	4.60
85	685927.39	602436.06	GRID	13.74	13.67	1.18		17.55		0.64	3.88
86	685948.96	602448.69	GRID	13.37	13.42	1.09		16.57		0.71	3.15
87	685936.33	602470.27	GRID	13.57	13.51	1.25		16.83		0.64	3.32
88	685914.75	602457.64	GRID	14.15	14.12	1.25		17.96		0.63	3.84
89	685893.18	602445.01	GRID	14.63	14.56	1.24	0.63	19.11		0.62	4.55
90	685871.61	602432.37	GRID	14.76	14.70	1.17	0.63	19.70		0.90	5.00
91	685828.46	602407.11	GRID	15.65	15.59	1.27	0.75	20.03		0.84	4.45
92	685806.88	602394.48	GRID	15.23	15.20	1.23		18.99		0.71	3.79
93	685794.25	602416.05	GRID	15.45	15.41	1.22		19.18		0.57	3.77
94	685815.83	602428.69	GRID	15.80	15.71	1.25	0.54	20.34		0.75	4.63
95	685837.40	602441.32	GRID	15.52	15.42	1.26	0.56	20.38		0.91	4.96
96	685858.97	602453.95	GRID	15.04	14.98	1.22	0.55	19.91		0.79	4.93
97	685880.55	602466.58	GRID	14.86	14.78	1.25	0.52	19.54		0.69	4.76
98	685902.12	602479.21	GRID	14.72	14.65	1.30	0.48	18.74		0.68	4.09
99	685923.70	602491.84	GRID	13.72	13.72	1.17		17.22		0.70	3.50
100	685889.49	602500.79	GRID	17.49	17.44	1.17	0.52	19.80		0.67	2.37
101	685867.92	602488.15	GRID	15.14	15.07	1.23	0.56	19.94		0.64	4.87
102	685846.34	602475.52	GRID	15.31	15.24	1.20	0.85	20.22		0.67	4.98
103	685803.19	602450.26	GRID	18.93	18.84	1.17	0.58	21.16		0.56	2.32
104	685781.62	602437.63	GRID	15.73	15.71	1.18		19.45		0.63	3.75
105	685768.99	602459.20	GRID	15.98	15.97	1.18		19.68		0.58	3.71
106	685812.14	602484.47	GRID	18.65	18.59	1.19	0.56	20.98		0.65	2.39
107	685833.71	602497.10	GRID	18.09	18.02	1.17	0.59	20.44		0.66	2.42
108	685855.28	602509.73	GRID	17.94	17.87	1.17	0.59	20.32		0.69	2.45
109	685876.86	602522.36	GRID	17.80	17.73	1.18	0.59	20.19		0.70	2.46
110	685898.43	602534.99	GRID	14.36	14.27	1.27		18.20		0.74	3.92
111	685885.80	602556.57	GRID	14.84	14.77	1.27		18.68		0.81	3.91
112	685864.23	602543.93	GRID	18.08	18.01	1.23	0.49	20.46		0.73	2.45
113	685842.65	602531.30	GRID	18.20	18.14	1.16	0.59	20.57		0.68	2.43
114	685821.08	602518.67	GRID	18.36	18.27	1.21	0.53	20.80		0.78	2.53
115	685799.50	602506.04	GRID	18.79	18.74	1.16	0.59	21.07		0.58	2.33
116	685756.36	602480.78	GRID	16.23	16.18	1.18		19.89		0.61	3.71
117	685743.73	602502.35	GRID	16.48	16.52	1.07		20.07		0.66	3.55
118	685765.30	602514.98	GRID	16.75	16.68	1.18	0.57	21.20		0.86	4.53
119	685786.87	602527.61	GRID	18.94	18.88	1.17	0.57	21.29		0.68	2.41
120	685808.45	602540.25	GRID	18.53	18.46	1.18	0.56	20.97		0.77	2.51
121	685830.02	602552.88	GRID	18.33	18.27	1.19	0.56	20.79		0.77	2.52

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
122	685873.17	602578.14	GRID	15.36	15.31	1.27		19.10		0.68	3.79
123	685894.74	602590.77	GRID	14.81	14.76	1.16		17.23		0.58	2.47
124	685882.11	602612.35	GRID	14.99	14.96	1.16		17.79		0.72	2.82
125	685860.54	602599.71	GRID	15.99	15.91	1.21	0.52	19.74		0.83	3.82
126	685817.39	602574.45	GRID	18.44	18.37	1.27	0.49	20.87		0.74	2.50
127	685774.24	602549.19	GRID	16.49	16.44	1.14	0.77	21.07		0.80	4.63
128	685752.67	602536.56	GRID	16.85	16.79	1.15	0.60	21.32		0.82	4.53
129	685731.09	602523.92	GRID	16.74	16.76	1.21		20.13		0.63	3.37
130	685718.46	602545.50	GRID	16.81	16.81	1.14		19.98		0.68	3.17
131	685740.04	602558.13	GRID	16.27	16.28	1.18	0.47	20.64		0.65	4.36
132	685761.61	602570.76	GRID	15.94	15.88	1.16	0.56	19.95		0.93	4.07
133	685783.18	602583.39	GRID	15.83	15.75	1.25	0.54	19.89		0.94	4.14
134	685804.76	602596.02	GRID	15.84	15.76	1.19	0.56	19.94		0.75	4.18
135	685826.33	602608.66	GRID	16.00	15.95	1.18	0.65	20.01		0.66	4.07
136	685847.91	602621.29	GRID	16.26	16.20	1.16	0.63	20.06		0.91	3.86
137	685869.48	602633.92	GRID	15.24	15.26	1.07		18.13		0.69	2.87
138	685856.85	602655.49	GRID	15.64	15.73	1.09		18.55		0.60	2.82
139	685792.13	602617.60	GRID	13.96	13.90	1.18		18.18		0.67	4.27
140	685770.55	602604.97	GRID	14.16	14.13	1.17		18.11		0.61	3.99
141	685748.98	602592.34	GRID	14.61	14.58	1.13		18.18		0.71	3.60
142	685727.40	602579.70	GRID	15.16	15.09	1.23		19.11		0.57	4.03
143	685705.83	602567.07	GRID	15.94	15.93	1.19		19.61		0.64	3.68
144	685693.20	602588.65	GRID	17.26	17.26	1.09		21.18		0.85	3.92
145	685714.77	602601.28	GRID	16.13	16.06	1.25	0.70	20.46		0.86	4.41
146	685736.35	602613.91	GRID	15.75	15.67	1.33		20.11		0.72	4.44
147	685757.92	602626.54	GRID	15.41	15.49	1.16		19.80		0.90	4.31
148	685779.50	602639.17	GRID	15.25	15.26	1.08		19.22		0.72	3.96
149	685844.22	602677.07	GRID	13.32	13.36	1.20		18.01		0.55	4.65
150	685810.01	602686.01	GRID	16.70	16.61	1.18	0.61	20.57		0.61	3.96
151	685788.44	602673.38	GRID	16.42	16.36	1.19	0.54	20.83		0.79	4.47
152	685766.86	602660.75	GRID	16.43	16.35	1.20	0.62	21.13		0.87	4.77
153	685723.72	602635.48	GRID	16.66	16.61	1.21	0.53	21.71		0.72	5.10
154	685702.14	602622.85	GRID	17.06	16.98	1.21	0.59	21.93		0.67	4.95
155	685680.57	602610.22	GRID	17.48	17.47	1.08		21.48		0.81	4.01
156	685667.94	602631.80	GRID	17.80	17.85	1.15		21.64		0.76	3.79
157	685689.51	602644.43	GRID	18.11	18.17	1.09	0.53	22.47		0.58	4.30
158	685732.66	602669.69	GRID	19.97	20.01	1.14	0.52	22.22		0.56	2.21
159	685797.38	602707.58	GRID	19.67	19.62	1.19	0.56	21.97		0.59	2.35
160	685806.32	602741.79	GRID	17.62	17.35	1.22	0.56	21.91		0.62	4.56
161	685784.75	602729.16	GRID	17.65	17.43	1.05	0.72	22.65		0.55	5.21
162	685741.60	602703.90	GRID	20.85	20.87	1.10	0.56	23.17		0.64	2.30
163	685720.03	602691.26	GRID	18.49	18.44	1.27	0.70	23.25		0.79	4.81
164	685676.88	602666.00	GRID	18.69	18.78	1.04	0.56	22.74		0.67	3.96
165	685655.30	602653.37	GRID	17.94	18.01	1.12		21.74		0.72	3.72
166	685642.67	602674.94	GRID	18.05	18.12	1.02		21.84		0.68	3.72
167	685664.25	602687.58	GRID	18.71	18.73	1.21	0.56	22.88		0.73	4.15
168	685685.82	602700.21	GRID	20.99	21.08	1.11	0.48	23.42		0.75	2.34
169	685750.54	602738.10	GRID	21.47	21.51	1.22	0.50	23.89		0.74	2.38
170	685772.12	602750.73	GRID	18.51	18.43	1.34	0.67	23.26		0.63	4.83
171	685824.21	602810.20	GRID	17.16	17.20	1.21		20.85		0.67	3.65
172	685759.49	602772.31	GRID	21.61	21.52	1.31	0.46	23.89		0.61	2.37
173	685737.91	602759.68	GRID	21.92	21.90	1.25	0.47	24.19		0.57	2.29
174	685716.34	602747.04	GRID	21.92	21.88	1.24	0.50	24.16		0.54	2.28
175	685694.76	602734.41	GRID	21.52	21.60	1.01	0.62	23.88		0.66	2.28
176	685673.19	602721.78	GRID	21.00	20.93	1.27	0.45	23.46		0.81	2.53
177	685651.62	602709.15	GRID	18.72	18.72	1.16	0.54	22.89		0.66	4.17
178	685630.04	602696.52	GRID	18.13	18.19	1.05		22.02		0.76	3.83
179	685617.41	602718.09	GRID	18.18	18.27	1.16		22.00		0.64	3.73
180	685638.98	602730.72	GRID	18.73	18.70	1.20	0.54	22.97		0.69	4.26
181	685660.56	602743.36	GRID	21.00	21.00	1.24	0.45	23.51		0.82	2.51
182	685682.13	602755.99	GRID	21.49	21.51	1.21	0.52	23.78		0.56	2.28
183	685703.71	602768.62	GRID	22.02	22.02	1.17	0.53	24.25		0.54	2.24
184	685725.28	602781.25	GRID	22.23	22.18	1.14	0.59	24.49		0.60	2.32

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
185	685746.85	602793.88	GRID	22.14	22.15	1.17	0.51	24.45		0.62	2.30
186	685768.43	602806.51	GRID	21.43	21.45	1.13	0.52	23.75		0.65	2.30
187	685790.00	602819.14	GRID	17.88	17.86	1.16		21.66		0.65	3.81
188	685811.58	602831.78	GRID	17.43	17.42	1.27		20.93		0.59	3.51
189	685798.95	602853.35	GRID	17.64	17.66	1.14		21.17		0.55	3.50
190	685777.37	602840.72	GRID	18.26	18.34	1.17		21.93		0.57	3.59
191	685755.80	602828.09	GRID	21.84	21.86	1.17	0.51	24.29		0.76	2.43
192	685734.22	602815.46	GRID	22.53	22.54	1.23	0.53	24.93		0.71	2.38
193	685712.65	602802.82	GRID	20.06	20.06	1.22	0.46	24.83		0.66	4.77
194	685691.07	602790.19	GRID	19.57	19.49	1.19	0.54	24.33		0.67	4.84
195	685647.93	602764.93	GRID	21.00	20.99	1.20	0.52	23.46		0.75	2.47
196	685626.35	602752.30	GRID	18.75	18.67	1.29	0.55	23.00		0.71	4.33
197	685604.78	602739.67	GRID	18.21	18.20	1.12		22.23		0.84	4.02
198	685592.15	602761.24	GRID	18.21	18.22	1.15		21.91		0.56	3.70
199	685613.72	602773.87	GRID	18.75	18.67	1.26	0.53	22.95		0.57	4.27
200	685635.30	602786.50	GRID	21.00	20.95	1.25	0.51	23.42		0.71	2.47
201	685678.44	602811.77	GRID	19.56	19.58	1.11	0.70	24.31		0.60	4.73
202	685700.02	602824.40	GRID	20.02	19.97	1.19	0.67	24.83		0.62	4.86
203	685721.59	602837.03	GRID	22.65	22.67	1.18	0.51	24.87		0.50	2.20
204	685743.17	602849.66	GRID	22.10	22.13	1.17	0.49	24.36		0.57	2.22
205	685764.74	602862.29	GRID	18.85	18.77	1.17	0.63	22.28		0.64	3.51
206	685786.31	602874.92	GRID	17.86	17.81	1.22		21.39		0.54	3.58
207	685773.68	602896.50	GRID	18.08	18.06	1.18		21.86		0.72	3.80
208	685752.11	602883.87	GRID	18.97	19.03	1.03	0.63	22.63		0.66	3.60
209	685687.39	602845.97	GRID	20.02	20.00	1.15	0.57	24.57		0.68	4.57
210	685665.81	602833.34	GRID	19.55	19.59	1.08	0.61	23.89		0.65	4.30
211	685644.24	602820.71	GRID	19.05	19.05	1.14	0.58	23.39		0.61	4.34
212	685622.66	602808.08	GRID	18.61	18.60	1.17	0.55	23.01		0.67	4.41
213	685601.09	602795.45	GRID	18.75	18.71	1.27	0.52	22.84		0.56	4.13
214	685579.52	602782.81	GRID	18.18	18.25	1.13		21.89		0.54	3.65
215	685566.88	602804.39	GRID	18.12	18.11	1.14		21.85		0.52	3.74
216	685588.46	602817.02	GRID	18.75	18.67	1.27	0.52	22.65		0.62	3.98
217	685610.03	602829.65	GRID	18.59	18.50	1.18	0.60	22.81		0.65	4.30
218	685631.61	602842.28	GRID	19.04	18.99	1.16	0.62	23.37		0.95	4.38
219	685653.18	602854.91	GRID	19.53	19.55	1.07	0.62	23.89		1.01	4.34
220	685674.75	602867.55	GRID	20.03	20.02	1.11	0.62	24.22		0.84	4.20
221	685696.33	602880.18	GRID	20.18	20.16	1.11	0.60	24.47		0.64	4.31
222	685717.90	602892.81	GRID	19.62	19.66	1.09	0.56	23.82		0.90	4.16
223	685739.48	602905.44	GRID	19.01	18.92	1.19	0.63	22.64		0.62	3.71
224	685761.05	602918.07	GRID	18.29	18.32	1.22		22.24		0.73	3.92
225	685748.42	602939.65	GRID	18.43	18.47	1.18		22.39		0.71	3.92
226	685726.85	602927.02	GRID	19.03	18.97	1.26	0.55	22.88		0.58	3.91
227	685705.27	602914.38	GRID	19.61	19.53	1.16	0.66	23.04		0.57	3.52
228	685683.70	602901.75	GRID	20.20	20.13	1.22	0.57	23.81		0.59	3.67
229	685662.12	602889.12	GRID	20.02	20.02	1.15	0.54	23.49		0.65	3.47
230	685640.55	602876.49	GRID	19.52	19.54	1.14	0.54	23.07		0.66	3.53
231	685618.97	602863.86	GRID	19.03	19.08	1.10	0.56	22.81		0.61	3.73
232	685597.40	602851.23	GRID	18.60	18.59	1.11	0.62	22.68		0.70	4.09
233	685575.83	602838.59	GRID	18.78	18.75	1.20	0.54	22.55		0.64	3.80
234	685554.25	602825.96	GRID	17.97	18.06	1.16		21.75		0.59	3.69
235	685541.62	602847.54	GRID	17.86	17.92	1.18		21.67		0.58	3.74
236	685563.19	602860.17	GRID	18.75	18.66	1.27	0.61	22.39		0.53	3.73
237	685584.77	602872.80	GRID	18.60	18.60	1.09	0.64	22.51		0.56	3.92
238	685606.34	602885.43	GRID	19.02	19.02	1.18	0.54	22.58		0.55	3.57
239	685627.92	602898.06	GRID	19.51	19.52	1.14	0.61	22.83		0.51	3.31
240	685649.49	602910.69	GRID	20.01	19.95	1.23	0.57	23.11		0.55	3.16
241	685671.07	602923.33	GRID	20.18	20.20	1.17	0.58	23.31		0.59	3.11
242	685692.64	602935.96	GRID	19.60	19.59	1.13	0.62	23.05		0.64	3.46
243	685714.21	602948.59	GRID	19.04	19.00	1.26	0.48	22.87		0.62	3.87
244	685735.79	602961.22	GRID	18.51	18.49	1.21		22.43		0.66	3.94
245	685723.16	602982.80	GRID	18.53	18.52	1.20		22.36		0.62	3.83
246	685701.58	602970.16	GRID	19.05	19.08	1.18	0.51	22.78		0.67	3.70
247	685680.01	602957.53	GRID	19.58	19.55	1.26	0.46	22.76		0.61	3.21

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
248	685658.43	602944.90	GRID	20.16	20.15	1.14	0.64	23.30		0.62	3.15
249	685636.86	602932.27	GRID	20.00	19.94	1.15	0.65	23.22		0.57	3.28
250	685615.29	602919.64	GRID	19.50	19.56	1.04	0.62	22.98		0.57	3.41
251	685593.71	602907.01	GRID	19.00	19.07	1.07	0.56	22.73		0.53	3.66
252	685572.14	602894.37	GRID	18.60	18.55	1.18	0.59	22.38		0.61	3.82
253	685550.56	602881.74	GRID	18.57	18.55	1.17	0.58	22.21		0.56	3.67
254	685528.99	602869.11	GRID	17.73	17.73	1.24		21.45		0.56	3.72
255	685516.36	602890.69	GRID	17.57	17.61	1.18		21.36		0.58	3.75
256	685537.93	602903.32	GRID	18.58	18.49	1.27	0.67	22.17		0.58	3.68
257	685559.51	602915.95	GRID	18.68	18.65	1.14	0.72	22.56		0.49	3.91
258	685581.08	602928.58	GRID	18.99	19.05	1.07	0.65	22.95		0.54	3.90
259	685602.65	602941.21	GRID	19.49	19.53	1.16	0.52	23.23		0.58	3.70
260	685624.23	602953.84	GRID	19.99	19.97	1.15	0.67	23.40		0.70	3.43
261	685645.80	602966.47	GRID	20.13	20.16	1.16	0.61	23.41		0.62	3.25
262	685667.38	602979.11	GRID	19.53	19.53	1.20	0.55	23.08		0.72	3.56
263	685688.95	602991.74	GRID	18.81	18.76	1.29	0.58	22.42		0.69	3.66
264	685710.53	603004.37	GRID	18.48	18.54	1.20		22.05		0.61	3.52
265	685697.89	603025.94	GRID	18.39	18.48	1.15		21.70		0.65	3.21
266	685676.32	603013.31	GRID	18.59	18.54	1.24		22.15		0.68	3.61
267	685654.75	603000.68	GRID	19.51	19.51	1.11	0.63	23.71		0.80	4.20
268	685633.17	602988.05	GRID	20.07	20.03	1.18	0.58	23.65		0.66	3.62
269	685611.60	602975.42	GRID	19.98	20.00	1.15	0.52	23.63		0.65	3.63
270	685590.02	602962.79	GRID	19.48	19.52	1.12	0.60	23.57		0.61	4.05
271	685568.45	602950.15	GRID	18.98	19.04	1.16	0.48	23.24		0.62	4.20
272	685546.87	602937.52	GRID	18.57	18.63	1.18	0.53	22.96		0.60	4.33
273	685525.30	602924.89	GRID	18.12	18.05	1.24	0.55	22.50		0.61	4.44
274	685503.73	602912.26	GRID	17.38	17.44	1.17		21.14		0.59	3.70
275	685491.09	602933.83	GRID	17.19	17.24	1.18		20.90		0.54	3.67
276	685512.67	602946.47	GRID	18.19	18.22	1.05	0.63	22.50		0.59	4.28
277	685577.39	602984.36	GRID	19.47	19.48	1.15	0.66	23.74		0.70	4.26
278	685598.97	602996.99	GRID	19.97	19.91	1.32	0.46	23.71		0.69	3.81
279	685620.54	603009.62	GRID	20.05	20.01	1.18	0.56	23.56		0.70	3.55
280	685642.11	603022.25	GRID	19.44	19.50	1.18	0.52	24.00		0.71	4.51
281	685663.69	603034.89	GRID	18.20	18.22	1.19		21.70		0.67	3.49
282	685685.26	603047.52	GRID	18.26	18.32	1.18		21.37		0.65	3.05
283	685672.63	603069.09	GRID	18.07	18.12	1.10		21.01		0.67	2.89
284	685651.06	603056.46	GRID	17.94	18.00	1.20		21.31		0.71	3.31
285	685629.48	603043.83	GRID	21.67	21.65	1.15	0.59	23.96		0.57	2.31
286	685607.91	603031.20	GRID	19.79	19.81	1.16	0.55	23.88		0.66	4.08
287	685586.33	603018.57	GRID	19.85	19.83	1.19	0.56	23.94		0.72	4.11
288	685564.76	603005.93	GRID	19.33	19.42	1.09	0.53	23.90		0.66	4.48
289	685543.19	602993.30	GRID	21.46	21.49	1.14	0.54	23.78		0.61	2.29
290	685521.61	602980.67	GRID	21.01	20.97	1.15	0.58	23.40		0.70	2.43
291	685478.46	602955.41	GRID	16.94	16.99	1.09		20.68		0.67	3.69
292	685500.04	602968.04	GRID	18.02	18.05	1.17	0.51	22.43		0.65	4.38
293	685465.83	602976.98	GRID	16.69	16.75	1.09		20.41		0.65	3.66
294	685487.41	602989.61	GRID	17.82	17.88	1.14	0.53	22.22		0.78	4.33
295	685508.98	603002.25	GRID	20.83	20.90	1.04	0.59	23.15		0.62	2.25
296	685552.13	603027.51	GRID	18.92	18.95	1.13	0.58	23.44		0.71	4.49
297	685573.70	603040.14	GRID	18.91	18.96	1.08	0.58	23.47		0.64	4.50
298	685595.28	603052.77	GRID	21.38	21.34	1.21	0.54	23.71		0.62	2.37
299	685616.85	603065.40	GRID	21.23	21.26	1.10	0.56	23.65		0.73	2.39
300	685638.42	603078.03	GRID	17.74	17.70	1.28		21.13		0.62	3.43
301	685660.00	603090.67	GRID	17.82	17.89	1.10		20.67		0.62	2.78
302	685647.37	603112.24	GRID	17.52	17.44	1.30		20.57		0.70	3.13
303	685625.79	603099.61	GRID	17.29	17.27	1.14		20.86		0.60	3.59
304	685604.22	603086.98	GRID	17.92	17.88	1.18	0.61	22.29		0.53	4.42
305	685582.64	603074.35	GRID	20.50	20.54	1.09	0.57	22.88		0.68	2.34
306	685561.07	603061.71	GRID	18.31	18.36	1.10	0.83	22.76		0.60	4.40
307	685539.50	603049.08	GRID	18.46	18.49	1.22	0.72	22.81		0.71	4.33
308	685517.92	603036.45	GRID	18.40	18.48	1.06	0.83	23.26		0.72	4.77
309	685496.35	603023.82	GRID	20.47	20.49	1.09	0.59	22.74		0.57	2.25
310	685474.77	603011.19	GRID	17.50	17.54	1.12	0.54	21.76		0.60	4.22

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
311	685453.20	602998.56	GRID	16.44	16.51	1.05		20.17		0.67	3.66
312	685440.57	603020.13	GRID	16.19	16.28	1.12		19.91		0.62	3.63
313	685462.14	603032.76	GRID	16.99	17.04	1.02	0.68	21.69		0.69	4.65
314	685483.72	603045.39	GRID	19.75	19.79	1.17	0.48	22.02		0.58	2.23
315	685526.87	603070.66	GRID	19.88	19.90	1.08	0.61	22.23		0.65	2.33
316	685548.44	603083.29	GRID	19.69	19.78	0.99	0.64	21.96		0.56	2.18
317	685570.01	603095.92	GRID	19.49	19.54	1.14	0.50	21.91		0.72	2.36
318	685591.59	603108.55	GRID	17.02	17.04	1.08	0.66	21.59		0.55	4.55
319	685613.16	603121.18	GRID	16.87	16.87	1.16		20.18		0.66	3.30
320	685634.74	603133.81	GRID	17.16	17.10	1.27		19.80		0.59	2.70
321	685622.10	603155.39	GRID	16.90	16.93	1.10		19.32		0.58	2.39
322	685600.53	603142.76	GRID	16.40	16.47	1.19		19.83		0.65	3.36
323	685578.96	603130.13	GRID	18.86	18.83	1.23	0.53	21.21		0.63	2.39
324	685557.38	603117.49	GRID	18.63	18.71	1.11	0.52	21.10		0.76	2.39
325	685535.81	603104.86	GRID	18.73	18.80	1.08	0.55	21.08		0.64	2.27
326	685514.23	603092.23	GRID	18.91	18.91	1.14	0.55	21.21		0.61	2.31
327	685492.66	603079.60	GRID	16.60	16.67	1.06	0.92	21.35		0.65	4.68
328	685449.51	603054.34	GRID	19.10	19.10	1.12	0.58	21.41		0.60	2.31
329	685427.94	603041.70	GRID	15.94	16.04	1.10		19.65		0.57	3.62
330	685415.31	603063.28	GRID	15.66	15.72	1.14		19.41		0.59	3.70
331	685436.88	603075.91	GRID	15.90	15.85	1.17	0.62	20.35		0.65	4.50
332	685458.45	603088.54	GRID	15.67	15.68	1.16	0.55	20.28		0.65	4.60
333	685480.03	603101.17	GRID	15.16	15.20	1.11	0.77	20.14		0.65	4.94
334	685501.60	603113.80	GRID	15.10	15.19	1.06	0.57	20.00		0.69	4.81
335	685523.18	603126.44	GRID	14.95	15.03	1.12	0.53	19.78		0.68	4.75
336	685544.75	603139.07	GRID	15.14	15.18	1.13	0.51	19.47		0.57	4.29
337	685566.32	603151.70	GRID	15.78	15.87	1.08	0.54	19.38		0.74	3.51
338	685587.90	603164.33	GRID	15.43	15.46	1.20		19.03		0.57	3.56
339	685609.47	603176.96	GRID	16.50	16.59	1.12		18.78		0.61	2.19
340	685575.27	603185.91	GRID	11.80	11.78	1.21		18.59		0.68	6.81
341	685553.69	603173.27	GRID	10.42	10.51	1.05		18.71		0.63	8.20
342	685532.12	603160.64	GRID	10.09	10.04	1.26		18.52		0.54	8.48
343	685510.54	603148.01	GRID	9.91	9.94	1.19		18.02		0.54	8.08
344	685424.25	603097.48	GRID	15.09	15.16	1.16	0.71	19.17		0.52	4.01
345	685390.04	603106.43	GRID	9.11	9.08	1.20		17.78		0.62	8.70
346	685411.62	603119.06	GRID	9.24	9.17	1.30		17.72		0.60	8.55
347	685433.19	603131.69	GRID	9.37	9.32	1.26		17.70		0.51	8.38
348	685454.76	603144.32	GRID	9.49	9.45	1.28		17.79		0.59	8.34
349	685476.34	603156.95	GRID	9.62	9.59	1.28		17.87		0.55	8.29
350	685497.91	603169.58	GRID	13.21	13.26	1.15		17.94		0.57	4.68
351	685519.49	603182.22	GRID	13.84	13.87	1.20		18.13		0.64	4.26
352	685541.06	603194.85	GRID	14.19	14.20	1.17		18.37		0.56	4.17
353	685562.64	603207.48	GRID	14.90	14.90	1.12		18.16		0.61	3.26
354	685584.21	603220.11	GRID	15.51	15.46	1.16		18.14		0.51	2.68
355	685571.58	603241.69	GRID	14.54	14.49	1.21		17.48		0.62	2.99
356	685550.00	603229.05	GRID	14.29	14.32	1.08		17.75		0.63	3.43
357	685506.86	603203.79	GRID	17.07	17.10	1.16	0.54	19.42		0.63	2.33
358	685485.28	603191.16	GRID	14.88	14.82	1.24	0.62	18.75		0.49	3.92
359	685442.13	603165.90	GRID	14.41	14.50	1.10	0.58	18.22		0.75	3.72
360	685377.41	603128.00	GRID	9.11	9.04	1.27		17.75		0.56	8.71
361	685364.78	603149.58	GRID	14.69	14.63	1.25		18.19		0.73	3.56
362	685386.35	603162.21	GRID	15.08	15.09	1.17	0.55	19.17		0.77	4.07
363	685407.93	603174.84	GRID	14.79	14.82	1.15	0.55	19.03		0.64	4.21
364	685429.50	603187.47	GRID	14.89	14.90	1.13	0.57	18.89		0.67	3.98
365	685451.08	603200.10	GRID	14.75	14.77	1.07	0.63	18.85		0.69	4.08
366	685494.22	603225.36	GRID	17.09	17.11	1.15	0.53	19.31		0.52	2.20
367	685515.80	603238.00	GRID	14.00	14.03	1.21		18.43		0.99	4.40
368	685537.37	603250.63	GRID	13.80	13.75	1.13		17.51		0.66	3.76
369	685524.74	603272.20	GRID	13.13	13.21	1.10		16.32		0.62	3.10
370	685503.17	603259.57	GRID	13.26	13.29	1.20		16.69		0.54	3.41
371	685481.59	603246.94	GRID	14.00	14.07	1.10	0.54	18.04		0.49	3.97
372	685460.02	603234.31	GRID	14.22	14.25	1.13	0.57	18.97		0.65	4.71
373	685438.44	603221.68	GRID	16.96	16.94	1.11	0.63	19.23		0.56	2.30

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
374	685416.87	603209.04	GRID	17.23	17.16	1.16	0.60	19.58		0.66	2.42
375	685395.30	603196.41	GRID	17.44	17.36	1.17	0.62	19.67		0.52	2.31
376	685373.72	603183.78	GRID	17.69	17.60	1.19	0.61	19.94		0.53	2.33
377	685352.15	603171.15	GRID	14.44	14.39	1.30		17.86		0.62	3.47
378	685339.52	603192.72	GRID	14.19	14.22	1.20		17.58		0.63	3.36
379	685361.09	603205.36	GRID	17.42	17.33	1.22	0.57	19.70		0.57	2.36
380	685382.66	603217.99	GRID	17.12	17.06	1.21	0.57	19.46		0.62	2.40
381	685404.24	603230.62	GRID	16.85	16.77	1.23	0.54	19.11		0.58	2.34
382	685425.81	603243.25	GRID	16.59	16.52	1.21	0.55	18.85		0.58	2.33
383	685447.39	603255.88	GRID	13.76	13.72	1.28	0.48	17.80		0.70	4.08
384	685468.96	603268.51	GRID	13.36	13.40	1.11	0.59	16.81		0.62	3.41
385	685490.54	603281.14	GRID	12.45	12.36	1.23		15.82		0.53	3.46
386	685512.11	603293.78	GRID	12.49	12.58	1.07		15.66		0.65	3.07
387	685477.90	603302.72	GRID	7.40	7.37	1.23		14.99		0.54	7.62
388	685456.33	603290.09	GRID	12.77	12.68	1.32	0.46	16.15		0.55	3.46
389	685434.76	603277.46	GRID	13.24	13.20	1.17	0.58	17.27		0.55	4.07
390	685413.18	603264.82	GRID	16.13	16.05	1.24	0.58	18.35		0.47	2.29
391	685391.61	603252.19	GRID	16.40	16.31	1.27	0.54	18.62		0.50	2.31
392	685326.88	603214.30	GRID	13.94	13.90	1.19		17.30		0.62	3.40
393	685314.25	603235.87	GRID	13.69	13.71	1.24		17.06		0.61	3.36
394	685335.83	603248.50	GRID	14.18	14.11	1.23	0.57	18.41		0.63	4.30
395	685357.40	603261.14	GRID	13.68	13.60	1.26	0.51	18.45		0.71	4.86
396	685378.98	603273.77	GRID	13.32	13.25	1.28	0.50	18.05		0.65	4.80
397	685400.55	603286.40	GRID	12.97	12.94	1.21	0.53	17.47		0.50	4.53
398	685422.12	603299.03	GRID	12.59	12.50	1.29	0.51	16.80		0.61	4.30
399	685443.70	603311.66	GRID	12.10	12.12	1.22	0.49	15.51		0.53	3.39
400	685465.27	603324.29	GRID	11.00	10.96	1.20		14.66		0.59	3.69
401	685486.85	603336.92	GRID	11.45	11.40	1.24		14.24		0.65	2.84
402	685474.21	603358.50	GRID	10.92	10.83	1.20		13.33		0.61	2.50
403	685452.64	603345.87	GRID	10.40	10.37	1.12		13.85		0.59	3.48
404	685431.07	603333.24	GRID	11.39	11.37	1.29	0.46	14.72		0.54	3.35
405	685409.49	603320.60	GRID	11.85	11.87	1.17	0.55	16.33		0.56	4.46
406	685387.92	603307.97	GRID	12.26	12.26	1.18	0.56	16.82		0.56	4.56
407	685366.34	603295.34	GRID	15.15	15.09	1.32	0.46	17.37		0.50	2.28
408	685344.77	603282.71	GRID	15.58	15.48	1.29	0.50	17.82		0.55	2.33
409	685323.20	603270.08	GRID	16.36	16.28	1.30	0.50	18.60		0.53	2.33
410	685301.62	603257.45	GRID	13.44	13.46	1.19		16.84		0.63	3.38
411	685288.99	603279.02	GRID	13.27	13.22	1.29		16.60		0.56	3.38
412	685310.56	603291.65	GRID	15.99	15.93	1.20	0.55	18.33		0.64	2.40
413	685332.14	603304.28	GRID	15.20	15.15	1.22	0.53	17.49		0.59	2.34
414	685353.71	603316.92	GRID	14.55	14.59	1.14	0.52	16.77		0.52	2.18
415	685375.29	603329.55	GRID	11.61	11.55	1.26	0.54	16.21		0.56	4.65
416	685440.01	603367.44	GRID	9.82	9.82	1.15		13.22		0.65	3.40
417	685461.58	603380.07	GRID	10.40	10.43	1.05		12.66		0.54	2.23
418	685427.38	603389.02	GRID	9.30	9.32	1.13		12.50		0.60	3.18
419	685405.80	603376.38	GRID	9.77	9.72	1.25		13.12		0.65	3.40
420	685384.23	603363.75	GRID	13.05	13.03	1.16	0.56	15.28		0.52	2.25
421	685362.66	603351.12	GRID	13.51	13.43	1.25	0.54	15.74		0.53	2.31
422	685341.08	603338.49	GRID	14.17	14.08	1.26	0.53	16.38		0.52	2.31
423	685319.51	603325.86	GRID	14.83	14.73	1.26	0.54	17.05		0.52	2.32
424	685297.93	603313.23	GRID	15.63	15.59	1.20	0.54	17.98		0.65	2.39
425	685276.36	603300.59	GRID	13.18	13.15	1.23		16.56		0.58	3.40
426	685254.78	603287.96	GRID	13.17	13.11	1.13		15.45		0.62	2.34
427	685242.15	603309.54	GRID	12.84	12.83	1.14		15.38		0.55	2.55
428	685263.73	603322.17	GRID	13.03	13.02	1.24		16.51		0.63	3.49
429	685285.30	603334.80	GRID	15.10	15.09	1.17	0.54	17.41		0.61	2.32
430	685306.88	603347.43	GRID	14.45	14.38	1.22	0.56	16.68		0.53	2.30
431	685328.45	603360.06	GRID	13.79	13.70	1.28	0.52	16.02		0.51	2.31
432	685350.02	603372.69	GRID	13.13	13.06	1.15	0.62	15.39		0.56	2.33
433	685371.60	603385.33	GRID	12.48	12.43	1.26	0.48	14.73		0.55	2.29
434	685393.17	603397.96	GRID	8.98	8.94	1.28		12.48		0.70	3.54
435	685414.75	603410.59	GRID	8.79	8.79	1.10		11.82		0.61	3.03
436	685402.11	603432.16	GRID	8.32	8.31	1.26		11.18		0.52	2.87

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
437	685380.54	603419.53	GRID	8.23	8.28	1.08		11.77		0.55	3.49
438	685358.97	603406.90	GRID	12.00	11.93	1.19	0.58	14.20		0.50	2.28
439	685337.39	603394.27	GRID	12.75	12.68	1.23	0.55	14.99		0.53	2.31
440	685294.24	603369.01	GRID	14.07	13.99	1.25	0.53	16.29		0.52	2.30
441	685272.67	603356.37	GRID	14.73	14.71	1.13	0.60	16.96		0.52	2.25
442	685251.10	603343.74	GRID	12.92	12.90	1.16	0.64	16.53		0.54	3.62
443	685229.52	603331.11	GRID	12.50	12.46	1.18		15.39		0.63	2.92
444	685216.89	603352.69	GRID	12.12	12.06	1.16		15.31		0.62	3.26
445	685260.04	603377.95	GRID	14.33	14.32	1.17	0.54	16.57		0.54	2.25
446	685281.61	603390.58	GRID	10.97	10.91	1.27	0.52	15.81		0.62	4.90
447	685303.19	603403.21	GRID	10.51	10.57	1.14	0.57	15.15		0.60	4.58
448	685324.76	603415.84	GRID	12.35	12.26	1.23	0.57	14.59		0.53	2.33
449	685346.33	603428.47	GRID	11.39	11.33	1.20	0.59	13.65		0.53	2.32
450	685367.91	603441.11	GRID	7.52	7.57	1.15		11.21		0.59	3.63
451	685389.48	603453.74	GRID	7.90	7.82	1.24		10.57		0.52	2.74
452	685376.85	603475.31	GRID	5.95	6.03	1.12		10.16		0.54	4.13
453	685355.28	603462.68	GRID	6.11	6.20	1.16		10.70		0.56	4.50
454	685333.70	603450.05	GRID	8.34	8.36	1.22	0.64	12.61		0.62	4.25
455	685312.13	603437.42	GRID	9.03	9.03	1.26	0.49	13.13		0.51	4.10
456	685290.55	603424.79	GRID	9.41	9.37	1.26	0.50	13.26		0.59	3.89
457	685268.98	603412.15	GRID	9.87	9.93	1.17	0.49	13.64		0.52	3.71
458	685247.41	603399.52	GRID	10.52	10.47	1.22	0.52	14.39		0.61	3.91
459	685225.83	603386.89	GRID	11.16	11.17	1.21	0.48	15.22		0.50	4.05
460	685204.26	603374.26	GRID	11.35	11.40	1.14		15.12		0.58	3.72
461	685170.05	603383.20	GRID	11.44	11.42	1.19		14.74		0.63	3.31
462	685191.63	603395.83	GRID	10.53	10.46	1.26		14.04		0.57	3.58
463	685213.20	603408.47	GRID	9.67	9.60	1.28		13.73		0.60	4.13
464	685234.78	603421.10	GRID	8.87	8.86	1.25		12.86		0.60	4.00
465	685256.35	603433.73	GRID	8.24	8.15	1.32		12.01		0.60	3.86
466	685277.92	603446.36	GRID	7.61	7.53	1.30		11.17		0.61	3.64
467	685299.50	603458.99	GRID	6.94	6.92	1.28		10.32		0.60	3.40
468	685321.07	603471.62	GRID	6.73	6.66	1.26		10.49		0.62	3.83
469	685342.65	603484.25	GRID	6.20	6.18	1.20		10.26		0.63	4.07
470	685364.22	603496.89	GRID	7.22	7.13	1.34		9.65		0.60	2.51
471	685330.01	603505.83	GRID	6.71	6.64	1.25		10.05		0.62	3.40
472	685308.44	603493.20	GRID	6.75	6.68	1.21		10.21		0.60	3.52
473	685286.87	603480.57	GRID	6.67	6.63	1.26		10.41		0.57	3.77
474	685265.29	603467.93	GRID	7.10	7.04	1.21		11.31		0.59	4.27
475	685243.72	603455.30	GRID	7.93	7.85	1.24		12.11		0.58	4.26
476	685222.14	603442.67	GRID	8.76	8.69	1.23		13.00		0.61	4.31
477	685200.57	603430.04	GRID	9.58	9.54	1.25		13.82		0.57	4.28
478	685179.00	603417.41	GRID	10.40	10.49	1.00		14.03		0.58	3.54
479	685157.42	603404.78	GRID	11.22	11.29	1.18		14.34		0.53	3.05
480	685144.79	603426.35	GRID	11.28	11.21	1.26		14.05		0.55	2.84
481	685166.36	603438.98	GRID	11.12	11.19	1.16		14.85		0.54	3.66
482	685187.94	603451.61	GRID	10.24	10.16	1.32	0.50	14.12		0.57	3.96
483	685209.51	603464.25	GRID	9.59	9.51	1.24	0.58	13.20		0.59	3.69
484	685231.09	603476.88	GRID	8.45	8.51	1.19		12.25		0.59	3.74
485	685252.66	603489.51	GRID	7.43	7.39	1.30		11.38		0.58	4.00
486	685274.23	603502.14	GRID	6.66	6.58	1.24		10.54		0.57	3.96
487	685295.81	603514.77	GRID	6.62	6.55	1.31		10.22		0.59	3.67
488	685317.38	603527.40	GRID	6.76	6.73	1.26		10.04		0.61	3.31
489	685304.75	603548.98	GRID	6.57	6.49	1.19		10.00		0.58	3.51
490	685283.18	603536.35	GRID	6.38	6.33	1.26	0.52	10.17		0.58	3.84
491	685261.60	603523.71	GRID	7.89	7.84	1.26	0.52	11.20		0.55	3.36
492	685240.03	603511.08	GRID	8.48	8.49	1.14	0.58	12.59		0.59	4.10
493	685218.45	603498.45	GRID	11.61	11.53	1.34	0.50	14.00		0.69	2.48
494	685196.88	603485.82	GRID	12.06	12.10	1.22	0.45	14.64		0.87	2.54
495	685175.31	603473.19	GRID	10.51	10.48	1.26	0.49	14.84		0.57	4.35
496	685153.81	603460.42	GRID	11.70	11.63	1.15	0.60	15.39		0.56	3.76
497	685132.16	603447.92	GRID	10.93	10.87	1.25		14.16		0.60	3.29
498	685119.53	603469.50	GRID	10.60	10.53	1.26		14.17		0.54	3.64
499	685141.10	603482.13	GRID	11.02	10.97	1.28	0.61	15.29		0.61	4.32

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
500	685162.67	603494.76	GRID	13.25	13.25	1.20	0.52	15.51		0.55	2.27
501	685184.25	603507.39	GRID	12.67	12.59	1.23	0.52	14.91		0.56	2.32
502	685205.82	603520.03	GRID	12.19	12.12	1.18	0.61	14.41		0.51	2.30
503	685248.97	603545.29	GRID	7.38	7.33	1.15	0.62	11.50		0.60	4.17
504	685270.55	603557.92	GRID	6.00	5.92	1.20		10.00		0.56	4.07
505	685292.12	603570.55	GRID	6.56	6.48	1.18		9.98		0.56	3.50
506	685279.49	603592.13	GRID	5.80	5.77	1.12		9.99		0.54	4.22
507	685257.91	603579.49	GRID	5.22	5.16	1.19		10.04		0.62	4.88
508	685236.34	603566.86	GRID	6.77	6.73	1.21	0.55	10.70		0.55	3.97
509	685193.19	603541.60	GRID	12.09	12.02	1.21	0.55	14.33		0.55	2.31
510	685171.62	603528.97	GRID	12.56	12.49	1.20	0.56	14.79		0.53	2.30
511	685150.04	603516.34	GRID	13.22	13.15	1.20	0.57	15.43		0.52	2.29
512	685128.47	603503.70	GRID	13.69	13.61	1.21	0.58	15.91		0.51	2.30
513	685106.89	603491.07	GRID	10.45	10.38	1.30		14.19		0.56	3.81
514	685072.69	603500.02	GRID	10.37	10.29	1.29		13.95		0.51	3.66
515	685094.26	603512.65	GRID	10.49	10.44	1.23		14.21		0.55	3.78
516	685115.84	603525.28	GRID	13.34	13.25	1.24	0.55	15.56		0.53	2.32
517	685137.41	603537.91	GRID	12.86	12.79	1.20	0.60	15.13		0.54	2.34
518	685158.99	603550.54	GRID	12.44	12.36	1.24	0.55	14.66		0.51	2.30
519	685180.56	603563.17	GRID	11.47	11.39	1.20	0.59	13.86		0.68	2.47
520	685202.13	603575.80	GRID	7.85	7.77	1.18	0.61	12.28		0.53	4.51
521	685223.71	603588.44	GRID	5.90	5.86	1.24	0.71	9.74		0.57	3.89
522	685245.28	603601.07	GRID	5.05	4.98	1.16		9.86		0.53	4.88
523	685266.86	603613.70	GRID	6.24	6.18	1.16		9.99		0.55	3.81
524	685232.65	603622.64	GRID	5.04	4.97	1.16		9.93		0.60	4.97
525	685211.08	603610.01	GRID	5.49	5.42	1.15	0.66	9.89		0.59	4.46
526	685189.50	603597.38	GRID	7.44	7.42	1.14	0.56	11.66		0.60	4.24
527	685167.93	603584.75	GRID	8.65	8.55	1.33	0.71	13.41		0.60	4.86
528	685124.78	603559.48	GRID	12.62	12.54	1.21	0.56	14.88		0.57	2.34
529	685103.21	603546.85	GRID	12.96	12.87	1.19	0.60	15.28		0.62	2.41
530	685081.63	603534.22	GRID	10.49	10.39	1.27		14.29		0.63	3.90
531	685060.06	603521.59	GRID	10.02	9.94	1.16		13.16		0.58	3.22
532	685047.43	603543.16	GRID	9.71	9.63	1.22		13.26		0.59	3.64
533	685090.57	603568.43	GRID	10.17	10.88	1.18	0.80	14.90		0.59	4.02
534	685112.15	603581.06	GRID	12.15	12.07	1.19	0.60	14.38		0.52	2.31
535	685133.72	603593.69	GRID	11.84	11.74	1.21	0.57	14.12		0.59	2.38
536	685176.87	603618.95	GRID	7.02	7.11	1.05	0.56	10.80		0.58	3.69
537	685198.45	603631.58	GRID	5.13	5.07	1.15	0.69	9.95		0.61	4.88
538	685220.02	603644.22	GRID	5.06	4.98	1.28		10.03		0.53	5.04
539	685207.39	603665.79	GRID	5.13	5.05	1.19		10.27		0.58	5.22
540	685185.81	603653.16	GRID	4.86	4.83	1.23	0.55	9.94		0.57	5.12
541	685164.24	603640.53	GRID	6.44	6.37	1.18	0.61	10.16		0.61	3.80
542	685121.09	603615.26	GRID	11.45	11.38	1.16	0.61	13.72		0.57	2.34
543	685099.52	603602.63	GRID	11.36	11.29	1.28	0.49	13.62		0.56	2.32
544	685077.94	603590.00	GRID	11.95	11.87	1.22	0.56	14.17		0.52	2.30
545	685056.37	603577.37	GRID	12.70	12.62	1.24	0.53	14.90		0.51	2.28
546	685034.79	603564.74	GRID	9.43	9.36	1.18		13.36		0.54	4.00
547	685022.16	603586.31	GRID	9.24	9.26	1.09		13.10		0.54	3.84
548	685043.74	603598.94	GRID	9.32	9.23	1.17	0.64	13.35		0.60	4.13
549	685065.31	603611.58	GRID	8.45	8.43	1.11	0.59	12.43		0.61	4.00
550	685086.89	603624.21	GRID	8.04	8.01	1.13	0.62	11.72		0.64	3.71
551	685108.46	603636.84	GRID	7.31	7.25	1.15	0.69	11.36		0.60	4.11
552	685130.03	603649.47	GRID	6.70	6.63	1.23	0.69	10.52		0.55	3.89
553	685151.61	603662.10	GRID	6.04	5.96	1.19	0.65	9.61		0.54	3.66
554	685173.18	603674.73	GRID	4.86	4.82	1.26		9.89		0.62	5.07
555	685194.76	603687.36	GRID	4.69	4.77	1.17		10.54		0.51	5.77
556	685182.12	603708.94	GRID	5.90	5.96	1.04		10.59		0.55	4.63
557	685160.55	603696.31	GRID	4.82	4.84	1.18		10.11		0.59	5.27
558	685138.98	603683.68	GRID	4.85	4.82	1.18		9.79		0.52	4.96
559	685117.40	603671.04	GRID	5.40	5.31	1.28		10.00		0.53	4.69
560	685095.83	603658.41	GRID	5.97	5.89	1.17		10.51		0.58	4.62
561	685074.25	603645.78	GRID	6.54	6.48	1.15		10.80		0.55	4.33
562	685052.68	603633.15	GRID	6.98	7.07	1.15		11.30		0.56	4.23

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
563	685031.11	603620.52	GRID	7.81	7.72	1.18		11.85		0.56	4.13
564	685009.53	603607.89	GRID	8.48	8.41	1.31		12.47		0.60	4.06
565	684987.96	603595.26	GRID	8.91	8.93	1.21		13.55		0.56	4.62
566	684975.33	603616.83	GRID	8.32	8.23	1.26		13.10		0.51	4.86
567	684996.90	603629.46	GRID	7.82	7.82	1.08		11.94		0.56	4.12
568	685018.47	603642.09	GRID	7.36	7.29	1.22		11.76		0.62	4.47
569	685040.05	603654.72	GRID	6.85	6.87	1.10		11.25		0.59	4.38
570	685061.62	603667.36	GRID	6.36	6.29	1.18		10.99		0.59	4.70
571	685083.20	603679.99	GRID	5.86	5.81	1.13		10.74		0.55	4.93
572	685104.77	603692.62	GRID	5.45	5.38	1.20		10.25		0.49	4.88
573	685126.35	603705.25	GRID	4.99	4.90	1.20		10.19		0.54	5.29
574	685147.92	603717.88	GRID	4.79	4.75	1.16		10.14		0.52	5.39
576	685005.84	603663.67	GRID	7.30	7.22	1.18		11.60		0.84	4.37
577	684984.27	603651.03	GRID	7.85	7.77	1.18		11.66		0.71	3.89
578	684962.69	603638.40	GRID	8.32	8.31	1.26		12.50		0.80	4.19
1000	685974.79	602058.24	BNDY	11.80	11.80	1.13		14.01		0.70	2.22
1001	685996.44	602070.73	BNDY	11.10	11.05	1.14		14.64		0.94	3.58
1002	686018.09	602083.22	BNDY	10.56	10.58	1.10	0.61	14.35		0.59	3.77
1003	686034.27	602092.56	BNDY_DGA	10.61	10.57	1.29		17.04	2.60		6.47
1004	686042.93	602090.28	BNDY_DGA	10.62	10.58	1.26		17.24	1.39		6.67
1005	686053.71	602087.45	BNDY_DGA	10.57	10.58	1.14		17.25	0.93		6.67
1006	686070.10	602097.03	BNDY	10.84	10.88	1.05		17.32		0.68	6.44
1007	686075.12	602116.13	BNDY	10.67	10.65	1.18		17.35		0.75	6.69
1008	686083.05	602120.71	BNDY	10.85	10.86	1.10		17.41		0.59	6.55
1009	686107.56	602134.84	BNDY	7.89	7.93	1.22		17.52		0.47	9.59
1010	686096.69	602158.58	BNDY	8.00	7.99	1.14		17.46		0.45	9.48
1012	686086.24	602181.43	BNDY_DGA	8.11	8.10	1.24		17.83	0.54		9.73
1013	686075.78	602204.28	BNDY	8.22	8.22	1.24		16.14		0.75	7.93
1014	686065.33	602227.13	BNDY	8.33	8.37	1.05		15.57		0.67	7.20
1015	686054.87	602249.98	BNDY	8.44	8.48	1.21		15.22		0.51	6.73
1016	686051.14	602258.14	BNDY	6.56	6.62	1.09		15.14		0.66	8.52
1017	686043.71	602274.37	BNDY	11.67	11.64	1.22		14.80		0.77	3.16
1018	686052.80	602278.53	BNDY	11.86	11.86	1.13		14.91		0.52	3.05
1019	686041.80	602300.26	BNDY	12.11	12.13	1.09		14.33		0.76	2.20
1020	686030.48	602322.60	BNDY	12.36	12.38	1.06		14.43		0.58	2.05
1021	686019.16	602344.95	BNDY	12.61	12.63	1.09		14.62		0.50	1.99
1022	686007.84	602367.29	BNDY	12.86	12.85	1.12		14.89		0.53	2.04
1023	685996.52	602389.63	BNDY	13.11	13.11	1.11		15.16		0.52	2.05
1024	685985.21	602411.98	BNDY	13.36	13.32	1.11		15.39		0.56	2.06
1025	685973.89	602434.32	BNDY	13.61	13.58	1.12		15.69		0.62	2.11
1026	685962.60	602456.68	BNDY	13.71	13.66	1.19		15.88		0.72	2.22
1027	685951.80	602479.33	BNDY	13.94	13.92	1.13		15.96		0.53	2.04
1028	685941.01	602501.98	BNDY	14.13	14.09	1.12		16.18		0.69	2.09
1029	685930.21	602524.63	BNDY	9.88	9.84	1.28		16.44		0.67	6.59
1030	685919.41	602547.28	BNDY	14.51	14.45	1.26		16.55		0.57	2.10
1031	685908.62	602569.92	BNDY	14.70	14.70	1.11		16.72		0.53	2.02
1032	685897.82	602592.57	BNDY	14.89	14.86	1.16		16.92		0.59	2.05
1033	685887.02	602615.22	BNDY	15.08	15.12	1.05		17.13		0.66	2.01
1034	685876.23	602637.87	BNDY	15.27	15.28	1.06		17.28		0.61	2.00
1035	685865.39	602660.49	BNDY	15.50	15.51	1.07		17.53		0.60	2.02
1036	685854.39	602683.02	BNDY	13.51	13.43	1.24		17.77		0.57	4.34
1037	685843.40	602705.56	BNDY	14.54	14.57	1.05		18.02		0.59	3.45
1038	685832.40	602728.09	BNDY	14.67	14.59	1.28		18.42		0.59	3.83
1039	685821.41	602750.62	BNDY	14.66	14.66	1.10		18.86		0.66	4.20
1040	685808.84	602776.37	BNDY	14.65	14.69	1.18		19.58		0.88	4.90
1041	685836.50	602789.20	BNDY	12.94	12.95	1.11		19.13		0.70	6.18
1042	685852.65	602796.69	BNDY	12.80	12.84	1.14		19.45		0.66	6.60
1043	685850.84	602802.07	BNDY	12.79	12.76	1.21		19.80		0.84	7.04
1044	685842.61	602820.98	BNDY	18.03	16.59	2.58		20.36		0.62	3.77
1045	685838.18	602831.15	BNDY	18.25	18.18	1.16		20.39		0.68	2.22
1046	685836.38	602830.34	BNDY	18.14	18.09	1.16		20.39		0.54	2.30
1047	685832.35	602839.53	BNDY	14.22	14.15	1.17		20.38		0.64	6.23
1048	685830.31	602838.50	BNDY	14.00	14.07	1.18		20.42		0.68	6.35

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1049	685818.27	602864.66	BNDY	14.00	14.06	1.04		20.35		0.51	6.29
1050	685807.77	602887.48	BNDY	14.00	14.00	1.14		20.51		0.61	6.51
1051	685797.27	602910.31	BNDY	14.00	13.91	1.23		20.72		0.65	6.80
1052	685786.76	602933.13	BNDY	12.00	12.04	1.15		20.91		0.50	8.87
1053	685776.25	602955.94	BNDY	12.00	11.99	1.24		21.05		0.56	9.06
1054	685765.76	602978.77	BNDY	12.00	12.06	1.19		21.12		0.56	9.06
1055	685755.26	603001.59	BNDY	11.84	11.43	1.53		21.22		0.62	9.79
1056	685744.76	603024.41	BNDY	11.50	11.48	1.14		21.13		0.71	9.64
1057	685734.25	603047.23	BNDY	11.50	11.46	1.23		20.88		0.65	9.41
1058	685723.69	603070.02	BNDY	11.50	11.56	1.14		20.68		0.57	9.12
1059	685713.13	603092.80	BNDY	11.50	11.52	1.23		20.35		0.59	8.84
1060	685704.90	603110.56	BNDY	11.50	11.47	1.16		20.14		0.60	8.67
1061	685679.62	603098.84	BNDY	11.50	11.56	1.17		20.38		0.69	8.83
1062	685667.86	603124.24	BNDY	11.50	11.42	1.18		20.39		0.63	8.97
1063	685658.74	603143.90	BNDY	12.00	12.06	1.18		19.64		0.54	7.57
1064	685651.29	603140.51	BNDY	12.69	12.70	1.19		19.73		0.69	7.03
1065	685634.84	603162.84	BNDY	13.26	13.33	1.17		19.16		0.64	5.83
1066	685619.86	603183.04	BNDY	13.75	13.82	1.08		18.52		0.62	4.69
1067	685604.77	603203.18	BNDY	14.35	14.32	1.22		18.51		0.60	4.19
1068	685589.69	603223.32	BNDY	15.61	15.64	1.06		18.16		0.56	2.52
1069	685574.11	603243.17	BNDY	14.59	14.64	1.08		17.45		0.50	2.80
1070	685558.86	603263.21	BNDY	14.78	13.85	2.04		17.81		0.58	3.96
1071	685549.17	603276.30	BNDY	14.27	14.01	1.48		16.80		0.62	2.78
1072	685536.47	603288.67	BNDY	13.32	13.30	1.17		15.84		0.65	2.54
1073	685533.78	603291.95	BNDY	13.22	13.17	1.18		15.73		0.61	2.55
1074	685528.21	603303.34	BNDY	12.92	12.85	1.22		15.45		0.59	2.60
1075	685512.73	603323.11	BNDY	9.77	9.76	1.21		14.76		0.56	5.00
1076	685497.08	603342.92	BNDY	11.91	11.87	1.15		14.13		0.71	2.26
1077	685481.35	603362.67	BNDY	11.11	11.19	1.16		13.18		0.57	1.99
1078	685465.52	603382.38	BNDY	10.50	10.43	1.17		12.52		0.50	2.09
1079	685449.61	603402.03	BNDY	9.90	9.93	1.07		11.93		0.53	2.00
1080	685433.60	603421.63	BNDY	9.20	9.26	1.09		11.34		0.55	2.08
1081	685417.51	603441.17	BNDY	8.74	8.82	1.12		10.79		0.54	1.97
1082	685401.32	603460.67	BNDY	8.22	8.28	1.04		10.25		0.53	1.97
1083	685385.04	603480.11	BNDY	5.89	5.97	1.17		9.76		0.54	3.78
1084	685368.67	603499.49	BNDY	7.32	7.25	1.31		9.40		0.62	2.15
1085	685352.21	603518.83	BNDY	7.00	6.94	1.25		9.97		0.57	3.04
1086	685335.68	603538.11	BNDY	6.99	6.96	1.13		9.94		0.55	2.98
1087	685319.13	603557.40	BNDY	7.00	6.94	1.30		9.95		0.58	3.01
1088	685302.59	603576.68	BNDY	6.99	7.04	1.06		9.99		0.58	2.95
1089	685286.05	603595.97	BNDY	6.96	6.92	1.13		9.97		0.60	3.06
1090	685269.51	603615.25	BNDY	6.96	6.93	1.12		10.06		0.67	3.14
1091	685252.96	603634.53	BNDY	6.96	6.93	1.16		10.06		0.59	3.13
1092	685236.42	603653.82	BNDY	6.96	6.95	1.14		10.08		0.61	3.13
1093	685219.88	603673.10	BNDY	6.96	7.00	1.16		10.48		0.60	3.49
1094	685203.33	603692.39	BNDY	4.81	4.74	1.33		10.87		0.61	6.13
1095	685186.79	603711.67	BNDY	7.00	6.92	1.16		10.73		0.61	3.81
1096	685170.25	603730.95	BNDY	7.00	6.97	1.29		10.58		0.61	3.61
1097	685161.74	603740.86	BNDY_SW	7.00	6.96	1.14		10.09	0.44		3.13
1098	685140.27	603730.95	BNDY_SW	7.00	6.97	1.11		10.28	0.43		3.31
1099	685117.46	603720.43	BNDY_SW	7.00	6.97	1.15		10.55	0.59		3.58
1100	685094.65	603709.90	BNDY_SW	7.00	6.99	1.14		10.83	0.69		3.84
1101	685071.85	603699.37	BNDY_SW	7.00	6.97	1.12		11.02	0.74		4.06
1102	685049.04	603688.85	BNDY_SW	7.00	6.95	1.14		11.23	1.11		4.27
1103	685026.23	603678.32	BNDY_SW	7.15	7.09	1.24		11.35	0.89		4.26
1104	685003.42	603667.80	BNDY_SW	7.30	7.24	1.25		11.41	0.71		4.17
1105	684980.62	603657.27	BNDY_SW	8.03	7.95	1.17		11.75	0.96		3.80
1106	684957.81	603646.75	BNDY_SW	8.50	8.48	1.14		11.85	0.50		3.38
1107	684944.97	603640.17	BNDY_SW	8.55	10.75	1.26		12.02	-0.40		1.92
1108	684968.60	603612.89	BNDY	8.50	8.50	3.49		13.68		0.52	5.18
1109	684985.25	603593.67	BNDY	8.86	8.93	3.01		13.81		0.51	4.88
1110	685001.90	603574.45	BNDY	9.63	9.66	2.31		13.76		0.51	4.10
1111	685018.55	603555.23	BNDY	9.76	9.72	2.21		13.91		0.51	4.20

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1112	685035.20	603536.01	BNDY	9.94	9.97	1.92		14.10		0.54	4.13
1113	685051.85	603516.79	BNDY	10.18	10.27	1.68		14.17		0.52	3.91
1114	685068.50	603497.56	BNDY	10.43	10.52	1.35		14.58		0.52	4.07
1115	685085.15	603478.34	BNDY	10.68	10.66	1.20		14.95		0.50	4.29
1116	685101.80	603459.12	BNDY	10.94	10.93	1.10		14.92		0.53	3.99
1117	685118.45	603439.90	BNDY	11.19	11.22	1.09		14.91		0.54	3.69
1118	685135.10	603420.68	BNDY	11.45	11.41	1.20		14.98		0.57	3.57
1119	685151.75	603401.46	BNDY	11.41	11.41	1.18		14.97		0.58	3.56
1120	685168.40	603382.23	BNDY	11.46	11.46	1.12		14.83		0.53	3.37
1121	685185.05	603363.01	BNDY	11.50	11.46	1.16		14.78		0.77	3.32
1122	685201.70	603343.79	BNDY	12.44	12.35	1.18		14.96		0.56	2.61
1123	685218.35	603324.57	BNDY	12.72	12.71	1.14		15.08		0.51	2.37
1124	685235.00	603305.35	BNDY	12.97	13.02	1.05		15.00		0.56	1.98
1125	685251.65	603286.13	BNDY	13.23	13.26	1.07		15.27		0.59	2.01
1126	685264.65	603271.12	BNDY	13.44	13.45	1.09		15.45		0.53	1.99
1127	685280.05	603244.81	BNDY	13.71	13.78	1.02		15.73		0.46	1.95
1128	685292.68	603223.24	BNDY	13.96	14.02	1.07		15.98		0.52	1.96
1129	685305.31	603201.67	BNDY	14.21	14.25	1.17		16.22		0.50	1.97
1130	685317.94	603180.09	BNDY	14.47	14.50	1.21		16.54		0.53	2.04
1131	685330.57	603158.52	BNDY	14.57	14.63	1.19		16.82		0.53	2.19
1132	685343.21	603136.94	BNDY	14.30	14.35	1.04		16.98		0.51	2.62
1133	685355.84	603115.37	BNDY	8.98	9.01	2.92		17.04		0.58	8.03
1134	685368.47	603093.80	BNDY	8.98	8.94	2.98		17.14		0.71	8.20
1135	685381.10	603072.22	BNDY	8.98	9.05	2.88		17.74		0.53	8.69
1136	685391.11	603055.12	BNDY	8.98	9.65	2.24		17.94		0.49	8.29
1137	685406.36	603029.07	BNDY	13.38	13.41	1.09		18.27		0.60	4.86
1138	685418.99	603007.50	BNDY	13.33	13.39	1.08		18.49		0.52	5.10
1139	685431.63	602985.92	BNDY	13.28	13.33	1.18		18.74		0.57	5.41
1140	685444.26	602964.35	BNDY	13.32	13.38	1.10		19.02		0.61	5.64
1141	685456.89	602942.78	BNDY	13.38	13.37	1.27		19.23		0.54	5.86
1142	685469.52	602921.20	BNDY	13.43	13.49	1.17		19.53		0.60	6.03
1143	685482.15	602899.63	BNDY	13.49	13.50	1.16		19.72		0.60	6.22
1144	685494.78	602878.05	BNDY	13.47	13.50	1.18		19.93		0.54	6.43
1145	685507.41	602856.48	BNDY	13.46	13.48	1.07		20.09		0.63	6.61
1146	685520.05	602834.91	BNDY	13.46	13.48	1.18		20.20		0.55	6.71
1147	685532.68	602813.33	BNDY	13.54	13.55	1.17		20.36		0.59	6.80
1148	685545.31	602791.76	BNDY	13.81	13.77	1.16		20.40		0.61	6.63
1149	685557.94	602770.18	BNDY	13.83	13.83	1.25		20.53		0.56	6.70
1150	685570.57	602748.61	BNDY	13.75	13.74	1.26		20.66		0.74	6.92
1151	685583.20	602727.03	BNDY	13.66	13.65	1.23		20.54		0.65	6.90
1152	685595.84	602705.46	BNDY	13.58	13.64	1.19		20.62		0.78	6.98
1153	685608.47	602683.89	BNDY	13.44	13.47	1.20		20.47		0.71	7.00
1154	685621.10	602662.31	BNDY	13.14	13.20	1.13		20.45		0.67	7.25
1155	685633.73	602640.74	BNDY	12.80	12.88	1.15		20.33		0.74	7.46
1156	685646.36	602619.16	BNDY	12.55	12.60	1.15		20.22		0.75	7.62
1157	685658.99	602597.59	BNDY	12.31	12.25	1.26		20.01		0.75	7.75
1158	685671.62	602576.02	BNDY	12.18	12.21	1.18		19.80		0.81	7.60
1159	685684.26	602554.44	BNDY	12.08	12.09	1.25		19.52		0.68	7.43
1160	685696.89	602532.87	BNDY	12.13	12.11	1.15		19.32		0.62	7.21
1161	685709.52	602511.29	BNDY	12.23	12.24	1.12		19.09		0.72	6.86
1162	685722.15	602489.72	BNDY	12.45	12.42	1.26		18.78		0.66	6.35
1163	685734.78	602468.14	BNDY	12.73	12.71	1.14		18.53		0.64	5.82
1164	685747.41	602446.57	BNDY	12.85	12.82	1.15		18.28		0.65	5.47
1165	685760.05	602425.00	BNDY	12.99	13.05	1.02		18.02		0.57	4.97
1166	685772.68	602403.42	BNDY	13.23	13.26	1.22		17.82		0.60	4.55
1167	685785.31	602381.85	BNDY	13.53	13.47	1.17		17.58		0.69	4.12
1168	685797.94	602360.27	BNDY	13.74	13.72	1.24		17.32		0.71	3.60
1169	685810.57	602338.70	BNDY	13.90	13.90	1.13		17.05		0.65	3.15
1170	685823.20	602317.13	BNDY	13.91	13.89	1.26		16.85		0.73	2.97
1171	685833.24	602300.00	BNDY	8.48	8.46	1.27		16.60		0.66	8.14
1172	685837.79	602292.20	BNDY	13.90	13.95	1.15		16.53		0.58	2.58
1173	685848.45	602274.01	BNDY	14.27	14.25	1.23		16.52		0.73	2.27
1174	685861.10	602252.40	BNDY	14.02	14.01	1.10		16.04		0.52	2.03

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
1175	685873.73	602230.83	BNDY	13.77	13.76	1.13		15.81		0.57	2.05
1176	685886.36	602209.26	BNDY	13.48	13.52	1.08		15.56		0.64	2.04
1177	685899.00	602187.68	BNDY	13.28	13.25	1.19		15.35		0.61	2.10
1178	685911.63	602166.11	BNDY	13.00	12.99	1.16		15.04		0.53	2.05
1179	685924.26	602144.54	BNDY	12.75	12.76	1.12		14.76		0.52	2.00
1180	685936.89	602122.96	BNDY	12.50	12.52	1.13		14.52		0.50	2.00
1181	685949.52	602101.39	BNDY	12.26	12.34	1.11		14.38		0.65	2.03
1182	685962.15	602079.81	BNDY	12.13	12.15	1.08		14.14		0.52	1.98
1183	685396.47	603045.97	BNDY	13.03	13.01	1.15		18.03		0.60	5.02
1184	684951.95	603632.11	BNDY	8.50	8.42	3.58		13.38		0.52	4.96
2000	685963.46	602222.86	BRK	12.50	12.59	1.02	0.64	17.35		0.84	4.76
2001	685959.21	602224.98	BRK	15.00	14.92	1.31	0.49	17.36		0.64	2.44
2002	686044.61	602255.15	BRK	11.35	11.28	1.17		15.00		0.54	3.72
2003	685995.00	602272.86	BRK	12.51	12.56	1.08	0.66	16.51		0.69	3.95
2004	685991.78	602270.98	BRK	14.98	14.91	1.22	0.52	17.19		0.54	2.28
2005	685981.32	602293.82	BRK	15.27	15.24	1.25	0.48	17.49		0.52	2.25
2006	685984.59	602295.74	BRK	12.76	12.75	1.17	0.70	16.70		0.81	3.96
2007	685937.03	602325.83	BRK	15.91	15.88	1.18	0.51	18.27		0.69	2.38
2008	685933.35	602323.67	BRK	13.45	13.48	1.11	0.80	18.31		1.00	4.84
2009	685852.16	602416.10	BRK	17.66	17.60	1.14	0.61	20.02		0.66	2.42
2010	685936.65	602267.67	BRK	13.02	13.10	1.12	0.68	17.74		0.93	4.64
2011	685940.05	602269.66	BRK	15.49	15.45	1.15	0.58	17.75		0.57	2.30
2012	685849.90	602419.96	BRK	15.33	15.27	1.16	0.68	20.05		0.93	4.78
2013	685796.12	602561.30	BRK	18.52	18.50	1.19	0.50	20.83		0.64	2.33
2014	685794.18	602564.61	BRK	15.98	16.08	1.06	0.87	20.62		0.81	4.54
2015	685850.37	602564.79	BRK	18.26	18.19	1.27	0.48	20.47		0.57	2.28
2016	685853.96	602566.89	BRK	15.74	15.81	1.18	0.57	20.38		0.72	4.57
2017	685836.81	602585.82	BRK	18.40	18.35	1.29	0.46	20.64		0.55	2.29
2018	685840.09	602587.74	BRK	15.92	15.87	1.21	0.87	20.36		0.70	4.50
2019	685920.13	602349.50	BRK	16.22	16.25	1.20	0.46	18.61		0.71	2.37
2020	685922.56	602345.35	BRK	13.69	13.75	1.16	0.55	18.50		0.89	4.75
2021	685856.33	602313.51	BRK	8.60	8.60	1.25		17.85		0.65	9.25
2022	685851.29	602322.14	BRK	8.60	8.69	1.17		17.95		0.66	9.26
2023	685843.45	602327.59	BRK	14.35	14.32	1.27		17.83		0.59	3.50
2024	685860.64	602306.13	BRK	14.29	14.24	1.16		17.43		0.67	3.19
2025	685912.14	602513.81	BRK	9.97	9.92	1.29		17.65		0.73	7.73
2026	685914.02	602508.21	BRK	13.91	13.90	1.17		17.51		0.64	3.61
2027	685826.05	602460.69	BRK	15.80	15.75	1.28	0.76	20.63		0.87	4.88
2028	685824.03	602464.16	BRK	18.39	18.45	1.07	0.52	20.70		0.65	2.24
2029	685833.67	602645.46	BRK	13.55	13.60	1.12		18.09		0.57	4.48
2030	685815.80	602627.68	BRK	15.32	15.40	1.05		18.60		0.59	3.20
2031	685813.88	602630.17	BRK	13.75	13.84	1.03		18.16		0.64	4.33
2032	685705.01	602711.44	BRK	18.93	18.85	1.34	0.63	23.69		0.72	4.85
2033	685708.54	602713.51	BRK	21.49	21.43	1.21	0.54	23.71		0.53	2.28
2034	685697.16	602677.88	BRK	20.80	20.86	1.16	0.53	23.18		0.73	2.31
2035	685701.40	602680.36	BRK	18.36	18.31	1.27	0.69	23.22		0.68	4.91
2036	685711.77	602657.46	BRK	20.09	20.03	1.24	0.48	22.43		0.68	2.40
2037	685756.42	602678.84	BRK	17.22	17.19	1.22	0.88	22.05		0.77	4.86
2038	685753.99	602681.99	BRK	19.87	19.96	1.11	0.51	22.16		0.59	2.20
2039	685731.99	602720.32	BRK	17.52	17.48	1.29	0.62	23.88		0.73	6.39
2040	685728.85	602725.67	BRK	21.65	21.70	1.05	0.59	23.91		0.57	2.21
2041	685707.79	602655.13	BRK	17.63	17.71	1.19	0.68	22.38		0.62	4.68
2042	685764.85	602717.51	BRK	18.00	18.00	1.23	0.69	22.97		0.65	4.97
2043	685761.00	602715.25	BRK	20.74	20.69	1.14	0.58	23.04		0.62	2.35
2044	685822.01	602722.01	BRK	14.67	14.70	1.23	0.58	21.05		0.52	6.36
2045	685818.67	602720.05	BRK	17.24	17.25	1.10	0.60	21.20		0.59	3.95
2046	685829.80	602697.60	BRK	17.01	16.95	1.19	0.52	20.49		0.63	3.54
2047	685833.01	602699.48	BRK	14.54	14.53	1.17		20.39		0.73	5.86
2048	685746.78	602645.58	BRK	16.45	16.51	1.20	0.66	21.38		0.79	4.87
2049	685835.75	602641.45	BRK	15.78	15.83	1.16		18.86		0.58	3.04
2050	685783.49	602786.36	BRK	18.41	18.42	1.22	0.57	22.93		0.64	4.51
2051	685780.08	602784.37	BRK	21.01	20.96	1.25	0.48	23.23		0.54	2.27
2052	685805.33	602792.97	BRK	14.90	14.94	1.21		21.06		0.58	6.12

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2053	685802.49	602795.13	BRK	17.00	17.00	1.18		21.20		0.55	4.21
2054	685827.17	602830.98	BRK	17.00	17.09	1.10		20.52		0.60	3.43
2055	685744.19	602649.99	BRK	19.16	19.17	1.08	0.60	21.56		0.71	2.39
2056	685800.49	602883.22	BRK	18.20	18.19	1.12		20.84		0.55	2.65
2057	685789.54	602905.78	BRK	18.45	18.41	1.14		21.05		0.53	2.65
2058	685822.88	602664.93	BRK	13.52	13.60	1.10		18.05		0.55	4.45
2059	685820.20	602668.39	BRK	15.71	15.70	1.19		19.00		0.72	3.31
2060	685800.10	602650.98	BRK	15.00	15.03	1.11		18.73		0.69	3.70
2061	685801.75	602648.60	BRK	13.74	13.73	1.11		18.24		0.73	4.51
2062	685776.28	602694.14	BRK	17.21	17.27	1.11	0.69	21.94		0.65	4.67
2063	685774.25	602697.61	BRK	19.87	19.79	1.17	0.58	22.10		0.56	2.31
2064	685811.43	602860.66	BRK	17.94	17.92	1.15		20.58		0.55	2.66
2065	685790.56	602471.83	BRK	19.18	19.11	1.26	0.47	21.43		0.59	2.32
2066	685787.33	602469.94	BRK	16.76	16.78	1.19	0.86	21.14		0.76	4.36
2067	685775.15	602491.78	BRK	16.78	16.81	1.20	0.67	21.30		0.85	4.49
2068	685778.43	602493.70	BRK	19.31	19.24	1.24	0.49	21.55		0.57	2.31
2069	685657.73	602799.64	BRK	19.07	19.02	1.29	0.63	23.81		0.65	4.79
2070	685654.59	602797.80	BRK	21.50	21.41	1.16	0.62	23.72		0.52	2.30
2071	685671.07	602778.48	BRK	19.12	19.17	1.20	0.67	23.85		0.66	4.68
2072	685667.93	602776.64	BRK	21.54	21.46	1.25	0.55	23.77		0.51	2.31
2073	685709.39	602857.87	BRK	20.11	20.18	1.16	0.72	24.96		0.64	4.78
2074	685711.30	602854.60	BRK	22.59	22.62	1.21	0.46	24.98		0.70	2.37
2075	685729.75	602872.58	BRK	19.68	19.68	1.20	0.62	24.61		0.57	4.92
2076	685731.81	602869.06	BRK	22.22	22.20	1.24	0.46	24.79		0.89	2.59
2077	685795.65	602764.51	BRK	18.03	17.99	1.24	0.48	22.38		0.54	4.39
2078	685800.03	602767.07	BRK	14.66	14.70	1.16	0.69	21.81		0.69	7.11
2079	685792.82	602762.85	BRK	18.08	18.07	1.25	0.52	22.66		0.62	4.59
2080	685789.43	602760.87	BRK	20.65	20.68	1.16	0.50	22.89		0.55	2.21
2081	685557.32	602969.16	BRK	18.98	19.01	1.22	0.75	23.66		0.68	4.65
2082	685555.43	602972.39	BRK	21.47	21.40	1.16	0.60	23.83		0.67	2.43
2083	685468.23	603121.32	BRK	13.59	13.65	1.17		18.70		0.70	5.05
2084	685465.10	603126.67	BRK	9.50	9.54	1.23		18.12		0.64	8.59
2085	685475.11	603069.32	BRK	16.56	16.64	1.15	0.76	21.28		0.62	4.64
2086	685471.46	603067.19	BRK	19.02	19.03	1.08	0.61	21.30		0.59	2.27
2087	685533.61	603016.66	BRK	18.93	19.00	1.19	0.74	23.64		0.72	4.65
2088	685530.40	603014.78	BRK	21.37	21.27	1.18	0.62	23.74		0.67	2.47
2089	685536.26	602955.65	BRK	18.58	18.61	1.19	0.84	23.25		0.68	4.64
2090	685534.28	602959.03	BRK	21.09	21.02	1.21	0.57	23.52		0.71	2.50
2091	685507.65	603059.40	BRK	20.05	19.97	1.19	0.60	22.39		0.62	2.41
2092	685504.39	603057.50	BRK	17.59	17.56	1.29	0.81	22.35		0.67	4.80
2093	685594.51	603202.52	BRK	16.10	16.14	1.07		18.54		0.55	2.40
2094	685596.79	603198.62	BRK	13.16	13.12	1.20		18.61		0.65	5.49
2095	685405.10	603081.78	BRK	15.51	15.52	1.14		19.24		0.65	3.72
2096	685395.56	603083.28	BRK	9.07	9.17	1.14		18.76		0.53	9.60
2097	685399.62	603139.55	BRK	9.23	9.31	1.13		17.85		0.58	8.54
2098	685395.05	603147.36	BRK	15.10	15.02	1.19	0.64	18.27		0.70	3.24
2099	685423.65	603147.98	BRK	9.36	9.42	1.13		17.85		0.56	8.43
2100	685441.55	603117.41	BRK	9.37	9.45	1.18		18.22		0.72	8.77
2101	685420.05	603154.14	BRK	14.02	14.06	1.10		18.05		0.60	3.99
2102	685444.98	603111.56	BRK	13.85	13.90	1.13		18.81		0.77	4.91
2103	685491.69	603130.73	BRK	13.60	13.69	1.14		18.65		0.58	4.96
2104	685488.65	603135.92	BRK	9.67	9.73	1.17		18.01		0.54	8.28
2105	685470.76	603211.63	BRK	14.81	14.88	1.06	0.95	19.20		0.64	4.33
2106	685468.49	603181.46	BRK	10.83	10.89	1.17	0.71	18.67		0.97	7.78
2107	685463.60	603179.43	BRK	14.36	14.39	1.15	0.67	18.47		0.84	4.08
2108	685616.58	603185.75	BRK	13.50	13.55	1.15		18.52		0.62	4.98
2109	685614.80	603180.19	BRK	16.50	16.58	1.08		18.66		0.58	2.07
2110	685473.49	603213.23	BRK	17.03	16.95	1.18	0.59	19.31		0.59	2.36
2111	685663.53	603121.70	BRK	12.50	12.57	1.17		20.53		0.63	7.96
2112	685647.93	603127.59	BRK	17.52	17.45	1.31		20.17		0.56	2.72
2113	685675.50	603099.74	BRK	12.76	12.84	1.09		20.43		0.55	7.59
2114	685660.09	603105.58	BRK	17.84	17.78	1.25		20.64		0.57	2.85
2115	685722.72	603040.48	BRK	13.00	12.98	1.12		21.30		0.69	8.33

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA / SIDEWALK (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2116	685712.78	603034.66	BRK	18.74	18.82	1.01		21.47		0.66	2.65
2117	685693.81	603081.49	BRK	13.00	13.04	1.07		20.64		0.63	7.60
2118	685684.52	603076.05	BRK	18.35	18.40	1.04		20.79		0.63	2.39
2119	685708.47	603061.11	BRK	13.00	13.08	1.11		20.93		0.60	7.85
2120	685698.80	603055.44	BRK	18.58	18.52	1.16		21.14		0.65	2.62
2121	685773.30	602954.21	BRK	13.00	13.04	1.16		21.26		0.55	8.22
2122	685763.36	602948.39	BRK	18.75	18.78	1.07		21.80		0.53	3.02
2123	685736.47	603019.56	BRK	13.00	13.08	1.06		21.52		0.79	8.43
2124	685726.38	603013.65	BRK	18.84	18.84	1.21		21.65		0.58	2.81
2125	685749.74	602998.36	BRK	13.00	13.08	1.04		21.42		0.63	8.34
2126	685739.58	602992.41	BRK	18.88	18.91	1.10		21.96		0.50	3.06
2127	685762.24	602976.71	BRK	13.00	13.03	1.14		21.38		0.68	8.35
2128	685752.10	602970.77	BRK	18.86	18.84	1.23		22.08		0.69	3.24
2129	685784.68	602932.96	BRK	13.00	13.07	1.09		21.06		0.64	7.99
2130	685776.69	602925.78	BRK	18.66	18.66	1.19		21.44		0.52	2.77
2131	685530.42	603217.59	BRK	14.69	14.71	1.22		18.23		0.62	3.52
2132	685527.38	603215.81	BRK	17.52	17.47	1.15	0.63	19.77		0.53	2.31
2133	685368.49	603242.19	BRK	14.15	14.21	1.19	0.55	18.91		0.70	4.69
2134	685370.51	603238.74	BRK	16.71	16.63	1.19	0.62	19.08		0.65	2.46
2135	685350.10	603224.13	BRK	17.00	16.93	1.28	0.51	19.27		0.55	2.34
2136	685348.20	603227.37	BRK	14.48	14.56	1.18	0.78	18.99		0.56	4.42
2137	685398.33	603339.67	BRK	11.28	11.38	1.05	0.84	15.97		0.58	4.60
2138	685396.24	603343.25	BRK	13.68	13.60	1.23	0.56	15.92		0.53	2.32
2139	685420.59	603353.66	BRK	10.74	10.81	1.17	0.63	13.92		0.73	3.11
2140	685415.13	603354.10	BRK	13.30	13.31	1.22	0.50	15.53		0.51	2.23
2141	685497.87	603316.26	BRK	7.28	7.33	1.20		14.80		0.64	7.46
2142	685502.33	603310.60	BRK	12.09	12.16	1.19		15.11		0.62	2.95
2143	685313.22	603384.52	BRK	10.87	10.92	1.21	0.77	15.61		0.60	4.69
2144	685315.87	603381.57	BRK	13.41	13.46	1.18	0.47	15.64		0.53	2.18
2145	685073.63	603554.95	BRK	13.10	13.03	1.16	0.61	15.32		0.52	2.28
2146	685066.32	603557.78	BRK	10.60	10.54	1.19	0.59	14.18		0.60	3.64
2147	685216.30	603555.13	BRK	8.12	8.15	1.08	0.88	12.63		0.61	4.49
2148	685212.78	603553.07	BRK	10.75	10.67	1.32	0.50	12.97		0.53	2.30
2149	685223.70	603530.49	BRK	10.97	10.95	1.17	0.56	13.28		0.61	2.34
2150	685227.20	603532.54	BRK	8.54	8.55	1.23	0.73	13.02		0.58	4.48
2151	685148.13	603569.83	BRK	12.29	12.20	1.22	0.57	14.53		0.54	2.33
2152	685146.90	603573.50	BRK	9.72	9.65	1.32	0.74	14.48		0.63	4.83
2153	685143.40	603571.74	BRK	12.28	12.20	1.23	0.55	14.49		0.51	2.29
2154	685155.60	603606.50	BRK	10.79	10.75	1.18	0.55	13.01		0.54	2.26
2155	685159.12	603608.56	BRK	8.10	8.15	1.06	0.79	12.68		0.58	4.53
2156	685143.43	603628.34	BRK	7.92	7.82	1.34	0.78	12.53		0.61	4.71
2157	685139.90	603626.27	BRK	10.61	10.52	1.20	0.58	12.92		0.62	2.40
2158	685236.54	603364.19	BRK	12.91	12.84	1.27	0.56	16.78		0.56	3.94
2159	685239.27	603365.79	BRK	15.00	14.91	1.32	0.49	17.32		0.60	2.41

Honeywell SA-6 South
Chromium Remedy
Jersey City, New Jersey

Created By: T. Donovan 12/21/16
Checked By: S. Shallard 12/21/16

TABLE 1. SA-6 SOUTH OPEN SPACE CAP AREA - CONSTRUCTION CONTROL GRID AS BUILT SUMMARY

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2	685518.44	601481.51	GRID	15.72	15.73	1.11	0.55	20.00		0.66	4.28
3	685543.44	601481.51	GRID	15.32	15.35	1.13	0.68	20.09		0.57	4.74
4	685493.4362	601506.5129	GRID	14.21	14.19	1.29		19.44		0.55	5.25
6	685543.44	601506.51	GRID	16.56	16.64	1.12	0.45	20.14		0.61	3.50
7	685568.44	601506.51	GRID	16.96	16.94	1.19	0.49	20.13		0.55	3.19
8	685468.44	601531.51	GRID	13.09	13.12	1.11	0.74	18.81		0.54	5.69
9	685493.44	601531.51	GRID	13.72	13.75	1.19	0.52	19.99		0.54	6.24
10	685543.4362	601531.5129	GRID	14.75	14.84	1.17		20.09		0.53	5.25
11	685568.44	601531.51	GRID	15.00	15.08	1.18	0.64	20.29		0.59	5.21
12	685593.44	601531.51	GRID	18.07	17.96	1.28	0.58	20.29		0.46	2.32
14	685468.44	601556.51	GRID	13.86	13.86	1.21	0.56	18.98		0.59	5.12
15	685493.44	601556.51	GRID	15.86	15.83	1.23	0.52	20.07		0.50	4.24
16	685518.44	601556.51	GRID	16.67	16.76	1.14	0.48	20.07		0.53	3.32
17	685543.4362	601556.5129	GRID	17.01	16.97	1.29		20.19		0.61	3.22
18	685568.4362	601556.5129	GRID	14.11	14.15	1.11		20.23		0.57	6.08
19	685593.44	601556.51	GRID	17.41	17.49	1.17	0.48	20.16		0.55	2.67
20	685443.44	601581.51	GRID	13.26	13.31	1.11	0.65	18.25		0.49	4.94
21	685468.44	601581.51	GRID	14.37	14.35	1.28	0.68	18.91		0.49	4.56
22	685493.44	601581.51	GRID	15.75	15.69	1.30	0.49	20.04		0.56	4.35
23	685518.44	601581.51	GRID	16.64	16.64	1.21	0.48	20.09		0.51	3.45
24	685543.44	601581.51	GRID	17.49	17.50	1.10	0.50	20.15		0.56	2.64
25	685568.4362	601581.5129	GRID	17.03	17.13	1.15		20.10		0.57	2.97
26	685418.44	601606.51	GRID	11.91	11.97	1.19	0.53	17.40		0.60	5.43
27	685443.44	601606.51	GRID	13.82	13.80	1.30	0.65	18.39		0.62	4.59
29	685493.44	601606.51	GRID	15.28	15.29	1.24	0.74	19.99		0.60	4.70
30	685518.44	601606.51	GRID	16.15	16.21	1.17	0.67	20.09		0.59	3.89
31	685543.44	601606.51	GRID	16.75	16.75	1.21	0.53	20.13		0.58	3.37
32	685393.44	601631.51	GRID	11.44	11.47	1.19	0.72	17.23		0.62	5.76
33	685418.44	601631.51	GRID	13.25	13.31	1.14	0.62	17.90		0.55	4.58

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
34	685443.44	601631.51	GRID	13.79	13.80	1.19	0.51	18.27		0.57	4.47
35	685468.44	601631.51	GRID	15.71	15.71	1.25	0.48	18.78		0.66	3.06
36	685493.44	601631.51	GRID	14.79	14.80	1.26	0.54	19.52		0.59	4.72
37	685518.44	601631.51	GRID	15.60	15.58	1.26	0.73	20.08		0.61	4.50
38	685543.44	601631.51	GRID	16.01	15.98	1.26	0.58	20.10		0.56	4.12
39	685393.44	601656.51	GRID	12.63	12.66	1.19	0.57	17.68		0.58	5.02
40	685443.44	601656.51	GRID	13.74	13.70	1.21	0.59	18.34		0.65	4.64
41	685468.44	601656.51	GRID	15.64	15.68	1.18	0.54	18.67		0.57	3.00
42	685493.44	601656.51	GRID	16.11	16.13	1.22	0.48	19.10		0.46	2.98
43	685518.44	601656.51	GRID	16.65	16.55	1.24	0.64	20.05		0.51	3.50
44	685368.44	601681.51	GRID	11.59	11.63	1.22	0.66	17.43		0.50	5.80
45	685393.44	601681.51	GRID	15.72	15.72	1.24	0.47	18.05		0.62	2.34
46	685443.44	601681.51	GRID	13.67	13.64	1.25	0.47	18.22		0.63	4.58
47	685468.44	601681.51	GRID	15.52	15.52	1.25	0.47	18.58		0.57	3.06
48	685493.44	601681.51	GRID	15.97	15.95	1.26	0.47	18.97		0.58	3.02
49	685343.44	601706.51	GRID	10.97	10.90	1.36	0.52	17.39		0.54	6.49
50	685393.44	601706.51	GRID	15.97	15.96	1.21	0.58	18.27		0.52	2.31
51	685443.44	601706.51	GRID	13.55	13.52	1.27	0.67	18.14		0.51	4.62
52	685468.44	601706.51	GRID	15.38	15.37	1.21	0.48	18.07		0.50	2.69
53	685493.44	601706.51	GRID	14.27	14.32	1.20	0.55	18.36		0.50	4.04
54	685318.44	601731.51	GRID	10.69	10.63	1.18	0.52	17.92		0.54	7.29
55	685368.44	601731.51	GRID	16.17	16.14	1.22	0.60	18.51		0.55	2.37
56	685393.44	601731.51	GRID	16.28	16.24	1.25	0.50	18.61		0.62	2.37
57	685443.44	601731.51	GRID	13.53	13.48	1.32	0.50	18.08		0.54	4.60
58	685343.44	601756.51	GRID	16.57	16.54	1.14	0.52	18.99		0.65	2.45
59	685368.44	601756.51	GRID	16.33	16.35	1.15	0.60	18.71		0.61	2.36
61	685443.44	601756.51	GRID	13.55	13.55	1.12	0.84	18.09		0.61	4.53
62	685293.4362	601781.5129	GRID	10.50	10.42	1.25		19.14		0.60	8.73
63	685318.44	601781.51	GRID	17.40	17.40	1.15	0.50	19.62		0.57	2.22
64	685343.44	601781.51	GRID	16.94	16.91	1.13	0.53	19.47		0.65	2.55
65	685368.44	601781.51	GRID	16.55	16.53	1.20	0.58	18.97		0.66	2.44
66	685393.44	601781.51	GRID	16.31	16.26	1.21	0.62	18.61		0.51	2.34
67	685418.44	601781.51	GRID	16.14	16.13	1.17	0.52	18.36		0.53	2.22
69	685268.4362	601806.5129	GRID	11.03	10.95	1.32		19.36		0.56	8.41

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
70	685318.44	601806.51	GRID	18.11	18.05	1.20	0.50	20.30		0.56	2.25
71	685343.44	601806.51	GRID	17.66	17.63	1.17	0.45	19.87		0.56	2.24
72	685368.44	601806.51	GRID	17.12	17.11	1.13	0.56	19.39		0.59	2.28
73	685393.44	601806.51	GRID	16.68	16.61	1.20	0.52	18.96		0.63	2.35
74	685418.44	601806.51	GRID	16.28	16.27	1.19	0.48	18.56		0.56	2.29
75	685243.4362	601831.5129	GRID	12.66	12.64	1.28		19.11		0.46	6.47
77	685318.4362	601831.5129	GRID	15.70	15.68	1.28		20.55		0.55	4.87
78	685343.44	601831.51	GRID	18.29	18.27	1.19	0.47	20.61		0.68	2.34
79	685368.44	601831.51	GRID	17.73	17.67	1.22	0.45	20.02		0.59	2.35
80	685393.44	601831.51	GRID	17.22	17.25	1.05	0.51	19.27		0.46	2.02
81	685243.44	601856.51	GRID	15.58	15.64	1.18	0.50	20.33		0.52	4.69
82	685268.44	601856.51	GRID	16.08	16.08	1.25	0.48	20.55		0.54	4.47
83	685293.4362	601856.5129	GRID	15.74	15.83	1.18		20.72		0.65	4.89
85	685368.44	601856.51	GRID	18.00	17.99	1.20	0.45	20.24		0.60	2.26
86	685218.44	601881.51	GRID	15.64	15.58	1.16	0.60	20.38		0.58	4.81
87	685243.44	601881.51	GRID	16.37	16.38	1.15	0.55	20.84		0.66	4.47
88	685268.44	601881.51	GRID	18.72	18.68	1.16	0.54	20.97		0.58	2.29
89	685293.44	601881.51	GRID	18.57	18.49	1.19	0.60	20.86		0.58	2.37
90	685343.4362	601881.5129	GRID	15.15	15.20	1.20		20.12		0.48	4.91
91	685368.4362	601881.5129	GRID	11.78	11.78	1.23		17.65		0.52	5.86
92	685193.44	601906.51	GRID	15.54	15.50	1.14	0.75	20.38		0.69	4.89
93	685218.44	601906.51	GRID	16.30	16.26	1.19	0.53	20.87		0.69	4.61
94	685243.44	601906.51	GRID	18.74	18.67	1.21	0.56	21.09		0.66	2.43
95	685268.44	601906.51	GRID	18.62	18.56	1.17	0.58	20.84		0.53	2.28
96	685293.44	601906.51	GRID	18.47	18.40	1.16	0.59	20.71		0.56	2.31
97	685318.44	601906.51	GRID	18.31	18.32	1.14	0.49	20.56		0.60	2.23
99	685193.44	601931.51	GRID	15.75	15.79	1.10	0.81	20.60		0.78	4.81
101	685243.44	601931.51	GRID	18.58	18.54	1.17	0.53	20.81		0.57	2.27
102	685268.44	601931.51	GRID	18.48	18.43	1.15	0.58	20.72		0.56	2.29
103	685293.44	601931.51	GRID	18.37	18.36	1.19	0.51	20.57		0.51	2.21
104	685168.44	601956.51	GRID	14.56	14.64	1.11	0.65	19.76		0.63	5.12
105	685193.44	601956.51	GRID	18.03	18.13	1.04	0.52	20.27		0.58	2.14
107	685243.44	601956.51	GRID	18.28	18.37	1.05	0.55	20.57		0.61	2.20
108	685268.44	601956.51	GRID	18.29	18.38	1.03	0.58	20.62		0.63	2.24

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
109	685293.44	601956.51	GRID	18.22	18.30	1.02	0.57	20.56		0.66	2.26
110	685143.44	601981.51	GRID	13.64	13.74	1.03	0.59	18.81		0.77	5.08
111	685168.44	601981.51	GRID	17.22	17.31	1.04	0.56	19.46		0.55	2.15
112	685193.44	601981.51	GRID	17.44	17.54	1.01	0.60	19.70		0.56	2.16
113	685218.44	601981.51	GRID	17.67	17.75	1.04	0.55	19.88		0.55	2.13
114	685243.44	601981.51	GRID	17.85	17.94	1.00	0.62	20.15		0.59	2.21
115	685268.44	601981.51	GRID	17.92	18.01	1.02	0.52	20.30		0.75	2.29
116	685118.44	602006.51	GRID	13.00	13.10	1.00	0.58	17.83		0.59	4.74
117	685168.44	602006.51	GRID	16.62	16.71	1.05	0.55	19.20		0.72	2.49
118	685193.44	602006.51	GRID	16.85	16.94	1.06	0.52	19.20		0.67	2.26
119	685218.44	602006.51	GRID	17.08	17.16	1.05	0.55	19.37		0.60	2.20
121	685268.44	602006.51	GRID	17.52	17.59	1.05	0.58	19.69		0.47	2.10
122	685118.44	602031.51	GRID	13.00	13.10	1.12	0.45	17.95		0.59	4.85
123	685143.44	602031.51	GRID	16.11	16.20	1.03	0.55	19.08		0.61	2.87
124	685168.44	602031.51	GRID	16.20	16.30	1.15	0.55	18.90		0.52	2.60
125	685193.44	602031.51	GRID	16.32	16.39	1.18	0.50	18.93		0.68	2.54
126	685218.44	602031.51	GRID	16.50	16.59	1.07	0.53	18.92		0.72	2.32
127	685118.44	602056.51	GRID	14.00	13.92	1.26	0.59	18.61		0.55	4.69
128	685143.44	602056.51	GRID	16.15	16.22	1.06	0.55	19.10		0.64	2.87
129	685168.44	602056.51	GRID	16.07	16.16	1.02	0.56	19.07		0.53	2.91
130	685193.44	602056.51	GRID	16.21	16.29	1.13	0.45	18.77		0.54	2.48
131	685218.44	602056.51	GRID	16.34	16.43	1.08	0.57	18.64		0.55	2.21
132	685068.4362	602081.5129	GRID	4.37	4.46	1.01		18.34	0.75		13.88
134	685143.44	602081.51	GRID	16.50	16.58	1.08	0.50	19.05		0.56	2.46
135	685168.44	602081.51	GRID	16.30	16.39	1.00	0.58	19.11		0.59	2.72
136	685193.44	602081.51	GRID	16.11	16.19	1.00	0.59	18.95		0.61	2.77
137	685218.44	602081.51	GRID	16.14	16.23	1.10	0.46	18.61		0.56	2.38
138	685043.4362	602106.5129	GRID	4.55	4.49	1.27		18.20		0.55	13.71
140	685093.4362	602106.5129	GRID	4.78	4.86	1.01		19.05	0.56		14.19
141	685118.4362	602106.5129	GRID	5.02	5.08	1.02		19.08		0.64	14.00
142	685168.44	602106.51	GRID	16.64	16.73	1.02	0.61	19.09		0.59	2.36
143	685193.44	602106.51	GRID	16.31	16.40	1.01	0.57	19.12		0.67	2.72
144	685068.44	602131.51	GRID	14.98	15.01	1.16	0.66	19.13		0.53	4.12
145	685118.4362	602131.5129	GRID	5.19	5.13	1.15		19.05	0.55		13.92

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146	685143.4362	602131.5129	GRID	5.42	5.50	1.01		19.07	0.54		13.57
147	685043.44	602156.51	GRID	15.05	15.06	1.23	0.64	19.70		0.54	4.64
148	685093.44	602156.51	GRID	17.85	17.78	1.18	0.58	20.09		0.56	2.31
149	685143.4362	602156.5129	GRID	5.59	5.61	1.10		19.11	0.54		13.50
150	685168.4362	602156.5129	GRID	5.82	5.88	1.03		18.70	0.50		12.82
151	684993.44	602181.51	GRID	5.65	5.58	1.19	0.77	19.43		0.59	13.85
152	685018.44	602181.51	GRID	15.74	15.82	1.18	0.56	20.06		0.58	4.24
153	685043.44	602181.51	GRID	15.20	15.28	1.15	0.83	20.01		0.51	4.73
154	685068.44	602181.51	GRID	17.51	17.56	1.06	0.55	20.16		0.80	2.59
155	685093.44	602181.51	GRID	17.55	17.57	1.06	0.58	19.93		0.72	2.36
156	685118.44	602181.51	GRID	17.55	17.55	1.11	0.59	19.76		0.51	2.21
157	685143.44	602181.51	GRID	14.65	14.72	1.13	0.52	19.19		0.49	4.47
159	684968.44	602206.51	GRID	6.08	6.09	1.08	0.60	20.30		0.57	14.21
160	685018.44	602206.51	GRID	18.26	18.28	1.10	0.58	20.45		0.50	2.17
161	685068.44	602206.51	GRID	17.61	17.61	1.08	0.63	20.11		0.72	2.50
162	684993.44	602231.51	GRID	18.81	18.84	1.12	0.57	21.06		0.53	2.22
163	685018.44	602231.51	GRID	16.00	15.94	1.18	0.90	20.74		0.72	4.80
164	685068.44	602231.51	GRID	17.85	17.78	1.22	0.54	20.12		0.58	2.34
165	685093.44	602231.51	GRID	15.01	15.11	1.06	0.94	19.88		0.69	4.77
166	684968.44	602256.51	GRID	19.36	19.37	1.10	0.55	21.58		0.56	2.21
167	684993.44	602256.51	GRID	19.06	19.05	1.13	0.55	21.28		0.55	2.23
168	685018.44	602256.51	GRID	16.25	16.26	1.08	0.69	20.98		0.76	4.72
169	685043.44	602256.51	GRID	18.43	18.44	1.11	0.60	20.65		0.50	2.21
170	685068.44	602256.51	GRID	18.10	18.08	1.14	0.56	20.30		0.52	2.22
171	684918.44	602281.51	GRID	7.15	7.15	1.13	0.90	21.67		0.49	14.52
172	684968.44	602281.51	GRID	19.61	19.63	1.07	0.59	21.81		0.52	2.17
173	684993.44	602281.51	GRID	16.82	16.83	1.10	0.94	21.50		0.70	4.68
174	685018.44	602281.51	GRID	19.00	19.00	1.09	0.59	21.27		0.58	2.27
175	685043.44	602281.51	GRID	18.69	18.68	1.13	0.60	20.91		0.50	2.23
176	685068.44	602281.51	GRID	18.36	18.36	1.08	0.61	20.60		0.55	2.24
178	684943.44	602306.51	GRID	20.15	20.17	1.10	0.53	22.37		0.57	2.20
179	684968.44	602306.51	GRID	19.86	19.89	1.17	0.48	22.09		0.55	2.20
180	684993.44	602306.51	GRID	17.07	17.10	1.10	0.90	21.85		0.75	4.75
181	685018.44	602306.51	GRID	19.26	19.27	1.09	0.55	21.57		0.66	2.30

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182	685043.44	602306.51	GRID	16.45	16.37	1.23	0.83	21.20		0.69	4.84
183	684918.44	602331.51	GRID	17.91	17.93	1.19	0.49	22.38		0.53	4.45
184	684943.44	602331.51	GRID	17.80	17.81	1.15	0.52	22.29		0.53	4.48
185	684968.44	602331.51	GRID	17.57	17.49	1.23	0.54	22.04		0.49	4.55
186	684993.44	602331.51	GRID	19.82	19.76	1.22	0.53	22.09		0.58	2.33
187	685018.44	602331.51	GRID	17.03	16.94	1.18	0.99	21.41		0.52	4.47
188	684893.44	602356.51	GRID	17.90	17.86	1.21	0.48	22.14		0.49	4.28
189	684918.44	602356.51	GRID	17.87	17.86	1.14	0.57	22.28		0.55	4.42
190	684943.44	602356.51	GRID	17.85	17.84	1.18	0.49	22.25		0.51	4.41
191	684968.44	602356.51	GRID	17.68	17.67	1.16	0.52	22.06		0.47	4.39
192	684993.44	602356.51	GRID	17.48	17.47	1.17	0.53	22.05		0.55	4.58
193	684843.44	602381.51	GRID	8.70	8.73	1.20	0.46	21.34		0.56	12.61
194	684868.44	602381.51	GRID	17.37	17.31	1.20	0.52	21.87		0.53	4.56
195	684893.44	602381.51	GRID	17.65	17.65	1.19	0.47	22.09		0.53	4.44
196	684918.44	602381.51	GRID	17.82	17.83	1.10	0.60	22.19		0.58	4.37
197	684943.44	602381.51	GRID	17.81	17.81	1.17	0.52	22.24		0.56	4.44
198	684968.44	602381.51	GRID	17.78	17.79	1.20	0.51	22.12		0.49	4.34
199	684993.44	602381.51	GRID	17.62	17.62	1.16	0.49	22.02		0.53	4.40
200	684868.44	602406.51	GRID	16.97	16.99	1.16	0.46	21.53		0.52	4.54
201	684893.44	602406.51	GRID	17.32	17.32	1.13	0.54	21.87		0.54	4.55
202	684918.44	602406.51	GRID	17.63	17.62	1.21	0.50	22.11		0.59	4.49
203	684943.44	602406.51	GRID	17.73	17.70	1.17	0.58	22.11		0.51	4.42
204	684968.44	602406.51	GRID	17.76	17.73	1.17	0.55	22.07		0.53	4.34
205	684818.44	602431.51	GRID	15.03	15.11	1.12	0.52	20.06		0.51	4.95
206	684843.44	602431.51	GRID	16.11	16.09	1.23	0.48	20.63		0.51	4.54
207	684868.44	602431.51	GRID	16.57	16.59	1.15	0.54	21.17		0.52	4.58
208	684893.44	602431.51	GRID	17.00	16.94	1.22	0.54	21.54		0.53	4.59
209	684918.44	602431.51	GRID	17.37	17.34	1.20	0.53	21.70		0.53	4.36
210	684943.44	602431.51	GRID	17.60	17.63	1.17	0.48	22.03		0.51	4.40
211	684793.44	602456.51	GRID	14.01	13.97	1.24	0.62	19.12		0.52	5.15
212	684818.44	602456.51	GRID	15.20	15.17	1.24	0.45	19.70		0.54	4.53
213	684843.44	602456.51	GRID	15.74	15.74	1.19	0.50	20.31		0.56	4.57
214	684868.44	602456.51	GRID	16.27	16.27	1.15	0.57	20.85		0.56	4.58
215	684893.44	602456.51	GRID	16.69	16.68	1.17	0.50	21.13		0.57	4.45

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
216	684918.44	602456.51	GRID	17.11	17.07	1.19	0.56	21.26		0.53	4.19
217	684768.44	602481.51	GRID	13.24	13.23	1.15	0.64	18.03		0.57	4.80
218	684793.44	602481.51	GRID	14.27	14.21	1.27	0.53	18.74		0.57	4.53
219	684818.44	602481.51	GRID	14.86	14.85	1.18	0.51	19.41		0.56	4.56
220	684843.44	602481.51	GRID	15.42	15.44	1.18	0.49	19.97		0.50	4.53
221	684868.44	602481.51	GRID	15.93	15.91	1.20	0.49	20.48		0.51	4.57
222	684893.44	602481.51	GRID	16.43	16.40	1.16	0.58	21.03		0.55	4.63
223	684918.44	602481.51	GRID	16.87	16.84	1.17	0.58	21.07		0.55	4.23
224	684768.44	602506.51	GRID	13.31	13.28	1.25	0.58	18.06		0.59	4.77
225	684793.44	602506.51	GRID	13.98	14.03	1.04	0.65	18.50		0.55	4.47
226	684818.44	602506.51	GRID	14.55	14.49	1.19	0.69	19.12		0.55	4.63
227	684843.44	602506.51	GRID	15.10	15.05	1.22	0.58	19.68		0.55	4.63
228	684868.44	602506.51	GRID	15.62	15.62	1.16	0.60	20.33		0.59	4.71
229	684893.44	602506.51	GRID	16.12	16.18	1.12	0.56	20.66		0.46	4.48
230	684743.44	602531.51	GRID	12.58	12.60	1.14	0.76	17.67		0.52	5.07
231	684768.44	602531.51	GRID	15.82	15.81	1.21	0.47	18.01		0.52	2.20
232	684793.44	602531.51	GRID	16.25	16.22	1.22	0.47	18.48		0.56	2.26
233	684818.44	602531.51	GRID	16.76	16.69	1.26	0.47	18.91		0.49	2.22
234	684843.44	602531.51	GRID	17.30	17.35	1.12	0.54	19.59		0.58	2.24
235	684868.44	602531.51	GRID	17.86	17.87	1.17	0.50	20.12		0.59	2.26
236	684718.44	602556.51	GRID	7.45	7.45	1.21	0.84	17.22		0.55	9.77
237	684743.44	602556.51	GRID	15.59	15.67	1.18	0.46	17.80		0.50	2.14
239	684843.44	602556.51	GRID	17.05	17.13	1.05	0.57	19.29		0.55	2.16
240	684868.44	602556.51	GRID	17.59	17.65	1.03	0.56	19.81		0.58	2.17
241	684693.4362	602581.5129	GRID	5.82	5.81	1.28		17.31		0.57	11.50
242	684718.44	602581.51	GRID	13.18	13.26	1.14	0.51	17.84		0.47	4.58
243	684743.44	602581.51	GRID	15.71	15.69	1.19	0.49	17.99		0.59	2.30
244	684768.44	602581.51	GRID	13.86	13.79	1.26	0.55	18.43		0.51	4.64
245	684793.44	602581.51	GRID	14.14	14.11	1.13	0.68	18.80		0.54	4.69
246	684818.44	602581.51	GRID	14.12	14.10	1.19	0.55	19.01		0.53	4.90
247	684843.44	602581.51	GRID	14.33	14.41	1.11	0.77	19.01		0.56	4.59
248	684693.4362	602606.5129	GRID	5.20	5.29	1.15		18.71		0.56	13.41
249	684743.44	602606.51	GRID	16.46	16.49	1.12	0.54	19.12		0.59	2.64
250	684768.44	602606.51	GRID	15.98	16.03	1.19	0.53	19.10		0.54	3.07

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
251	684793.44	602606.51	GRID	14.46	14.37	1.24	0.54	19.06		0.54	4.69
252	684818.44	602606.51	GRID	14.27	14.32	1.10	0.60	19.08		0.53	4.76
253	684693.4362	602631.5129	GRID	5.45	5.52	1.07		19.05		0.56	13.53
254	684718.4362	602631.5129	GRID	5.80	5.85	1.10		19.11		0.52	13.26
255	684768.44	602631.51	GRID	17.04	17.07	1.17	0.45	19.31		0.55	2.23
256	684793.44	602631.51	GRID	16.34	16.43	1.03	0.56	19.09		0.50	2.66
257	684818.44	602631.51	GRID	16.19	16.18	1.12	0.59	19.04		0.52	2.86
259	684718.4362	602656.5129	GRID	6.06	5.98	1.28		19.35		0.52	13.37
260	684743.4362	602656.5129	GRID	6.41	6.45	1.08		19.24		0.62	12.79
261	684793.44	602656.51	GRID	14.54	14.62	1.12	0.61	19.07		0.55	4.46
263	684743.4362	602681.5129	GRID	6.67	6.69	1.22		19.49		0.64	12.81
264	684768.4362	602681.5129	GRID	7.01	7.01	1.13		18.98		0.59	11.97
265	684793.4362	602681.5129	GRID	7.37	7.34	1.21		17.88		0.65	10.54
545	685526.43	601442.32	BNDY	12.92	13.01	1.02	0.57	15.13		0.54	2.12
546	685543.45	601459.45	BNDY	13.45	13.37	1.27	0.46	15.63		0.52	2.25
547	685561.91	601478.03	BNDY	14.24	14.20	1.12	0.59	16.42		0.51	2.22
548	685583.37	601539.44	BRK	15.12	15.18	1.13	0.81	20.20		0.48	5.02
549	685595.8952	601578.0005	BRK	14.21	14.27	1.19		18.24		0.50	3.96
550	685562.63	601543.70	BRK	17.48	17.45	1.17	0.49	20.14		0.54	2.69
551	685559.4866	601547.9749	BRK	13.94	14.02	1.16		20.17		0.59	6.15
552	685555.5634	601552.5373	BRK	13.93	13.97	1.17		20.10		0.47	6.13
553	685552.5036	601556.6952	BRK	17.37	17.31	1.21		20.17		0.56	2.86
554	685602.63	601551.44	BRK	17.71	17.63	1.26	0.49	20.17		0.52	2.54
555	685524.8988	601529.9774	BRK	13.12	13.20	1.18		20.09		0.55	6.89
556	685521.8453	601534.1334	BRK	16.56	16.41	1.25		20.11		0.58	3.70
557	685518.43	601506.14	BRK	15.53	15.44	1.25	0.47	20.01		0.53	4.57
558	685516.84	601455.37	BNDY	13.73	13.68	1.13	0.56	18.14		0.45	4.47
559	685566.10	601602.95	BRK	17.39	17.30	1.29	0.63	20.11		0.89	2.81
560	685557.11	601621.51	BRK	16.15	16.11	1.29	0.53	19.95		0.50	3.83
561	685572.96	601633.24	BNDY	9.96	10.05	1.17	0.46	13.83		0.57	3.79
562	685589.38	601610.88	BNDY	10.19	10.10	1.25	0.48	13.66		0.54	3.56
563	685606.3327	601587.7847	BNDY	9.93	10.03	1.06		13.51		0.55	3.48
564	685633.80	601550.37	BNDY	9.78	9.77	1.23	0.48	13.00		0.75	3.23
565	685622.62	601565.61	BNDY	9.96	10.03	1.14	0.48	13.19		0.56	3.16

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566	685614.41	601530.85	BNDY	15.70	15.79	1.01	0.58	17.88		0.50	2.09
567	685591.47	601507.77	BNDY	15.02	15.06	1.08	0.54	17.21		0.53	2.15
568	685577.88	601494.10	BNDY	14.55	14.65	1.13	0.45	16.73		0.50	2.09
569	685488.0585	601495.4211	BNDY	14.30	14.31	1.09		18.26		0.52	3.95
570	685501.08	601477.69	BNDY	14.94	14.96	1.05	0.55	18.25		0.51	3.29
571	685474.3133	601513.2966	BNDY	13.64	13.58	1.31		18.30		0.52	4.71
572	685459.92	601533.74	BNDY	12.84	12.83	1.08	0.65	18.25		0.64	5.42
573	685442.87	601556.12	BNDY	12.43	12.43	1.11	0.87	18.08		0.53	5.66
574	685428.08	601576.27	BNDY	12.19	12.21	1.06	0.59	17.34		0.65	5.14
575	685413.27	601596.44	BNDY	11.95	12.02	1.10	0.53	17.08		0.57	5.06
576	685398.47	601616.59	BNDY	11.42	11.44	1.17	0.55	17.02		0.55	5.58
577	685383.68	601636.74	BNDY	11.34	11.31	1.18	0.59	16.96		0.64	5.65
578	685368.88	601656.89	BNDY	11.27	11.24	1.18	0.58	15.82		0.53	4.58
579	685558.28	601653.23	BNDY	9.90	9.93	1.22	0.51	13.58		0.54	3.65
581	685543.38	601673.52	BNDY	9.88	9.87	1.24	0.48	13.37		0.49	3.50
582	685528.60	601693.65	BNDY	9.84	9.81	1.10	0.61	13.23		0.50	3.41
583	685469.10	601609.94	BRK	15.99	15.91	1.21	0.66	18.82		0.57	2.91
584	685468.06	601601.70	BRK	14.55	14.56	1.21	0.80	18.89		0.60	4.33
585	685534.63	601655.70	BRK	15.46	15.38	1.32	0.46	19.31		0.51	3.93
586	685515.15	601685.29	BRK	14.82	14.60	1.37	0.56	18.44		0.55	3.84
587	685503.84	601702.15	BRK	14.49	14.45	1.13	0.62	17.92		0.47	3.48
588	685484.63	601722.61	BRK	15.55	15.47	1.25	0.54	17.98		0.53	2.52
589	685482.47	601731.53	BRK	11.10	11.14	1.21	0.78	17.58		0.57	6.44
590	685467.89	601733.01	BRK	13.13	13.22	1.16	0.84	17.99		0.51	4.77
591	685467.14	601729.90	BRK	15.25	15.18	1.19	0.63	18.01		0.48	2.83
592	685465.84	601749.83	BRK	15.15	15.09	1.19	0.58	17.93		1.01	2.84
593	685444.26	601779.76	BRK	13.57	13.66	1.14	0.78	17.81		0.59	4.15
594	685429.29	601800.21	BRK	15.09	15.00	1.31	0.49	17.52		0.66	2.53
595	685453.48	601767.05	BRK	15.07	14.98	1.26	0.56	17.98		0.57	3.00
596	685514.37	601713.04	BNDY	9.77	9.72	1.19	0.52	12.96		0.54	3.25
597	685499.50	601733.28	BNDY	9.70	9.78	1.22	0.52	12.69		0.52	2.91
598	685485.10	601752.90	BNDY	9.64	9.66	1.33	0.50	12.54		0.54	2.89
599	685469.40	601774.28	BNDY	9.60	9.70	1.11	0.45	12.32		0.67	2.62
600	685454.74	601794.25	BNDY	9.64	9.70	1.20	0.60	12.05		0.55	2.35

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
601	685439.85	601814.53	BNDY	9.68	9.64	1.28	0.42	12.00		0.58	2.36
602	685425.01	601834.73	BNDY	9.73	9.66	1.29	0.40	11.86		0.52	2.20
603	685418.25	601641.07	BRK	13.45	13.41	1.26	0.62	18.04		0.60	4.63
604	685415.60	601650.93	BRK	15.85	15.62	1.37	0.55	18.05		0.51	2.43
605	685417.81	601680.87	BRK	15.90	15.77	1.24	0.56	18.14		0.57	2.37
606	685421.62	601680.64	BRK	13.35	13.42	1.20	0.79	18.06		0.57	4.64
607	685417.84	601705.42	BRK	16.07	15.91	1.40	0.48	18.33		0.54	2.42
608	685421.83	601705.56	BRK	13.40	13.43	1.20	0.80	18.14		0.51	4.71
609	685420.68	601733.21	BRK	13.46	13.54	1.08	0.86	18.20		0.59	4.66
610	685416.60	601732.96	BRK	16.18	16.19	1.13	0.55	18.33		0.45	2.14
611	685420.69	601759.40	BRK	13.52	13.60	1.13	0.70	18.20		0.56	4.60
612	685417.42	601761.34	BRK	16.06	16.08	1.13	0.57	18.32		0.54	2.24
613	685367.91	601704.46	BRK	13.34	13.35	1.18	0.73	18.01		0.54	4.66
614	685370.79	601706.98	BRK	15.89	15.67	1.46	0.48	18.25		0.64	2.58
615	685343.44	601731.17	BRK	13.71	13.67	1.28	0.58	18.23		0.52	4.55
616	685345.91	601734.17	BRK	16.30	16.33	1.07	0.50	18.48		0.57	2.15
617	685303.14	601806.86	BRK	18.27	18.27	1.14	0.47	20.42		0.55	2.15
618	685298.7657	601809.6667	BRK	15.77	15.84	1.26		20.32		0.63	4.48
619	685294.5364	601809.7779	BRK	15.35	15.41	1.17		20.16		0.57	4.75
620	685288.9198	601805.6788	BRK	10.72	10.67	1.28		19.94		0.56	9.26
621	685298.8544	601821.3782	BRK	15.76	15.72	1.27		20.29		0.57	4.57
622	685295.9426	601825.3091	BRK	12.49	12.56	1.16		20.29		0.51	7.72
623	685294.6542	601831.8216	BRK	12.53	12.55	1.14		20.38		0.51	7.83
624	685291.7461	601835.7476	BRK	15.79	15.46	1.52		20.41		0.54	4.95
625	685324.5764	601840.1333	BRK	15.86	15.66	1.46		20.55		0.51	4.89
626	685321.5217	601844.257	BRK	12.44	12.40	1.25		20.60		0.54	8.19
627	685322.6741	601852.5775	BRK	12.42	12.40	1.28		20.57		0.62	8.16
628	685319.6365	601856.6782	BRK	15.82	15.69	1.32		20.47		0.51	4.78
629	685341.3972	601852.7202	BRK	15.72	15.42	1.39		20.31		0.53	4.89
630	685338.4032	601856.762	BRK	12.37	12.42	1.17		20.32		0.53	7.90
631	685345.647	601844.394	BRK	15.88	15.94	1.28		20.33		0.54	4.39
632	685347.89	601841.36	BRK	18.39	18.30	1.25	0.49	20.52		0.47	2.22
633	685372.8508	601864.5453	BRK	15.31	15.40	1.18		19.83		0.57	4.43
634	685364.474	601869.9863	BRK	15.23	15.14	1.17		20.03		0.59	4.88

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
635	685361.5623	601873.917	BRK	11.96	12.06	1.26		20.08		0.62	8.03
636	685354.9207	601876.4641	BRK	12.04	12.13	1.10		20.05		0.52	7.92
637	685350.4407	601879.237	BRK	15.34	15.19	1.38		20.08		0.55	4.89
638	685354.08	601677.04	BNDY	11.30	11.10	1.30	0.63	17.09		0.64	5.99
639	685353.62	601747.98	BRK	16.38	16.33	1.30	0.50	18.71		0.57	2.38
640	685357.16	601746.52	BRK	13.83	13.77	1.31	0.74	18.66		0.70	4.90
641	685361.58	601753.32	BRK	13.86	13.90	1.17	0.89	18.69		0.76	4.79
642	685364.98	601751.93	BRK	16.31	16.20	1.29	0.53	18.71		0.69	2.51
643	685324.49	601717.35	BNDY	11.30	10.63	1.80	0.47	17.27		0.60	6.64
644	685339.29	601697.19	BNDY	11.30	10.61	1.91	0.46	17.08		0.61	6.47
645	685381.55	601830.67	BRK	17.46	17.42	1.20	0.47	19.67		0.58	2.25
646	685385.39	601829.73	BRK	14.82	14.77	1.30	0.68	19.40		0.76	4.64
647	685383.26	601850.36	BRK	17.59	17.51	1.20	0.49	19.67		0.48	2.16
648	685408.65	601820.74	BRK	16.62	16.54	1.18	0.62	18.93		0.59	2.39
649	685309.86	601737.62	BNDY	10.63	10.59	1.22	0.52	18.08		0.60	7.49
650	685295.20	601757.86	BNDY	10.54	10.64	1.05	0.48	18.48		0.61	7.85
651	685280.5071	601778.0937	BNDY	10.44	10.29	1.31		18.88		0.59	8.59
652	685265.6993	601798.2407	BNDY	10.74	10.78	1.29		19.03		0.55	8.25
653	685250.8952	601818.3828	BNDY	11.94	11.95	1.30		19.05		0.51	7.11
654	685236.0879	601838.5324	BNDY	15.09	15.11	1.09		19.55		0.76	4.45
655	685221.28	601858.68	BNDY	15.58	15.61	1.12	0.49	20.00		0.62	4.39
656	685206.48	601878.81	BNDY	15.50	15.41	1.22	0.50	19.99		0.57	4.59
657	685191.67	601898.96	BNDY	15.50	15.46	1.13	0.54	20.04		0.65	4.58
658	685176.87	601919.10	BNDY	15.42	15.45	1.18	0.47	19.84		0.46	4.39
659	685410.29	601854.79	BNDY	9.65	9.55	1.35	0.42	11.85		0.53	2.30
660	685395.44	601875.02	BNDY	9.64	9.58	1.12	0.55	11.73		0.48	2.16
661	685380.6628	601895.1371	BNDY	9.65	9.67	1.10		11.74		0.52	2.07
662	685365.9126	601915.2263	BNDY	9.73	9.69	1.12		11.83		0.68	2.14
663	685351.03	601935.49	BNDY	9.87	9.86	1.26	0.47	12.08		0.49	2.22
664	685336.28	601955.58	BNDY	9.93	9.88	1.29	0.47	12.19		0.54	2.30
665	685321.52	601975.69	BNDY	9.98	9.91	1.26	0.46	12.26		0.63	2.35
666	685306.70	601995.87	BNDY	9.98	9.92	1.28	0.47	12.31		0.65	2.40
667	685292.04	602015.84	BNDY	9.96	9.96	1.22	0.49	12.21		0.54	2.25
668	685277.22	602036.03	BNDY	9.95	10.01	1.08	0.57	12.29		0.63	2.28

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669	685262.73	602055.75	BNDY	9.91	9.95	1.17	0.48	12.51		0.55	2.56
670	685247.66	602076.28	BNDY	10.02	10.09	1.19	0.47	12.62		0.63	2.53
671	685232.64	602096.74	BNDY	10.21	10.12	1.33	0.51	12.86		0.58	2.74
672	685359.0086	601899.4038	BRK	14.46	14.43	1.20		16.65		0.51	2.22
673	685328.78	601922.42	BRK	18.12	18.18	1.07	0.53	20.32		0.54	2.14
674	685299.89	601934.58	BRK	18.32	18.37	1.12	0.50	20.55		0.56	2.18
675	685300.62	601938.23	BRK	15.84	15.80	1.23	0.91	20.55		0.79	4.75
676	685305.79	601944.00	BRK	15.75	15.75	1.22	0.90	20.52		0.79	4.77
677	685308.02	601946.97	BRK	18.23	18.08	1.25	0.63	20.49		0.52	2.40
678	685292.65	601972.35	BRK	18.06	18.06	1.10	0.58	20.23		0.49	2.17
679	685305.3308	601869.9088	BRK	15.99	16.07	1.18		20.59		0.51	4.52
680	685303.05	601872.98	BRK	18.54	18.11	1.67	0.46	20.73		0.49	2.62
681	685268.9883	601832.9886	BRK	12.10	12.16	1.10		20.11		0.49	7.95
682	685272.6449	601835.6573	BRK	15.11	14.74	1.54		20.26		0.53	5.52
683	685218.81	601931.92	BRK	18.60	18.17	1.55	0.48	20.90		0.70	2.73
684	685217.81	601935.62	BRK	16.04	16.10	1.19	0.98	20.79		0.71	4.69
685	685217.77	601956.54	BRK	18.21	18.12	1.16	0.63	20.43		0.53	2.31
686	685214.25	601958.05	BRK	15.65	15.75	1.15	0.95	20.47		0.82	4.73
687	685162.06	601939.25	BNDY	14.94	14.89	1.18	0.63	19.38		0.54	4.48
688	685246.08	602006.05	BRK	17.34	17.40	1.13	0.51	19.62		0.57	2.21
689	685249.42	602007.82	BRK	14.83	14.91	1.18	0.87	19.55		0.79	4.64
690	685250.13	602009.68	BRK	14.79	14.82	1.19	0.93	19.48		0.74	4.66
691	685253.44	602011.40	BRK	17.28	17.25	1.18	0.51	19.51		0.56	2.25
692	685256.80	602026.88	BRK	16.95	17.03	1.07	0.54	19.19		0.55	2.16
693	685147.26	601959.39	BNDY	14.32	14.41	1.03	0.54	18.38		0.66	3.97
694	685132.45	601979.53	BNDY	13.68	13.77	1.02	0.59	18.27		0.81	4.50
695	685117.65	601999.68	BNDY	13.18	13.25	1.05	0.59	17.65		0.56	4.40
696	685102.93	602019.90	BNDY	10.35	10.37	1.24	0.77	17.17		0.64	6.79
697	685088.04	602039.97	BNDY	6.10	6.14	1.10	0.90	17.13		0.61	10.99
698	685073.2297	602060.1093	BNDY	4.74	4.79	1.16		17.18		0.67	12.39
699	685058.4247	602080.2525	BNDY	4.27	4.36	1.16		17.74	1.10		13.38
700	685043.6189	602100.3969	BNDY	4.49	4.45	1.17		18.06		0.53	13.61
701	685028.81	602120.54	BNDY	4.79	4.88	1.12	0.72	18.10		0.55	13.22
702	685014.01	602140.69	BNDY	5.10	5.19	1.06	0.60	19.00		0.56	13.80

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703	684999.20	602160.83	BNDY	5.40	5.38	1.11	0.66	19.06		0.51	13.68
704	684984.40	602180.97	BNDY	5.71	5.66	1.13	0.65	19.13		0.52	13.47
705	685217.90	602116.82	BNDY	10.37	10.28	1.24	0.54	13.02		0.58	2.74
706	685203.10	602136.97	BNDY	10.48	10.57	1.15	0.59	13.16		0.60	2.60
707	685188.3051	602157.12	BNDY	6.02	6.10	2.95		15.50	2.87		9.40
708	685173.5091	602177.2715	BNDY	6.02	5.97	3.02		15.58	2.86		9.61
709	685143.92	602217.57	BNDY	11.24	11.16	1.16	0.57	13.60		0.53	2.44
710	685158.71	602197.42	BNDY	11.06	11.02	1.19	0.55	13.49		0.69	2.47
711	685129.12	602237.73	BNDY	11.43	11.43	1.13	0.55	13.87		0.49	2.44
712	685114.32	602257.88	BNDY	11.62	11.62	1.08	0.65	14.13		0.69	2.51
713	685099.53	602278.03	BNDY	11.79	11.71	1.25	0.53	14.35		0.61	2.64
714	685084.73	602298.18	BNDY	11.98	11.98	1.15	0.48	14.60		0.52	2.62
715	685069.94	602318.33	BNDY	11.95	11.96	1.18	0.46	14.94		0.51	2.98
716	685055.15	602338.47	BNDY	11.91	11.90	1.12	0.56	15.16		0.55	3.26
717	685040.35	602358.63	BNDY	11.85	11.88	1.11	0.56	15.42		0.52	3.54
718	685025.55	602378.78	BNDY	11.82	11.88	1.05	0.59	15.64		0.54	3.76
719	685010.76	602398.93	BNDY	11.80	11.88	1.07	0.52	15.58		0.52	3.71
720	684995.96	602419.08	BNDY	11.79	11.72	1.23	0.53	15.49		0.51	3.77
721	684981.17	602439.24	BNDY	11.72	11.71	1.13	0.53	15.47		0.53	3.76
722	684966.37	602459.39	BNDY	11.57	11.61	1.15	0.50	15.40		0.51	3.80
723	684951.57	602479.54	BNDY	11.50	11.53	1.06	0.56	15.22		0.47	3.70
724	684936.78	602499.69	BNDY	11.52	11.60	1.01	0.59	14.95		0.50	3.35
725	684921.98	602519.84	BNDY	11.56	11.53	1.14	0.56	14.69		0.53	3.16
726	684907.19	602539.99	BNDY	11.59	11.57	1.27	0.54	14.43		0.49	2.86
727	684892.39	602560.14	BNDY	11.60	11.67	1.08	0.54	14.18		0.47	2.51
728	684877.59	602580.30	BNDY	11.56	11.60	1.17	0.48	14.20		0.53	2.60
729	684862.80	602600.45	BNDY	11.68	11.71	1.23	0.51	14.36		0.49	2.65
730	684848.00	602620.60	BNDY	11.71	11.79	1.16	0.45	14.81		0.52	3.02
731	684969.59	602201.11	BNDY	6.02	6.01	1.11	0.55	20.03		0.57	14.03
732	684954.79	602221.26	BNDY	6.32	6.37	1.09	0.59	20.16		0.51	13.79
733	684939.98	602241.40	BNDY	6.63	6.62	1.11	0.92	20.27		0.52	13.66
734	684925.18	602261.55	BNDY	6.93	6.84	1.29	0.86	20.94		0.47	14.09
735	684910.37	602281.69	BNDY	7.13	7.19	1.13	0.84	20.92		0.46	13.73
736	684895.57	602301.83	BNDY	7.40	7.44	1.20	0.82	20.94		0.56	13.50

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737	684880.76	602321.98	BNDY	7.76	7.85	1.08	0.89	20.93		0.51	13.09
738	684865.95	602342.12	BNDY	8.16	8.16	1.16	0.55	20.95		0.55	12.79
739	684851.15	602362.27	BNDY	8.46	8.54	1.05	0.62	20.93		0.54	12.39
740	684827.24	602394.80	BNDY	8.95	8.94	1.26	0.82	20.67		0.55	11.73
741	684821.28	602402.91	BNDY	15.66	15.65	1.13	0.58	20.43		0.55	4.78
742	684806.74	602422.70	BNDY	15.05	15.04	1.14	0.53	19.80		0.54	4.76
743	684792.02	602442.92	BNDY	14.42	14.43	1.17	0.55	19.16		0.55	4.74
744	684833.20	602640.76	BNDY	11.75	11.84	1.18	0.50	14.82		0.50	2.98
745	684818.41	602660.91	BNDY	11.73	11.80	1.18	0.52	14.89		0.52	3.09
746	684803.6081	602681.0604	BNDY	9.08	9.10	1.17		15.19		0.61	6.09
747	684790.6	602698.7769	BNDY	7.50	7.59	0.99		14.25		0.54	6.66
761	684777.12	602462.99	BNDY	13.79	13.79	1.14	0.55	18.36		0.58	4.58
762	684762.31	602483.14	BNDY	13.20	13.12	1.16	0.56	17.73		0.51	4.61
763	684747.51	602503.28	BNDY	12.75	12.70	1.20	0.52	17.42		0.52	4.72
764	684732.70	602523.42	BNDY	12.49	12.41	1.28	0.67	17.11		0.53	4.70
765	684717.90	602543.56	BNDY	7.90	7.91	1.20	0.82	16.49		0.53	8.58
766	684703.09	602563.72	BNDY	6.74	6.81	1.10	0.78	17.01		0.53	10.20
767	684687.1063	602585.4579	BNDY	5.47	5.54	1.11		17.10		0.54	11.56
768	684672.8746	602604.8211	BNDY	4.91	4.96	1.19		17.31		0.65	12.35
769	684656.5065	602623.7179	BNDY	4.99	5.01	1.17		18.32		0.68	13.31
822	685209.17	602098.14	BRK	16.12	16.21	1.02	0.54	18.37		0.60	2.16
823	685187.68	602127.24	BRK	16.40	16.47	1.16	0.47	19.02		0.73	2.55
824	685169.69	602121.14	BRK	16.91	16.98	1.08	0.50	19.19		0.63	2.21
825	685159.5985	602134.7709	BRK	5.60	5.69	1.05		19.16		0.59	13.47
826	685142.99	602100.91	BRK	16.77	16.71	1.18	0.56	19.07		0.56	2.36
827	685132.6767	602114.8475	BRK	5.21	5.29	1.19		19.05		0.53	13.77
828	685117.94	602082.20	BRK	16.50	16.46	1.14	0.56	19.07		0.59	2.61
829	685108.0441	602096.6184	BRK	4.85	4.94	1.06		19.03		0.51	14.09
830	685097.56	602070.88	BRK	13.71	13.78	1.03	0.69	18.44		0.66	4.66
831	685091.6225	602084.4656	BRK	4.62	4.71	1.06		18.83		0.55	14.12
832	685079.0777	602074.2284	BRK	4.44	4.53	1.06		18.20		0.69	13.67
833	685087.2307	602063.2368	BRK	5.15	5.21	1.14		17.68		0.59	12.47
834	685228.90	602033.89	BRK	16.52	16.51	1.25	0.48	18.98		0.74	2.47
835	685232.50	602033.47	BRK	14.10	14.17	1.18	1.01	18.97		0.70	4.80

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836	685239.46	602034.31	BRK	14.12	14.21	1.16	1.14	18.93		0.77	4.72
837	685243.00	602035.55	BRK	16.62	16.54	1.16	0.59	18.94		0.65	2.40
838	685241.70	602050.98	BRK	16.30	16.34	1.19	0.49	18.61		0.59	2.26
839	685057.3284	602100.4637	BRK	4.41	4.45	1.21		18.40		0.46	13.95
840	685060.41	602121.19	BRK	14.47	14.50	1.20	0.51	19.02		0.53	4.53
841	685068.9275	602108.102	BRK	4.57	4.65	1.09		18.88		0.54	14.23
842	685048.4367	602112.4097	BRK	4.57	4.61	1.19		18.48		0.53	13.88
843	685096.9218	602128.8191	BRK	4.97	5.04	1.16		19.06		0.58	14.03
844	685091.28	602143.63	BRK	15.20	15.25	1.18	0.50	19.15		0.51	3.90
845	685121.5544	602147.0482	BRK	5.33	5.37	1.16		19.33		0.60	13.96
846	685109.62	602161.54	BRK	17.81	17.77	1.15	0.52	19.91		0.46	2.14
847	685117.56	602193.69	BRK	17.43	17.36	1.17	0.57	19.64		0.53	2.27
848	685118.92	602197.25	BRK	14.89	14.96	1.09	1.00	19.53		0.69	4.58
849	685119.73	602203.55	BRK	14.81	14.87	1.06	0.73	19.58		0.72	4.71
850	685121.10	602206.98	BRK	17.27	17.30	1.06	0.63	19.45		0.47	2.16
851	685114.98	602226.59	BRK	17.17	17.11	1.14	0.60	19.49		0.64	2.38
852	685105.19	602198.82	BRK	17.35	17.38	1.08	0.57	19.73		0.69	2.35
853	685103.22	602203.76	BRK	14.79	14.84	1.21	0.71	19.78		0.71	4.94
854	685088.02	602208.76	BRK	17.36	17.29	1.26	0.52	19.91		0.72	2.62
855	685089.52	602212.18	BRK	14.88	14.95	1.17	0.68	19.88		0.68	4.92
856	685085.84	602227.09	BRK	15.07	15.15	1.09	0.93	19.98		0.75	4.83
857	685083.49	602230.12	BRK	17.63	17.55	1.17	0.62	20.00		0.66	2.45
858	685094.99	602252.22	BRK	17.70	17.67	1.13	0.59	19.87		0.48	2.20
859	685081.79	602269.14	BRK	18.05	18.07	1.13	0.52	20.27		0.56	2.21
860	685047.09	602237.51	BRK	15.69	15.73	1.22	0.82	20.41		0.70	4.68
861	685043.77	602234.95	BRK	18.21	18.13	1.22	0.55	20.43		0.54	2.30
862	685039.91	602232.72	BRK	15.73	15.69	1.31	0.80	20.46		0.73	4.77
863	685042.37	602238.43	BRK	15.71	15.79	1.16	0.88	20.48		0.66	4.69
864	685066.11	602161.84	BRK	17.75	17.67	1.18	0.55	19.94		0.54	2.27
865	685062.13	602161.07	BRK	15.28	15.35	1.13	0.72	19.97		0.63	4.62
866	685052.96	602208.15	BRK	17.82	17.75	1.23	0.56	20.21		0.67	2.47
867	685049.31	602206.51	BRK	15.37	15.37	1.24	0.75	20.21		0.73	4.84
868	685045.11	602202.48	BRK	15.62	15.59	1.28	0.76	20.22		0.72	4.63
869	685042.10	602200.70	BRK	17.89	17.81	1.17	0.61	20.22		0.63	2.40

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870	685022.96	602172.09	BRK	15.38	15.35	1.17	0.96	19.96		0.59	4.62
871	685044.91	602142.21	BRK	14.83	14.76	1.27	0.48	19.40		0.54	4.63
872	684994.42	602217.26	BRK	18.66	18.67	1.09	0.58	20.88		0.53	2.20
873	684975.68	602242.79	BRK	19.14	19.08	1.17	0.58	21.41		0.59	2.33
874	685005.71	602243.75	BRK	18.78	18.75	1.14	0.55	21.02		0.59	2.27
875	685009.09	602245.47	BRK	16.25	16.35	1.06	0.57	20.97		0.66	4.63
876	685025.00	602263.80	BRK	16.24	16.33	1.15	0.55	20.95		0.66	4.62
877	685027.83	602266.24	BRK	18.73	18.65	1.18	0.59	20.94		0.52	2.29
878	685053.73	602299.58	BRK	18.74	18.68	1.16	0.57	20.90		0.49	2.22
879	685053.33	602303.33	BRK	16.27	16.33	1.18	0.93	20.86		0.54	4.52
880	685060.48	602307.84	BRK	16.22	16.14	1.22	0.53	19.44		0.52	3.30
881	685039.62	602323.93	BRK	18.58	18.51	1.17	0.55	21.05		0.51	2.54
882	685021.34	602349.28	BRK	18.40	18.31	1.20	0.58	21.16		0.49	2.84
883	685006.56	602373.52	BRK	17.51	17.47	1.15	0.61	21.78		0.46	4.31
884	684985.52	602400.52	BRK	17.74	17.67	1.21	0.53	22.01		0.57	4.34
885	684968.75	602423.06	BRK	17.72	17.72	1.22	0.47	22.01		0.53	4.29
886	684958.59	602266.06	BRK	19.57	19.50	1.20	0.56	21.80		0.54	2.30
887	684944.51	602285.23	BRK	19.93	19.97	1.15	0.45	22.12		0.55	2.15
888	684924.17	602312.77	BRK	20.38	20.34	1.14	0.58	22.59		0.53	2.25
889	684896.37	602343.10	BRK	18.02	17.95	1.19	0.59	22.22		0.51	4.28
890	684880.77	602362.80	BRK	17.79	17.78	1.22	0.55	22.11		0.52	4.32
891	684869.32	602354.21	BRK	8.25	8.30	1.13	0.89	22.08		0.58	13.78
892	684884.22	602334.10	BRK	7.94	7.99	1.06	0.98	22.09		0.52	14.10
893	684908.58	602301.22	BRK	7.44	7.48	1.17	0.86	22.10		0.58	14.63
894	684928.96	602273.71	BRK	7.02	6.99	1.14	0.98	21.67		0.63	14.67
895	684943.18	602254.50	BRK	6.73	6.71	1.22	0.82	21.32		0.57	14.60
896	684960.30	602231.40	BRK	6.38	6.42	1.18	0.57	20.89		0.52	14.46
897	684979.15	602205.95	BRK	5.99	6.03	1.21	0.65	20.37		0.55	14.34
898	685010.86	602163.13	BRK	5.34	5.42	1.14	0.51	19.49		0.57	14.07
899	685032.93	602133.34	BRK	4.89	4.95	1.17	0.68	19.05		0.63	14.11
900	684953.81	602443.85	BRK	17.56	17.51	1.17	0.55	21.86		0.48	4.35
901	684933.84	602472.48	BRK	17.17	17.21	1.09	0.52	21.01		0.50	3.80
902	684913.09	602504.45	BRK	16.54	16.57	1.17	0.48	20.21		0.49	3.64
909	684858.28	602571.33	BRK	14.73	14.82	1.13	0.85	19.30		0.55	4.48

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910	684887.04	602531.88	BRK	18.22	18.19	1.14	0.56	20.48		0.59	2.29
911	684720.03	602604.99	BRK	14.67	14.64	1.11	0.57	19.08		0.55	4.44
912	684710.9277	602615.2523	BRK	5.53	5.61	1.16		19.11		0.60	13.50
913	684795.24	602555.71	BRK	13.67	13.76	1.17	0.70	18.40		0.57	4.65
914	684795.33	602552.00	BRK	16.14	16.20	1.10	0.54	18.41		0.46	2.21
915	684770.38	602552.44	BRK	15.78	15.71	1.25	0.51	18.02		0.56	2.31
916	684771.04	602556.03	BRK	13.34	13.44	1.16	0.88	18.06		0.54	4.62
917	684841.91	602602.61	BRK	16.61	16.54	1.19	0.55	19.02		0.55	2.47
919	684835.00	602400.55	BRK	8.95	8.99	1.22	0.88	20.89		0.55	11.90
920	684843.87	602407.12	BRK	16.31	16.30	1.27	0.54	20.99		0.56	4.68
921	684754.50	602627.17	BRK	17.19	17.10	1.18	0.57	19.37		0.52	2.27
922	684744.7356	602640.3266	BRK	6.26	6.33	1.19		19.37		0.64	13.04
923	684774.69	602642.80	BRK	17.28	17.19	1.28	0.49	19.50		0.54	2.31
924	684765.2453	602655.538	BRK	6.71	6.79	1.08		19.28		0.64	12.49
925	684807.26	602664.88	BRK	13.82	13.73	1.17	0.59	17.20		0.58	3.47
927	684774.9564	602705.0711	BRK	7.36	7.44	1.09		18.03		0.51	10.59
929	684725.0996	602668.0939	BRK	6.28	6.34	1.15		19.63		0.66	13.30
933	684699.1256	602648.8297	BRK	5.72	5.76	1.22		19.31		0.57	13.56
934	684677.3237	602632.6599	BRK	5.25	5.34	1.04		18.86		0.54	13.52
936	684665.7626	602624.1345	BRK	5.02	4.97	1.21		18.48		0.61	13.50
979	685388.74	601749.07	BRK	13.50	13.43	1.33	0.88	18.64		0.68	5.21
980	685384.77	601750.03	BRK	16.23	16.26	1.10	0.62	18.63		0.66	2.38
2000	684774.23	602717.67	BNDY	12.40	12.49	1.04	0.83	15.78		0.66	3.29
2001	684757.86	602736.57	BNDY	12.87	12.80	1.20	0.52	16.10		0.68	3.30
2002	684741.50	602755.47	BNDY	13.17	13.10	1.18	0.53	16.38		0.62	3.28
2003	684725.13	602774.36	BNDY	13.48	13.39	1.19	0.53	16.61		0.57	3.21
2004	684708.76	602793.26	BNDY	13.77	13.70	1.16	0.60	16.89		0.54	3.19
2005	684692.39	602812.16	BNDY	13.98	13.89	1.30	0.49	17.19		0.67	3.29
2006	684676.02	602831.05	BNDY	13.61	13.67	1.18	0.79	17.06		0.49	3.39
2007	684659.66	602849.95	BNDY	13.71	13.73	1.17	0.61	17.34		0.64	3.60
2008	684643.29	602868.85	BNDY	13.80	13.79	1.15	0.81	17.47		0.65	3.67
2009	684626.92	602887.74	BNDY	13.90	13.94	1.08	0.71	17.56		0.58	3.62
2010	684610.55	602906.64	BNDY	13.99	14.08	1.02	0.60	17.68		0.55	3.60
2011	684589.1204	602931.3825	BNDY	6.65	6.66	1.24		17.76		0.56	11.10

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2012	684575.9627	602946.5728	BNDY	13.30	13.28	1.28		17.39		0.53	4.11
2013	684545.08	602982.23	BNDY	13.75	13.76	1.26	0.65	16.62		0.50	2.86
2014	684561.447	602963.331	BNDY	14.75	14.79	1.14		17.09		0.63	2.31
2015	684528.71	603001.12	BNDY	12.84	12.83	1.19	0.64	16.17		0.51	3.34
2016	684512.34	603020.02	BNDY	11.93	12.01	1.13	0.72	15.83		0.54	3.82
2017	684495.97	603038.92	BNDY	11.01	11.06	1.06	0.77	15.35		0.67	4.29
2018	684479.61	603057.81	BNDY	10.10	10.06	1.15	0.82	14.80		0.62	4.74
2019	684463.24	603076.71	BNDY	9.19	9.14	1.31	0.50	14.33		1.61	5.19
2020	684446.87	603095.61	BNDY	8.28	8.34	1.16	0.66	13.64		1.10	5.30
2021	684430.50	603114.50	BNDY	7.48	7.52	1.16	0.84	12.50		0.88	4.98
2022	684414.13	603133.40	BNDY	6.81	6.88	1.19	0.74	12.07		0.62	5.20
2023	684397.77	603152.30	BNDY	6.28	6.36	1.16	0.88	12.13		0.67	5.76
2024	684381.40	603171.20	BNDY	6.50	6.46	1.26	0.84	12.10		0.96	5.65
2025	684365.0301	603190.0917	BNDY	6.55	6.51	1.27		11.97		0.46	5.46
2026	684348.6621	603208.9884	BNDY	6.83	6.80	1.26		11.99		0.61	5.18
2027	684332.29	603227.89	BNDY	6.81	6.78	1.16	0.68	11.94		1.42	5.16
2028	684315.93	603246.78	BNDY	7.74	7.83	1.11	0.59	11.86		1.48	4.04
2029	684299.56	603265.68	BNDY	7.92	7.91	1.17	0.67	11.63		1.43	3.73
2030	684283.19	603284.58	BNDY	8.06	8.14	1.02	0.63	11.32		1.30	3.19
2031	684258.4125	603313.1804	BNDY	8.20	8.12	1.24		11.68		1.77	3.56
2032	684238.1787	603303.292	BNDY	7.08	7.09	1.16		10.44		0.75	3.35
2033	684215.7175	603292.3151	BNDY	6.83	6.86	1.21		10.58		0.55	3.72
2034	684193.2563	603281.3381	BNDY	6.47	6.48	1.17		10.48		0.63	4.00
2035	684170.795	603270.3612	BNDY	6.39	6.38	1.17		10.11		0.59	3.73
2036	684148.3338	603259.3842	BNDY	6.33	6.35	1.08		9.61		0.55	3.26
2037	684124.1262	603238.3439	BNDY	6.10	6.16	1.05		8.89		0.48	2.73
2038	684149.11	603209.50	BNDY	6.10	6.14	1.11	0.70	9.04		0.52	2.90
2039	684165.48	603190.60	BNDY	6.10	6.16	1.12	0.59	9.08		0.55	2.92
2040	684182.05	603171.63	BNDY	6.11	6.14	1.12	0.58	9.08		0.54	2.95
2041	684198.59	603153.14	BNDY	6.13	6.06	1.18	0.65	9.09		0.52	3.04
2042	684214.58	603133.91	BNDY	6.10	6.15	1.16	0.57	9.10		0.49	2.95
2043	684230.9841	603114.9778	BNDY	4.58	4.59	1.07		9.74		0.60	5.15
2044	684247.3179	603096.1207	BNDY	6.24	6.21	1.14		9.60		0.58	3.39
2045	684263.6863	603077.2236	BNDY	5.91	5.92	1.08		9.72		0.67	3.80

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2046	684280.05	603058.33	BNDY	4.16	4.18	1.17	0.61	9.87		0.67	5.69
2047	684296.42	603039.43	BNDY	4.26	4.26	1.09	0.66	9.98		0.58	5.73
2048	684312.79	603020.53	BNDY	4.62	4.62	1.19	0.55	10.27		0.59	5.65
2049	684329.16	603001.64	BNDY	5.15	5.11	1.26	0.53	10.53		0.62	5.41
2050	684345.53	602982.74	BNDY	5.85	5.82	1.29	0.45	10.79		0.54	4.97
2051	684361.89	602963.84	BNDY	6.71	6.75	1.04	0.65	11.24		0.74	4.49
2052	684378.26	602944.95	BNDY	7.74	7.79	1.21	0.69	12.20		0.63	4.41
2053	684394.63	602926.05	BNDY	8.91	8.97	1.16	0.50	13.28		0.56	4.31
2054	684411.00	602907.15	BNDY	10.10	10.02	1.24	0.53	14.50		0.67	4.48
2055	684427.9409	602887.5938	BNDY	8.45	8.54	0.99		15.56		0.66	7.02
2056	684443.7347	602869.3601	BNDY	10.37	10.38	1.10		16.56		0.56	6.18
2057	684459.7017	602850.9264	BNDY	5.87	5.95	1.18		17.65		0.53	11.70
2058	684476.47	602831.57	BNDY	9.77	9.75	1.17	0.68	18.94		0.51	9.19
2059	684492.84	602812.67	BNDY	9.33	9.41	1.12	0.52	20.12		0.55	10.71
2060	684509.31	602793.66	BNDY	8.89	8.98	1.11	0.50	20.99		0.53	12.00
2061	684525.58	602774.88	BNDY	8.46	8.43	1.27	0.51	20.87		0.49	12.44
2062	684541.94	602755.98	BNDY	8.03	8.12	1.07	0.71	20.87		0.59	12.75
2063	684558.31	602737.08	BNDY	7.60	7.61	1.21	0.56	20.23		0.63	12.62
2064	684574.68	602718.19	BNDY	7.16	7.15	1.12	0.56	20.08		0.53	12.93
2065	684591.05	602699.29	BNDY	6.73	6.70	1.10	0.66	20.05		0.56	13.35
2066	684607.42	602680.39	BNDY	6.29	6.33	1.19	0.82	19.71		0.57	13.37
2067	684623.78	602661.50	BNDY	5.86	5.85	1.21	0.55	19.23		0.61	13.38
2068	684640.15	602642.60	BNDY	5.43	5.37	1.14	0.87	18.68		0.53	13.31
2069	684743.44	602706.51	GRID	17.78	17.79	1.16	0.48	20.00		0.57	2.21
2070	684743.44	602731.51	GRID	15.37	15.39	1.16	0.71	19.42		0.60	4.03
2071	684718.44	602756.51	GRID	15.80	15.79	1.14	1.03	20.68		0.61	4.88
2072	684718.44	602706.51	GRID	18.02	18.02	1.18	0.50	20.38		0.52	2.36
2073	684693.44	602706.51	GRID	15.37	15.35	1.18	1.24	20.69		0.56	5.34
2074	684693.44	602731.51	GRID	18.43	18.47	1.13	0.53	21.03		0.50	2.56
2075	684693.44	602756.51	GRID	18.84	18.84	1.10	0.60	21.19		0.58	2.36
2076	684693.44	602781.51	GRID	19.25	19.26	1.08	0.59	21.45		0.52	2.19
2077	684668.44	602806.51	GRID	17.44	17.40	1.22	0.51	21.63		0.62	4.23
2078	684668.44	602781.51	GRID	17.08	17.10	1.14	0.56	21.38		0.54	4.28
2079	684668.44	602756.51	GRID	16.38	16.40	1.16	0.57	21.08		0.53	4.69

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2080	684668.44	602731.51	GRID	15.99	15.95	1.21	0.70	21.03		0.55	5.08
2081	684668.44	602706.51	GRID	18.32	18.33	1.11	0.52	20.75		0.54	2.43
2082	684668.44	602681.51	GRID	17.91	17.82	1.27	0.50	20.31		0.49	2.48
2083	684668.44	602656.51	GRID	14.93	14.87	1.28	0.80	19.61		0.56	4.73
2084	684643.44	602706.51	GRID	18.61	18.56	1.22	0.53	20.88		0.57	2.32
2085	684643.44	602731.51	GRID	16.27	16.19	1.29	0.50	21.08		0.59	4.88
2086	684643.44	602756.51	GRID	16.85	16.78	1.22	0.52	21.19		0.56	4.40
2087	684643.44	602781.51	GRID	17.25	17.23	1.23	0.49	21.59		0.57	4.36
2088	684643.44	602806.51	GRID	17.61	17.60	1.18	0.76	21.92		0.55	4.32
2089	684643.44	602831.51	GRID	17.71	17.69	1.21	0.83	22.32		0.55	4.63
2090	684618.44	602731.51	GRID	16.56	16.60	1.19	0.45	21.10		0.58	4.50
2091	684618.44	602756.51	GRID	17.06	17.07	1.18	0.52	21.45		0.55	4.38
2092	684618.44	602781.51	GRID	17.42	17.43	1.14	0.57	21.79		0.55	4.37
2093	684618.44	602806.51	GRID	17.59	17.56	1.21	0.58	22.16		0.54	4.59
2094	684618.44	602831.51	GRID	17.69	17.63	1.21	0.55	22.41		0.55	4.79
2095	684618.44	602856.51	GRID	20.32	20.30	1.17	0.57	22.66		0.64	2.37
2096	684593.44	602881.51	GRID	19.56	19.51	1.16	0.58	22.18		0.75	2.67
2097	684593.44	602856.51	GRID	19.93	19.88	1.22	0.49	22.40		0.73	2.52
2098	684593.44	602806.51	GRID	17.57	17.50	1.24	0.53	22.20		0.57	4.70
2099	684593.44	602781.51	GRID	17.47	17.47	1.17	0.57	21.94		0.58	4.47
2100	684593.44	602756.51	GRID	17.23	17.22	1.22	0.48	21.62		0.62	4.40
2101	684593.44	602706.51	GRID	6.81	6.79	1.23	0.60	20.38		0.58	13.59
2102	684568.44	602731.51	GRID	7.41	7.46	1.13	0.55	20.44		0.68	12.97
2103	684568.44	602781.51	GRID	17.44	17.39	1.22	0.57	21.82		0.53	4.43
2104	684568.44	602831.51	GRID	19.87	19.85	1.12	0.65	22.32		0.70	2.47
2105	684568.44	602856.51	GRID	19.43	19.38	1.21	0.56	21.98		0.77	2.59
2106	684568.44	602881.51	GRID	18.79	18.77	1.16	0.57	21.39		0.75	2.62
2108	684543.4362	602956.5129	GRID	14.35	14.32	1.26		19.11		0.55	4.79
2109	684543.4362	602931.5129	GRID	13.88	13.96	1.03		19.21		0.65	5.25
2110	684543.4362	602906.5129	GRID	6.37	6.46	1.14		19.75		0.58	13.29
2111	684543.44	602856.51	GRID	18.74	18.76	1.12	0.57	21.17		0.72	2.41
2112	684543.44	602831.51	GRID	19.47	19.49	1.14	0.55	21.74		0.58	2.26
2113	684543.44	602806.51	GRID	19.60	19.64	1.10	0.65	22.07		0.59	2.43
2114	684518.44	602831.51	GRID	18.61	18.57	1.28	0.45	20.90		0.60	2.33

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2115	684518.44	602856.51	GRID	18.10	18.16	1.20	0.46	20.30		0.49	2.15
2116	684518.4362	602906.5129	GRID	12.95	12.99	1.11		19.06		0.59	6.08
2117	684518.4362	602931.5129	GRID	13.70	13.78	1.16		19.13		0.54	5.35
2118	684518.44	602956.51	GRID	16.84	16.83	1.11	0.58	19.00		0.49	2.18
2119	684518.44	602981.51	GRID	15.93	15.93	1.10	0.60	18.18		0.54	2.24
2121	684493.44	603006.51	GRID	14.49	14.44	1.20	0.53	16.76		0.59	2.32
2122	684493.44	602981.51	GRID	14.91	14.90	1.14	0.57	17.23		0.62	2.33
2123	684493.44	602956.51	GRID	15.48	15.48	1.19	0.54	17.94		0.55	2.47
2124	684493.44	602931.51	GRID	16.57	16.66	1.01	0.62	18.79		0.50	2.13
2125	684493.4362	602906.5129	GRID	13.39	13.44	1.16		18.71		0.60	5.27
2126	684493.44	602831.51	GRID	9.60	9.61	1.19	0.48	19.85		0.50	10.24
2127	684468.44	603031.51	GRID	13.11	13.10	1.17	0.53	15.41		0.62	2.31
2128	684468.44	603006.51	GRID	13.49	13.50	1.10	0.58	15.81		0.63	2.31
2129	684468.44	602981.51	GRID	13.91	13.92	1.21	0.50	16.27		0.64	2.35
2130	684468.44	602956.51	GRID	14.41	14.46	1.09	0.58	16.76		0.60	2.30
2131	684468.44	602931.51	GRID	15.04	15.05	1.12	0.55	17.57		0.54	2.52
2132	684468.4362	602856.5129	GRID	5.94	5.95	1.12		18.08		0.61	12.13
2133	684443.4362	602881.5129	GRID	7.90	7.89	1.11		16.78		0.71	8.89
2134	684443.4362	602906.5129	GRID	12.14	12.14	1.14		16.66		0.62	4.52
2135	684443.44	602931.51	GRID	13.75	13.83	1.07	0.61	16.15		0.65	2.33
2136	684443.44	602956.51	GRID	13.27	13.32	1.16	0.47	15.60		0.65	2.28
2137	684443.44	602981.51	GRID	12.85	12.85	1.09	0.62	15.17		0.61	2.32
2138	684443.44	603006.51	GRID	12.44	12.46	1.11	0.54	14.78		0.67	2.32
2139	684443.44	603031.51	GRID	12.01	11.99	1.15	0.58	14.38		0.67	2.39
2140	684443.44	603056.51	GRID	11.69	11.64	1.14	0.55	13.96		0.63	2.32
2141	684443.44	603081.51	GRID	11.40	11.37	1.15	0.60	13.63		0.51	2.26
2142	684418.44	603106.51	GRID	10.24	10.18	1.26	0.49	12.46		0.54	2.28
2143	684418.44	603081.51	GRID	10.44	10.46	1.10	0.59	12.79		0.64	2.33
2144	684418.44	603056.51	GRID	10.65	10.58	1.17	0.59	13.22		0.79	2.64
2145	684418.44	603031.51	GRID	10.92	10.83	1.21	0.77	13.42		0.61	2.59
2146	684418.44	603006.51	GRID	11.27	11.35	1.04	0.73	13.83		0.71	2.48
2147	684418.44	602981.51	GRID	11.70	11.69	1.19	0.50	14.07		0.69	2.38
2148	684418.44	602956.51	GRID	12.12	12.10	1.21	0.52	14.50		0.67	2.40
2149	684418.44	602906.51	GRID	9.84	9.79	1.34	0.64	15.00		0.55	5.21

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2150	684393.44	602931.51	GRID	8.63	8.62	1.19	0.75	13.32		0.64	4.70
2151	684393.44	602956.51	GRID	10.95	10.94	1.19	0.66	13.29		0.49	2.34
2152	684393.44	602981.51	GRID	10.53	10.56	1.21	0.65	13.01		0.60	2.45
2153	684393.44	603006.51	GRID	10.15	10.09	1.19	0.55	12.68		0.79	2.59
2154	684393.44	603031.51	GRID	9.91	9.90	1.17	0.58	12.31		0.66	2.41
2155	684393.44	603056.51	GRID	9.70	9.65	1.20	0.56	12.02		0.61	2.37
2156	684393.44	603106.51	GRID	9.38	9.33	1.25	0.53	11.70		0.52	2.37
2157	684393.44	603131.51	GRID	9.32	9.24	1.18	0.64	11.91		0.61	2.67
2159	684368.4362	603181.5129	GRID	6.44	6.36	1.29		11.99		0.55	5.63
2160	684368.44	603156.51	GRID	8.56	8.52	1.29	0.53	11.62		0.62	3.10
2161	684368.44	603131.51	GRID	8.65	8.58	1.18	0.62	11.41		0.52	2.83
2162	684368.44	603106.51	GRID	8.75	8.68	1.19	0.64	11.31		0.59	2.63
2163	684368.44	603056.51	GRID	8.85	8.80	1.14	0.61	11.37		0.52	2.57
2164	684368.44	603031.51	GRID	8.98	8.95	1.14	0.56	11.52		0.58	2.56
2165	684368.44	603006.51	GRID	9.17	9.13	1.25	0.52	11.54		0.55	2.41
2166	684368.44	602981.51	GRID	9.38	9.32	1.32	0.48	11.79		0.67	2.47
2167	684343.44	603006.51	GRID	8.26	8.19	1.28	0.48	10.85		0.60	2.66
2168	684343.44	603031.51	GRID	8.15	8.11	1.17	0.58	10.78		0.56	2.66
2169	684343.44	603056.51	GRID	8.17	8.16	1.13	0.58	10.76		0.54	2.60
2170	684343.44	603106.51	GRID	8.37	8.37	1.09	0.66	10.91		0.55	2.53
2171	684343.44	603131.51	GRID	8.36	8.39	1.08	0.62	10.97		0.54	2.59
2172	684343.4362	603181.5129	GRID	6.47	6.46	1.14		11.46		1.02	5.01
2173	684343.4362	603206.5129	GRID	6.78	6.70	1.26		11.85		0.56	5.15
2174	684318.44	603231.51	GRID	8.81	8.74	1.22	0.54	11.68		1.18	2.94
2175	684318.44	603206.51	GRID	6.84	6.89	1.08	0.66	11.28		0.81	4.39
2176	684318.4362	603181.5129	GRID	6.51	6.46	1.20		10.99		0.59	4.53
2177	684318.4362	603156.5129	GRID	6.25	6.17	1.22		10.85		0.59	4.68
2178	684318.44	603031.51	GRID	4.71	4.79	1.14	0.66	10.30		0.46	5.52
2179	684293.44	603056.51	GRID	4.35	4.27	1.18	0.76	10.05		0.57	5.78
2180	684293.44	603081.51	GRID	7.37	7.32	1.30	0.71	10.21		0.60	2.89
2181	684293.4362	603131.5129	GRID	5.94	5.89	1.23		10.45		0.60	4.56
2182	684293.4362	603156.5129	GRID	6.32	6.33	1.11		10.59		0.52	4.26
2183	684293.44	603181.51	GRID	6.52	6.60	1.18	0.55	10.75		0.55	4.15
2184	684293.44	603206.51	GRID	7.97	7.98	1.14	0.58	10.92		0.57	2.94

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2185	684293.44	603231.51	GRID	8.29	8.21	1.26	0.61	11.13		0.58	2.92
2186	684293.44	603256.51	GRID	8.50	8.46	1.43	0.45	11.56		1.03	3.09
2187	684268.44	603281.51	GRID	7.07	7.05	1.28	0.53	11.07		0.56	4.02
2188	684268.44	603256.51	GRID	8.18	8.12	1.25	0.52	11.04		0.62	2.92
2189	684268.44	603231.51	GRID	7.79	7.80	1.10	0.59	10.86		0.54	3.06
2190	684268.44	603206.51	GRID	7.41	7.49	1.12	0.56	10.77		0.58	3.29
2191	684268.44	603181.51	GRID	7.46	7.49	1.18	0.49	10.64		0.56	3.16
2192	684268.44	603156.51	GRID	6.21	6.19	1.12	0.66	10.48		0.55	4.30
2193	684268.4362	603131.5129	GRID	5.85	5.85	1.18		10.29		0.59	4.44
2194	684268.4362	603106.5129	GRID	3.07	3.12	1.06		10.16		0.62	7.04
2195	684268.4362	603081.5129	GRID	5.85	5.88	1.13		9.88		0.41	4.01
2196	684243.44	603131.51	GRID	2.98	3.02	1.10	0.67	10.13		0.53	7.11
2197	684243.44	603181.51	GRID	7.56	7.52	1.27	0.50	10.45		0.55	2.92
2198	684243.44	603206.51	GRID	7.25	7.29	1.08	0.66	10.59		0.52	3.29
2199	684243.44	603231.51	GRID	7.47	7.47	1.20	0.54	10.70		0.58	3.23
2200	684243.44	603256.51	GRID	7.83	7.79	1.22	0.54	10.69		0.53	2.90
2201	684243.4362	603281.5129	GRID	7.25	7.20	1.20		10.52		0.58	3.32
2202	684218.4362	603281.5129	GRID	6.93	6.95	1.14		10.53		0.50	3.58
2203	684218.44	603256.51	GRID	7.09	7.10	1.19	0.57	10.44		0.58	3.34
2204	684218.44	603231.51	GRID	7.43	7.43	1.19	0.52	10.42		0.52	2.99
2205	684218.44	603206.51	GRID	7.25	7.21	1.19	0.56	10.38		0.53	3.18
2206	684218.44	603156.51	GRID	7.69	7.70	1.14	0.54	10.15		0.59	2.45
2208	684193.4362	603181.5129	GRID	7.48	7.44	1.27	0.45	10.16		0.60	2.72
2209	684193.4362	603206.5129	GRID	7.25	7.28	1.09	0.59	10.17		0.56	2.89
2210	684193.4362	603231.5129	GRID	7.34	7.30	1.19	0.56	10.19		0.52	2.89
2211	684193.4362	603256.5129	GRID	6.74	6.76	1.14		10.24		0.60	3.48
2212	684168.4362	603256.5129	GRID	6.51	6.46	1.22		10.03		0.59	3.57
2213	684168.4362	603231.5129	GRID	6.45	6.50	1.15	0.61	10.04		0.59	3.54
2214	684168.4362	603206.5129	GRID	7.60	7.60	1.10	0.67	10.06		0.60	2.46
2215	684143.4362	603231.5129	GRID	6.43	6.49	1.19		9.76		0.65	3.27
2216	684768.70	602713.78	BRK	14.50	14.53	1.15	0.48	17.86		0.58	3.34
2217	684755.49	602705.02	BRK	14.78	14.86	1.07	0.56	19.36		0.60	4.50
2218	684750.5364	602706.2925	BRK	17.38	17.30	1.18	0.54	19.62		0.52	2.32
2219	684719.5112	602728.0937	BRK	18.07	17.99	1.30	0.45	20.61		0.56	2.62

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2220	684721.25	602731.77	BRK	15.36	15.36	1.23	0.79	20.54		0.55	5.18
2222	684686.52	602801.63	BRK	17.16	17.18	1.08	0.70	20.72		0.60	3.54
2223	684714.8245	602681.948	BRK	17.78	17.74	1.25	0.48	20.02		0.55	2.28
2224	684695.23	602678.31	BRK	15.18	15.25	1.15	0.79	20.15		0.63	4.90
2225	684691.1633	602677.7592	BRK	17.91	17.89	1.21	0.48	20.16		0.58	2.27
2226	684679.2563	602656.4152	BRK	17.47	17.43	1.18	0.53	19.79		0.65	2.37
2227	684678.94	602651.43	BRK	14.87	14.85	1.28	0.60	19.57		0.56	4.72
2228	684668.1313	602643.1239	BRK	14.48	14.54	1.04		19.15		0.57	4.61
2229	684657.2632	602634.2584	BRK	5.13	5.21	1.15		18.69		0.53	13.48
2230	684652.03	602663.18	BRK	15.06	15.12	1.05	0.59	19.65		0.53	4.53
2231	684641.00	602654.19	BRK	5.58	5.57	1.24	0.68	19.21		0.54	13.64
2232	684642.3753	602682.8752	BRK	18.24	18.17	1.23	0.52	20.37		0.45	2.20
2233	684640.23	602679.29	BRK	15.45	15.55	1.11	0.72	20.20		0.63	4.65
2234	684618.68	602681.55	BRK	6.20	6.28	1.15	0.79	20.09		0.70	13.81
2235	684632.7117	602692.9947	BRK	18.26	18.21	1.27	0.46	20.60		0.66	2.39
2236	684620.0994	602708.5791	BRK	18.67	18.58	1.22	0.51	20.95		0.63	2.37
2239	684603.43	602700.25	BRK	6.62	6.69	1.10	0.65	20.52		0.63	13.83
2240	684580.79	602728.00	BRK	7.24	7.30	1.12	0.76	20.82		0.76	13.52
2241	684592.09	602737.22	BRK	16.96	16.96	1.12	0.64	21.25		0.53	4.30
2245	684652.97	602837.52	BRK	17.97	17.92	1.14	0.63	21.66		0.60	3.73
2248	684632.9903	602849.2342	BRK	20.53	20.48	1.21	0.55	22.74		0.51	2.27
2249	684573.19	602760.13	BRK	17.37	17.33	1.24	0.50	21.53		0.54	4.21
2250	684562.02	602751.01	BRK	7.76	7.85	1.13	0.58	21.32		0.62	13.46
2251	684549.64	602787.35	BRK	17.30	17.31	1.11	0.56	21.81		0.53	4.50
2252	684539.27	602778.90	BRK	8.39	8.43	1.20	0.65	21.45		0.51	13.02
2253	684568.32	602806.28	BRK	17.40	17.45	1.20	0.67	22.12		0.56	4.67
2254	684565.5811	602809.0345	BRK	19.99	19.95	1.16	0.56	22.34		0.68	2.40
2255	684590.8103	602830.4334	BRK	20.31	20.27	1.13	0.58	22.50		0.52	2.23
2256	684593.43	602827.27	BRK	17.57	17.64	1.18	0.48	22.33		0.55	4.69
2257	684611.5712	602875.6442	BRK	20.29	20.21	1.18	0.58	22.52		0.54	2.31
2259	684588.8716	602908.3113	BRK	19.04	19.11	1.12	0.49	21.37		0.65	2.26
2261	684576.8825	602901.086	BRK	18.28	18.32	1.19	0.46	21.15		0.68	2.84
2262	684562.2754	602912.3889	BRK	6.48	6.55	1.12		20.16		0.60	13.61
2263	684546.9908	602879.913	BRK	18.10	18.01	1.23	0.58	20.48		0.52	2.46

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2264	684536.885	602894.4246	BRK	6.32	6.38	1.19		19.87		0.58	13.49
2265	684518.8905	602881.693	BRK	6.20	6.26	1.20		19.67		0.59	13.41
2266	684529.1345	602867.2143	BRK	18.03	17.99	1.12	0.61	20.34		0.56	2.35
2267	684498.05	602850.83	BRK	14.79	14.79	1.20	0.65	19.61		0.55	4.81
2268	684490.4473	602861.5687	BRK	6.02	6.09	1.20		19.03		0.62	12.94
2269	684529.6237	602815.0512	BRK	19.24	19.20	1.12	0.59	21.47		0.55	2.26
2270	684517.71	602805.33	BRK	8.99	9.02	1.13	0.68	21.32		0.55	12.30
2271	684492.1914	603028.6259	BRK	14.08	14.16	1.03	0.59	16.31		0.52	2.14
2272	684495.31	603031.35	BRK	11.32	11.38	1.05	0.93	16.05		0.61	4.68
2273	684467.4432	603056.9831	BRK	12.70	12.63	1.22	0.56	14.91		0.51	2.28
2274	684470.54	603059.69	BRK	9.95	9.95	1.10	0.62	14.78		0.50	4.83
2275	684469.1556	602880.7528	BRK	13.16	13.25	1.10		18.07		0.59	4.83
2276	684420.7841	602931.9468	BRK	12.65	12.68	1.12	0.56	15.04		0.67	2.36
2277	684418.27	602928.58	BRK	9.85	9.93	1.18	0.79	14.81		0.62	4.88
2278	684497.2553	602878.6355	BRK	6.10	6.09	1.23		18.81		0.55	12.72
2279	684491.4795	602886.7988	BRK	12.77	12.69	1.19		18.60		0.56	5.92
2280	684466.7342	602909.2074	BRK	16.17	16.17	1.12	0.53	18.34		0.51	2.16
2281	684469.256	602906.0452	BRK	13.48	13.50	1.17		18.23		0.53	4.73
2282	684569.9023	602930.035	BRK	6.56	6.58	1.18		19.90		0.54	13.32
2283	684564.1649	602938.2256	BRK	13.23	13.27	1.17		19.44		0.54	6.18
2284	684462.8239	602873.5669	BRK	6.77	6.86	1.15		17.80		0.62	10.94
2285	684396.208	603081.167	BRK	9.60	9.51	1.21	0.58	11.89		0.58	2.38
2286	684394.9524	603084.8241	BRK	7.02	6.94	1.29	0.80	11.83		0.57	4.89
2287	684370.173	603081.0797	BRK	6.46	6.46	1.22	0.84	11.35		0.60	4.88
2288	684369.7302	603084.5148	BRK	8.77	8.80	1.17	0.57	11.25		0.54	2.45
2289	684346.8159	603155.6092	BRK	8.42	8.34	1.28	0.58	11.18		0.62	2.85
2290	684344.2815	603158.0189	BRK	6.97	6.96	1.23		11.16		0.71	4.20
2291	684343.8322	603080.6842	BRK	5.89	5.86	1.21	0.87	10.84		0.55	4.98
2292	684344.0192	603084.2703	BRK	8.28	8.25	1.22	0.54	10.86		0.58	2.62
2293	684318.4322	603058.4683	BRK	7.59	7.53	1.25	0.52	10.36		0.61	2.83
2294	684314.6302	603057.9817	BRK	5.03	5.12	1.16	0.82	10.34		0.61	5.23
2296	684244.6142	603103.2697	BRK	6.25	6.16	1.25		9.75		0.58	3.59
2297	684317.0076	603131.3066	BRK	6.55	6.47	1.30		10.67		0.58	4.21
2298	684318.8822	603129.9683	BRK	8.06	8.09	1.10	0.56	10.73		0.57	2.64

POINT NUMBER	NORTHING	EASTING	DESC	DESIGN SUBGRADE ELEV (FT)	SURVEYED SUBGRADE ELEV (FT)	INSTALLED GDL COVER SOIL (FT)	INSTALLED COMPACTED HORIZON C (FT)	SURVEYED FINAL GRADE ELEV (FT)	INSTALLED DGA (FT)	INSTALLED HORIZON A (FT)	TOTAL COVER (FT)
2299	684244.4868	603157.7645	BRK	7.52	7.53	1.10	0.61	10.36		0.59	2.83
2300	684238.7773	603154.4036	BRK	3.11	3.14	1.22	0.59	10.26		0.58	7.12
2301	684221.7368	603183.6523	BRK	7.75	7.68	1.20	0.55	10.33		0.57	2.66
2302	684225.099	603177.8813	BRK	3.30	3.26	1.21	0.80	10.31		0.59	7.05
2303	684293.4362	603106.5129	GRID	7.12	7.15	1.15	0.75	10.33		0.55	3.18
2304	684318.4362	603081.5129	GRID	5.36	5.28	1.35	0.78	10.53		0.63	5.25
2305	684268.0011	603302.1104	BNDY	8.15	8.20	1.14		11.54		1.61	3.34
2306	684383.2214	603153.3604	BRK	8.95	8.87	1.19	0.61	11.85		0.54	2.98
2307	684386.53	603155.86	BRK	6.58	6.53	1.30	0.82	11.96		0.56	5.43
2308	684541.16	602978.86	BRK	13.86	13.78	1.33	0.77	18.44		0.49	4.66
2309	684537.9282	602976.1552	BRK	16.66	16.72	1.03	0.54	19.01		0.56	2.29
2310	684519.64	603003.49	BRK	12.67	12.64	1.25	0.82	17.60		0.56	4.95
2311	684516.5171	603000.7679	BRK	15.43	15.47	1.05	0.58	17.70		0.59	2.22
2312	684688.247	602662.9919	BRK	17.62	17.65	1.20	0.46	19.87		0.55	2.21
2313	684666.34	602822.94	BRK	17.70	17.62	1.21	0.58	21.27		0.48	3.65

ATTACHMENT M-2
SA-6 NORTH AND SOUTH FINAL GRADE TOPOGRAPHIC

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
2. *FINAL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS FROM NOV. 4, 2016 THROUGH NOV. 28, 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER: GS35737

NO.	DATE	REVISION	BY
0.	1/24/17	SA-6 NORTH FINAL GRADING	DMS RTH
		DR CHK	APVD

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JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
NORTH CAP FINAL GRADING PLAN

FILE NUMBER
12001511A

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

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DWG	CN-125
SHEET	1 OF 2

FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\NORTH CAP TOPSOIL GRADING PLAN-12-22-16.dwg PLOT DATE: Tue, 31 Jan 2017 PLOT TIME: 12:47 PM

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADING ELEVATIONS WITHIN THE SA6 NORTH CAP AREA AT THE PROJECT SITE.*
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3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

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FILE NUMBER 12001511A

NO	DATE	REVISION	BY	APVD
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DSGN		DR CHK	APVD	

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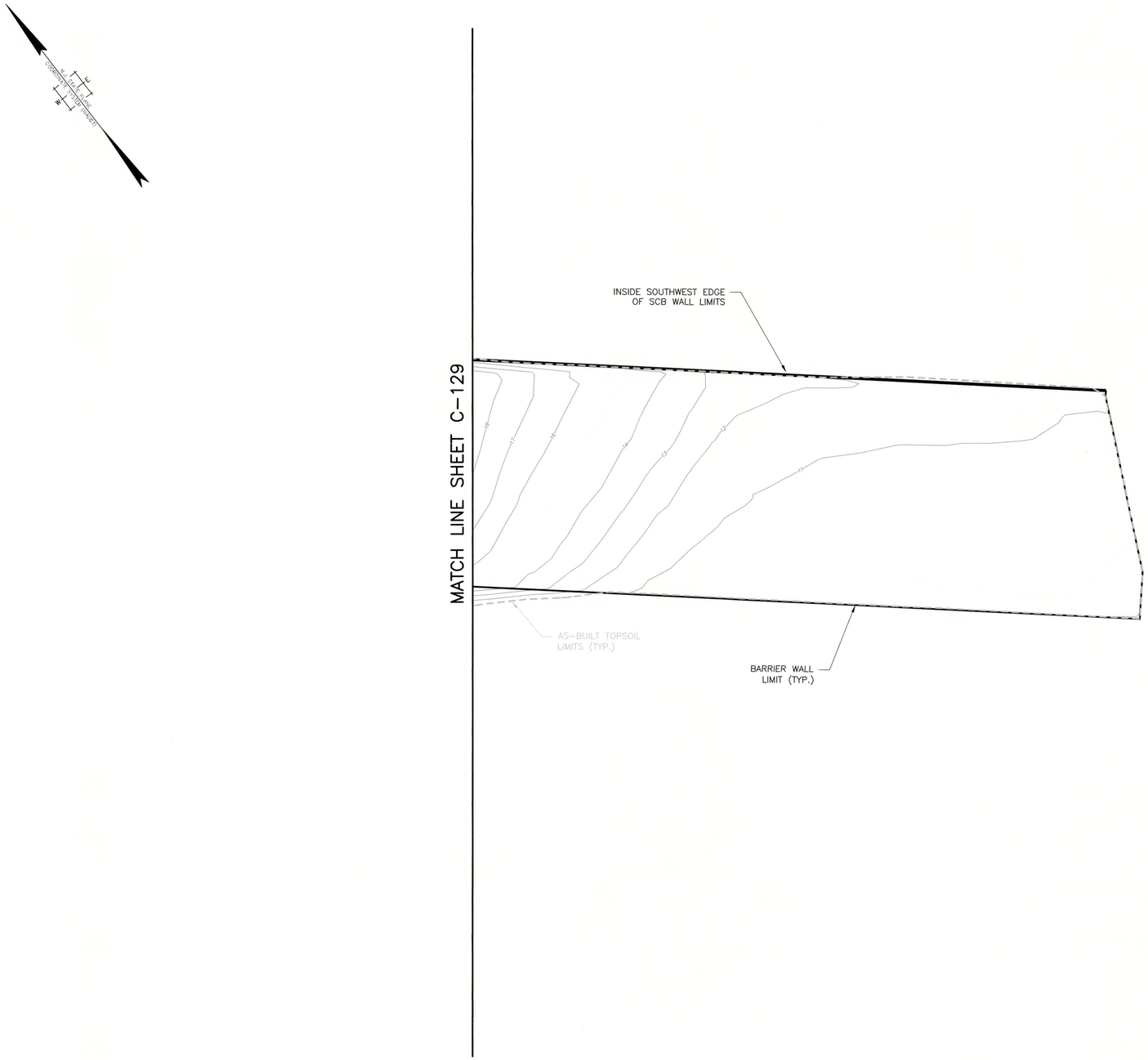

LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

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SCALE IN FEET

GENERAL NOTES

1. *THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT TOPSOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.*
2. *AS-BUILT SOUTH CAP TOPSOIL GRADING LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. ON MULTIPLE FIELD VISITS ON JUNE 23, 2016 & FROM OCT. 3 THROUGH NOV. 3, 2016*
3. *HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.*

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FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SA6S GDL SOUTH TOPSOIL.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 5:54 PM

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT TOPSOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.
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3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

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		APVD	APVD

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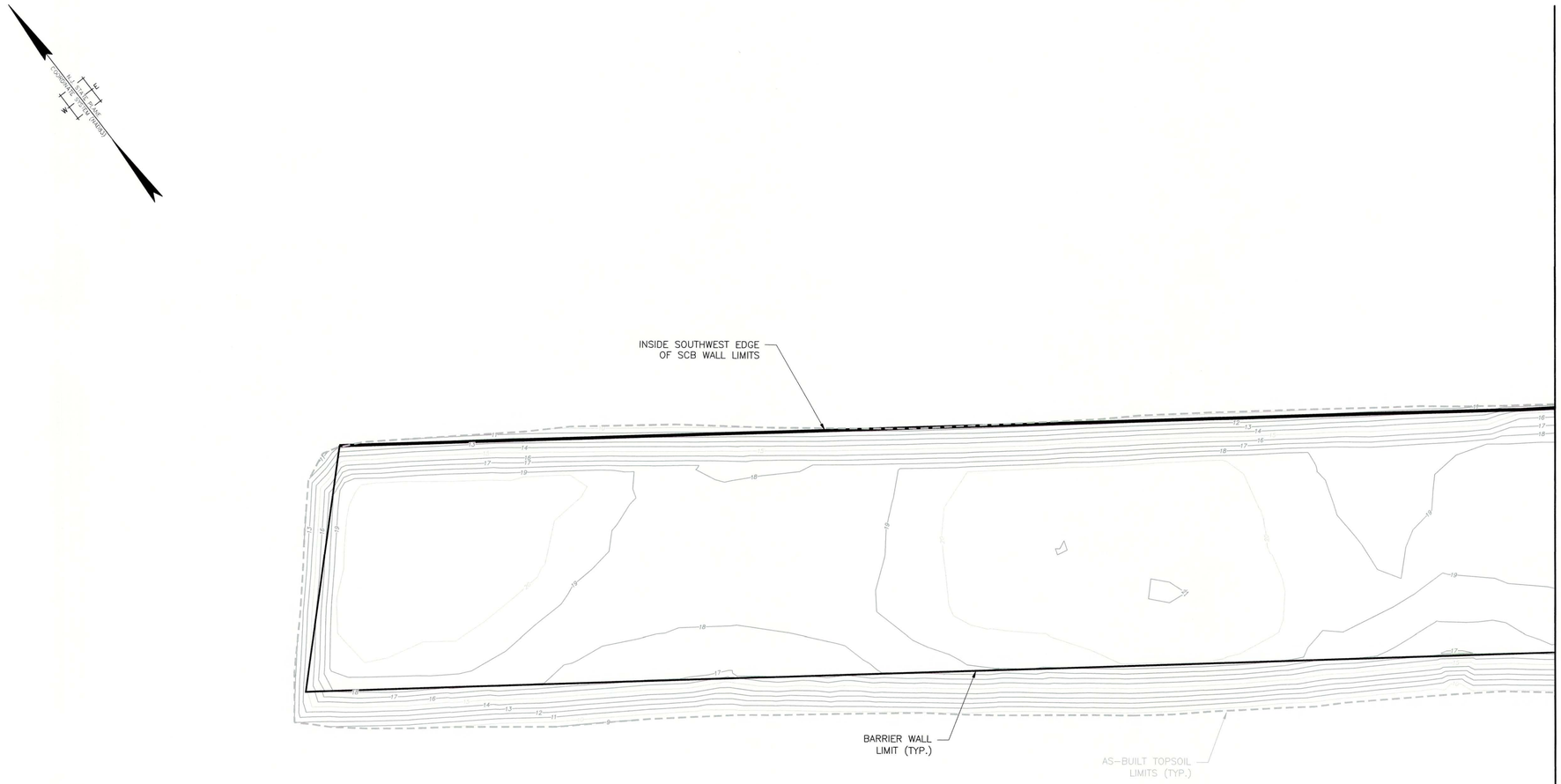
FILE NAME: C:\Civil 3D Projects\2012\12001511A\Survey\SA6S GDL SOUTH TOPSOIL.dwg PLOT DATE: Wed, 21 Dec 2016 PLOT TIME: 5:54 PM



LEGEND:

5 MAJOR CONTOUR
4 MINOR CONTOUR

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SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW AS-BUILT TOPSOIL GRADING ELEVATIONS WITHIN THE SA6 SOUTH CAP AREA AT THE PROJECT SITE.
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AS BUILT DRAWINGS

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ATTACHMENT N-1
SA-6 NORTH DEVELOPMENT AREA SURVEY CONTROL GRID AND AS-BUILT SUMMARY

SURVEY CONTROL GRID POINT
HISTORIC FILL CAP (SEE NOTE 1)

SA–6 NORTH DEVELOPMENT AREA (SEE NOTE 2)

SA–6 NORTH OPEN SPACE CAP AREA

JCIA TRASH PIT

FORMER BUILDING FOOTPRINT (TYP)

HYDRAULIC BARRIER WALL (TYP)

HIGHWAY ROUTE 440

NEW JERSEY STATE H

NOTES:

1. REFER TO TABLE 1 – STONE COVER THICKNESS SUMMARY FOR SURVEY DOCUMENTATION OF 6 INCH HISTORIC FILL CAP INSTALLATION. TABLE PROVIDES SURVEYED SUBGRADE PRIOR TO DEPLOYMENT OF DEMARCATION LAYER AND FINAL TOP OF STONE ELEVATIONS.
2. HISTORIC FILL CAP OVER REMAINDER OF SA–6 NORTH DEVELOPMENT AREA TO BE INSTALLED BY OTHERS AS PART OF THE NON CHROMIUM REMEDIATION ACTIVITIES.

LEGEND

- HISTORIC FILL CAP – AASHTO #57 STONE
- EXISTING CONCRETE
- VEGETATIVE CAP AREA

0 40 80 160
SCALE IN FEET

Prepared/Date: TDD 2/23/17
Checked/Date: NAW 2/27/17

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CHROMIUM REMEDY
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NJ Certificate of Authorization Number 24GA28016900

SURVEY CONTROL GRID
HISTORIC FILL STONE CAP
Project 3480-13-0354
FIGURE 1

C:\Dsconvn\SA–6 North\2013 Excavation Surfaces\SA–6 North RAR\SA–6 North HF Stone Cap Control Grid.dwg Mon, 27 Feb 2017 – 4:21pm tony.dsonvn

Honeywell SA-6 North

Devlopment Area Historic Fill Cap - JCIA Stone Area

Jersey City, New Jersey

Prepared By: T. Donovan 2/21/17

Checked By:

TABLE 1 - STONE COVER THICKNESS SUMMARY

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
1	685523.28	603405.93	13.40	13.93	0.53
2	685513.73	603399.02	13.18	13.79	0.61
3	685496.18	603389.85	12.79	13.32	0.53
4	685481.52	603381.02	12.44	12.96	0.52
5	685474.27	603376.65	12.22	12.78	0.56
6	685460.54	603393.63	11.78	12.33	0.55
7	685472.85	603404.64	12.25	12.76	0.52
8	685487.69	603412.55	12.17	12.74	0.57
9	685474.43	603429.07	12.00	12.73	0.72
10	685458.39	603417.84	11.98	12.52	0.54
11	685446.63	603409.72	11.32	11.84	0.52
12	685433.57	603424.77	10.72	11.35	0.63
13	685448.21	603436.25	12.08	12.63	0.55
14	685463.05	603446.44	11.72	12.66	0.94
15	685475.20	603454.36	11.89	12.55	0.67
16	685462.84	603470.96	11.02	11.69	0.67
17	685447.76	603461.24	11.71	12.28	0.58
18	685433.94	603450.78	11.97	12.53	0.56
19	685419.97	603439.68	10.56	11.08	0.53
20	685408.16	603454.03	10.12	10.66	0.54
21	685423.48	603464.23	11.91	12.45	0.54
22	685439.65	603475.75	11.10	11.64	0.55
23	685451.75	603485.07	10.30	10.83	0.53
24	685439.98	603500.51	10.17	10.74	0.56
25	685425.05	603487.84	11.95	12.50	0.55
26	685410.56	603477.32	12.19	12.72	0.53
27	685397.54	603467.19	9.67	10.36	0.68
28	685384.42	603482.80	9.58	10.13	0.55
29	685399.85	603492.96	12.37	12.89	0.52
30	685416.20	603503.33	12.77	13.29	0.53
31	685375.27	603494.81	9.31	9.87	0.56
32	685362.92	603508.54	8.95	9.81	0.86
33	685349.54	603524.64	9.29	10.07	0.78
34	685336.73	603539.80	9.41	10.19	0.78
35	685327.61	603550.13	9.40	9.92	0.52
36	685281.01	603603.74	9.37	9.97	0.60
37	685297.06	603616.87	9.99	10.86	0.86
38	685310.26	603627.35	12.43	13.39	0.96
39	685307.69	603654.40	13.06	13.61	0.56
40	685289.59	603641.42	10.44	12.02	1.59
41	685276.06	603630.23	9.72	10.23	0.52
42	685264.24	603623.31	9.41	9.93	0.53
43	685251.42	603639.00	9.41	9.97	0.56
44	685269.54	603651.81	10.00	10.67	0.67
45	685282.97	603662.38	11.65	12.21	0.56
46	685295.57	603673.40	12.02	12.60	0.59
47	685281.54	603688.46	11.24	11.76	0.53
48	685265.41	603673.94	10.38	10.92	0.54
49	685250.53	603659.83	9.63	10.18	0.55
50	685239.56	603652.46	9.51	10.07	0.56
51	685226.86	603666.40	9.69	10.28	0.59
52	685243.34	603682.70	9.97	10.56	0.59
53	685257.98	603695.42	10.53	11.07	0.54
54	685269.45	603704.51	10.76	11.30	0.53

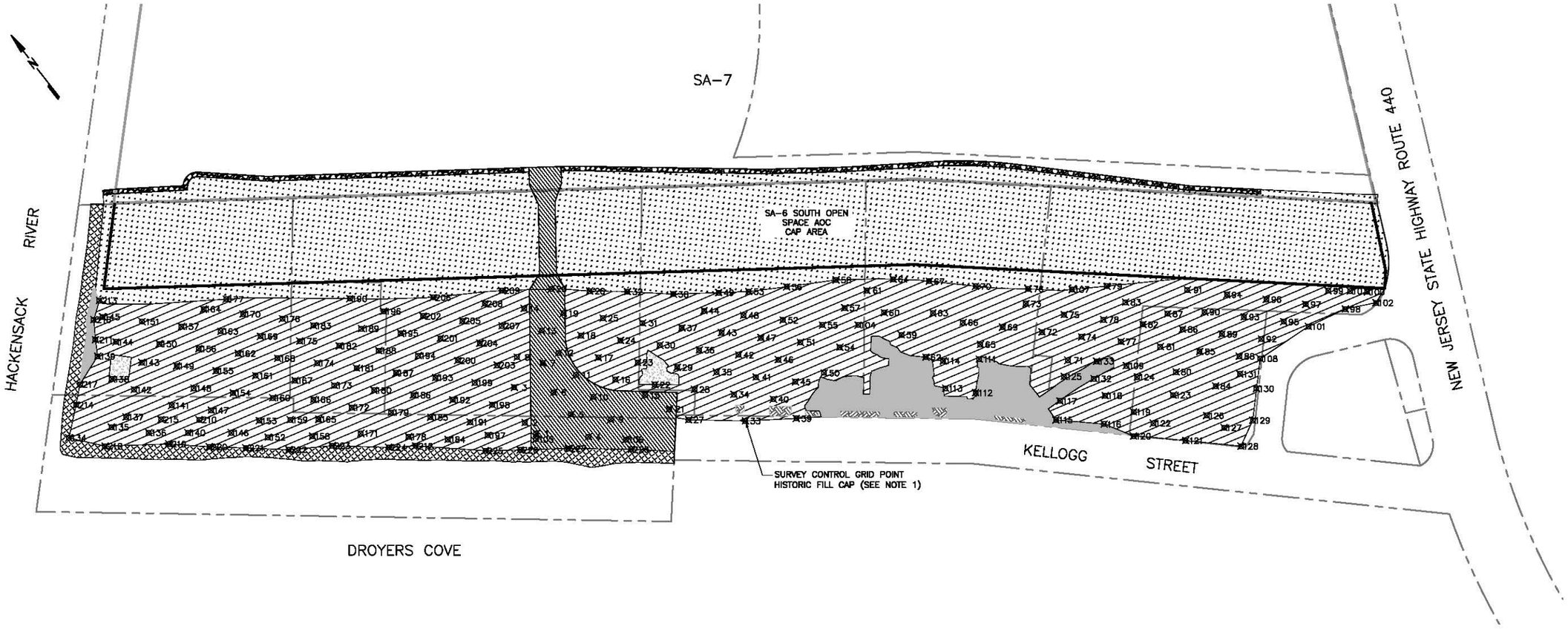
Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
55	685256.97	603718.61	10.55	11.09	0.53
56	685241.17	603707.77	10.38	10.94	0.56
57	685224.67	603695.14	10.22	10.74	0.52
58	685209.82	603685.37	10.11	10.68	0.57
59	685194.95	603703.46	10.22	10.76	0.55
60	685214.38	603715.59	10.41	10.95	0.54
61	685230.39	603726.61	10.24	10.74	0.50
62	685245.62	603735.46	10.16	10.71	0.55
63	685236.23	603751.65	9.73	10.27	0.53
64	685217.43	603741.69	9.76	10.35	0.59
65	685200.22	603730.88	10.20	10.74	0.54
66	685183.06	603719.28	10.07	10.62	0.55
67	685215.11	603762.34	9.51	10.04	0.53
68	685198.78	603753.76	9.67	10.19	0.53
69	685182.41	603745.26	9.93	10.46	0.53
70	685170.23	603740.01	9.86	10.40	0.54
71	685487.22	603436.76	12.20	13.00	0.80
72	685503.86	603416.27	12.84	13.46	0.63
73	685390.17	603506.35	10.58	11.11	0.54
74	685403.99	603517.82	10.57	11.38	0.82
75	685420.55	603530.44	10.62	11.15	0.53
76	685435.83	603541.23	10.96	11.50	0.54
77	685445.86	603525.47	10.53	11.05	0.53
78	685456.27	603509.54	10.15	10.73	0.58
79	685464.15	603492.32	10.00	10.57	0.56
80	685476.15	603475.42	11.16	11.95	0.79
81	685486.05	603458.89	11.72	12.25	0.54
82	685501.34	603442.04	12.18	12.71	0.54
83	685515.44	603422.88	12.98	13.65	0.67
84	685537.55	603414.23	13.51	14.07	0.55
85	685551.27	603428.10	13.13	13.66	0.52
86	685548.41	603440.18	13.49	14.03	0.54
87	685541.41	603454.32	13.35	13.91	0.57
88	685532.50	603476.98	12.70	13.34	0.64
89	685544.94	603483.88	12.71	13.59	0.88
90	685538.89	603498.74	12.66	13.60	0.94
91	685530.51	603516.92	12.74	13.39	0.66
92	685520.97	603537.61	12.38	13.27	0.89
93	685512.89	603555.37	12.23	13.27	1.04
94	685495.92	603547.56	11.67	12.44	0.76
95	685479.71	603539.89	11.10	11.83	0.73
96	685464.81	603533.26	10.74	11.38	0.64
97	685472.16	603517.09	11.08	11.61	0.54
98	685481.21	603497.24	11.35	11.94	0.60
99	685490.04	603478.09	11.85	12.51	0.66
100	685500.34	603455.60	11.92	12.64	0.72
101	685427.26	603512.07	10.33	10.99	0.66
102	685379.17	603518.49	9.78	10.34	0.56
103	685393.80	603530.86	10.18	10.88	0.70
104	685409.67	603542.63	10.99	11.58	0.60
105	685381.45	603544.08	10.36	11.34	0.98
106	685365.37	603534.17	9.71	10.25	0.54
107	685352.32	603547.96	9.81	10.43	0.63
108	685389.63	603576.42	14.44	15.20	0.77
109	685366.42	603569.28	15.75	16.27	0.52
110	685340.26	603569.27	10.00	10.92	0.93
111	685328.33	603585.65	9.98	11.34	1.36
112	685316.29	603601.04	10.17	11.67	1.50
113	685305.80	603594.64	9.69	10.44	0.75

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
114	685296.15	603585.30	9.59	10.11	0.52
115	685311.07	603568.24	9.65	10.19	0.53
116	685328.51	603567.24	9.61	10.24	0.63
117	685345.79	603583.34	13.54	14.27	0.73
118	685333.45	603600.60	13.43	14.58	1.14
119	685325.77	603626.43	14.91	15.43	0.52
120	685350.68	603598.21	16.53	17.10	0.58
121	685368.10	603581.44	16.64	17.55	0.91
122	685360.58	603611.90	17.22	18.06	0.84
123	685345.88	603628.53	15.60	16.15	0.55
124	685333.37	603644.98	14.14	14.69	0.56
125	685225.73	603771.87	9.55	10.09	0.54
126	685245.80	603780.16	9.48	10.07	0.59
127	685257.19	603762.86	9.46	10.12	0.66
128	685269.18	603745.93	9.68	10.39	0.70
129	685281.52	603729.15	10.50	11.13	0.63
130	685293.33	603712.58	11.00	11.62	0.62
131	685306.67	603697.52	11.76	12.43	0.68
132	685321.33	603680.67	12.75	13.30	0.55
133	685335.92	603661.97	13.65	14.42	0.77
134	685349.41	603644.44	14.73	15.33	0.60
135	685364.16	603623.73	16.79	17.31	0.51
136	685378.92	603614.62	18.62	19.18	0.56
137	685399.77	603592.18	17.89	18.41	0.52
138	685392.67	603606.73	17.60	18.12	0.52
139	685402.01	603613.49	16.49	17.03	0.53
140	685390.10	603622.47	16.99	17.53	0.54
141	685378.98	603636.66	16.21	16.85	0.64
142	685366.30	603654.95	15.01	15.57	0.56
143	685350.79	603674.67	14.05	14.65	0.60
144	685336.85	603693.57	13.41	14.14	0.73
145	685322.26	603713.63	12.60	13.14	0.54
146	685308.59	603731.80	11.28	11.81	0.52
147	685294.62	603748.51	9.81	10.57	0.76
148	685282.83	603766.87	9.34	9.89	0.55
149	685274.40	603783.71	9.06	9.62	0.56
150	685268.12	603790.72	9.42	9.94	0.53
151	685289.85	603800.78	9.35	9.89	0.54
152	685303.57	603776.68	9.19	9.75	0.57
153	685319.57	603756.13	10.34	10.91	0.57
154	685333.72	603737.28	11.95	12.47	0.53
155	685345.08	603719.79	13.05	13.59	0.54
156	685360.35	603698.16	14.23	14.76	0.53
157	685374.32	603676.80	15.12	15.65	0.53
158	685389.93	603655.19	15.62	16.16	0.53
159	685401.91	603636.79	15.63	16.18	0.55
160	685391.44	603671.29	15.47	15.99	0.52
161	685385.41	603693.60	15.28	15.80	0.52
162	685377.78	603707.36	14.43	14.98	0.55
163	685364.28	603727.60	12.72	13.26	0.55
164	685349.70	603747.91	10.91	11.53	0.61
165	685336.19	603767.24	9.87	10.42	0.55
166	685322.07	603786.53	9.07	9.61	0.54
167	685305.98	603809.37	9.65	10.17	0.52
168	685329.67	603820.48	9.47	9.98	0.51
169	685342.02	603796.31	9.07	9.63	0.56
170	685355.84	603775.69	9.72	10.27	0.55
171	685369.79	603755.44	10.37	10.99	0.61
172	685385.02	603732.34	12.49	13.15	0.66

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
173	685397.71	603713.91	14.76	15.30	0.54
174	685408.35	603697.47	15.32	15.86	0.53
175	685397.48	603685.54	15.35	15.88	0.53
176	685428.19	603703.15	15.28	15.79	0.51
177	685417.14	603723.85	14.22	14.75	0.54
178	685404.09	603740.98	11.84	12.38	0.55
179	685391.77	603759.07	10.06	10.93	0.87
180	685379.63	603776.72	9.57	10.13	0.56
181	685367.64	603792.79	9.03	9.68	0.64
182	685357.17	603809.89	8.94	9.45	0.51
183	685345.58	603826.40	9.33	9.86	0.53
184	685366.65	603836.85	9.33	9.86	0.53
185	685379.98	603814.87	9.03	9.59	0.56
186	685391.37	603794.93	9.01	9.74	0.73
187	685407.13	603774.52	9.48	10.41	0.93
188	685423.08	603753.63	10.55	11.15	0.60
189	685434.08	603734.68	12.31	13.00	0.70
190	685445.77	603715.19	14.85	15.39	0.53
191	685463.49	603692.91	15.29	15.82	0.53
192	685457.66	603689.90	15.26	15.78	0.52
193	685445.74	603698.83	15.27	15.83	0.56
194	685449.80	603735.42	10.28	10.86	0.58
195	685469.91	603741.38	10.24	10.77	0.53
196	685453.16	603745.70	9.87	10.66	0.79
197	685439.76	603765.07	9.59	10.31	0.72
198	685426.86	603783.39	9.21	9.92	0.71
199	685413.18	603801.19	8.97	9.89	0.91
200	685400.85	603819.70	8.61	9.55	0.94
201	685392.46	603841.26	8.58	9.41	0.83
202	685406.36	603847.95	8.60	9.35	0.75
203	685418.02	603853.38	8.77	9.45	0.68
204	685427.53	603832.24	9.21	9.87	0.66
205	685438.23	603811.58	9.26	9.97	0.72
206	685449.14	603790.99	9.32	10.09	0.77
207	685460.27	603768.49	9.57	10.32	0.75
208	685428.91	603801.39	9.20	10.01	0.81
209	685417.88	603822.74	9.09	9.67	0.58
210	685497.04	603588.38	12.31	13.18	0.87
211	685477.45	603579.45	11.74	12.65	0.91
212	685459.42	603571.21	11.61	12.36	0.76
213	685440.57	603562.49	11.56	12.45	0.89
214	685423.05	603554.41	11.60	12.53	0.94
215	685404.25	603562.11	12.72	13.53	0.81
216	685449.84	603545.77	10.80	11.38	0.58
217	685471.28	603556.45	11.16	11.67	0.52
218	685491.10	603564.10	11.68	12.25	0.56
219	685506.90	603572.07	11.95	12.76	0.81
220	685523.96	603581.32	12.73	13.26	0.53
221	685534.03	603559.97	12.14	12.99	0.85
222	685542.20	603541.68	12.37	13.14	0.77
223	685548.91	603522.61	12.67	13.34	0.67
224	685558.06	603503.06	12.65	13.20	0.55
225	685566.03	603482.88	12.58	13.14	0.57
226	685573.22	603462.46	12.67	13.18	0.51
227	685581.27	603441.54	12.44	13.09	0.65
228	685587.54	603426.70	12.30	12.84	0.54
229	685572.50	603421.26	12.31	12.86	0.54
230	685565.98	603440.95	12.68	13.48	0.80
231	685557.49	603462.88	12.83	13.42	0.59

Point	Northing	Easting	Surveyed Subgrade	Surveyd Final Grade	Installed Stone Thickness
232	685608.18	603443.66	13.01	13.59	0.58
233	685598.62	603464.93	12.90	13.48	0.58
234	685587.85	603487.26	12.48	13.15	0.67
235	685579.62	603508.01	12.24	12.99	0.75
236	685572.20	603522.38	12.66	13.41	0.76
237	685562.43	603542.98	13.26	13.88	0.62
238	685552.43	603565.49	12.64	13.18	0.54
239	685494.23	603640.21	12.90	13.44	0.54
240	685543.89	603583.80	12.58	13.15	0.58
241	685533.66	603603.95	12.49	13.04	0.56
242	685526.28	603622.07	12.35	13.03	0.68
243	685542.16	603646.27	11.45	12.06	0.60
244	685527.72	603655.76	11.54	12.08	0.54
245	685514.57	603677.21	11.59	12.12	0.53
246	685503.62	603700.80	11.20	11.97	0.78
247	685492.98	603723.16	10.86	11.39	0.54
248	685483.20	603746.84	10.66	11.18	0.52
249	685481.37	603719.29	11.13	11.65	0.52
250	685492.42	603695.95	11.81	12.34	0.53
251	685502.78	603671.70	11.97	12.52	0.54
252	685482.06	603661.74	13.49	14.01	0.53
253	685473.47	603663.87	15.37	15.90	0.54
254	685463.53	603643.83	15.47	16.01	0.54
255	685513.89	603647.90	11.79	12.36	0.57
256	685509.17	603613.94	12.81	13.68	0.87
257	685514.16	603595.86	13.08	13.61	0.54
258	685486.38	603615.52	13.80	14.41	0.61
259	685536.92	603627.15	11.68	12.20	0.52
260	685548.62	603608.36	11.64	12.21	0.57
261	685560.01	603585.43	11.85	12.54	0.68
262	685570.20	603565.58	11.95	12.48	0.53
263	685579.38	603546.97	12.06	12.58	0.52
264	685590.49	603525.08	11.82	12.37	0.55
265	685600.46	603540.04	11.90	12.41	0.52
266	685612.62	603519.30	11.06	11.68	0.62
267	685609.19	603497.93	12.03	12.66	0.63
268	685620.49	603503.16	11.38	11.94	0.57
269	685594.15	603558.21	11.20	11.95	0.75
270	685584.11	603580.26	11.38	12.00	0.62
271	685573.64	603602.92	11.34	12.04	0.70
272	685564.04	603622.10	11.70	12.25	0.55
273	685554.89	603641.58	11.65	12.19	0.55
274	685417.33	603602.10	16.31	16.85	0.54
275	685469.91	603605.18	14.84	15.38	0.54
276	685444.27	603592.66	15.68	16.21	0.53
277	685446.73	603627.16	15.45	15.99	0.54
278	685418.24	603625.60	15.55	16.09	0.54

ATTACHMENT N-2
SA-6 SOUTH DEVELOPMENT AREA SURVEY CONTROL GRID AND AS-BUILT SUMMARY



NOTES:

1. REFER TO ATTACHED TABLE FOR SURVEY DOCUMENTATION OF 6 INCH HISTORIC FILL CAP INSTALLATION. TABLE PROVIDES SURVEYED SUBGRADE PRIOR TO DEPLOYMENT OF HISTORIC FILL DEMARCATION LAYER AND FINAL TOP OF STONE ELEVATIONS.

2. REFER TO FIGURE 1 FOR INSTALLED HISTORIC FILL CAP LIMITS.

0 50 100 200
SCALE IN FEET

Prepared/Date: TDD 11/15/16
Checked/Date: DEN 11/15/16
Revised/Date: TDD 12/21/16

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

NON-CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
N.J. Certificate of Authorization Number 24GA28013600

HISTORIC FILL CAP
SURVEY CONTROL GRID
PROJECT 3480-16-0515
FIGURE 2

C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Non Cr Excavation\AB - Development Area Restoration.dwg Wed, 21 Dec 2016 - 8:49pm tony.donovan

Honeywell SA-6 South
Devlopment Area Historic Fill Cap
Jersey City, New Jersey

Prepared By: T. Donovan 10/21/16
Checked By: N. Warner 11/17/16
Revised By: T.Donovan 12/21/16

TABLE 1 - STONE COVER THICKNESS SUMMARY

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
1	684850.53	601890.86	8.48	8.98	9.03	0.55
2	684878.09	601886.77	7.98	8.48	8.51	0.54
3	684938.83	601910.40	7.94	8.44	8.49	0.55
4	684788.76	601960.51	8.44	8.94	8.98	0.54
5	684838.82	601960.40	8.42	8.92	8.95	0.53
6	684888.87	601960.14	8.34	8.84	8.88	0.54
7	684941.99	601977.09	8.47	8.97	8.99	0.52
8	684978.23	601947.46	7.96	8.46	8.59	0.63
9	684788.61	602010.46	8.05	8.55	8.56	0.52
10	684838.88	602010.42	8.02	8.52	8.54	0.52
11	684888.76	602010.35	8.28	8.78	8.84	0.56
12	684938.87	602010.44	8.42	8.92	8.98	0.56
13	684988.66	602010.40	8.79	9.29	9.36	0.58
14	685038.80	602010.45	9.11	9.61	9.64	0.54
15	684784.65	602084.60	8.12	8.62	8.69	0.57
16	684838.95	602060.58	8.45	8.95	8.96	0.52
17	684888.63	602060.53	8.50	9.00	9.04	0.54
18	684938.91	602060.54	8.34	8.84	8.89	0.55
19	684988.96	602060.41	8.46	8.96	9.06	0.60
20	685036.50	602069.93	9.48	9.98	10.06	0.58
21	684738.84	602104.02	8.01	8.51	8.72	0.71
22	684788.71	602110.46	8.27	8.77	8.81	0.54
23	684838.96	602110.44	7.56	8.06	8.31	0.75
24	684888.70	602110.46	7.95	8.45	8.47	0.52
25	684938.82	602110.49	8.21	8.71	8.82	0.61
26	684991.33	602121.34	8.49	8.99	9.09	0.61
27	684702.90	602119.08	6.79	7.29	7.34	0.55
28	684738.91	602160.55	6.64	7.14	7.16	0.52
29	684788.83	602160.58	7.88	8.38	8.43	0.55
30	684838.77	602160.57	7.48	7.98	8.03	0.55
31	684888.90	602160.51	7.75	8.25	8.29	0.54
32	684949.21	602173.60	8.49	8.99	9.11	0.62
33	684638.88	602197.41	6.52	7.02	7.05	0.53
34	684688.86	602210.42	6.54	7.04	7.10	0.57
35	684738.91	602210.37	6.75	7.25	7.30	0.56
36	684788.78	602210.40	7.03	7.53	7.62	0.59
37	684838.87	602210.43	7.28	7.78	7.85	0.57
38	684895.42	602235.22	7.46	7.96	8.18	0.72
39	684586.72	602271.55	6.93	7.43	7.48	0.55
40	684638.81	602260.41	6.47	6.97	7.00	0.53
41	684688.77	602260.49	6.73	7.23	7.27	0.53
42	684738.85	602260.36	6.96	7.46	7.49	0.52
43	684788.88	602260.50	7.25	7.75	7.79	0.54
44	684838.81	602260.36	7.42	7.92	7.98	0.57
45	684638.83	602310.40	7.11	7.61	7.63	0.52
46	684689.00	602310.59	6.95	7.45	7.48	0.53
47	684738.74	602310.39	7.14	7.64	7.72	0.58
48	684788.83	602310.46	7.37	7.87	7.88	0.51
49	684848.05	602300.52	7.44	7.94	8.22	0.78
50	684619.91	602360.46	7.98	8.48	8.51	0.54
51	684688.83	602360.58	7.63	8.13	8.15	0.52
52	684739.13	602360.50	7.50	8.00	8.06	0.56

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
53	684816.55	602343.81	7.51	8.01	8.44	0.93
54	684638.63	602410.42	8.46	8.96	8.99	0.53
55	684688.76	602410.52	8.28	8.78	8.83	0.55
56	684781.49	602402.20	8.51	9.01	9.03	0.53
57	684688.66	602460.47	8.63	9.13	9.21	0.58
58	684737.30	602478.82	9.54	10.04	10.29	0.75
59	684588.71	602510.27	8.28	8.78	8.81	0.53
60	684638.69	602510.50	8.25	8.75	8.78	0.53
61	684688.88	602510.53	8.64	9.14	9.16	0.52
62	684530.78	602520.13	9.17	9.67	9.70	0.53
63	684584.76	602578.22	7.41	7.91	7.98	0.57
64	684675.41	602559.84	8.52	9.02	9.39	0.87
65	684488.74	602610.39	8.41	8.91	8.94	0.53
66	684538.76	602610.26	7.83	8.33	8.36	0.53
67	684633.33	602608.11	8.53	9.03	9.32	0.79
69	684488.79	602660.54	8.16	8.66	8.74	0.57
70	684575.62	602667.46	8.52	9.02	9.31	0.79
71	684370.71	602715.69	9.25	9.75	9.76	0.51
72	684438.80	602710.54	8.64	9.14	9.20	0.56
73	684496.01	602718.89	8.52	9.02	9.04	0.52
74	684388.65	602760.45	9.06	9.56	9.61	0.55
75	684438.79	602760.46	8.68	9.18	9.23	0.55
76	684514.09	602738.44	9.50	10.00	10.15	0.65
77	684338.82	602810.43	9.53	10.03	10.05	0.53
78	684388.72	602810.44	8.98	9.48	9.53	0.54
79	684431.95	602851.50	9.53	10.03	10.08	0.56
80	684236.11	602854.74	9.99	10.49	10.69	0.71
81	684288.76	602860.37	9.66	10.16	10.20	0.55
82	684338.78	602860.35	9.47	9.97	10.00	0.53
83	684388.99	602860.30	9.41	9.91	9.94	0.53
84	684172.97	602894.67	10.97	11.47	11.49	0.52
85	684238.76	602910.44	10.12	10.62	10.67	0.55
86	684288.63	602910.46	9.80	10.30	10.37	0.57
87	684326.56	602906.44	9.50	10.00	10.04	0.54
88	684188.78	602960.47	10.27	10.77	10.80	0.53
89	684238.84	602960.43	9.81	10.31	10.34	0.53
90	684288.81	602960.31	9.25	9.75	9.80	0.54
91	684338.79	602960.55	9.95	10.45	10.46	0.52
92	684188.77	603010.41	9.41	9.91	9.96	0.55
93	684238.70	603010.36	9.06	9.56	9.58	0.51
94	684288.66	603010.40	9.20	9.70	9.74	0.54
95	684188.60	603060.40	8.75	9.25	9.28	0.53
96	684238.88	603060.50	8.62	9.12	9.15	0.52
97	684188.84	603110.46	8.35	8.85	8.88	0.53
98	684138.84	603160.56	8.35	8.85	8.87	0.52
99	684183.32	603156.53	8.43	8.93	8.96	0.53
100	684138.93	603210.41	8.41	8.91	8.92	0.51
101	684154.79	603090.07	8.48	8.98	9.00	0.53
102	684114.14	603210.60	8.43	8.93	8.97	0.54
103	684158.66	603187.23	8.41	8.91	8.96	0.55
104	684649.94	602460.53	8.45	8.95	8.98	0.53
105	684842.24	601884.19	8.99	9.49	9.54	0.55
106	684743.69	602009.93	8.47	8.97	8.99	0.53
107	684465.34	602799.24	9.48	9.98	10.01	0.53
108	684162.46	602987.20	10.56	11.06	11.11	0.55
109	684299.28	602791.88	9.91	10.41	10.46	0.56
111	684469.46	602592.76	9.75	10.25	10.29	0.54

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
112	684426.35	602551.07	8.95	9.45	9.67	0.71
113	684465.37	602513.85	9.54	10.04	10.19	0.66
114	684506.30	602540.54	9.09	9.59	9.62	0.53
115	684300.35	602633.76	9.37	9.87	9.96	0.59
116	684241.58	602696.86	9.64	10.14	10.20	0.55
117	684322.55	602660.05	9.71	10.21	10.22	0.51
118	684280.62	602729.42	9.98	10.48	10.68	0.70
119	684226.49	602751.17	11.31	11.81	11.91	0.60
120	684192.72	602724.85	10.86	11.36	11.41	0.55
121	684129.32	602792.92	10.28	10.78	10.85	0.57
122	684189.03	602766.50	11.19	11.69	11.70	0.52
123	684206.60	602825.41	10.84	11.34	11.37	0.53
124	684271.32	602794.41	11.65	12.15	12.16	0.52
125	684352.11	602692.92	9.51	10.01	10.15	0.65
126	684141.54	602849.80	10.73	11.23	11.25	0.52
127	684105.24	602861.12	10.75	11.25	11.26	0.51
128	684061.00	602864.26	10.95	11.45	11.45	0.50
129	684084.37	602909.12	11.19	11.69	11.73	0.54
130	684124.50	602949.30	11.31	11.81	11.83	0.52
131	684163.34	602941.90	10.84	11.34	11.36	0.52
132	684316.22	602732.34	10.46	10.96	11.00	0.54
133	684338.20	602754.97	9.70	10.20	10.27	0.57
134	685355.89	601230.69	9.11	9.61	9.61	0.50
135	685324.33	601302.06	9.00	9.50	9.69	0.68
136	685275.64	601348.34	9.19	9.69	9.72	0.53
137	685322.51	601333.80	8.76	9.26	9.29	0.53
138	685391.57	601355.09	9.53	10.03	10.12	0.59
139	685438.87	601360.40	9.62	10.12	10.13	0.51
140	685233.03	601403.24	9.48	9.98	10.27	0.79
141	685288.85	601410.45	9.33	9.83	9.88	0.55
142	685352.13	601375.02	8.13	8.63	8.75	0.62
143	685381.70	601415.65	8.02	8.52	8.59	0.57
144	685438.76	601401.67	9.16	9.66	10.08	0.92
145	685488.71	601410.53	9.19	9.69	9.76	0.56
146	685185.04	601463.89	8.49	8.99	9.22	0.73
147	685238.86	601460.43	7.80	8.30	8.34	0.54
148	685288.63	601460.34	7.93	8.43	8.49	0.56
149	685338.77	601460.53	7.95	8.45	8.52	0.57
150	685388.72	601460.53	8.14	8.64	8.82	0.67
151	685438.85	601460.42	8.51	9.01	9.10	0.59
152	685138.89	601510.39	8.45	8.95	9.07	0.61
153	685171.47	601516.47	7.95	8.45	8.52	0.57
154	685238.84	601510.42	7.91	8.41	8.50	0.60
155	685288.87	601510.50	7.99	8.49	8.58	0.59
156	685338.72	601510.43	8.06	8.56	8.60	0.54
157	685388.81	601510.45	8.25	8.75	8.77	0.52
158	685091.55	601573.95	9.01	9.51	9.54	0.53
159	685139.17	601560.87	8.01	8.51	8.52	0.51
160	685188.95	601560.43	7.98	8.48	8.49	0.52
161	685238.79	601560.52	7.95	8.45	8.57	0.63
162	685288.79	601560.44	8.02	8.52	8.59	0.57
163	685338.83	601560.54	8.14	8.64	8.69	0.56
164	685388.81	601560.55	8.26	8.76	8.80	0.53
165	685108.25	601601.30	8.02	8.52	8.57	0.55
166	685141.73	601615.66	8.10	8.60	8.56	0.47
167	685188.81	601610.44	8.01	8.51	8.60	0.59
168	685238.77	601610.51	8.02	8.52	8.56	0.54

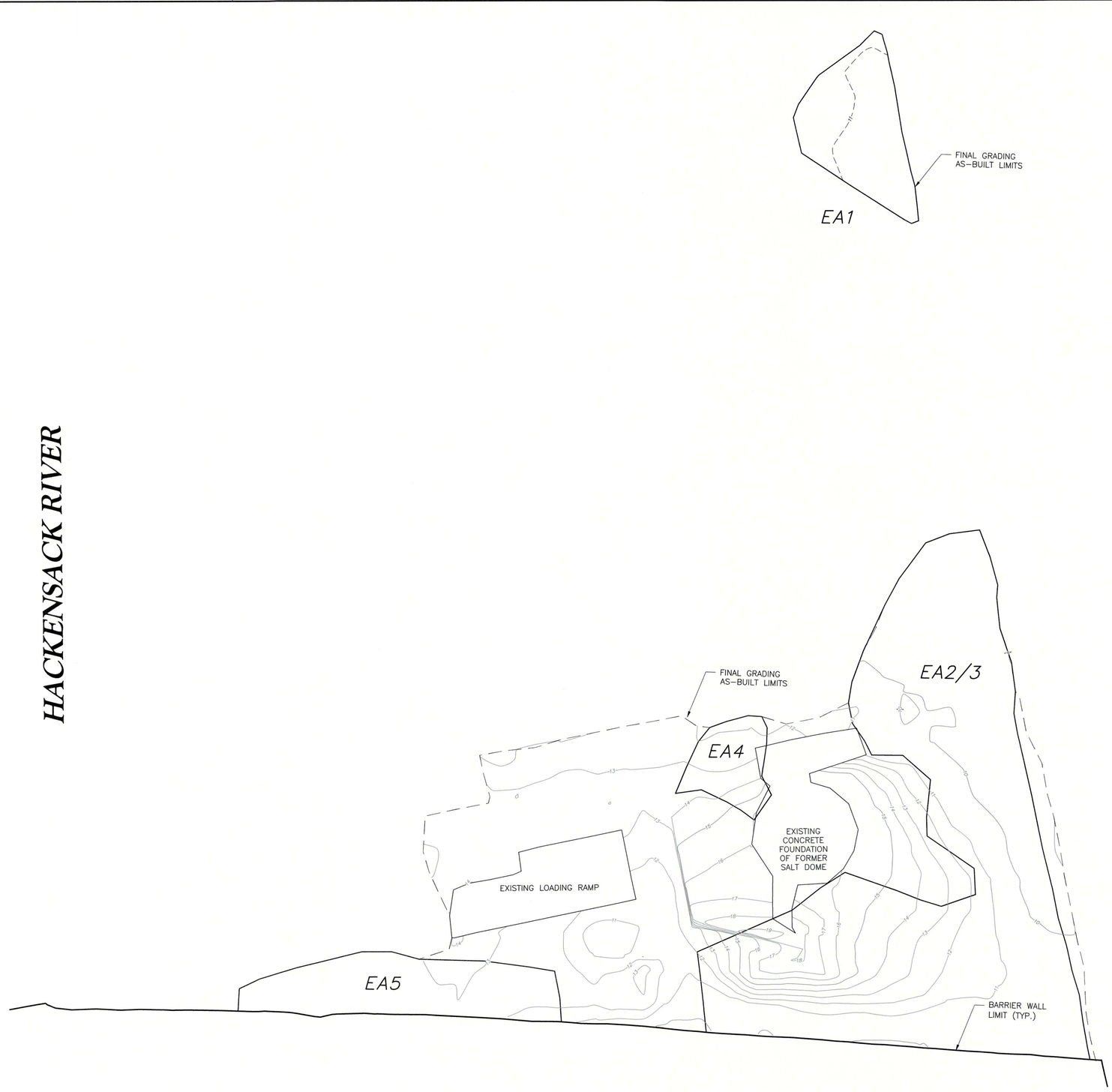
Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
169	685288.72	601610.43	8.09	8.59	8.63	0.54
170	685338.74	601610.37	8.22	8.72	8.75	0.53
171	685042.54	601644.70	8.49	8.99	9.01	0.53
172	685088.79	601660.54	7.97	8.47	8.51	0.54
173	685138.80	601660.45	7.97	8.47	8.48	0.51
174	685188.79	601660.67	8.58	9.08	9.14	0.55
175	685238.85	601660.43	8.57	9.07	9.20	0.62
176	685288.82	601660.43	8.30	8.80	8.81	0.51
177	685378.00	601603.14	9.01	9.51	9.56	0.55
178	684985.35	601708.30	8.48	8.98	9.03	0.55
179	685038.72	601710.44	7.95	8.45	8.47	0.52
180	685088.70	601710.51	7.95	8.45	8.48	0.53
181	685138.70	601710.42	8.00	8.50	8.53	0.53
182	685188.77	601710.45	8.10	8.60	8.65	0.54
183	685245.18	601696.62	9.11	9.61	9.67	0.56
184	684938.65	601760.43	8.48	8.98	9.01	0.53
185	684988.83	601760.39	7.79	8.29	8.35	0.57
186	685038.79	601760.40	7.88	8.38	8.38	0.50
187	685088.76	601760.49	7.94	8.44	8.47	0.52
188	685138.85	601760.56	7.99	8.49	8.52	0.53
189	685188.77	601760.47	8.08	8.58	8.62	0.54
190	685243.48	601776.76	8.52	9.02	9.53	1.01
191	684938.83	601810.34	7.95	8.45	8.50	0.55
192	684988.71	601810.51	7.92	8.42	8.44	0.52
193	685038.93	601810.65	7.93	8.43	8.45	0.52
194	685088.74	601810.48	8.01	8.51	8.55	0.55
195	685138.84	601810.44	8.15	8.65	8.70	0.55
196	685188.76	601810.45	8.23	8.73	8.76	0.53
197	684900.77	601820.97	8.49	8.99	9.03	0.55
198	684938.61	601860.44	7.95	8.45	8.49	0.54
199	684988.79	601860.38	7.92	8.42	8.50	0.57
200	685038.71	601860.53	7.95	8.45	8.56	0.61
201	685088.78	601860.46	8.08	8.58	8.59	0.51
202	685138.76	601860.39	8.27	8.77	8.82	0.56
203	684989.00	601910.71	7.95	8.45	8.48	0.53
204	685038.68	601910.43	8.04	8.54	8.56	0.51
205	685089.10	601910.60	8.17	8.67	8.70	0.53
206	685153.99	601894.76	8.50	9.00	9.18	0.69
207	685038.79	601960.46	8.16	8.66	8.72	0.56
208	685088.76	601960.51	8.20	8.70	8.75	0.55
209	685088.34	601998.68	8.53	9.03	9.08	0.55
210	685238.84	601433.13	7.83	8.33	8.95	1.12
211	685464.45	601375.39	9.22	9.72	9.76	0.53
212	684965.05	601707.90	7.69	8.19	8.22	0.53
213	685514.96	601424.03	12.02	12.52	12.57	0.55
214	685394.14	601276.89	9.54	10.04	10.07	0.54
215	685280.99	601380.01	9.16	9.66	9.68	0.53
216	685494.34	601395.26	9.62	10.12	10.14	0.52
217	685418.92	601304.80	10.54	11.04	11.06	0.52
218	685304.76	601272.35	8.73	9.23	9.26	0.52
219	685238.01	601363.97	8.56	9.06	9.30	0.75
220	685189.66	601417.66	7.95	8.45	8.73	0.78
221	685148.00	601467.87	9.25	9.75	9.81	0.56
222	685098.56	601526.04	7.53	8.03	8.09	0.56
223	685056.74	601591.18	7.60	8.10	8.31	0.71
224	684992.62	601668.34	7.03	7.53	7.79	0.76
225	684881.94	601800.15	6.54	7.04	7.33	0.79

Point	Northing	Easting	Surveyed Subgrade	Proposed Final Grade	Surveyd Final Grade	Installed Stone Thickness
226	684845.03	601850.20	8.45	8.95	9.13	0.69
227	684794.36	601918.98	7.45	7.95	8.06	0.61
228	684724.35	602006.36	7.22	7.72	7.74	0.52

ATTACHMENT N-3
SA-6 NORTH AND SOUTH DEVELOPMENT AREA TOPOGRAPHICS

HACKENSACK RIVER

ROUTE 440



LEGEND:

- —5— MAJOR CONTOUR
- —4— MINOR CONTOUR
- —3— POSITIVE ELEVATION
- —(-2)— NEGATIVE ELEVATION

0 20 40 80
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADE ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. FINAL GRADE LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL

FINAL GRADING PLAN FOR EXCAVATION AREAS 1, 2/3, 4 AND 5

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609)689 - 2629

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	CN-114A
SHEET	1 OF 2

NO.	DATE	REVISION	BY	APVD
0	01/26/17	SA-6 NORTH FINAL GRADING	BSB	RTH

DSGN GE DR CHK BSB RTH

R. THOMAS HUGG
N.J. PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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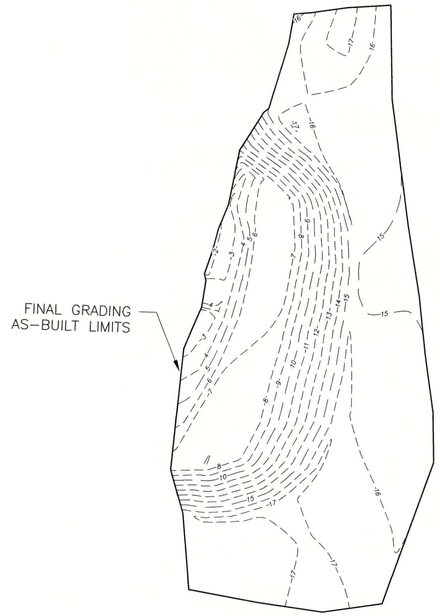
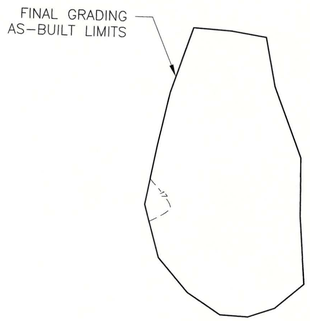
HACKENSACK RIVER



EA8



EA7

ROUTE 440

LEGEND:

- MAJOR CONTOUR
- MINOR CONTOUR
- POSITIVE ELEVATION
- NEGATIVE ELEVATION

0 15 30 60
SCALE IN FEET

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW FINAL GRADE ELEVATIONS WITHIN THE SA6 NORTH EXCAVATION AREAS AT THE PROJECT SITE.
2. FINAL GRADE LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 8/21/15 THROUGH 4/28/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 156 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12001511A

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL

FINAL GRADING PLAN
FOR EXCAVATION
AREAS 7 AND 8

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 NORTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	8/23/16
PROJ	3480-10-0027
DWG	CN-115A
SHEET	2 OF 2

NO.	DATE	REVISION	BY	APVD
0	01/26/17	SA-6 NORTH FINAL GRADING	BSB	RTH

DSGN	DR	CHK	APVD
GE		BSB	RTH

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER GS36737

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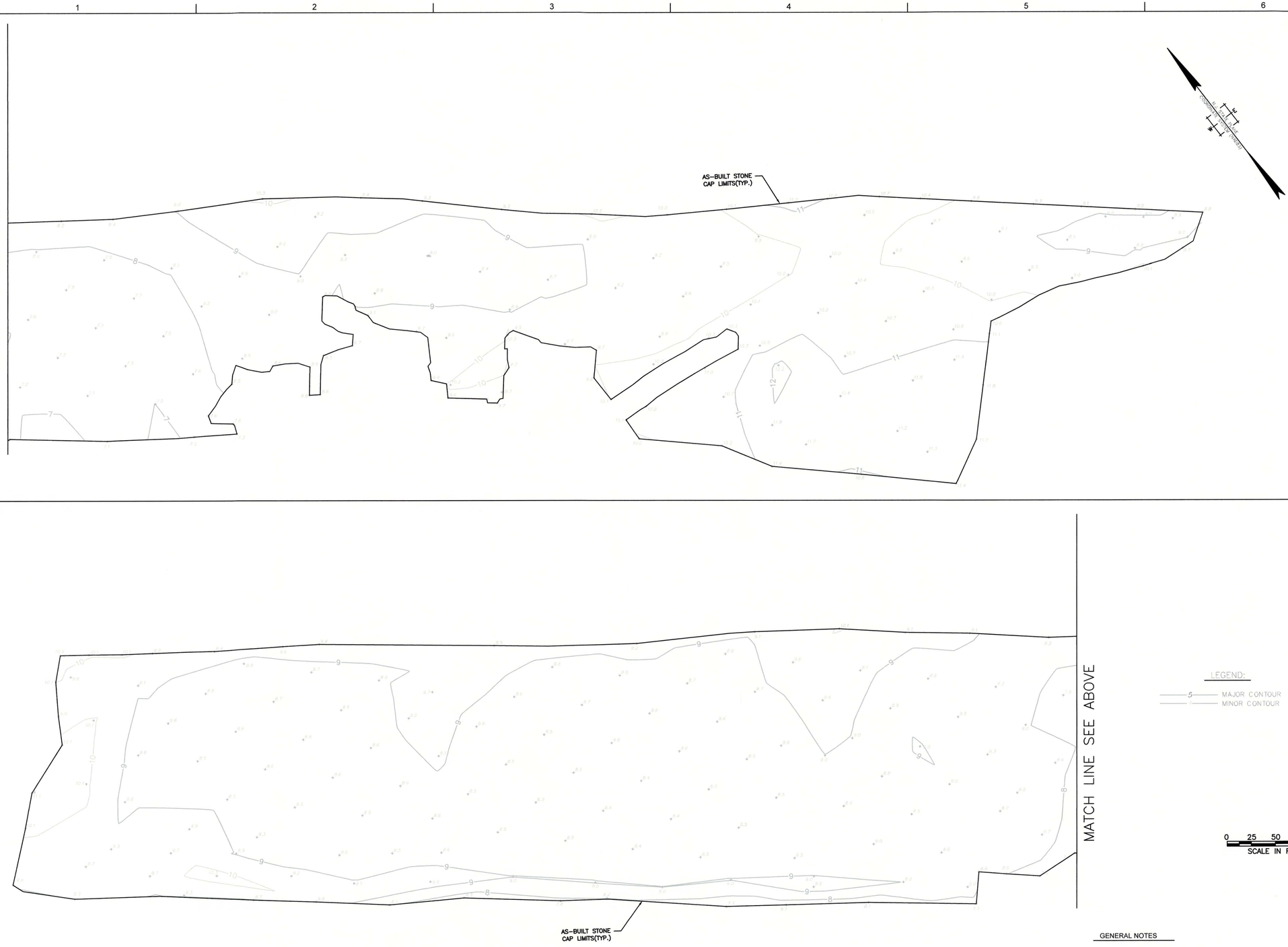

GENERAL NOTES

1. THE SOLE PURPOSE OF THIS PLAN IS TO SHOW TOP OF STONE ELEVATIONS WITHIN THE SA6 SOUTH EXCAVATION AREAS AT THE PROJECT SITE.
2. STONE LAYER LOCATIONS AND ELEVATIONS WERE OBTAINED BY MASER CONSULTING P.A. AND ENTACT ON MULTIPLE FIELD VISITS FROM 10/5/16, 10/6/16, AND 10/20/16.
3. HORIZONTAL DATUM NAD 1983, VERTICAL DATUM NGVD29.

MASER CONSULTING, P.A. PH: 609.390.1927 - FAX: 609.390.0040
ENGINEERS - PLANNERS - SURVEYORS - LANDSCAPE ARCHITECTS - ENVIRONMENTAL SCIENTISTS
MARMORA OFFICE - 158 STAGECOACH ROAD - MARMORA, NJ 080223

FILE NUMBER 12-1511A

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
AS BUILT DRAWINGS

CIVIL
SA6 SOUTH STONE LAYER

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	12/19/16
PROJ	3480-10-0027
DWG	C-113
SHEET	1 OF 1

NO.	DATE	REVISION	CHK	APVD	BY	APVD
DSGN		M.H.S.	DR	B.S.B.	BSB	R.T.H.

R. THOMAS HUGG
NJ PROFESSIONAL LAND SURVEYOR
LICENSE NUMBER 24GS36737

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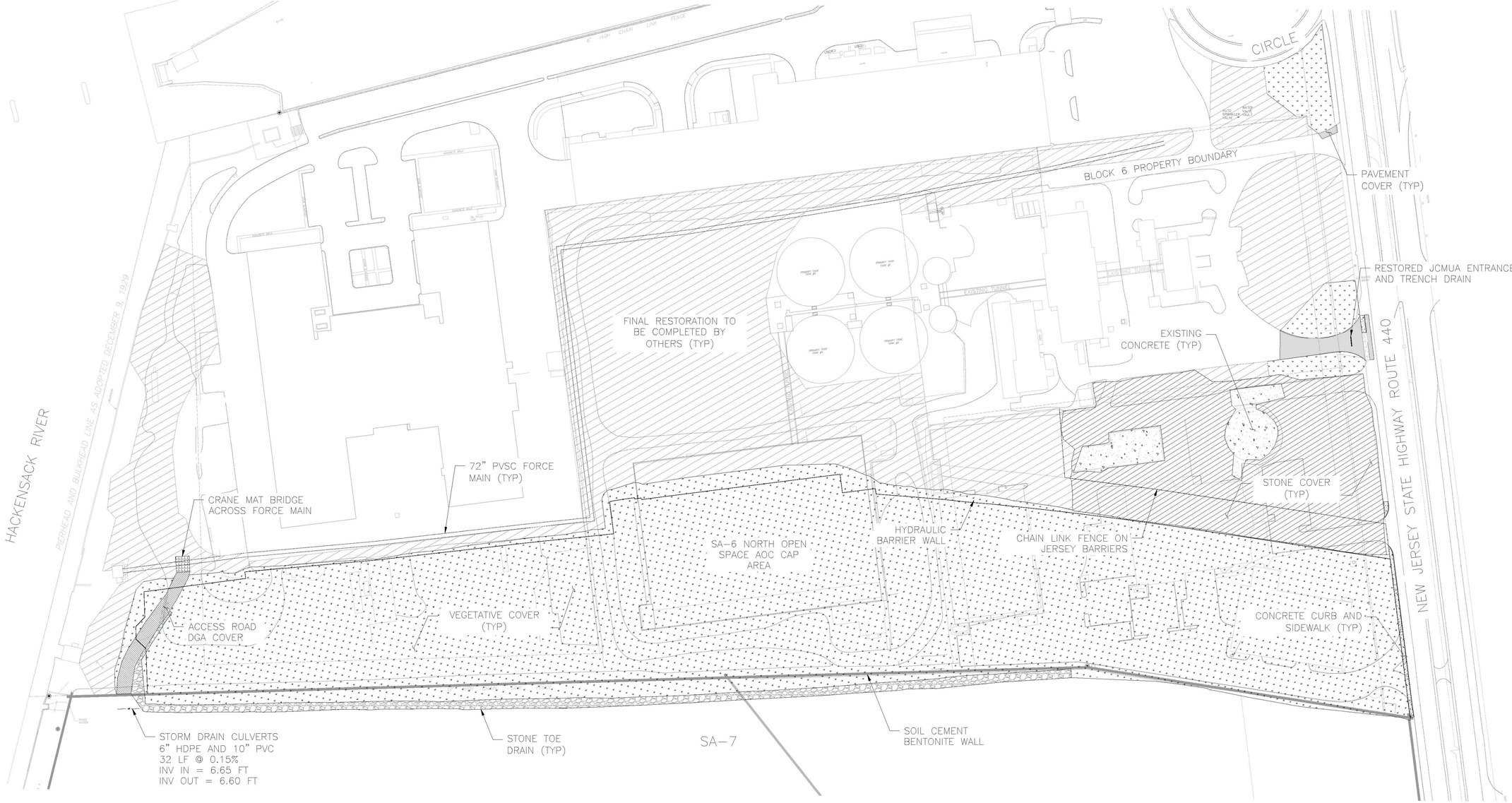
ATTACHMENT N-4
SA-6 NORTH AND SOUTH RESTORATION PLANS



NOTE:

1. REFER TO CONSTRUCTION CONTROL GRID FIGURE AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE WITHIN THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL. THE VEGETATED SLOPE ALONG SA-7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. REMAINING RESTORATION AREAS IDENTIFIED ON THE CHROMIUM REMEDY 100% DESIGN DRAWINGS WILL BE ADDRESSED AS PART OF THE NON CHROMIUM REMEDIATION WORK CURRENTLY BEING COMPLETED. FINAL RESTORATION OF ALL AREAS IS SCHEDULED TO BE COMPLETE IN MARCH 2017.

STONE COVER
DGA COVER
VEGETATED COVER
RESTORATION BY OTHERS
PAVEMENT COVER
STONE TOE DRAIN
CONCRETE COVER
SD — STORM DRAIN PIPE

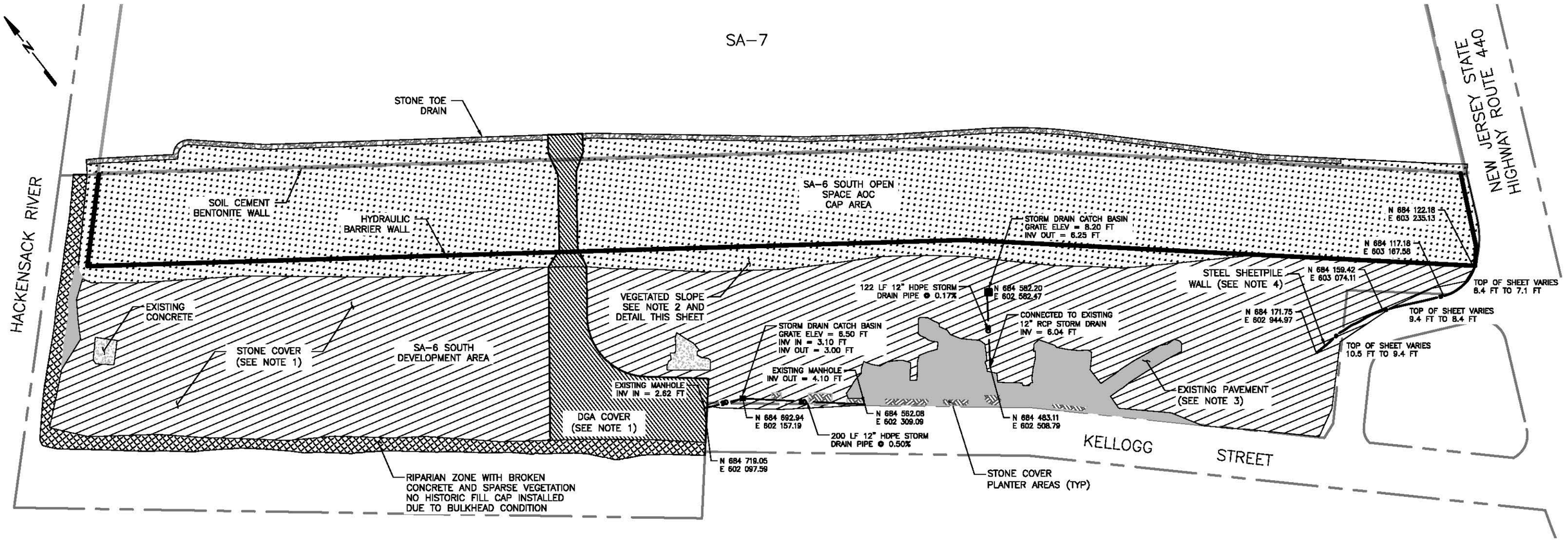
0 80 160 FEET
SCALE

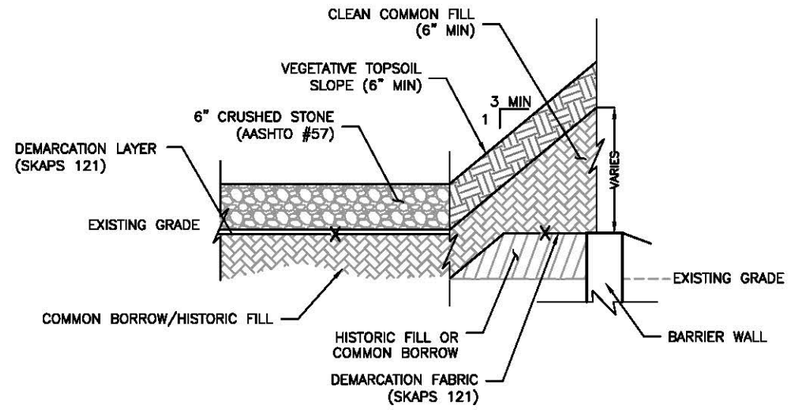
REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	1/7/17	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
AS BUILT RESTORATION PLAN
SA-6 NORTH – SHEET 001
1/6/17

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ





NOTE: NO HISTORIC FILL SHALL BE PLACED ON SA–7

TYPICAL VEGETATED SLOPE
NTS

NOTE:

1. REFER TO FIGURE 2 FOR CONSTRUCTION CONTROL GRID AND ATTACHED TABLES FOR SURVEY DOCUMENTATION OF 6 INCH GRAVEL HISTORIC FILL CAP INSTALLATION.
2. OPEN SPACE CAP AREA WITHIN LIMITS OF THE BARRIER WALLS IS COVERED WITH CLEAN IMPORTED SOILS TO THE DEPTHS IDENTIFIED IN THE DESIGN. THE VEGETATED SLOPE ON THE DEVELOPMENT AREA IS COVERED WITH A MINIMUM OF 12 INCHES OF CLEAN IMPORTED FILL AS SHOWN ON THE TYPICAL VEGETATED SLOPE DETAIL. THE VEGETATED SLOPE ALONG SA–7 WAS CONSTRUCTED ENTIRELY FROM CLEAN IMPORTED FILL.
3. EXISTING PAVEMENT WAS FIELD INSPECTED BY LSRP AND SUBJECT TO MINOR CRACK FILLING TO SATISFY HISTORIC FILL CAP REQUIREMENTS.
4. STEEL SHEETPILE WALL WAS INSTALLED AS EXCAVATION SUPPORT ALONG THIS AREA AND THEN CUT BELOW CURRENT GRADE AND LEFT IN PLACE. THE TOP OF SHEETPILE IS GENERALLY 0.5 TO 2.0 FT BELOW CURRENT GRADES.

STONE COVER
VEGETATED COVER
PAVEMENT COVER
CONCRETE COVER
STONE COVER IN PLANTER AREAS
RIPARIAN ZONE
DGA COVER
STONE TOE DRAIN
STEEL SHEETPILE WALL
STORM DRAIN PIPE
STORM DRAIN CATCH BASIN

0 80 160 FEET
SCALE

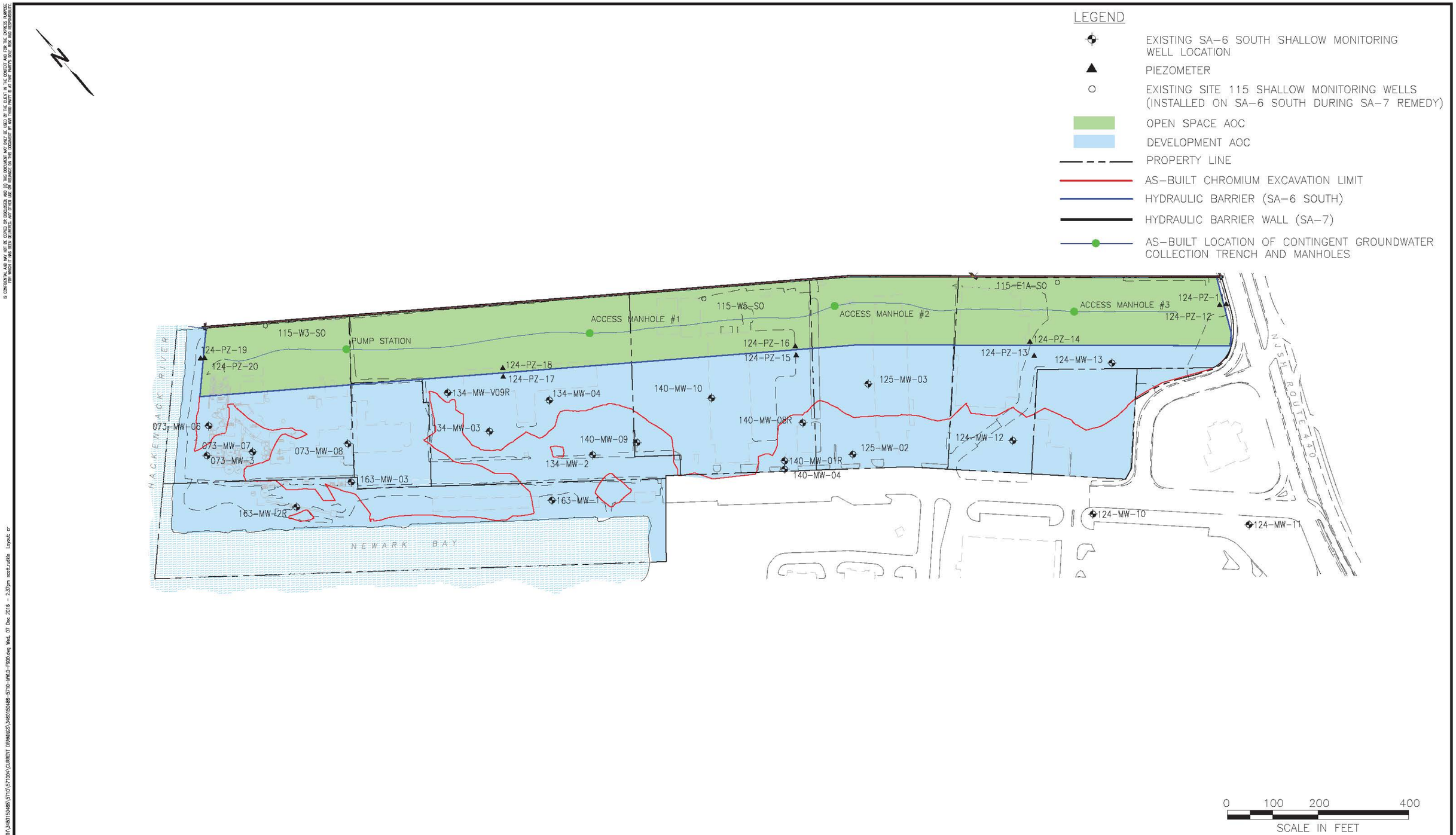
REV	DATE	BY	CHKD	APVD	DESCRIPTION
0	12/12/16	EJP	AE	AE	AS BUILT RESTORATION PLAN

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME: AS BUILT RESTORATION PLAN SA–6 SOUTH – SHEET 001 12/12/16

PROJECT NAME & LOCATION: HONEYWELL SA–6 REMEDIATION JERSEY CITY, NJ

ATTACHMENT O
SA-6 SOUTH DEVELOPMENT AREA MONITORING WELL LOCATIONS



SOURCE:
BASEMAP TOPOGRAPHIC SURVEY COMPLETED BY MASER CONSULTING, P.A. 331 NEWMAN SPRINGS ROAD, SUITE 203, RED BANK, NEW JERSEY.
JOB NO. 10000292A, DATED DECEMBER 17, 2010.

REV.	DATE	STATUS	PRPD BY	CHKD BY

Amec Foster Wheeler PROJECT No. 3480150488
DRAWING: 3480150488-5710-MWLO-F900

PREPARED/DATE: STR 07/08/16

CHECKED/DATE: DEN 07/08/16

amec foster wheeler
ENVIRONMENT & INFRASTRUCTURE. Inc.
200 AMERICAN METRO BLVD, SUITE 113
HAMILTON, NEW JERSEY 08619

FIGURE 10
MONITORING WELL LOCATIONS
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

ATTACHMENT P
DESIGN CHANGES
PART 1

SA-6 North/South Field Change Log				
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**
2	**DC 2013-8-14 (HB Wall)**	Modifications to the Barrier Wall alignment and Surcharge Program to address concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of 72 inch force main. Design drawings have been modified and design calculations revised in support of the required modifications to subgrade/liner grading and final grades.	Submitted to all Parties on September 12, 2013.	North
7.2	**DC 2014-11-20**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2014-11-20 includes the french drain installation, electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016.	North
7.22	**DC 2016-6-6**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2016-6-10 includes the revised electrical supply and discharge piping for SA-6 North.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-6-10 to DC 2016-6-6 to reflect actual date on Design Change form).	North
7.3	**DC 2015-2-12**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-2-24 is a follow up to DC 2014-6-10, the SA-6 South CGWES trench design. DC 2015-2-24 includes details for electrical supply and discharge piping.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South
7.4	**DC 2015-9-03**	AmecFW documented the SA-6 Contingent Groundwater system change to a trench system. The design will be released to Entact in stages to facilitate constructability. DC 2015-9-03 is a follow up to DC 2015-2-24, the SA-6 South CGWES electrical supply. DC 2015-9-03 provides a revised electrical plan.	Submitted to Parties as Attachment to Declaration 002 response memo on July 19, 2016	South
7.4.2	**DC 2016-12-20**	This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.	Included as an attachment to Declaration 005.	SA-6 North & SA-6 South
10	**DC 2014-5-19**	Defer removal of concrete/asphalt berm, demolition of subsurface concrete, and excavation to design elevations in the SA-6 South excavation area adjacent the bulkhead.	Submitted to all Parties on May 19, 2014.	South
11	**DC 2014-7-28**	Update the list of monitoring wells to be abandoned / retained.	Submitted to all Parties on August 26, 2014.	SA-6 North & SA-6 South
18	**DC 2014-12-23**	During shallow excavation along the cove on Site 163, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. The structures will be left in place and remediation will be completed with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed. The total volume of the three isolated areas left in place is estimated to be 35 cubic yards.	Submitted to all Parties on January 28, 2015.	South
23	**DC 2015-04-30**	A concrete protuberance was encountered 12-13 feet below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched to clear the concrete, then lowered to design depth.	Submitted to Contractor only as clarification or response to RFI.	North
29	**DC 2015-06-05**	Amec Foster Wheeler reviewed the piezometer locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.	Submitted to Parties on August 27, 2015.	South
30	**DC 2015-11-12**	Amec Foster Wheeler has provided Final Cap Grades (in CAD) to Entact. Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.	Included as an attachment to Declaration 005.	South
30.1	**DC 2016-04-15**	Amec Foster Wheeler has provided final restoration grades for SA-6 South Development Area. The DCB also includes the final cover types in revised Drawing C-128.	Included as an attachment to Declaration 005.	South
30.2	**September 2016-South**	The design change documents revisions to the final grading and SESCP drawings on the SA-6 South Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage. In addition, the extent of demarcation fabric, crushed stone and DGA placed over the Development Area was increased to meet historic fill regulations. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	South
33	**DC 2015-06-18 (North)**	Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72- inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil, dated February 19, 2013.	Submitted to all Parties on 6/22/15.	North
46	**DC 2015-9-17**	Extensive searching of available soil suppliers (including 6 specifically identified as potential sources/vendors by Dr. Grabosky) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	Submitted to Parties on September 23, 2015.	SA-6 North & SA-6 South

SA-6 North/South Field Change Log				
AmecFW ID	**Changed Item Identifier**	**Description of Change**	**Comments**	**Site**
48	**DC 2015-09-28**	Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling.	Submitted to Parties on October 1, 2015.	South
50	**DC 2015-10-02**	As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.	Submitted to Parties on October 8, 2015.	SA-6 North & SA-6 South
51	**DC 2015-10-22**	Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D. In lieu of removing sheetpile, the western side was relocated approximately 6 ft. further west. This will result in an expansion of the repair plan area from approximately 14,000 SF to approximately 14,500 SF. This change has no impact of the functionality of the chromium remedy or on the future site development.	Submitted to Contractor only as clarification or response to RFI.	North
54	**DC 2016-02-02**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design.	Submitted to Parties as Attachment to Declaration 004. (Design Change ID changed from DC 2016-02-03 to DC 2016-02-02 to reflect actual date on Design Change form).	North
54.1	**DC 2016-02-22**	AmecFW revised the SA-6 North cap subgrade in a single localized area in order to accommodate Entact's request to relocate Pump Station #1 (RFI 64). The subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location. In addition, for grading purposes, any hydraulic barrier sheets within the Sedimentation Basin that have sections below elevation 12.0 will be trimmed to a uniform elevation of 11.5.	Submitted to Parties as Attachment to Declaration 004.	North
54.2	**DC 2016-02-25**	This DCB has been issued to provide Entact with the latest SA-6 North HB Wall and SCB wall plan and profile drawings (SN-201 thru SN-205), which were modified to reflect changes made in DC 2016-02-22.	Submitted to Parties as Attachment to Declaration 004.	North
54.3	**DC 2016-5-11**	The interim grade in the SA-6 North landscape area has been raised by a nominal amount of 0.25' (no changes were made to the roadway grades). The difference between the adjusted Geomembrane Subgrade surface and Interim Grade surface has been verified to meet the minimum and average requirements of the SA-6 North Consent Decree and the 100% Design. As part of DC 2016-5-11, AmecFW issued SA-6 North Interim Grades to Entact.	Submitted to Parties as Attachment to Declaration 004.	North
54.4	**DC 2016-5-20**	After further review, AmecFW lowered the geomembrane Pump Station #1 on the SA-6 North cap in order to provide additional separation between the geomembrane and the bottom of the vault. (Refer to DC 2016-02-22).	Submitted to Parties on June 15, 2016.	North
54.5	**DC 2016-7-14**	Design change documenting minor field changes needed to achieve positive drainage in the cap area.	Included as an attachment to November 2016 monthly progress report and included in the finalized Declaration 004.	North
54.6	**September 2016-North**	The design change documents revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. Minor grading changes were performed in the field to improve surface drainage pending redevelopment. SESCP changes included installation of crushed stone toe drain along SA-7, installation of erosion mat, installation of supplemental diversion berms, and installation of stone check dams.	Included as an attachment to Declaration 005.	North
55	**DC 2016-05-03**	The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than the USCS classification system.	Submitted to Contractor only as clarification or response to RFI.	SA-6 North & SA-6 South
57	**DC 2016-03-21**	Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the parties, as documented in the attached emails. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DC 2015-09-17.	Submitted to Parties on March 22, 2016.	SA-6 North & SA-6 South
58	**DC 2016-05-06**	To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor. The road will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade"	Submitted to Parties on June 30, 2016.	South
59	**DC 2016-04-20**	This DCB documents the approved sources of Horizon B and Horizon C materials, as agreed to by all parties on the Special Master All-Hands monthly call on April 19, 2016.	Submitted to Parties on April 21, 2016.	SA-6 North & SA-6 South
61	**DC 2016-11-09**	The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy.	Included as an attachment to Declaration 005.	North

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 002 Major (a)(b) Effective Date: 8/14/13
Project Location: SA-6 NORTH	Associated RFI:
Title: Hydraulic Barrier/Surcharge Relocation adjacent to 72 inch FM SA-6 North	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

Description of Change/Modification:

The Barrier Wall alignment and Surcharge Program from Station 14+50 to Station 22+13 has been modified to address the concerns of NJDEP/PVSC/JCMUA and Honeywell regarding protection of the 72 inch forcemain. The relocation also impacts subgrade/liner grading and final grades for the Chromium Remedy. Design Drawings have to be modified and design calculations revised in support of the design modification. The Surcharge Monitoring Plan has also been amended and acoustical monitoring will be installed by PVSC.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to barrier wall relocation in conjunction with 72-in FM protection. Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Major DCB anticipated, requires review and approval by third parties.	Design Documents Affected: Drawings – 8-11,13-15, 20,29, 31-35, 45-53, 54, 55, 56, 58, 59

Honeywell (AP) Review:

Individual	Discipline	Initial	Date

(Name / Signature):
Samuel G Shallard

Does DCB Result in CCO? ☐ Yes Yes (b) ☑ No
Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN			
Sheet #	**Drawing #**	**Drawing Title**	**Comments**
14	CN-109	Cap Area Surcharge Grading Plan Area 1N	Drawings Revised due to Hydraulic Barrier realignment
29	CN-124	Geomembrane Grading Plan	Drawings Revised due to Hydraulic Barrier realignment
31	CN-126	Interim Grading, Drainage, and Soil Erosion Sediment Control Plan	Drawings Revised due to Hydraulic Barrier realignment
51	CN-515	Utility Corridor Locations	Drawings Revised due to Hydraulic Barrier realignment
55	SN-202	Hydraulic Barrier Plan and Profile	Drawings Revised due to Hydraulic Barrier realignment
56	SN-203	Hydraulic Barrier Plan and Profile	Drawings Revised due to Hydraulic Barrier realignment
59	SN-206	72 Inch Force Main Protection Plan and Details	Drawings Revised due to Hydraulic Barrier realignment
8	C-103	Existing Conditions Plan	Drawings with incidental line work changes
9	C-104	General Remedy Plan	Drawings with incidental line work changes
10	C-105	Subgrade Demolition Plan	Drawings with incidental line work changes
11	C-106	Civil Traffic Control and Decontamination Plan	Drawings with incidental line work changes
13	C-108	Civil Cap Area Surcharge Grading Plan Area 1S	Drawings with incidental line work changes
15	C-110	Civil Cap Area Surcharge Grading Plan Area 3S	Drawings with incidental line work changes
20	C-115	Civil Chromium Excavation Interval 4	Drawings with incidental line work changes

32	C-127	Civil Remediation Final Grading, Drainage, and Soil Erosion Sediment Control Plan	Drawings with incidental line work changes
33	C-128	Civil Restoration Plan	Drawings with incidental line work changes
34	C-201	Civil Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
35	C-202	Civil Contingent Groundwater Extraction System Plan and Profile	Drawings with incidental line work changes
45	C-309	Miscellaneous Details	Drawings with incidental line work changes
46	C-501	Cap Cross Section Plan	Drawings with incidental line work changes
47	C-502	Cap Cross Sections	Drawings with incidental line work changes
48	C-503	Cap Cross Sections	Drawings with incidental line work changes
49	C-504	Cap Cross Sections	Drawings with incidental line work changes
50	C-505	Cap Profile	Drawings with incidental line work changes
52	C-517	Structural Fill Under Roadways	Drawings with incidental line work changes
53	S-201	Hydraulic Barrier Plan and Profile	Drawings with incidental line work changes
54	S-202	Hydraulic Barrier Plan and Profile	Drawings with incidental line work changes
58	S-206	Existing SA-7 SCB Wall Plan and Profile	Drawings with incidental line work changes
62	S-504	Temporary Support of Excavation Plans	Drawings with incidental line work changes

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB No.: 011, Minor(a)** **Effective Date: 7/28/14**
Project Location: SA-6 North & South	**Associated RFI:** ☐ Yes, RFI No. _____ ☒ None
Title: Revised Monitoring Well Abandonment Plan Tables	**Project No.: 3480130377**
Contractor (*Subcontractor*): ENTACT	

Description of Change/Modification:

Revised tables of wells to be abandoned and retained are provided. The designation (abandon/retain) of several wells has been modified to accommodate the changing site conditions and future work at the site.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Clarify well abandonment requirements **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☐ Yes ☒ No **>$50K** ☐ Yes ☒ No **Schedule Impact** ☐ Yes ☒ No
Additional Comments:	**Design Documents Affected:** Appendix A-2, Monitoring Well Abandonment Plan Tables
Honeywell (AP) Review: **Individual: Geoff Shallard Discipline: EOR**	**Initial** GS **Date** 7/30/14
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☒ No **Date**

Distribution: Caroline Panico, ENTACT; Adam Ewert, ENTACT; Keith Goisse, ENTACT; Kurt Gimbel, ENTACT; Dennis Nagg, Amec; Stuart Bills, Amec; David Ambrose, Amec

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval.
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-EW-4 (aka 087-MW-142)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-5	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-6	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-EW-7	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-001	**Abandon**	S-3 Injection Program	Plaintiffs Requested Monitoring of this Well
		087-MW-101	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-102	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-103	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-104	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-105	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106 (aka 087-MW-121)	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-106	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-107	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-108	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-109	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-110	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-111	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-112	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-113	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-114	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-115	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-116	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-117	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-118	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-119	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-120	**Retain**	Non-Cr - JCDPW-1B UST AOC	Post remediation GW monitoring
		087-MW-121 (aka 087-MW-106)		See Above	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-MW-122	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-123	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-124	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-125	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-126	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-127	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-128	**Retain**	Non-Cr - JCDPW-1A/3A UST AOC	Monitoring for EAISB Program
		087-MW-129	**Retain**	Non-Cr - JCMUA-1A UST AOC	UST AOC Monitoring
		087-MW-140	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-141	**Retain**	Non-Cr - JCMUA-1A UST AOC	Monitoring for EAISB Program
		087-MW-142 (aka 087-EW-4)		See Above	
		087-MW-A26	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		087-MW-I30	Retain	None	
		087-MW-O19	Abandon	None	
		087-MW-O23	**Retain**	Non-Cr - CEA	Monitoring for CEA
		087-MW-O29	**Retain**	In-Situ	Monitoring GW for In-Situ Program
		087-MW-S19	Abandon (hold off)	None	
		087-MW-U28	Abandon	None	
		087-MW-W25	Abandon	None	
		087-MW-Y20	Abandon	None	
		ME-02 (aka 087-SB-410)	Abandon	Geotech - Methane Monitoring	
		ME-03 (aka 087-SB-409)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 087-SB-408)	Abandon	Geotech - Methane Monitoring	
		087-PZ-001	Abandon	None	
		087-PZ-003	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		087-PZ-005	Abandon	None	
	088	088-MW-001	**Retain***	Site-wide LTMP	Shallow GW level monitoring near Rt. 440 sewers
		088-MW-002	Abandon	None	
		088-MW-101	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-102	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-103	Abandon	Non-Cr - JCIA-1A UST AOC	Monitoring for EAISB Program
		088-MW-105	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-106	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-107	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-108	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-109	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-110	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-111	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-112	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-113	**Retain**	Non-Cr - JCIA-1B UST AOC	Post remediation GW monitoring
		088-MW-114	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-115	Abandon (hold off)	Non-Cr - JCIA-1A UST AOC	
		088-MW-G19	Abandon	None	
		ME-01 (aka 088-SB-306)	Abandon	Geotech - Methane Monitoring	
		088-PZ-001	Abandon	None	
		088-PZ-003	Abandon	None	
SA-6 South	73	073-MW-3	**Retain**	None	
		073-MW-4	Abandon	None	
		073-MW-5	Abandon	None	
		073-MW-BB11	Abandon	None	
		073-MW-Y10	Abandon	None	
		073-PZ-001	Abandon	None	
	124	124-MW-01	Abandon		

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		124-MW-02	Abandon	None	
		124-MW-07	Abandon		
		124-MW-09	Abandon		
		124-MW-10	**Retain**	None	Potential additional offsite GW monitoring
		124-MW-11	**Retain**	None	Potential additional offsite GW monitoring
		ME-01 (aka 124-SB-503)	Abandon	Geotech - Methane Monitoring	
	125	125-MW-01	Abandon	None	
		ME-02 (aka 125-SB-501)	Abandon	Geotech - Methane Monitoring	
		125-PZ-001	Abandon	None	
		125-PZ-003	Abandon	None	
	134	134-MW-01	Abandon		
		134-MW-02	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		134-MW-Q08	Abandon	None	
		134-MW-V09	**Retain**	Non-Cr - CEA	Quarterly source area monitoring for MNA
		ME-03 (aka 134-SB-503)	Abandon	Geotech - Methane Monitoring	
		ME-04 (aka 134-SB-504)	Abandon	Geotech - Methane Monitoring	
		134-PZ-001	Abandon	None	
		134-PZ-003	Abandon	None	
	140	140-MW-01	Abandon		
		140-MW-04	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-MW-06	Abandon	None	
		140-MW-07	Abandon	None	

* Retain if feasible, monitoring well is in excavation area.

TABLE 1a
PROPOSED SHALLOW ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
		140-MW-08	Retain	Non-Cr	In Non-Cr Former UST AOC Excavation
		140-MW-1R	**Retain**	Non-Cr - CEA	Monitor for previous owner's MNA/CEA program
		140-PZ-001	Abandon	None	
		140-MW-106	Abandon	None	
	163	163-MW-1	**Retain**	Non-Cr - CEA	Monitoring for CEA
		163-MW-CC8R	Abandon		
		163-MW-R05	Abandon	None	
		163-MW-2R	**Retain**	Non-Cr & Chromium	Quarterly monitoring of VOC plume fringe (See Table 1b)
		163-MW-Y6R	Abandon		

* Retain if feasible, monitoring well is in excavation area.

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
SA-6 North	115-W1-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W6-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E4-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E5-SO	Retain	SA-6 North LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6N-PZ1-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ1-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ2-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ3-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ4SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SI	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6N-PZ5-SO	New	SA-6 North LTMP	Monitor hydraulic gradients across hyd. Barrier
SA-6 South	115-E1-SO	Abandon	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-E1A-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W3-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	115-W5-SO	Retain	SA-6 South LTMP	Monitor hydraulic gradients across SA-7 SCB
	SA6S-PZ1-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ1-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ2-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ3-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ4SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier

* Retain if feasible, monitoring well is in excavation area.

TABLE 1b
PROPOSED SHALLOW ZONE WELLS
FOR POST-REMEDY INSTALLATION

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Well	New / Replace / Retain	Related Monitoring Program	Reason to Install
	SA6S-PZ5-SI	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-PZ5-SO	New	SA-6 South LTMP	Monitor hydraulic gradients across hyd. Barrier
	SA6S-MW-01	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-02	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-03	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-04	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-05	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-06	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-07	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-08	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-09	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-10	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	SA6S-MW-11	New	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC
	163-MW-2R (SA6S-MW-12)	Retain	SA-6S Development AOC LTMP	Monitor post remedy GW quality in Development AOC

* Retain if feasible, monitoring well is in excavation area.

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-13	**Retain**		
		087-MW-A26D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25D	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-O29D	**Retain**	S-3 Injection	Monitor S-3 Injection
		087-MW-O19D	**Retain***	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-35	Abandon	GWET LTMP	
		087-OBS-1D	**Retain**	GWET LTMP	
		087-OBS-1L	**Retain**	GWET LTMP	
		087-OBS-2D	**Retain**	GWET LTMP	
		087-OBS-3L	**Retain**	GWET LTMP	
		087-OBS-5D	**Retain**	GWET LTMP	
		087-OBS-6D	Abandon	GWET LTMP	
		087-PZ-002	Abandon	SA-6N Design Investigation	
		087-PZ-004	Abandon	SA-6N Design Investigation	
		087-PZ-006	Abandon	SA-6N Design Investigation	
	088	088-MW-15	**Retain**	GWET LTMP	Define regional flow direction quarterly
		088-PZ-002	Abandon	SA-6N Design Investigation	
		088-PZ-004	Abandon	SA-6N Design Investigation	
SA-6 South	73	073-PZ-002	Abandon	SA-6S Design Investigation	
	124	124-MW-102D	Abandon	Deep Overburden Invest.	
		124-MW-103D	Abandon	Deep Overburden Invest.	
		124-MW-104D	Abandon	Deep Overburden Invest.	
		124-MW-105D	Abandon	Deep Overburden Invest.	
		124-MW-GO2D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly
	125	125-PZ-002	Abandon	SA-6S Design Investigation	
		125-PZ-004	Abandon	SA-6S Design Investigation	
	134	134-PZ-002	**Retain**	SA-6S Design Investigation	Define regional flow direction quarterly
		134-PZ-004	Abandon	SA-6S Design Investigation	
	140	140-PZ-002	Abandon	SA-6S Design Investigation	
		140-MW-P05D	**Retain**	Deep Overburden Invest.	Define regional flow direction quarterly

TABLE 2
PROPOSED INTERMEDIATE ZONE WELLS
FOR ABANDONMENT / RETAINMENT

SA-7	115	115-E1-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E1-DO	Abandon	SA-7 Perimeter Pools	
		115-E2-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E2-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E3-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E4-DO	Abandon	SA-7 Perimeter Pools	
		115-E5-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E5-DO	Abandon	SA-7 Perimeter Pools	
		115-E6-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-E6-DO	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-17	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-20	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-A12T	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-E14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-MW-U14D	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W1-DO	Abandon	SA-7 Perimeter Pools	
		115-W4-DI	**Retain**	SA-7 Perimeter Pools	PP Monitoring
		115-W4-DO	Abandon		

*Optionally, to be re-located north of the open space area

TABLE 3
PROPOSED DEEP ZONE WELLS
FOR ABANDONMENT / RETAINMENT

Related

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-A26T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-MW-W25T	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		087-OBS-1T	**Retain**		
		087-OBS-4T	**Retain**	GWET LTMP	Monitor GWET drawdown
		087-OBS-5T	**Retain**		
		087-MW-01	**Retain**	GWET LTMP	Monitor S-3 Injection
		087-MW-02	**Retain**		
		087-MW-03	Abandon	None	
		087-MW-08	**Retain**		
		087-MW-34	**Retain**		
		087-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
	088	088-MW-G19T	**Retain**	S-3 Injection	Monitor S-3 Injection
		088-IW-01	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
		088-IW-02	**Retain**	S-3 Injection	Inject and monitor S-3 Injection
SA-6 South	124	124-MW-GO2T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-102T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-103L	Abandon	Plume Diversion	Collect In-situ groundwater sample prior to capping
		124-MW-104T	Abandon*	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-104L	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-105T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-106T	**Retain***	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-107T	Abandon	Plume Diversion	"L-Well" Monitoring Plan Sampling
		124-MW-06	Abandon	None	
SA-7	115	115-MW-04	**Retain**		
		115-MW-05	**Retain**		

		115-MW-21	**Retain**		
		115-MW-E14T	**Retain**		
		115-MW-U14T	**Retain**		
Offsite, South of SA-6 South	119	119-MW-01T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling
		119-MW-02T	**Retain**	Plume Diversion	"L-Well" Monitoring Plan Sampling

* Retain if feasible, monitoring well is in excavation area.
*Abandon: monitoring well could not be retained durnig excavation.

TABLE 4
PROPOSED BEDROCK WELLS
FOR ABANDONMENT / RETAINMENT

Added to list of wells to be abandoned
Removed from list of wells to be abandoned

Study Area	Site	Well	Abandon / Retain	Related Monitoring Program	Reason to Retain
SA-6 North	087	087-MW-O29T	Abandon	None	
		087-MW-I30T	Abandon	None	
		087-MW-14	Abandon	None	
SA-6 South	073	073-MW-1BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		073-MW-10BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	119	119-MW-16BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	124	124-MW-8BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-1	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		124-MW-17BR-2	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
	140	140-MW-9BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
SA-7	115	115-MW-208BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-211BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-215BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling
		115-MW-216BR	**Retain**	GWET LTMP	Annual GWET LTMP water quality sampling

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.2 Major Effective Date: 11/20/14
Project Location: SA-6 NORTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. ____ þ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification. DCB-007.2 provides the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. Section 10.3 of the Design Report stated "Honeywell reserves the right to propose alternative groundwater extraction designs capable of meeting the criteria stated in Article III.A (56) of the Consent Decree.

Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.2 is applicable to the SA-6N Groundwater Extraction System trench design.

The design was modeled by Cornerstone. The model results indicate that the design will achieve the required gradients. Figure 1, 2 and 3 from the model runs are attached for reference.

The changes impact the following drawings
The following Issued for Construction Drawings are deleted

- CN-201
- CN-202
- CN-203

These following drawings were added

Contingent Groundwater Extractions System Plan and Profile

- CN-201
- CN-202
- CN-203
- CN-204 (discharge force main and electrical)
- CN-310 (Groundwater Extraction Trench Details).

The changes from the well concept to the trench will also impact the Geomembrane Liner Grading CN-123 and CN-124. The Geomembrane liner changes will be issued separately.

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. Amec is currently evaluating data collection and transmission options for the piezometers. The piezometer designs will be issued in a separate DCB.

Reason for Change/Modification:	Explanation or Reason: Design changed based on information gathered during construction
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description

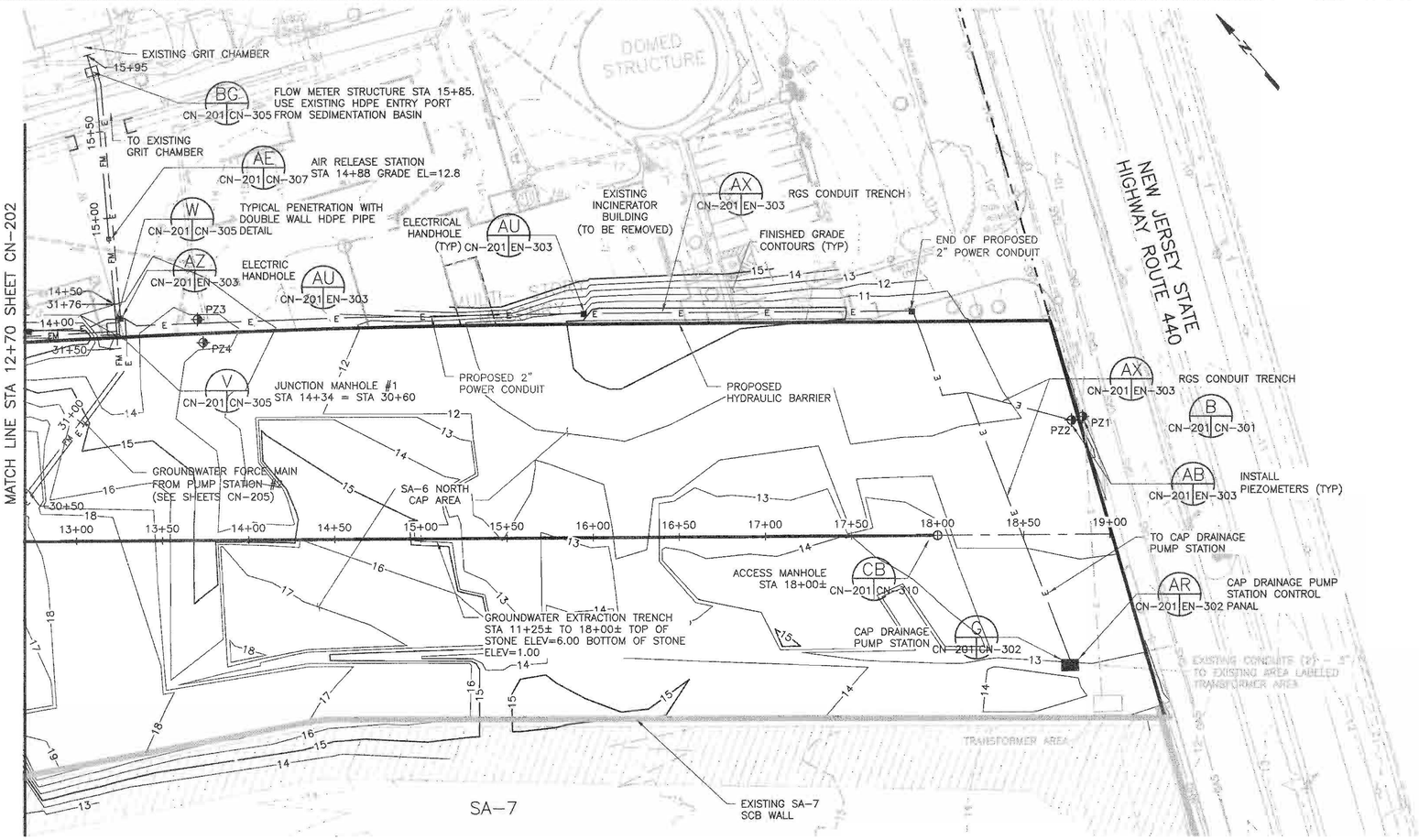
Honeywell (AP) Review:

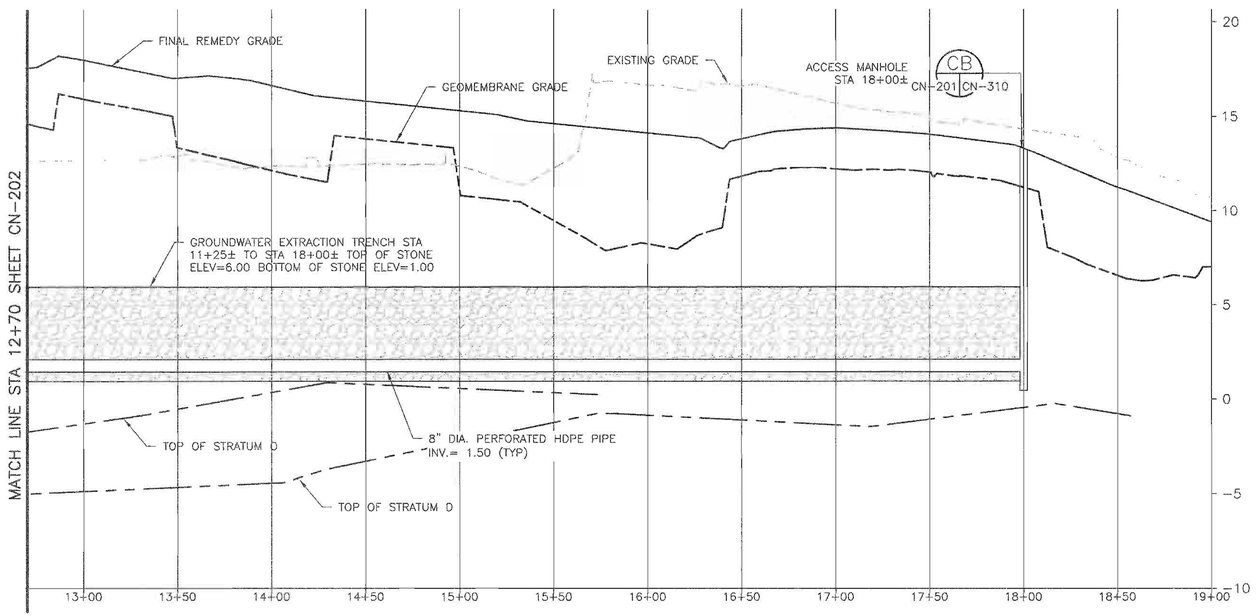
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No Date: 11/21/14

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
9. PIEZOMETRIC PAIRS MAY BE INSTALLED USING SOLAR PANELS FOR POWER AND CELL TOWER OR SATELLITE DATA TRANSMITTING. DESIGN OF PIEZOMETRIC PAIR WILL BE ISSUED UNDER SEPARATE COVER.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DSGN	DR	CHK	APVD
2	11/19/14	TDD	TDD	RJR	SGS
1	09/13/13	RJR	RJR	TDD	SGS
0	06/07/13	TDD	TDD	BY	APVD

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

SGS
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43597

Honeywell
101 COLUMBIA RD. BOX 2104, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28019000

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DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

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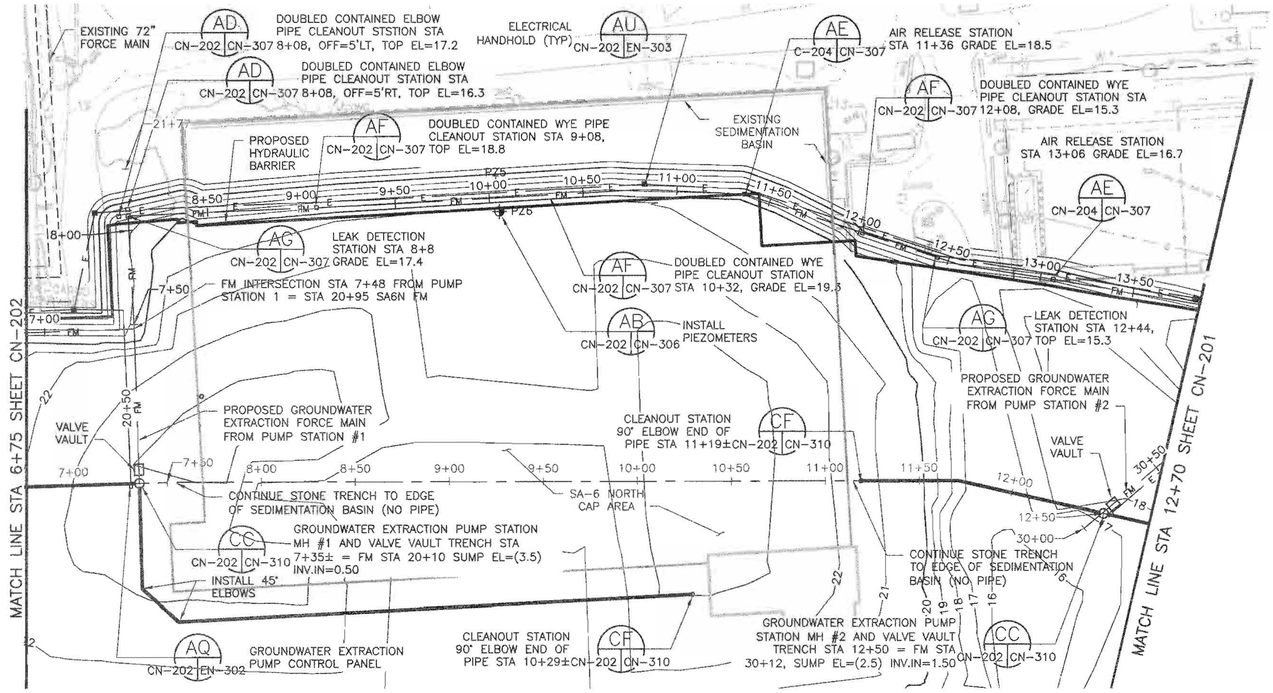
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont Pump Well Sections.dwg PLOT DATE: Wed, 19 Nov 2014 PLOT TIME: 2:55 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD

NO.	DATE	DSGN	DR	CHK	APVD
2	11/19/14	TDD	SGS		
1	09/13/13	RJR	SGS		
0	06/07/13	TDD	SGS		
		BY	APVD		

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION

TDD RJR SGS
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

Honeywell
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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

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PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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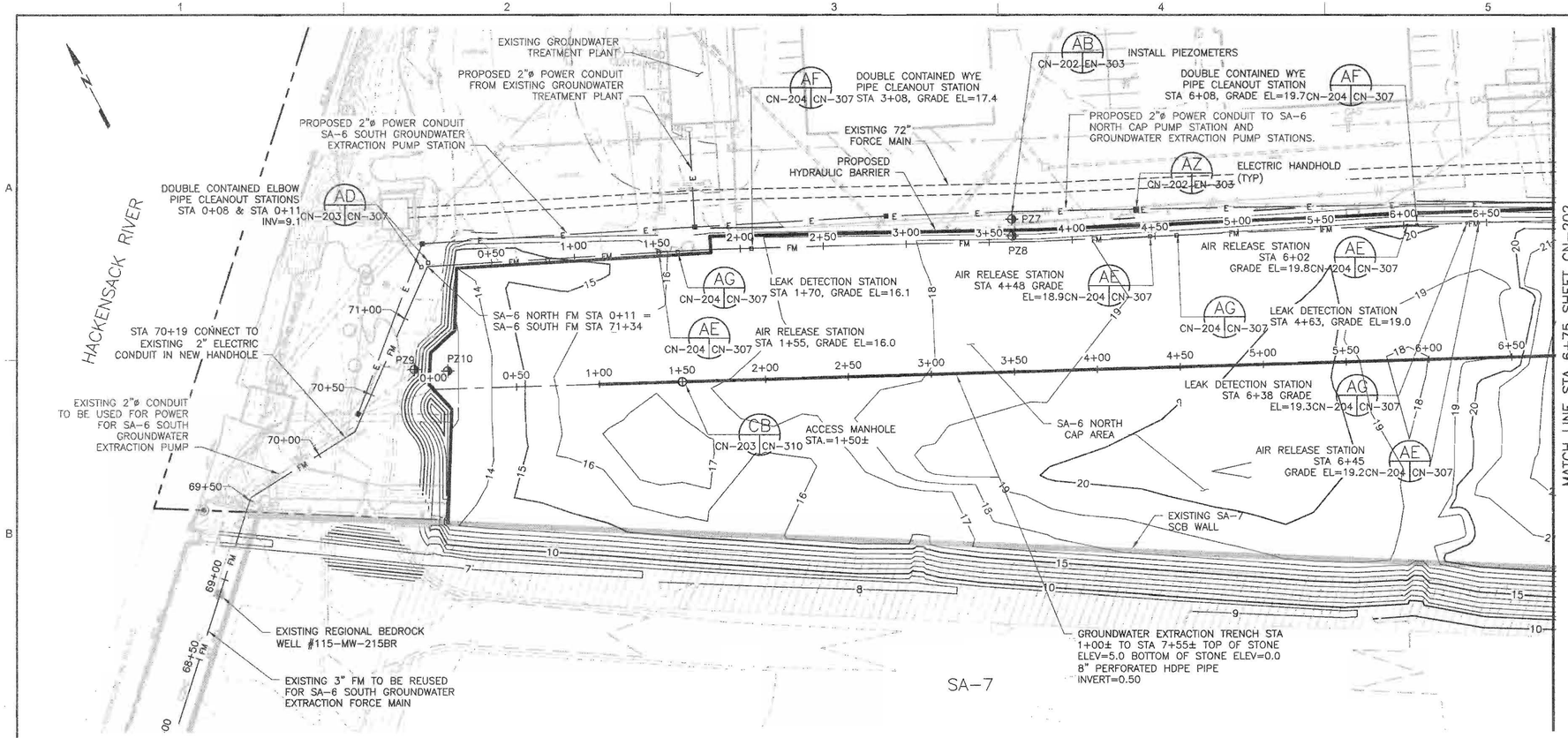
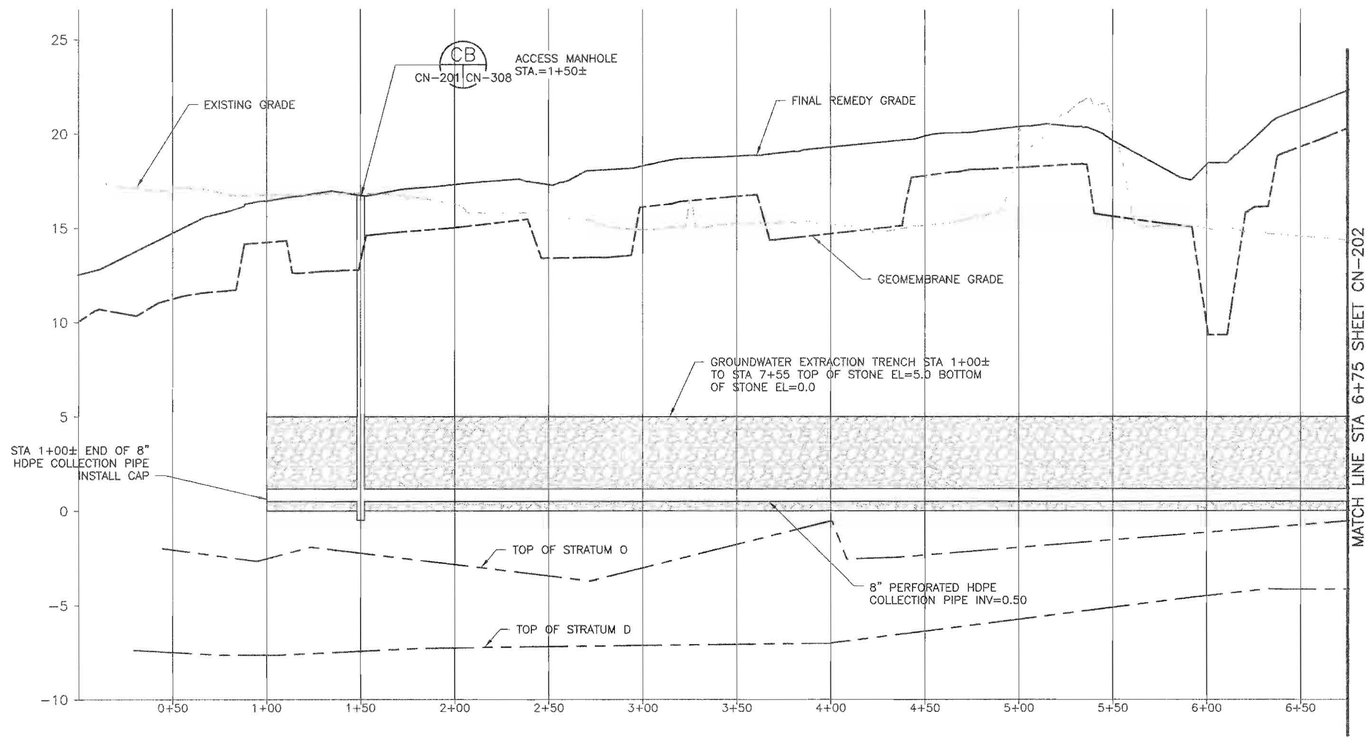
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR34-CN-202-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:15 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

NO	DATE	DSGN	DR	CHK	APVD
2	11/19/14	TDD	RJR	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM		RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD	SGS
		REVISION		BY	APVD

DCB 007.2

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43307

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
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200 American Metro Blvd, Suite 113
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(609) 689 - 2829
NJ Certificate of Authorization Number 24GA29010900

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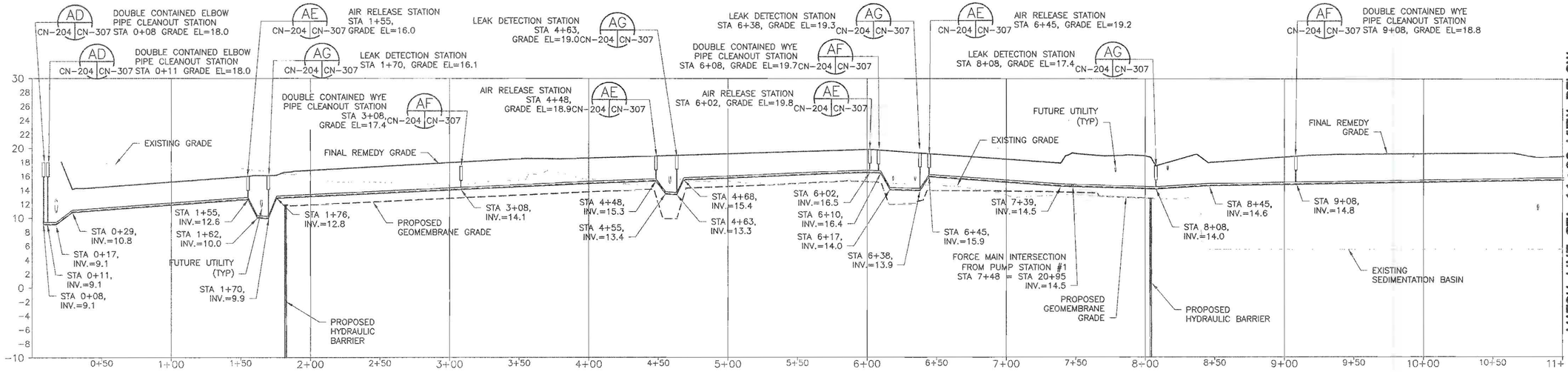
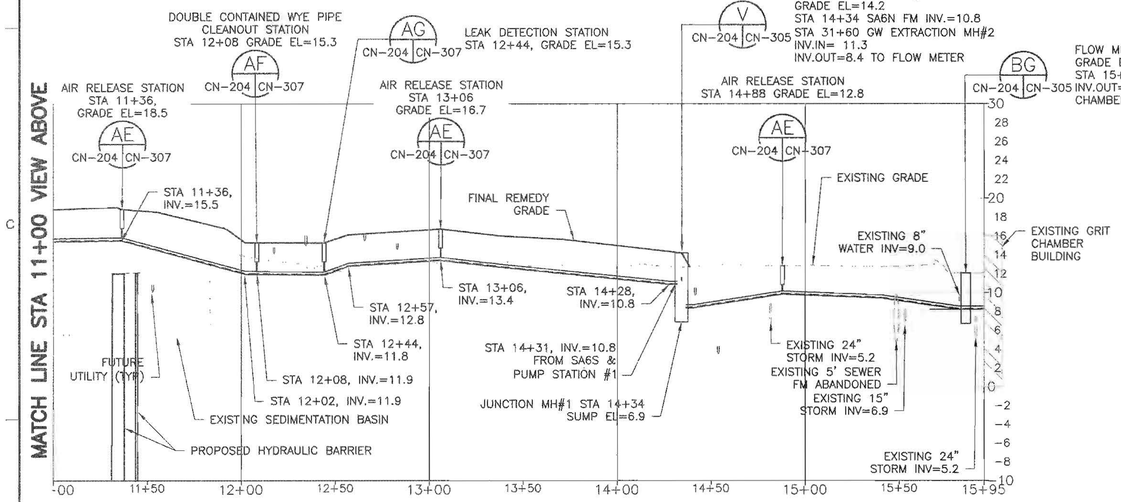
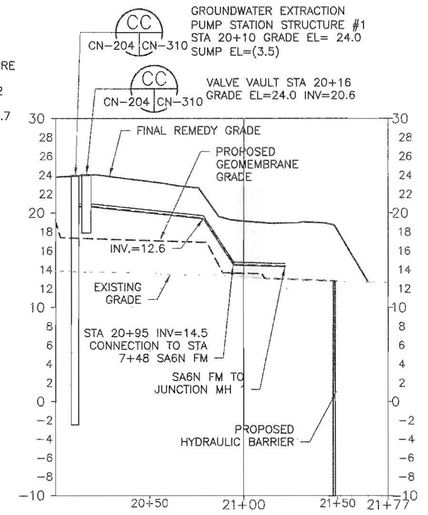
0 1"

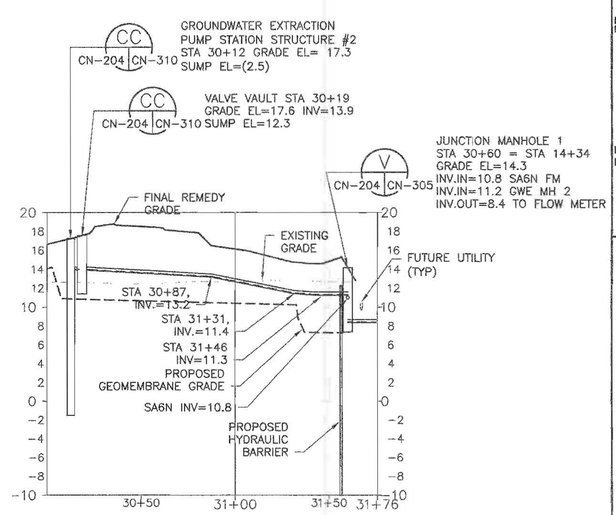
DATE	
PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR35-CN-203-Cont_GWE_Trench.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:16 PM









NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL. SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	11/19/14	TDD	SGS		
1	09/13/13	RJR	SGS		
0	06/07/13	TDD	SGS	BY	APVD

DCB 007.2
HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
ISSUED FOR CONSTRUCTION
REVISION
TDD RJR TDD SGS

Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 NORTH
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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

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PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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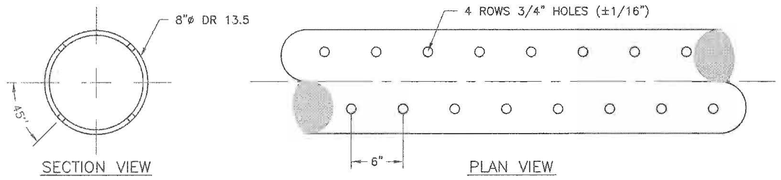
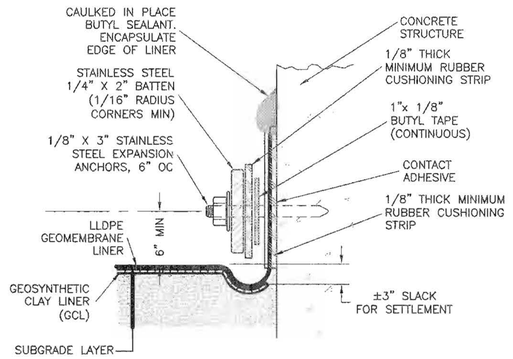


PIPE PERFORATIONS (CD)

NTS — TYP | CN-310

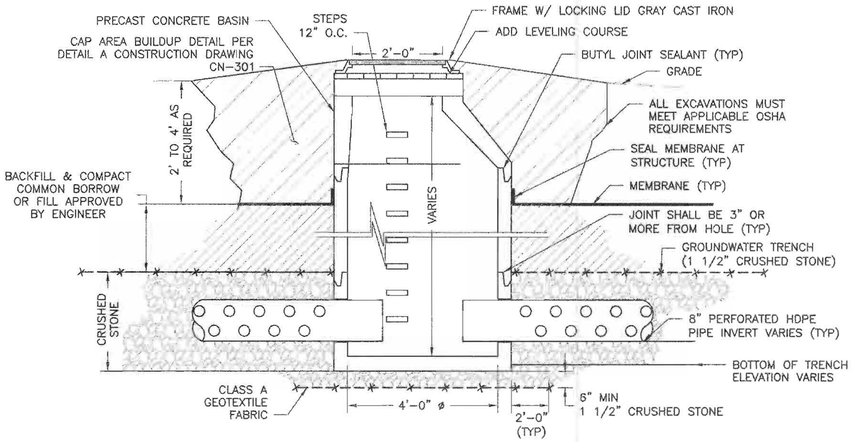
CONSTRUCTION SEQUENCE

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



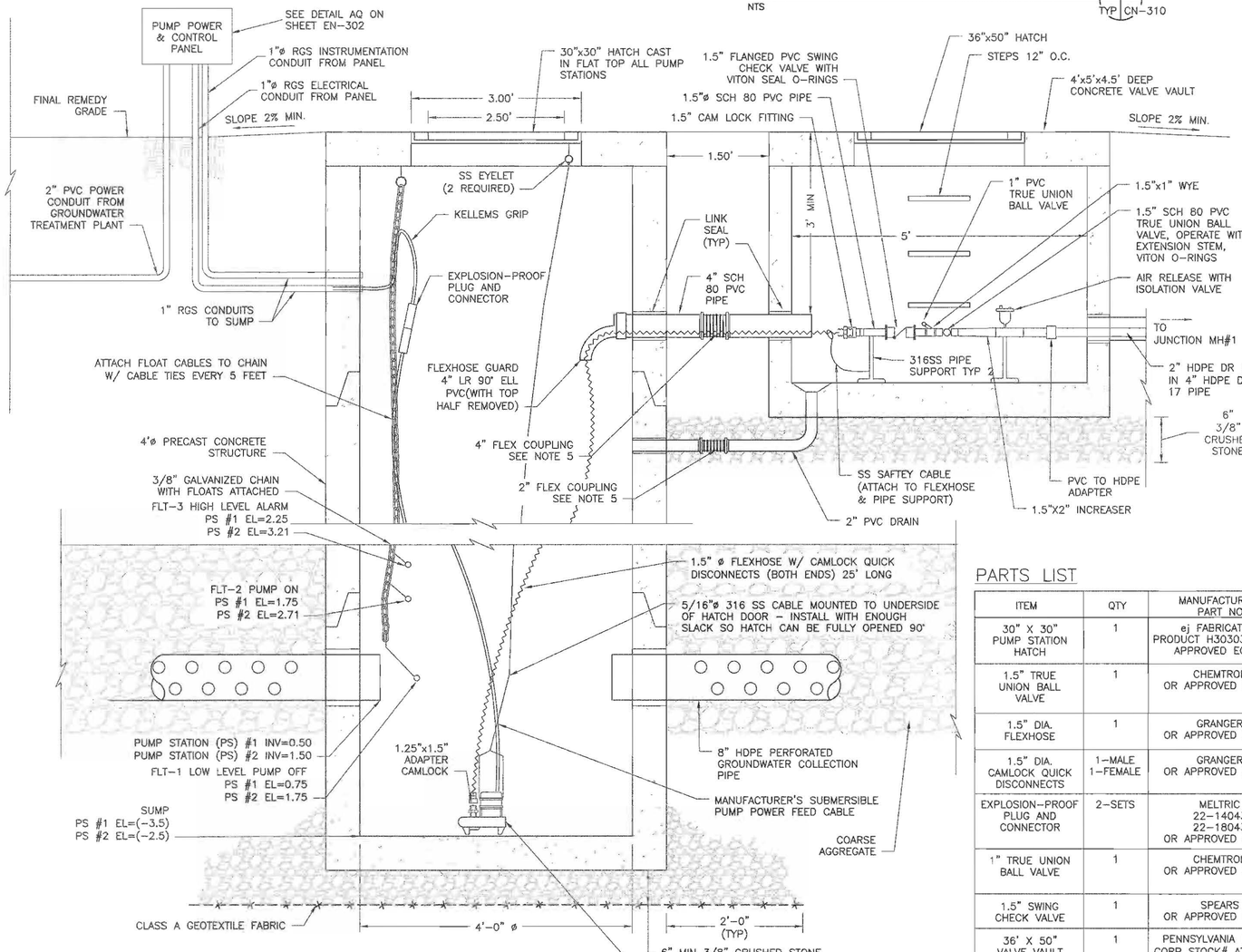
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

NTS — TYP | CN-310



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)

NTS STA=1+55±, AND STA=18+00± — CN-201 | CN-203 | CN-310

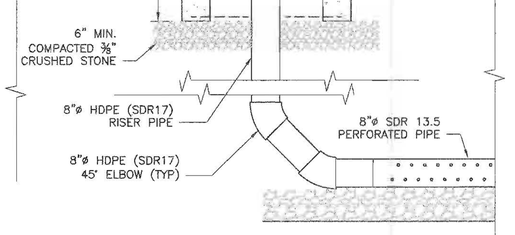


GROUNDWATER EXTRACTION PUMP STATION STA 7+35± & STA 12+50± (CC)

NTS — CN-202 | CN-203 | CN-310

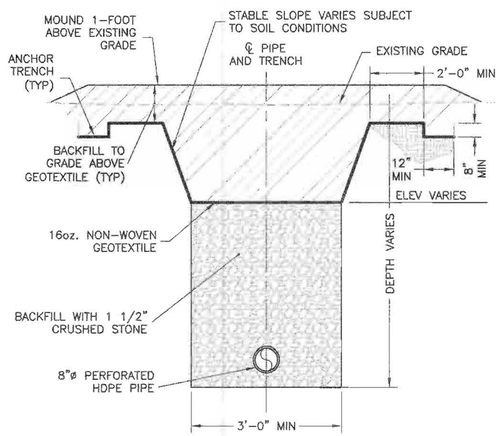
PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H303031911 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1–MALE 1–FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14 (GET FROM GRANGER)
EXPLOSION–PROOF PLUG AND CONNECTOR	2–SETS	MELTRIC 22–14043 22–18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423–015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON–LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS



ELBOW PIPE CLEANOUT (CF)

NTS — CN-202 | CN-310



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)

NTS — TYP | CN-310

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43667

NO.	DATE	DSGN	BY	APVD
2	11/19/14	TDD	SGS	SGS
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	DCB 007		RJR	TDD
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

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(609) 689 - 2829
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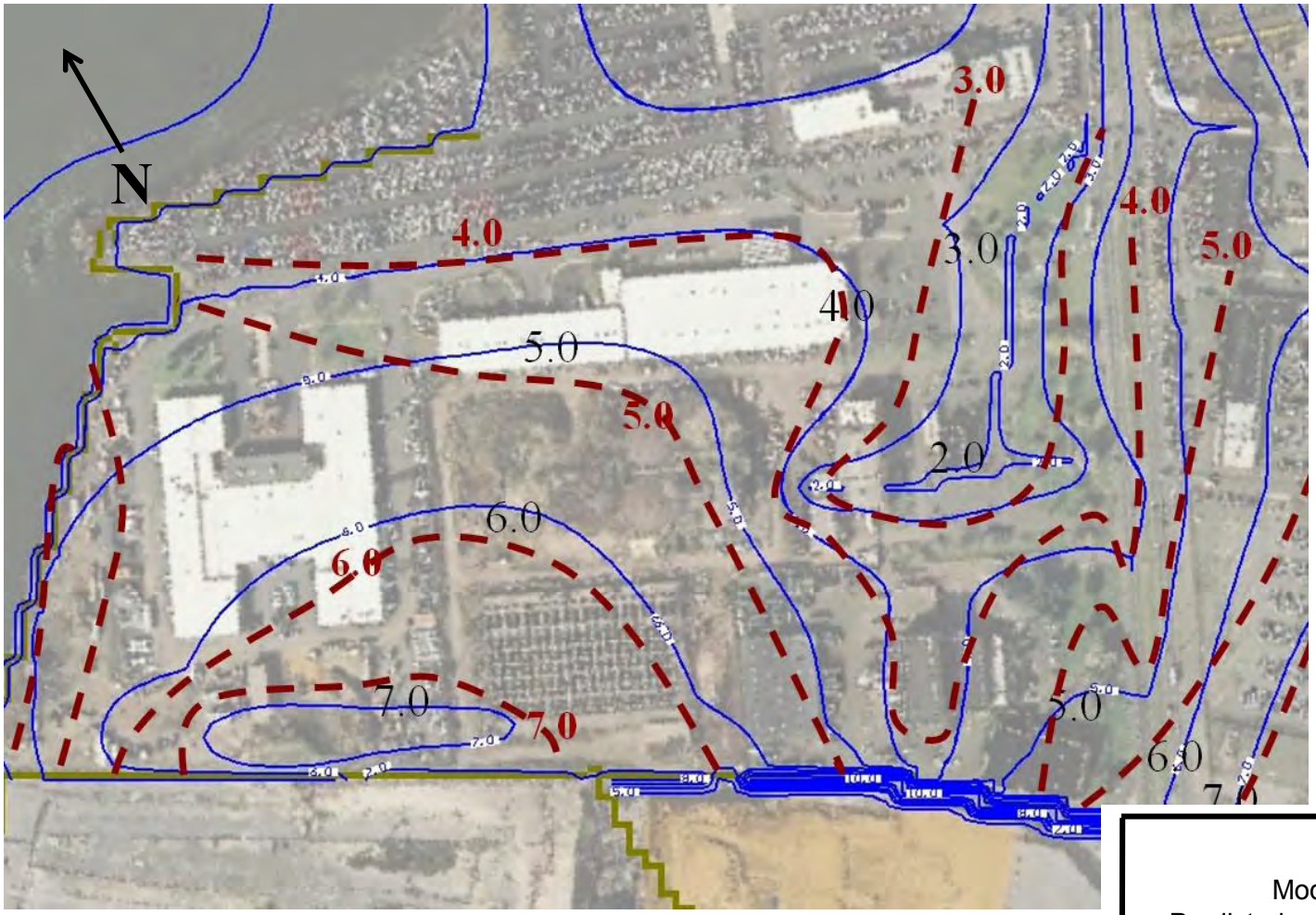
SHEET	45 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CADD\SA6-North-South-GW_Extraction_Trench\NCR45-CN-310 Extraction Trench Details.dwg PLOT DATE: Thu, 20 Nov 2014 PLOT TIME: 3:14 PM



LEGEND

5.0 Predicted Heads

5.0 Measured Heads

NTS

FIGURE 1

Model Calibration
Predicted versus Measured Heads
Model Layer 1 (Shallow Zone)

Study Area 6 North
Jersey City, NJ

cornerstone environmental

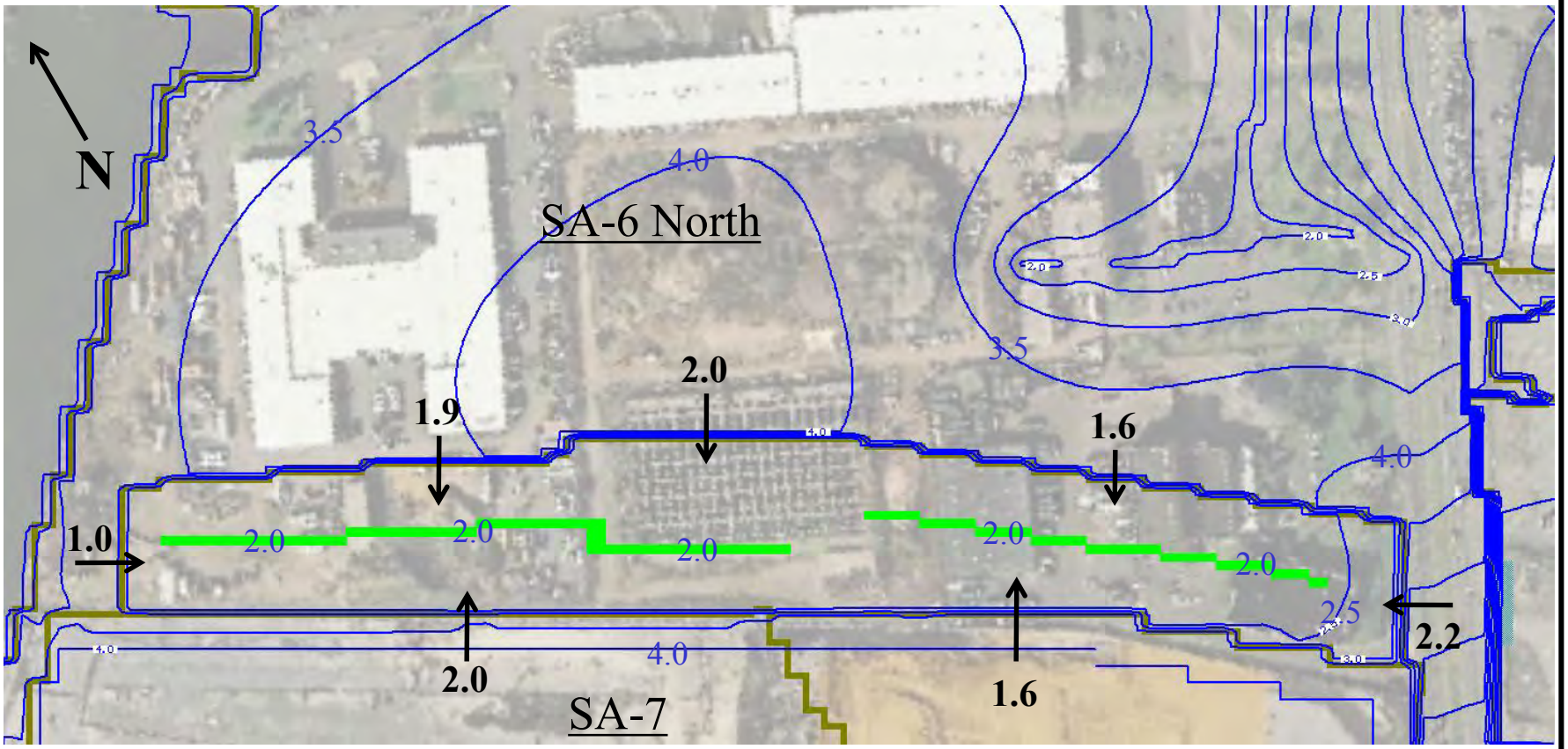
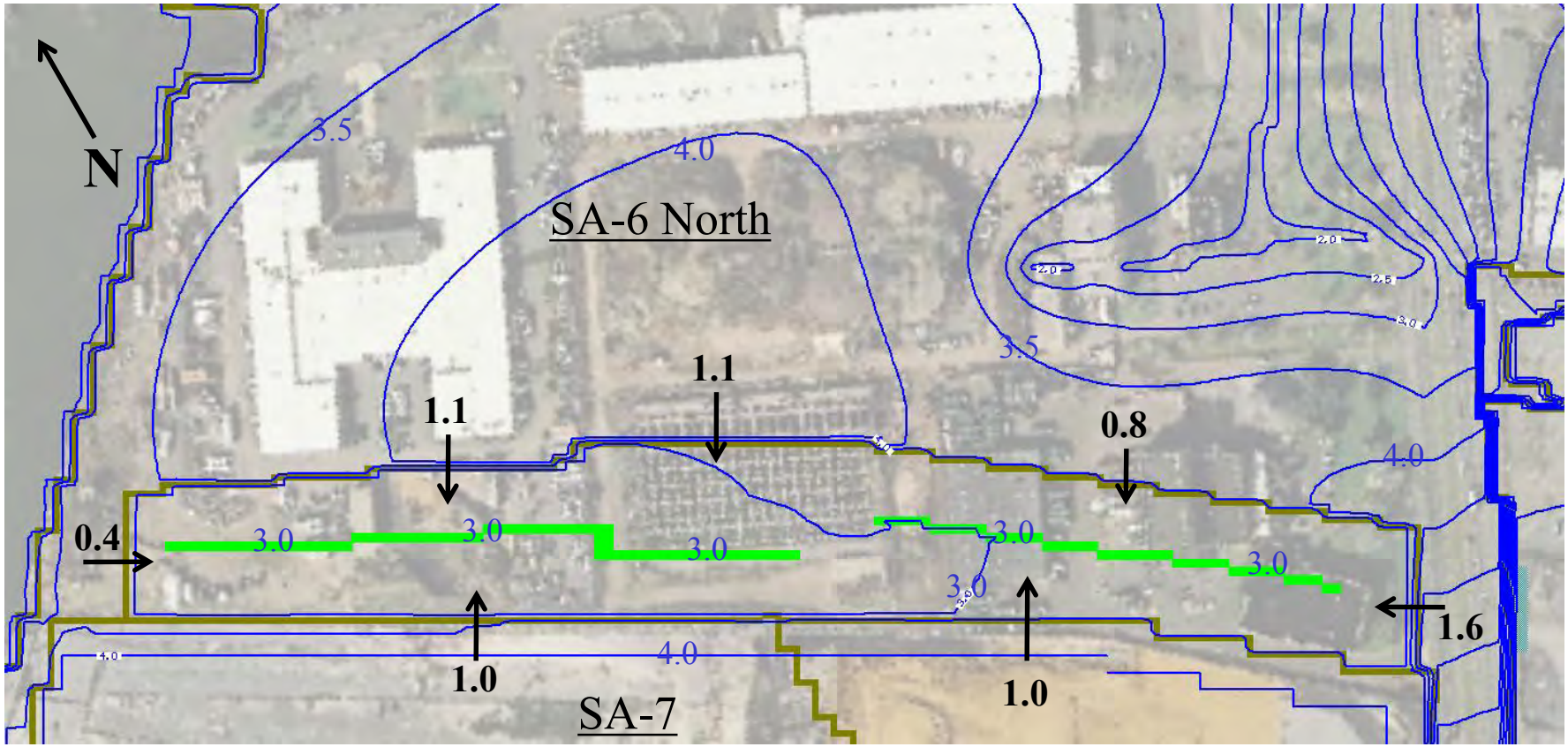


FIGURE 2

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +2.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental



LEGEND

Contingent Pumping System Drain Line

3.2 ← Head Diff. Across Wall

5.0 Predicted Heads

NTS

FIGURE 3

Post-development Predicted Heads
SA-7 Perimeter Pools Non-functioning
Head in Drain at +3.0'

Study Area 6 North
Jersey City, NJ

cornerstone environmental

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 007.3 Major (a) Effective Date: 02/12/15
Project Location: SA-6 SOUTH	Associated RFI:
Title: GW EXTRACTION SYSTEM	o Yes, RFI No. NA_ None
REPLACE WELLS WITH TRENCHES	Project No.: 3480130377
Contractor (Subcontractor): Entact	

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench had not been finalized.
DCB-007.2 provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.
DCB-007.3 provides the details for the SA-6S groundwater collection trenches and associated electrical supply and groundwater discharge piping.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.3 impacts the following drawings
The following Issued for Construction Drawings Extraction System that was based on 9 extraction wells are deleted

- C-201 Plan and Profile
- C-202 Plan and Profile
- C-203 Plan and Profile
- C-304 System Details

The following drawings for the Trench design were added.

- C-201 Trench Plan and Profile
- C-202 Trench Plan and Profile
- C-203 Trench Plan and Profile
- C-204 Discharge Force Main Plan and Profile)
- C-304 Details
- C-306 Details
- C-310 Details).

The changes from the well concept to the trench will also impact the Electrical Drawings. E-101, E-301, E-302 and E-303. The Electrical changes will be issued separately under DCB 007.4. It is noted that DCB 007.2 and DCB 007.3 does show the details for all pumps, motors and controls for the trench design.

The changes from the well concept to the trench will also impact the Geomembrane Liner Grading. The Geomembrane liner changes will be issued separately under DCB 007.5.

Note; piezometric pairs will be installed as shown on both SA-6N and SA-6S. The piezometers on north were previously shown as clouded/temporarily deferred.

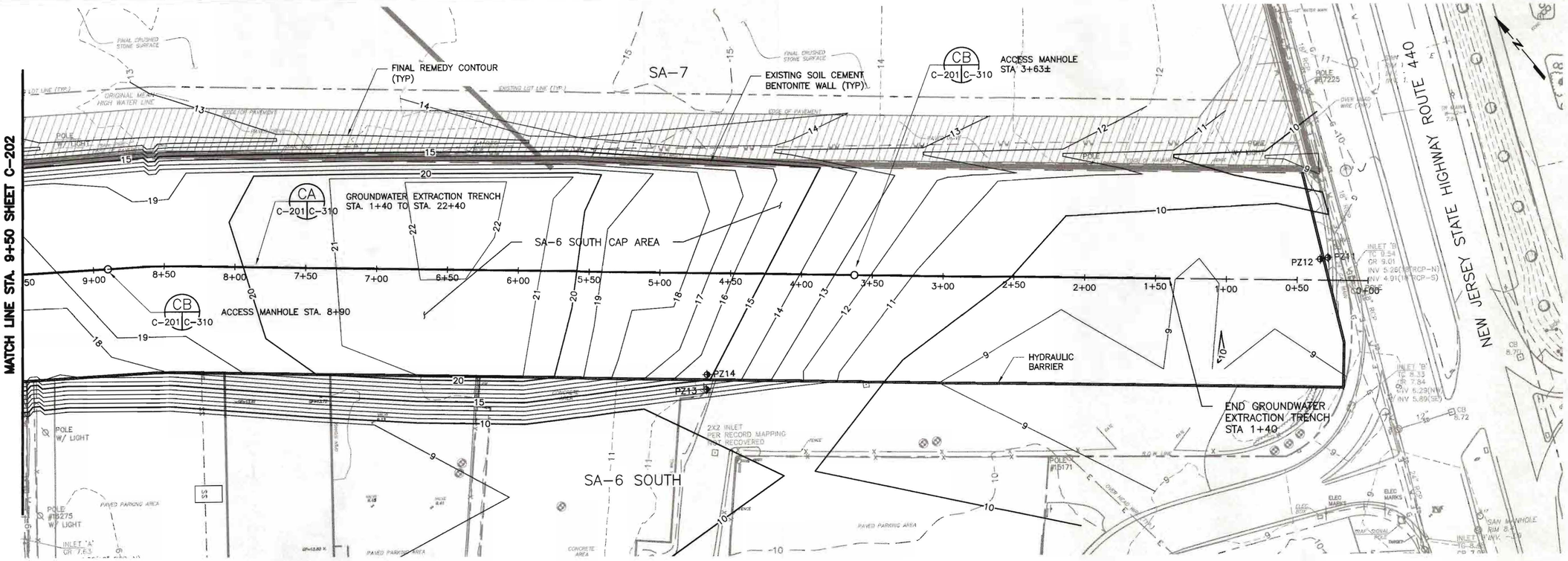
Reason for Change/Modification:	Explanation or Reason: Design changed based on information gathered during construction
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected: Contingent GW system plans and profiles-see drawing list in description

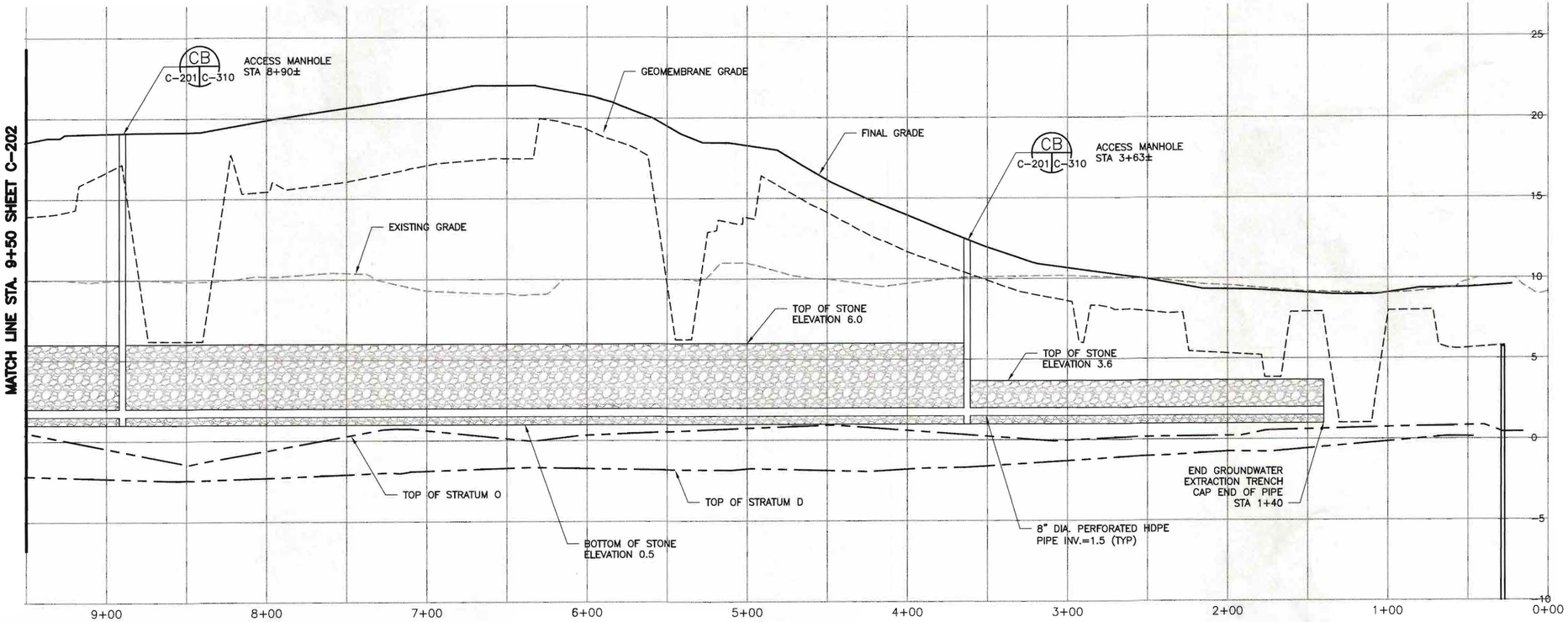
Honeywell (AP) Review:			
Individual	Discipline	Initial	Date

(Name / Signature):	Does DCB Result in CCO? ☑ Yes (b) ☐ No
Samuel G Shallard	Date: 2/16/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL, OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON CASKETS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	02/13/15	TDD			TDD	SGS	SGS
1	06/06/14					TDD	SGS

REVISION
DCB 007.3
DCB 007

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

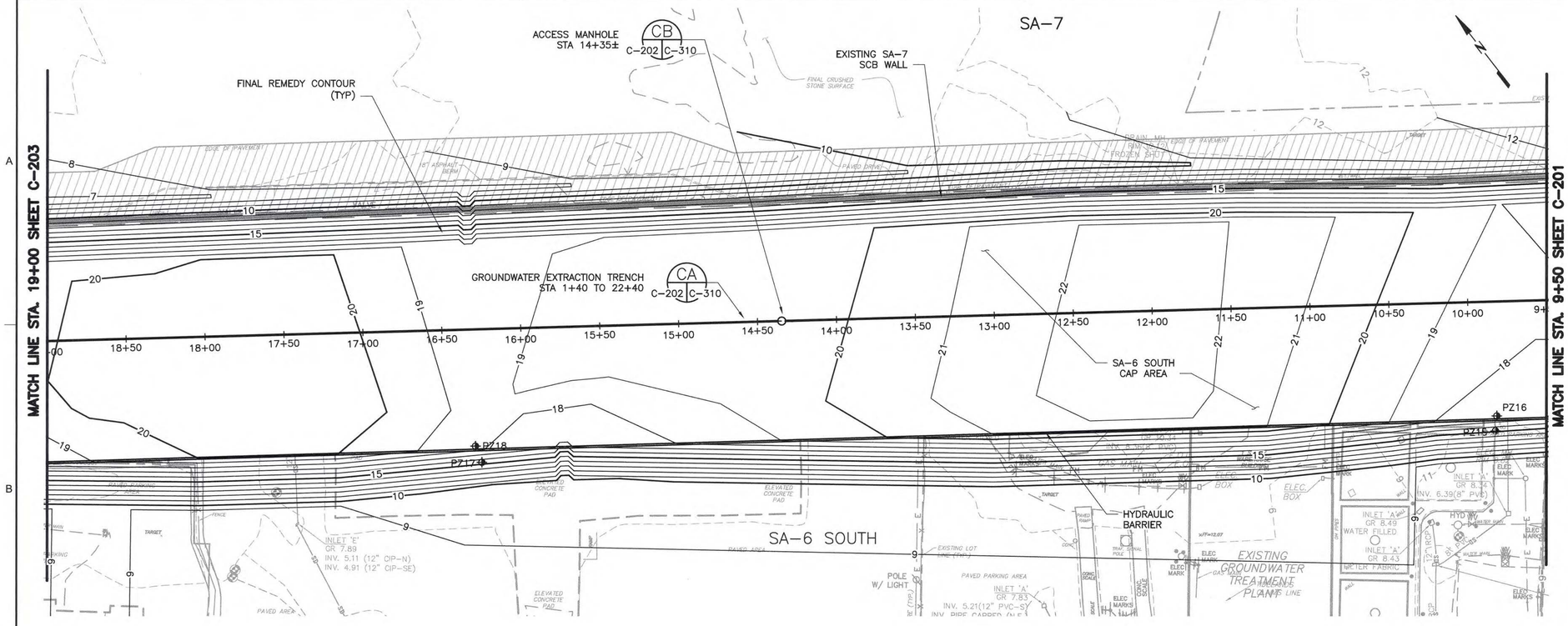
GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

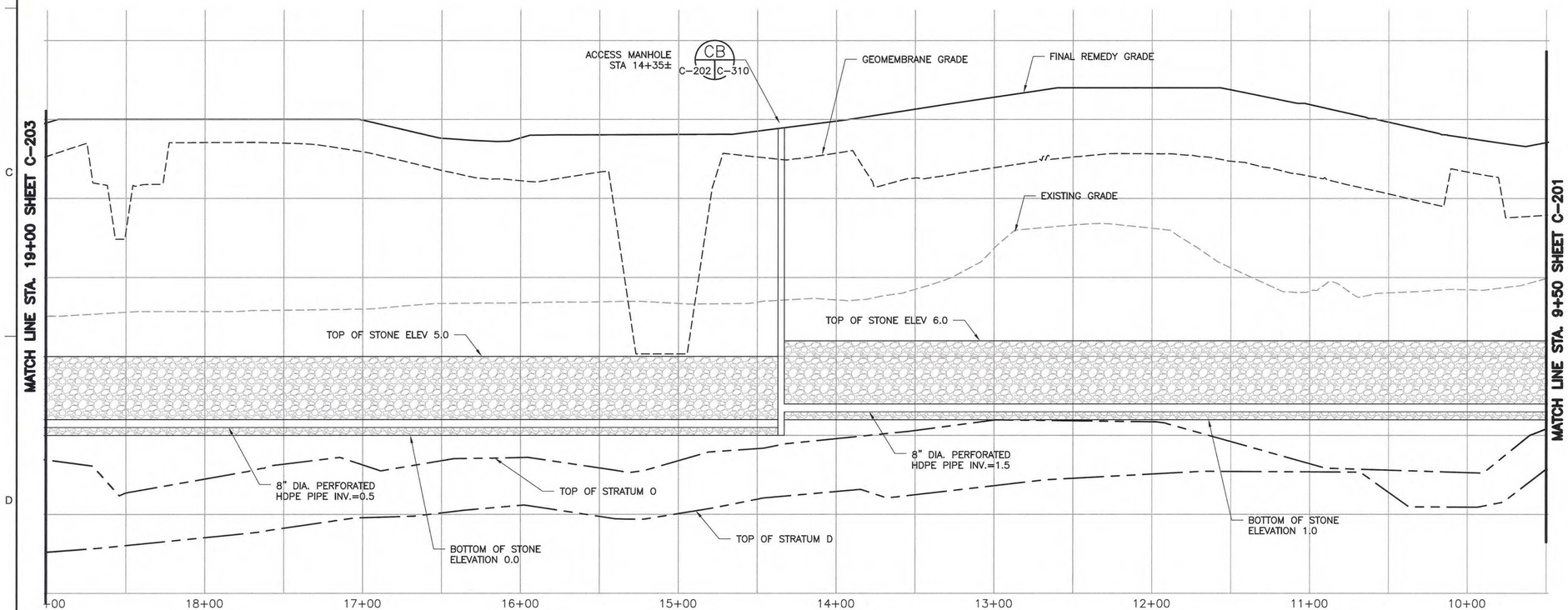
amec
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELLUERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:44 PM





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
			TDD	RJR	TDD
1	06/06/14	DCB 007	TDD	SGS	SGS
2	07/30/14	DCB 007.1	TDD	SGS	SGS
3	02/13/15	DCB 007.3	TDD	SGS	SGS
		REVISION	BY	APVD	

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
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CIVIL
GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 Angelica Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-202
SHEET	OF 66

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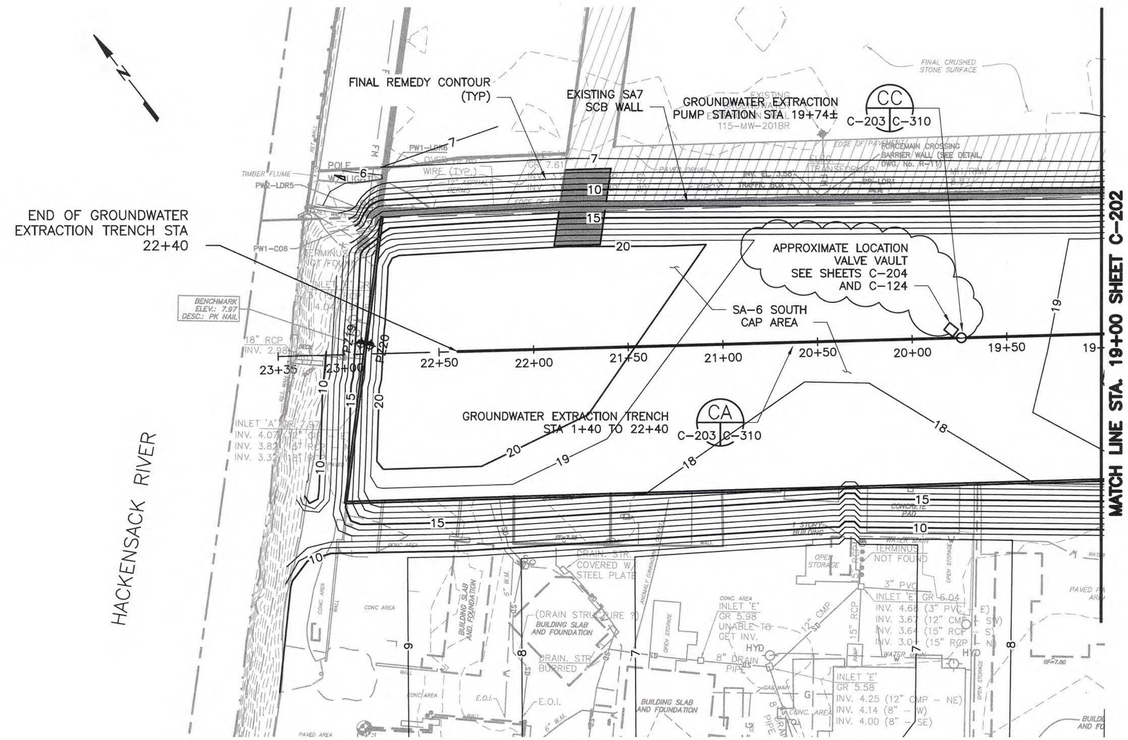

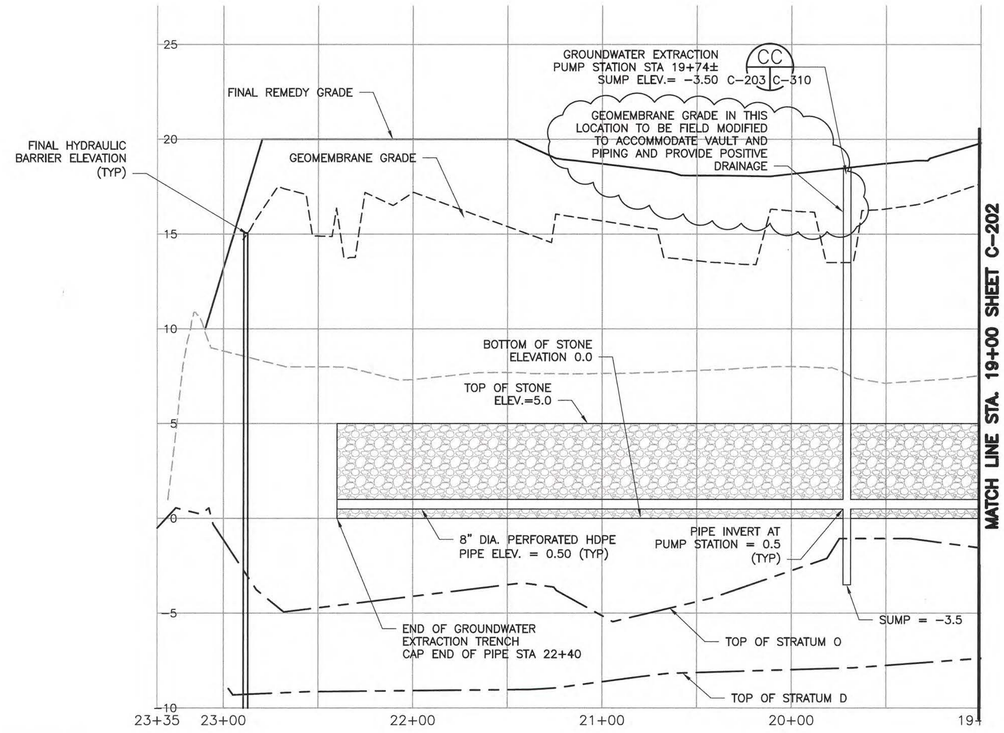

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0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

NO.	DATE	REVISION	CHK	APVD
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM
DSGN	TDD	DR RJR	CHK TDD	APVD SGS

SAMUEL G. SHALLARD
2/13/15
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD., BOX 2105, MORRISTOWN, NJ 07962

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SITES 073, 124, 125, 134, 140, AND 163
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GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

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VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-203
SHEET	OF 66

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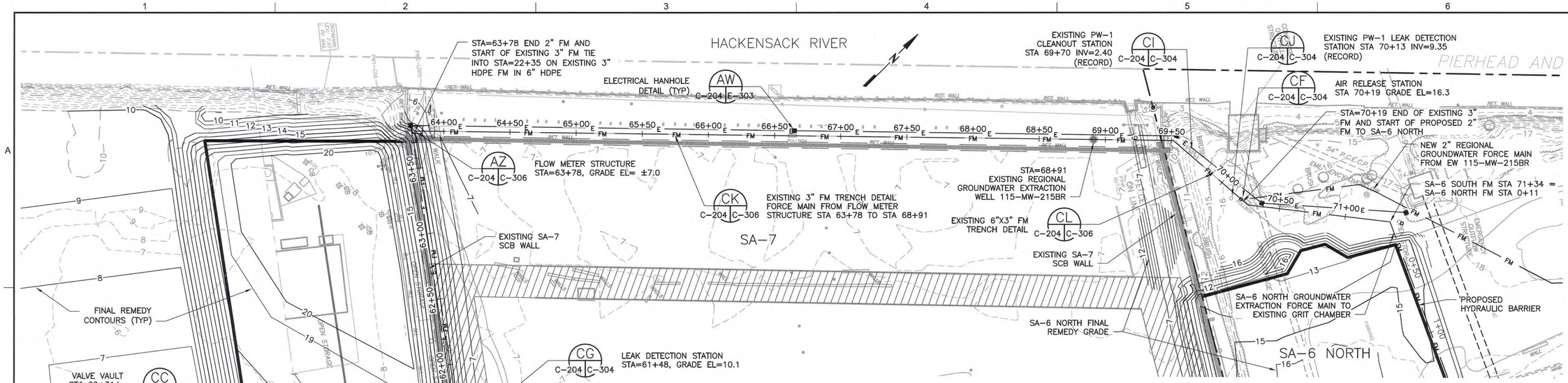

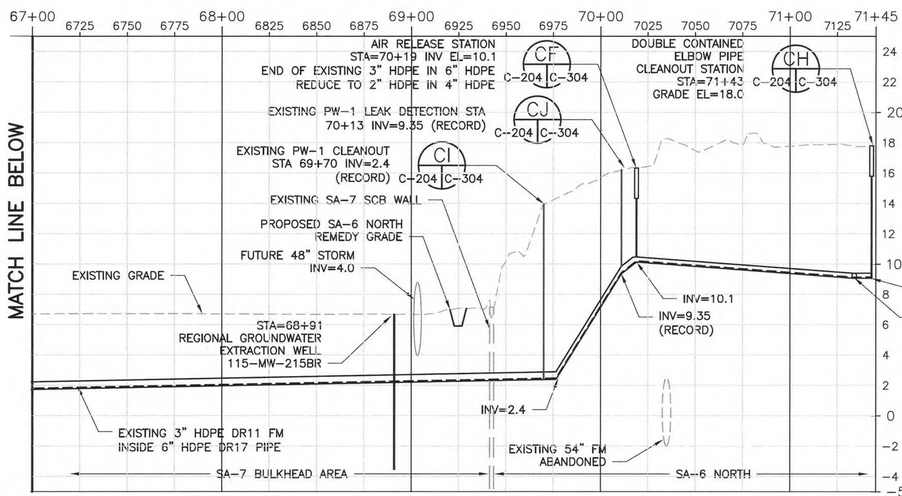

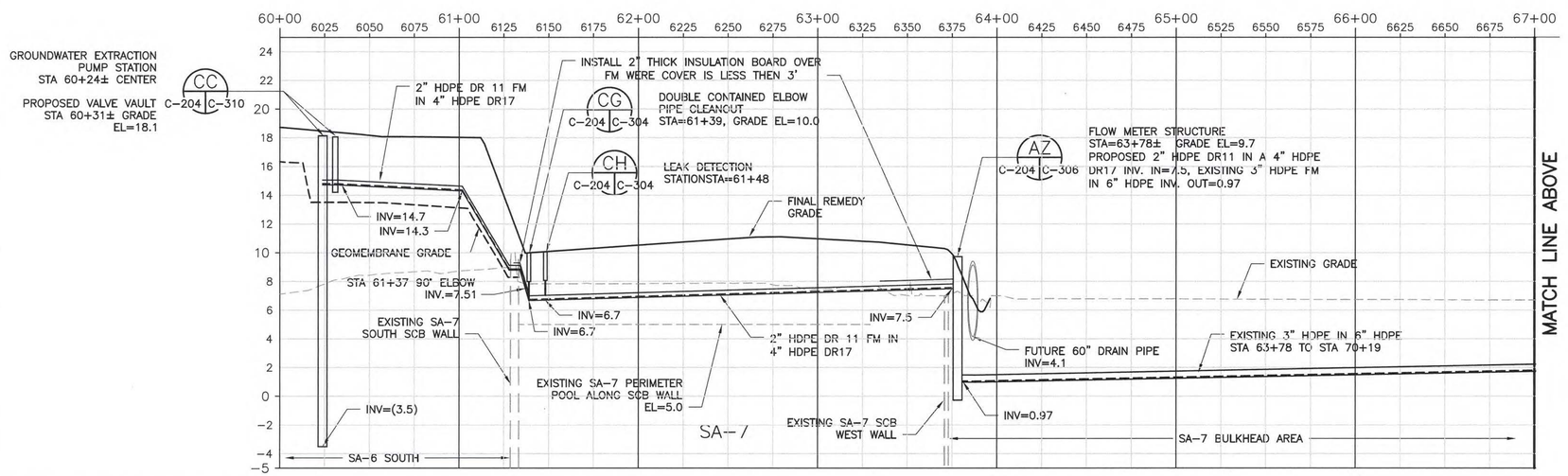

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
				BY	APVD
3	02/13/15	TDD	TDD	RJR	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION		RJR	SGS
1	05/14/14	DCB 007		TDD	SHM
		REVISION		RJR	APVD
		DCB 007.3	TDD	TDD	SGS

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STUDY AREA 6 SOUTH
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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION FORCE MAIN PLAN AND PROFILE

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Hamilton, NJ. 08619
(609) 689 - 2529
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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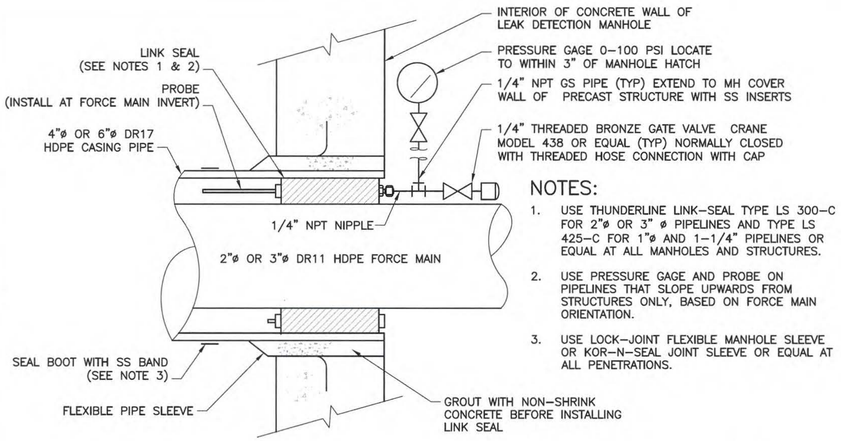
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

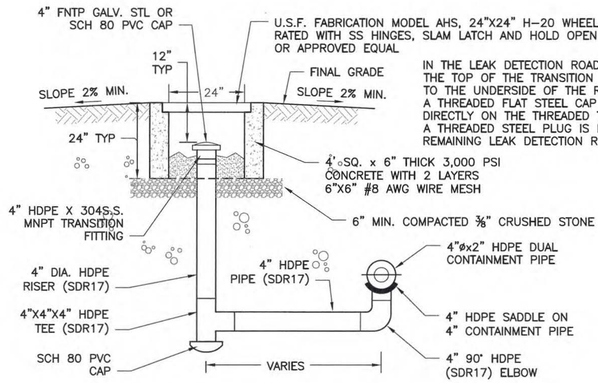


NOTES:

1. USE THUNDERLINE LINK–SEAL TYPE LS 300–C FOR 2"ø OR 3" ø PIPELINES AND TYPE LS 425–C FOR 1"ø AND 1–1/4" PIPELINES OR EQUAL AT ALL MANHOLES AND STRUCTURES.
2. USE PRESSURE GAGE AND PROBE ON PIPELINES THAT SLOPE UPWARDS FROM STRUCTURES ONLY, BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK–JOINT FLEXIBLE MANHOLE SLEEVE OR KOR–N–SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL — X

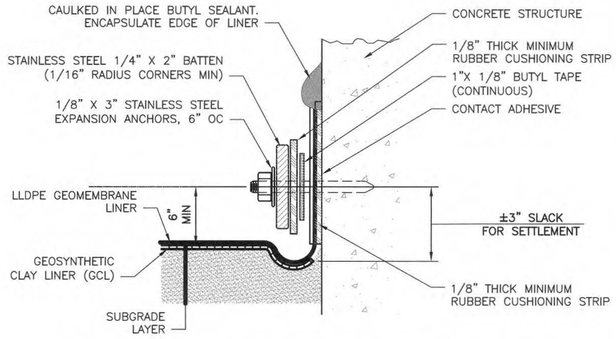
NTS — C–304 | C–306



IN THE LEAK DETECTION ROAD BOXES WHERE THE TOP OF THE TRANSITION PIECE IS CLOSE TO THE UNDERSIDE OF THE ROAD BOX COVER A THREADED FLAT STEEL CAP IS INSTALLED DIRECTLY ON THE THREADED TRANSITION PIECE. A THREADED STEEL PLUG IS INSTALLED IN THE REMAINING LEAK DETECTION RISERS.

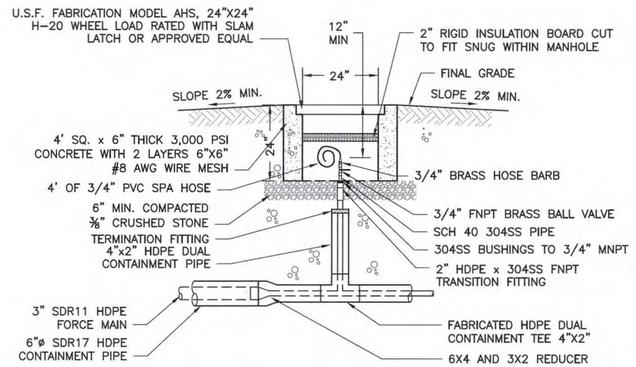
LEAK DETECTION STATION — CG

NTS — C–204 | C–304



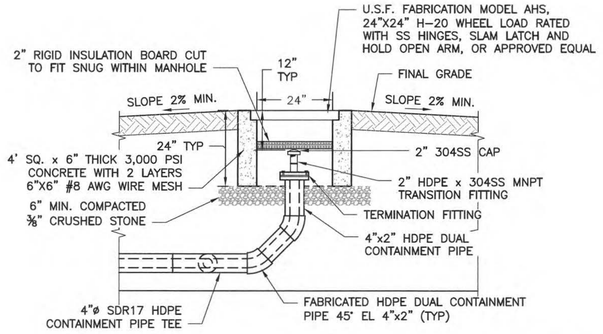
LINER ANCHOR TO CONCRETE STRUCTURE — CE

NTS — TYP | C–304



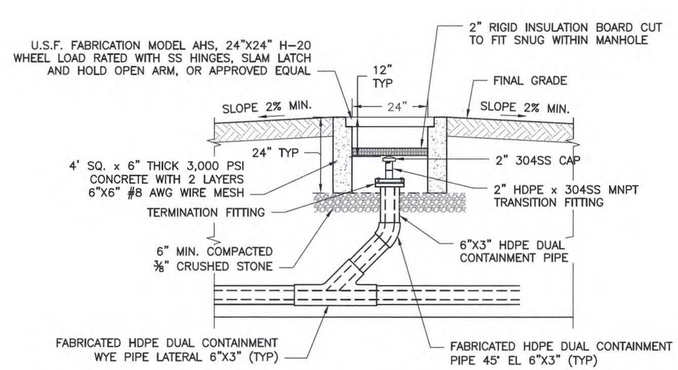
AIR RELEASE STATION — CF

NTS — C–204 | C–304



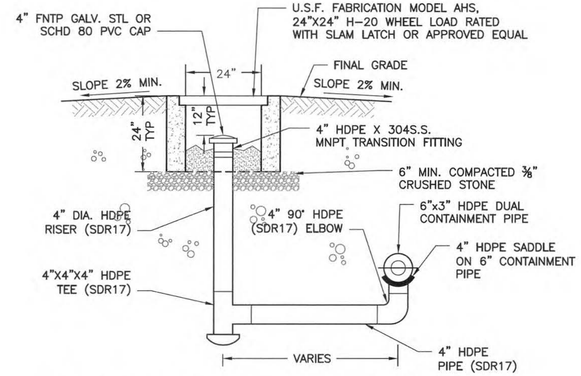
DOUBLE CONTAINED ELBOW PIPE CLEANOUT — CH

NTS — C–204 | C–304



EXISTING DOUBLE CONTAINED WYE PIPE CLEANOUT — CI

NTS — C–204 | C–304



EXISTING 3" LEAK DETECTION STATION — CJ

NTS — C–204 | C–304

NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND C–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002.

SAMUEL G. SHALLARD — NJ PROFESSIONAL ENGINEER — LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
1	02/13/15	REO	RJR	REO	APVD	TDD SGS
0	06/07/13					TDD SHM

DCB 007.3
ISSUED FOR CONSTRUCTION
REVISION

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Honeywell
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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

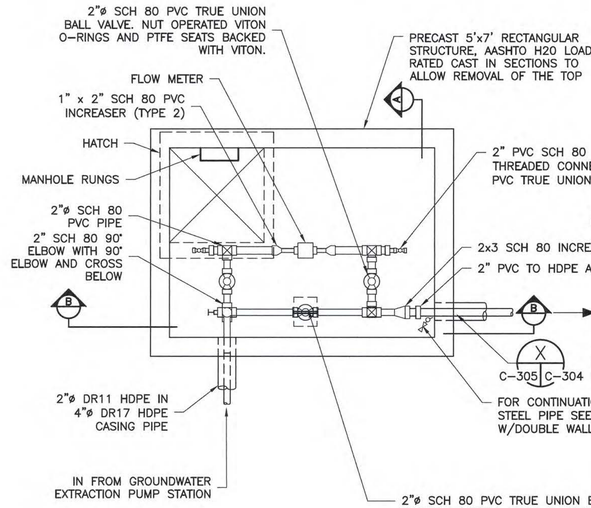
CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

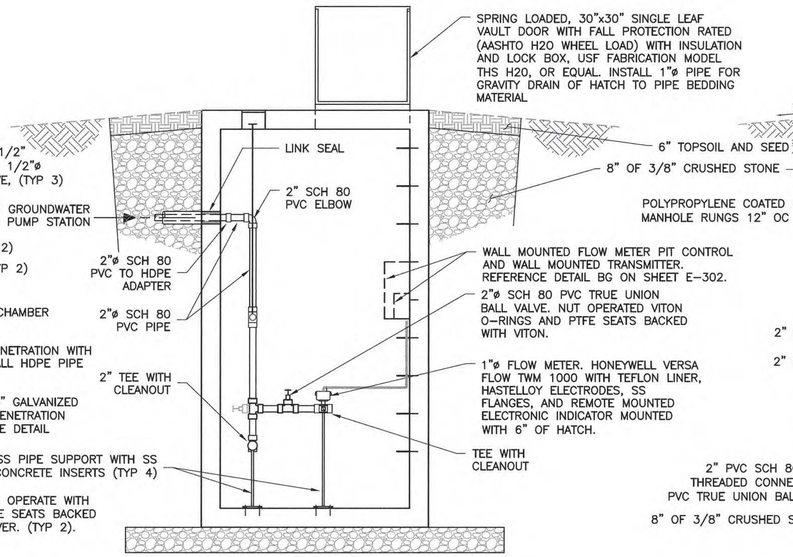
VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-304
SHEET	41 OF 66

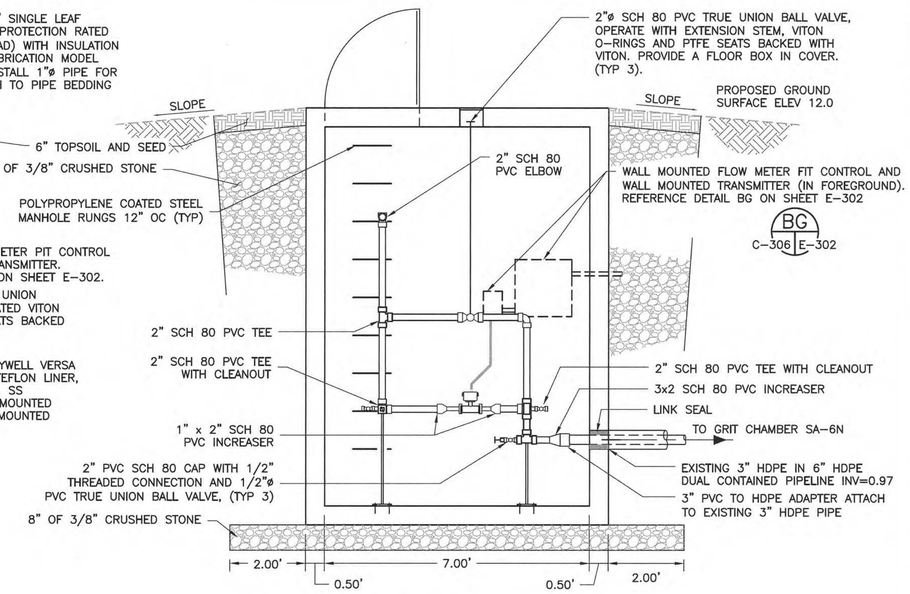
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR41-C-304_GWFM_Details.dwg PLOT DATE: Fri, 13 Feb 2015 PLOT TIME: 2:51 PM



PLAN

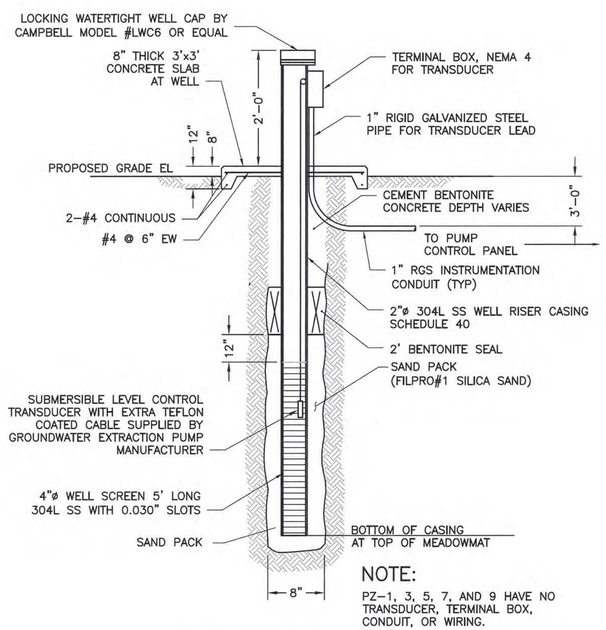


SECTION AA



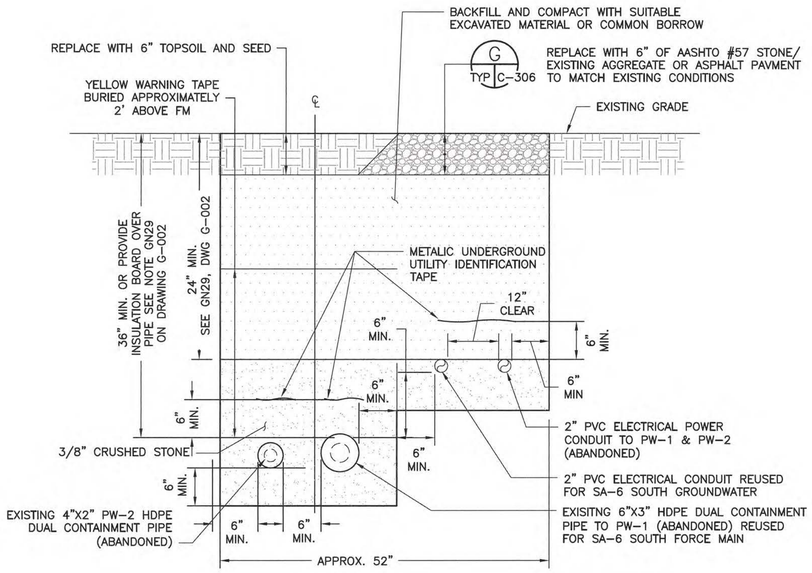
SECTION BB

FLOW METER STRUCTURE DETAIL AZ
NTS STA 63+78 C-204 C-306

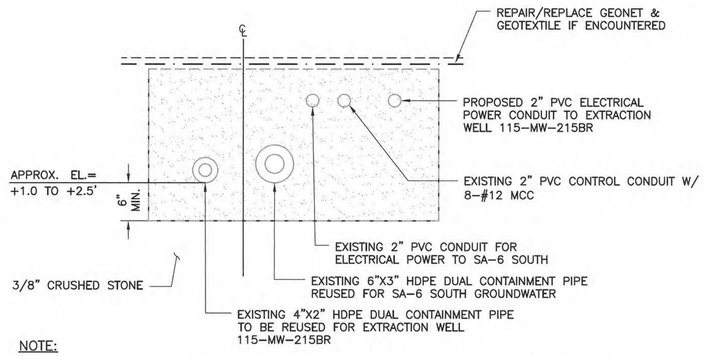


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL AE
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL CK
NTS STA 63+78 TO STA 68+91 C-204 C-306



NOTE:
SUBCONTRACTOR IS REQUIRED TO VERIFY PRIOR TO BEGINNING WORK FROM STA. 68+91 TO STA. 70+19

TRENCH DETAIL CL
NTS C-204 C-306

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.
3. SEE SHEET C-304 FOR HATCH SPEC.

STEPHEN H. MITCHELL
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE04322400

NO.	DATE	DSGN	
1	02/13/15	TDD	SGS
0	06/07/13	TDD	SHM

DCB 007.3
ISSUED FOR CONSTRUCTION

REVISION	BY	CHK	APVD
REO	DR	RJR	SHM

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

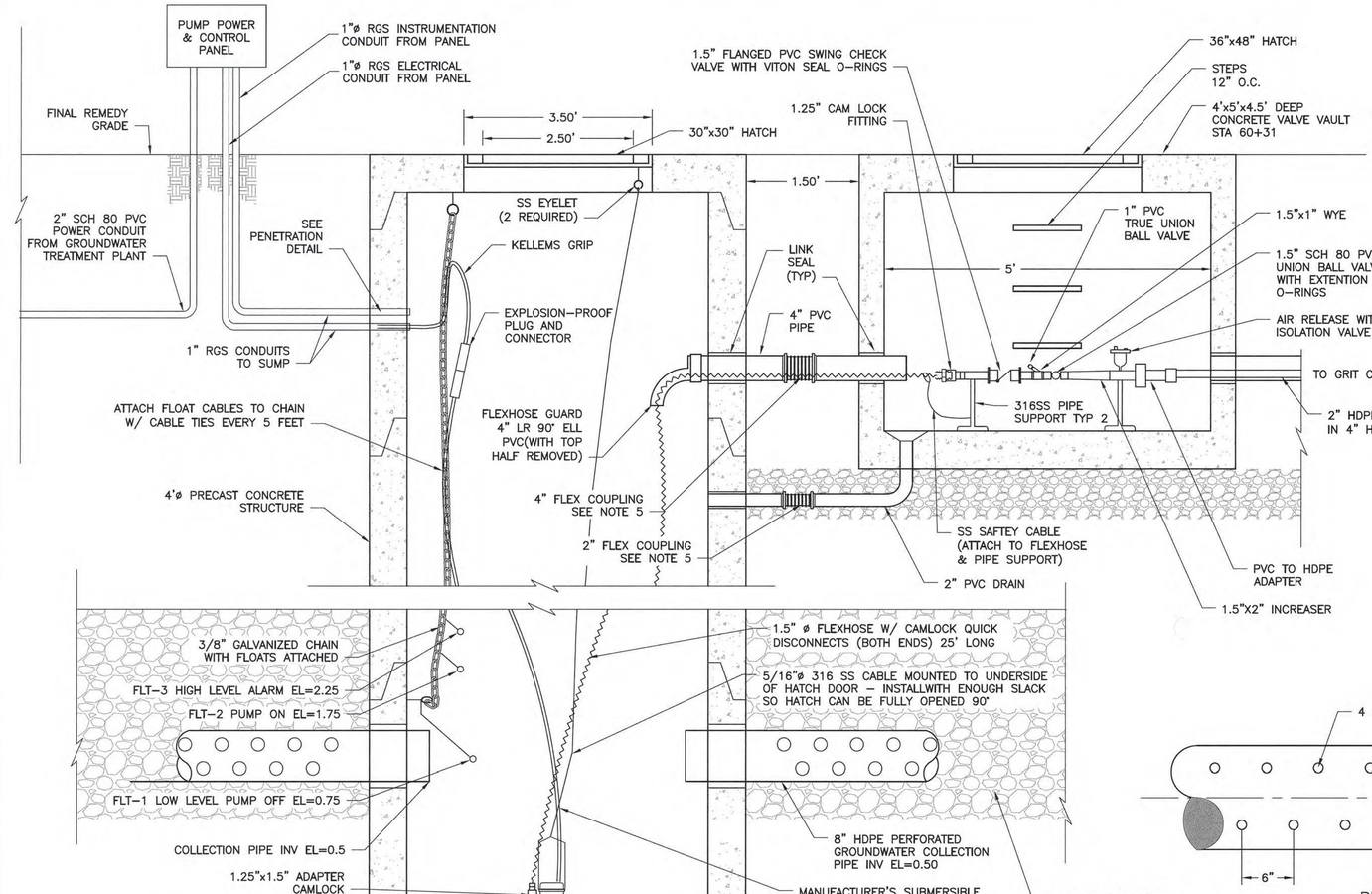
CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66



GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

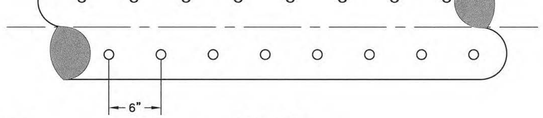
NTS

C-203 | C-310
C-204

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
1.5" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC VITON O RINGS AND TEFLON SEALS
1.5" DIA. FLEXHOSE	1	GRANGER OR APPROVED EQUAL	ITEM #3JT48 25' LENGTH EACH
1.5" DIA. CAMLOCK QUICK DISCONNECTS	1-MALE 1-FEMALE	GRANGER OR APPROVED EQUAL	ITEM #3LX22 ITEM #3LX14
EXPLOSION-PROOF PLUG AND CONNECTOR	2-SETS	MELTRIC 22-14043 22-18043 OR APPROVED EQUAL	INLINE PLUG AND RECEPTACLE W/ MALE CAP, HANDLES AND FINGER DRAW PLATES
1" TRUE UNION BALL VALVE	1	CHEMTROL OR APPROVED EQUAL	TRUE UNION SERIES PVC WITH VITON O RINGS AND TEFLON SEALS
1.5" SWING CHECK VALVE	1	SPEARS OR APPROVED EQUAL	MODEL 4423-015 VITON SEAL AND O RINGS
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

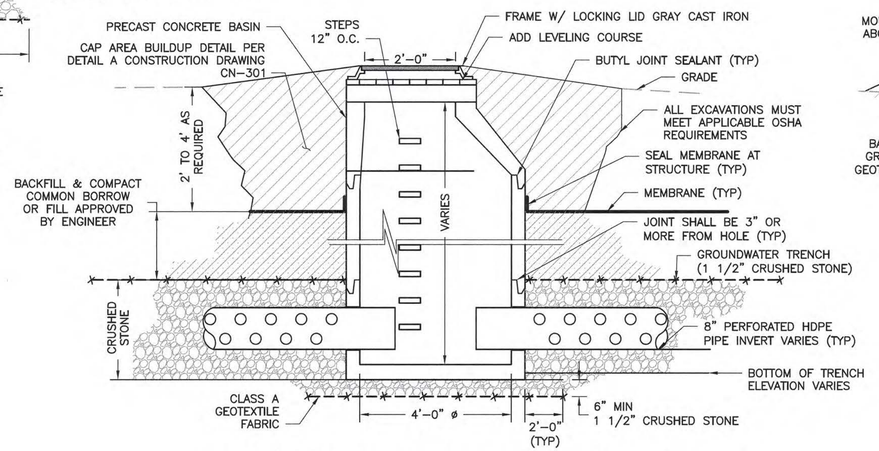


PLAN VIEW

PIPE PERFORATIONS (CD)

NTS

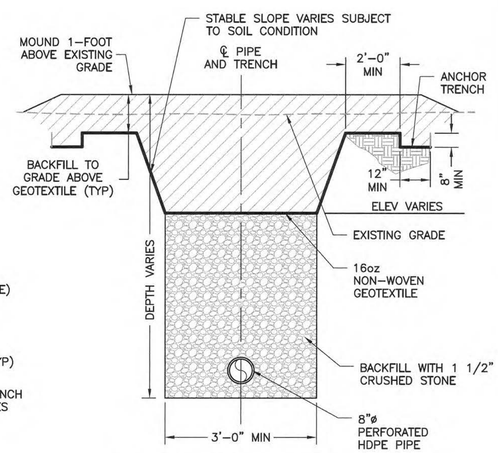
TYP C-310



TYPICAL ACCESS MANHOLE FINAL CONDITION STA.=3+63, STA.=8+90, STA.=14+35 (CB)

NTS

C-201 | C-310
C-202



GROUNDWATER TRENCH TEMPORARY CONDITION (CA)

NTS

C-201 | C-310
C-202
C-203

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD	BY
2	02/02/15	DCB 007.3	TDD	SGS	TDD
1	06/06/14	DCB 007	TDD	SGS	SGS
DSGN	TDD	DR	RJR	TDD	APVD

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Honeywell
101 COLUMBIA RD. BOX 2109, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
GROUNDWATER EXTRACTION TRENCH DETAILS

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, N.J. 08619
609-890-2900
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-310
SHEET	OF 66

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB Type:** Major (a) **Effective Date:** 6/18/15
Project Location: SA-6 North	**Associated RFI:**
Title: SA-6 North, Site 087 In-situ Injections	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480150438.5710.571001
Contractor (Subcontractor): ERFS	

Injections of calcium polysulfide (CAPS) will be implemented in a limited portion of TA-10, north of the northern curbline for the future Stegman Boulevard to be constructed during the Bayfront Redevelopment project. Monitoring wells installed in the injection area and between the injection area and the adjacent 72-inch force main will be used to measure sulfate conditions in shallow groundwater. If necessary, clean potable water may be injected into the monitoring wells to dilute the sulfate concentrations in the shallow groundwater adjacent to the 72-inch force main. See attached memorandum, figures, and Table 1 prepared by Amec Foster Wheeler. While the specific scope of the proposed injections is provided in the attachment, the work will generally be performed in accordance with Amec Foster Wheeler's approved *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated February 19, 2013.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Focused injections north of 72-inch force main to avoid impact to concrete shell of pipeline.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** *Revised Work Plan for In-Situ Treatment of Chromium Impacted Soil*, dated February 19, 2013 and *Work Plan for In-Situ Treatment of Chromium Impacted Soils*, dated January 29, 2014

Honeywell (AP) Review:

Individual: Dennis Nagg	**Discipline:**	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?**	☑ **Yes (b)** ☐ **No**
		Date:	

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 046 **DCB Type:** Minor (a) **Effective Date:** 9/17/15
Project Location: SA-6 **Title:** Planting Soil Specifications	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Planting soil Specifications.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter Specification 02315, Section 2.12 , Table 1 Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Extensive searching of available soil suppliers (including 6 identified by Dr. Grabosky/Rutgers University) indicated that current sources could substantially meet the most critical, but not all, IFC specifications. In response, AmecFW submitted the provided borrow source testing data per specifications to Dr. Grabosky for his review. Dr. Grabosky selected specific blends from the list that he identified as acceptable for use within the Open Space Areas. In addition, Dr. Grabosky recommended minor revisions to the specifications that the AmecFW engineer has accepted. Dr. Grabosky's letter and specification revision recommendation are attached.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 10/22/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

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School of Environmental and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

September 17, 2015

To whom it may concern:

I was contacted by the Mr Shallard of ***Amec Foster Wheeler Environment & Infrastructure, Inc*** with regard to questions on the soil materials available for a NJ Project. Honeywell/AmecFW submitted results of analysis of Planting Soil samples from multiple vendors, selected from a list provided by Rutgers, for Horizon A, B and C that are under consideration for use on the SA-6 Project (refer to attached excel table). These data were to be used to select the vendor and soil products available for each of the soil layers to be used on the project. It is my understanding that multiple vendors have been contacted including those provided by Rutgers (email May 13th 2015) as potential sources and, that the list and samples provided, is indicative of what is available in the market place at this time.

While the list of criteria (Sand/Silt/clay/organics/pH) is applicable to all samples the importance of each of these criteria varies due to the intended purpose of each Horizon.
In my review I have identified samples listed which I consider acceptable, or acceptable subject to minor modification, to meet the project goals. The following samples are acceptable to accomplish the goals of the many design demands on this system.

Horizon A topsoil:
Nature's Choice (NC-TS-002-NCCWS) as the preferred or Nature's Choice (NC-TS-002-NCCW).
Both exceed the gravel percentage component of the specification, however one might envision the percentages as targets, and the excess of gravel in these cases does not change the functional behavior of the material for plant growth or drainage potential. NCCW has a higher organic component which is high enough to exhibit shrinkage as the organic materials decompose, so while a functionally acceptable soil material for the purpose, the shrinkage will be noticed on landscape edges next to structures such as sidewalks, thus CCCWS is preferred. The acceptable gravel content of the specification should be revised upward from 5% to <10%.

Horizon B:
Nature's Choice (NC-HC-001) would be a good choice, as the lower organic level is not problematic, and actually sets a natural layering and gradation as underlayment to the topsoil. The pH increases from 5.0 in the topsoil to 5.96, and I do not see this as an issue, several species may well prefer the nutrient availability afforded by the higher pH. One might consider adding some organic content and blending into the B horizon material. I am not in favor of the effort and expense, as the proposed layers will change in organic content and develop a natural progression on their own over time. The Sand % should be changed from a single number of 80% to a range of 80-90%. The pH maximum should be increased from 7 to 7.5. Organic content should be changed from a range of 1.5 - 3.5% to <4%.

Horizon C:
Nature's Choice Sample (NC-HC1-002) is very close to meeting the originally specified requirements. The Clay content is 12% as compared with the specified maximum of 15-20% and the pH was reported to be

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7.57 as compared with the 7.5 specified. These deviations are not considered to be significant. This sample will meet the original design objectives. The Clay Content specification should be broadened to 10-20% and pH specification modified to less than 7.7 to provide for consistency between the sample and specifications.
Advanced Soil Technologies (AST-HB-002) is also a potential candidate if the sand content could be reduced to <80%. The organic level is elevated, but not problematic. Organic content should be changed from 1% maximum to <4%.

Table 1 attached summarizes the proposed changes.

In total the three layers would be very reasonable for acceptable landscape growth expectations, and provide available moisture for plants and drainage potential in a normal manner *as long as the materials are not heavily compacted after placement by construction equipment.*

As with any project, the key to success will ultimately be in the construction management/traffic controls/equipment storage planning as related to the protection of the soil investment after placement. This will be particularly important with the landscape contractor equipment in planting the trees and other landscape elements, as much as with the pavement contracting for sidewalks and structures.

Respectfully submitted,



Jason Grabosky
John and Eleanor Faculty Scholar in Urban and Community Forestry
Department of Ecology, Evolution and Natural Resources
Rutgers University
New Brunswick, NJ

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Table 1 summarizes the modified criteria based on availability. Provision of soils meeting the criteria listed in Table 1 below will meet the objectives of providing soils that are suitable for the SA-6 project. These changes have been reviewed with the AmecFW Engineer of Record and it is recommended that both the project specification and Open Space Design Standard be amended as noted in the Table 1 below.

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Modified	Friable Fertile Sandy loam/loamy sand	60-80	▫20	<20	3.5-6	5-6.5
Horizon B Modified	Loamy sand	80-90	<10	10-15	<4%	5.5-7.5
Horizon C Modified	Sandy loam to loamy sand	70-80	<10	10-20	<4%	5-7.7

1. *Horizon C. Clay content lowered from a minimum of 15% to a minimum of 10%. Organic content increased from <1 to <4%. pH content maximum increased from 7.5 to 7.7.*
2. *Horizon B. Sand changed from a single number of 80% to a range of 80-90%. pH maximum increased from 7 to 7.5. Organic content changed from a range of 1.5- 3.5% to <4%.*
3. *Horizon A. Gravel content increased from 5% maximum to <10%.*
4. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

SA-6 Planting Soil Specification-TABLE 1						
Revision 1 September 2015						
Material SPEC 02315 SECT 2.12	**Description (USDA soil triangle)**	**% Sand**	**% Silt**	**% Clay**	**% Organic Matter**	**pH**
Horizon A Topsoil	Friable fertile loam, fine sandy loam or sandy loam	--	--	--	3.5-6%	5.0-6.5
Horizon A Modified 9/16/15	Friable Fertile Sandy loam/loamy sand	60-80	<=20	<20	3.5-6	5-6.5
Horizon B	Sandy Loam	80-85%	≤10%	10-15%	1.5-3.5%	5.5-7.0
Horizon B Modified 9/16/15	Loamy sand	80-90	<10	10-15%	<4%	5.5-7.5
Horizon C	Uniform Sandy Loam	70-80%	≤10%	15-20%	1% max	5.0-7.5
Horizon C Modified 9/16/15	Sandy loam to loamy sand	70-80	<10	10 – 20%	<4%	5-7.7

1. *Soil Descriptions. The Planting Soil specifications include soil descriptions based on the USDA Soil Texture Triangle. Soils provided should be consistent with the Soil Texture Triangle.*

2.12 PLANTING SOILS

Planting Soils have been designated as Horizon A, B and C. Soil Horizon A – Topsoil will be a nominal thickness of 6 inches and shall conform to the requirement noted below.

A. Topsoil - Topsoil shall be placed over the Horizon B and C planting soils to final development grades shown in the design drawings. Topsoil will have a nominal depth of 6 inches. Topsoil shall be in accordance with Section 02900, "Topsoil and Seeding". Topsoil shall be certified clean from the borrow source or origin, based on analytical testing data, as approved by the Engineer. Topsoil shall be natural, friable, fertile loam, fine sandy loam or loamy sand with an organic matter content of 3.5% - 6% and a pH range of 5.0 – 6.5. Sand 60-80%, Silt ≤20%, Clay <20%. Specification 02900 requires that all materials pass a 1.5 inch sieve. Spec 02900 will be modified to allow <10% Gravel.

B. Soil Horizon B - soils will only be used in areas where the total depth of cover soils exceeds 36 inches. During the Interim Phase no Horizon B soil will be placed. Horizon B soils will be a loamy sand having the following properties:

Loamy Sand classification having ~~80~~ 80-90% sand, < 10% silt, 10-15% clay.
pH range 5.5 – 7.5 ~~7.0~~.
Organic Matter (by weight) ~~1.5-3.5~~ < 4 %

C. Soil Horizon C – During Interim Grading Horizon C Soil will be placed between the root barrier and the Horizon A soil. The first 6 inches of Horizon C soils to be placed directly above the root barrier will be compacted to a minimum 90% of Standard Proctor. To meet Final Grading and planting requirements Horizon A soils will be stripped as necessary and Horizon C soils shall be re-graded to provide an appropriate depth of 18 inches. Horizon C soil shall consist of sandy loam to loamy sand having the following properties:

1. Sandy loam to loamy sand classification with 70-80% sand, <10% silt, ~~10 – 15%~~ 10 - 20% clay.
2. pH range 5.0 – 7.7 ~~7.5~~.
3. Organic Matter (by weight) ~~1~~ < 4 % ~~max~~.

Horizon A Soils- Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Gravel[2]	% Organic Matter	pH
	Revised Specification Values[1]	**60 - 80%**	**≤20%**	**<20%**	**<10%**	**3.5 - 6%**	**5.0 - 6.5**
6/11/2015	Advanced Soil Technologies Topsoil (AST TS -001)	80.0%	10.0%	10.0%	11.7%	4.3%	7.84
6/15/2015	Natures Choice Topsoil (NC TS-001)	75.0%	13.0%	11.0%	21.6%	5.4%	7.33
6/29/2015	Advanced Soil Technologies (AST HA-002)	74.0%	14.0%	12.0%	11.4%	9.0%	7.48
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	13.3%	3.9%	7.46
7/7/2015	Nature's Choice (NC-TS-002-NCCWS)	68.0%	20.0%	12.0%	5.8%	3.8%	5
7/7/2015	Nature's Choice (NC-TS-002-NCCW)	64.0%	22.0%	14.0%	6.9%	6.4%	5

Notes:

1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015.
Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

2.) Refer to Specification 02900 - Topsoil and Seeding, Section 2.01.B.2.

Horizon B Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**80 - 90%**	**<10%**	**10 - 15%**	**<4%**	**5.5 - 7.5**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HB1-002)	76.0%	10.0%	14.0%	3.9%	6.66

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015. Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

Horizon C Soils - Geotechnical Sample Results
Study Area 6
Jersey City, NJ

Sample Date	Material	% Sand	% Silt	% Clay	% Organic Matter	pH
	Revised Specification Values[1]	**70 - 80%**	**<10%**	**10 - 20%**	**<4%**	**5.0 - 7.7**
6/11/2015	Advanced Soils Technologies (AST HB-001)	87.0%	7.0%	6.0%	5.4%	7.19
6/11/2015	Advanced Soils Technologies (AST HC-001)	67.0%	20.0%	13.0%	2.3%	7.56
6/15/2015	Nature's Choice (NC-HB-001)	78.0%	8.0%	13.0%	2.9%	7.05
6/15/2015	Nature's Choice (NC-HC-001)	84.0%	3.0%	13.0%	0.2%	5.96
6/29/2015	Advanced Soils Technologies (AST HB-002)	87.0%	7.0%	6.0%	4.0%	7.4
6/29/2015	Advanced Soils Technologies (AST HC-002)	72.0%	14.0%	14.0%	0.9%	7.8
7/6/2015	Nature's Choice (NC-HC1-002)	79.0%	9.0%	12.0%	0.3%	7.57
7/6/2015	Nature's Choice (NC-HC2-002)	85.0%	9.0%	6.0%	0.3%	8.25
7/6/2015	Nature's Choice (NC-HC3-002)	85.0%	11.0%	4.0%	0.1%	8.37

Note:
1.) Specification values revised according to letter from Dr. Jason Grabosky of Rutgers University, dated September 17, 2015. Samples deemed acceptable in Dr. Grabosky's letter are highlighted in green.

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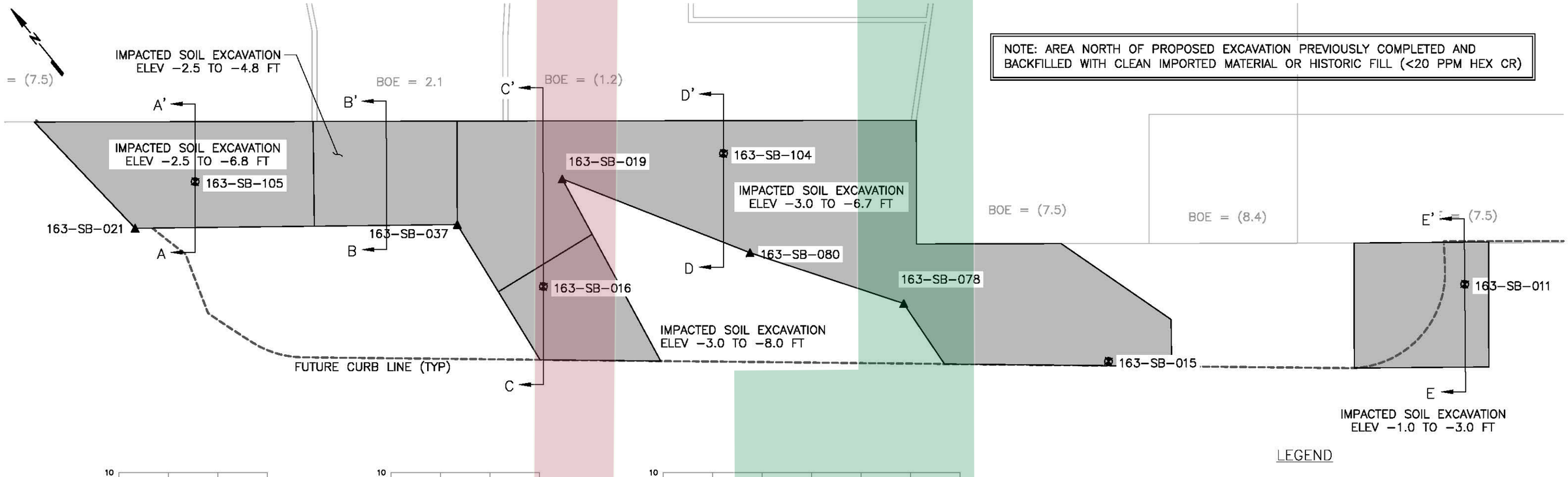
DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **DCB Type:** Major (a) **Effective Date:** 9/28/15
Project Location: SA-6 South, Site 163 **Title:** Site 163 Excavation	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

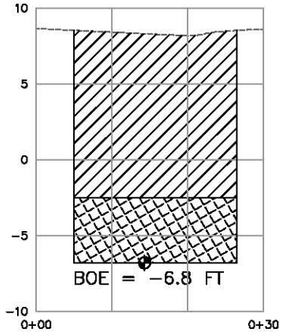
Description: Chromium-impacted soils within the residential footprint of Site 163 that remained at levels above 20 ppm hexavalent chromium after in-situ treatment will be excavated in lieu of additional in-situ treatment and further sampling. The residential footprint includes the area north of the northern curbline of the future River Front Park/Riverside Drive/Kellogg Street to be constructed during the Bayfront Redevelopment project. A plan view and cross sections of the excavation area are included in the attached Figure 1. Soils that were treated successfully will not be subject to excavation or to further sampling. The remaining chromium-impacted soils identified in the area south of the northern curbline are within the future River Front Park/Riverside Drive /Kellogg Street as depicted on the attached Figure 2 and will be subject to a deed restriction and not be subject to further sampling.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Noted in Description **Attachments:** ☑ Yes ☐ No Figure 1 Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** A new drawing C-129 will be issued showing the limits of excavation depicted on Figure 1.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/1/15
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

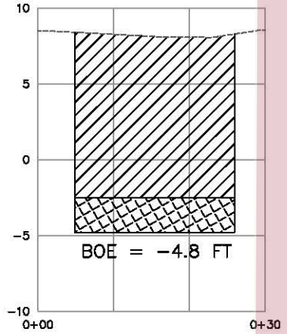
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



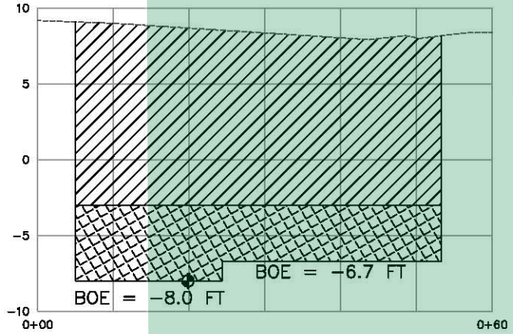
NOTE: AREA NORTH OF PROPOSED EXCAVATION PREVIOUSLY COMPLETED AND BACKFILLED WITH CLEAN IMPORTED MATERIAL OR HISTORIC FILL (<20 PPM HEX CR)



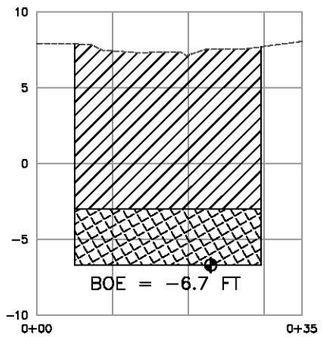
SECTION A−A'



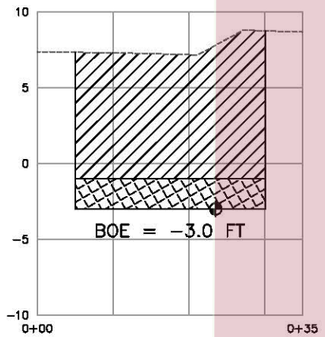
SECTION B−B'



SECTION C−C'



SECTION D−D'



SECTION E−E'



LEGEND

- PDI BOTTOM SAMPLE LOCATION
- PDI SIDEWALL SAMPLE LOCATION
- LIMIT OF EXCAVATION
- OVERBURDEN (<20 PPM HEX CR)
- CHROMIUM IMPACTED SOIL (20−240 PPM HEX CR)

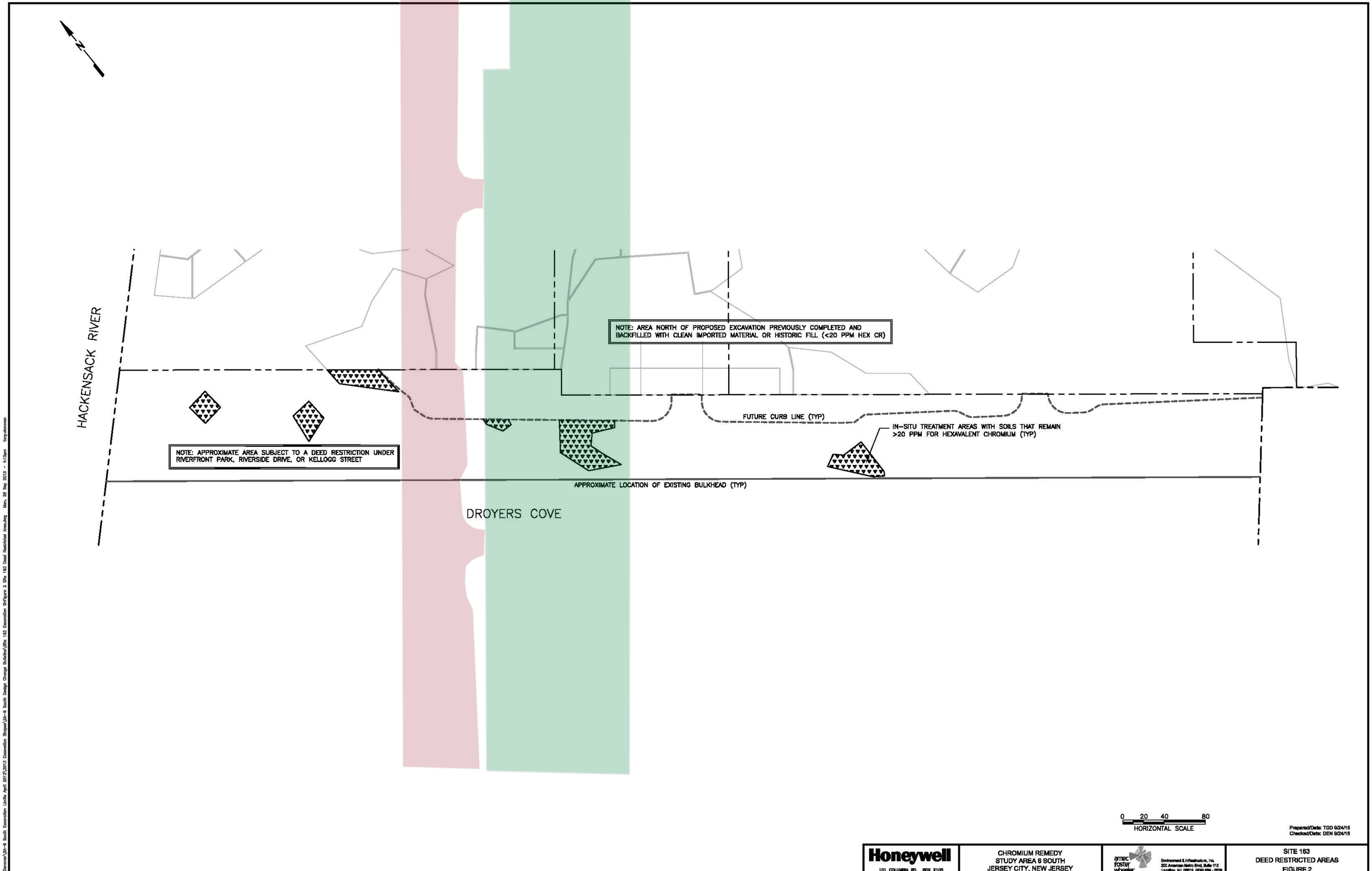
NOTES:

1. HONEYWELL WILL EXCAVATE THE AREA DEPICTED ON THIS FIGURE AND IS PLANNING LOGISTICS WITH IT'S CONSTRUCTION MANAGEMENT TEAM AND REMEDIAL CONTRACTOR(S).
1. UNDER THE EXCAVATION SCENARIO, HONEYWELL WILL CONTINUE TO EVALUATE USING SHEETPILE FOR TEMPORARY EXCAVATION SUPPORT, BACKSLOPING, OR A COMBINATION OF BOTH.
2. OVERBURDEN MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
3. CHROMIUM−IMPACTED MATERIAL WILL BE EXCAVATED, STOCKPILED, AND HANDLED IN ACCORDANCE WITH THE APPROVED SOIL MANAGEMENT PLAN IN THE 100% DESIGN.
4. BACKFILLING WILL OCCUR UPON VERIFICATION BY INDEPENDENT THIRD PARTY LICENSED LAND SURVEYOR THAT HORIZONTAL AND VERTICAL EXTENTS OF EXCAVATION HAVE BEEN ACHIEVED.
5. HONEYWELL MAY IMPLEMENT THIS EXCAVATION BY THE END OF 2015.
6. HONEYWELL MAY ELECT TO USE A CONTRACTOR OTHER THAN ENTACT TO IMPLEMENT THIS EXCAVATION ACTIVITY.
7. THE PROPOSED EXCAVATION FOOTPRINT IS 6,335 SF AND 5 BOTTOM SAMPLES SATISFIES THE NJDEP APPROVED FREQUENCY OF 1:1300 SF AS IDENTIFIED IN THE 100% DESIGN REPORT.

Prepared/Date: TDD 9/22/15
Checked/Date: DEN 9/22/15

Honeywell 101 COLUMBIA RD. BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec foster wheeler Environment & Infrastructure, Inc. 200 American Metro Blvd, Suite 113 Hamilton, NJ, 08619, (609) 689 - 2529	SITE 163 - ADDITIONAL CHROMIUM EXCAVATION AREAS FIGURE 1

C:\Donovan\SA−6 South Excavation Limits April 2012\2013 Excavation Shapes\SA−6 South Design Change Bulletin\Site 163 Excavation Shp\Figure 1 Site 163 Additional Excavation Areas.dwg Thu, 26 Sep 2013 − 10:28am tony.donovan



Prepared/Date: TDD 9/24/15
Checked/Date: DEN 9/24/15

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 007.4 **DCB Type:** Major(a) **Effective Date:** 9/3/15; **Rev. 1**
Project Location: SA-6	**Associated RFI:**
Title: GW Extraction System – Revisions of Electrical to Replace Wells with Trenches	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1 was issued for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.3 provided the final details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping

DCB-007.4 provides the revised electrical plan, one line electrical drawings and electrical details for SA-6S.

The 100% Design included a Conceptual Design for the Groundwater Extraction system that was based on use of 9 extraction wells in each open space area and common header system. The revised Design uses a trench design. Details related to the Administrative basis for the change are provided in DCB 007.1.

DCB 007.4 is applicable to the Groundwater Extraction System electrical drawings for SA-6S (electrical plan and one line electrical drawing).

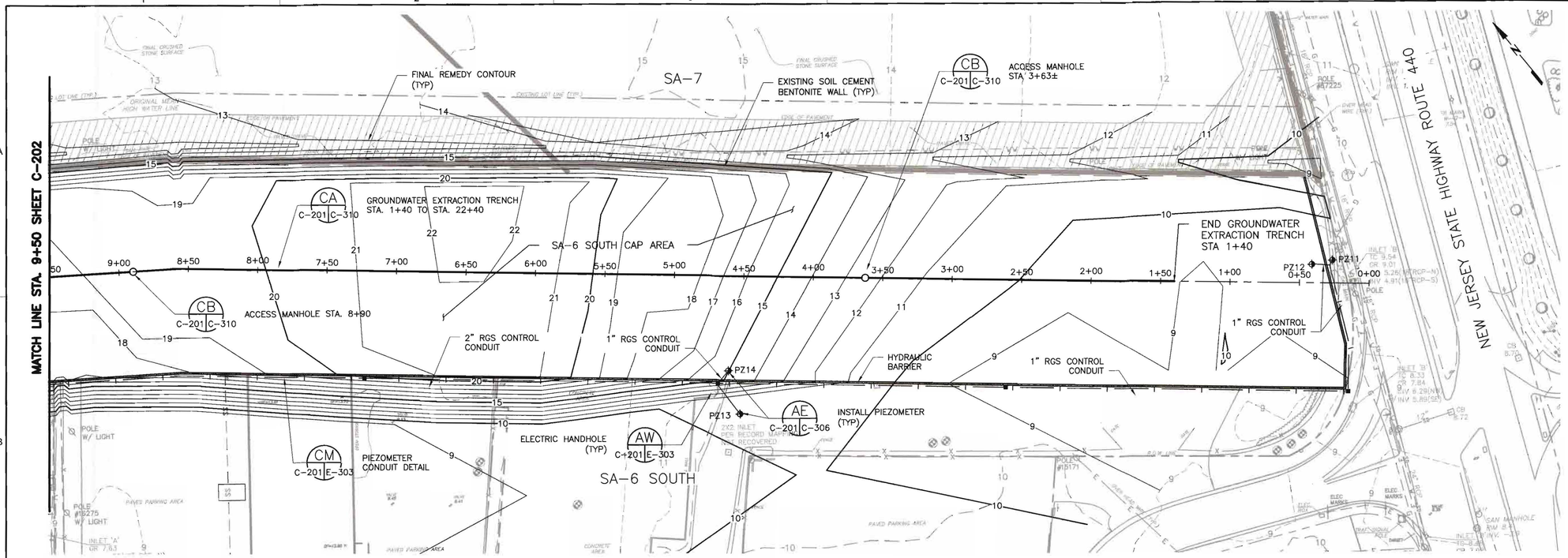
Drawings that are revised in this DCB are:
SA-6S

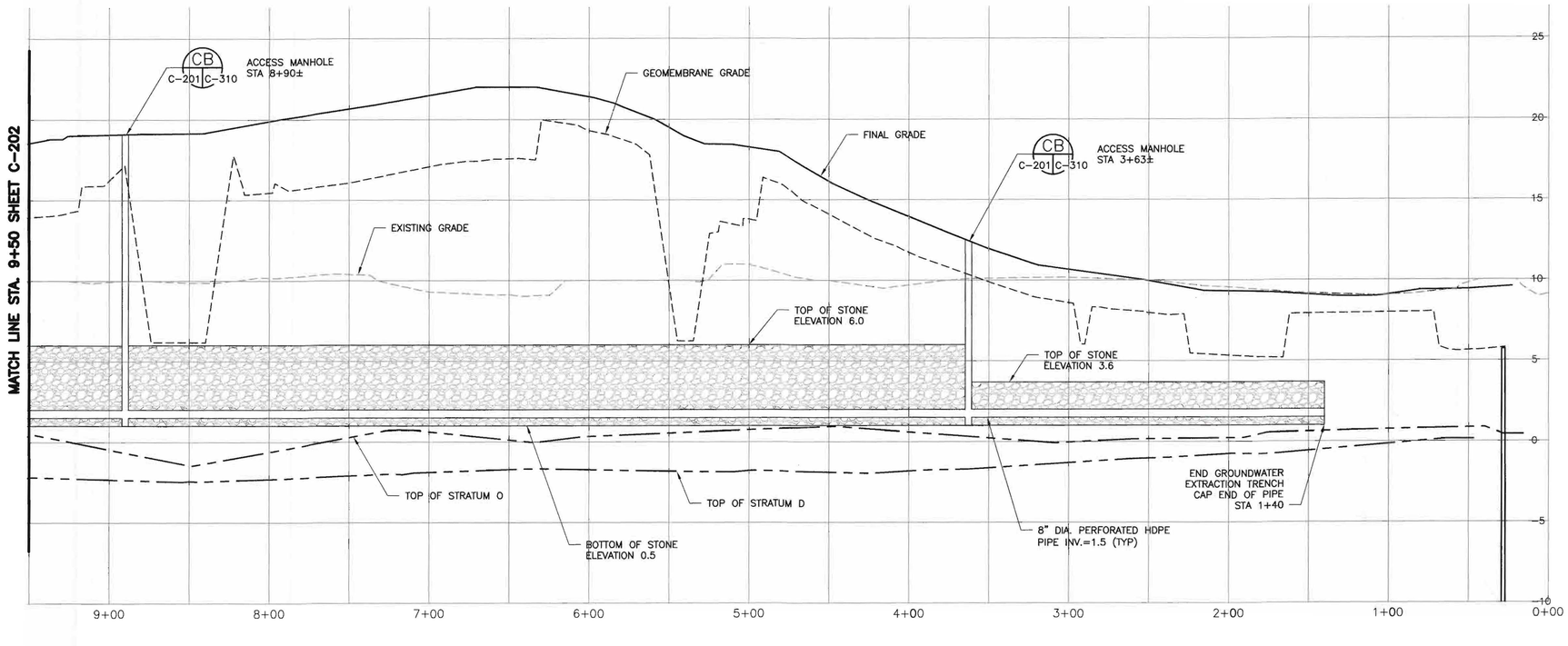
- C-201
- C-202
- C-203
- C-204
- C-306
- C-310
- E-301
- E-302
- E-303

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction
	Attachments: ☑ Yes ☐ No C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No

Additional Comments:		**Design Documents Affected:** C-201, C-202, C-203, C-204, C-306, C-310, E-301, E-302, E-303	
Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:**
(Name / Signature):		**Does DCB Result in CCO?**	☑ **Yes (b)** ☐ **No**
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF FILTER STONE AND HDPE PIPE.
5. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
6. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
7. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
8. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
9. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON GASKETS.
10. INSTALL INSTRAMENTATION CONDUIT FOR PAIRE PIEZOMETERSREADIED WITH PULL STRINGS FOR FUTURE INSTRAMENTATION CABLE INSTALLED BY OTHERS.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	08/14/15	TDD	RJR	TDD		RJR	SGS
2	02/13/15					TDD	SGS
1	06/06/14		DCB 007.4			TDD	SGS
			DCB 007.3				
			DCB 007				
			REVISION				

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
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GROUNDWATER EXTRACTION TRENCH PLAN AND PROFILE

amec
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200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 890-2626
NJ Certificate of Authorization Number
24GA28010900

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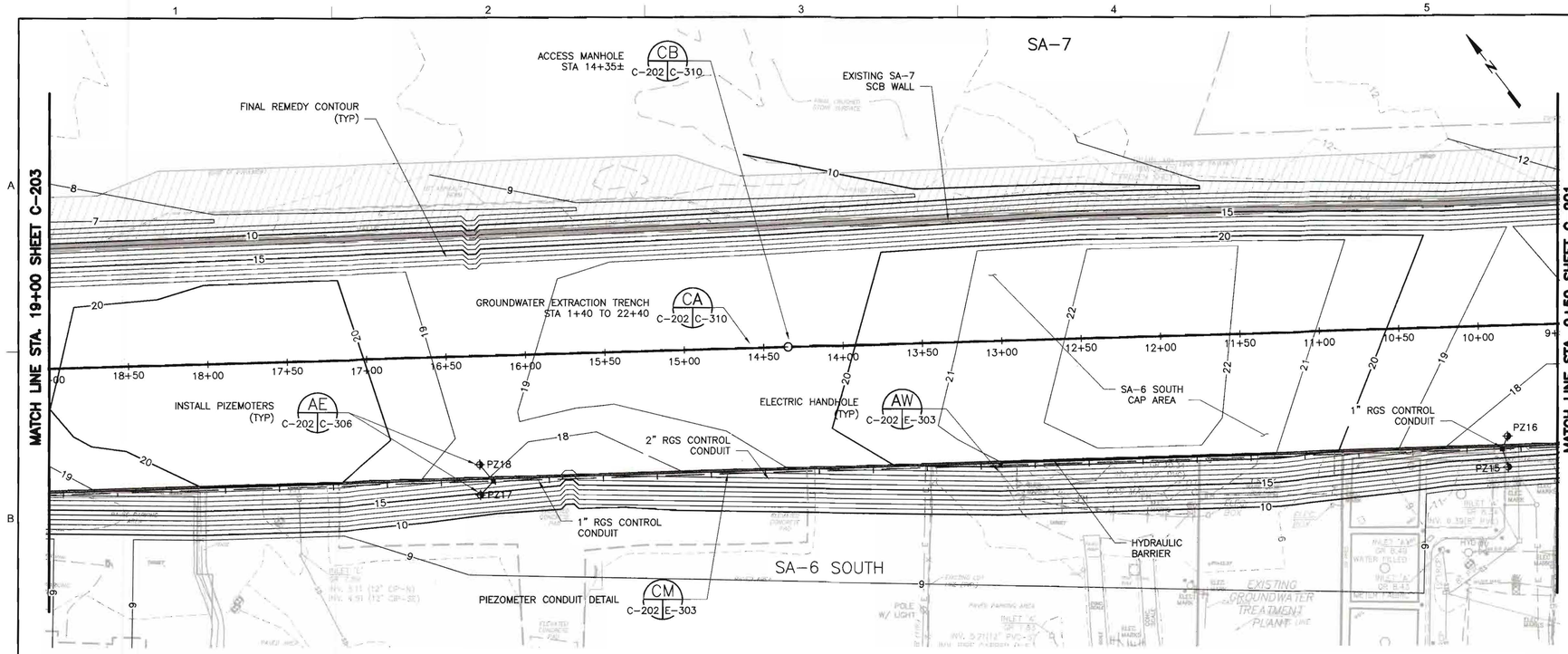
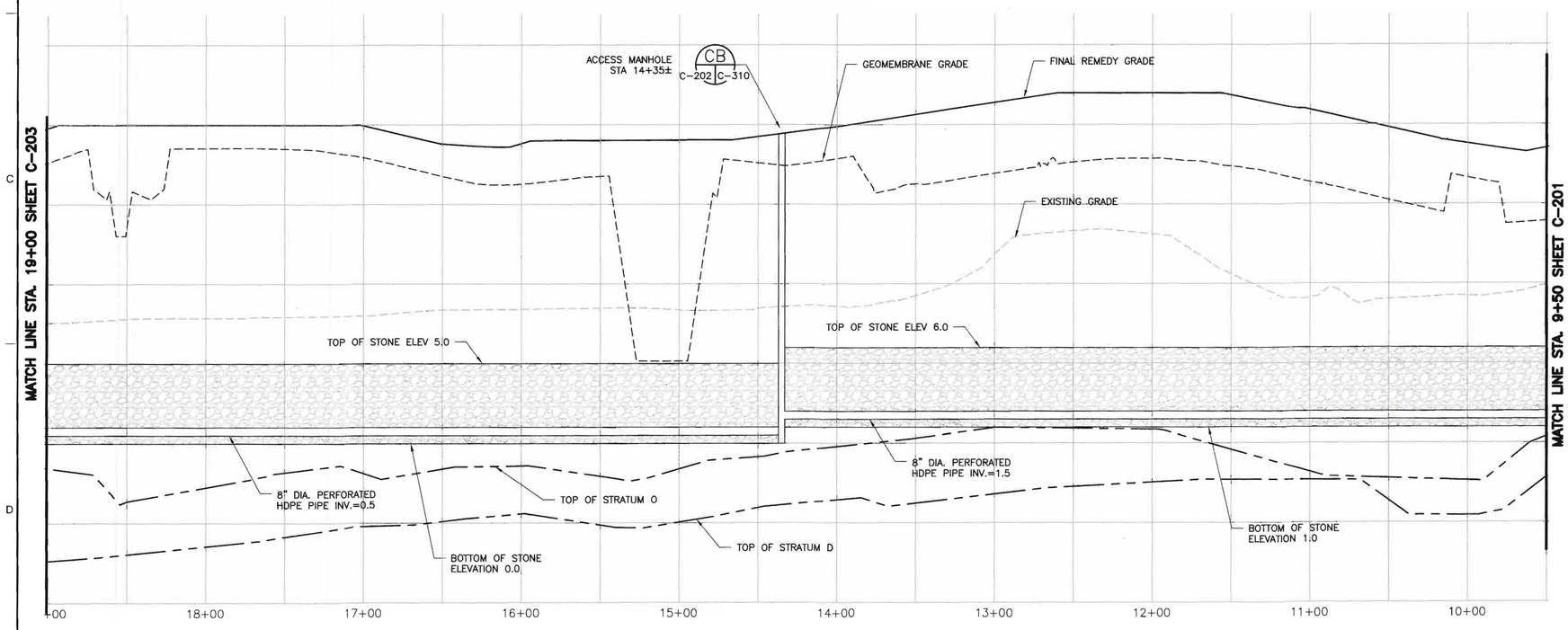
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-201
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:13 AM





NOTES:

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2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. REFER TO NOTES ON SHEET C-201.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

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2	07/30/14					DCB 007.1	TDD	SGS
1	06/06/14					DCB 007	TDD	SGS

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Hamilton, NJ, 08619
(609) 689 - 2929
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0 1"

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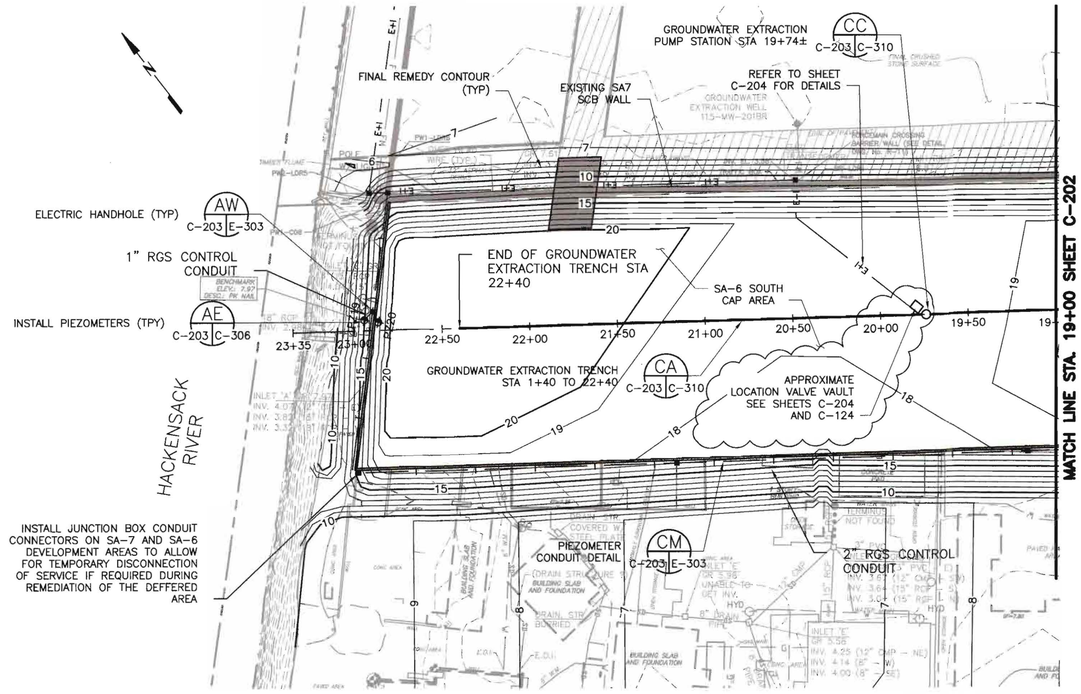
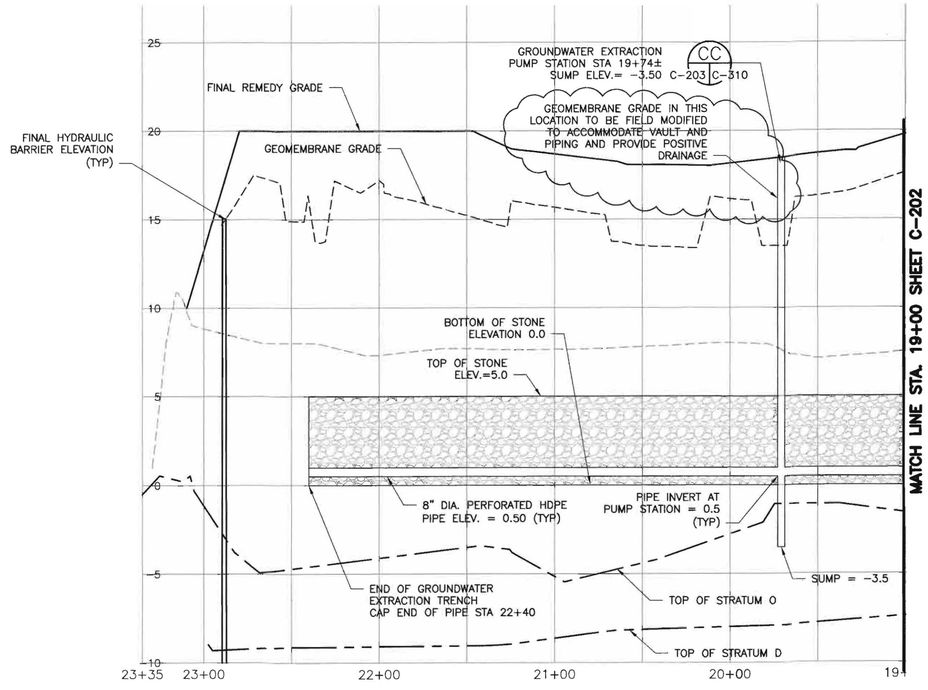
DWG	C-202
SHEET	OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR35-C-202_Cont_GWE_Trench.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:11 AM





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HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 8'
0 4 8 16
SCALE IN FEET

SAMUEL G. SHALLARD
9/2/15
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
4	08/14/15	DCB 007.4	RJR	SGS
3	02/13/15	DCB 007.3	TDD	SGS
2	07/30/14	DCB 007.1	TDD	SGS
1	06/06/14	DCB 007	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SGS

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APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 24 OF 25

- **Declaration #5 Part 2**

Attachments P (Part 2) – Q

ATTACHMENT P
DESIGN CHANGES
PART 2

HACKENSACK RIVER

PIERHEAD AND BULKH

SA-7

SA-6 SOUTH

SA-6 NORTH

NOTE:
CONTRACTOR TO VERIFY CONDITION OF EXISTING E&I AND FM AND STATION OF TIE-INS PRIOR TO INITIATING WORK.

AZ C-204 | C-306 DROP STRUCTURE STA=63+78 END NEW 2" FM AND START OF EXISTING 3" HDPE FM IN 6" HDPE

AW C-204 | E-303 ELECTRICAL HANHOLE DETAIL (TYP) NOTE IF AVAILABLE REUSE EXISTING ELECTRICAL PULL BOX IN THIS LOCATION

CI C-204 | C-304 EXISTING PW-1 CLEANOUT STATION STA 69+70 INV=2.40 (RECORD)

CJ C-204 | C-304 EXISTING PW-1 LEAK DETECTION STATION STA 70+11 INV=9.35 (RECORD)

CF C-204 | C-304 AIR RELEASE STATION STA 70+19 GRADE EL=16.3

STA=70+19 END OF EXISTING 3" FM AND START OF NEW 2" FM TO SA-6 NORTH

EXISITNG 2" REGIONAL GROUNDWATER FORCE MAIN FROM EW 115-MW-215BR

EXISITNG 3" EFFLUENT AND 1½" SANITARY FM

EXISTING 2"I AND 2"E CONDUITS

CK C-204 | C-306 EXISTING 3" FM TRENCH DETAIL FORCE MAIN FROM FLOW METER STRUCTURE STA 63+78 TO STA 68+91

STA=68+91 EXISTING REGIONAL GROUNDWATER EXTRACTION WELL 115-MW-215BR

CL C-204 | C-306 EXISTING 6"X3" FM TRENCH DETAIL

EXISTING SA-7 SCB WALL

EXTRACTION TRENCH

FINAL REMEDY CONTOURS (TYP)

CM C-204 | E-303 PIEZOMETER CONDUIT DETAIL

CG C-204 | C-304 LEAK DETECTION STATION STA=61+48, GRADE EL=10.1

CH C-204 | C-304 DOUBLE CONTAINED ELBOW PIPE CLEANOUT STATION STA=61+39, GRADE EL=10.0

SA-6 NORTH FINAL REMEDY GRADE

CH C-204 | C-304 DOUBLE CONTAINED ELBOW PIPE CLEANOUT STATION STA=72+50, GRADE EL=10.0

1" RGS CONDUIT 2" SCH 80 PVC

2" HDPE IN 4" HDPE

EXISITNG 2"I AND 3"E CONDUITS

SA-6 NORTH GROUNDWATER EXTRACTION FORCE MAIN (SEE SHEET CN-203)

EXISTING HYDRAULIC BARRIER

CAP TWO 2" HDPE IN 4" HDPE GW FORCE MAINE 5 FEET OUTSIDE FOUNDATION OF GWTP

EXISTING GROUNDWATER TREATMENT BUILDING

EXISTING 72 IN. FM

SA-6 SOUTH CAP AREA

2" RGS CONTROL CONDUIT 2" PVC SCH 40 POWER CONDIT

PROPOSED HYDRAULIC BARRIER

CC C-204 | C-310 VALVE VAULT STA 60+31±, GRADE EL=18.1

GROUNDWATER EXTRACTION PUMP STATION STA 19+74 EXTRACTION TRENCH= STA 60+24 EXTRACTION FORCE MAIN

MATCH LINE SHEET C-203, C-204

MATCH LINE SHEET C-202

MATCH LINE BELOW

END EXISTING 3" HDPE IN 6" HDPE REDUCE TO 2" HDPE IN 4" HDPE STA=70+19, INV= 10.1

AIR RELEASE STATION STA=71+75 GRADE EL=17.8 C-204 | C-304 CF

EXISTING PW-1 LEAK DETECTION STA 70+13 INV=9.35 (RECORD) C-204 | C-304 CJ

EXISTING 3" CLEANOUT STA 69+70 INV=2.4 (RECORD) C-204 | C-304 CI

EXISTING SA-7 SCB WALL

PROPOSED SA-6 NORTH REMEDY GRADE

FUTURE DEVELOPMENT 48" STORM INV=4.0 BY OTHERS

STA=68+91 REGIONAL GROUNDWATER EXTRACTION WELL 115-MW-215BR

INV=10.1

INV=9.35 (RECORD)

EXISTING 72" FORCE MAIN, TOP OF PIPE EL= ± 13.8

CAP TWO 2" HDPE IN 4" HDPE GW FORCE MAINS 5 FEET OUTSIDE FOUNDATION OF GWTPSTA 73+38 INV=11.16

EXISTING GROUNDWATER TREATMENT BUILDING STA 73+43

INV=2.4

EXISTING 54" FM ABANDONED

SA-7 BULKHEAD AREA

SA-6 NORTH

GROUNDWATER EXTRACTION PUMP STATION STA 60+24± CENTER C-204 | C-310 CC

PROPOSED VALVE VAULT STA 60+31± GRADE EL=18.1

2" HDPE DR 11 FM IN 4" HDPE DR17

INSTALL 2" THICK INSULATION BOARD OVER FM WERE COVER IS LESS THEN 3'

CG C-204 | C-304 DOUBLE CONTAINED ELBOW PIPE CLEANOUT STA=61+39, GRADE EL=10.0

CH C-204 | C-304 LEAK DETECTION STATION STA=61+48

AZ C-204 | C-306 DROP STRUCTURE STA=63+78± GRADE EL=9.7 PROPOSED 2" HDPE DR11 IN A 4" HDPE DR17 INV. IN=7.5, EXISTING 3" HDPE FM IN 6" HDPE INV. OUT=0.97

INV=14.7

INV=14.3

GEOMEMBRANE GRADE

STA 61+37 90° ELBOW INV.=7.51

FINAL REMEDY GRADE

FUTURE DEVELOPMENT 60" DRAIN PIPE INV=4.1 BY OTHERS

EXISTING GRADE

EXISTING GRADE

INV=6.7

INV=6.7

INV=7.5

EXISTING SA-7 SOUTH SCB WALL

2" HDPE DR 11 FM IN 4" HDPE DR17

EXISTING 3" HDPE IN 6" HDPE STA 63+78 TO STA 70+19

EXISTING SA-7 PERIMETER POOL ALONG SCB WALL EL=5.0

INV=(3.5)

EXISTING SA-7 SCB WEST WALL

INV=0.97

EXISTING 3" HDPE DR11 FM INSIDE 6" HDPE DR17 PIPE

SA-7

SA-6 SOUTH

SA-7 BULKHEAD AREA

MATCH LINE ABOVE

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. DEWATER AS NECESSARY TO PROVIDE SUITABLE CONDITIONS FOR PLACEMENT OF STONE AND HDPE PIPE.
4. USE SHEETING/SHORING TRENCH BOXES OR OTHER MEANS AS NECESSARY TO ALLOW FOR PLACEMENT OF STONE AND HDPE PIPE.
5. AT STATION 66+65, IF AVAILABLE, REUSE EXISITNG ELECTRICAL PULL BOX.
6. FROM STATION 63+78 TO STATION 68+91 REMOVE ANY EXISTING WIRING REMAINING IN THE 2" E+I CONDUITS.
7. FORCEMAIN TO BE CAPPED AND TEMINATED 5 FEET OUTSIDE THE GROUNDWATER TREATMENT PLANT. INSTALL 4'x4'x4' GRANITE MARKER AT END OF FORCEMAIN. TOP 2" ABOVE GRADE TO DOCUMENTATION LOCATION.
8. 2" PVC POWER CONDUIT TO BE INSTALLED. WIRING TO BE INSTALLED BY OTHERS UNDER FUTURE CONTRACT. INSTALL NON-DEGRADABLE PULL STRINGS FOR FUTURE USE.

HORIZONTAL SCALE: 1" = 40'
0 20 40 80
SCALE IN FEET

VERTICAL SCALE: 1" = 5'
0 2.5 5 10
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
Date 8/18/15

NO.	DATE	REVISION	DR	CHK	APVD
4	08/14/15	DCB 007.4	RJR	TDD	SGS
3	02/13/15	DCB 007.3	TDD	SGS	SGS
2	05/16/14	REVISED GROUNDWATER EXTRACTION PUMP STATION	RJR	SGS	
1	05/14/14	DCB 007	TDD	SHM	
DSGN			TDD	BY	APVD

Honeywell
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION FORCE MAIN PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28019900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-204
SHEET	OF 66

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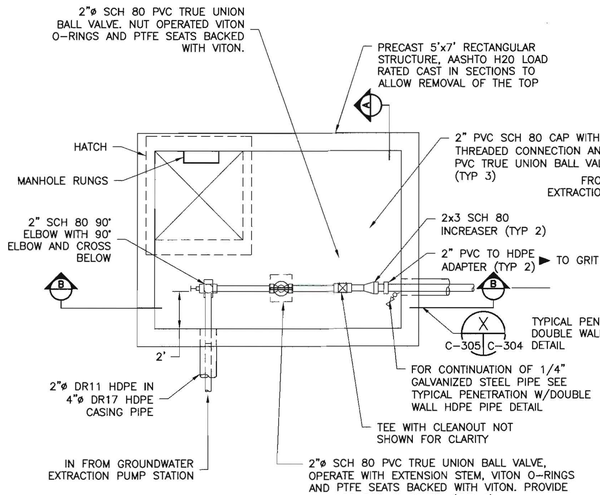
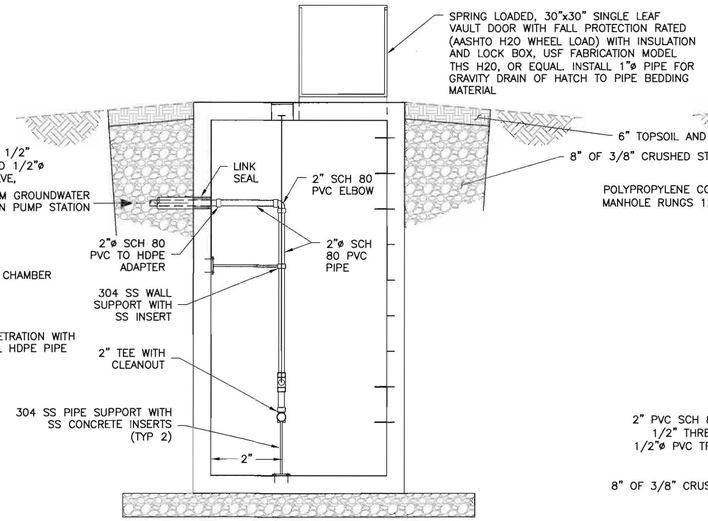
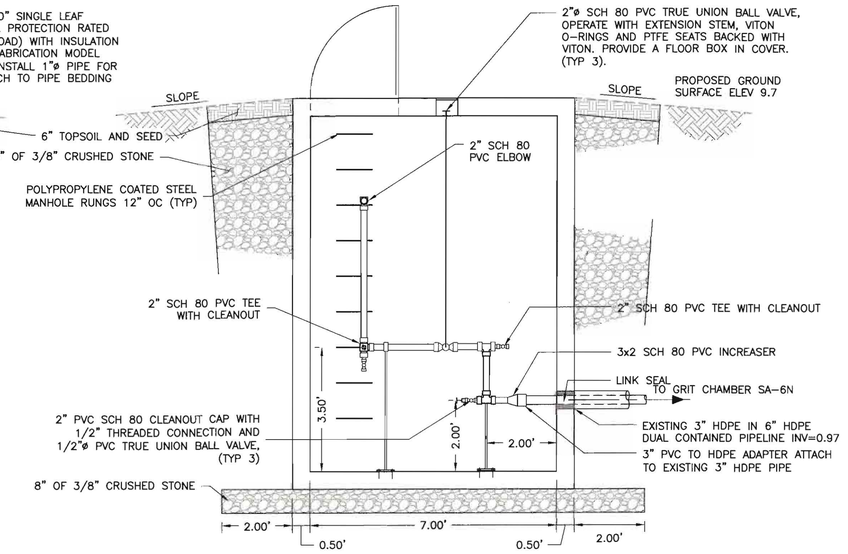


PLAN

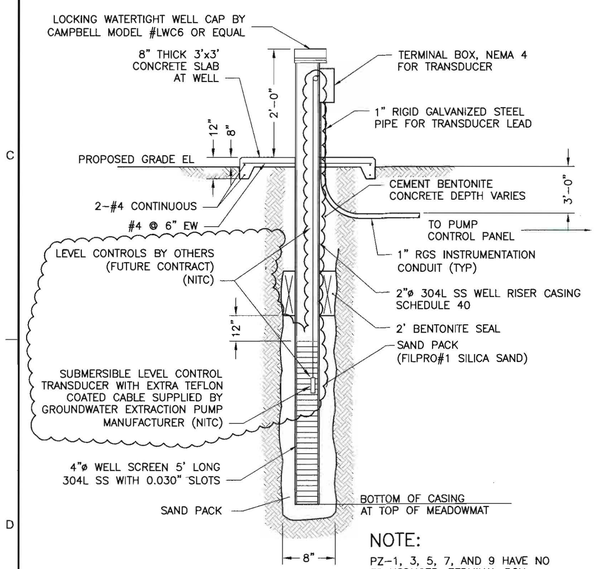


SECTION AA



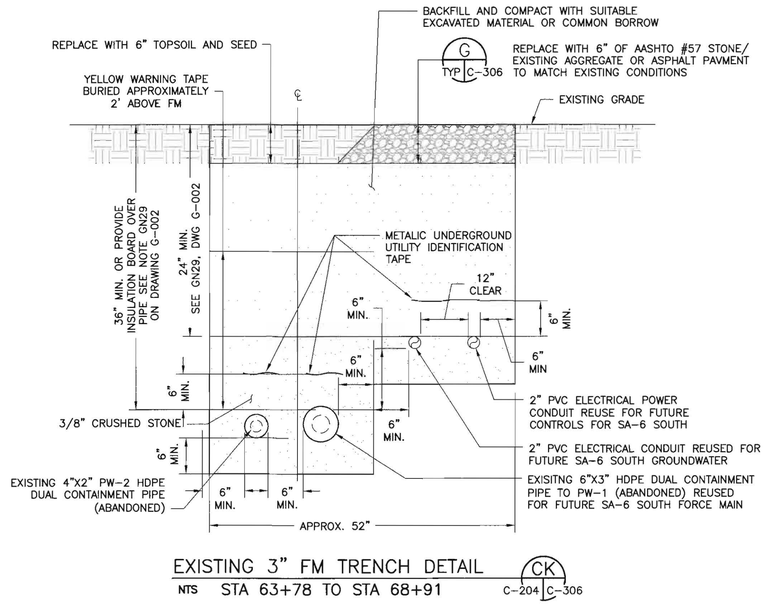
SECTION BB

DROP STRUCTURE DETAIL (AZ)
NTS STA 63+78 C-204 C-306

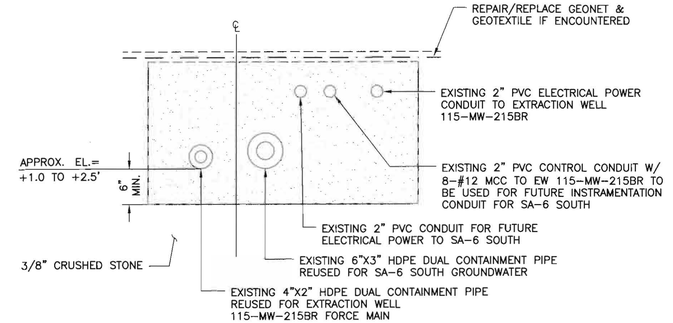


NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL (AE)
NTS C-201 C-202 C-203 C-306



EXISTING 3" FM TRENCH DETAIL (CK)
NTS STA 63+78 TO STA 68+91 C-204 C-306



TRENCH DETAIL (CL)
NTS C-204 C-306

NOTES:
1. REFER TO GENERAL NOTES SHEET G-003 AND C-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY
					SHM	SHM
					APVD	TDD
					REO	SGS
						SGS
			RJR	RJR		RJR
2	08/14/15	REO				
1	02/13/15					
0	06/07/13					

ISSUED FOR CONSTRUCTION
DCB 007.3
DCB 007.4
REVISION

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
(609) 587-2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-306
SHEET	42 OF 66

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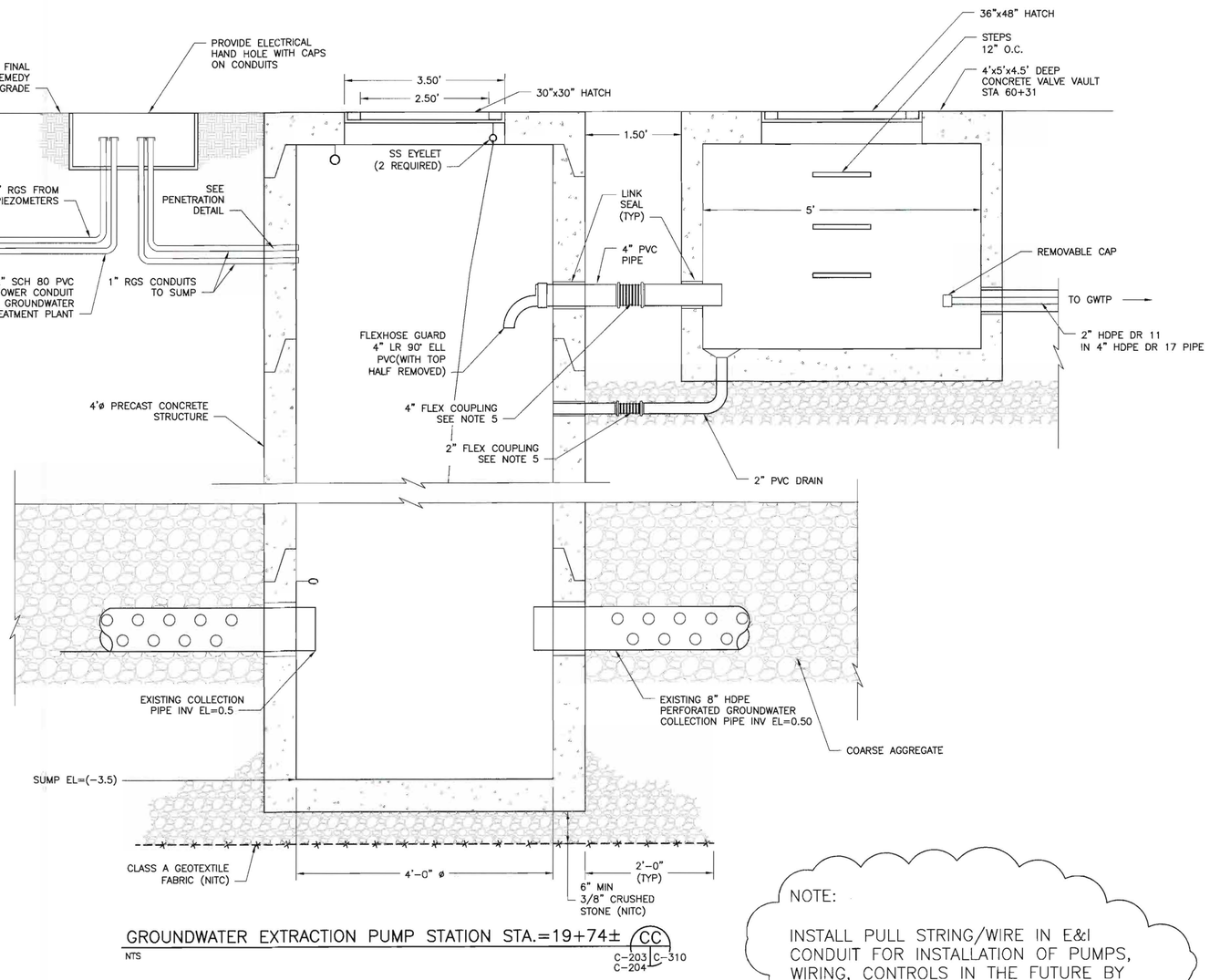

GROUNDWATER EXTRACTION PUMP STATION STA.=19+74± (CC)

NTS

C-203 | C-204 | C-310

- SET MANHOLE BASE AND RISER SECTIONS. (NITC)
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- DESIGN GRADE TO MATCH AVAILABLE RISERS REVIEW WITH ENGINEER PRIOR TO INSTALLING RISERS AND PERMANENT COVER.

NOTE:

INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36' X 50" VALVE VAULT HATCH	2	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I*2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, AND HOLD OPEN ARM
FLEX COUPLING	2	ETHYLENE, LLC OR APPROVED EQUAL	FLEXIJOINT COUPLING MIN. (2) BELLOWS, TEFLON-LINED W/ 316 SS FLANGES, POWER BAKED EPOXY COATING, AND VITON GASKETS

SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY
			TDD	RJR	TDD	SGS
1	06/06/14	DCB 007	TDD	RJR	APVD	SGS
2	02/02/15	DCB 007.3	TDD	RJR	TDD	SGS
3	08/14/15	DCB 007.4	TDD	RJR	TDD	SGS

DSGN TDD

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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GROUNDWATER EXTRACTION TRENCH DETAILS

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DATE
PROJ 3480-12-0317
DWG C-310
SHEET OF 66

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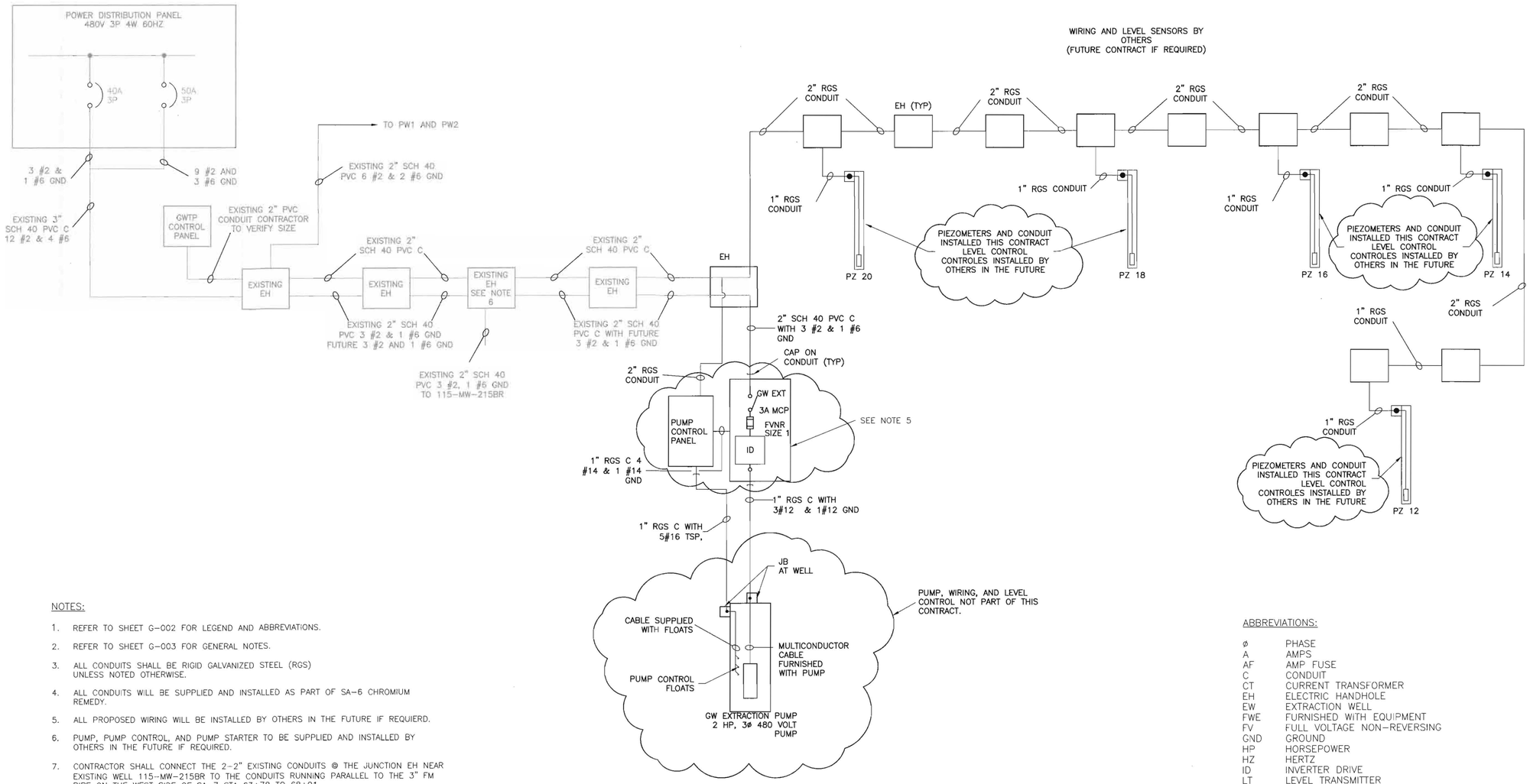
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR46-C-310_Cont_GWE_Trench_Details.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:19 AM



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE RIGID GALVANIZED STEEL (RGS) UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIERD.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

NO.	DATE	DSGN	DR	CHK	APVD
1	08/14/15	TDD	RJR	SHM	SGS
0	06/07/13	TDD	RJR	SHM	SGS

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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DATE	
PROJ	3480-12-0317
DWG	E-301
SHEET	64 OF 66

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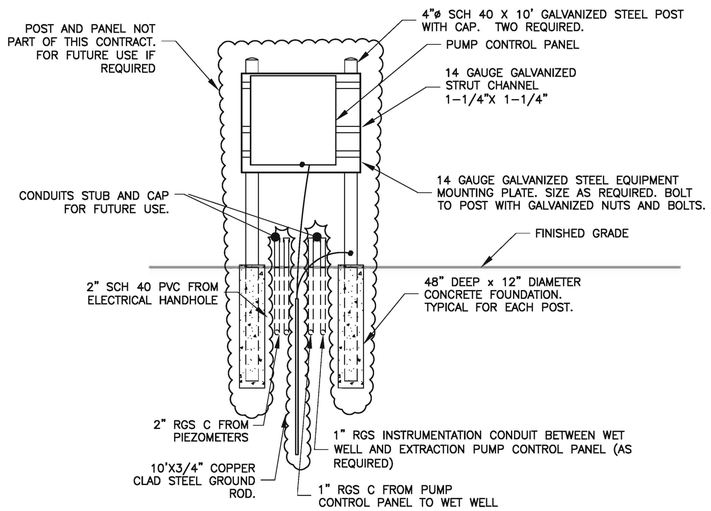


EXTRACTION WELL PUMP CONTROL PANEL DETAIL — AO

NTS — TYP E-302

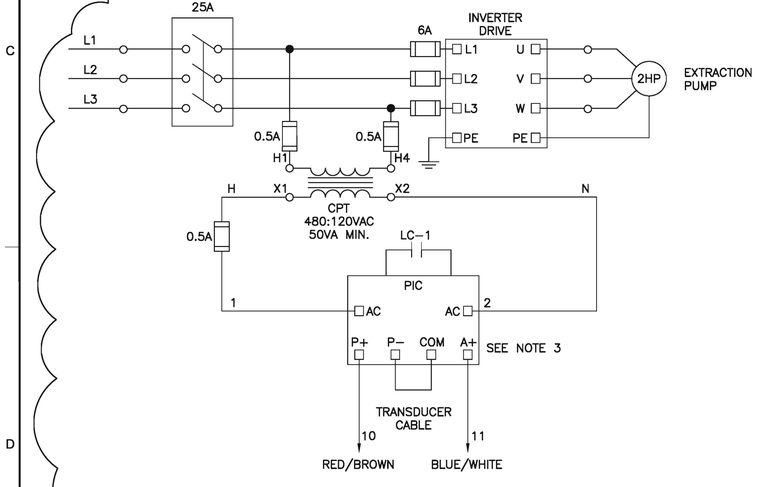
NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM, UNLESS OTHERWISE SHOWN. WHEN DISTANCE IS LESS THAN 6 FEET, LIQUID TIGHT METAL FLEXIBLE CONDUIT MAY BE USED.
2. LOCATE THE PUMP MOTOR STARTER WITHIN 3' OF THE EXTRACTION WELL PUMP STATION.

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

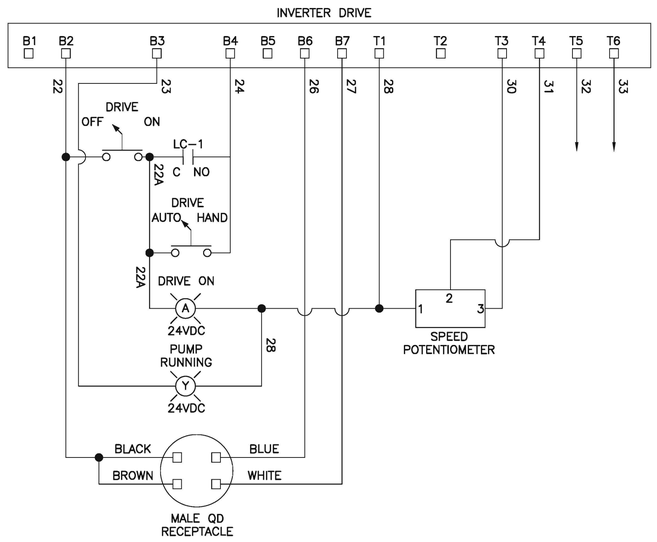
NOT PART OF THIS CONTRACT
ELECTRICAL POWER AND INSTRUMENTATION CONTROLS TO BE RE-EVALUATED FOLLOWING INITIAL DRAWDOWN AND TRENCH PERFORMANCE EVALUATION.



PUMP CONTROL PANEL WIRING DIAGRAM — AP

NTS — TYP E-302

TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 3)



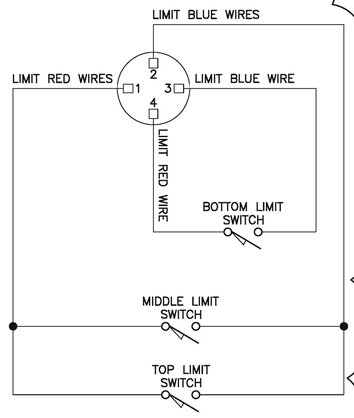
INVERTER DRIVE WIRING DIAGRAM — AQ

NTS — TYP E-302

FIELD TERMINAL STRIP CONNECTION SUMMARY

GND	EARTH GROUND
10	RED TRANSDUCER WIRE
11	BLUE TRANSDUCER WIRE
22	MALE QD RECEPTACLE BROWN AND BLACK
26	MALE QD RECEPTACLE BLUE
27	MALE QD RECEPTACLE WHITE
32	FAULT CONTACT SUPPLY
33	FAULT CONTACT RETURN

FEMALE QUICK DISCONNECT PLUG



PLUG & TERMINAL STRIP WIRING DIAGRAM — AR

NTS — TYP E-302

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	08/14/15	RJR	SGS		
0	06/07/13	TDD	TDD	RJR	SHM

DCB 007.4
ISSUED FOR CONSTRUCTION
REVISION
BY APVD
SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAMS

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(609) 585-2283
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

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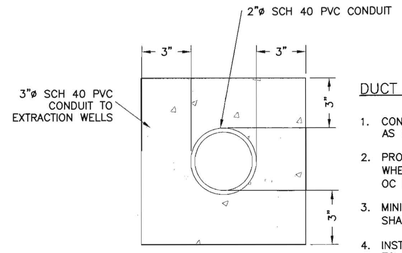
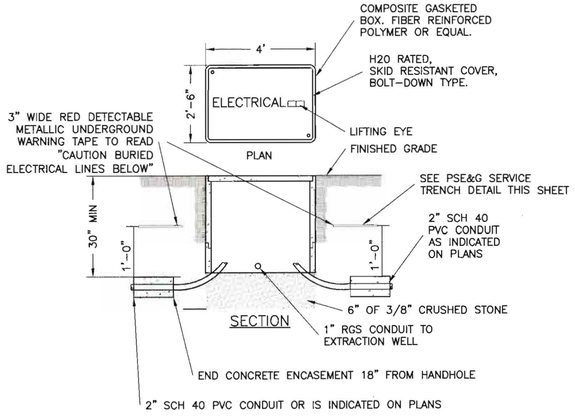


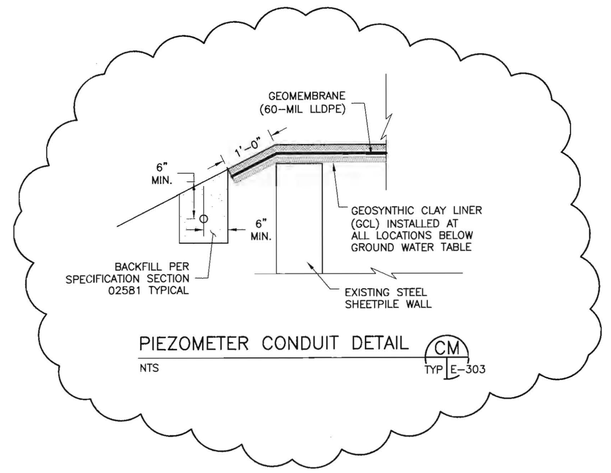
DUCT WAY NOTES:

1. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
2. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'-0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C-306.

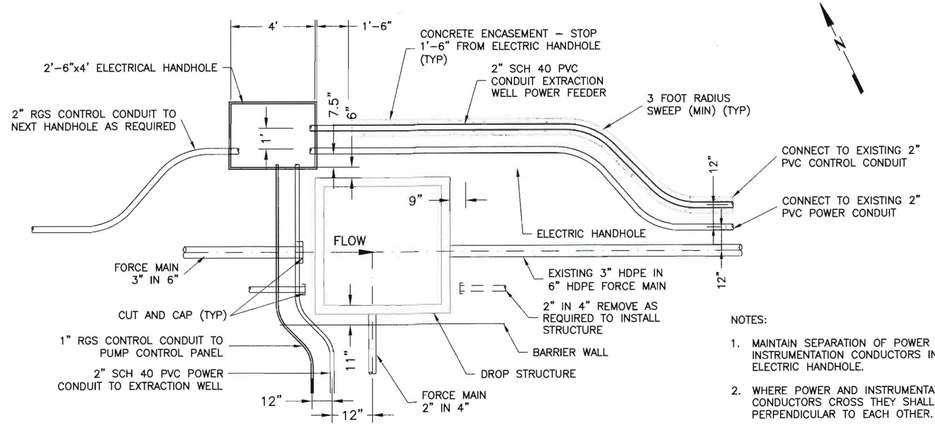
DUCT BANK DETAILS — AT
NTS — TYP | E-303



ELECTRICAL HANDHOLE DETAIL — AW
NTS — C-201, C-202, C-203 | E-303



PIEZOMETER CONDUIT DETAIL — CM
NTS — TYP | E-303



NOTES:

1. MAINTAIN SEPARATION OF POWER AND INSTRUMENTATION CONDUCTORS IN ELECTRIC HANDHOLE.
2. WHERE POWER AND INSTRUMENTATION CONDUCTORS CROSS THEY SHALL CROSS PERPENDICULAR TO EACH OTHER.
3. ELECTRICAL HAND HOLES SHALL BE LOCATED TO AVOID CLEANOUT MANHOLES.

ELECTRICAL HANDHOLE ORIENTATION DETAIL — AY
NTS — C-201, C-202, C-203 | E-303

NOTES:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

NO.	DATE	REVISION	DR	CHK	APVD	BY
DSGN	TDD		RJR	SGS	SGS	APVD
1	08/14/15	DCB 007.4				RJR SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD SGS

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CHROMIUM REMEDY
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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS:
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ELECTRICAL DETAILS

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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-303
SHEET	66 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR66-E-303 Electrical Details.dwg PLOT DATE: Fri, 14 Aug 2015 PLOT TIME: 9:41 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 051 **DCB Type:** Minor (a) **Effective Date:** 10/22/15
Project Location: SA-6 North	**Associated RFI:**
Title: Move western Limit of Stratum D Repair	☑ Yes, RFI Nos. ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Pre-trenching on the vinyl sheetpile alignment revealed a significant number of old timber piles along the vinyl sheetpile alignment. The location with the most significant conflicts was along the western edge of the proposed repair. Removal of the piles would create openings in the Stratum D.

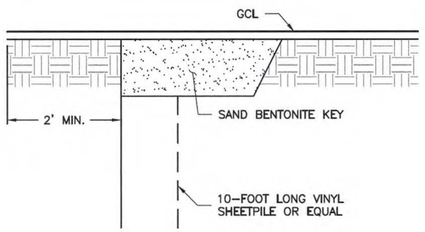
In lieu of removing sheetpile the western side was relocated approximately 6 ft. further west. The flexibility of the sheets was used to avoid piles at other locations. This will result in an expansion of the repair plan area from approximately 14,000 SF to, approximately 14,500 SF.

This change has no impact of the functionality of the chromium remedy or on the future site development.

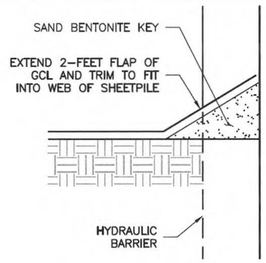
Drawing SN-302 has been amended to indicate the installed location of the vinyl sheetpile wall and the timber piles that were identified and left in place.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing SN-302 (Rev 01)
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 11/18/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

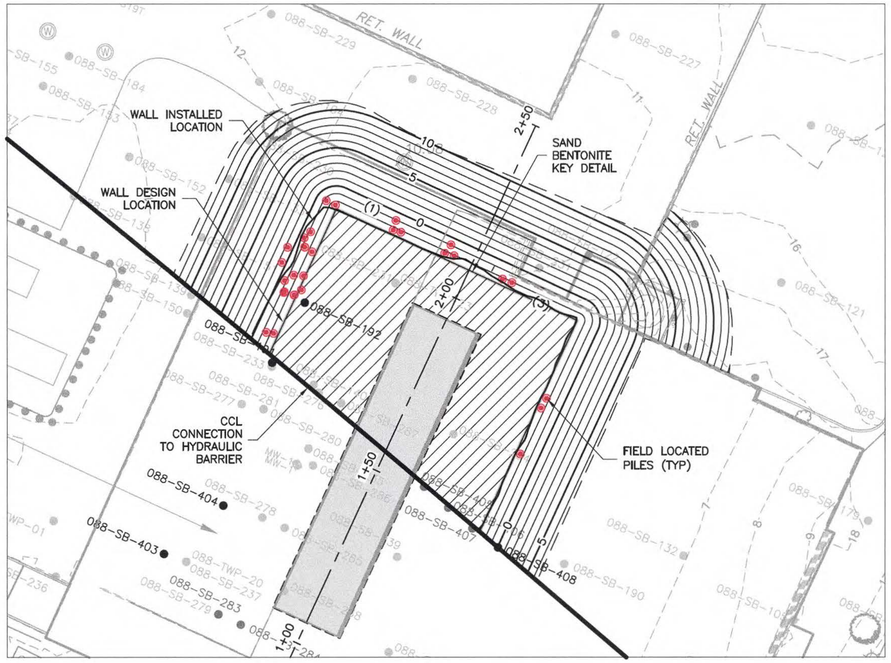
(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



SAND BENTONITE KEY DETAIL

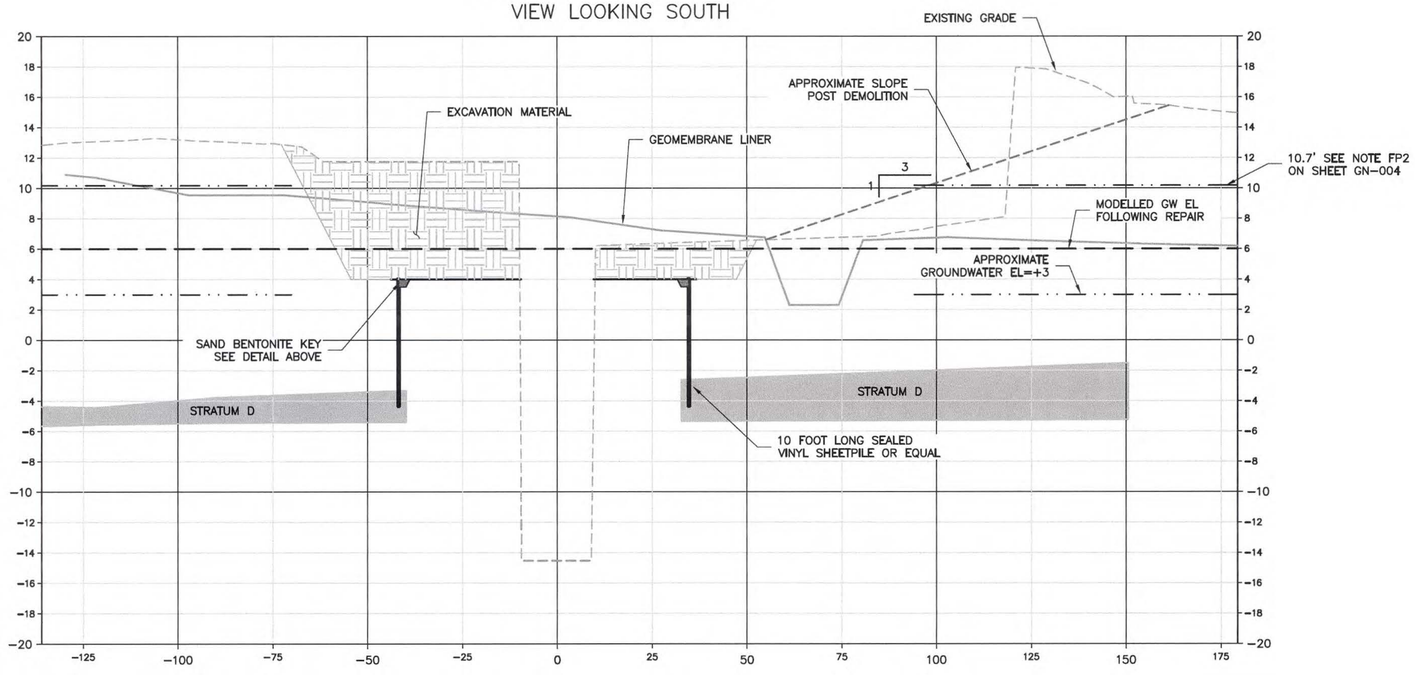


GCL CONNECTION TO HYDRAULIC BARRIER



OPEN EXCAVATION GCL BARRIER
WALL OPTION

SECTION 1+57
ALONG HYDRAULIC BARRIER
VIEW LOOKING SOUTH



OPEN EXCAVATION OPTION

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SEQUENCE OF CONSTRUCTION

1. INSTALL HYDRAULIC BARRIER WALL.
2. EXCAVATE TO APRROXIMATELY ELEVATION 4 (APPROXIMATELY 1 FOOT OVER THE GROUNDWATER LEVEL).
3. INSTALL A SEALED VINLY SHEETPILE WALL AROUND THE PERIMETER OF THE REPAIR.
4. INSTALL A BENTONITE SAND CONNECTION DETAIL IN ACCORDANCE WITH DETAIL B1.
5. PLACE GCL LAYER OVER THE AREA OF THE REPAIR.
6. BACKFILL TO GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
1	11/16/15	TDD	RJR	TDD	SGS	TDD	SGS
0	06/07/13	REVISION / ISSUED FOR CONSTRUCTION					

DCB 051 MOVE SHEETPILE TO AVOID TIMBER PILES

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

STRATUM D REPAIR
JCIA TRASH PIT AREA

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DATE	
PROJ	3480-12-0317
DWG	SN-302
SHEET	61 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR61-SN-302 JCIA Pit Stratum D Restoration.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 12:20 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 057 **DCB Type:** Minor (a) **Effective Date:** 03/21/16
Project Location: SA-6 **Title:** Planting Soil Specifications (Nature's Choice - Horizon C ONLY)	**Associated RFI:** ☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377
Description. Revisions to the Horizon C planting soil specifications for the Nature's Choice Horizon C Soil Source Only.	
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See additional comments **Attachments:** ☑ Yes ☐ No Laboratory reports of chemical analysis Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Nature's Choice was identified as the source that best met the physical requirements for Horizon C soils by Dr. Grabosky; however, several samples of Nature's Choice Horizon C soils have hexavalent chromium concentration >1.0 mg/kg. Consequently, Honeywell is proposing a design change to allow the hexavalent chromium concentration in Nature's Choice Horizon C soils to be less than 1.8 mg/kg, as agreed to by the Parties. For future sampling, hexavalent chromium soil samples will be composited from 10 grab sample locations per 5,000 CY (maximum). There are additional conditions in Attachment A that are part of this DCB and specific to Nature's Choice Horizon C soil. All other requirements specified in the 100% Design for imported soils will be met by the Nature's Choice Horizon C soils as amended in previous DCB 046.	**Design Documents Affected:** Specification 02315, Section 2.12.C Open Space Design Standards, Section 2.1.2
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Attachment A – Supplemental Requirements for DCB 057

During the March 17 teleconference, Honeywell explained that the proposed material would come from an excavation pit (with concentration characteristics similar to those from which data was previously collected). Based on the information provided by Honeywell, plaintiffs will accept Honeywell's proposal to use the Nature's Choice material as Horizon C soils at Study Areas 6 North and South so long as Honeywell agrees to the following conditions:

1. Plaintiffs' agreement to use soils in excess of the 100% Design 1 ppm hexavalent chromium standard is limited to the Nature's Choice materials in question for use as Horizon C soils and is not a modification of the 100% Design standards as they apply to any future fill, repair or restoration work. This limited deviation from the 100% Design is set forth in this Design Change Bulletin.

2. The Nature's Choice materials shall contain less than 1.8 mg/kg hexavalent chromium. In addition, Honeywell shall use best efforts to maintain an average hexavalent chromium concentration as estimated based on the upper limit of the 95th percentile confidence interval around the mean of 1.1 mg/kg in the Horizon C soils.

3. The Nature's Choice materials shall be sampled for hexavalent chromium no less frequently than once every 5,000 cubic yards. Hexavalent chromium sampling shall use composite samples that are made up of a minimum of 10 grab samples. The grab samples shall be collected as evenly as possible throughout the volume of material being sampled to ensure true representation of the hexavalent chromium concentrations coming onto the Study Area 6 sites.

4. All other sampling and analysis protocols will follow the customarily used NJDEP and USEPA protocols. To be consistent with the NJDEP protocols, one of the individual 10 grab samples will be used for all other required analytical parameters (VOCs, SVOCs, metals, etc.) to demonstrate compliance with clean fill requirements.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 059 **DCB Type:** Minor (a) **Effective Date:** 4/20/16
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Specifications	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. Planting Soil Source Acceptance Variance for Select Horizon B and C Soils.

DCB-046 expanded the ranges of acceptable physical parameters (gradations, pH and organic content) in Horizon B and C soils that were included in the Earthwork Specification 02315. DCB-046 was accepted by all Parties and Specification 02315 was revised accordingly.

Subsequent to the acceptance of DCB-046, Entact encountered difficulty locating available Horizon B and C sources that comply with the revised Specification and meet hexavalent chromium design criteria of 1 mg/kg or less.

This DCB-059 was developed to document an agreement reached by all parties on the Special Master All-Hands monthly call on April 19, 2016. Based on the agreement, Honeywell will proceed to import fill material from suppliers as noted below to support the project needs for Horizon B and Horizon C soils to meet the demands for fill quantity and schedule for cover soils on SA-6 South and North.

It is noted that an exhaustive search of potential sources resulted in a short list of potentially viable Horizon B and C sources being recommended, following consultation with Dr. Grabosky who provided his recommendations in correspondence dated March 17, 2016. Dr. Grabosky's recommendation is attached and made part of this DCB. The specific sub set of soil sources agreed to by all parties is as follows:

Horizon B Approved Sources	Horizon C Approved Sources
Cedar Hill	Natures Choice (Per DCB-057)
EME - B001	Impact - AB33
Impact - AD17	Impact - AD25

DCB-059 applies to the completion of importing soils for SA-6 North and South grades as presented in the 100% design and does not permanently change the Earthwork Specification 02315 for physical parameters (gradations, pH and organic content) in Horizon B and C soils that were memorialized in DCB-046.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Dr. Jason Grabosky letter (3/17/16) Plaintiffs' letter dated 04/15/16. Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments: See DCB-057 for acceptability conditions of Nature's Choice Horizon C soils.	**Design Documents Affected:** Specification 02315, Section 2.12
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 4/26/2016
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DR. JASON GRABOSKY RECOMMENDATION

RUTGERS
School of Environmental and Biological Sciences

Urban and Community Forestry Program
Dept. of Ecology Evolutionand Natural Resources
Environmental and Natural Resources Bld, Room 144
Rutgers, The State University of New Jersey
14 College Farm Road
New Brunswick, NJ 08901-8551

March 17, 2016

To all concerned:

I spoke on the phone with Geoff in between meetings during the past week. For all concerned, there was a delay in this set of conversations due to some snags in our e-mail communications (I was not getting e-mails through my server for some reason), but we developed some work arounds to share the soils tables under review and spoke during a brief conversation on Tuesday Morning from 8:00-8:15 a.m. once I had the soils tables in front of me while chatting over the phone.

There are issues with the Nature's choice source, in terms of supply and in terms of some testing results. For that reason, it has been necessary to identify alternative Horizon B and Horizon C sources. To reduce risks in material supply, chemistry and gradation, I have identified multiple sources/mixes for both Horizon B and Horizon C. In making specific recommendations I also considered both the expense of shipping, and the environmental cost (or the carbon footprint) in shipping, and the limitations in time management from the haulage/transportation logistics.

Horizon B:
In a technical sense, Nature's choice remains an approved and acceptable layer B material. However, there is an open question of availability of material in the volume needed for project execution.

The Cedar Hill material can fit the B Layer source designation. Clay is at 10% right at the lower end of the clay specification. As discussed with Geoff Shallard, in an engineering/drainage view, this is a good material. We would also have to consider a lower the min clay value in the specification to account for variability. The pH of this material (6.22) seems to be in line with the goals for the specification. Given a concession in lowering the clay content also opens consideration of the Impact Materials.

Impact AD17 : While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the material would suit for the B horizon. In the clay component, this material is comparable to the Cedar Hill material. The silts exceed the specified maximum percentage. However, this maximum is largely in consideration of frost heave susceptibility. For the depths of the B layer relative to expected frost penetration to depth in Jersey City, especially in consideration of all future climate predictions of warmer temperatures, the frost potential is deemed less critical. Indeed, the pH is a tad high, but not so much as to consider it unworkable from a horticulture management sense. The sand portion of the Impact AD17 blend (which is the bulk of the blend) sits 10 minutes away from the site in Kearny, NJ and therefore has a low carbon footprint and ease of logistics. Additionally, it may yield a continuum in similarity if the C horizon also is determined to come from an Impact source.

EME B001-HORB: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question,

there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Horizon C

Impact AB33 and Impact AD25: While the fines (silts and clays) are flipped from a best case scenario (and thus falling out of specification), the materials would suit for the C horizon. pH is in line with the specification. I have a preference for the AB33 for the lower pH and slight increase in clay, but both would be suitable. Of the materials in the tables, a discussion with Geoff indicated the sands in the Impact materials are coarse and to our benefit in workability and drainage capacity, which for the level of construction traffic on site, works toward the stability of the system in a physical-mechanical sense. The sand portion which is the bulk of the Impact blends also is located in Kearny, NJ and therefore has a low carbon footprint and ease of logistics.

EME B002-HORC: The EME grouping of materials benefit from a high level of control, and would be considered a useful source ***if*** the material could lower the organics to <4. Given the systems in question, there is every possibility of shrinkage over time as the OM degrades, which could have negative impacts on the final developed site. A principal detraction of this source would be distance (about 65 miles), both in expense in shipping, the environmental cost (or carbon footprint if you will) in shipping from and the limitations in time management from the haulage/transportation logistics.

Recommendations:
I would retain EME as a Vendor option for both Horizon B and Horizon C with an assumption the organic fractions can be reduced. While the materials seem very good, the costs likely outweigh the advantages for the B and C horizons. The vast majority of the plant root systems are in the A horizon, thus the goals for the lower levels are about support, drainage and depth/distance to cap. Given the timing and the difficulty associated with getting materials into conformance I make the following recommendations. Pragmatically, one might argue I am siding on convenience. However, upon the consideration of developing a system, I feel what we develop from the recommendations provides a working solution, albeit with a higher system pH than originally targeted. The plant palette was chosen to bias toward shallower rooting species, and the higher ph will encourage the proliferation of roots where the mineral nutrition is available, which biases toward the surface with the increased pH of the lower layers. We provide a loamy-sand to sandy loam transition in the b to c horizon depths, which would provide a continuum for the water column through the layers provided compaction of each layer is not excessive and the interface blending described in the early documentation occurs. The increase of pH does not place the plant species selected into peril to my knowledge.

I would recommend:

Horizon B soils:

Adopt Impact AD17% as the primary source, and Cedar Hill as the secondary source. To accomplish this in specification language, adjust the B layer % Silt to <15% and % Clay to 5-15%. Raise acceptable pH to 7.6 from 7.5 or figure out how to lower the AD17 pH in the mix process.

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Horizon C soils:

Adopt Impact AB33% as the primary source. To accomplish this in specification language, adjust the C layer % Silt to <15% and % Clay to 5-15%. Retain the Impact AD25 as an alternative to Impact AB33%.

Respectfully submitted,



Jason Grabosky
John and Eleanor Kuser Faculty Scholar in Urban and Community Forestry
Director: S.E.B.S. General Honors Program
Co-Director: Center for Resilient Landscapes, a USDA FS/Rutgers Joint Venture
Editor-in-Chief; Arboriculture & Urban Forestry
Department of Ecology, Evolution and Natural Resources

PLAINTIFFS' RESPONSE LESTTER (4/15/16)

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ALICIA C. ALCORN
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Of Counsel

April 15, 2016

VIA ELECTRONIC MAIL

Jeremy Karpatkin
Arnold & Porter, LLP
Thurman Arnold Building
555 12th Street, N.W.
Washington, DC 20004-1206

Re: Study Areas 6 North and South – DCB 2016-3-18 Horizon B and C Soil Specifications

Dear Jeremy:

We write to provide plaintiffs' position with respect to the Design Change Bulletin (DCB) DCB 2016-03-18 that seeks to modify the geotechnical specifications for Horizon B and C soils, which the parties previously modified in September 2015. We note that, like the September 2015 modification, the current proposal of Honeywell would apply to all Horizon B and C soils to be brought to the site, not just in the initial phases of development, but permanently. As set forth in the 100% Design and the Open Space Design Standards (OSDS), there is to be a distinction between the characteristics of the soils in Horizon B and Horizon C to ensure the growth of only appropriate types of vegetation and trees on top of the cap, so as not to endanger the cap. *See* Technical Specification 2315 Earthwork, 2.12 Planting Soils; OSDS 2.1.2 Restrictions on the Use and Placement of Fill, Subsection D Specific Requirements for Fill Soils in Landscaped Areas.

On April 7, 2016, plaintiffs requested additional information regarding the planned schedule for the importation and use of the Horizon B soils. Honeywell provided the requested information on April 12, 2016. Plaintiffs and their experts have reviewed the April 12 response. Plaintiffs agree with Honeywell's analysis that Horizon B soils may be imported and placed now in the Study Area 6 South Open Space, and that Horizon B soils cannot be placed in the Study Area 6 North Open Space until the redevelopment.

Plaintiffs understand that Honeywell wishes to have multiple sources of Horizon B and C soils available for use so that it will not incur delays such as those incurred this winter with respect to Horizon C soils. However, Honeywell is proposing to change permanently the geotechnical specifications for both Horizon B and C soils based on the analysis by Dr. Grabosky of particular sources for the Horizon B and C soils. Dr. Grabosky's analysis establishes that the particular soil sources that he recommends, based upon the potential sources

provided to him by Honeywell, will maintain the necessary distinction between the soil horizons even though the recommended sources may deviate slightly from the geotechnical specifications as modified in September 2015.

Based upon the recommendations of Dr. Grabosky as set forth in his correspondence of March 17, 2016, which was included with DCB 2016-03-18, as set forth below, plaintiffs will agree to the use at Study Area 6 of certain particular sources for Horizon B and C soils addressed by Dr. Grabosky, even though some of the sources may deviate slightly from the geotechnical specifications in the 100% Design for Horizon B and C soils. However, plaintiffs are not willing to agree to modify permanently the geotechnical specifications for the Horizon B and C soils of the 100% Design standards to accommodate use of the sources for Horizon B and C soils under consideration by Honeywell at this time.

Plaintiffs agree to the use of Horizon B soils for the Study Area 6 North and South Open Space areas from Nature's Choice, Cedar Hill, and EME (EME-B001 blend) because these sources meet the geotechnical specifications. In addition, plaintiffs agree to the use of Horizon B soils from Impact Environmental, which deviate from the geotechnical specifications, as a secondary source should the Nature's Choice, Cedar Hill, and EME (EME-B001 blend) soils not be available. Plaintiffs do not agree to the use of the EME (Horizon "B" Modified) soils because of the high organic material content of the soils.

Plaintiffs agree to the use of Horizon C soils for the Study Areas 6 North and South Open Space areas from Nature's Choice as set forth in DCB 2016-03-21. In addition, plaintiffs agree to the use of Horizon C soils from Impact Environmental (Impact AB33 and Impact AD25), which deviate from the geotechnical specifications, as secondary sources should Nature's Choice not be available. Plaintiffs do not agree to the use of the Horizon C soils from EME because Dr. Grabosky did not recommend the use of these sources and because of the high organic material content of those soils.

Plaintiffs' agreement to the use of certain Horizon B and C sources that deviate from the geotechnical standards, as set forth above, is not an agreement to modify the 100% Design standards as they apply to any future fill, repair, or restoration work. This more limited agreement to deviate from the 100% Design should be set forth in a modified Design Change Bulletin.

Please contact me with any questions. We look forward to your response.

Sincerely,



Bruce J. Terris
Kathleen L. Millian
Alicia C. Alcorn
Counsel for Plaintiffs

cc: Senator Robert Torricelli
Tom Lewis/Steve Egnaczyk
Michael Daneker
William Hague
John Morris
Kevin Coakley/Liza Walsh/Agnes Antonian
Jeremy Farrell/Jason Watson/Bhavini Doshi
Frank Borin/Kevin Kinsella
Davis Isabel/ Eric Tomaszewski

Honeywell RES

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 058 **DCB Type:** Minor (a) **Effective Date:** 5/6/16
Project Location: SA-6 South	**Associated RFI:**
Title: Temporary Construction Road in SA-6 South Cap	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

To allow for traffic flow within the project site following completion of the SA-6S Cap, a road will be installed within the "B Street" corridor.

The Chromium Remedy Design indicates that the Open Space AOC will be finished with topsoil and be seeded. Section 2.2.1.B of the Open Space Design Standards ("OSDS," Appendix L of the SA-6 North 100% Design Report) was written in anticipation of the need for "temporary construction roads" across the cap, post Chromium Remedy completion, and prior to construction of the final redevelopment roads. These construction road(s) will initially be used to provide access for general site inspections, access for the long term monitoring plan and maintenance activities such as mowing.

The roads will be constructed by continuing the "Structural Fill under Roadways to within 6 inches of final grade". The Topsoil shown within the construction road limits would be replaced with a load bearing geotextile (min 8 oz. non-woven) and 6 inches of Dense Grade Aggregate consistent with the OSDS "temporary construction road" requirements.

Table I of the OSDS was developed to show the minimum cover requirements for specific traffic loading conditions. The analysis supporting Table 1 was shared with the Plaintiffs during development of the OSDS. These communications were documented in Response to Plaintiff's Comments dated 07/13/2012. The calculation provided indicates that a 36 inch cover was adequate to provide protection of the cap when subject to H20 truck loading. When graded to the Chromium Remedy grades the typical fill depth in "B Street" is 8 ft. (OSDS Figure 4I is attached for reference). At the northern end of B Street, as the remedy surface transitions into SA-7, the minimum depth is 4 ft. These conditions meet the 36 inch cover requirement stated in Table 1.

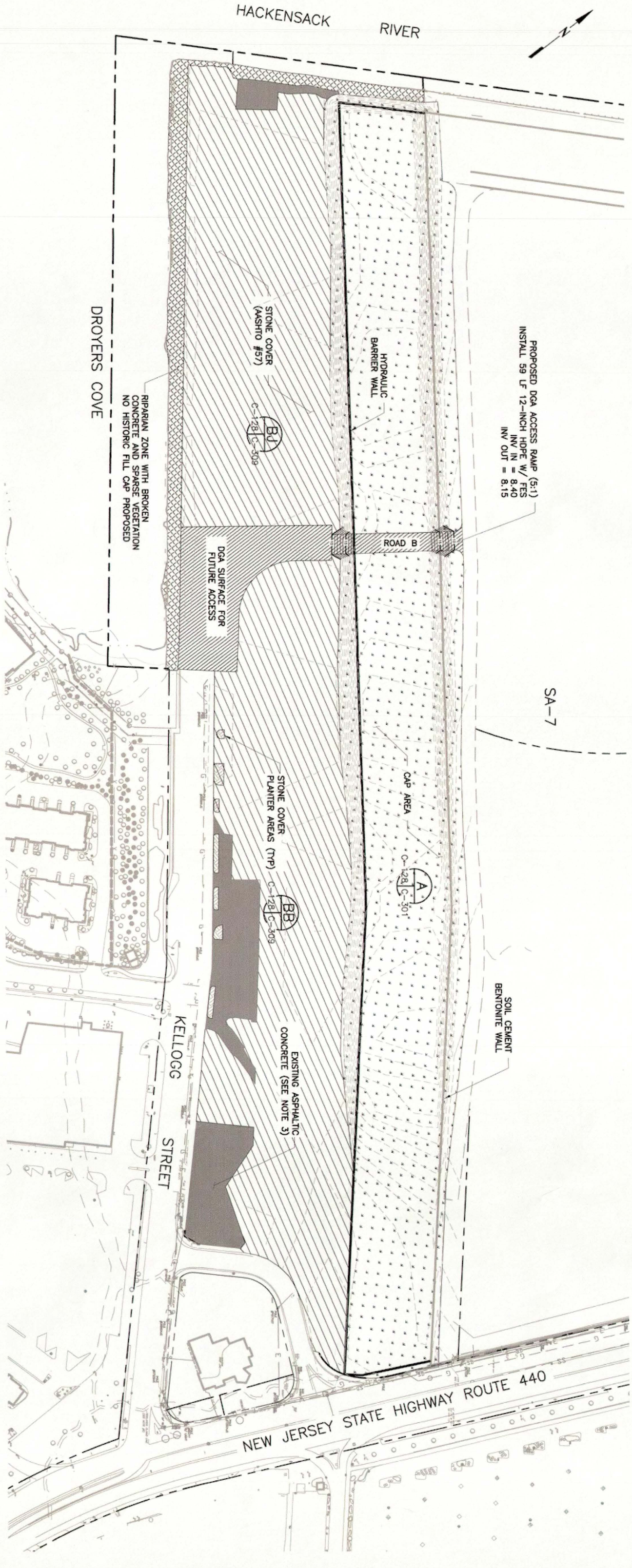
The road as constructed during the Chromium Remedy will therefore meet Section 2.2.1.B of the OSDS.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Table 1 (Page 20 of OSDS); Section 2.2.1.B of OSDS (pages 24 – 25); Figure 4I Cost Implication: ☐ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☐ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 6/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

NOTE:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND
3. EXISTING ASPHALTIC PAVEMENT AREAS TO BE FIELD INSPECTED BY LSRP DURING RESTORATION ACTIVITIES. FINAL HISTORIC FILL CAP IN THESE AREAS MAY INCLUDE CRACK FILLING OR INSTALLING A GRAVEL COVER SYSTEM.



SHEET	33 OF
DWG	C-128
PROJ	3480-12-0317
DATE	

BAR IS ONE INCH ON ORIGINAL DRAWING. 0 1"

VERIFY SCALE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization 24GA28010900

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

RESTORATION PLAN

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

NO.	DATE	REVISION	BY	APVD
4	6/20/16	DCB 30.2 - ROAD B ACCESS GRADING	TDD	SGS
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	05/06/15	REVISED EDGE DETAIL	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN	DR	CHK	APVD
TDD	RJR	TDD	SHM

SAMUEL G. SHALLARD
6/21/16
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

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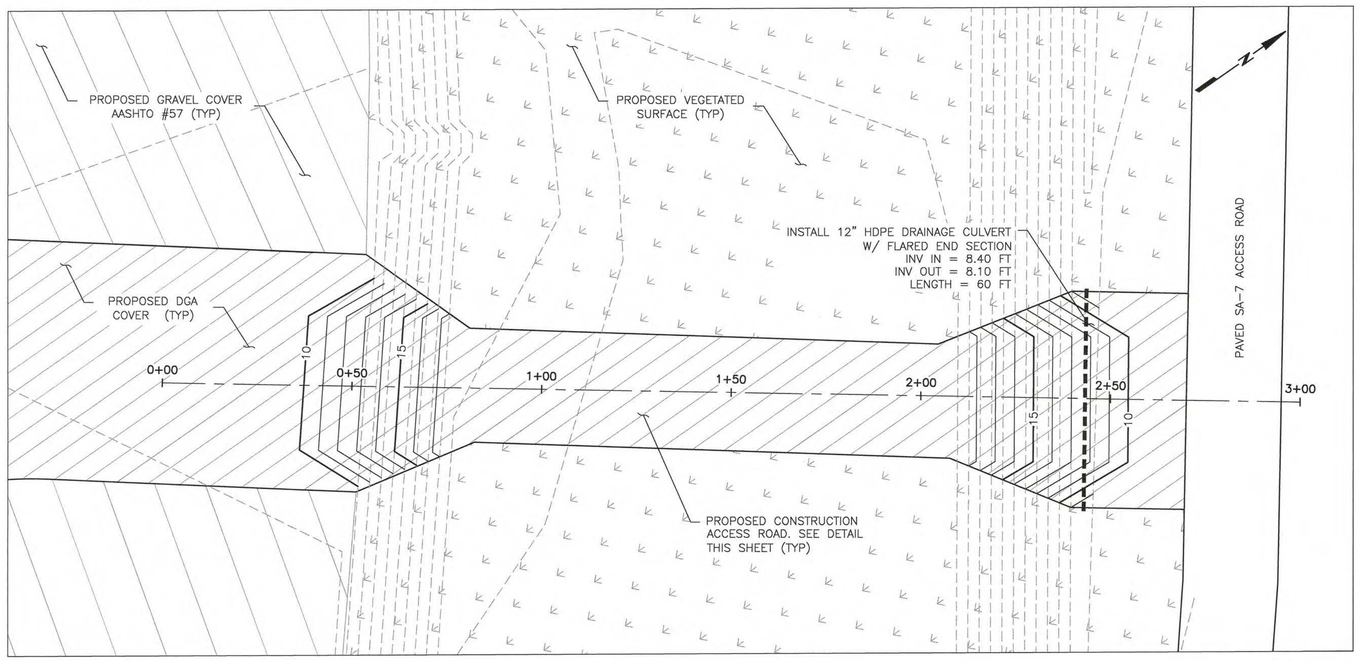
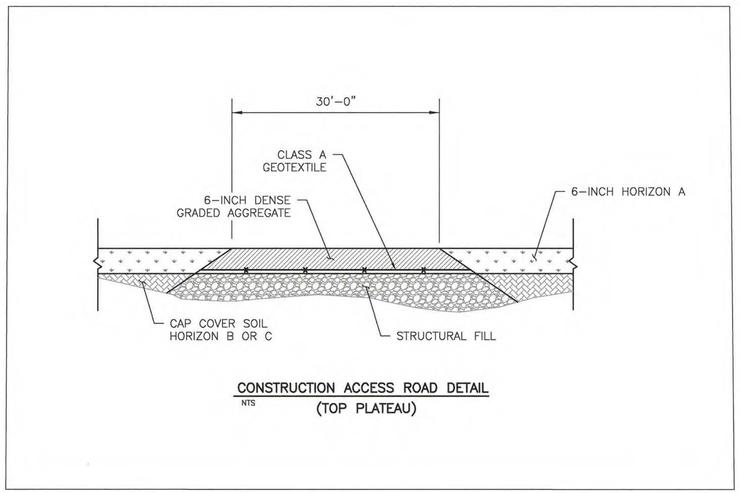
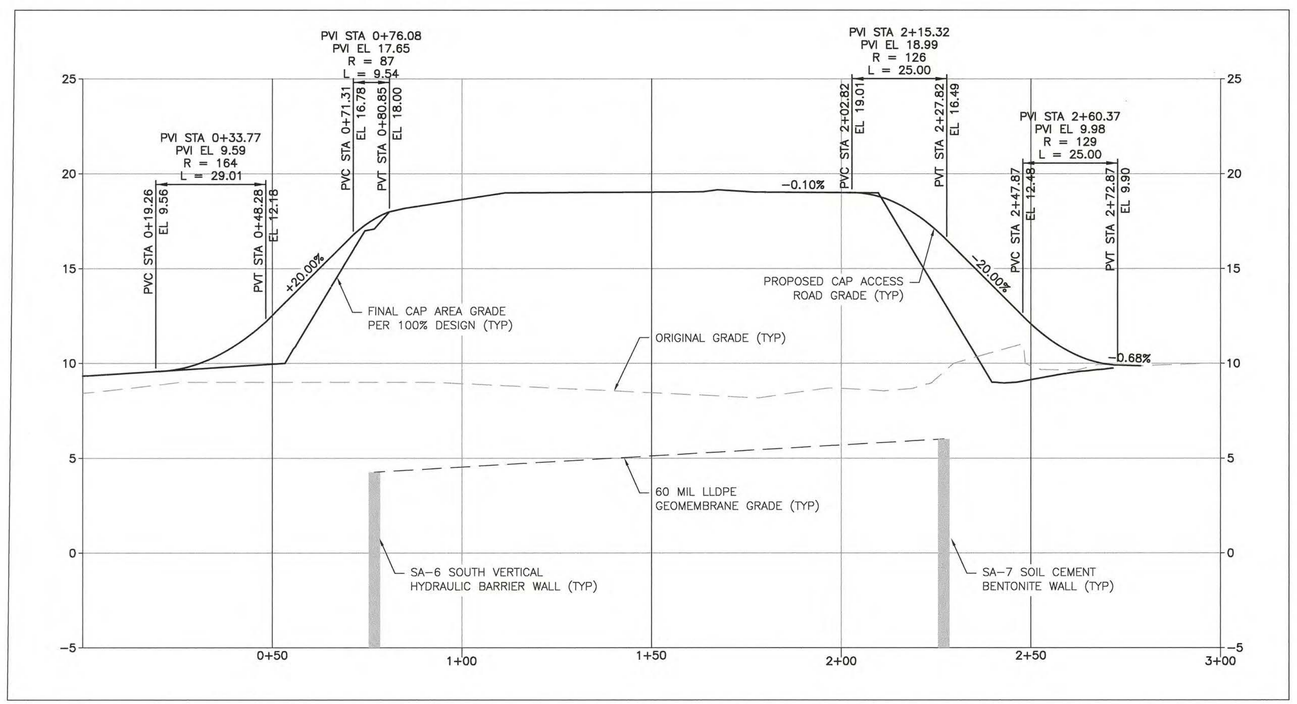
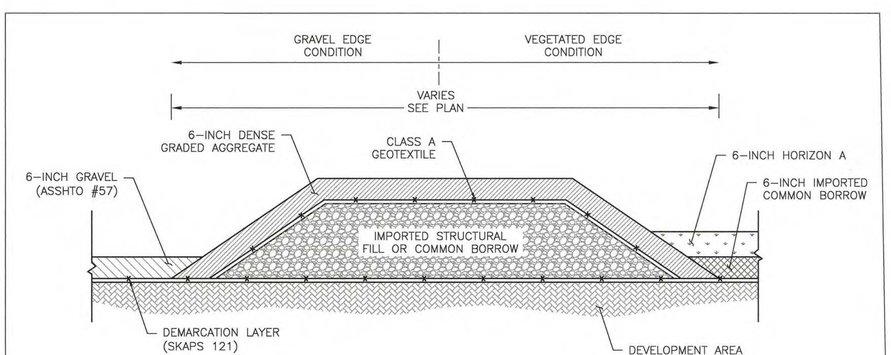
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\CR33-C-128 Surface Restoration Plan.dwg PLOT DATE: Mon, 20 Jun 2016 PLOT TIME: 2:15 PM





CONSTRUCTION ACCESS ROAD DETAIL
NTS
(TOP PLATEAU)





CONSTRUCTION ACCESS ROAD DETAIL
NTS
(APPROACH SLOPE)

0 10 20 40
HORIZONTAL SCALE FEET

0 4 8
VERTICAL SCALE FEET

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Cap Grading\C-128A Cap Access Road.dwg PLOT DATE: Mon, 25 Jul 2016 PLOT TIME: 12:26 PM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	DR	CHK	APVD	BY
0	7/25/16	30-65 temp Const Road Details	TDD	SGS	SGS	TDD
DSGN	TDD		TDD			

Honeywell
101 COLUMBIA RD. BOX 2245, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

CONSTRUCTION ACCESS ROAD
FUTURE B STREET

amec
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(609) 689 - 2929
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON
ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-128A
SHEET	33A OF 66

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Table 1: Allowable Ground Pressure versus Fill Depth

Maximum Ground Pressure	Fill Depth Over Warning Layer/Liner
Maximum Ground Pressure for Maintenance Equipment	
< 5 psi	12 inches
5-10 psi	18 inches
>10-40 psi	24 inches
Additional Maximum Ground Pressure for Temporary Roads	
Fully Loaded Highway Truck (>40-80 psi)	36 inches
Permanent Roadways	
No maximum ground pressure limit	36 inches

The load limits on temporary roads and on Landscape and Hardscape Areas allow for heavier loads where a rigid pavement or temporary load spreading system such as matts is used to spread the load and reduce the bearing pressures to below the limits specified in Table 1, and where a licensed New Jersey Professional Engineer has certified to Honeywell and Jersey City that the rigid pavement or temporary load spreading system will reduce the bearing pressures to below the limits specified in Table 1.

E. Bearing Area – Foundations, Footers and Separation from Cap

1. Each point load from a Permissible Development Element shall have a minimum bearing area of 2 square feet except that traffic light poles and street light poles shall have a minimum bearing area of 3.5 square feet.
2. Each Permissible Development Element requiring a footer shall have a shallow footer.
3. Anchoring systems for Permissible Development Elements such as site furnishings shall be designed for surface mounting on spread footings. Hardscape areas shall accommodate surface mounted anchoring on spread footings.

Remedy and such certification will be included in a Development Plan reviewed and approved by the Special Master or the Federal Court. No curb and pavement box design shall be certified or approved unless it is demonstrated that it will not jeopardize the integrity of the Chromium Remedy.

8. Through trucks are prohibited on Roadways. Roadways shall be posted to prohibit through trucks. Jersey City shall prohibit through trucks and require the posting of such prohibition in an ordinance prior to the installation of the Roadways. The standard becomes effective upon the effective date of a Jersey City ordinance prohibiting through trucks on Roadways.

9. Every five years from the initial surfacing, a licensed New Jersey Professional Engineer shall inspect all Roadways in the Open Space Areas to evaluate whether the condition of any Roadway or segment thereof has compromised or is likely to compromise the structural integrity of the underlying subgrade or utilities. Within 30 days of the completion of the inspection, the licensed New Jersey Professional Engineer shall submit a certified report to Honeywell and Jersey City that describes the inspection undertaken and the repairs needed, if any, in order to address any condition that has compromised or is likely to compromise the structural integrity of the underlying subgrade or utilities. Within 18 months of the submission of the report, the repairs described in the report shall be completed. In the event that in the report the licensed New Jersey Professional Engineer deems a condition to constitute an emergency requiring immediate repair, such repair shall be made as soon as possible, and, if necessary, interim measures shall be employed to protect the cap, subgrade and utilities. Within 60 days of completion of the repairs, emergency or otherwise, a licensed New Jersey Professional Engineer shall inspect the repairs and certify that the repairs have been satisfactorily completed.

B. Temporary Construction Roads. The following requirements apply to all temporary construction roads:

1. In the event temporary construction roads are installed, these roads shall be limited to the locations designated for Roadways in the 100% Design on Drawings CN-515 and C-516. Temporary roads shall be installed using a load bearing geotextile fabric to isolate the wearing surface from the

subgrade. A wearing surface shall be installed that is sufficient to handle the intended temporary traffic loadings. Temporary roads shall be designed consistent with the projected loads and frequency. Temporary roads shall be designed to be protective of the Chromium Remedy. A licensed New Jersey Professional Engineer shall certify that the temporary road design is protective of the Chromium Remedy and such certification shall be included in a Development Plan reviewed and approved by the Special Master or the Federal Court. No temporary road design shall be certified or approved unless it is demonstrated that it will not jeopardize the integrity of the Chromium Remedy.

2. The load limitations specificed in Section 2.1.4.D of the OSDS and Section 02374 Part 3.3 G 7 of the Technical Specifications shall apply to all loads on the temporary roadways.

2.2.2 Hardscape Areas including Pedestrian Thoroughfare

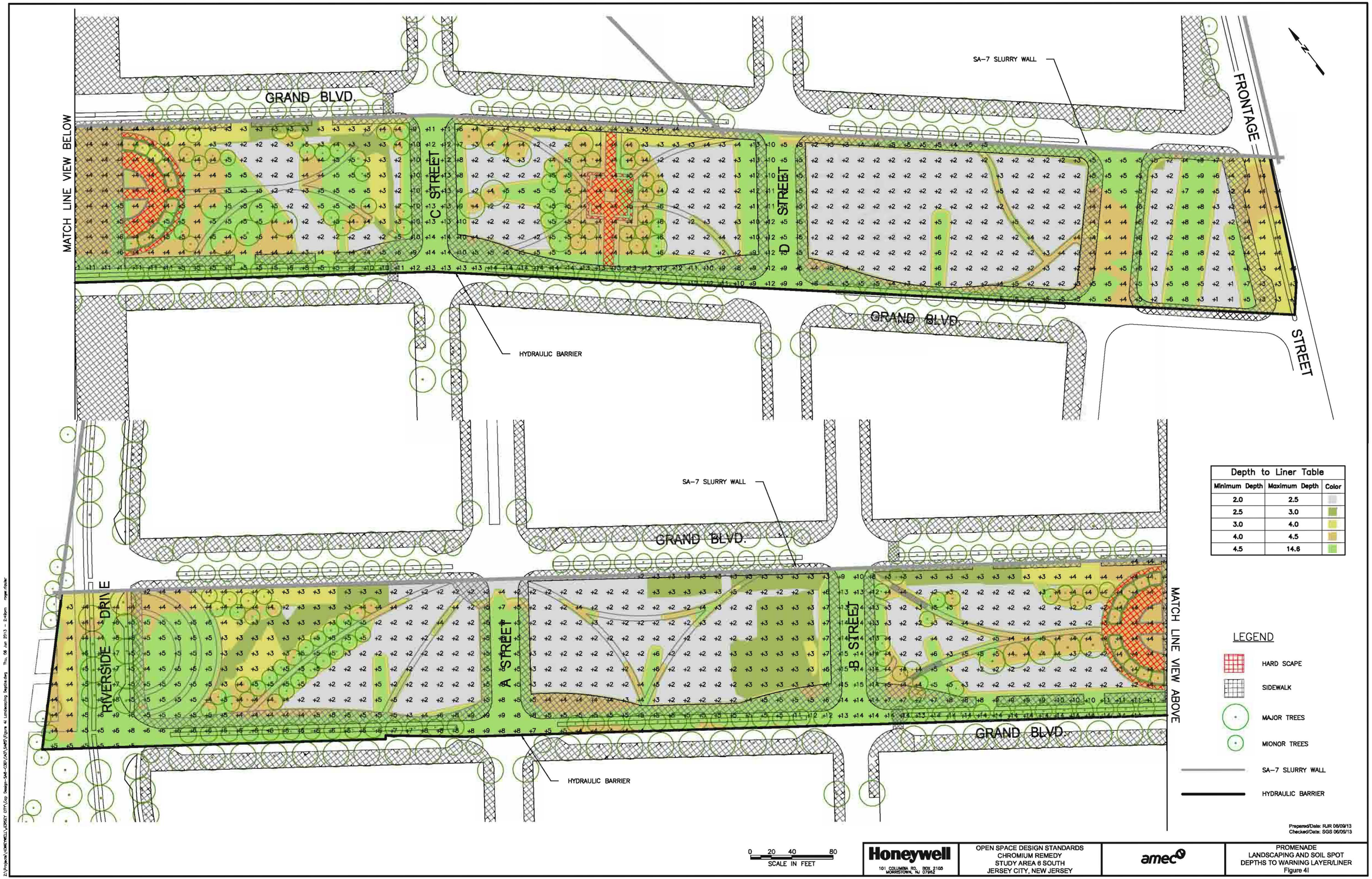
Hardscape Areas shall have a minimum separation of 12 inches between the Warning Layer/Liner and the underside of the hard surfacing. The surface and subgrade materials shall be of sufficient strength to accommodate Maintenance Equipment.

2.2.3 Utilities

All utilities including those supporting the pump and treat system for groundwater remediation, with the exception of any extraction wells or collection trenches, shall be placed above the Cap as required in Paragraph 56(b) of the Study Area 6 North Consent Decree.

2.2.4 Utility Corridors

A. Public Utilities. All public utilities shall be located in a designated utility corridor and shall be installed in accordance with Paragraphs 60(j)(v)(6) and (7) of the Study Area 6 North Consent Decree. The location of the utility corridors is shown on Drawing CN-515 of the Study Area 6 North 100% Design and C-516 of the Study Area 6 South 100% Design. During the Initial Development Period, the modification of designated utility corridors or the designation of additional utility corridors, if necessary shall be subject to the review and approval of Honeywell, Jersey City, and the Special Master.



Depth to Liner Table		
Minimum Depth	Maximum Depth	Color
2.0	2.5	
2.5	3.0	
3.0	4.0	
4.0	4.5	
4.5	14.6	

Prepared/Date: RJR 06/09/13
Checked/Date: SGS 06/09/13

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

OPEN SPACE DESIGN STANDARDS
CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec

PROMENADE
LANDSCAPING AND SOIL SPOT
DEPTHS TO WARNING LAYER/LINER
Figure 4I

DESIGN CHANGE BULLETIN

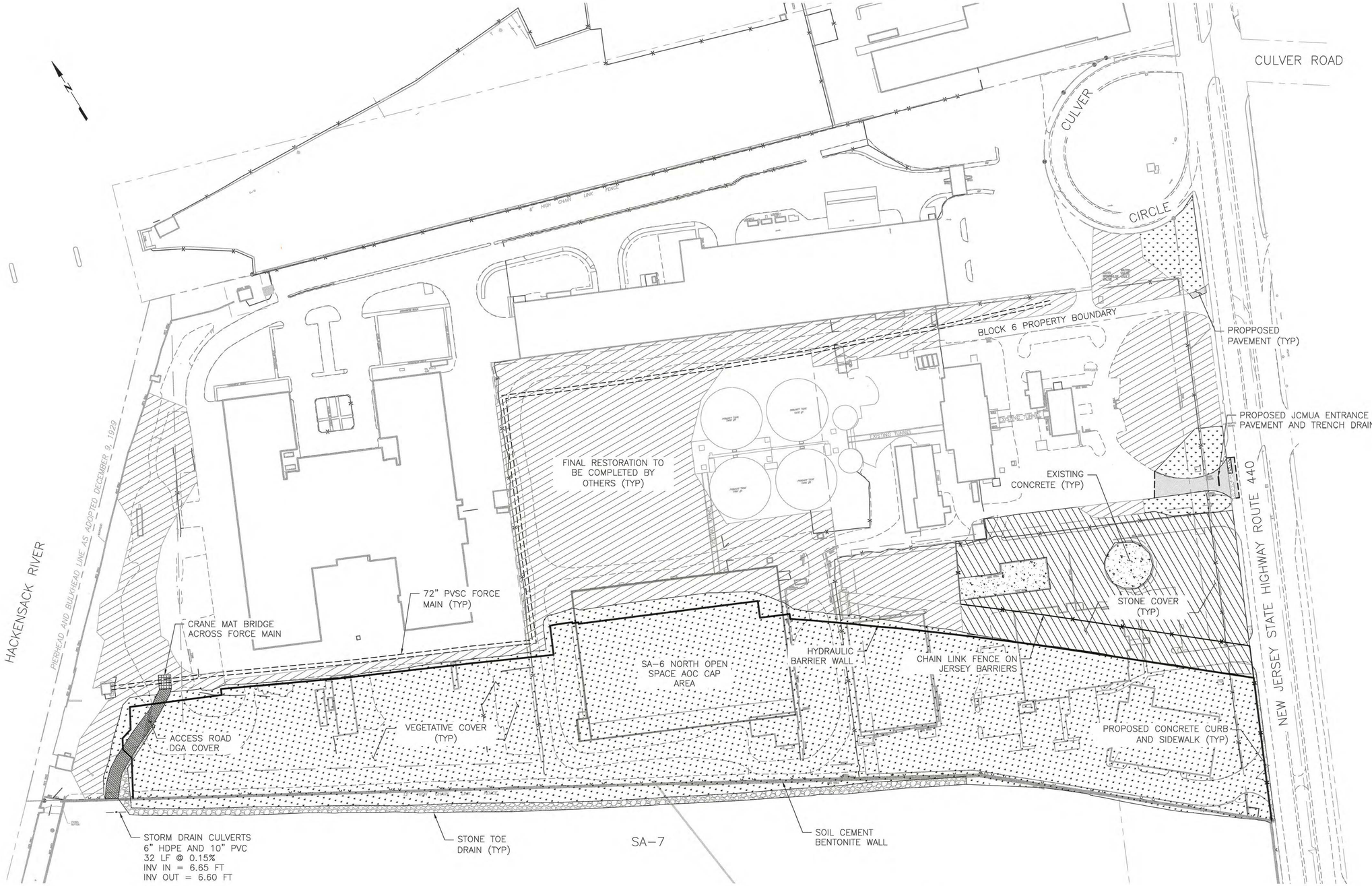
Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 61 **Type:** Minor(a) **Effective Date:** 11/9/16
Project Location: SA-6N	**Associated RFI:**
Title: Site Restoration	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The limits and the type of restoration north of the SA-6N cap has been modified to be integrated with the SA-6N Non Chrome Remedy. This DCB information confirms direction provided to Entact following discussions with JCMUA and the SA-6N Non Chrome Remedy Contractor (OSC). A modified Restoration Drawing CN-127 is attached. The drawing includes the changes in scope that have occurred subsequent to the "IFC" drawings. The following items are specifically noted:

- EA-7 and EA-8: Final Grading of these areas and placement of Historic Fill Cover will be conducted as part of the Non Chrome remedy along the Hackensack River.
- The former JCIA property that has become part of the JCMUA owned Lot 6 will receive a geotextile demarcation layer and 6 inches of crushed stone cover over the historic fill. A survey control grid similar to that used on the SA-6S Development Area will be set out and submitted to AmecFW for approval. The grid will be used to document that the thickness requirements have been met. A survey grid matrix documenting the elevations and depth at each grid point will be provided along with a topographic survey of the surface of the restored area.
- Historic Fill stockpiles west of the former JCMUA digesters will be processed by others.
- The footprint of the Chromium Remedy Construction Water Treatment plant will be finished with crushed stone over an LLDPE demarcation layer.
- A temporary fence will be erected along the Lot 6 Boundary. JCMUA will install a new fence following their re-purposing of the former JCIA property in Lot 6.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Changed limits of disturbance/interface with the Non Chrome scope and changes in Property Lines
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-127
Honeywell (AP) Review:	
Individual: Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 12/28/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTE:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

0 40 80 160
SCALE IN FEET

NO.	DATE	REVISION	CHK	APV'D
2	12/10/16	DCB 061 - REVISED RESTORATION LIMITS	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR	BY	APV'D
	TDD	RJR	TDD	SGS

SAMUEL G SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

RESTORATION PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, New Jersey 08619
609.890.3500 Fax 609.890.3699
NJ Cert of Authorization 24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	CN-127
SHEET	32 OF 70

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB 7.4.2 **Type:** Minor(a) **Effective Date:** 12/20/2016
Project Location: SA-6 North and South	**Associated RFI:**
Title: Contingent GW E&I Revisions	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The Contingent GW system was modified from wells to trenches. This resulted in a reduction in from 9 pumps on the North, and 9 pumps on the South, to 2 pump stations on North, and 1 pump station on South. The electrical and instrumentation (E&I) requirements and associated conduit runs changed accordingly.

This DCB documents a number of minor field changes that have been conveyed by the EOR to Entact during the course of the work and also includes revisions to the (E series) electrical drawings for both SA-6N and SA-6S.

The IFC conduit runs were designed to allow for hard wiring of the piezometric pairs used to monitor the gradients. The piezometric instrumentation conduit run has been eliminated on SA-6S. The piezometric pairs will initially be monitored manually. Manual monitoring may be supplemented by use of data loggers (Solinst Levelogger or similar) in selected wells. Based on the technical advancement in data loggers subsequent to the IFC design, data collection options that do not require hard wiring are a viable and preferred. Wireless data loggers eliminate the risk of damage and associated subsurface repair in the future. As a result, conduit runs for the piezometers were deleted from SA-6S. Due to the progress of work and scheduling, a piezometer conduit was installed on SA-6N; however, wiring has not been installed and it is the engineer's recommendation that wireless installation be used.

Investigation of existing conduit runs at the west end of SA-7 indicated that one 2 inch conduit shown on the IFC design as existing was not present. A new conduit run was added in its place.

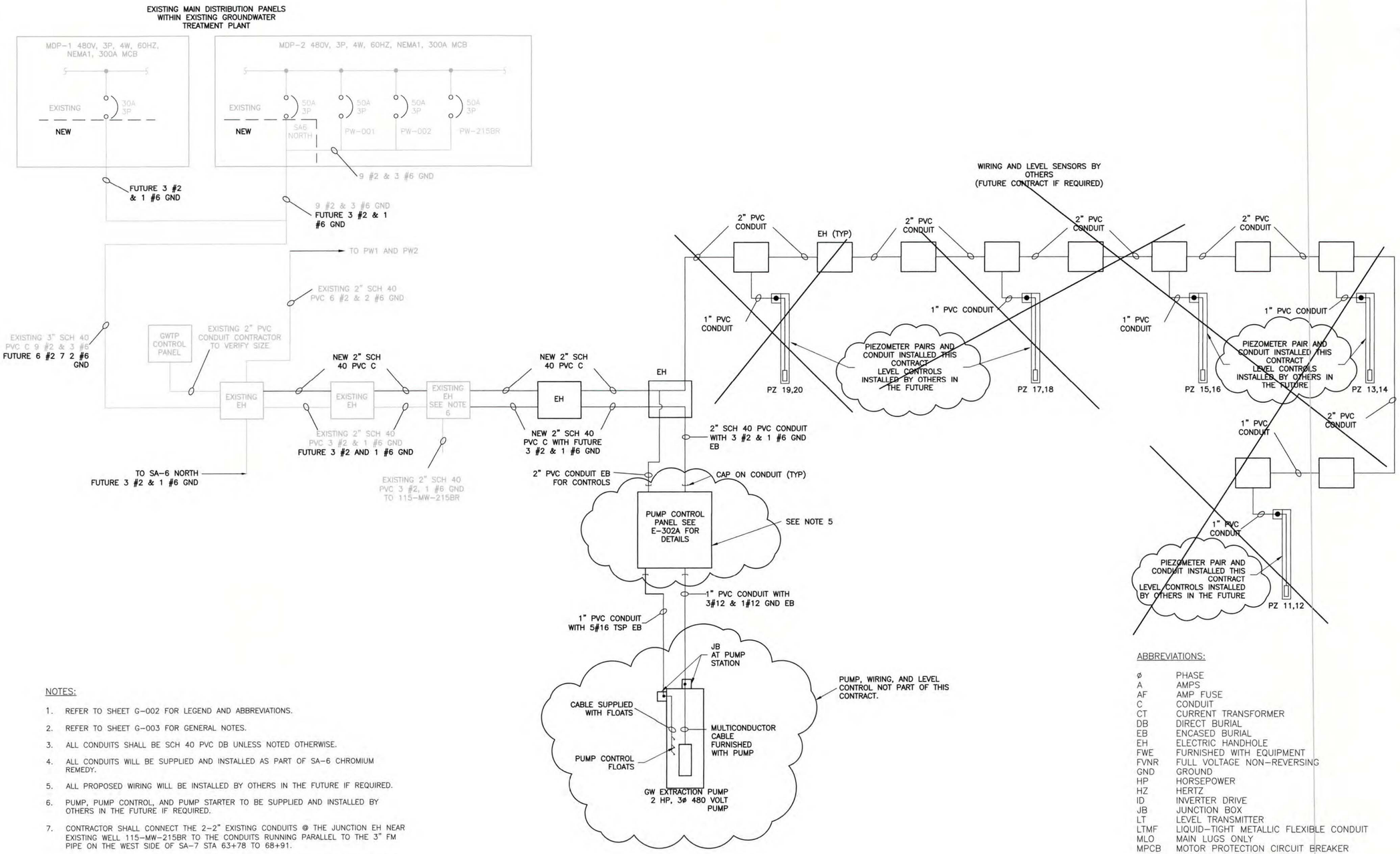
All pump stations, force-mains and E&I conduit runs except as noted above have been installed.

The reason for considering this a "Contingent" System is that modeling predictions indicate that **no pumping** will be required i.e. there is no technical design basis for determining a flow rate. In the absence of a theoretical or verified design flow the forcemains have been sized at 2 inches in diameter and the pumps and associated wiring to operate at 5 GPM. Larger pumps and wire sizes could be readily installed in the unlikely event they are required. As of the date of issue of this DCB, pumping has not been required. This covers a period of more than 12 months on SA-6S, and 4 months on SA-6N. To provide an allowance for pumping at some nominal flow rate, pumps and power have been sized assuming a steady 5 GPM flow rate. The pump and controls design is based on operation of only one pump station at a time. The 5 GPM is based on the capacity of the existing GWTP effluent pumps. The forcemain and pumps have been sized for greater capacity, and greater flows could be readily achieved, if the effluent pump capacity was increased. It is recommended that a final decision on pump sizes, and related wiring and instrumentation, be revisited if it is determined that pumping is required. The GWTP has been modified under separate contract with RSTI to

Reason for Change/Modification:	**Explanation or Reason:**
☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Attachments:** ☑ Yes ☐ No
12/21/16	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No

Additional Comments:		**Design Documents Affected:** E-301, E-302 and E-302A (SA-6S). EN-301, EN-302 and EN-302A (SA-6N)	
Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:** 12/21/16
(Name / Signature):		**Does DCB Result in CCO?**	☐ **Yes (b)** ☑ **No**
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE SCH 40 PVC DB UNLESS NOTED OTHERWISE.
4. ALL CONDUITS WILL BE SUPPLIED AND INSTALLED AS PART OF SA-6 CHROMIUM REMEDY.
5. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
6. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE IF REQUIRED.
7. CONTRACTOR SHALL CONNECT THE 2-2" EXISTING CONDUITS @ THE JUNCTION EH NEAR EXISTING WELL 115-MW-215BR TO THE CONDUITS RUNNING PARALLEL TO THE 3" FM PIPE ON THE WEST SIDE OF SA-7 STA 63+78 TO 68+91.
8. PULL STRING/WIRE TO BE INSTALLED IN ALL E&I CONDUIT FOR WIRE INSTALLATION IN THE FUTURE BY OTHERS.
9. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
DB	DIRECT BURIAL
EB	ENCASED BURIAL
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FVNR	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
JB	JUNCTION BOX
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
MPCB	MOTOR PROTECTION CIRCUIT BREAKER
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03748500

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	12/02/16					SGS	TCK
2	05/20/16					TDD	SGS
1	08/14/15					RJR	SGS
0	06/07/13					TDD	SHM
		TDD		RJR	SHM	SGS	APVD

ISSUED FOR CONSTRUCTION
DCB 007.4
DCB 007.4.1
DCB 007.4.2

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010600

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SHEET	64 OF 66

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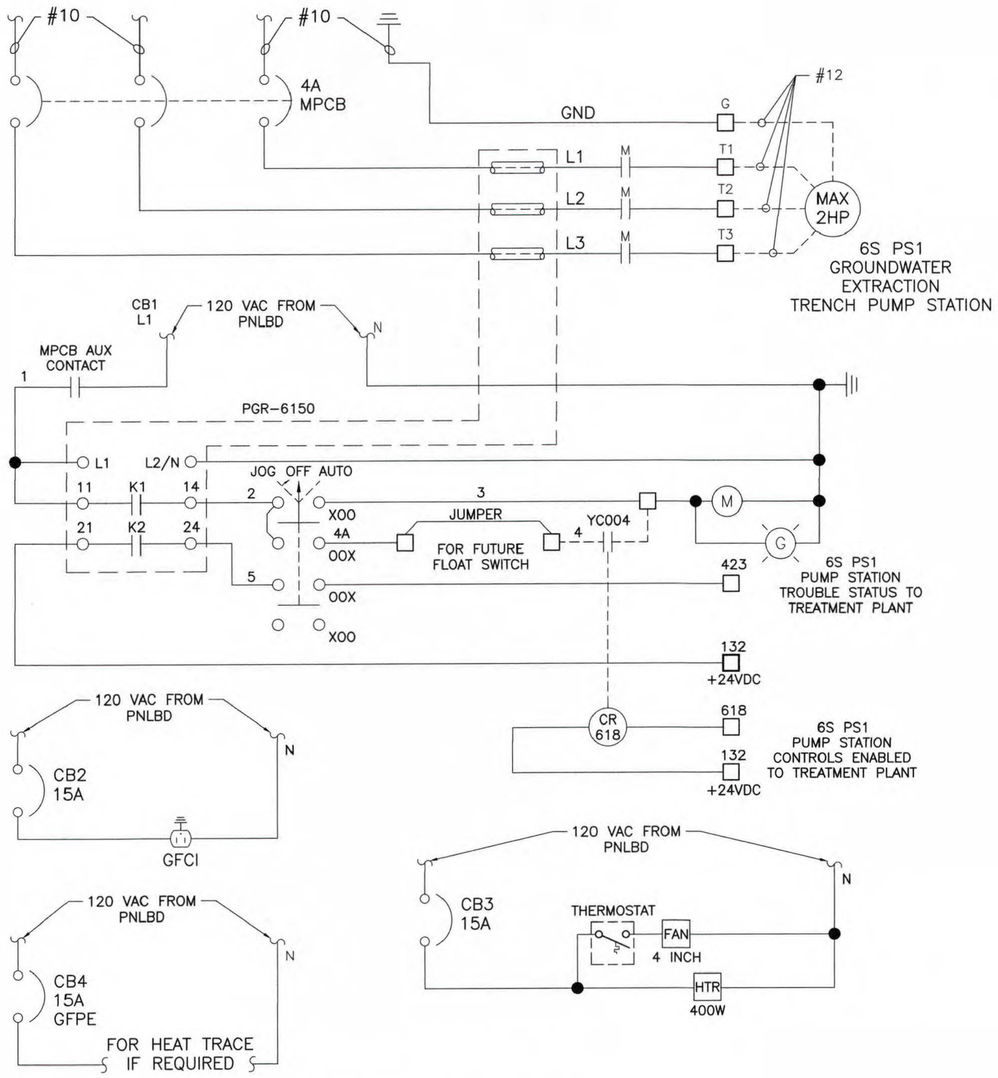
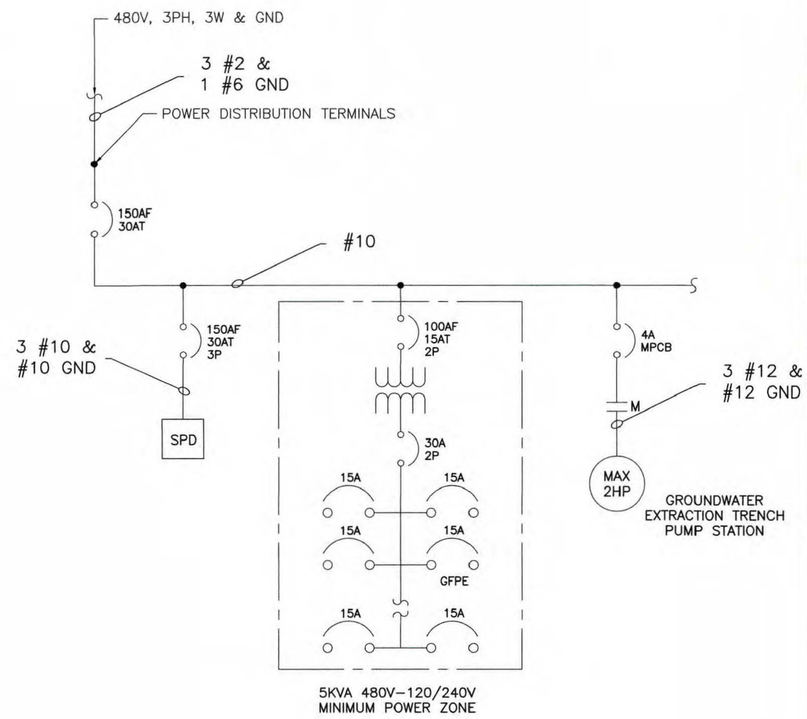


6 SOUTH PUMP STATION CONTROL SCHEMATIC
NTS



5KVA 480V–120/240V
MINIMUM POWER ZONE

TYPICAL PUMP STATION ONE LINE
NTS

NOTE:

THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

□ TERMINAL IN PUMP PANEL

FIELD WIRING

TIMOTHY C. KESSLER, P.E.

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	DSGN	DR	CHK	APVD
3	12/02/16	DCB 007.4.2	SGS	TCK	
2	05/20/16	DCB 007.4.1	TDD	SGS	
1	08/14/15	DCB 007.4	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	

TDD RJR SHM SGS

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Honeywell
115 TABOR RD., MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134,
140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

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Environment & Infrastructure, Inc.
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Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28010900

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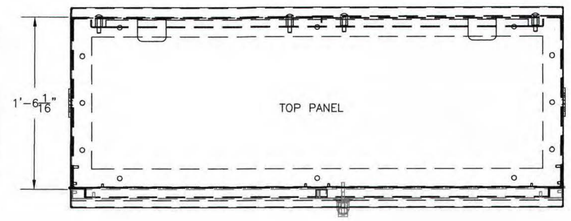
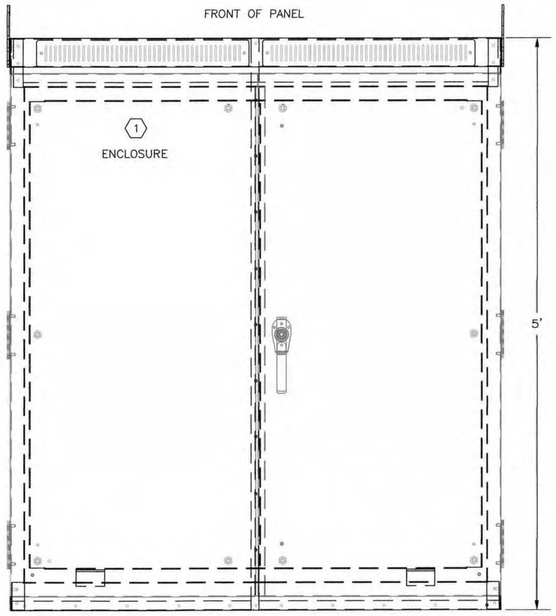
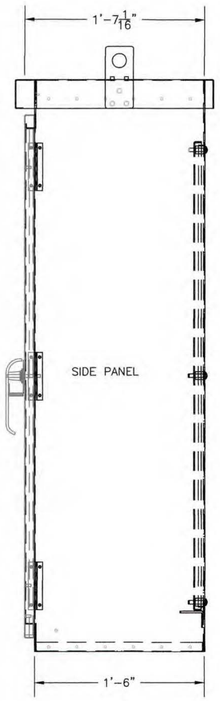
0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302
SHEET	65 OF 66

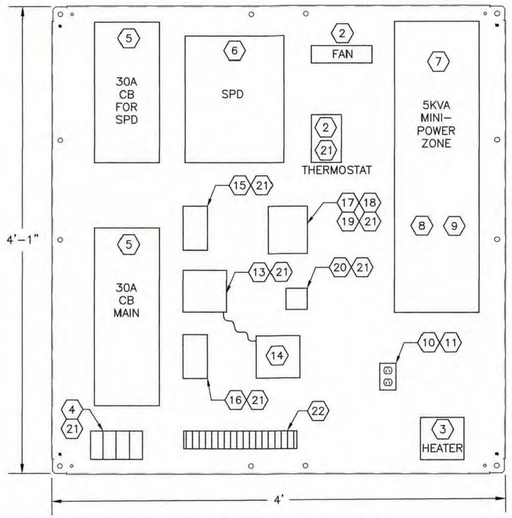
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR65-E-302 Wiring Diagram.dwg PLOT DATE: Mon, 05 Dec 2016 PLOT TIME: 6:14 AM







PUMP STATION CONTROL PANEL DETAIL
NTS



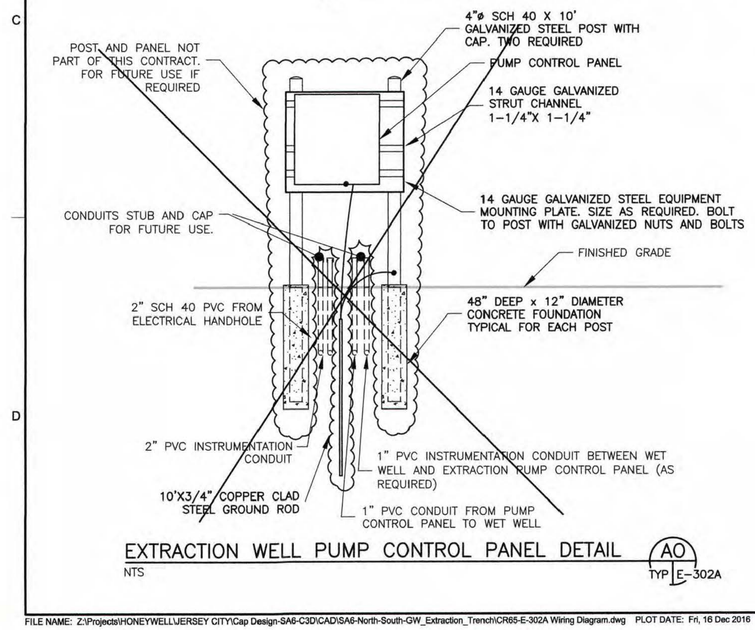
PUMP STATION CONTROL PANEL BACK DETAIL
NTS

NOTE:

THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE–EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

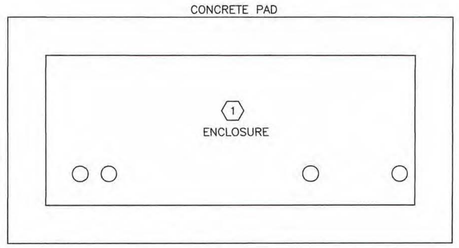
BILL OF MATERIALS

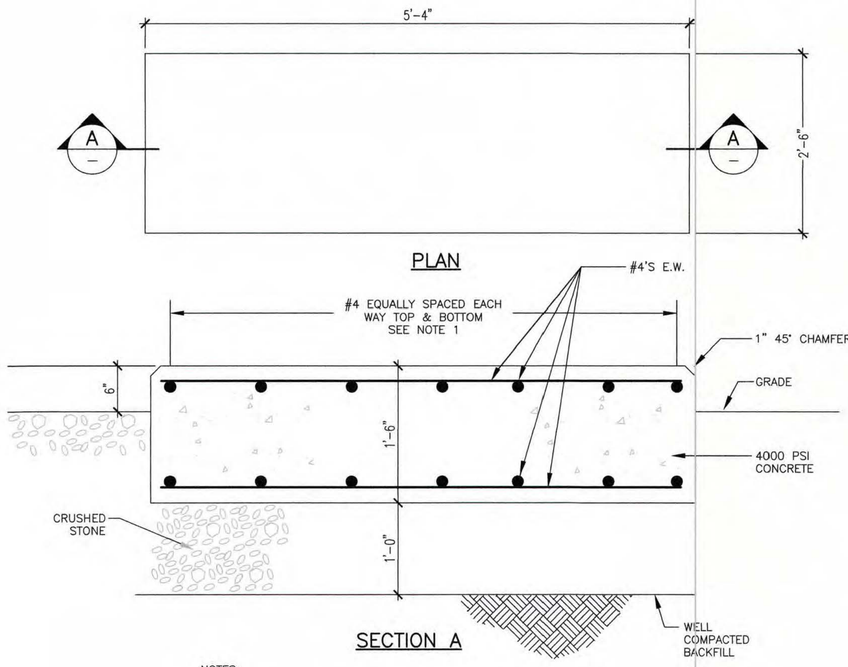
ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, 1P, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36



EXTRACTION WELL PUMP CONTROL PANEL DETAIL
NTS

AO
TYP E–302A





SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'–4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'–6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL
NTS

TIMOTHY C. KESSLER, P.E.
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	DSGN	DR	CHK	APVD
3	12/02/16	TDD	TDD	RJR	SGS
2	05/20/16	TDD	TDD	SGS	SGS
1	08/14/15	RJR	SGS	SGS	SGS
0	06/07/13	TDD	SHM	BY	APVD

REVISION

ISSUED FOR CONSTRUCTION

DCB 007.4.4

DCB 007.4.1

DCB 007.4

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number
24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	E-302A
SHEET	65A OF 66

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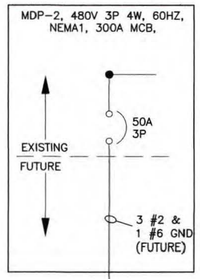
EXISTING MAIN DISTRIBUTION PANEL
WITHIN EXISTING GROUNDWATER
TREATMENT PLANT

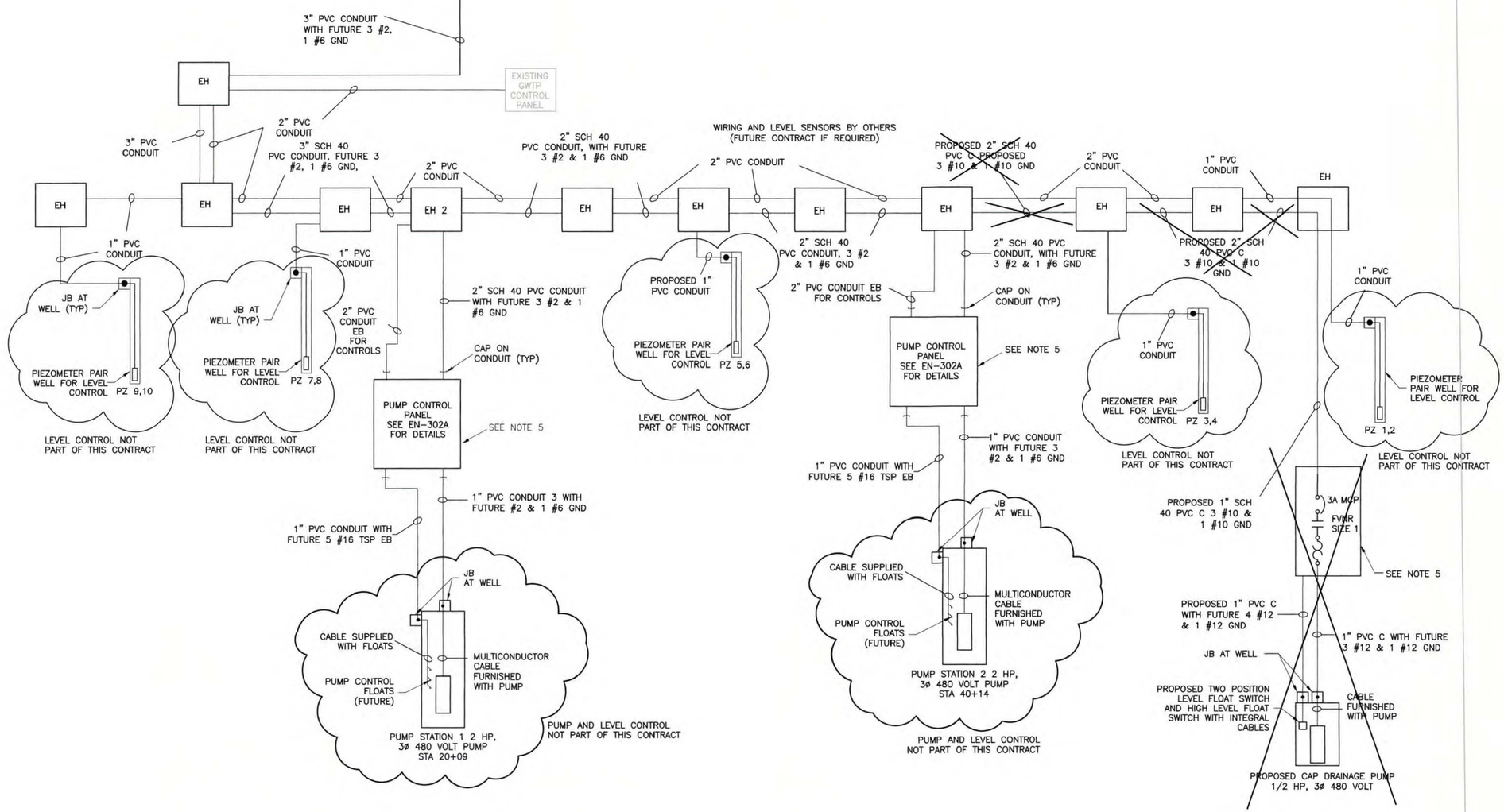


NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.
7. THE WIRE SIZING AND CONFIGURATION SHOWN IS BASED ON INFORMATION AVAILABLE AS OF DECEMBER 2016. IF IT IS DETERMINED THAT IT IS NECESSARY TO ACTIVATE THE CONTINGENT GROUNDWATER SYSTEM, PUMP SIZING AND CONTROLS SHOULD BE RE-EVALUATED BASED ON THE PROJECTED PUMPING RATES AND DURATION DETERMINED AT THAT TIME. PUMPS, CONDUITS AND WIRE HAVE BEEN SIZED CONSERVATIVELY. HEAVIER WIRE AND LARGER PUMPS COULD BE INSTALLED IN THE EXISTING CONDUIT IN THE EVENT IT WAS DEEMED NECESSARY.

ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTIVE DEVICE
TSP	TWISTED SHIELDED PAIR
V	VOLTAGE
W	WIRE



NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
3	12/02/16	DCB 007.4.2	GCP	RJR	GCP	SGS	TCK
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0	06/07/13	ISSUED FOR CONSTRUCTION				GCP	SGS

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

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Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 889 - 2829
NJ Certificate of Authorization Number
24GA28010900

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DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70

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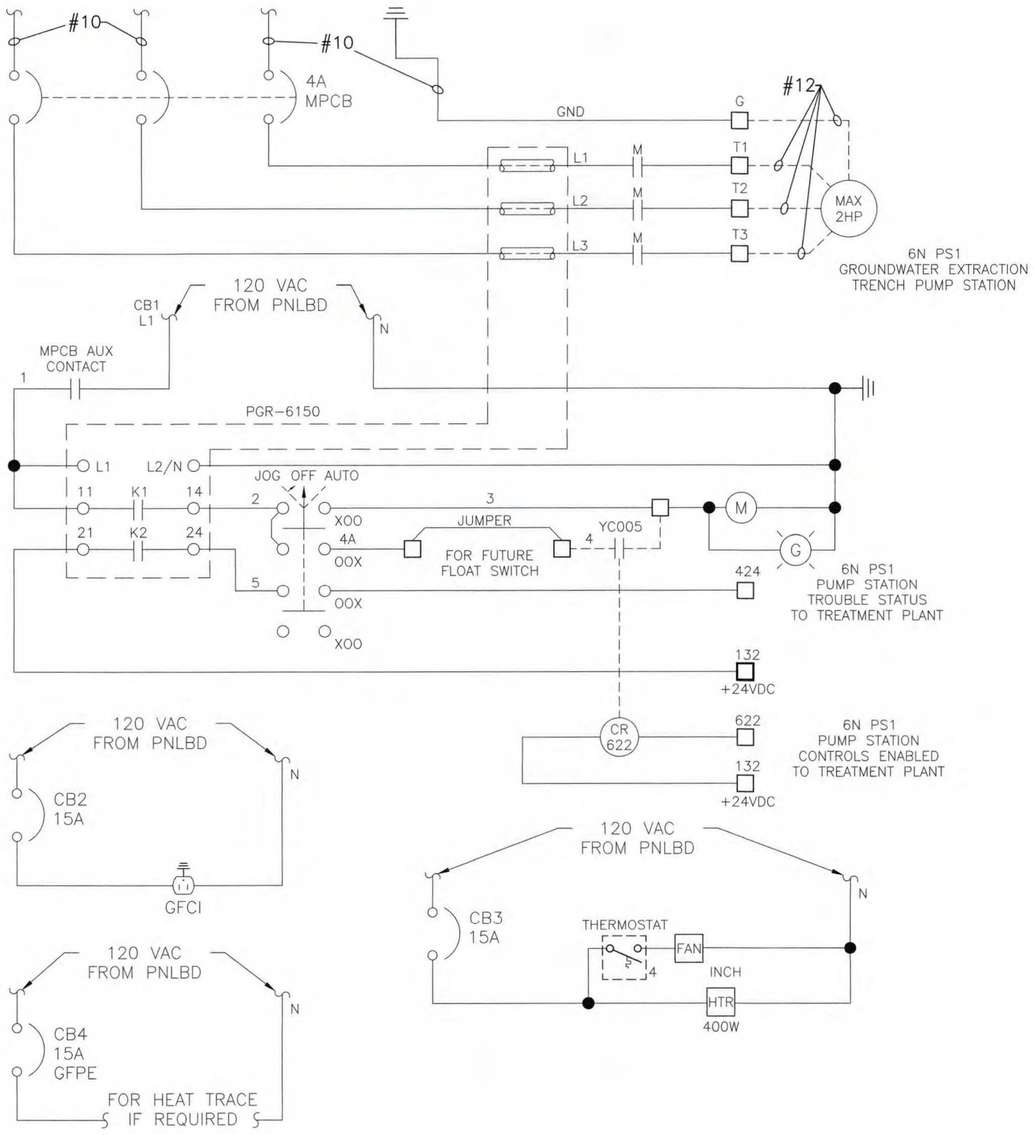
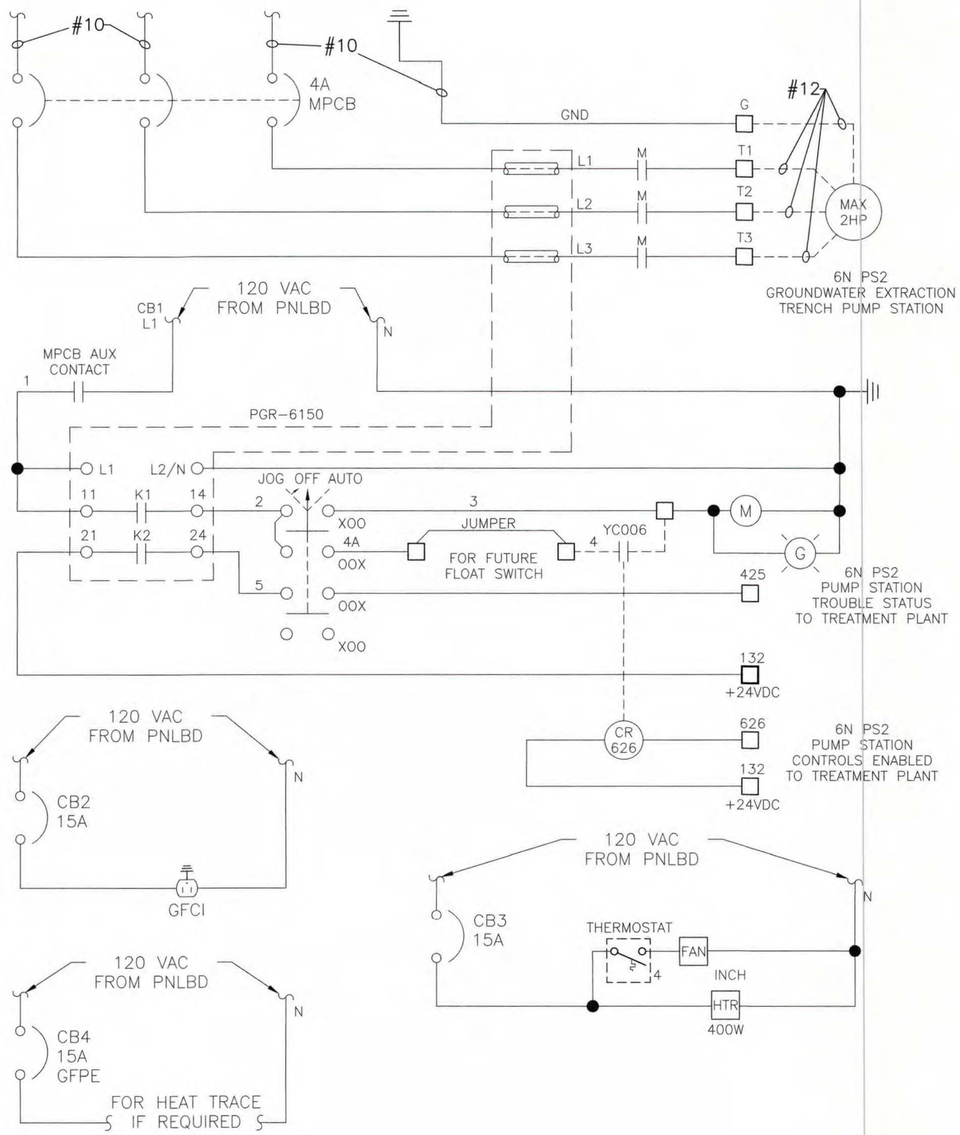


6 NORTH PUMP STATION 1 CONTROL SCHEMATIC

NTS



6 NORTH PUMP STATION 2 CONTROL SCHEMATIC

NTS

NOTE:

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□ TERMINAL IN PUMP PANEL

FIELD WIRING

TIMOTHY C. KESSLER
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500

NO.	DATE	REVISION	BY	APVD
3	12/02/16	DCB 007.4.2	SGS	TCK
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DSGN		DR GCP	CHK RJR	APVD GCP

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ. 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

ONE LINE DIAGRAM

amec
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200 American Metro Blvd, Suite 113
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DATE	
PROJ	3480-12-0317
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SHEET	68 OF 70

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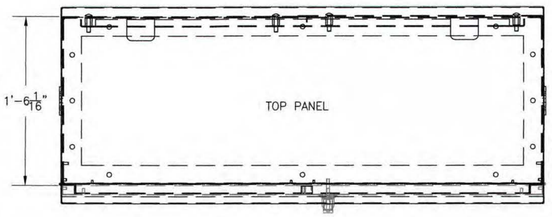

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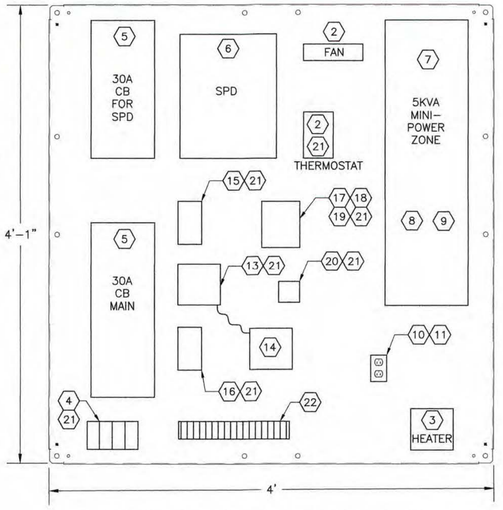
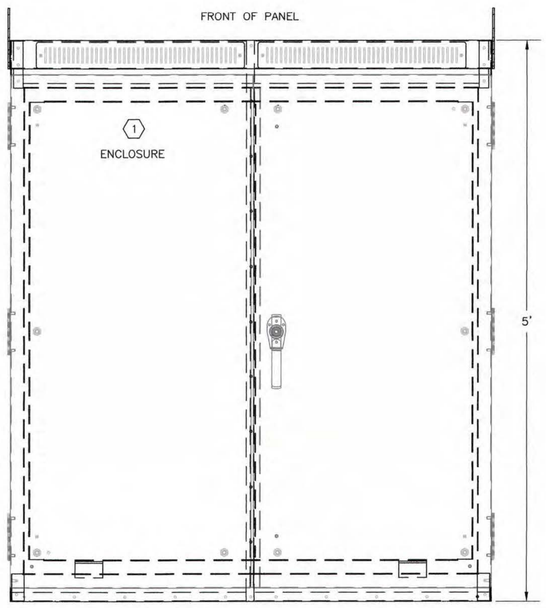
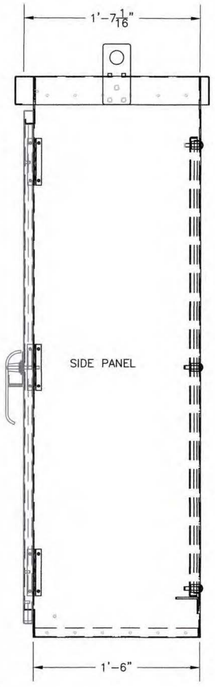


EXTRACTION WELL PUMP CONTROL PANEL BACK DETAIL
NTS

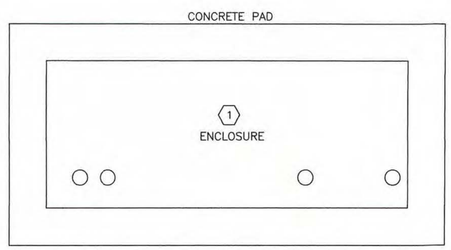
BILL OF MATERIALS

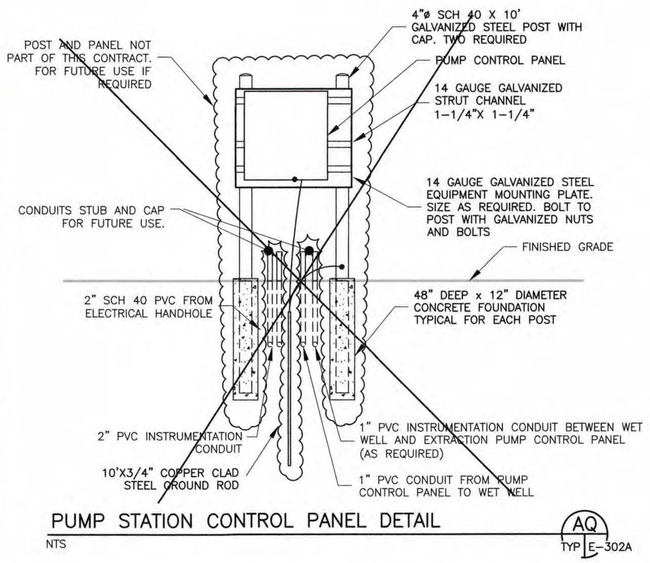
ITEM	QTY	DESCRIPTION	MFG	PART NO.
1	1	60" H x 52" W x 18" D 2-Door NEMA 3R Pad-Mount Enclosure with back panel	Hoffman or Equal	A60R5218FSLP & A49P48N
2	1	4 inch cooling fan with bracket and thermostat, 120 Vac	Hoffman or Equal	A4AXFN, ABRKT4, & ATEMNO
3	1	400 Watt heater with fan and thermostat, 120 Vac	Hoffman or Equal	DAH4001B
4	4	175A Power Distribution Terminal Block, #2/0 to #14 AWG Wire Size Range, IP20 Finger-Safe	Bussmann or Equal	PDBFS220
5	2	Square D H-Frame, 30A, 3P, 600V, Thermal-Magnetic Circuit Breaker and NEMA 1 Surface -Mount Enclosure	Square D or Equal	HDL36030 & J250S
6	1	Type 1 Surge Protective Device, 480V, 3 Phase Delta, 3-Wire + Ground with Transient Filter and Surge Counter	Joslyn or Equal	JSP240-3D480-FB
7	1	Square D Mini-Power Zone, 5kVA, 480V-240/120V, NEMA 3R Enclosure with Primary & Secondary Main Breakers	Square D or Equal	MPZ5S40F
8	5	Square D Type QO Plug-On Circuit Breaker, 15A, IP, 120/240V for MPZ Panelboard	Square D or Equal	QO115
9	1	Square D Type QO Plug-On Circuit Breaker, 15A, IP, 120/240V with 30 mA Ground Fault Protection for MPZ Panelboard	Square D or Equal	QO115EPD
10	1	Duplex 15A, 125V, GFCI Type Receptacle, Heavy Duty, 2P, 3-Wire Grounded, Ivory	Hubbell or Equal	GF15IL
11	1	Handy Box and Receptacle Cover	Raco or Equal	8660 & 864
12	1	Copper Bonded Steel Ground Rod, 3/4" Dia x 10 Ft Long	Erico or Equal	613400
13	1	3-Phase Motor Protection Relay, 120Vac Control Power, 13 Protective Functions, Trip and Alarm Fail-Safe Relays	Littelfuse Powr-Gard	PGR-6150-120
14	1	Operator Interface for Motor Protection Relay	Littelfuse Powr-Gard	PGR-6150-OPI
15	1	Motor Protection Circuit Breaker, Red/Yellow Lockable Knob, 480v, 3 PH, 60Hz 2.5 to 4A Adjustable Range with Front-Mounted N.O. Aux Contact	Allen-Bradley	140M-C2E-B40-KY & 140M-C-AFA10
16	1	IEC Contactor, 9A, 480V, 3 Ph, 60 Hz 120V, 1 N.O. Aux Contact, 60Hz Coil	Allen-Bradley	100-C09D10
17	1	3 Position Selector Switch, Spring-Return from Left, 2 Contact Blocks with Hand-Off-Auto Legend Plate	Allen-Bradley	800T-J4B & 800T-X511
18	1	Green LED Pilot Light, 120Vac, 60 Hz	Allen-Bradley	800T-QH2G
19	1	NEMA 4/13 Die Cast, 2-Hole Surface Mount Pushbutton Enclosure	Allen-Bradley	800T-2TZ
20	1	DPDT Plug-In Relay, 24VDC Coil, LED, Push-to-Test and Manual Override and Socket	Allen-Bradley	700-HA32Z24-3-4 & 700-HN100
21	Lot	DIN Rail #3 for Mounting Components as required	Allen-Bradley	199-DR1
22	Lot	DIN Rail, 30A Terminal Blocks, End Anchors, End Barriers as required	Allen-Bradley	1492-N22, 1492-HM1 1492-N23, 1492-NM36





PUMP STATION CONTROL PANEL DETAIL
NTS





PUMP STATION CONTROL PANEL DETAIL
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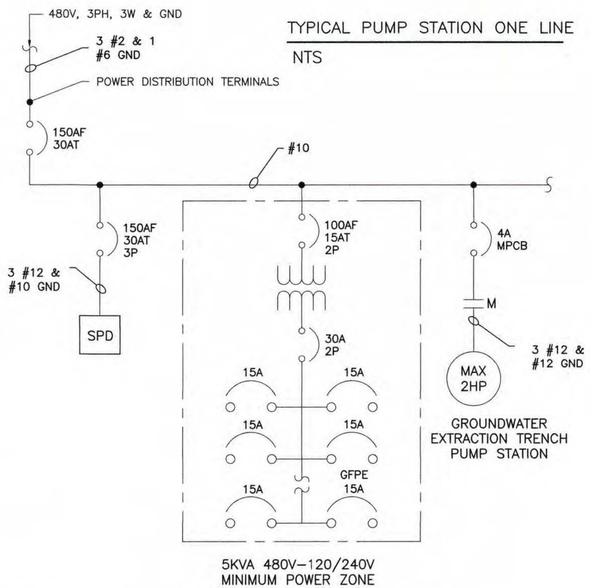
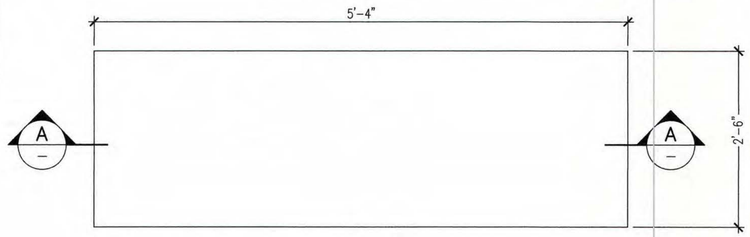
AQ
TYP E-302A



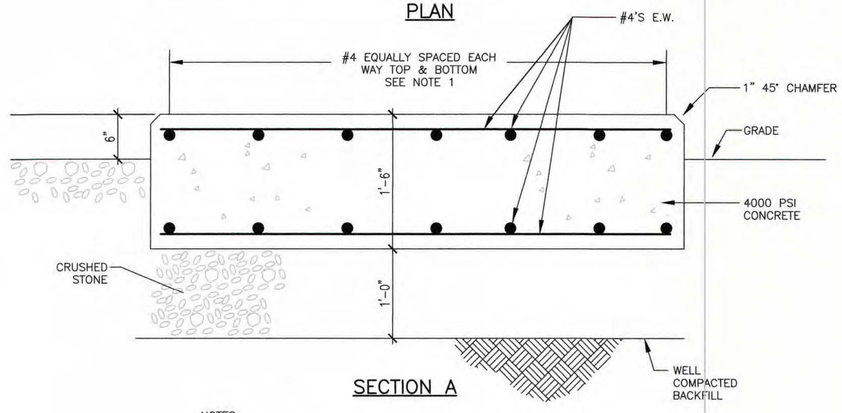
TYPICAL PUMP STATION ONE LINE
NTS

5KVA 480V-120/240V MINIMUM POWER ZONE

GROUNDWATER EXTRACTION TRENCH PUMP STATION



PLAN



SECTION A

NOTES:

1. 7 BARS PERPENDICULAR TO 5'-4" DIMENSION TOP AND BOTTOM.
   4 BARS PERPENDICULAR TO 2'-6" DIMENSION TOP AND BOTTOM

CONTROL PANEL PAD DETAIL
NTS

TIMOTHY C. KESSLER, P.E.
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 24GE03749500
SGS

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0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD DR RJR CHK SHM APVD SGS

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL

WIRING DIAGRAM

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VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	EN-302A
SHEET	65A OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR68-EN-302A WIRING DIAGRAM.dwg PLOT DATE: Fri, 16 Dec 2016 PLOT TIME: 10:46 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.6 **Type:** Minor(a) **Effective Date:** September 2016
Project Location: SA-6 North	**Associated RFI:**
Title: Interim Grading SA-6N	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB includes several revisions to the interim/final grading and SESCP drawings on the SA-6 North Chromium Remedy. The changes are depicted on the listed Drawings. This DCB confirms directives issued to Entact in the field.

The minor Grading Changes include localized areas as noted below

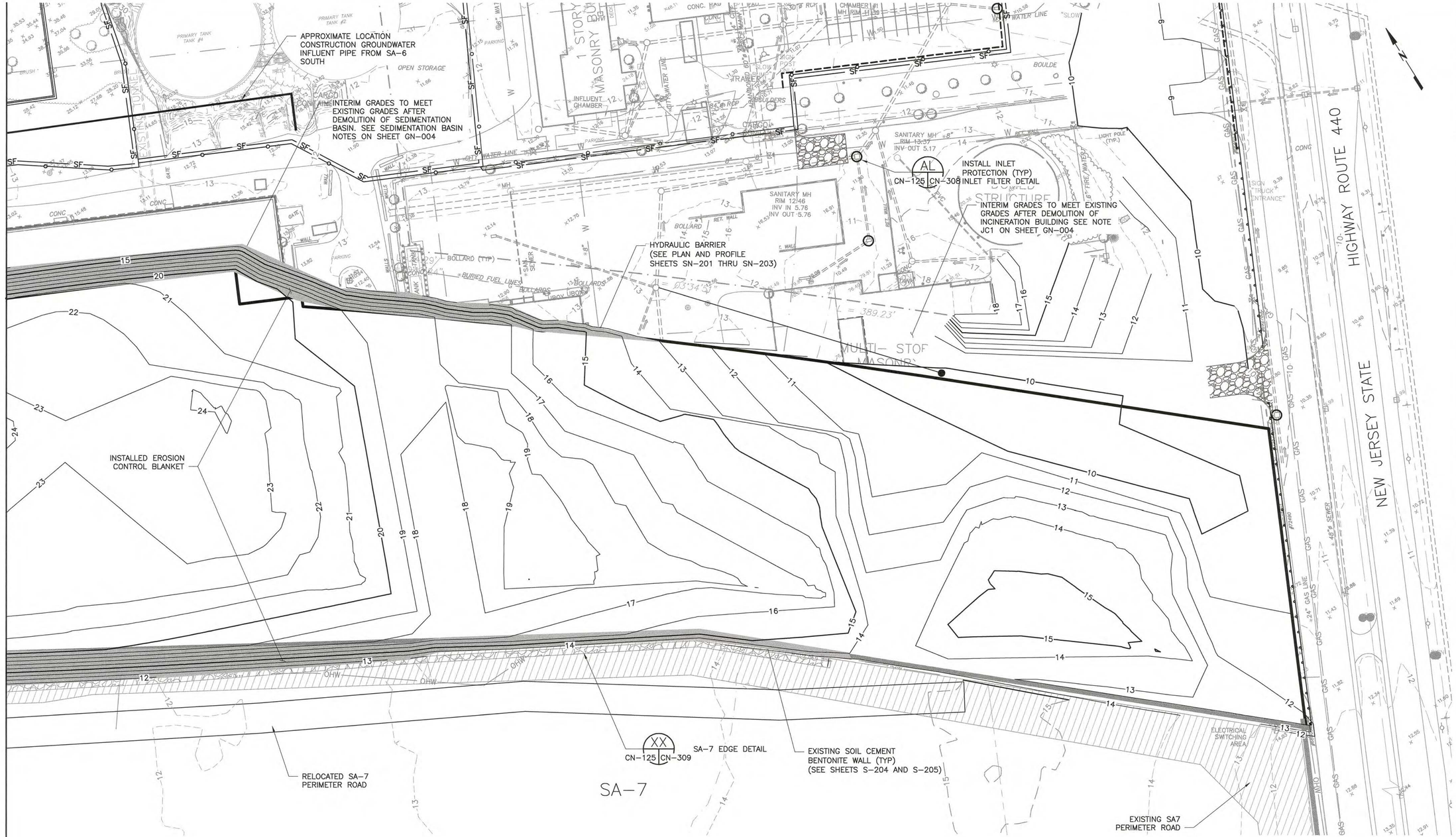
- Relocation and grading of the drainage swale along the temporary road at the west end of the Cap. Flow has been directed to the SA-7 outfall in lieu of sheet-flow over the Hackensack bulkhead embankment.
- Adding fill along the eastern 300 ft of the SA-7/SA-6N boundary on SA-6N to provide for a gradual transition from the SA-7 paved road to the SA-6N interim grades. This will be a temporary condition to improve surface drainage pending redevelopment.

SESCP changes include the following

- Installation of a crushed stone toe drain along SA-7 and use of the former asphalt roadway to conduct stormwater to the Hackensack River in lieu of the in-slope parabolic swale shown in the IFC design on both SA-6N.
- Installation of Erosion Control mat on the steep edge slopes on the north and south sides of both SA-6N. Conditions will continue to be observed and supplemental measures implemented if necessary
- Installation of supplemental diversion berms to direct water through the culverts under the temporary road.
- Installation/restoration of stone check dams near the surface water outfall to the Hackensack River on SA-7. The precise location and dimension of the check dams will be field engineered based on observed flow during storm events.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings: CN - 125 CN - 126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 12/01/16
(Name / Signature):	**Does DCB Result in CCO? (b)** ☐ Yes ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

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2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONTRACTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.
5. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	11/29/16	TDD	TDD	RJR	SGS
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		BY			APVD

DCB 054.6
DCB 054.3
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CHROMIUM REMEDY
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
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SHEET	30 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR30-C-125 Final Grade Drain SESC Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 8:56 AM

NOTES:

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2. REFER TO SHEET GN–002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONTRACTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.
5. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

MATCH LINE SHEET CN–125

HACKENSACK RIVER

PIERHEAD AND BULKHEAD LINE AS ADOPTED DECEMBER 9, 1929

APPROXIMATE LOCATION OF OUTFALL

EA8 INTERIM RESTORATION PENDING BULKHEAD RESTORATION CONTOURED TO SHOW POST CR REMEDIATION AND SEEDED

FINAL RESTORATION GRADE (TYP)

EXISTING CULVERTS 12" PVC AND 6" CPP PIPES INV=6.6 IN

EXISTING CULVERTS 8" HDPS AND 6" CPP PIPES INV=6.6 OUT

INSTALL ROCK OUTLET FILTER AJ CN–126 CN–308

SEDIMENT BOOM

SAND BAG OVERFLOW WEIR

EXISTING BERM

GROUNDWATER TREATMENT PLANT (SEE NOTE GN23 ON SHEET GN–003)

1 STORY MASONRY BUILDING

(5) CARGO CONTAINERS

(4) CARGO CONTAINERS

(6) CARGO CONTAINERS

WOOD SHED

TRAILER

OPEN STORAGE

EMERGENCY OUTFLOW STRUCTURE

HYDRAULIC BARRIER (SEE PLAN AND PROFILE SHEETS SN–201 THRU SN–203)

CONSTRUCTION WATER TREATMENT AREA SEE SHEET CN–106

INSTALL INLET PROTECTION (TYP) INLET FILTER DETAIL AL CN–126 CN–308

TYPICAL VEGETATIVE SWALE R CN–126 CN–304

INTERIM GRADES TO MEET EXISTING GRADES AFTER DEMOLITION OF SEDIMENTATION BASIN. SEE SEDIMENTATION BASIN NOTES ON SHEET GN–004

INSTALLED EROSION CONTROL BLANKET

INSTALLED DIVERSION BERM

EXISTING SA7 PERIMETER ROAD

RELOCATED SA7 PERIMETER ROAD

EXISTING SOIL CEMENT BENTONITE WALL (TYP) (SEE SHEETS SN–204 AND SN–205)

AJ CN–126 CN–308 INSTALL ROCK OUTLET FILTER

XX CN–126 CN–309 SA–7 EDGE DETAIL

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
3	11/29/16	TDD	TDD	RJR	SGS
2	05/13/16		DCB 054.6	TDD	SGS
1	09/13/13		DCB 054.3	TDD	SGS
0	06/07/13		HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
			REVISION	BY	APVD

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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NJ Cert of Authorization 24GA28019600

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:01 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 030.2 **Type:** Minor(a) **Effective Date:** September 2016
Project Location: SA-6 South	**Associated RFI:**
Title: Cap Final Grading and Development Area grading and Restoration	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. This DCB summarizes several field engineering directions provided to Entact. This DCB includes several minor revisions to the final grading in the SA-6 South Chromium Remedy Cap and Development Areas. The changes have been made to improve surface water flows and enhance Sedimentation and Erosion Control Drawings C-125, C-126 and C-127 cover the area of both the Cap and the Development Area. The Restoration details previously shown on drawing C-128 have been added to these three drawings. C-128 has been deleted from the set.

- Installation of a crushed stone toe drain along SA-7 toe, and use of the former asphalt roadway to conduct stormwater to the Hackensack River, in lieu of the "in-slope" parabolic swale shown in the IFC design. The drain is located where the toe of slope temporarily terminates in SA-7 pending raising SA-7 to the Bayfront Development grades. The toe drain is considered to be more resilient than the original swale design and will provide equal or better sedimentation and erosion control.
- Adding topsoil over the eastern 300 ft. of the cap along SA-7/SA-6S boundary to provide for a gradual transition from the SA-7 paved road to the SA-6S Final Grades.
- Extent of demarcation geotextile, crushed stone, and DGA placed over the Development Area to meet covering of Historic Fill regulations. The restoration grades were modified to accommodate placement of gravel over foundations and pavement in a number of areas that were not included in the IFC restoration drawing.
- Installation of Erosion Control mat on the steep edge slopes on the north and south sides of SA-6S. The precise limits of mat will be determined in the field based on observed performance.
- Installation of supplement diversion berms to direct water through the culverts under the temporary roads. The location and size of the berms shown on the drawings may be modified in the field based on observation of the performance in storm events
- Installation/restoration of stone check dams and diversion dams near the surface water outfall to the Hackensack River on SA-7. The precise location and dimension of the check dams will be field engineered based on observed flow during storm events.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** Documents minor changes in grading and improved stormwater control. **Attachments:** ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** C-125, C-126, C-127. C-128 deleted.
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 12/01/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	



NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND G–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
		TDD		RJR	TDD	SHM	SHM
3	11/29/16	DCB 030.2				TDD	SGS
2	4/15/16	DCB 30.1 - REVISED GRADING AND RESTORATION				TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'				TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION				TDD	SHM

Honeywell
101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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NJ Certificate of Authorization Number 24GA28019000

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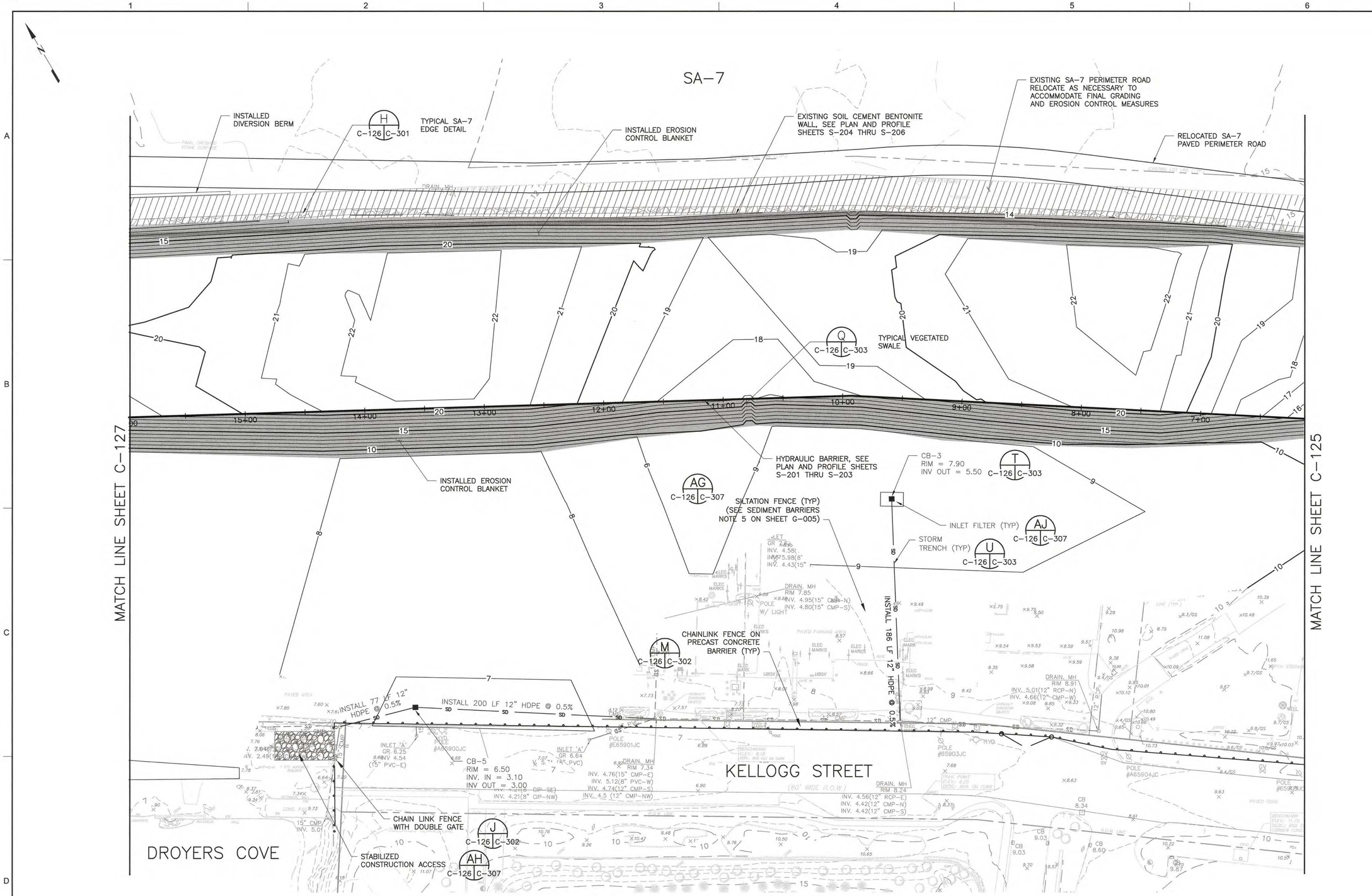
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
DSGN	TDD	DR RJR	TDD	SHM
3	11/29/16	DCB 030.2	TDD	SGS
2	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

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DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66

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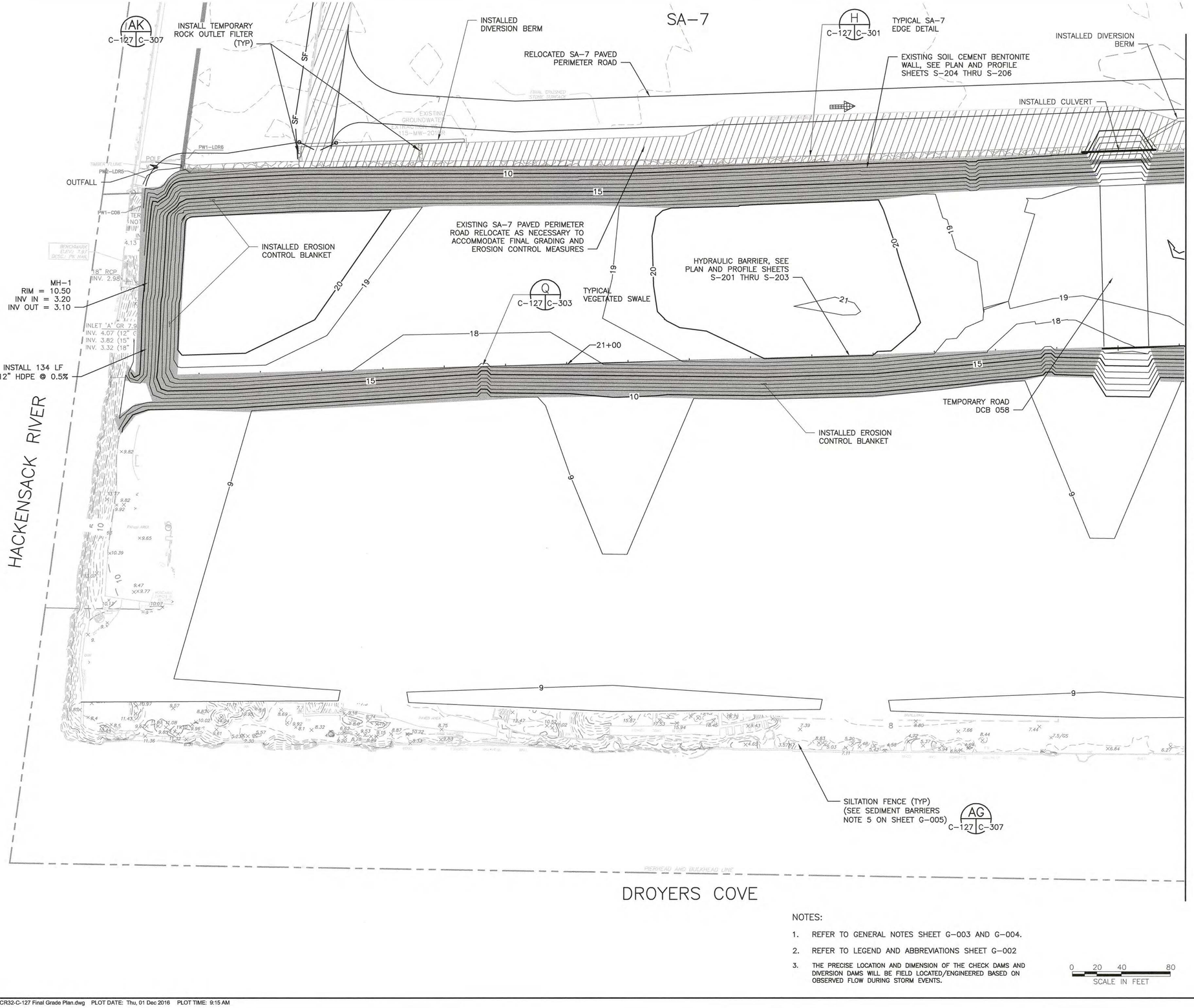
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR31-C-126 Final Grade Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:11 AM



NOTES:

1. REFER TO GENERAL NOTES SHEET G–003 AND G–004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G–002
3. THE PRECISE LOCATION AND DIMENSION OF THE CHECK DAMS AND DIVERSION DAMS WILL BE FIELD LOCATED/ENGINEERED BASED ON OBSERVED FLOW DURING STORM EVENTS.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
4	11/29/16	TDD		RJR	TDD
3	4/18/16	DCB 030.2			
2	11/16/15	DCB 30.1 - REVISED GRADING AND RESTORATION			
1	10/11/13	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'			
0	06/07/13	MODIFIED BARRIER WALL ALIGNMENT			
		ISSUED FOR CONSTRUCTION			
		REVISION	BY	CHK	APVD
			TDD	SGS	SGS
			TDD	SGS	SHM
			RJR	SGS	
			TDD	SHM	

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019000

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Thu, 01 Dec 2016 PLOT TIME: 9:15 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6, Jersey City, New Jersey	**DCB Type: Minor** **Effective Date: 05/19/14**
Project Location: SA-6 South **Site Owner: Honeywell**	**Associated RFI:** ☐ Yes, RFI No. _____ ☒ None
Client: AMEC **Contractor (*Subcontractor*): ENTACT**	**Project No.: 3480130377**

Description of Change/Modification:

Honeywell will defer all excavation in the area shown on the attached **Figure 1**. This area includes a portion of Cell 153 and Cell 154 through Cell 156 in their entirety (see Photo 1). This design change is necessary due to unanticipated subsurface conditions, approximately 5 feet of concrete was encountered in the subgrade of this area during excavation in Cell 153 (see cross-section A-A'). Vibration during demolition of the concrete so that excavation may proceed as shown on Drawings C-112 & C-113 in the SA-6 100% Design is expected to impact the integrity of the fragile bulkhead in this area (see Photo 2). Therefore, removal of the concrete/asphalt berm, demolition of subsurface concrete, and excavation to the specified design elevations in the area shown on **Figure 1** will be deferred until implementation of the Bayfront Redevelopment Plan when the bulkhead will be either repaired or replaced.

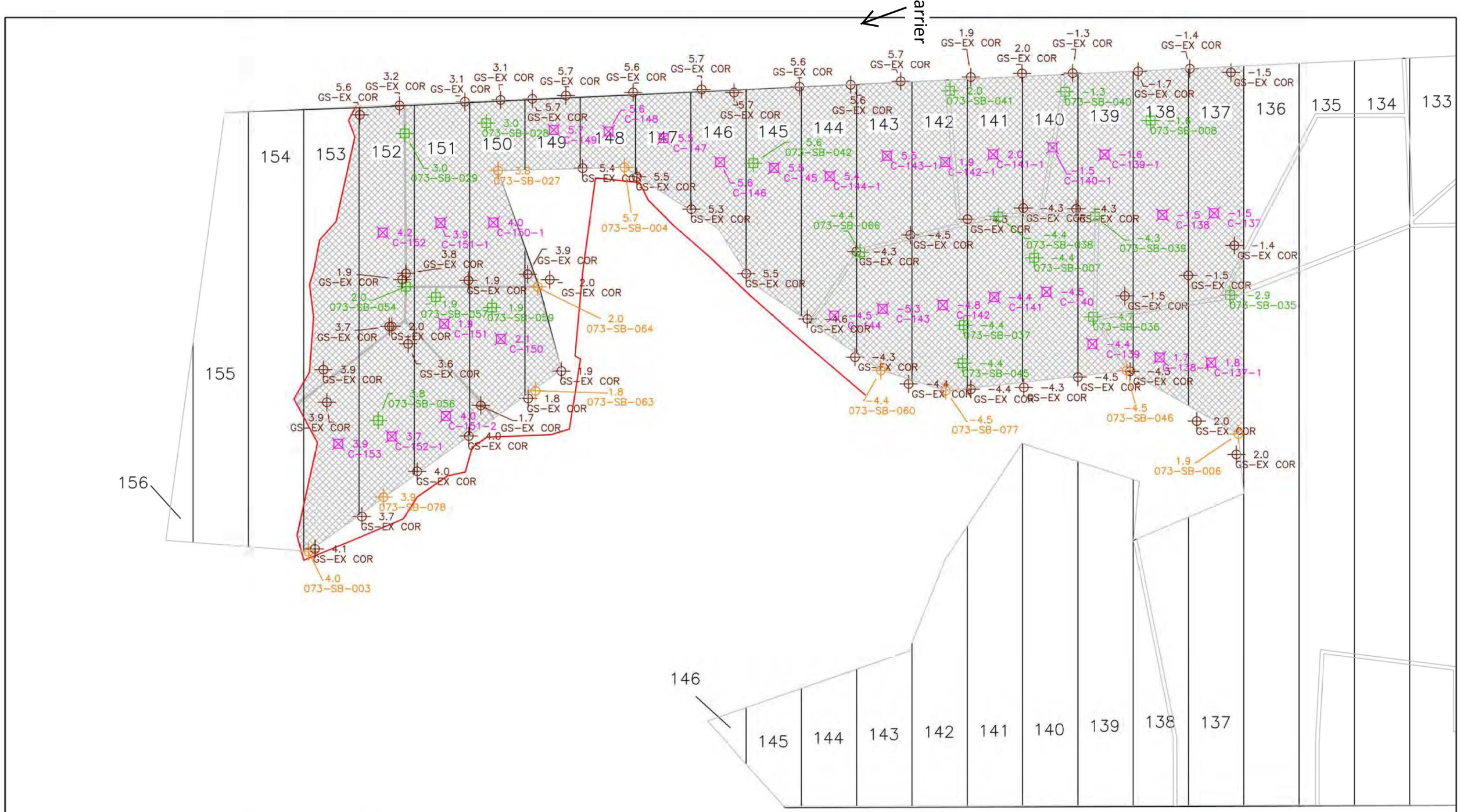
Reason for Change/Modification: ☒ Unforeseen or Differing Site Conditions ☒ Design Revision ☐ Owner/Client Request ☐ Other (describe)	**Explanation or Reason:** Deferred Excavation Due to Unanticipated Excessive Concrete **Attachments:** ☒ Yes ☐ No **Cost Implication:** ☒ Yes ☐ No **>$50K** TBD **Schedule Impact** ☐ Yes ☒ No
Additional Comments: DCB anticipated to require review and approval by third parties.	**Design Documents Affected:** Drawings C-112 & C-113

Honeywell (AP) Review:

Individual: Geoff Shallard **Discipline: EOR**	**Initial**	**Date**

Contractor (*Subcontractor*) Review:	**Does DCB Result in CCO?**	☒ Yes ☐ No
(Name / Signature):	**Date**	

Distribution:



LEGEND

- CONFIRMATORY BOTTOM SAMPLE ELEVATION
- CONFIRMATORY SIDEWALL SAMPLE ELEVATION
- 0.0 POINT ELEVATION
- POINT POINT DESCRIPTION
- BOTTOM CENTER POINT ELEVATION STRATUM D
- BOTTOM CENTER POINT ELEVATION <20 PPM
- BOTTOM CORNER POINT ELEVATION <20 PPM
- DESIGNED STRATUM D EXCAVATION LIMIT
- PREVIOUSLY SUBMITTED DATA
- CURRENT EXCAVATION TO STRATUM D
- CURRENT EXCAVATION TO <20 PPM
- TOP OF EXCAVATION SLOPE
- LIMIT OF EXCAVATION AREA

ENTACT 302 Unity Plaza Latrobe, PA 15650

DRAWING NAME
EXCAVATION BOTTOM ELEVATIONS
PERIOD 04-14-14 TO 05-01-14

PROJECT NAME & LOCATION
HONEYWELL SA-6 REMEDIATION
JERSEY CITY, NJ

Photo 1 - Deferred Area at SA-6
South (Site 073)

JOB NO. 3480130377 SHEET 1 OF 1
PHASE TASK
JOB NAME SA-6 CHROMIUM REMEDY
BY DEM DATE 5/13/14
CHECKED BY DATE

amec
American Metro Center 200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
+1 (609) 689-2829 Fax +1 (609) 689-2838

SECTION A-A'

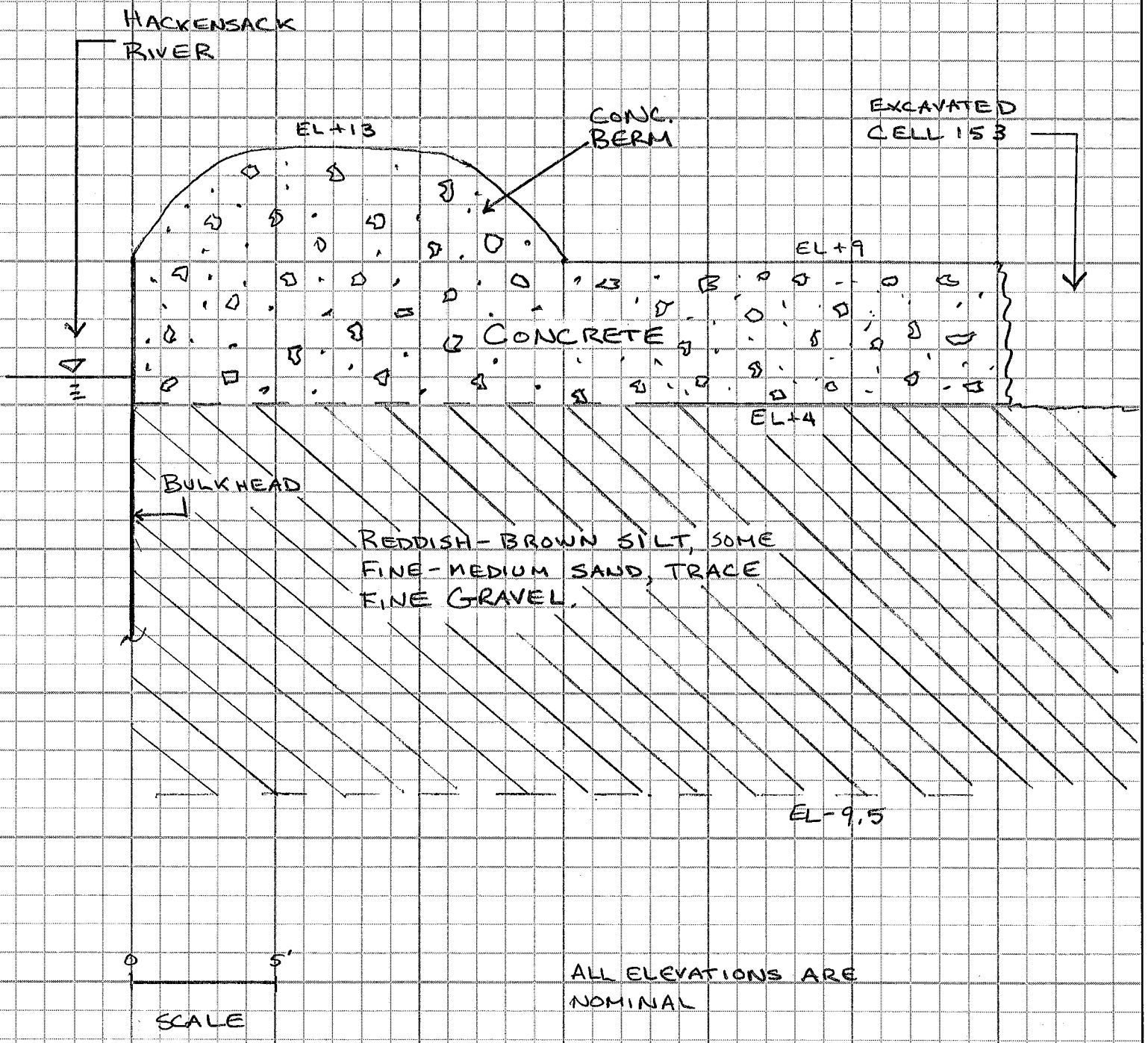


Photo 2 - Bulkhead at Deferred Area at SA-6 South (Site 073)

Honeywell RES → Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB Type: Minor (a) Effective Date: 12/23/2014
Project Location: SA-6 NORTH, SA6-SOUTH	Associated RFI:
Title: Site 163 Deferred Areas	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

When conducting the Site 163 shallow excavation remedy along the cove, unreinforced mass concrete and a steel structure were identified in direct contact with structural components of the bulkhead. These locations were inspected by the Amec engineer and it was determined that removal could be detrimental to the integrity of the bulkhead.

The location and description of the three isolated and small Deferred Areas are shown on the attached drawing.

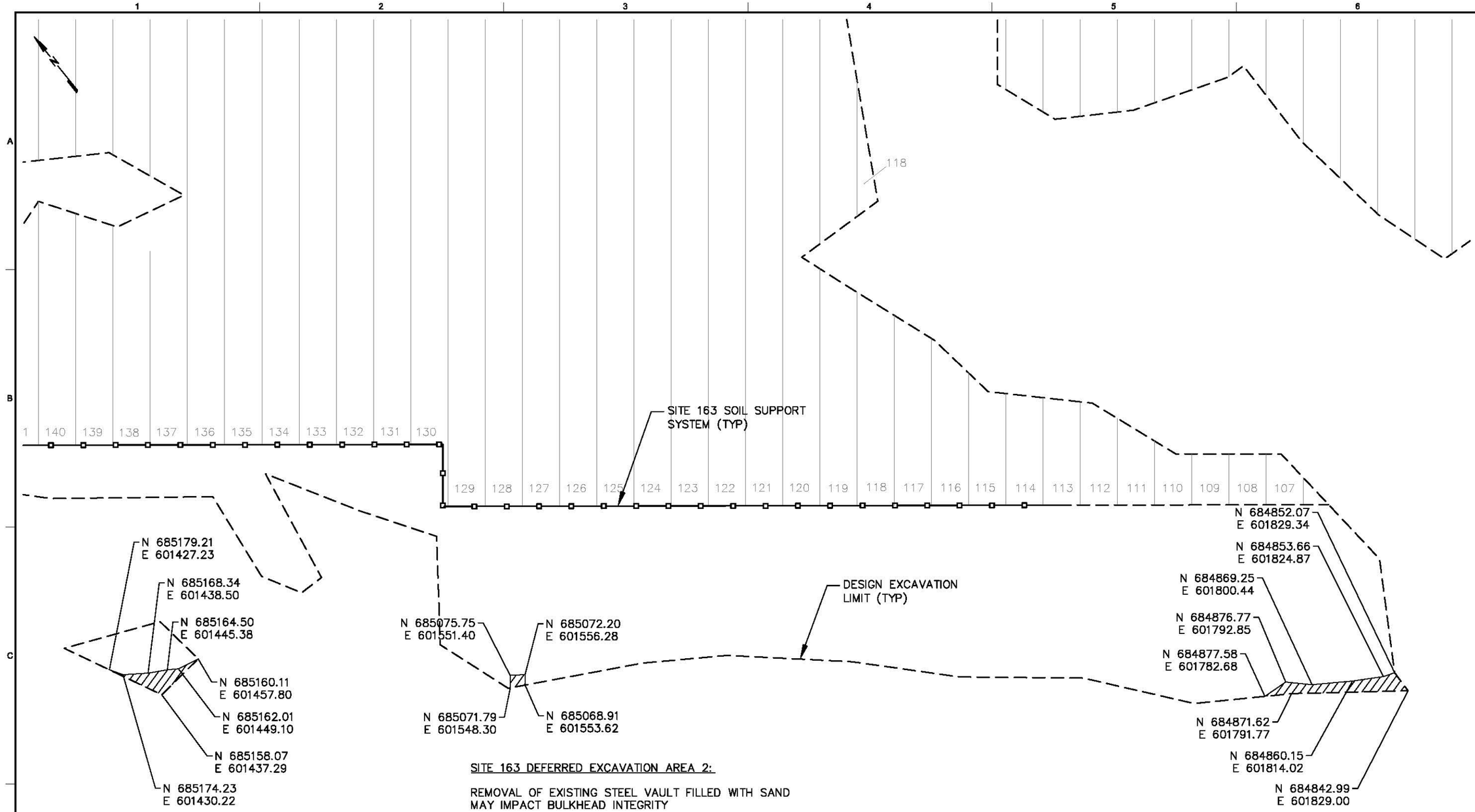
The total volume of the materials left in place is estimated to be less than 35 cubic yards.

As noted the material left in place was concrete. There was no visible sign of the concrete being "chromium impacted".

The remediation of this de minimis material will be completed along with the other SA-6 South bulkhead deferral area along the river, once the permanent bulkhead is installed.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other (describe)	Explanation or Reason: Modified due to field conditions. Attachments: ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:
Honeywell (AP) Review: Individual Discipline	Initial [signature] Date 12/20/16
(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



SITE 163 DEFERRED EXCAVATION AREA 1:

REMOVAL OF EXISTING CONCRETE MAY IMPACT BULKHEAD INTEGRITY

DESIGN EXCAVATION BOTTOM = 5.20 FT (NGVD 29)

PROJECTED REMOVAL VOLUME = 10 CY

SITE 163 DEFERRED EXCAVATION AREA 2:

REMOVAL OF EXISTING STEEL VAULT FILLED WITH SAND MAY IMPACT BULKHEAD INTEGRITY

DESIGN EXCAVATION BOTTOM = 3.60 FT (NGVD 29)

PROJECTED REMOVAL VOLUME = 5 CY

SITE 163 DEFERRED EXCAVATION AREA 3:

REMOVAL OF EXISTING SOIL AND CONCRETE MAY IMPACT BULKHEAD INTEGRITY

DESIGN EXCAVATION BOTTOM = 5.60 FT (NGVD 29)

PROJECTED REMOVAL VOLUME = 20 CY

0 10 20 40
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

NO.	DATE	REVISION	BY	APVD
DSGN	TDD	DR	CHK	APVD
	TDD	RJR	TDD	

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STUDY AREA 6 SOUTH
CHROMIUM REMEDY
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37394

DRAWING STATUS
CONSTRUCTION DRAWINGS

SITE 163
DEFERRED EXCAVATION AREAS

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Hamilton, NJ 08619
(609) 588-2929

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	01/21/15
PROJ	3480-10-0027
DWG	001
SHEET	1 OF 1

FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 Deferment Areas\Figure 1 Site 163 Deferment Areas.dwg PLOT DATE: Wed, 21 Jan 2015 PLOT TIME: 11:46 AM

Honeywell RES

→Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	DCB No.: 23 DCB Type: Minor (a) Effective Date: 4/30/15
Project Location: SA-6	Associated RFI:
Title: JCIA Trash Pit Closure	☐ Yes, RFI No. ___ ☑ None
	Project No.: 3480130377
Contractor (Subcontractor): Entact	

A concrete protuberance was encountered 12-13 ft below grade, which prevented driving the sheet to full depth immediately adjacent the JCIA trash pit. The closure sheet was notched per the attached sections to clear the concrete. A series of 8" holes were augured and grouted starting at the JCIA pit and moving out along the alignment of the closure section to provide continuity with the pit. The closure sections were then lowered/pushed to the design depth.

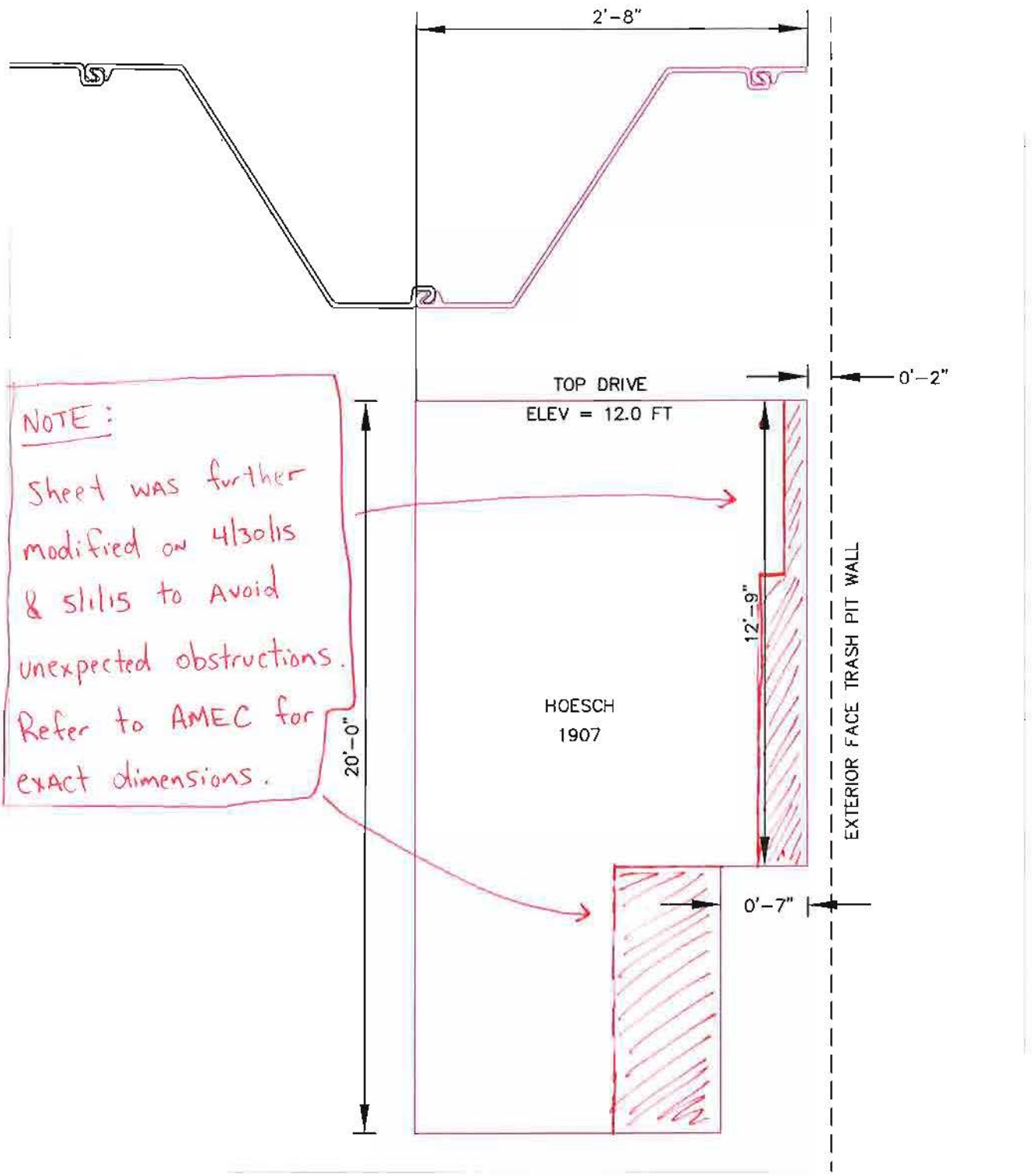
Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	Explanation or Reason: Obstruction encountered during HB sheetpile driving adjacent the JCIA trash pit Attachments: ☑ Yes ☐ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

Honeywell (AP) Review:

Individual	Discipline	Initial	Date
(Name / Signature):		Does DCB Result in CCO? ☐ Yes (b) ☑ No	Date: ~~4/30/15~~ 6/8/15

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



JCIA TRASH PIT – WEST CLOSURE
NTS

Prepared/Date: TDD 4/14/15
Checked/Date:

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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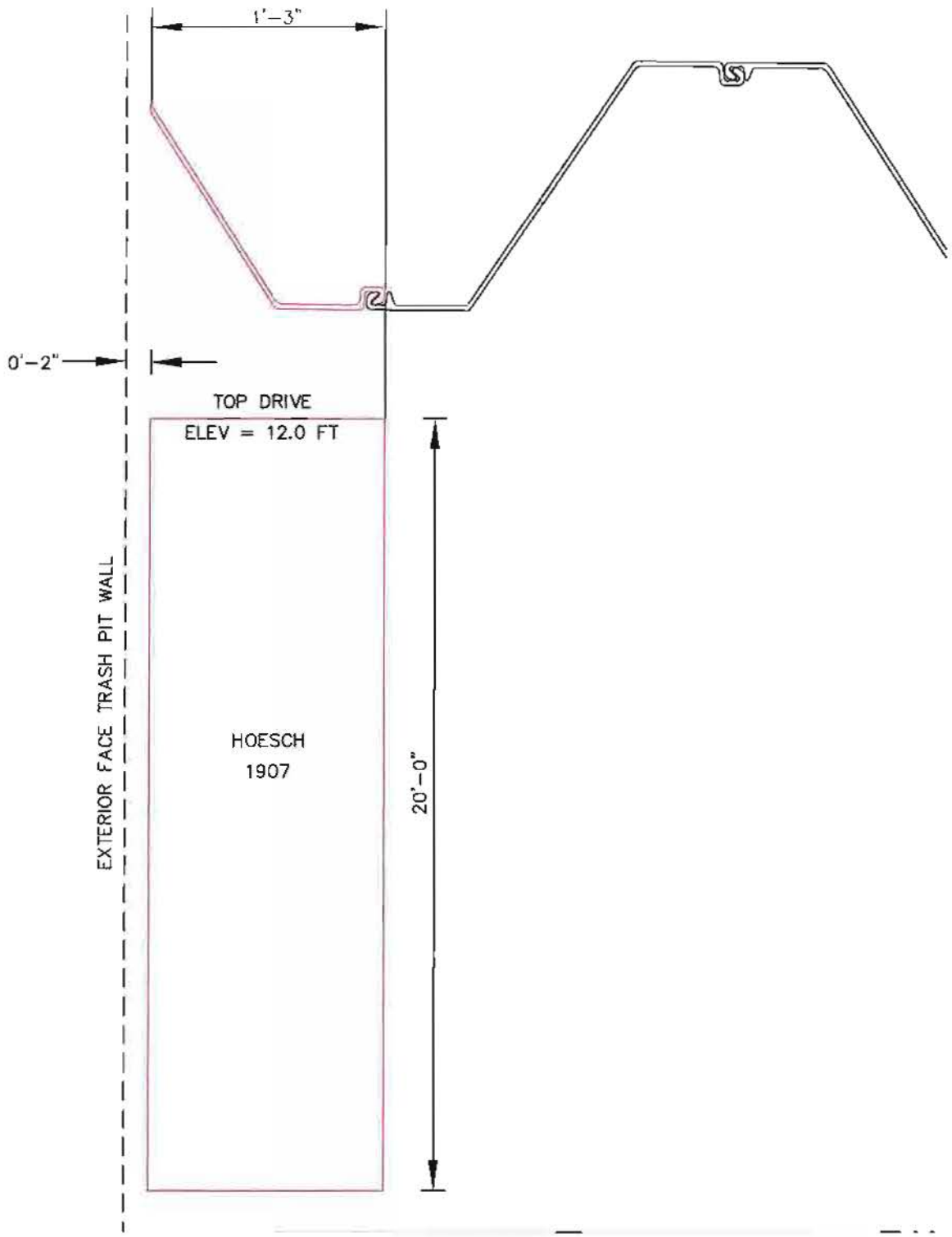
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ 08619
Phone: (609) 689 - 2829
NJ Certificate of Authorization
Number 24GA28010900

FIGURE 1
VHB CLOSURE DETAIL
Project 3480-10-0027

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB Closure Sections.dwg Mon, 20 Apr 2015 - 1:42pm tony.donovan



JCIA TRASH PIT – EAST CLOSURE
NTS

Prepared/Date: TDD 4/14/15
Checked/Date:

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY

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Hamilton, NJ 08619
Phone: (609) 689 - 2829
NJ Certificate of Authorization
Number 24GA28010900

FIGURE 2
VHB CLOSURE DETAIL
Project 3480-10-0027

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North VHB\SA-6 North VHB Closure Sections.dwg Mon, 20 Apr 2015 - 1:43pm tony.donovan

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB Type: Minor (a)**
	Effective Date: 6/5/15
Project Location: SA-6 South	**Associated RFI:**
Title: SA-6 South Contingent GW Piezometer Locations	☐ **Yes, RFI No. __** ☑ **None (Request via e-mail)**
	Project No.: 3480130377
Contractor (Subcontractor): ENTACT	

Description of Change/Modification:

The general location of the paired piezometers was depicted in the Plan view of the Contingent system.

Specific coordinates were not included.

ENTACT has requested specific coordinates.

In preparing the coordinates Amec Foster Wheeler reviewed the locations shown in the IFC design with the latest road and utility designs prepared by CHA. This has resulted in minor movements of the piezometers. The movement will have no impact on the performance of the piezometers to meet their intended purpose for measurement of the hydraulic gradient across the wall.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐Design Revision ☐ Owner/Client Request ☑ Other (See Explanation)	**Explanation or Reason:** Adjustments to avoid conflicts with future development and to keep piezometers out of roadways.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	Design Documents Affected:

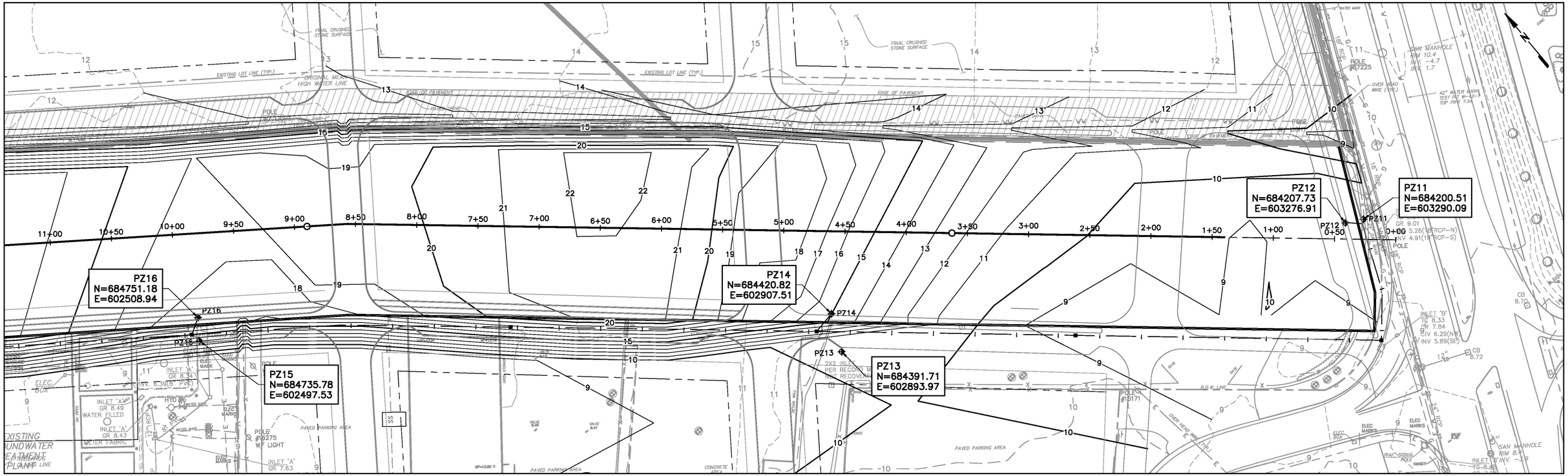
Honeywell (AP) Review:

Individual: Geoff Shallard **Discipline:** EOR	**Initial**	**Date**

(Name / Signature):	Does DCB Result in CCO? ☐ Yes (b) ☑ No Date:

Distribution:

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



Prepared/Date: RJR 07/09/15
Checked/Date: SGS 07/09/15

HORIZONTAL SCALE: 1" = 40'

0 20 40 80
SCALE IN FEET

Honeywell
101 COLUMBIA RD. BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010800

Piezometer Location
Project 3480-13-0377
Figure 1

Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\CR34-C-201_Cont_GWE_Trench.dwg Thu, 09 Jul 2015 - 8:47am roger.riquier

Honeywell RES

Honeywell.com

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 50 **DCB Type:** Minor (a) **Effective Date:** 10/02/15
Project Location: SA-6 North and South	**Associated RFI:**
Title: Warning Tape above Root Barrier	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. ENTACT installed warning tape above the geocomposite drainage layer (GDL), as called for in Drawings C-301 and CN-301. As an additional precautionary measure, ENTACT will install warning tape directly on top of the root barrier layer. The warning tape will generally be installed perpendicular to the warning tape above the GDL. On the steep slopes into roadway/utility corridors and the tree planting areas the tape will be set running from the top of the slope to the bottom of the slope.

The warning tape will be the same tape used above the orange GDL warning fabric, i.e. a 6 inch wide yellow PE tape with 3.5 inch bold back lettering which meets the specified requirements for a distinctive colored high-visibility marking. The tape will be placed at no more than 5 ft. on center.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** **Attachments:** ☐ Yes ☑ No Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:**
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 10/2/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.: DCB 030 Type:** Minor(a) **Effective Date: 11/12/2015**
Project Location: SA-6	**Associated RFI:**
Title: Final Grade Revisions	☑ Yes, RFI Nos. 057 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

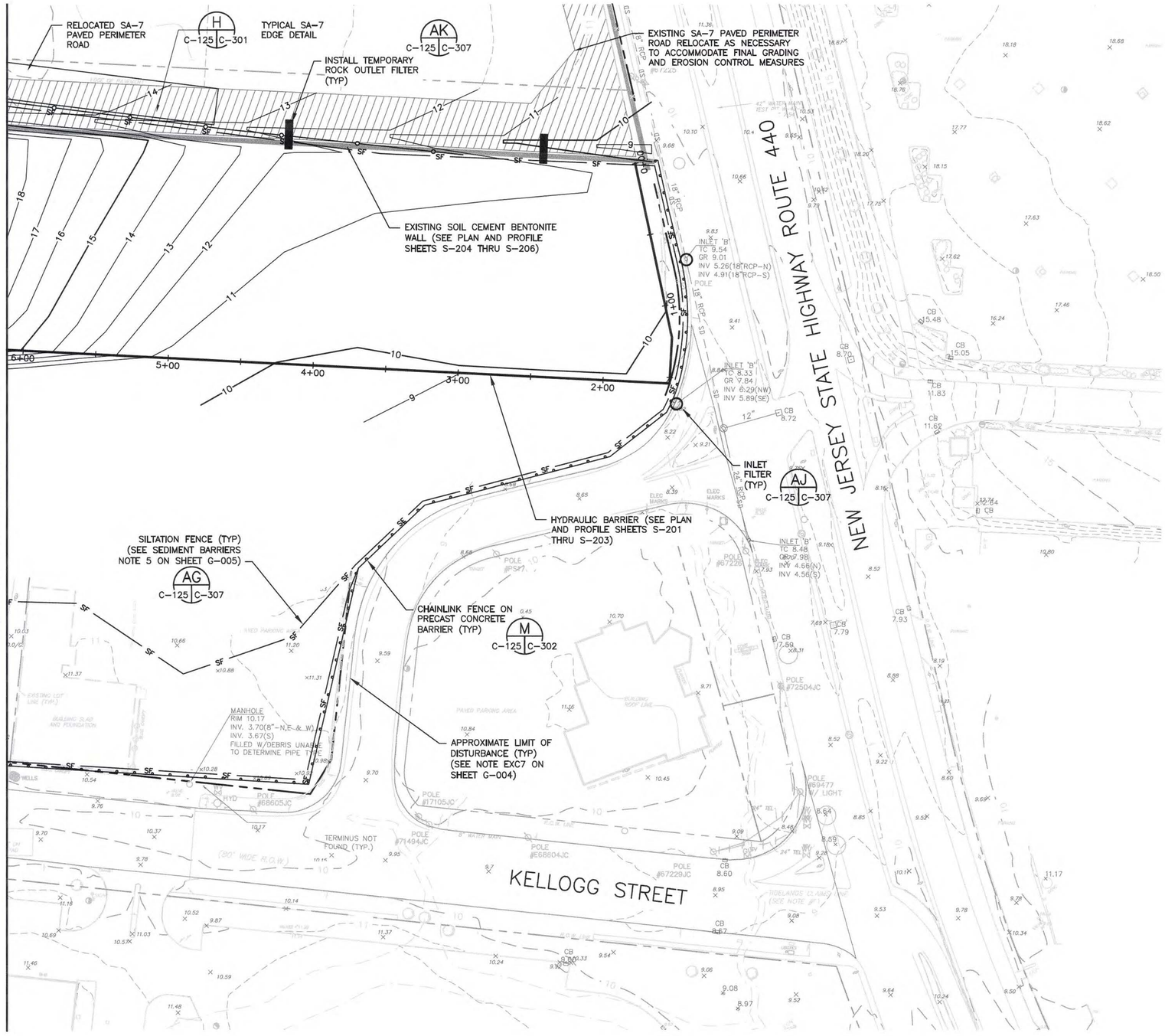
Description. The Final Grades were revised to allow for a 0.25 increase in subgrade elevations eastern portions of SA-6 where subgrade had not been completed at the time (July 2015). The changes in subgrade were made in conjunction with the elimination of the utility corridor near the jug handle. The Subgrade changes were conveyed in DCB 027.

In parallel with the grade changes Amec Foster Wheeler and Entact developed a methodology for adapting grading of the cover soils to offsets from either subgrade or Final Development Grade. The methodology was described in the response to RFI 057. Some minor changes (0.1 to 0.2 ft.) have also been made in localized areas to improve surface drainage.

Offsets from the final cover soil will be used in the Machine Control to complete cover soil grading as noted in RFI 057. This DCB impacts Final Grade Drawings C-125, C-126 and C-127 and the associated electronic files.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description above
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings C-125, C-126, C-127
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 11/19/15
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN TDD | DR RJR | CHK TDD | APVD SHM

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101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2629
NJ Certificate of Authorization Number 24GA28019900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR30-C-125 Final Grade Plan.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 10:45 AM

SA-7

MATCH LINE SHEET C-127

MATCH LINE SHEET C-125

TYPICAL SA-7 EDGE DETAIL (H, C-126 | C-301)

TEMPORARY CONSTRUCTION FENCE (L, C-126 | C-302)

INSTALL TEMPORARY ROCK OUTLET FILTER (TYP) (AK, C-126 | C-307)

SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005) (AG, C-126 | C-307)

EXISTING SOIL CEMENT BENTONITE WALL, SEE PLAN AND PROFILE SHEETS S-204 THRU S-206

EXISTING SA-7 PERIMETER ROAD RELOCATE AS NECESSARY TO ACCOMMODATE FINAL GRADING AND EROSION CONTROL MEASURES

RELOCATED SA-7 PAVED PERIMETER ROAD

TYPICAL VEGETATED SWALE (Q, C-126 | C-303)

HYDRAULIC BARRIER, SEE PLAN AND PROFILE SHEETS S-201 THRU S-203

SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005) (AG, C-126 | C-307)

TEMPORARY CONSTRUCTION TRAILERS

CHAINLINK FENCE ON PRECAST CONCRETE BARRIER (TYP) (M, C-126 | C-302)

INSTALL 186 LF 12" HDPE @ 0.5%

MATERIAL STORAGE AREA

KELLOGG STREET

DROYERS COVE

CHAIN LINK FENCE WITH DOUBLE GATE

STABILIZED CONSTRUCTION ACCESS (J, C-126 | C-302; AH, C-126 | C-307)

APPROXIMATE LIMIT OF DISTURBANCE (TYP) (SEE NOTE EXC7 ON SHEET G-004)

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	11/16/15	TDD	SGS	SHM	SHM
0	06/07/13	TDD	SHM	APVD	
	REVISION		BY		

DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'
ISSUED FOR CONSTRUCTION

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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100 PERCENT DESIGN DRAWINGS

CIVIL
REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

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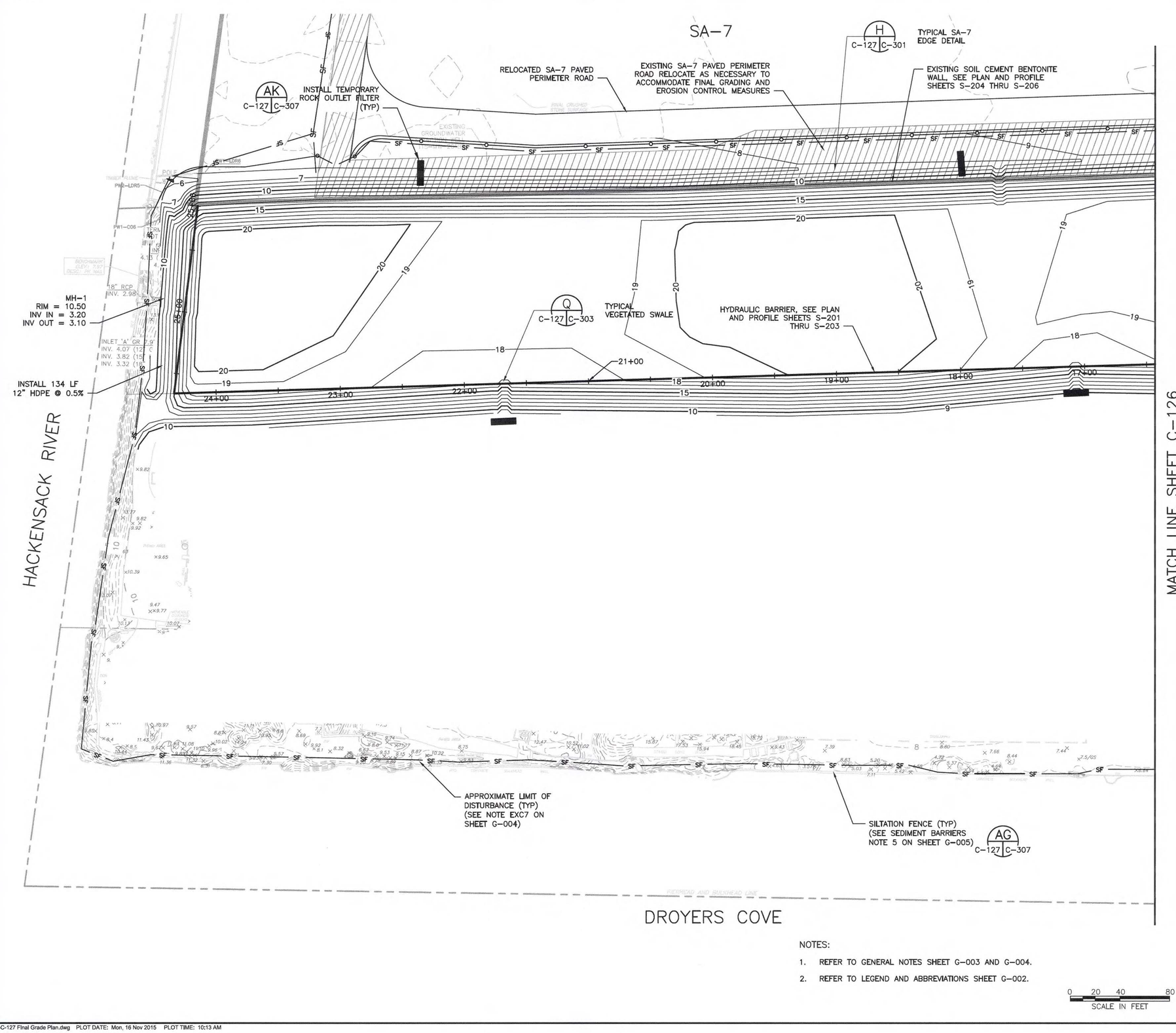
DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS	
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM	
		REVISION	BY	APVD	

TDD RJR TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SHM

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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NJ Certificate of Authorization Number 24GA28019500

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-127
SHEET	32 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Mon, 16 Nov 2015 PLOT TIME: 10:13 AM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** DCB-054 **Type:** Minor(a) **Effective Date:** 2/2/2016
Project Location: SA-6N	**Associated RFI:**
Title: Increase grade 0.25' in Landscape Area	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. The final grade in the landscape area has been raised by a nominal amount of 0.25'. Roadways and sidewalks have been retained at the IFC design elevations. The approach is consistent with that undertaken on SA-6S.

In the initial transmittal Amec is providing the electronic files for the subgrade/geomembrane surface and the top of SCB and sheetpile Barrier Wall. Hard copy of related drawing files will be submitted under separate cover. The subgrade surface has been extended 10 ft. beyond the Barrier Walls in consideration of Machine Control requirements.

Hard copy drawings will be issued in multiple phases. The first phase will be replacement of Geomembrane Grade drawings CN-123 and CN-124, and Barrier Wall Plan and Profiles SN-201, SN-202, SN-203, SN-204 and SN-205. Second phase will include the Interim Grading plans and associated details. The utility Corridor Drawing CN-515 will also be revised to reflect the latest CHA utility corridors. The location and dimension of the Geofoam blocks will be added to CN-515.

In the process of revision, Amec coordinated the subgrade design with CHA to reflect their latest utility plans. CHA has made a number of changes subsequent to the issue of Amec's IFC design. CHA changes included deletion of some structures and relocation of certain utilities. Amec has adjusted subgrade surfaces where these changes were made. Items of specific note include:

- *Elimination of the cap pump station*
- *Revision to the utility corridors*
- *Simplification of the Geomembrane grading*
- *Revision to the top of SCB/Sheetpile barrier wall at some locations*
- *The area of GCL has been expanded to elevation 7. The IFC design was based on a seasonal high groundwater of 5.5. Readings since that time have indicated that seasonal highs may be slightly higher (max 6.3).*
- *The location and extent of the Sand/Bentonite plug. Note: in locations where the barrier wall is at elevation 7 or higher no plug will be required.*

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA

Honeywell (AP) Review:			
Individual: Geoff Shallard	**Discipline:** EOR	**Initial:**	**Date:** 2/2/16
(Name / Signature):		**Does DCB Result in CCO?**	☐ Yes (b) ☑ No
		Date:	
Distribution:			

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b) – If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.1 **DCB Type:** Minor(a) **Effective Date:** 2/22/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions	☑ Yes, RFI #: 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping, and raised in the original pump station location.

In addition AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes, it is necessary to have a reasonably uniform elevation. The attached plan is based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed, they should be immediately brought to the attention of the EOR for resolution.

Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

The two revised subgrade drawings are attached to this DCB. The electronic files for the geomembrane subgrade and revised top of the barrier wall are also attached.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings CN-123, CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 2/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
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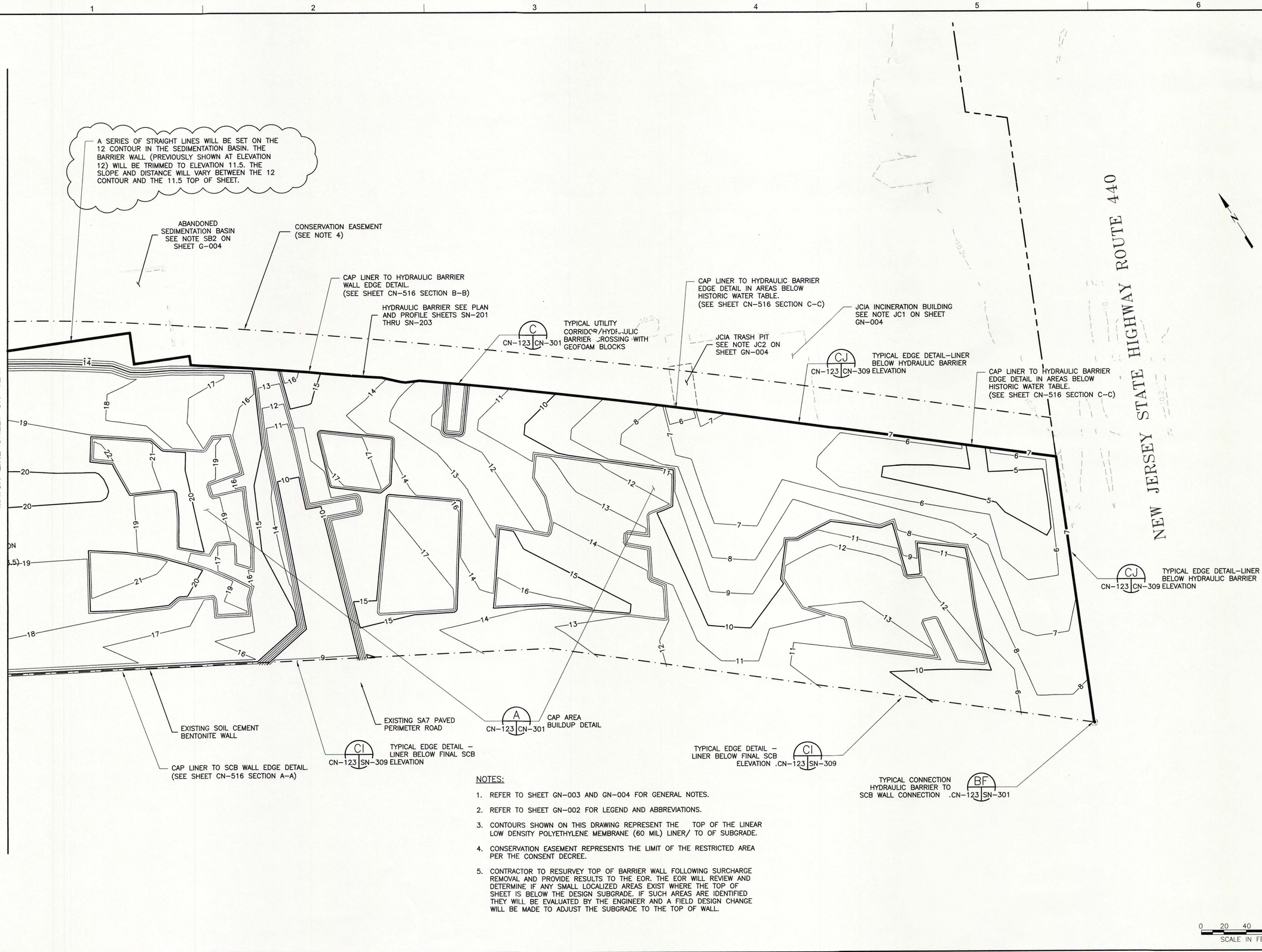

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	BY	APVD
3	02/19/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	SGS
2	02/01/16	DCB 054 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	02/24/15	DCB 007.5	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN	TDD	DR RJR CHK TDD APVD SGS		

SAMUEL G. SHALLARD
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LICENSE NUMBER 43507

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101 COLUMBIA RD. BOX 2105, MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619 (609) 890-2999
NJ Cert of Authorization: 24GA28315900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-123
SHEET	28 OF 70

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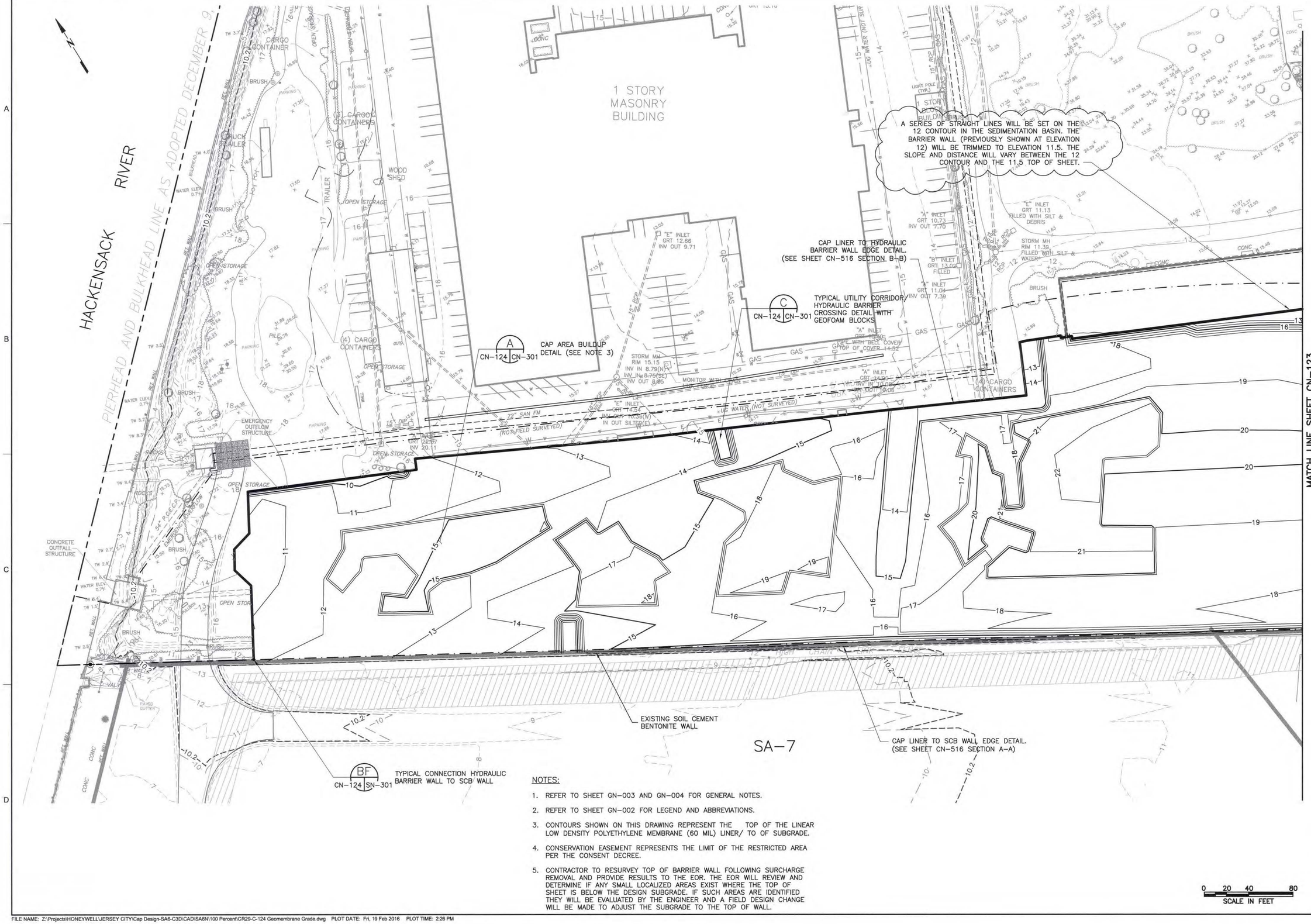
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR28-C-123 Geomembrane Grade.dwg PLOT DATE: Tue, 23 Feb 2016 PLOT TIME: 2:25 PM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

NO.	DATE	REVISION	CHK
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET	TDD
2	02/24/15	DCB 007.5	TDD
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD

DSGN TDD DR RJR CHK TDD APVD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS APVD BY

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 19 Feb 2016 PLOT TIME: 2:26 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.2 **DCB Type:** Minor(a) **Effective Date:** 2/25/16
Project Location: SA-6N	**Associated RFI:**
Title: Barrier Wall & SCB Wall Plan and Profile	☑ Yes, RFI Nos. 64 ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. Subgrade has been lowered at the new location to accommodate the vault and piping and raised in the original pump station location.

In addition, AmecFW reviewed the "driven" top of barrier elevations through the Sedimentation Basin. The underlying soils were found to be very soft under the sedimentation basin and Entact experienced difficulty in preventing the previously driven sheet from being drawn down by the next sheet driven. A significant number of sheets were recorded as being between 11.4 ft. and 12.0 ft. For grading purposes it is necessary to have a reasonably uniform elevation. The subgrade plan and barrier wall plan and profile are based on trimming the sections of wall that are below 12.0 to a uniform elevation of 11.5 ft. Trimmed sheets will require touch up of the epoxy coating.

DCB 054 required that the top of wall elevations of the Barrier Wall should be checked following surcharge and prior to trimming the wall. If any discrepancies are observed that should be immediately brought to the attention of the EOR for resolution.

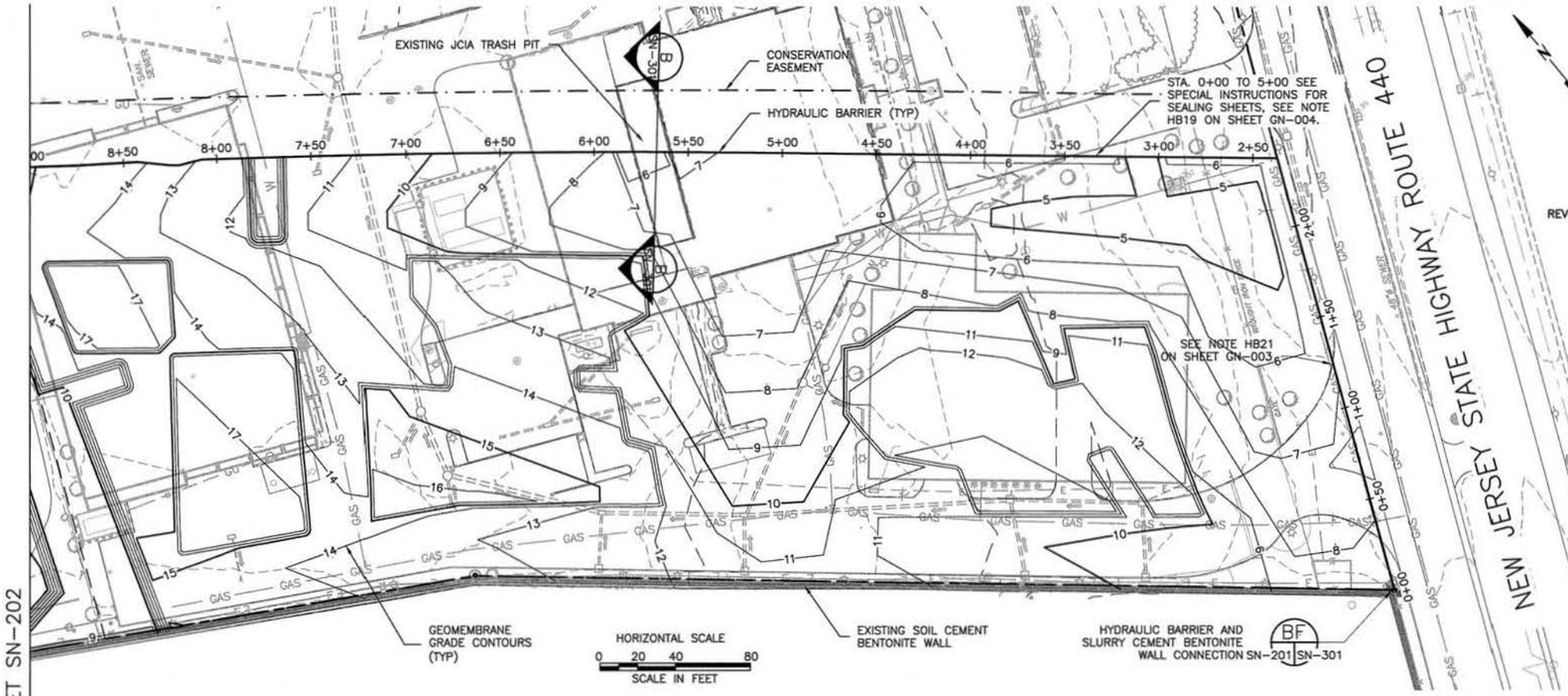
Some field engineering is likely to be required to smooth the subgrade contours at the locations of the steps down into the Sedimentation Basin on both the east and west sides of the Sedimentation Basin.

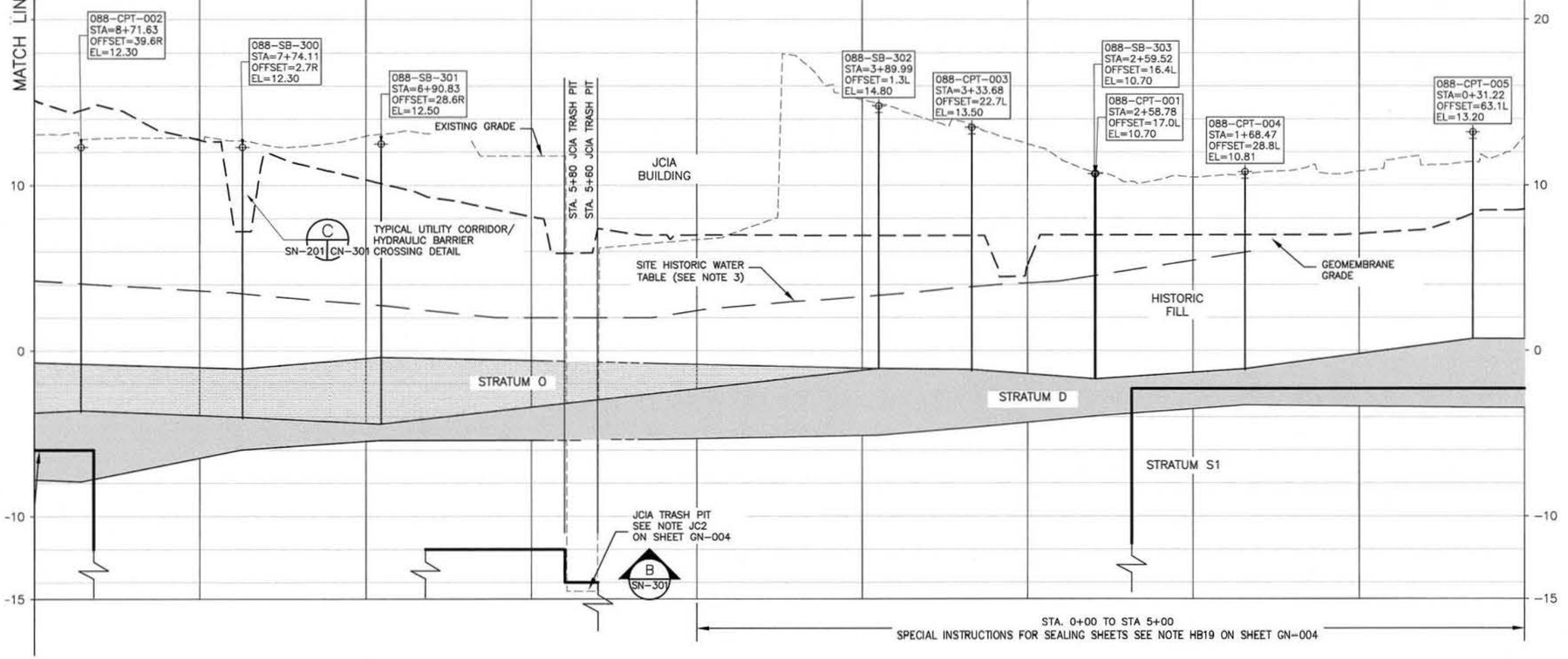
This DCB is limited to issue of the hard copy Signed and Sealed revisions to the SCB Wall and Barrier Wall Plan and Profile Sheets SN-201, SN-202, SN-203, SN-204 and SN-205.

The electronic files that provide the subgrade surface and top of barrier wall profile were provided with DCB 054.1.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station#1 relocation **Attachments:** ☑ Yes ☐ No Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: Changes were made to accommodate requested contractor change to Pump Station location and actual installed barrier wall elevations.	**Design Documents Affected:** Drawings SN-201, SN-202, SN-203, SN-204 and SN-205
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 3/3/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. STATION 14+00 TO 19+00 THE TOE OF THE SHEETPILE WILL BE DRIVEN TO THE TOP OF THE STRATUM S1.

REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	0+00	2+37	-4	AZ 19-700
STRUCTURAL	2+37	5+60	-18	AZ 19-700
NON STRUCTURAL	5+60	5+80	-14	AZ 19-700
NON STRUCTURAL	5+80	6+64	-12	AZ 19-700
STRUCTURAL	6+64	8+64	-33	AZ 38-700N
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	REVISION
2	02/25/16	TDD	TDD	RJR	DCB 054.2 INCREASED LANDSCAPE GRADE (0.25 FEET
1	10/10/13	RJR	SGS		HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	06/07/13	TDD	SGS		ISSUED FOR CONSTRUCTION
		BY	APVD		

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

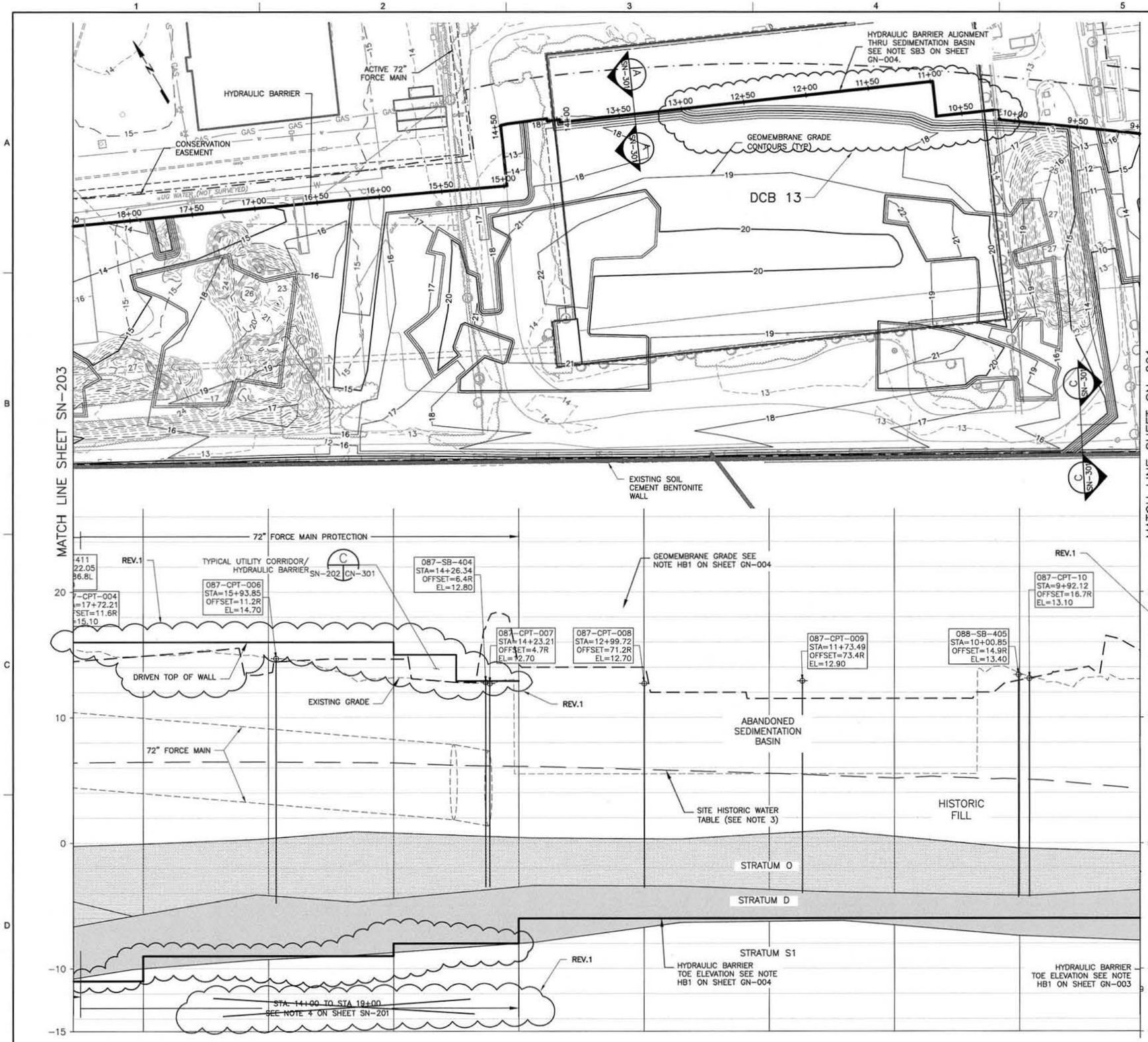
HYDRAULIC BARRIER
PLAN AND PROFILE

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-201
SHEET	54 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR54-SN-201 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:44 AM



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET ON CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE
4. DCB 13. THE HYDRAULIC BARRIER HAS BEEN REALIGNED BETWEEN STA 10+12 TO STA 12+50. THE TOP OF WALL HAS ALSO BEEN LOWERED TO EFFECTIVELY INCREASE THE SIZE OF THE UTILITY CORRIDOR ON THE NORTHERN HALF OF STEGMAN BOULEVARD. REFER TO DRAWINGS CN-123 AND CN-124 FOR ASSOCIATED REVISIONS TO THE GEOMEMBRANE GRADING IN THIS LOCATION.

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
NON STRUCTURAL	8+64	9+85	-6	AZ 19-700
NON STRUCTURAL	9+85	14+00	-6	AZ 19-700
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700

5. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
6. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
3/4/16

NO.	DATE	REVISION	CHK	APVD
3	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	08/12/14	DCB 13 HYDRAULIC BARRIER REALIGNMENT	SGS	RJR
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		DR TDD	BY	APVD
		RJR		BCO

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-202
SHEET	55 OF 70

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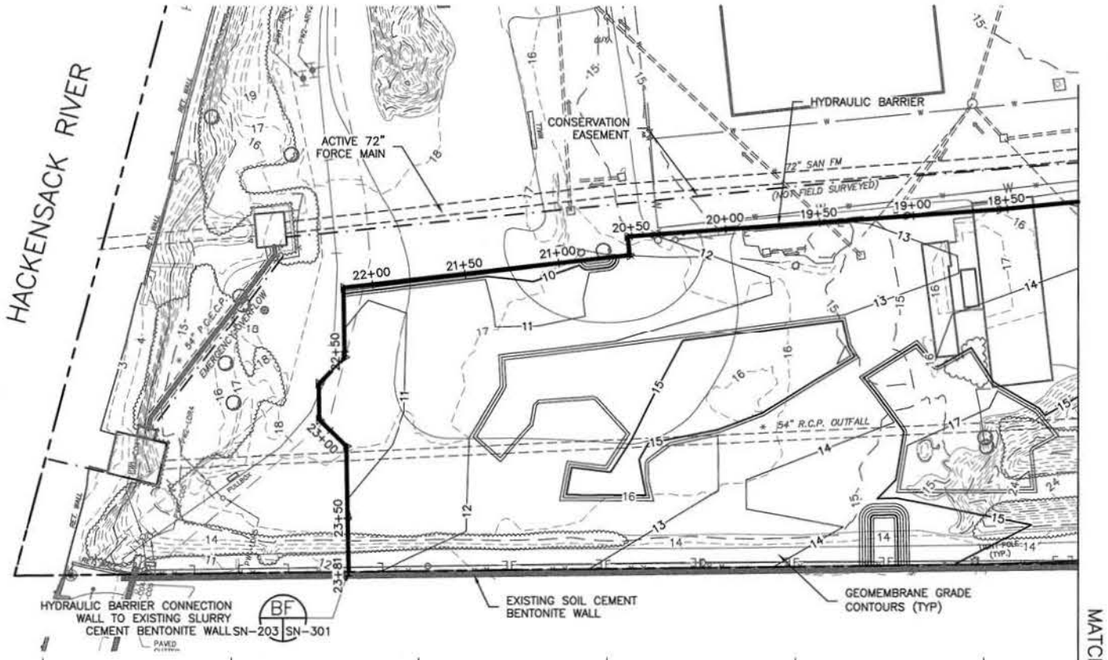

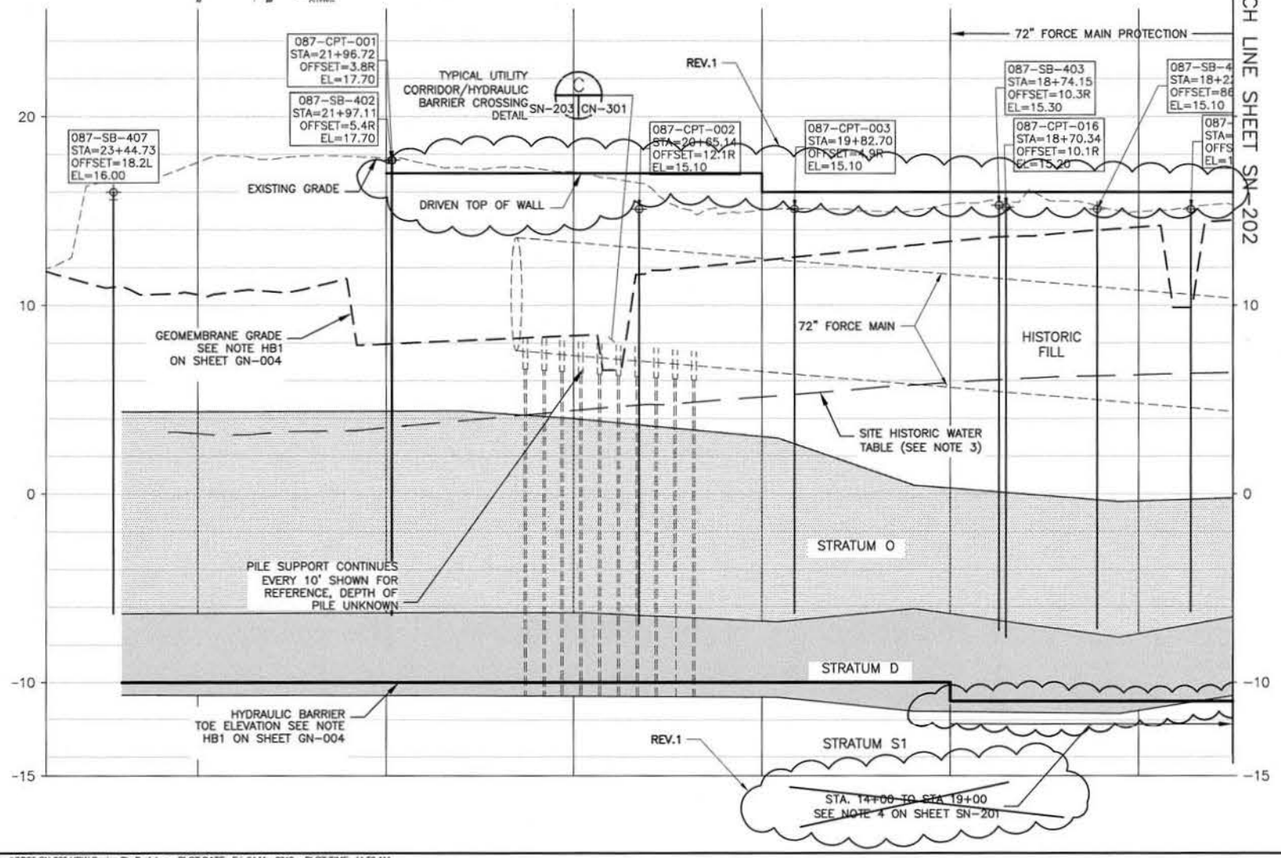

REV.1

HYDRAULIC BARRIER	STATION BEGINS	STATION ENDS	TOE ELEVATION	SHEET PILE
STRUCTURAL	14+00	19+00	SEE NOTE 4	AZ 19-700
NON STRUCTURAL	19+00	23+38	-10	AZ 19-700

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET GN-003, NOTE HB17 AND DETAIL E ON SHEET CN-301 FOR WALL/CAP CONNECTIONS BELOW THE SITE HISTORIC WATER TABLE.
4. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	REVISION	CHK	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS
DSGN		TDD DR RJR	TDD	APVD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
SGS

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

HYDRAULIC BARRIER
PLAN AND PROFILE

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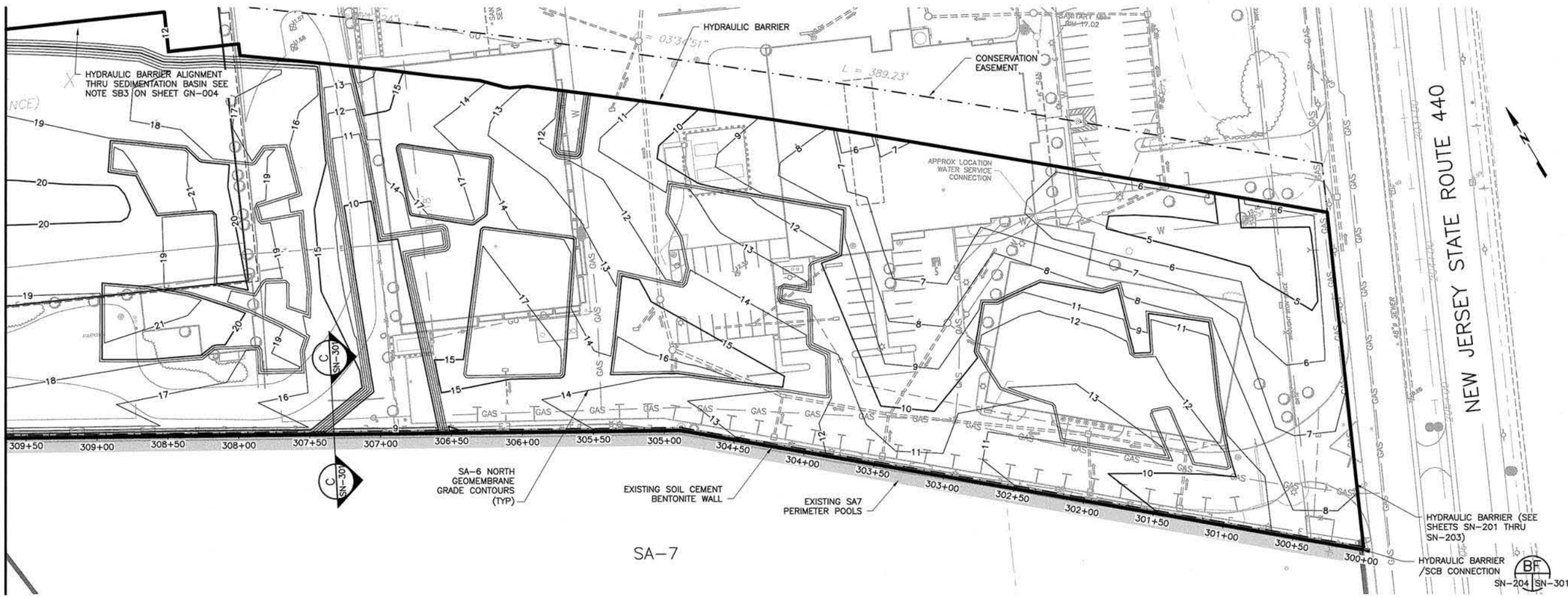
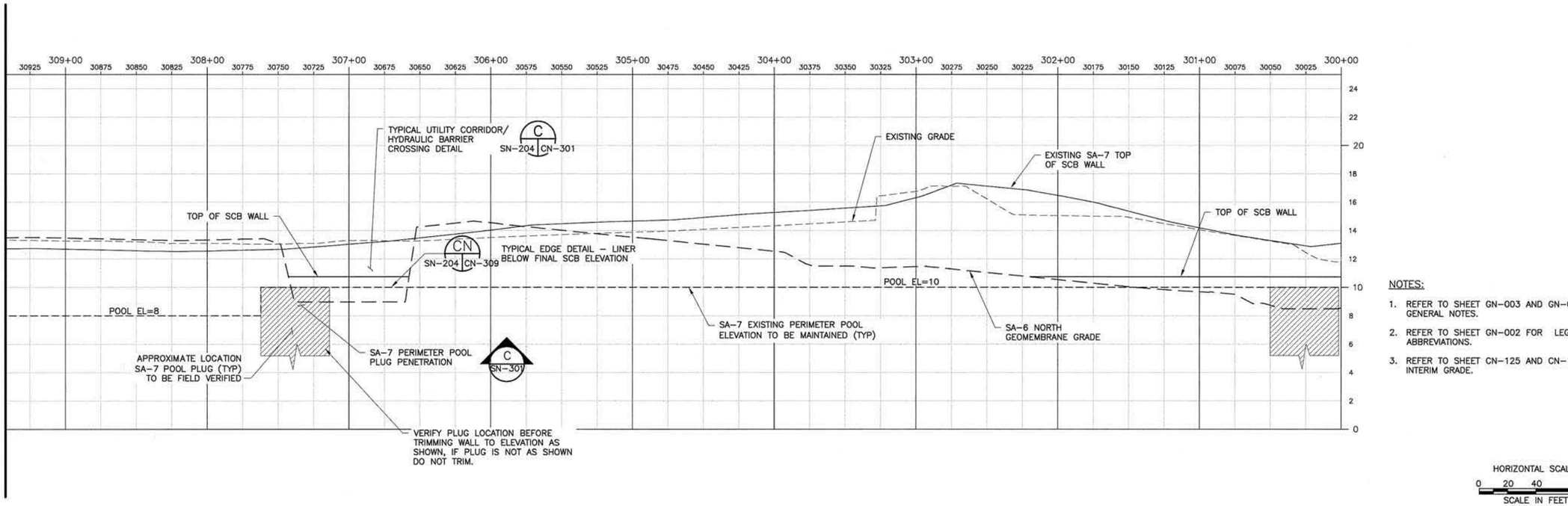
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010300

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-203
SHEET	56 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR56-SN-203 HBW Design Pln Prof.dwg PLOT DATE: Fri, 04 Mar 2016 PLOT TIME: 11:58 AM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
3/9/16

NO.	DATE	DSGN	DR	CHK	APVD
1	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS	SGS
		REVISION	BY	APVD	
			TDD	RJR	TDD

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STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

EXISTING SA-7 SCB WALL
PLAN AND PROFILE

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VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	SN-204
SHEET	57 OF 70

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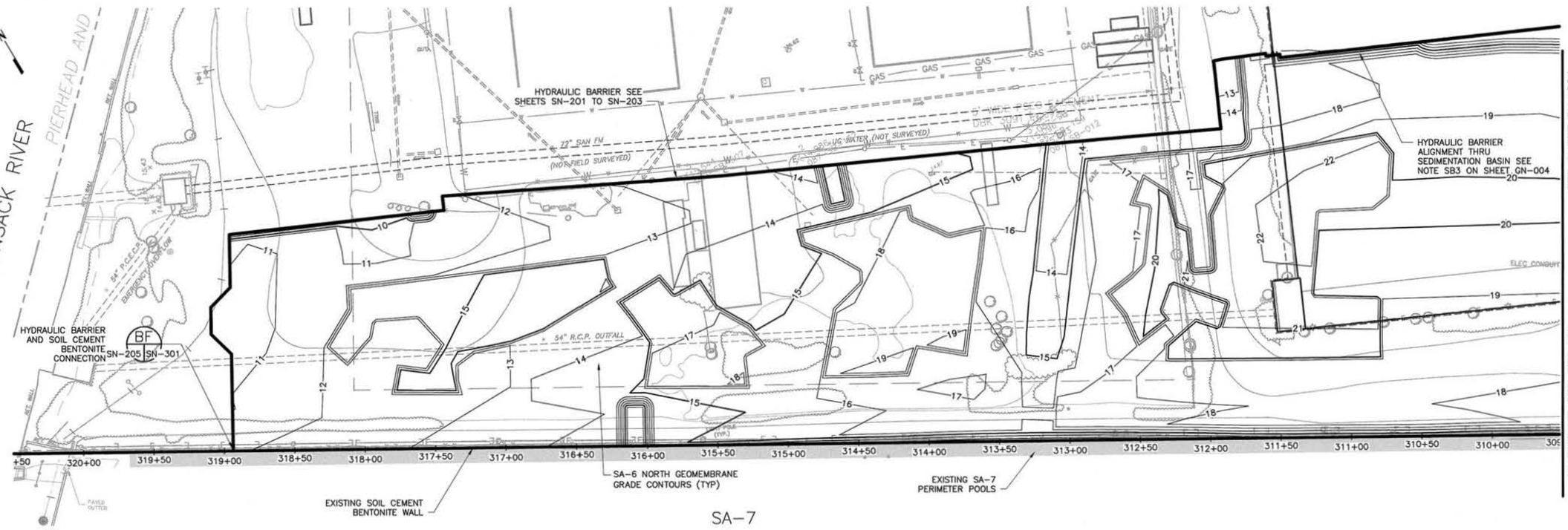

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-125 AND CN-126 FOR INTERIM GRADE.

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO.	DATE	DSGN	DR	CHK	APVD
2	02/25/16	DCB 054.2 INCREASED LANDSCAPE GRADE 0.25 FEET	TDD	SGS	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS	
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS	
		REVISION	BY	APVD	

TDD RJR TDD

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
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SITES 087 AND 088
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DRAWING STATUS
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EXISTING SA-7 SCB WALL
PLAN AND PROFILE

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VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	SN-205
SHEET	58 OF 70

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Honeywell RES

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 030.1 **DCB Type:** Minor(a) **Effective Date:** 4/15/16
Project Location: SA-6 South **Title:** Final Grade Revisions	**Associated RFI:** ☐ Yes: ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description. DCB 030 provided for revision to the Final Grades to allow for a 0.25 foot increase in subgrade elevations in the eastern portions of SA-6S Open Space AOC.

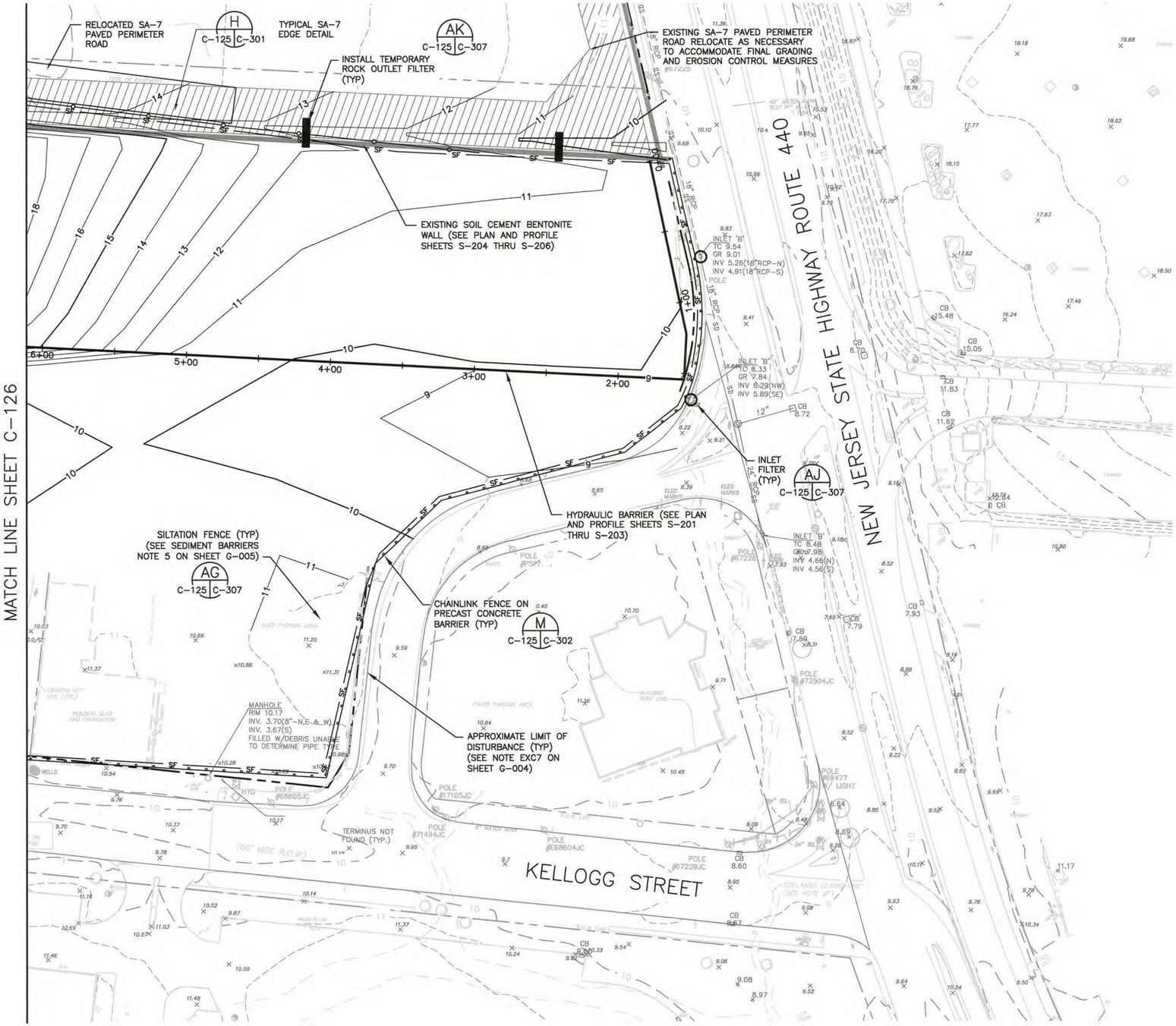
DCB 030.1 relates to the Final Grades in the "Development AOC" south of the Open Space AOC. Both the Open Space AOC and the Development AOC grading is shown on the Final Grade Drawings C-125, C-126 and C-127.

The associated electronic files for the grading will be transmitted as part of this DCB. The Development Plan grading is shown at 1 ft. contours. Due to the relatively "flat" final grades,p 1 ft. contours as shown in the hard copy do not provide details on break points. The electronic files provided as part of this DCB do provide detailed information on the grading. Therefore the electronic files will be used for grading.

The Final Cover Soil types are shown on the Restoration Plan C-128. Sheet C 309 Civil Details has been updated to reflect the use of Skaps 121 as the demarcation layer.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** See description above
	Attachments: ☑ Yes ☐ No Drawings C-125, C-126, C-127, C-128, C-309
	Cost Implication: ☑ Yes ☐ No >$50k ☐ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawings C-125, C-126, C-127, C-128, C-309
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** [signature] **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APV'D
2	4/15/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
DSGN		TDD DR RJR CHK TDD APV'D		SHM

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STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2828
NJ Certificate of Authorization Number 24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-125
SHEET	30 OF 66

SA-7

MATCH LINE SHEET C-127

MATCH LINE SHEET C-125

H C-126 C-301 TYPICAL SA-7 EDGE DETAIL

L C-126 C-302 TEMPORARY CONSTRUCTION FENCE

INSTALL TEMPORARY ROCK OUTLET FILTER (TYP)

AK C-126 C-307

SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005)

AG C-126 C-307

EXISTING SOIL CEMENT BENTONITE WALL, SEE PLAN AND PROFILE SHEETS S-204 THRU S-206

EXISTING SA-7 PERIMETER ROAD RELOCATE AS NECESSARY TO ACCOMMODATE FINAL GRADING AND EROSION CONTROL MEASURES

RELOCATED SA-7 PAVED PERIMETER ROAD

Q C-126 C-303 TYPICAL VEGETATED SWALE

HYDRAULIC BARRIER, SEE PLAN AND PROFILE SHEETS S-201 THRU S-203

AG C-126 C-307

SILTATION FENCE (TYP) (SEE SEDIMENT BARRIERS NOTE 5 ON SHEET G-005)

CB-3
RIM = 7.90
INV OUT = 5.50

T C-126 C-303

INLET FILTER (TYP) AJ C-126 C-307

STORM TRENCH (TYP) U C-126 C-303

INSTALL 186 LF 12" HDPE @ 0.5%

CHAINLINK FENCE ON PRECAST CONCRETE BARRIER (TYP)

M C-126 C-302

INSTALL 77 LF 12" HDPE @ 0.5%

INSTALL 200 LF 12" HDPE @ 0.5%

CB-5
RIM = 6.50
INV. IN = 3.10
INV OUT = 3.00

CHAIN LINK FENCE WITH DOUBLE GATE

J C-126 C-302

STABILIZED CONSTRUCTION ACCESS

AH C-126 C-307

KELLOGG STREET
(80' WIDE R.O.W.)

DROYERS COVE

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

0 20 40 80
SCALE IN FEET

NO.	DATE	REVISION	CHK	APVD
2	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
1	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
DSGN		TDD DR RJR	TDD	BY APVD

SAMUEL G. SHALLARD
SHM LICENSE NUMBER: 43507
NJ PROFESSIONAL ENGINEER

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

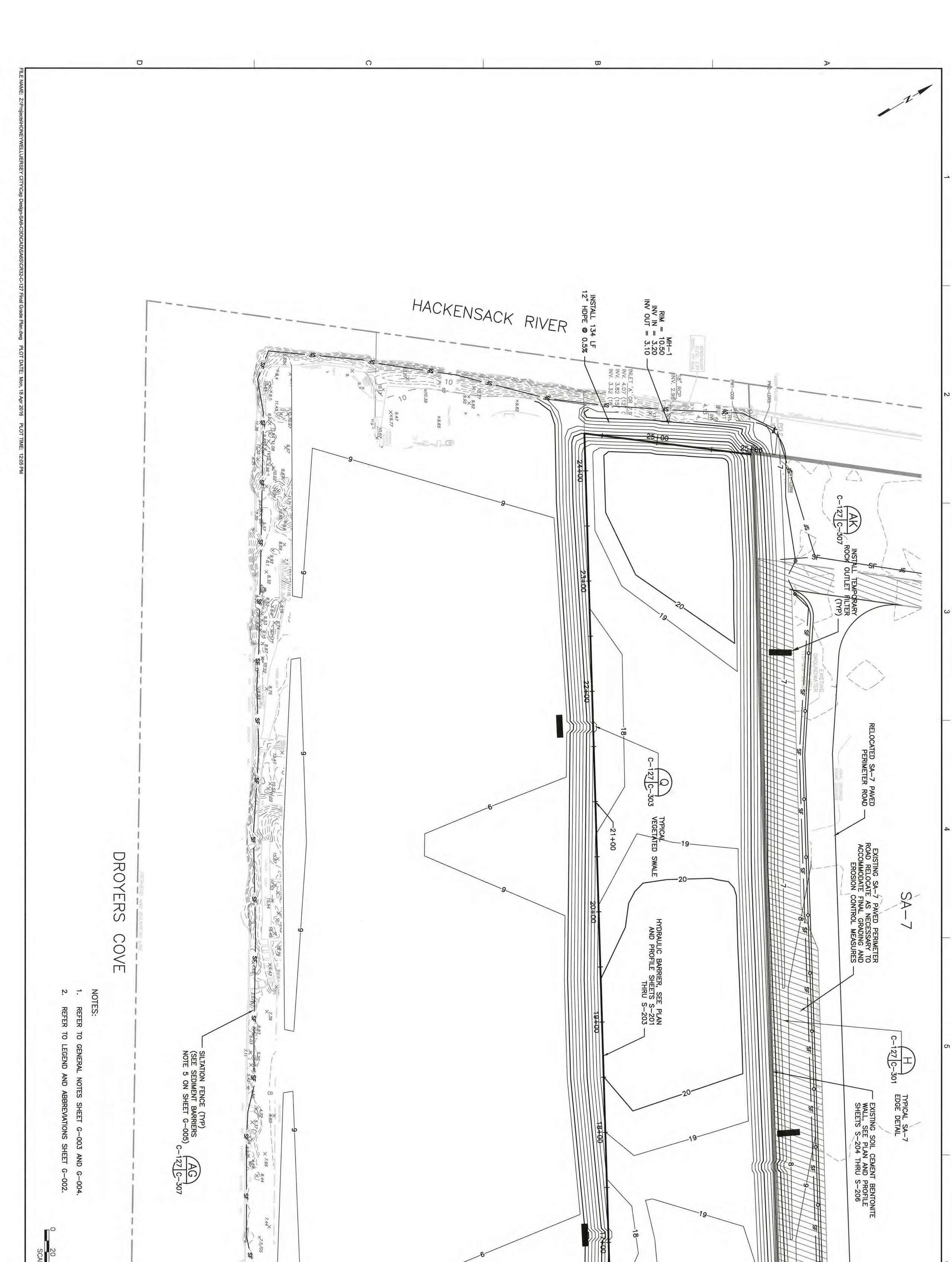
REMEDIATION FINAL GRADING, DRAINAGE, AND EROSION SEDIMENT CONTROL PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd. Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019600

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING.
0 1"

DATE	
PROJ	3480-12-0317
DWG	C-126
SHEET	31 OF 66

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6S\CR31-C-126 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:02 PM



DROYERS COVE

NOTES:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

MATCH LINE SHEET C-126

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CADS\ABS\CR32-C-127 Final Grade Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:05 PM

SHEET	32 OF 66
DWG	C-127
PROJ	3480-12-0317
DATE	

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

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REMEDIATION FINAL GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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CHROMIUM REMEDY
STUDY AREA 6 SOUTH
SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

NO.	DATE	REVISION	BY	APVD
3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	11/16/15	DCB 30 FINAL DEVELOPMENT GRADE REVISIONS 0.25'	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM

DSGN	DR	CHK	APVD
TDD	RJR	TDD	SHM

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507
4/18/2016

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NOTE:

1. REFER TO SHEET G-003 AND G-004 FOR GENERAL NOTES.
2. REFER TO SHEET G-002 FOR LEGEND AND
3. EXISTING ASPHALTIC PAVEMENT AREAS TO BE FIELD INSPECTED BY LSRP DURING RESTORATION ACTIVITIES. FINAL HISTORIC FILL CAP IN THESE AREAS MAY INCLUDE CRACK FILLING OR INSTALLING A GRAVEL COVER SYSTEM.

3	4/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
2	05/06/15	REVISED EDGE DETAIL	TDD	SGS
1	10/11/13	MODIFIED BARRIER WALL ALIGNMENT	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
NO.	DATE	REVISION	BY	APVD

DSGN TDD | DR RJR | CHK TDD | APVD SHM

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

RESTORATION PLAN

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SITES 073, 124, 125, 134, 140, AND 163
JERSEY CITY, NEW JERSEY

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SAMUEL G. SHALLARD
4/18/16
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

VERIFY SCALE
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DATE
PROJ 3480-12-0317
DWG C-128
SHEET 33 OF 66

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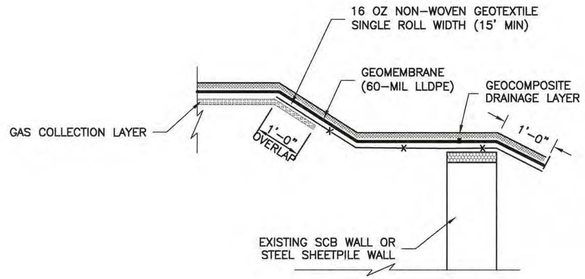
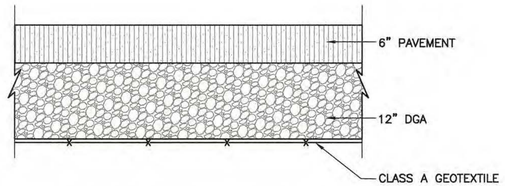
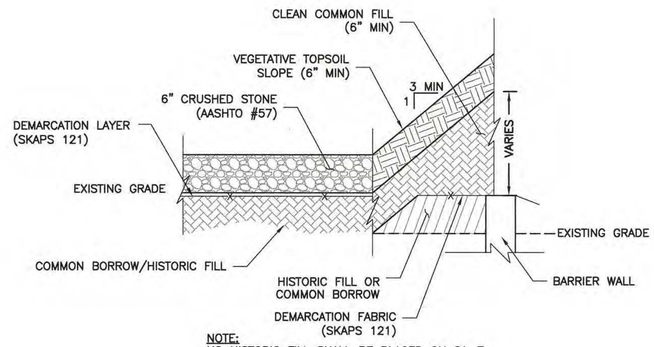
FILE NAME: C:\Donovan\SA-6 South Excavation Limits April 20122013 Excavation Shapes\CR33-C-128 Surface Restoration Plan.dwg PLOT DATE: Mon, 18 Apr 2016 PLOT TIME: 12:17 PM



TYPICAL EDGE DETAIL ABOVE GROUNDWATER TABLE (BO)
NTS
C-121 | C-309

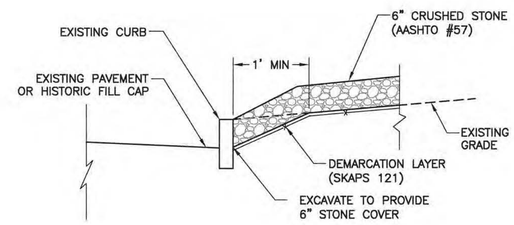


PAVEMENT SECTION DETAIL (BA)
NTS
C-108 | C-309
C-109
C-110

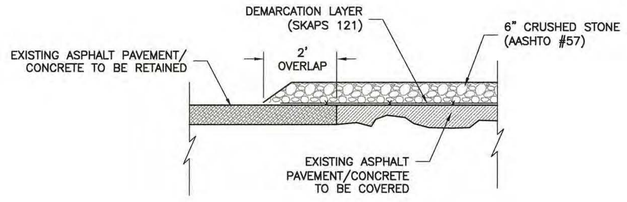


NOTE:
NO HISTORIC FILL SHALL BE PLACED ON SA-7

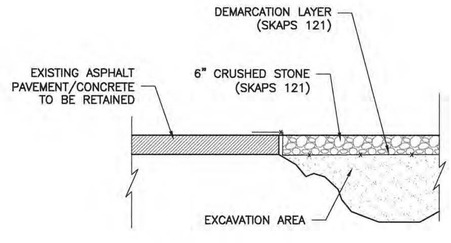
EXCAVATION AREA (BJ)
NTS
TYP | C-309



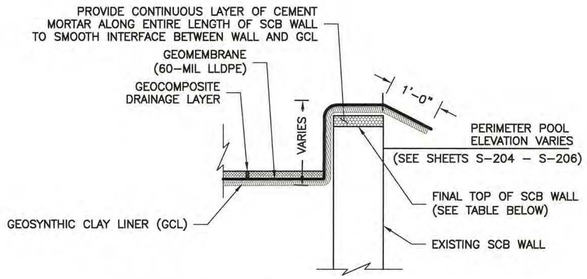
HISTORIC FILL CAP PLANTER AREAS (BB)
TYP | C-309



PAVEMENT TRANSITION DETAIL (BL)
NTS
TYP | C-309



EXCAVATION EDGE RESTORATION DETAIL (BM)
NTS
TYP | C-309

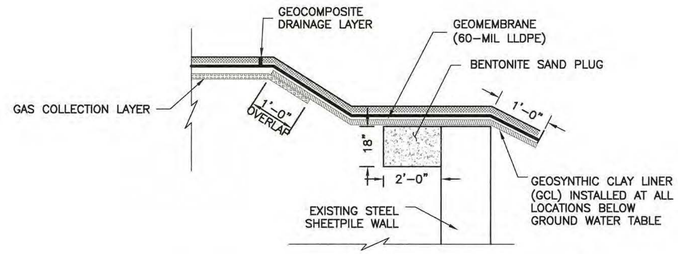


BELOW GROUNDWATER

GCL AREAS STA 0+00 TO STA 15+00

TYPICAL EDGE DETAIL - LINER BELOW FINAL SCB ELEVATION (BN)
NTS
C-121 | C-309

STA	FINAL SCB WALL ELEVATION
0+00 TO 3+22	8.75 FEET
REMAINING LENGTH	SCB WALL TO BE CUT AT LINER GRADE BUT IN NO CASE SHALL SCB WALL BE CUT LOWER THAN 0.75 FEET ABOVE THE PERIMETER POOL ELEVATIONS



(SEE SHEET C-121 FOR AREAS BELOW HISTORIC GROUNDWATER TABLE)

TYPICAL CAP COMPONENTS BELOW GROUNDWATER (G)
NTS
TYP | C-309

NOTE:

1. REFER TO GENERAL NOTES SHEET G-003 AND G-004.
2. REFER TO LEGEND AND ABBREVIATIONS SHEET G-002.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
5	04/18/16	DCB 30.1 - REVISED GRADING AND RESTORATION	TDD	SGS
4	07/21/15	REVISED DETAIL BN	RJR	SGS
3	05/27/15	REVISED DETAILS	TDD	SGS
2	05/20/15	REVISED DETAILS	RJR	SGS
1	05/05/15	REVISED DETAIL	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SHM
DSGN		DR: TDD	BY: RJR	APVD: SHM

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CHROMIUM REMEDY
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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL
MISCELLANEOUS DETAILS

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0 1"

DATE	
PROJ	3480-12-0317
DWG	C-309
SHEET	45 OF 66

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DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 55 **DCB Type:** Minor(a) **Effective Date:** 5/3/16
Project Location: SA-6	**Associated RFI:**
Title: Planting Soil Gradations USDA Clarification	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

The laboratory results of all gradations for planting soils shall be presented in terms of the USDA classification system rather than USCS.

The ASTM methodology, which includes hydrometer, remains the same, with the exception that a #270 sieve should be added to align with the USDA classification of silt at 0.05 mm.

The laboratory reports should clearly designate that the classification is based on USDA and any values stated for Gravel/Sand/Silt &Clay should also be calculated based on the USDA analysis.

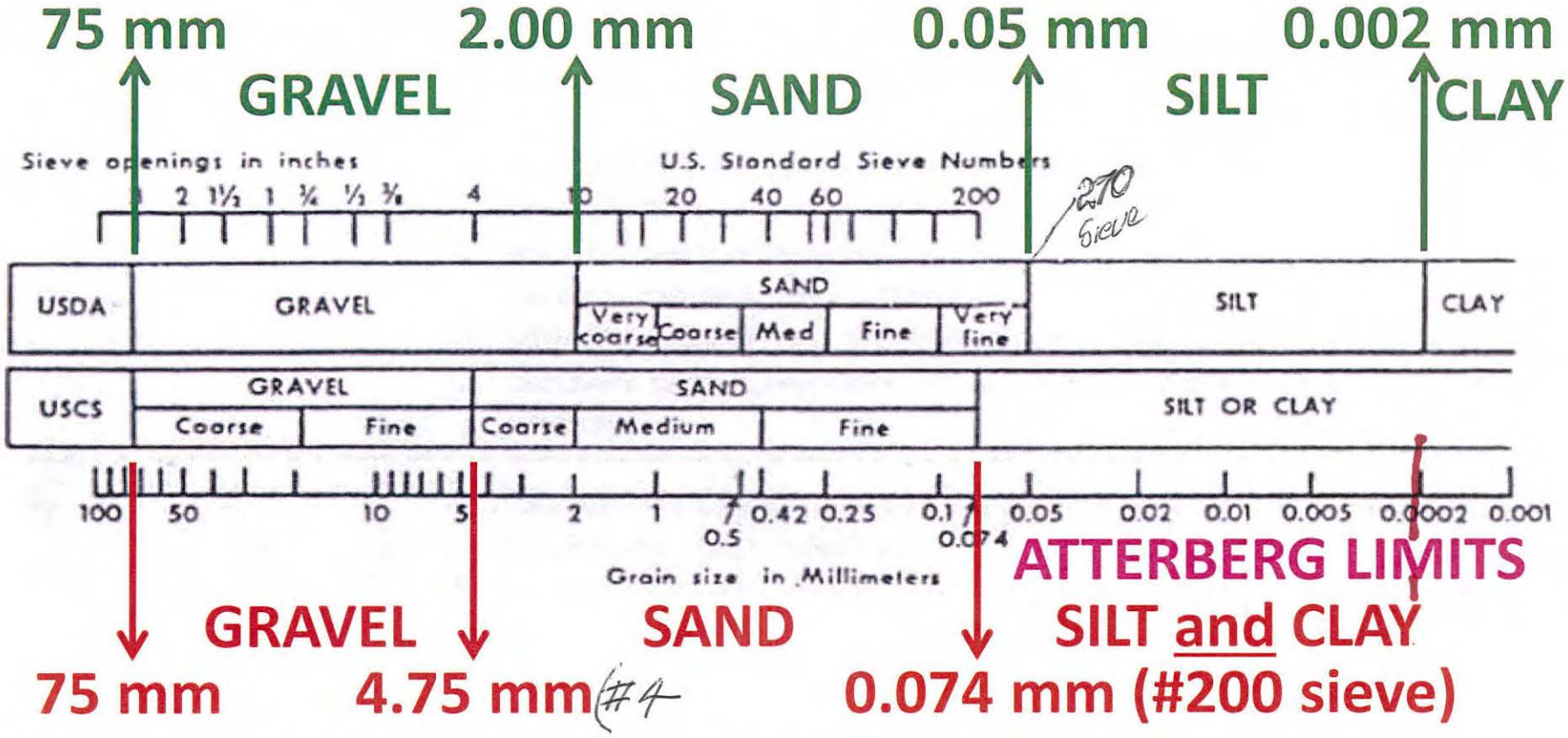
The Specification values for the Horizon A, Horizon B and Horizon C soils are all defined based on the USDA Soil Classification. When calculating the Sand, Silt and Clay percentage, the Gravel component (% retained on the #10 sieve), should be removed from the calculation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Otherp	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No USCS and USDA Classification Comparison
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** NA
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 4/20/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.

USCS vs. USDA Particle Size Comparison

USDA Soil Classification System



Unified Soil Classification System

OhioEPA

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.3 **DCB Type:** Minor(a) **Effective Date:** 5/11/16
Project Location: SA-6N	**Associated RFI:**
Title: Interim Grade Revisions	☐ Yes, RFI No.: ☐ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

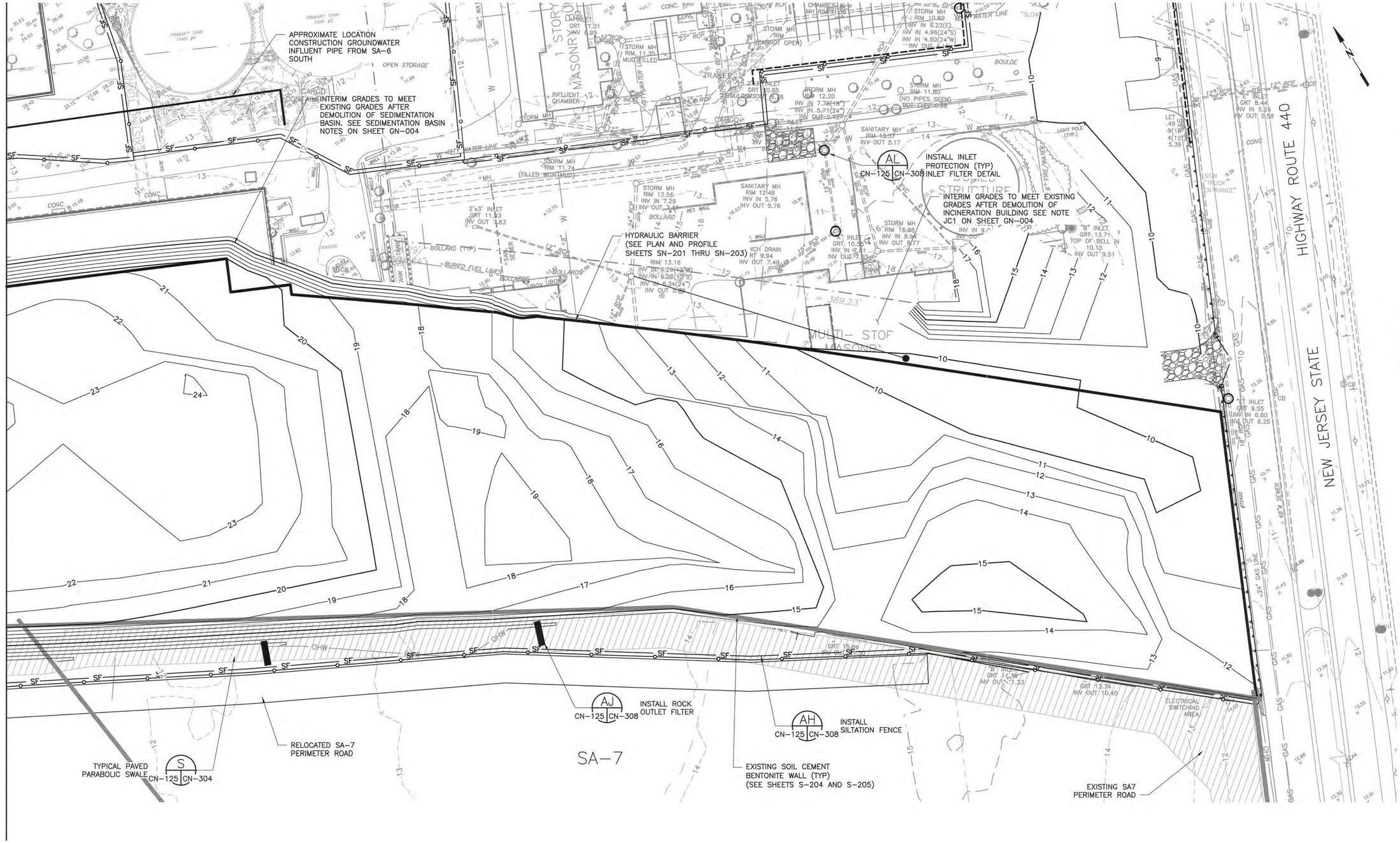
This change impacted the Geomembrane/Subgrade surface (DCB 054.1), Barrier Wall plan and profiles (DCB 054.2) and the Interim Grades (DCB 054.3)

The two revised interim grade drawings are attached to this DCB. The electronic files for the interim grade are also attached.

This file replaces the CAD file that was provided on May 02, 2016 for "Planning Purposes" and volume calculations. The changes in the file since that time has been limited to smoothing of contours to simplify grading.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Subgrade was adjusted to increase capacity below the liner.
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments: To meet minimum cover requirements the Interim grade also required revision.	**Design Documents Affected:** Drawings CN-125, CN-126
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 5/26/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTIBILITY REVIEW.
4. REFER TO APPENDIX K CONCEPTUAL REDEVELOPMENT PLANS (100% REMEDIAL DESIGN REPORT) FOR FUTURE UTILITY ALIGNMENTS AND PRELIMINARY ALTERNATIVE GRADING CONCEPTS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
1	05/13/16	TDD	TDD	RJR	TDD
0	06/07/13	TDD	SGS	BY	SGS

DCB 054.3
ISSUED FOR CONSTRUCTION
REVISION

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Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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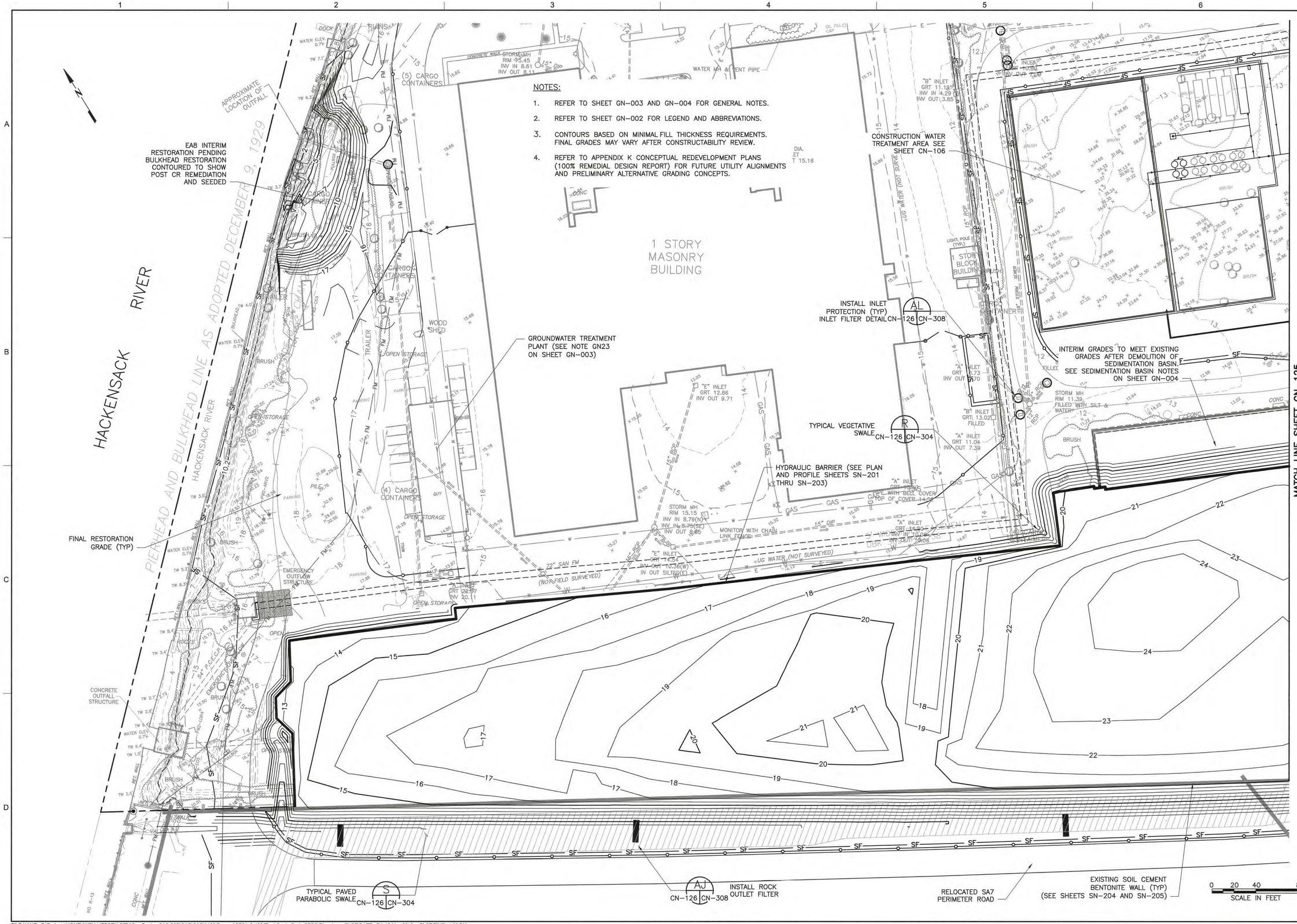
DATE	
PROJ	3480-12-0317
DWG	CN-125
SHEET	30 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR30-C-125 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:37 PM



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2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS BASED ON MINIMAL FILL THICKNESS REQUIREMENTS. FINAL GRADES MAY VARY AFTER CONSTRUCTABILITY REVIEW.
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SAMUEL G. SHALLARD

NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
2	05/13/16	DCB 054.3	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	09/13/13	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

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115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

INTERIM GRADING, DRAINAGE, AND SOIL EROSION SEDIMENT CONTROL PLAN

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DATE	
PROJ	3480-12-0317
DWG	CN-126
SHEET	31 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR31-C-126 Final Grade Drain SESC Plan.dwg PLOT DATE: Fri, 13 May 2016 PLOT TIME: 1:38 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 054.4 **DCB Type:** Minor(a) **Effective Date:** 5/20/16
Project Location: SA-6N	**Associated RFI:**
Title: Geomembrane Subgrade Revisions - Pump Station #1 Corridor	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description.

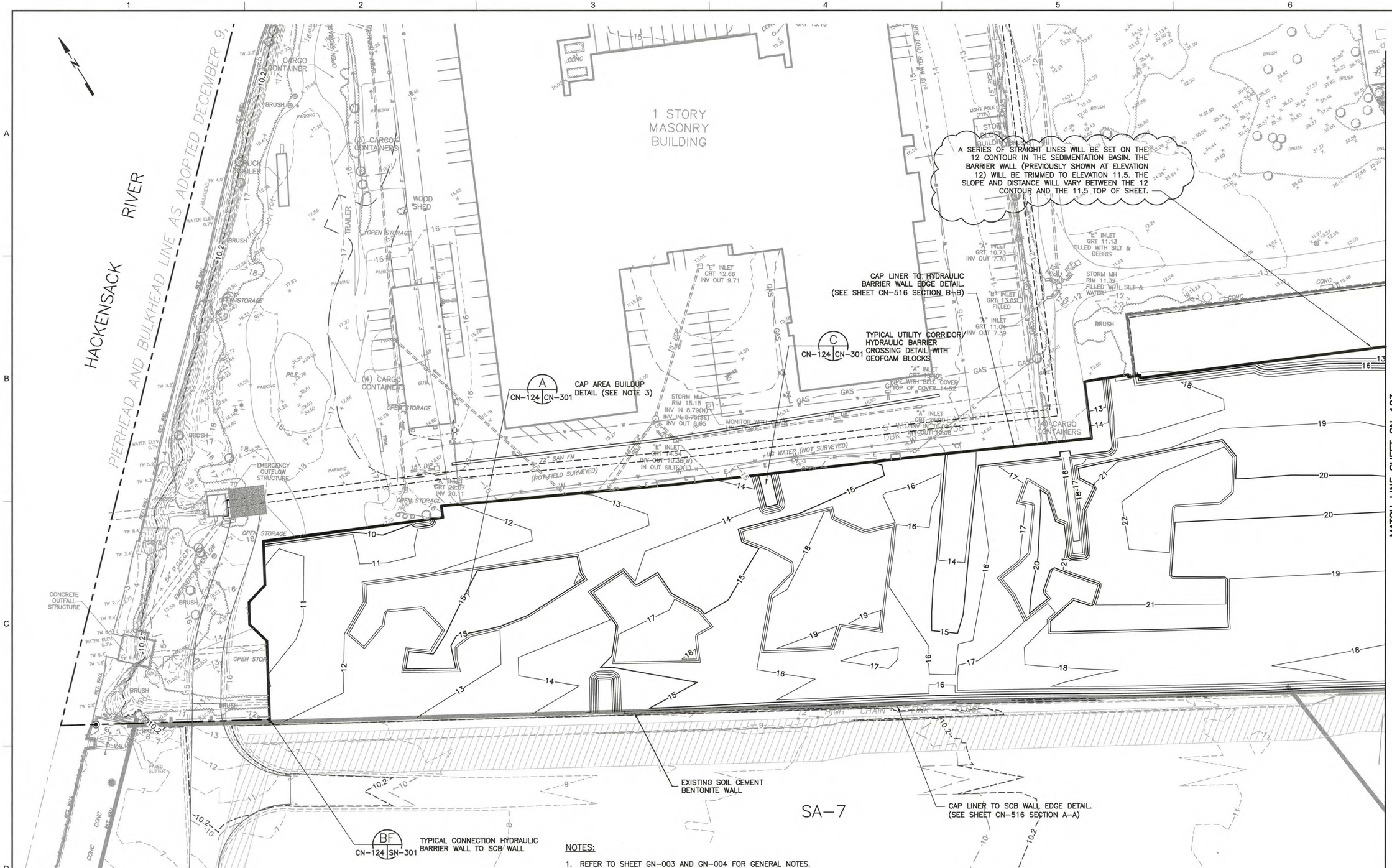
DCB 054 included issuance of a revised subgrade design that included changes resulting from raising the cap grades by 0.25 ft. in the landscaped areas and revisions to utility corridors to reflect the latest CHA utility design.

To accommodate Entact's request to relocate Pump Station #1 (RFI 64) it was necessary to revise the subgrade. The Subgrade was lowered at the new location to accommodate the vault and piping and raised in the original pump station location. An initial revision was made in DCB 054.1.

Following further review it was deemed necessary to lower the geomembrane in this area to provide additional separation between the geomembrane and bottom of the vault.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☑ Other	**Explanation or Reason:** Pump Station #1 relocation: increase subgrade clearance
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Drawing CN-124
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 5/23/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ Yes (b) ☑ No **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. CONTOURS SHOWN ON THIS DRAWING REPRESENT THE TOP OF THE LINEAR LOW DENSITY POLYETHYLENE MEMBRANE (60 MIL) LINER/ TO OF SUBGRADE.
4. CONSERVATION EASEMENT REPRESENTS THE LIMIT OF THE RESTRICTED AREA PER THE CONSENT DECREE.
5. CONTRACTOR TO RESURVEY TOP OF BARRIER WALL FOLLOWING SURCHARGE REMOVAL AND PROVIDE RESULTS TO THE EOR. THE EOR WILL REVIEW AND DETERMINE IF ANY SMALL LOCALIZED AREAS EXIST WHERE THE TOP OF SHEET IS BELOW THE DESIGN SUBGRADE. IF SUCH AREAS ARE IDENTIFIED THEY WILL BE EVALUATED BY THE ENGINEER AND A FIELD DESIGN CHANGE WILL BE MADE TO ADJUST THE SUBGRADE TO THE TOP OF WALL.

0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	BY	APVD
5	05/20/16	DCB 054.4 PUMP STATION #1 CORRIDOR	TDD	SGS
4	02/16/16	DCB 054.1 REVISED SED BASIN AND PS#1 SUBGRADE	TDD	SGS
3	02/01/16	DCB 054 INCREASE LANDSCAPE GRADE 0.25 FEET	TDD	SGS
2	02/24/15	DCB 007.5	TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM	RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	TDD	SGS

DSGN TDD | DR RJR | CHK TDD | APVD SGS

Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

GEOMEMBRANE GRADING PLAN

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619, (609) 689 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-124
SHEET	29 OF 70

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FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR29-C-124 Geomembrane Grade.dwg PLOT DATE: Fri, 20 May 2016 PLOT TIME: 1:49 PM

DESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** 7.2.2 **DCB Type:** Minor (a) **Effective Date:** 6/6/16
Project Location: SA-6 North	**Associated RFI:**
Title: GW Extraction System – FM and E&I	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

Description:

DCB-007.1, issued to Entact on 6/12/14, was provided for the trench detail portion of the modified groundwater system design. At the time of issue details for the SA-6N trench were subject to potential further modification.

DCB-007.2, issued to Entact on 11/24/14, provided the details for the SA-6N groundwater collection trenches and associated electrical supply and groundwater discharge piping.

DCB-007.2.1, draft prepared on 9/2/15, provided a revised version of 007.2. DCB-007.2.1 was not issued to Entact. However Entact was verbally briefed on the proposed changes, including elimination of E&I wiring from the scope, the same as for SA-6S. The revisions pertained to the following items:

- Electrical wiring and Instrumentation wire was eliminated
- Conduit sizes and type were updated.
- Conduit was shown terminating outside of the groundwater treatment plant
- Conduit and piping from Pump Station MH#2 was re-routed into the adjacent utility corridor to the west. The re-routing reduced excavation of subgrade and provided a more direct routing now that all discharge is to be routed to the GWTP.

DCB 007.2.2 was triggered by the following several changes in project scope:

- Re-re-routing of the Contingent Groundwater System Discharge for both SA-6N and SA-6S from the JCMUA grit chamber to the new GWTP.
- Revisions to the Cap grading and utility corridors which allowed for elimination of the Cap Drainage Pump Station.
- Running PS#1 FM as a separate line to the GWTP

The following drawings will be re-issued as part of DCB 7.2.2:

Contingent Groundwater Extractions System Plan and Profile and Details

- CN-201
- CN-202
- CN-203
- CN-204
- CN-305 (Groundwater Extraction System Details)
- CN-306 (Groundwater Extraction System Details)
- CN-310 (Groundwater Extraction Trench Details).

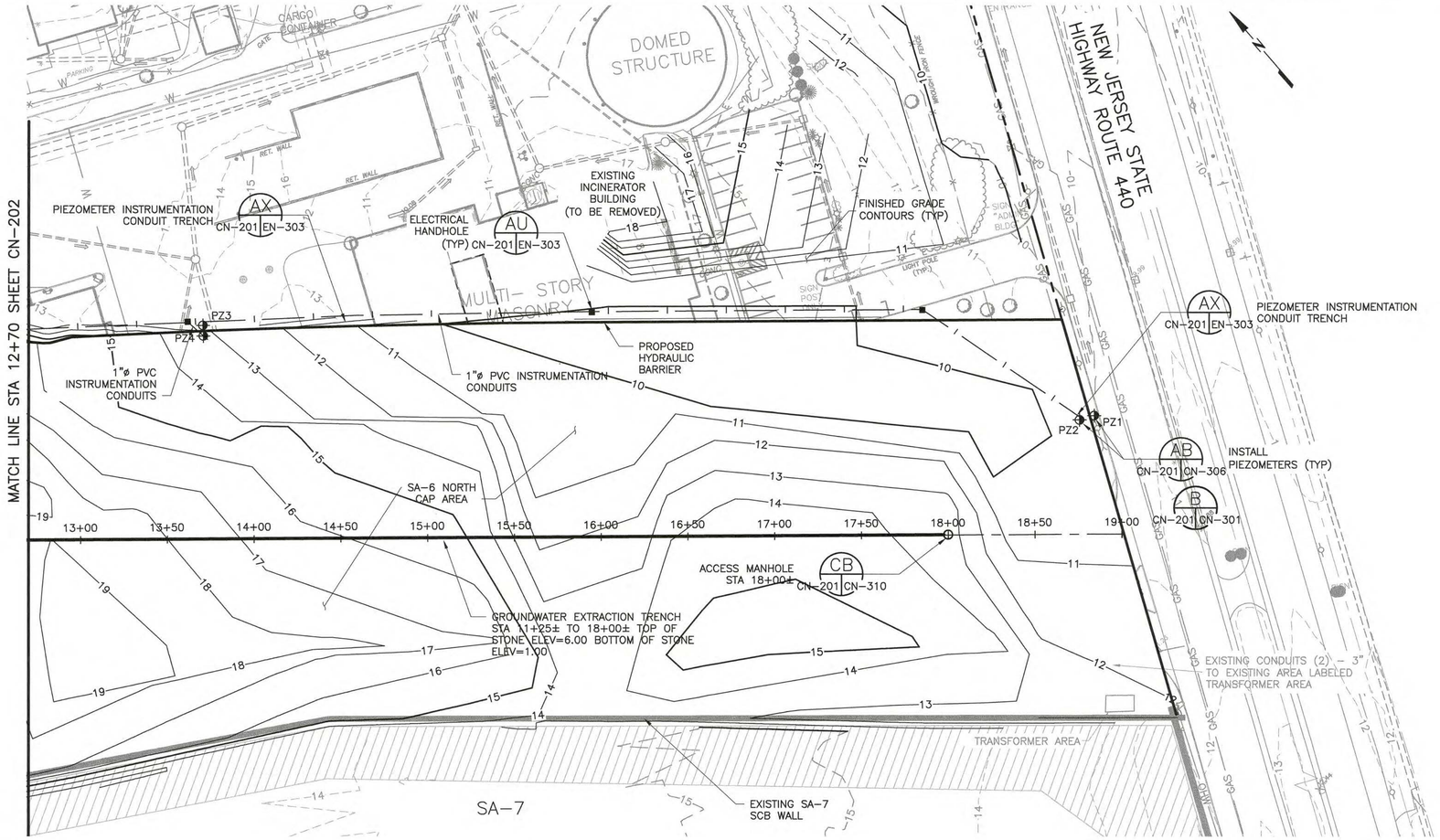
Electrical Drawings

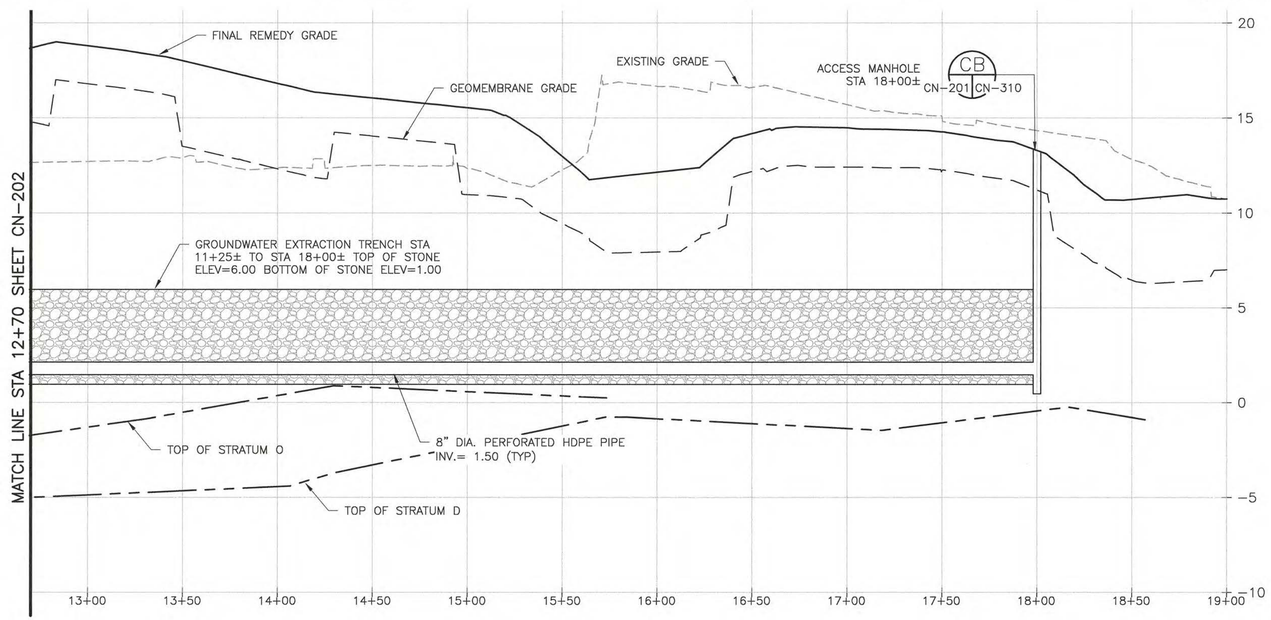
- EN-301 (Not for Construction)
- EN-302 (Not for Construction)
- EN-303

It is noted that the 5 piezometric pairs on SA-6N are not included in this DCB. The piezometers are to be installed by Amec Foster Wheeler. Access to each location will be provided by Entact.

Reason for Change/Modification: ☐ Unforeseen or Differing Site Conditions ☑ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:** : Design changed based on information gathered during construction
	Attachments: ☑ Yes ☐ No CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303
	Cost Implication: ☑ Yes ☐ No >$50k ☑ Yes ☐ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** CN-201, CN-202, CN-203, CN-204, CN-305, CN-306, CN-310, EN-301 (Not IFC), EN-302 (Not IFC), EN-303
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** GS **Date:** 6/10/16
(Name / Signature):	**Does DCB Result in CCO?** ☑ **Yes (b)** ☐ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. FOR FORCE MAIN PROFILE INFORMATION SEE SHEET CN-204.
4. FINAL PLAN VIEW ALIGNMENT MAY BE ADJUSTED SUBJECT TO THE APPROVAL OF THE ENGINEER TO AVOID OBSTRUCTIONS SUCH AS EXISTING BUILDING FOUNDATIONS, ABANDONED UTILITIES AND PILES.
5. TRENCH INVERT HAS BEEN DESIGNED TO BE ABOVE STRATUM O AND STRATUM D. INVERTS MAY BE ADJUSTED DURING DESIGN DEVELOPMENT OR IN RESPONSE TO OBSERVED FIELD CONDITIONS SUBJECT TO THE APPROVAL OF THE ENGINEER AND GROUNDWATER MODELER.
6. PLACE STONE LOOSE IN GROUNDWATER COLLECTION TRENCH. RUN PLATE COMPACTOR OR EQUAL OVER TRENCH PRIOR TO INSTALLING GEOTEXTILE FABRIC.
7. BACKFILL ABOVE GEOTEXTILE FABRIC MAY BE COMPOSED OF EXCAVATED TRENCH SPOIL OR OTHER MATERIAL THAT CAN BE READILY COMPACTED. WET SOIL OVERSIZED DEBRIS OR OTHER MATERIALS AS DEEMED UNSUITABLE CONSISTENT WITH THE EARTHWORK SPECIFICATION 1.04.B. WILL NOT BE USED. BACKFILL WILL BE PLACED IN LIFTS CONSISTENT WITH THE EARTHWORKS SPECIFICATION 3.12.B.4.
8. FLEXIBLE COUPLINGS SHALL BE FLEXJOINT COUPLING AS MANUFACTURED BY ETHYLENE, LLC OR EQUAL. FLEXIBLE COUPLINGS SHALL HAVE A MINIMUM OF (2) BELLOWS AND BE TEFLON-LINED WITH 316 SS FLANGES (POWER BAKED EPOXY COATING APPLIED) AND VITON CASKETS.
9. CONCRETE ENCASEMENT REQUIRED ON E&I CONDUIT IF BURIAL DEPTH IS LESS THAN 24" OR OTHERWISE NOTED.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
		TDD	RJR	TDD	SGS
4	06/06/16	DCB 007.2.2		TDD	SGS
3	09/02/15	DCB 007.2.1		TDD	SGS
2	11/19/14	DCB 007.2		TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM		RJR	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD	SGS
		REVISION		BY	APVD

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ. 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ. 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-201
SHEET	33 OF 70

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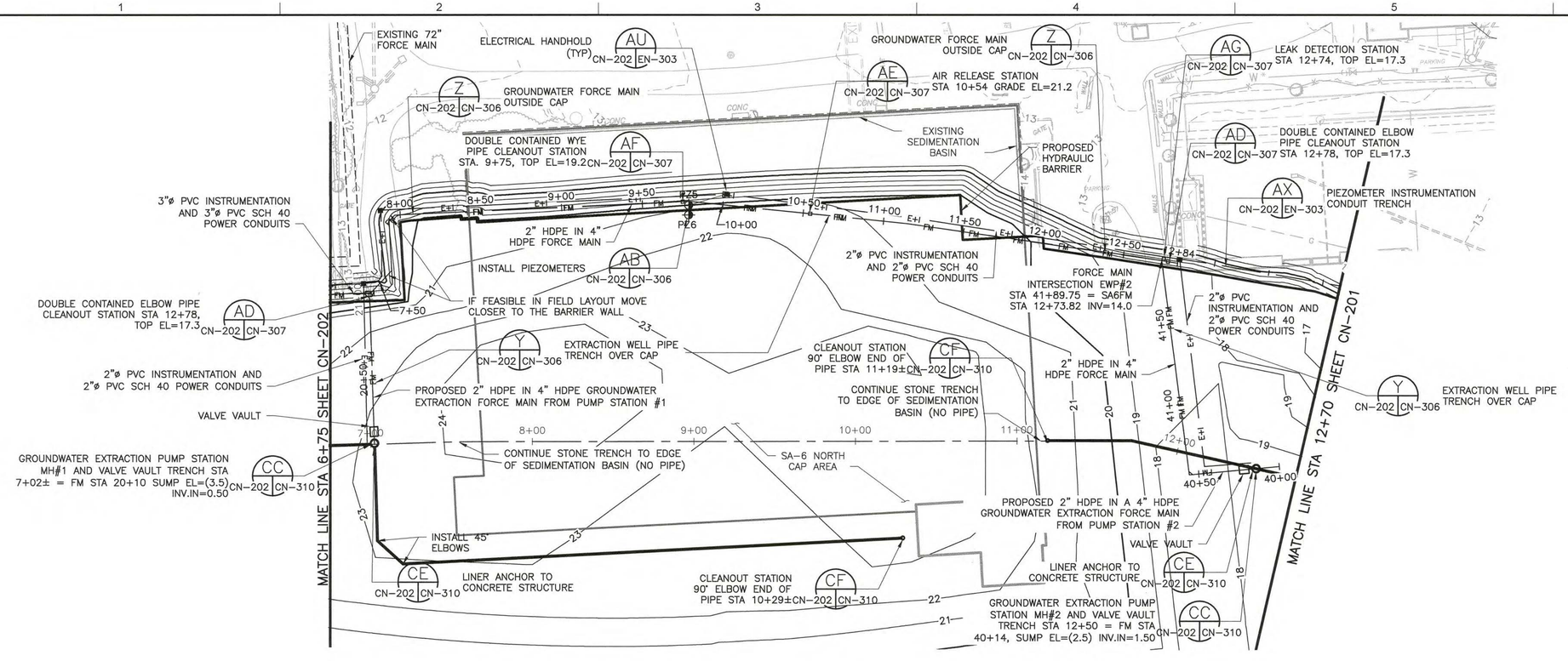
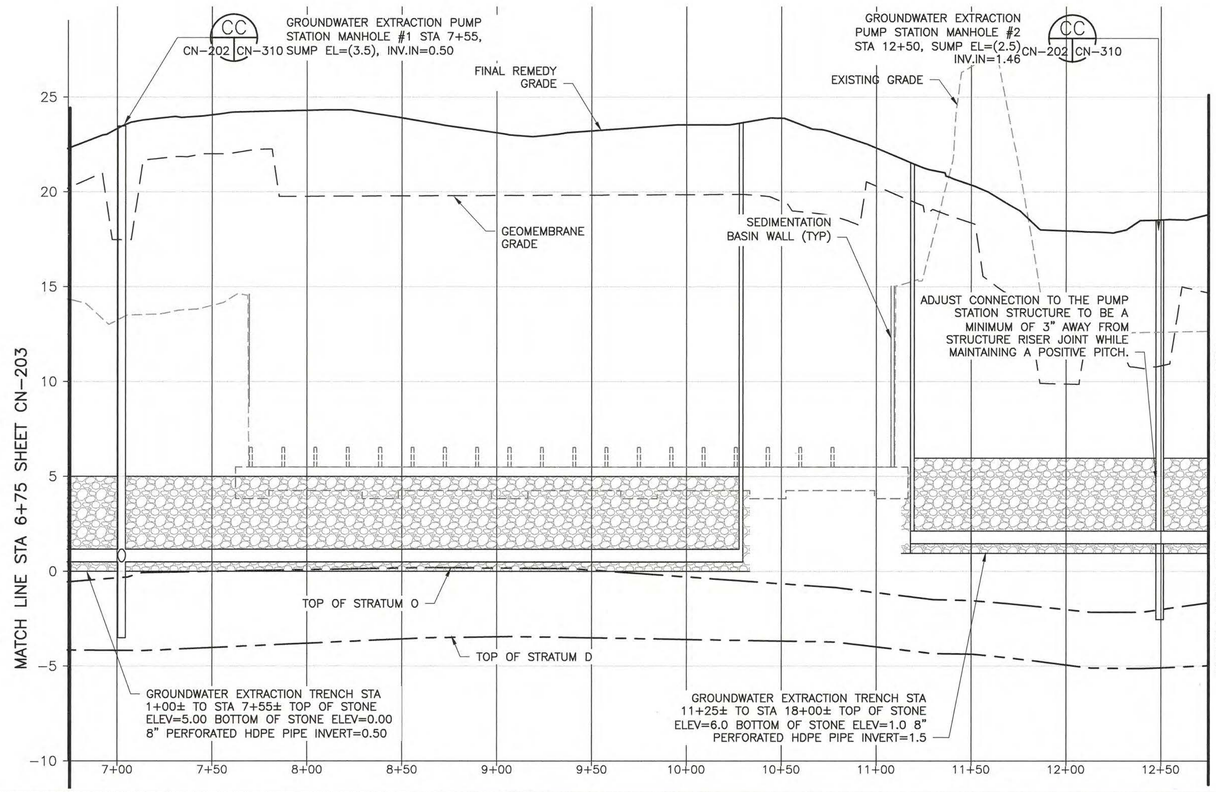
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR33-CN-201-Cont_GWE_Trench.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:21 PM





NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.
4. BARRIER WALL ALIGNMENT SUBJECT TO FINAL LAYOUT CHANGES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
4	06/06/16	TDD	TDD	RJR	APVD
3	09/02/15	DCB 007.2.2			
2	11/19/14	DCB 007.2.1			
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0	06/07/13	ISSUED FOR CONSTRUCTION			
NO.	DATE	REVISION	BY	APVD	
4	06/06/16		RJR	SGS	
3	09/02/15		TDD	SGS	
2	11/19/14		TDD	SGS	
1	09/13/13		RJR	SGS	
0	06/07/13		TDD	SGS	

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

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0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-202
SHEET	34 OF 70

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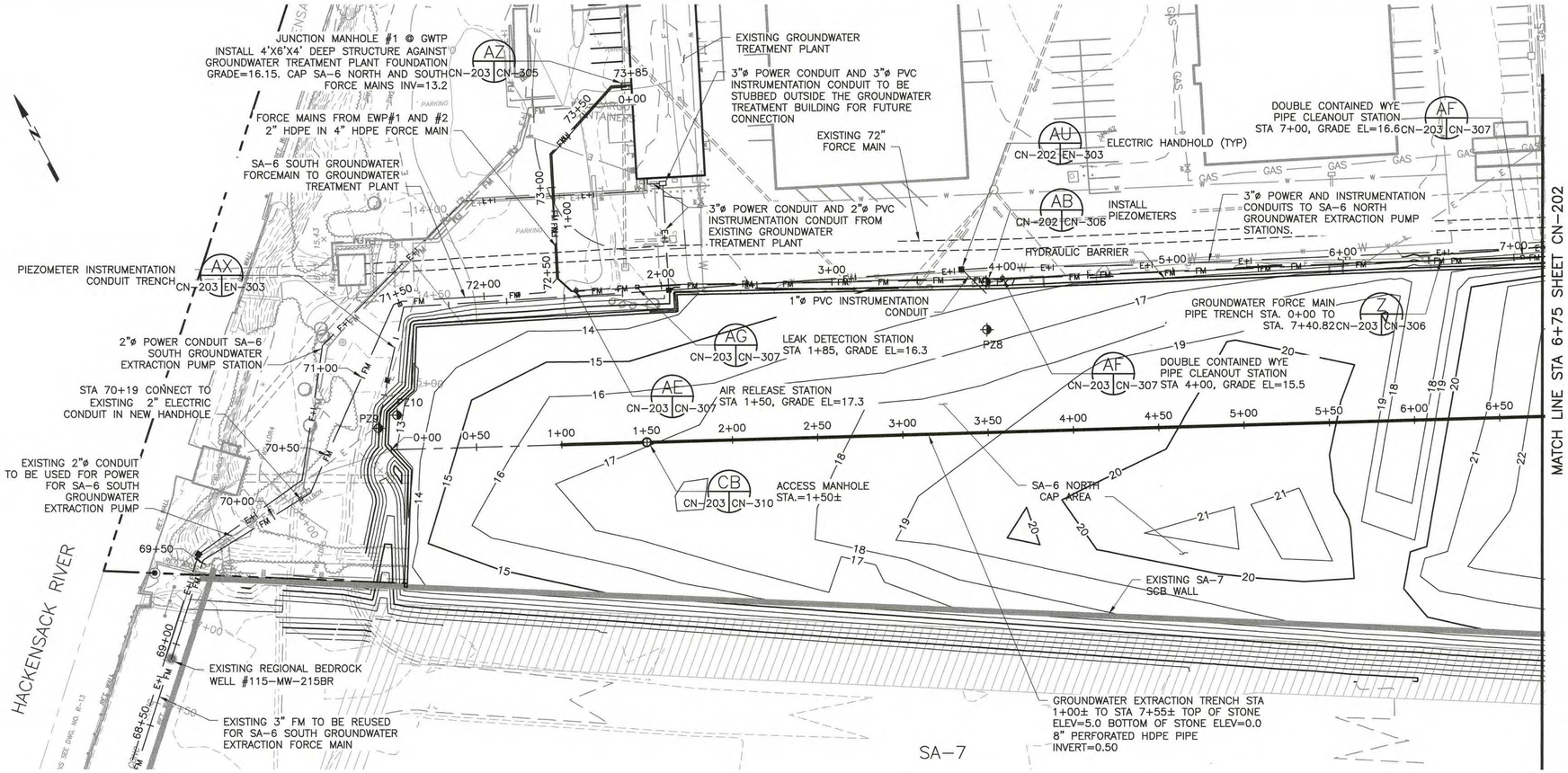

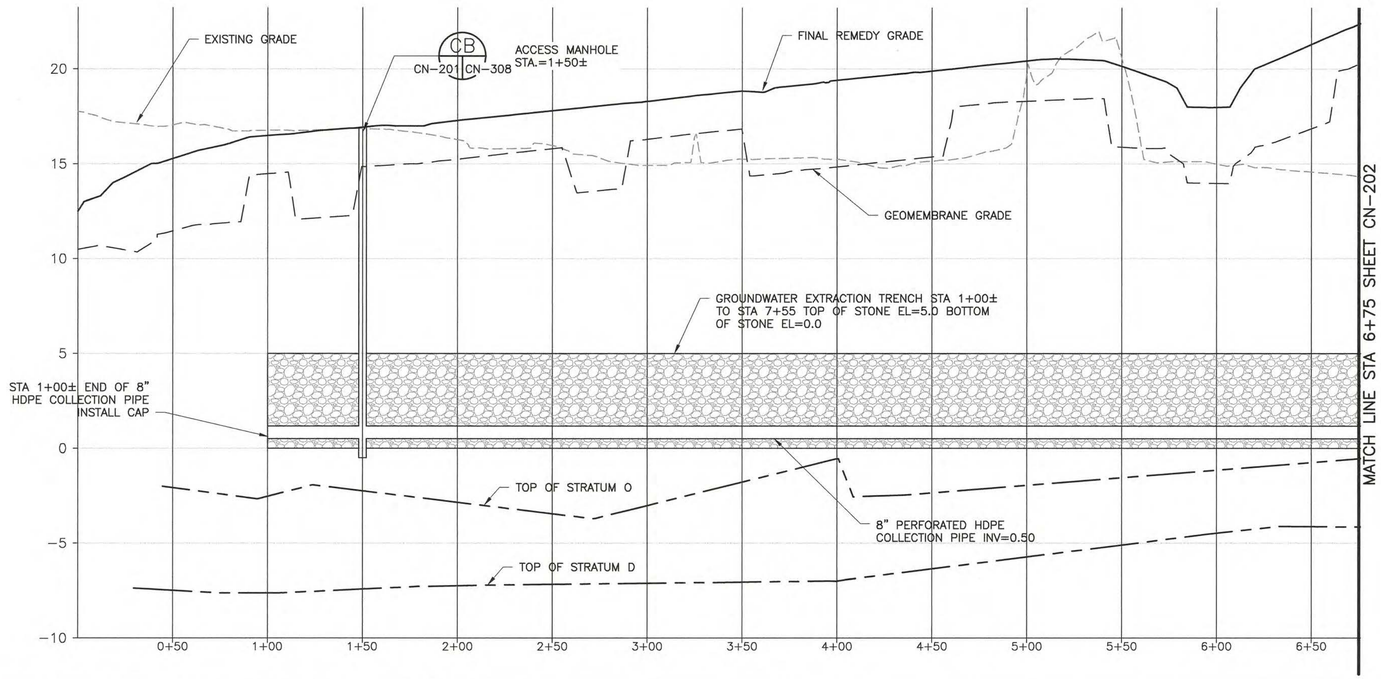

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. REFER TO SHEET CN-201 FOR NOTES.

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
		TDD	RJR	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION		TDD	SGS
1	09/13/13	HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM		RJR	SGS
2	11/19/14	DCB 007.2		TDD	SGS
3	09/02/15	DCB 007.2.1		TDD	SGS
4	06/06/16	DCB 007.2.2		TDD	SGS

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM
PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
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Hamilton, NJ 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019000

VERIFY SCALE
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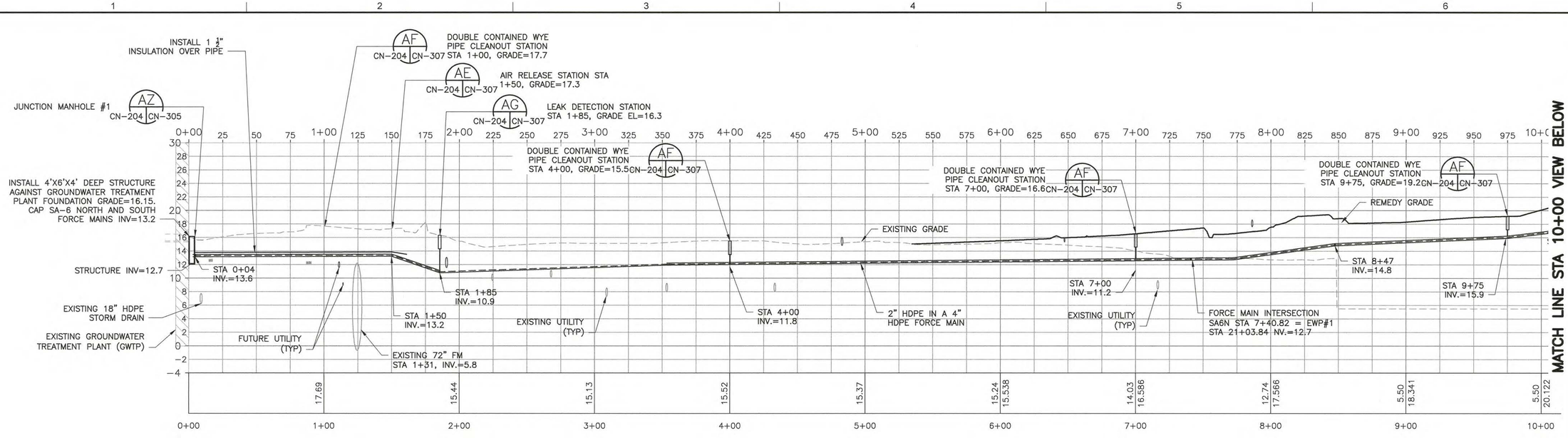
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-203
SHEET	35 OF 70

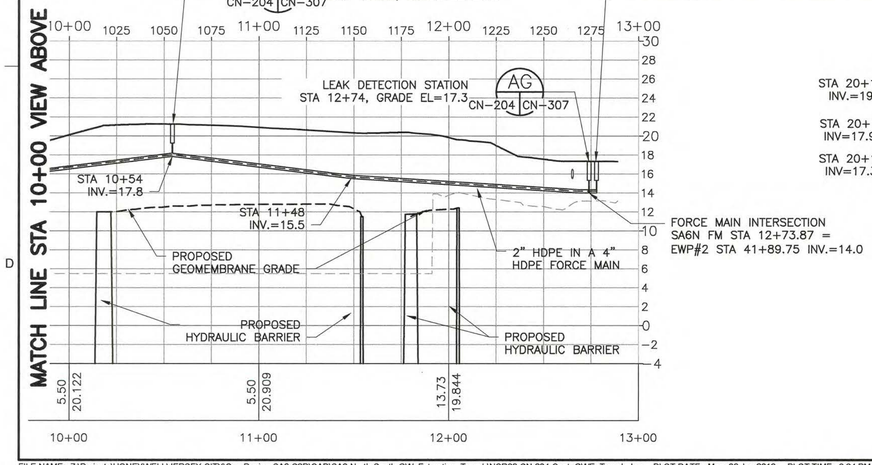


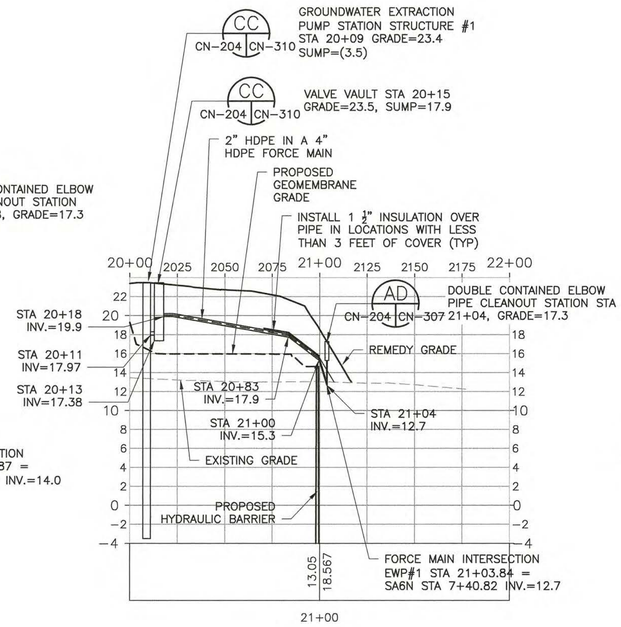
NOTE:

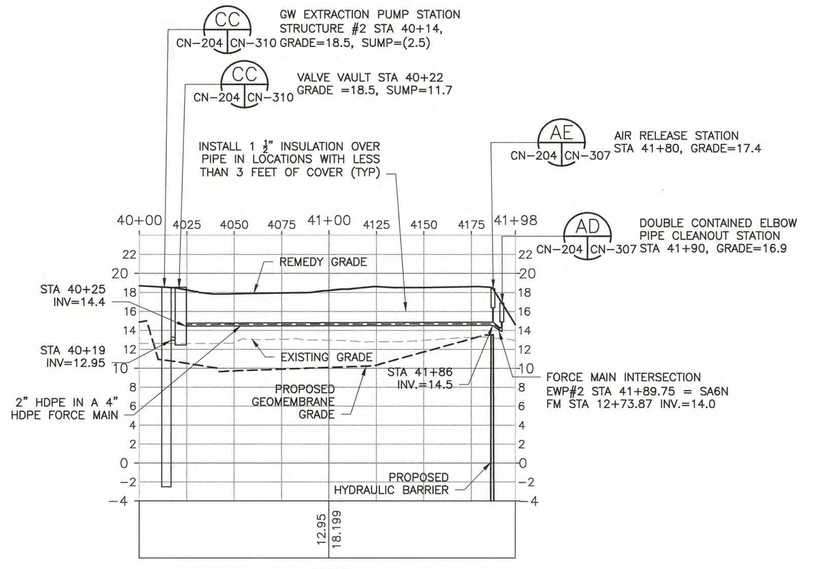
THE FM FROM MH#1 AND MH#2 OCCUPY THE SAME ALIGNMENT BETWEEN THE GWTP 0+00 AND STN. 7+40. THE FM (S) WILL BE INSTALLED ON THE SAME LINE AND GRADE WITH A NOMINAL 6 INCH PLAN VIEW SEPARATION. AIR RELEASE/LEAK DETECTION, AND WYE CLEANOUTS, FOR THE TWO FM'S SHOULD BE COLLOCATED IN THE SAME 2X2 STRUCTURES BETWEEN 0+00 AND 7+40

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE DESIGN OF THE CONTINGENT GROUNDWATER EXTRACTION SYSTEM IS CONCEPTUAL AND HAS BEEN BASED ON THE AVAILABLE HYDROGEOLOGIC INFORMATION. THE DESIGN IS BASED ON A THEORETICAL SCENARIO USING CONSERVATIVE ASSUMPTIONS. HONEYWELL WILL CONTINUE TO EVALUATE PERTINENT INFORMATION GATHERED THROUGH DEWATERING AND OTHER CONSTRUCTION OPERATIONS. THIS INFORMATION WILL BE USED TO CALIBRATE THE GROUNDWATER CAPTURE MODEL, SUBJECT TO RESULTS OF THAT MODEL CALIBRATION AND EVALUATION OF THE IMPACTS ON THE SYSTEM DESIGN HONEYWELL MAY PROPOSE ALTERNATIVE GROUNDWATER EXTRACTION DESIGNS CAPABLE OF MEETING THE CRITERIA STATED IN ARTICLE III A 58 OF THE CONSENT DECREE.







HORIZONTAL SCALE
0 20 40 80
SCALE IN FEET

VERTICAL SCALE
0 2 4 8
SCALE IN FEET

NO	DATE	DSGN	DR	CHK	REVISION
4	06/06/16	TDD	RJR	TDD	DCB 007.2.2
3	09/02/15				DCB 007.2.1
2	11/19/14				DCB 007.2
1	09/13/13				HBW RE-ALIGNMENT ADJACENT TO 72-INCH FM
0	06/07/13				ISSUED FOR CONSTRUCTION

APVD BY: SGS RJR SGS TDD SGS TDD SGS RJR SGS TDD SGS

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

Honeywell
115 TABOR RD. MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM PLAN AND PROFILE

amec
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619
(609) 689 - 2829
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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DATE	
PROJ	3480-12-0317
DWG	CN-204
SHEET	36 OF 70

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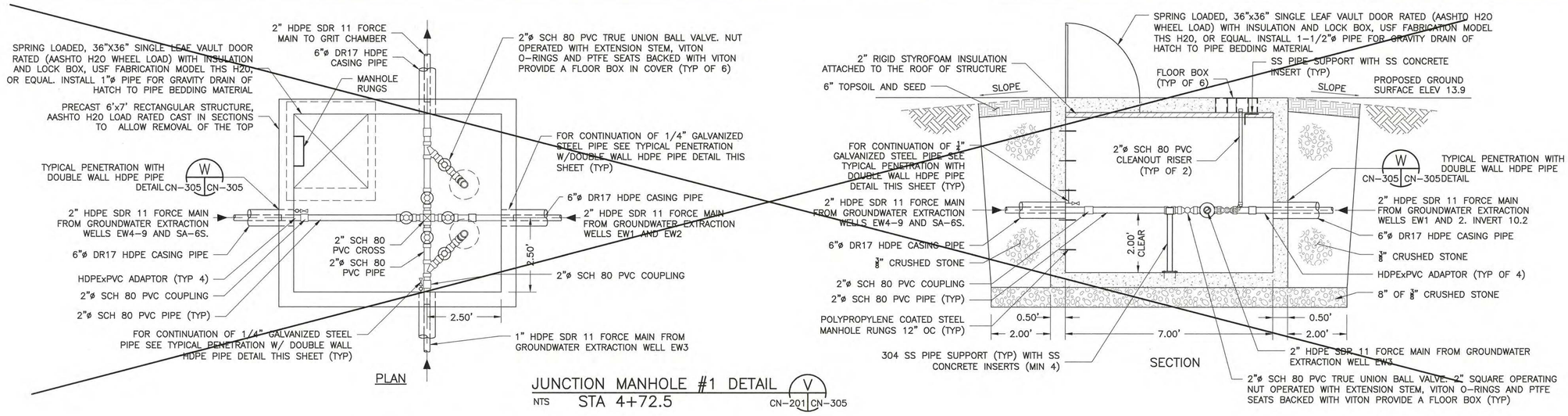
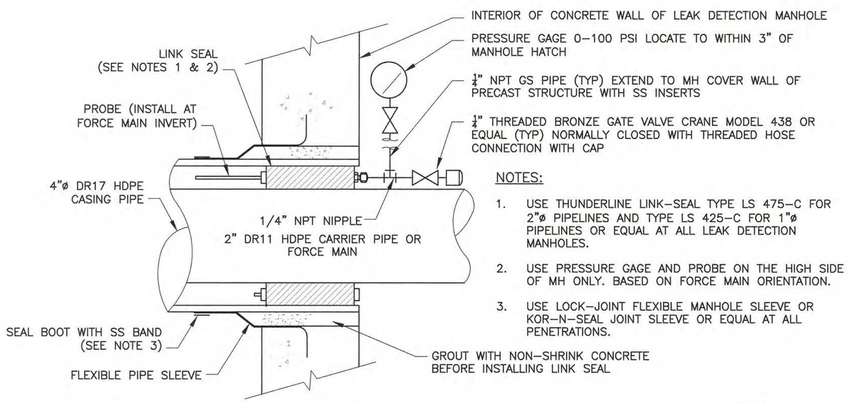
FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR36-CN-204-Cont_GWE_Trench.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:34 PM



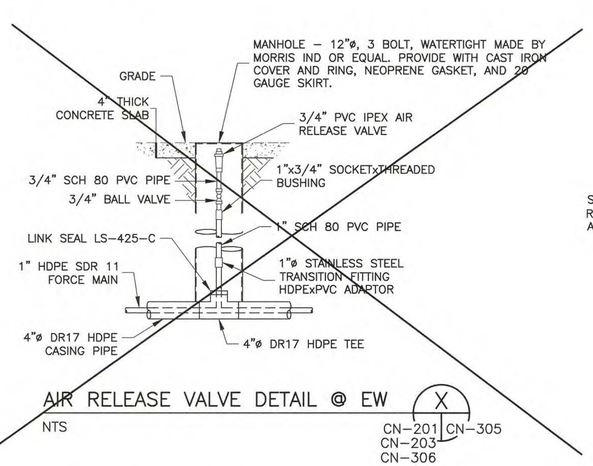
JUNCTION MANHOLE #1 DETAIL V
NTS STA 4+72.5 CN-201 CN-305



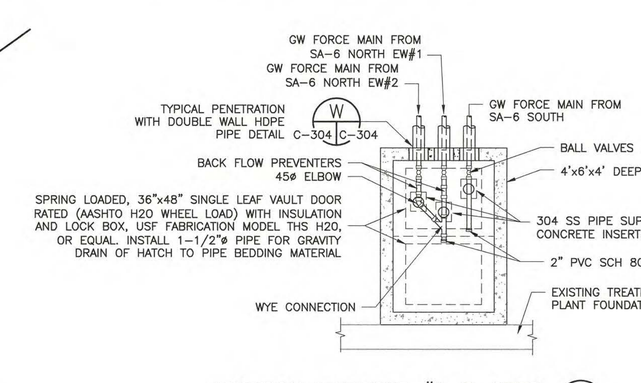
NOTES:

1. USE THUNDERLINE LINK-SEAL TYPE LS 475-C FOR 2"ø PIPELINES AND TYPE LS 425-C FOR 1"ø PIPELINES OR EQUAL AT ALL LEAK DETECTION MANHOLES.
2. USE PRESSURE GAGE AND PROBE ON THE HIGH SIDE OF MH ONLY. BASED ON FORCE MAIN ORIENTATION.
3. USE LOCK-JOINT FLEXIBLE MANHOLE SLEEVE OR KOR-N-SEAL JOINT SLEEVE OR EQUAL AT ALL PENETRATIONS.

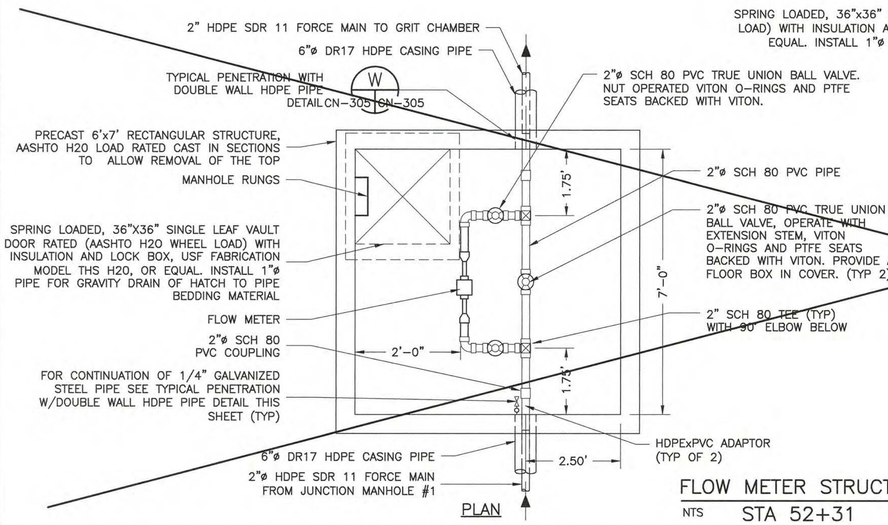
TYPICAL PENETRATION W/DOUBLE WALL HDPE PIPE DETAIL W
NTS CN-201 CN-305 CN-305



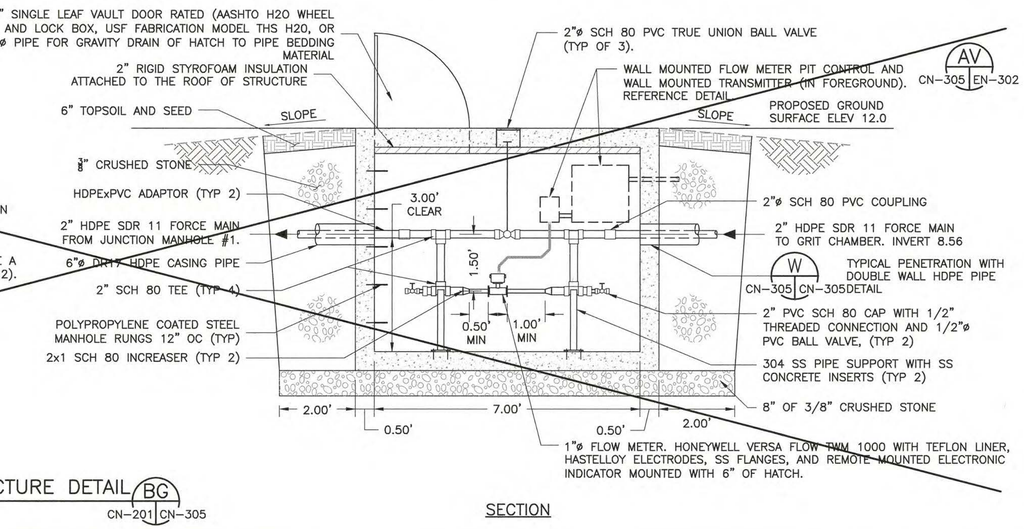
AIR RELEASE VALVE DETAIL @ EW X
NTS CN-201 CN-305 CN-203 CN-306



JUNCTION MANHOLE #1 @ GWTP AZ
NTS CN-204 CN-305



FLOW METER STRUCTURE DETAIL BG
NTS STA 52+31 CN-201 CN-305



NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE INSTALLATION CONTRACTOR SHALL PROVIDE A PERMANENT SIGN INDICATING THAT THE JUNCTION MANHOLE AND THE FLOW METER STRUCTURE IS A CONFINED SPACE ENTRY STRUCTURE.
4. ALL ALUMINUM HATCHES SHALL BE PROVIDED WITH SS HINGES, HOLD OPEN ARMS, AND SPRING ASSIST.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	06/06/16	RJR	SGS	SGS	SGS
1	05/12/16	RJR	SGS	REO	BY
0	06/07/13	REO	REO	RJR	APVD

DCB 007.2.2
DCB 7.2
ISSUED FOR CONSTRUCTION
REVISION

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Honeywell
115 TABOR ROAD MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

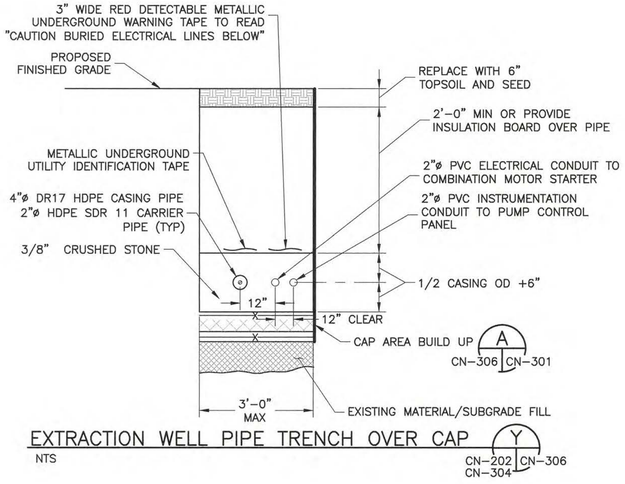
CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 889 - 2829
NJ Cert of Authorization 24GA28010900

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

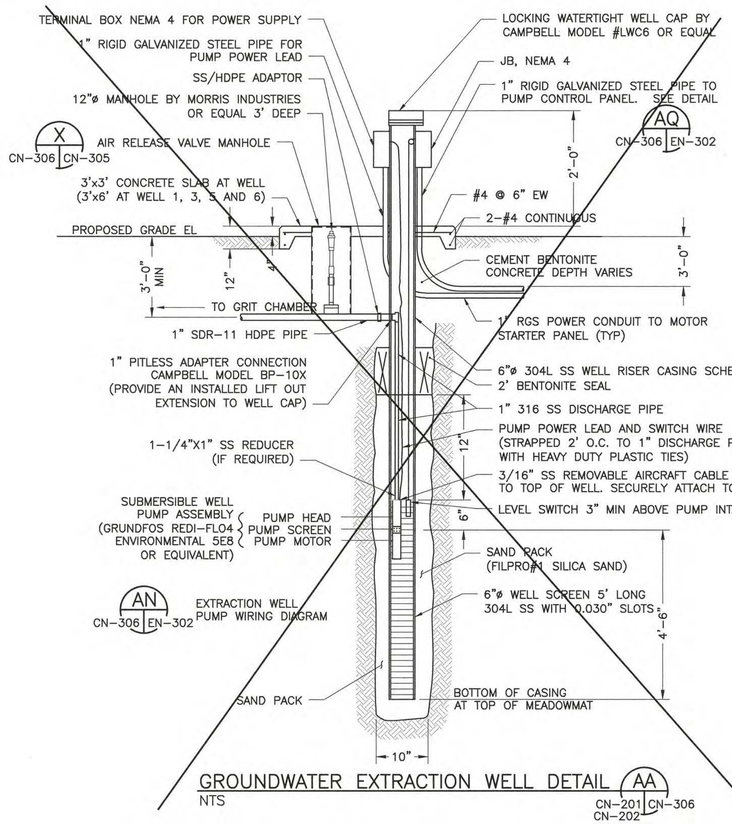
DATE	
PROJ	3480-12-0317
DWG	CN-305
SHEET	40 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR40-C-305 Contingent Pump Well Details.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 1:50 PM



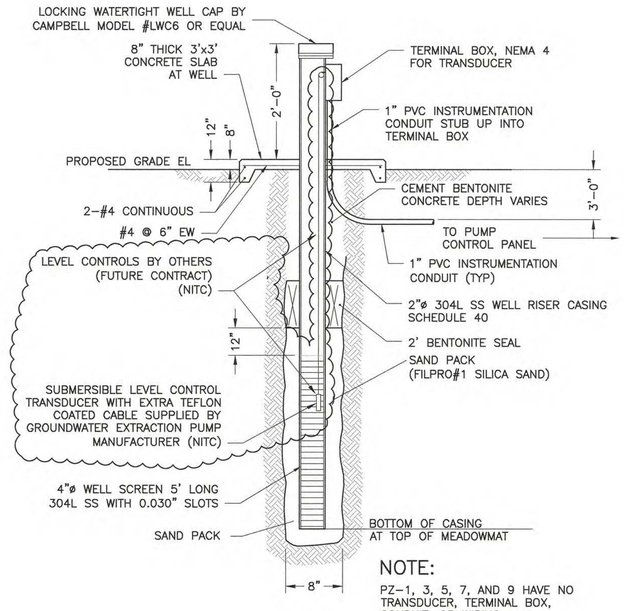
EXTRACTION WELL PIPE TRENCH OVER CAP
NTS

Y
CN-202 CN-306
CN-304



GROUNDWATER EXTRACTION WELL DETAIL
NTS

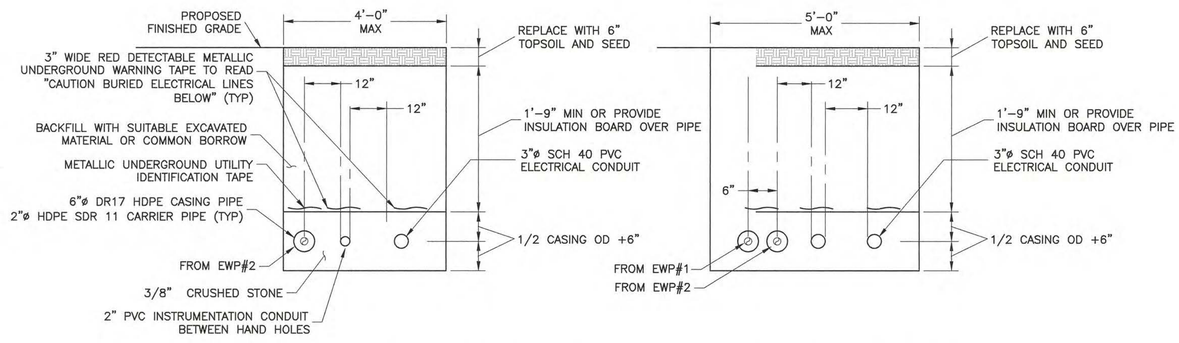
AA
CN-201 CN-306
CN-202



NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER, TERMINAL BOX, CONDUIT, OR WIRING.

PIEZOMETER DETAIL
NTS

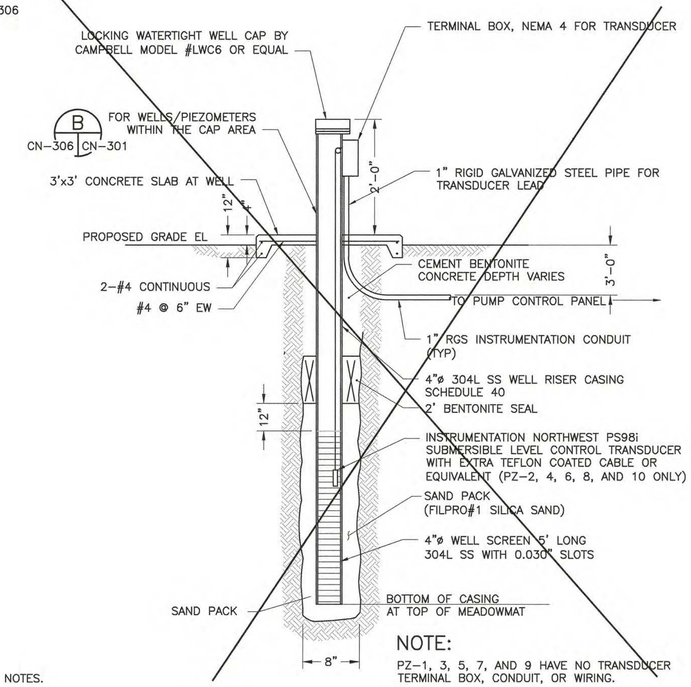
AB
CN-201 CN-306
CN-202
CN-203



FROM STATION 7+40.82 TO 12+73.82 FROM STATION 0+00 TO 7+40.82.

GROUNDWATER FORCE MAIN PIPE TRENCH OUTSIDE CAP
NTS

Z
CN-202 CN-306
CN-307



NOTE:
PZ-1, 3, 5, 7, AND 9 HAVE NO TRANSDUCER TERMINAL BOX, CONDUIT, OR WIRING.

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO	DATE	DSGN	DR	CHK	APVD
1	06/06/16	REO	RJR	REO	SGS
0	06/07/13	DCB 007 2.2 ISSUED FOR CONSTRUCTION			

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JERSEY CITY, NEW JERSEY

DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CONTINGENT GROUNDWATER EXTRACTION SYSTEM DETAILS

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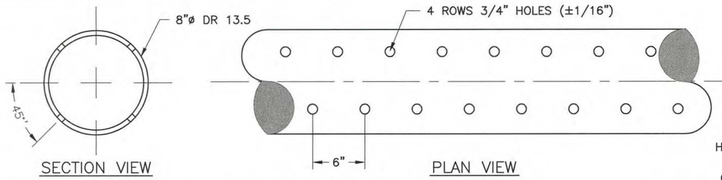
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619, (609) 889 - 2829
NJ Cert of Authorization 24GA28019500

VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	CN-306
SHEET	41 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6N\100 Percent\CR41-C-306 Extraction Well Details.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 1:47 PM

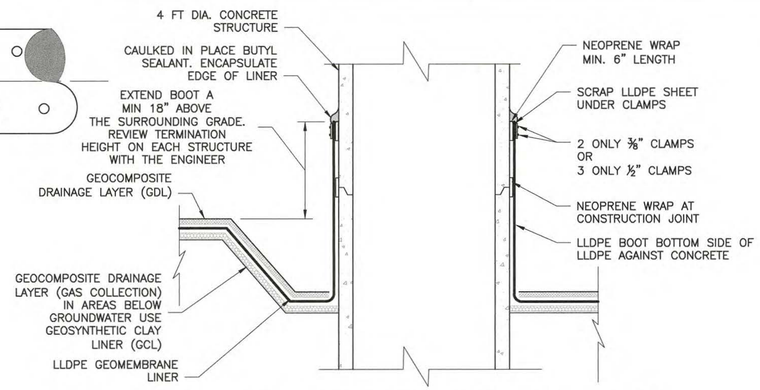


PIPE PERFORATIONS (CD)

NTS — TYP | CN–310

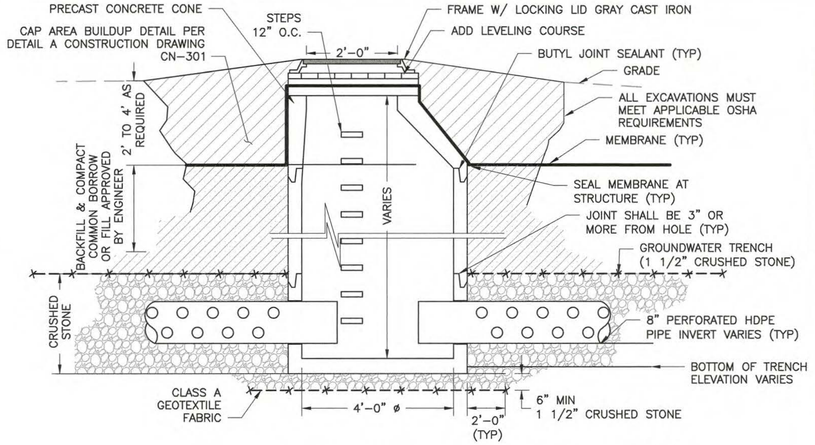
CONSTRUCTION SEQUENCE

- SET MANHOLE BASE AND RISER SECTIONS.
- EXTEND RISER WITH SURCHARGE AND FILL PLACEMENT.
- PLACE TEMPORARY COVER.
- MEASURE TOP/ BOTTOM ELEVATION POST SURCHARGE.
- REVIEW RISER SECTIONS AND IF NECESSARY ORDER A NEW RISER TO MEET DESIGN GRADE.
- OR ADJUST DESIGN GRADE TO MATCH AVAILABLE RISERS – SUBJECT TO ENGINEERS APPROVAL.



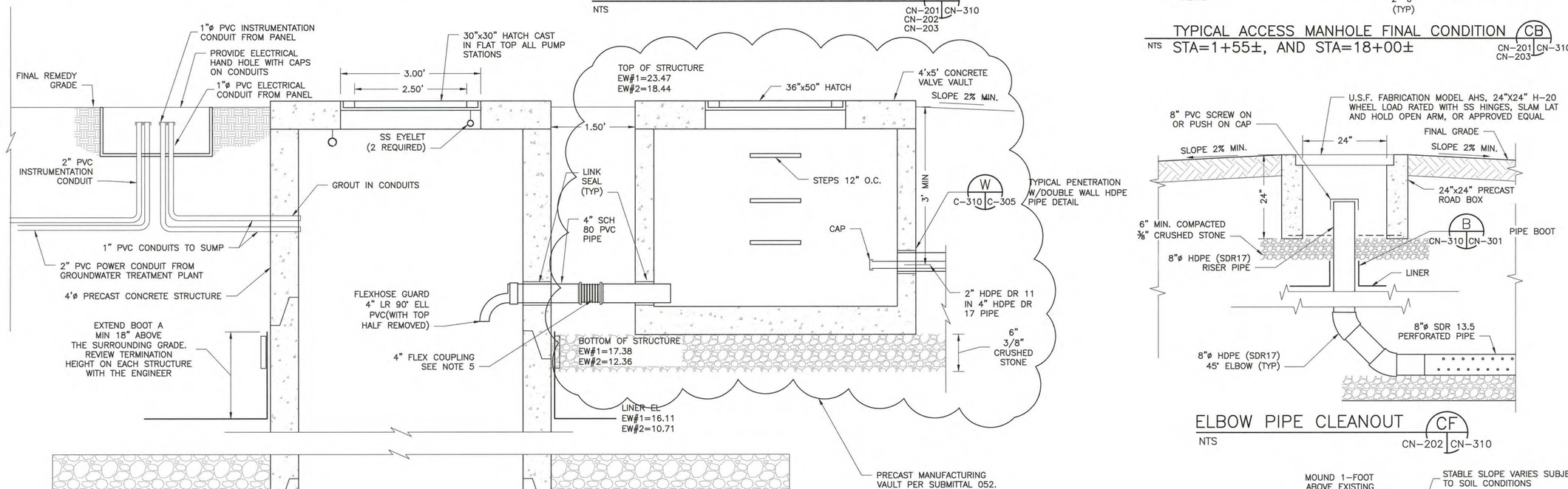
LINER ANCHOR TO CONCRETE STRUCTURE (CE)

NTS — CN–201 | CN–310; CN–202; CN–203



TYPICAL ACCESS MANHOLE FINAL CONDITION (CB)

NTS STA=1+55±, AND STA=18+00± — CN–201 | CN–310; CN–203



ELBOW PIPE CLEANOUT (CF)

NTS — CN–202 | CN–310

GROUNDWATER EXTRACTION PUMP STATION STA 7+02± & STA 12+50± (CC)

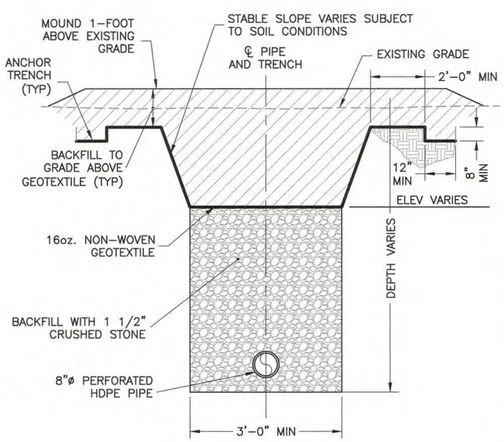
NTS — CN–202 | CN–310; CN–203; CN–204

NOTE:

PUMPS, WIRING, CONTROLS BY OTHERS UNDER SEPERATE CONTRACT.

PARTS LIST

ITEM	QTY	MANUFACTURER\ PART NO.	DESCRIPTION
30" X 30" PUMP STATION HATCH	1	ej FABRICATION PRODUCT H30303191 OR APPROVED EQUAL	SPRING LOADED ALUMINUM VAULT HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION
36" X 50" VALVE VAULT HATCH	1	PENNSYLVANIA INSERT CORP STOCK# ATH3050D I#2 OR APPROVED EQUAL	SPRING LOADED ALUMINUM HATCH H20 RATED WITH INSULATION, LOCK BOX, SS HINGES, HOLD OPEN ARM, AND FALL PROTECTION



GROUNDWATER TRENCH SURCHARGE CONDITION (CA)

NTS — TYP | CN–310

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO	DATE	REVISION	CHK	DR	APVD
4	06/06/16	DCB 007.2.2	TDD	SGS	SGS
3	09/02/15	DCB 007.2.1 DETAIL CE MODIFIED	TDD	SGS	SGS
2	11/19/14	DCB 007.2	TDD	SGS	SGS
1	05/14/14	DCB 007	TDD	SGS	APVD
DSGN			TDD		

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

CIVIL

GROUNDWATER EXTRACTION TRENCH DETAILS

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(609) 689 - 2929
NJ Certificate of Authorization Number 24GA28010900

VERIFY SCALE
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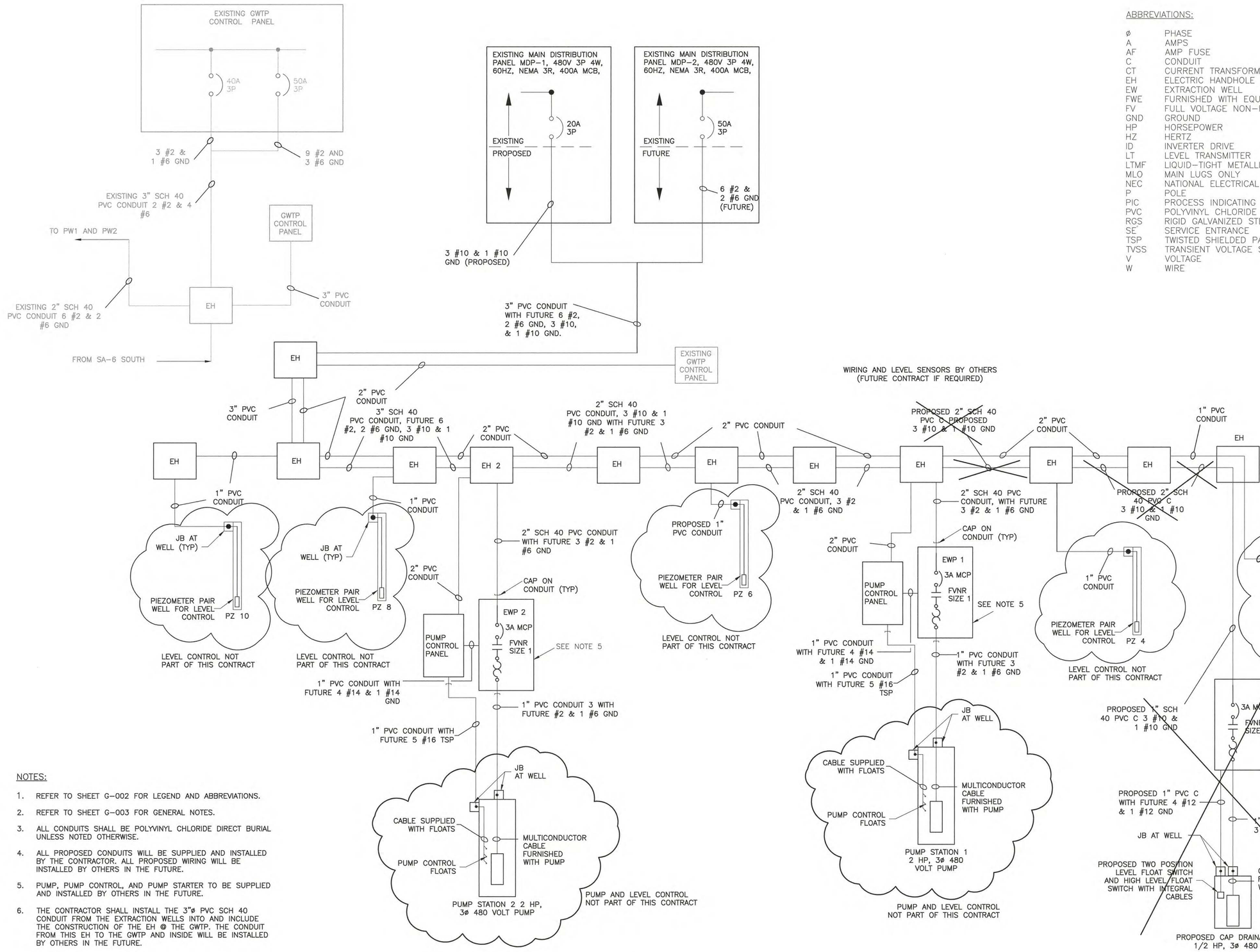
DATE	
PROJ	3480-12-0317
DWG	CN-310
SHEET	45 OF 70

FILE NAME: Z:\Projects\HONEYWELL\JERSEY CITY\Cap Design-SA6-C3D\CAD\SA6-North-South-GW_Extraction_Trench\NCR45-CN-310 Extraction Trench Details.dwg PLOT DATE: Mon, 06 Jun 2016 PLOT TIME: 3:16 PM



ABBREVIATIONS:

ø	PHASE
A	AMPS
AF	AMP FUSE
C	CONDUIT
CT	CURRENT TRANSFORMER
EH	ELECTRIC HANDHOLE
EW	EXTRACTION WELL
FWE	FURNISHED WITH EQUIPMENT
FV	FULL VOLTAGE NON-REVERSING
GND	GROUND
HP	HORSEPOWER
HZ	HERTZ
ID	INVERTER DRIVE
LT	LEVEL TRANSMITTER
LTMF	LIQUID-TIGHT METALLIC FLEXIBLE CONDUIT
MLO	MAIN LUGS ONLY
NEC	NATIONAL ELECTRICAL CODE
P	POLE
PIC	PROCESS INDICATING CONTROLLER
PVC	POLYVINYL CHLORIDE
RGS	RIGID GALVANIZED STEEL
SE	SERVICE ENTRANCE
TSP	TWISTED SHIELDED PAIR
TVSS	TRANSIENT VOLTAGE SURGE SUPPRESSOR
V	VOLTAGE
W	WIRE

NOTES:

1. REFER TO SHEET G-002 FOR LEGEND AND ABBREVIATIONS.
2. REFER TO SHEET G-003 FOR GENERAL NOTES.
3. ALL CONDUITS SHALL BE POLYVINYL CHLORIDE DIRECT BURIAL UNLESS NOTED OTHERWISE.
4. ALL PROPOSED CONDUITS WILL BE SUPPLIED AND INSTALLED BY THE CONTRACTOR. ALL PROPOSED WIRING WILL BE INSTALLED BY OTHERS IN THE FUTURE.
5. PUMP, PUMP CONTROL, AND PUMP STARTER TO BE SUPPLIED AND INSTALLED BY OTHERS IN THE FUTURE.
6. THE CONTRACTOR SHALL INSTALL THE 3"ø PVC SCH 40 CONDUIT FROM THE EXTRACTION WELLS INTO AND INCLUDE THE CONSTRUCTION OF THE EH @ THE GWTP. THE CONDUIT FROM THIS EH TO THE GWTP AND INSIDE WILL BE INSTALLED BY OTHERS IN THE FUTURE.

NOT FOR CONSTRUCTION
Mon, 06 Jun 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	REVISION	CHK	APVD
2	05/06/16	DCB 007.2.2	TDD	SGS
1	09/02/15	DCB 007.2.1	TDD	SGS
0	06/07/13	ISSUED FOR CONSTRUCTION	GCP	SGS
DSGN	GCP	DR RJR	CHK GCP	APVD BY SGS

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ONE LINE DIAGRAM

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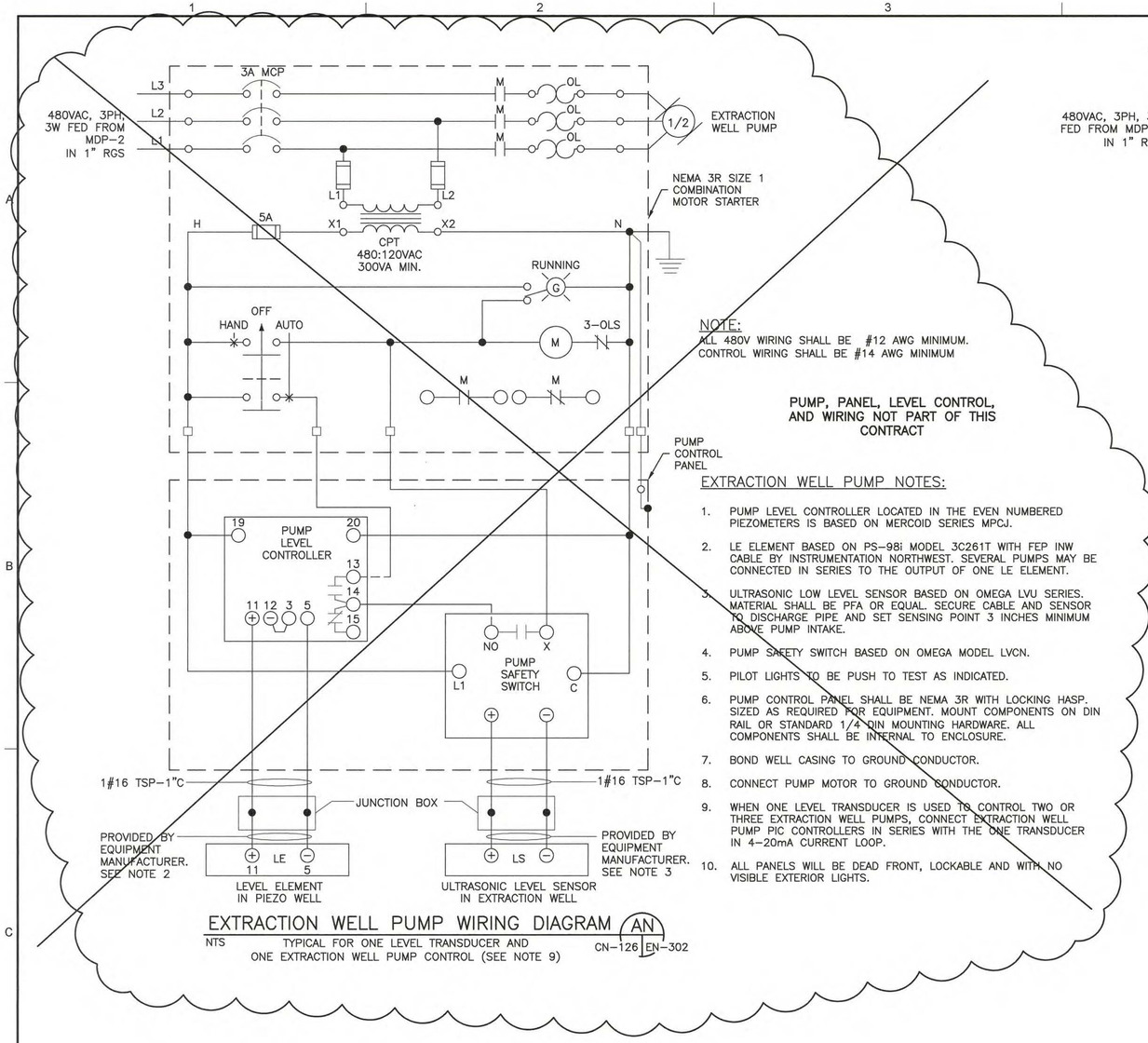
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-301
SHEET	67 OF 70



EXTRACTION WELL PUMP WIRING DIAGRAM (AN)

NTS TYPICAL FOR ONE LEVEL TRANSDUCER AND ONE EXTRACTION WELL PUMP CONTROL (SEE NOTE 9)

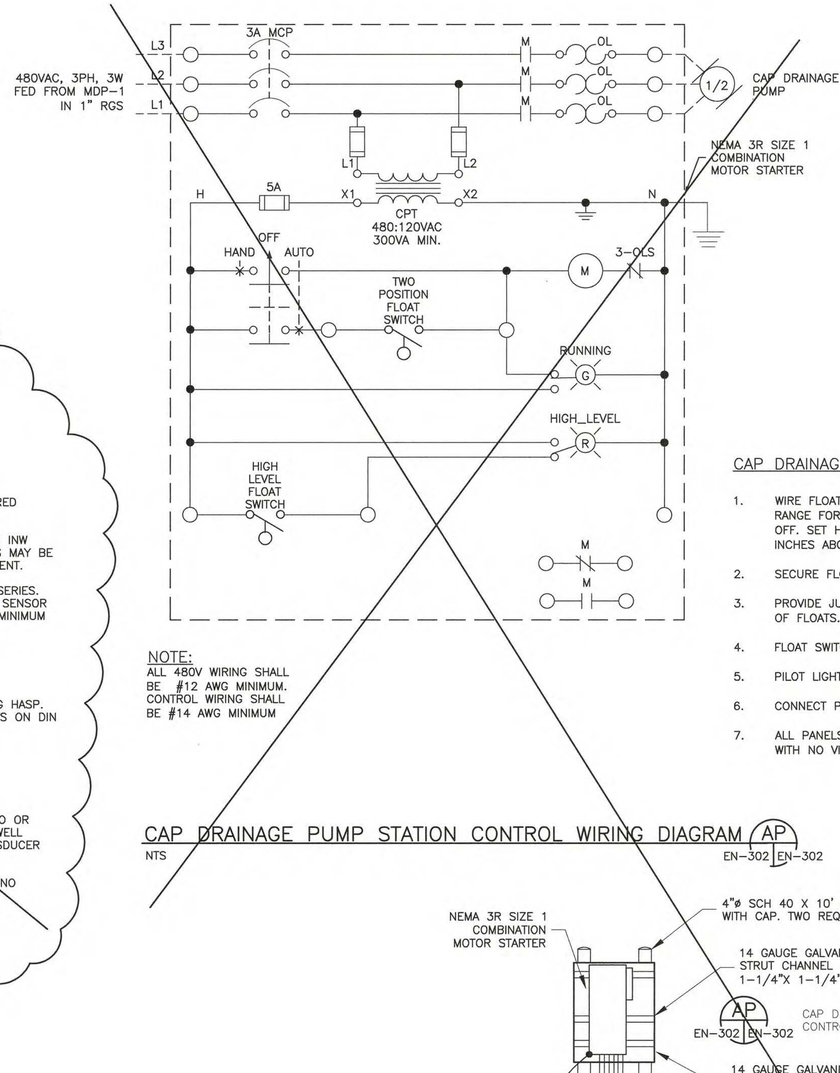
CN-126 | EN-302

NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

PUMP, PANEL, LEVEL CONTROL, AND WIRING NOT PART OF THIS CONTRACT

EXTRACTION WELL PUMP NOTES:

1. PUMP LEVEL CONTROLLER LOCATED IN THE EVEN NUMBERED PIEZOMETERS IS BASED ON MERCOID SERIES MPCJ.
2. LE ELEMENT BASED ON PS-98i MODEL 3C261T WITH FEP INW CABLE BY INSTRUMENTATION NORTHWEST. SEVERAL PUMPS MAY BE CONNECTED IN SERIES TO THE OUTPUT OF ONE LE ELEMENT.
3. ULTRASONIC LOW LEVEL SENSOR BASED ON OMEGA LVU SERIES. MATERIAL SHALL BE PFA OR EQUAL. SECURE CABLE AND SENSOR TO DISCHARGE PIPE AND SET SENSING POINT 3 INCHES MINIMUM ABOVE PUMP INTAKE.
4. PUMP SAFETY SWITCH BASED ON OMEGA MODEL LVCN.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. PUMP CONTROL PANEL SHALL BE NEMA 3R WITH LOCKING HASP. SIZED AS REQUIRED FOR EQUIPMENT. MOUNT COMPONENTS ON DIN RAIL OR STANDARD 1/4 DIN MOUNTING HARDWARE. ALL COMPONENTS SHALL BE INTERNAL TO ENCLOSURE.
7. BOND WELL CASING TO GROUND CONDUCTOR.
8. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
9. WHEN ONE LEVEL TRANSDUCER IS USED TO CONTROL TWO OR THREE EXTRACTION WELL PUMPS, CONNECT EXTRACTION WELL PUMP PIC CONTROLLERS IN SERIES WITH THE ONE TRANSDUCER IN 4-20mA CURRENT LOOP.
10. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.



NOTE:
ALL 480V WIRING SHALL BE #12 AWG MINIMUM.
CONTROL WIRING SHALL BE #14 AWG MINIMUM

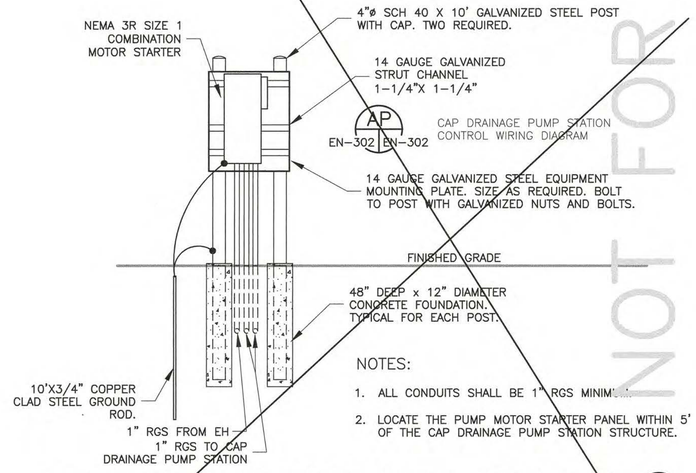
CAP DRAINAGE PUMP NOTES:

1. WIRE FLOATS FOR PUMP DOWN CONTROL SET RANGE FOR 6 INCHES BETWEEN PUMP ON TO PUMP OFF. SET HIGH LEVEL SWITCH TO BE ACTIVE 6 INCHES ABOVE PUMP START.
2. SECURE FLOATS TO DISCHARGE PIPE.
3. PROVIDE JUNCTION BOX IN SUMP FOR CONNECTION OF FLOATS.
4. FLOAT SWITCH EQUAL TO DWYER RFW.
5. PILOT LIGHTS TO BE PUSH TO TEST AS INDICATED.
6. CONNECT PUMP MOTOR TO GROUND CONDUCTOR.
7. ALL PANELS WILL BE DEAD FRONT, LOCKABLE AND WITH NO VISIBLE EXTERIOR LIGHTS.

CAP DRAINAGE PUMP STATION CONTROL WIRING DIAGRAM (AP)

NTS

EN-302 | EN-302



NOTES:

1. ALL CONDUITS SHALL BE 1" RGS MINIMUM.
2. LOCATE THE PUMP MOTOR STARTER PANEL WITHIN 5' OF THE CAP DRAINAGE PUMP STATION STRUCTURE.

CAP DRAINAGE PUMP STATION CONTROL PANEL DETAIL (AR)

NTS

CN-201 | EN-302
CN-202

NOTES:

1. REFER TO SHEET GN-003 AND GN-004 FOR GENERAL NOTES.
2. REFER TO SHEET GN-002 FOR LEGEND AND ABBREVIATIONS.
3. THE COMBINATION OF THE MOTOR CIRCUIT PROTECTOR AND THE OVERLOAD SHALL BE UL MOTOR COMBINATIONS.

NOT FOR CONSTRUCTION

Mon, 06 Jun 2016

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD
2	06/06/16	GCP	RGR	GCP	APVD
1	09/02/15	TDD	SGS	GCP	SGS
0	06/07/13	TDD	SGS	BY	APVD
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DCB 007.2.2
DCB 007.2.1

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CHROMIUM REMEDY
STUDY AREA 6 NORTH
SITES 087 AND 088
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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

WIRING DIAGRAMS

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DATE	
PROJ	3480-12-0317
DWG	EN-302
SHEET	68 OF 70

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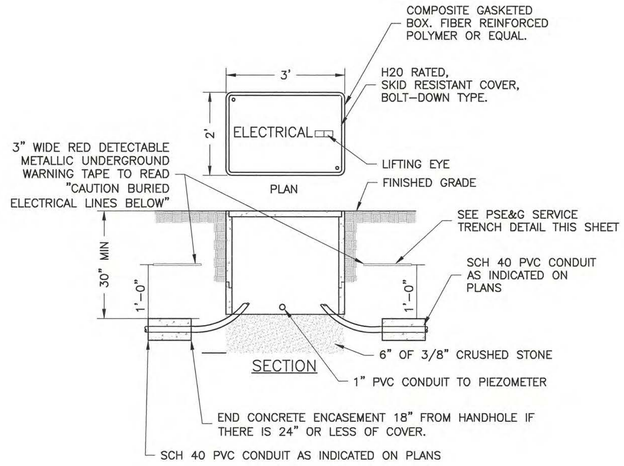
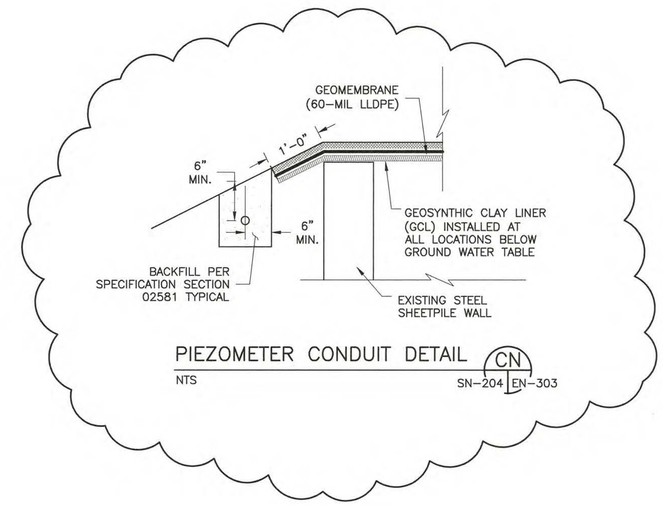
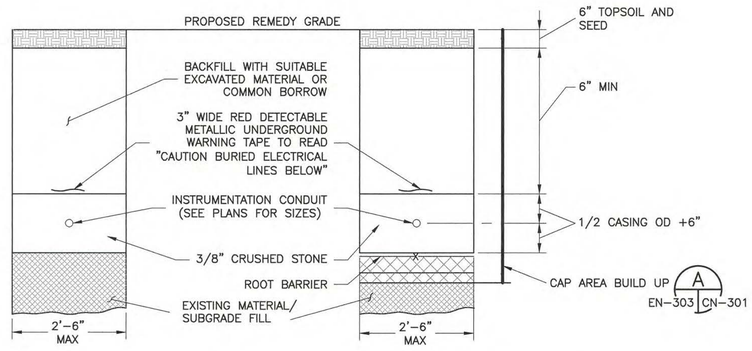


ELECTRICAL HANDHOLE DETAIL (AU)
NTS
CN–105 | EN–303
CN–201
CN–202



PIEZOMETER CONDUIT DETAIL (CN)
NTS
SN–204 | EN–303



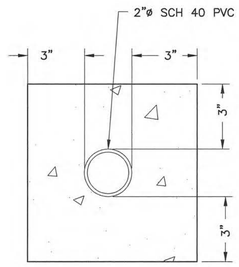
OUTSIDE CAP (SEE DETAIL CN ON EN–303)

OVER CAP

PIEZOMETER INSTRUMENTATION CONDUIT TRENCH (AX)
NTS
CN–201 | EN–303
CN–202
CN–203

NOTE:

1. PROVIDE CONCRETE ENCASEMENT IF CONDUIT IS LESS THAN 24–INCHES BELOW DEVELOPMENT GRADE.
2. INSTALL PULL STRING/WIRE IN E&I CONDUIT FOR INSTALLATION OF PUMPS, WIRING, CONTROLS IN THE FUTURE BY OTHERS.



DUCT WAY NOTES:

1. ENCASED BURIAL REQUIRED IF THE COVER DEPTH IS LESS THAN 24" OR OTHERWISE SPECIFIED.
2. CONCRETE SHALL BE 3000 P.S.I. @ 28 DAYS, OR AS SPECIFIED.
3. PROVIDE REINFORCING RODS ON TOP OF DUCTS WHEN CROSSING OR PLACED IN ROADWAY WITH LESS THAN 24" OF COVER #4@12" OC MIN 2. EXTEND 4' BEYOND ROAD EDGE.
3. MINIMUM COVER TO TOP OF CONCRETE ENVELOPE SHALL BE 24" [610mm].
4. INSTALL IN A 4'–0" MAX WIDTH TRENCH SIMILAR TO DETAIL Z ON C–306.

DUCT BANK DETAILS (AW)
NTS
EN–303

NOTES:

1. REFER TO SHEET GN–003 AND GN–004 FOR GENERAL NOTES.
2. REFER TO SHEET GN–002 FOR LEGEND AND ABBREVIATIONS.

SAMUEL G. SHALLARD
NJ PROFESSIONAL ENGINEER
LICENSE NUMBER 43507

NO.	DATE	DSGN	DR	CHK	APVD	BY	APVD
2	06/06/16	GCP	RJR	GCP	APVD	TDD	SGS
1	09/02/15	DCB 007.2.2				TDD	SGS
0	06/07/13	DCB 007.2.1				GCP	SGS
		ISSUED FOR CONSTRUCTION					
		REVISION					

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DRAWING STATUS
100 PERCENT DESIGN DRAWINGS

ELECTRICAL DETAILS

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VERIFY SCALE
BAR IS ONE INCH ON ORIGINAL DRAWING
0 1"

DATE	
PROJ	3480-12-0317
DWG	EN-303
SHEET	69 OF 70

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PDESIGN CHANGE BULLETIN

Project Name: Chromium Remedy Study Area 6 Jersey City, NJ	**DCB No.:** **Type:** Minor(a) **Effective Date:** 7/14/16
Project Location: SA-6 North	**Associated RFI:**
Title: North Cap - Field Engineered Subgrade Adjustments	☐ Yes, RFI Nos. ☑ None
Contractor (Subcontractor): ENTACT	**Project No.:** 3480130377

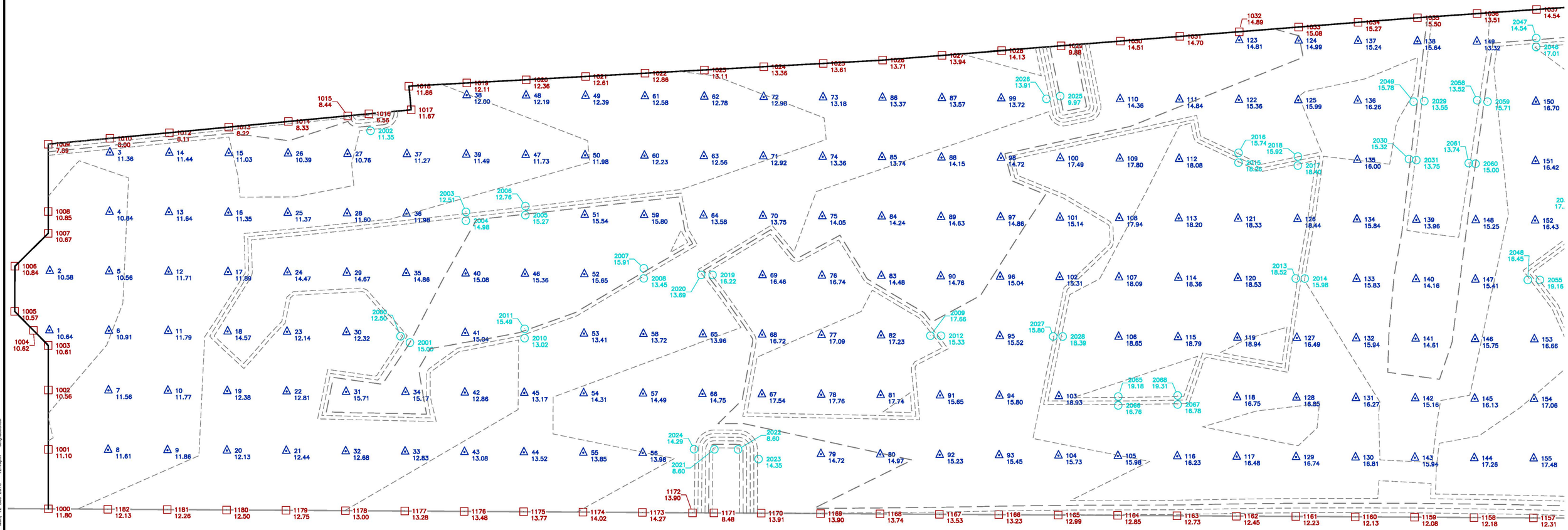
Description.

During the course of subgrade construction two field conditions were identified that resulted in the need for minor adjustments to several small localized areas of the subgrade to achieve positive drainage. In one area these field developed changes resulted in a change in elevation of the Construction Control Grid subgrade elevation.

In addition there were several minor changes in the top elevation of the Hydraulic Barrier wall. These changes were made to avoid major changes to the Construction Water Treatment forcemain and to address several locations where the final top elevations of driven sheets were slightly below the design levels. These changes did result in a very small reduction in capacity under the cap and had no impact on the containment and hydraulic requirements of the wall. The changes are so minor they are not readily visible on the hard copy drawings. Revisions were issued to Entact in electronic format and will be incorporated in As Built documentation.

Reason for Change/Modification: ☑ Unforeseen or Differing Site Conditions ☐ Design Revision ☐ Owner/Client Request ☐ Other	**Explanation or Reason:**
	Attachments: ☑ Yes ☐ No
	Cost Implication: ☐ Yes ☑ No >$50k ☐ Yes ☑ No Schedule Implication ☐ Yes ☑ No
Additional Comments:	**Design Documents Affected:** Construction Control Grid Top of Barrier Wall and Subgrade
Honeywell (AP) Review: **Individual:** Geoff Shallard **Discipline:** EOR	**Initial:** **Date:** 12/12/16
(Name / Signature):	**Does DCB Result in CCO?** ☐ **Yes (b)** ☑ **No** **Date:**
Distribution:	

(a) – Major/Minor DCB designation – major DCB's impact cost and/or schedule and may require third party review/approval
(b)– If DCB is to result in a CCO, follow the CCO process and provide a SOW and cost estimate.



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40

SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

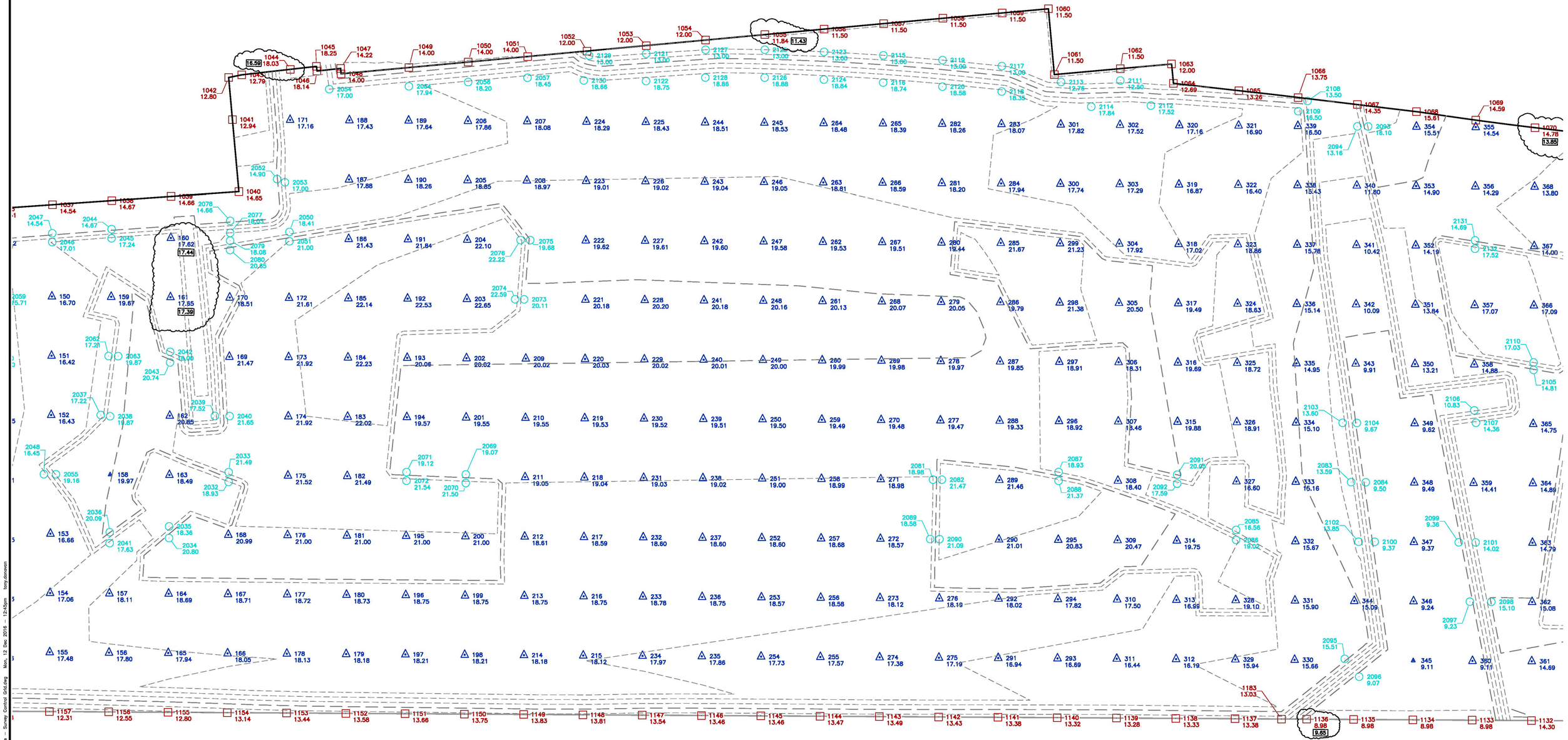
Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019300

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 1 OF 3
Project 3480-13-0377
Figure 1.1

C:\Donovan\GIA- 6 North\2013 Excavation Surfaces\GIA- 6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:46pm tony.donovan



153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

NOTE: REFER TO FIGURE 1.3 FOR REVISED GRID POINT ELEVATION SUMMARY TABLE.

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
STUDY AREA 6 NORTH
JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

amec foster wheeler
Environment & Infrastructure, Inc.
200 American Metro Blvd, Suite 113
Hamilton, NJ, 08619, (609) 689 - 2829
NJ Certificate of Authorization Number 24GA28019600

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 2 OF 3
Project 3480-13-0377
Figure 1.2

C:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:45pm tony.donovan

DCB 054.5 - REVISED SUBGRADE ELEVATION SUMMARY

CONTROL GRID POINT ID	DESCRIPTION	SUBGRADE DESIGN ELEV (FT)	REVISED SUBGRADE DESIGN ELEV (FT)
160	GRID	17.62	17.44
161	GRID	17.65	17.39
533	GRID	10.17	10.88
1044	BNDY	18.03	16.59
1055	BNDY	11.84	11.43
1070	BNDY	14.78	13.85
1071	BNDY	14.27	14.01
1107	BNDY	8.55	10.75
1108	BNDY	8.50	10.75
1109	BNDY	8.86	10.75
1110	BNDY	9.63	10.75
1111	BNDY	9.76	10.75
1112	BNDY	9.94	10.75
1113	BNDY	10.18	10.75
1114	BNDY	10.43	10.75
1115	BNDY	10.68	10.75
1136	BNDY	8.98	9.65
1184	BNDY	8.50	10.75

153 16.66 GRID POINT

2054 17.00 BREAK POINT

1157 12.31 BOUND POINT

0 10 20 40
SCALE IN FEET

DCB 054.5 – REVISED CONTROL GRID ELEVATIONS 12/12/16

Prepared/Date: RJR 05/12/16
Checked/Date: TDD 05/12/16

Honeywell
101 COLUMBIA RD., BOX 2105
MORRISTOWN, NJ 07962

CHROMIUM REMEDY
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JERSEY CITY, NEW JERSEY
HONEYWELL SITE ID - 37472

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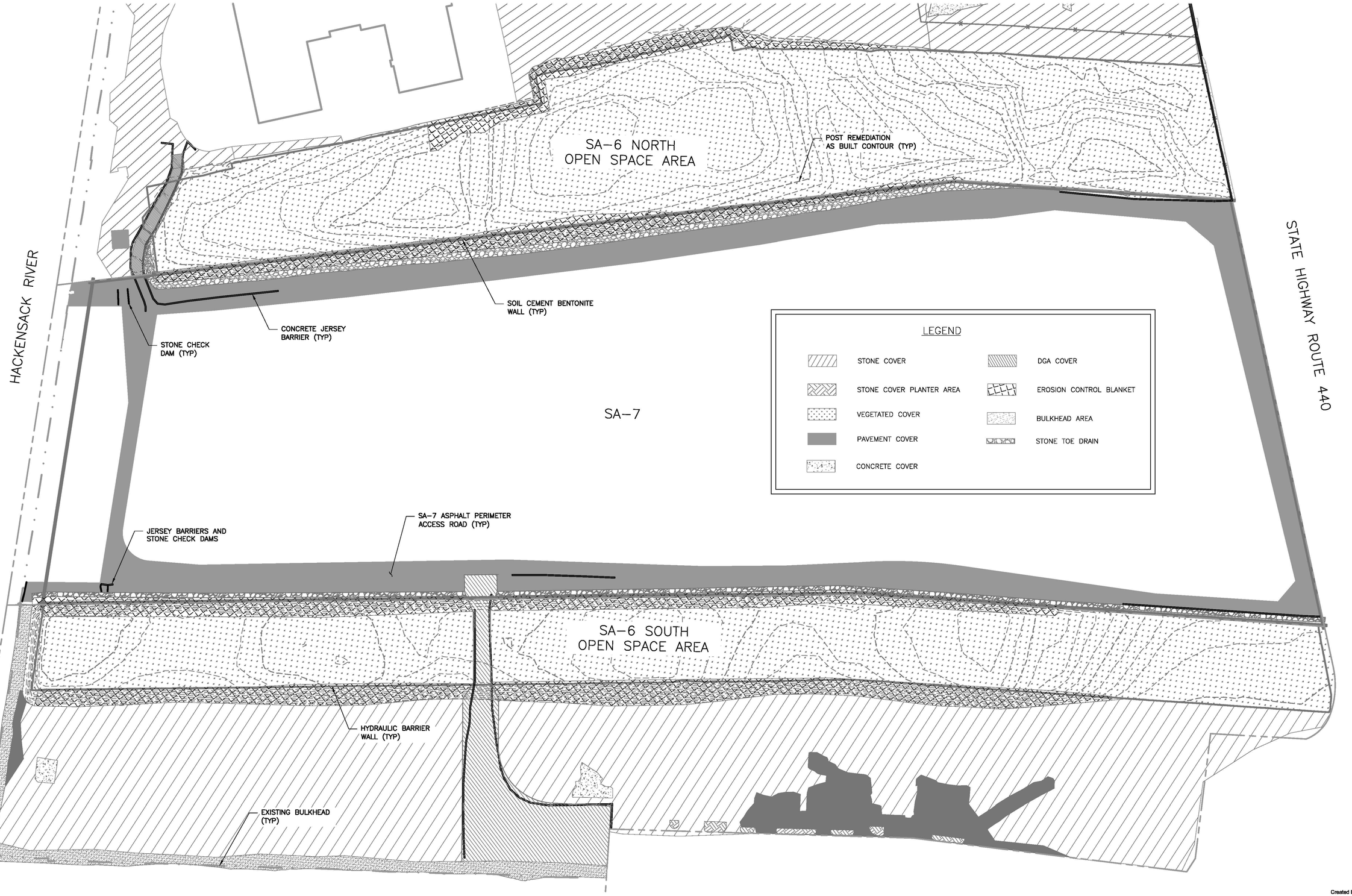
NJ Certificate of Authorization Number 24GA28010900

SA-6 NORTH CONSTRUCTION CONTROL GRID
FIGURE 3 OF 3
Project 3480-13-0377
Figure 1.3

O:\Donovan\SA-6 North\2013 Excavation Surfaces\SA-6 North Cap Surveys\Figure - Survey Control Grid.dwg Mon, 12 Dec 2016 - 12:43pm tony.donovan

ATTACHMENT Q
SA-6 NORTH AND SOUTH SOIL EROSION AND SEDIMENT CONTROL
RECORD DRAWING



Created By: TDD 05/26/17
Checked By: EGC 05/26/17

0 20 40 80
SCALE IN FEET

Honeywell
115 TABOR ROAD
MORRIS PLAINS, NJ 07950

CHROMIUM REMEDY
STUDY AREA 6 NORTH AND SOUTH
JERSEY CITY, NEW JERSEY

amec foster wheeler
Environment & Infrastructure, Inc.
511 Congress Street, Suite 200
Portland, Maine 04104 (207) 775-5401

SOIL EROSION AND SEDIMENT CONTROL
RECORD DRAWING
FIGURE 1

C:\Donovan\SA-6 South Excavation Limits April 2012\2013 Excavation Shapes\SA-6 South Remedial Action Report\SA-6 SESC AB.dwg Fri, 26 May 2017 – 11:46am tony.donovan

APPENDIX S

ADDITIONAL DOCUMENTS
(CD ONLY)

PART 25 OF 25

- **Excavation Certification E-Mails**

ATTACHMENT A-1
60 KELLOGG EXCAVATION CERTIFICATION E-MAIL

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, August 03, 2016 2:00 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E; Shallard, Samuel G.
Subject: FW: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Here is SM acknowledgement of 60 Kellogg

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, July 13, 2016 5:29 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; Liza Walsh (LWalsh@TheWalshFirm.com) <LWalsh@TheWalshFirm.com>; Hector Ruiz (HRuiz@TheWalshFirm.com) <HRuiz@TheWalshFirm.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Bill,

The Special Master acknowledges receipt of your June 28, 2016 email and the supporting documentation accompanying the SA-6 South Excavation Complete Submittal for the 60 Kellogg Building Area and your subsequent emails confirming that the white-ish material observed in the excavation was included in the sidewall soil samples collected where residual material was observed for final confirmation and represented in the final post-excavation soil sampling results provided in your June 28 email and where all hexavalent chromium results were reported at less than 20 mg/kg.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, July 12, 2016 11:16 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Steve,

I have reviewed your email question with the Amec field team who observed the excavation and collected the post-excavation sidewall soil samples.
Amec indicates that the whitish material was included in the sidewall soil samples where residual material was observed.
Please let us know if you have any remaining questions on this item.

Regards,
Bill Hague

William J. Hague P.E.

Honeywell
Director - Remediation Design & Construction
Corporate HSE&R
115 Tabor Road
Morris Plains, NJ 07950
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Saturday, July 02, 2016 5:22 PM
To: Hague, William
Cc: RGT Special Master; Lewis, Thomas; Morris, John; JFarrell@jcnj.org; Francis J. Borin; JWatson@jcnj.org; Clifford, Joseph T; Daneker, Michael D.; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); ' (kmillian@tpmlaw.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; Jeremy.Karpatkin@aporter.com; 'Ben Ross (bross@disposalsafety.com)'; Kim Hosea (k.hosea@cea-enviro.com)
Subject: RE: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Bill,

Please see the following regarding the June 28, 2016 Excavation Complete Submittal for the 60 Kellogg Building Area:

The email states that "the post-excavation soil sampling location selection was biased according to field observations and not just geometrically predetermined" and that "Sidewall samples were biased to include residual whitish material if observed." Please confirm, as requested in my June 16 email, that the white-ish material was directly sampled and analyzed to determine whether hexavalent chromium concentrations in this material are above or below 20 ppm.

In addition, your email states: "The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations". However, as noted in my June 16 email, during my June 14 site visit I observed what appeared to be white-ish material in the southwestern face of the excavation, approximately 2 feet below the surface at what appeared to be the final excavation boundary. If the white-ish material was directly sampled and determined to contain less that 20ppm hexavalent

chromium, then leaving residual material in the excavation is not an issue. However, if the white-ish material was determined to contain hexavalent chromium above 20ppm, please confirm whether or not the observed white-ish material was subsequently removed as part of continued excavation efforts so that no white-ish material confirmed above 20 ppm hexavalent chromium remained visible at the excavation boundaries.

We look forward to your response.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, June 28, 2016 9:45 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Lewis, Thomas <tlewis@louisberger.com>; Morris, John <John.Morris@honeywell.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; '(kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Jeremy.Karpatkin@aporter.com <Jeremy.Karpatkin@aporter.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; Kim Hosea (k.hosea@cea-enviro.com) <k.hosea@cea-enviro.com>
Subject: SA-6 South Excavation Complete Submittal - 60 Kellogg Building Area

Steve,

We are providing this email notification that our laboratory data validation has been completed, all soil sample results showing concentrations of hexavalent chromium < 20 ppm are now final, thus, the added Excavation Area at 60 Kellogg Street can now be closed out (which is part of the SA-6 South Chromium Remedy).

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of excavation completion covers the work completed on 06/02/16. This submittal includes the excavation around the 60 Kellogg Street Building (Site 125 on SA-6 South) where suspect material had been observed and sampled in accordance with the submittal to All Parties, dated May 17, 2016. We are also addressing your email to Honeywell dated June 16, 2016 with clarification that the post-excavation soil sampling location selection was biased according to field observations and not just geometrically predetermined.

Attachments to the submittal include the Maser Table with bottom and sidewall confirmation points, and an Excavation Bottom Map showing sample locations and excavation limits.

- Initially, Amec personnel collected a soil sample (post demolition of the 60 Kellogg building raised slab) biased to a greenish discoloration in surficial soils identified between timber piles that formerly supported the 60 Kellogg building.
- This initial soil sample confirmed the presence of COPR and resulted in a proposed shallow excavation plan to address these soils by removing an area ~10 ft by 10 ft by 3 ft deep in size around this sample location (as detailed in the May 17, 2016 submittal to the parties).

- On June 2, 2016, the excavation was conducted to depths ranging from approximately 2.9 ft to 4.2 ft Below Ground Surface.
- The bottom and sides of the excavation at the final limits were visually inspected by Amec personnel. All of the original greenish discoloration was removed but some whitish material was observed in several sidewall locations.
- The excavation was subsequently extended to approximately 14 ft by 14 ft in width and length to remove additional soil exhibiting whitish discolorations.
- Five soil samples were collected from the excavation: one from each sidewall and one from the bottom of the excavation. Sidewall samples were biased to include residual whitish material if observed. The bottom sample was located the area where additional suspect material was also observed during excavation.
- This sampling frequency meets the approved frequencies established in the 100% Design.
- Coordinates for Survey of the finished excavation at the bottom and sidewall sample locations are tabulated in the Maser Tables.
- Sample locations are shown on the Entact “As Built” Excavation Figure attached.
- The final post-excavation soil sampling results were as follow:
    - 125-SB-308 <0.55 mg/Kg
    - 125-SB-309 0.66 mg/Kg
    - 125-SB-310 <0.52 mg/Kg
    - 125-SB-311 2.3 mg/Kg
    - 125-SB-312 1.9 mg/Kg
- All hexavalent chromium results were less than 20 mg/kg, thus, no further remediation is necessary.
- Maser collected bottom of excavation points to prepare a topographic Map of the bottom of excavation.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.

Regards,
Bill Hague

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ATTACHMENT B-2
SA-6 SOUTH E-MAIL CERTIFICATIONS OF EXCAVATION COMPLETION

Egnaczyk, Steve

From: Kevin J. Coakley <KCoakley@connellfoley.com>
Sent: Friday, April 25, 2014 8:56 AM
To: 'kmillian@tpmlaw.com'; 'aalcorn@tpmlaw.com'; 'eric@golub-isabel.com'; 'kkinsella@decotiislaw.com'; 'Michael D. Daneker (Michael.Daneker@aporter.com)'; 'Jeremy Karpatkin (Jeremy.Karpatkin@aporter.com)'; 'Jeremy Farrell' (JFarrell@jcnj.org)
Cc: 'rgtspecialmaster@aol.com'; Sean Jackson (Sean@RosemontAssocs.com); Egnaczyk, Steve; Lewis, Thomas; Liza M. Walsh; Agnes Antonian
Subject: Honeywell Excavation Submittals

Dear Counsel:

During Tuesday's Special Master All Parties Meeting, it was agreed that Honeywell would continue to provide notifications to the parties certifying that cells within the SA6 North and South excavation have been completed in accordance with the 100% Design and request an email acknowledgement only from the Special Master that the Special Master is in receipt of the supporting documentation accompanying the notification. The Special Master's technical representative will continue to perform periodic visual inspections of the completed excavation areas prior to backfilling and provide a response to Honeywell's email submittals within 48-hours.

Honeywell will continue to conduct the excavation operations as detailed in the SA-6 South Standard Operating Procedure (SOP) - Confirmation of Excavation Limits, dated March 3, 2014 that provides Honeywell's basis for assessing and demonstrating that the limits of excavation as defined in the 100% Design are being met and documented.

Specifically and as noted in Honeywell's April 17, 2014 Response to Plaintiffs' Comments regarding Excavation of Cells 44-52, Honeywell will:

- continue to collect the survey data necessary to prepare the topographic map as indicated in the first bullet of Section 5.0 in the SOP,
- prepare the topographic map to meet the requirements of Section 02315 Part 3.03 Topographic Surveys, Part C. Post Excavation Survey of the Technical Specifications, and
- provide the topographic survey as part of the final certification.

Honeywell acknowledges that as it is no longer waiting for ICO acknowledgement of the above described progress reports on cell excavation confirmation, and therefore Honeywell will be proceeding at risk as it relates to these specific issues from ICO's perspective, or for that matter, Jersey City's perspective as well. Honeywell will continue to submit these reports to all parties at the same time it transmits them to the Special Master.

Please respond to this email within 48 hours if you do not concur that this description represents the agreement reached at Tuesday's meeting.

Kevin J. Coakley

Partner
Connell Foley LLP
85 Livingston Avenue
Roseland, NJ 07068
Office: (973) 535-0500
Direct: (973) 533-4230
Fax: (973) 535-9217

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Vcard

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:41 AM
To: Christodoulatos, Eric G
Subject: FW: SA6 South Remedy Implementation

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 01, 2013 10:06 AM
To: Clifford, Joseph T; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Joe,

This email responds to your email of October 29, 2013 requesting approval to backfill cells 1 and 2 at the Study Area 6 South excavation. The October 29 email responded to the Special Master's email of October 26 and prior emails, which requested that Honeywell confirm that the excavation areas were completed and provide supporting documents that describe the survey protocol addressing how the excavation was completed, especially in areas where the meadow mat was encountered above the projected excavation depth. The Special Master also requested a document tracking the progress and status of the excavation. In its October 29 submittal Honeywell attached two documents: (1) Excavation Bottom Elevations Plan for the period of 10/22/13 to 10/24/13 and (b) Excavation and Backfill Progress Summary End of October 2, 2013 Plan. The Excavation Bottom Elevations Plan shows that the excavation in Cells 1 and 2 was performed to Stratum D. The October 29, email confirms that the excavation in both cells terminates in Stratum D as visually confirmed by Amec personnel. Amec inspectors certified that the impacted soils in the 100% Design have been removed and that the requirements to allow backfilling have been met. In addition, I observed the conditions of the excavation on Tuesday, 10/29 and then again, with the Special Master on Wednesday, October 30, 2013. The Special Master and his team's visual observations are consistent with Amec's representation that the Stratum D is clearly visible as a continuous layer in these two cells. The Special Master has also received Plaintiffs letter of October 31, 2013 approving Honeywell's request. Based on Honeywell's certified representations in the October 29, 2013 email and the documents attached thereto, the Special Master's observations, and the fact that the Stratum D is well defined and continuous, the Special Master approves backfilling of Cells 1 and 2.

To ensure that in the future the confirmation process is efficient and does not delay the project going forward, the Special Master requests that in addition to the documents provided with the October 29 email, Honeywell include additional information clearly defining the final excavation depths in the cells and, as requested before, drawings showing the extent of the meadow mat. Such information will also support the Excavation Declarations that will be filed with the Court to document compliance with the Consent Order and the 100% Design. While the initial two cells had a clearly defined final depth of excavation for each cell, that is not likely to be the case in the future, especially when the excavation cells become larger. The Special Master suggests that a table (similar to the example shown below) would provide the necessary information to the Special Master and the parties to ensure an efficient and effective review and confirmation. This table should provide a reference to the PDI sample result(s) that established the original depth(s) of excavation for the Excavation Cell or general area, realizing that an explanation would be required if meadow mat was

encountered and the excavation was halted at a shallower depth or if other field conditions impacted achieving the design excavation depth. This table is similar to what was provided during the COPR excavation.

Excavation Cell	100% Design PDI Sample Result Depths(s) and sample location(s)	Actual Excavation Depth(s) and reference, for example: bgs, MSL	Comments/Exceptions
1	(-) 9.5 ft based on PDI Confirmatory Sample Location XXX-SB-XXX	(-) 4.5 ft.	Excavated to depth of meadow mat at (-) 4.5 ft MSL.
2	(-) 8.5 ft in Area A *[Areas to be defined in the Excavation Bottom Plan;* (-) 6 ft in Area B	Area A: (-) 9 ft Area B: (-) 8.5 ft	

The Special Master is looking forward to further discussing these issues at the next technical call. At that time the Special Master would like to address the number of survey points that will be necessary to document the excavation bottom, especially in the larger cells with anticipated varying depths of excavation.

Further, we request that Honeywell prepare for discussion a form of Declaration to be filed with the Court showing excavation completion in accordance with the 100% Design. We would expect that the form of Declaration will be in a format substantially similar to that filed in connection with Study Area 7.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
350 Eagleview Boulevard |Suite 250 | Exton, PA 19341-1178
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From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Tuesday, October 29, 2013 9:05 PM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; Isabelle Procaccino; McWatters, Michael
Subject: RE: SA6 South Remedy Implementation

Steve,

I am sending this email on behalf of Honeywell.

As discussed at our weekly meetings, we are at a point of being ready to backfill and approval of the submittal content is critical to moving forward.

Below is a description of completed excavation activities for which we are requesting an acknowledgement in order that we can proceed with backfill.

We are also attaching herein two supporting drawings:

1. Exhibit A - depicts the 156, 15-ft wide cells that comprise the SA-6 South excavation which will be used as a excavation progress chart;
2. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for the first two cells completed as described below.

- *Full scale excavation of Chromium Impacted Materials began on 10/21/2013.*
- *For planning and implementation purposes, the excavation is subdivided into 156, 15 ft wide cells with Cell 1 located near Route 440.*
- *For the period ending 10/24/2013 excavation is complete for Cells 1 and 2.*
- *The excavation in both cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, a bottom-of-excavation confirmatory point is located within Cell 2.*
- *The surveyed coordinates of the bottom-of-excavation confirmatory point are included in the attached figure.*
- *The easterly limit of Cell 1 and the north and south limits of Cells 1 and 2 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

Honeywell acknowledges that your email includes a request for potential additional information regarding locations where meadow is encountered, we will respond separately to that item.

Please let us know if you have comments or questions on the information contained in this email. Thank you. –Joe

Joseph T. Clifford, P.E.
AMEC Environment & Infrastructure
200 American Metro Blvd, Suite 113, Hamilton NJ 08619
973-455-4163 direct dial
610-505-9315 cell

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Saturday, October 26, 2013 2:34 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; ' (John.Morris@honeywell.com)'; 'cpravlik@tpmlaw.com'; ' (Michael_Daneker@aporter.com)'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com;

Clifford, Joseph T; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; Isabelle Procaccino; McWatters, Michael; Clifford, Joseph T
Subject: SA6 South Remedy Implementation

Bill,

As we discussed earlier this week, please advise when you plan to forward the information Honeywell proposes to provide to the Special Master and the parties to confirm the completion of excavation for delineated excavation cells. We are also expecting a document that will track the progress and status of the excavation (i.e., a drawing delineating the excavation grids similar to the drawing provide for the SA7 COPR Excavation). Recognizing that excavation work is now underway, it is important to get these items to us so the parties and the Special Master have sufficient time to review them without causing delay to your planned schedule to backfill the completed cells. In addition, during this week's site construction meeting there were some new drawings that Honeywell has generated that appear to show the projected extent of the meadow mat within each excavation cell. The presence of the meadow mat in the excavation cells raises a question as to how Honeywell intends to document/address the areas where meadow mat is encountered above the anticipated floor of excavation (especially if the meadow mat was not previously anticipated in such an area). A description of the survey protocol addressing this issue as well as the new drawings that Honeywell has generated would be useful for the parties to have as we follow the implementation of the excavation plan; please confirm when Honeywell can provide these new drawings and survey protocols to the Special Master and Plaintiffs.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
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Phone: 610.363.5395 | Fax: 610.363.5390
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:41 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA6 South Remedy Implementation

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, November 08, 2013 10:08 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Mojka, John <John.Mojka@Honeywell.com>; Bills, Stuart B <Stuart.Bills@amec.com>
Subject: FW: SA6 South Remedy Implementation

FYI

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 08, 2013 3:29 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Bill,

We are in receipt of your email of November 5 regarding Excavation Bottom Elevations for the period 10-25-13 to 10-31-13 and your notification that your contractor is ready to backfill Excavation Cells 3, 4 and 5. During my site visit on November 5, I observed the excavation area and that Excavation Cells 3, 4, and 5 were fully excavated to the meadow mat. In addition, during our discussion on November 6 you clarified the information shown on the Figure ("Excavation Bottom Elevations, Period 10-25-13 to 10-31-13") and the Table prepared by Maser ("SA-6 South Excavation: Confirmatory Points") that were included in your November 5 submittal. The Special Master looks forward to receiving this figure and table in future submittals revised as we discussed as this will aid the Special Master in evaluating the excavation completion. Please be advised that the Special Master continues to evaluate what the process should be regarding excavation completion/backfill approval and we will be following up with the parties shortly. Recognizing that this part of the site is still within the boundary of the meadow mat the Special Master is comfortable in authorizing the backfill of Excavation Cells 3, 4 and 5.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, November 05, 2013 5:36 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA6 South Remedy Implementation

Steve,

As discussed at our weekly meeting today, we are hereby notifying you that our contractor is ready to backfill Cells 3, 4 and 5 starting on Friday Nov 8.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these Cells consistent with the language provided in our description of completed Cells 1 and 2.

- *For the period 10/25/2013 to 10/31/2013 excavation is complete for Cells 3, 4 and 5.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, a bottom-of-excavation confirmatory point is located within Cell 3.*
- *The surveyed location of the bottom-of-excavation confirmatory point is included in the attached figure.*
- *The north and south limits of Cells 3, 4 and 5 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

We are also attaching herein three supporting documents:

1. Excavation Progress Map through October 31, 2013 - depicts the 156, 15-ft wide cells that comprise the SA-6 South excavation and the updated excavation progress chart;
2. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 3, 4 and 5 which have been completed as described below.
3. Post-Excavation Confirmatory Sample Table Survey 103113 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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973-455-2175
973-455-3802 Fax
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:41 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 6 through 9

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, November 15, 2013 11:13 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 6 through 9
Importance: High

Bill,

We are in receipt of your email of November 13 and attached Excavation Bottom Map and Post-Excavation Confirmatory Sample Table Survey regarding Excavation Bottom Elevations for the period 11-1-13 to 11-7-13. The November 13 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 6, 7, 8 and 9 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 12 and observed the excavation area. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 6, 7, 8 and 9 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells. The Special Master reiterates the concern raised previously and discussed yesterday on the technical call with Joe Clifford and ICO representatives as it relates to how the depth of excavation points have been identified. As this area is entirely meadow mat, the Special Master is comfortable with Honeywell proceeding with backfill. However, the Special Master still has unresolved questions as it relates to those cells where the depth of excavation will not reach or be defined by the meadow mat. It is our expectation that we can discuss, and hopefully resolve, those issues at Tuesday's meeting.

Regards, Steve

Steven J. Egnaczyk
Program Director
THE Louis Berger Group, INC.
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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, November 13, 2013 8:39 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 6 through 9

Steve,

As a follow up to our weekly meeting yesterday, we are hereby notifying you that our contractor is ready to backfill Cells 6 through 9 starting on Friday Nov 15th.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these cells. consistent

- *For the period 11/01/2013 to 11/07/2013 excavation is complete for Cells 6, 7, 8 and 9.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, bottom of excavation confirmatory points are located within Cells 6, 7, 8 and 9.*
- *The surveyed location of the bottom of excavation confirmatory points are included in the attached figure.*
- *The location of confirmatory sidewall samples are listed in the PDI. To date none of the PDI confirmatory sidewall sample locations have been encountered.*
- *The north and south limits of Cells 6, 7, 8 and 9 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
-

We are also attaching two supporting documents:

1. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 6 through 9 which have been completed.
2. Post-Excavation Confirmatory Sample Table Survey 1109713 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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973-455-3802 Fax
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william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 10 through 12

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, November 25, 2013 3:50 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 10 through 12
Importance: High

Bill,

We are in receipt of your email of November 21 and attached Excavation Bottom Map – 111413, Confirmatory Points Certification - 111413 and Excavation Progress Map – 111413 regarding Excavation Bottom Elevations for the period 11-8-13 to 11-14-13. The November 21 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 10, 11 and 12 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 21 and observed the excavation area. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 10, 11 and 12 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, November 21, 2013 1:24 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'Rob Antonicello'; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 10 through 12

Steve,

As discussed in our all parties meeting Tuesday, we are hereby notifying you that our contractor is ready to backfill Cells 10 through 12 starting on Friday Nov 22th.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

Below is a description of completed excavation activities specific for these cells.

- *For the period 11/08/2013 to 11/14/2013 excavation is complete for Cells 10, 11 and 12.*
- *The excavation in all cells terminates in Stratum D.*
- *A survey of the bottom is attached.*
- *Based upon the design documentation, bottom of excavation confirmatory points are located within Cells 10, 11 and 12.*
- *The surveyed location of the bottom of excavation confirmatory points are included in the attached figure.*
- *The first confirmatory PDI sidewall sample is identified in Cell 11. The sample location is inside the temporary sheetpile which was driven along the section Kellogg Street Jughandle.*
- *The north and south limits of Cells 10, 11 and 12 consist of sheet pile.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*

We are also attaching three supporting documents:

1. Excavation Bottom Map -includes the surveyed post-excavation bottom elevations for Cells 10 through 12 which have been completed.
2. Post-Excavation Confirmatory Sample Table Survey 111413 – provides the PDI Sampling Location and updated survey information post-excavation which corresponds to this set of Cells.
3. Excavation Progress Map – includes excavation status of the cells as of 111413.

We are in the process of working with Amec and the surveyor on making improvements to the supporting documents as discussed in our meeting and should have those soon.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 13 through 16

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, December 22, 2013 8:07 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 13 through 16
Importance: High

Bill,

We are in receipt of your email of December 16 and attached Confirmation Points Certification – 112113, Excavation Bottom Map – 112513 (Rev.1), Excavation Progress Map – 112113, Confirmation Points Certification – 120513, Excavation Bottom Map – 120513 (Rev.1), and Excavation Progress Map – 120513. The December 16 email includes information regarding the excavation procedures and certifies that the excavation met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 13, 14, 15 and 16 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on November 21, November 26, December 3, and December 5 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 13, 14, 15 and 16 were fully excavated to the meadow mat. Therefore, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, December 16, 2013 10:23 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell

Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 13 through 16

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 13 through 16 .

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers two periods:

- 11/15/13 to 11/25/13 - Cells 13 and 14
- 11/26/13 to 12/05/13 - Cells 15 and 16

For ease of review the attachments for each period are grouped together.

1. The bottom of excavation for Cells 13, 14, 15 and 16 was terminated in Stratum D. Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.
2. Excavation Bottom Elevation Figures are included for both periods.
    1. Confirmatory points located within Cells 13 and 14 are shown on the Excavation Bottom Elevation figure for 11/15 to 11/25
    2. Confirmatory Bottom points located within Cells 15 and the Sidewall Samples for Cell 16 are shown on the Excavation Bottom Elevation figure for 11/26 to 12/05. A Reference Confirmatory Point was used for the bottom of Cell 16
3. Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A separate table is included for each period and the Cells which are the subject of the submittal period are highlighted in yellow.
4. The north and south limits of Cells 13, 14, 15 and 16 consist of sheet pile.
5. Sheet pile on the excavation face has been cleaned of visible soil materials.
6. The bottom and lateral limits of each cell were visually inspected by Amec personnel.
7. Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
8. Excavation progress Maps are shown for each period. Excavation is continuing in Cells 17 and 18 as shown in the Excavation Progress Map.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you will be on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:42 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 17 through 20

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, January 24, 2014 10:58 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 17 through 20
Importance: High

Bill,

We are in receipt of your email of January 8, 2014 and the following attachments: Confirmation Points Certification – 121213, Excavation Bottom Map – 121313 (Rev.2), and Excavation Progress Map – 121213. The January 8 email includes information regarding the excavation procedures and certifies that the excavation of Cells 17 through 20 met the 100% Design requirements. Honeywell indicates that the contractor is ready to backfill Excavation Cells 17, 18, 19 and 20 and requests the Special Master's response. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 10, December 13, and December 17, 2013 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that Excavation Cells 17 and 18 were fully excavated to the meadow mat and that Excavation Cells 19 and 20 were partially excavated to the meadow mat. For the areas of Excavation Cells 19 and 20 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Map – 121313 (Rev.2)" showing the Excavation Bottom Elevations for the period 12-06-13 to 12-12-13 and "Confirmation Points Certification – 121213" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 19 and 20:

Excavation Cell No.*	Bottom Target Coordinate (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)
19	2.4	2.0
20	2.4	2.0

*where meadow mat was not encountered

Honeywell notes on the Confirmation Points Certification table that in establishing the Bottom Target Coordinate for an excavation cell based on the PDI results reported in the 100% Design, an "R" designates a "Reference Confirmatory Point for a designated Bottom Excavation Area" that has not been shown on the Excavation Bottom Figure (i.e., the excavation has not yet reached the cell where the PDI boring was located). In future submittals, it would be helpful if Honeywell

would provide the location or reference the Cell Number of the Reference Point on the Excavation Bottom Figure for reference purposes even if the respective excavation cell where the PDI result is located has not yet been reached.

Based on the information provided by Honeywell in this notification and the discussions held during this week's Special Master All Parties Meeting where Plaintiffs noted no objection, the Special Master has no objection to Honeywell's proposal to backfill these cells.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, January 08, 2014 11:25 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 17 through 20

Steve,

We are providing this email notification that our contractor is read to backfill Cells 17 through 20.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period 12/06/13 to 12/12/13.

Cells 17, 18, 19 and 20

- The bottom of excavation for Cells 17, 18, was terminated in Stratum D. The majority of the bottom of Cells 19, 20, was terminated in Stratum D. The Southern section of cells 19 and 20 was terminated in Stratum O <20 PPM soils.
- Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.
- An Excavation Bottom Elevation Figure is included for the period.
- Confirmatory points located within Cells 17, 18, 19 and 20 are shown on the Excavation Bottom Elevation figure.
- Confirmatory Sidewall Samples for Cells 18 and 20 are shown on the Excavation Bottom Elevation figure.
- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.
- The northern limits of Cells 17, 18, 19 and 20 consist of sheet pile Barrier Wall. Approximately half of the southern extent of Cell 17 is terminated at the temporary sheetpile. The remainder of cell 17 and

cells 18, 19 and 20 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.

- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- Excavation progress Maps are provided. Excavation is continuing in Cells 21 and 22.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you will be on-site this week to review the progress. Also please note we did upload data on backfill materials yesterday in response to earlier comments

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:43 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 21 through 25

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, March 06, 2014 4:38 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Bill,
Thanks very much for your reply. Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, March 06, 2014 4:36 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Steve
Thanks for your note below. I have reviewed the results with the Amec team for rows 21 through 25 and can confirm that all survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.

Regards
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Tuesday, March 04, 2014 2:26 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Bill,

We are in receipt of your email of January 28, 2014 and the following attachments: Confirmation Points Certification – 010914 (rev1), Excavation Bottom Elevations Period – 121313 to 010914 (Rev.1), and Excavation Progress Map – 010914. The January 28 email includes information regarding the excavation procedures and certifies that the excavation of Cells 21 through 25 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 21, 22, 23, 24 and 25 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 17, 19, 24 and 31, 2013 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 21 through 25 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevation of the meadow mat. For the areas of Excavation Cells 21 through 25 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 121313 to 010914 (Rev.1)" showing the Excavation Bottom Elevations for the period 12-13-13 to 1-09-14 and "Confirmation Points Certification – 010914" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 21 and 25:

Excavation Cell No.*	Bottom Target Coordinate (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)
21	2.4	1.9
22	2.4	2.0
22	1.8	-0.1
23	2.4	-1.9
24	2.4	2.1
25	1.6	0.4

*where meadow mat was not encountered

In addition, the Special Master acknowledges Plaintiffs' February 21, 2014 email regarding excavation of cells 21-29 where Plaintiffs noted they have no further comments regarding the excavation of cells 21-29 and agreed that cells 21-29 have been excavated to the appropriate depth and may be backfilled.

The Special Master has no objection to Honeywell's proposal to backfill Cells 21 through 25, subject to Honeywell confirming by email that it agrees that the following statement, inserted in its subsequent Excavation Completion Reports, also applies to these cells (numbers 21 thru 25):

"All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered."

Please confirm via email.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, January 28, 2014 2:02 PM

To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; Dfanciullo@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 21 through 25

Steve
Apologies to all, I had the incorrect attachments on the initial email. Correct attachments are provided here.
Thanks
Bill

From: Hague, William
Sent: Tuesday, January 28, 2014 1:35 PM
To: 'Egnaczyk, Steve'
Cc: 'RGT Special Master'; 'Kevin J. Coakley (KCoakley@connellfoley.com)'; "Liza M. Walsh' (LWalsh@connellfoley.com)'; "AGNES ANTONIAN' (AAntonian@connellfoley.com)'; 'Lewis, Thomas'; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; 'JFarrell@jcnj.org'; 'Dfanciullo@jcnj.org'; 'David Isabel'; 'Eric Tomaszewski'; 'Francis J. Borin'; 'Clifford, Joseph T'; 'KKINSELLA@decotiislaw.com'; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; 'McWatters, Michael'; 'JWatson@jcnj.org'
Subject: SA-6S : Excavation Completion in Cells 21 through 25

Steve,

We are providing this email notification that our contractor is read to backfill Cells 21 through 25.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period: 12/13/13 to 01/09/14 - Cells 21, 22, 23, 24 and 25.

- *The majority of the bottom of Cells 21, 22, 23, 24 and 25 were terminated in Stratum D. The Southern limit of cells 21, 22, 23, 24 and 25 were terminated in Stratum O <20 PPM soils.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *An Excavation Bottom Elevation Figure is included for the period.*
- *Confirmatory Bottom Points located within Cells 21, 22, 23, 24 and 25 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample for Cells 22 and 25 is also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.*
- *The northern limits of Cells 21, 22, 23, 24 and 25 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 21, 22, 23, 24 and 25 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*

- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps are provided. Excavation is continuing in Cells 26, 27, and 28.*

Note that we are also preparing a PDI location map for the SA-6 South area as requested by Kim Hosea at the last Special Master All Hands mtg and should have this available tomorrow which we will release with the next cell excavation summary email..

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 26 through 29

-----Original Message-----
From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 5:54 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; (kmillian@tpmlaw.com); Morris, John (MTO); cpravlik@tpmlaw.com; Daneker, Michael; DelisleB@jcnj.org; Aalcorn@tpmlaw.com; MWeaver@tpmlaw.com; Jeremy.Karpatkin@aporter.com; JFarrell@jcnj.org; David Isabel; Eric Tomaszewski; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; Ben Ross (bross@disposalsafety.com); Bruce A. Bell; Kim Bell Hosea (k.bell@cea-enviro.com); McWatters, Michael; JWatson@jcnj.org
Subject: Re: SA-6S : Excavation Completion in Cells 26 through 29

Bill,
Thanks very much.
Steve

Sent from my iPhone

On Mar 7, 2014, at 5:39 PM, "Hague, William"
<william.hague@honeywell.com<mailto:william.hague@honeywell.com>> wrote:

Steve
To follow up on your email below. We confirm that all survey points in the excavation cells 26 through 29 were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.

Please contact me if there are any additional questions.

Regards
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:04 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com<mailto:KCoakley@connellfoley.com>); 'Liza M. Walsh' (LWalsh@connellfoley.com<mailto:LWalsh@connellfoley.com>); 'AGNES ANTONIAN' (AAntonian@connellfoley.com<mailto:AAntonian@connellfoley.com>); Lewis, Thomas; '(kmillian@tpmlaw.com<mailto:kmillian@tpmlaw.com>)'; Morris, John (MTO); 'cpravlik@tpmlaw.com<mailto:cpravlik@tpmlaw.com>'; Daneker, Michael; 'DelisleB@jcnj.org<mailto:DelisleB@jcnj.org>'; 'Aalcorn@tpmlaw.com<mailto:Aalcorn@tpmlaw.com>'; 'MWeaver@tpmlaw.com<mailto:MWeaver@tpmlaw.com>';

'Jeremy.Karpatkin@aporter.com<mailto:Jeremy.Karpatkin@aporter.com>'; JFarrell@jcnj.org<mailto:JFarrell@jcnj.org>; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com<mailto:KKINSELLA@decotiislaw.com>; 'Ben Ross (bross@disposalsafety.com<mailto:bross@disposalsafety.com>)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com<mailto:k.bell@cea-enviro.com>)'; McWatters, Michael; JWatson@jcnj.org<mailto:JWatson@jcnj.org>
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29
Importance: High

Bill,

We are in receipt of your email of January 29, 2014 and the following attachments: Confirmation Points Certification – 011614 (rev1), Excavation Bottom Elevations Period – 011014 to 011614 (Rev.1), and Excavation Progress Map – 011614. The January 29 email includes information regarding the excavation procedures and certifies that the excavation of Cells 26 through 29 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 26, 27, 28 and 29 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on December 31, 2013 and January 7, 9 and 14, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 26 through 29 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 26 through 29 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 011014 to 011614 (Rev.1)" showing the Excavation Bottom Elevations for the period 1-10-14 to 1-16-14 and "Confirmation Points Certification – 011614" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 26 through 29:

Excavation Cell No.*

Bottom Target Coordinate – based on PDI
(MSL)

Bottom Target Coordinate – based on Predetermined Bottom Elevations1
(MSL)

Actual Coordinates
(of the confirmatory bottom sample survey point)
(MSL)

26

1.6

0.4

0.3**

27

1.6

0.4

0.4**

28

1.6

0.4

0.2

29

3.5

2.1

2.1**

*where meadow mat was not encountered
**elevation based on Surveyed Center Point
1 Corresponds with the 9 “standardized” excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Honeywell also provided confirmation that the southern limit of excavation of cells 26, 27, 28, and 29 terminates at the less than (“<”)20 ppm line (delineated by Honeywell) at the bottom of excavation and the cells are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' February 21, 2014 email regarding excavation of cells 21-29 where Plaintiffs noted they have no further comments regarding the excavation of cells 21-29 and agreed that cells 21-29 have been excavated to the appropriate depth and may be backfilled.

The Special Master has no objection to Honeywell's proposal to backfill Cells 26 through 29, subject to Honeywell confirming that it agrees that the following statement, inserted in its subsequent Excavation Completion Reports, also applies to these cells (numbers 26 thru 29):

"All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered."

Please confirm via email.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]

Sent: Wednesday, January 29, 2014 2:27 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com<mailto:KCoakley@connellfoley.com>); 'Liza M. Walsh' (LWalsh@connellfoley.com<mailto:LWalsh@connellfoley.com>); 'AGNES ANTONIAN' (AAntonian@connellfoley.com<mailto:AAntonian@connellfoley.com>); Lewis, Thomas; ' (kmillian@tpmlaw.com<mailto:kmillian@tpmlaw.com>)'; Morris, John (MTO); 'cpravlik@tpmlaw.com<mailto:cpravlik@tpmlaw.com>'; Daneker, Michael; 'DelisleB@jcnj.org<mailto:DelisleB@jcnj.org>'; 'Aalcorn@tpmlaw.com<mailto:Aalcorn@tpmlaw.com>'; 'MWeaver@tpmlaw.com<mailto:MWeaver@tpmlaw.com>'; 'Jeremy.Karpatkin@aporter.com<mailto:Jeremy.Karpatkin@aporter.com>'; JFarrell@jcnj.org<mailto:JFarrell@jcnj.org>; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com<mailto:KKINSELLA@decotiislaw.com>; 'Ben Ross (bross@disposalsafety.com<mailto:bross@disposalsafety.com>)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com<mailto:k.bell@cea-enviro.com>)'; McWatters, Michael; JWatson@jcnj.org<mailto:JWatson@jcnj.org>
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29

Steve,

We are providing this email notification that our contractor is read to backfill Cells 26 through 29.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the period: 01/10/14 to 01/16/14 - Cells 26, 27, 28 and 29.

Ø The majority of the bottom of Cells 26, 27, 28, and 29 were terminated in Stratum D. The Southern limit of cells 26, 27, 28, and 29 were terminated in Stratum O <20 PPM soils.

Ø Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.

Ø An Excavation Bottom Elevation Figure is included for the period.

Ø Confirmatory Bottom Points located within Cells 26, 27, 28, and 29 are shown on the Excavation Bottom Elevation figure.

Ø A Confirmatory Sidewall Sample for Cell 28 is also shown on the Excavation Bottom Elevation figure.

Ø Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.

Ø The northern limits of Cells 26, 27, 28, and 29 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 26, 27, 28, and 29 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.

Ø Sheet pile on the excavation face has been cleaned of visible soil materials.

Ø The bottom and lateral limits of each cell were visually inspected by Amec personnel.

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

Ø Excavation progress Maps are provided. Excavation is continuing in Cells 30 and 31.

Note that this submittal includes the additional PDI Reference Bottom Sample Location Map for SA-6 South requested during the January 21, 2014 SM Meeting. This location map corresponds to the Figure presented depicting the 41 individual color-coded bottom excavation areas within SA-6 South, and the Reference Boring Summary Table identifying the coordinates and the corresponding Cell location previously provided to the parties.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
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_____
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 30 through 37

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Monday, March 10, 2014 10:32 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Bill,
Thanks very much. The additional figures you provided record the progress of excavation for Cells 30-35. Steve

---

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, March 10, 2014 10:23 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Steve,

We believe your question arises from the fact that we submitted a single email package of tables and supporting figures for several weekly periods.

I have asked Amec to provide just the original Excavation Bottom Map for each of the four weekly periods which document the surveying for Cells 30 through 37. These survey maps are attached for weeks ending 01/23/14 (Cells 30 and 31), 01/30/14 (Cells 32 and 33), 02/06/14 (Cells 34 and 35), and 02/13/14 (Cells 36 and 37).

Please let me know if you have any other questions.

Regards,
Bill Hague

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:11 PM
To: Hague, William

Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 30 through 37

Bill,

We are in receipt of your email of February 28, 2014 and the following attachments: Confirmation Points Certification – 021314, Excavation Bottom Elevations Period – 020914 to 021314, and Excavation Progress Maps – 012314, – 013014, – 020614, and– 021314. The February 28 email includes information regarding the excavation procedures and certifies that the excavation of Cells 30 through 37 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 30, 31, 32, 33, 34, 35, 36 and 37 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on January 16, 23, 28, 30, and February 4 and 11, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 30 through 37 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 30 through 37 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 020914 to 021314" showing the Excavation Bottom Elevations for the period 2-9-14 to 2-13-14 and "Confirmation Points Certification – 021314" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 30 through 37:

Excavation Cell No.*	Bottom Target Coordinate – based on PDI (MSL)	Bottom Target Coordinate – based on Predetermined Bottom Elevations[1] (MSL)	(of the c
30	3.5	2.1	
31	3.5	2.1	
32	3.5	2.1	
33	3.5	2.1	
34	3.5	2.1	
35	3.5	2.1	
36	3.5	2.1	
37	3.5	2.1	

*where meadow mat was not encountered

**elevation based on Surveyed Center Point

[1] Corresponds with the 9 "standardized" excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Please note Figure: "Excavation Bottom Elevations Period – 020914 to 021314" appears to show current excavation to Stratum D (gray shading) only in Excavation Cells 36 and 37 and Excavation Cells 30 through 35 with cross-hatching depicting "Previously Submitted Data". However, the Special Master is not aware of a previous submittal showing Cells 30 through 35 with gray shading denoting being excavated to Stratum D and Table: "Confirmation Points Certification – 021314"reports that Stratum D was reached in portions of Excavation Cells 30 through 37. Please confirm whether the Figure is correct.

Honeywell also provided confirmation that the southern limit of excavation of cells 30 through 37 terminates at the less than ("<")20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' March 5, 2014 correspondence regarding excavation of cells 30-39 where Plaintiffs noted they believe that Honeywell has excavated cells 30 through 39 to the appropriate depth.

Following confirmation of the question raised above regarding the depiction of areas excavated to the meadow mat, the Special Master has no objection to Honeywell's proposal to backfill Cells 30 through 37.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, February 28, 2014 10:29 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 26 through 29

Steve,

We are providing this email notification that our contractor is read to backfill Cells 30 through 37.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual periods:

01/17/14 to 01/23/14 - Cells 30 and 31
01/24/14 to 01/30/14 – Cells 32 and 33
01/31/14 to 02/06/14 – Cells 34 and 35
02/07/14 to 02/13/14 – Cells 36 and 37

- *The majority of the bottom of Cells 30 through 37 were terminated in Stratum D. The Southern limit of cells 30 through 37 were terminated in Stratum O <20 PPM soils. Area 4 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *An Excavation Bottom Elevation Figure is included for Cells 30 through 37.*
- *Confirmatory Bottom Points located within Cells 30 through 37 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample for Cell 31, 32,33, and 35 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 30 through 37.*

- *The northern limits of Cells 30 through 37 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 30 and 37 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for each grouping of cells are provided*
- *Excavation is continuing in Cells 38 and 39.*
- *Amec confirms that all survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional "four corner points" identifying the surveyed locations and elevations of excavation bottoms which were completed above the meadow mat consistent with our comment responses to the parties.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:43 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 38 and 39

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 07, 2014 2:19 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 38 and 39

Bill,

We are in receipt of your email of March 3, 2014 and the following attachments: Confirmation Points Certification – 022014, Excavation Bottom Elevations Period – 021414 to 022014, and Excavation Progress Map – 022014. The March 3 email includes information regarding the excavation procedures and certifies that the excavation of Cells 38 and 39 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 38 and 39 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on February 11 and 18, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 38 through 39 were partially excavated to the meadow mat and the attached table and survey elevations report the survey elevations of the meadow mat. For the areas of Excavation Cells 38 and 39 that were not excavated to the meadow mat, Honeywell provided the attachment "Excavation Bottom Elevations Period – 021414 to 022014" showing the Excavation Bottom Elevations for the period 2-14-14 to 2-20-14 and "Confirmation Points Certification – 022014" that compares the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation that shows the following for Excavation Cells 38 and 39:

Excavation Cell No.*	Bottom Target Coordinate – based on PDI (MSL)	Bottom Target Coordinate – based Predetermined Bottom Elevations[1] (MSL)	Actual Coordinate (of the confirmatory bottom samp (MSL)
38	3.5	2.1	2.1
39	3.5	2.1	2.0

*where meadow mat was not encountered

[1] Corresponds with the 9 "standardized" excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

Honeywell also provided confirmation that the southern limit of excavation of cells 38 and 39 terminates at the less than ("<")20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line.

In addition, the Special Master acknowledges Plaintiffs' March 5, 2014 correspondence regarding excavation of cells 30-39 where Plaintiffs noted they believe that Honeywell has excavated cells 30 through 39 to the appropriate depth.

The Special Master has no objection to Honeywell's proposal to backfill Cells 38 and 39.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, March 03, 2014 8:03 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 38 and 39

Steve,

We are providing this email notification that our contractor is read to backfill Cells 38 and 39.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual period: 02/14/14 to 02/20/14 – Cells 38 and 39

Please note that we will be sending to your attention later today the SOP you requested for excavation depth/ survey confirmation.

- *The majority of the bottom of Cells 38 and 39 were terminated in Stratum D. The Southern limit of cells 38 and 39 were terminated in Stratum O <20 PPM soils. Area 4 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *Excavation Bottom Elevation Figures are included for each of the cell groupings noted above.*
- *Confirmatory Bottom Points located within Cells 38 and 39 are shown on the Excavation Bottom Elevation figures.*
- *A Confirmatory Sidewall Sample for Cell 39 is also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 38 and 39.*
- *The northern limits of Cells 38 and 39 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 38 and 39 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*

- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for Cells 38 and 39. Excavation is continuing in Cells 40 and 41.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional language regarding certification that elevations of excavation bottoms were at or below design excavation elevations and representative of final excavation complete grade(s) throughout the portion of cells where we did not encounter Stratum D.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 40 through 43

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, March 28, 2014 4:21 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 40 through 43

Bill,

We are in receipt of your email of March 23, 2014 and the following attachments: Confirmation Points Certification – 022714 and Confirmation Points Certification – 030614 containing the Confirmation Points Certification Tables and the following figures: Excavation Bottom Elevations - Period 022114 to 022714, Excavation Bottom Elevations Period - 022814 to 030614, Excavation Progress Map – 022714, and Excavation Progress Map – 030614. The March 23 email includes information regarding the excavation procedures and certifies that the excavation of Cells 40 through 43 met the 100% Design requirements. Honeywell indicated that the contractor is ready to backfill Excavation Cells 40 through 43 and requests the Special Master's acknowledgment of the notification. The Special Master has reviewed the documents provided by Honeywell and his representatives visited the site on February 18 and 25 and March 4 and March 11, 2014 and observed the excavation areas. Based on our visual observations and the documentation provided by Honeywell it appears that portions of Excavation Cells 40 through 43 were excavated to the meadow mat and the attached tables and survey elevations report the final survey elevation of the meadow mat. For the areas of Excavation Cells 40 through 43 that were not excavated to the meadow mat, Honeywell provided the following figures and tables: Excavation Bottom Elevations Period – 022114 to 022414 (Figure), Excavation Bottom Elevations Period – 022814 to 030614 (Figure) and ENTACT Letters of Transmittal dated March 11, 2014 (re: Survey Data and Verification – Cells 40 and 41) and March 14, 2014 (re: Survey Data and Verification – Cells 42 and 43) that compare the Bottom Target Coordinates (based on PDI) versus the Actual Excavation Elevation and the Bottom Target Coordinates based on the Predetermined Bottom Elevations versus the Surveyed Center Point Elevation that shows the following for Excavation Cells 40 through 43:

Excavation Cell No.*	Reference Table 1.2		Referenc	
	Bottom Target Coordinate – based on PDI (MSL)	Actual Coordinates (of the confirmatory bottom sample survey point) (MSL)	Bottom Target Coordinate – based Predetermined Bottom Elevations** (MSL)	T
40	1.7	0.0	0.4	
41	0.4	0.1	0.4	
42	0.4	0.1	0.4	

43	0.5	0.1	0.4

*where Stratum D (meadow mat) was not encountered

** Correspond to the 9 “standardized” excavation intervals shown on Figure 4: SA-6 South Color Coded Excavation with Reference Samples, 1/28/14.

In addition, Honeywell confirmed in the email that “All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.” In addition, the ENTACT transmittals include a verification that Maser Consulting, P.A. (“Maser)has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells and a certification from Maser that the elevations, with their corresponding date obtained, of the Confirmatory Points depicted in Table 1, Center Points in Table 2, Sidewall Confirmatory Sidewall Points Table 3 and Bottom of Excavation topographic spot elevations are correct, and representative of the as-built post-excavation grades throughout the corresponding excavation cells.

Honeywell also provided confirmation that the Southern Limit of excavation of Cells 40, 41, 42, and 43 terminate at the less than (“<”)20 ppm line (delineated by Honeywell) at the bottom of excavation and [the cells] are cut back at a stable slope beyond the 20ppm line and that Standardized Excavation Interval - Area 7 was excavated down to Stratum D.

Lastly, the Special Master acknowledges Plaintiffs' March 28, 2014 email regarding excavation of cells 40-43 where Plaintiffs noted they believe cells 40 through 43 have been excavated to the appropriate depth.

The Special Master has no objection to Honeywell's proposal to backfill Cells 40 through 43.

Regards, Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, March 23, 2014 7:33 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 40 through 43

Steve,

We are providing this email notification that our contractor is read to backfill Cells 40, 41, 42 and 43.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following individual periods:

02/21/14 to 02/27/14 – Cells 40 and 41
02/28/14 to 03/06/14 – Cells 42 and 43

- *The majority of Cells 40 and 41 were terminated in Stratum D. Approximately half of the bottom of Cells 42 and 43 were terminated in Stratum D. The Southern limit of cells 40, 41, 42 and 43 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft.*
- *The Excavation Bottom Elevation Figures is included for the cells noted above.*
- *Confirmatory Bottom Points located within Cells 40, 42 and 43 are shown on the Excavation Bottom Elevation figures.*
- *Confirmatory Sidewall Samples for Cell 40 and 42 are also shown on the Excavation Bottom Elevation figures.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 40 and 41 and Cells 42 and 43 for each of the weekly periods.*
- *The northern limits of Cells 40, 41, 42 and 43 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 40, 41, 42 and 43 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation progress Maps for each grouping are provided. Excavation is continuing in Cells 44 through 48.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Note that this submittal includes the additional language regarding certification that elevations of excavation bottoms were at or below design excavation elevations and representative of final excavation complete grade(s) throughout the portion of cells where we did not encounter Stratum D.

Please let us know if you have comments or questions on the proposed backfill schedule for these cells. We understand you were on-site this week to review the progress.

Thank you
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, March 06, 2017 10:00 AM
To: Christodoulatos, Eric G
Subject: FW: SA6South excavation of cells 44-52

Follow Up Flag: Follow up
Flag Status: Flagged

From: Karpatkin, Jeremy C. [mailto:Jeremy.Karpatkin@apks.com]
Sent: Monday, March 06, 2017 9:58 AM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA6South excavation of cells 44-52

Jeremy C. Karpatkin
Arnold & Porter Kaye Scholer LLP
601 Massachusetts Ave., NW | Washington | DC 20001-3743
T: +1 202.942.5564 | F: +1 202.942.5999
jeremy.karpatkin@apks.com | www.apks.com

From: segnaczyk@louisberger.com
Sent: Thursday, April 17, 2014 4:12 PM
To: Hague, William
Cc: aantonian@connellfoley.com; kcoakley@connellfoley.com; lwalsh@connellfoley.com; tlewis@louisberger.com; Daneker, Michael D.; Karpatkin, Jeremy C.; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; kmillian@tpmlaw.com; Graham, Stephanie; 'A. Kim Bell Hosea'; b.bell@cea-enviro.com; bross@disposalsafety.com; rgtspecialmaster@aol.com; aalcorn@tpmlaw.com
Subject: RE: SA6South excavation of cells 44-52

Bill,
Letter was received.
Thanks, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, April 17, 2014 4:04 PM
To: Egnaczyk, Steve
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Daneker, Michael; 'Jeremy Karpatkin'; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; Graham, Stephanie; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com; 'Senator Robert Torricelli'; Alicia Clark Alcorn
Subject: RE: SA6South excavation of cells 44-52

Steve
Our response to this letter you reference went out about ½ hour ago at 3:25.
Let me know if you have an issue getting access.

Regards
Bill

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, April 17, 2014 3:52 PM
To: Hague, William
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Daneker, Michael; 'Jeremy Karpatkin'; Morris, John (MTO); 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com; 'Senator Robert Torricelli'; Alicia Clark Alcorn
Subject: RE: SA6South excavation of cells 44-52

Bill,

Could you please provide the status of your reply to Plaintiff's letter regarding excavation of cells 44-52?

Regards, Steve

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From: Alicia Clark Alcorn [mailto:aalcorn@tpmlaw.com]
Sent: Friday, April 11, 2014 12:33 PM
To: 'Senator Robert Torricelli'
Cc: 'Agnes Antonian'; 'Kevin Coakley'; 'Liza M. Walsh'; Lewis, Thomas; Egnaczyk, Steve; 'Michael Daneker'; 'Jeremy Karpatkin'; 'Hague, William'; 'John Morris (john.morris@honeywell.com)'; 'Jeremy Farrell (jfarrell@jcnj.org)'; 'Jason T. Watson (jwatson@jcnj.org)'; Kathleen L. Millian; 'A. Kim Bell Hosea'; 'Bruce A. Bell'; BRoss@disposalsafety.com
Subject: SA6South excavation of cells 44-52

Please see the attached.

Alicia C. Alcorn
Terris, Pravlik & Millian, LLP
1121 12th Street N.W.
Washington, DC 20005-4632
Main Telephone: 202-682-2100 ext.8471
Direct Dial: 202-204-8471
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For more information about Arnold & Porter Kaye Scholer LLP, click here:
http://www.apks.com

Honeywell

Honeywell
101 Columbia Rd
Morristown, NJ 07962

April 17, 2014 *Via Express Mail*

Honorable Robert G. Torricelli
Office of the Special Master
41 W. State St., Suite 2F
Trenton, NJ 08608

Subject: **Response to Comments Provided by Plaintiffs, April 11, 2004**
Excavation of Cells 44 Through 52
Study Area 6 South

Dear Senator Torricelli:

Honeywell has attached a memorandum prepared by its engineer, Amec, responding to comments provided by Plaintiffs on April 11th, pertaining to the excavation of cells 44 through 52 in Study Area 6 South.

If you have any questions, please contact the undersigned at (973) 455-2175.

Sincerely,

William J. Hague
Director, Remediation
Engineering and Construction

WJH:sgf

Encl: 04/17/14 Amec Memorandum re: Response to Comments on Study Area 6 South – Excavation of Cells 44 Through 52

cc: (electronic copy only)
Joe Clifford - AMEC
Michael Daneker - Arnold & Porter LLP
Jeremy Karpatkin - Arnold & Porter LLP
Dr. Bruce Bell - Carpenter Environmental Associates, Inc.
Kim Hosea - Carpenter Environmental Associates, Inc.
Jeremy Farrell - City Hall
Jason Watson – City Hall
Agnieszka Antonian - Connell Foley LLP
Kevin Coakley, Esq. - Connell Foley LLP
Liza Walsh - Connell Foley LLP
Frank Borin - DeCotiis, Fitzpatrick & Cole, LLP
Kevin Kinsella - DeCotiis, Fitzpatrick & Cole, LLP
Dr. Benjamin Ross - Disposal Safety, Inc.
David Isabel - Golub & Isabel PC
Tom Byrne - Honeywell
Maria Kaouris - Honeywell

John Morris - Honeywell
Alicia Clark Alcorn - Terris, Pravlik & Millian, LLP
Kathleen Millian - Terris, Pravlik & Millian, LLP
Carolyn Smith-Pravlik - Terris, Pravlik & Millian, LLP
Steve Egnaczyk - The Louis Berger Group, Inc.
Thomas Lewis - The Louis Berger Group, Inc.

Memo

Date:	**4/17/2014**	cc:	**John Morris, Maria Kaouris, John Mojka, Jeremy Karpatkin, Michael Daneker**
From:	**Joe Clifford/Geoff Shallard**		
To:	**Bill Hague**		
Subject:	**Response to Comments on Study Area 6 South – Excavation of Cells 44 Through 52**		

AMEC Environment & Infrastructure, Inc. (Amec), on behalf of Honeywell, has prepared the following responses to the comments that were submitted by Plaintiffs regarding the Study Area 6 South – Excavation of Cells 44 through 52 in a letter dated April 11, 2014. For convenience, Amec has listed each comment from Terris, Pravlik & Millian, LLP and the corresponding technical response from Amec.

Responses to Comments from Terris, Pravlik and Millian (TPM)

Terris, Pravlik and Millian Comment (TPM-1):
On March 3, 2014, Honeywell provided the SA-6 South Standard Operating Procedure Confirmation of Excavation Limits ("SOP"). Plaintiffs are in the process of reviewing and preparing technical comments on the SOP which we will circulate to all parties in the near future. However, we note that the documentation of the excavation of cells 42-52 provided by Honeywell does not conform to the requirements of Honeywell's SOP.

Amec Response: Contrary to the Plaintiffs' assertion, Amec believes that the documentation of cells 44-52 (we assume the 42-52 was a typographical error) is being provided in conformance with the Honeywell SOP as explained in Amec's second response below.

Terris, Pravlik and Millian Comment (TPM-2):
In Particular, the SOP (p.3) states that for the bottom excavation in excavation areas where Stratum D is encountered, "[t]he Surveyor documents the elevations at the approximate corners and center of each excavation cell and other points that they deem necessary to prepare the topographic survey." With respect to cells 44-52, the documentation provided by Honeywell does not include survey data for the corner points of the Stratum D excavation area within each cell. If these data were collected, Honeywell should provide the data to the Special Master and parties. If the corner points data were not collected, we request that Honeywell provide an explanation as to why the SOP is not being followed. In addition, if the data were not collected,

AMEC
200 American Metro Blvd, Suite 113
Hamilton, NJ 08619
Tel 609-689-2829
Fax 609-689-2838
amec.com

Honeywell should require that the contractors go back and collect all the data points required by the SOP.

Amec Response: Amec confirms that the surveyor has collected the data necessary to prepare the topographic map as indicated in the first bullet of Section 5.0 in the SOP. The topographic map will be prepared to meet the requirements of Section 02315 Part 3.03 Topographic Surveys, Part C. Post Excavation Survey of the Technical Specifications. Copies of the survey points at Stratum D approximate to the corners of cells 44-52 are attached. The topographic survey will be provided as part of the final certification.

Terris, Pravlik and Millian Comment (TPM-3):
Based upon the documentation provided by Honeywell regarding the excavation areas within cells 44-52 that were excavated to a depth other than the Stratum D, plaintiffs concur that Honeywell has excavated those areas to the appropriate depth. As to the excavation areas within cells 44-52 that were to be excavated to the Stratum D, plaintiffs will wait for Honeywell's response to these comments prior to making a determination as to whether excavation was to the appropriate depth.

Amec Response: The requested information has been provided as noted above.

CAP AREA (TYP)

HYDRAULIC BARRIER (TYP)

−2.2 −2.5 −2.6 −2.5 −2.6 −2.8 −3.2 −3.1 −3.3 −3.3

9 58 57 56 55 54 53 52 51 50 49 48 47 46 45 44 43 42 41 40 39 38

BOT OF EXC
AREA 6 = (2.50)

−3.7

BOT OF EXC
AREA 7 = (1.20)

−2.7 −2.7 −3.3 −3.3 −2.8 −2.8 −3.8 −2.8 −3.3

BOT OF EXC
AREA 8 = 0.40

LIMIT OF STRATUM D EXPOSURE PER
THIRD PARTY SURVEY (TYP)

BOT OF EXC
AREA 9 = (1.20)

LIMIT OF ANTICIPATED STRATUM D
EXPOSURE PER DESIGN (TYP)

−3.8 BOE ELEVATION AT EDGE OF STRATUM D
PER THIRD PARTY SURVEY (TYP)

0 5 10 20
SCALE IN FEET

Prepared/Date: TDD 4/18/14
Checked/Date: SGS 4/18/14

Honeywell 101 COLUMBIA RD, BOX 2105 MORRISTOWN, NJ 07962	CHROMIUM REMEDY STUDY AREA 6 SOUTH JERSEY CITY, NEW JERSEY	amec	SA-6 SOUTH STRATUM D CELLS 44 THRU 52 FIGURE 1

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:55 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 44 through 48

Same as last email, don't see an acknowledgement from SM, use this as placeholder.

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:44 PM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA-6S : Excavation Completion in Cells 44 through 48

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, April 06, 2014 1:11 PM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 44 through 48

Steve,

We are providing this email notification that our contractor is read to backfill Cells 44, 45, 46, 47 and 48.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the following two individual periods:

03/07/14 to 03/13/14 – Cells 44 and 45
03/14/14 to 03/20/14 – Cells 46, 47 and 48

- *Approximately half of the bottom of Cells 44 and 45 were terminated in Stratum D. The Southern limit of cells 44 and 45 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*

- *Approximately 30-40% of the bottom of Cells 46, 47 and 48 were terminated in Stratum D. The Southern limit of cells 46, 47 and 48 were terminated in Stratum O <20 PPM soils. Area 7 was carried down to Stratum D.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises up to 2 feet above the general elevation of the Stratum D on these cells. The ridge appears to be more prominent as the excavation has advanced to the west. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings are being encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Excavation Bottom Elevation Figures are included for the cells noted above.*
- *Confirmatory Bottom Points located within Cells 44, 45, 46, 47 and 48 are shown on the Excavation Bottom Elevation figure.*
- *A Confirmatory Sidewall Sample 125-SB-067 for Cell 44 and Sample 125-PT-15 for Cell 47 are also shown on the respective Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 44 and 45 for the week ending 03/13/14 and Cells 46, 47 and 48 for the week ending 03/20/14.*
- *The northern limits of Cells 44, 45, 46, 47 and 48 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 44, 45, 46, 47 and 48 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials. There are several joints where excess grout from the grouted joint is evident adhering to the sheets. Some grout that is strongly adhering to the sheet was left in place.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *Excavation Progress Maps are provided. Excavation is continuing in Cells 49 and 50.*
- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 49 through 52

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, April 09, 2014 10:53 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 49 through 52

Bill,
Thanks very much. Steve

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, April 09, 2014 10:50 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 49 through 52

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 49, 50, 51 and 52.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 03/21/14 to 03/27/14.

- *Approximately 60% of the bottom of Cells 49, 50, 51 and 52 were terminated in Stratum D. The Southern limit of cells 49, 50, 51 and 52 were terminated in Stratum O*

- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon.*
- *A significant number of pilings continue to be encountered. The pilings supported the 60 Kellogg St warehouse structure. Pilings are being sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 49, 50, 51 and 52 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-081 for Cell 49, 125-SB-091 for Cell 50, 125-SB-080 for Cell 51 and 125-SB-092 for Cell 52 are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 49, 50, 51 and 52.*
- *The northern limits of Cells 49, 50, 51 and 52 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 49, 50, 51 and 52 terminate at the*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Maps is provided. Excavation is continuing in Cells 53 and 54.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Please note that additional lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 50, 51 and 52, Stratum O is divided by the line separating designated Area 8 from Area 9.

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
Corporate HSE&R
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973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:54 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 53 through 56

Eric, there was a period in time where the SM had my email incorrect, so I don't think I have the acknowledgement for this one. Use this as placeholder

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From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:45 PM
To: Clifford, Joseph T <Joseph.Clifford@amecfw.com>
Subject: FW: SA-6S : Excavation Completion in Cells 53 through 56

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, April 11, 2014 8:32 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 53 through 56

Steve,

We are providing this email notification that our contractor is read to backfill Cells 53, 54, 55 and 56.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 03/28/14 to 04/04/14.

- *Approximately 40% of the bottom of Cells 53, 54, 55 and 56 were terminated in Stratum D. The Southern limit of cells 53, 54, 55 and 56 were terminated in Stratum O <20 PPM soils.*

- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon. Portion of the top of the ridge was removed in Cells 55 and 56 to permit clean excavation to the Area 8 boundary.*
- *Lines has been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 53, 54, 55 and 56 the Stratum O is divided by Area 8, Area 9 and Area 10*
- *Pilings from the 60 Kellogg St warehouse were sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 53, 54, 55 and 56 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples 125-SB-079 for Cell 53, and 125-SB-087, 125-SB-080 for Cell 56, are also shown on the Excavation Bottom Elevation figure.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 53, 54, 55 and 56*
- *The northern limits of Cells 53, 54, 55 and 56 consist of sheet pile Barrier Wall. The Southern Limit of excavation of Cells 53, 54, 55 and 56 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided. Excavation is continuing in Cells 57 and 58.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Thanks
Bill Hague

Honeywell

William J. Hague P.E.

Director - Remediation Design & Construction
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william.hague@honeywell.com

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:44 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 57 & 58

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, May 01, 2014 5:23 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 57 & 58
Importance: High

Bill,

The Special Master is in receipt of your April 28, 2014 email and the supporting documentation regarding Excavation Completion in Cells 57 and 58 and the notification that the contractor is ready to backfill Cells 57 and 58. We have no objection to Honeywell's proposal to backfill Cells 57 and 58.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, April 28, 2014 7:49 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 57 & 58

Steve,

We are providing this email notification that our contractor is read to backfill Cells 57 and 58.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 04/05/14 to 04/11/14.

- *Approximately 40% of the bottom of Cells 57 and 58 were terminated in Stratum D. The Southern limit of cells 57 and 58 were terminated in Stratum O <20 PPM soils.*
- *An Excavation Bottom Elevation Figure is included for the cells noted above.*
- *Due to natural variations in the surface elevation of the Stratum D the bottom elevation varies by a nominal amount of approximately 1 ft. There is a naturally occurring narrow east west trending ridge in the surface of the Stratum D (fibrous brown meadow mat) near the midpoint of the excavation that rises above the general elevation of the Stratum D on these cells. The ridge is part of the contiguous Stratum D geologic horizon. Portion of the top of the ridge was removed in cells 57 and 58 to permit clean excavation to the Area 8 boundary.*
- *Lines has been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the southern limits of Cells 57 and 58 the Stratum O is terminated at the respective Area 8 and Area 10 excavation elevations.*
- *Pilings from the 60 Kellogg St warehouse were sheared flush with the bottom of excavation.*
- *Confirmatory Bottom Points located within Cells 57 and 58 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples. There were no confirmatory sidewall samples in cells 57 and 58.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to Cells 57 and 58.*
- *The northern limits of Cells 57 and 58 consist of sheet pile Barrier Wall. The Southern Limit of excavation of cells 57 and 58 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided. Excavation has been temporarily terminated in Cell 59. The excavation and backfill faces will be stabilized and excavation will be started at the western portion of the site in Cell 153/154.*

- *All survey points in the excavation cell were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cell, except for those areas where Stratum D was encountered.*

Also please find attached the Figure 1 showing Stratum D corner elevations as discussed at our last all parties meeting. We had previously sent this figure for Cells 44-52 in response to plaintiffs comments, so we are herein attaching the figure for Cells 53-58.

Thanks
Bill Hague

Honeywell
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:12 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 59 through 68

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, December 12, 2014 11:47 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JWatson@jcnj.org; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; Morris, John (MTO) <John.Morris@honeywell.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>
Subject: RE: SA-6 South Excavation Complete Submittal Cells 59 through 68

Bill,

The Special Master is in receipt of your November 24, 2014 email and the supporting documentation regarding Excavation Completion in Cells 59-68 and your notification that the requirements to allow backfilling have been met. Honeywell has also reported that as indicated in the previous submittal for Cells 69-75, the lens of anomalous white material approximately 2 feet below ground surface (BGS) was also observed in Cells 68 to 61. Consistent with the response to Cells 69 to 75 and as reported in Honeywell's November 17 response to Plaintiffs' November 11, 2014 email, the anomalous white material was previously identified and sampled during the PDI program and found to be less than 20 ppm hexavalent chromium in all locations shown on the updated Figure 1. Honeywell further reported in the November 17 response that an additional sample of the material was collected at the same depth during the active excavation and this result was also reported at less than 20 ppm hexavalent chromium.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, November 24, 2014 12:31 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael;

JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 59 through 68

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 59 through 68.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/17/14 to 10/30/14.

This Excavation Submittal includes Cells 59 through 68.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- As indicated in the previous submittal for cells 69-75 Amec inspectors identified a lens of white material approximately 2 ft. below ground surface. This lens was also observed in Cells 68 to 61. Based on review of the PDI data and a targeted sample taken from the lens at the time of excavation that lens shows no indication of the presence of chromium above 20 mg/KG. The extent and testing of the lens has been addressed in previous emails with the Special Master and Plaintiffs.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas in the Cells 59 through 68.
- The bottom of excavation for Area 11 and Area 14 were both terminated in Stratum D.
- The bottom of excavation for Areas 8, 10 and 12 were terminated in Stratum O, at or below the respective Excavation Bottom Elevations.
- The contiguous excavation in SA-6S between Cell 1 and Cell 156 is complete excluding the deferred Area by the Hackensack River.
- Excavation will proceed in Site 163 and the lens of anomalous material extending south of Cell 104.
- Confirmatory Bottom Points are located within Cells 59, 61, 63, 64 66, 67, and 68. Reference Points were also used in Cells 59, 60, 61, 62, 63, 65, 66, 67, and 68.
- The northern excavation limit was the Barrier Wall.
- The southern limit of Cells 59 through Cell 68 is sloped excavation.
- There were Confirmatory Sidewall Samples in Cells 59, 60, 61, 64, 65, 67, and 68.

As previously discussed, we intend on issuing a separate certification email on the Site 163 shallow excavation and an amended certification once the Cell 104 anomalous material excavation is complete.

Regards,

Bill Hague

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, December 01, 2014 10:32 AM
To: Ambrose, David M; Shallard, Samuel G.
Cc: Bills, Stuart B; Christodoulatos, Eric G
Subject: FW: SA-6 South Excavation Complete Submittal Cells 69-75

This is the last set of cells that SM has responded to.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, November 26, 2014 10:01 AM
To: 'Hague, William'; Clifford, Joseph T
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 69-75

Bill/Joe,

The Special Master is in receipt of your November 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 69-75 and your notification that the requirements to allow backfilling have been met. In addition, the Special Master is in receipt of Honeywell's November 17 email response and updated Figure 1 showing locations of additional analytical information and the extent of the observed anomalous white material in response to Plaintiffs' November 11, 2014 email. As reported in Honeywell's November 17 response, the anomalous white material was previously identified and sampled during the PDI program and found to be less than 20 ppm hexavalent chromium in all locations shown on the updated Figure 1. Honeywell then collected an additional sample of the material at the same depth during the active excavation and this result was also reported at less than 20 ppm hexavalent chromium.

Regards, Steve

Steven J. Egnaczyk
Program Director | Environmental and Disaster Management Services

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Celebrating 60 Years

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Monday, November 03, 2014 2:37 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 69-75

Steve,

I am providing this email on behalf of Honeywell.

We are providing this email notification that our contractor is ready to backfill Cells 69 through 75.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/03/14 to 10/16/14.

This Excavation Submittal includes Cells 69 through 75.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors identified a lens of white material approximately 2 ft. below ground surface over at the southern end of Cell 70. Review of the PDI data shows sidewall soil samples at a similar depth interval (140-SB-025, 140-SB-034 and 140-SB-072) indicated hexavalent chromium results that were
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas in the Cells 69 through 75.
- Area 14 was terminated in Stratum D.
- Areas elevations for 8, 12 and 13 were terminated in Stratum O at or below at the respective Excavation Bottom Elevations.
- Excavation will proceed from Cell 68 to the east.
- The excavation will continue through Cell 59 at which point it will connect to the previously excavated area of Cells 1 through 58.
- Confirmatory Bottom Points located within Cells 75, 74, 73, 72, 71, 70 and 69.
- The northern excavation limit was the Barrier Wall.

- The southern limit of Cells 69 through the eastern portion of Cell 71 is sloped excavation. The southern limit of the western portion of Cell 71 and Cells 72 through 75 is temporary sheetpile.
- There were Confirmatory Sidewall Samples in Cells 71 (2 locations) and 75.

Regards.

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:25 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 76-79
Attachments: GCL Area 100314_2.pdf

From: Clifford, Joseph T
Sent: Wednesday, November 05, 2014 10:47 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: RE: SA-6 South Excavation Complete Submittal Cells 76-79

Steve,

I am providing this email on behalf of Honeywell.

We are providing this response to your clarification request received in an email dated October 30, 2014 regarding the Excavation Complete Submittal on Cells 76 - 79. HON has reviewed the requested information with Amec and can offer the following statements:

- The 100% Design for Cell 76 and 77 indicates excavation to Stratum D at a target elevation of -2.5 feet.
- After reaching the Stratum D layer within the excavation, Amec inspectors identified a limited discontinuity in the Stratum D surface.
- Amec instructed the contractor to remove additional material which revealed that the discontinuity was smaller than thought, and then directed the contractor to repair the area using GCL in accordance with 100% Design.
- Amec confirms that the excavation limits and the repaired area both meet the requirements of the 100% Design.

We are also including an updated figure of the actual GCL repair area, with the “drawing scale” now added, in response to a separate email request from Kim Hosea received on October 27, 2014.

Please let us know if you need more information on this item.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, October 30, 2014 6:28 PM
To: Hague, William; Clifford, Joseph T
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 76-79

Bill/Joe,

The Special Master is in receipt of your October 24, 2014 email and the supporting documentation regarding Excavation Completion in Cells 76-79 and your notification that the requirements to allow backfilling have been met. Honeywell reports that in the southern limit of Cells 76/77 there were portions of the Stratum D material missing. Honeywell also reports their contractor successfully completed repairs to this area. Please provide a certification which confirms that: 1) impacted soils as defined in the 100% Design were removed from the discontinuous area to the design depth for Excavation Area 14, and 2) the area was repaired and the requirements to allow backfilling as required in the 100% Design were met.

Regards, Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Friday, October 24, 2014 7:27 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 76-79

Steve,

I am providing this email on behalf of Honeywell.

We are providing this email notification that our contractor is ready to backfill Cells 76 through 79.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 09/25/14 to 10/02/14.

This Excavation Submittal includes Cells 76 through 79.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- The northern excavation limit was the Barrier Wall.
- The southern limit is temporary sheet pile.
- There was one Confirmatory Sidewall Samples in Cell 77.
- All Cells are in Area 14.
- Area 14 was designed to terminate in Stratum D.
- All cells terminated in Stratum D with the exception of an area of discontinuous Stratum D as discussed below.
- At the southern limit of Cell 76/77, a discontinuity was identified in the Stratum D. The area of the discontinuity is shown on the attached Figure titled “As Built GCL Area Cells 75, 76 and 77”. There appeared to be a vertical displacement downward in the stratum D along the western edge of the area shaded in yellow on the figure. Excavation revealed that the Stratum D sloped back up to the typical Stratum D top elevation along the eastern edge of the area. To establish continuity in the Stratum D a Geosynthetic Clay Liner (GCL) was deployed over the area as depicted by the green shading on the figure. The Stratum D was continuous east of the repair area.
- The Confirmatory Bottom Point sample locations are provided for Cells 76 through 79.
- Excavation will proceed from Cell 75 to the east.

Regards.

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Monday, October 20, 2014 10:49 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6 South Excavation Complete Submittal Cells 80 through 83

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart B. Bills
Senior Associate Construction Manager
AMEC E&I, Inc.
(252) 202-1411

stuart.bills@amec.com
www.amec.com

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From: Clifford, Joseph T
Sent: Monday, October 20, 2014 10:25 AM
To: Shallard, Samuel G.; Bills, Stuart B; Nagg, Dennis E
Cc: Ambrose, David M; Mojka, John
Subject: FW: SA-6 South Excavation Complete Submittal Cells 80 through 83
Importance: High

Good to go.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 15, 2014 9:51 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 80 through 83
Importance: High

Bill,

The Special Master is in receipt of your October 10, 2014 email and the supporting documentation regarding Excavation Completion in Cells 80-83 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Friday, October 10, 2014 1:14 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 80 through 83

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 80 through 83.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 09/05/14 to 09/25/14.

This Excavation Submittal includes Cells 80 through 83.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- Cells 80 through 83 are all in Area 14 which was designed to terminate in Stratum D.
- Cells 80 through 83 all terminated in Stratum D.
- The Confirmatory Bottom Point sample locations are provided for Cells 80 through 83 on the attached Excavation Bottom Map.
- The northern excavation limit was the Barrier Wall.
- The southern limit is partially temporary sheet pile (Cell 80 and part of 81) and partially sloped excavation (Cell 83, 82 and part of 81).
- There were Confirmatory Sidewall Samples in Cells 80, 82 and 83.
- Excavation will proceed from Cell 79 to the east.

Regards,

Bill Hague

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
Corporate HSE&R
101 Columbia Road
Morristown, NJ 07962
973-455-2175
973-455-3802 Fax
973-896-9366 Cell
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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:15 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal Cells 84-89

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, October 16, 2014 1:12 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89

Joe,
Thanks very much. Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Thursday, October 16, 2014 11:58 AM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89

Steve,

I am sending this email on behalf of Honeywell.

Per your request, attached please find the Maser Consulting Survey Data Table inclusive of Cells 84 - 89 with the signed ENTACT Letter of Transmittal cover page.

This attachment replaces the one submitted in the original email from Bill Hague on October 2, 2014 which did not include the ENTACT transmittal.

Please let us know if you need any other information relative to Cells 84 – 89 completion submittal.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 15, 2014 9:49 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal Cells 84-89
Importance: High

Bill,

The Special Master is in receipt of your October 2, 2014 email and the supporting documentation regarding Excavation Completion in Cells 84-89 and the notification that the contractor is ready to backfill these Cells. Consistent with previous submittals, please either provide the ENTACT Letter of Transmittal with the signed Survey Data Verification, confirming that Maser Consulting, P.A. ("Maser) has surveyed the bottom of excavations and that the final excavation grade(s) are at or below the design excavation grades throughout the corresponding excavation cells or confirmation that this verification is not applicable to this submittal.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, October 02, 2014 7:38 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal Cells 84-89

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 84 through 89.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 08/22/14 to 09/04/14.

This Excavation Submittal includes Cells 84 through 89.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All cells were terminated were terminated in Stratum D.
- Confirmatory Bottom Points located within Cells 89, 88, 87, 86, 85. A Reference Point was used for Cell 84.
- The northern excavation limit was the Barrier Wall.
- The southern limit is sloped excavation.
- There were Confirmatory Sidewall Samples in Cells 89 and 84.
- It is noted that the southerly limit of the <20 PPM line was straightened in Cells 84 through 89 and carried further to the south to simplify excavation geometry in this area. We excavated in a straight line between 134-SB-100 (Cell 89) and 140-SB-059 (Cell 83) to simply excavation rather than jogging back in to 140-SB-060 (Cell 84). This results in the sidewall sample in Cell 84 (140-SB-060) being located within the final excavation limits.
- Excavation will proceed from Cell 83 to the east.

Regards,
Bill Hague

Honeywell
William J. Hague P.E.
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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Friday, September 05, 2014 10:36 AM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 90 through 99

Stuart Bills
AMEC E&I

Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:09/05/2014 10:34 (GMT-05:00)
To: "Shallard, Samuel G." ,"Bills, Stuart B"
Cc: "Nagg, Dennis E" ,"Ambrose, David M" ,"Mojka, John"
Subject: FW: SA-6S : Excavation Completion in Cells 90 through 99

Good to go

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, September 05, 2014 10:02 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 90 through 99
Bill,
The Special Master is in receipt of your September 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 90 through 99 and the notification that the contractor is ready to backfill these Cells.
Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, September 03, 2014 9:37 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 90 through 99
Steve,

We are providing this email notification that our contractor is ready to backfill Cells 90 through 99.
We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.
This submittal notification of SA-6 South excavation completion covers the individual period from 08/08/14 to 08/21/14.
It is noted that a sidewall sample was taken from of a thin lens of grayish material identified directly above the Stratum D in the face of the step up from Area 15 into Area 16 in Cell 104. This sample came back with a validated result of hexavalent chromium > 20 ppm. Further investigation and sampling is being conducted as needed to delineate and remove this material.
As discussed, this over-excavation of the 100% Design footprint (based upon the 20 ppm contour established during the PDI) will result in an amended certification email for affected cells and additional laboratory data on sidewall will be provided once validated.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All cells were terminated were terminated in Stratum D.
- Confirmatory Bottom Points located within Cells 99, 98, 97, 96, 95, 93, 91, and 90.
- The northern excavation limit was the Barrier Wall. The southern limit is sloped excavation
- There were Confirmatory Sidewall Samples in Cells 92 and 96.
- Excavation will proceed from Cell 89 to the east.

Regards,
Bill

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:12 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, February 04, 2015 6:23 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Ben Davis <bdavis@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41
Importance: High

Bill,

The Special Master is in receipt of your January 7, 2015 email and the supporting documentation regarding the Amended Certification for Excavation Complete in Cells 100 to 106A and new Excavation Complete Certification for Area 41 and your notification that the requirements to allow backfilling have been met. Please confirm that the certification statements contained in your email refer to both the expanded excavation in Cells 100 to 106A and Area 41.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, January 07, 2015 2:40 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T;

KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 100 TO 106A AND NEW EXCAVATION COMPLETE CERTIFICATION FOR AREA 41

Steve,

We are providing an amended certification regarding completion of excavation in Cells 100 to 106A which was originally submitted by Honeywell to the parties by email on August 18, 2014.

As discussed in the September 16, 2014 monthly Special Master meeting/call, Honeywell and Amec indicated that an amended certification would be needed based upon analytical information received on the anomalous material indicating hexavalent concentrations > 20 ppm.

Subsequent to the original submittal, Honeywell also directed Amec to determine the lateral extent of the anomaly and collect additional sidewall soil samples consistent with our approved plans. Honeywell kept the parties informed that the additional delineation would require some time as other site conditions including stockpile management had to be completed by the excavation contractor before a drill rig could access the area.

The investigation resulted in collection of a total of 16 soil samples for hexavalent chromium, 15 of these using a drill rig and the last one collected as a post-excavation sidewall sample (see Figure 10 Anomalous Lens Boring Location Map attached).

The lateral extent of the lens was defined by locations of soil samples 134-SB-170, 134-SB-171, 134-SB175 and 134-SB-177, which all had hexavalent chromium < 20 ppm. This last soil sample designated as 134-SB-177 was collected post-excavation and confirmed to be < 20 ppm. The area was excavated to these soil sample locations in late November/early December and inspected by Amec and resurveyed by Maser on December 8, 2014.

The investigation program confirmed that the lens was present just above the Stratum D. Excavation was continued laterally to the excavation limits or until there was no visible grey lens. Area 41 is a small isolated excavation area identified in the 100% Design which was performed concurrent with the anomaly material excavation. The faces of excavation were inspected by Amec as noted below:

- Coordinates for Survey of the finished excavation to Stratum D are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.
- The excavation was extended from Cell 104 in a Southwest to West direction.
- The bottom of the excavation followed the surface of the Stratum D.
- The excavation was extended to the limits defined by the investigation.
- The bottom of the excavation was visually inspected by Amec personnel to confirm that all of the grey lens had been removed and Stratum D exposed.
- The sidewall slopes were laid back to provide stable conditions.
- The limits of the excavation were visually inspected by Amec personal to confirm that the grey lens was no longer visible.
- In cases where the lens was determined to still be visible the excavation was expanded and the process repeated until a visibly clean limit was established.

- Additional confirmation sampling was conducted in these cases to provide a sidewall sampling frequency that met the NJDEP Technical Regulation requirements incorporated into the approved 100% Design.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- There was a total of 8 Confirmatory Sidewall Samples, 4 locations for the limits of the Cell 104 anomalous material and 4 locations for Area 41.
- 10 Confirmatory Center Point elevations were recorded consistent with the Cell Layout to provide a record in this submittal of the elevation of the Stratum D. Additional coordinates were surveyed and will be used for production of the excavation bottom survey.

An Amended Excavation Bottom Elevation Map showing the additional area of excavation of visually-impacted concrete and subsequent soil > 20 ppm is attached and highlighted in gray.

The added < 20 ppm soil sample confirmatory locations are also shown on the map. Analytical data for the additional soil samples collected in this excavation area was provided in the SA-6 Monthly Progress Reports and is updated in Figure 10 attached.

The Maser Survey Table showing the confirmatory points has been updated to reflect the added soil sample locations with hexavalent chromium < 20 ppm (highlighted in yellow on page 19 of 20 and labeled as “Lens Area”) which are additional sidewall confirmatory samples for SA-6 South.

As all of the over excavation for this anomalous material extended to Stratum D, no additional bottom samples were necessary.

Lastly, during a recent weekly progress meeting, you asked about a single point in the HON/Amec submittal of Excavation Complete in Cells 59 through 68 (originally submitted on November 24, 2014). Specifically you asked if the table correctly identified the Target Elevation for the Depth of Excavation in the Maser Table for point C-70-3. Amec Engineers have reviewed the Maser table and concur that the Target Depth for point C-70-3 should be 0.4 feet (consistent with the target excavation depth for Area 13) and the corrected Maser table (attached).

Regards
Bill Hague

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:37 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Complete Submittal - Area 41

Importance: High

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, February 11, 2015 5:31 PM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; Ben Davis <bdavis@tpmlaw.com> (bdavis@tpmlaw.com) <bdavis@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6 South Excavation Complete Submittal - Area 41
Importance: High

Bill,

The Special Master is in receipt of your February 9, 2015 email and the supporting documentation regarding Excavation Completion in Area 41 and your notification that the requirements to allow backfilling have been met.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, February 09, 2015 2:48 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal - Area 41

Steve,

We are providing an amended certification regarding completion of excavation in Area 41 which was originally submitted by Honeywell to the parties by email on January 7, 2015.

In response to your questions raised last week via phone call with Amec, we understand that a clarification was requested to certify that the standard inspections were also performed specific to Area 41 and not just Cells 100 to 106A.

As a result, we are providing this amended certification for Area 41 only.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

The following statements and attached data are specific to Area 41:

- Coordinates for Survey of the finished excavation are tabulated in the Maser Tables.
- The bottom of the excavation was terminated in Stratum O.
- One PDI bottom sample location 134-SB-026 is associated with Area 41 and is shaded yellow on Page 9 of the Maser Table.
- The sidewall slopes were laid back to provide stable conditions.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- There was a total of 4 Confirmatory Sidewall Samples for Area 41. These samples and included and shaded yellow on Page 20 of the Maser Table. The samples form the corners of the Excavation.
- The Excavation Bottom Elevation Map showing Area 41 is attached.
- The bottom and sides of the excavation was visually inspected by Amec personnel to confirm there was no indication of visibly impacted soils.
- Backfill in Area 41 has been initiated.

Note that there were no changes needed to the attachments.

Please let us know if you have any other questions on this item.
Regards,
Bill Hague

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Wednesday, August 13, 2014 2:52 PM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Importance: High

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:08/13/2014 14:10 (GMT-05:00)
To: "Bills, Stuart B" ,"Mojka, John"
Cc: "Kaouris, Maria" ,"Ambrose, David M" ,"Shallard, Samuel G."
Subject: FW: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

fyi

From: Egnaczyk, Steve [segnaczyk@louisberger.com]
Sent: Wednesday, August 13, 2014 11:32 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Bill,
The Special Master is in receipt of your August 4, 2014 email and the supporting documentation regarding Excavation Completion in Cells 106B through 118B and 107A through 114A and the notification that the contractor is ready to backfill these Cells.
Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, August 04, 2014 7:59 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T;

Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 106B through 118B and 107A through 114A

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 106B through 118B and 107A through 114A.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/30/14 to 07/14/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

Cells 106 through 118 are physically divided into an A and B designation by a peninsula of

Commencing at Cell 105 the cells are no longer divided by the

Please note that the Maser table has been updated to include the missing reference points in Cells 117 and 119.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits.
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 106B through 118B and 107A through 114A, the excavation is terminated at the respective Area 15, 16, 17, 18, 24, 28 and 29 excavation elevations.
- Excavation will proceed from Cell 106 to the east to Cell 104.
- Cells 118 B, 117 B, 116B and a significant portion of 115B encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). In general the northern portion of the excavation (Cells with A designation) was terminated in Stratum O at or below the Target Elevations.
- Stratum D was encountered in the easterly portion of Cell 107 A (Area 15). Area 15 (-4.3 bottom elev.) will be excavated to Stratum D as the excavation moves to the east.
- In Cells 112B to 114B the excavation limits were deepened to beyond the defined chromium impacted soil limits to remove soils below 3 UST's.
- Confirmatory Bottom Points located within Cells 106B through 118B and 107A through 114A are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were Confirmatory Sidewall Samples in Cells 113A, 111A, 109A, 107A, 118B, 116B, 115B, 112B, 110B and 107B.
- The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

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Question regarding Cell 117 was addressed in the submittal for Cells 106B through 118B and 107A through 114A, submitted to Parties on August 4, 2014.

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:17 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: SA-6S : Excavation Completion in Cells 115a to 120

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, July 24, 2014 9:41 AM
To: Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; Daneker, Michael <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 115a to 120

Bill,

I have one (1) question regarding the submittal: Could you please clarify/confirm why there was no entry for Cell 117 on Maser Table 1.4 listing the SA-6 South Excavation: Confirmatory Points (Page 5 of 1) provided with the ENTACT Transmittal)?

Otherwise, the Special Master is in receipt of your July 16, 2014 email and the supporting documentation regarding Excavation Completion in Cells 115a to 120 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, July 16, 2014 8:53 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea

(k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 115a to 120

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 115A to 120.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/26/14 to 06/30/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

For reporting purposes Cells 120 is treated as a complete cell without the A and B designation.
Cells 115 through 119 are physically divided into an A and B designation by a peninsula of <20 PPM soil.
For this report both the A and B portion of Cell 119 is included.
For Cells 115 through 118 only the A portion is included. The B portion of these cells will be included in future submittals.

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- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 121 through 125, the excavation is terminated at the respective Area 17, 18, 19, 20, 21, 22, 24 and 28 excavation elevations.
- Excavation will proceed from Cell 119B to the east to Cell 116B. Excavation will proceed from Cell 114A to the east to Cell 112A.
- A significant portion of the Southern portion of the cells encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). The northern portion of the excavation was terminated in Stratum O at or below the Target Elevations.
- In Cells 115 to 118 the excavation limits were extended to the south and deepened to beyond the defined chromium impacted soil limits to remove VOC impacted soils
- Confirmatory Bottom Points located within Cells 115A through 120 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were Confirmatory Sidewall Samples in Cells 115, 117, 119, and 120.

- The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell
William J. Hague P.E.
Director - Remediation Design & Construction
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973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:38 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 121 through 125

-----Original Message-----
From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Thursday, July 10, 2014 5:51 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 121 through 125

Bill,

The Special Master is in receipt of your July 3, 2014 email and the supporting documentation regarding Excavation Completion in Cells 121 through 125 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [william.hague@honeywell.com]
Sent: Thursday, July 03, 2014 10:29 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 121 through 125

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 121 to 125.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 06/11/14 to 06/25/14.

As previously indicated, select cells are being split into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation, Cells 121 through 125 were completed in full without the need to subdivide into A and B sections. Therefore, in this submittal the full north to south area of each cell was completed without the A/B designation as reflected in the Excavation Bottom Elevation Figure and Maser Tables.

* Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits

* Sheet pile on the excavation face has been cleaned of visible soil materials.

* The bottom and lateral limits of each cell were visually inspected by Amec personnel.

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

* An Excavation Progress Map is provided.

* All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.

* Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 121 through 125, the excavation is terminated at the respective Area 19, 20, 21, 22, 23, 25 26, and 27 excavation elevations.

* Excavation will proceed from Cell 120 to the east to Cell 114. Starting in Cell 120 the excavation will again be split into A and B segments with a peninsula of <20 PPM soils separating the A and B areas.

* A significant portion of the Southern portion of the cells encountered Stratum D and was terminated accordingly (see Excavation Bottom Elevation figure). The northern portion of the excavation was terminated in Stratum O at or below the Target Elevations.

* Confirmatory Bottom Points located within Cells 121 through 125 are shown on the Excavation Bottom Elevation figure.

* The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were no Confirmatory Sidewall Samples in Cells 121 to 125. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Regards,
Bill

Honeywell

William J. Hague P.E.
Director - Remediation Design & Construction Corporate HSE&R
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973-455-2175
973-455-3802 Fax
973-896-9366 Cell
william.hague@honeywell.com<mailto:william.hague@honeywell.com>

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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Friday, June 27, 2014 9:30 AM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 126 to 128

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:06/27/2014 09:25 (GMT-05:00)
To: "Bills, Stuart B" ,"Shallard, Samuel G." ,"Nagg, Dennis E"
Cc: "Mojka, John" ,"Kaouris, Maria"
Subject: FW: SA-6S : Excavation Completion in Cells 126 to 128

Fyi.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, June 27, 2014 9:23 AM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 126 to 128
Importance: High

Bill,

The Special Master is in receipt of your June 19, 2014 email and the supporting documentation regarding Excavation Completion in Cells 126 to 128 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, June 19, 2014 8:01 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 126 to 128

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 126 to 128.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/22/14 to 06/10/14.

As previously indicated cells are being spilt into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation Cells 129 through 133 were divided into A and B sections as reflected in the Maser Tables. There is no clean unexcavated dividing line in the middle of site as there was in Cells 137 through 146. For this submittal the full north south area of each cell was completed as indicated in the Excavation Bottom Elevation figure.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 129 to 133, the excavation is terminated at the respective Area 21, 22, 23, 26, 30, 32 and 34 excavation elevations.
- Excavation will proceed from Cell 125 to the east into Cell 123.
- The excavation was continued to the Target Elevations in all locations.

- A limited portion of the deeper excavations Area 24 and 26 (southern portion of the excavation) was terminated at or below the Target level which was coincidental with the upper surface of the Stratum D. The remainder of the excavations was terminated in Stratum O.
- Confirmatory Bottom Points located within Cells 126 through 129 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall. There were no Confirmatory Sidewall Samples in Cells 126 to 129. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Per the SOP, we are showing the corner elevations as discussed.

Regards,
Bill

Honeywell
William J. Hague P.E.
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Christodoulatos, Eric G

From: Bills, Stuart B
Sent: Thursday, June 12, 2014 5:14 PM
To: Christodoulatos, Eric G
Subject: Fwd: SA-6S : Excavation Completion in Cells 129 through 133

Importance: High

Follow Up Flag: Follow up
Flag Status: Completed

Stuart Bills
AMEC E&I
Sent via the Samsung GALAXY S®4, an AT&T 4G
LTE smartphone

-------- Original message --------
From: "Clifford, Joseph T"
Date:06/12/2014 17:06 (GMT-05:00)
To: "Shallard, Samuel G." ,"Bills, Stuart B" ,"Nagg, Dennis E"
Cc: "Kaouris, Maria" ,"Mojka, John"
Subject: FW: SA-6S : Excavation Completion in Cells 129 through 133

FYI.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, June 11, 2014 5:26 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 129 through 133
Importance: High

Bill,
The Special Master is in receipt of your June 8, 2014 email and the supporting documentation regarding Excavation Completion in Cells 129 to 133 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, June 08, 2014 5:57 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 129 through 133

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 129 to 133.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/20/14 to 05/27/14.

As previously indicated cells are being spilt into subparts A and B at the discretion of the Engineer. The split is based on either the geometry of the excavation and cell overlay or due to constructability considerations related to the need to backfill adjacent to the Barrier wall prior to completion and approval of the full cell. The A designation will be applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell.

During daily excavation and survey confirmation Cells 129 through 133 were divided into A and B sections as reflected in the Maser Tables. There is no clean unexcavated dividing line in the middle of site as there was in Cells 137 through 146. For this submittal the full north south area of each cell was completed as indicated in the Excavation Bottom Elevation figure.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits
- Sheet pile on the excavation face has been cleaned of visible soil materials.
- The bottom and lateral limits of each cell were visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 129 to 133, the excavation is terminated at the respective Area 21, 23, 30, 31, 32, 34, and 35 excavation elevations.
- Excavation will proceed from Cell 128 to the east into Cell 125.
- The bottom of cells 129 through 133 were terminated in Stratum O.

- Confirmatory Bottom Points located within Cells 129 through 133 are shown on the Excavation Bottom Elevation figure.
- The northern excavation limit was the Barrier Wall. The southern limit as the Temporary Sheetpile wall.
- There were no Confirmatory Sidewall Samples in Cells 129-133. The remedial design calls for an area south of the temporary sheetpile support and bulkhead to be remediated by a combination of shallow excavation and insitu treatment. This work will be tracked separately to the main excavation currently being conducted.

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

Honeywell
William J. Hague P.E.
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973-455-2175
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william.hague@honeywell.com

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Please note: This e-mail documented excavation completion in cells 137B through 146B. The cells identified in the subject line were mislabeled. EGC 2/27/17

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:36 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B

Importance: High

1st of many emails you requested

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Sunday, June 08, 2014 7:17 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B
Importance: High

Bill,

The Special Master is in receipt of your May 27, 2014 email and the supporting documentation regarding Excavation Completion in Cells 134 to 136 and 138B to 145B and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Tuesday, May 27, 2014 7:58 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 134 to 136 and 138B to 145B

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 134 to 136 and 138B to 145B.

As discussed in our weekly meetings, we have separated the western cells into A and B designations with A being the portion of cells closest to the barrier wall and B being the portion closest to Kellogg St. We provided in a previous email on May 18, 2014 the figure.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 05/01/14 to 05/19/14.

- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% design limits*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided.*
- *All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.*
- *Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 134 to 136 and 138B to 146B, the excavation is terminated at the respective Area 31, 32, 33, 36 and 39 excavation elevations.*
- *Excavation will proceed from Cell 134 to the east.*

EXCAVATION CELLS 137B THROUGH 146B

- *The bottom of Cells 137B through 146B were terminated in Stratum O.*
- *Confirmatory Bottom Points located within Cells 137B through 146B are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples are shown in Cells 138B, 141B, 142B 143B and 146B.*
- *Sample 073-SB-051 is interior to the excavation approximately on the dividing line of Cells 138B and 139B. This is an area where the excavation limits shown on the 100% design for Cells 139B and 140B was adjusted to the north to simplify the excavation geometry.*
- *The northern limits of Cells 137 B THROUGH 146 B terminates at the 20 PPM line that is interior to the site. The profile of the excavation face is composed of very loose Stratum O sands overlain by several feet of historic fill. The slope had to be laid back much more than at the east end of the site to provide a stable slope. This results in the top of slope being significantly further beyond the <20 PPM line than the eastern portion of the site.*
- *The Southern limits of Cells 137 B to 146 B were terminated at the temporary sheet pile that forms the southern limit of excavation in these cells.*

EXCAVATION CELLS 134 to 136

- *These cells were not split.*
- *For Cells 134 through 136, the bottom of the excavation was terminated in Stratum O.*
- *The Southern limits of Cells 134 through 136 were terminated at the temporary sheet pile that forms the southern limit of excavation in these cells which is coincident with the <20 PPM line..*
- *Confirmatory Bottom Points located within Cells 134 to 136 are shown on the Excavation Bottom Elevation figure.*

- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.*
- *The northern limits of Cells 134 to 136 consist of sheet pile Barrier Wall.*

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Wednesday, July 16, 2014 9:36 AM
To: Christodoulatos, Eric G
Subject: FW: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Tuesday, May 27, 2014 3:43 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

Bill,

The Special Master is in receipt of your May 18, 2014 email and the supporting documentation regarding Excavation Completion in Cells 137A to 146A and 147 to 152 and the notification that the contractor is ready to backfill these Cells.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Sunday, May 18, 2014 8:31 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; Daneker, Michael; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; Clifford, Joseph T; 'Joseph.Clifford@amec.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

Steve,

We are providing this email notification that our contractor is ready to backfill Cells 137A to 146A and 147 to 152 .

As discussed in our weekly meetings, we have separated the western cells into A and B designations with A being the portion of cells closest to the barrier wall and B being the portion closest to Kellogg St. We are providing herein a new figure (see SA-6 South Split Cells 4.pdf which provides the graphical delineation for purposes of better understanding our statements below.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 04/25/14 to 04/29/14.

EXCAVATION CELLS 149 THROUGH 152

- *Excavation commenced on 4/14 in the western portion of the site. This portion of the site had a surface primarily composed of a series of foundations and slabs at variable elevations.*
- *Due to the presence of several feet of concrete, Cell 153 is only partially excavated at this time and as a result is not being included in the email indicating that excavation is complete at this time.*
- *The approved 100% Design in this area (Area 40) indicated deferral of excavation below elevation 5.7.*
- *Visual inspection of the bottom and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete. Removal of these materials vertically resulted in excavation below elevation 5.7. Visually impacted concrete was removed laterally along the south easterly edge of the Cell 150 into Cell 149 as evidenced by the limit of excavation shown on the Bottom Excavation Elevation figure.*
- *Cells 149 through 152 were terminated in historic fill.*
- *Confirmatory Bottom Points located within Cells 148-152 are shown on the Excavation Bottom Elevation figure.*
- *Confirmatory Sidewall Samples are shown in Cells 149, 150 and 152.*
- *The northern limits of Cells 149-152 consist of sheet pile Barrier Wall.*
- *The Southern limit of cells 149-152 were terminated in 0 <20 PPM historic fill soils.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% Design limits. In several areas of Cell 149-152 the excavation depth was increased (we were able to get additional materials and minimize future deferral volumes remaining) and these locations are shown with a green shading. These areas are also outlined in Excavation Bottom Elevation figure.*

EXCAVATION CELLS 147 to 148 and 137A to 146A

- *The cell excavation designations in this area have been split into subparts A and B. The A designation is applied to the portion of the cell adjacent to the hydraulic barrier and the B designation includes the southern part of the cell. This designation clarification was made for two reasons:*
    - *For Cells 137 through 146, the excavation area is not continuous north to south, meaning there is an area of <20 PPM soils not requiring excavation In the middle of the cells (see Figure 2 Color Coded Excavation Bottom).*
    - *For Cells 136 to the east this approach was used to facilitate surveying of the subarea A (including corners and center points). This reduces the time cycle between excavation and backfill adjacent to the hydraulic barrier which helps to minimize sheet deflection.*
- *Cells 137A through 146A, 147 and 148 excavation was terminated in either historic fill or Stratum O.*
- *The Southern limit of Cells 137A to 146A, 145 and 148 was terminated in either historic fill or Stratum O <20 PPM soils.*
- *Lines have been added to the Excavation Bottom Map to delineate the limits of the Excavation Bottom Areas. In the Cells 137A-146A and 147 to 148, the excavation is terminated at the respective Area 32, 33, 36, 37, 38 and 40 excavation elevations.*
- *Confirmatory Bottom Points located within Cells 137A-146A, 147 and 148 are shown on the Excavation Bottom Elevation figure.*

- *Confirmatory Sidewall Samples are shown in Cells 137A, 139A, 142A, 143A and 148.*
- *Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal.*
- *The northern limits of Cells 137 to 146 consist of sheet pile Barrier Wall.*
- *The Southern Limit of excavation of Cells 137A to 146A, 147 and 148 terminate at the <20 PPM line at the bottom of excavation and are cut back at a stable slope beyond the 20 PPM line.*
- *Sheet pile on the excavation face has been cleaned of visible soil materials.*
- *The bottom and lateral limits of each cell were visually inspected by Amec personnel.*
- *Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met.*
- *An Excavation Progress Map is provided.*
- *Excavation will proceed from Cell 136A to the east and from Cell 146B to the east.*
- *All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells except for those areas noted for deferral.*

Per the SOP, we are showing the corner elevations as discussed at our last all parties meeting.

Regards,
Bill

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, January 30, 2017 3:10 PM
To: Christodoulatos, Eric G
Cc: Nagg, Dennis E
Subject: FW: Amendment to SA-6S : Excavation Completion in Cells 149 to 152

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, October 29, 2014 4:15 PM
To: Clifford, Joseph T <Joseph.Clifford@amec.com>; Hague, William <william.hague@honeywell.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'cpravlik@tpmlaw.com' <cpravlik@tpmlaw.com>; 'Daneker, Michael' <Michael_Daneker@aporter.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; 'David Isabel' <dlisabel@golub-isabel.com>; 'Eric Tomaszewski' <eric@golub-isabel.com>; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 149 to 152

Bill/Joe,

The Special Master is in receipt of your October 23, 2014 email providing supplementation information for the Amended Certification for Excavation Completion in Cells 149 to 152 emailed on October 1, 2014 and that the requirements to allow backfilling have been met.

Regards, Steve

From: Clifford, Joseph T [mailto:Joseph.Clifford@amec.com]
Sent: Thursday, October 23, 2014 8:32 AM
To: Egnaczyk, Steve; Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

SUPPLEMENTAL INFORMATION FOR AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 149 TO 152 EMAILED ON OCTOBER 1, 2014.

Steve,

I am sending this email on behalf of Honeywell.

In response to your email dated October 10 to Bill Hague, Honeywell and Amec are providing the following supplemental information:

- The top portion of the design excavation in Cells 149 through 152 consisted of a combination of reinforced and unreinforced concrete. As indicated in the May 27th submittal the concrete at the design limits was observed to be chromium impacted: "Visual inspection of the bottom of excavation and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete in the concrete sidewall". The excavation was therefore expanded to remove the visibly impacted concrete.

- The expansion of the design excavation necessitated obtaining additional sidewall samples. Two new Confirmatory Sidewall Soil Samples (designated 073-SB-079 and 073-SB-082) were collected and documented in the Maser table attached to the October 1, 2014 email from Honeywell (see page 14 of 15).

- The Final Limits of excavation (highlighted in green) and location of the Confirmatory Sidewall Soil Samples are shown on the Bottom Excavation Map (Amended) attached to the October 1, 2014 email from Honeywell.

- The bottom of excavation elevation matched the adjacent excavation in Cell 149 and Cell 150. As indicated in the Bottom Excavation Map (Amended), the southern portion of the additional excavation was excavated to elevation 2 and the northern portion to approximately elevation 4.

- The vertical and horizontal limits of excavation were surveyed by Maser, including supplemental survey points for use in preparation of the as-built excavation topographic map that will accompany the Declaration which will be submitted following completion of the SA-6S excavation.

- The additional excavation area depicted on the Bottom Excavation Map (Amended and highlighted in green) represents the boundaries of the area resurveyed on July 31, 2014.

- The bottom and lateral limits of the additional excavation area were visually inspected by Amec personnel prior to the July 31, 2014 Maser Survey. Amec personnel did not observe any additionally impacted soils.

- Amec inspectors certify to the best of our technical ability that impacted soils as defined in the 100% Design have been removed from the additional excavation area and that the requirements to allow backfilling have been met.

We are re-submitting the two attachments from our October 1, 2014 transmittal.

Please let us know if you have any more questions regarding this Amended Submittal for Cells 149 to 152.

Regards.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Friday, October 10, 2014 3:24 PM
To: Hague, William
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: RE: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152
Importance: High

Bill,

The Special Master is in receipt of your October 1, 2014 email below regarding the Amended Certification for Excavation Complete in Cells 149 to 152 and provides the following comments:

1. Because Honeywell needed to perform additional excavation to address this area of contamination that extended beyond the defined excavation boundaries presented in the color-coded excavation map (i.e., Figure 4 that depicts the 41 areas of the SA6 South excavation and the pre-determined depths of excavation) to fully comply with the SA6 South 100% Design, consistent with the initial May 27, 2014 submittal, please provide a re-certification from Honeywell/AMEC/Maser that:
    a. The bottom and lateral limits of the expanded excavation area were visually inspected by Honeywell/Amec personnel and no additional visually impacted area was observed.
    b. Impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling [of this additional excavation area]have been met.
    c. The additional excavation area depicted on the attached figure (and highlighted in green) represents the boundaries of area resurveyed on July 31, 2014.
2. Please confirm whether any additional survey points were collected in the expanded excavation area from the bottom of the completed excavation area.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Wednesday, October 01, 2014 10:40 AM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; Clifford, Joseph T; Clifford, Joseph T; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: Amendment to SA-6S : Excavation Completion in Cells 137A to 146A and 147 to 152

AMENDED CERTIFICATION FOR EXCAVATION COMPLETE IN CELLS 149 TO 152.

Steve,

We are providing an amended certification regarding completion of excavation in Cells 149 to 152 which was originally submitted by Honeywell to the parties by email on May 27, 2014.

As noted in the original May 27, 2014 email for these cells, the following observation was noted by the Amec engineer:

- *Visual inspection of the bottom and sidewalls of Cells 149 through 152 indicated the presence of chromium impacted concrete. Removal of these materials vertically resulted in excavation below elevation 5.7. Visually impacted concrete was removed laterally along the south easterly edge of the Cell 150 into Cell 149 as evidenced by the limit of excavation shown on the Bottom Excavation Elevation figure.*

Once the visually-impacted concrete was removed, Honeywell made the original email certification to the parties.

Subsequent to the submittal, Honeywell also directed Amec to collect two additional sidewall soil samples on the eastern excavation edge 073-SB-079 and 073-SB-080. While hexavalent chromium in soil sample 073-SB-079 was < 20 ppm, the second sample 073-SB-080 was > 20 ppm, which necessitated a step out soil sample approximately five feet to the east. This last soil sample designated as 073-SB-082 was confirmed to be < 20 ppm and the contractor returned to this area to remove the small area of residual soil > 20 ppm. The area was excavated in July and resurveyed on July 31, 2014.

An Amended Excavation Bottom Elevation Map showing the additional area of excavation of visually-impacted concrete and subsequent soil > 20 ppm is attached and highlighted in green. As shown in this figure, the area slightly enlarges the limits of Cells 148, 149 and 150.

The added < 20 ppm soil sample confirmatory locations are also shown on the map. Analytical data for the three soil samples collected in this excavation area was provided in the SA-6 Monthly Progress Report No. 2014-07 submitted to the parties on August 14, 2014.

Lastly, the Maser Survey Table showing the confirmatory points has been updated to reflect the two recent soil sample locations with hexavalent chromium < 20 ppm (highlighted in green on page 14 of 15) which are additional sidewall confirmatory samples for SA-6 South.

Regards,
Bill

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Tuesday, January 31, 2017 10:45 AM
To: Christodoulatos, Eric G
Cc: Shallard, Samuel G.
Subject: FW: SA-6 South Site 163 Post-Remediation Sampling

Follow Up Flag: Follow up
Flag Status: Flagged

Found it!

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, May 13, 2015 7:55 PM
To: Kathleen L. Millian <kmillian@tpmlaw.com>; Michael.Daneker@aporter.com
Cc: RGT Special Master <RGTSpecialMaster@aol.com>; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO) <tom.byrne@honeywell.com>; Kaouris, Maria <Maria.Kaouris@Honeywell.com>; Alicia Clark Alcorn <aalcorn@tpmlaw.com>; Carolyn Smith Pravlik <cpravlik@tpmlaw.com>; Lewis, Thomas <tlewis@louisberger.com>; McWatters, Michael <mmcwatters@louisberger.com>; Ben Davis <bdavis@tpmlaw.com>; Toskos, Theodoros <Theodoros.Toskos@amec.com>; Morris, John (MTO) [John.Morris@honeywell.com] <John.Morris@honeywell.com>; Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>; Clifford, Joseph T <Joseph.Clifford@amec.com>
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

All,

As Honeywell has provided the information requested by Plaintiffs' in their April 30, email, the Special Master requests the parties be prepared to address the issue of "rebound" at next week's Special Master All Parties Meeting. The Special Master refers to the discussion in Honeywell's April 3, 2015 correspondence regarding post-treatment "rebound" of residual soil concentrations of hexavalent chromium, and specifically, to define "rebound" should there be detections of hexavalent chromium above 20 ppm during post-remediation sampling at Site 163, as well as Treatment Areas 7, 8, and 10 on SA6 North.

Regards, Steve

From: Clifford, Joseph T [mailto:joseph.clifford@amecfw.com]
Sent: Wednesday, May 13, 2015 9:03 AM
To: Kathleen L. Millian; Egnaczyk, Steve
Cc: RGT Special Master; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Kaouris, Maria; Alicia Clark Alcorn; Carolyn Smith Pravlik; Lewis, Thomas; McWatters, Michael; Ben Davis; Toskos, Theodoros; Morris, John (MTO) [John.Morris@honeywell.com]; Hague, William [william.hague@honeywell.com]
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

Kathy/Steve,

I am sending this email on behalf of Honeywell.

Please find attached the figure you requested showing the location of the Soil Boring 140-SB-P05 which was the location used for the cores sent to Battelle. The figure also shows the proximate PDI soil delineation used in the 100% Design. The area around this boring was excavated to Stratum D.

Let us know if you have any other questions on this item.

Thank you. -Joe

From: Kathleen L. Millian [mailto:kmillian@tpmlaw.com]
Sent: Thursday, April 30, 2015 3:13 PM
To: Morris, John (MTO); Hague, William
Cc: RGT Special Master; Clifford, Joseph T; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Kaouris, Maria; Alicia Clark Alcorn; Carolyn Smith Pravlik; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mmcwatters@louisberger.com; Ben Davis; Toskos, Theodoros
Subject: RE: SA-6 South Site 163 Post-Remediation Sampling

Plaintiffs write concerning the issue of potential rebound at Site 163. On April 3, 2015, Honeywell submitted to the Special Master a memorandum prepared by Amec Foster Wheeler, entitled "Analysis of Chromium 'Rebound,' with Application to Site 163." Some of Amec's positions on rebound are based on a draft report that was prepared by Battelle in September 2008, entitled "Investigation of Chromium in SA-6S Core Segments."

Plaintiffs' experts, Benjamin Ross, Ph.D. and George Flowers, Ph.D., request certain additional information to enable a full understanding of the September 2008 draft report. In particular, we request to know the location from which the core segments were taken. Plaintiffs request that Honeywell provide a figure of the relevant portion of Study Area 6 South showing both: (1) the location from which the core was taken; and (2) the locations of and contaminant levels at the borings which were used to delineate the hexavalent chromium in the vicinity of the core.

Thank your for your attention to this matter.

Sincerely,

Kathleen L. Millian
TERRIS, PRAVLIK & MILLIAN, LLP
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Washington, D.C. 20005
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From: Graham, Stephanie [mailto:Stephanie.Graham@honeywell.com]
Sent: Friday, April 03, 2015 4:17 PM
To: RGT Special Master
Cc: Joseph.Clifford@amecfw.com; Michael.Daneker@aporter.com; Jeremy.Karpatkin@aporter.com; B.Bell@cea-enviro.com; K.Hosea@cea-enviro.com; JFarrell@jcnj.org; jwatson@jcnj.org; AAntonian@connellfoley.com; KCoakley@connellfoley.com; LWalsh@connellfoley.com; FBORIN@decotiislaw.com; KKINSELLA@decotiislaw.com; BRoss@disposalsafety.com; disabel@golub-isabel.com; Byrne, Tom (MTO); Hague, William; Kaouris, Maria; Morris, John (MTO); Alicia Clark Alcorn; Kathleen L. Millian; Carolyn Smith Pravlik; SEgnaczyk@louisberger.com; TLewis@louisberger.com; mmcwatters@louisberger.com; Ben Davis; Toskos, Theodoros
Subject: SA-6 South Site 163 Post-Remediation Sampling

Attached please find Honeywell correspondence re:

Site 163 Post-Remediation Sampling
Study Area 6 (SA-6) South
Jersey City, New Jersey

Please note that this information has also been made available on the Louis Berger SharePoint Site.

Thank you,

Stephanie Graham

Amec Foster Wheeler
c/o Honeywell
101 Columbia Tpke
Morristown, NJ 07962
Phone: 973-455-4209

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Tuesday, January 03, 2017 10:47 AM
To: Christodoulatos, Eric G; Shallard, Samuel G.
Subject: FW: SA-6 South Excavation Complete Submittal - Site 163

Follow Up Flag: Follow up
Flag Status: Flagged

Here is the first part. I will search for the follow up email.

From: Egnaczyk, Steve [mailto:segnaczyk@louisberger.com]
Sent: Wednesday, December 31, 2014 10:57 AM
To: Hague, William
Cc: RGT Special Master ; Kevin J. Coakley (KCoakley@connellfoley.com) ; 'Liza M. Walsh' (LWalsh@connellfoley.com) ; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) ; Lewis, Thomas ; ' (kmillian@tpmlaw.com)' ; 'Aalcorn@tpmlaw.com' ; 'cpravlik@tpmlaw.com' ; Ben Davis ; 'Daneker, Michael' ; 'Jeremy.Karpatkin@aporter.com' ; Morris, John (MTO) ; 'DelisleB@jcnj.org' ; JFarrell@jcnj.org; JWatson@jcnj.org; 'David Isabel' ; 'Eric Tomaszewski' ; Francis J. Borin ; KKINSELLA@decotiislaw.com; Clifford, Joseph T ; 'Ben Ross (bross@disposalsafety.com)' ; 'Bruce A. Bell' ; 'Kim Bell Hosea (k.bell@cea-enviro.com)' ; McWatters, Michael
Subject: RE: SA-6 South Excavation Complete Submittal - Site 163

Bill,

The Special Master is in receipt of your December 11, 2014 email and the supporting documentation regarding Excavation Completion of Site 163 and the small (undesignated) diamond shaped area west of the "main" Site 163 excavation area and your notification that the requirements to allow backfilling have been met. Honeywell also reports that as a result of an inspection and evaluation of the Droyer's Cove bulkhead and associated mass concrete located along the shoreline of Droyer's Cove that borders the southern limit of the excavation, a decision was reached by Honeywell as to the safe limits of excavation and several areas were deferred from excavation. The Special Master concurs with Plaintiffs' request contained in their December 19 email that Honeywell provide information regarding the three (3) areas shown in the figure attached to your email (Excavation Bottom Elevations, Site 163, Period 10-30-4 to 11-13-14) that have been deferred from excavation.

Regards, Steve

From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Thursday, December 11, 2014 4:34 PM
To: Egnaczyk, Steve
Cc: RGT Special Master; Kevin J. Coakley (KCoakley@connellfoley.com); 'Liza M. Walsh' (LWalsh@connellfoley.com); 'AGNES ANTONIAN' (AAntonian@connellfoley.com); Lewis, Thomas; ' (kmillian@tpmlaw.com)'; Morris, John (MTO); 'cpravlik@tpmlaw.com'; 'Daneker, Michael'; 'DelisleB@jcnj.org'; 'Aalcorn@tpmlaw.com'; 'MWeaver@tpmlaw.com'; 'Jeremy.Karpatkin@aporter.com'; JFarrell@jcnj.org; 'David Isabel'; 'Eric Tomaszewski'; Francis J. Borin; Clifford, Joseph T; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)'; 'Bruce A. Bell'; 'Kim Bell Hosea (k.bell@cea-enviro.com)'; McWatters, Michael; JWatson@jcnj.org
Subject: SA-6 South Excavation Complete Submittal - Site 163

Steve,

We are providing this email notification that our contractor is ready to backfill the shallow (0-4 feet below grade) soil excavation in Site 163.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of SA-6 South excavation completion covers the individual period from 10/30/14 to 11/13/14.

This submittal covers the main Chromium portion of the Site 163 excavation and the diamond shaped area west of the "main excavation". Additional shallow excavation will be conducted to remove non-chromium impacted soils west of the "main excavation" limits shown. The Issued for Construction design indicated Excavation for site 163 using below ground surface depths. These depths were converted to elevation (NGVD 29 datum) prior to implementation of the excavation. All excavation depths and the Maser table reports based on elevations.

Due to the shallow depth and geometry of the excavation "cell numbering" was not used.

- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables. A yellow background shading has been applied to sample locations which are the subject of this submittal that were terminated at the 100% Design limits.
- Temporary sheetpile which was driven at the southern limit for the excavation of Cells 106 through 129 was still in place and served as the northern limit of the Site 163 excavation. The face of the temporary sheet was cleaned of visible soil materials.
- The southern excavation limit was designed with variable offsets from the Droyer's Cove bulkhead based on the PDI samples. The bulkhead and associated mass concrete was inspected as excavation progressed and decisions reached as to the safe limits of removal. As a result of this inspection and evaluation process one concrete structure was left in place at the southwest corner of the excavation and a sliver of material was left in place at the south east corner as shown on the Excavation Bottom Elevation plan. There was no visual indication of chromium impact in the concrete left in place.
- The top 6 inches of the "deadmen" for the bulkhead were exposed in the bottom of the excavation.
- The bottom and lateral limits of the excavation was visually inspected by Amec personnel.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design have been removed and that the requirements to allow backfilling have been met subject to the isolated areas noted above.
- An Excavation Progress Map is provided.
- All survey points in the excavation cells were at or below the design excavation elevations and are representative of the final excavation grade(s) throughout the excavation cells.
- Lines have been added to the Excavation Bottom Map to delineate the limits of the steps in bottom elevations in the Excavation Area.
- The bottom of excavation was terminated in Stratum O or fill at or below the respective Excavation Bottom Elevations.
- Excavation will proceed to remove the Lens of Anomalous material that extended beyond the design limit by Cell 104.
- There were 11 Confirmatory Sidewall Samples taken in the main area and 4 Confirmatory sidewall samples in the Diamond shaped area.

We note that a field decision was made to add an additional protective measure to protect the clean backfill. This measure included use of a geotextile and riprap/crushed concrete with the objective of increasing erosion protection

until the new bulkhead is installed by Bayfront. The Design Change Bulletin showing this enhancement of the 100% Design is being prepared for distribution to the parties.

Regards
Bill Hague

Honeywell
William J. Hague P.E.
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ATTACHMENT C-1
SITE 163 EXCAVATION CERTIFICATION E-MAIL

Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:18 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: SA-6 South Excavation Submittal - Site 163 Residential Area
Attachments: Final AB PDI Locations Site 163_ Feb 2016_1.pdf; Figure 1 - Site 163 Addtional Excavation Areas.pdf; Confirmation Points Cert site163 2016 Chrome area_041316-signed.pdf

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From: Hague, William [mailto:william.hague@honeywell.com]
Sent: Monday, April 25, 2016 10:53 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: RGT Special Master <rgtspecialmaster@aol.com>; Kevin J. Coakley (KCoakley@connellfoley.com) <KCoakley@connellfoley.com>; 'Liza M. Walsh' (LWalsh@connellfoley.com) <LWalsh@connellfoley.com>; 'AGNES ANTONIAN' (AAntonian@connellfoley.com) <AAntonian@connellfoley.com>; Lewis, Thomas <tlewis@louisberger.com>; ' (kmillian@tpmlaw.com)' <kmillian@tpmlaw.com>; Morris, John (MTO) <John.Morris@honeywell.com>; 'DelisleB@jcnj.org' <DelisleB@jcnj.org>; 'Aalcorn@tpmlaw.com' <Aalcorn@tpmlaw.com>; 'MWeaver@tpmlaw.com' <MWeaver@tpmlaw.com>; 'Jeremy.Karpatkin@aporter.com' <Jeremy.Karpatkin@aporter.com>; JFarrell@jcnj.org; Francis J. Borin <FBORIN@decotiislaw.com>; KKINSELLA@decotiislaw.com; 'Ben Ross (bross@disposalsafety.com)' <bross@disposalsafety.com>; 'Bruce A. Bell' <b.bell@cea-enviro.com>; 'Kim Bell Hosea (k.bell@cea-enviro.com)' <k.bell@cea-enviro.com>; McWatters, Michael <mmcwatters@louisberger.com>; JWatson@jcnj.org; Clifford, Joseph T <Joseph.Clifford@amec.com>; Daneker, Michael D. <Michael.Daneker@APORTER.COM>
Subject: SA-6 South Excavation Submittal - Site 163 Residential Area

Steve,

We are providing this email notification that our contractor is complete in Excavation Area at Site 163 Residential Footprint which is part of the SA-6 South Chromium Remedy. The excavation of this specific area within Site 163 was developed subsequent to the 100% Design (which originally identified this area as an in-situ treatment area) and as a result is documented by the figures included in the approved Design Change Bulletin - DCB 2015-0928.

We are requesting an email acknowledgement that the Special Master is in receipt of this email and the supporting documentation accompanying this notification.

This submittal notification of Site 163 excavation completion covers the individual period of 12/28/15 to 02/19/16. This submittal includes the full extent of Site 163 as shown on the approved DCB 2015-0928 drawings.

- The submittal include a “Maser” signed table of the Confirmation Points and the Entact “As Built” Excavation Figure.
- The excavation was conducted using temporary sheetpile on all sides. The sheetpile was driven so that the inside face of the sheetpile was at or slightly beyond the excavation limits shown on Figure 1 of DCB 2015-0928. (copy attached).
- Coordinates for Survey and Confirmatory Points are tabulated in the Maser Tables.

- The bottom excavation elevations were measured using the Machine Control GPS.
- The bottom of excavation elevations were at or below the design Bottom of Excavation Elevations.
- For safety reasons no entry was permitted to inspect the bottom of the excavation. The bottom of the excavation was visually inspected by Amec personnel from outside the sheetpile.
- The Bottom of Excavation was observed to be of a consistent elevation and at or below the elevation at the survey confirmation locations.
- As shown on the As Built excavation bottom figure only one area was noted to be at being Stratum D. Stratum D fragments were detected at in other isolated locations within the deepest excavation. The majority of the excavation was terminated in a silty sand, Stratum O type soil.
- The web of the sheetpile was outside of the designated excavation limit.
- Amec inspectors certify to the best our technical ability that impacted soils as defined in the 100% Design and subsequent DCB 2015-0928 have been removed and that the requirements to allow backfilling were met.
- Lines have been added to the As Built Excavation Map to delineate the limits of the steps in bottom elevations in the Excavation Area.
- Changes in elevation between areas was small and therefore near vertical faces were excavated at locations where the design bottom elevations changed.
- There were 5 Confirmatory Sidewall, and 5 Confirmatory Bottom locations exposed during the excavation and these are depicted on the Maser Survey Tables and Entact Bottom of Excavation Figure.

Please call or email me with any questions.
Regards,
Bill Hague

William J. Hague P.E.

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Christodoulatos, Eric G

From: Clifford, Joseph T
Sent: Monday, February 27, 2017 8:22 AM
To: Christodoulatos, Eric G; Nagg, Dennis E
Subject: FW: Response to Verbal Questions on Site 163 Excavation

---

From: Clifford, Joseph T
Sent: Thursday, May 05, 2016 7:40 AM
To: Egnaczyk, Steve <segnaczyk@louisberger.com>
Cc: Hague, William [william.hague@honeywell.com] <william.hague@honeywell.com>
Subject: Response to Verbal Questions on Site 163 Excavation

Steve,

I am sending this email on behalf of Honeywell, and in response to your call on April 27, 2016, when you asked two questions regarding our April 25, 2016 - Site 163 Excavation Completion Email Notification to the parties.

Below are the questions and our responses.

1. **What is our rationale for the BOE design for Area B, which does not have a bottom PDI sample?**

   - *"PDI samples from across the localized area were used and interpolated consistent with the 100% Design approach. The approved DCB 2015-0928 explicitly stated that Honeywell would implement this excavation without any additional sampling required."*

2. **We mention that no Amec inspections were performed in the bottom of the excavation, yet at some point we did have Entact laborers in the backfill placing geotextile**.

   - *"At the time of excavation completion, the bottom soils were deemed too soft to safely enter the excavation. The excavation was sufficiently dewatered to allow our inspections from the existing grade as necessary to attest to our inspection protocols. Once the initial bridge lift was placed and the bottom stabilized, Entact crew was able to enter the excavation to place the geotextile in accordance with the 100% Design specifications."*

If these responses adequately address your inquiry, Honeywell would be pleased to provide an Amended Certification of Excavation Complete Email adding these clarifications upon your request.

Please contact me on my cell at 610-505-9315 or Bill Hague at 973-455-2175 with any further questions on this item.

Thank you. -Joe

Joseph T. Clifford, P.E.
Sr. Principal Engineer

Cell Phone (610) 505- 9315
Email joseph.clifford@amecfw.com